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Annual Index — 1999

Author Index M–Z
Key Index

TABLE OF CONTENTS

Author Index M–Z 1071–2052
Key Index 2053–2134
Abbreviations of Names of Serials J1–J32
Journals in Translation J33
Transliteration of Cyrillic C1–C2

Index of Mathematical Papers Volume 31
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Ma, Bao Li (*with* Huo, Wei) Coordinated motion control of a free-flying space robot system. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 50–55. 93C85

Ma, Bin (*with* Wang, Lusheng; Li, Ming[1]) Fixed topology alignment with recombination. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 174–188, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68054** 68Q25 (92D20)

Ma, Bo The Fubini theorem for F-valued integrals and the strong law of large numbers. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 141–145. (Xia Chen) **99j:60042** 60F15 (26E50, 60A10)

Ma, Bo Lin Almost-everywhere convergence of Bochner-Riesz means in Bessel potential spaces. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 4, 13–18. (Shan Zhen Lu) **99e:42010** 42A38 (46E35)

— Almost everywhere convergence of Cesáro means of spherical harmonic expansions for functions in fractional integral spaces. (English summary) *Comment. Math. Prace Mat.* **38** (1998), 63–75. (Summary) **99j:42020** 42B20

— (*with* Hu, Guo En) Commutators of Cesàro means of spherical harmonics expansions. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 18, 1933–1937. 42B20

Ma, Chang Feng Quadratic convergence of an inexact damped Newton method for a class of variational inequality problems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 16–19. 90C33 (90C30)

— A conjugate gradient-like method for nonlinear complementarity problems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 39–42. 90C33

— An interior point positive algorithm for linear complementarity problems. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 118–122. (Summary) **99h:90107** 90C33

— A damped Newton method for solving a class of B differentiable equations. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 240–242. 90C30 (65K05)

— A successive approximation damped Newton method for bi-obstacle problems. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 75–80. 49J40 (65K05)

Ma, Chang Li (*with* Wang, Yang Xian; Wang, Chun Sen) Association schemes of quadratic forms over a finite field of characteristic two. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 23, 1965–1968. (Paul-Hermann Zieschang) **99j:05200** 05E30 (11T30)

— (*with* Wang, Yang Xian; Wang, Chun Sen) Association schemes of quadratic forms over finite fields of characteristic 2. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 14, 1482–1484. 05E30

Ma, Chao Qun (*with* Liu, Pu Yin; Zhang, Han Jiang) The stability of a kind of generalized fuzzy bidirectional associative memory. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 40–46. 68T99 (68P20)

Ma, Chenghu Attitudes toward the timing of resolution of uncertainty and the existence of recursive utility. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 1, 97–112. (Summary) **99k:90039** 90A10

— A discrete-time intertemporal asset pricing model: GE approach with recursive utility. (English summary) *Math. Finance* **8** (1998), *no.* 3, 249–275. (Rüdiger Kiesel) **99h:90018** 90A09

Ma, Chien-Ching (*with* Yang, Wei[1]) Orthotropic transform for planar anisotropic elasticity and reduced dependence of elastic constants. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1843–1855. (Summary) **99e:73024** 73B40 (73K20)

Ma, Chuan Gui (*with* Zhang, Chun Yuan[2]) Classification of ideal two-operation homomorphic threshold schemes over the residue class ring Z_n and the Galois ring $GR(p^r, n)$. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 217–222. (Summary) **99i:94051** 94A60

Ma, Chunsheng On the exact likelihood function of a multivariate autoregressive moving average model. (English summary) *Biometrika* **84** (1997), *no.* 4, 957–964. (Summary) **99a:62133** 62M10

— A note on stochastic ordering of order statistics. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 785–789. (Summary) **99g:62069** 62G30

— (*with* Robinson, John) Saddlepoint approximation for sample and bootstrap quantiles. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 479–486. (Summary) **99m:62068** 62G09

— On peakedness of distributions of convex combinations. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 51–56. (Summary) **99h:60032** 60E15 (60G50)

— Likelihood ratio ordering of order statistics. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 255–261. (Mir Masoom Ali) **99i:62116** 62G30

— Characteristic properties of multivariate survival functions in terms of residual life distributions. (English summary) *Metrika* **47** (1998), *no.* 3, 227–240. (Moshe Shaked) **99k:62028** 62E10 (60K10, 62H05, 62N05)

— On the posterior distribution of a location parameter from a strongly unimodal distribution. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 1, 33–37. (Summary) **99i:62053** 62F15

Ma, Da Cai (*with* Dai, Zheng De) Exponential attractors of the nonlinear wave equations. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1331–1335. (Woodford W. Zachary) **99m:35161** 35L70 (35B40, 58F12, 58F39)

— (*with* Jiang, Murong) Finite dimension of global attractor of nonlinear strain waves in elastic waveguides. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 173–176. 35Q72 (34G20, 35B40, 47H20, 58F39)

— (*with* Dai, Zheng De) Exponential attractors of nonlinear wave equations. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 12, 1269–1273. 34G20 (35B40, 35L70, 47H20, 58F39)

Ma, Feng (*with* Xia, Shao Wei; Tong, Xin; Tang, Ze Sheng) An SOM-PNN classifier for probabilistic segmentation and visualization of volume data. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 9, 819–824. 68T10

Ma, Gang (*with* Chen, Zhen-Qing; Durrett, Richard) Holomorphic diffusions and boundary behavior of harmonic functions. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1103–1134. (Summary) **99k:60195** 60J45 (31B25, 60J60)

Ma, Guang Fu (*with* Chen, Xiao Dong[2]; Shi, Xiao Ping[2]; Wang, Zi Cai) The least maximum-error parameter estimation method for linear systems. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 3, 42–44. 93E10

Ma, Guang Wen (*with* Wu, You Lin; Meng, Guang Da; Zhang, Guo Min) Quantum decoherence and gravity. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 2, 40–54. (Summary) **99m:81040** 81P99 (83C99)

Ma, Gui Rong (*with* Liu, Wen Sen; Zhang, Jiu An; Liang, Jiu Qing) Squeezed boson-pair number states in a quantum Bose fluid. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 9, 1699–1709. (Summary) **99d:82011** 82B10

Ma, Guicun (*with* Dai, Xianxi) A new approximation in the functional integral approach: beyond the first harmonic approximation. (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 277–284. 82B44 (81S40)

Ma, Hai-Cheng On isomorphisms of Cayley digraphs on dicyclic groups. (English summary) *Australas. J. Combin.* **16** (1997), 189–194. (Summary) **99h:20046** 20D45 (05C25, 20F05)

Ma, Heping (*with* Guo, Ben Yu; He, Song Nian) Chebyshev spectral-finite element method for three-dimensional vorticity equation. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 140–151. (Gert Lube) **99h:65174** 65M70 (65M60, 76C99, 76M10)

— Chebyshev-Legendre spectral viscosity method for nonlinear conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 869–892 (*electronic*). (A. O. Oganesyan) **99h:65156** 65M12 (35L65)

— Chebyshev-Legendre super spectral viscosity method for nonlinear conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 893–908 (*electronic*). (A. O. Oganesyan) **99h:65157** 65M12 (35L65)

Ma, Hongru (*with* Sheng, Ping) Upper bounds on electrorheological properties. (English summary) *Mathematics of multiscale materials (Minneapolis, MN, 1995–1996)*, 223–230, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (*see* **99c:73001**) 76A99 (76W05)

Ma, J. *see* **Ma, Jian**

Ma, Ji Pu (*with* Zhao, Jun Xi) Hyperreflexivity of some noncommutative subspace lattice algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 6, 721–727. (Summary) **99e:47055** 47D25

— (*with* Xu, Ben Long) Interpolation problems for a class of CSL algebras. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 3, 345–350. (Summary) **99j:47065** 47D25

— Generalized indices of operators in $B(H)$. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1233–1238. (Manuel González) **99c:47009** 47A53

— (*with* Xu, Ben Long) A note on local derivations. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 1, 45–46. (Jin-Chuan Hou) **99g:46096** 46L57 (46H40, 47B47)

— (*with* Li, Gang[1]) Ergodic theorems for non-Lipschitzian semigroups without convexity. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 284. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 209–216. (Behzad Djafari-Rouhani) **99j:47080** 47H09 (47H10, 47H20)

— (*with* Zhang, Lun Chuan) A proof of the primitivity of inseparable prime C^*-algebras A with real rank 0. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 19, 2056–2058. 46L05

— (*with* Xu, Ben Long) On some linear maps from an algebra into its bimodules. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 143–146. 16W25 (16E50)

Ma, Jian (*with* Zhong, Ren Bao) An algorithm for the Chinese remainder problem. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 225–233. 68Q40 (11Y16)

— (*with* Feng, Gang[1]; Cao, S. G.; Rees, N. W.) H_∞ control of fuzzy dynamic systems. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 4, 559–576. 93B36 (93C42)

Ma, Jian Guo The Yamabe problem and the first eigenvalue of a compact manifold without boundary. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 3, 15–17. (Tom Yau-Heng Wan) **99c:53030** 53C21 (58E11, 58G25)

Ma, Jian-Zhong (*with* Hasegawa, Hiroshi H.) Intermediate level statistics with one-parameter random matrix ensembles. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2564–2583. (Summary) **99e:82047** 82B41 (82B44)

Ma, Jianghong (*with* Wei, Guangsheng; Wang, Kanmin) A comparison between two robust regression estimators by means of robust covariances. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 240. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 207–214. (Summary) **99c:62186** 62J05 (62F35)

Ma, Jin (*with* Protter, Philip; San Martín, Jaime) Anticipating integrals for a class of martingales. (English summary) *Bernoulli* **4** (1998), *no.* 1, 81–114. (David Nualart) **99j:60071** 60H05 (60H07)

Ma, Jinwen The stability of asymmetric Hopfield networks with nonnegative weights. (English summary) *Theoretical aspects of neural computation (Hong Kong, 1997)*, 267–276, *Springer, Singapore*, 1998. (Summary) **99g:68173** 68T05 (92B20)

Ma, Jinxi (*with* Fournier, Richard; Ruscheweyh, Stephan) Convex univalent functions and omitted values. (English summary) *Approximation theory*, 225–241, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Roger W. Barnard) **99i:30018** 30C45

— Extreme points and minimal outer area problem for meromorphic univalent functions. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 769–773. (Stephen M. Zemyan) **99b:30022** 30C55

Ma, Jun *see* **Ma, Jun[3]**

Ma, Jun[1] (*with* Ma, Shaohan) An efficient parallel graph edge matching algorithm and its applications. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 153–158. (Summary) **99m:68154** 68R10 (68Q22)

Ma, Jun[3] (*with* Hudson, H. Malcolm) An augmented data scoring algorithm for maximum likelihood. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2761–2776. (Summary) **99j:62028** 62F10

Ma, Ke Mao (*with* Wang, Zi Cai; Shi, Xiao Ping[2]) Observer design for a class of nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 443–446. 93B07

Ma, Kejie (*with* Chen, Huaitang) On the ascending subgraph decompositions of regular graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue

Xuebao Ser. A **13** (1998), no. 2, 239–240. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 165–170. (Hung-Lin Fu) **99e:05094** 05C70

Ma, L. *see* **Ma, Lin**

Ma, Li Bifurcation in Nirenberg's problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 583–588. (Zhi Ren Jin) **99h:58201** 58G28 (53C21)

Ma, Liming (*with* Chang, Qian-Shun) The multigrid method of Wilson element on arbitrary quadrilateral meshes with two new variational formulations. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 134–139. (Do Young Kwak) **99c:65233** 65N55

Ma, Lin (*with* Ingham, D. B.; Wen, Xian Yun) A finite volume method for fluid flow in polar cylindrical grids. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 4, 663–677. (Summary) **99f:76108** 76M25

Ma, Ling A fixed point theorem for D-metric spaces. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 15–17. 54H25

Ma, Ling[3] (*with* Guan, Ke Ying) Integrability of doubly-periodic Riccati equation. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 785–790. (V. V. Chueshev) **99h:34007** 34A26 (34C25, 65L06)

Ma, Lingyun The asymptotic distributions of maximum likelihood ratio test and maximally selected χ^2-test in binomial observations. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 17–43. (Stavros Kourouklis) **99e:62021** 62F05 (62E20)

Ma, Lizhuang (*with* Lau, Rynson W. H.; Li, Frederick; Peng, Qun Sheng) Surface reconstruction with quartic triangular patches. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 54–62. 65D17

Ma, Long Hua (*with* Dai, Lian Kui; Li, Xiao Dong) A novel random learning algorithm for multilayer feedforward networks and its industrial application. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 1, 133–135. 93E35

Ma, Mang-Fai (*with* Lau, Ka-Sing) The regularity of L^p-scaling functions. (English summary) *Asian J. Math.* **1** (1997), *no.* 2, 272–292. (Lars F. Villemoes) **99c:42065** 42C15 (39B22)

— (*with* Lau, Ka-Sing) On the L^p-Lipschitz exponents of the scaling functions. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 181–192, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 42C15 (41A30)

Ma, Ming (*with* Friedman, Menahem; Kandel, Abraham) Numerical solutions of fuzzy differential equations. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 133–138. 65L06

— (*with* Friedman, Menahem; Kandel, Abraham) Solutions to fuzzy integral equations with arbitrary kernels. (English summary) *Internat. J. Approx. Reason.* **20** (1999), *no.* 3, 249–262. 65R20 (45A05)

Ma, Ming Shu A new high-order accuracy explicit difference scheme for solving three-dimensional parabolic equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 5, 497–501; *translated from Appl. Math. Mech.* **19** (1998), *no.* 5, 465–469 (*Chinese. English and Chinese summaries*). 65M06

Ma, Ru Yun Solvability of a class of fourth-order two-point boundary value problems. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 60–62. (Summary) **99g:34054** 34B15

— (*with* Zhang, Ji Hui[1]) Minimax inequalities of Ky Fan. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 37–41. (Summary) **99g:47139** 47H10 (47N10, 49J35)

— Multiplicity results for a third order boundary value problem at resonance. *Nonlinear Anal.* **32** (1998), *no.* 4, 493–499. (From the introduction) **99m:34039** 34B15 (47H15, 47N20)

— (*with* Bai, Ding Yong) Existence and uniqueness of solutions for second-order nonlinear boundary value problems. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 61–64. (Summary) **99k:34047** 34B15

Ma, Rui'e (*with* Wang, De Xin; Wang, Yu Chuan; Lu, Jie Ping) An adaptive BP algorithm based on fuzzy reasoning. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 55–62. 92B20 (68T05, 90C70)

Ma, Run Nian (*with* Gao, An Xi) A (g, f)-factorization orthogonal to a star of a bipartite graph. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 1, 25–28. (Summary) **99h:05094** 05C70

Ma, Shaohan (*with* Ma, Jun[1]) An efficient parallel graph edge matching algorithm and its applications. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 153–158. (Summary) **99m:68154** 68R10 (68Q22)

Ma, Shi Wang (*with* Yu, Jian She) An extension of Yoshizawa's theorem on periodic solutions. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **23** (1996), *no.* 6, 27–29. (Summary) **99a:34196** 34K15

— (*with* Wang, Zhi Cheng[1]; Yu, Jian She) Periodic solutions of periodically perturbed functional-differential equations. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 23, 1956–1959. (Tibor Krisztin) **99j:34106** 34K15 (47H15)

— (*with* Wang, Zhi Cheng[1]; Yu, Jian She) An abstract existence theorem at resonance and its applications. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 274–294. (Anna Capietto) **99c:47102** 47H15 (34C25, 34K10, 47N20)

— (*with* Yu, Jian She; Wang, Zhi Cheng[1]) Global solutions of functional-differential equations with periodic perturbations. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 13, 1386–1389. 34K05 (47N20)

— (*with* Wang, Zhi Cheng[1]; Yu, Jian She) Coincidence degree and periodic solutions of Duffing equations. *Nonlinear Anal.* **34** (1998), *no.* 3, 443–460. (Anna Capietto) **99i:34062** 34C25 (34K10, 47H15, 47N20)

— (*with* Yu, Jian She; Wang, Zhi Cheng[1]) Semilinear equations at resonance with the kernel of an arbitrary dimension. (English summary) *Tohoku Math. J. (2)* **50** (1998), *no.* 4, 513–529. (Andrey Ponomaryov) **99j:34088** 34K05 (47H15, 47N20)

— (*with* Wang, Zhi Cheng[1]) Periodic solutions of semilinear equations at resonance with a $2n$-dimensional kernel. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1999**, *No.* 2, 13 *pp.* (*electronic*). (Bogdan Przeradzki) **99j:34107** 34K15 (47H15)

Ma, Shu Xia Generalized strongly nonlinear quasivariational inequalities. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 5, 664–668. (Summary) **99k:47170** 47H19 (47H17, 49J40)

Ma, Song De (*with* Ke, Qi Fa; Wang, Li Xin) Design and application of multi-scale differential filters. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 234–244. 68U10

— (*with* Cong, Ke; Ke, Qi Fa) Corner enhancement using a curvature scale space. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 4, 348–356. 68U10 (53A04, 58E10)

— (*with* Guan, Weiguang; Xie, Lin) Deformable registration of digital images. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 246–260. (Summary) **99a:68176** 68U10

— (*with* Hu, Zhan Yi; Wang, Wei; Yang, Yi) A new definition of the Hough transform. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 5, 385–392. (Summary) **99i:44006** 44A15 (68U10)

— (*with* Hu, Zhan Yi; Yang, Changjiang; Yang, Yi) An inherent probabilistic aspect of the Hough transform. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 1, 44–48. 68U10

Ma, T. F. (*with* Andrade, Doherty) An operator equation suggested by a class of nonlinear stationary problems. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 65–71. (Sergiu Aizicovici) **99a:47091** 47H15 (35L70, 47N20)

Ma, Tze-Heng (*with* Yu, Chang-Wu; Chen, Gen-Huey) On the complexity of the k-chain subgraph cover problem. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 85–98. (Summary) **99g:68101** 68Q25 (05C85, 68Q22, 68R10)

Ma, Wan Cang (*with* Minda, David) Two-point distortion theorems for strongly close-to-convex functions. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 185–205. (Summary) **99b:30019** 30C45 (30C20)

Ma, Wanbiao (*with* Takeuchi, Yasuhiro) Stability of neutral differential-difference systems with infinite delays. *Nonlinear Anal.* **33** (1998), *no.* 4, 367–390. (Michael I. Gil') **99d:34152** 34K20 (34K40, 45J05)

Ma, Wen-Xiu Extension of hereditary symmetry operators. (English summary) *J. Phys. A* **31** (1998), *no.* 35, 7279–7289. (Iskander A. Taimanov) **99f:58100** 58F07

— A class of coupled KdV systems and their bi-Hamiltonian formulation. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7585–7591. (Mohamad Mehdi) **99j:58095** 58F07 (35Q53)

Ma, William *see* **Ma, Wan Cang**

Ma, X. F. *see* **Ma, Xiao Fang**

Ma, Xi-Nan A necessary condition of solvability for the capillarity boundary of Monge-Ampère equations in two dimensions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 763–769. (John Urbas) **99f:35058** 35J65

Ma, Xiao Fang (*with* Zhao, Ying Liang; Xu, Cheng Xian) A block conjugate directions method for solving unconstrained optimization problems. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 1–5. (Summary) **99c:90128** 90C30 (65Y05)

— (*with* You, Zhao Yong; Xu, Cheng Xian) A class of self-dual updating formulae in the Broyden family. (English summary) *Optimization* **39** (1997), *no.* 4, 405–409. (Summary) **99a:90198** 90C30 (65K05)

Ma, Xiao Hu (*with* Pan, Zhi Geng; Shi, Jiao Ying) A polyhedral model simplification method based on a triangle removal criterion. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 492–498. 68U05 (65Y25)

Ma, Xiao Long (*with* Lu, Bai-nian) An explicit difference scheme for the continuous mean field Ising model. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 20–24, 19. (Summary) **99a:82060** 82C20 (82C80)

Ma, Xin Rong (*with* Wang, Tian Ming) A generalization of the Cohen-Macaulay property of the Möbius function of a word poset. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 431–437. (Summary) **99m:06007** 06A07

— Nonexistence of extremal doubly even self-dual codes with large length. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 265–274. (From the text) **99f:94019** 94B60

— A generalization of the Kummer identity and its application to Fibonacci-Lucas sequences. *Fibonacci Quart.* **36** (1998), *no.* 4, 339–347. (Walter Carlip) **99k:11027** 11B65 (05A10, 05A19, 11B39)

Ma, Xing Rui (*with* Zhou, Zhen-Gong; Shen, Ya Peng; Zou, Zhen Zhu) The dynamic response of an interface crack with adhesional contact at its ends to transient elastic waves. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 3, 38–44, *III.* 73M25

— (*with* Wu, Zhi Gang; Wang, Ben Li) Theory and method of optimal control solution to dynamic system parameters identification. I. Fundamental concept and deterministic system parameters identification. *Appl. Math. Mech. (English Ed.)* **20** (1999), *no.* 2, 135–142; *translated from Appl. Math. Mech.* **20** (1999), *no.* 2, 127–133 (*Chinese. English and Chinese summaries*). 49N55 (93B30)

Ma, Y. Q. (*with* Figueiredo, W.) Quantum spherical XY model in a random field: coherent state path integral approach. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **1** (1998), *no.* 1, 103–106. (Summary) **99g:82039** 82B44 (82D30)

Ma, Yaming (*with* Peng, Shuangjie; Deng, Yin Bin) Existence of multiple positive solutions of critical semilinear elliptic problems in $\mathbf{R}^N$. (English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 1, 1–6. (Miguel Ramos) **99h:35051** 35J60 (35B05, 35J20)

Ma, Yanyuan (*with* Edelman, Alan) Nongeneric eigenvalue perturbations of Jordan blocks. (English summary) *Linear Algebra Appl.* **273** (1998), 45–63. (Summary) **99d:15016** 15A42 (15A18)

Ma, Yi Chen (*with* Hua, Cun Cai; Li, Kai-tai) Petrov-Galerkin methods for the stationary Navier-Stokes equations. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 23–29. (Long An Ying) **99d:65319** 65N30 (35Q30, 76D05)

Ma, Yi Hai A fixed point theorem for a class of mixed monotone operators and its applications. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 197–202. (Summary) **99d:47054** 47H10 (47H07)

Ma, Yi Hua (*with* Wang, Yi; He, Ming Feng) A renumbering problem for two sequences. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 1, 6–9. (Summary) **99c:20003** 20B30

Ma, Yi-Wen (*with* Podgórski, Krzysztof; Simons, Gordon) On estimation for a binary-symmetric channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1260–1272. (Summary) **99b:94020** 94A34 (94A40)

Ma, Yimin (*with* Balakrishnan, Narayanaswamy) Convergence rates of empirical Bayes estimation and selection for exponential populations with location parameters. (English summary) *Advances in statistical decision theory and applications*, 65–77, *Stat. Ind.*

Technol., Birkhäuser Boston, Boston, MA, 1997. (I. N. Volodin) **99h:62010** 62C12 (62F07)

— (*with* Balakrishnan, Narayanaswamy) On empirical Bayes rules for selecting the best hypergeometric population. (English summary) *Sequential Anal.* **16** (1997), *no.* 3, 269–286. (I. N. Volodin) **99c:62016** 62C12 (62F07)

Ma, Yongge (*with* Liang, Canbin) The degenerate sector of Ashtekar's phase space. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 35, 2839–2843. (Viqar Husain) **99m:83018** 83C05

— (*with* Liang, Canbin) Causal structure and degenerate phase boundaries. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044008, 6 *pp.* (Summary) **99m:83077** 83C45 (83C05)

Ma, Yu Lan (*with* Zhong, Cheng Kui) Nonanalytic hypoellipticity of certain partial differential operators. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 3, 15–19. 35H05

Ma, Yuan (*with* Kleitman, Daniel J.; Leighton, Frank Thomson) On the design of reliable Boolean circuits that contain partially unreliable gates. (English summary) 35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 3, 385–401. (Ronald E. Prather) **99g:94026** 94C10 (68M15, 68Q25)

— (*with* Kao, Ming-Yang; Sipser, Michael; Yin, Yiqun) Optimal constructions of hybrid algorithms. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 142–164. (Evangelos Kranakis) **99i:68054** 68Q20

— (*with* Komlós, János; Szemerédi, Endre) Matching nuts and bolts in $O(n \log n)$ time. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 347–372 (*electronic*). (Summary) **99e:68071** 68Q25 (68P10, 68R10)

Ma, Z. *see* **Ma, Zhong Fan**

Ma, Zhen Jun (*with* Li, Yan Xi) Comment on: "An inequality for determinants of subpositive definite matrices" [Math. Practice Theory **1994**, no. 2, 45–47] by X. M. Yang. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 3, 255–257. 15A15 (15A48)

Ma, Zhi En (*with* Wang, Wen Di) Asymptotic stability of linear delayed systems without instantaneous dissipative terms. *Advances in nonlinear dynamics*, 129–136, *Stability Control Theory Methods Appl., 5, Gordon and Breach, Amsterdam*, 1997. (V. B. Smirnova) **99f:34112** 34K20

— (*with* Wen, Xian Zhang; Fergola, P.; Tenneriello, C.) Effects of toxicants on chemostat models with n populations competing for a critical nutrient. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 1, 43–61. (Summary) **99b:92049** 92D25

— (*with* Hu, Zhi Xing; Wang, Hui[1]) An SIRS epidemic model with distributed delay. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 44–48. (Summary) **99d:92040** 92D30

— (*with* Luo, Mao Cai) Persistence of a two-species Lotka-Volterra model with separation and diffusion. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 52–59. (Summary) **99m:92035** 92D25 (34C99, 34D99)

— (*with* Zong, Wengang; Luo, Zhixue) The thresholds of survival for an n-dimensional food chain model in a polluted environment. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 440–458. (T. J. Mahar) **99e:92034** 92D40 (34C11)

— (*with* Wang, Wen Di) Permanence of a nonautonomous population model. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 86–95. (Hassan El-Owaidy) **99f:92029** 92D25 (34C99, 34D05)

— (*with* Guo, San Gang) Persistence and extinction of species in a polluted chemostat. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 2, 176–186. (Summary) **99j:92018** 92D25

— (*with* Jin, Zhen) The thresholds of persistence and extinction for a three-species Volterra system in a polluted environment. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 366–370. 92D25 (34K15, 92D40)

— (*with* Xu, Rui[2]) Chaos and subharmonic bifurcations in periodic time-dependent non-Hamiltonian integrable Kolmogorov systems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 19–24. 34C23 (58F14)

— (*with* Guo, San Gang; Fergola, P.; Tenneriello, C.) The threshold of population survival in a polluted chemostat model. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 117–127. (Summary) **99h:92026** 92D25

— (*with* Guo, San Gang; Fergola, P.; Tenneriello, C.) Effects of toxicants on chemostat model with time variable nutrient input and washout. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 342–350. (Summary) **99j:92019** 92D25 (34C99)

— (*with* Li, Jian Quan[1]) The existence and uniqueness of limit cycles for a class of cubic systems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 16–18. 34C05

Ma, Zhi Kao Generalized self-Fourier functions and their properties. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 5, 387–390. 42A16

Ma, Zhi-Ming (*with* Dong, Zhao; Sun, Wei[3]) A note on Beurling-Deny formulae in infinite-dimensional spaces. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 353–361. (Ivor E. McGillivray) **99d:31004** 31C25 (60J45)

— (*with* Röckner, Michael; Zhang, Tu Sheng) Approximation of arbitrary Dirichlet processes by Markov chains. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 1, 1–22. (Yoichi Ôshima) **99c:60160** 60J40 (31C25, 60J10)

— (*with* Gong, Fu-Zhou) Martingale representation and log-Sobolev inequality on loop space. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 749–753. (Jean Picard) **99h:58202** 58G32 (60H07)

— (*with* Gong, Fu-Zhou) The log-Sobolev inequality on loop space over a compact Riemannian manifold. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 599–623. (Ana Bela Cruzeiro) **99f:58222** 58G32 (60H30)

Ma, Zhi Sheng (*with* Zhang, Qin) Kähler hypersurfaces in complex projective spaces with constant scalar normal curvature. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 22–26. (Yi Bing Shen) **99e:53103** 53C55 (53C42)

Ma, Zhi Xia Boundedness of solutions for neutral functional-differential equations. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 32–37. (Yi Zhong Lin) **99c:34161** 34K15 (34K20)

Ma, Zhong Fan (*with* Yang, Chao[1]; Zhang, Jian Zhong) Inverse maximum flow and minimum cut problems. (English summary) *Optimization* **40** (1997), *no.* 2, 147–170. (Peter Butkovič) **99c:90151** 90C35 (90B10)

Ma, Zhong-Qi (*with* Dong, Shi-Hai; Hou, Xi-Wen) Irreducible bases and correlations of spin states for double point groups. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 841–855. (John J. Sullivan) **99f:81070** 81R05 (20C35)

— (*with* Dong, Shi-Hai; Hou, Xi-Wen; Xie, Mi) Irreducible bases in icosahedral group space. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2135–2152. (Summary) **99i:81060** 81R05 (20H15, 82D25)

— (*with* Dong, Shi-Hai; Hou, Xi-Wen) Levinson's theorem for non-local interactions in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7501–7509. (Summary) **99g:81035** 81Q05 (34L25, 35J10, 81U05)

— (*with* Dong, Shi-Hai) Exact solutions to the Schrödinger equation for the potential $V(r) = ar^2 + br^{-4} + cr^{-6}$ in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9855–9859. (Albert W. Sáenz) **99i:81028** 81Q05

Ma, Zhong Tai Boundary behaviour of Bochner-Martinelli type integral on Stein manifold. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 3, 253–260. (Summary) **99m:32006** 32A25 (32E10)

— (*with* Zhong, Tong De) Integral representations and extension theorems for solutions of Cauchy-Riemann equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 30–34, 78. (Der-Chen E. Chang) **99g:32003** 32A25 (32F20)

Ma, Zhongshui Complex chiral bosons and their Weyl fermionic representation. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 2, 217–220. (Summary) **99a:81183** 81T70

Maabout, S. (*with* Bidoit, N.) A model-theoretic approach to update rule programs. (English summary) *Database theory—ICDT '97 (Delphi)*, 173–187, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68N17)

Maamache, M. Unitary transformation approach to the cyclic evolution of SU(1, 1) and SU(2) time-dependent systems and geometrical phases. (English summary) *J. Phys. A* **31** (1998), *no.* 32, 6849–6854. (Summary) **99d:81045** 81Q99

— (*with* Provost, J.-P.; Vallée, G.) Unitary equivalence and phase properties of the quantum parametric and generalized harmonic oscillators. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 3, 1777–1780. (Summary) **99m:81045** 81Q05 (81R30)

Maamoun, M. (*with* Stefan, Janaqi; Lescure, F.; Meyniel, H.) Digraphs contractible onto ${}^*K_3$. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 365–369. (R. J. Douglas) **99k:05081** 05C20

Maâouia, Faïza (*with* Chaâbane, Faouzi; Touati, Abderrahmen) Généralisation du théorème de la limite centrale presque-sûr pour les martingales vectorielles. (English and French summaries) [Generalization of the almost-sure central limit theorem for vectorial martingales] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 229–232. (Dominique Lépingle) **99i:60061** 60F15 (60F05, 60G42)

van Maaren, Hans (*with* Dang, Chuangyin) A simplicial approach to the determination of an integer point of a simplex. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 403–415. (Klaus Hofstedt) **99d:90076** 90C10 (90C27)

Maârouf, Hamid (*with* Kandri Rody, Abdelilah; Ssafini, Mohamed) Triviality and dimension of a system of algebraic differential equations. (English summary) *J. Automat. Reason.* **20** (1998), *no.* 3, 365–385. (Andrzej Nowicki) **99b:12005** 12H05 (12H20, 68Q40)

Maartens, Roy (*with* Bassett, B. A. C. C.) Gravito-electromagnetism. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 705–717. (Victor Tapia) **99a:83057** 83D05

— (*with* Gunzig, Edgard; Nesteruk, A. V.) Inflationary cosmology and thermodynamics. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 923–932. (Summary) **99a:83073** 83F05

— (*with* Lesame, William M.; Ellis, George F. R.) Newtonian-like and anti-Newtonian universes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1005–1017. (Maciej Przanowski) **99g:83047** 83C55 (83C15, 83F05)

— (*with* Humphreys, Neil P.; Matravers, David R.) Exact isotropic cosmologies with local fractal number counts. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3041–3049. 83F05

— (*with* Tilley, Daniel) Perturbations in inflationary cosmologies with smooth exit. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5491–5501. (Salvatore Capozziello) **99h:83068** 83F05 (83C25)

— Covariant velocity and density perturbations in quasi-Newtonian cosmologies. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124006, 8 *pp.* 83F05 (83C55)

— (*with* Govender, M.; Maharaj, S. D.) Inflation driven by causal heat flux. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 6, 815–819. 83F05

— (*with* Barrow, John D.) Anisotropic stresses in inhomogeneous universes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 043502, 7 *pp.* 83C55 (83F05)

Maas, W. C. A. ★ Nonlinear $\mathscr{H}_\infty$ control: the singular case. CWI Tract, 118. *Stichting Mathematisch Centrum, Centrum voor Wiskunde en Informatica, Amsterdam*, 1996. vi+197 *pp. ISBN* 90-6196-468-7 (Tamer Başar) **99a:93031** 93B36 (93–02)

Maasberg, Silke (*with* Harborth, Heiko) All two-color Rado numbers for $a(x + y) = bz$. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 397–407. (Summary) **99j:05186** 05D10

Maass, Alejandro (*with* Blanchard, François; Kůrka, Petr) Topological and measure-theoretic properties of one-dimensional cellular automata. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 86–99. (Fernanda Botelho) **99c:58086** 58F08 (68Q80, 82C20)

— (*with* Martínez, Servet A.) On Cesàro limit distribution of a class of permutative cellular automata. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 435–452. (François Blanchard) **99a:58097** 58F08 (58F11, 68Q80, 82C20)

Maaß, Peter (*with* Louis, Alfred Karl; Rieder, Andreas) ★ Wavelets. (German. German summary) Theorie und Anwendungen. [Theory and applications] Second edition. Teubner Studienbücher Mathematik. [Teubner Mathematical Textbooks] *B. G. Teubner, Stuttgart*, 1998. *ii*+330 *pp. ISBN* 3-519-12094-1 (Editors) **99k:42063** 42C15 (65R10, 65T20, 94A12)

Maass, Wolfgang (*with* Warmuth, Manfred K.) Efficient learning with virtual threshold gates. (English summary) *Inform. and Comput.* **141** (1998), *no.* 1, 66–83. (Jerzy W. Grzymała-Busse) **99m:68169** 68T05

Maassarani, Ziad (*with* Serban, Didina) Non-unitary conformal field theory and logarithmic operators for disordered systems. (English summary) *Nuclear Phys. B* **489**

(1997), *no.* 3, 603–625. (Michael A. I. Flohr) **99b:81219** 81T40 (17B65, 81R10, 82B44)

— Hubbard models as fusion products of free fermions. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 19, 1893–1906. (Andrey V. Tsiganov) **99g:82020** 82B23 (82B20)

— (*with* Arnaudon, Daniel) Integrable open boundary conditions for *XXC* models. (English summary) *J. High Energy Phys.* **1998**, *no.* 10, *Paper* 24, 11 *pp.* (*electronic*). (Andrey V. Tsiganov) **99j:82012** 82B20 (82B23)

— (*with* Mathieu, Pierre[1]) The su(N) XX model. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 395–408. (Summary) **99g:82012** 82B20

— (*with* Dargis, P.) Fermionization and Hubbard models. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 681–708. (Summary) **99i:82008** 82B20 (82B23)

— The su(n) Hubbard model. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 187–190. (Summary) **99a:82020** 82B20

Maassen, Hans (*with* van Leeuwen, Hans) The q-harmonic oscillator in a lattice model. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6424–6440. (Uwe Franz) **99k:81126** 81S05 (81R50, 82B20)

Maâti, Abderrabi Plongement des structures de Cauchy-Riemann rigides de $\mathbf{R}^3$. (English and French summaries) [Embedding of rigid Cauchy-Riemann structures of $\mathbf{R}^3$] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 749–751. (Dmitri Zaitsev) **99k:32013** 32C16

Maatouk, T. A. H. (*with* Samiuddin, S.; Al-Harbey, A. H.; Jones, Michael C.) Simple smoothed histograms. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 113–129. (Summary) **99m:62065** 62G07

— (*with* Jones, Michael C.; Samiuddin, M.; Al-Harbey, A. H.) The edge frequency polygon. (English summary) *Biometrika* **85** (1998), *no.* 1, 235–239. (Summary) **99b:62058** 62G05

Mabizela, Sizwe (*with* Dragomir, Sever Silvestru) Functional inequalities and best approximation. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 90–98. (Summary) **99h:41039** 41A65 (41A17, 46C99)

— Weak Chebyshev subspaces and continuous selections for parametric projections. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 301–310. (Alexey R. Alimov) **99b:41020** 41A50 (41A65, 54C65)

khadem-Maboudi, A. A. *see* **Khadem-Maboudi, A. A.**

Mabrouk, Mongi Liaisons unilatérales et chocs élastiques quelconques: un résultat d'existence. (English and French summaries) [Unilateral constraints and arbitrary elastic shocks: an existence result] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1353–1357. (Summary) **99i:70019** 70F35 (34A60, 70F25)

— A unified variational model for the dynamics of perfect unilateral constraints. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 819–842. (Manuel D. P. Monteiro Marques) **99j:70019** 70F99 (34A60, 70F25)

Mabuchi, H. (*with* van Enk, S.; Cirac, J. I.; Zoller, Peter; Kimble, H. J.) Transmission of quantum information in a quantum network: a quantum optical implementation. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 689–695. (Summary) **99k:81042** 81P99 (81V80)

Mabuchi, Shigeaki An interpretation of membership functions and the properties of general probabilistic operators as fuzzy set operators. II. Extension to three-valued and interval-valued fuzzy sets. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 31–50. (From the summary) **99a:04009** 04A72 (60A99)

Maca, Jeffrey D. (*with* Carroll, Raymond J.; Wang, Suojin) Nonparametric regression splines for generalized linear measurement error models. (English summary) *Econometrics in theory and practice*, 23–29, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 62G05 (62J02)

MacAlevey, Paul (*with* Robinson, Ivor) An invariant of type N spaces. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3935–3936. (Summary) **99i:83021** 83C20

izquierdo Macana, Ebroul *see* **Izquierdo Macana, Ebroul**

Macari, P. M. *see* **Makar', P. M.**

Macarie, Ioan I. Space-efficient deterministic simulation of probabilistic automata. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 448–465 (*electronic*). (Peter R. J. Asveld) **99d:68165** 68Q75 (68Q15)

— (*with* Ogihara, Mitsunori) Properties of probabilistic pushdown automata. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 117–130. (Summary) **99j:68031** 68Q05 (68Q15, 68Q75)

narváez-Macarro, Luis *see* **Narváez-Macarro, Luis**

Macau, Elbert E. N. (*with* Grebogi, Celso) Driving trajectories in complex systems. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 4062–4070. 58F13 (93C10)

MacCallum, Malcolm A. H. Theoretical and mathematical cosmology. *Proceedings of the 14th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 503–509, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83F05

— (*with* Bonnor, W. B.; Santos, N. O.) An exterior for the Gödel spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 357–366. (Patrick Dolan) **99d:83010** 83C15

— (*with* Paiva, F. M.; Rebouças, M. J.; Hall, G. S.) Limits of the energy-momentum tensor in general relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1031–1041. (Emil Zakhary) **99f:83028** 83C40

— (*with* Åman, J. E.; Fonseca-Neto, J. B.; Rebouças, M. J.) Riemann-Cartan spacetimes of Gödel type. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1089–1101. (Alberto Saa Vazquez) **99b:83063** 83D05 (53C80)

— (*with* Santos, N. O.) Stationary and static cylindrically symmetric Einstein spaces of the Lewis form. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1627–1636. (Mihai Vişinescu) **99d:83013** 83C15 (83C20)

— (*with* Chruściel, Piotr T.; Jezierski, Jacek) Uniqueness of the Trautman-Bondi mass. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084001, 16 *pp.* (Summary) **99k:83006** 83C05

— On the classification of the real four-dimensional Lie algebras. (English summary) *On Einstein's path* (*New York*, 1996), 299–317, *Springer, New York*, 1999. (Serge M. Skryabin) **99k:17010** 17B05

MacCamy, Richard C. (*with* Bielak, Jacobo; Kallivokas, Loukas F.) Absorbing boundaries for acoustic wave propagation problems. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 43–51, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 65M60 (76Q05)

— (*with* Kallivokas, Loukas F.; Bielak, Jacobo) Absorbing boundary conditions of arbitrary shape for the three-dimensional wave equation. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 221–228, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 76M10 (73K70, 76Q05)

Maccari, Attilio A generalized Hirota equation in 2 + 1 dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6547–6551. 35Q55 (58F37)

— Approximate solution of a class of nonlinear oscillators in resonance with a periodic excitation. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 4, 329–343. (Summary) **99a:70033** 70K40 (34C15, 70K30)

— The dissipative nonlocal oscillator. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 4, 307–320. (Summary) **99d:70038** 70K99 (34C15, 34C23)

— Non-linear oscillations with multiple resonant or non-resonant forcing terms. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 27–34. (Summary) **99f:34050** 34C15 (34E05, 70K40)

MacCaull, Wendy Relational semantics and a relational proof system for full Lambek calculus. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 623–637. (Summary) **99g:03009** 03B20

Macchiavello, Chiara (*with* Barenco, Adriano; Berthiaume, André; Deutsch, David; Ekert, Artur; Jozsa, Richard) Stabilization of quantum computations by symmetrization. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1541–1557. (V. Ya. Kreinovich) **99a:68060** 68Q05 (03D10, 03D15, 81P99)

— (*with* Ekert, Artur) An overview of quantum computing. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 19–44, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05 (81P99)

— (*with* Castagnoli, Giuseppe; Ekert, Artur) Quantum computation: from the sequential approach to simulated annealing. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 463–469. (*see* **99e:81004**) 81P99

— (*with* Cleve, Richard; Ekert, Artur; Mosca, Michele) Quantum algorithms revisited. (English summary) Quantum coherence and decoherence (Santa Barbara, CA, 1996). *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1969, 339–354. (Frank Antonsen) **99m:81030** 81P99

Macci, Claudio On Bayesian experiments related to a pair of statistical observations independent conditionally on the parameter. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 47–63. (M. P. Moklyachuk) **99f:62013** 62A15

— The maximal dominated subsets of a statistical experiment. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 185–193. (Ram Shanmugam) **99i:62011** 62B15 (62A15)

MacCluer, Barbara D. (*with* Cowen, Carl C.) Some problems on composition operators. *Studies on composition operators* (*Laramie, WY*, 1996), 17–25, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (John N. McDonald) **99d:47029** 47B38 (46E15)

MacCormick, J. (*with* Blake, Andrew; Bascle, B.; Isard, M.) Statistical models of visual shape and motion. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1283–1302. (Summary) **99b:68162** 68T10 (68U10)

MacCormick, J. P. (*with* Pavlov, Boris S.) A geometrical approach to calculating determinants of Wiener-Hopf operators. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 333–342, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (V. V. Peller) **99j:47039** 47B35

MacCrimmon, Brian (*with* Aberbach, Ian; Katzman, Mordechai) Weak F-regularity deforms in Q-Gorenstein rings. *J. Algebra* **204** (1998), *no.* 1, 281–285. (Irena Swanson) **99d:13003** 13A35 (13H10)

MacDonald, Duncan Anthony On the computation of zeroes of $J_n(z) - iJ_{n+1}(z) = 0$. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 623–633. (Andrea Laforgia) **99c:33007** 33C10 (65H10)

MacDonald, Gordon Wilson (*with* Livshits, Leonya; Mathes, D. Benjamin; Radjavi, Heydar) Reducible semigroups of idempotent operators. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 35–69. (Cecelia Laurie) **99m:47004** 47A15 (20M99, 47D03)

— Expanding a band. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2625–2632. (P. Rosenthal) **99m:47045** 47D03 (20M20, 47A15)

Macdonald, I. G. Affine Hecke algebras and orthogonal polynomials. (English summary) Séminaire Bourbaki, Vol. 1994/95. *Astérisque No.* 237 (1996), *Exp. No.* 797, 4, 189–207. (A. Klimyk (Zbl 883.33008)) **99f:33024** 33D80 (05E05, 20C99, 33D45)

— ★ Symmetric functions and orthogonal polynomials. (English summary) Dean Jacqueline B. Lewis Memorial Lectures presented at Rutgers University, New Brunswick, NJ. University Lecture Series, 12. *American Mathematical Society, Providence, RI*, 1998. xvi+53 *pp. ISBN* 0-8218-0770-6 (Angèle M. Hamel) **99f:05116** 05E05 (05E35, 33D80)

— *see also* **Wilson, George, 99f:58107**

MacDougall, James A. (*with* Eggleton, Roger B.) Triangle-free and triangle-saturated graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 3–21. (Summary) **99j:05106** 05C35

— (*with* Eggleton, Roger B.) Almost K_m-saturated graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 187–203. (Summary) **99j:05160** 05C75 (05C35)

MacEachern, Steven N. (*with* Joshi, S. N.) Isotonic maximum likelihood estimation for the change point of a hazard rate. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 3, 392–407. (Summary) **99k:62077** 62G05 (62N05)

— Computational methods for mixture of Dirichlet process models. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 23–43, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62064** 62G05

— (*with* Cooley, Craig A.) Classification via kernel product estimators. (English summary) *Biometrika* **85** (1998), *no.* 4, 823–833. (Summary) **99j:62086** 62H30 (62G05)

Macedo, Antonini P. (*with* de La Bourdonnaye, Armel; Farhat, Charbel; Magoulès, Frédéric; Roux, François-Xavier) A non-overlapping domain decomposition method for the exterior Helmholtz problem. *Domain decomposition methods*, 10 (*Boulder, CO*,

1997), 42–66, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99f:65190** 65N55 (65Y05)
— (*with* Franca, Leopoldo P.) A two-level finite element method and its application to the Helmholtz equation. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 1, 23–32. 65N30
Macedońska, Olga On identities defining t-groups. (English and Russian summaries) *Mat. Stud.* **8** (1997), *no.* 2, 189–191, 237. 20E10
Macek, J. H. (*with* Khrebtukov, D. B.) Harmonic oscillator Green functions. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2853–2868. (Peter N. Zhevandrov) **99c:81027** 81Q05
Maceri, Franco (*with* Bisegna, Paolo) The unilateral frictionless contact of a piezoelectric body with a rigid support. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 19–28. (Summary) **99e:73087** 73R05 (73T05, 73V05)
— (*with* Bisegna, Paolo) Delamination of active layers in piezoelectric laminates. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 137–150, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73059** 73R05 (73H05, 73K20)
Macesanu, Cosmin (*with* Bisset, Mike; Kong, Otto C. W.; Orr, Lynne H.) A simple phenomenological parametrization of supersymmetry without R-parity. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 274–280. (Summary) **99c:81273** 81V22 (81T60)
Macfarlane, A. J. Exactly soluble models with an odd number of Majorana fermions. (English summary) *Phys. Lett. B* **414** (1997), *no.* 1-2, 111–116. (Bani Mitra Södermark) **99a:81055** 81R05
— (*with* de Azcárraga, J. A.; Mountain, Arthur J.; Pérez Bueno, J. C.) Invariant tensors for simple groups. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 657–687. (Saïd Benayadi) **99e:17011** 17B20 (17B56, 81R05)
Macfarlane, I. (*with* Joubert, P. N.; Nickels, T. B.) Secondary flows and developing, turbulent boundary layers in a rotating duct. (English summary) *J. Fluid Mech.* **373** (1998), 1–32. 76F99 (76–05, 76D10)
MacGibbon, K. Brenda (*with* Paré, Danie; Angers, Jean-François) Simultaneous estimation of independent means of a Poisson random vector. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 159–176 (1998). (Summary) **99b:62029** 62F10 (62C12)
— (*with* Altman, Naomi) Consistent bandwidth selection for kernel binary regression. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 121–137. (Summary) **99e:62036** 62G05
MacGregor, Thomas H. (*with* Sterner, M. P.) Boundedness of an analytic function and the range of its fractional derivative. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 97–106. (Frode Rønning) **99m:30074** 30D50
— (*with* Luo, Donghan) Multipliers of fractional Cauchy transforms and smoothness conditions. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 595–604. (David J. Hallenbeck) **99d:30040** 30E20 (30D50)
Mach, Ernst *see* **Sterrett, Susan G., 99d:01027** *and* **Duhem, Pierre, 99g:01043**
Machado, F. P. Large deviations for the number of open clusters per site in long range bond percolation. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 367–376. (Agoston Pisztora) **99m:60154** 60K35 (60F10, 82B43)
Machado, José A. F. (*with* Koenker, Roger) The Falstaff estimator. (English summary) *Econom. Lett.* **61** (1998), *no.* 1, 23–28. (Summary) **99h:62089** 62J05
Machado, Paulo F. The initial algebra of maximal minors of a generalized Hankel matrix. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 429–450. (Aldo Conca) **99m:13008** 13A30 (13C40, 13P10, 15A57)
Machado Ramos, M. P. Invariant differential operators and the Karlhede classification of type-N non-vacuum solutions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 435–443. (Brian Edgar) **99b:83055** 83C60 (83C20)
Machala, František (*with* Pomp, Marek) Homomorphisms of contexts and isomorphisms of concept lattices. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 121–129 (1997). (N. Prabhakara Rao) **99a:06007** 06B05 (08A35)
— Konzepte in den triadischen Kontext. (English summary) [Concepts in the triadic context] *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 141–147. (Radim Bělohlávek) **99m:08001** 08A02 (06A15)
— (*with* Slezák, Vladimír) Incidence structures and closure spaces. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 149–156. (Giovanni Ferrero) **99f:06009** 06B05 (08A35, 51B05, 54A05)
— (*with* Pomp, Marek) Disjoint and complete unions of incidence structures. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 365–374. (N. Prabhakara Rao) **99a:06008** 06B05 (08A35)
MacHale, Desmond (*with* Burns, John M.; Ellis, Graham J.; Ó Murchú, P.; Sheehy, R.; Wiegold, James) Lower central series of groups with small upper central factors. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 113–122. (O. Yu. Dashkova) **99g:20061** 20F14
— (*with* Haugh, M.) The subgroup generated by the squares. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 123–129. (Hugo S. Sun) **99j:20027** 20D25 (20E25)
— (*with* Hegarty, Peter V.) Two-groups in which an automorphism inverts precisely half the elements. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 2, 129–135. (Alberto Espuelas) **99b:20034** 20D15
Machamer, Peter Galileo's machines, his mathematics, and his experiments. *The Cambridge companion to Galileo*, 53–79, *Camb. Companions Philos., Cambridge Univ. Press, Cambridge*, 1998. (*see* **99k:01020**) 01A45
— *see also* **Cambridge companion to Galileo, 99k:01020**
Macharashvili, N. (*with* Topuriya, S. B.) On $H(C,\alpha,2)$ and (C,α) summability of Fourier series over generalized spherical functions of $L_p(S^3)$ class functions. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 14–18. 42C10 (42B08)
Machavariani, A. I. (*with* Sanikidze, D. G.; Khubedzhashvili, Sh. S.; Mirianashvili, M. G.; Emel'yanenko, G. A.) On a numerical solution of Lippman-Schwinger singular integral equations. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 261–263 (1991). 65R20
Mache, Detlef H. Summation of Durrmeyer operators with Chebyshev weights. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 307–318, *Transilvania, Cluj-Napoca*, 1997. (Radu Păltănea) **99a:41019** 41A25 (41A10, 41A36)
— (*with* Lupaş, Alexandru) Approximation by V_n-operators. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 203–216. (Octavian Agratini) **99j:41043** 41A36
— (*with* Lupaş, Alexandru; Maier, Volker; Müller, Manfred Wolfgang) Linear combinations of gammaoperators in L_p-spaces. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 156–168. (Ha Huy Bang) **99g:41019** 41A25 (41A28, 41A36)
Machedon, Matei (*with* Klainerman, Sergiu) On the algebraic properties of the $H_{n/2,1/2}$ spaces. (English summary) *Séminaire sur les Équations aux Dérivées Partielles, 1997–1998, Exp. No. VII, 9 pp., École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 46E35 (35L05, 46J99)
— Fourier analysis of null forms and non-linear wave equations. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 49–55 (*electronic*). (*see* **99e:00025**) 35L70 (42B99)
— (*with* Klainerman, Sergiu) On the algebraic properties of the $H_{n/2,1/2}$ spaces. *Internat. Math. Res. Notices* **1998**, *no.* 15, 765–774. (Takahide Kurokawa) **99j:46038** 46E35 (46J99)
Machì, A. (*with* Grigorchuk, Rostislav I.) An example of an indexed language of intermediate growth. (English summary) *Theoret. Comput. Sci.* **215** (1999), *no.* 1-2, 325–327. (Summary) **99k:68092** 68Q45
Machida, Hajime Some continuous maps on the space of clones in multiple-valued logic. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 374–379, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 08A40
— The clone space as a metric space. Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 297–304. (Ágnes Szendrei) **99m:08004** 08A05 (08A40)
Machida, Natsumi (*with* Oguiso, Keiji) On $K3$ surfaces admitting finite non-symplectic group actions. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 2, 273–297. (Shigeyuki Kondo) **99f:14048** 14J28 (14J50)
Machida, Shigeru (*with* Motoyoshi, Akio) Quantum mechanics of the composite system and its subsystems. (English summary) *Found. Phys.* **28** (1998), *no.* 1, 45–57. (S. Gudder) **99e:81010** 81P05 (81P15)
Machida, Yoshinori (*with* Kamada, Hiroyuki) Self-duality of metrics of type (2, 2) on four-dimensional manifolds. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 2, 259–275. (Yasuo Matsushita) **99b:53068** 53C25 (53C50)
Machiels, L. (*with* Deville, Michel) Numerical simulation of randomly forced turbulent flows. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 246–279. (Summary) **99g:76075** 76F99 (76M25, 76M35)
Machigashira, Yoshiroh The Gaussian curvature of Alexandrov surfaces. (English summary) *J. Math. Soc. Japan* **50** (1998), *no.* 4, 859–878. (Takashi Shioya) **99h:53088** 53C45
— (*with* Cheng, Qing-Ming; Sugioka, Yoshihiro) The relation between degree and dilatation of continuous maps. *Japan. J. Math.* (*N.S.*) **24** (1998), *no.* 1, 183–190. (Francisco R. Ruiz del Portal) **99g:55004** 55M25
Machis, Yu. *see* **Mačys, Juozas**
Machnikowski, Paweł (*with* Konwent, Henryk; Magnuszewski, Piotr; Radosz, Andrzej) Some properties of double-Morse potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7541–7559. (Summary) **99g:81037** 81Q05
Machover, Carl An interview with Andries van Dam. *IEEE Ann. Hist. Comput.* **20** (1998), *no.* 2, 81–84. (Introduction) **99m:01079** 01A70 (68–03)
Machover, Moshé (*with* Felsenthal, Dan S.; Zwicker, William) The bicameral postulates and indices of a priori voting power. (English summary) *Theory and Decision* **44** (1998), *no.* 1, 83–116. (Pavel Yu. Chebotarev) **99i:90032** 90A28
Machta, Jonathan (*with* Greenlaw, Raymond) The parallel complexity of randomized fractals. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 351–356, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (Summary) **99h:68075** 68Q25 (28A80, 68Q15)
— (*with* Chayes, L.; Redner, O.) Graphical representations for Ising systems in external fields. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 17–32. (Daniel Ueltschi) **99h:82010** 82B20 (82B26, 82B43, 82B80)
vidal Macía, Antonio M. *see* **Vidal Macía, Antonio M.**
Macía, Josep Does *Naming and necessity* refute descriptivism? (English summary) *Theoria* (*San Sebastián*) (2) **13** (1998), *no.* 33, 445–476. 03B65 (03A05, 03B45)
Macías, Alfredo (*with* Mielke, Eckehard W.; Morales-Técotl, Hugo A.; Tresguerres, Romualdo) Torsion and non-metricity in metric-affine gravity. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 494–501, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83D05
— (*with* Morales-Técotl, Hugo A.; Morales, N.; Urrutia, Luis F.) 5D Chern-Simons cosmology. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 502–507, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83E15 (83C99)
— (*with* Mielke, Eckehard W.; Morales-Técotl, Hugo A.) Chiral fermions coupled to chiral gravity. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 157–165, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83056** 83C60 (83C99, 83E50)
— (*with* García Díaz, Alberto; Hehl, Friedrich W.; Lämmerzahl, Claus; Socorro, José) Plebański-Demiański-like solutions in metric-affine gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1793–1799. (Serguey M. Pokas') **99d:83082** 83D05
— (*with* Socorro, José; Hehl, Friedrich W.) Computer algebra in gravity: Reduce-Excalc programs for (non-)Riemannian space-times. I. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 264–283. (Summary) **99h:83001** 83–04
— (*with* Mielke, Eckehard W.; Socorro, José) Supersymmetric quantum cosmology for Bianchi class A models. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 5, 701–712. (Seth A. Major) **99h:83023** 83C45
— (*with* Socorro, José; Lämmerzahl, Claus; Mielke, Eckehard W.) Multipole-like solutions in metric-affine gravity. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 317–323.

(Mark D. Roberts) **99e:83046** 83D05 (83E30)
— (*with* Mielke, Eckehard W.; Socorro, José) Supersymmetric quantum cosmology: the physical states. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1027–1033. (Seth A. Major) **99g:83040** 83C45
— (*with* García Díaz, Alberto; Lämmerzahl, Claus; Mielke, Eckehard W.; Socorro, José) Colliding waves in metric-affine gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3457–3462. 83D05
— (*with* Gronwald, Frank; Muench, Uwe; Hehl, Friedrich W.) Volume elements of spacetime and a quartet of scalar fields. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084021, 4 *pp.* (Summary) **99k:83101** 83C99 (83D05)

freire Macías, Emilio *see* **Freire Macías, Emilio**

roanes-Macías, Eugenio *see* **Roanes-Macías, Eugenio**

Macías, Jorge (*with* Castro-Díaz, M. J.; Parés, Carlos) A multi-layer shallow-water model. Applications to the Strait of Gibraltar and the Alboran Sea. *The mathematics of models for climatology and environment* (*Puerto de la Cruz*, 1995), 367–394, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (*see* **99d:86001**) 86A05 (76B15, 76D99)
— (*with* Valle, Antonio; Parés, Carlos; Castro-Díaz, M. J.) Numerical resolution of a shallow water system using a duality method. Application to the Alboran Sea. (English summary) *Équations aux dérivées partielles et applications*, 759–786, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Meng Zhao Qin) **99m:65193** 65M60 (65M12, 76M10)
— (*with* Parés, Carlos; Castro-Díaz, M. J.) Numerical solution of the shallow-water equations using a duality method with automatic choice of parameters. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 69–77, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25 (65M99, 76B15)
— (*with* Stephenson, D. B.; Kearsley, A.) A basic reference state suitable for anomaly-coupled ocean-atmosphere climate models. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 21–24. 86A05 (86A10)

Macías, Roberto (*with* Harboure, Eleonor; Segovia, Carlos) An extrapolation theorem for pairs of weights. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 37–48. (Maria Cristina Pereyra) **99m:42031** 42B25 (47B38)

Macías Alvarez, Sergio A little about homogeneous continua. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 109–116, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (*see* **99i:00016**) 54F15
— Aposyndetic properties of symmetric products of continua. (English summary) *Topology Proc.* **22** (1997), 281–296. (Summary) **99h:54046** 54F15 (54B10)

Maciejewski, Andrzej J. (*with* Strelcyn, J.-M.) Non-integrability of the generalized Halphen system. (English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 3–12. (José A. Castro) **99f:34011** 34A34
— (*with* Goździewski, Krzysztof) Nonlinear stability of the Lagrangian libration points in the Chermnykh problem. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 1, 41–58. (Simos Ichtiaroglou) **99i:70014** 70F05 (70F15, 70K20)
— About algebraic integrability and non-integrability of ordinary differential equations. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 51–65. (Jean Moulin Ollagnier) **99b:34018** 34A34 (34A25)
— (*with* Szydłowski, Marek; Guzik, Jacek) Dynamical trajectories of simple mechanical systems as geodesics in space with an extra dimension. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1569–1585. (Geoffrey Prince) **99k:58149** 58F17 (58F05, 70H05, 83C10)
— (*with* Szydłowski, Marek) On the integrability of Bianchi cosmological models. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2031–2043. (Alexander N. Petrov) **99g:83017** 83C20
— (*with* Rybicki, Sławomir) Global bifurcations of periodic solutions of Hénon-Heiles system via degree for S^1-equivariant orthogonal maps. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 8, 1125–1146. (Maciej Błaszak) **99k:58128** 58F14 (34C23, 34C25, 47H11, 58C99, 58F05, 58F22)

Maciejowski, Jan M. The implicit daisy-chaining property of constrained predictive control. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 695–711. (*see* **99h:93003**) 93E35 (93B51)

Maciel, Alexis (*with* Beigel, Richard) Upper and lower bounds for some depth-3 circuit classes. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 235–255. (Juraj Hromkovič) **99a:68083** 68Q25 (68Q15, 94C10)
— (*with* Pitassi, Toniann) Towards lower bounds for bounded-depth Frege proofs with modular connectives. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 195–227, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (M. I. Dekhtyar) **99c:03087** 03F20 (68Q25, 94C10)
— (*with* Thérien, Denis) Threshold circuits of small majority-depth. (English summary) *Inform. and Comput.* **146** (1998), *no.* 1, 55–83. (Christoph Meinel) **99k:68082** 68Q25 (68Q05, 68Q15, 94C10)

Macintyre, Angus (*with* Karpinski, Marek) Approximating the volume of general Pfaffian bodies. (English summary) *Structures in logic and computer science*, 162–173, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99c:68213** 68T05
— Generic automorphisms of fields. (English summary) Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 165–180. (Thanases Pheidas) **99c:03046** 03C10 (03C60, 12L12)
— (*with* van den Dries, Lou; Marker, David) Logarithmic-exponential power series. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 417–434. (Danielle Gondard-Cozette) **99d:03063** 03H05 (03C62, 11U09)

MacIntyre, I. D. A. Two-person and majority continuous aggregation in 2-good space in social choice: a note. (English summary) *Theory and Decision* **44** (1998), *no.* 2, 199–209. (Summary) **99a:90030** 90A08 (90D05)

Mačiulis, A. The asymptotical expansion in the mean value theorem for multiplicative functions. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 357–361, *VSP, Utrecht*, 1997. (V. Siva Rama Prasad) **99k:11145** 11N37

Mack, Gerhard Pushing Einstein's principles to the extreme. (English summary) *Quantum fields and quantum space time* (*Cargèse*, 1996), 165–201, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Jorge A. Pullin) **99f:83058** 83C99 (83C45)

Mack, John E. (*with* Henriksen, Melvin; Kopperman, Ralph; Somerset, D. W. B.) Joincompact spaces, continuous lattices, and C^*-algebras. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 289–323. (Jimmie D. Lawson) **99c:54004** 54A05 (06B35, 46L05, 54C05, 54D30, 54E55)

Mack, Y. P. (*with* Quang, Pham X.) Kernel methods in line and point transect sampling. (English and French summaries) *Biometrics* **54** (1998), *no.* 2, 606–619. (Summary) **99b:62157** 62P10 (62G05)

Mackay, Alan L. On the regular heptagon. (English summary) *J. Math. Chem.* **21** (1997), *no.* 2, 197–209. (Summary) **99c:51028** 51M99 (92E10)

MacKay, David J. C. Good error-correcting codes based on very sparse matrices. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 399–431. (Summary) **99j:94077** 94B60

MacKay, Murray D. A pseudoenergy conservation law for the two-dimensional primitive equations. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 13, 2261–2269. (Summary) **99e:76028** 76C99 (35L65, 76U05, 86A10)

Mackay, Robert S. (*with* Baesens, C.) Gradient dynamics of tilted Frenkel-Kontorova models. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 949–964. (Volker Matthias Gundlach) **99i:58134** 58F40 (70K99, 82C05)
— (*with* Sepulchre, J.-A.) Stability of discrete breathers. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 148–162. (Summary) **99e:58115** 58F10 (58F22)
— (*with* Denvir, J.) Consequences of contractible geodesics on surfaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4553–4568. (Athanase Papadopoulos) **99b:58183** 58F17
— *see also* **Localization in nonlinear lattices**, **99d:58004**

Mackens, Wolfgang (*with* Voss, Heinrich) A projection method for computing the minimum eigenvalue of a symmetric positive definite Toeplitz matrix. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 401–415. (Raffaella Pavani) **99h:65084** 65F30 (15A18)

Mackenzie, J. A. The efficient generation of simple two-dimensional adaptive grids. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1340–1365 (*electronic*). (Summary) **99c:65226** 65N50 (76M25)

Mackenzie, Kirill C. H. (*with* Xu, Ping[1]) Classical lifting processes and multiplicative vector fields. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 193, 59–85. (Charles-Michel Marle) **99m:58210** 58H05 (58F05)

MacKenzie, Philip D. The random adversary: a lower-bound technique for randomized parallel algorithms. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1559–1580. (Friedhelm Meyer auf der Heide) **99a:68065** 68Q10 (68Q22, 68Q25)
— (*with* Plaxton, C. Greg; Rajaraman, Rajmohan) On contention resolution protocols and associated probabilistic phenomena. (English summary) *J. ACM* **45** (1998), *no.* 2, 324–378. (Menachem Dishon) **99h:68082** 68Q25 (68Q10, 90A80, 90B35)
— (*with* Stout, Quentin F.) Ultrafast expected time parallel algorithms. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 1–33. (Wojciech Rytter) **99f:68082** 68Q22 (52B55)
— (*with* Goldberg, Leslie Ann; Jerrum, Mark) An $\Omega(\sqrt{\log\log n})$ lower bound for routing in optical networks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1083–1098 (*electronic*). (Neville G. F. Sancho) **99d:68022** 68M10 (90B12)
— (*with* Ramachandran, Vijaya) ERCW PRAMs and optical communication. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 153–180. (From the introduction) **99c:68112** 68Q22 (68Q25)
— (*with* Deng, Xiao Tie; Koutsoupias, Elias) Competitive implementation of parallel programs. (English summary) *Algorithmica* **23** (1999), *no.* 1, 14–30. (Summary) **99h:68047** 68Q10 (68N20, 68Q22)

Mackenzie-Fleming, Kirsten (*with* Smith, Ken W.) An infinite family of non-embeddable quasi-residual designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 77–83. (Summary) **99i:05031** 05B05

MacKeown, P. Kevin ★ Stochastic simulation in physics. (English summary) *Springer-Verlag Singapore, Singapore*, 1997. xxii+456 *pp. ISBN* 981-3083-26-3 (Suresh V. Lawande) **99a:82054** 82B80 (65U05, 82-01, 82C80)

Mackerle, Jaroslav Delamination of composites—finite element and boundary element analyses—a bibliography (1995–1997). (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 243–252. 73K20 (73V05, 73V10)
— Finite element and boundary element analyses of eddy current problems. A bibliography (1995–1997). (English summary) *Finite Elem. Anal. Des.* **31** (1998), *no.* 1, 73–84. 78–08
— Fluid-structure interaction problems, finite element and boundary element approaches. A bibliography (1995–1998). (English summary) *Finite Elem. Anal. Des.* **31** (1999), *no.* 3, 231–240. 73K70 (73V05, 73V10)
— Finite element and boundary element technology in rock and mining mechanics: a bibliography (1995–1998). (English summary) *Finite Elem. Anal. Des.* **31** (1999), *no.* 4, 317–325. (Summary) **99k:73104** 73Q05 (73V05, 73V10)
— Geometric-nonlinear analysis by finite element and boundary element methods—a bibliography (1997–1998). (English summary) *Finite Elem. Anal. Des.* **32** (1999), *no.* 1, 51–62. 73V05 (73V10)
— Finite elements and boundary elements applied in phase change, solidification and melting problems. A bibliography (1996–1998). (English summary) *Finite Elem. Anal. Des.* **32** (1999), *no.* 3, 203–211. 00A15 (65–00, 80–08, 80A22)

Mackevičius, Vigirdas (*with* Coquet, François; Mémin, Jean) Stability in **D** of martingales and backward equations under discretization of filtration. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 235–248. (Fabio Antonelli) **99f:60109** 60H10 (60G44)

Mackey, D. Steven (*with* Faßbender, Heike; Mackey, Niloufer; Xu, Hongguo) Hamiltonian square roots of skew-Hamiltonian matrices. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 125–159. (George D. Poole) **99k:15022** 15A21 (15A24, 65F30)

Mackey, Niloufer Hamilton and Jacobi meet again: quaternions and the eigenvalue problem. (English summary) The mathematical heritage of Sir William Rowan Hamilton (Dublin, 1993). *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *suppl.*, 59–66. (Summary) **99f:16018** 16K20 (15A18)
— (*with* Faßbender, Heike; Mackey, D. Steven; Xu, Hongguo) Hamiltonian square roots of skew-Hamiltonian matrices. (English summary) Special issue celebrating the 60th

birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 125–159. (George D. Poole) **99k:15022** 15A21 (15A24, 65F30)

Macki, Jack Erratum and comments on: "Initialization of the simplex algorithm: an artificial-free approach" [SIAM Rev. **39** (1997), no. 4, 736–744; MR 98i:90051] by H. Arsham. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 1024 (*electronic*). 90C05

Mackie, Ian Linear logic with boxes. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 309–320, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (From the summary) **99i:03078** 03F50

— (*with* Fernández, Maribel) Coinductive techniques for operational equivalence of interaction nets. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 321–332, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68N15

MacKinnon, James G. (*with* Smith, Anthony A., Jr.) Approximate bias correction in econometrics. (English summary) *J. Econometrics* **85** (1998), *no.* 2, 205–230. (Summary) **99b:62164** 62P20

Maćkowiak, J. (*with* Wiśniewski, Maciej) Infinite-volume limit of reduced s-d model with antiferromagnetically coupled impurities. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 113–133. (Marek Biskup) **99a:82052** 82B44 (81V70, 82B21, 82B26)

— Infinite-volume limit of continuous n-particle quantum systems. (English summary) *Phys. Rep.* **308** (1999), *no.* 4, 235–331. (Summary) **99i:82011** 82B21 (82D40)

Maclachlan, C. (*with* Gehring, F. W.; Martin, G. J.) Two-generator arithmetic Kleinian groups. II. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 3, 258–266. (R. Michael Porter) **99j:30050** 30F40 (20H10, 57M25)

— (*with* Miller, Andrew G.) Generating functions for finite group actions on surfaces. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 21–49. (Denis Sjerve) **99e:57026** 57M60 (14H55, 57S17)

— (*with* Talu, Y.) p-groups of symmetries of surfaces. *Michigan Math. J.* **45** (1998), *no.* 2, 315–332. (Bruno Zimmermann) **99f:57018** 57M60

Mac Lane, Saunders (*with* Green, Judy; LaDuke, Jeanne; Merzbach, Uta C.) Mina Spiegel Rees (1902–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 7, 866–873. (Michael A. B. Deakin) **99h:01036** 01A70

— (*with* Bass, Hyman; Cartan, Henri; Freyd, Peter; Heller, Alex) Samuel Eilenberg (1913–1998). *Notices Amer. Math. Soc.* **45** (1998), *no.* 10, 1344–1352. (Editors) **99k:01045** 01A70

MacManus, Paul (*with* Pérez, Carlos) Generalized Poincaré inequalities: sharp self-improving properties. *Internat. Math. Res. Notices* **1998**, *no.* 2, 101–116. (From the introduction) **99k:42045** 42B30 (46E35)

— (*with* Näkki, Raimo; Palka, Bruce) Quasiconformally homogeneous compacta in the complex plane. *Michigan Math. J.* **45** (1998), *no.* 2, 227–241. (D. Drasin) **99k:30031** 30C62 (28A78)

— (*with* Koskela, Pekka) Quasiconformal mappings and Sobolev spaces. (English summary) *Studia Math.* **131** (1998), *no.* 1, 1–17. (M. Yu. Vasil′chik) **99e:46042** 46E35 (30C65)

— (*with* Näkki, Raimo; Palka, Bruce) Quasiconformally bi-homogeneous compacta in the complex plane. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 215–240. (Matti Vuorinen) **99j:30020** 30C62

Macmillen, F. B. J. Nonlinear flight dynamics analysis. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1745, 2167–2180. (Summary) **99f:70032** 70K99

— (*with* Thompson, J. M. T.) Bifurcation analysis in the flight dynamics design process? A view from the aircraft industry. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1745, 2321–2333. (Summary) **99e:70063** 70K99 (34C23)

MacMinn, Donn An analysis of Ptolemy's treatment of retrograde motion. *J. Hist. Astronom.* **29** (1998), *no.* 3, 257–270. (Benno van Dalen) **99j:01001** 01A20

MacMullan, Samuel J. (*with* Collins, Oliver M.) The capacity of binary channels that use linear codes and decoders. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 197–214. (Summary) **99b:94023** 94A40 (94B05)

— (*with* Collins, Oliver M.) A comparison of known codes, random codes, and the best codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3009–3022. (Summary) **99j:94082** 94B65

MacNeal, Richard H. Perspective on finite elements for shell analysis. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 175–186. 73V05 (73K15)

MacNish, Cara Kimberley (*with* Antoniou, Grigoris; Foo, Norman Y.) Restriction and expansion concepts for default logic. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 640–652 (*electronic*). (Summary) **99g:68188** 68T27 (03B70)

— (*with* Williams, Mary-Anne) From belief revision to design revision: applying theory change to changing requirements. (English summary) *Learning and reasoning with complex representations* (*Cairns*, 1996), 206–220, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68T27 (03B70)

— (*with* Dormer, R. D.) The PAC-learnability of planning algorithms: investigating simple planning domains. (English summary) *Inform. Sci.* **116** (1999), *no.* 1, 83–95. (Summary) **99m:68162** 68T05 (68T20)

de la Macorra, Axel (*with* Burgess, Clifford P.; Quevedo, Fernando; Maksymyk, Ivan) Supersymmetric models with product groups and field dependent gauge couplings. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 7, 30 *pp.* (*electronic*). (Summary) **99g:81209** 81T60 (81T13)

Macpherson, B. D. (*with* Thavaneswaran, A.; Abraham, Bovas) An application of filtering to statistical process control. (English summary) *Quality improvement through statistical methods* (*Cochin*, 1996), 109–120, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99h:62122** 62M20 (62N10)

Macpherson, Dugald (*with* Alperin, J. L.; Covington, Jacinta) Automorphisms of quotients of symmetric groups. (English summary) *Ordered groups and infinite permutation groups*, 231–247, *Math. Appl.*, 354, *Kluwer Acad. Publ., Dordrecht*, 1996. (Fred Richman) **99a:20002** 20B27 (20B30)

— (*with* Bhattacharjee, Meenaxi; Möller, Rögnvaldur G.; Neumann, Peter M.) ★ Notes on infinite permutation groups. (English summary) Texts and Readings in Mathematics, 12. *Hindustan Book Agency, New Delhi*, 1997. *xii*+202 *pp. ISBN* 81-85931-13-5 (Cheryl E. Praeger) **99e:20003** 20B07

— Homogeneous and smoothly approximated structures. *Algebraic model theory* (*Toronto, ON*, 1996), 161–179, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (Fuxing Shen) **99c:03055** 03C50 (03–02, 03C45)

— (*with* Haskell, Deirdre) A version of o-minimality for the p-adics. *J. Symbolic Logic* **62** (1997), *no.* 4, 1075–1092. (Fuxing Shen) **99j:03028** 03C60 (03C50)

— (*with* Droste, Manfred; Giraudet, Michele) Set-homogeneous graphs and embeddings of total orders. (English summary) *Order* **14** (1997), *no.* 1, 9–20. (Summary) **99f:05029** 05C10 (05C25, 06A06)

— (*with* Haskell, Deirdre) A note on valuation definable expansions of fields. *J. Symbolic Logic* **63** (1998), *no.* 2, 739–743. (Max A. Dickmann) **99m:03069** 03C60 (12J20)

MacPherson, Robert D. (*with* Goresky, Mark; Kottwitz, Robert E.) Discrete series characters and the Lefschetz formula for Hecke operators. *Duke Math. J.* **89** (1997), *no.* 3, 477–554. (Ernst-Wilhelm Zink) **99e:11064a** 11F75 (20G30, 20G35, 22E47)

— (*with* Goresky, Mark; Kottwitz, Robert E.) Correction to: "Discrete series characters and the Lefschetz formula for Hecke operators". *Duke Math. J.* **92** (1998), *no.* 3, 665–666. (Ernst-Wilhelm Zink) **99e:11064b** 11F75 (20G30, 20G35, 22E47)

— (*with* Goresky, Mark; Kottwitz, Robert E.) Equivariant cohomology, Koszul duality, and the localization theorem. *Invent. Math.* **131** (1998), *no.* 1, 25–83. (Roy Joshua) **99c:55009** 55N91 (14F25, 14F32, 16E99, 18G10, 55N33)

MacQueen, James B. Markov sculpture. (English summary) *Statistics, probability and game theory*, 169–190, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Sophia Kalpazidou) **99e:60215** 60K35

Macris, Nicolas (*with* Martin, Philippe André[1]; Pulé, Joseph V.) Large volume asymptotics of Brownian integrals and orbital magnetism. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 2, 147–183. (Roberto Fernández) **99d:82022** 82B21 (60J65, 82B10, 82D40)

— (*with* Piguet, C.-A.) Coexistence of long-range order for two observables at finite temperatures. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 749–755. (Summary) **99m:82005** 82B10 (81V70, 82B20)

— (*with* Martin, Philippe André[1]; Pulé, Joseph V.) On edge states in semi-infinite quantum Hall systems. (English summary) *J. Phys. A* **32** (1999), *no.* 10, 1985–1996. (Summary) **99m:81295** 81V70

Macula, Anthony J. (*with* Reuter, George R.) Simplified searching for two defects. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 77–82. (Summary) **99a:62109** 62K05

Maculan, Nelson (*with* Ortiz Z., Carmen; Szwarcfiter, Jayme L.) Characterizing and edge-colouring split-indifference graphs. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 209–217. (Mirko Horňák) **99b:05061** 05C15 (05C75)

Macura, Janina A variational method for univalent functions connected with antigraphy. II. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 113–124. (Summary) **99f:30029** 30C55 (30C45)

Mačys, Juozas Estimates for the stability of decompositions of three-point distributions. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 495–505; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 374–381 (1998). (S. G. Maloshevskiĭ) **99h:60022** 60E05

Mączyński, Maciej (*with* Dorninger, Dietmar; Länger, Helmut) On ring-like structures occurring in axiomatic quantum mechanics. (English summary) *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 279–289 (1998). (Décio Krause) **99m:81017** 81P10 (03G12, 08A55)

— (*with* Lahti, Pekka J.) Coherent states and number-phase uncertainty relations. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 265–272. (R. L. Ingraham) **99i:81081** 81R30 (47N50, 81S05)

— (*with* Lahti, Pekka J.; Ylinen, Kari) The moment operators of phase space observables and their number margins. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 319–331. (Constantin Syros) **99m:81118** 81S30 (28B99, 47N50)

Madan, B. B. (*with* Padmini, M. V.; Jain, B. N.) Reordering for parallelism. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 373–390. (Summary) **99k:15028** 15A23 (05C99)

— (*with* Padmini, M. V.; Jain, B. N.) A linear array for large sparse matrix operations. I. Cholesky factorization. (English summary) *Parallel Algorithms Appl.* **13** (1999), *no.* 3, 187–215. (Summary) **99m:65095** 65F50 (65Y05)

— (*with* Padmini, M. V.; Jain, B. N.) A linear array for large sparse matrix operations. II. Triangular system solvers and matrix multiplication. (English summary) *Parallel Algorithms Appl.* **13** (1999), *no.* 3, 217–237. (Summary) **99m:65096** 65F50 (65Y05)

Madan, Dilip B. (*with* Elliott, Robert J.) A discrete time equivalent martingale measure. (English summary) *Math. Finance* **8** (1998), *no.* 2, 127–152. (Marek Rutkowski) **99c:90019** 90A09 (60G42)

Madaras, Tomáš (*with* Jendroľ, Stanislav; Soták, Roman; Tuza, Zsolt) On light cycles in plane triangulations. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 453–467. (Summary) **99j:05055** 05C10 (05C38, 52B10)

Madatyan, Kh. A. On an algorithm for constructing irredundant tests for binary tables. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 698–704; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 672–678. (Summary) **99e:65008** 65C99 (05B20, 94C12)

Maday, Yvon (*with* Joly, Pascal; Perrier, Valérie) A dynamical adaptive concept based on wavelet packet best bases: application to convection diffusion partial differential equations. (English summary) *Multiscale wavelet methods for partial differential equations*, 199–235, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Ruud van Damme) **99d:65287** 65M60 (42C15)

— (*with* Boukir, K.; Métivet, Brigitte; Razafindrakoto, E.) A high-order characteristics/finite element method for the incompressible Navier-Stokes equations. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 12, 1421–1454. (M. M. Sussman) **99a:76082** 76M10 (65M12, 76D05)

— (*with* Grandmont, Céline) Analyse et méthodes numériques pour la simulation de phénomènes d'interaction fluide-structure. (French summary) [Numerical analysis and methods for the simulation of fluid-structure interaction phenomena] *Actes du 29ème Congrès d'Analyse Numérique: CANum'97* (*Larnas*, 1997), 101–117 (*electronic*), *ESAIM*

Proc., 3, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99e:76040** 76D99 (65C20, 73K70, 76M25)

— (*with* Paraschivoiu, Marius; Peraire, Jaime; Patera, Anthony T.) Fast bounds for outputs of partial differential equations. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 323–360, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:65160** 65N30 (65N15, 76M10)

— (*with* Grandmont, Céline) Nonconforming grids for the simulation of fluid-structure interaction. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 262–270, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (G. W. Hedstrom) **99h:76058** 76M10 (65M55, 65M60)

— (*with* Turinici, Gabriel) Analyse numérique de la méthode des variables adiabatiques pour l'approximation de l'hamiltonien nucléaire. (English and French summaries) [Numerical analysis of the adiabatic variable method for the approximation of the nuclear Hamiltonian] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 397–402. (Summary) **99f:81230** 81V35 (81–08)

— (*with* Grandmont, Céline) Existence de solutions d'un problème de couplage fluide-structure bidimensionnel instationnarie. (English and French summaries) [Existence of solutions for a two-dimensional unsteady fluid-structure interaction problem] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 525–530. (Summary) **99g:76034** 76D05 (35Q30, 73K70)

— (*with* Lacour, Catherine) La méthode des éléments avec joint appliquée aux méthodes d'approximations discrete Kirchhoff triangles. (English and French summaries) [On the convergence of discrete Kirchhoff triangle approximation for the mortar method] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1237–1242. (Summary) **99f:65191** 65N55 (65N30, 73V05)

— (*with* Xu, Chuanju) A spectral element method for the time-dependent two-dimensional Euler equations: applications to flow simulations. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 63–85. (Summary) **99d:76081** 76M25 (65M70, 76C99, 76D05)

— (*with* Achdou, Yves; Widlund, Olof B.) Iterative substructuring preconditioners for mortar element methods in two dimensions. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 551–580 (*electronic*). (Ji Chun Li) **99m:65233** 65N55 (65F35, 65N30, 65N35)

Maddala, G. S. (*with* Li, Hongyi) Bootstrap based tests in financial models. *Statistical methods in finance*, 463–488, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62054** 62G09 (62P20, 90A09)

— (*with* Nimalendran, M.) Errors-in-variables problems in financial models. *Statistical methods in finance*, 507–528, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62143** 62P20 (90A09)

— Applications of limited dependent variable models in finance. *Statistical methods in finance*, 553–566, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62144** 62P20 (90A09)

— (*with* Yin, Yong) Outliers, unit roots and robust estimation of nonstationary time series. *Robust inference*, 237–266, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62M10 (62F35)

— (*with* Rao, Calyampudi Radhakrishna) Future directions. *Robust inference*, 661–675, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

— (*with* Li, Hongyi) Bootstrapping cointegrating regressions. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 297–318. (Summary) **99a:62156** 62P20 (62M10)

— *see also* **Hinkley, David**, **99a:62157**; **Robust inference**, **99d:62025** *and* **Statistical methods in finance**, **99g:62157**

Maddalena, Lucia (*with* D'Apuzzo, Marco) Parallelization strategies for the *B*-spline curve interpolation problem. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc*, 1996), 1–8, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D05 (65D07, 65Y05)

Madden, Kathleen M. (*with* Johnson, Aimee S. A.) Putting the pieces together: understanding Robinson's nonperiodic tilings. *College Math. J.* **28** (1997), *no.* 3, 172–181. (Sándor Szabó) **99a:52033** 52C20

— (*with* Keynes, H.; Markley, Nelson; Sears, M.) An overview of the construction of suspension flows using continuous cocycles. *Topological dynamics and applications (Minneapolis, MN*, 1995), 133–148, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (From the text) **99k:54034** 54H20

— The giant spiral. (English summary) *Israel J. Math.* **103** (1998), 67–92. (H. Keynes) **99f:28030** 28D15 (54H20, 58F25)

— (*with* Johnson, Aimee S. A.) The decomposition theorem for two-dimensional shifts of finite type. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1533–1543. (Fred W. Roush) **99h:58055** 58F03

Madden, Peter (*with* Bundy, Alan; Smaill, Alan) Recursive program optimization through inductive synthesis proof transformation. (English summary) *J. Automat. Reason.* **22** (1999), *no.* 1, 65–115. (Summary) **99j:68124** 68T15 (68N99)

Maddila, Sanjeev (*with* Chong, Eugene Inseok; Morley, Steve) On finding single-source single-destination k shortest paths. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 40–47 (*electronic*). (*see* **99d:68010**) 68R10 (05C38)

Maddocks, John H. (*with* Kehrbaum, S.) Elastic rods, rigid bodies, quaternions and the last quadrature. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2117–2136. (Summary) **99j:73066** 73K05 (58F05, 70E15, 73K12)

— (*with* Manning, Robert S.; Rogers, Kathleen A.) Isoperimetric conjugate points with application to the stability of DNA minicircles. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3047–3074. (Summary) **99j:49032** 49K10 (73K05, 73V25, 92D20)

— (*with* Manning, Robert S.) Symmetry breaking and the twisted elastic ring. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 313–330. (Summary) **99m:73041** 73H05 (34B15, 73P20)

Maddox, I. J. Tauberian theorems for power sequences. *J. Nat. Acad. Math. India* **8** (1990), *no.* 1, 24–28. (Y. Sitaraman) **99c:40012** 40J05

— Norm-determining periodic double sequences. *J. Nat. Acad. Math. India* **10** (1992/96), 12–16 (1997). (P. Miličić) **99a:46018** 46B15

Maddux, Roger D. (*with* Frias, Marcelo F.) Non-embeddable simple relation algebras. (English summary) *Algebra Universalis* **38** (1997), *no.* 2, 115–135. (Szabolcs Mikulás) **99a:03063** 03G15

— (*with* Frias, Marcelo F.) Completeness of a relational calculus for program schemes. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN*, 1998), 127–134, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68080** 68Q60 (03B70, 68Q55)

Maden, Selahattin (*with* Khaniev, Tahir A.; Özdemir, Halim) Calculating the probability characteristics of a boundary functional of a semi-continuous random process with reflecting and delaying screens. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 2, 117–123. (Paul Embrechts) **99m:60137** 60K05 (90B05)

Mader, Adolf (*with* Benabdallah, K.) Almost completely decomposable groups and integral linear algebra. *J. Algebra* **204** (1998), *no.* 2, 440–482. (David M. Arnold) **99g:20099** 20K15

Mader, W. An extremal problem for subdivisions of K_5^-. (English summary) *J. Graph Theory* **30** (1999), *no.* 4, 261–276. (Jenő Lehel) **99m:05079** 05C35 (05C40)

Madharia, B. (*with* Pathak, H. K.; Cho, Yeol Je; Kang, Shin Min) Compatible mappings of type (C) and common fixed point theorems of Greguš type. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 499–518. 54H25 (54E45)

veni Madhavan, C. E. *see* **Veni Madhavan, C. E.**

Madhukar Mallayya, V. Various methods of squaring with special reference to the *Lilavati* of Bhaskara II and the commentary *Kriyakramakari* of Sankara and Narayana. *Ganita Sandesh* **11** (1997), *no.* 1, 31–36. (A. I. Volodarskiĭ) **99h:01016** 01A32

— Arithmetic operation of division with special reference to Bhāskara II's *Līlāvatī* and its commentaries. (English summary) *Indian J. Hist. Sci.* **32** (1997), *no.* 4, 315–324. (Takao Hayashi) **99e:01008** 01A32

— Pañćarāśikādau—the Indian golden rule compound (with special reference to Bhāskara's *Līlāvatī* and its commentaries). (English summary) *Gurukula Kangri Vijñāna Patrikā Āryabhaṭa* **1** (1998), 29–50. (A. I. Volodarskiĭ) **99j:01003** 01A32

Madhukar Reddy, K. (*with* Kirkpatrick, D. G.; Pandu Rangan, C.; Srinivasan, Anand) Partial and perfect path covers of cographs. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 143–153. (Michael E. Raines) **99m:05127** 05C70

Madhusudan, P. (*with* Thiagarajan, P. S.) Controllers for discrete event systems via morphisms. (English summary) *CONCUR'98: concurrency theory (Nice)*, 18–33, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:93065** 93C83 (68Q60)

Madhusudhana, H. S. (*with* Siddiqi, M. U.) On Blahut's decoding algorithms for two-dimensional BCH codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 358–367. (N. L. Manev) **99e:94049** 94B35

Madigan, David (*with* Andersson, Steen A.; Perlman, Michael D.) An alternative Markov property for chain graphs. (English summary) *Uncertainty in artificial intelligence (Portland, OR*, 1996), 40–48, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

— (*with* Andersson, Steen A.; Perlman, Michael D.) A characterization of Markov equivalence classes for acyclic digraphs. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 505–541. (M. Studený) **99a:62076** 62H05 (05C90, 60K99, 68T30)

Madlener, Klaus (*with* Avenhaus, J.) Theorem proving in hierarchical clausal specifications. (English summary) *Advances in algorithms, languages, and complexity*, 1–51, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99b:68129** 68Q65 (03B70)

— (*with* Otto, Friedrich; Sattler-Klein, Andrea) Automatic monoids versus monoids with finite convergent presentations. (English summary) *Rewriting techniques and applications (Tsukuba*, 1998), 32–46, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68140** 68Q42 (20M05)

— (*with* Reinert, Birgit) String rewriting and Gröbner bases—a general approach to monoid and group rings. (English summary) *Symbolic rewriting techniques (Ascona*, 1995), 127–180, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Joachim Apel) **99e:68076** 68Q40 (16S15, 16S34, 68Q42)

— (*with* Reinert, Birgit) A generalization of Gröbner basis algorithms to polycyclic group rings. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 1, 23–43. (Colin M. Campbell) **99d:16029** 16S34

— (*with* Reinert, Birgit) Relating rewriting techniques on monoids and rings: congruences on monoids and ideals in monoid rings. (English summary) Rewriting techniques and applications (New Brunswick, NJ, 1996). *Theoret. Comput. Sci.* **208** (1998), *no.* 1-2, 3–31. (Friedrich Otto) **99m:68102** 68Q42 (16S36, 20M05, 20M25, 68Q40)

Madnick, S. (*with* Bressan, Stephane F.; Goh, Cheng Hian; Lee, Thomas Y.; Siegel, Michael) A procedure for mediation of queries to sources in disparate contexts. (English summary) *Logic programming (Port Washington, NY*, 1997), 213–227, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68P15)

Mado, J. C. (*with* Cherdieu, J. P.; Delcroix, A.; Mercier, Dany-Jack) Weight distribution of the Hermitian forms codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 307–314. (Marc Perret) **99d:11131** 11T71 (94B27)

Madore, J. Gravity on the quantum plane. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 71–77. (Summary) **99c:58015** 58B30 (81R50, 83C99)

— (*with* Georgelin, Y.; Masson, T.; Mourad, J.) On the noncommutative Riemannian geometry of $GL_q(n)$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3263–3277. (Axel Schüler) **99d:58025** 58B30 (81R50)

— Classical gravity on fuzzy space-time. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 183–190. (Kamran Kaviani) **99b:83060** 83C99 (04A72, 58B30, 83C45)

— (*with* Saeger, L. A.) Topology at the Planck length. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 811–826. (Martin Schlichenmaier) **99e:58014** 58B30 (81S10, 81T30, 83E30)

— (*with* Mourad, J.) Quantum space-time and classical gravity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 423–442. (Summary) **99k:58016** 58B30 (83C99)

— (*with* Cho, Sunggoo; Park, Kwang Sung) Non-commutative geometry of the h-deformed quantum plane. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2639–2654. (Jihad Mourad) **99c:58011** 58B30 (81R50)

Madras, Neal (*with* Janse van Rensburg, E. J.) Metropolis Monte Carlo simulation of lattice animals. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8035–8066. (Stuart G. Whittington) **99b:82038** 82B41 (60K35, 82B80)

— Umbrella sampling and simulated tempering. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 19–32, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (Summary) **99h:82049** 82B80 (65U05)
— (*with* Janse van Rensburg, E. J.) Monte Carlo simulation of the Θ-point in lattice trees. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 141–157, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82B80 (65C05, 82D60)
— *see also* **Roberts, Gareth O., 99h:62123**
Mądrecki, Andrzej (*with* Burdzy, Krzysztof) Itô formula for an asymptotically 4-stable process. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 1, 200–217. (J. Picard (Zbl 856.60042)) **99a:60042** 60G18 (60H05)
Madrid de la Vega, Humberto Numerical computation of eigenvalues and eigenvectors of dense matrices. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 353–370, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 65F15
— (*with* López Estrada, Jesús; Guerra Ones, Valia) Numerical calculation of the Moore-Penrose pseudoinverse of a matrix. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 117–132. (Summary) **99e:65067** 65F20
díaz Madrigal, Santiago *see* **Díaz Madrigal, Santiago**
Madsen, Anders Bisbjerg Einstein-Weyl structures in the conformal classes of LeBrun metrics. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2635–2645. (Andrew Swann) **99a:53059** 53C25
Madsen, Henrik (*with* Sadegh, Payman; Hansen, Lars H.; Holst, Jan) Input design for linear dynamic systems using maxmin criteria. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 223–240. 93B51 (93B30)
Madsen, Jesper (*with* Andersson, Steen A.) Symmetry and lattice conditional independence in a multivariate normal distribution. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 525–572. (Truc Nguyen) **99g:62074** 62H12 (62H15)
Madsen, Kaj (*with* Caprani, Ole; Stauning, Ole) Existence test for asynchronous interval iteration. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 269–275. (Summary) **99a:65061** 65G10 (65D99)
— (*with* Nielsen, Hans Bruun; Pinar, Mustafa Çelebi) A finite continuation algorithm for bound constrained quadratic programming. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 62–83 (*electronic*). (Wu Li) **99k:90113** 90C20 (90C25)
Madsen, Niel K. (*with* Gedney, Stephen D.; Roden, J. Alan; Mohammadian, Alireza H.; Hall, William F.; Shankar, Vijaya; Rowell, Chris) Explicit time-domain solutions of Maxwell's equations via generalized grids. *Advances in computational electrodynamics*, 163–262, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78002** 78–08 (65M06, 78A45)
Madsen, Oli B. G. (*with* Kohl, Niklas) An optimization algorithm for the vehicle routing problem with time windows based on Lagrangian relaxation. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 395–406. (Summary) **99f:90165** 90C35 (90B06, 90C27)
— (*with* Fisher, Marshall L.; Jörnsten, Kurt O.) Vehicle routing with time windows: two optimization algorithms. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 488–492. 90B06 (90C27)
Madych, W. R. Finite orthogonal transforms and multiresolution analyses on intervals. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 3, 257–294. (Summary) **99c:42067** 42C15
— (*with* Lorentz, Rudolph Alexander; Sahakian, Artur A.) Translation and dilation invariant subspaces of $L^2(\mathbf{R})$ and multiresolution analyses. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 375–388. (Sergio A. Tozoni) **99h:42062** 42C15 (42B10)
Maeda, Hajime (*with* Bai, Leqiang; Ebara, Hiroyuki; Nakano, Hideo[1]) An adaptive distributed fault-tolerant routing algorithm for the star graph. (English summary) *Algorithms and computation* (*Singapore*, 1997), 62–71, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68M10 (68M15)
— (*with* Chen, Handa) Parseval-like identity of wavelet transform and its applications to noise reduction. (English summary) *Trans. Inst. Systems Control Inform. Engrs.* **10** (1997), *no.* 12, 656–667. (Summary) **99e:94007** 94A12 (94A11)
— (*with* Bai, Leqiang; Ebara, Hiroyuki; Nakano, Hideo[1]) A broadcasting algorithm with time and message optimum on arrangement graphs. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 2, 17 *pp.* (*electronic*). (Summary) **99c:68008** 68M10 (05C85, 68R10)
Maeda, Hidetoshi Ample vector bundles of small curve genera. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 3, 239–243. (Antonio Lanteri) **99a:14067** 14J60 (14J40)
Maeda, Hironobu Auflösung der Flächensingularitäten und stabile Reduktion der Fermatkurve. (English summary) [Resolution of surface singularities and stable reduction of the Fermat curve] *J. Number Theory* **65** (1997), *no.* 2, 305–315. (From the introduction) **99f:11078** 11G30
Maeda, Hiroshi[1] (*with* Nobusada, Yuji) A study on the parallel computability of multi-fold approximate reasoning. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 129–144. (Summary) **99e:68151** 68T27 (03B35, 03B52, 03B70)
Maeda, Kei-ichi (*with* Tamaki, Takashi; Torii, Takashi) Non-abelian black holes in Brans-Dicke theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4870–4884. 83D05 (83C57)
— (*with* Chiba, Takeshi; Nakao, Ken-ichi; Tsukamoto, Taro) Two boosted black holes in asymptotically de Sitter space-time: relation between mass and apparent horizon formation. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6119–6126. (Summary) **99m:83105** 83C57
— (*with* Suzuki, Shingo) Innermost stable circular orbit of a spinning particle in Kerr spacetime. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 023005, 11 *pp.* 83C10 (83C15)
— (*with* Koga, Jun-ichirou) Equivalence of black hole thermodynamics between a generalized theory of gravity and the Einstein theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064020, 10 *pp.* (Summary) **99k:83074** 83C57 (83D05)
— (*with* Torii, Takashi) Stability of a dilatonic black hole with a Gauss-Bonnet term. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084004, 13 *pp.* 83C57
— (*with* Easther, Richard) Chaotic dynamics and two-field inflation. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 5, 1637–1652. 83F05 (58F13)
Maeda, Kengo (*with* Ishibashi, Akihiro; Narita, Makoto) Chronology protection and non-naked singularity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1637–1651. (Robert J. Low) **99i:83075** 83C75
— (*with* Koike, Tatsuhiko; Narita, Makoto; Ishibashi, Akihiro) Upper bound for entropy in asymptotically de Sitter space-time. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3503–3508. (Summary) **99m:83125** 83C57
— (*with* Torii, Takashi; Narita, Makoto) Do naked singularities generically occur in generalized theories of gravity? (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 24, 5270–5273. (Summary) **99i:83066** 83C57 (83C75, 83E30)
— (*with* Torii, Takashi; Narita, Makoto) Toward the no-scalar-hair conjecture in asymptotically de Sitter spacetime. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064027, 8 *pp.* (Summary) **99k:83086** 83C57
Maeda, Mikio (*with* Hayashi, Kenichiro; Otsubo, Akifumi; Murakami, Shuta) Realization of nonlinear and linear PID controls using simplified indirect fuzzy inference method. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 409–414. 93C99 (93A99)
Maeda, Nobuyuki (*with* Saigo, Megumi) More generalization of fractional calculus. (English summary) *Transform methods & special functions, Varna* '96, 386–400, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99i:26009** 26A33 (33C45)
Maeda, Sadahiro (*with* Ki, U-Hang) Notes on extrinsic spheres. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 433–439. (Bao Qiang Wu) **99j:53075** 53C40 (53C22, 53C55)
— (*with* Adachi, Toshiaki) A construction of closed helices with self-intersections in a complex projective space by using submanifold theory. (English summary) *Hokkaido Math. J.* **28** (1999), *no.* 1, 133–145. (Bao Qiang Wu) **99m:53111** 53C42 (53C22)
Maeda, Shigeru On inheritance of quadratic first integral of linear system via Runge-Kutta methods. (English summary) *J. Math. Tokushima Univ.* **31** (1997), 63–67. (Masaharu Nakashima) **99d:65217** 65L06 (34A45)
Maeda, Takashi *see* **Maeda, Takashi[2]**
Maeda, Takashi[1] Intermediate Jacobians of projective plane bundles over a smooth projective surface. (English summary) *Ryukyu Math. J.* **10** (1997), 23–49. (Samwel Dalalyan) **99e:14055** 14K30 (14F20, 14F25, 14H30)
Maeda, Takashi[2] (*with* Kuwano, Hiroaki) Inverse problems in fuzzy linear programming problems. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 183–193. (*see* **99b:90009**) 90C70 (90C05)
— (*with* Naruse, Yoshinori) A game-theoretic approach to cost allocation in network system. Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 192–197. (*see* **99h:90006**) 90B10 (90D40)
Maeda, Yasunari (*with* Ukita, Yoshifumi; Matsushima, Toshiyasu; Hirasawa, Shigeichi) The optimal algorithms for the reinforcement learning problem separated into a learning period and a control period. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1116–1126. (Summary) **99a:68144** 68T05
Maeda, Yoichi Chaos arising from Euler's discretization and to measure asymmetry of figures. Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 99–105. (*see* **99a:00043**) 58F13 (34C99)
Maeda, Yoshiaki The Ovsienko product revised. Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 134–138. (Mohsen Masmoudi) **99e:58086** 58F06
— (*with* Ōmori, Hideki; Miyazaki, Naoya; Yoshioka, Akira) Deformation quantizations of the Poisson algebra of Laurent polynomials. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 2, 171–180. (Summary) **99k:58078** 58F06 (58H15)
Maeda, Yoshitaka (*with* Hida, Haruzo) Non-abelian base change for totally real fields. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 189–217. (Alexey A. Panchishkin) **99f:11068** 11F80 (11F85)
Maeder, Joachim (*with* Balaska, S.; Rühl, W.) The continuous series of critical points of the two-matrix model at $N \to \infty$ in the double scaling limit. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 411–432. (Summary) **99b:81167** 81T27 (81T40)
Maehara, Hiroshi (*with* Noha, Hiroshi) On the graph represented by a family of solid balls on a table. (English summary) *Ryukyu Math. J.* **10** (1997), 51–64. (Graham Brightwell) **99c:05165** 05C75 (05C10)
— Embedding a set of rational points in lower dimensions. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 273–279. (Summary) **99j:52019** 52C07 (51M05)
— (*with* Matsumoto, Makoto) Is there a circle that passes through a given number of lattice points? (English summary) *European J. Combin.* **19** (1998), *no.* 5, 591–592. (Andrew Bremner) **99e:11028** 11D09
— Vector fields and quadratic surfaces. (English summary) *Ryukyu Math. J.* **11** (1998), 53–63. (Summary) **99k:57057** 57R25 (52C25)
— A minimal rigid graph in the plane that is not constructible by ruler and compass. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 2, 109–111. (Tiong Seng Tay) **99e:52034** 52C25 (05C35)
— (*with* Kaneko, Atsushi; Watanabe, Mamoru) On the number of acute triangles in a straight-line embedding of a maximal planar graph. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 110–115. (Summary) **99k:05066** 05C10
Maejima, Makoto Moments of limits of lightly trimmed sums of random vectors in the generalized domain of normal attraction of non-Gaussian operator-stable laws. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 737–747. (Jerry Alan Veeh) **99c:60048** 60F05 (60E07)
— (*with* Naito, Yoshihiro) Semi-selfdecomposable distributions and a new class of limit theorems. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 1, 13–31. (Mark M. Meerschaert) **99g:60033** 60E07 (60F05)
Maekawa, K. (*with* Knight, J. L.; Hisamatsu, H.) Finite sample comparisons of the distributions of the OLS and GLS estimators in regression with an integrated regressor and correlated errors. (English summary) *Econometric Rev.* **17** (1998), *no.* 4, 387–413. (Summary) **99j:62096** 62J05
Maekawa, Nobuhiro Duality of supersymmetric standard models. (English summary) *Perspectives of strong coupling gauge theories* (*Nagoya*, 1996), 251–257, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99a:81003**) 81V22 (81T60)

— (*with* Hirayama, Takayuki; Sugimoto, Shigeki) Deformations of $\mathcal{N} = 2$ dualities to $\mathcal{N} = 1$ dualities in SU, SO and USp gauge theories. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 843–873. (Marco Spaans) **99h:81211** 81T60 (81T13)

Maekawa, Takashi (*with* Patrikalakis, Nicholas M.; Sakkalis, Takis; Yu, Guoxin) Analysis and applications of pipe surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 437–458. (Summary) **99c:68254** 68U07 (65D17, 68U05)

— (*with* Chalfant, J. S.) Computation of inflection lines and geodesics on developable surfaces. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 251–267. (*see* **99i:65004**) 65Y25 (65D17)

Maekawa, Takayoshi (*with* Taira, Hideo) Note on gauge theory on $M_4 \times Z_N$ with auxiliary field. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 6, 1029–1032. (Gennaro Miele) **99f:58020** 58B30 (81T13)

Maekawa, Tomoko (*with* Hamada, Noboru) A characterization of some q-ary linear codes $(q > (h-1)^2,\ h \geq 3)$ meeting the Griesmer bound. II. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 241–252. (Raymond Hill) **99d:94030** 94B05

Maenhaut, Barbara M. (*with* Delaney, Cathy; Gray, Brenton D.; Gray, Ken; Sharry, Martin J.; Street, Anne Penfold) Pointwise defining sets and trade cores. (English summary) *Australas. J. Combin.* **16** (1997), 51–76. (Dinesh G. Sarvate) **99b:05017** 05B05

— (*with* Bryant, Darryn E.) Defining sets of G-designs. (English summary) *Australas. J. Combin.* **17** (1998), 257–266. (Summary) **99a:05010** 05B05

— The intersection problem for group divisible pentagon systems. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 73–78. (Michael E. Raines) **99f:05093** 05C70 (05B30)

— (*with* Billington, Elizabeth J.; Hoffman, Dean G.) Group divisible pentagon systems. (English summary) *Util. Math.* **55** (1999), 211–219. (Summary) **99m:05038** 05B30

Maeno, Mineki (*with* Konno, Kimiaki; Katayama, Yoichi; Yamamoto, Takamitsu) Solitons in the brain: a model of α-waves. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 130–139. (*see* **99f:76003**) 35Q80 (35Q51, 92B05)

Maergoĭz, L. S. Extremal properties of entire functions in Wiener classes and their applications. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 161–165. (Arman H. Karapetyan) **99i:32001** 32A15 (32D15)

Maerten, Bart (*with* Cools, Ronald) A hybrid subdivision strategy for adaptive integration routines. (English summary) *J.UCS* **4** (1998), *no.* 5, 486–500 (*electronic*). (Summary) **99h:65040** 65D32 (41A55)

Maes, Ann (*with* Van Daele, Alfons) Notes on compact quantum groups. (English summary) *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 73–112. (Aldo J. Lazar) **99g:46105** 46L89 (16W30)

Maes, Arnaud Morphisms and almost-periodicity. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 2-3, 233–248. (Robert J. Simpson) **99f:05013** 05A99 (05C99, 68R15)

Maes, Christian (*with* Cesi, F.; Martinelli, Fabio) Relaxation of disordered magnets in the Griffiths' regime. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 135–173. (Agoston Pisztora) **99f:82031** 82B44

— (*with* Cesi, F.; Martinelli, Fabio) Relaxation to equilibrium for two-dimensional disordered Ising systems in the Griffiths phase. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 323–335. (Roberto Fernández) **99h:82067** 82C44 (82C26)

— (*with* Cesi, F.; Martinelli, Fabio) Relaxation of random magnets: exact results for the Griffiths' regime. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 465–474. (Massimo Campanino) **99m:60150** 60K35 (82B44, 82C22)

— (*with* Alexander, Kenneth S.; Cesi, F.; Chayes, L.; Martinelli, Fabio) Convergence to equilibrium of random Ising models in the Griffiths phase. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 337–351. (Aernout C. D. van Enter) **99i:82037** 82C44 (60K35, 82B44, 82C22)

— (*with* Lőrinczi, József; Vande Velde, Koen) Transformations of Gibbs measures. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 1, 121–147. (Aernout C. D. van Enter) **99i:60174** 60K35 (60G60, 82B20, 82B43)

Maes, Stéphane H. Robust speech and speaker recognition using instantaneous frequencies and amplitudes obtained with wavelet-derived synchrosqueezing measures. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 193–216, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 94A12 (94A14)

Maesono, Yoshihiko Higher order comparisons of jackknife variance estimators. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 35–45. (Summary) **99d:62041** 62G05

— Asymptotic properties of jackknife skewness estimators and Edgeworth expansions. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 51–68. (Summary) **99b:62022** 62E20 (62F12)

— Asymptotic mean square errors of variance estimators for U-statistics and their Edgeworth expansions. (English summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 1, 1–19. (Winfried Stute) **99m:62021** 62E17 (62E20)

Maessen, Jan-Willem (*with* Arvind[2]; Nikhil, Rishiyur S.; Stoy, Joseph E.) A lambda calculus with letrecs and barriers. *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 19–36, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (From the introduction) **99a:68023** 68N15 (03B40)

— (*with* Arvind[2]; Nikhil, Rishiyur S.; Stoy, Joseph E.) λ_S: an implicitly parallel λ-calculus with recursive bindings, synchronization and side effects. (English summary) *HLCL '98 3rd International Workshop on High-level Concurrent Languages* (*Nice*), 26 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 3, *Elsevier, Amsterdam*, 1998. (*see* **99g:68009**) 68N15 (03B40)

Maestre, M. (*with* Algaba, A.; Merino, M.; García, Cristóbal) Resonance phenomena in an electronic circuit. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 139–144, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C15 (94C05)

Maesumi, Mohsen On construction of a family of smooth nonseparable prewavelets via infinite products of triangularizable matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 1005–1026 (*electronic*). (Gerlind Plonka) **99i:42050** 42C15 (26A15, 41A30, 65D20)

Maevskiĭ, E. V. (*with* Kalitkin, N. N.; Kuz'mina, L. V.) Rotationally invariant splines. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 583–586. 41A15

— Asymptotic behavior of solutions of a second-order quasilinear equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1654–1660; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1583–1590. (Summary) **99f:34083** 34E99 (34A34, 35Q53)

Maeyama, Y. Determination of the Sun's orbit (Hipparchus, Ptolemy, al-Battānī, Copernicus, Tycho Brahe). *Arch. Hist. Exact Sci.* **53** (1998), *no.* 1, 1–49. (Owen Gingerich) **99e:01004** 01A20 (01A30, 01A40)

Maeztu, J. I. (*with* Sainz de la Maza, E.) Obtaining cubature formulas for the tetrahedron. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*) (*Vic*, 1995), 4 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65D32

Maffei, C. (*with* Caglioti, E.) Scattering theory: a possible approach to the homogenization problem for the Euler equations. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 445–475. (J. Thomas Beale) **99a:76019** 76C05 (35B27, 35Q35)

— (*with* Caglioti, E.) Time asymptotics for solutions of Vlasov-Poisson equation in a circle. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 301–323. (Summary) **99e:82093** 82D10

Maffezzoni, Claudio (*with* Carpanzano, Emanuele) Symbolic manipulation techniques for model simplification in object-oriented modelling of large scale continuous systems. (English summary) *Math. Comput. Simulation* **48** (1998), *no.* 2, 133–150. 93A30 (65F30, 65L99)

Maffioli, Francesco (*with* Galbiati, Giulia; Morzenti, Angelo) On the logical definability of some maximum leaves problems. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 214–225, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99g:68072** 68Q15 (03B70, 03C40, 03D15, 68Q25)

— (*with* Dell'Amico, Mauro; Sciomachen, A.) A Lagrangian heuristic for the prize collecting travelling salesman problem. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 289–305. (*see* **99b:90006**) 90C27

— *see also* **Bibliography: Combinatorial optimization, 99j:90001**

Maffray, Frédéric (*with* Aït Haddadène, Hacène; Gravier, Sylvain) An algorithm for coloring some perfect graphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 1–16. (Olivia M. Carducci) **99b:05051** 05C15 (05C85)

— (*with* Gravier, Sylvain) Graphs whose choice number is equal to their chromatic number. (English summary) *J. Graph Theory* **27** (1998), *no.* 2, 87–97. (Summary) **99i:05081** 05C15

Maffucci, A. (*with* Miano, G.) On the dynamic equations of linear multiconductor transmission lines with terminal nonlinear multiport resistors. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 8, 812–829. (Summary) **99h:94081** 94C05 (94A05)

Magaard, Kay (*with* Strambach, Karl; Völklein, Helmut) Finite quotients of the pure symplectic braid group. (English summary) *Israel J. Math.* **106** (1998), 13–28. (John Swallow) **99j:20048** 20F36 (12F12, 20G40)

— (*with* Gluck, David) Cross-characteristic character and fixed point space ratios for groups of Lie type. *J. Algebra* **204** (1998), *no.* 1, 188–201. (Peter Fleischmann) **99j:20019** 20C33 (20C20)

— (*with* Guralnick, Robert M.) On the minimal degree of a primitive permutation group. (English summary) *J. Algebra* **207** (1998), *no.* 1, 127–145. (Donald L. White) **99g:20014** 20B15 (30F99)

— (*with* Huang, Jing-Song; Savin, Gordan) Unipotent representations of G_2 arising from the minimal representation of D_4^E. *J. Reine Angew. Math.* **500** (1998), 65–81. (Dihua Jiang) **99j:22025** 22E50

— (*with* Malle, Gunter) Irreducibility of alternating and symmetric squares. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 169–180. (Jürgen Ritter) **99a:20011** 20C33 (20C34, 20G40)

Magajna, Bojan Factorization of certain completely bounded mappings. *Functional analysis. V, Vol. I* (*Dubrovnik*, 1997), 71–75, *Various Publ. Ser.*, 44, *Univ. Aarhus, Aarhus*, 1998. (Vladimir Manuilov) **99k:46100** 46L05 (46H25, 47B49, 47D25)

— A topology for operator modules over W^*-algebras. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 17–41. (Vladimir Manuilov) **99a:46106** 46L10 (46H25)

— Mappings preserving submodules of Hilbert C^*-modules. *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 153–162. (Vladimir Manuilov) **99m:46139** 46L05 (46H25)

Magal, P. Global attractivity result for a delay difference equation. *Advances in difference equations* (*Veszprém*, 1995), 427–437, *Gordon and Breach, Amsterdam*, 1997. (Introduction) **99e:39031** 39A10

— Global asymptotic behavior for a discrete model of population dynamics. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 1, 67–92. (Summary) **99e:39073** 39A12 (39A10, 92D25)

de Magalhães, A. C. N. (*with* Salinas, S. R.; Tsallis, Constantino) Aperiodic interactions on hierarchical lattices: an exact criterion for the Potts ferromagnet criticality. (English summary) *J. Phys. A* **31** (1998), *no.* 33, *L567–L573*. (Summary) **99d:82016** 82B20

— (*with* Mariz, A. M.) The discrete N-vector ferromagnet: connection to a percolation with frustration features. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 827–851. (C. Chris Wu) **99a:82048** 82B43 (82B20)

Magalhães, Luis T. *see* **Conference: Differential Equations, 99d:00015**

Magaña, Antonio (*with* Amer, Rafel; Carreras, Francesc) Extension of values to games with multiple alternatives. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 63–78. (Summary) **99i:90122** 90D12

— Cooperative games with transferable utility. (Catalan) *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 2, 21–33. 90D12

Magaña, Mario E. (*with* Rodellar, José) Optimal positioning of actuators for active control of vibrations in plates. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1099–1104, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K50 (73K10)

Magarey, Julian (*with* Kingsbury, Nick) Motion estimation using a complex-valued wavelet transform. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1069–1084. 94A12 (42C15)

Magari, Roberto Aspects of common language and copies of theories. (Italian) *Epistemology of mathematics*. 1992–1993 *Seminars* (*Italian*) (*Siena/Bologna/Pavia*), 39–46, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 03A05 (00A30, 03B30)

Mağden, Abdullah (*with* Köse, Ömer) On the curves of constant breadth in E^4 space. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 277–284. (Basil J. Papantoniou) **99b:53007** 53A04
— (*with* Kamali, Muhammet; Salimov, Arif A.) The Tachibana operator and transfer of lifts. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 109–117. (Vadim V. Shurygin) **99f:53017** 53B20
Magee, Timothy M. (*with* Glover, Fred) Integer programming. *Mathematical programming for industrial engineers*, 123–269, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C10 (90–02)
Magel, Rhonda C. (*with* Degges, Ronald) Tests for ordered alternatives with right censored data. (English summary) *Biom. J.* **40** (1998), *no.* 4, 495–518. 62G10
Magen, Avner (*with* Linial, Nathan; Saks, Michael E.) Low distortion Euclidean embeddings of trees. (English summary) *Israel J. Math.* **106** (1998), 339–348. (Summary) **99i:46009** 46B20 (05C05, 46B07, 54E99)
Magenes, Enrico Giuseppe Scorza-Dragoni [1908–1996]. (Italian) *Ann. Mat. Pura Appl.* (4) **172** (1997), 1–3. 01A70
— Sur l'opérateur du type Dirichlet-Neumann pour certaines équations paraboliques non linéaires. (French summary) [On the Dirichlet-Neumann operator for certain nonlinear parabolic equations] *Équations aux dérivées partielles et applications*, 655–665, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 35K60
— An account of the Third Congress of the UMI, Pisa, Sept. 23–26, 1948. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *no.* 1, 1–6. 01A74
— Stefan problems with a concentrated capacity. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 71–81. (Li Shang Jiang) **99c:35263** 35R35
Maggio, F. (*with* Lahaye, D. J. P.; Quarteroni, A.) Hybrid finite element–spectral element approximation of wave propagation problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 4, 265–289. (Mohammad Asadzadeh) **99d:65263** 65M15 (65M60, 65M70, 73D30, 73V05, 76M10, 76Q05)
Maggiolo-Schettini, Andrea (*with* Matteucci, Gionata) Processes in cause-effect systems. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 305–335. (Rüdiger Valk) **99g:68144** 68Q90 (68Q10, 68Q55)
— (*with* Tini, Simone) Projectable semantics for statecharts. (English summary) *MFCS'98 Workshop on Concurrency (Brno, 1998)*, 13 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q60)
Maggioni, Renato (*with* Ragusa, Alfio) Betti numbers of space curves bounded by Hilbert functions. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 217–232 (1998). (Rosa M. Miró-Roig) **99e:14035** 14H50 (13C40, 13D40)
Maggiore, Nicola Algebraic renormalization of massive supersymmetric theories. (English summary) *Secondary calculus and cohomological physics (Moscow, 1997)*, 141–158, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Ilya Shapiro) **99g:81136** 81T15 (81T13, 81T50, 81T60)
— (*with* Carlino, Giuseppe; Konishi, Kenichi; Magnoli, Nicodemo) On the beta function in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **455** (1999), *no.* 1-4, 171–178. 81T60 (81–02)
Maggs, Bruce M. *see* **ACM Symposium: Parallel Algorithms and Architectures, 99m:68004**
Maggu, P. L. (*with* Khan, S. U.; Mudawi, Mohamed Hassan) Scheduling of n items on three-machine in tandem involving transportation times and break-down of machines. (English summary) *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 55–64. 90B35
— (*with* Das, Gokulananda) On the concept of division of matrices. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 15–21. 15A99
— (*with* Das, Ghanshiam) The concept of division of vectors. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 97–100. 15A03
el Maghri, M. *see* **El Maghri, M.**
Maghsoodi, Yoosef Mean square efficient numerical solution of jump-diffusion stochastic differential equations. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 1, 25–47. (Peter E. Kloeden) **99k:60154** 60H10 (60J60, 62L20, 93E30)
— Exact solutions and doubly efficient approximations of jump-diffusion Itô equations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 6, 1049–1072. (Eckhard Platen) **99h:60121** 60H10 (65U05)
Magid, Andy R. Lower bounds for dimensions of representation varieties. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4609–4621. (Alexander Lubotzky) **99a:20004** 20C15 (20J06)
— Prounipotent prolongation of algebraic groups. (English summary) *Recent progress in algebra (Taejon/Seoul, 1997)*, 169–187, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (A. R. Rajan) **99k:20097** 20G20
Magid, M. (*with* Vrancken, Luc) Affine translation surfaces. *Results Math.* **35** (1999), *no.* 1-2, 134–144. (Juan de D. Pérez) **99m:53023** 53A15
Magidin Viso, Arturo Construction and properties of the group M_{12}. (Spanish) *Miscelánea Mat. No.* 21 (1994), 73–74. 20D08
Magidor, Menachem *see* **Rosenkranz, Ze'ev, 99d:01036**
Magiera, Ryszard On a class of sequential estimation problems for one-parameter exponential families. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 1, 160–170. (Rasul A. Khan) **99m:62121** 62L12
— Minimax sequential procedures for Markov renewal processes. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 337–342, *Springer, Berlin*, 1997. (*see* **99a:90009**) 62L12 (62C25, 90C40)
— (*with* Franz, Jürgen) On information inequalities in sequential estimation for stochastic processes. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 1–27. (Valeri Stefanov) **99a:62122** 62L12
— Optimal sequential estimation for Markov-additive processes. (English summary) *Advances in stochastic models for reliability, quality and safety (Schierke, 1997)*, 167–181, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99f:62099** 62L12 (62M07)
— Optimal sequential estimation procedures under delayed observations from multiparameter exponential families. *Operations Research Proceedings* 1997 (*Jena*), 200–205, *Springer, Berlin*, 1998. (*see* **99d:90008**) 62L12
— On minimax sequential procedures for exponential families of stochastic processes. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 1, 1–18. (Valeri Stefanov) **99c:62228** 62L12
— (*with* Franz, Jürgen) Sequential estimation for a family of counting processes in the nuisance parameter case. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 147–162. (Sharaschandra R. Adke) **99i:62184** 62L12 (62M09)
Magill, Kenneth D., Jr. The one-sided ideals of nearrings of continuous functions. *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 29–43. (K. Chandrasekhara Rao) **99d:54019** 54H13 (16Y30)
— Functional equations and topological N-groups. (English summary) *Aequationes Math.* **55** (1998), *no.* 3, 241–250. (Gordon Mason) **99b:16070** 16Y30 (22A30, 39B52)
— Endomorphism semigroups of nearrings of continuous real-valued functions. *Demonstratio Math.* **31** (1998), *no.* 1, 223–234. (John D. P. Meldrum) **99h:20096** 20M20 (16Y30, 54H15)
— The topological nearring on the Euclidean plane which has a left identity which is not a right identity. *Semigroup Forum* **57** (1998), *no.* 3, 435–437. 16Y30
Magillo, Paola (*with* De Floriani, Leila; Puppo, Enrico) A formal approach to multiresolution hypersurface modeling. (English summary) *Geometric modeling: theory and practice (Blaubeuren, 1996)*, 302–323, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65191** 65Y25 (65D17)
Magiropoulos, Manolis (*with* Karayannakis, Dimitri; Lambrou, Michael S.) Spectral decompositions of isometries on c_g. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 190–211. (From the introduction) **99i:47067** 47B49 (47A10, 47B10, 47D03)
Maglaperidze, N. O. (*with* Tsigroshvili, Z. P.; van Pul, M.) Goodness-of-fit tests for parametric hypotheses on the distribution of point processes. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 60–77. (Martin Jacobsen) **99m:62071** 62G10 (62M07)
Magli, Giulio A new approach to the Kerr-interior problem. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 329–336, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83012** 83C15
— Gravitational collapse with non-vanishing tangential stresses. II. A laboratory for cosmic censorship experiments. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3215–3228. (Shin-ichi Kitamura) **99k:83020** 83C20 (83C15, 83C75)
— (*with* Kijowski, Jerzy) Unconstrained Hamiltonian formulation of general relativity with thermo-elastic sources. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3891–3916. (Hans P. Künzle) **99k:83050** 83C55 (83C05)
Magliveras, Spyros S. (*with* Chee, Yeow Meng) A few more large sets of t-designs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 293–308. (Summary) **99a:05021** 05B30
Magnaghi, Antonio (*with* Tanaka, Hidehiko) A topological approach for strict local testability. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 199–208. (Summary) **99k:68095** 68Q45
Magnani, Umberto (*with* De Giuli, Maria Elena; Giorgi, Giorgio) A general linear theorem of the alternative: how to get its special cases quickly. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 215–232. (Sophie Tarbouriech) **99k:15003** 15A06 (15A39, 90A09)
Magnanini, Rolando (*with* Sakaguchi, Shigeru) The spatial critical points not moving along the heat flow. (English summary) *J. Anal. Math.* **71** (1997), 237–261. (Ben Andrews) **99e:35087** 35K05 (35B99, 58G11)
Magnano, Guido Are there metric theories of gravity other than general relativity? (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 213–233, *World Sci. Publishing, River Edge, NJ*, 1996. (Alberto Saa Vazquez) **99i:83080** 83D05
— (*with* Sokołowski, Leszek M.) Can the local energy-momentum conservation laws be derived solely from field equations? (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1281–1288. (Roh Suan Tung) **99f:83027** 83C40 (83C05)
Magnanti, Thomas L. (*with* Balakrishnan, Anantaram; Mirchandani, Prakash) Heuristics, LPs, and trees on trees: network design analyses. (English summary) *Oper. Res.* **44** (1996), *no.* 3, 478–496. (Xue Liang Li) **99k:90184** 90C35 (90B10)
— (*with* Perakis, Georgia) Averaging schemes for variational inequalities and systems of equations. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 568–587. (Guy Cohen) **99a:90212** 90C33
Magnaudet, Jacques (*with* Legendre, Dominique) The lift force on a spherical bubble in a viscous linear shear flow. (English summary) *J. Fluid Mech.* **368** (1998), 81–126. 76D99 (76T05)
Magnea, U. (*with* Akemann, G.; Damgaard, Poul Henrik; Nishigaki, Shinsuke M.) Multicritical microscopic spectral correlators of Hermitian and complex matrices. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 682–714. (Summary) **99b:82044** 82B44
Magnello, M. Eileen Karl Pearson's mathematization of inheritance: from ancestral heredity to Mendelian genetics (1895–1909). (English summary) *Ann. of Sci.* **55** (1998), *no.* 1, 35–94. (Summary) **99b:01018** 01A60 (01A55, 62P10, 92D10)
Magnen, Jacques (*with* Iagolnitzer, Daniel) Locally self-avoiding walks. *Functional integration (Cargèse, 1996)*, 309–325, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (Stuart G. Whittington) **99a:82045** 82B41
— (*with* Poirot, Gilles; Rivasseau, Vincent) Ward-type identities for the two-dimensional Anderson model at weak disorder. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 331–358. (Summary) **99g:82040** 82B44
Magnitskii, N. A. Stabilization of unstable periodic orbits of chaotic maps. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 369–372. (Summary) **99c:93091** 93D15 (58F13)
— Stabilization of unstable limit cycles of two-dimensional dynamical systems. Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 76–79. (Introduction) **99f:34038** 34C05 (34D99, 34H05, 93D15)
del Magno, Gianluigi *see* **Del Magno, Gianluigi**
Magnoli, Nicodemo (*with* De Micheli, Enrico; Viano, Giovanni Alberto) On the regularization of Fredholm integral equations of the first kind. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 855–877 (*electronic*). (V. S. Sizikov) **99c:45001** 45B05 (45L05, 65R20)
— (*with* Carlino, Giuseppe; Konishi, Kenichi; Maggiore, Nicola) On the beta function in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **455** (1999), *no.* 1-4, 171–178. 81T60 (81–02)

Magnon, Anne ★ Arrow of time and reality. (English summary) In search of a conciliation. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xx+290 *pp. ISBN* 981-02-3022-2 (Jorge A. Pullin) **99f:83002** 83–02 (83C45)

Magnucka-Blandzi, E. (*with* Popenda, Jerzy) On the behaviour of rational first order difference equation with constant coefficients. *Demonstratio Math.* **31** (1998), *no.* 2, 405–416. (Olusola Akinyele) **99j:39008** 39A10

Magnus, Peggy (*with* Waadeland, Haakon) Regular continued fractions, Padé tables and *P*-fractions. A fruitful analogy. (Norwegian. English summary) *Normat* **46** (1998), *no.* 3, 97–109, 144. 41A21

Magnus, Robert On multi-lump solutions to the non-linear Schrödinger equation. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 29, 24 *pp.* (*electronic*). (Xian Guo Geng) **99m:35234** 35Q55

— (*with* Arason, Jón) An algebraic multiplicity theory for analytic operator-valued functions. *Math. Scand.* **82** (1998), *no.* 2, 265–286. (Mihai Putinar) **99h:47020** 47A56

Magnus, W. (*with* Schoenmaker, W.) On the use of a new integral theorem for the quantum mechanical treatment of electric circuits. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6715–6719. (Vittorio Romano) **99k:82083** 82D99 (94C05)

Magnusdottir, Gudrun (*with* Haynes, Peter H.) Reflection of planetary waves in three-dimensional tropospheric flows. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 4, 652–670. (Summary) **99j:86011** 86A10 (76C15, 76C20)

Magnuszewski, Piotr (*with* Konwent, Henryk; Machnikowski, Paweł; Radosz, Andrzej) Some properties of double-Morse potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7541–7559. (Summary) **99g:81037** 81Q05

Mago, Pedro J. (*with* Larez, Gladys; Villarroel, Felicia) Bipartite graph degree sequence. (Spanish. English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 98–101. (Summary) **99i:05196** 05C99

Magolu, Monga-Made Taking advantage of the potentialities of dynamically modified block incomplete factorizations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1083–1108 (*electronic*). (Summary) **99a:65041** 65F10 (65F35, 65F50)

Magoulès, Frédéric (*with* de La Bourdonnaye, Armel; Farhat, Charbel; Macedo, Antonini P.; Roux, François-Xavier) A non-overlapping domain decomposition method for the exterior Helmholtz problem. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 42–66, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99f:65190** 65N55 (65Y05)

Magret, Ma. Dolors (*with* García-Planas, Ma. Isabel) A generalized Sylvester equation: a criterion for structural stability of triples of matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 93–109. (Summary) **99j:15018** 15A21

Magri, Franco Eight lectures on integrable systems. *Integrability of nonlinear systems* (*Pondicherry*, 1996), 256–296, *Lecture Notes in Phys.*, 495, *Springer, Berlin*, 1997. (Edith Padrón) **99j:58096** 58F07 (53C15, 70H05)

— (*with* Pedroni, Marco; Zubelli, Jorge P.) On the geometry of Darboux transformations for the KP hierarchy and its connection with the discrete KP hierarchy. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 305–325. (Naruyoshi Asano) **99b:35185** 35Q53 (58F07, 58F37)

— (*with* Casati, Paolo; Falqui, Gregorio; Pedroni, Marco) A note on fractional KdV hierarchies. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4606–4628. (Summary) **99d:58076** 58F07

— The Hamiltonian route to Sato Grassmannian. (English summary) *The bispectral problem* (*Montreal, PQ*, 1997), 203–209, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Gregorio Falqui) **99b:58118** 58F07 (35Q53, 35Q58, 70H05)

— (*with* Falqui, Gregorio; Pedroni, Marco) Bi-Hamiltonian geometry, Darboux coverings, and linearization of the KP hierarchy. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 303–324. (Alexander V. Shapovalov) **99h:58084** 58F07 (35Q53)

— (*with* Casati, Paolo; Falqui, Gregorio; Pedroni, Marco) Bi-Hamiltonian reductions and $\mathscr{W}_n$-algebras. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 291–310. (Carlo Morosi) **99f:58095** 58F07 (17B68)

— (*with* Casati, Paolo; Falqui, Gregorio; Pedroni, Marco; Zubelli, Jorge P.) Darboux transformations and Darboux coverings: some applications to the KP hierarchy. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 45–65. (C. Rogers) **99m:58173** 58F37 (35A30, 35Q53, 58F07)

Magro, Gaetano (*with* Dragotti, Sara) A representation of homotopy theory by homotopy spheres. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 13–22. (R. E. Stong) **99a:57023** 57Q60 (55P65)

Magro, M. (*with* Flume, R.; O'Raifeartaigh, Lochlainn; Sachs, Ivo; Schnetz, O.) Uniqueness of the Seiberg-Witten effective Lagrangian. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 331–345. (Michael A. I. Flohr) **99b:81234** 81T60 (81T13)

Magrone, P. (*with* Antonacci, Flavia) Second order nonautonomous systems with symmetric potential changing sign. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 367–379. (Maria Letizia Bertotti) **99h:58152** 58F22 (34C25, 58E05)

Magueijo, João (*with* Barrow, John D.) Solving the flatness and quasi-flatness problems in Brans-Dicke cosmologies with a varying light speed. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 4, 1435–1454. 83D05

Maguluri, G. (*with* Singh, Kesar) On the fundamentals of data robustness. *Robust inference*, 537–549, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

Magyar, Akos L^p-bounds for spherical maximal operators on $\mathbf{Z}^n$. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 307–317. (Sundaram Thangavelu) **99d:42031** 42B25

Magyar, Gábor (*with* Johnsson, Mika; Nevalainen, Olli) On the Euclidean 3-matching problem. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 143–171. (Winfried Hochstättler) **99f:90163** 90C35 (90C27)

Magyar, Peter (*with* Lakshmibai, Venkatramani; Littelmann, Peter) Standard monomial theory and applications. (English summary) Notes by Rupert W. T. Yu. *Representation theories and algebraic geometry* (*Montreal, PQ*, 1997), 319–364, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 514, *Kluwer Acad. Publ., Dordrecht*, 1998. (Michel Brion) **99j:20050** 20G05 (14M15, 14M17, 17B37)

— (*with* Lakshmibai, Venkatramani) Degeneracy schemes, quiver schemes, and Schubert varieties. *Internat. Math. Res. Notices* **1998**, *no.* 12, 627–640. (Dan Edidin) **99g:14065** 14M15 (14M05)

— (*with* Lakshmibai, Venkatramani) Standard monomial theory for Bott-Samelson varieties of GL(n). (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 3, 229–248. (Aigli Papantonopoulou) **99j:14049** 14M17 (05E15, 14M15, 20G05)

— (*with* Weyman, Jerzy; Zelevinsky, Andrei) Multiple flag varieties of finite type. (English summary) *Adv. Math.* **141** (1999), *no.* 1, 97–118. (Michel Brion) **99m:14095** 14M15 (16G20)

Magyar, Z. On admissibility and temperedness of representations of real reductive groups. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 1-2, 99–174. (Mark R. Sepanski) **99d:22012** 22E15 (22E45)

— On the projection of $\overline{N}$ along the Iwasawa decomposition. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 4, 305–309. (Peter E. Trapa) **99d:22013** 22E15 (22E45)

Mahadev, N. V. R. (*with* Pekeč, Aleksandar; Roberts, Fred S.) On the meaningfulness of optimal solutions to scheduling problems: can an optimal solution be nonoptimal? (English summary) *Oper. Res.* **46** (1998), *no.* 3, *suppl.*, *S*120–*S*134. (Summary) **99f:90048** 90B35 (90C27)

— (*with* Reed, Bruce A.) A note on vertex orders for stability number. (English summary) *J. Graph Theory* **30** (1999), *no.* 2, 113–120. (Chinh T. Hoang) **99m:05152** 05C85

Mahadevan, L. (*with* Hosoi, A. E.) Axial instability of a free-surface front in a partially filled horizontal rotating cylinder. (English summary) *Phys. Fluids* **11** (1999), *no.* 1, 97–106. (Summary) **99k:76055** 76E10 (76D45, 76U05)

— (*with* Keller, Joseph B.) Periodic folding of thin sheets. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 115–131 (*electronic*). (Summary) **99k:73045** 73C50 (34B15, 65D07, 73H05, 73K99)

Mahaffy, Joseph M. (*with* Savev, Emil Simeonov) Stability analysis for a mathematical model of the lac operon. (English summary) *Quart. Appl. Math.* **57** (1999), *no.* 1, 37–53. (Summary) **99m:92009** 92C40 (92D10)

Mahajan, Meena (*with* Vinay, V.) Determinant: old algorithms, new insights (extended abstract). (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 276–287, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 15A15

Mahajan, S. M. (*with* Boya, Luis J.; Chisolm, Eric; Sudarshan, E. C. G.) Exotic representations of the isotropic harmonic oscillator. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3347–3360. (Summary) **99c:81057** 81R05 (81Q05)

Mahajan, Sanjeev (*with* Ramesh, H.) Derandomizing semidefinite programming based approximation algorithms. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 162–169, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q20 (90C34, 90C60)

Mahalanabis, R. K. (*with* Manna, J.) Eigenvalue approach to the problem of linear micropolar thermoelasticity. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 69–86. (Summary) **99a:73022** 73B30 (73B25)

Mahalov, Alex (*with* Babin, A. V.; Nicolaenko, Basil) Long-time averaged Euler and Navier-Stokes equations for rotating fluids. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 145–157, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 35Q30 (76C05, 76D05, 76U05)

— (*with* Babin, A. V.; Nicolaenko, Basil) Regularity and integrability of 3D Euler and Navier-Stokes equations for rotating fluids. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 2, 103–150. (Esteban G. Tabak) **99b:76092** 76U05 (35Q30, 76B15, 76C99, 76D05)

— (*with* Nicolaenko, Basil; Zhou, Ye) Energy spectra of strongly stratified and rotating turbulence. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 6187–6190. (Summary) **99c:76055** 76F99 (76U05, 76V05)

— (*with* Kruse, Hans Peter; Marsden, Jerrold E.) On the Hamiltonian structure and three-dimensional instabilities of rotating liquid bridges. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 1, 37–59. (M. E. R. de Sousa Dias) **99j:76052** 76E99 (58F40, 76M99, 76U05)

Mahaney, Stephen R. (*with* Kurtz, Stuart A.; Royer, James S.; Simon, Janos) Biological computing. (English summary) *Complexity theory retrospective, II*, 179–195, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q05 (92D20)

— (*with* Kurtz, Stuart A.; Royer, James S.; Simon, Janos) Active transport in biological computing. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 171–179, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99f:68055** 68Q05 (68Q25)

— (*with* Fortnow, Lance; Goldsmith, Judy; Levy, Matthew A.) L-printable sets. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 137–151 (*electronic*). (Marius Zimand) **99f:68068** 68Q15 (03D05, 03D15, 03D30, 68Q30, 68Q45)

Mahapatra, Swapna (*with* Behrndt, Klaus; Gaida, Ingo; Lüst, Dieter; Mohaupt, Thomas) From type IIA black holes to T-dual type IIB D-instantons in $N = 2$, $D = 4$ supergravity. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 659–699. (Gianguido Dall'Agata) **99h:83051** 83E30 (81T30, 83C57, 83E50)

— (*with* Kar, Sayan) Planetoid strings: solutions and perturbations. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1421–1436. (Marco Cavaglià) **99h:83057** 83E30 (81T30, 83C15)

Maharaj, Hiren (*with* Henning, Michael A.) Some general aspects of the framing number of a digraph. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 115–133. (Brian Alspach) **99e:05062** 05C20 (05C10)

Maharaj, Manoj (*with* Bishop, Nigel T.; Isaacson, Richard; Winicour, Jeffrey) Black hole data via a Kerr-Schild approach. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6113–6118. (Summary) **99m:83098** 83C57

Maharaj, S. D. (*with* Maartens, Roy; Govender, M.) Inflation driven by causal heat flux. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 6, 815–819. 83F05

Maharana, Jnanadeva Quantum gravity and string theory. (English summary) *Classical and quantum aspects of gravitation and cosmology* (*Madras*, 1996), 155–166, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (*see* **99b:83003**) 83E30 (81T30, 83C45)

— (*with* Das, Ashok; Roy, Shibaji) An SL(2, **Z**) multiplet of black holes in $D = 4$ type II superstring theory. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 185–195. (Paulo Moniz) **99c:83086** 83E30 (81T30, 83C57)

— Hidden symmetries of M-theory. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 33–40. (Summary) **99b:81199** 81T30

Maharry, John A splitter for graphs with no Petersen family minor. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 136–139. (R. J. Douglas) **99b:05121** 05C75

Mahato, Anil Kumar An integral transform of generalized functions. II. (Russian summary) *Anal. Math.* **23** (1997), *no.* 2, 115–126. (Summary) **99h:44008** 44A15 (46F12)

Mahavamana, P. A. (*with* Shahruz, S. M.) An upper bound on displacements of damped linear systems. *J. Sound Vibration* **213** (1998), *no.* 5, 943–951. (Alexander P. Seyranian) **99g:70028** 70J30

Mahavier, W. T. A convergence result for discrete steepest descent in weighted Sobolev spaces. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 67–72. (A. V. Dzhishkariani) **99m:65116** 65J10 (65M60, 65N30)

— Solving boundary value problems numerically using steepest descent in Sobolev spaces. (English summary) *Missouri J. Math. Sci.* **11** (1999), *no.* 1, 19–32. 65L10

Mahdavi-Hezavehi, M. (*with* Mojdeh, D.) On derived groups of division ring extensions. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 53–56. (Summary) **99h:16035** 16K40

— (*with* Jahani-Nezhad, R.) Value functions on simple Artinian rings. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 328–337. (Patrick J. Morandi) **99f:16020** 16K40 (16W60)

Mahdi, T. N. (*with* Ahmed, S. E.) Improved prediction in a simple regression model. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 3, 201–213. (Summary) **99m:62093** 62J05

Mahdian, M. (*with* Mahmoodian, E. S.) On the uniquely list colorable graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 319–326, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:05060** 05C15

— (*with* Mahmoodian, E. S.) A characterization of uniquely 2-list colorable graphs. (English summary) *Ars Combin.* **51** (1999), 295–305. (Summary) **99j:05073** 05C15

Maher, Michael J. (*with* Jaffar, Joxan) Constraint logic programming: a survey. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 591–696, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99b:68031** 68N17 (03B20, 68T20)

— (*with* Antoniou, Grigoris; Billington, David) Normal forms for defeasible logic. (English summary) *Logic programming (Manchester, 1998)*, 160–174, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68030** 68N17 (03B60)

— (*with* Jaffar, Joxan; Marriott, Kim; Stuckey, Peter J.) The semantics of constraint logic programs. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 1–46. (Summary) **99d:68041** 68N17 (68Q55)

Maher, P. J. Some matrix approximation problems arising from quantum chemistry. (English summary) *Proc. Indian Nat. Sci. Acad. Part A* **64** (1998), *no.* 6, 715–723. 81V99

Mahesh, Krishnan A family of high order finite difference schemes with good spectral resolution. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 332–358. (Summary) **99d:76068** 76M20 (65M06)

Mahfouf, M. (*with* Linkens, Derek A.) Constrained multivariable generalized predictive control (GPC) for anaesthesia: the quadratic-programming approach (QP). (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 507–527. 93C95 (90C20)

— (*with* Linkens, Derek A.) Non-linear generalized predictive control (NLGPC) applied to muscle relaxant anaesthesia. (English summary) *Internat. J. Control* **71** (1998), *no.* 2, 239–257. 93C95

Mahhuba, Rehim Nonautonomous Lotka-Volterra competition systems. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **13** (1996), *no.* 3, 13–16. (Summary) **99h:92031** 92D25 (34C99)

Mahler, Günter (*with* Weberruß, Volker A.) ★ Quantum networks. (English summary) Dynamics of open nanostructures. Second edition. *Springer-Verlag, Berlin*, 1998. *xx*+403 *pp. ISBN* 3-540-63668-4 (From the preface) **99d:81192** 81V80 (81-02, 81V70)

Mahmood, Arshad (*with* Ye, Rui-song; Yang, Zhong Hua[1]) Extended systems for multiple S-breaking turning points in $Z_2 \times Z_2$-symmetric nonlinear problems. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **4** (1995), *no.* 2, 119–132. (Summary) **99i:58032** 58E09 (47H15)

— (*with* Yang, Zhong Hua[1]; Ye, Rui-song) Fully discrete nonlinear Galerkin methods for Kuramoto-Sivashinsky equation and their error estimates. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 1, 20–27. (Summary) **99g:65096** 65M15 (35Q53, 65M60)

— (*with* Yang, Zhong Hua[1]) Numerical results of Galerkin and nonlinear Galerkin methods for one-dimensional Kurmoto-Sivashinsky equation. (English summary) *Proc. Pakistan Acad. Sci.* **35** (1998), *no.* 1, 33–37. 65M70

Mahmood, Munir (*with* Edwards, Phillip) An algebraic proof that polygons have less area than the circle with same perimeter. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 2, 283–286. 52A38 (51M25)

— (*with* Edwards, Phillip) Some inequalities and sequences converging to e. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 3, 430–434. 26D15

Mahmood, R. M. S. The subgroup theorem for groups acting on trees. (English and Arabic summaries) *Kuwait J. Sci. Engrg.* **25** (1998), *no.* 1, 17–33. (Vincent Guirardel) **99g:20046** 20E08 (20E06)

Mahmood, Suraiya J. (*with* Karampetakis, N. P.; Pugh, A. C.) Solvability, reachability, controllability and observability of regular PMDs. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 617–630. (Summary) **99c:93022** 93B17 (93B40)

Mahmoodi, A. Existence of perfect 3-deletion-correcting codes. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 81–87. (Summary) **99h:94077** 94B60

Mahmoodian, E. S. (*with* Mahdian, M.) On the uniquely list colorable graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 319–326, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:05060** 05C15

— (*with* Mendelsohn, Eric) On the defining numbers of vertex coloring of regular graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 327–330, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99c:05067** 05C15

— (*with* Behzad, M.; Soltankhah, N.) Defining sets in total coloring of graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 521–526, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:05053** 05C15

— (*with* Akbari-Feyzaabaadi, S.; Behzad, M.; Hajiabolhassan, H.) Uniquely total colorable graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 305–314. (Mirosław Truszczyński) **99b:05052** 05C15

— Defining sets and uniqueness in graph colorings: a survey. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 85–89. (Summary) **99i:05084** 05C15

— (*with* Mahdian, M.) A characterization of uniquely 2-list colorable graphs. (English summary) *Ars Combin.* **51** (1999), 295–305. (Summary) **99j:05073** 05C15

— (*with* Mendelsohn, Eric) On defining numbers of vertex colouring of regular graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 543–554. (Summary) **99i:05085** 05C15

Mahmoud, M. T. (*with* Sayyed, K. A. M.; Metwally, M. S.) Effectiveness of equivalent sets of polynomials in Faber regions. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 485–496. (Stephen M. Zemyan) **99h:30015** 30C45

Mahmoud, Magdi S. Adaptive control of a class of time-delay systems with uncertain parameters. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 937–950. 93C40 (93C30)

— Bounds of robustness for singularly perturbed feedback systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 63–72. (Summary) **99g:93068** 93D09 (93C70)

— (*with* Foda, Salah G.) Adaptive stabilization of delay differential systems with unknown uncertainty bounds. (English summary) *Internat. J. Control* **71** (1998), *no.* 2, 259–275. (Summary) **99d:93054** 93D15 (93C40)

Mahmoud, Nazmi A. (*with* Khalil, Hassan K.) Robust control for a nonlinear servomechanism problem. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 779–802. 93B35 (93D21)

Mahmoud, S. A. (*with* Abdou, M. A.; Darwish, M. A.) A numerical method for solving the Fredholm integral equation of the second kind. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 251–258. (Jose Cuminato) **99h:65211** 65R20 (45L05)

Mahmoud, Samy A. (*with* Esmaeili, Morteza; Gulliver, T. Aaron; Secord, Norman P.) A link between quasi-cyclic codes and convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 431–435. (Summary) **99a:94050** 94B15

Mahnkopf, Joachim Modular symbols and values of L-functions on GL_3. (English summary) *J. Reine Angew. Math.* **497** (1998), 91–112. (Wee Teck Gan) **99d:11052** 11F67 (11F70)

Mahomed, F. M. (*with* Adam, A. A.) Non-local symmetries of first-order equations. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 2, 187–198. (Dušan Mamrilla) **99f:34006** 34A25

Mahomed, N. (*with* Kekana, M.) An error estimator for adaptive mesh refinement analysis based on strain energy equalisation. (English summary) *Comput. Mech.* **22** (1998), *no.* 4, 355–366. (Summary) **99i:73070** 73V05 (65N15, 65N55, 76A05, 76M10)

Mahoney, Michael S. Computer science: the search for a mathematical theory. *Science in the twentieth century*, 617–634, *Harwood Academic Publ., Amsterdam*, 1997. (*see* **99i:00012**) 68-03 (01A60)

Mahony, Robert E. (*with* Helmke, U.) System assignment and pole placement for symmetric realisations. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 2, 32 *pp.* (*electronic*). (Summary) **99g:93036** 93B55 (93B15)

— (*with* Mareels, Iven M. Y.) Global solutions for differential/algebraic systems and implications for Lyapunov direct stability methods. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 4, 26 *pp.* (*electronic*). (Peter Kunkel) **99g:34007** 34A09 (34D20)

— (*with* Brushe, Gary D.; Moore, John Barratt) A soft output hybrid algorithm for ML/MAP sequence estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3129–3140. (Summary) **99i:94007** 94A12

— (*with* Helmke, U.) System assignment and pole placement for symmetric realisations. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 3, 321–352. (Margreet Kuijper) **99d:93033** 93B55 (34H05, 93B15)

Mahoux, Gilbert (*with* Mehta, Madan Lal; Normand, Jean-Marie) Matrices coupled in a chain. II. Spacing functions. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4457–4464. (Alexei Khorunzhy) **99g:82029** 82B41 (15A52)

Mahowald, Mark E. (*with* Lin, Wen-Hsiung) The Adams spectral sequence for Minami's theorem. *Homotopy theory via algebraic geometry and group representations (Evanston, IL, 1997)*, 143–177, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Haynes R. Miller) **99f:55023** 55T15 (55Q45)

— (*with* Gorbunov, V. G.; Symonds, Peter) Infinite subgroups of the Morava stabilizer groups. (English summary) *Topology* **37** (1998), *no.* 6, 1371–1380. (Jan van Geel) **99m:16032** 16K20 (16U60, 55N22, 55P42)

— *see also* **Stable and unstable homotopy, 99a:55001** *and* **Homotopy theory via algebraic geometry and group representations, 99c:55001**

Mahrenholtz, O. (*with* Schlegel, V.; Haack, C.) On the use of a BEM time-stepping procedure for nonlinear and unsteady wave-structure interaction. *Boundary element topics (Stuttgart, 1995)*, 149–166, *Springer, Berlin*, 1997. (*see* **99e:00017**) 73V10 (65N38, 73K70, 76M15)

— (*with* Markiewicz, M.) Progressive cross waves due to the horizontal oscillations of a vertical cylinder in water. Evolution equations. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 227–247. (Summary) **99f:76027** 76B15

— *see also* **ICIAM/GAMM 95, 99f:00010a** *and* **99f:00010b**

Mahrous, M. A. (*with* Alkahby, Hadi Yahya) Reflection and dissipation of oblique Alfvén waves in an isothermal atmosphere. (English summary) *Int. J. Math. Math. Sci.* **22** (1999), *no.* 1, 161–169. (Summary) **99m:85003** 85A30 (76W05)

Mahrt, L. F. (*with* Szidarovszky, Ferenc) A factored form of complex analytic functions and its application to finding partial fraction decompositions. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 12–15 (*electronic*). (E. J. Barbeau) **99e:26014** 26C15 (15A06, 30C15)

— (*with* Argyros, Ioannis K.; Szidarovszky, Ferenc) Applications of a special representation of analytic functions. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 43–47 (*electronic*). (John G. Stalker) **99h:65101** 65H05

Mai, B. *see* **Correspondence: Legendre, Adrien-Marie–Jacobi, Carl Gustav Jacob, 99i:01022**

Mai, Jie Hua (*with* Wang, Shu He) Estimation of the characteristic numbers of systems of linear ordinary differential equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 901–912. (Jialin Hong) **99c:34101** 34D08 (34A30)

— Some dynamical system properties of self-maps of the circle and conditions equivalent to them. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 3, 193–210. (Summary) **99g:58046** 58F03

— Continuous maps with the whole space being a scrambled set. *Chinese Sci. Bull.* **42** (1997), *no.* 19, 1603–1606. (From the text) **99f:54054** 54H20

— (*with* Gu, Rong Bao) Conditions of C^0 flows on closed surfaces having the pseudo-orbit tracing property. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1166–1175. (Jerzy Ombach) **99d:58099** 58F10 (58F15)

— (*with* Zeng, Fan Ping) Transitivity and chaos. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 119–125. (Sergio Plaza) **99f:58142** 58F13

— Multi-separation, centrifugality and centripetality imply chaos. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 343–351. (Katarina Jankova) **99c:58110** 58F13 (26A18, 58F03)

— Scrambled sets of continuous maps of 1-dimensional polyhedra. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 353–362. (Katarina Jankova) **99c:58111** 58F13 (54H20, 58F08)

Mai, Ying A study of generalized finite difference schemes to the KdV equation. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 525–531, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65M06

Mai, Yiu-Wing (*with* Zhang, Xi) Damage wave propagation in elastic-brittle materials. (English summary) *IUTAM Symposium on Rheology of Bodies with Defects* (*Beijing*, 1997), 179–190, *Solid Mech. Appl.*, 64, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99i:73001**) 73M25 (73D99)

Maia, A., Jr. (*with* de Lima, J. Ademir Sales) D-dimensional radiative plasma: a kinetic approach. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2271–2288. (Summary) **99d:83107** 83F05 (82D10)

Maia, M. D. (*with* Monte, E. M.) Geometry of the Einstein and Yang-Mills equations. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2827–2837. (Hans P. Künzle) **99c:53085** 53C80 (53C07, 81T13, 83C05)

— (*with* Monte, E. M.) Topology and extension of Schwarzschild. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 229–233. (Nora Bretón Báez) **99m:83032** 83C15

silva Maia Porto, M. B. D. *see* **Silva Maia Porto, M. B. D.**

Maĭboroda, I. N. (*with* Ostrovetskiĭ, L. A.) A two-sided method for solving nonlinear equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 53–59; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 4, 51–57. (V. V. Vasin) **99e:47089** 47H17

Maĭboroda, R. Ė. Correlation analysis of mixtures. I. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 99–108; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 105–114. (M. P. Moklyachuk) **99k:62102** 62G30 (60F17)

— Correlation analysis of mixtures. II. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 125–129; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 129–133 (1998). (M. P. Moklyachuk) **99k:62103** 62G30 (60F17)

Maidens, Anna Symmetry groups, absolute objects and action principles in general relativity. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 2, 245–272. (Hans P. Künzle) **99e:83042** 83C99 (00A30, 00A79)

Maier, Rudolf (*with* Carocca, Angel) Hypercentral embedding and pronormality. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 6, 433–436. (A. Scarselli) **99i:20030** 20D20

Maier, Stephan Conformally flat Lie groups. *Math. Z.* **228** (1998), *no.* 1, 155–175. (William Goldman) **99c:53052** 53C30 (53A30)

Maier, Ulrike (*with* Fliege, Jörg) Charge distribution of points on the sphere and corresponding cubature formulae. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 147–159, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (*see* **99a:41001**) 65D32

— On best approximation of the monomials on the unit ball of $\mathbf{R}^r$. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 74–81. (Summary) **99j:41047** 41A50

— (*with* Fliege, Jörg) The distribution of points on the sphere and corresponding cubature formulae. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 2, 317–334. 65D32 (41A55)

Maier, Volker (*with* Lupaş, Alexandru; Mache, Detlef H.; Müller, Manfred Wolfgang) Linear combinations of gammaoperators in L_p-spaces. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 156–168. (Ha Huy Bang) **99g:41019** 41A25 (41A28, 41A36)

Maier-Paape, Stanislaus (*with* Wanner, Thomas) Spinodal decomposition for the Cahn-Hilliard equation in higher dimensions. I. Probability and wavelength estimate. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 435–464. (Peter E. Zhidkov) **99h:35111** 35K60 (35Q99)

— Convergence for radially symmetric solutions of quasilinear elliptic equations is generic. *Math. Ann.* **311** (1998), *no.* 1, 177–197. (Michael A. Karls) **99g:34011** 34A12 (35J60)

Maĭer-Vol'f, Ė. *see* **Mayer-Wolf, Eduardo**

Maietti, Maria Emilia Some aspects of the categorical semantics for the polymorphic λ-calculus. (English summary) *Logic and algebra* (*Pontignano*, 1994), 589–601, *Lecture Notes in Pure and Appl. Math.*, 180, *Dekker, New York*, 1996. (Betti Venneri) **99a:03022** 03B40 (03G30, 68N15)

Maigrot, L. (*with* Didelot, S.; Frank, Leonid S.) On a degenerate elliptic singular perturbation. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 2, 151–181. (Dietrich Göhde) **99b:34095** 34E15 (34B05, 34E05, 35B25, 46N20)

Maillard, A. (*with* Mesnard, F.; Hoarau, S.) CLP(χ) for automatically proving program properties. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 77–93. (Summary) **99f:68031** 68N17 (68Q60)

Maillard, J.-M. Hyperbolic Coxeter group invariants for lattice statistical mechanics. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 242–253, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20 (20F55)

— Symmetry group invariants for spontaneous magnetization. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 416–427, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— Hyperbolic Coxeter groups, symmetry group invariants for lattice models in statistical mechanics, and the Tutte-Beraha numbers. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 169–225. (Summary) **99f:82013** 82B20 (20F55)

Maille, Sophie A Girsanov formula in the Ising model: existence of a density. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 339–360. (Hans-Otto Georgii) **99b:82069** 82C20 (60K35, 82C22)

Mailybaev, A. A. (*with* Seĭranyan, A. P.) On singularities of the boundary of the domain of stability. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 632–636; *translation in Dokl. Phys.* **43** (1998), *no.* 4, 248–252. (From the text) **99k:34115** 34D99 (34D10, 58F30)

— (*with* Seĭranyan, A. P.) Aeroelastic stability of a wing with bracing struts (Keldysh problem). *Fluid Dynam.* **33** (1998), *no.* 1, 124–134; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 1, 151–162 (*Russian. Russian summary*). (Summary) **99d:73070** 73K70 (73H10, 76B05)

Maĭmeskul, V. V. Polynomial approximation of piecewise-analytic functions on arcs. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 38–40. (Krzysztof Reczek) **99c:30066** 30E10 (41A10)

Main, Jörg Semiclassical approaches to atoms in external fields. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 248–273, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q20 (81V45)

— (*with* Mandelshtam, Vladimir A.; Wunner, Günter; Taylor, Howard S.) Harmonic inversion as a general method for periodic orbit quantization. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1015–1035. (Roberto Artuso) **99f:81053** 81Q20 (11M06, 11Z05, 81Q50)

Mainar, E. (*with* Peña, J. M.) Evaluation and subdivision algorithms for totally positive systems. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 327–334, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65049** 65D17

Mainardi, Francesco (*with* Gorenflo, Rudolf) Fractional calculus: integral and differential equations of fractional order. (English summary) *Fractals and fractional calculus in continuum mechanics* (*Udine*, 1996), 223–276, *CISM Courses and Lectures*, 378, *Springer, Vienna*, 1997. (Philip Heywood) **99g:26015** 26A33 (45E10, 45J05)

— Fractional calculus: some basic problems in continuum and statistical mechanics. (English summary) *Fractals and fractional calculus in continuum mechanics* (*Udine*, 1996), 291–348, *CISM Courses and Lectures*, 378, *Springer, Vienna*, 1997. (S. L. Kalla) **99f:26010** 26A33 (33E20, 45J05, 45K05, 73V99)

— (*with* Gorenflo, Rudolf; Srivastava, Hari M.) Special functions in fractional relaxation-oscillation and fractional diffusion-wave phenomena. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 195–202, *VSP, Utrecht*, 1998. (Summary) **99g:33057** 33E20 (26A33, 35L99)

— Applications of fractional calculus in mechanics. (English summary) *Transform methods & special functions, Varna '96*, 309–334, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26007** 26A33 (45E10, 70J99, 73F15)

— (*with* Gorenflo, Rudolf) Random walk models for space-fractional diffusion processes. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 2, 167–191. (Niels Jacob) **99m:60117** 60J60 (26A33)

— (*with* Gorenflo, Rudolf) Signalling problem and Dirichlet-Neumann map for time-fractional diffusion-wave equations. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 109–118. (Summary) **99m:45017** 45K05 (26A33, 35K99)

Mainardis, Mario Modular sublattices in a finite p-group. *Comm. Algebra* **26** (1998), *no.* 10, 3119–3132. (Norberto Gavioli) **99j:20028** 20D30 (20D15)

Mainegra Hing, Marisela (*with* Hing Cortón, Rosina) Application of the simulated annealing algorithm to the solution of combinatorial optimization problems. (Spanish. English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 19–27. 90C27

Maines, N. D. (*with* Amini, S.) Preconditioned Krylov subspace methods for boundary element solution of the Helmholtz equation. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 5, 875–898. (Tsorng-Whay Pan) **99c:65223** 65N38

Mainetti, Nicolas (*with* Escassut, Alain) Spectral semi-norm of a p-adic Banach algebra. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 79–91. (L. Narici) **99b:46119** 46S10 (12J25, 46H05)

Mainge, Paul-Emile (*with* Le Roux, Marie-Noelle) Numerical solution of a fast diffusion equation. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 461–485. (Reinhard Redlinger) **99i:65093** 65M12 (35B40, 35K60)

Mainhardt, Gunther (*with* Ambos-Spies, Klaus; Lempp, Steffen) Randomness vs. completeness: on the diagonalization strength of resource-bounded random sets. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 465–473, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q15 (03D15)

Maini, Philip K. (*with* Sánchez Garduño, Faustino) Travelling wave phenomena in non-linear diffusion degenerate Nagumo equations. (English summary) *J. Math. Biol.* **35** (1997), *no.* 6, 713–728. (Steven Matthysse) **99a:92006** 92C20 (34C23, 34C37, 35K55, 35Q80, 58F39, 92D25)

— (*with* Cruywagen, Gerhard C.; Murray, James D.) Biological pattern formation on two-dimensional spatial domains: a nonlinear bifurcation analysis. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1485–1509. (Summary) **99m:92006** 92C15 (35B32, 35Q80)

— (*with* Benson, Debbie L.; Sherratt, Jonathan A.) Unravelling the Turing bifurcation using spatially varying diffusion coefficients. (English summary) *J. Math. Biol.* **37** (1998), *no.* 5, 381–417. (Yoram Schiffmann) **99k:92007** 92C15 (35B32, 35K57, 35Q80)

Mainieri, Ronnie (*with* Cvitanović, Predrag; Dettmann, Carl P.; Vattay, Gábor) Trace formulas for stochastic evolution operators: weak noise perturbation theory. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 981–999. (Summary) **99i:81049** 81Q50 (58F19)

Maino, G. (*with* Chiccoli, C.; Lorenzutta, S.) On the evaluation of generalized Laguerre functions. (English and Italian summaries) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **131** (1997), 77–90. (Summary) **99k:33023** 33C45 (33C15)

— (*with* Dattoli, G.; Lorenzutta, S.; Torre, Amalia) Theory of multiindex multivariable Bessel functions and Hermite polynomials. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 179–197 (1998). (U. C. Jain) **99h:33011** 33C10 (33C45)

— (*with* Lorenzutta, S.; Dattoli, G.; Torre, Amalia; Tocci, D.) A note on generalized Bessel functions and Fourier series. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17**

(1997), *no.* 3, 541–548. (Summary) **99c:33006** 33C10 (42B05)
— (*with* Lorenzutta, S.; Dattoli, G.; Torre, Amalia; Chiccoli, C.) Infinite-variable Bessel functions of the Anger type and the Fourier expansions. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 163–176. (R. K. Saxena) **99f:33002** 33C10 (33C70, 42C99, 46F25)
— (*with* Dattoli, G.; Torre, Amalia; Lorenzutta, S.) Generalized Bessel functions and Kapteyn series. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 117–125. (N. Hayek Calil) **99d:33003** 33C10
di Maio, G. *see* **Di Maio, G.**
Maioli, Marco (*with* Sacchetti, Andrea) Erratum: "Absence of the absolutely continuous spectrum for Stark-Bloch operators with strongly singular periodic potentials" [J. Phys. A **28** (1995), no. 4, 1101–1106; MR 96e:81036]. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1115–1119. (Summary) **99c:81038** 81Q10 (34L40)
Maiorino, José E. (*with* Rodrigues, Waldyr Alves, Jr.; Bozhkov, Yuri D.) New solutions of the main relativistic wave equations. *Geometry Seminars, 1996–1997 (Italian) (Bologna), 201–229, Univ. Stud. Bologna, Bologna*, 1998. (Dominique Lambert) **99h:81073** 81R20 (35Q40, 35Q75)
Maĭorov, V. E. (*with* Ratsaby, Joel) On the value of partial information for learning from examples. (English summary) *J. Complexity* **13** (1997), *no.* 4, 509–544. (Peter Auer) **99c:68215** 68T05 (68Q99)
— (*with* Ratsaby, Joel) The degree of approximation of sets in Euclidean space using sets with bounded Vapnik-Chervonenkis dimension. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 1, 81–93. (Yuly Makovoz) **99f:41019** 41A25 (41A46, 46N40, 65D15, 68T05)
— (*with* Zeevi, Assaf J.; Meir, Ron) Error bounds for functional approximation and estimation using mixtures of experts. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1010–1025. (Summary) **99b:68160** 68T05 (62F99, 92B20)
Maĭorova, M. E. (*with* Lyashko, A. D.; Pavlova, M. F.) On the solvability of a variational inequality in the theory of nonlinear nonstationary filtration. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 958–965, 1006; *translation in Differential Equations* **32** (1996), *no.* 7, 965–973 (1997). (Angela Pawell) **99a:76149** 76S05 (49J40, 76M30)
Mai Qui Nam A result on CS-modules. (English summary) *East-West J. Math.* **1** (1998), *no.* 1, 91–93. 16D80
Mair, B. A. (*with* Dey, Aswini K.; Ruymgaart, Frits H.) Cross-validation for parameter selection in inverse estimation problems. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 609–620. (Summary) **99b:62051** 62G05
Maire, Christian Un raffinement du théorème de Golod-Safarevic. (French summary) [A sharpening of the Golod-Shafarevich theorem] *Nagoya Math. J.* **150** (1998), 1–11. (Franz Lemmermeyer) **99g:11135** 11R37 (11R11)
Maire, H.-M. (*with* Barlet, Daniel) Décroissance rapide de la distribution f^λ. (English summary) [Rapid decrease of the distribution f^λ] *Compositio Math.* **110** (1998), *no.* 3, 277–290. (Mohammed El Amrani) **99c:32005** 32C30 (32S70)
Maire, Sylvain (*with* Helluy, Philippe; Ravel, Patrick) Intégration numérique d'ordre élevé de fonctions régulières ou singulières sur un intervalle. (English and French summaries) [Higher-order numerical integration of regular or singular functions on an interval] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 843–848. (Summary) **99h:65036** 65D30
Mairesse, Jean (*with* Baccelli, François) Ergodic theorems for stochastic operators and discrete event networks. (English summary) *Idempotency (Bristol, 1994)*, 171–208, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99c:28041** 28D05 (60J05, 60K25)
— (*with* Gaubert, Stéphane) Modeling and analysis of timed Petri nets using heaps of pieces. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 683–697. (Summary) **99m:68139** 68Q90
Mais, H. (*with* Zorzano, M. P.; Vázquez, Luis) Numerical solution of two-dimensional Fokker-Planck equations. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 109–117. (Summary) **99g:82062** 82C31 (82–08)
Maisaia, O. (*with* Gachechiladze, R.) A theorem on isoperimetric problem of the elasticity theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 1, 12–15. 35Q72 (73C02)
— (*with* Gachechiladze, R.) On an extremal problem of the elasticity theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 2, 194–198. (Summary) **99f:73024** 73C02
— (*with* Gachechiladze, R.) Signorini's problem in the couple-stress elasticity and its reduction to the boundary variational inequalities. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 1, 4–7. (Summary) **99i:73028** 73C99 (35Q72, 73B40, 73V25)
Maischak, Matthias (*with* Stephan, Ernst P.; Tran, Thanh) Domain decomposition methods for boundary integral equations of the first kind: numerical results. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 111–132. (Summary) **99c:65234** 65N55 (65N38)
— (*with* Stephan, Ernst P.) The *hp*-version of the BEM with geometric meshes in 3D. *Boundary element topics (Stuttgart, 1995)*, 351–362, *Springer, Berlin*, 1997. (Tian-Xiao He) **99i:65134** 65N38
Maison, Dieter (*with* Breitenlohner, Peter; Lavrelashvili, G. V.) Mass inflation and chaotic behaviour inside hairy black holes. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 427–443. (Summary) **99c:83048** 83C57
— (*with* Breitenlohner, Peter; Hollmann, Helia) Quantization of the Reissner-Nordström black hole. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 293–297. (Marco Cavaglià) **99g:83031** 83C45 (83C22, 83C47, 83C57)
Maisonneuve, O. (*with* Pagano, S.; Alart, Pierre) Solid-solid phase transition modelling. Local and global minimizations of non-convex and relaxed potentials. Isothermal case for shape memory alloys. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 10, 1143–1172. (Summary) **99f:73017** 73B30 (49J20, 73V20, 73V25)
Maisonobe, Philippe (*with* Granger, Michel) A basic course on differential modules. *Éléments de la théorie des systèmes différentiels. $\mathscr{D}$-modules cohérents et holonomes (Nice, 1990)*, 103–168, *Travaux en Cours*, 45, *Hermann, Paris*, 1993. (Andrea D'Agnolo) **99c:32008** 32C38
— (*with* Biosca, Hélène; Briancon, Joël; Maynadier, Hélène) Espaces conormaux relatifs. II. Modules différentiels. [Relative conormal spaces. II. Differential modules] *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 2, 123–134. (Orlando Neto) **99i:32044** 32S40
Maisser, P. Brachystochronen als zeitkürzeste Fahrspuren von Bobschlitten. (English summary) [Brachistochrones as time-shortest tracks of bobsleds] *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 5, 311–319. (Summary) **99b:49036** 49N55 (70D99)
Maĭstrenko, Yurīĭ L. (*with* Popovich, O. V.) Existence and stability of periodic solutions of chains of coupled oscillators. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 943–950; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1058–1066 (1998). (Witold Jarczyk) **99b:58132** 58F08 (26A18, 34C15, 39B12)
— (*with* Sushko, Irina; Gardini, Laura) About two mechanisms of reunion of chaotic attractors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1373–1390. (Summary) **99g:58084** 58F13
— (*with* Kapitaniak, T.; Stefanski, A.; Brindley, J.) Bifurcations from locally to globally riddled basins. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, *R6253–R6256*. (Pere Mumbrú) **99f:58140** 58F13 (58F14)
— (*with* Kapitaniak, T.) Multiple choice bifurcations as a source of unpredictability in dynamical systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5161–5163. (Summary) **99e:58126** 58F12
Maĭsuradze, M. G. On the uniqueness of the solution of a second-order parabolic equations with growing coefficients. (Georgian. English and Russian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 1, 19–22 (1995). 35K20
Maitani, Fumio (*with* Nishikawa, Kinjiro) Moduli of ring domains obtained by a conformal welding. (English summary) *Kodai Math. J.* **20** (1997), *no.* 3, 161–171. (S. R. Nasyrov) **99b:30028** 30C70 (30F99)
— Univalency of linear combinations of extremal slit mappings. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 56–65. (*see* **99a:00033**) 30C55
— Conformal welding of annuli. *Osaka J. Math.* **35** (1998), *no.* 3, 579–591. (L. A. Aksent'ev) **99i:30011** 30C20 (30C35)
Maitelli, A. L. (*with* Yoneyama, Takashi) A multistage suboptimal dual controller using optimal predictors. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1002–1008. 93E35
Maiti, Manoranjan (*with* Mandal, M.; Roy, Tapan Kumar) A fuzzy inventory model of deteriorating items with stock-dependent demand under limited storage space. (English summary) *Opsearch* **35** (1998), *no.* 4, 323–337. 90B05 (90C70)
Maiti, Sudhansu S. (*with* Mukherjee, S. P.) A percentile estimator of the inverse Rayleigh parameter. (English summary) *IAPQR Trans.* **21** (1996), *no.* 1, 63–65. 62F10
Maiti, Tapabrata (*with* Chaudhuri, Arijit) Interval estimation of correlation in survey sampling. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 3, 231–242. 62D05
— (*with* Natarajan, Kannan; Ghosh, Malay) Hierarchical Bayes quality measurement plan. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 199–214. (Summary) **99c:62281** 62N10 (62F15)
— Hierarchical Bayes estimation of mortality rates for disease mapping. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 339–348. (Summary) **99f:62043** 62F15
— (*with* Chadhury, Arijit; Adhikary, Arun K.) A note on non-negative mean square error estimation of regression estimators in randomized response surveys. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 409–415. 62D05
Maitra, Ashok P. (*with* Sudderth, William D.) ★ Discrete gambling and stochastic games. (English summary) Applications of Mathematics, 32. *Springer-Verlag, New York*, 1996. xii+244 *pp. ISBN* 0-387-94628-4 (U. Krengel (Zbl 864.90148)) **99c:60091** 60G40 (28A12, 90D15)
— (*with* Sudderth, William D.) The gambler and the stopper. (English summary) *Statistics, probability and game theory*, 191–208, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (E.-A. Weiss, Jr.) **99a:90257** 90D15 (60G40)
Maitra, Neepa T. (*with* Heller, Eric J.) Tunneling and the semiclassical propagator: a new perspective. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 94–111, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q20
Maitra, Ranjan (*with* O'Sullivan, Finbarr) Variability assessment in positron emission tomography and related generalized deconvolution models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1340–1355. (Summary) **99i:62229** 62M30
Maitre, Jean-François (*with* Hackbusch, Wolfgang; Gutsch, Sabine; Musy, François) The appropriate numbering for the multigrid solution of convection dominated problems. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 75–88, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76116** 76M25
le Maître, O. *see* **Le Maître, O.**
Maitz, A. (*with* Kern, G.) Normal form transformation and an application to a flutter-type of vibration. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 741–751. (Summary) **99h:73047** 73K12 (70K99, 73K70)
Maj, Mercede (*with* Longobardi, Patrizia; Smith, Howard) Locally nilpotent groups with all subgroups normal-by-(finite rank). (English summary) *J. Group Theory* **1** (1998), *no.* 3, 291–299. (H. Heineken) **99e:20038** 20E25 (20F19)
Majadas Soto, Javier (*with* Blanco, Amalia) Erratum: "Cotangent complex and decomposition of Tor" [C. R. Acad. Sci. Paris Sér. I Math. **323** (1996), no. 3, 219–224; MR 97g:13026]. (French) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 531. (From the text) **99g:13023** 13D03
— (*with* Blanco, Amalia) Sur les morphismes d'intersection complète en caractéristique p. [On complete intersection morphisms in characteristic p] *J. Algebra* **208** (1998), *no.* 1, 35–42. (Tiberiu Dumitrescu) **99i:13023** 13D03 (13A35, 13H10)
— (*with* Blanco, Amalia; Rodicio, Antonio G.) On the acyclicity of the Tate complex. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 125–132. (Cristodor Ionescu) **99i:13024** 13D03
Majcher, Zofia (*with* Michael, Jerzy) Degree sequences of digraphs with highly irregular property. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 49–61. (Prabir Das) **99h:05048** 05C20
Majchrzak, Wiesław (*with* Szwankowski, Andrzej) The maximum of some functional for holomorphic and univalent functions with real coefficients. (English summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 97–106. (L. A. Aksent'ev) **99f:30040** 30C70 (30C50)
Majda, Andrew J. Simplified asymptotic equations for slender vortex filaments. *Recent advances in partial differential equations, Venice 1996*, 237–280, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Raphaël Danchin) **99c:76019** 76C05 (35Q35)

— (*with* Souganidis, Panagiotis E.) Flame fronts in a turbulent combustion model with fractal velocity fields. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1337–1348. (Vitaly A. Volpert) **99f:35090** 35K57 (35Q35, 76F99, 80A25)

— (*with* Embid, Pedro F.) Low Froude number limiting dynamics for stably stratified flow with small or finite Rossby numbers. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 1–50. (Summary) **99a:76156** 76V05 (76U05, 86A05, 86A10)

— (*with* DiBattista, Mark T.; Turkington, Bruce) Prototype geophysical vortex structures via large-scale statistical theory. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 3-4, 235–283. (Summary) **99j:76020** 76C05 (85A30, 86A10)

— (*with* Shefter, Michael G.) Elementary stratified flows with instability at large Richardson number. (English summary) *J. Fluid Mech.* **376** (1998), 319–350. (Shu Ming Sun) **99k:76148** 76V05 (76D99, 76E10)

— (*with* Turner, C. V.; Tabak, Esteban G.; Rosales, Rodolfo R.) Nonlinear interaction between long waves in the equatorial waveguide. Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 283–297. (Yuri N. Skiba) **99k:76039** 76C20 (35Q35, 76B15, 76U05, 86A10)

— (*with* Shefter, Michael G.) The instability of stratified flows at large Richardson numbers. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 14, 7850–7853 (*electronic*). (Summary) **99f:76065** 76E99 (76V05, 86A05)

— (*with* Grote, Marcus J.; Grotta Ragazzo, C.) Dynamic mean flow and small-scale interaction through topographic stress. (English summary) *J. Nonlinear Sci.* **9** (1999), *no.* 1, 89–130. (Stefan G. Llewellyn Smith) **99m:76114** 76U05 (34C35, 58F40, 86A10)

— (*with* DiBattista, Mark T.) An equilibrium statistical model for the spreading phase of open-ocean convection. (English summary) *Proc. Natl. Acad. Sci. USA* **96** (1999), *no.* 11, 6009–6013 (*electronic*). 86A05

Majda, George (*with* Carmack, Lori) Concentrations in the one-dimensional Vlasov-Poisson equations: additional regularizations. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 127–162. (Summary) **99d:76105** 76X05 (76M20)

Majdalani, Joseph A hybrid multiple scale procedure for boundary layers involving several dissimilar scales. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 849–868. (Summary) **99h:76080** 76N20 (34E10, 76D30)

Majeed, Abdul (*with* Aslam, M.; Husnine, S. M.) On invariant subsets of certain quadratic fields under modular group action. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **29** (1996), 21–27. (W. Narkiewicz) **99c:11131** 11R11 (11R04)

— (*with* Kausar, Imrana; Husnine, S. M.) Behaviour of ambiguous and totally positive or negative elements of $\mathbf{Q}^*(\sqrt{n})$ under the action of the modular group. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 11–34. (W. Narkiewicz) **99k:11166** 11R04 (20H05)

— (*with* Kausar, Imrana; Husnine, S. M.) Action of the group $h = \langle t, y;\ t^3 = y^3 = 1\rangle$ on the quadratic field. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 47–66. (W. Narkiewicz) **99k:11167** 11R04 (20H05)

— (*with* Ali, Zafar) On the laws of nilpotent pointed-groups. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 777–783. (Thomas A. Fournelle) **99m:20073** 20F18 (20E10)

Majer, Pietro (*with* Mancino, Maria Elvira) A counter-example concerning a condition of Ogawa integrability. (English summary) *Séminaire de Probabilités, XXXI*, 198–206, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (David Nualart) **99b:60070** 60H05

Majerus, J. N. (*with* Mimnagh, M. L.; Jannone, J. A.; Tenney, D. A.; Lamphear, S. P.) Blending hierarchical economic decision matrices (EDM) with FE and stochastic modeling. II. Detailing EDM. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 219–234. 73K25 (73K15)

Majewski, Adam W. (*with* Olkiewicz, Robert; Zegarlinski, Boguslaw) Dissipative dynamics for quantum spin systems on a lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2045–2056. (Bruno Nachtergaele) **99k:82053** 82C10 (46L55, 46L60, 82C20)

Majewski, Kurt Heavy traffic approximations of large deviations of feedforward queueing networks. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 125–155. (Gerard Hooghiemstra) **99c:60206** 60K25

Majewski, Michal (*with* Kosiński, Piotr; Maślanka, Paweł) Representations of generalized oscillator algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3983–3990. (From the introduction) **99e:81095** 81R50

Majewski, Władysław Adam (*with* Marciniak, Marcin) On nonlinear Koopman's construction. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 501–508. (Sze-Kai Tsui) **99b:46105** 46L60 (46L55, 81Q50)

— *see also* **Quantum probability**, **99d:00029**

Majid, Shahn Braided approach to exterior algebra on q-Euclidean and q-Minkowski spaces. (English summary) *Quantum groups* (*Karpacz*, 1994), 129–148, *PWN, Warsaw*, 1995. (Władysław Marcinek) **99i:58016** 58B30 (16W30, 17B37, 81R50)

— Some remarks on quantum and braided group gauge theory. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 335–349, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Władysław Marcinek) **99a:58012** 58B30 (16W30, 17B37, 81R50)

— Anyonic Lie algebras. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1241–1250. (Yu. N. Bespalov) **99h:81092** 81R50 (17B37)

— (*with* Brzeziński, Tomasz) Coalgebra bundles. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 467–492. (Andreas Cap) **99d:58021** 58B30 (16W30)

— Classification of bicovariant differential calculi. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 119–140. (Władysław Marcinek) **99a:58013** 58B30 (16W30, 17B37, 81R50)

— Quantum and braided diffeomorphism groups. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 94–128. (Walter R. Ferrer Santos) **99k:16083** 16W30 (58B30)

Majima, Hideyuki Vanishing theorems in asymptotic analysis. III. Applications to confluent hypergeometric differential equations. Algebraic analysis of singular perturbations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 968 (1996), 76–95. (J. S. Joel) **99e:32014** 32C38 (32L20, 32S65)

— Some isomorphism theorems of cohomology groups for completely integrable connections. Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 31–35. (Aleksandr G. Aleksandrov) **99g:32038** 32G34 (32C38)

Major, P. Almost sure functional limit theorems. I. The general case. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 273–304. (Lajos Horváth) **99h:60074** 60F17 (28D05, 60F15)

Majorana, A. Trend to equilibrium of electron gas in a semiconductor according to the Boltzmann equation. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 547–571. (Giuliana Lauro) **99h:82063** 82C40 (76P05, 76X05, 78A35)

Majorinc, Kazimir Extension rule for non-clausal propositional calculus. (English summary) *Fund. Inform.* **31** (1997), *no.* 2, 107–116. (A. A. Mullin) **99h:03005** 03B35 (05C20, 94C10)

Majsnerowska, M. A note on Poisson approximation by w-functions. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 3, 387–392. (Ai Hua Xia) **99d:60026** 60F05

Majster-Cederbaum, Mila (*with* Baier, Christel) How to interpret and establish consistency results for semantics of concurrent programming languages. (English summary) *Fund. Inform.* **29** (1997), *no.* 3, 225–256. (Gabriel Ciobanu) **99e:68098** 68Q55 (68N15, 68Q10)

— (*with* Roggenbach, Markus) Transition systems from event structures revisited. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 119–124. (Introduction) **99f:68063** 68Q10 (68Q55)

Majumdar, A. A. K. A note on the Smarandache prime product sequence. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 137–142. 11A41

Majumdar, A. S. (*with* Chakraborty, Biswajit) Hamiltonian analysis of the gauged $\mathbf{CP}^1$ model, the Hopf term, and fractional spin. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125024, 13 *pp.* (Summary) **99m:81138** 81T13 (58Z05)

baran Majumdar, Asit *see* **Baran Majumdar, Asit**

Majumdar, Asit Baran *see* **Baran Majumdar, Asit**

Majumdar, Dibyen Optimal and efficient treatment-control designs. *Design and analysis of experiments*, 1007–1053, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K05

— (*with* Gerami, A.; Lewis, Susan Margaret; Notz, W. I.) Efficient block designs for comparing dual with single treatments. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 247–263. (Summary) **99j:62111** 62K10

Majumdar, Madhabendu (*with* Ganguly, D. K.) Some results on projection of planar sets. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 815–820. (Elżbieta Wagner) **99j:28001** 28A05 (26A21)

— (*with* Ganguly, D. K.) On a theorem of Ruziewicz. *Kyushu J. Math.* **52** (1998), *no.* 1, 163–166. (Marek Balcerzak) **99c:28002** 28A05 (54E52)

Majumdar, Mukul (*with* Bala, Venkatesh; Mitra, Tapan) Controlling chaos: some analytical results and applications to tatonnement. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 363–379. (Summary) **99a:90064** 90A16 (93C10)

Majumdar, N. K. (*with* Chongdar, A. K.) On the extension of mixed trilateral generating relation of extended Jacobi polynomial. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 21–26 (1996). (Summary) **99d:33010** 33C45

— On the unification of trilateral generating functions for certain special functions. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 165–176. (N. K. Thakare) **99f:33013** 33C45 (33C05)

Majumdar, Parthasarathi (*with* Kaul, Romesh K.) Quantum black hole entropy. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 267–270. (Marco Cavaglià) **99j:83047** 83C57 (81T40)

— (*with* SenGupta, Soumitra) Gaugino mass in the heterotic string with Scherk-Schwarz compactification. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 129–133. 81V22 (81T30)

Majumdar, Pradip Kumar (*with* Lahiri, B. K.; Dasgupta, H.) History of topology in India (period 1947–1960). (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 61–75. (Summary) **99c:54001** 54-03 (01A60)

Majumdar, Pushan (*with* Sharatchandra, H. S.) General solution of the non-abelian Gauss law and non-abelian analogues of the Hodge decomposition. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 067702, 3 *pp.* (Summary) **99k:81184** 81T13

Majumder, Anurup (*with* Kageyama, Sanpei; Pal, Satyabrata) Some constructions of variance-balanced designs. (English summary) *Bull. Fac. Sch. Educ. Hiroshima Univ. Part II* **20** (1998), 17–21. (Summary) **99a:62111** 62K10

dutta Majumder, Dwijesh *see* **Dutta Majumder, Dwijesh**

Majumder, Pradip *see* **Majumdar, Pradip Kumar**

Mak, M. K. (*with* Harko, T.) Exact causal viscous cosmologies. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1171–1186. (Gagik T. Ter-Kazarian) **99f:83013** 83C15 (83F05)

— (*with* Harko, T.) Full causal bulk-viscous cosmological models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5458–5476. (Salvatore Capozziello) **99h:83010** 83C15 (83C55, 83F05)

— (*with* Harko, T.) Addendum to: "Exact causal viscous cosmologies" [Gen. Relativity Gravitation **30** (1998), no. 8, 1171–1186; MR 99f:83013]. *Gen. Relativity Gravitation* **31** (1999), *no.* 2, 273–274. 83C15 (83F05)

— (*with* Harko, T.) Particle creation in cosmological models with varying gravitational and cosmological "constants". (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 6, 849–862. 83F05

Mak, Philip (*with* Dawson, Robert J. MacG.; Finbow, Wendy A.) Monostatic simplexes. II. (English summary) *Geom. Dedicata* **70** (1998), *no.* 2, 209–219. (H. W. Guggenheimer) **99g:52012** 52B11 (52B12)

Mak, V. (*with* Moffatt, H. Keith) Corner singularities in three-dimensional Stokes flow. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 21–26, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D07

Mak, Wai-Kei (*with* Morton, David P.; Wood, R. Kevin) Monte Carlo bounding techniques for determining solution quality in stochastic programs. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 47–56. 90C15

Makagon, A. (*with* Miamee, A. G.) On the spectrum of correlation autoregressive sequences. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 179–193. (Summary) **99f:60076** 60G10 (60G25)

Makai, Endre, Jr. On a theorem of I. Juhász on the image weight spectrum. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 43–46. (Summary) **99d:54002**

54A25 (54C35)
— (*with* Császár, Á.) Characterization of the function classes $C(Y|X$. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 95–107. (Klaas Pieter Hart) **99i:54018** 54C35
— (*with* Martini, Horst; Soltan, V. P.) Unilateral tilings of the plane with squares of three sizes. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 481–495. (R. Blind) **99i:52023** 52C20
— (*with* Martini, Horst) The cross-section body, plane sections of convex bodies and approximation of convex bodies. II. (English summary) *Geom. Dedicata* **70** (1998), *no.* 3, 283–303. (Peter M. Gruber) **99d:52005** 52A20 (52A22, 52A27, 52A38)
Makalatia, D. (*with* Berikashvili, N.; Kadeishvili, T.; Khazhomiya, S. M.; Mikiashvili, M.; Saneblidze, S.) On the obstruction functor. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 172–176. 55S35
— (*with* Berikashvili, N.) The multiplicative version of twisted tensor product theorem. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 327–329 (1997). 55N99 (55R99)
Makanin, G. S. (*with* Abdulrab, H.; Goralcik, P.) Functions for the general solution of parametric word equations. (English summary) *Logical foundations of computer science (Yaroslavl*, 1997), 189–202, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Friedrich Otto) **99c:20078** 20M05 (03D40, 68R15)
Makar', P. M. (*with* Braicov, A. V.; Popa, M. N.; Port, S. A.) Hilbert's series for comitants graded algebras of differential equations. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 5–14, 150, 153. (Summary) **99j:34013** 34A34 (34A25, 34C05)
Makarenkov, Vladimir (*with* Leclerc, Bruno) On some relations between 2-trees and tree metrics. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 223–249. (L. W. Beineke) **99j:05054** 05C05 (05C12)
Makar-Limanov, L. (*with* Donin, J.) Quantization of quadratic Poisson brackets on a polynomial algebra of three variables. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 247–261. (Alexander E. Polishchuk) **99e:16036** 16S80 (16W50)
Makarov, E. K. On the realization of partial exponents of solutions of linear differential systems on geometric progressions. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1710–1711, 1728; *translation in Differential Equations* **32** (1996), *no.* 12, 1705–1706 (1997). (Alexander V. Lasunsky) **99d:34090** 34D08 (34A30)
— On weakly regular linear completely solvable multidimensional equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 221–225, 286; *translation in Differential Equations* **33** (1997), *no.* 2, 221–225. (Alexander V. Lasunsky) **99c:34010** 34A30 (34D08)
— (*with* Popova, S. N.) Local controllability of characteristic Lyapunov exponents of systems with simple exponents. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 495–499, 574; *translation in Differential Equations* **33** (1997), *no.* 4, 496–500. (Vera V. Malygina) **99b:93011** 93B05 (34D08, 34H05)
— On boundedness conditions for characteristic sets of solutions of linear multidimensional equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 653–657, 718; *translation in Differential Equations* **33** (1997), *no.* 5, 656–660 (1998). (Vera V. Malygina) **99b:34035** 34A99
— (*with* Rachkovskiĭ, N. N.) On a general approach to a definition of proper maximality. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 25–29, 123. 90C29
Makarov, I. A. (*with* Fradkov, A. L.) Algorithms for the control of oscillations in Hamiltonian systems. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 312–314. (From the introduction) **99j:93053** 93C10 (49K15, 70H05, 70Q05)
Makarov, Konstantin A. (*with* Kolokol'tsov, V. N.) Asymptotic spectral analysis of a small diffusion operator and the life times of the corresponding diffusion process. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 3, 341–360. (Elton Pei Hsu) **99b:58228** 58G18 (35P20, 58G32)
— (*with* Albeverio, Sergio) Nontrivial attractors in a model related to the three-body quantum problem. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 2, 113–184. (Lech Zielinski) **99a:47033** 47B25 (47A20, 47N50, 81Q10, 81U10)
— (*with* Albeverio, Sergio) Limit behaviour in a singular perturbation problem, regularized convolution operators and the three-body quantum problem. (English summary) *Differential and integral operators (Regensburg*, 1995), 1–10, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Ghias Hachem) **99i:81261** 81U10 (35B25, 47A55, 47G30, 47N50, 81Q10)
— (*with* Gesztesy, Fritz; Tsekanovskiĭ, Eduard) An addendum to Krein's formula. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 594–606. (M. M. Malamud) **99g:47047** 47B25 (47A20)
— (*with* Albeverio, Sergio; Lakaev, Saidachmat) The Efimov effect and an extended Szegő-Kac limit theorem. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 73–85. (Estelle L. Basor) **99e:47031** 47B35 (47N50, 81S99)
Makarov, M. M. The balancing of an arbitrary matrix using computations with Stieltjes matrices. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 32–39; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 26–32. 65F35
Makarov, R. N. (*with* Mikhaĭlov, G. A.) Solution of boundary value problems by the "random walk on spheres" method with reflection from the boundary. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 6, 720–722. (Sergei A. Nemnyugin) **99a:65191** 65R20 (65C05, 65N99)
— Monte Carlo methods for solving boundary value problems of the second and third kinds. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 2, 117–131. (Michael Mascagni) **99d:65305** 65N22 (65C05)
— (*with* Mikhaĭlov, G. A.) Parametric differentiation and estimates for eigenvalues by the Monte Carlo method. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 931–941, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 806–815. (Sergei A. Nemnyugin) **99m:65011** 65C05 (35G15, 45L05, 65D25)
Makarov, Vladimir L. (*with* Khamraev, Yu. Yu.) Difference schemes of a high-order of accuracy for degenerate systems of differential equations on nonuniform grids. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 410–415, 431; *translation in Differential Equations* **33** (1997), *no.* 3, 410–416. (Snezhana Gocheva-Ilieva) **99d:65229** 65L12 (65L10)
— (*with* Gavrilyuk, Ivan P.) Exact and approximate solutions of some operator equations based on the Cayley transform. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 97–121. (Xiaojun Chen) **99g:65068** 65J15 (47A62, 65J10)
Makaryan, V. S. (*with* Babloyan, A. A.) Dual integral equations that contain combinations of trigonometric functions. (Russian. Armenian summary) *Izv. Nats. Akad. Nauk Armen. Mekh.* **49** (1996), *no.* 2, 8–18. (From the text) **99f:45006** 45F10
Makay, G. (*with* Burton, T. A.) Marachkov type stability results for functional-differential equations. *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 1, 17 *pp.* (*electronic*). (George Seifert) **99b:34121** 34K20
— (*with* Terjéki, J.) On the asymptotic behavior of the pantograph equations. *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 2, 12 *pp.* (*electronic*). (Hildebrando Munhoz Rodrigues) **99a:34215** 34K25
khuri-Makdisi, Kamal *see* **Khuri-Makdisi, Kamal**
Makeenko, Yu. M. (*with* Ambjørn, Jan; Zarembo, K.) Supersymmetric matrix models and branched polymers. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 3, 660–674. (Summary) **99c:82034** 82B44 (82D30)
— Applications of supersymmetric matrix models. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow*, 1996), 479–485, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81196** 81T30 (82D60)
— Three introductory talks on matrix models of superstrings. *New developments in quantum field theory (Zakopane*, 1997), 127–146, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Henrik Aratyn) **99k:81259** 81T30 (81–02)
— (*with* Ambjørn, Jan; Semenoff, Gordon) Thermodynamics of D0-branes in Matrix theory. (English summary) *Phys. Lett. B* **445** (1999), *no.* 3-4, 307–315. (Summary) **99k:81212** 81T30
Makeev, V. V. On the approximation of plane sections of a convex body. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **246** (1997), *Geom. i Topol.* 2, 174–183, 199. (Stelian S. Dumitrascu) **99e:52007** 52A20 (52A15)
— On pentagons inscribed in a closed convex curve. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **246** (1997), *Geom. i Topol.* 2, 184–190, 199. (Stelian S. Dumitrascu) **99e:52004** 52A10
— On affine images of a rhombo-dodecahedron circumscribed about a three-dimensional convex body. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **246** (1997), *Geom. i Topol.* 2, 191–195, 200. (Stelian S. Dumitrascu) **99e:52005** 52A15 (52B10)
Mäkelä, Jarmo (*with* Repo, Pasi) Quantum-mechanical model of the Reissner-Nordström black hole. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4899–4916. (Summary) **99m:83126** 83C57 (83C47)
Mäkelä, Marko M. (*with* Miettinen, Kaisa) Interactive method NIMBUS for nondifferentiable multiobjective optimization problems. (English summary) *Multicriteria analysis (Coimbra*, 1994), 310–319, *Springer, Berlin*, 1997. (*see* **99d:90006**) 90C29 (90C30)
— (*with* Miettinen, Kaisa; Männikkö, Timo) Optimal control of continuous casting by nondifferentiable multiobjective optimization. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 2, 177–194. (Summary) **99g:90112** 90C29 (49N55, 90C90)
Maker, David Quantum physics and fractal space time. (English summary) *Chaos Solitons Fractals* **10** (1999), *no.* 1, 31–42. 81P99
Makhaldiani, N. ★ The system of three vortexes of two-dimensional ideal hydrodynamics as a new example of the (integrable) Nambu-Poisson mechanics. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-97-407. *Obʺed. Inst. Yadernykh Issled., Dubna*, 1997. 5 *pp.* (Summary) **99a:58071** 58F05 (70H05, 76C05)
— (*with* Voskresenskaya, O.) ★ On the correspondence between the dynamics with odd and even brackets and generalized Nambu's mechanics. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-97-418. *Obʺed. Inst. Yadernykh Issled., Dubna*, 1997. 9 *pp.* (Summary) **99a:58072** 58F05 (70H05)
Makhan'kov, V. G. Stochastic differential geometry in finance studies. (English summary) *Nonlinear dynamics, chaotic and complex systems (Zakopane*, 1995), 296–320, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99h:90019** 90A09 (58G32, 60H30)
Makhanov, S. S. (*with* Vanderperre, Edmond J.; Sonthipaumpoon, K.) A renewal integral equation related to a multiple cold standby system. (English summary) *Opsearch* **35** (1998), *no.* 2, 154–158. 90B25
Makhina, G. A. (*with* Temnenko, V. A.) Nonlinear oscillation of a freely suspended string. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2484–2488. (Summary) **99g:73047** 73D35 (73K03, 73V20)
Makhlouf, Abdenacer (*with* Goze, Michel) Classification of rigid associative algebras in low dimensions. *Lois d'algèbres et variétés algébriques (Colmar*, 1991), 5–22, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (From the introduction) **99a:16002** 16B99 (16W20)
Makhmudov, N. M. (*with* Iskenderov, A. D.) Optimal control of a quantum mechanical system with the Lions quality criterion. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **16** (1995), *no.* 5-6, *Inform. i Probl. Upr.*, 30–35 (1997). 49K20 (81S25)
Makhmudov, O. I. (*with* Ishankulov, T. I.) The Cauchy problem for a system of equations in the moment theory of elasticity in a space. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 22–29. (Summary) **99e:73031** 73C02 (35Q72)
— (*with* Nižzov, I. È.) Regularization of the solution of the Cauchy problem for a system of equations in the theory of elasticity in displacements. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 369–376, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 323–330. (Anna-Margarete Sändig) **99e:73032** 73C02 (35Q72)
Makhmutov, Sh. A. Hyperbolic Besov functions and Bloch-to-Besov composition operators. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 3, 699–711. (Benjamin A. Lotto) **99g:47071** 47B38 (30D45, 46E15)
— Integral characterizations of Bloch functions. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 2, 201–212. (P. Lappan) **99c:30063** 30D45
Makhnach, V. I. (*with* Ibragimov, V. A.; Shved, O. L.) The method of p-analytic representations in mixed boundary value problems on the elastoplastic antiplane state of polygonal regions. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 5, 44–48, 124. (Summary) **99j:73058** 73E99 (30G20, 73C35, 73V35)
— (*with* Ibragimov, V. A.; Shved, O. L.) An elastoplastic problem of antiplanar deformation of a rectangular domain with a cut. (Russian. English and Russian summaries)

Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk **1998**, *no.* 2, 43–46, 140. 73E99 (73V35)

Makhnëv, A. A. On extensions of partial geometries containing small μ-subgraphs. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 3, 71–83, 111–112. (Dmitri Fon-Der-Flaass) **99f:05126** 05E30 (05C12)

— (*with* Kabanov, V. V.) Coedge-regular graphs without 3-stars. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 495–503, 638; *translation in Math. Notes* **60** (1996), *no.* 3-4, 372–377 (1997). (Dmitri Fon-Der-Flaass) **99h:05129** 05E30 (05C12, 05C75)

— On pseudogeometric graphs of some partial geometries. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 60–67, *Gomel. Gos. Univ., Gomel'*, 1997. (Dmitrii V. Pasechnik) **99j:05198** 05E30 (51E12)

— Characterization of a class of edge-regular graphs. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 1, 22–27; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 1, 20–25. (Dmitri Fon-Der-Flaass) **99a:05041** 05C12 (05C75, 05E30)

— (*with* Paduchikh, D. V.) On the structure of connected locally GQ(3, 9)-graphs. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* **1 5** (1998), *no.* 2, 61–77, 100. (Dmitrii V. Pasechnik) **99m:05138** 05C75 (51E12, 51E24)

— On a class of graphs without 3-stars. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 407–413; *translation in Math. Notes* **63** (1998), *no.* 3-4, 357–362. (Dmitri Fon-Der-Flaass) **99h:05130** 05E30 (05C75)

— (*with* Paduchikh, D. V.) Locally Shrikhande graphs and their automorphisms. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1085–1097, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 936–946. (Roman Nedela) **99i:05181** 05C75 (05C25, 05E20)

Makhno, S. Ya. On properties of solutions of stochastic equations: asymptotic normality and large deviations. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 165–177. (Summary) **99f:60062** 60F10 (60H10)

Maki, H. (*with* Chandrasekhara Rao, K.; Nagoor Gani, A.) On generalizing semi-open sets and preopen sets. (English summary) *Pure Appl. Math. Sci.* **49** (1999), *no.* 1-2, 17–29. 54A05 (54E55)

Maki, Midori (*with* Hagino, Kojiro) Robust control of uncertain linear systems with adaptation mechanisms. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 281–289. 93B35 (93C40)

Maki, Ziro (*with* Kubo, Masahiro; Nakahara, Mikio; Saito, Takesi) Grand unification from gauge theory in $M_4 \times Z_N$. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 1, 165–177. (Andrzej Sitarz) **99m:81286** 81V22 (46L87, 58B30, 81P99, 81T13)

Mäkilä, Pertti M. On autoregressive models, the parsimony principle, and their use in control-oriented system identification. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1103–1114. 93E12

— (*with* Böling, Jari M.) On control relevant criteria in H_∞ identification. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 694–700. (From the summary) **99a:93023** 93B30 (93B36)

— Comments on: "Robust, fragile, or optimal?" [IEEE Trans. Automat. Control **42** (1997), no. 8, 1098–1105; MR 98c:93038] by L. H. Keel and S. P. Bhattacharyya. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1265–1267. 93B36 (93D09)

— On robust control-oriented identification of discrete and continuous-time systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 319–335. (Summary) **99a:93025** 93B30 (93B35)

— (*with* Partington, Jonathan R.; Norlander, T.) Bounded power signal spaces for robust control and modeling. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 92–117 (*electronic*). (Long Wang) **99f:93047** 93B36 (43A15, 93C80, 93D15)

— *see also* **Keel, L. H.**

Makimoto, Naoki (*with* Fujimoto, Kou; Takahashi, Yukio[1]) Asymptotic properties of stationary distributions in two-stage tandem queueing systems. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 118–141. (Summary) **99e:60204** 60K25 (90B22)

— Asymptotic properties of stationary distributions in queueing models. (Japanese) *Systems Control Inform.* **43** (1999), *no.* 3, 129–134. 90B22 (60K25)

— *see also* **Performance evaluation of information communication networks, 99a:90008**

Makin, A. S. Order-sharp estimates for the maxima of moduli of associated functions of the Schrödinger operator. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 120–129, 144; *translation in Differential Equations* **33** (1997), *no.* 1, 121–131. (Lech Zielinski) **99c:35039** 35J10 (35Q55, 47F05)

— Sharp estimates for root functions of a second-order general elliptic operator. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 5, 594–596. (Summary) **99j:35037** 35J25 (35P10)

Mäkinen, Erkki (*with* Koshiba, Takeshi; Takada, Yuji[2]) Learning deterministic even linear languages from positive examples. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 63–79. (Summary) **99m:68168** 68T05 (68Q45)

— (*with* Aho, Isto; Systä, Tarja) Remarks on the thickness of a graph. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 1–4. (Summary) **99b:05080** 05C35 (68R10)

— Ranking and unranking left Szilard languages. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 29–38. (Summary) **99k:68096** 68Q45

Makino, Kazuhisa (*with* Eiter, Thomas; Ibaraki, Toshihide) Two-face Horn extensions. (English summary) *Algorithms and computation (Singapore*, 1997), 112–121, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68171** 68T05 (68N17, 68T35)

— (*with* Eiter, Thomas; Ibaraki, Toshihide) Computing intersections of Horn theories for reasoning with models. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 292–297, *MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68190** 68T27 (03B70, 68T30)

— (*with* Eiter, Thomas; Ibaraki, Toshihide) On disguised double Horn functions and extensions. (English summary) *STACS 98 (Paris*, 1998), 50–60, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68N17 (06E30)

— (*with* Boros, Endre; Ibaraki, Toshihide) Error-free and best-fit extensions of partially defined Boolean functions. (English summary) *Inform. and Comput.* **140** (1998), *no.* 2, 254–283. (Nicolae Ţăndăreanu) **99d:06017** 06E30 (68Q25, 68T05)

Makino, Kyoko (*with* Berz, Martin) Verified integration of ODEs and flows using differential algebraic methods on high-order Taylor models. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 361–369. (Summary) **99h:65143** 65L99 (34A45, 65G10)

Makino, Tetu On spherically symmetric stellar models in general relativity. *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 55–69. (Alan D. Rendall) **99g:83018** 83C20 (83C55)

Makkai, Katalin (*with* Grossi, Marie; Link, Montgomery; Parsons, Charles) A bibliography of Hao Wang. (English summary) *Philos. Math.* (3) **6** (1998), *no.* 1, 25–38. (John W. Dawson, Jr.) **99d:01030** 01A70

Makkai, Michael (*with* Hermida, Claudio; Power, Anthony John) Higher-dimensional multigraphs. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN*, 1998), 199–206, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 18D05 (03D05, 68Q45)

Makki, Kia (*with* Jia, Xiaohua; Pissinou, Niki; Jia, Weijia) Group channel routing for conferencing systems in wide area networks. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 217–232. (Summary) **99b:68017** 68M10

Makkonen, Simo (*with* Lahdelma, Risto) Stochastic simulation in risk analysis of energy trade. (English summary) *Trends in multicriteria decision making (Cape Town*, 1997), 149–159, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A46 (90A05)

Makov, Udi E. (*with* Landsman, Zinoviy M.) Exponential dispersion models and credibility. (English summary) *Scand. Actuar. J.* **1998**, *no.* 1, 89–96. (Klaus D. Schmidt) **99h:62129** 62P05 (62F15)

Makovoz, Y. Uniform approximation by neural networks. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 215–228. (Andrei Martínez Finkelshtein) **99h:41030** 41A30

Makowiak, Magdalena On some bounded solutions of a nonlinear differential equations. *Demonstratio Math.* **30** (1997), *no.* 4, 801–808. (George Karakostas) **99c:34136** 34G20 (34C11)

Makowski, Armand M. (*with* Parulekar, Minothi) Tail probabilities for $M/G/\infty$ input processes. I. Preliminary asymptotics. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 271–296 (1998). (Summary) **99a:60108** 60K25 (90B22)

Makowski, Louis (*with* Ostroy, Joseph M.) Arbitrage and the flattening effect of large numbers. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 1–31. (Summary) **99a:90079** 90A53 (90A56)

Makowski, Marek Generation and analysis of a non-linear optimization problem: European ozone model case study. (English summary) *Systems modelling and optimization (Detroit, MI*, 1997), 477–485, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90C90 (90A30, 90C30)

Makowsky, Johann A. (*with* Adámek, Jiří; Johnstone, Peter; Rosický, Jiří) Finitary sketches. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 699–707. (Leo Esakia) **99e:03044** 03G30 (03C75, 03C95, 18C10, 68Q65)

— *see also* **Colloquium: Logic '95, 99m:03003**

Makrakis, G. N. (*with* Ramm, Alexander G.) Scattering by obstacles in acoustic waveguides. (English summary) *Spectral and scattering theory (Newark, DE*, 1997), 89–109, *Plenum, New York*, 1998. (Yongzhi Xu) **99j:35026** 35J05 (35P25, 35R30, 76Q05)

Makris, Christos (*with* Tsakalidis, Athanasios) Algorithms for three-dimensional dominance searching in linear space. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 6, 277–283. (Summary) **99c:68252** 68U05

Makroglou, A. (*with* Brunner, Hermann; Miller, Richard Keith[1]) Mixed interpolation collocation methods for first and second order Volterra integro-differential equations with periodic solution. (English summary) *Appl. Numer. Math.* **23** (1997), *no.* 4, 381–402. (Summary) **99b:65171** 65R20 (45L05)

Maks, J. G. Spin invariants of multivectors. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 2, 103–111. (Summary) **99k:15047** 15A66

Maksa, Gyula (*with* Aczél, János) Solution of the rectangular $m \times n$ generalized bisymmetry equation and of the problem of consistent aggregation. *J. Math. Anal. Appl.* **203** (1996), *no.* 1, 104–126. (Author's review (J.A.) (Zbl 858.39013)) **99f:90022** 90A11 (39B52)

— (*with* Aczél, János; Luce, R. Duncan) Solutions to three functional equations arising from different ways of measuring utility. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 451–471. (Summary) **99a:90049** 90A10 (39B52)

— (*with* Aczél, János) Inequalities for selection probabilities. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 271–284, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Claudi Alsina) **99c:90005** 90A05 (39B05, 90A06)

— (*with* Kocsis, I.) The stability of a sum form functional equation arising in information theory. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 39–48. (P. N. Rathie) **99e:94017** 94A17 (39B22)

— The solution of a system of functional equations related to selection probabilities. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 547–557. (Jianguo Si) **99j:39026** 39B62 (39B52)

Maksarov, D. G. (*with* Norton, J. P.) State bounding with ellipsoidal set description of the uncertainty. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 847–866. 93C41 (93D09)

Maksimenko, I. M. (*with* Bukov, V. N.; Ryabchenko, V. N.) Control of multi-coupled systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 6, 97–110; *translation in Automat. Remote Control* **59** (1998), *no.* 6, *part* 1, 832–842. (Summary) **99k:93058** 93C35 (93B52, 93D15)

Maksimov, V. I. (*with* Kryazhimskii, Arkadii V.; Solov'ev, Aleksandr Anatol'evich; Chentsov, A. G.) On a probabilistic approach to the quantitative description of the dynamics of natural processes. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 192–210, 300. 93A30 (93C95)

— An inverse problem for a system with a moving boundary. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 217–225. (Domingo A. Tarzia) **99a:35279** 35R35 (35K55, 35R30, 65M12, 65M60)

— (*with* Kryazhimskii, Arkadii V.; Samarskaya, E. A.) On the reconstruction of inputs in parabolic systems. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 3, 51–72. (Summary) **99i:93034** 93C20 (35R30, 65M30, 76S05)

— (*with* Akca, Haydar; Berezanskiĭ, L. M.) On dynamical reconstruction of a pair "control-trajectory" in a system unresolved with respect to derivative. (English summary) *Funct. Differ. Equ.* **5** (1998), *no.* 1-2, 3–19. (Alexander M. Kovalev) **99m:49060** 49N50 (34K35, 93B30)

— (*with* Blizorukova, M. S.) On an algorithm for the dynamic reconstruction of controls. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 55–61. (Summary) **99k:93027** 93B07 (93B30, 93C15)

— (*with* Digas, B. V.) On the dynamic reconstruction of controls in parabolic systems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 398–412; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 384–398. (Tsvetomir Tsachev) **99d:93018** 93B30 (93C20)

— (*with* Kryazhimskii, Arkadii V.) An iterative procedure for solving a control problem with phase constraints. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1484–1489. (Ludmila N. Polyakova) **99m:49055** 49M99 (49J15)

Maksimov, V. M. (*with* Golovashkin, A. V.) Skew Ore polynomials of higher orders generated by homogeneous quadratic relations. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 145–146; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 384–386. 16S36

Maksimov, V. P. (*with* Izobov, N. A.; Il'in, Vladimir Aleksandrovich[1]; Kiguradze, I. T.; Kudryavtsev, L. D.; Shemyakina, T. K.) Nikolaĭ Viktorovich Azbelev (on the occasion of his seventy-fifth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 4, 435–439; *translation in Differential Equations* **33** (1997), *no.* 4, 433–438. (Editors) **99k:01062** 01A70

— (*with* Munembe, J. S. P.) On the question of enclosing solutions of linear functional-differential systems. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 149–156. (Summary) **99e:34089** 34K05 (34A45, 34K10, 65L99)

Maksimov, Yu. I. On a class of distributions connected with a non-homogeneous random walk on a finite abelian group. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 325–331, *VSP*, *Utrecht*, 1997. (*see* **99f:60004**) 60B15 (60J15)

Maksimova, L. L. Interpolation in superintuitionistic predicate logics with equality. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 5, 543–561, 600; *translation in Algebra and Logic* **36** (1997), *no.* 5, 319–329. (From the introduction) **99m:03051** 03B55

— Explicit definitions of implicitly definable objects in some modal logics. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 598–602, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 3, 513–517. (A. Yu. Muravitsky) **99d:03016** 03B45

Maksimova, N. O. On the existence of nontrivial nonnegative generalized solutions of nonlinear partial differential inequalities. (Russian. Russian summary) *Tr. Mosk. Mat. Obs.* **58** (1997), 224–246; *translation in Trans. Moscow Math. Soc.* **1997**, 197–217. (Ya. A. Roĭtberg) **99b:35224** 35R45 (35B05, 35D05, 35J99, 35K70)

Maksimuk, A. V. (*with* Kit, G. S.) The method of Volterra integral equations in contact problems for thin-walled structural elements. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 1, 1863–1864. 73T05

Maksymyk, Ivan (*with* Burgess, Clifford P.; de la Macorra, Axel; Quevedo, Fernando) Supersymmetric models with product groups and field dependent gauge couplings. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 7, 30 *pp.* (*electronic*). (Summary) **99g:81209** 81T60 (81T13)

Maktouf, Khemais Sur la formule du caractère pour un groupe de Lie résoluble presque algébrique sur un corps p-adique. (English and French summaries) [On the character formula for solvable almost algebraic Lie groups over a p-adic field] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 7–10. (Bertrand Lemaire) **99h:22024** 22E50

Mala, József (*with* Száz, Árpád) Modifications of relators. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 69–81. (Arnold W. Miller) **99a:04001** 04A05 (54E15)

— Finitely generated quasi-proximities. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 3, 193–197. (Summary) **99i:54028** 54E05

— On λ-majority voting paradoxes. (English summary) *Math. Social Sci.* **37** (1999), *no.* 1, 39–44. (Summary) **99i:90033** 90A28

Malabre, Michel (*with* Bonilla Estrada, Moisés; Fonseca, M.) On the approximation of non-proper control laws. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 775–796. 93D15

— (*with* Bonilla Estrada, Moisés) Necessary and sufficient conditions for disturbance decoupling with stability using PID control laws. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1311–1315. 93D15 (93C41)

Malachkovs'kiĭ, G. G. Some twin regions of convergence for branched continued fractions. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2374–2375. (Summary) **99e:40004** 40A15

Malafeev, O. A. (*with* Kirpichnikov, B. K.; Mash'yanov, G. B.) Dynamic programming in a renewal problem with gains. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 41–45, *Yakut. sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 90A09 (90C39)

de Malafosse, Bruno (*with* Labbas, Rabah) An application of the sum of linear operators in infinite matrix theory. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 191–210 (1998). (Ioana Ciorănescu) **99k:47023** 47A50 (47N20)

— (*with* Labbas, Rabah) On some Banach algebra of infinite matrices and applications. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 153–168. (From the introduction) **99b:47038** 47B37 (46H99, 47A50, 47N40, 65N99)

Malagoli, Luca (*with* Casali, Maria Rita) Handle-decompositions of PL 4-manifolds. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 2, 141–160. (Summary) **99b:57043** 57N13

Malaguerra, Carlo Opening of the conference. *Conference on Statistical Science Honouring the Bicentennial of Stefano Franscini's Birth* (*Ascona*, 1996), 3–8, *Monte Verità*, *Birkhäuser*, *Basel*, 1997. (*see* **99e:62002**) 01A70

— *see also* **Conference: Statistical Science, 99e:62002**

Malagutti, Pedro (*with* Hounie, Jorge) Existence and nonexistence of homotopy formulas for the Mizohata complex. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 31–42. (Makhlouf Derridj) **99g:58116** 58G05 (35A30)

Malaĭ, V. P. (*with* Ratsa, M. F.) Description of chain classically complete systems of pseudo-Boolean functions. (Russian. English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1992**, *no.* 2, 15–21. (S. Rudeanu) **99f:03019** 03B50 (03G10, 06E30)

Malakhov, A. N. Homogenization of periodic one-dimensional flows and bifurcations. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 2, 137–146. (Gershon Wolansky) **99b:34096** 34F05 (34C23, 35B27, 35R60, 60H10)

— Increase in the lifetime of the unstable state of a nonlinear dynamical system by the noise of the system. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 4, 519–533; *translation in Radiophys. and Quantum Electronics* **41** (1998), *no.* 4, 346–355. (Summary) **99i:82025** 82C05

Malakhovskiĭ, V. S. Differential geometry of manifolds of figures. Geometry, 3. *J. Math. Sci.* (*New York*) **89** (1998), *no.* 3, 1261–1278. (Vladislav Goldberg) **99c:53010** 53A20 (53A15)

Malamud, M. M. (*with* Mogilevskii, V. I.) On extensions of dual pairs of operators. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 30–37. (E. R. Tsekanovs'kiĭ) **99k:47016** 47A20 (47A10, 47B25)

— Invariant and hyperinvariant subspaces of direct sums of simple Volterra operators. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 143–167, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser*, *Basel*, 1998. (Hari Bercovici) **99f:47012** 47A15 (47B38, 47G10)

Malamud, S. M. On a class of multiparameter perturbations of positive definite operators with fixed bounds on their spectrum. (English summary) *Linear Algebra Appl.* **274** (1998), 239–257. (K. Veselić) **99c:47004** 47A10 (15A48, 15A57)

Malanowski, Kazimierz Application of the classical implicit function theorem in sensitivity analysis of parametric optimal control. (English summary) *Control Cybernet.* **27** (1998), *no.* 3, 335–352. (Ursula Felgenhauer) **99k:49065** 49K40 (49K15)

Malashenko, Yu. E. (*with* Novikova, N. M.) Superconcurrent distribution of flows in multicommodity networks. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **4** (1997), *no.* 2, 34–54, 64 (1998). (Mechthild Opperud) **99j:90026** 90B10 (90C35)

— (*with* Novikova, N. M.) Analysis of multi-user network systems taking into account uncertainty. I. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 134–144. 90B10 (90C35)

— (*with* Davidson, M. R.; Novikova, N. M.) Analysis of multi-user network systems taking into account uncertainty, II. Properties of superconcurrent distribution of flows. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 3, 105–118. 90B10 (90C35)

Malasoma, J.-M. (*with* Lamarque, C.-H.; Ouarzazi, M. N.) Chaos in the convective flow of a fluid mixture in a porous medium. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 1, 83–102. (Summary) **99a:76068** 76F20 (58F13, 58F40, 76S05)

Malatesta, Michele On reductio ad unum of disjunctive syllogism and modus ponendo ponens, tollendo tollens, ponendo tollens primus. (English summary) *Metalogicon* **7** (1994), *no.* 2, 105–114. (Merrie Bergmann) **99b:03014** 03B05 (01A20, 03–03)

— St. Augustine's dialectic from the modern logic standpoint—logical analysis of *Contra academicos III, 10, 22–13, 29*. *Metalogicon* **8** (1995), *no.* 2, 91–120. (James Gasser) **99e:03002** 03–03 (01A35)

— Demonstrative pronoun logic. *Metalogicon* **9** (1996), *no.* 1, 1–8. (Jon M. Cogburn) **99f:03035** 03B65

— On a particular meaning of the principle of duality: Leibniz, Boole, Peano. *Metalogicon* **10** (1997), *no.* 1, 1–12. 03–03 (01A99)

— One instance of modus tollendo tollens in Plato's *Parmenides* 127 e 1–7? *Metalogicon* **10** (1997), *no.* 2, 33–40. 03–03 (01A20)

Malathi, V. (*with* Suleiman, Mohamed Bin; Taib, Bachok B.) Computing eigenvalues of periodic Sturm-Liouville problems using shooting technique and direct integration method. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 119–132. (Summary) **99k:65064** 65L10 (65L15)

Mal'bakhov, V. M. Instability of convective cells and genesis of convective structures of different scale. (English summary) *J. Fluid Mech.* **365** (1998), 1–22. (Marie Christine Néel) **99f:76052** 76E15 (76E20, 86A10)

Malbouisson, A. P. C. (*with* Añaños, G. N. J.; Svaiter, N. F.) Analytic regularization of the $(\overline{\psi}_i\psi_i)^2_D$ model at finite temperature and density. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3515–3521. (Summary) **99c:81140** 81T15

— *see also* **Particles and fields, 99i:81004**

Malčeski, Aleksa l^∞ as n-normed space. (English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 103–110. (Ioan Şerb) **99m:46058** 46B99 (46A19, 46C50)

Malčeski, Risto Remarks on n-normed spaces. (Macedonian. English and Macedonian summaries) *Mat. Bilten No.* 20 (1996), 33–50. (Summary) **99c:46013** 46B20 (46A19)

— Strong n-convex n-normed spaces. (English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 81–102. (Ioan Şerb) **99m:46059** 46B99 (46A99, 46C50)

Malchow, H. (*with* Petrovskii, S. V.) A minimal model of pattern formation in a prey-predator system. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 8, 49–63. 92D25 (92D40)

Maldacena, Juan M. (*with* Strominger, Andrew; Witten, Edward) Black hole entropy in M-theory. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 2, 16 *pp.* (*electronic*). (Jeremy Michelson) **99d:83097** 83E30 (14J32, 32J81, 81T30, 83C57)

— The large N limit of superconformal field theories and supergravity. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 2, 231–252. (Douglas J. Smith) **99e:81204a** 81T30 (81T60, 83E30)

— (*with* Ferrara, Sergio) Branes, central charges and U-duality invariant BPS conditions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 749–758. (Mario Trigiante) **99e:81187** 81T30 (83E30)

— (*with* Strominger, Andrew) Statistical entropy of de Sitter space. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 14, 5 *pp.* (*electronic*). (Marco Spaans) **99e:83037** 83C57 (81T13, 83C45, 83E30)

— (*with* Aharony, Ofer; Fayyazuddin, Ansar) The large N limit of $\mathcal{N} = 2, 1$ field theories from threebranes in F-theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 13, 22 *pp.* (*electronic*). (Marco Spaans) **99d:81103** 81T30 (81T60, 83E30)

— (*with* Callan, Curtis G., Jr.) Brane dynamics from the Born-Infeld action. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 198–212. (Summary) **99e:81169** 81T30 (83E30)

— Black holes and D-branes. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 428–442. (Marco Spaans) **99f:83051** 83C57 (81T30, 83E30)

— D-branes and near extremal black holes at low energies. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 48–55. (Summary) **99b:83071** 83E30 (81T30, 83C57)
— Branes probing black holes. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 17–27. (Summary) **99e:83058** 83E30 (83C57)
— Probing near extremal black holes with D-branes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3736–3741. (Summary) **99m:83192** 83E30 (81T30, 83C57)
— (*with* Itzhaki, Nissan; Sonnenschein, Jacob; Yankielowicz, Shimon) Supergravity and the large N limit of theories with sixteen supercharges. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046004, 11 *pp.* (Summary) **99k:83133** 83E50 (81T30, 83E30)

van Maldeghem, Hendrik *see* **Van Maldeghem, Hendrik**

Malec, Edward Backscattering in propagation of spherically symmetric massless scalar fields. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 937–947. (Summary) **99k:83031** 83C30 (83C50)
— (*with* Roszkowski, Krzysztof) Comment on the Herzlich's proof of the Penrose inequality. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 8, 1975–1978. (Piotr T. Chruściel) **99j:53048** 53C21 (53C80, 83C57, 83C75)
— (*with* Ó Murchadha, Niall; Chmaj, Tadeusz) Spherical scalar waves and gravity—redshift and backscattering. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1653–1668. (Summary) **99c:83073** 83C99 (83F05)

Maleck-Rassoul, Rysvan (*with* Di Menza, Laurent) Résolution numérique par différences finies d'un système couplé issu de la dynamique des plasmas. (English and French summaries) [Numerical solution by finite differences of a coupled system derived from plasma dynamics] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 111–116. (Summary) **99g:78004** 78–08 (76X05, 78A60)

Málek, Josef (*with* Frehse, Jens; Steinhauer, Mark) An existence result for fluids with shear dependent viscosity—steady flows. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3041–3049. (Adélia Sequeira) **99g:76006** 76A05 (35Q35, 76A10)

abd-el-Malek, Mina B. *see* **Abd-el-Malek, Mina B.**

Maleki, H. R. (*with* Tata, M.; Mashinchi, M.) Fuzzy numbers and its application to fuzzy programming. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 331–337, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 90C70

Malek Mansour, M. (*with* Bena, I.; Baras, F.) Hydrodynamic fluctuations in the Kolmogorov flow: linear regime. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part B*, 5503–5510. 76F99

Maleknejad, K. (*with* Hadizadeh, M.) On the decomposition method to the heat equation with non-linear and non-local boundary conditions. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 336, 426–434. 65M55

Maler, Oded (*with* Asarin, E. A.) Achilles and the tortoise climbing up the arithmetical hierarchy. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 471–483, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Lei Qian) **99d:03039** 03D35 (03D15, 03D55, 68Q05)
— (*with* Asarin, E. A.) Achilles and the tortoise climbing up the arithmetical hierarchy. (English summary) *J. Comput. System Sci.* **57** (1998), *no.* 3, 389–398. (Summary) **99m:03086** 03D35 (03D15, 03D55, 68Q05)

Malerba, Joseph F. (*with* Gargano, Michael L.) Binary Fibonacci strings. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (**Boca Raton**, FL, 1998). *Congr. Numer.* **131** (1998), 169–178. (Summary) **99j:11016** 11B39

Malešič, Jože The Hilbert-Smith conjecture for Hölder actions. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 173–174; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 407–408. (Alexander Starkov) **99d:57026** 57S10 (54H15)
— (*with* Repovš, Dušan D.) On characterization of Lipschitz manifolds. (English summary) *New developments in differential geometry, Budapest* 1996, 265–277, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99j:57042** 57S99

Malesińska, Ewa (*with* Piskorz, Steffen; Weißenfels, Gerhard) On the chromatic number of disk graphs. (English summary) *Networks* **32** (1998), *no.* 1, 13–22. (Summary) **99e:05052** 05C15 (90B12, 94A05)
— (*with* Panconesi, Alessandro) On the hardness of allocating frequencies for hybrid networks. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 347–363. (Summary) **99h:68136** 68R10 (05C85, 68Q25, 90B12)

Malet, Antoni ★ From indivisibles to infinitesimals. Studies on seventeenth-century mathematizations of infinitely small quantities. Enrahonar. Monografies [Enrahonar. Monographs], 6. *Universitat Autònoma de Barcelona, Servei de Publicacions, Bellaterra* (*Barcelona*), 1996. 163 *pp. ISBN* 84-490-0520-5 (Detlef Laugwitz) **99m:01015** 01A45 (00A30, 03–03, 03A05)
— Ferran Sunyer i Balaguer (1912–1967) and mathematics after the Civil War. (Catalan) *Butl. Soc. Catalana Mat.* **12** (1997), *no.* 1, 27–50. (J. S. Joel) **99a:01021** 01A70 (01A80)
— Ferran Sunyer i Balaguer (1912–1967) and Spanish mathematics after the Civil War. *Math. Intelligencer* **20** (1998), *no.* 2, 23–30. (Editors) **99m:01080** 01A70 (01A80)

Malevich, Tat'yana L'vovna *see* **Obituary: Malevich, Tat'yana L'vovna**

Maley, F. Miller (*with* Lupton, Robert; Young, Neal E.) Data collection for the Sloan digital sky survey—a network-flow heuristic. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 339–356. (Summary) **99a:68091** 68Q25 (90C27)

Malfait, Wim (*with* Szczepański, Andrzej) Almost-Bieberbach groups with (in)finite outer automorphism group. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 1, 47–62. (Juan Pablo Rossetti) **99m:20123** 20H15 (57S30)
— Algebraic criteria to decide if a finite group acts effectively on a model aspherical manifold. (English summary) *J. Algebra* **206** (1998), *no.* 1, 51–66. (Paul Igodt) **99e:57050** 57S17 (19J35, 20F34)
— Model aspherical manifolds with no periodic maps. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4693–4708. (Bruno Zimmermann) **99g:57036** 57S17 (57N99)

Malfliet, W. (*with* Ndayirinde, I.) Dressed solitary waves in an elastic tube. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 92–98. (Summary) **99i:73056** 73K70 (76B25, 76Z05)

Malgonde, S. P. (*with* Bandewar, S. R.) The two-sided Laplace-Kontorovich-Lebedev transform of generalized functions. *J. Indian Acad. Math.* **18** (1996), *no.* 1, 25–45. (Hans-Jürgen Glaeske) **99b:44001** 44A10 (46F12)

Malgrange, Bernard De Rham complex and direct images of $\mathscr{D}$-modules. *Éléments de la théorie des systèmes différentiels. Images directes et constructibilité* (*Nice*, 1990), 1–13, *Travaux en Cours*, **46**, *Hermann, Paris*, 1993. (Orlando Neto) **99g:32017** 32C38
— Théorie analytique des équations différentielles. [Analytic theory of differential equations] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 329, 261–273, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 58H10 (35A20, 35A30)
— Équations de Sturm-Liouville. [Sturm-Liouville equations] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 65, 155–165, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 47E05 (34B24, 34L10, 34L40)
— Fonctions moyenne-périodiques (d'après J.-P. Kahane). [Mean-periodic functions (after J.-P. Kahane)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 97, 425–431, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 42A75
— Variétés analytiques réelles (d'après F. Bruhat, H. Cartan, et B. Malgrange). [Real-analytic manifolds (after F. Bruhat, H. Cartan, and B. Malgrange)] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 150, 195–206, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 32C05 (14P15)
— Théorème de Frobenius complexe (d'après A. Newlander et L. Nirenberg) [MR **21** #3582]. [Complex Frobenius theorem (after A. Newlander and L. Nirenberg)] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 166, 395–401, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 32B05
— Unicité du problème de Cauchy, d'après A. P. Calderón. [Uniqueness of the Cauchy problem, after A. P. Calderón] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 178, 151–161, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 35S10
— Division des distributions. [Division of distributions] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 203, 477–481, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 46Fxx
— Équations différentielles sans solutions (d'après Lars Hörmander). [Differential equations with no solutions (after Lars Hörmander)] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 213, 119–125, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 35A07
— Systèmes différentiels à coefficients constants. [Differential systems with constant coefficients] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 246, 79–89, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 32C38 (35E20)
— Problèmes aux limites elliptiques [MR **31** #498]. [Elliptic boundary value problems] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 262, 275–283, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 35Jxx
— Majorations a priori et d''-cohomologie [MR **31** #378]. [A priori upper bounds and d''-cohomology] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 275, 447–452, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 32C35 (35E20)
— L'involutivité générique des systèmes différentiels analytiques. (English and French summaries) [Generic involutiveness of analytic differential systems] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 863–866. (J. S. Joel) **99m:58211** 58H10 (58H15)

Malgras, Emmanuel Marching methods in surface-surface intersection. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 279–286, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17 (65Y25)

Malham, Simon (*with* Xin, Jack X.) Global solutions to a reactive Boussinesq system with front data on an infinite domain. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 287–316. (Chang Hao Lin) **99h:35177** 35Q35 (76D05, 80A25, 80A32)

Malhamé, Roland P. (*with* El-Férik, Sami; Boukas, El-Kébir) A tractable class of maximal hedging policies in multi-part manufacturing systems. (English summary) *Discrete Event Dyn. Syst.* **8** (1998), *no.* 3, 299–331. 90B30 (93E20)

Malhotra, Manish² (*with* Oberai, Assad A.; Pinsky, Peter M.) On the implementation of the Dirichlet-to-Neumann radiation condition for iterative solution of the Helmholtz equation. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 443–464. (Summary) **99e:65179** 65N99 (78–08)

Malhotra, Naresh K. (*with* Mezić, Igor; Wiggins, Stephen) Patchiness: a new diagnostic for Lagrangian trajectory analysis in time-dependent fluid flows. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1053–1093. (Summary) **99i:76068** 76F20 (58F40, 76E15)
— (*with* Wiggins, Stephen) Geometric structures, lobe dynamics, and Lagrangian transport in flows with aperiodic time-dependence, with applications to Rossby wave flow. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 4, 401–456. (Athanasios Yannacopoulos) **99e:34055** 34C35 (58F40, 76C20, 76F20)

Malhotra, Neelam (*with* Arora, Savita) Nonlinear integer goal programming. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 1, 39–50. 90C10 (90C29)
— (*with* Arora, Savita) Optimality conditions for linear fractional bilevel programs. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 373–384. 90C32 (90D65)

Malhotra, Sachit (*with* Douglas, Craig C.; Schultz, Martin H.) Parameter choices for ADI-like methods on parallel computers. (English summary) *Comput. Appl. Math.* **17** (1998), *no.* 3, 221–236. 65F10 (65Y05)
— (*with* Douglas, Craig C.; Schultz, Martin H.) "Transpose free" alternating direction smoothers for serial and parallel multigrid methods. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 39–52, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65207** 65N55

Maliakas, Mihalis Traceless tensors and invariants. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 73–80. (Stuart Martin) **99a:20043** 20G05

Maliassov, S. Yu. *see* **Malyasov, S. Yu.**

Malicki, Piotr Generalized coil enlargements of algebras. *Colloq. Math.* **76** (1998), *no.* 1, 57–83. (Ibrahim Assem) **99k:16030** 16G20 (16G60, 16G70)

Maličký, Peter Greatest common subgroup and smallest common supergroup of two finite groups and related metrics on a system of finite groups. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 85–90. (Marian Deaconescu) **99e:20032** 20D99 (20E07, 54H11)

Maligranda, Lech Weighted inequalities for quasi-monotone functions. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 363–370. (Lars Erik Persson) **99j:26017** 26D10
— (*with* Kato, Mikio; Takahashi, Yasuji) Von Neumann-Jordan constant and some geometrical constants of Banach spaces. Research on nonlinear analysis and convex

analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 68–74. (*see* **99f:00024**) 46B20

Malik, D. S. (*with* Mordeson, John N.; Sen, Mridul Kanti) Minimization of fuzzy finite automata. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 323–330. (Summary) **99h:68121** 68Q68 (68Q45)

— (*with* Mordeson, John N.) On fuzzy recognizers. (English summary) *Kybernetes* **28** (1999), *no.* 1, 47–60. (Summary) **99k:68097** 68Q45 (03D05, 03E72, 68Q68)

Malík, Josef Mathematical modeling of rock bolt systems. I. (English summary) *Appl. Math.* **43** (1998), *no.* 6, 413–438. (Igor Albertovich Brigadnov) **99i:73060** 73Q05 (35Q72, 73N20, 73V25)

Malik, Moinuddin (*with* Dang, Hao Huy) Vibration analysis of continuous systems by differential transformation. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 17–26. 73K05 (73D30)

Malik, R. P. KdV-type equations from nonlinear realization method. (English summary) *Special functions and differential equations* (*Madras*, 1997), 462–469, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 35Q53

— (*with* Mishra, Ashok Kumar; Rajasekaran, G.) Dynamics in a noncommutative phase space. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4759–4775. (Roberto Casalbuoni) **99h:81093** 81R50 (58B30)

Malik, S. K. (*with* Bajaj, Renu) Pattern selection in double-diffusive ferro-convection. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 191–216. (Marie Christine Néel) **99b:76033** 76E15 (76E15, 76W05)

— (*with* Khosla, H. K.) Chaotic transitions in magnetic fluids. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1962–1971. (Summary) **99e:76063** 76F20 (58F40, 76W05)

Malik, Saroj (*with* Vanaja, N.) Weak relative injective M-subgenerated modules. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 221–238, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Kaushal Ajitabh) **99e:16005** 16D50

Maliki, Mohamed (*with* Touré, Hamidou) Solution généralisée locale d'une équation parabolique quasi linéaire dégénérée du second ordre. (English and French summaries) [Local generalized solution of a second-order degenerate quasilinear parabolic equation] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 1, 113–133. (Marcelo M. Santos) **99k:35086** 35K55 (35B30, 35D05)

Malikov, F. G. (*with* Penner, Robert C.) The Lie algebra of homeomorphisms of the circle. (English summary) *Adv. Math.* **140** (1998), *no.* 2, 282–322. (O. V. Shvartsman) **99j:17034** 17B66

Malin, Shimon (*with* Carmeli, Moshe) SL(2, **C**) gauge theory of gravitation and the quantization of the gravitational field. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 10, 2615–2620. (Summary) **99h:83043** 83D05

Malinen, J. Properties of iteration of Toeplitz operators with Toeplitz preconditioners. (English summary) *BIT* **38** (1998), *no.* 2, 356–371. (Summary) **99d:65195** 65J99 (47B35, 65F30, 65T99)

Malinetskiĭ, G. G. (*with* Kurdyumov, S. P.; Potapov, A. B.) Nonstationary structures, dynamic chaos, cellular automata. News of synergetics. *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 5-6, 75–133. (Remo Badii) **99j:58110** 58F08 (58F13, 68Q80)

— (*with* Potapov, A. B.) Nonlinearity. New problems, new opportunities. News of synergetics. *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 5-6, 134–154. (Introduction) **99d:00008** 00A71 (00A69)

— (*with* Stepantsov, M. E.) Modeling of diffusion processes by cellular automata with Margolus neighborhood. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 1017–1020; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 973–975. (From the introduction) **99g:76111** 76M25 (35Q35, 76R50)

Malinin, D. A. Integral representations of p-groups of a given class of nilpotency over local fields. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 1, 58–67; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 45–52. (Sergey P. Strunkov) **99d:20009** 20C11 (20D15)

Malinkovskiĭ, Yu. V. (*with* Krylenko, A. V.) Queueing systems with instantaneously served customers. II. Models with customers of several types. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 62–71; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 204–212. 60K25

— (*with* Krylenko, A. V.) Closed queueing networks with bypassing of nodes and with several classes of customers. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 106–110, 143. 90B22 (60K25)

Malinnikova, E. V. (*with* Khavin, Viktor Petrovich) Uniform approximation by harmonic differential forms. A constructive approach. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 156–196; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 6, 1149–1180. (Nicolai N. Tarkhanov) **99g:58005** 58A10 (30E10, 41A52)

Malinowski, Adam (*with* Ciebiera, Krzysztof) Efficient broadcasting with linearly bounded faults. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 99–105. (Summary) **99m:68019** 68M15 (68M10)

Malinowski, Grzegorz On many-valuedness, sentential identity, inference and Łukasiewicz modalities. (English summary) *Log. Trianguli* **1** (1997), 59–71. (Otávio Bueno) **99j:03020** 03B50 (03B45)

Malinowski, Jacek On the lattice of orthomodular logics. (English summary) *Bull. Sect. Logic Univ. Łódź* **28** (1999), *no.* 1, 11–16. 08B15 (03G10, 06C15, 08C15)

Malinvaud, Edmond Maurice Allais, unrecognized pioneer of overlapping generations models. Translated from the French by Gillian Lewis. *Markets, risk and money*, 111–128, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 26, *Kluwer Acad. Publ., Dordrecht*, 1995. (Salim Rashid) **99c:01023** 01A70 (01A60, 90–03)

Malisani, Elsa History of algebraic thought before the sixteenth century. Construction of the symbolism and solution of equations. (Italian) *Quad. Ric. Didatt. No.* 6 (1996), 26–77. (William R. Shea) **99c:01008** 01A40

Malishevskiĭ, A. V. Aggregation of compatible indices and the latent hierarchy of elements. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 10, 164–185; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 2, 1689–1705 (1998). (Summary) **99c:90016** 90A08 (90A19)

— Combinatorial mechanisms for generating families of well-organized sets. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 11, 162–177; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 2, 1833–1844 (1998). (Summary) **99d:90016** 90A08

Maliszewski, Aleksander On the insertion of Darboux functions. (English summary) *Fund. Math.* **156** (1998), *no.* 3, 197–209. (Jack B. Brown) **99h:26009** 26A21 (26A15, 54C30)

— On the differences of upper semicontinuous quasi-continuous functions. (English summary) *Math. Slovaca* **48** (1998), *no.* 3, 245–252. 54C08 (26A18)

— On the averages of Darboux functions. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2833–2846. (Krzysztof Ciesielski) **99e:26004** 26A21 (54C08, 54C30)

Maliţa, Mihaela (*with* Ştefan, Gheorghe) The eco-chip: a physical support for artificial life systems. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 260–275, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (92B05, 92D40)

Malivert, Christian Multicriteria fractional optimization. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 189–198, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (R. N. Kaul) **99b:90111** 90C29 (90C32)

Malkamäki, Esa (*with* Leib, Harry) Coded diversity on block-fading channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 771–781. 94A40

Malkiel, Edwin (*with* Levinskiĭ, V. B.; Cohen, Jacob) The evolution of a localized vortex disturbance in external shear flows. II. Comparison with experiments in rotating shear flows. (English summary) *J. Fluid Mech.* **379** (1999), 351–380. (From the summary) **99k:76054** 76E05 (76–05, 76C05)

Malkin, Anton Z. (*with* Alekseev, Anton Yu.) The hyperbolic moduli space of flat connections and the isomorphism of symplectic multiplicity spaces. *Duke Math. J.* **93** (1998), *no.* 3, 575–595. (Valentino Zocca) **99g:58020** 58D29 (58F05)

— (*with* Alekseev, Anton Yu.; Meinrenken, Eckhard) Lie group valued moment maps. (English summary) *J. Differential Geom.* **48** (1998), *no.* 3, 445–495. (Johannes Huebschmann) **99k:58062** 58F05 (55N91, 57S25)

Malʹkovskiĭ, M. G. (*with* Shikin, I. Yu.) Fuzzy set technology in problems of information retrieval in databases. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 37–40, 49; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 55–59. 03E72 (68P20)

Malkowsky, E. On a new class of sequence spaces related to absolute and strong summability. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 145–154, *New Age, New Delhi*, 1997. (Summary) **99d:40003** 40F05 (40H05)

— A survey of recent results concerning a general class of sequence spaces and matrix transformations. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 155–175, *New Age, New Delhi*, 1997. (Summary) **99d:40001** 40C05 (40F05, 40H05)

— (*with* Rakočević, Vladimir) The measure of noncompactness of linear operators between certain sequence spaces. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 151–170. (Hans-Olav Tylli) **99i:40011** 40H05 (47A99, 47B37)

Mall, Daniel Characterisations of lexicographic sets and simply-connected Hilbert schemes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 221–236, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Alfio Ragusa) **99k:14008** 14C05 (06A07, 13P10)

— (*with* Collart, Stéphane) Toric degenerations of polynomial ideals and geometric localization of fans. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 443–464. (Alicia Dickenstein) **99k:13036** 13P10 (14M25, 68Q40)

— Gröbner fans and projective schemes. *Symbolic rewriting techniques* (*Ascona*, 1995), 181–191, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Ralf Fröberg) **99d:13033** 13P10 (68Q40)

— On the relation between Gröbner and Pommaret bases. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 2, 117–123. (Jan Snellman) **99e:13031** 13P10

Malladi, Ravikanth (*with* Sethian, James A.) Level set methods for curvature flow, image enchancement, and shape recovery in medical images. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 329–345, *Springer, Berlin*, 1997. (*see* **99g:68212**) 92C50 (53–04)

— (*with* Sochen, Nir; Kimmel, Ron) A general framework for low level vision. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 3, 310–318. (Summary) **99k:94016** 94A12

el-Mallah, M. L. *see* **El-Mallah, M. L.**

Mallat, Stéphane ★ A wavelet tour of signal processing. (English summary) *Academic Press, Inc., San Diego, CA*, 1998. *xxiv*+577 *pp. ISBN* 0-12-466605-1 (Patrick Flandrin) **99m:94012** 94A12 (42C15)

— (*with* Bergeaud, François) Matching pursuit of images. (English summary) *Signal and image representation in combined spaces*, 285–300, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Summary) **99f:94001** 94A11 (68U10)

— (*with* Papanicolaou, George C.; Zhang, Zhifeng) Adaptive covariance estimation of locally stationary processes. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 1–47. (Albert Benassi) **99f:62116** 62M15 (60G12)

— Applied mathematics meets signal processing. Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 319–338 (*electronic*). (*see* **99e:00023**) 94A12 (00A69, 11D09, 11E04, 15A63, 42C15)

madhukar Mallayya, V. *see* **Madhukar Mallayya, V.**

Malle, Gunter (*with* Geck, Meinolf; Hiss, Gerhard; Lübeck, Frank; Pfeiffer, Götz) CHEVIE—a system for computing and processing generic character tables. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 3, 175–210. (Summary) **99m:20017** 20C40 (20C33)

— (*with* Bremke, Kirsten) Reduced words and a length function for $G(e, 1, n)$. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 4, 453–469. (Robert Bédard) **99d:20062** 20F55 (20C20, 20H15)

— Spetses. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 87–96 (*electronic*). (Bhama Srinivasan) **99m:20090** 20F55 (20G40)

— (*with* Bremke, Kirsten) Root systems and length functions. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 83–97. (Robert Bédard) **99g:20075** 20F55 (51F15)

— (*with* Mathas, Andrew) Symmetric cyclotomic Hecke algebras. (English summary) *J. Algebra* **205** (1998), *no.* 1, 275–293. (Götz Pfeiffer) **99g:20026** 20C99 (20F55)

— (*with* Broué, Michel; Rouquier, Raphaël) Complex reflection groups, braid groups, Hecke algebras. (English summary) *J. Reine Angew. Math.* **500** (1998), 127–190. (Arjeh M. Cohen) **99m:20088** 20F55 (20C05, 20F36)

— (*with* Magaard, Kay) Irreducibility of alternating and symmetric squares. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 169–180. (Jürgen Ritter) **99a:20011** 20C33 (20C34, 20G40)

— (*with* Kemper, Gregor) Invariant rings and fields of finite groups. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 265–281, *Springer, Berlin*, 1999. (Angelina Chin) **99m:13010** 13A50 (20G15)

— Almost irreducible tensor squares. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1033–1051. (Thomas Weigel) **99m:20007** 20C15

Maller, Michael Algebraic problems arising from Morse-Smale dynamical systems. *Geometric dynamics* (*Rio de Janeiro*, 1981), 512–521, *Lecture Notes in Math.*, 1007, *Springer, Berlin*, 1983. (*see* **84m:58003**) 58F09

— (*with* Whitehead, Jennifer) Computational complexity over the p-adic numbers. (English summary) *J. Complexity* **13** (1997), *no.* 2, 195–207. (Rodney G. Downey) **99c:68080** 68Q05 (11S85, 11Y16, 68Q15, 68Q25)

Maller, R. A. (*with* Kesten, Harry) Random deletion does not affect asymptotic normality or quadratic negligibility. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 136–179. (Toshio Mori) **99c:60047** 60F05 (62E20)

— (*with* Griffin, P. S.) On the rate of growth of the overshoot and the maximum partial sum. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 181–196. (Charles M. Goldie) **99c:60149** 60J15 (60F15, 60G40, 60K05, 62L10)

— (*with* Kesten, Harry) Random walks crossing power law boundaries. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 219–252. (N. H. Bingham) **99k:60180** 60J15 (60F15, 60G40)

Mallesh, K. S. (*with* Gopala Rao, A. V.; Sudha, T. G.) On the algebraic characterization of a Mueller matrix in polarization optics. I. Identifying a Mueller matrix from its N matrix. (English summary) *J. Modern Opt.* **45** (1998), *no.* 5, 955–987. (Summary) **99c:78006a** 78A10

— (*with* Gopala Rao, A. V.; Sudha, T. G.) On the algebraic characterization of a Mueller matrix in polarization optics. II. Necessary and sufficient conditions for Jones-derived Mueller matrices. (English summary) *J. Modern Opt.* **45** (1998), *no.* 5, 989–999. (Summary) **99c:78006b** 78A10

Mallet-Paret, John (*with* Nussbaum, Roger D.) Boundary layer phenomena for differential-delay equations with state dependent time lags. II. *J. Reine Angew. Math.* **477** (1996), 129–197. (From the text) **99c:34162** 34K15 (34E15)

— (*with* Cahn, John W.; Van Vleck, Erik S.) Traveling wave solutions for systems of ODEs on a two-dimensional spatial lattice. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 455–493 (*electronic*). (Igor D. Chueshov) **99j:35220** 35Q99 (34K15, 35K57, 70K99, 73D99)

Malley, James D. Quantum conditional probability and hidden-variables models. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 812–820. (Emilio Santos) **99i:81012** 81P05 (81P10)

Malliaropulos, Dimitrios (*with* Voudouri, Aggeliki) An infinitely divisible distribution in financial modelling. *Bull. Greek Math. Soc.* **37** (1995), 113–122. (From the introduction) **99a:90046** 90A09

Malliavin, Paul Calcul symbolique dans quelques algèbres de Banach. [Symbolic calculus in certain Banach algebras] *Séminaire Bourbaki, Vol. 5, Exp. No.* 197, 405–413, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 46H30

— ★ Stochastic analysis. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 313. *Springer-Verlag, Berlin*, 1997. xii+343 *pp. ISBN* 3-540-57024-1 (Rémi Léandre) **99b:60073** 60H07 (31C15, 58G32, 60H30)

— Complex harmonic analysis in the aftermath of Paley-Wiener. *Proceedings of the Norbert Wiener Centenary Congress*, 1994 (*East Lansing, MI*, 1994), 129–140, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Khélifa Trimèche) **99d:42012** 42A38

— Filtered Wiener space versus abstract Wiener space. *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 185–197, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel Ocone) **99i:60113** 60H07

— (*with* Cruzeiro, A.-B.) Nonperturbative construction of invariant measure through confinement by curvature. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 6, 527–537. (Vladimir I. Bogachev) **99f:58220** 58G32 (60H07)

Mallick, Bani K. (*with* Walker, Stephen Graham) A note on the scale parameter of the Dirichlet process. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 473–479. (Ram C. Tiwari) **99d:62057** 62G99 (60G99, 62C10)

— (*with* Denison, David G. T.; Smith, Adrian F. M.) A Bayesian CART algorithm. (English summary) *Biometrika* **85** (1998), *no.* 2, 363–377. 62H30

— (*with* Gangopadhyay, Ashis K.; Denison, David G. T.) Estimation of spectral density of a stationary time series via an asymptotic representation of the periodogram. (English summary) The Seventh Eugene Lukacs Conference (Bowling Green, OH, 1997). *J. Statist. Plann. Inference* **75** (1999), *no.* 2, 281–290. (*see* **99k:62004**) 62M15

basu-Mallick, Bireswar *see* **Basu-Mallick, Bireswar**

Mallier, Roland Interactions between a pair of helical waves on an axisymmetric jet. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 5, 267–282. (Summary) **99f:76061** 76E30 (76B10)

— (*with* Maslowe, S. A.) Weakly nonlinear evolution of a wave packet in a zonal mixing layer. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 1, 69–85. (Summary) **99j:76042** 76E20 (35Q35, 76C15, 86A10)

Mallik, Asok Kumar (*with* Ravindra, B.) Dissipative control of chaos in non-linear vibrating systems. *J. Sound Vibration* **211** (1998), *no.* 4, 709–715. (From the introduction) **99c:70032** 70K50 (58F13, 58F40, 70Q05, 93C95)

Mallik, Ranjan K. On the solution of a second order linear homogeneous difference equation with variable coefficients. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 32–47. (Sui Sun Cheng) **99c:39005** 39A10

— On the solution of a third order linear homogeneous difference equation with variable coefficients. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 6, 501–521. (Abdurrahman Karamancioglu) **99m:39009** 39A10

— Solutions of linear difference equations with variable coefficients. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 79–91. (Abdurrahman Karamancioglu) **99e:39032** 39A10

Mallios, Anastasios ★ Geometry of vector sheaves. Vol. I. (English summary) An axiomatic approach to differential geometry. Vector sheaves. General theory. Mathematics and its Applications, 439. *Kluwer Academic Publishers, Dordrecht*, 1998. *xx*+441 *pp. ISBN* 0-7923-5006-5 (Daniel Hernández Ruipérez) **99g:58002** 58A03 (53C05)

— ★ Geometry of vector sheaves. Vol. II. (English summary) An axiomatic approach to differential geometry. Geometry. Examples and applications. Mathematics and its Applications, 439. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxiv*+436 *pp. ISBN* 0-7923-5006-5 (Daniel Hernández Ruipérez) **99g:58003** 58A03 (53C05)

— On an axiomatic treatment of differential geometry via vector sheaves. Applications. *Math. Japon.* **48** (1998), *no.* 1, 93–180. (From the introduction) **99i:58005** 58A05 (53C80)

alonso Mallo, Isaías *see* **Alonso Mallo, Isaías**

Mallol, Cristián (*with* Burgueño, C.; Varro, R.) Dérivations de Peirce et une classe d'algèbres de Bernstein Jordan d'ordre 2. (French summary) [Peirce derivations and a class of second-order Bernstein-Jordan algebras] *Algebras Groups Geom.* **15** (1998), *no.* 2, 239–244. (Consuelo Martínez) **99m:17043** 17D92 (17A36)

— Dérivations de Peirce et structure d'algèbre. (French summary) [Peirce derivations and structure of an algebra] *Comm. Algebra* **26** (1998), *no.* 12, 4149–4157. (Consuelo Martínez) **99k:17051** 17D92

Malmi, Lauri ★ On updating and balancing relaxed balanced search trees in main memory. (English summary) Dissertation, Helsinki University of Technology, Espoo, 1997. TKO, A35. *Helsinki University of Technology, Department of Computer Science and Engineering, Laboratory of Information Processing Science, Espoo*, 1997. *vi*+116 *pp. ISBN* 951-22-3785-7 (Summary) **99e:68025** 68P05

Malmivuori, Markku Electric and magnetic Green's functions for a smoothly layered medium. *Ann. Acad. Sci. Fenn. Math. Diss. No.* 114 (1998), 76 *pp.* (Norbert Weck) **99j:35216** 35Q60 (78A25)

Malmström, Anders Optimization problems with approximation schemes. (English summary) *Computer science logic* (*Utrecht*, 1996), 316–333, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **99a:68092** 68Q25 (03B70, 68Q15)

Malnič, Aleksander (*with* Marušič, Dragan) Constructing 4-valent $\frac{1}{2}$-transitive graphs with a nonsolvable automorphism group. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 46–55. (Ming-Yao Xu) **99j:05091** 05C25

Malomed, Boris A. (*with* Grimshaw, R. H. J.; Tian, Xin) Gap solitons in a coupled Korteweg-de Vries system. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 324–334, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:35211** 35Q53 (65M99, 76B25)

— (*with* Musslimani, Ziad H.) Modulational instability in bulk dispersive quadratically nonlinear media. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 235–243. (*see* **99h:00031**) 78A60 (35Q55)

— (*with* Atai, Javid) Bound states of solitary pulses in linearly coupled Ginzburg-Landau equations. (English summary) *Phys. Lett. A* **244** (1998), *no.* 6, 551–556. 35Q55

— (*with* Crasovan, Lucian-Cornel; Mihalache, Dumitru; Lederer, Falk) Exact solitary-wave solutions of $\mathscr{E}^{(2)}$ Ginzburg-Landau equations. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 6, 7173–7177. 78A60

Malone, David An unusual construction of the Fourier transform. *Irish Math. Soc. Bull. No.* 42 (1999), 15–20. 46F12 (42A38)

Malonek, Helmuth R. Generalizing the (F, G)-derivative in the sense of Bers. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 247–257, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Vladislav V. Kravchenko) **99d:30045** 30G35

Maloney, James G. (*with* Kesler, Morris P.) Analysis of periodic structures. *Advances in computational electrodynamics*, 345–407, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (*see* **99c:78001**) 78–08

— (*with* Smith, Glenn S.) Modeling of antennas. *Advances in computational electrodynamics*, 409–460, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Jin Yun Yuan) **99e:78035** 78A50 (78–08)

Malov, S. V. On the strong independence of sequential ranks. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 517–532, *TEV, Vilnius*, 1994. (Summary) **99e:62092** 62G30

— Random variables generated by ranks in dependent schemes. (English summary) *Metrika* **48** (1998), *no.* 1, 61–67. (John A. Bunge) **99k:60135** 60G70 (60E99, 62G30)

Måløy, Knut Jørgen (*with* Le Pennec, Thierry; Flekkøy, Eirik G.; Messager, Jean Claude; Ammi, Madani) Silo hiccups: dynamic effects of dilatancy in granular flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3072–3079. 76–05 (73E99, 76A99)

Malozëmov, V. N. (*with* Pevnyĭ, A. B.; Tret'yakov, A. A.) A fast wavelet transform for discrete periodic signals and images. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 77–85; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 161–168. (Summary) **99h:94008** 94A11 (65T20)

— (*with* Omel'chenko, Aleksandr Vladimirovich; Rydalevskaya, M. A.) On entropy maximization under linear constraints. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1509–1513. (Summary) **99k:82030** 82B30 (90C90)

Malta, C. P. (*with* Bastos de Figueiredo, J. C.) Lyapunov graph for two-parameters map: application to the circle map. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 281–293. (B. V. Loginov) **99f:58114** 58F10

— (*with* Bastos de Figueiredo, J. C.; Grotta Ragazzo, C.) Two important numbers in the Hénon-Heiles dynamics. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 35–40. (Summary) **99b:58089** 58F05 (70H05, 70K50)

— (*with* Dechoum, K.; França, H. M.) Classical aspects of the Pauli-Schrödinger equation. (English summary) *Phys. Lett. A* **248** (1998), *no.* 2-4, 93–102. (Summary) **99g:81060** 81Q99 (81P99)

Malta, Iaci (*with* Saldanha, Nicolau C.; Tomei, Carlos) Critical sets of proper Whitney functions in the plane. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 181–228. (Robert Roussarie) **99g:58011** 58C27 (57R45)

— (*with* Saldanha, Nicolau C.; Tomei, Carlos) Morin singularities and global geometry in a class of ordinary differential operators. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1,

137–169. (P. T. Church) **99f:34029** 34B15 (34A26, 47H15, 58C27)

Malta, Sandra M. C. (*with* Loula, Abimael F. D.) Numerical analysis of finite element methods for miscible displacements in porous media. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 4, 519–548. (Peter Knabner) **99j:76074** 76M10 (65N30, 76S05)

Maltby, Roy Root systems and the Erdős-Szekeres problem. *Acta Arith.* **81** (1997), *no.* 3, 229–245. (Mihail N. Kolountzakis) **99b:11017** 11C08 (11F22)

— (*with* Gibson, Peter) Posets in which every cutset meets every fibre. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 107–127. (Douglas B. West) **99m:06006** 06A07

Malti, R. (*with* Ekongolo, S. B.; Ragot, José) Dynamic SISO and MISO system approximations based on optimal Laguerre models. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1318–1323. 93B30 (93C80)

— (*with* Maquin, D.; Ragot, José) Bilateral decomposition of a time function into Laguerre series. Application to LTI system identification. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 851–869. (Summary) **99b:93026** 93B40 (93B30)

Mal'tsev, A. Ya. Averaging of Hamiltonian structures in a discrete variant of the Whitham method. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 219–220; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 214–216. (L. E. Faybusovich) **99d:58086** 58F07

Malucelli, F. (*with* Esposito, Alessandra; Catalano, M. S. Fiorenzo; Tarricone, L.) A new matrix bandwidth reduction algorithm. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 99–107. 65F30 (90C08)

Malumbres, L. (*with* Barrios, Dolores; Ríos, Juan) Convergence conditions of genetic algorithms. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 231–241. (Summary) **99k:90125** 90C27 (68T05)

Malusa, Annalisa (*with* Dal Maso, Gianni) Some properties of reachable solutions of nonlinear elliptic equations with measure data. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 375–396 (1998). (Maurizio Chicco) **99k:35047** 35J60 (35R05)

— Harmonic measures of perforated domains. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 273–316. (Vladimir Eiderman) **99b:35033** 35J15 (31B35)

Małuszyński, Jan *see* **Logic programming, 99d:68008**

Malvestuto, Francesco Mario A complete axiomatization of full acyclic join dependencies. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 133–139. (Summary) **99g:68049** 68P15

— (*with* Moscarini, Marina) A fast algorithm for query optimization in universal-relation databases. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 3, 299–309. (Summary) **99d:68066** 68P15

Malvestuto, Vincenzo (*with* Ascoli, Sergio; Diodato, Lorenzo) On the problem of thermodynamic equilibrium in the presence of internal adiabatic constraints. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8407–8416. 80A10

Malviya, R. (*with* Thakur, S. S.; Tapi, U. D.) Pairwise fuzzy semiclosed mappings. *J. Indian Acad. Math.* **20** (1998), *no.* 2, 125–134. 54A40 (54C10, 54E55)

Malý, Jan (*with* Bouchitté, Guy; Fonseca, Irene) The effective bulk energy of the relaxed energy of multiple integrals below the growth exponent. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 463–479. (Georg K. Dolzmann) **99i:73024** 73C50 (49J99, 49Q20, 73V25)

Malyasov, S. Yu. On the Schwarz alternating method for eigenvalue problems. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 1, 45–56. (V. L. Makarov) **99d:65307** 65N25

Malykhin, V. I. (*with* Bella, Angelo) Tightness and resolvability. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 177–184. (Aleksander Błaszczyk) **99j:54004** 54A10 (54A25, 54C05)

— (*with* Jimenez, Rolando) Structure resolvability. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 379–387. (Summary) **99i:54008** 54A35 (03E35, 54A25)

— A new view on old problems. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 105–114. (Summary) **99i:54009** 54A35 (03E35, 03F65, 54A25)

— (*with* Bella, Angelo) Around tight points. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 97–104. (Summary) **99h:54003** 54A25

Malykin, G. B. (*with* Neĭmark, Yu. I.) Nonholonomy of the relation between the state of an electromagnetic field in a unimode light guide with linear birefringence and its torsion angle. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 9, 1125–1136. (Summary) **99k:78030** 78A60

Malyshev, A. N. (*with* Sadkane, Miloud) On the stability of large matrices. (English summary) *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 303–313. (Mihail Voicu) **99m:34113** 34D20 (15A18, 15A45, 15A60)

Malyshev, A. V. Fundamental concepts and theorems of the geometry of numbers. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 3–42. (Wolfgang Schwarz) **99h:11072** 11Hxx

Malyshev, C. L. *see* **Malyshev, K. L.**

Malyshev, F. M. (*with* Tarakanov, V. E.) Generalized de Bruijn graphs. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 540–548; *translation in Math. Notes* **62** (1997), *no.* 3-4, 449–456 (1998). (Daniel Turzík) **99i:05182** 05C75

Malyshev, K. L. (*with* Popov, Viktor Nikolaevich) On superconductivity in the three-band two-dimensional repulsive Hubbard model. (English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 1, 149–162; *reprinted in Theoret. and Math. Phys.* **105** (1995), *no.* 1, 1307–1318 (1996). (Klaus Ziegler) **99e:82100** 82D55 (82B20)

Malyshev, P. V. *see* **Berezanskiĭ, Yuriĭ Makarovich, 99d:43010**

Malyshev, V. A. Interacting chains of symbols. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 59–86; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 299–326. (Alexandre S. Gajrat) **99e:60216** 60K35 (60J05, 60J15)

— (*with* Kurkova, I. A.) Martin boundary and elliptic curves. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 2, 203–272. (Mamoru Kanda) **99h:60149** 60J50 (14H52, 30F10, 31C35, 60J15)

Malyshev, Yu. V. Stability in problems of mechanics. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 368–372, 430; *translation in Differential Equations* **33** (1997), *no.* 3, 366–370. (Alexander M. Kovalev) **99a:34149** 34D20 (70K20)

Malysheva, G. Yu. (*with* Krutitskiĭ, P. A.) Unsteady planetary waves in semibounded channels spreading along the meridian. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 975–982; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 941–947 (1998). (Summary) **99c:76026** 76C20 (76U05, 86A05)

Malyutin, V. B. Approximations of functional integrals generated by differential equations with coefficients from a commutative Banach superalgebra. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 9–13, 138. (J. S. Joel) **99f:58031** 58D30 (46N50)

Malyutov, M. B. (*with* Tsitovich, I. I.) On sequential search for significant variables of unknown function. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 155–178, *VSP, Utrecht*, 1996. (Alexander V. Gnedin) **99c:62216** 62L05 (94A99)

— On sequential search for significant variables of the additive function. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 298–316, *World Sci. Publishing, River Edge, NJ*, 1996. (H. Chernoff) **99c:62222** 62L10 (62K99)

— (*with* Tsitovich, I. I.) Sequential search for the essential variables of an unknown function. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 88–107; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 362–377 (1998). (D. Stanomir) **99k:94011** 94A12

— (*with* Sadaka, H. A.) Non-parametric search for significant variables of a linear model. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 187–194, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99i:62162** 62J99 (62G99)

Mamadaliev, N. K. The Tricomi problem for a third-order equation of parabolic-hyperbolic type of the second kind. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 52–59 (1996). 35M10

Mamaev, I. S. (*with* Borisov, Adriyan V.) Adiabatic chaos in the dynamics of a rigid body. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 65–78. (Summary) **99g:70014** 70E15 (58F13, 70K50)

Mamakin, V. Yu. (*with* Kanenaga, Masahiko; Kirillov, A. I.; Namiki, Mikio; Ohba, Ichiro; Polyachenko, E. V.; Zav'yalov, O. I.) On evaluation of path integrals for bottomless systems. (English summary) *Path integrals: Dubna '96*, 181–186, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

Mamazhanov, M. (*with* Dzhuraev, T. D.) On a class of boundary value problems for a higher-order equation with a parabolic-hyperbolic operator. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 35–41 (1996). (V. V. Kovrizhkin) **99i:35111** 35M10

Mambo, Masahiro (*with* Sakazaki, Hisao; Okamoto, Eiji) ID-based key distribution system over an elliptic curve. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 215–224, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99k:94041** 94A60 (11G20)

Mamedov, I. T. (*with* Abasov, R. F.) Boundary properties of solutions of elliptic equations in domains with special symmetry. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 126–134. (Vladimir Tulovsky) **99m:35084** 35J67 (35J25)

Mamedov, Kh. R. (*with* Kerimov, N. B.) On the Riesz basis property of root functions of some regular boundary value problems. (Russian. Russian summary) *Mat. Zametki* **64** (1998), *no.* 4, 558–563; *translation in Math. Notes* **64** (1998), *no.* 3-4, 483–487 (1999). (Summary) **99m:34193** 34L10 (34B24, 47E05)

Mamedov, Y. A. (*with* Can, M.) Application of the residue method to a mixed problem. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 305–321. (Emmanuel Grenier) **99d:35134** 35Q35 (35A25, 76V05)

Mamedova, G. G. (*with* Faradzhev, R. G.) Some problems in the theory of controllability and reversibility of bilinear sequential machines. (Russian. English and Azerbaijani summaries) *Dokl. Akad. Nauk Azerbaĭdzhana* **51(52)** (1995/96), *no.* 1-12, 28–32 (1997). 93B05 (93C10)

Mamistvalov, A. G. Affine classification and recognition of geometric bodies by their three plane orthogonal projections. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 1, 35–38 (1996). 68U05 (51M04, 51N10, 51N15)

Mamlook, Rustom (*with* Tao, Chin-Wang; Thompson, Wiley E.) An advanced fuzzy controller. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 541–545. 93C42

Mammana, M. Flavia (*with* Lindner, C. C.) A small embedding for partial directed $6k$-cycle systems. (English summary) *Australas. J. Combin.* **18** (1998), 183–192. (Michael E. Raines) **99k:05028** 05B05 (05C38)

Mammen, Enno (*with* Marron, J. Stephen) Mass recentred kernel smoothers. (English summary) *Biometrika* **84** (1997), *no.* 4, 765–777. (M. P. Mokhyachuk) **99h:62050** 62G07

— (*with* Konakov, V.) The shape of kernel density estimates in higher dimensions. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 4, 440–464 (1998). (Serguei Yu. Novak) **99b:62061** 62G05

— (*with* Fan, Jianqing; Härdle, Wolfgang) Direct estimation of low-dimensional components in additive models. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 943–971. (Theo Gasser) **99i:62064** 62G05

— (*with* Härdle, Wolfgang; Müller, Marlene) Testing parametric versus semiparametric modeling in generalized linear models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1461–1474. (Summary) **99j:62102** 62J12 (62G05)

— (*with* Gijbels, Irène) Local adaptivity of kernel estimates with plug-in local bandwidth selectors. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 503–520. (Michael Falk) **99i:62091** 62G07

Mammoli, A. A. (*with* Ingber, M. S.) Stokes flow around cyclinders in a bounded two-dimensional domain using multipole-accelerated boundary element methods. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 897–917. 76M15 (76D07)

Mamontov, A. E. Well-posedness of a quasistationary model of a viscous compressible fluid. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1117–1131, *iii; translation in Siberian Math. J.* **37** (1996), *no.* 5, 983–996. (Vladimir V. Shelukhin) **99f:35164** 35Q30 (76N10)

— Existence of global solutions of multidimensional Burgers equations of a compressible viscous fluid. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 2, 161–163. 35Q53 (76N10)

— (*with* Kazhikhov, A. V.) On a class of convex functions and exact classes of wellposedness of the Cauchy problem for the transport equation in Orlicz spaces. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 831–850, *ii; translation in Siberian Math. J.* **39** (1998), *no.* 4, 716–734. (Summary) **99h:35215** 35Q99 (35K55, 76N10)

Mamontov, Yevgeny V. (*with* Willander, Magnus) Asymptotic method of finite equation for bounded solutions of nonlinear smooth ODEs. (English summary) *Math. Japon.* **46**

(1997), *no.* 3, 451–461. (H. C. Howard) **99b:34019** 34A34 (34C11)

Mamourian, Ahmad (*with* Shams, Bijan) On a non-uniformly elliptic boundary value problem. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **1** (1996), *no.* 1, 25–38. (Srinivasan Kesavan) **99c:35075** 35J65 (30E25, 35J55)

— (*with* Esrafilian, E.; Taghizadeh, N.) On the existence of general solution of a first order elliptic systems by fixed-point theorem. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 539–545, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Yong Qing Li) **99f:35051** 35J60 (35J45, 45E05, 45G15, 47N20)

Mampaso, Antonio *see* **Universe at large, 99e:85001**

Mamulashvili, L. Generalized problem of Riemann on domains with piecewise-smooth boundary. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **114** (1997), 39–57. (Elias Wegert) **99i:30060** 30E25 (45E05)

Man, Chi-Sing Hartig's law and linear elasticity with initial stress. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 313–319. (D. Ieşan) **99d:73004** 73B05 (73C99)

Man, K. F. (*with* Tang, K. S.; Kwong, S.) ★ Genetic algorithms. (English summary) Concepts and designs. With 1 IBM-PC floppy disk (3.5 inch; HD). Advanced Textbooks in Control and Signal Processing. *Springer-Verlag London, Ltd., London*, 1999. *xii*+344 *pp. ISBN* 1-85233-072-4 (Publisher's description) **99m:90001** 90–02 (65K05, 90C27, 90C90)

Man, Shing Hing (*with* Leung, Ka Hin) On commutative Noetherian rings which satisfy the radical formula. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 285–293. (Fazal Mehdi) **99a:13009** 13E05 (13C13)

— (*with* Leung, Ka Hin) On Schur rings over cyclic groups. (English summary) *Israel J. Math.* **106** (1998), 251–267. (Barbara Baumeister) **99i:20009** 20C05 (05E30, 20B99)

— A note on Dedekind domains. *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 655–656. (From the text) **99i:13031** 13F05

Man, Zhihong (*with* Paplinski, A. P.; Wu, Hong Ren) A robust neural controller for a class of second-order nonlinear systems. (English summary) *Complex. Int.* **2** (1995), 11 *HTML documents* (*electronic*). 93B36 (93C30)

— (*with* Yu, Xing-Huo) Model reference adaptive control systems with terminal sliding modes. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1165–1176. 93B12 (93C40)

— (*with* Mei, Fei; Yu, Xing-Huo; Nguyen, Thong) A robust tracking control scheme for a class of nonlinear systems with fuzzy nominal model. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 145–158. (*see* **99a:93003**) 93C10 (93B99)

— (*with* Yu, Xing-Huo) Multi-input uncertain linear systems with terminal sliding-mode control. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 389–392. (Summary) **99a:93015** 93B12 (93B51)

— (*with* Wu, Yuqiang; Yu, Xing-Huo) Terminal sliding mode control design for uncertain dynamic systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 281–287. (Summary) **99e:93015** 93B12 (93B05)

Manabe, Yoshifumi (*with* Baldoni, Roberto; Raynal, Michel; Aoyagi, Shigemi) k-arbiter: a safe and general scheme for h-out-of-k mutual exclusion. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 97–112. (Annabelle McIver) **99a:68066** 68Q10

Manafov, M. Dzh. Study of spectral properties of an operator with generalised potentials. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 339–341, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 34L05

Manaka, Hiroko (*with* Kuroda, Koji) Limit theorem related to an interface of three-dimensional Ising model. (English summary) *Kobe J. Math.* **15** (1998), *no.* 1, 17–39. (Hans-Otto Georgii) **99h:82015** 82B20 (60F17, 82B26)

Manakov, S. V. (*with* Zenchuk, A. I.) The dual $\overline{\partial}$-problem, $(2+1)$-dimensional nonlinear integrable evolution equations and their reductions. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 371–382; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1490–1499 (1996). (Piotr G. Grinevich) **99b:58130** 58F07 (35Q58, 58F37)

— (*with* Zakharov, Vladimir E.) On reductions in systems integrable by the method of the inverse scattering problem. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 3, 324–327. 35Q58 (58F37)

Manara, Giuliano (*with* Pelosi, Giuseppe; Nepa, Paolo) A UTD solution for the scattering by a wedge with anisotropic impedance faces: skew incidence case. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 4, 579–588. (Summary) **99a:78028** 78A50 (78A45)

Manara, Lucia H. B. (*with* De Roeck, Anne) A belief-centered treatment of pragmatic presupposition. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 274–291, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 03B65

Manaresi, Mirella (*with* Achilles, Rüdiger) A footnote to a result of Sturmfels-Trung-Vogel on the effective Nullstellensatz. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 1–7. (Joachim Apel) **99f:13022** 13F20 (13P99)

— (*with* Achilles, Rüdiger) Multiplicities of a bigraded ring and intersection theory. *Math. Ann.* **309** (1997), *no.* 4, 573–591. (Marc Chardin) **99a:14005** 14C17 (13A30, 13H15)

— (*with* Flenner, Hubert) Variation of ramification loci of generic projections. (English summary) *Math. Nachr.* **194** (1998), 79–92. (Fyodor L. Zak) **99j:14015** 14E22 (14C17)

Manas, Gary J. A new estimation procedure based on frequency moments. (English summary) *South African Statist. J.* **31** (1997), *no.* 1, 91–106. 62F10

— (*with* Boyd, A. V.) New estimators for Pareto parameters based on frequency moments. (English summary) *South African Statist. J.* **31** (1997), *no.* 1, 107–124. 62F10

Mañas, Manuel (*with* Liu, Qing Ping[1]) Sequences of Levy transformations and multi-Wroński determinant solutions of the Darboux system. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 178–184. (C. Rogers) **99g:35011** 35A30

— (*with* Liu, Qing Ping[1]) Vectorial Ribaucour transformations for the Lamé equations. (English summary) *J. Phys. A* **31** (1998), *no.* 10, *L*193–*L*200. (Summary) **99c:58178** 58G37 (35A30, 35Q51)

— (*with* Liu, Qing Ping[1]) Discrete Levy transformations and Casorati determinant solutions of quadrilateral lattices. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 159–166. (F. Pempinelli) **99f:39027** 39A12 (35Q99, 39A10, 58F37)

— (*with* Liu, Qing Ping[1]) Pfaffian solutions for the Manin-Radul-Mathieu SUSY KdV and SUSY sine-Gordon equations. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 306–310. (Vassili M. Goncharenko) **99i:58078** 58F07

— (*with* Martínez Alonso, Luis) From Ramond fermions to Lamé equations for orthogonal curvilinear coordinates. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 316–322. (Summary) **99f:58101** 58F07 (17B69)

Manásevich, Raúl (*with* Schmitt, Klaus) Boundary value problems for quasilinear second order differential equations. (English summary) *Non-linear analysis and boundary value problems for ordinary differential equations* (*Udine*), 79–119, *CISM Courses and Lectures*, 371, *Springer, Vienna*, 1996. (Alexandra Kurepa) **99a:34059** 34B15 (34A47, 35J65, 47H15, 47N20, 58E07)

— (*with* García-Huidobro, Marta; Mitidieri, Enzo; Yarur, Cecilia S.) Existence and nonexistence of positive singular solutions for a class of semilinear elliptic systems. *Arch. Rational Mech. Anal.* **140** (1997), *no.* 3, 253–284. (Rolando Magnanini) **99e:35049** 35J60 (35B05)

— (*with* Mawhin, Jean) Periodic solutions for some nonlinear systems with p-Laplacian like operators. *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 103–122, *Univ. Rovira Virgili, Tarragona*, 1998. (Rafael Ortega) **99e:34050** 34C25 (34B15)

— (*with* Clément, Philippe; Mitidieri, Enzo) Some existence and non-existence results for a homogeneous quasilinear problem. *Asymptot. Anal.* **17** (1998), *no.* 1, 13–29. (Guido Sweers) **99i:34014** 34A34 (35B05, 35J60)

— (*with* Del Pino, Manuel; Drábek, Pavel) The Fredholm alternative at the first eigenvalue for the one-dimensional p-Laplacian. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 461–465. (Summary) **99h:35053** 35J60 (34B15, 34L30)

— (*with* García-Huidobro, Marta; Yarur, Cecilia S.) On positive singular solutions for a class of nonhomogeneous p-Laplacian-like equations. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 23–51. (Summary) **99a:35065** 35J60 (34A34, 35B05)

— (*with* Mawhin, Jean) Periodic solutions for nonlinear systems with p-Laplacian-like operators. *J. Differential Equations* **145** (1998), *no.* 2, 367–393. (Pedro Martínez-Amores) **99c:34034** 34B15 (34C25, 47H15)

— (*with* Clément, Philippe; García-Huidobro, Marta) Positive solutions of small norm to a quasilinear elliptic inclusion problem. *Adv. Differential Equations* **4** (1999), *no.* 1, 71–114. (Salvatore A. Marano) **99m:34027** 34A60 (34A12, 35B05, 35J60, 35R70)

— (*with* Del Pino, Manuel; Drábek, Pavel) The Fredholm alternative at the first eigenvalue for the one-dimensional p-Laplacian. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 386–419. (Miguel Ramos) **99m:34042** 34B15 (34C10, 34L30, 47H15)

— (*with* García-Huidobro, Marta; Schmitt, Klaus) Positive radial solutions of quasilinear elliptic partial differential equations on a ball. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 175–190. (Alexandra Kurepa) **99i:35048** 35J65 (34A12, 34B15, 35B05)

— (*with* Sweers, Guido) A noncooperative elliptic system with p-Laplacians that preserves positivity. *Nonlinear Anal.* **36** (1999), *no.* 4, *Ser. A: Theory Methods*, 511–528. (Dao Qing Dai) **99m:34040** 34B15 (35B05, 35J55, 35J65, 47H15)

Manasseh, Richard (*with* Ching, Chang-Yun; Fernando, Harindra J. S.) The transition from density-driven to wave-dominated isolated flows. (English summary) *J. Fluid Mech.* **361** (1998), 253–274. (Summary) **99b:76095** 76V05 (86A05, 86A10)

Manavi, Amir (*with* Liskevich, Vitali) On perturbations of dominated semigroups. *Applied analysis* (*Baton Rouge, LA*, 1996), 205–210, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Editors) **99g:47095** 47D06 (35J99, 47A55, 47F05)

Mančal, T. (*with* Bok, J.; Skála, L.) Short time de-excitation dynamics of a two-level electron system. Non-perturbative solution of the master equation. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9429–9440. (Summary) **99h:82076** 82D20

Mancarella, Paolo (*with* Brogi, Antonio; Lamma, Evelina; Mello, Paola) A unifying view for logic programming with non-monotonic reasoning. (English summary) *Theoret. Comput. Sci.* **184** (1997), *no.* 1-2, 1–59. (Summary) **99g:68031** 68N17 (03B60, 03B70, 68T27)

— (*with* Barbuti, Roberto; De Francesco, Nicoletta; Santone, Antonella) Towards a logical semantics for pure Prolog. (English summary) 6th European Symposium on Programming (Linköping, 1996). *Sci. Comput. Programming* **32** (1998), *no.* 1-3, 145–176. (Summary) **99e:68013** 68N17 (03B70)

Mancha, J. L. Levi ben Gerson's astronomical work: chronology and Christian context. (English summary) *Sci. Context* **10** (1997), *no.* 3, 471–493. 01A35

— On Ibn al-Kammād's table for trepidation. *Arch. Hist. Exact Sci.* **52** (1998), *no.* 1, 1–11. (Julio Samsó-Moya) **99h:01011** 01A30

— Heuristic reasoning: approximation procedures in Levi ben Gerson's astronomy. *Arch. Hist. Exact Sci.* **52** (1998), *no.* 1, 13–50. (Owen Gingerich) **99i:01014** 01A35

Manchanda, P. Hensel's lemma for normed rings. (English summary) *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 82–91, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (V. I. Arnautov) **99b:16069** 16W80 (46S10)

Manchon, Dominique (*with* Andler, Martin) Opérateurs aux différences finies, calcul pseudo-différentiel et représentations des groupes de Lie. (English summary) [Finite difference operators, pseudodifferential calculus and representations of Lie groups] *J. Geom. Phys.* **27** (1998), *no.* 1-2, 1–29. (Joachim Hilgert) **99i:22011** 22E27 (58G15)

Manchón, P. M. G. Submanifolds in the context of infinite-dimensional manifolds with corners. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 21–40. (Edith Padrón) **99m:58027a** 58B99 (57N20)

— *see also* **Errata: "Submanifolds in the context of infinite-dimensional manifolds with corners", 99m:58027b**

Mancilla Aguilar, J. L. (*with* García, Rafael A.; D'Attellis, C. E.) Exact linearization of nonlinear systems: trajectory tracking with bounded controls and state constraints. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 455–467. 93B17 (93C15)

Mancini, J. D. Lie algebra of conditional operators. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 8, 991–1009. (M. Lawrence Glasser) **99k:82015** 82B20 (17B81)

Mancini, Simona (*with* Totaro, Silvia) Particle transport problems with general multiplying boundary conditions. (English summary) *Transport Theory Statist. Phys.* **27** (1998), *no.* 2, 159–176. (Luisa Arlotti) **99g:82077** 82C70

— (*with* Totaro, Silvia) Transport problems with nonhomogeneous boundary conditions. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 371–382. (Luisa Arlotti) **99k:82069** 82C70

Mancino, Maria Elvira (*with* Majer, Pietro) A counter-example concerning a condition of Ogawa integrability. (English summary) *Séminaire de Probabilités, XXXI*, 198–206, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (David Nualart) **99b:60070** 60H05

Mancip, M. (*with* Egelja, Aleksandra; Kröner, Dietmar; Schwörer, R.; Lanson, N.; Vila, Jean-Paul) Combined finite volume and smoothed particle method. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 50–74, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76109** 76M25 (76X05)

Mancuso, S. (*with* Miele, A.) Optimal ascent trajectories and feasibility of next-generation orbital spacecraft. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 519–550. (Summary) **99b:49037** 49N55 (70M20, 93C95)

Mandache, Niculae On a counterexample concerning unique continuation for elliptic equations in divergence form. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 3-4, 308–331. (Volker Vogelsang) **99j:35032** 35J15 (35B60)

Mandai, Takeshi Existence of distribution null-solutions for every Fuchsian partial differential operator. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 1, 1–18. (Linda M. Holt) **99j:35003** 35A20 (35D05, 35L80)

— Asymptotic solutions and exact solutions for exceptional cases of some characteristic Cauchy problems. *Osaka J. Math.* **35** (1998), *no.* 2, 381–396. (Masatake Miyake) **99g:35007** 35A20 (35C10, 35C20)

— Structure of distribution null-solutions to Fuchsian partial differential equations. (Japanese) Partial differential equations in the complex domain (Japanese)(Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1028 (1998), 52–66. (*see* **99e:35002**) 35A20 (46F10)

— Frobenius method for Fuchsian partial differential equations. (Japanese. English summary) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1056 (1998), 29–39. (*see* **99m:35003**) 35A20 (35L99)

Mandal, B. *see* **Mandal, Birendra Nath**

Mandal, Bhabani Prasad (*with* Khare, Avinash) Anti-isospectral transformations, orthogonal polynomials, and quasi-exactly solvable problems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3476–3486. (Tuncay Aktosun) **99h:81033** 81Q05 (33C80)

— (*with* Khare, Avinash) Do quasi-exactly solvable systems always correspond to orthogonal polynomials? (English summary) *Phys. Lett. A* **239** (1998), *no.* 4-5, 197–200. (Tuncay Aktosun) **99c:81026** 81Q05 (33C90)

— (*with* Joglekar, Satish D.) Erratum: "Superspace formulation of Yang-Mills theory. II. Inclusion of gauge invariant operators and scalars" [Phys. Rev. D (3) **52** (1995), no. 12, 7129–7136]. *Phys. Rev. D* (3) **59** (1999), *no.* 12, 129901, 1 *pp.* 81T13

— (*with* Joglekar, Satish D.) Erratum: "WT identities for proper vertices and renormalization in a superspace formulation of gauge theories" [Phys. Rev. D (3) **49** (1994), no. 10, 5382–5386; MR 95e:81222]. *Phys. Rev. D* (3) **59** (1999), *no.* 12, 129902, 1 *pp.* 81T60 (81T13)

Mandal, Birendra Nath Water wave scattering by a thick wall with a gap in finite depth water. (English summary) Proceedings of the Seminar on Continuum Mechanics (Calcutta, 1996). *Rev. Bull. Calcutta Math. Soc.* **5** (1997), *no.* 2, 87–94. (*see* **99k:00035**) 76B15

— (*with* Pal, Ashis Kumar) Order level inventory system with ramp type demand rate for deteriorating items. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 1, 49–66. (Summary) **99e:90027** 90B05 (90B25)

— (*with* Basu, Uma) A pulsating line source in the presence of a nearly circular cylinder submerged in deep water. *Mech. Res. Comm.* **25** (1998), *no.* 5, 599–604. (F. Ursell) **99i:76017** 76B15

— (*with* Kanoria, Mridula; Chakrabarti, Aloknath) The Wiener-Hopf solution of a class of mixed boundary value problems arising in surface water wave phenomena. (English summary) *Wave Motion* **29** (1999), *no.* 3, 267–292. (Summary) **99k:76028** 76B15 (45E10)

Mandal, C. A. (*with* Chakrabarti, P. P.; Ghose, Suranjan) Some new results in the complexity of allocation and binding in data path synthesis. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 93–105. (Summary) **99b:68098** 68Q25 (68M07)

— (*with* Chakrabarti, P. P.; Ghose, Suranjan) Complexity of fragmentable object bin packing and an application. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 91–97. (Summary) **99a:90166** 90C27 (90C60)

Mandal, Deba Prasad (*with* Murthy, C. A.; Pal, Sankar K.) Determining the shape of a pattern class: extension to $\mathbf{R}^N$. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 4, 297–324. (Summary) **99g:68179** 68T10

Mandal, Gautam (*with* Dabholkar, Atish; Ramadevi, P.) Non-renormalization of mass of some non-supersymmetric string states. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 117–131. (Summary) **99b:81183** 81T30 (81T15)

— (*with* Dhar, Avinash) Probing 4-dimensional non-supersymmetric black holes carrying D0- and D6-brane charges. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 256–274. (Marco Spaans) **99i:83089** 83E30 (81T30, 83C57)

Mandal, M. (*with* Roy, Tapan Kumar; Maiti, Manoranjan) A fuzzy inventory model of deteriorating items with stock-dependent demand under limited storage space. (English summary) *Opsearch* **35** (1998), *no.* 4, 323–337. 90B05 (90C70)

Mandal, Nripes K. (*with* Abt, Markus; Liski, Erkki P.; Sinha, Bikas Kumar) Optimal designs in growth curve models. I. Correlated model for linear growth: optimal designs for slope parameter estimation and growth prediction. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 141–150. (Christine Hildegard Müller) **99c:62201** 62K05 (62J05)

— (*with* Mitra, R. K.) A series of group divisible designs from self-complementary BIB designs. (English summary) *J. Indian Soc. Agricultural Statist.* **51** (1998), *no.* 1, 1–5. (Summary) **99e:62132** 62K10

Mandal, S. Abelian theorems on abscissa of summability of a generalized Laplace Stieltjes integral. (English summary) *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 81–89. (Summary) **99g:40003** 40G05

Mandal, S. C. (*with* Chakrabarti, Aloknath) Motion of obstacles on the two layered Earth surface. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part II (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **4** (1996), *no.* 1-2, 1–16. (*see* **99b:00017**) 73F99 (73N20, 86A04)

Mandal, Satya (*with* Murthy, M. Pavaman) Ideals as sections of projective modules. *J. Ramanujan Math. Soc.* **13** (1998), *no.* 1, 51–62. (N. Mohan Kumar) **99d:13010** 13C10 (13C40, 13D15)

— Complete intersection K-theory and Chern classes. *Math. Z.* **227** (1998), *no.* 3, 423–454. (N. Mohan Kumar) **99c:13018** 13C10 (13C40, 13D15)

Mandal, Swapan Quantum oscillator of quartic anharmonicity. (English summary) *J. Phys. A* **31** (1998), *no.* 27, *L*501–*L*505. 81Q05

Mandel, Jan (*with* Vaněk, Petr; Brezina, Marian) Two-level algebraic multigrid for the Helmholtz problem. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 349–356, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (78–08)

— (*with* Farhat, Charbel) The two-level FETI method for static and dynamic plate problems. I. An optimal iterative solver for biharmonic systems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 129–151. (From the summary) **99c:73078a** 73V05 (65N55, 73K10)

— (*with* Farhat, Charbel; Chen, Po-Shu; Roux, François-Xavier) The two-level FETI method. II. Extension to shell problems, parallel implementation and performance results. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 153–179. (From the summary) **99c:73078b** 73V05 (65N55, 73K15)

— (*with* Le Tallec, Patrick; Vidrascu, Marina) A Neumann-Neumann domain decomposition algorithm for solving plate and shell problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 836–867 (*electronic*). (Zheng Hui Xie) **99f:65192** 65N55 (65N30, 73K10, 73K15, 73V05)

— *see also* **Domain decomposition methods, 99f:65005**

Mandel, R. (*with* Bank, Bernd; Giusti, M.; Heintz, Joos; Mbakop, G. M.) Polar varieties and efficient real equation solving: the hypersurface case. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 65H10 (68Q40)

Mandelbaum, Avi (*with* Zeltyn, Sergey) Estimating characteristics of queueing networks using transactional data. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 1, 75–127. (Summary) **99e:60205** 60K25

— (*with* Massey, William A.; Reiman, Martin I.) Strong approximations for Markovian service networks. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 1-2, 149–201. (John P. Lehoczky) **99i:60163** 60K20 (60K25, 90B22)

Mandelberg, Michael (*with* Caceres, Elena; Kaplunovsky, Vadim S.) On the impossibility of a large radius compactification in realistic string theories. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 77–79, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

— (*with* Avram, A. C.; Kreuzer, Maximilian; Skarke, Harald) The web of Calabi-Yau hypersurfaces in toric varieties. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 625–640. (Dimitrios I. Dais) **99a:14056** 14J32 (14M25, 32G05)

Mandelbrot, Benoit B. (*with* Riedi, Rudolf H.) Inversion formula for continuous multifractals. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 3, 332–354. (Norbert Patzschke) **99b:28012** 28A80

Mandell, Arnold J. (*with* Selz, Karen A.) Is the EEG a strange attractor? Brain stem neuronal discharge patterns and electroencephalographic rhythms. *The impact of chaos on science and society* (*Tokyo*, 1991), 64–96, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92C05 (58F13, 58F40)

Mandelshtam, Vladimir A. (*with* Main, Jörg; Wunner, Günter; Taylor, Howard S.) Harmonic inversion as a general method for periodic orbit quantization. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1015–1035. (Roberto Artuso) **99f:81053** 81Q20 (11M06, 11Z05, 81Q50)

Manderscheid, David Quadratic base change for p-adic SL(2) as a theta correspondence. I. Occurrence. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1281–1288. (Roman Bezrukavnikov) **99j:22026** 22E50 (11F27, 11S37)

Mandler, Michael Simple Pareto-improving policies. (English summary) *J. Econom. Theory* **84** (1999), *no.* 1, 120–133. (Summary) **99k:90042** 90A11 (90A12)

Măndoiu, Ion I. Optimum extensions of prefix codes. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 1, 35–40. (Summary) **99c:94019** 94A45 (68P05)

Mandouvalos, N. (*with* Marias, M.) Spectral theory for a class of manifolds of hyperbolic type. (English summary) *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 264–270, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Christopher M. Judge) **99f:58215** 58G25

— (*with* Marias, M.) Eigenfunctions of the Laplacian and boundary behaviour on manifolds of hyperbolic type. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 551–564. (Christopher M. Judge) **99f:58214** 58G25

— The spectrum of irregular domains. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 541–547. (Robert Brooks) **99c:58162** 58G25

Mandréa, F. (*with* Baratchart, L.; Leblond, Juliette; Saff, Edward B.) How can the meromorphic approximation help to solve some 2D inverse problems for the Laplacian? (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 79–90. (Summary) **99j:35228** 35R30 (30E10, 35J05, 41A30)

Mandrekar, V. (*with* Chobanyan, Sergei) Almost everywhere convergence and SLLN under rearrangements. *Stochastic processes and related topics*, 25–34, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Allan Gut) **99i:60062** 60F15 (60B12, 60E15)

Manduchi, Elisabetta (*with* Grant, Gregory R.) Root numbers and algebraic points on elliptic surfaces with base $\mathbf{P}^1$. *Duke Math. J.* **89** (1997), *no.* 3, 413–422. (Dan Abramovich) **99a:14028** 14G05 (11G35, 11G40, 14G27)

— (*with* Grant, Gregory R.) Root numbers and algebraic points on elliptic surfaces with elliptic base. *Duke Math. J.* **93** (1998), *no.* 3, 479–486. (Massimo Bertolini) **99m:11071** 11G40 (11G35, 14G05)

Mandyam, H. (*with* Drew, Donald A.) Effective media theory using nearest neighbor pair distributions. *Particulate flows* (*Minneapolis, MN*, 1996), 23–53, *IMA Vol. Math. Appl.*, 98, *Springer, New York*, 1998. (Introduction) **99i:73004** 73B27 (73B05, 76A99, 80A20)

Mandzhavidze, G. F. (*with* Gilbert, Robert Pertsch; Dzhaiani, G. V.) Ilia Vekua's 90th birthday anniversary. International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 1–10. (Editors) **99m:01058** 01A70

Mañé, Ricardo On Ricardo Mañé [1948–1995]. With a note by J. Palis. *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 1, *i–iii.* 01A70

— On Ricardo Mañé [1948–1995]. Reprinted from Bol. Soc. Brasil Mat. (N.S.) **28** (1997), no. 2, i–iii [MR 98f:01076]; ibid. **29** (1998), no. 1, i–iii. Edited and with a note by Jacob Palis. *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 2, *i–iii.* 01A70

Manekin, Charles H. When the Jews learned logic from the Pope: three medieval Hebrew translations of the *Tractatus* of Peter of Spain. (English summary) *Sci. Context* **10** (1997), *no.* 3, 395–430. (Summary) **99g:01013** 01A35 (03–03)

Manenkov, A. B. Comments on: "On a misconception involving point collocation and the Rayleigh hypothesis" [IEEE Trans. Antennas and Propagation **44** (1996), no. 10, 1309–1316; MR 97h:78002] by S. Christiansen and R. E. Kleinman. *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 11, 1765. 78–08 (78A45)

— *see also* **Christiansen, Søren**

Manenkov, S. A. (*with* Kyurkchan, A. G.) A new method for solving the problem of diffraction by a compact obstacle in a plane-layered medium. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 7, 874–888; *translation in Radiophys. and Quantum Electronics* **41** (1998), *no.* 7, 589–599 (1999). (Summary) **99f:78014** 78A45

Manes, Adele (*with* Amendola, Giovambattista) Finite spherical deformations in elastic materials. (Italian. English and Italian summaries) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 165–176. (Summary) **99c:73016** 73C50 (73G05)

Manes, Ernie G. Implementing collection classes with monads. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 3, 231–276. (Martin Hofmann) **99j:68007** 68N05 (08A70, 18A99, 18C15, 68Q65)

Mañes, J. L. (*with* Barbón, J. L. F.; Vázquez-Mozo, M. A.) Large N limit of extremal non-supersymmetric black holes. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 279–300. (Summary) **99h:83050** 83E30 (83C57)

Maneth, Sebastian The generating power of total deterministic tree transducers. (English summary) *Inform. and Comput.* **147** (1998), *no.* 2, 111–144. (Summary) **99j:68068** 68Q45 (68Q05, 68Q68)

Manetti, Marco (*with* Fantechi, Barbara) Obstruction calculus for functors of Artin rings. I. (English summary) *J. Algebra* **202** (1998), *no.* 2, 541–576. (D.-M. Popescu) **99f:14004** 14B12 (13J10, 14B07, 14D15)

— (*with* Fantechi, Barbara) On the T^1-lifting theorem. *J. Algebraic Geom.* **8** (1999), *no.* 1, 31–39. (Francesco Bottacin) **99j:14009** 14D15 (14B10, 14B12)

Manev, Mancho Examples of almost contact manifolds with B-metric, derived from almost complex manifolds with B-metric. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 61–66. 53C15

— Contactly conformal transformations of general type of almost contact manifolds with B-metric applications. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 347–357. (José A. Oubiña) **99m:53059** 53C15 (53C50)

Manevich, L. I. (*with* Awrejcewicz, Jan; Andrianov, Igor V.) ★ Asymptotic approaches in nonlinear dynamics. (English summary) New trends and applications. Springer Series in Synergetics. *Springer-Verlag, Berlin*, 1998. *xii*+310 *pp. ISBN* 3-540-63894-6 (Peter Ashwin) **99j:70028** 70K99 (34C29, 34E05, 70K30, 73B27, 73D35)

— (*with* Ivanova, A. N.; Tarnopol'skiĭ, B. L.) Mathematical modeling of structure formation in a polymer blend. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 2, 300–308. 82D60

Manfredi, Juan J. (*with* Villamor, Enrique) Traces of monotone Sobolev functions. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 3, 433–444 (1997). (S. K. Vodop'yanov) **99d:46050** 46E35 (30C65)

Manfredini, Maria (*with* Polidoro, Sergio) Interior regularity for weak solutions of ultraparabolic equations in divergence form with discontinuous coefficients. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 651–675. (Summary) **99h:35116** 35K70 (35D10, 35R05)

Manfredino, M. (*with* Beidleman, James C.; Galoppo, Annalisa) On PC-hypercentral and CC-hypercentral groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 3045–3055. (B. Amberg) **99g:20067** 20F19 (20F24)

Manfrin, Renato (*with* Scalari, Alberto; Zampieri, Giuseppe) Propagation along complex curves on a hypersurface. *Kyushu J. Math.* **52** (1998), *no.* 1, 15–22. (Dmitri Zaitsev) **99c:32013** 32D15 (32D20, 32F25)

Manfroi, A. J. (*with* Young, W. R.) Slow evolution of zonal jets on the beta plane. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 5, 784–800. (Summary) **99j:86012** 86A10 (76E20)

Mangalambal, N. R. The α-remote points in βX for a discrete topological field X. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 59–65. (Summary) **99h:54057** 54H13 (54D40, 54D80)

Mangano, Gianpiero Path integral approach to noncommutative space-times. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2584–2591. (Alejandro Rivero) **99c:81122** 81S40 (58B30, 58D30, 81S30)

— (*with* Lizzi, Fedele; Miele, G.; Sparano, G.) Mirror fermions in noncommutative geometry. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 231–237. (Raimar Wulkenhaar) **99f:81131** 81T13 (58B30)

— (*with* Covi, L.; Masiero, A.; Miele, G.) Hybrid inflation from supersymmetric SU(5). (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 253–258. (Summary) **99b:81271** 81V22 (81T60)

Mangasarian, O. L. (*with* Bradley, P. S.; Rosen, J. B.) Parsimonious least norm approximation. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 5–21. (Sven-Åke Gustafson) **99i:65045** 65F20 (90C31, 90C90)

— (*with* Bradley, P. S.; Street, W. N.) Feature selection via mathematical programming. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 209–217. (Summary) **99c:90114** 90C30 (68T05, 90C90)

— Error bounds for nondifferentiable convex inequalities under a strong Slater constraint qualification. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 187–194. (Wu Li) **99j:90093** 90C31

Mangat, N. S. (*with* Singh, Sarjinder; Singh, Ravindra) On use of a modified randomization device in Warner's model. (English summary) *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 65–69. 62D05

— (*with* Singh, Sarjinder; Singh, Ravindra) Estimation of coefficient of variation of a sensitive character. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 59–67 (1998). 62D05

— (*with* Tracy, Derrick S.) Comparisons of distinct units based estimators in unrelated question randomized response model. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 229–240. 62D05

Manger, Robert Gaussian block algorithms for solving path problems. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 67–81. 90C35 (05C85, 65F30, 68Q22, 68Q25)

— Holographic neural networks. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 119–127. 68T05 (92B20)

Mangiarotti, L. (*with* Giachetta, Giovanni) Constrained Hamiltonian systems and gauge theories. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste*, 1994), 313–320, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:58077** 58F05 (58E30)

Mangino, Elisabetta M. Fréchet valued co-echelon spaces. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat. (Esp.)* **90** (1996), *no.* 3, 171–173. (Summary) **99g:46004** 46A45

— Some remarks on semigroup theory in locally convex spaces. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No. 52, Vol. II* (1998), 589–604. (P. L. Butzer) **99k:47082** 47D03

Mangolte, Frédéric (*with* van Hamel, Joost) Algebraic cycles and topology of real Enriques surfaces. (English summary) *Compositio Math.* **110** (1998), *no.* 2, 215–237. (Summary) **99k:14015** 14C25 (14J28, 14P25)

Mangum, Brian S. (*with* Shanahan, Patrick) Three-dimensional representations of punctured torus bundles. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 6, 817–825. (Athanase Papadopoulos) **99e:57030** 57N10 (20F34, 57M50)

— Incompressible surfaces and pseudo-Anosov flows. (English summary) *Topology Appl.* **87** (1998), *no.* 1, 29–51. (Darren D. Long) **99e:57024** 57M50 (57R30, 58F18)

Mangum, W. A. Analysis of a population biology model describing the interaction between the parasitic mite, *Varroa jacobsoni* Oudemans, and the honey bee, *Apis mellifera* L., using nonlinear difference equations. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Natur. Resource Modeling* **11** (1998), *no.* 2, 117–130. (Summary) **99k:92034** 92D25 (92D40)

Manhas, J. S. (*with* Singh, Raj Kishor) Invertibility of operators on locally convex spaces. *Functional analysis*, 120–139, *Narosa, New Delhi*, 1998. (W. Żelazko) **99k:47006** 47A05 (46A99, 47B38)

— (*with* Singh, Raj Kishor) Weighted composition operators on nonlocally convex weighted spaces of continuous functions. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 4, 275–292. (Summary) **99j:47045** 47B38

nguyễn Mạnh Hùng *see* **Nguyễn Mạnh Hùng**

Mani, Saloua (*with* Le Tallec, Patrick) Analyse numérique d'un modèle de coques de Koiter discrétisé en base cartésienne par éléments finis DKT. (English and French summaries) [Numerical analysis of a Koiter thin shell model discretized in a Cartesian basis by DKT finite elements] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 4, 433–450. (Summary) **99m:73048** 73K15 (65N99, 73V05)

Mani, V. (*with* Anand, Lakshmanan; Ghose, Debasish) Probabilistic load scheduling with priorities in distributed computing systems. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 10, 839–856. (Summary) **99g:68022** 68M20 (90C35)

Manià, Alessandro (*with* Cirelli, Renzo; Gatti, Mauro) On the nonlinear extension of quantum superposition and uncertainty principles. (English summary) *J. Geom. Phys.* **29** (1999), *no.* 1-2, 64–86. (Paul Busch) **99k:81131** 81S10 (58B20, 81P05)

Mania, M. (*with* Chitashvili, R.) On functions transforming Brownian motion into a Dirichlet process. (English summary) *Probability theory and mathematical statistics (Tokyo*, 1995), 20–27, *World Sci. Publishing, River Edge, NJ*, 1996. (Lucian Beznea) **99e:60183** 60J65 (31C25, 60G44)

— (*with* Chitashvili, R.) On functions transforming a Wiener process into a semimartingale. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 1, 57–76. (Leszek Słomiński) **99i:60154** 60J65 (60G48, 60H05)

— (*with* Lazrieva, N.; Shervashidze, T.; Torondzhadze, T. A.) In memory of Professor R. Chitashvili. *Proc. A. Razmadze Math. Inst.* **115** (1997), 3–15. (Editors) **99m:01076** 01A70

— (*with* Tevzadze, R. N.) Solution of Bellman's equation by means of a system of nonlinear singular integral equations. *Mem. Differential Equations Math. Phys.* **13** (1998), 121–129. (Andrzej Swiech) **99h:35090** 35K55 (45G15, 49L25, 93E20)

Maniar, L. (*with* Amir, B.) Application de la théorie d'extrapolation pour la résolution des équations différentielles à retard homogènes. [Application of extrapolation theory for the solution of homogeneous delay differential equations] *Extracta Math.* **13** (1998), *no.* 1, 95–105. (From the introduction) **99k:34176** 34K30 (47D06)

— (*with* Rhandi, Abdelaziz) Extrapolation and inhomogeneous retarded differential equations on infinite-dimensional spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 331–346. (Eugenio Sinestrari) **99f:34116** 34K30

Manias, M. V. (*with* Naón, Carlos M.; Trobo, M. L.) Non-local Thirring model at finite temperature. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 721–737. (Summary) **99d:81077** 81T10

Manickam, A. V. (*with* Moudgalya, K. M.; Pani, Amiya K.) Second-order splitting combined with orthogonal cubic spline collocation method for the Kuramoto-Sivashinsky equation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 5–25. (Mu Sheng Wei) **99c:65187** 65M70

Manickam, Nachimuthu (*with* Choi, Sul-young) Uniform central graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 89–94. (Summary) **99j:05059** 05C12

Manickam, S. Arul Veda (*with* Pani, Amiya K.; Chung, Sang Kwon) A second-order splitting combined with orthogonal cubic spline collocation method for the Rosenau

equation. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), no. 6, 695–716. (Bruce A. Finlayson) **99k:65097** 65M70 (65N35)

Manikonda, Vikram (*with* Krishnaprasad, P. S.; Hendler, James) Languages, behaviors, hybrid architectures, and motion control. (English summary) *Mathematical control theory*, 199–226, *Springer, New York*, 1999. (Summary) **99i:93036** 93C30 (70Q05, 93C83, 93C85)

Manikowski, Arkadiusz (*with* Antkiewicz, Ryszard) On an on/off type source with long range correlations. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 345–358, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90B12 (90B20)

alvarez-Manilla, M. *see* **Alvarez-Manilla, M.**

Manin, A. A. (*with* Bulychev, Yu. G.) Analytic construction of control systems under conditions of a priori uncertainty. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, no. 11, 74–84; *translation in Automat. Remote Control* **57** (1996), no. 11, part 1, 1592–1599 (1997). (Vladimir B. Larin) **99d:93023** 93B40 (93B51)

fernández Manín, G. *see* **Fernández Manín, G.**

Manin, Yuriĭ Ivanovich ★ Gauge field theory and complex geometry. Translated from the 1984 Russian original by N. Koblitz and J. R. King. Second edition. With an appendix by Sergei Merkulov. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 289. *Springer-Verlag, Berlin*, 1997. *xii*+346 *pp. ISBN* 3-540-61378-1 (Daniel Hernández Ruipérez) **99e:32001** 32–02 (14M30, 32C11, 32L25, 58A50, 81–02)

— (*with* Kostrikin, Alekseĭ Ivanovich) ★ Linear algebra and geometry. (English summary) Translated from the second Russian (1986) edition by M. E. Alferieff. Revised reprint of the 1989 English edition. Algebra, Logic and Applications, 1. *Gordon and Breach Science Publishers, Amsterdam*, 1997. *x*+308 *pp. ISBN* 90-5699-049-7 (From the preface) **99k:15001** 15–01

— Mordell-Weil problem for cubic surfaces. *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 313–318, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Dino J. Lorenzini) **99a:14029** 14G05 (11G35, 14J20)

— (*with* Merkulov, Sergei) Semisimple Frobenius (super)manifolds and quantum cohomology of $\mathbf{P}^r$. (English summary) *Topol. Methods Nonlinear Anal.* **9** (1997), no. 1, 107–161. (Alexandre I. Kabanov) **99f:32032** 32G34 (14N10, 32C11, 58A50, 58D29, 58F07)

— Interrelations between mathematics and physics. (English and French summaries) *Matériaux pour l'histoire des mathématiques au XX^e siècle* (*Nice*, 1996), 157–168, *Sémin. Congr.*, 3, *Soc. Math. France, Paris*, 1998. (Dennis Dieks) **99j:01017** 01A60 (00A30, 00A79, 81–03)

— (*with* Kontsevich, Maxim) Relations between the correlators of the topological sigma-model coupled to gravity. (English summary) *Comm. Math. Phys.* **196** (1998), no. 2, 385–398. (Alexandre I. Kabanov) **99k:14040** 14H10 (14D15, 14D20, 14N10, 58D10)

— (*with* Lepowsky, James; Lindenstrauss, Joram; Milnor, John) The mathematical work of the 1998 Fields medalists. *Notices Amer. Math. Soc.* **46** (1999), no. 1, 17–26. (Editors) **99k:01066** 01A70

Maniquet, François An equal right solution to the compensation-responsibility dilemma. (English summary) Axiomatics of resource allocation, I. *Math. Social Sci.* **35** (1998), no. 2, 185–202. (Summary) **99d:90011** 90A05

Manivel, Laurent ★ Fonctions symétriques, polynômes de Schubert et lieux de dégénérescence. (French. English and French summaries) [Symmetric functions, Schubert polynomials and degeneracy loci] Cours Spécialisés [Specialized Courses], 3. *Société Mathématique de France, Paris*, 1998. *vi*+179 *pp. ISBN* 2-85629-066-3 (Harry Tamvakis) **99k:05159** 05E05 (05E10, 14M12, 14M15)

— Gaussian maps and plethysm. *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 91–117, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Stuart Martin) **99h:20070** 20G05 (05E05)

— (*with* Debarre, Olivier) Sur la variété des espaces linéaires contenus dans une intersection complète. [The variety of linear spaces contained in a complete intersection] *Math. Ann.* **312** (1998), no. 3, 549–574. (Yuri G. Prokhorov) **99j:14048** 14M15 (14J40)

Manjabacas, G. (*with* Cascales, B.; Vera, G.) A Krein-Šmulian type result in Banach spaces. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), no. 190, 161–167. (Stephen J. Dilworth) **99c:46009** 46B20 (46A50, 46G10)

— (*with* Cascales, B.; Vera, G.) Fragmentability and compactness in $C(K)$-spaces. (English summary) *Studia Math.* **131** (1998), no. 1, 73–87. (H. E. Lacey) **99d:46038** 46E25

Manjari Swain, Manoja (*with* Das, Gokulananda) Fixed point as a best approximant. (English summary) *Indian J. Math.* **38** (1996), no. 3, 275–286. (S. P. Singh) **99i:47102** 47H10 (47H04)

Manjavidze, G. *see* **Mandzhavidze, G. F.**

Manji, Imtiaz (*with* Sánchez, Rafael) A note on the homology of the Schur complex. *J. Algebra* **211** (1999), no. 2, 514–523. (Jonathan Brundan) **99m:13029** 13D25 (20G05)

Manjrekar, Rajesh (*with* Ash, Avner) Galois representations and Hecke operators associated with the mod-p cohomology of $\mathrm{GL}(m(p-1), \mathbf{Z})$. *Math. Z.* **227** (1998), no. 4, 685–703. (Ian Kiming) **99e:11066** 11F80 (11F60, 11F75, 11R39)

Manjunath, B. S. (*with* Hewer, Gary A.; Kenney, Charles) Variational image segmentation using boundary functions. (English summary) *IEEE Trans. Image Process.* **7** (1998), no. 9, 1269–1282. (Summary) **99h:94017** 94A12

Manjunatha Prasad, K. (*with* Jain, Surender Kumar) Right-left symmetry of $aR \oplus bR = (a+b)R$ in regular rings. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), no. 1-2, 141–142. (From the text) **99h:16018** 16E50

— (*with* Bapat, Ravindra; Jain, Surender Kumar) Generalized power symmetric stochastic matrices. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), no. 7, 1987–1994. (Ryszard Grząślewicz) **99j:15032** 15A51

Mankin, Romi (*with* Laas, Tõnu; Tammelo, Risto) Higher-order fundamental solutions of second-order wave equations on a curved spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), no. 6, 1595–1605. (Valter Moretti) **99e:58184** 58G16 (81T20)

— (*with* Laas, Tõnu) Diversors and higher-order fundamental solutions of covariant wave equations. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), no. 3, 229–242. (R. Schimming) **99h:58192** 58G16 (35L05)

Manko, O. V. Tomography of spin states and classical formulation of quantum mechanics. *Symmetries in science, X* (*Bregenz*, 1997), 207–222, *Plenum, New York*, 1998. (Dan Radu Grigore) **99h:81112** 81S30 (81R30)

— (*with* Manko, Vladimir S.; Sanabria-Gómez, J. D.) Charged, magnetized Tomimatsu-Sato $\delta = 2$ solution. (English summary) *Progr. Theoret. Phys.* **100** (1998), no. 3, 671–673. (B. D. Muratori) **99k:83023** 83C22 (83C15)

Man'ko, V. I. (*with* Wolf, Kurt Bernardo) Symplectic and Euclidean groups of transformations in optics. (English summary) *Nova J. Theor. Phys.* **4** (1996), no. 1, 47–73. (Summary) **99e:22037** 22E70 (58F05, 58F40, 78A05, 78A10)

— (*with* Marmo, Giuseppe; Zaccaria, F.) Deformations and nonlinear systems. (English summary) Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), no. 4, 337–352. (Mathias Pillin) **99c:81092** 81R50 (81S05)

— Nonstationary Casimir effect and nonclassical states. (English summary) *New perspectives in the physics of mesoscopic systems* (*Caserta*, 1996), 175–180, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99e:81003**) 81R30

— Energy levels of harmonic oscillator in classical-like formulation of quantum mechanics. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 486–489, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81Q05

— (*with* Marmo, Giuseppe; Zaccaria, F.) From equations of motion to canonical commutation relations: classical and quantum systems. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 223–284, *Plenum, New York*, 1998. (Anton V. Galajinsky) **99i:81115** 81S05 (58F05, 70H05)

— Dynamical symmetries and tomography. (English summary) Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), no. 3, 429–438. (Walter Schempp) **99k:81162** 81S99 (22E70, 92C55)

— (*with* Vilela Mendes, R.) On the nonlinearity interpretation of q- and f-deformation and some applications. (English summary) *J. Phys. A* **31** (1998), no. 28, 6037–6044. (Robert Rałowski) **99m:81099** 81R50 (81S05)

— Standard quantum mechanics with a probability distribution instead of a wave function. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), no. 10, 1674–1678. (M. J. Mączyński) **99m:81011** 81P05 (81S40)

— (*with* Rosa, Luigi; Vitale, Patrizia) Probability representation in quantum field theory. (English summary) *Phys. Lett. B* **439** (1998), no. 3-4, 328–336. (Julio Espinoza Ortiz) **99k:81161** 81S99

Manko, Vladimir S. (*with* Ruiz, Eduardo) Extended multi-soliton solutions of the Einstein field equations. (English summary) *Classical Quantum Gravity* **15** (1998), no. 7, 2007–2016. (Nora Bretón Báez) **99m:83045** 83C20 (83C15)

— (*with* Bretón Báez, Nora; Aguilar Sánchez, J.) On the equilibrium of charged masses in general relativity: the electrostatic case. (English summary) *Classical Quantum Gravity* **15** (1998), no. 10, 3071–3083. (Leonardo Fernández-Jambrina) **99i:83012** 83C15

— (*with* Bretón Báez, Nora; García Díaz, Alberto; Denisova, T. E.) Arbitrarily deformed Kerr-Newman black hole in an external gravitational field. (English summary) *Phys. Rev. D* (3) **57** (1998), no. 6, 3382–3388. (Summary) **99m:83100** 83C57 (83C22)

— (*with* Manko, O. V.; Sanabria-Gómez, J. D.) Charged, magnetized Tomimatsu-Sato $\delta = 2$ solution. (English summary) *Progr. Theoret. Phys.* **100** (1998), no. 3, 671–673. (B. D. Muratori) **99k:83023** 83C22 (83C15)

Manlove, David F. On the algorithmic complexity of twelve covering and independence parameters of graphs. (English summary) *Discrete Appl. Math.* **91** (1999), no. 1-3, 155–175. (Václav Koubek) **99j:05180** 05C85 (68Q25)

Manly, Bryan F. J. ★ Randomization, bootstrap and Monte Carlo methods in biology. (English summary) Second edition. Texts in Statistical Science Series. *Chapman & Hall, London*, 1997. xx+399 *pp. ISBN* 0-412-72130-9 (Ralf-Dieter Hilgers) **99b:92002** 92B15 (92–01)

Mann, Ady (*with* Revzen, M.; De Baere, W.) Bell's inequality violation and localization. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 391–396, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05

— (*with* Parthasarathy, Ragavachariar) $\mathrm{SU}_q(2)$ and q-Wigner functions. (English summary) *Special functions and differential equations* (*Madras*, 1997), 218–223, *Allied Publ., New Delhi*, 1998. (Summary) **99j:33024** 33D80 (17B37)

— (*with* Brif, C.) A general theory of phase-space quasiprobability distributions. (English summary) *J. Phys. A* **31** (1998), no. 1, L9–L17. (Apostolos Vourdas) **99e:81120** 81S30

— (*with* Horesh, N.) Intelligent states for the Anandan-Aharonov parameter-based uncertainty relation. (English summary) *J. Phys. A* **31** (1998), no. 36, L609–L611. (Summary) **99g:81032** 81P99

— (*with* Brif, C.; Revzen, M.) Generalized coherent states are unique Bell states of quantum systems with Lie-group symmetries. (English summary) *Phys. Rev. A* (3) **57** (1998), no. 2, 742–745. (Summary) **99b:81090** 81R30

Mann, Avinoam (*with* Segal, Daniel) Subgroup growth: some current developments. *Infinite groups* 1994 (*Ravello*), 179–197, *de Gruyter, Berlin*, 1996. (Marcus du Sautoy) **99d:20041** 20E26

— (*with* Martínez López, Consuelo) Groups nearly of prime exponent and nearly Engel Lie algebras. (English summary) *Arch. Math.* (*Basel*) **71** (1998), no. 1, 5–11. (Gunnar Traustason) **99f:20029** 20D15 (17B60, 20F40, 20P05)

— (*with* Chillag, David) Nearly odd-order and nearly real finite groups. (English summary) *Comm. Algebra* **26** (1998), no. 7, 2041–2064. (Roderick Gow) **99d:20010** 20C15

— (*with* Gavioli, Norberto; Monti, Valerio; Previtali, Andrea; Scoppola, Carlo M.) Groups of prime power order with many conjugacy classes. *J. Algebra* **202** (1998), no. 1, 129–141. (W. E. Deskins) **99d:20028** 20D15

Mann, Benjamin M. (*with* Boyer, Charles P.; Galicki, Krzysztof; Rees, Elmer G.) Einstein manifolds of positive scalar curvature with arbitrary second Betti number. (English summary) *Balkan J. Geom. Appl.* **1** (1996), no. 2, 1–7. (Andrew Swann) **99c:53041** 53C25 (14J45, 57S25)

— (*with* Boyer, Charles P.; Galicki, Krzysztof) Quaternionic geometry and 3-Sasakian manifolds. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 7–24 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Roger Bielawski) **99j:53061** 53C25

— (*with* Boyer, Charles P.; Galicki, Krzysztof; Rees, Elmer G.) Compact 3-Sasakian 7-manifolds with arbitrary second Betti number. *Invent. Math.* **131** (1998), *no.* 2, 321–344. (Roger Bielawski) **99b:53066** 53C25 (14J45, 57S25)

— (*with* Boyer, Charles P.; Galicki, Krzysztof) Hypercomplex structures from 3-Sasakian structures. (English summary) *J. Reine Angew. Math.* **501** (1998), 115–141. (Maria Dolores Monar) **99g:53049** 53C25 (53C55)

— (*with* Boyer, Charles P.; Galicki, Krzysztof) A note on smooth toral reductions of spheres. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 149–158. (Andrew Swann) **99c:53042** 53C25 (57S25)

Mann, Hans-Jürgen Topological quantum numbers of m-particle systems. *Symmetries in science, X* (*Bregenz*, 1997), 285–292, *Plenum, New York*, 1998. (Marc Sanders) **99m:55020** 55R25 (81S99, 81T13)

gell-Mann, Murray *see* **Gell-Mann, Murray**

Mann, Robert B. Quantum entropy of charged rotating black holes. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 284–287, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57

— (*with* Smith, William Lorne) Formation of topological black holes from gravitational collapse. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4942–4947. (Summary) **99f:83052** 83C57

— (*with* Burton, Howard) Palatini variational principle for N-dimensional dilaton gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1375–1385. (Hans P. Künzle) **99d:83106** 83E99 (83C05)

— (*with* Epp, Richard J.) A new approach to black hole microstates. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 23, 1875–1879. (Gil De Oliveira-Neto) **99f:83045** 83C57

— Charged topological black hole pair creation. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 357–381. (Marco Spaans) **99e:83038** 83C57 (83E05)

— (*with* Solodukhin, S. N.) Universality of quantum entropy for extreme black holes. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 293–307. (Guido Cognola) **99d:83061** 83C57

— (*with* Knutt-Wehlau, Marcia E.) Super black hole from cosmological supergravity with a massive superparticle. (English summary) *Phys. Lett. B* **435** (1998), *no.* 1-2, 25–30. (Summary) **99e:83036** 83C57 (81T60, 83E50)

— (*with* Burton, Howard) Palatini variational principle for an extended Einstein-Hilbert action. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4754–4759. (Summary) **99m:83011** 83C05

— (*with* Creighton, Jolien D. E.) Entropy of constant curvature black holes in general relativity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024013, 4 *pp.* (Summary) **99k:83064** 83C57

— (*with* Smith, William Lorne) Regular central structures in topologically nontrivial anti-de Sitter spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124021, 7 *pp.* (Summary) **99m:83036** 83C15 (83C20)

— (*with* Booth, I. S.) Complex instantons and charged rotating black hole pair creation. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 23, 5052–5055. (Summary) **99g:83050** 83C57

— (*with* Knutt-Wehlau, Marcia E.) Cosmological supergravity from a massive superparticle and super-cosmological black holes. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 3, 937–952. (Summary) **99k:83134** 83E50 (83C57)

Mann, Stephen Algorithms from blossoms. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 287–294, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

— (*with* Davidchuk, Matthew) A parametric hybrid triangular Bézier patch. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 335–342, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65D17

— Cubic precision Clough-Tocher interpolation. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 2, 85–88. 65D17 (41A10)

Manna, D. P. (*with* Chakrabarti, Aloknath) Sampson flow through a nearly circular hole in a plane wall. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part I (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **3** (1995), *no.* 1-2, 43–60. (*see* **99b:00016**) 76D99

— (*with* Chakrabarti, Aloknath) The effect of two translating disks in Sampson flow. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part II (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **4** (1996), *no.* 1-2, 17–34. (*see* **99b:00017**) 76D99

Manna, J. (*with* Mahalanabis, R. K.) Eigenvalue approach to the problem of linear micropolar thermoelasticity. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 69–86. (Summary) **99a:73022** 73B30 (73B25)

Manna, M. A. (*with* Merle, V.) Asymptotic dynamics of short waves in nonlinear dispersive models. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 6206–6209. (Summary) **99b:35186** 35Q53

Manna, S. (*with* Bhattacharya, D. K.) Solution of operator equation and the space of entire Dirichlet series. (English summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 31–39. (Shlomo Strelitz) **99a:30003** 30B50 (39B42, 47B38, 47H15)

Mannel, Thomas Effective theory for heavy quarks. (English summary) *Perturbative and nonperturbative aspects of quantum field theory* (*Schladming*, 1996), 387–428, *Lecture Notes in Phys.*, 479, *Springer, Berlin*, 1997. (*see* **99d:81177**) 81V05

Mannepalli, V. L. (*with* Kumaresan, K.) Γ-semigroup with an involution. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 191–198. (M. K. Sen) **99f:20108** 20M99

Manners, W. Partial contact between elastic surfaces with periodic profiles. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3203–3221. (Summary) **99h:73073** 73T05

Manneville, Paul *see* **Hydrodynamics and nonlinear instabilities, 99i:76001**

Manneville, S. (*with* Arneodo, A.; Muzy, J. F.; Roux, S. G.) Experimental evidence for anomalous scale dependent cascading process in turbulent velocity statistics. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 3, 374–381. 76-05 (76F99, 76M25)

Manni, Carla Parametric shape-preserving Hermite interpolation by piecewise quadratics. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 211–226, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:41022** 41A29 (41A63)

— (*with* Asaturyan, Souren; Costantini, Paolo) G^2 shape-preserving parametric planar curve interpolation. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 89–98, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (41A29)

— (*with* Asaturyan, Souren; Costantini, Paolo) Shape-preserving interpolating curves in $\mathbf{R}^3$: a local approach. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 99–108, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (41A63)

— (*with* Sampoli, Maria Lucia) Comonotone parametric Hermite interpolation. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 343–350, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41034** 41A29

Männikkö, Timo (*with* Miettinen, Kaisa; Mäkelä, Marko M.) Optimal control of continuous casting by nondifferentiable multiobjective optimization. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 2, 177–194. (Summary) **99g:90112** 90C29 (49N55, 90C90)

Mannila, Heikki (*with* Gunopulos, Dimitris; Saluja, Sanjeev) Discovering all most specific sentences by randomized algorithms (extended abstract). (English summary) *Database theory—ICDT '97* (*Delphi*), 215–229, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68T05)

Manning, Anthony (*with* Simon, Károly) A short existence proof for correlation dimension. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 1047–1049. (Luis M. Barreira) **99b:58149** 58F11

— (*with* Duan, Jinqiao; Fu, X.-C.; Liu, Pei De) A linear chaotic quantum harmonic oscillator. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 15–19. (Summary) **99h:81054** 81Q50

Manning, Robert S. (*with* Rogers, Kathleen A.; Maddocks, John H.) Isoperimetric conjugate points with application to the stability of DNA minicircles. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3047–3074. (Summary) **99j:49032** 49K10 (73K05, 73V25, 92D20)

— (*with* Maddocks, John H.) Symmetry breaking and the twisted elastic ring. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 313–330. (Summary) **99m:73041** 73H05 (34B15, 73P20)

Mannino, Carlo (*with* Bertolazzi, Paola; Di Battista, Giuseppe; Tamassia, Roberto) Optimal upward planarity testing of single-source digraphs. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 132–169 (*electronic*). (O. D'Antona) **99m:68146** 68R10 (05C10, 68Q20)

Mannix, Jake (*with* Dunne, Gerald V.) Supersymmetry breaking with periodic potentials. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 115–119. (Summary) **99b:81097** 81R40

Mannseth, T. (*with* Aavatsmark, I.; Barkve, T.; Bøe, Ø.) Discretization on unstructured grids for inhomogeneous, anisotropic media. I. Derivation of the methods. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1700–1716 (*electronic*). (Andrei I. Tolstykh) **99f:65138** 65M60 (76M25)

— (*with* Aavatsmark, I.; Barkve, T.; Bøe, Ø.) Discretization on unstructured grids for inhomogeneous, anisotropic media. II. Discussion and numerical results. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1717–1736 (*electronic*). (Andrei I. Tolstykh) **99f:65139** 65M60 (76M25)

Mannucci, Paola (*with* Berrone, Lucio R.) Study of the boundary conditions describing the contact with a well-stirred fluid. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 4, 323–337. (N. L. Vulchanov) **99b:80005** 80A20 (35Q99)

Manocha, Dinesh Numerical methods for solving polynomial equations. (English summary) *Applications of computational algebraic geometry* (*San Diego, CA*, 1997), 41–66, *Proc. Sympos. Appl. Math.*, 53, *Amer. Math. Soc., Providence, RI*, 1998. (Alessandro Logar) **99c:13057** 13P99 (65H10, 70–08)

— (*with* Krishnan, Shankar; Pattekar, Amol; Lin, Ming C.) Spherical shell: a higher order bounding volume for fast proximity queries. (English summary) *Robotics: the algorithmic perspective* (*Houston, TX*, 1998), 177–190, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 68U05 (68P10, 68T20)

Manoff, S. Einstein's theory of gravitation as a Lagrangian theory for tensor fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 12, 1941–1967. (Hans P. Künzle) **99e:83005** 83C05 (58E30)

— Fermi derivative and Fermi-Walker transports over $(\overline{L}_n, g)$-spaces. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 25, 4289–4308. (Volker Perlick) **99k:53137** 53C80 (83C99)

Manogue, Corinne A. (*with* Dray, Tevian) Finding octonionic eigenvectors using Mathematica. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 536–547. (Wasin So) **99m:15018** 15A33 (15A18, 17C99, 65–04, 65F15)

— (*with* Dray, Tevian) Dimensional reduction. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 2, 99–103. (Summary) **99k:81097** 81R20 (81T99)

Manohar, Aneesh V. Effective field theories. (English summary) *Perturbative and nonperturbative aspects of quantum field theory* (*Schladming*, 1996), 311–362, *Lecture Notes in Phys.*, 479, *Springer, Berlin*, 1997. (*see* **99d:81177**) 81T17

— (*with* Dotti, Gustavo) Anomaly matching conditions in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 167–172. (Edwin Langmann) **99b:81222** 81T50 (81T60)

— (*with* Dotti, Gustavo; Skiba, Witold) Supersymmetric gauge theories with a free algebra of invariants. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 507–524. (Summary) **99i:81231** 81T60 (81T13, 81T50)

— Wess-Zumino terms in supersymmetric gauge theories. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 8, 1558–1561. (Summary) **99d:81160** 81T60 (81T13, 81V05)

Manoharan, A. C. Combinatorics for computing relativistic several complex variable domains. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 227–254. (Lech Jakóbczyk) **99f:81121** 81T05 (32A99)

Manoharan, M. (*with* Babu Raj, C.) On the waiting time distribution of a single and batch service $M/M/1$ queue. (English summary) *Internat. J. Inform. Management Sci.*

9 (1998), *no.* 1, 59–65. (Summary) **99c:90051** 90B22 (60K25)

Manoharan, Sathiamoorthy Bounds on the performance of work-greedy assignment schemes. (English summary) *J.UCS* **3** (1997), *no.* 7, 803–812 (*electronic*). (Summary) **99f:68022** 68M20

Manoil, Constantin (*with* Coray, Daniel; Vainsencher, Israel) Nonminimal rational curves on $K3$ surfaces. *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 299–317. (Dag E. Sommervoll) **99a:14052** 14J28 (14H45)

Manojlović, Jelena Oscillation theorems for a nonlinear system of differential equations. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 59–67. (Ondřej Došlý) **99k:34070** 34C10

Manokhin, E. V. Γ-weakly locally uniform convexity in Banach spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 1, 51–54; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 1, 49–52. (Marián Fabian) **99e:46018** 46B20

Manoliu, Mihaela Abelian Chern-Simons theory. I. A topological quantum field theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 170–206. (Esther Pérez) **99b:58045** 58D29 (57R57, 58F06, 81T13)

— Abelian Chern-Simons theory. II. A functional integral approach. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 207–217. (Esther Pérez) **99b:58046** 58D29 (57R57, 58F06, 81T13)

Manoliu, Silvia *see* **Ioan, Petru**, **99a:03007**

Manoliu-Ciobanu, Carmen *see* **Ioan, Petru**, **99a:03007**

Manolopoulos, Yannis (*with* Papadopoulos, Apostolos) Performance of nearest neighbor queries in R-trees. (English summary) *Database theory—ICDT '97* (*Delphi*), 394–408, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Manor, Gad (*with* Kress, Moshe) Optimality of the greedy shooting strategy in the presence of incomplete damage information. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 7, 613–622. (Summary) **99e:90030** 90B06

Manor, Raanan (*with* Penn, Michal) An extended planar algorithm for maximum integral two-flow. (English summary) *Networks* **32** (1998), *no.* 1, 67–76. (Summary) **99d:90047** 90B10 (05C85, 68Q25)

Manoranjan, V. S. (*with* Raghavan, J.) Arnoldi-Chebyshev approach for convection-diffusion computations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 95–105. (Martin Stynes) **99f:65151** 65N06 (65F10, 65N22)

— (*with* Chang, Ching-Mo) Travelling wave solutions of a contaminant transport model with nonlinear sorption. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 1–10. (Summary) **99j:76123** 76S05 (34C37, 35Q35, 86A05)

Manos, H. (*with* Liberman, U.) Discrete chiasma formation models and their associated high order interference. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 448–468. (Warren J. Ewens) **99e:92020** 92D10 (92D15)

Mañosa, V. (*with* Gasull, Armengol; Guillamon i Grabolosa, Toni) Centre and isochronicity conditions for systems with homogeneous nonlinearities. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 105–116, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (A. P. Sadovskiĭ) **99c:34048** 34C05 (58F21)

Mañosas, Francesc (*with* Cima, Anna; Gasull, Armengol) The genesis of Markus-Yamabe counterexamples. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 49–55, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:34147** 34D20 (34C35, 34H05, 58F12, 93D20)

— (*with* Alsedà, Lluís; Guaschi, John; Los, Jérôme; Mumbrú, Pere) Canonical representatives for patterns of tree maps. (English summary) *Topology* **36** (1997), *no.* 5, 1123–1153. (Francisco Balibrea) **99f:58062** 58F03 (58F08)

— (*with* Cima, Anna; Villadelprat, Jordi) A Poincaré-Hopf theorem for noncompact manifolds. (English summary) *Topology* **37** (1998), *no.* 2, 261–277. (J. M. Boardman) **99b:57055** 57R25 (54H20, 55M25, 58F12, 58F21)

Manouselis, P. (*with* Stavrinos, P. C.) Tensor and spinor equivalence on generalized metric tangent bundles. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 119–130. (Tadashi Aikou) **99j:53096** 53C60 (53A50)

Manoussakis, Y. (*with* Amoura, A. K.; Bampis, E.; Kenyon, Claire M.) Scheduling independent multiprocessor tasks. (English summary) *Algorithms—ESA '97* (*Graz*), 1–12, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68M20

— (*with* Bampis, E.; Giannakos, A.; Karzanov, A. V.; Milis, I.) A parallel algorithm for finding a perfect matching in a planar graph. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 399–405. (Summary) **99g:68079** 68Q22 (05C70, 05C85, 68Q25)

— (*with* Amoura, A. K.; Bampis, E.; Tuza, Zsolt) A comparison of heuristics for scheduling multiprocessor tasks on three dedicated processors. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 49–61. 68M20

Mans, Bernard (*with* Pappalardi, Francesco; Shparlinski, Igor E.) On the Ádám conjecture on circulant graphs. *Computing and combinatorics* (*Taipei*, 1998), 251–260, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 05C60 (68R10)

— (*with* Litow, Bruce) A note on the Ádám conjecture for double loops. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 149–153. (Summary) **99c:68196** 68R10 (68M10, 90C35)

— (*with* Flocchini, Paola; Santoro, Nicola) Sense of direction: definitions, properties, and classes. (English summary) *Networks* **32** (1998), *no.* 3, 165–180. (Qiao Li) **99j:68104** 68R10 (90B12, 94C15)

Manservisi, S. (*with* Gunzburger, Max D.; Hou, LiSheng; Yan, Yin) Computations of optimal controls for incompressible flows. (English summary) Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 181–191. (Summary) **99m:49047** 49M25 (65M06, 76D99, 76M99)

Mansfield, Elizabeth L. (*with* Reid, Gregory J.; Clarkson, Peter A.) Nonclassical reductions of a $(3+1)$-cubic nonlinear Schrödinger system. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 460–488. (Summary) **99j:35206** 35Q55 (35–04, 35A30, 65–04, 65M06)

— (*with* Webster, Helen N.) On one-parameter families of Painlevé III. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 3, 321–341. (Andrei A. Kapaev) **99g:34025** 34A25 (34A05)

Mansfield, Marc L. A knot recognition algorithm. *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 75–82, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (E. J. Janse van Rensburg) **99h:82041** 82B41 (57M25, 82D60)

Mansfield, Paul A large distance expansion for quantum field theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 490–493, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81104** 81T08 (81V05)

— (*with* Sampaio, Marcos; Pachos, Jiannis) Short distance properties from large distance behavior. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4101–4122. (Summary) **99e:81157** 81T15

el-Mansi, S. M. A. *see* **El-Mansi, S. M. A.**

Mansimov, K. B. On the theory of necessary conditions for second-order optimality for systems with distributed delay. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **16** (1995), *no.* 5-6, *Inform. i Probl. Upr.*, 41–45 (1997). 49K25

Manski, Charles F. (*with* Horowitz, Joel L.) What can be learned about population parameters when the data are contaminated. *Robust inference*, 439–466, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

Manson, G. (*with* Worden, K.) Random vibrations of a Duffing oscillator using the Volterra series. *J. Sound Vibration* **217** (1998), *no.* 4, 781–789. (Introduction) **99h:70029** 70K40 (34C15, 34F05, 70L05)

Manson, J. R. (*with* Wallis, S. G.; Filippi, L.) A conservative semi-Lagrangian algorithm for one-dimensional advection-diffusion. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 671–679. 65M99

Mansour, M. Invariant star-product on a Poisson-Lie group and h-deformation of the corresponding Lie algebra. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3007–3014. (Mohsen Masmoudi) **99b:58104** 58F06 (17B37)

— Star-deformation of the infinite oscillator algebra and the realization of both q-deformed centerless Virasoro and $SU_q(2)$ algebras. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2403–2408. (Roberto Casalbuoni) **99i:81104** 81R50

Mansour, Yishay (*with* Bshouty, Nader H.) Simple learning algorithms for decision trees and multivariate polynomials. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 304–311, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05

— (*with* Freund, Yoav; Kearns, Michael; Ron, Dana; Rubinfeld, Ronitt; Schapire, Robert E.) Efficient algorithms for learning to play repeated games against computationally bounded adversaries. *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 332–341, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05 (90D20)

— (*with* Kushilevitz, Eyal) Randomness in private computations. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 647–661. (Summary) **99i:94048** 94A60 (68R05)

— (*with* Kushilevitz, Eyal) Computation in noisy radio networks. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 236–243, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10 (68M15, 90B10)

— (*with* Parnas, Michal) Learning conjunctions with noise under product distributions. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 4, 189–196. (Summary) **99h:68145** 68T05

— (*with* Kushilevitz, Eyal) An $\Omega(D\log(N/D))$ lower bound for broadcast in radio networks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 702–712 (*electronic*). (Summary) **99b:68018** 68M10

— (*with* Kushilevitz, Eyal; Rabin, Michael O.; Zuckerman, David) Lower bounds for randomized mutual exclusion. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1550–1563 (*electronic*). (Julian Padget) **99h:68066** 68Q22 (60J10, 68Q10, 68Q25)

— (*with* Afek, Yehuda; Ostfeld, Zvi) Convergence complexity of optimistic rate-based flow-control algorithms. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 106–143. (Jian-Min Li) **99i:90049** 90B12 (68M20, 68Q25, 90C35, 90C60)

— (*with* Awerbuch, Baruch; Cidon, Israel; Kutten, Shay; Peleg, David) Optimal broadcast with partial knowledge. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 512–525 (*electronic*). (Summary) **99d:90048** 90B12 (68Q22, 94A05)

Mansouri, Freydoon (*with* Fernando, Sharmanthie) Supermultiplets of AdS black holes in $2+1$ dimensions. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 52–59. (Summary) **99k:83067** 83C57

— (*with* Fernando, Sharmanthie) The structure of AdS black holes and Chern-Simons theory in $2+1$ dimensions. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 505–520. (Summary) **99k:83068** 83C57 (81T13)

Mansouri, N. (*with* Kernévez, Jean-Pierre) Estimation of parameters in nonlinear problems. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 333–343. 65L99 (65K10)

Manssur, L. R. U. (*with* Christiansen, H. R.; Cunha, M. S.; Helayël-Neto, José A.; Nogueira, A. L. M. A.) $N=2$ Maxwell-Chern-Simons model with anomalous magnetic moment coupling via dimensional reduction. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 1, 147–159. 81T60 (81T50)

— (*with* Christiansen, H. R.; Cunha, M. S.; Helayël-Neto, José A.; Nogueira, A. L. M. A.) Self-dual vortices in a Maxwell-Chern-Simons model with nonminimal coupling. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 11, 1721–1735. 81T13

Manstavičius, Eugenijus A proof of the Erdős arcsine law. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 533–539, *TEV, Vilnius*, 1994. (Peter J. Grabner) **99f:11101** 11K65 (11N60)

— Probabilistic theory of additive functions related to systems of numeration. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 413–429, *VSP, Utrecht*, 1997. (Peter J. Grabner) **99j:11088** 11K65 (11A63, 11K16)

— (*with* Bareĭkis, G.) Functional limit theorems in the M-scheme. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 139–154; *translation in Lithuanian Math. J.* **37** (1997), *no.* 2, 108–118 (1998). (Andrzej Krajka) **99f:60072** 60F17

— The law of the iterated logarithm for random permutations. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 2, 205–220; *translation in Lithuanian Math. J.* **38** (1998), *no.* 2, 160–171 (1999). (Przemysław Matuła) **99m:60054** 60F15 (11K65, 60E15, 60G50)

— The Berry-Esseen bound in the theory of random permutations. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 185–199. (Anant P. Godbole) **99i:60019** 60C05 (11K99, 60F05)

— *see also* **New trends in probability and statistics, 99f:11003**

Mansur, W. J. (*with* Carrer, J. A. M.; Siqueira, E. F. N.) Time discontinuous linear traction approximation in time-domain BEM scalar wave propagation analysis. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 4, 667–683. (Summary) **99a:73131** 73V10

Mansutti, D. (*with* Funaro, D.; Giangi, M.) A splitting method for unsteady incompressible viscous fluids imposing no boundary conditions on pressure. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 1, 95–104. (Summary) **99b:76064** 76M25 (65M70, 76D05, 76M20)

Mantaci, Sabrina (*with* Giammarresi, Dora; Mignosi, Filippo; Restivo, Antonio) Periodicities on trees. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 145–181. (Summary) **99d:68205** 68R15 (68R05)

lópez de Màntaras, R. *see* **López de Màntaras, R.**

gonzález-Manteiga, Wenceslao *see* **González-Manteiga, Wenceslao**

Mantel, B. (*with* Winter Althaus, Gabriel; Périaux, Jacques; Galán, Manuel J.; Sánchez, I.) An introduction on global optimization by genetic algorithms. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 343–367, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65K05 (90C99)

Mantellini, Ilaria (*with* Bardaro, Carlo) Modular approximation by sequences of nonlinear integral operators in Musielak-Orlicz spaces. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 403–425. (Isaac V. Shragin) **99m:47057** 47G10 (41A35, 45P05, 47H30)

— (*with* Vinti, Gianluca) φ-variation and nonlinear integral operators. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 847–862. (Isaac V. Shragin) **99k:47121** 47G10 (45P05, 47H30)

Mantero, A. M. (*with* Zappa, Anna) The reduced group C^*-algebra of a triangle building. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 461–478. (Alain Valette) **99g:46080** 46L05 (20E42, 22D25, 51E24, 54H20)

Manteuffel, Thomas A. (*with* Berndt, Markus; McCormick, Stephen F.) Local error estimates and adaptive refinement for first-order system least squares (FOSLS). (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 35–43 (*electronic*). (Summary) **99a:65143** 65N30 (65N15)

— (*with* Cai, Zhi Qiang; McCormick, Stephen F.; Parter, Seymour V.) First-order system least squares (FOSLS) for planar linear elasticity: pure traction problem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 320–335 (*electronic*). (Summary) **99a:73119** 73V05 (73C02)

— (*with* Ressel, Klaus J.) Least-squares finite-element solution of the neutron transport equation in diffusive regimes. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 806–835 (*electronic*). (Summary) **99a:65153** 65N30 (65N15, 65N55)

— (*with* Bochev, Pavel B.; Cai, Zhi Qiang; McCormick, Stephen F.) Analysis of velocity-flux first-order system least-squares principles for the Navier-Stokes equations. I. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 990–1009 (*electronic*). (Summary) **99a:76106** 76M25 (65N12, 65N30, 76D05)

Manthey, Michael A combinatorial bit bang leading to quaternions. (English summary) *Acta Polytech. Scand. Math. Comput. Manage. Eng. Ser.* **1998**, *no.* 91, 122–144. (Waldyr Alves Rodrigues, Jr.) **99m:15030** 15A66 (81R25)

Manthey, Ralf (*with* Mittmann, Katrin) The initial value problem for stochastic reaction-diffusion equations with continuous reaction. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 4, 555–583. (Fred Espen Benth) **99e:60137** 60H15 (35K57, 35R60, 60H05)

— (*with* Mittmann, Katrin) On a class of stochastic functional-differential equations arising in population dynamics. (English summary) *Stochastics Stochastics Rep.* **64** (1998), *no.* 1-2, 75–115. (Summary) **99e:60138** 60H15 (92D25)

Manthey, W. (*with* Helmke, U.; Hinrichsen, Diederich) Generalized partial realizations. (English summary) *Operators. systems, and linear algebra* (*Kaiserslautern*, 1997), 138–156, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Xiao Yun Lu) **99e:93018** 93B15 (93C55)

Mantič, V. (*with* Blázquez, A.; París, F.) BEM solution of two-dimensional contact problems by weak application of contact conditions with non-conforming discretizations. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 24, 3259–3278. (From the summary) **99d:73080** 73T05 (73V10)

Mantica, Stefano (*with* Bergamaschi, Luca; Manzini, Gianmarco) A mixed finite element–finite volume formulation of the black-oil model. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 970–997 (*electronic*). (Dennis C. Jespersen) **99j:65160** 65M60 (76M10, 76S05)

Mantilla, Ignacio False computational results. (Spanish. English and Spanish summaries) *Bol. Mat.* (*N.S.*) **3** (1996), *no.* 1, 1–23. 65G05 (68M99)

Mantoiu, Marius (*with* Boutet de Monvel-Berthier, Anne-Marie) The method of the weakly conjugate operator. (English summary) *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 204–226, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (Alexei Yu. Konstantinov) **99d:47021** 47B25 (35P05, 47A10, 47N50, 81Q10)

Mantovan, Elena Additive extensions of a Barsotti-Tate group. (English summary) *Rend. Sem. Mat. Univ. Padova* **99** (1998), 161–185. (Abdellah Mokrane) **99m:14083** 14L05

Mantovani, Sandra (*with* Cagliari, Francesca) The exponentiable morphisms in Kelley are the open maps. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 721–728. (Summary) **99b:18008** 18B30 (18D15, 54B30, 54D50)

— Semilocalizations of exact and lextensive categories. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 1, 27–44. (M. Barr) **99b:18006** 18A40 (18A22)

— (*with* Cagliari, Francesca) Fibrewise smash product and fibrewise mapping spaces. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 127–132. (Peter Johnstone) **99e:18003** 18B30 (18D15, 54B30, 54C35)

Manturov, O. V. Homogeneous Riemannian spaces with irreducible rotation group. *Tensor and vector analysis*, 101–192, *Gordon and Breach, Amsterdam*, 1998. (McKenzie Y. Wang) **99m:53092** 53C30 (53C25)

— *see also* **Tensor and vector analysis, 99g:53001**

Manu, K. S. (*with* Gabow, Harold N.) Packing algorithms for arborescences (and spanning trees) in capacitated graphs. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 83–109. (R. Balakrishnan) **99m:05124** 05C70 (05C85)

Maňuch, Ján (*with* Karhumäki, Juhani; Plandowski, Wojciech) On defect effect of bi-infinite words. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 674–682, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R15

Manuel, M. Maria Susai (*with* Thandapani, E.; Graef, John R.; Spikes, Paul W.) Monotone properties of certain classes of solutions of second-order difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 291–297. (Binggen Zhang) **99k:39037** 39A10 (39A12)

— (*with* Thandapani, E.) Oscillatory and nonoscillatory behavior of a second order quasilinear differential equation. (English summary) *Differential Equations Dynam. Systems* **6** (1998), *no.* 3, 289–301. (M. Cecchi) **99k:34158** 34K15 (34K25)

Manuel, Paul D. (*with* Dahlhaus, Elias; Kratochvíl, Jan; Miller, Mirka) Transveral partitioning in balanced hypergraphs. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 75–89. (Summary) **99a:05105** 05C65

— (*with* Kratochvíl, Jan; Miller, Mirka; Proskurowski, Andrzej) Disjoint and unfolding domination in graphs. (English summary) *Australas. J. Combin.* **18** (1998), 277–292. (Vadim E. Zverovich) **99j:05108** 05C35

— (*with* Dahlhaus, Elias; Miller, Mirka) A characterization of strongly chordal graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 269–271. (Summary) **99a:05123** 05C75

— (*with* Dahlhaus, Elias; Miller, Mirka) Maximum h-colourable subgraph problem in balanced graphs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 301–303. (Summary) **99c:05098** 05C35 (05C15, 68R10)

Manuĭlov, V. M. Diagonalization of compact operators in Hilbert modules over C^*-algebras of zero real rank. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 865–870; *translation in Math. Notes* **62** (1997), *no.* 5-6, 726–730 (1998). (Summary) **99d:46077** 46L05 (47D25)

— Spectrally stable relations. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 175–176; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 412–413. (Michael Frank) **99g:46081** 46L05 (46L87)

— Invariant of a pair of almost commuting unbounded operators. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 4, 88–91. (Vladimir M. Deundyak) **99m:47030** 47B25 (47A10, 47A13, 47B47)

Manukyan, V. F. On the existence of surface shear waves in micropolar media. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **50** (1997), *no.* 2, 75–79. (Summary) **99h:73031** 73D20 (73B25)

mc Manus, Des *see* **Mc Manus, Des**

Manuszewski, K. (*with* Głazek, Włodzimierz; Kubale, Marek) The quest for small benchmarks for the chromatic sum problem. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 249–260. (Michael O. Albertson) **99j:05069** 05C15 (68R10)

Manvelyan, R. (*with* Melikyan, A. O.; Mkrtchyan, R. L.) Representations and BPS states of $10 + 2$ superalgebra. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2147–2152. (Sergey Nikolaevich Roshchupkin) **99h:81175** 81T30 (81R05)

— (*with* Melikyan, A. O.; Mkrtchyan, R. L.) Light-cone formulation of the D2-brane. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 277–281. (Summary) **99a:81147** 81T30

— (*with* Melikyan, A. O.; Mkrtchyan, R. L.; Müller-Kirsten, H. J. W.) Light-cone formulation of super D2-brane. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 86–91. (Summary) **99h:81176** 81T30

Manwart, C. (*with* Biswal, B.; Hilfer, R.) Three-dimensional local porosity analysis of porous media. (English summary) *Phys. A* **255** (1998), *no.* 3-4, 221–241. (Summary) **99d:73076** 73N20 (73V30, 76S05)

Manyuk, E. M. (*with* Yanovich, L. A.) Linear operator interpolation in a space of functional matrices. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 282–287, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65D15 (47A99, 65J05)

morales-Manzanares, R. *see* **Morales-Manzanares, R.**

Manzano, C. *see* **Manzano del Moral, Carlos**

Manzano, María Alonzo Church: his life, his work and some of his miracles. (English summary) *Hist. Philos. Logic* **18** (1997), *no.* 4, 211–232. (Summary) **99b:01021** 01A70 (03–03)

Manzano del Moral, Carlos (*with* Gavete, L.; Herranz Calzada, J.; Falcón, Santiago) An error indicator for a finite point method using the Galerkin formulation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 769–774, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65D99 (65G05)

Manzhos, N. V. (*with* Aminov, Yu. A.) Closed surfaces in E^4 with a nonvanishing Whitney invariant. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 3-4, 139–148. (Vladislav Goldberg) **99k:53005** 53A07

Manzii, O. S. On the approximation of an Appell hypergeometric function by a branched continued fraction. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2376–2380. (Summary) **99f:33016** 33C65 (40A15, 41A30)

Manzini, Gianmarco (*with* Fassino, Claudia) Fast-secant algorithms for the non-linear Richards equation. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 921–930. 76M10 (65H10, 76S05)

— (*with* Bergamaschi, Luca; Mantica, Stefano) A mixed finite element–finite volume formulation of the black-oil model. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 970–997 (*electronic*). (Dennis C. Jespersen) **99j:65160** 65M60 (76M10, 76S05)

Manzini, Giovanni (*with* Margara, Luciano) Invertible linear cellular automata over Z_m: algorithmic and dynamical aspects. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 378–387, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68109** 68Q80 (58F08)

— (*with* Del Corso, Gianna M.) On the randomized error of polynomial methods for eigenvector and eigenvalue estimates. (English summary) *J. Complexity* **13** (1997), *no.* 4, 419–456. (Ilse C. F. Ipsen) **99a:65047** 65F15 (15A18, 15A42)

— (*with* D'amico, Michele; Margara, Luciano) On computing the entropy of cellular automata. (English summary) *Automata, languages and programming* (*Aalborg*, 1998),

470–481, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68136** 68Q80
— (*with* Bini, Dario Andrea; Del Corso, Gianna M.; Margara, Luciano) Inversion of circulant matrices over Z_m. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 719–730, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 65F35 (15–04, 15A09, 68Q80)
— (*with* Margara, Luciano) Attractors of D-dimensional linear cellular automata. (English summary) *STACS* 98 (*Paris*, 1998), 128–138, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68126** 68Q80 (58F08)
— Lower bounds for sparse matrix vector multiplication on hypercubic networks. (English summary) *Discrete Math. Theor. Comput. Sci.* **2** (1998), 35–46. (Summary) **99j:15001** 15–04 (68Q25)
— (*with* Margara, Luciano) Invertible linear cellular automata over $\mathbf{Z}_m$: algorithmic and dynamical aspects. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 60–67. (Summary) **99j:68089** 68Q80
Mao, Jian-feng A new continuous selection theorem. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 585–593. (Summary) **99f:54026** 54C65
Mao, Jian Qin (*with* Lin, Yan; Zhang, Jie) Variable structure robust adaptive control with unmodelled dynamics. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 647–651. 93B12 (93C41)
— (*with* Zhang, Jian Gang; Zhang, Jie) Pulse response identification approach based on multiresolution analysis. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 652–656. 93B30 (42C15)
Mao, Jing Zhong (*with* Liu, Hong Mei) Some basic constructions and properties of geodetic graphs. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 1, 13–16. (Summary) **99c:05164** 05C75
— (*with* Li, Shuchao; Feng, Yanqin) The weakly graceful tree with application. (English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 3, 269–272. (Summary) **99m:05143** 05C78
— (*with* Li, Wei) An optimal approach for detecting two different counterfeit coins. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 45–47. (Summary) **99k:05020** 05A99
Mao, K. Z. (*with* Billings, S. A.) Rational model data smoothers and identification algorithms. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 297–310. 93E14 (93E12)
— (*with* Billings, S. A.) Algorithms for minimal model structure detection in nonlinear dynamic system identification. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 311–330. 93B30 (93B40)
Mao, Rui Formula for analyzing Hopf bifurcation. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1243–1245. (Summary) **99i:58112** 58F14 (34C23)
Mao, Scott X. (*with* Ru, Chong-Qing; Epstein, Marcelo) Electric-field induced interfacial cracking in multilayer electrostrictive actuators. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1301–1318. 73R05 (73M25)
Mao, Se Ling (*with* Fu, Kai Xin; Peng, Xue Feng) Finite difference equations and even order spline-on-spline interpolation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 21–26. 65D15 (41A15)
Mao, Sheng Rong (*with* Wang, Bing Xiu) NF-continuity of order-homomorphisms. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 4, 14–18. 54A40 (06F30, 54C08)
— Compact quotient mappings and compact quotient topologies. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **27** (1998), *no.* 2, 85–89. 54B15
Mao, Shi Chun (*with* Deng, Mou Jie) Solutions in positive integers of a class of exponential Diophantine equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 3, 15–18. 11D61
Mao, Wei Jie (*with* Sun, You Xian; Cao, Yong-Yan) Output feedback stabilization of linear systems with time-varying delayed states and controls. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 972–974. 93D21 (93C30)
— (*with* Cao, Yong-Yan; Sun, You Xian) A new necessary and sufficient condition for static output feedback stabilizability and comments on: "Stabilization via static output feedback" [IEEE Trans. Automat. Control **38** (1993), no. 5, 764–765; MR 94d:93122] by A. Trofino-Neto and V. Kučera. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1110–1111. (Summary) **99e:93061** 93D15 (49N10)
Mao, X. *see* **Mao, Scott X.**
Mao, Xin Qiang (*with* Hall, W. S.) Eigenvalue and resonance frequencies in electromagnetic scattering. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 199–211, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99c:78003** 78–08 (65N38, 78A45)
Mao, Xu Hua A generalization of a fixed point theorem. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **16** (1998), *no.* 5, 128–131. 47H10
Mao, Xuerong Razumikhin-type theorems on exponential stability of neutral stochastic functional-differential equations. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 2, 389–401. (Summary) **99k:34170** 34K20 (34K50, 60H10, 93E15)
— (*with* Kolmanovskii, Vladimir B.; Matasov, A.) On approximate solving the mean-square filtering problem in hereditary systems. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 259–275. (Summary) **99c:93105** 93E11 (34F05)
— (*with* Liu, Kai^2) Exponential stability of non-linear stochastic evolution equations. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 2, 173–193. (Binggen Zhang) **99i:60117** 60H10 (93E15)
Mao, Yiping (*with* Gordon, Carolyn S.) Geodesic conjugacies of two-step nilmanifolds. *Michigan Math. J.* **45** (1998), *no.* 3, 451–481. (Maura B. Mast) **99m:53081** 53C22 (58F17)
Mao, Yu Liang (*with* Yan, Ting Hu; Zhong, Bing Lin) A self-learning mechanism for a fuzzy relation matrix based on an associative memory model. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **27** (1997), *no.* 5, 1–5. 68T05
Mao, Zhengyu (*with* Rallis, Stephen) A trace formula for dual pairs. *Duke Math. J.* **87** (1997), *no.* 2, 321–341. (Werner Hoffmann) **99a:22032** 22E55 (11F70, 11F72)
— A fundamental lemma for metaplectic correspondence. (English summary) *J. Reine Angew. Math.* **496** (1998), 107–129. (David Ginzburg) **99b:22029** 22E55 (11F70)
— (*with* Hakim, Jeffrey) Supercuspidal representations of $\mathrm{GL}(n)$ distinguished by a unitary subgroup. (English summary) *Pacific J. Math.* **185** (1998), *no.* 1, 149–162. (Stephen Slebarski) **99j:22023** 22E50
— (*with* Hakim, Jeffrey) Cuspidal representations associated to $(\mathrm{GL}(n), \mathrm{O}(n))$ over finite fields and p-adic fields. (English summary) *J. Algebra* **213** (1999), *no.* 1, 129–143. (David Manderscheid) **99m:22019** 22E50 (11F70)
Mao, Zhi Hong (*with* Lin, Yuan Lie) An extended random neural network model and its probability structure features. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 3, 100–103. 68T05
Mao, Zong Yuan (*with* Zhang, Yun; Yang, Yi Min) A parameter-separable learning algorithm for multilayer feedforward neural networks. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 439–446. 93E35 (93C83)
— (*with* Yang, Yi Min; Zhang, Yun; Zhou, Qi Jie) Stability of an identification algorithm for fuzzy basis function networks. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 790–793. 93C42 (93B30)
— (*with* Fan, Xiao Ping; Yan, Quan Sheng; Xu, Jian Min; Zhou, Qi Jie) Dynamic modeling for a class of constrained planar two-link flexible manipulators. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 933–938. 93C85
— (*with* Tan, Hongzhou; Chow, Tommy W. S.) Blind identifiability of truncated quadratic nonlinear models using spectra analyses. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 965–968. 93B30 (93E12)
Mao-cheng, Cai *see* **Cai, Mao Cheng**
Maor, Eli ★ Trigonometric delights. (English summary) *Princeton University Press, Princeton, NJ*, 1998. xiv+236 *pp. ISBN* 0-691-05754-0 (E. J. Barbeau) **99c:01001** 01–01 (00A08, 00A69, 26–01)
Maouche, Abdelaziz Caractérisations spectrales du radical et du socle d'une paire de Jordan-Banach. (French summary) [Spectral characterizations of the radical and the socle of a Jordan-Banach pair] *Canad. Math. Bull.* **40** (1997), *no.* 4, 488–497. (Antonio Fernández López) **99a:46093** 46H70 (17C65, 46J99)
Maple, Carsten R. (*with* Marletta, Marco) Algorithms and software for selfadjoint ODE eigenproblems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 285–292, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 34B05 (34L15, 65L15)
Maquin, D. (*with* Malti, R.; Ragot, José) Bilateral decomposition of a time function into Laguerre series. Application to LTI system identification. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 851–869. (Summary) **99b:93026** 93B40 (93B30)
Maralina, Galina (*with* Whitman, Alan M.; Beran, Mark J.) Pulse propagation of acoustic waves scattered in a channel. (English summary) *Waves Random Media* **9** (1999), *no.* 1, 1–11. (Summary) **99j:76115** 76Q05
Maraner, P. (*with* Klauder, John R.) Dynamics as shadow of phase space geometry. (English summary) *Ann. Physics* **253** (1997), *no.* 2, 356–375. (Nicolaas P. Landsman) **99b:81115** 81S10 (81S30)
— A dynamical mechanism for the selection of physical states in "geometric quantization schemes". (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 265–271. (Ivailo M. Mladenov) **99b:58105** 58F06 (81S10)
— Charged particles in a $(2+1)$-curved background. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9309–9319. (Summary) **99h:83031** 83C50 (83C10)
Maranget, Luc (*with* Hardin, Thérèse; Pagano, Bruno) Functional runtime systems within the lambda-sigma calculus. (English summary) *J. Funct. Programming* **8** (1998), *no.* 2, 131–176. (Summary) **99c:68034** 68N15 (03B40)
Marangio, Livio Existence of homoclinic orbits to invariant tori of Hamiltonian systems: a model case. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 153–173. (Maria Letizia Bertotti) **99h:58166** 58F27 (34C37, 58E05, 70H05)
Marangunic, Pedro R. A symmetrical two-phase Stefan problem with supercooling. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 99–114 (1998). (Weiqing Xie) **99j:80007** 80A22 (35K05, 35R30)
Marano, Miguel (*with* Quesada, José María) Monotone l_φ-approximation. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 1, 51–57. (Hong Kun Xu) **99a:41024** 41A29
— (*with* Ureña, J. N.; Marcolini, Marta) A counterexample for the discrete Pólya algorithm. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 817–821, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65D99
— (*with* Cuenya, Héctor) A minimizing property that characterizes L_p-spaces. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 273–283. (Summary) **99a:46045** 46E30 (41A65)
Marano, Salvatore A. (*with* Bonanno, Gabriele) Positive solutions of elliptic equations with discontinuous nonlinearities. (English summary) *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 263–273 (1997). (C. A. Swanson) **99a:35080** 35J65 (35B05, 35J70)
— Elliptic equations and differential inclusions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1763–1770. (Junjie Tang) **99a:35091** 35J65 (47H15, 47N20)
— Fixed points of multivalued contractions. Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 171–177. (Adrian Petruşel) **99e:54035** 54H25 (34A60, 47H04, 47H10, 49J40, 54C60)
Maranzana, Roland (*with* Jabbour, Toni; Mascle, Christian) A database for the representation of assembly features in mechanical products. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 483–507. 90B30 (90A11)
Marastoni, Corrado Grassmann duality for $\mathscr{D}$-modules. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 459–491. (Andrea D'Agnolo) **99i:14060** 14M15 (14F10, 32C38)
— Theory of sheaves and integral transforms between Grassmann manifolds for $\mathscr{D}$-modules. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 129–132. 32C38
Marathe, K. B. (*with* Martucci, G.) Geometry of gravitational instantons. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1175–1189. (Thalia D.

Jeffres) **99k:53138** 53C80 (58E30)

Marathe, Madhav V. (*with* Hunt, Harry B., III; Stearns, Richard E.; Radhakrishnan, Venkatesh) Complexity of hierarchically and 1-dimensional periodically specified problems. I. Hardness results. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ, 1996)*, 225–259, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Italo José Dejter) **99c:68129** 68Q25 (03B05, 03D15, 03F20, 68Q15, 68R10)

— (*with* Barrett, Chris; Jacob, Riko) Formal language constrained path problems. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 234–245, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68091** 68Q45 (68Q25)

— (*with* Cook, Doug; Faber, Vance; Srinivasan, Aravind; Sussmann, Yoram J.) Low-bandwidth routing and electrical power networks. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 604–615, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 90B10 (68Q25, 68R10, 93C90)

— (*with* Krumke, Sven O.; Noltemeier, Hartmut; Ravi, R.; Ravi, S. S.) Network improvement problems. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 247–268, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:90147** 90C35 (05C90, 68M10)

— (*with* Ravi, R.; Sundaram, Ravi) Improved results on service-constrained network design problems. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 269–276, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:68135** 68R10 (68Q25)

— (*with* Hunt, Harry B., III; Rosenkrantz, Daniel J.; Stearns, Richard E.) Theory of periodically specified problems: complexity and approximability. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 106–118, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q25)

— (*with* Ravi, R.; Sundaram, Ravi; Ravi, S. S.; Rosenkrantz, Daniel J.; Hunt, Harry B., III) Bicriteria network design problems. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 142–171. (Dominique Sotteau) **99h:68137** 68R10 (68M10)

— (*with* Krumke, Sven O.; Noltemeier, Hartmut; Ravi, R.; Ravi, S. S.) Approximation algorithms for certain network improvement problems. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 257–288. (András Faragó) **99k:90188** 90C35 (05C90, 90B10)

— (*with* Hunt, Harry B., III; Radhakrishnan, Venkatesh; Stearns, Richard E.) The complexity of planar counting problems. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1142–1167 (*electronic*). (Italo José Dejter) **99e:68052** 68Q15 (68R10)

— (*with* Hunt, Harry B., III; Stearns, Richard E.; Radhakrishnan, Venkatesh) Approximation algorithms for PSPACE-hard hierarchically and periodically specified problems. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1237–1261 (*electronic*). (Summary) **99f:68103** 68Q25 (68Q15, 68R10)

— (*with* Drangmeister, Kay U.; Krumke, Sven O.; Noltemeier, Hartmut; Ravi, S. S.) Modifying edges of a network to obtain short subgraphs. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 91–121. (Summary) **99d:68189** 68R10 (05C85, 68Q25)

Maravall, Agustín (*with* Gómez, Víctor; Peña, Daniel) Missing observations in ARIMA models: skipping approach versus additive outlier approach. (English summary) *J. Econometrics* **88** (1999), *no.* 2, 341–363. (Summary) **99i:62204** 62M10 (62P20)

Maravall Casesnoves, Darío The development of mechanics and mathematical physics in the XIXth century. (Spanish) *History of mathematics in the XIXth century, Part* 1 (*Spanish*) (*Madrid*, 1991), 175–209, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1992. (I. Grattan-Guinness) **99k:01025a** 01A55 (70–03, 73–03, 78–03)

— The development of mechanics and mathematical physics in the XIXth century. II. (Spanish) *History of mathematics in the XIXth century, Part* 2 (*Spanish*) (*Madrid*, 1993), 233–274, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1994. (I. Grattan-Guinness) **99k:01025b** 01A55 (70–03, 73–03, 78–03)

Maravalle, Maurizio (*with* Lari, Isabella; Simeone, Bruno) A linear programming based heuristic for a hard clustering problem on trees. (English summary) *Advances in data science and classification (Rome, 1998)*, 161–170, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30 (90C08)

Marazzi, Christian Stefano Franscini: statistics between politics and history. *Conference on Statistical Science Honouring the Bicentennial of Stefano Franscini's Birth (Ascona, 1996)*, 9–14, *Monte Verità, Birkhäuser, Basel*, 1997. (*see* **99e:62002**) 01A70

Marcati, Pierangelo (*with* Rubino, Bruno) Entropy methods for nonstrictly hyperbolic systems. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 4, 333–346. (Ralph Saxton) **99f:35135** 35L70 (35D05)

— (*with* Natalini, Roberto) Global weak entropy solutions to quasilinear wave equations of Klein-Gordon and sine-Gordon type. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 433–449. (Valery Covachev) **99a:35185** 35L70 (35B60, 35D05)

— (*with* Lattanzio, Corrado) The relaxation to the drift-diffusion system for the 3-D isentropic Euler-Poisson model for semiconductors. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 449–455. (J. W. Jerome) **99m:35251** 35Q99 (35L99, 76X05, 82D99)

Marcellán, Francisco (*with* Álvarez-Nodarse, Renato) A generalization of the class Laguerre polynomials: asymptotic properties and zeros. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 349–366. (Summary) **99b:33010** 33C45

— (*with* Alfaro, Manuel) Carathéodory functions and orthogonal polynomials on the unit circle. (English summary) *Complex methods in approximation theory (Almería, 1995)*, 1–22, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Franz Peherstorfer) **99i:42034** 42C05 (42–02)

— (*with* Álvarez-Nodarse, Renato; Petronilho, J.) On some polynomial mappings for measures. Applications. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics (Leganés, 1996)*, 1–21, *Univ. Carlos III Madrid, Leganés*, 1997. (Summary) **99a:33003** 33C45 (42C05)

— (*with* Prianes, E.) Orthogonal polynomials and linear functionals of second degree. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995)*, 18 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:42046** 42C05 (33C45)

— (*with* Alfaro, Manuel; Rezola, M. L.) Estimates for Jacobi-Sobolev type orthogonal polynomials. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 157–174. (Summary) **99c:42040** 42C05 (33C45)

— (*with* Branquinho, A.; Foulquié Moreno, Ana) On inverse problems for orthogonal polynomials satisfying a differential equation. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 87–108. (Paolo Emilio Ricci) **99k:33022** 33C45 (42C05)

— (*with* Álvarez-Nodarse, Renato) Limit relations between generalized orthogonal polynomials. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 3, 295–316. (Paolo Emilio Ricci) **99g:33015** 33C45 (39A12)

— (*with* Meijer, Hendrik Gerrit; Pérez, Teresa E.; Piñar, Miguel A.) An asymptotic result for Laguerre-Sobolev orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 87–94. (Summary) **99a:33006** 33C45 (42C05)

— (*with* Osilenker, Boris P.) Estimates for Legendre-Sobolev polynomials that are orthogonal with respect to the scalar product. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 871–880; *translation in Math. Notes* **62** (1997), *no.* 5-6, 731–738 (1998). (Leonid B. Golinskiĭ) **99e:42036** 42C05 (33C45)

— (*with* Foulquié Moreno, Ana) Strong asymptotics on the support of the measure of orthogonality for polynomials orthogonal with respect to a discrete Sobolev inner product. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 1, 53–66. (Walter Van Assche) **99b:42028** 42C05 (33C45)

— (*with* Kim, Deok H.; Kwon, Kil Hyun; Park, S. B.) Sobolev-type orthogonal polynomials and their zeros. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 423–444. (Antonio J. Durán) **99h:33042** 33C45

— (*with* Álvarez-Nodarse, Renato; Petronilho, J.) WKB approximation and Krall-type orthogonal polynomials. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 1, 27–58. (Pascal Maroni) **99k:42049** 42C05 (33C45)

— (*with* Rocha, I. A.) Complex path integral representation for semiclassical linear functionals. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 107–127. (Pascal Maroni) **99h:42047** 42C05 (41A35)

— (*with* Arvesú, J.; Álvarez-Nodarse, Renato; Pan, K. C.) Jacobi-Sobolev-type orthogonal polynomials: second-order differential equation and zeros. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 135–156. (Summary) **99h:33029** 33C45

— (*with* Foulquié Moreno, Ana; Peherstorfer, Franz; Steinbauer, Robert) Strong asymptotics on the support of the measure of orthogonality for polynomials orthogonal with respect to a discrete Sobolev inner product on the unit circle. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 411–425. (Summary) **99i:42036** 42C05

— *see also* **Complex methods in approximation theory, 99b:00012**

Marcelli, Cristina One-dimensional non-coercive problems of the calculus of variations. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 145–161. (Francesco Ferro) **99d:49003** 49J05

— (*with* Brandi, Primo) On mixed problem for first order partial differential functional equations. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 497–510. (Krzysztof A. Topolski) **99j:35225** 35R10 (35B30, 35D05, 35F99)

— (*with* Salvadori, Anna) Equivalence of different hereditary structures in ordinary differential equations. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 52–68. (Sjoerd M. Verduyn Lunel) **99i:34102** 34K15 (34C99, 34K25)

Marcellin, Michael W. (*with* Ke, Ligang) Near-lossless image compression: minimum-entropy, constrained-error DPCM. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 2, 225–228. (Summary) **99j:94010** 94A12 (94A29)

Marcellini, Paolo (*with* Dacorogna, Bernard) Implicit second order partial differential equations. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 299–328 (1998). (Jolanta Przybycin) **99m:35031** 35G30 (35J99)

— Some recent developments in the study of Hilbert's 19th and 20th problems. (Italian) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 323–352. (Jean Mawhin) **99a:01017** 01A60 (35–03, 49–03, 58–03)

— (*with* Fonseca, Irene) Relaxation of multiple integrals in subcritical Sobolev spaces. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 57–81. (Giovanni Bellettini) **99c:49014** 49J45 (49Q20)

— (*with* Miller, Keith) Regularization for the mean curvature equation. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 213–223. (Summary) **99f:35052** 35J60 (35K55)

— (*with* Dacorogna, Bernard) Cauchy-Dirichlet problem for first order nonlinear systems. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 2, 404–446. (Paola Loreti) **99a:35025** 35F20 (49Q20)

— (*with* Fusco, Nicola; Ornelas, António) Existence of minimizers for some non-convex one-dimensional integrals. (English summary) *Portugal. Math.* **55** (1998), *no.* 2, 167–185. (Jean-Pierre Raymond) **99e:49002** 49J05

Marcellino, Massimiliano Some consequences of temporal aggregation in empirical analysis. (English summary) *J. Bus. Econom. Statist.* **17** (1999), *no.* 1, 129–136. (Summary) **99i:62210** 62M10

Marcelo Vega, Agustín (*with* Muñoz Masqué, Jaime) Descent invariant and the S_n condition. *Comm. Algebra* **26** (1998), *no.* 7, 2139–2145. (R. A. Wiegand) **99h:13009** 13C14 (13C15, 13H10)

Marceniuk, V. P. *see* **Martsenyuk, V. P.**

March, Peter Resolvent estimates for Fleming-Viot operators with Brownian drift. Supplement to: "Resolvent estimates for Fleming-Viot operators and uniqueness of solutions to related martingale problems" [J. Funct. Anal. **132** (1995), no. 2, 417–472; MR 97a:60105] by D. A. Dawson and March. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 2, 367–381. (Summary) **99m:60112** 60J35 (92D25)

March, Riccardo (*with* Barone, Piero) Some properties of the asymptotic location of poles of Padé approximants to noisy rational functions, relevant for modal analysis. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2448–2457. (A. G. Chentsov) **99m:41023** 41A21 (94A12)

— (*with* Barone, Piero) Application of the Padé method to solving the noisy trigonometric moment problem: some initial results. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 324–343 (*electronic*). (Jia Rong Yu) **99h:44009** 44A60 (30C15, 41A21, 45E05, 94A12)

Marchal, Philippe The best bounds in a theorem of Russell Lyons. (English summary) *Electron. Comm. Probab.* **3** (1998), 91–94 (*electronic*). (Wolfgang Woess) **99j:60156** 60K35 (05C05)
— Distribution of the occupation time for a Lévy process at passage times at 0. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 123–131. (Patrick Fitzsimmons) **99k:60193** 60J30 (60J55)
Marchal, William G. (*with* Harris, Carl M.) Distribution estimation using Laplace transforms. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 4, 448–458. 65T20 (65U05)
Marchand, Éric (*with* Lamontagne, Érick) On a surprising covariance identity. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 1, 142–146. (Aart J. Stam) **99k:60049** 60E99 (62E15)
Marchand, Hugues (*with* Ceria, Sebastián; Cordier, Cécile; Wolsey, Laurence A.) Cutting planes for integer programs with general integer variables. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 201–214. (Summary) **99b:90081** 90C10
Marchand, Isabelle (*with* Sankoff, David; Parent, Marie-Noelle; Ferretti, Vincent) On the Nadeau-Taylor theory of conserved chromosome segments. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 262–274, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99b:92025** 92D10 (92D20)
Marchand, Richard (*with* Berkove, Ethan) The long arm of calculus. *College Math. J.* **29** (1998), *no.* 5, 376–386. (G. A. Heuer) **99j:26016** 26B12
— (*with* Lasiecka, Irena) Riccati equations arising in acoustic structure interactions with curved walls. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 269–292. (Sergey V. Nikitin) **99c:93060** 93C20 (73K70, 93D15)
Marchant, T. R. (*with* Smyth, Noel F.) Pulse evolution for Marangoni-Bénard convection. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 45–58. (Summary) **99j:76117** 76R05 (76E15)
— Asymptotic solitons of the extended Korteweg-de Vries equation. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part B*, 3745–3748. (Summary) **99k:35158** 35Q53
Marché, Claude (*with* Urbain, Xavier) Termination of associative-commutative rewriting by dependency pairs. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 241–255, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68Q42
— Normalized rewriting: a unified view of Knuth-Bendix completion and Gröbner bases computation. (English summary) *Symbolic rewriting techniques* (*Ascona*, 1995), 193–208, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Summary) **99c:68145** 68Q42 (68Q40)
Marchelan, F. *see* **Marcellán, Francisco**
Marchena, Begoña (*with* Piñeiro, Cándido) A note on sequences lying in the range of a vector measure valued in the bidual. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3013–3017. (Giovanni Emmanuele) **99a:46023** 46B20 (28B05, 46G10)
Marchenko, A. V. (*with* Il'ichev, A. T.) Formation of nonlinear waveguides under resonance interaction of three surface waves. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 190–201; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 183–193. (Summary) **99c:76011** 76B15
— Resonance interactions of waves in an ice channel. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 963–974; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 931–940 (1998). (Summary) **99c:76013** 76B15 (86A05)
Marchenko, I. I. On the growth of entire and meromorphic functions. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 6, 59–84; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 875–899. (Lev Sergeevich Maergoiz) **99m:30058** 30D15
Marchenko, V. I. (*with* Brener, Efim A.) Nonlinear theory of dislocations in smectic crystals: an exact solution. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part A*, *R4752–R4757*. 76A10 (82D30)
Marchenko, Vladimir Aleksandrovich *see* **Berezanskiĭ, Yuriĭ Makarovich, 99m:01041**
Marchenkov, S. S. *G*-precomplete classes of many-valued logic. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 3, 47–70, 111. (P. P. Zabreĭko) **99b:03038** 03B50
— *S*-classification of functions of many-valued logic. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 125–152. (Summary) **99f:03020** 03B50
— *A*-classification of finite injective functions. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 2, 15–42, 115. (Klaus Denecke) **99b:03039** 03B50
— Clone classification of dual-discriminator algebras with finite support. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 359–366; *translation in Math. Notes* **61** (1997), *no.* 3-4, 295–300. (L. Márki) **99k:08007** 08A40
Marchese, V. (*with* Iemma, U.; Morino, L.) High-order BEM for potential transonic flows. (English summary) *Comput. Mech.* **21** (1998), *no.* 3, 243–252. (Summary) **99c:76074** 76M15 (76H05)
Marchesin, Dan (*with* de Souza, Aparecido Jesuino) Conservation laws possessing contact characteristic fields with singularities. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 3, 353–364. (Shu-Xing Chen) **99d:35102** 35L65
— (*with* Tippett, Michael K.) Bounds for solutions of the discrete algebraic Lyapunov equation. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 214–218. (Vladimir B. Larin) **99m:65087** 65F30 (93C05)
— *see also* **Workshop: Partial Differential Equations: Theory, Computation, and Applications, 99g:35006**
Marchetti, D. H. U. (*with* Barata, João C. A.) The two-point function and the effective fugacity in diluted Ising models on the Cayley tree. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 6, 751–773. (Daniel Ueltschi) **99i:82003** 82B05 (82B20)
Marchetti, Federico (*with* Calzolari, Antonella) Limit motion of an Ornstein-Uhlenbeck particle on the equilibrium manifold of a force field. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 924–938. (Krystyna Twardowska) **99b:60135** 60J65 (58G32, 60H10)
Marchetti, Mario *see* **Boundary elements, 99c:65003**
Marchetti-Spaccamela, Alberto (*with* Frigioni, Daniele; Nanni, Umberto) Fully dynamic shortest paths and negative cycles detection on digraphs with arbitrary arc weights. (English summary) *Algorithms—ESA '98* (*Venice*), 320–331, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (05C85)
— (*with* Leonardi, Stefano; Presciutti, Alessio; Rosén, Adi) On-line randomized call control revisited. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 323–332, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10
— (*with* Frigioni, Daniele; Nanni, Umberto) Semidynamic algorithms for maintaining single-source shortest path trees. (English summary) *Algorithmica* **22** (1998), *no.* 3, 250–274. (Václav Koubek) **99g:05163** 05C85 (68P05, 68Q25, 68R10)
— (*with* Feuerstein, Esteban; Leonardi, Stefano; Santoro, Nicola) Efficient token-based control in rings. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 175–180. (Summary) **99b:68014** 68M10
— (*with* Feuerstein, Esteban) Memory paging for connectivity and path problems in graphs. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 6, 22 *pp.* (*electronic*). (Summary) **99e:05115** 05C85 (05C40, 68N25)
— (*with* Leonardi, Stefano) On-line resource management with application to routing and scheduling. (English summary) *Algorithmica* **24** (1999), *no.* 1, 29–49. (Neville G. F. Sancho) **99m:90086** 90B35 (90C35)
— *see also* **Graph-theoretic concepts in computer science, 99b:68005**
Marchewka, A. (*with* Schuss, Z.) Feynman integrals with absorbing boundaries. (English summary) *Phys. Lett. A* **240** (1998), *no.* 4-5, 177–184. (Summary) **99h:81119** 81S40
Marchi, Maria Vittoria (*with* Lancia, M. R.) Liouville theorems for Fuchsian-type operators on the Heisenberg group. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 653–668. (Marco Bramanti) **99b:35004** 35B05 (22E30, 35J70, 43A80)
Marchi, Mario Comparison of the Peano and Hilbert systems of axioms in geometry. (Italian) *Epistemology of mathematics*. 1992–1993 *Seminars* (*Italian*) (*Siena/Bologna/Pavia*), 11–30, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 00A30 (51–02)
— (*with* Karzel, Helmut) Regular incidence permutation sets and incidence quasigroups. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 109–123. (Summary) **99h:51016** 51J10 (51J15)
de Marchi, S. *see* **De Marchi, S.**
Marchi, Silvana $C^{2,\beta}_{\mathrm{loc}}$ regularity for degenerate elliptic equations. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 123–128 (1998). (Xin Kang Guo) **99h:35074** 35J70 (35B65)
Marchiafava, S. (*with* Alekseevskiĭ, D. V.; Pontecorvo, Massimiliano) Compatible complex structures on almost quaternionic manifolds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 997–1014. (Luis Ugarte) **99e:53028** 53C10 (53C15, 53C56)
— *see also* **Quaternionic structures in mathematics and physics, 99d:53002**
Marchignoli, D. (*with* Corradini, Flavio; Gorrieri, Roberto) Towards parallelization of concurrent systems. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 4-6, 99–125. (Summary) **99m:68054** 68Q10
Marchildon, Louis Lie symmetries of Einstein's vacuum equations in N dimensions. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 68–81. (Sergiu I. Vacaru) **99e:83014** 83C20 (83E15)
Marchionna Tibiletti, Cesarina Groups obtained via extension with respect to a type of "weak normality". (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 79–97 (1997). (Summary) **99b:20050** 20E22
— *see also* **Semigroups, 99f:20003**
Marchiori, Elena (*with* Teusink, Frank) Termination of logic programs with delay declarations. (English summary) *J. Logic Programming* **39** (1999), *no.* 1-3, 95–124. (Summary) **99k:68030** 68N17
Marchioro, Carlo On the localization of the vortices. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 571–584. (J. Thomas Beale) **99k:76035** 76C05 (35Q35)
— On the inviscid limit for a fluid with a concentrated vorticity. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 53–65. (Raphaël Danchin) **99f:76041** 76D05 (35Q30)
— Large smoke rings with concentrated vorticity. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 869–883. (Raphaël Danchin) **99k:76036** 76C05 (35Q35)
Marchisio, Marina Rosanna Abelian surfaces and products of elliptic curves. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 407–427. (H. Lange) **99k:14072** 14K02 (14K05)
March-Russell, John The Fayet-Iliopoulos term in type-I string theory and M-theory. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 318–324. (Summary) **99f:81172** 81T30
— (*with* Argyres, Philip C.; Dimopoulos, Savas) Black holes and sub-millimeter dimensions. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 96–104. 83C57 (83F05)
Marchuk, G. I. ★ Встречи и размышления. (Russian. Russian summary) [Encounters and reflections] "*Mir*", *Moscow*, 1995. 304 *pp. ISBN* 5-03-003175-8 01A70
— (*with* Chavro, A. I.) On the statement and solution of inverse problems in satellite meteorology. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 6, 501–515. (Summary) **99m:86011** 86A10 (86A22)
Marchuk, N. G. Dirac γ-equation, classical gauge fields and Clifford algebra. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 181–225. (Waldyr Alves Rodrigues, Jr.) **99m:81087** 81R20 (15A66)
— Gauge fields of the matrix Dirac equation. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1287–1295. (Peter N. Zhevandrov) **99j:81056** 81R20 (81T13)
Marcinek, Władysław (*with* Rałowski, R.) Particle operators from braided geometry. (English summary) *Quantum groups* (*Karpacz*, 1994), 149–153, *PWN, Warsaw*, 1995. (Fang Li) **99k:81119** 81R50 (17B37)
— On algebraic model for composite fermions and bosons. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 307–311, *PWN, Warsaw*, 1997. (Dennis Bonatsos) **99m:81104** 81R99 (78A35)
— Erratum: "Particles in singular magnetic field" [J. Math. Phys. **39** (1998), no. 2, 818–830; MR 98k:81333]. *J. Math. Phys.* **39** (1998), *no.* 10, 5665. 81V70 (81R50)
— On commutation relations for quons. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 2, 155–172. (Fabio Gavarini) **99i:81105** 81R50 (16S99, 18D10, 81S05)
Marciniak, Marcin (*with* Majewski, Władysław Adam) On nonlinear Koopman's construction. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 501–508. (Sze-Kai Tsui) **99b:46105** 46L60 (46L55, 81Q50)
— Quantum symmetries in noncommutative C^*-systems. (English summary) *Quantum probability* (*Gdańsk*, 1997), 297–307, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*,

1998. (Summary) **99k:46120** 46L55 (46L60)

— (*with* Czachor, Marek) Density matrix interpretation of solutions of Lie-Nambu equations. (English summary) *Phys. Lett. A* **239** (1998), *no.* 6, 353–358. (Summary) **99a:81088** 81S99

— On Q-independence, limit theorems and q-Gaussian distribution. (English summary) *Studia Math.* **129** (1998), *no.* 2, 113–135. (Andrzej Łuczak) **99j:46075** 46L50 (46N30, 60B99)

Marciniak, Zbigniew S. (*with* Sehgal, Sudarshan K.) Zassenhaus conjectures for infinite groups. (English summary) *Trends in ring theory* (*Miskolc*, 1996), 99–111, *CMS Conf. Proc.*, 22, *Amer. Math. Soc., Providence, RI*, 1998. (Adalbert Bovdi) **99c:16024** 16S34 (20C07)

Marciniec, Jacek Connected sets of types and categorial consequence. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 292–309, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 03B65 (68S05)

Marcinkowski, Jerzy Undecidability of the first order theory of one-step right ground rewriting. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 241–253, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Summary) **99a:68100** 68Q42 (03D35)

Marciszewski, Witold (*with* Dobrowolski, Tadeusz; Jimenez, Rolando) Extending open families in nonnmetric spaces and an application to overlays. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 109–114. (Summary) **99h:54033** 54D15 (54C56, 54D20)

— (*with* van Mill, Jan) An example of t_p^*-equivalent spaces which are not t_p-equivalent. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 281–285. (Taras Banakh) **99b:54025** 54C35

— P-filters and hereditary Baire function spaces. (English summary) *Topology Appl.* **89** (1998), *no.* 3, 241–247. (D. J. Lutzer) **99g:54009** 54C35 (04A20, 54E52)

rodríguez-Marco, A. *see* **Rodríguez-Marco, A.**

de Marco, Gianluca *see* **De Marco, Gianluca**

Marco, Jean-Pierre Dynamics in the vicinity of double resonances. *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 123–137, *Univ. Rovira Virgili, Tarragona*, 1998. (Rafael de la Llave) **99e:58135** 58F14 (58F30, 70H05)

Marco, Luis *see* **Marco Montoro, Luis**

pérez-Marco, Ricardo *see* **Pérez-Marco, Ricardo**

di Marco, Silvia C. *see* **Di Marco, Silvia C.**

Marcolini, Marta (*with* Marano, Miguel; Ureña, J. N.) A counterexample for the discrete Pólya algorithm. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 817–821, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65D99

Marcolino Nhany, José Luis La stabilité des espaces L^p non-commutatifs. (English summary) [Stability of noncommutative L^p-spaces] *Math. Scand.* **81** (1997), *no.* 2, 212–218. (Stanisław Goldstein) **99h:46121** 46L50 (46L10)

Marcolongo, R. *see* **Cattani, Carlo**, **99k:01033**

Marco Montoro, Luis (*with* Murillo, José Alberto) Locally Lipschitz and convex functions. *Mathematica* **38(61)** (1996), *no.* 1-2, 121–131. (Frank N. Huggins) **99b:26016** 26A51 (26A16)

— (*with* Murillo, José Alberto) Viability results for second-order nonautonomous differential inclusions. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 321–326, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 49J24 (34A60)

— (*with* Murillo, José Alberto) Higher order differential inclusions and viability. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 2, 219–226. (Luc Doyen) **99i:34024** 34A60 (34H05, 49J24)

— (*with* Murillo, José Alberto) Viability theorems for higher-order differential inclusions. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 1, 21–37. (Luc Doyen) **99j:49005** 49J24 (34A60, 34H05)

Marconato, Suzinei A. S. (*with* Carvalho, Luis Antonio Viera) On dichotomic maps for differential equations with piecewise continuous argument (EPCA). (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 103–112. (Pedro Martínez-Amores) **99a:34210** 34K20

— On dichotomic maps for nonautonomous discrete equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 3, 305–315. (Saber Elaydi) **99h:39008** 39A10 (39A11)

Marcone, Alberto (*with* Parlamento, Franco; Policriti, Alberto) Finite families with few symmetric differences. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 835–845. (Péter Komjáth) **99f:04001** 04A03 (05D05)

Marconi, Diego Predicate logic in Wittgenstein's *Tractatus*. *Logique et Anal.* (*N.S.*) **38** (1995), *no.* 150-152, 179–190. (Alex Blum) **99m:03008** 03A05

Marcos, J. E. The field of rational numbers is algebraically closed in some of its topological completions. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 2, 149–172. (Witold Więsław) **99d:12004** 12J99 (13J99)

lópez Marcos, Juan Carlos *see* **López Marcos, Juan Carlos**

lópez Marcos, M. A. *see* **López Marcos, M. A.**

Marcotte, Patrice (*with* Zhu, Dao Li) Convergence properties of feasible descent methods for solving variational inequalities in Banach spaces. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 1, 35–49. (Mihail Yu. Kokurin) **99f:65090** 65J15 (47H17, 47H19, 49J40, 65K05)

— (*with* Wu, Shi Quan[1]; Chen, Yang[2]) A cutting plane method for linear bilevel programs. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 125–133. (Jane Juan-Juan Ye) **99f:90060** 90C05

— (*with* Zhu, Dao Li) Weak sharp solutions of variational inequalities. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 179–189 (*electronic*). (Doug Ward) **99k:90176** 90C33 (49J40)

Marcoux, Laurent W. (*with* Murphy, Gerard J.) Unitarily-invariant linear spaces in C^*-algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3597–3605. (Ferdinand Beckhoff) **99b:46085** 46L05

— (*with* Sourour, Ahmed R.) Commutativity preserving linear maps and Lie automorphisms of triangular matrix algebras. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 89–104. (Andrei Marcus) **99k:16072** 16W20 (15A30, 16S50, 47B48)

Marcov, N. Stationary flows past symmetric profiles. (Romanian. French and Romanian summaries) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 423–428. 76B99

— (*with* Dragoş, L.) About some singular integral equations of interest in aerodynamics. *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 205–210. (From the text) **99k:45008** 45E05 (76G25)

Marcozzi, Michael D. (*with* Hsiao, George C.) Variational methods for the potential flow past an airfoil. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 153–182. (Summary) **99k:76016** 76B05 (45A05)

— (*with* Hsiao, George C.) A boundary-finite element method for potential flow past an airfoil. (English summary) *Generalized analytic functions* (*Graz*, 1997), 157–181, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (A. Jami) **99j:65217** 65N38 (76M10, 76M15)

Marcu, Dănuţ A note on line graphs. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 333–336 (1998). (Linda Lesniak) **99g:05120** 05C40

Marculescu, Sorin Correlation functions in topological Yang-Mills theory with two fermionic charges. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 148–153. (Noriaki Ano) **99a:58022** 58D27 (58D29, 81T70)

Marcum, Howard J. Cone length of the exterior join. *Glasgow Math. J.* **40** (1998), *no.* 3, 445–461. (Aniceto Murillo) **99k:55012** 55P65 (55M30)

Marcus, Andrei Group-graded algebras, adjoint functors and the Green correspondence. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 87–94. (Summary) **99b:16067** 16W50 (20C20)

— Green functors associated to a strongly graded algebra. *Mathematica* **39(62)** (1997), *no.* 2, 257–263. (P. Wauters) **99e:16058** 16W50

— Equivalences induced by graded bimodules. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 713–731. (Jeremy Haefner) **99a:16039** 16W50 (16D20)

— On Picard groups and graded rings. *Comm. Algebra* **26** (1998), *no.* 7, 2211–2219. (Jeremy Haefner) **99c:16043** 16W50 (16D20, 16S50, 16W20)

— Homology of fully graded algebras, Morita and derived equivalences. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 209–218. (Vladimir V. Bavula) **99m:16011** 16E40 (16W50)

— Projective modules over twisted group algebras of p-solvable groups. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 367–374. (Burkhard Külshammer) **99m:16069** 16W50 (16D40, 20C05)

Marcus, Brian (*with* Sindhushayana, N. T.; Trott, Mitchell) Homogeneous shifts. *IMA J. Math. Control Inform.* **14** (1997), *no.* 3, 255–287. (From the introduction) **99b:94048** 94B10

Marcus, Daniel A. ★ Combinatorics. (English summary) A problem oriented approach. Classroom Resource Materials Series. *Mathematical Association of America, Washington, DC*, 1998. $x+136$ *pp. ISBN* 0-88385-710-3 05–01

Marcus, Marvin On a determinant result of I. Olkin. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 237–238. (Summary) **99b:15007** 15A15

Marcus, Michael B. A sufficient condition for the continuity of high order Gaussian chaos processes. *High dimensional probability* (*Oberwolfach*, 1996), 263–276, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Miguel A. Arcones) **99i:60007** 60B11 (60G15)

— (*with* Talagrand, Michel) Continuity conditions for a class of Gaussian chaos processes related to continuous additive functionals of Lévy processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 157–179. (Werner Linde) **99i:60090** 60G15 (60G17)

— (*with* Shen, Kevin) Bounds for the expected number of level crossings of certain harmonizable infinitely divisible processes. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 1, 1–32. (Robert J. Adler) **99h:60105** 60G70 (60G10, 60G17)

Marcus, Michel (*with* Cori, Robert) Counting non-isomorphic chord diagrams. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 55–73. (T. R. S. Walsh) **99i:05099** 05C30 (05A15, 05C10, 57M15, 68R10)

Marcus, Moshe (*with* Brezis, Haïm) Hardy's inequalities revisited. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 217–237 (1998). (Seng-Kee Chua) **99m:46075** 46E35 (26D10)

— (*with* Véron, Laurent) The boundary trace of positive solutions of semilinear elliptic equations. *Progress in partial differential equations, Vol. 2* (*Pont-à-Mousson*, 1997), 12–22, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (*see* **99d:35004**) 35J60 (35B05)

— Universal properties of stable states of a free energy model with small parameters. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 2, 123–142. (Ján Lovišek) **99d:49029** 49J45 (73B30)

— (*with* Véron, Laurent) The boundary trace of positive solutions of semilinear elliptic equations: the supercritical case. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 5, 481–524. (C. A. Swanson) **99g:35045** 35J65

Marcus, Nizar The Wallman compactification of frames. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 109–116. (J. R. Isbell) **99i:54024** 54D35 (18D35, 54J05)

Marcus, P. S. (*with* Matsushima, T.) A spectral method for unbounded domains. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 2, 321–345. (Summary) **99f:65181** 65N35

— (*with* Lee, Changhoon) Asymmetries in eastward and westward jets in a model planetary atmosphere. (English summary) *Semi-analytic methods for the Navier-Stokes equations* (*Montreal, QC*, 1995), 85–100, *CRM Proc. Lecture Notes*, 20, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:86010** 86A10 (76C15, 76E20, 76U05)

Marcus, Solomon Stoilow's work in real analysis: its significance and its impact. *Analysis and topology*, 497–505, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99h:00035**) 01A60 (01A70, 26–03, 28–03)

— (*with* Dassow, Jürgen; Păun, Gheorghe) Convex and anti-convex languages. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 1–16. (Summary) **99e:68088** 68Q45

Marczak, Adam W. On the representability of the sequence $(0, 2, 3, \cdots, n, n+1, \cdots)$. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 35–56. (Miroslav Haviar) **99m:08011** 08A40

Mardanov, I. Dzh. On improving the convergence of the method of successive approximations in the solution of a linear operator equation. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 135–141. (From the text) **99h:65116** 65J10 (47A50)

Mardare, Cristinel Asymptotic analysis of linearly elastic shells: error estimates in the membrane case. (English summary) *Asymptot. Anal.* **17** (1998), *no.* 1, 31–51. (Petr E.

Tovstik) **99f:73058** 73K15
— (*with* Lods, Véronique) Justification asymptotique des hypothèses de Kirchhoff-Love pour une coque encastrée linéairement élastique. (English and French summaries) [Asymptotic justification of the Kirchhoff-Love hypotheses for a linearly elastic clamped shell] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 909–912. (Summary) **99g:73084** 73K15
— Two-dimensional models of linearly elastic shells: error estimates between their solutions. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 3, 303–318. (Petr E. Tovstik) **99g:73085** 73K15
Marden, John I. (*with* Choi, Kyungmee) A multivariate version of Kendall's τ. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 3, 261–293. (Summary) **99e:62109** 62H20
— Bivariate qq-plots and spider web plots. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 813–826. 62G10 (62–09, 62H99)
Marder, Michael (*with* Brydon, David; Pearson, John E.) Solving stiff differential equations with the method of patches. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 280–298. (Summary) **99d:65203** 65L05
Mardešić, Pavao (*with* Gómez-Mont, Xavier) The index of a vector field tangent to a hypersurface and the signature of the relative Jacobian determinant. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 5, 1523–1539. (Aleksandr G. Aleksandrov) **99g:32062** 32S65 (32S25, 58C27, 58F14)
— ★ Chebyshev systems and the versal unfolding of the cusps of order n. Travaux en Cours [Works in Progress], 57. *Hermann, Paris*, 1998. *xiv*+153 *pp. ISBN* 2-7056-6359-2 (Sergeĭ Yu. Yakovenko) **99k:58153** 58F21 (34A20, 34C05, 34C20, 58C27)
Mardešić, Sibe Coherent and strong expansions of spaces coincide. (English summary) *Fund. Math.* **158** (1998), *no.* 1, 69–80. (Summary) **99g:55013** 55P55 (54B35, 55M15, 55U35)
— (*with* Prasolov, Andrei V.) On strong homology of compact spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 327–354. (Leonard R. Rubin) **99c:55005** 55N07 (18G10, 18G40, 55P55)
Mardia, Kanti V. (*with* Díaz-García, José A.; Gutiérrez Jáimez, Ramón) Wishart and pseudo-Wishart distributions and some applications to shape theory. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 73–87. (Yasuko Chikuse) **99e:62095** 62H10 (62E15)
— (*with* Kent, John T.; Goodall, Colin; Little, John Andrew) Corrections: "Kriging and splines with derivative information" [Biometrika **83** (1996), no. 1, 207–221; MR 98d:65017]. *Biometrika* **85** (1998), *no.* 2, 505. (From the text) **99f:65022** 65D10 (65D07)
— Fisher's repeated normal integral function and shape distributions. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 2, 231–235. (Summary) **99e:62016** 62E15
— (*with* Goodall, Colin; Redfern, Edwin J.; Alonso, Francisco J.) The Kriged Kalman filter. (English summary) With comments and a rejoinder by the authors. *Test* **7** (1998), *no.* 2, 217–285. (Summary) **99i:62227** 62M20
— (*with* Southworth, H. R.; Taylor, Charles C.) On bias in maximum likelihood estimators. (English summary) *J. Statist. Plann. Inference* **76** (1999), *no.* 1-2, 31–39. 62F10
blasco Mardones, N. *see* **Blasco Mardones, N.**
Mardones Pérez, I. (*with* Gutiérrez García, J.; Burton, M. H.) The relationship between various filter notions on a GL-monoid. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 2, 291–302. (Summary) **99k:54002** 54A40 (04A72, 54E99)
Mardoyan, L. G. (*with* Sisakyan, A. N.; Ter-Antonyan, V. M.) 8D oscillator as a hidden SU(2) monopole. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1746–1750. (Summary) **99i:81033** 81Q05
Mare, Liviu (*with* Andrica, Dorin) An inequality concerning symmetric functions and some applications. (English summary) *Recent progress in inequalities (Niš*, 1996), 425–431, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Ion Raşa) **99d:26027** 26D20 (26A51)
Mareels, Iven M. Y. (*with* Mahony, Robert E.) Global solutions for differential/algebraic systems and implications for Lyapunov direct stability methods. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 4, 26 *pp.* (*electronic*). (Peter Kunkel) **99g:34007** 34A09 (34D20)
— (*with* Blackmore, Kim L.; Williamson, Robert C.) Local minima and attractors at infinity for gradient descent learning algorithms. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 18 *pp.* (*electronic*). (Summary) **99g:68168** 68T05
— (*with* Blackmore, Kim L.; Williamson, Robert C.; Sethares, William A.) Online learning via congregational gradient descent. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 4, 331–363. (Summary) **99a:90180** 90C30 (65K10)
— (*with* Skafidas, E.; Fradkov, A. L.; Evans, Robin J.) Trajectory-approximation-based adaptive control for nonlinear systems under matching conditions. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 287–299. (Summary) **99a:93060** 93C40 (93B40)
— (*with* Nešić, D.) Dead-beat control of simple Hammerstein models. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1184–1188. 93C55 (93B05)
— (*with* Nešić, D.) Controllability of structured polynomial systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 761–764. (Summary) **99m:93009** 93B05 (93B25)
— (*with* Jiang, Zhong-Ping; Hill, David J.) Robust control of uncertain nonlinear systems via measurement feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 807–812. 93B35 (93C10)
— (*with* Nešić, D.; Skafidas, E.; Evans, Robin J.) Minimum phase properties for input nonaffine nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 868–872. (Summary) **99m:93048** 93C10 (93B17, 93D15)
— (*with* Bastin, G.; Jarachi, F.) Output deadbeat control of nonlinear discrete-time systems with one-dimensional zero dynamics: global stability conditions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1262–1266. 93D20 (93C55)
Marek, Ivo *see* **Workshop: Iterative Methods and Parallel Computing, 99m:65008**
Marek, M. (*with* Merkin, John H.; Ševčíková, H.; Šnita, D.) The effects of an electric field on an autocatalytic ionic reaction in a system with high ionic strength. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 1, 1–31. (Summary) **99c:92064** 92E20
— (*with* Šnita, D.; Lindner, Jiří; Merkin, John H.) Propagating reaction fronts in an ionic autocatalytic system: the effects of electric field intensity and ionic strength. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 2, 1–25. (Summary) **99d:92054** 92E20
Marek, V. Wiktor (*with* Truszczyński, Mirosław) Revision programming, database updates and integrity constraints. (English summary) *Database theory—ICDT '95 (Prague)*, 368–382, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15
— (*with* Nerode, Anil; Remmel, Jeffrey B.) Nonmonotonic rule systems with recursive sets of restraints. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 339–384. (Giovanni Criscuolo) **99a:03032** 03B60 (03F50, 68T27)
— (*with* Nerode, Anil; Remmel, Jeffrey B.) Complexity of recursive normal default logic. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 139–147. (M. I. Dekhtyar) **99j:68134** 68T27 (03B70)
— (*with* Denecker, Marc; Truszczyński, Mirosław) Fixpoint 3-valued semantics for autoepistemic logic. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 840–845, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 03B70 (03B45, 03B50)
— *see also* **Handbook: Recursive mathematics, 99k:03003** *and* **99k:03004**
Maremonti, Paolo (*with* Russo, Remigio) On existence and uniqueness of classical solutions to the stationary Navier-Stokes equations and to the traction problem of linear elastostatics. *Classical problems in mechanics*, 171–251, *Quad. Mat.*, 1, *Aracne, Rome*, 1997. (Vladimir V. Shelukhin) **99e:35177** 35Q30 (73C02, 76D05)
— (*with* Solonnikov, Vsevolod A.) On nonstationary Stokes problem in exterior domains. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 395–449. (Jürgen Socolowsky) **99c:35092** 35K22 (35B45, 35Q30, 76D07)
— (*with* Solonnikov, Vsevolod A.) On decay properties of solutions to Stokes system in exterior domains. (English summary) *Theory of the Navier-Stokes equations*, 99–105, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99h:35165** 35Q30 (76D07)
Marengo, Edwin A. (*with* Devaney, Anthony J.) Time-dependent plane wave and multipole expansions of the electromagnetic field. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3643–3660. (C. A. Hurst) **99j:78010** 78A25
Marenich, E. E. The action of the automorphism group of a finite graded partially ordered set on levels. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 63–72; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 607–616. (Summary) **99e:06004** 06A07 (20B25)
— Enumeration of solutions of some equations in finite lattices. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 3, 16–21, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 3, 16–21. (I. Strazdiņš) **99c:06006** 06A07 (05A15, 06B05, 06C05)
Mares, Edwin D. (*with* McNamara, Paul F.) Supererogation in deontic logic: metatheory for DWE and some close neighbours. (English summary) *Studia Logica* **59** (1997), *no.* 3, 397–415. (George F. Schumm) **99c:03022** 03B45
Margalef-Roig, J. (*with* Outerelo Domínguez, Enrique; Padrón, Edith) Connections on infinite-dimensional manifolds with corners. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 21–55. (Liliana Maxim-Răileanu) **99b:58021** 58B20
garcia-Margallo, J. *see* **Garcia-Margallo, J.**
Margara, Luciano (*with* Cattaneo, Gianpiero; Formenti, Enrico; Mazoyer, Jacques) A shift-invariant metric on $S^{\mathbf{Z}}$ inducing a non-trivial topology. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 179–188, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68107** 68Q80
— (*with* Manzini, Giovanni) Invertible linear cellular automata over Z_m: algorithmic and dynamical aspects. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 378–387, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68109** 68Q80 (58F08)
— (*with* Cattaneo, Gianpiero; Formenti, Enrico; Mauri, Giancarlo) Transformations of the one-dimensional cellular automata rule space. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1593–1611. (Henning Fernau) **99d:68166** 68Q80 (58F08)
— (*with* D'amico, Michele; Manzini, Giovanni) On computing the entropy of cellular automata. (English summary) *Automata, languages and programming (Aalborg*, 1998), 470–481, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68136** 68Q80
— (*with* Bini, Dario Andrea; Del Corso, Gianna M.; Manzini, Giovanni) Inversion of circulant matrices over Z_m. (English summary) *Automata, languages and programming (Aalborg*, 1998), 719–730, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 65F35 (15–04, 15A09, 68Q80)
— (*with* Manzini, Giovanni) Attractors of D-dimensional linear cellular automata. (English summary) *STACS 98 (Paris*, 1998), 128–138, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68126** 68Q80 (58F08)
— (*with* Manzini, Giovanni) Invertible linear cellular automata over $\mathbf{Z}_m$: algorithmic and dynamical aspects. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 60–67. (Summary) **99j:68089** 68Q80
— (*with* Cattaneo, Gianpiero) Generalized sub-shifts in elementary cellular automata: the "strange case" of chaotic rule 180. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 171–187. (François Blanchard) **99d:58094** 58F08 (68Q80)
— (*with* Fagnani, Fabio) Expansivity, permutivity, and chaos for cellular automata. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 6, 663–677. (Alejandro Eduardo Maass) **99i:58086** 58F08 (58F13)
Mărgăritescu, E. Inequalities of Chung-Erdős type. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 5-6, 343–344. 60E15
Margaritis, Konstantinos G. (*with* Goulianas, K.; Adamopoulos, M.) Structured artificial neural networks for fast batch LMS algorithms. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 549–563. (Summary) **99c:65053** 65F10
— (*with* Tsadiras, Athanasios K.) Two neuron fuzzy cognitive map dynamics. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 1-2, 47–75. (Summary) **99j:68121** 68T05
— (*with* Fouliras, P. E.) A parallel demand-driven simulation algorithm for SIMD computers. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 1, 53–73. 68Q22
Margenov, Svetozar D. (*with* Lirkov, I. D.; Zikatanov, Ludmil) Circulant block-factorization preconditioning of anisotropic elliptic problems. (English

and German summaries) *Computing* **58** (1997), *no.* 3, 245–258. (Zdeněk Dostál) **99a:65057** 65F35 (65N22)

— (*with* Vassilevski, Panayot S.) Algebraic two-level preconditioning of non-conforming FEM systems. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 239–248, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F10 (65N30)

— (*with* Lirkov, I. D.; Owens, Reuben; Paprzycki, Marcin) A shared memory parallel implementation of block-circulant preconditioners. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 319–327, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F10 (65N30)

— *see also* **Large-scale scientific computations of engineering and environmental problems, 99m:65006**

Margenstern, M. (*with* Rogozhin, Yu.) Some small self-describing Turing machines. (English summary) *Comput. Sci. J. Moldova* **6** (1998), *no.* 1, 57–82. (Ronald E. Prather) **99j:68032** 68Q05 (03D10)

Margerin, Christophe A sharp characterization of the smooth 4-sphere in curvature terms. *Comm. Anal. Geom.* **6** (1998), *no.* 1, 21–65. (Man Chun Leung) **99e:53055** 53C21 (53C20)

Margetis, Dionisios Electromagnetic fields in air of traveling-wave currents above the earth. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5870–5893. (Summary) **99h:78013** 78A25

— (*with* Fikioris, George; Myers, John M.; Wu, Tai Tsun) Highly directive current distributions: general theory. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2531–2547. (Summary) **99e:78025** 78A40

Marghitu, Dan B. (*with* Sinha, S. C.; Diaconescu, Cristan) Control of a parametrically excited flexible beam undergoing rotation and impacts. (English summary) *Multibody Syst. Dyn.* **3** (1999), *no.* 1, 47–63. 73K50 (73K05, 93C85)

Margolin, G. L. (*with* Guletskiĭ, V. I.; Yanchevskiĭ, V. I.) Representation of 2-torsion in Brauer groups of curves by quaternion algebras. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 8–12, 122. (Summary) **99k:14046** 14H40 (12G05, 13A20)

— (*with* Tuzikov, A. V.) Symmetry measures of convex sets. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997,** *no.* 2, 109–114, 143–144. (Pavel S. Pankov) **99e:52012** 52A99

Margolin, Len (*with* Shashkov, Mikhail) Using a curvilinear grid to construct symmetry-preserving discretizations for Lagrangian gas dynamics. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 389–417. (Summary) **99j:76095** 76M25 (76N15)

— (*with* Smolarkiewicz, Piotr K.) Antidiffusive velocities for multipass donor cell advection. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 907–929 (*electronic*). (Summary) **99f:65149** 65M99 (76M20, 76R50)

Margolis, Stuart W. (*with* Meakin, J.; Sapir, Mark V.) Algorithmic problems in groups, semigroups and inverse semigroups. *Semigroups, formal languages and groups* (*York*, 1993), 147–214, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Václav Koubek) **99e:20043** 20F10 (03D40, 08A50, 20M05, 20M35)

Margolus, Norm (*with* Frank, Michael Patrick; Knight, Thomas F., Jr.) Reversibility in optimally scalable computer architectures. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 165–182, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68M07 (68Q05)

Margot, François (*with* Lütolf, Christine) A catalog of minimally nonideal matrices. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 221–241. (R. J. Bumcrot) **99h:05019** 05B20 (05B25)

— (*with* Dahl, Geir) Weak k-majorization and polyhedra. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 37–53. (Summary) **99e:90075** 90C27 (52B11)

Margot, Roger (*with* Monagan, Michael B.) Computing univariate GCDs over number fields. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 42–49, *ACM, New York*, 1998. (Summary) **99g:11149** 11Y16 (68Q40)

Mărgulescu, George Some representations of affine conformal transformations of Minkowski space. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 91–97. (V. Oproiu) **99k:22032** 22E70 (22E43, 53B50)

Margulis, Grigorii A. Oppenheim conjecture. *Fields Medallists' lectures*, 272–327, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (Dmitry Y. Kleinbock) **99e:11046** 11E57 (11P99, 22E40)

— Existence of compact quotients of homogeneous spaces, measurably proper actions, and decay of matrix coefficients. (English and French summaries) *Bull. Soc. Math. France* **125** (1997), *no.* 3, 447–456. (Dmitry Y. Kleinbock) **99c:22015** 22E40 (22E46)

— (*with* Eskin, Alex; Mozes, Shahar) Upper bounds and asymptotics in a quantitative version of the Oppenheim conjecture. *Ann. of Math.* (2) **147** (1998), *no.* 1, 93–141. (Alexander Starkov) **99a:11043** 11E04 (11E57, 22E40, 58F11)

— (*with* Kleinbock, Dmitry Y.) Flows on homogeneous spaces and Diophantine approximation on manifolds. (English summary) *Ann. of Math.* (2) **148** (1998), *no.* 1, 339–360. (Alexander Starkov) **99j:11083** 11J83 (22E40)

— (*with* Mozes, Shahar) Aperiodic tilings of the hyperbolic plane by convex polygons. (English summary) *Israel J. Math.* **107** (1998), 319–325. (G. D. Chakerian) **99k:52031** 52C20

— *see also* **Tits, Jacques, (99b:00010)**

Margulis, Viktor Aleksandrovich (*with* Geĭler, V. A.) Point-perturbation-invariant solutions of the Schrödinger equation with a magnetic field. (Russian) *Mat. Zametki* **60** (1996), *no.* 5, 768–773; *translation in Math. Notes* **60** (1996), *no.* 5-6, 575–580 (1997). (Mihai Pascu) **99d:35033** 35J10 (47N50)

Marhrani, El-Miloudi *see* **El Miloudi, Marhrani**

Marhuenda, F. (*with* Ginés, M.) Efficiency, monotonicity and rationality in public goods economies. (English summary) *Econom. Theory* **12** (1998), *no.* 2, 423–432. (Summary) **99h:90029** 90A27

Mari, D. (*with* Agliardi, R.) On the Cauchy problem for some non-Kowalewskian equations in $\mathcal{D}'^{\{\sigma\}}_{L^2}$. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 89–101. (Todor V. Gramchev) **99b:35226** 35S10 (35A08, 35S30)

de Mari, Filippo *see* **De Mari, Filippo**

Mari, Jorge (*with* Dahlén, Anders; Lindquist, Anders) Experimental evidence showing that stochastic subspace identification methods may fail. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 303–312. 93E12

Marianelli, S. (*with* Lenzini, G.) Algorithms for phylogeny reconstruction in a new mathematical model. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 1–24 (1998). (Marcus W. Feldman) **99j:92008** 92D15

Mariani, Claudia (*with* Venini, Paolo) On the use of stochastic models of uncertainty in active control and structural optimization. (English summary) *Comput. & Structures* **67** (1998), *no.* 1-3, 105–117. (Summary) **99d:73069** 73K50 (73K40, 73V30, 90C90, 93E20)

— (*with* Cinquini, Carlo; Venini, Paolo) Mixed finite element formulation and optimal design of thin composite laminates. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 165–176. (Summary) **99k:73113** 73V05 (49Q10, 73K20, 73K40)

Mariani, Stefano (*with* Corigliano, Alberto) A simplified method for the simulation of crack propagation. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 143–162 (1997). (Summary) **99b:73036** 73M25

Mariano, Paolo Maria (*with* Augusti, Giuliano) Multifield description of microcracked continua: a local model. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 183–200. (Summary) **99c:73061** 73M25 (73B99)

— (*with* Augusti, Giuliano) Stochastic evolution of microcracks in continua. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 155–171. (Summary) **99j:73082** 73M25 (73B99, 73S10, 73V05, 73V30)

Mariappan, S. V. S. (*with* Laflamme, R.; Knill, Emanuel; Zurek, Wojciech Hubert; Catasti, P.) NMR Greenberger-Horne-Zeilinger states. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1941–1948. (V. Ya. Kreinovich) **99m:81036** 81P99 (68Q75, 81-05, 81P05)

Marias, M. (*with* Mandouvalos, N.) Spectral theory for a class of manifolds of hyperbolic type. (English summary) *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 264–270, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Christopher M. Judge) **99f:58215** 58G25

— (*with* Mandouvalos, N.) Eigenfunctions of the Laplacian and boundary behaviour on manifolds of hyperbolic type. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 551–564. (Christopher M. Judge) **99f:58214** 58G25

Marí Beffa, Gloria On the Poisson geometry of the Adler-Gel'fand-Dikii brackets. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 2, 207–232. (Charles-Michel Marle) **99d:58065** 58F05 (58F07)

Marić, Vojislav Some results on asymptotics of nonoscillatory solutions of second order linear equation. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 102–108, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 34C10 (34E20)

— (*with* Howard, H. C.) Regularity and nonoscillation of solutions of second order linear differential equations. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 85–98. (C. A. Swanson) **99d:34054** 34C11 (34C10, 34E05)

Marić, Zvonko (*with* Božić, Mirjana; Arsenović, D.) Quantization of magnetic top in the spinor representation. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 169–177. (Wojciech Lisiecki) **99h:81099** 81S10 (81R25)

— (*with* Prvanović, Slobodan) Decoherence within the concept of consistent histories. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 321–327. (M. J. Mączyński) **99b:81015** 81P05

— (*with* Arsenović, D.; Božić, Mirjana) Magnetic top in terms of spinors—the classical system with constraints. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1091–1120. (Summary) **99h:70013** 70E15 (70F20, 70H05, 78A99)

Marichal, Jean-Luc (*with* Fodor, János C.) On nonstrict means. (English summary) *Aequationes Math.* **54** (1997), *no.* 3, 308–327. (L. Losonczi) **99f:39035** 39B12

— (*with* Mathonet, Pierre; Tousset, Eric) Characterization of some aggregation functions stable for positive linear transformations. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 293–314. 90C70 (90C08)

jean-Marie, Alain *see* **Jean-Marie, Alain**

Marie, Raymond *see* **Performance evaluation, 99e:90004**

Marigo, Alessia (*with* Bicchi, Antonio) Rolling bodies with regular surface: the holonomic case. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 241–256, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:70016** 70E15 (70F20, 93C85)

Marigo, J.-J. (*with* Francfort, Gilles) Revisiting brittle fracture as an energy minimization problem. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1319–1342. (Summary) **99f:73066** 73M25 (49J10, 73V25)

— (*with* Francfort, Gilles) Cracks in fracture mechanics: a time indexed family of energy minimizers. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 197–202, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (From the introduction) **99k:73100** 73M25 (73V25)

Marijuán López, Carlos (*with* Briales, Emilio; Pisón, Pilar; Campillo, Antonio) Combinatorics of syzygies for semigroup algebras. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 239–256. (P. Schenzel) **99m:13024** 13D02 (13H10, 14M25)

Marimont, David H. (*with* Guibas, Leonidas J.) Rounding arrangements dynamically. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 2, 157–178. (Hans-Dietrich Hecker) **99b:68200** 68U05

Marín, Alfredo *see* **Marín Pérez, A.**

Marín, José (*with* Corral, Cristina; Giménez, Isabel; Mas, José) Parallel m-step preconditioners for the conjugate gradient method. (English summary) *Parallel Comput.* **25** (1999), *no.* 3, 265–281. (Summary) **99m:65090** 65F35 (65F50)

rodríguez-Marín, Luis *see* **Rodríguez-Marín, Luis**

ezquerro Marín, Luis Miguel *see* **Ezquerro Marín, Luis Miguel**

alvarez Marín, Luz del Carmen *see* **Alvarez Marín, Luz del Carmen**

Marin, M. *see* **Marin, Maxim**

Marin, Marin Thermoelasticity of dipolar bodies with internal state variables. (English summary) *Bull. Greek Math. Soc.* **37** (1995), 67–78. (Ramon Quintanilla) **99a:73023** 73B30 (35Q72, 73B25)

— On uniqueness in thermoelasticity of micropolar bodies. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 5-6, 409–416. (Summary) **99k:73024** 73B30 (73B25, 73C15)

— Lagrange identity in thermoelasticity of micropolar bodies. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 3-4, 273–283. (Summary) **99k:73025** 73B30 (73B25)

— Existence, uniqueness and continuous dependence in thermoelasticity by using a semigroup of operators. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1995)*, 39–48, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (Andrzej Chrzęszczyk) **99i:73012** 73B30 (34G10, 35Q72, 47D06, 47N20, 73B25)

— On some theorems in thermoelasticity of micropolar bodies. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 2, 13–25. (Andrzej Chrzęszczyk) **99j:73010** 73B30 (35Q72, 73B25, 73C15)

— (*with* Marinescu, Constantin) Thermoelasticity of initially stressed bodies. Asymptotic equipartition of energies. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 1, 73–86. (J. Ignaczak) **99a:73024** 73B30 (35Q72)

— (*with* Lupu, Mircea) On harmonic vibrations in thermoelasticity of micropolar bodies. (English summary) *J. Vib. Control* **4** (1998), *no.* 5, 507–518. (Summary) **99e:73008** 73B25 (73B30, 73D30)

— (*with* Salca, Horia) A relation of Knopoff-de Hoop type in thermoelasticity of dipolar bodies with voids. (English and Serbian summaries) *Theoret. Appl. Mech.* **24** (1998), 99–110. (Summary) **99f:73012** 73B30 (73B25)

Marin, Maxim (*with* Maruoka, Akira; Kawahara, Mutsuto) Optimal control in Navier-Stokes equations. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 313–322. (*see* **99f:76004**) 49N55 (76D05, 76M10)

Marinacci, Massimo Finitely additive and epsilon Nash equilibria. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 3, 315–333. (Andrzej Wieczorek) **99c:90159** 90D05 (90D06)

Marinaki, Magdalene (*with* Papageorgiou, Markos) A non-linear optimal control approach to central sewer network flow control. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 418–429. 49N55 (93C95)

Marinari, E. (*with* Baillie, C. F.; Johnston, Desmond A.; Naitza, C.) Spin glass dynamics on thin graphs. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 346–349, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 82D30

Marín Beltrán, M. (*with* Cruz Soto, J. L.; Calzada Canalejo, M. C.) Parallelization of the fractional-step θ-scheme for Navier-Stokes equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 823–828, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99 (65Y05, 76D05, 76M25)

Marinček, Jože (*with* Juvan, Martin; Mohar, Bojan) Elimination of local bridges. (English summary) Graph theory (Donovaly, 1994). *Math. Slovaca* **47** (1997), *no.* 1, 85–92. (Stanley Gill Williamson) **99c:05053** 05C10 (68R10)

Marinescu, Constantin Some remarks on analytical functions. *Libertas Math.* **17** (1997), 13–19. (E. Lanckau (Zbl 898.30035)) **99k:30002** 30A05

— (*with* Marin, Marin) Thermoelasticity of initially stressed bodies. Asymptotic equipartition of energies. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 1, 73–86. (J. Ignaczak) **99a:73024** 73B30 (35Q72)

Marinescu, D. *see* **Marinescu-Mazilu, Dorin**

Marinescu, Gheorghe (*with* Popa, Anca) Homotopic resolutions and the de Rham morphism. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 173–182. (From the text) **99h:55006** 55N99 (18G10)

Marinescu-Mazilu, Dorin Recurrent points, periodicity and stationarity of the motion in a special case. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 4, 457–459. 34C15

— (*with* Grünfeld, C. P.) On the numerical simulation of a class of reactive Boltzmann type equations. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 3, 287–318. (Hans Babovsky) **99a:82078** 82C40 (45K05, 76P05, 82-08)

Marinho, Francisco J. (*with* Bernardo, Luís Miguel) Numerical calculation of fractional Fourier transforms with a single fast-Fourier-transform algorithm. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 8, 2111–2116. (Summary) **99c:78005** 78-08

Marini, Antonella A topological method for finding non-absolute minima for the Yang-Mills functional with Dirichlet data. (English summary) *Geometry, topology and physics (Campinas, 1996)*, 191–199, *de Gruyter, Berlin*, 1997. (Summary) **99k:58042** 58E15 (58E20)

— (*with* Isobe, Takeshi) On topologically distinct solutions of the Dirichlet problem for Yang-Mills connections. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 4, 345–358. (Summary) **99f:58045** 58E15 (53C07)

Marini, Donatella (*with* Brezzi, Franco; Russo, Alessandro) Applications of the pseudo residual-free bubbles to the stabilization of convection-diffusion problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 51–63. (Martin Stynes) **99j:65198** 65N30 (65N12, 76M10, 76Rxx)

— (*with* Geymonat, Giuseppe; Krasucki, F.; Vidrascu, Marina) A domain decomposition method for a bonded structure. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1387–1402. (Alain Brillard) **99m:73012** 73C02 (65N55, 73T05, 73V05)

Marini, Giambattista A geometrical proof of Shiota's theorem on a conjecture of S. P. Novikov. (English summary) *Compositio Math.* **111** (1998), *no.* 3, 305–322. (Emma Previato) **99a:14039** 14H42 (14H40, 14K25)

Marini, Mauro (*with* Cecchi, Mariella; Došlá, Zuzana) An equivalence theorem on properties A, B for third order differential equations. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 373–389. (C. A. Swanson) **99f:34043** 34C10 (34C11)

— (*with* Cecchi, Mariella; Došlá, Zuzana) On nonlinear oscillations for equations associated to disconjugate operators. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1583–1594. (Gary D. Jones) **99a:34094** 34C10

Marino, A. *see* **Marino, Antonio**

Marino, A. A. (*with* Capozziello, S.; de Ritis, R.) Recovering the effective cosmological constant in extended gravity theories. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1247–1272. (Summary) **99c:83075** 83D05

Marino, Antonio (*with* Saccon, Claudio) Some variational theorems of mixed type and elliptic problems with jumping nonlinearities. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 631–665 (1998). (Jianfu Yang) **99m:35063** 35J60

— (*with* Saccon, Claudio) Some mixed variational theorems and an asymptotically asymmetric elliptic problem. (Italian) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 225–239. (Gianni Arioli) **99j:35051** 35J60 (35J20)

Marino, E. C. Quantum field theory in 2 + 1 dimensions. (English summary) *Particles and fields (Campos do Jordão, 1997)*, 196–222, *World Sci. Publishing, River Edge, NJ*, 1998. (Jan Sładkowski) **99j:81114** 81T10 (81T13, 81V70)

— (*with* Banerjee, R. S.) A new approach for bosonization of massive Thirring model in three dimensions. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 8-9, 593–599. 81T10

Marino, Giuseppe (*with* Pietramala, Paolamaria) Nonlinear multivalued problems on noncompact intervals. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 863–874. (Radu Precup) **99h:34024** 34A60 (47H04, 47N20)

— (*with* Volpe, Rosanna) Boundary value problems with nonlinear boundary conditions on noncompact intervals. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 177–187. (S. R. Bernfeld) **99d:34038** 34B15

— (*with* Xu, Hong-Kun) Uniform property (K) and its related properties. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 93–107. (Summary) **99d:46023** 46B20 (47H10)

— When is any continuous function Lipschitzian? *Extracta Math.* **13** (1998), *no.* 1, 107–110. (Jacek Marek Jędrzejewski) **99i:54039** 54E40 (26A15, 26A16)

— (*with* Lewicki, Grzegorz; Pietramala, Paolamaria) Finite chainability, locally Lipschitzian and uniformly continuous functions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 795–803. (T. H. Steele) **99m:26002** 26A15 (26A16)

Marino, Luca (*with* Saccomandi, Giuseppe; Valente, Chiara) A note about three-dimensional exact dynamical solutions for neo-Hookean materials. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 1–4. (From the introduction) **99h:73023** 73C50 (73D15, 73D35, 73G05)

Mariño, Marcos (*with* Álvarez-Gaumé, Luis; Zamora, Frederic) Softly broken $N = 2$ QCD with massive quark hypermultiplets. I. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 3, 403–430. (Summary) **99e:81229a** 81T60 (81R40, 81T13, 81V05)

— (*with* Álvarez-Gaumé, Luis; Zamora, Frederic) Softly broken $N = 2$ QCD with massive quark hypermultiplets. II. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1847–1880. (Summary) **99e:81229b** 81T60 (81R40, 81T13, 81V05)

Marino, Mario (*with* Maugeri, Antonino) $\mathcal{L}^{2,\lambda}$-theory for nonvariational basic parabolic systems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 293–300, *VSP, Utrecht*, 1998. (Mikhail P. Vishnevskii) **99i:35076** 35K60 (35B65)

Marino, Riccardo (*with* Tomei, Patrizio) Robust adaptive state-feedback tracking for nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 84–89. (Summary) **99k:93079** 93D15 (93C40)

— (*with* Peresada, Sergei; Tomei, Patrizio) Global adaptive output feedback control of induction motors with uncertain rotor resistance. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 967–983. 93C95 (93D21)

Marinoschi, Gabriela Equations of non-adiabatic motion in radiative magnetogasdynamics: uniqueness and existence. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 663–673. (R. M. Gundersen) **99j:76138** 76W05 (35Q35, 76N15)

— (*with* Ghergut, I.; Homentcovschi, D.; Jaekel, U.; Vereecken, H.) Determination of the macrodispersive parameters of a motion in a two-layer porous medium. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 117–126. (Summary) **99a:76150** 76S05 (76R50)

— (*with* Homentcovschi, D.; Ghergut, I.; Vereecken, H.; Jaekel, U.) Asymptotic solutions for two-site non-equilibrium transport. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 127–132. (Summary) **99a:76151** 76S05 (76R50)

Marinov, A. V. Lipschitz constants of the metric ε-projection operator in spaces with given moduli of convexity and smoothness. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 2, 103–130; *translation in Izv. Math.* **62** (1998), *no.* 2, 313–338. (Luděk Zajíček) **99f:41044** 41A65 (46B20)

Marinov, M. S. *see* **Marinov, Michael**

Marinov, Marin Stefanov On the quaternionic differentiable maps. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 4, 5–8. (Summary) **99e:30036** 30G35

— Octonionic differentiable functions. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 5, 9–12. (Summary) **99d:30046** 30G35

Marinov, Michael (*with* Bar-Moshe, David) Quantization on homogeneous compact Kähler manifolds. (English summary) *Generalized symmetries in physics (Clausthal, 1993)*, 411–424, *World Sci. Publishing, River Edge, NJ*, 1994. (Harald Upmeier) **99a:58075** 58F06 (32L10)

— Homogeneous phase-space manifolds: classical and quantum theory. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 313–323, *PWN, Warsaw*, 1997. (Władysław Adam Majewski) **99k:81135** 81S10 (70G35, 81R99)

Marinov, P. (*with* Sendov, Bl.) Orthonormal systems of fractal functions. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 1-2, 169–200. (Summary) **99c:28029** 28A80 (42C05)

— (*with* Kyurkchiev, Nikolaĭ V.; Zheng, Shi-ming) Parallel iteration for splitting factors of polynomials. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 2, 201–210. 65H05 (65Y05)

Marinovich, Nenad M. The singular value decomposition of the Wigner distribution and its applications. *The Wigner distribution*, 319–373, *Elsevier, Amsterdam*, 1997. (*see* **99k:94018**) 94A12

Marín Pérez, A. (*with* Pelegrín Pelegrín, Blas) Applying Lagrangian relaxation to the resolution of two-stage location problems. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 179–198. (*see* **99k:90002**) 90B80 (90C27)

Marion, Martine (*with* Chang, Han-Chieh; Gottlieb, David; Sheldon, B. W.) Mathematical analysis and optimization of infiltration processes. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 303–321. (Elena Comparini) **99k:76137** 76S05 (76R99)

Mariotti, Marco Nash bargaining theory when the number of alternatives can be finite. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 413–421. (Summary) **99d:90037** 90A60

Maris, P. Dynamical symmetry breaking in QED3 with a Chern-Simons term. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 178–183, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 81V10 (81R40)

Maritan, A. (*with* Cirillo, E. N. M.; Gonnella, G.; Troccoli, M.) Correlation functions by cluster variation method for Ising model with NN, NNN, and plaquette interactions. (English summary) *J. Statist. Phys.* **94** (1999), *no.* 1-2, 67–89. (Summary) **99m:82008** 82B20 (82B80)

Maritz, J. S. (*with* Sheather, Simon J.) A general method for estimating standard errors. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 141–154. (Summary) **99d:62042** 62G05

Maritz, Milton F. (*with* Herman, Gabor T.; Yee, Conway) Recovery of the absorption coefficient from diffused reflected light using a discrete diffusive model. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 58–71 (*electronic*). (Summary) **99i:92009** 92C55

Mariz, A. M. (*with* de Magalhães, A. C. N.) The discrete N-vector ferromagnet: connection to a percolation with frustration features. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 827–851. (C. Chris Wu) **99a:82048** 82B43 (82B20)

Marjanović, Milosav M. (*with* Gutman, Ivan M.) A distance-based graph invariant related to the Wiener and Szeged numbers. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 99–108. (Ioan Tomescu) **99b:05050** 05C12

Marjanović, Z. M. (*with* Milovanović, Gradimir V.; Rajković, P. M.) A class of orthogonal polynomials on the radial rays in the complex plane. II. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 29–47. (Boris Petrovich Osilenker) **99d:33012** 33C45 (30C10, 30C15)

— (*with* Milovanović, Gradimir V.; Rajković, P. M.) Zero distribution of polynomials orthogonal on the radial rays in the complex plane. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 127–142. (Summary) **99h:42048** 42C05 (33C45)

Marjoram, Martin Irreducible characters of a Sylow p-subgroup of the orthogonal group. *Comm. Algebra* **27** (1999), *no.* 3, 1171–1195. (J. D. Dixon) **99k:20015** 20C15 (20D20, 20G40)

Marjoram, Paul (*with* Donnelly, Peter) Human demography and the time since mitochondrial Eve. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 107–131, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D15

— (*with* Griffiths, Robert C.) An ancestral recombination graph. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 257–270, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D20 (60K99, 92D15)

Markarian, Garik (*with* Honary, Bahram) ★ Trellis decoding of block codes. (English summary) A practical approach. With a preface by P. G. Farrell. The Kluwer International Series in Engineering and Computer Science, 391. *Kluwer Academic Publishers, Boston, MA*, 1997. xvi+265 *pp. ISBN* 0-7923-9860-2 (Ivan Landgev) **99e:94047** 94B35 (94B05, 94B10, 94B12)

Markarian, Roberto Boltzmann's ergodic hypothesis. Its mathematical interpretation. Billiards. (Spanish) *Chaos in Uruguay* (*Spanish*) (*Piriápolis*, 1996), 1–16, *Univ. Repúb., Montevideo*, 1997. (*see* **99m:58004**) 82B03 (58F11)

— (*with* Chernov, Nikolai I.) Anosov maps with rectangular holes. Nonergodic cases. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 315–342. (Bernard Schmitt) **99b:58142** 58F11 (28D05, 58F15)

— (*with* Chernov, Nikolai I.; Troubetzkoy, S.) Conditionally invariant measures for Anosov maps with small holes. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1049–1073. (Heber Enrich) **99k:58111** 58F11 (28D05)

— (*with* Canale, Eduardo; Kamphorst, Sylvie Oliffson; Pinto de Carvalho, Sônia) A lower bound for chaos on the elliptical stadium. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 189–202. (András Krámli) **99f:58121** 58F11 (58F13)

— *see also* **Chaos in Uruguay, 99m:58004**

Markatou, Marianthi (*with* Ronchetti, E.) Robust inference: the approach based on influence functions. *Robust inference*, 49–75, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

— (*with* Basu, Ayanendranath; Lindsay, Bruce G.) Weighted likelihood equations with bootstrap root search. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 740–750. (Summary) **99c:62128** 62G09 (62F35)

Markechová, D. (*with* Riečan, Beloslav) The Kolmogorov-Sinaj theorem on generators for fuzzy dynamical systems. *Demonstratio Math.* **30** (1997), *no.* 2, 429–436. (Wolfgang Sander) **99d:28043** 28E10 (04A72)

— (*with* Riečan, Beloslav) The entropy of fuzzy dynamical systems, general scheme and generators. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 191–199. (Summary) **99d:03048** 03E72 (03G12, 58F11)

Markeev, A. P. On a critical case of fourth-order resonance in a Hamiltonian system with one degree of freedom. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 369–376; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 355–361. (Summary) **99i:70020** 70H05 (34C25, 58F05, 70K20)

Markenscoff, Xanthippi On the shape of the Eshelby inclusions. (English summary) *J. Elasticity* **49** (1997/98), *no.* 2, 163–166. (Introduction) **99d:73021** 73C02 (73V35)

— (*with* Lubarda, V. A.) On the absence of Eshelby property for non-ellipsoidal inclusions. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 25, 3405–3411. (Summary) **99d:73008** 73B27

— (*with* Liu, Wensen; Paukshto, M. V.) Application of the Cosserat spectrum theory to viscoelasticity. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1969–1980. (Summary) **99j:73061** 73F15

— Inclusions with constant eigenstress. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 12, 2297–2301. (Summary) **99i:73029** 73C99 (73S10)

— (*with* Paukshto, M. V.) The wedge paradox and a correspondence principle. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 147–154. (Summary) **99e:73043** 73C99 (73B50)

— (*with* Paukshto, M. V.) The Cosserat spectrum in the theory of elasticity and applications. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 631–643. (Summary) **99d:73022** 73C02 (35Q72, 73B30)

— (*with* Jasiuk, Iwona) On multiple connectivity and reduction of constants for composites with body forces. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1357–1369. (Summary) **99d:73032** 73C99 (73K20)

Markenzon, L. (*with* Nguyen, Sang; Pretolani, D.) On some path problems on oriented hypergraphs. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 1-3, 1–20. (Summary) **99h:68138** 68R10

Marker, David Khovanskii's theorem. *Algebraic model theory* (*Toronto, ON*, 1996), 181–193, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (Max A. Dickmann) **99f:03048** 03C65 (14P99)

— (*with* Pillay, Anand) Differential Galois theory. III. Some inverse problems. *Illinois J. Math.* **41** (1997), *no.* 3, 453–461. (From the introduction) **99m:12011** 12H05 (03C45, 03C60)

— (*with* van den Dries, Lou; Macintyre, Angus) Logarithmic-exponential power series. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 417–434. (Danielle Gondard-Cozette) **99d:03063** 03H05 (03C62, 11U09)

— (*with* Miller, Chris) Levelled o-minimal structures. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 241–249. (Fuxing Shen) **99c:03060** 03C62 (03C60, 12L12)

Markham, Thomas L. (*with* Smith, Ronald L.) A Schur complement inequality for certain P-matrices. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 33–41. (Bo Ying Wang) **99h:15017** 15A45 (15A57)

Márki, László (*with* Kaarli, Kalle) Affine complete commutative inverse semigroups. (English summary) *Semigroups* (*Luino*, 1992), 144–151, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M14 (20M18)

— (*with* Janelidze, George; Tholen, Walter) Locally semisimple coverings. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 3, 281–289. (Hans-E. Porst) **99d:18010** 18E10 (16N99, 55U35)

Markiewicz, Augustyn (*with* Hauke, Jan) On statistical applications of matrix majorization. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 335–342, *VSP, Utrecht*, 1995. (Summary) **99h:62006** 62B15 (62K05)

— (*with* Groß, Jürgen; Hauke, Jan) Some comments on matrix partial orderings. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 2, 203–214. (Ko-Wei Lih) **99i:15026** 15A45

— Comparison of linear restricted models with respect to the validity of admissible and linearly sufficient estimators. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 347–354. (Kurt Hoffmann) **99f:62082** 62J05 (62C15)

— Simultaneous polar decomposition of rectangular complex matrices. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 279–284. (Summary) **99m:15008** 15A23

Markiewicz, M. (*with* Mahrenholtz, O.) Progressive cross waves due to the horizontal oscillations of a vertical cylinder in water. Evolution equations. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 227–247. (Summary) **99f:76027** 76B15

Markiewicz, Mariusz (*with* Błażewicz, Jacek; Drozdowski, Maciej) Divisible task scheduling—concept and verification. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 87–98. 68M20

Markina, I. G. Classification of sub-Riemannian manifolds. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 176–178, 192, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Summary) **99e:31010** 31B15 (35H05, 53C20)

— (*with* Vodop'yanov, S. K.) Fundamentals of the nonlinear potential theory for subelliptic equations. II. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 2, 18–63. (Vladimir B. Vasilyev) **99c:35032** 35H05 (31C45)

— (*with* Vodop'yanov, S. K.) Foundations of the nonlinear potential theory of subelliptic equations. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 2, 155–158. (D. G. Natroshvili) **99k:31009** 31B35 (35H05, 35J60)

— (*with* Vodop'yanov, S. K.) Classification of sub-Riemannian manifolds. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 6, 1271–1289, *ii.* (Andrew Bucki) **99m:53071** 53C20 (31C05, 31C12, 53C21, 58G30)

Markl, Martin (*with* Stasheff, James D.) On the compactification of configuration spaces. Proceedings of the 17th Winter School "Geometry and Physics" (Srni, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 83–90. (*see* **99g:00047**) 55R40 (18D10, 55P35, 55U35, 57R99)

— Simplex, associahedron, and cyclohedron. (English summary) *Higher homotopy structures in topology and mathematical physics* (*Poughkeepsie, NY*, 1996), 235–265, *Contemp. Math.*, 227, *Amer. Math. Soc., Providence, RI*, 1999. (Donald M. Davis) **99m:57020** 57P99 (18C10)

Markley, Nelson The genus of a nontrivial minimal set. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 340–353. (Evgenii Zhuzhoma) **99k:58160** 58F25

— (*with* Keynes, H.; Madden, Kathleen M.; Sears, M.) An overview of the construction of suspension flows using continuous cocycles. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 133–148, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (From the text) **99k:54034** 54H20

— (*with* Auslander, Joseph) Dynamical properties of automorphisms of minimal flows. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 105–112. (L. Janos) **99d:54021** 54H20

Marklund, Mattias (*with* Nilsson, Ulf S.; Uggla, Claes) Static perfect fluid cylinders. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3336–3346. (Maciej Przanowski) **99e:83033** 83C55 (83C20)

Markman, E. (*with* Hurtubise, Jacques C.) Rank 2-integrable systems of Prym varieties. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 3, 633–695. (Emma Previato) **99k:14073** 14K05 (14H60, 58F07)

— (*with* Hurtubise, Jacques C.) Integrable systems associated with Riemann surfaces. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1644–1651. (Francesco Bottacin) **99m:14056** 14H40 (14C05, 58F07)

Markopoulou, Fotini (*with* Smolin, Lee) Quantum geometry with intrinsic local causality. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084032, 12 *pp.* (Summary) **99m:83078** 83C45

— (*with* Smolin, Lee) Nonperturbative dynamics for abstract (p, q) string networks. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084033, 5 *pp.* (Summary) **99k:81260** 81T30

Markošová, Mária Abelian sandpile cellular automata. (English summary) *Nonlinear dynamics, chaotic and complex systems* (*Zakopane*, 1995), 108–121, *Cambridge Univ. Press, Cambridge*, 1997. (Dimitri Petritis) **99a:58098** 58F08 (82C20)

Markosyan, S. E. Critical subgraphs and critical sets of graphs. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 2, 7–11. (Sergeĭ L. Bezrukov) **99k:05094** 05C35

Markov, Andreĭ Andreevich *see* **Nikiforovskiĭ, V. A.**

Markov, B. A. (*with* Poezd, A. D.; Yakunin, S. A.) Radiation conditions for a cone. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 483–488; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 468–473. (Summary) **99e:78026** 78A40 (78–08)

Markov, E. P. (*with* Klimentov, D. S.; Klimentov, S. B.) On the concept of a covariant stochastic differential along the trajectory of a quasimartingale on a Riemannian manifold. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 1, 79–80, 88. 58G32 (60H10)

— (*with* Pavlov, I. V.) A finiteness criterion for the mixed norm of multiplicative martingales composed of Rademacher functions. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 4, 10–15, 101. (Dominique Lépingle) **99g:60085** 60G42

Markov, Konstantin Z. On the cluster bounds for the effective properties of microcracked solids. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 2, 357–388. (Leonid V. Gibiansky) **99a:73010** 73B27 (73B35, 73S10)

— (*with* Willis, John R.) On the two-point correlation function for dispersions of nonoverlapping spheres. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 359–377. (Summary) **99k:73028** 73B35 (73V30, 82D30)

Markov, Minko (*with* Ellis, John A.) Embedding grids into grids: dilation four suffices. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 243–250. (Summary) **99f:68155** 68R10 (68M10)

Markov, N. M. (*with* Zapryanov, Zapryan) On some applications of the singularity method. (English and Russian summaries) *Annuaire Univ. Sofia Fac. Math. Inform.* **88** (1994), *no.* 2, 5–20 (1996). (A. M. J. Davis) **99f:76045** 76D07

Markov, P. E. General analytic and infinitesimal deformations of immersions. II. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 11, 41–51; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 11, 39–49 (1998). (Hillel Gauchman) **99f:53063** 53C42

Markov, Svetoslav M. (*with* Akyildiz, Y.) Curve fitting and interpolation of biological data under uncertainties. (English summary) *J.UCS* **2** (1996), *no.* 2, 58–68 (*electronic*). (Summary) **99e:65010** 65D05 (65D10, 65G10, 92C45)

— Isomorphic embeddings of abstract interval systems. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 199–207. (J. Michel Muller) **99d:65149** 65G10

— (*with* Angelov, Rumen Angelov) Wrapping effect and wrapping function. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 311–330. (G. Alefeld) **99g:65060** 65G10 (65L05)

Markov, Yu. G. (*with* El Hafeez, S. A.) The evolution of a rotational motion of an elastic-rigid body about a fixed point in a gravitational field. (English summary) *Mech. Res. Comm.* **25** (1998), *no.* 6, 643–651. (Summary) **99h:70014** 70E15 (70K20, 70M20, 73K12)

Markov, Zdravko Generalization under implication by λ-subsumption. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 215–224, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (*see* **99k:68010**) 68N17 (03B70, 68T05)

Marková, Libuše (*with* Klucký, Dalibor) Coordinatization of projective planes by special planar ternary rings. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 53–62. (Maria Rosaria Enea) **99f:51005** 51A25 (20N10)

Markova, N. T. (*with* Bainov, Drumi Dimitrov; Simeonov, Pavel) Asymptotic behaviour of the nonoscillatory solutions of differential equations of second order with delay depending on the unknown function. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 87–96. (Vincent Šoltés) **99d:34126** 34K15 (34C10, 34K25)

Marková-Stupňanová, Andrea (*with* Riečan, Beloslav) On the double g-integral. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 161–171. (Endre Pap) **99a:28021** 28E10 (28A15)

— A note on g-derivative and g-integral. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 71–76. (Endre Pap) **99a:28003** 28A15 (28A25)

— A note to the addition of fuzzy numbers based on a continuous Archimedean t-norm. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 253–258. (Summary) **99a:04010** 04A72

— A note on the idempotent functions with respect to pseudo-convolution. (English summary) Fuzzy measures and integrals. *Fuzzy Sets and Systems* **102** (1999), *no.* 3, 417–421. (Summary) **99k:26031** 26E50 (28E10)

Marković, V. (*with* Božin, Vladimir; Mateljević, M.) Unique extremality in the tangent space of the universal Teichmuller space. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 145–149. (Summary) **99d:30023** 30C62 (30C70, 32G15)

Markovitch, Shaul (*with* Ledeniov, Oleg) The divide-and-conquer subgoal-ordering algorithm for speeding up logic inference. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 37–97 (*electronic*). 68N17

Markovski, S. (*with* Čupona, Ǵ.) Primitive varieties of algebras. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 226–234. (H. Peter Gumm) **99g:08004** 08B05 (08B20, 20C30)

Markovskii, S. A. Nonevolutionary discontinuous magnetohydrodynamic flows in a dissipative medium. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2596–2604. (Summary) **99b:76096** 76W05 (76E25, 76L05)

Markowich, Peter A. (*with* Gasser, Ingenuin) Quantum hydrodynamics, Wigner transforms and the classical limit. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 2, 97–116. (Oleg Yu. Shvedov) **99i:81043** 81Q20 (35Q40, 70H20, 81Q05)

— (*with* Ben Abdallah, Naoufel; Degond, Pierre) The quantum Child-Langmuir problem. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 629–648. (Vitor R. Vieira) **99b:81286** 81V70 (34B15, 35Q40)

— (*with* Gasser, Ingenuin; Illner, R.; Schmeiser, Christian) Semiclassical, $t \to \infty$ asymptotics and dispersive effects for Hartree-Fock systems. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 699–713. (Peter E. Zhidkov) **99k:35164** 35Q55

Markstein, Peter (*with* Karp, Alan H.) High-precision division and square root. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 561–589. 65Y15

Markum, Harald (*with* Riedler, Jürgen; Beirl, Wolfgang; Bittner, Elmar; Hauke, Alf; Homolka, Peter) Phase structure and graviton propagators in lattice formulations of four-dimensional quantum gravity. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 4, 1163–1173. 83C27 (83–08, 83C45)

Markus, Alexander (*with* Feintuch, Avraham) Isometric dilations in nest algebras. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 3, 346–352. (Introduction) **99e:47013** 47A20 (47D25, 47N70, 93B25)

— (*with* Lyubich, Yu. I.) Connectivity of level sets of quadratic forms and Hausdorff-Toeplitz type theorems. (English summary) *Positivity* **1** (1997), *no.* 3, 239–254. (K. Chandrasekhara Rao) **99k:15044** 15A60 (15A63)

— (*with* Feldman, Israel[1]) On some properties of factorization indices. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 326–337. (I. Spitkovsky) **99f:47023** 47A68 (15A23, 30E25)

Markus, L. *see* **Markus, Lawrence**

Márkus, László The variation of the forecast of Lévy's Brownian motion as the observation domain undergoes deformation. *Stochastic differential and difference equations* (*Győr*, 1996), 233–240, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 60J65 (60G60)

Markus, Lawrence (*with* Everitt, W. N.) The Glazman-Krein-Naimark theorem for ordinary differential operators. (English summary) *New results in operator theory and its applications*, 118–130, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Anton Zettl) **99c:47070** 47E05 (34B05, 34L99, 47A20, 47B25)

Markus, Lisa (*with* Rall, Douglas F.) On seed graphs with two components. (English summary) *Ars Combin.* **49** (1998), 193–204. (Bert L. Hartnell) **99g:05154** 05C75 (05C35)

Markus, Mario (*with* Böhm, Dominik; Schmick, Malte) Simulation of vessel morphogenesis using cellular automata. (English summary) Epidemiology, cellular automata, and evolution (Sofia, 1997). *Math. Biosci.* **156** (1999), *no.* 1-2, 191–206. (*see* **99m:92001**) 92C15

Markvorsen, Steen Curvature and shape. (English summary) 11th Yugoslav Geometrical Seminar (Divčibare, 1996). *Zb. Rad. Mat. Inst. Beograd.* (*N.S.*) **6(14)** (1997), 55–75. (Oguz C. Durumeric) **99f:53004** 53A05 (57M99)

Marle, C.-M. Kinematic and geometric constraints, servomechanism and control of mechanical systems. Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 4, 353–364. (Manuel de León) **99e:70040** 70F25 (58F05, 70Q05, 93C10)

Marletta, Gianfranco (*with* Ricci, Fulvio) Two-parameter maximal functions associated with homogeneous surfaces in $\mathbf{R}^n$. (English summary) *Studia Math.* **130** (1998), *no.* 1, 53–65. (Detlef Horst Müller) **99d:42032** 42B25

— (*with* Ricci, Fulvio; Zienkiewicz, Jacek) Two-parameter maximal functions associated with degenerate homogeneous surfaces in $\mathbf{R}^3$. (English summary) *Studia Math.* **130** (1998), *no.* 1, 67–75. (Detlef Horst Müller) **99d:42033** 42B25

Marletta, Marco (*with* Greenberg, Leon) Algorithm 775: the code SLEUTH for solving fourth-order Sturm-Liouville problems. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 453–493. 65Y15

— (*with* Maple, Carsten R.) Algorithms and software for selfadjoint ODE eigenproblems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 285–292, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 34B05 (34L15, 65L15)

— (*with* Brown, Malcolm; Greenberg, Leon) Convergence of regular approximations to the spectra of singular fourth-order Sturm-Liouville problems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 907–944. (Anton Zettl) **99h:34122** 34L40 (34B24, 47E05)

— (*with* Brown, B. Malcolm) On a conjecture of Bennewitz, and the behaviour of the Titchmarsh-Weyl matrix near a pole. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1383–1406. (Anton Zettl) **99c:34043** 34B20 (34L05)

Marliani, Christiane (*with* Grauer, Rainer) Structure functions in magnetohydrodynamic turbulence. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 239–247, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76F99 (76W05)

— (*with* Grauer, Rainer) Geometry of singular structures in magnetohydrodynamic flows. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2544–2552. (Summary) **99c:76115** 76W05 (76M25)

— (*with* Strauss, H. R.) Reconnection of coalescing magnetic islands. (English summary) *Phys. Plasmas* **6** (1999), *no.* 2, 495–502. (Summary) **99j:76139** 76W05 (76M25)

— (*with* Cordoba, Diego) On the behavior of hyperbolic netural points in two-dimensional ideal magnetohydrodynamics. (English summary) *Proc. Natl. Acad. Sci. USA* **96** (1999), *no.* 6, 2612–2614 (*electronic*). (Summary) **99m:76119** 76W05

Marlow, Randall S. (*with* Antman, Stuart S.; Vlahacos, Constantine P.) The complicated dynamics of heavy rigid bodies attached to deformable rods. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 431–460. (Summary) **99e:73068** 73K12 (70E15, 70K05, 73F15, 73H10)

Marmanis, Haralambos Analogy between the Navier-Stokes equations and Maxwell's equations: application to turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1428–1437. (George Rowlands) **99f:76070a** 76F05 (78A25)

— Erratum: "Analogy between the Navier-Stokes equations and Maxwell's equations: application to turbulence". *Phys. Fluids* **10** (1998), *no.* 11, 3031. (George Rowlands) **99f:76070b** 76F05 (78A25)

Marmaridis, Nikolaos (*with* Assem, Ibrahim; Beligiannis, Apostolos) Right triangulated categories with right semi-equivalences. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 17–37, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Daniel Simson) **99j:18011** 18E30 (16G10, 18G25)

— (*with* Assem, Ibrahim) Tilting modules over split-by-nilpotent extensions. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1547–1555. (Riccardo Colpi) **99f:16014** 16G20 (16D90)

Marmo, Giuseppe (*with* Grabowski, Janusz) Deformed Tulczyjew triples and Legendre transform. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 279–294. (Frans Cantrijn) **99d:58062** 58F05

— (*with* Ibort, Luis Alberto; de León, Manuel; Martín de Diego, David) Non-holonomic constrained systems as implicit differential equations. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 295–317. (Frans Cantrijn) **99g:70021** 70F25 (34A09, 34A26, 58F05, 70Hxx)

— (*with* Man′ko, V. I.; Zaccaria, F.) Deformations and nonlinear systems. (English summary) Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 4, 337–352. (Mathias Pillin) **99c:81092** 81R50 (81S05)

— (*with* Alekseevskiĭ, D. V.; Grabowski, Janusz; Michor, Peter W.) Completely integrable systems—a generalization. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1637–1648. (Charles-Michel Marle) **99f:58089** 58F07 (22E70, 58F05, 70H05)

— (*with* Aldaya, V.; Becerra Guerrero, Julio) Quantization on a Lie group: higher-order polarizations. *Symmetries in science, X* (*Bregenz*, 1997), 1–36, *Plenum, New York*, 1998. (Ivailo M. Mladenov) **99j:58083** 58F06 (81S10)

— (*with* Man′ko, V. I.; Zaccaria, F.) From equations of motion to canonical commutation relations: classical and quantum systems. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 223–284, *Plenum, New York*, 1998. (Anton V. Galajinsky) **99i:81115** 81S05 (58F05, 70H05)

— (*with* Vilasi, G.; Vinogradov, A. M.) The local structure of n-Poisson and n-Jacobi manifolds. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 141–182. (Raúl Ibáñez) **99b:58096** 58F05 (17B99, 70H05)

— (*with* Alekseevskiĭ, D. V.; Grabowski, Janusz; Michor, Peter W.) Poisson structures on double Lie groups. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 340–379. (Johannes Huebschmann) **99g:58048** 58F05 (17B45, 53C15, 58F07)

— (*with* Bambusi, Dario; Cicogna, Giampaolo; Gaeta, Giuseppe) Normal forms, symmetry and linearization of dynamical systems. (English summary) *J. Phys. A* **31** (1998), *no.* 22, 5065–5082. (Victor G. LeBlanc) **99k:34079** 34C20 (58F36)

— (*with* Ibort, Luis Alberto) From the equations of motion to quantum commutation relations and the geometry of Hermitian structures. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 165–179. (Frans Cantrijn) **99j:81079** 81S05 (58F05)

— (*with* Grabowski, Janusz) Generalized n-Poisson brackets on a symplectic manifold. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3185–3192. (David Martín de Diego) **99m:53055** 53C15 (58F05)

Marmol, Francesc Spurious regression theory with nonstationary fractionally integrated processes. (English summary) *J. Econometrics* **84** (1998), *no.* 2, 233–250. (Summary) **99c:62256** 62M10

gómez Mármol, Macarena *see* **Gómez Mármol, Macarena**

Marmolejo, F. Continuous families of coalgebras. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 2, 197–215. (Peter Johnstone) **99f:18015** 18D30 (18A15, 18A30, 18B25, 18C15)

Marmorat, Jean-Paul (*with* Cagnol, John) Static equilibrium of hyperelastic thin shell: symbolic and numerical computation. (English summary) *Math. Comput. Simulation* **46** (1998), *no.* 2, 103–115. (Summary) **99c:73047** 73K15 (73–04, 73V20)

Marn, Jure (*with* Škerget, Leopold; Delić, Marjan) Non-Newtonian driven cavity flow comparison between boundary element and finite difference methods. (English summary) *Advances in fluid mechanics, II* (*Udine*, 1998), 261–270, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76M15 (76A05, 76M20)

Marnelius, Robert Triplectic quantization of general gauge theories. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 494–497, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T70 (81T13)

— (*with* Sogami, Ikuo S.) Generalized BRST quantization and massive vector fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3101–3120. (Ion V. Vancea) **99m:81270** 81T70

— (*with* Batalin, I. A.) Quantum antibrackets. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 312–320. (Mohamed Kachkachi) **99g:81219** 81T70 (81S10)

Marohn, Ch. (*with* Frauendorfer, Karl) Refinement issues in stochastic multistage linear programming. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 305–328, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99f:90066** 90C15

Marohn, Frank Local asymptotic normality in extreme value index estimation. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 645–666. (László Viharos) **99f:62055** 62G05 (62G20)

— (*with* Falk, Michael) Efficient estimation of the shape parameter in Pareto models with partially known scale. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 229–239. (Stergios B. Fotopoulos) **99c:62060** 62F12

— An adaptive efficient test for Gumbel domain of attraction. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 311–324. (Stavros Kourouklis) **99i:62034** 62F05 (62G30)

Marolf, Donald Refined algebraic quantization: systems with a single constraint. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 331–344, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Nicolaas P. Landsman) **99b:81117** 81S10 (46L60, 46N50, 58F06, 83C45)

— (*with* Hartle, James B.) Comparing formulations of generalized quantum mechanics for reparametrization-invariant systems. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6247–6257. (Jürgen Tolksdorf) **99a:81079** 81R99 (81P99, 83C99)

— (*with* Gambini, Rodolfo; Lewandowski, Jerzy; Pullin, Jorge) On the consistency of the constraint algebra in spin network quantum gravity. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 97–109. (Francois Vanderseypen) **99f:83025** 83C27 (83C45)

— (*with* Lewandowski, Jerzy) Loop constraints: a habitat and their algebra. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 299–330. (José A. Zapata) **99g:83039** 83C45 (81V17)

— (*with* Surya, Sumati) Localized branes and black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124013, 7 *pp.* (Summary) **99m:83196** 83E30 (83C57)

— (*with* Louko, Jorma) Single-exterior black holes and the AdS-CFT conjecture. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 066002, 14 *pp.* (Summary) **99k:83076** 83C57 (81T30, 83E30)

Maroni, Pascal (*with* Douak, Khalfa) On d-orthogonal Tchebychev polynomials. II. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 4, 404–429. (Summary) **99c:42044** 42C05 (33C45)

— (*with* Abdelkarim, F.) The D_ω-classical orthogonal polynomials. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 1–28. (R. A. Askey) **99b:33009** 33C45

— (*with* Beghdadi, Driss) On the inverse problem of the product of a semi-classical form by a polynomial. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 377–399. (A. N. Srivastava) **99e:33005** 33C45 (33C90, 42C05)

Maros, István A piecewise linear dual procedure in mixed integer programming. (English summary) *New trends in mathematical programming*, 159–170, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 90C11

— (*with* Mitra, Gautam) Strategies for creating advanced bases for large-scale linear programming problems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 248–260. 90C06 (90C05)

— (*with* Gülpınar, Nalân; Mitra, Gautam) Detecting embedded pure network structures in LP problems. (English summary) *Top* **6** (1998), *no.* 1, 67–95. 90C08 (90C35)

— *see also* **Applied mathematical programming and modeling, 99b:90006**

Marošević, T. (*with* Jukić, D.; Scitovski, R.) Discrete total l_p-norm approximation problem for the exponential function. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 137–143. (Summary) **99c:65026** 65D15

Maróti, M. Semilattices with a group of automorphisms. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 238–265. (James W. Lea, Jr.) **99m:06009** 06A12

Marotta, Raffaele (*with* Cappiello, Luigi; Pettorino, Roberto; Pezzella, Franco) On off-shell bosonic string amplitudes. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2433–2443. (Summary) **99g:81152** 81T30

Marotta, Vincenzo Stress-tensor for parafermions from winding subalgebras of affine algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 853–860. (Jintai Ding) **99j:81052** 81R10 (17B67)

— (*with* Sciarrino, Antonino) Conformal field theory on Z_k-surfaces with exchange interactions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 35, 2863–2871. (Dmitri Korotkin) **99k:81283** 81T40 (14H55)

— $\mathcal{W}_k$ structure of $\widehat{SU}(2)$-level k from covariant construction of Kac-Moody algebras. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 717–737. (Mirko Primc) **99j:17036** 17B67 (81R10)

Marotte, Fabienne (*with* Zhang, Changgui) Sur la sommabilité des séries entières solutions formelles d'une équation aux q-différences. II. (English and French summaries) [On the summability of formal power series solutions of q-difference equations. II] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 715–718. (Summary) **99i:39021** 39A10 (40G99)

Maroulas, J. (*with* Psarrakos, P.) On the connectedness of numerical range of matrix polynomials. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 97–108. (Makoto Takaguchi) **99h:15027** 15A60

— (*with* Psarrakos, P.) A connection between numerical ranges of selfadjoint matrix polynomials. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 327–340. (Summary) **99g:15035** 15A60 (47A12, 47A56, 65F35)

Marques, António (*with* Ferreira, Fernando) Extracting algorithms from intuitionistic proofs. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 143–160. (Stewart Shapiro) **99f:03082** 03F55 (03D15, 03F30)

Marquès, F. (*with* Antonijoan, J.; Sánchez Umbría, Juan Jose) Spirals and secondary instabilities in the Taylor-Couette flow. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 12 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76E10 (76M25)

— (*with* Meseguer, A.; Sánchez Umbría, Juan Jose) Period doubling scenario in low-dimensional models for the regularized cavity flow. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 18 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76D05 (58F40, 76F20)

— (*with* Meseguer, A.) Axial effects in the Taylor-Couette problem. Discontinuities in critical regime. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 519–524, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76U05

Marques, G. C. (*with* Spehler, D.) Chiral asymmetry and gravitation theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 7, 553–569. (Jorge Goncalves Cardoso) **99g:81072** 81R20

Marques, M. D. P. M. *see* **Monteiro Marques, Manuel D. P.**

monteiro Marques, Manuel D. P. *see* **Monteiro Marques, Manuel D. P.**

Marques, Osni (*with* Zha, Hongyuan; Simon, Horst D.) Large-scale SVD and subspace-based methods for information retrieval. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 29–42, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y20 (94A12)

Marques, W., Jr. (*with* Kremer, G. M.) Light scattering from extended kinetic models: monatomic ideal gases. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 6, 319–329. 82C40

Marques de Sá, Eduardo *see* **de Sá, Eduardo Marques**

Marques-Silva, João P. (*with* Sakallah, Karem A.) GRASP: a search algorithm for propositional satisfiability. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 5, 506–521. 68T20 (03B35, 90C08)

Marquès Solé, Daniel (*with* Xambó-Descamps, Sebastian) Mathematical symbolic systems and functional languages. (English summary) *Proceedings of the IV Catalan Days of*

Applied Mathematics (*Tarragona*, 1998), 175–192, *Univ. Rovira Virgili, Tarragona*, 1998. (Summary) **99d:94045** 94B99 (68Q40)

Márquez, Alberto (*with* Garrido, M. A.) Embedding a graph in the grid of a surface with the minimum number of bends is NP-hard. (English summary) *Graph drawing* (*Rome*, 1997), 124–133, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68Q25 (68Q35, 68R10)

— (*with* Ayala, R.; Chávez, M. J.; Quintero, A.) On the proper planarity of 3-connected generalized Peano continua. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 171–181. (Summary) **99g:54030** 54F15 (57M15)

— (*with* Ayala, R.; Chávez, M. J.; Quintero, A.) On the connectivity of infinite graphs and 2-complexes. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 13–37. (Thomas Andreae) **99i:05126** 05C40 (57M15, 57M20)

Márquez, Antonio *see* **Márquez Gentil, Antonio**

Márquez, David Convergence rates for annealing diffusion processes. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 1118–1139. (Laurent Miclo) **99b:65006** 65C05 (60F05, 60J60, 62L20)

Marquez, Horacio J. (*with* Agathoklis, Panajotis) On the existence of robust strictly positive real rational functions. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 962–967. (Summary) **99h:93039** 93B36 (30C15)

Márquez, I. F. (*with* Negro, Javier; Nieto, Luis Miguel) Factorization method and singular Hamiltonians. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4115–4125. (M. Znojil) **99f:81064** 81Q60 (34L40, 81Q05)

muñoz-Márquez, M. *see* **Muñoz-Márquez, M.**

Márquez, M. Auxiliadora (*with* Blasco, Oscar; Girela, Daniel) Mean growth of the derivative of analytic functions, bounded mean oscillation, and normal functions. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 893–912. (Albert Baernstein, II) **99m:30068** 30D45 (30D50, 30D55)

Márquez, M. L. (*with* Ramírez González, Victoriano; Pérez, Rigoberto) Parametric subfamilies of apportionment methods. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 471–479, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Fouad T. Aleskerov) **99m:90046** 90A28

Márquez Gentil, Antonio (*with* de Vicente, Santiago) A hydrodynamical mesh-adaptation method. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 829–834, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N30

Marquina, Antonio (*with* Fedkiw, Ronald P.; Merriman, Barry) An isobaric fix for the overheating problem in multimaterial compressible flows. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 545–578. (Summary) **99i:76110** 76M25 (76N15)

Marquis, Pierre (*with* Lang, Jérôme) Two forms of dependence in propositional logic: controllability and definability. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 268–273, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B05, 03B70, 03D15, 68Q15)

Marra, R. (*with* Carlen, Eric Anders; Esposito, Raffaele; Lebowitz, Joel L.; Rokhlenko, A.) Kinetics of a model weakly ionized plasma in the presence of multiple equilibria. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 3, 193–218. (Carlo Cercignani) **99h:82072** 82D10 (35Q99, 76P05, 76X05, 82C40)

— (*with* Cercignani, Carlo; Esposito, Raffaele) The Milne problem with a force term. (English summary) *Transport Theory Statist. Phys.* **27** (1998), *no.* 1, 1–33. (Jürgen Batt) **99d:82051** 82C40 (76P05)

Marras, M. (*with* Mohammed, Seid; Porru, G.) Differential inequalities for Minkowski functionals of level sets. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 573–584. (H. J. Kuiper) **99k:35053** 35J60 (35B99, 35K55)

Marrero, Isabel (*with* Betancor, Jorge J.) New spaces of type $\mathscr{H}_\mu$ and the Hankel transformation. (English summary) *Integral Transform. Spec. Funct.* **3** (1995), *no.* 3, 175–200. (Hans-Jürgen Glaeske) **99e:46054** 46F12 (46F05)

Marrero, Juan Carlos (*with* Chinea, Domingo; Rocha, Juan) Almost contact submersions with total space a locally conformal cosymplectic manifold. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, 473–517. (Manuel de León) **99d:53028** 53C15

— (*with* de León, Manuel) Compact cosymplectic manifolds with transversally positive definite Ricci tensor. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 4, 607–624 (1998). (Miguel Ortega) **99d:53030** 53C15

— (*with* Padrón, Edith) New examples of compact cosymplectic solvmanifolds. (English summary) *Arch. Math.* (*Brno*) **34** (1998), *no.* 3, 337–345. (Manuel de León) **99k:53055** 53C15 (53C55)

— (*with* Ibáñez, Raúl; de León, Manuel; Martín de Diego, David) Nambu-Poisson dynamics. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 405–413. (Frans Cantrijn) **99h:58063** 58F05 (70H05, 70H99)

— (*with* Ibáñez, Raúl; de León, Manuel) Homology and cohomology on generalized Poisson manifolds. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1253–1266. (Frans Cantrijn) **99f:53029** 53C15 (55T99, 58F05)

— (*with* Ibáñez, Raúl; de León, Manuel; Padrón, Edith) Nambu-Jacobi and generalized Jacobi manifolds. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1267–1286. (Frans Cantrijn) **99f:53030** 53C15 (58F05)

— (*with* Ibort, Luis Alberto; de León, Manuel; Lacomba, Ernesto A.; Martín de Diego, David; Pitanga, Paulo) Geometric formulation of mechanical systems subjected to time-dependent one-sided constraints. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2655–2674. (Frans Cantrijn) **99d:70021** 70F30 (58F05, 70F25)

— (*with* Ibort, Luis Alberto; de León, Manuel; Martín de Diego, David) A Dirac bracket for non-holonomic Lagrangian systems. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 85–101. (Frans Cantrijn) **99j:70018** 70F25 (58F05, 70H35)

— (*with* de León, Manuel; Padrón, Edith) A generalization for Jacobi manifolds of the Lichnerowicz-Poisson cohomology. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 131–150. (Raúl Ibáñez) **99j:58076** 58F05 (58A14, 58F06)

— (*with* Chinea, Domingo; de León, Manuel) A canonical differential complex for Jacobi manifolds. *Michigan Math. J.* **45** (1998), *no.* 3, 547–579. (Raúl Ibáñez) **99i:53025** 53C15 (58A14, 58F05)

— (*with* de León, Manuel; Martín de Diego, David) Time-dependent mechanical systems with non-linear constraints. (English summary) *New developments in differential geometry, Budapest* 1996, 221–234, *Kluwer Acad. Publ., Dordrecht*, 1999. (Jesús Marín-Solano) **99k:58073** 58F05 (70F25, 70H35)

Marrero, Osvaldo Une propriété maximale de matrices binaires et inversibles dont toutes les lignes contiennent le même nombre de répétitions du chiffre un. (English summary) [A maximal property of invertible binary matrices all of whose rows have the same number of ones] *European J. Combin.* **19** (1998), *no.* 4, 503–505. (R. J. Bumcrot) **99g:05041** 05B20

negrón-Marrero, Pablo V. *see* **Negrón-Marrero, Pablo V.**

Marriott, Jack (*with* Chen, Ye-Hwa) Robust control design for adaptive fuzzy systems. (English summary) *Int. J. Intell. Control Syst.* **1** (1996), *no.* 4, 427–439. 93C42 (93B36)

Marriott, Kim (*with* Stuckey, Peter J.) ★ Programming with constraints. (English summary) An introduction. *MIT Press, Cambridge, MA*, 1998. *xvi+467 pp. ISBN* 0-262-13341-5 (Neculai Curteanu) **99f:68181** 68T20 (68N17)

— (*with* He, Weiqing) Constrained graph layout. (English summary) *Constraints* **3** (1998), *no.* 4, 289–314. (Summary) **99h:68167** 68U05

— (*with* García de la Banda, Maria; Stuckey, Peter J.; Søndergaard, Harald) Differential methods in logic program analysis. (English summary) *J. Logic Programming* **35** (1998), *no.* 1, 1–37. (Summary) **99a:68029** 68N17

— (*with* Jaffar, Joxan; Maher, Michael J.; Stuckey, Peter J.) The semantics of constraint logic programs. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 1–46. (Summary) **99d:68041** 68N17 (68Q55)

— (*with* Armstrong, Tania; Schachte, Peter; Søndergaard, Harald) Two classes of Boolean functions for dependency analysis. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 3–45. (Summary) **99c:68050** 68N20 (68N17, 68P15)

Marris, A. W. On the completeness of circular helical motions. *Arch. Rational Mech. Anal.* **140** (1997), *no.* 1, 1–29. (Jair Koiller) **99j:76026a** 76D05 (53A04, 53A05, 76C05)

— On pseudo-plane motions. *Arch. Rational Mech. Anal.* **143** (1998), *no.* 1, 53–75. (Jürgen Socolowsky) **99g:76051** 76D99 (76C05, 76D05)

— (*with* Shiau, J. F.) Corrigenda: Universal deformations in isotropic incompressible hyperelastic materials when the deformation tensor has equal proper values [Arch. Rational Mech. Anal. **36** (1970), 135–160; MR **40** #6835]. *Arch. Rational Mech. Anal.* **143** (1998), *no.* 4, 401. 73B99 (73C50)

— Corrigenda: "On the completeness of circular helical motions". *Arch. Rational Mech. Anal.* **143** (1998), *no.* 4, 402. (Jair Koiller) **99j:76026b** 76D05 (53A04, 53A05, 76C05)

Marro, J. (*with* Torres, J. J.; Garrido, P. L.) Neural networks with fast time-variation of synapses. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7801–7816. (Dimitri Petritis) **99e:82075** 82C32 (92B20)

Marron, D. J. (*with* McMaster, T. B. M.) Splittability in ordered sets and spaces. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 280–282 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54F05 (06A06)

Marron, J. Stephen (*with* Mammen, Enno) Mass recentred kernel smoothers. (English summary) *Biometrika* **84** (1997), *no.* 4, 765–777. (M. P. Moklyachuk) **99h:62050** 62G07

— (*with* Godtliebsen, F.; Spjøtvoll, E.) A nonlinear Gaussian filter applied to images with discontinuities. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 1, 21–43. (Summary) **99g:94003** 94A12

— (*with* Hall, Peter Gavin) On the role of the shrinkage parameter in local linear smoothing. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 4, 495–516. (Theo Gasser) **99a:62048** 62G05

— (*with* Chu, Chih Kang; Glad, Ingrid K.; Godtliebsen, F.) Edge-preserving smoothers for image processing. (English summary) With comments and a rejoinder by the authors. *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 526–556. (Summary) **99b:94009** 94A12 (62G99, 62M40, 68U10)

Marrone, Michele (*with* Duff, Iain S.; Radicati, Giuseppe; Vittoli, Carlo) Level 3 basic linear algebra subprograms for sparse matrices: a user-level interface. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 379–401. 65Y15

Mars, J. G. M. (*with* Springer, T. A.) Hecke algebra representations related to spherical varieties. (English summary) *Represent. Theory* **2** (1998), 33–69 (*electronic*). (François Digne) **99h:20072** 20G10 (14F32, 14M17)

Mars, Marc (*with* Zalaletdinov, R. M.) Space-time averages in macroscopic gravity and volume-preserving coordinates. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4741–4757. (A. D. Popova) **99b:83024** 83C25 (83C55)

— (*with* Haager, Gernot) A self-similar inhomogeneous dust cosmology. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1567–1580. (Alicia M. Sintes) **99e:83009** 83C15 (83C20)

— Axially symmetric Einstein-Straus models. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3389–3400. (Summary) **99m:83030** 83C15 (83F05)

Marsa, R. L. (*with* Gómez, Roberto; Lehner, Luis; Winicour, Jeffrey) Moving black holes in 3D. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4778–4788. (Summary) **99k:83069** 83C57

Marsaglia, George (*with* Tsang, Wai Wan) The Monty Python method for generating random variables. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 3, 341–350. (Summary) **99k:65014** 65C10 (60E99)

Marsalle, Laurence Hausdorff measures and capacities for increase times of stable processes. (English summary) *Potential Anal.* **9** (1998), *no.* 2, 181–200. (J. L. Mijnheer) **99m:60109** 60J30 (60G17, 60J55)

Marsalli, Michael The predual of a type I von Neumann algebra. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 169–171, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Summary) **99e:46077** 46L10 (47D25, 47D27)

— (*with* West, Graeme) The dual of noncommutative H^1. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 489–500. (Summary) **99h:46122** 46L50 (46L10)

Marsden, Jerrold E. (*with* Xu, Chong-Ye) Asymptotic stability for equilibria of nonlinear semiflows with applications to rotating viscoelastic rods. I. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 271–297. (Alexandre N. Carvalho) **99e:34088** 34G20 (47H20, 58D25, 73F15, 73H10, 73K05)

— (*with* Wendlandt, Jeffrey M.) Mechanical integrators derived from a discrete variational principle. (English summary) *Phys. D* **106** (1997), *no.* 3-4, 223–246. (Summary) **99d:70004** 70-08 (65L99, 70E15, 70F20, 70H05, 70H35)

— (*with* Holm, Darryl D.; Ratiu, Tudor S.) The Euler-Poincaré equations and semidirect products with applications to continuum theories. (English summary) *Adv. Math.* **137** (1998), *no.* 1, 1–81. (Jair Koiller) **99e:58070** 58F05 (58E30, 58F40, 70H30, 73B99, 73V25)

— (*with* Cendra, Hernán; Holm, Darryl D.; Hoyle, Mark J. W.) The Maxwell-Vlasov equations in Euler-Poincaré form. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3138–3157. (Summary) **99e:76131** 76X05 (58F05, 58F40, 76M30, 82D10)

— (*with* Pekarsky, Sergey) Point vortices on a sphere: stability of relative equilibria. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5894–5907. (Summary) **99h:58067** 58F05 (58F40, 70H05, 70K20, 76C05)

— (*with* Kruse, Hans Peter; Mahalov, Alex) On the Hamiltonian structure and three-dimensional instabilities of rotating liquid bridges. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 1, 37–59. (M. E. R. de Sousa Dias) **99j:76052** 76E99 (58F40, 76M99, 76U05)

— (*with* Shkoller, Steve) Multisymplectic geometry, covariant Hamiltonians, and water waves. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 553–575. (Frans Cantrijn) **99h:58065** 58F05 (58A20, 70G50, 70H05, 76B15)

Marseguerra, M. (*with* Zio, E.) Weight updating in forced Monte Carlo approach to dynamic PSA. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 4, 359–373. 90B25 (65C05, 65U05)

Marsh, Gerald E. Monopoles, gauge fields and de Rham's theorems. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7077–7094. (Conor J. Houghton) **99j:53024** 53C07 (53C80, 81T13)

Marsh, M. M. Some generalizations of universal mappings. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1187–1198. (K. D. Magill, Jr.) **99d:54027** 54H25 (54F15, 55M20)

Marsh, Patrick W. N. Saddlepoint approximations for noncentral quadratic forms. (English summary) *Econometric Theory* **14** (1998), *no.* 5, 539–559. (Summary) **99e:62019** 62E17 (62H10)

Marsh, Robert (*with* Green, R. M.) Quantized symmetric powers. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 479–492. (Kailash C. Misra) **99k:17030** 17B37 (17B10)

— More tight monomials in quantized enveloping algebras. *J. Algebra* **204** (1998), *no.* 2, 711–732. (Sorin Dăscălescu) **99j:17023** 17B37

Marshak, Alexander L. (*with* Davis, Anthony B.; Wiscombe, Warren J.; Cahalan, Robert F.) Multifractal characterizations of intermittency in nonstationary geophysical signals and fields: a model-based perspective on ergodicity issues illustrated with cloud data. (English summary) *Current topics in nonstationary analysis* (*San Diego, CA*, 1995), 97–158, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:60003**) 86A32

Marshakov, A. From nonperturbative SUSY gauge theories to integrable systems. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 314–323, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99i:81247** 81T60 (58F07, 81T13)

— Integrability as an effective principle of nonperturbative field and string theories. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 498–503, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:58079** 58F07 (81T30, 81T60)

— Nonperturbative quantum theories and integrable equations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 9, 1607–1649. (Summary) **99b:81244** 81T60 (58F07)

— (*with* Mironov, A. D.) 5d and 6d supersymmetric gauge theories: prepotentials from integrable systems. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 59–91. (Henrik Aratyn) **99g:81213** 81T60 (58F07, 81T13)

— (*with* Gorskiĭ, A. S.; Mironov, A. D.; Morozov, A. Yu.) RG equations from Whitham hierarchy. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 690–716. (Henrik Aratyn) **99h:58086** 58F07 (14K25, 81T13, 81T17, 81T60)

— (*with* Braden, H. W.; Mironov, A. D.; Morozov, A. Yu.) Seiberg-Witten theory for a non-trivial compactification from five to four dimensions. (English summary) *Phys. Lett. B* **448** (1999), *no.* 3-4, 195–202. (Summary) **99k:81293** 81T60 (81T13)

Marshall, Albert W. (*with* Olkin, Ingram) A new method for adding a parameter to a family of distributions with application to the exponential and Weibull families. (English summary) *Biometrika* **84** (1997), *no.* 3, 641–652. (Barry C. Arnold) **99h:62125** 62N05 (60E05, 62E15)

Marshall, I. D. The Kowalevski top: its r-matrix interpretation and bi-Hamiltonian formulation. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 723–734. (Jair Koiller) **99b:58119** 58F07 (58F05, 70E15, 70H05)

— (*with* Gabitov, Ildar) Removing the time dependence in a rapidly oscillating Hamiltonian. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 845–857. (Ugo C. Bessi) **99f:70026** 70H05 (34C99, 58F05, 78A60)

Marshall, J. S. A model of heavy particle dispersion by organized vortex structures wrapped around a columnar vortex core. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3236–3238. (Summary) **99g:76076** 76F99

Marshall, James Fractional integrals of imaginary order supported on convex curves, and the doubling property. *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 287–302. (P. G. Rooney) **99k:42025** 42B15 (26A33)

Marshall, S. L. On the analytical summation of Fourier series and its relation to the asymptotic behaviour of Fourier transforms. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9957–9973. (Y. Sitaraman) **99j:42005** 42A20

Marshall, T. H. Geometry of pseudospheres. I. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 2, 213–228. (J. A. Lester) **99c:51020** 51F25 (15A21)

— Volume formulae for regular hyperbolic cubes. (English summary) *Conform. Geom. Dyn.* **2** (1998), 25–28 (*electronic*). (Kerry N. Jones) **99i:52008** 52A38 (51M25, 52A55, 52B11)

— (*with* Alon, Noga) Homomorphisms of edge-colored graphs and Coxeter groups. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 1, 5–13. (Richard C. Brewster) **99i:05074** 05C15 (05C10, 05C25, 20F55)

— Truncated tetrahedra and their reflection groups. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 54–72. (O. V. Shvartsman) **99b:52017** 52A55 (20F55, 51M25, 52B10, 57M50)

— Geometry of pseudospheres. II. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 81–95. (J. A. Lester) **99m:51028** 51M10 (15A21)

Marson, Andrea (*with* Bressan, Alberto) Error bounds for a deterministic version of the Glimm scheme. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 2, 155–176. (Petr N. Vabishchevich) **99f:65134** 65M15 (35L65, 65M06)

— (*with* Ancona, Fabio) On the attainable set for scalar nonlinear conservation laws with boundary control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 290–312 (*electronic*). (Philippe G. LeFloch) **99h:93008** 93B03 (35L65, 49J20, 90B20)

— (*with* Ancona, Fabio) Scalar non-linear conservation laws with integrable boundary data. *Nonlinear Anal.* **35** (1999), *no.* 6, *Ser. A: Theory Methods*, 687–710. (Yu. G. Rykov) **99m:35149** 35L65 (49J20)

Marszałek, R. (*with* Denecke, Klaus; Koppitz, Jörg) Derived varieties and derived equational theories. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 2, 153–169. (Ewa Graczyńska) **99d:20099** 20M07 (08B15)

Marszałek, Wiesław (*with* Campbell, Stephen L.) Mixed symbolic-numerical computations with general DAEs. II. An applications case study. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 85–94. (Summary) **99m:65151** 65L99 (34-04, 34A09)

Martakov, S. V. Numerical solution of 1D inverse problem for Maxwell's equations by the optimization method. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 361–372. (Summary) **99h:78006** 78–08 (65N06, 78A99, 86A22)

Martein, Laura (*with* Cambini, Alberto; Cambini, Riccardo) Some optimality conditions in multiobjective programming. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 168–178, *Springer, Berlin*, 1997. (Summary) **99d:90100** 90C29

— (*with* Cambini, Alberto; Komlósi, Sándor) Recent developments in second order necessary optimality conditions. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 347–356, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:90116** 90C30 (49J52)

— (*with* Cambini, Alberto) Generalized concavity in multiobjective programming. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 453–467, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:90105** 90C29 (90C26)

Martel, Carlos (*with* Nicolás, José A.; Vega, José M.) Surface-wave damping in a brimful circular cylinder. (English summary) *J. Fluid Mech.* **360** (1998), 213–228. (Summary) **99a:76044** 76D33 (76B15)

— (*with* Nicolás, José A.; Vega, José M.) Corrigendum: "Surface wave damping in a brimful circular cylinder" [J. Fluid Mech. **360** (1998), 213–228; MR 99a:76044]. *J. Fluid Mech.* **373** (1998), 379. 76D33 (76B15)

Martel, Jean-Marc (*with* Aouni, Belaïd) Diverse imprecise goal programming model formulations. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 127–138. (*see* **99a:90011**) 90C08 (90C29)

Martel, Yvan Complete blow up and global behaviour of solutions of $u_t - \Delta u = g(u)$. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 6, 687–723. (Qing Fang) **99m:35077** 35J65 (35B40)

— (*with* Souplet, Philippe) Estimations optimales en temps petit et près de la frontière pour les solutions de l'équation de la chaleur avec données non compatibles. (English and French summaries) [Optimal small-time boundary estimates for solutions of the heat equation with noncompatible data] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 575–580. (Summary) **99g:35051** 35K05 (35B45)

— (*with* Cabré, Xavier) Weak eigenfunctions for the linearization of extremal elliptic problems. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 30–56. (Qi Tang) **99e:35058** 35J65 (35B05, 35P30)

Martel Escobar, Ma. del Carmen (*with* Hernández Bastida, A.; Vázquez Polo, F. J.) On maximum entropy priors and a most likely likelihood in auditing. (English summary) *Qüestiió* (2) **22** (1998), *no.* 2, 231–242. 62A15 (62C10)

Martelli, Alberto (*with* Baldoni, Matteo; Giordano, Laura) A tableau calculus for multimodal logics and some (un)decidability results. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 44–59, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B25, 03B45, 03D35)

— (*with* Baldoni, Matteo; Giordano, Laura) A modal extension of logic programming: modularity, beliefs and hypothetical reasoning. (English summary) *J. Logic Comput.* **8** (1998), *no.* 5, 597–635. (Summary) **99h:68029** 68N17 (03B45, 03B70, 03F05)

Martellini, Maurizio (*with* Bianchi, Massimo; Fucito, Francesco; Rossi, Giancarlo) String theory and ALE instantons. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 173–179, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:81150** 81T30 (83E30)

— (*with* Belgiorno, F.) Statistical fluctuations of a Schwarzschild black hole and entropy renormalization. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 235–251, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83040** 83C57

— (*with* Carfora, Mauro; Marzuoli, Annalisa) Four-dimensional combinatorial gravity from the recoupling of angular momenta. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 253–270, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83024** 83C27

— (*with* Zeni, Mauro; Fucito, Francesco) A new non-perturbative approach to QCD by BF-theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 504–508, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81192** 81T70 (81T13, 81V05)

— (*with* Fucito, Francesco; Zeni, Mauro) Nonlocal observables and confinement in BF formulation of Yang-Mills theory. (English summary) *Quantum fields and quantum space time* (*Cargèse*, 1996), 339–348, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Sergei K. Lando) **99c:81254** 81T70 (58D29, 81T13)

— (*with* Spreafico, Mauro; Yoshida, Kensuke) A continuum approach to 2D-quantum gravity for $c > 1$. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3247–3279. (Henrik Aratyn) **99b:81220** 81T40 (81T50)

— (*with* Accardi, Alberto; Belli, Andrea; Zeni, Mauro) Topological Yang-Mills cohomology in pure Yang-Mills theory. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 127–134. (Summary) **99g:81218** 81T70 (81T13)

— (*with* Kamenshchik, A. Yu.; Khalatnikov, I. M.) Remarks about UV regularization of basic commutators in string theories. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046005, 5 *pp.* 81T15 (81T30)

Martello, Silvano (*with* Toth, Paolo) Upper bounds and algorithms for hard 0-1 knapsack problems. (English summary) *Oper. Res.* **45** (1997), *no.* 5, 768–778. (Jesús A. de Loera)

99j:90050 90C10 (90C27)
— (*with* Escudero, Laureano F.; Toth, Paolo) On tightening 0-1 programs based on extensions of pure 0-1 knapsack and subset-sum problems. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 379–404. (*see* **99b:90006**) 90C27
— *see also* **Bibliography: Combinatorial optimization, 99j:90001**
Martellotti, A. (*with* Brooks, J. K.; Candeloro, Domenico) On finitely additive measures in nuclear spaces. (Italian summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 37–50. (W. Hackenbroch) **99e:28017** 28B05 (46G10)
Martens, Gerriet (*with* Ballico, Edoardo; Keem, Changho; Ohbuchi, Akira) On curves of genus eight. *Math. Z.* **227** (1998), *no.* 3, 543–554. (Montserrat Teixidor i Bigas) **99b:14027** 14H40 (14C20)
Martens, Marco The periodic points of renormalization. (English summary) *Ann. of Math.* (2) **147** (1998), *no.* 3, 543–584. (Grzegorz Świątek) **99h:58057** 58F03 (58F20)
Martí, Genoveva Rethinking Quine's argument on the collapse of modal distinctions. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 276–294. (Steve Kuhn) **99c:03023** 03B45
— Rigidity and the description of counterfactual situations. (English summary) *Theoria (San Sebastián)* (2) **13** (1998), *no.* 33, 477–490. 03B65 (03A05, 03B45)
Martí, Jean-André (*with* Nuiro, Silvère Paul) Génération d'algèbres différentielles et applications. (French summary) [Generation of differentiable algebras, and applications] *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida, 1996)*, 139–150, *Univ. Lleida, Lleida*, 199?. (Yu. V. Egorov) **99c:46037** 46F05 (35D05, 35J65)
— (*with* Nuiro, Silvère Paul; Valmorin, Vincent) Algèbres différentielles et problème de Goursat non linéaire à données irrégulières. (English and French summaries) [Differential algebras and nonlinear Goursat problem with irregular data] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 1, 135–159. (Vyacheslav V. Chistyakov) **99k:35012** 35A30 (35D05, 35L20, 46F10)
— Fundamental structures and asymptotic microlocalization in sheaves of generalized functions. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 223–228. (Summary) **99f:58187** 58G07 (46F10)
— (*with* Nuiro, Silvère Paul; Valmorin, Vincent) A nonlinear Goursat problem with irregular data. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 229–246. (Summary) **99d:35025** 35G20 (46F10)
gómez Martí, José *see* **Gómez Martí, José**
Marti, Jose M. High resolution methods for relativistic fluid dynamics. *Numerical methods for wave propagation (Manchester, 1995)*, 297–322, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Meng Zhao Qin) **99j:76084** 76M20 (65M06, 76Y05)
Marti, Kurt Solving stochastic structural optimization problems by RSM-based stochastic approximation methods—gradient estimation in case of intermediate variables. (English summary) Structural reliability and stochastic structural optimization. *Math. Methods Oper. Res.* **46** (1997), *no.* 3, 409–434. (R. Subramanian) **99f:90186** 90C90 (90B25)
— (*with* Qu, S.) Adaptive stochastic path planning for robots—path planning in real-time. *Operations Research Proceedings* 1997 (*Jena*), 144–149, *Springer, Berlin*, 1998. (*see* **99d:90008**) 93C85 (93C95)
— (*with* Stöckl, G.) Numerische Untersuchung inexakter stochastischer Gradientenverfahren. [Numerical investigation of inexact stochastic gradient methods] *Operations Research Proceedings* 1997 (*Jena*), 150–155, *Springer, Berlin*, 1998. (*see* **99d:90008**) 65K10 (90C25)
— *see also* **ICIAM/GAMM 95, 99f:00010b** *and* **Stochastic programming methods and technical applications, 99f:90007**
sáez-Martí, María *see* **Sáez-Martí, María**
Martí-Farré, Jaume Sets defining minimal vertex covers. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 555–559. (Summary) **99i:05114** 05C35
Martikaïnen, A. I. (*with* Frolov, Andrei N.; Steinebach, Josef) On the maximal gain over head runs. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 165–181. (Anant P. Godbole) **99i:60068** 60F15
— (*with* Frolov, Andrei N.) On the length of the longest increasing run in $\mathbf{R}^d$. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 153–161. (Endre Csáki) **99m:60052** 60F15 (60F05)
Martin, A. *see* **Martin, Alexander**
calderón Martín, A. J. *see* **Calderón Martín, A. J.**
Martin, Alexander (*with* Grötschel, Martin; Weismantel, Robert) The Steiner tree packing problem in VLSI design. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 265–281. (Ulrich Faigle) **99c:90093** 90C27 (68Q35)
— (*with* Ferreira, Carlos E.; de Souza, C. C.; Weismantel, Robert; Wolsey, Laurence A.) The node capacitated graph partitioning problem: a computational study. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 229–256. (Summary) **99b:90146** 90C35 (05C90)
— (*with* Koch, Thorsten) Solving Steiner tree problems in graphs to optimality. (English summary) *Networks* **32** (1998), *no.* 3, 207–232. 90C35 (05C05)
Martin, André (*with* Grosse, Harald) ★ Particle physics and the Schrödinger equation. (English summary) Cambridge Monographs on Particle Physics, Nuclear Physics and Cosmology, 6. *Cambridge University Press, Cambridge*, 1997. xii+167 *pp. ISBN* 0-521-39225-X (Allina A. Suzko) **99c:81001** 81–02 (81U05, 81U40, 81V35, 81V45)
— "Optimal" bounds on the ground-state energy of N-body systems of bosons and fermions interacting by attractive forces. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 445–451. (A. Ventura) **99b:81291** 81V70
durán Martín, Angel *see* **Durán Martín, Angel**
hernández Martín, Aníbal *see* **Hernández Martín, Aníbal**
san Martín, Bernardo *see* **San Martín, Bernardo**
Martin, Bernd (*with* Pfister, Gerhard; Popescu, Dorin) Maximal Cohen-Macaulay modules over singularities of type $x^t + y^3$. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 591–619. (Yuji Yoshino) **99i:13018** 13C14 (13D10)
Martin, C. *see* **Martin, Clyde F.**
Martin, C. P. (*with* Leibbrandt, George; Richardson, Allan Keith) The pole part of the 1PI four-point function in light-cone gauge Yang-Mills theory. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 521–548. (Summary) **99a:81114** 81T18 (81T15)
donati-Martin, Catherine *see* **Donati-Martin, Catherine**
Martin, Clyde F. (*with* Li, Zhu) An inverse problem of a linear dynamic system with noise. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1291–1317. 93E03 (93E20)
— (*with* Zhang, Zhimin; Tomlinson, John) Splines and linear control theory. (English summary) *Acta Appl. Math.* **49** (1997), *no.* 1, 1–34. (Summary) **99d:41021** 41A15 (49K15)
— (*with* Zhang, Zhimin) Convergence and Gibbs' phenomenon in cubic spline interpolation of discontinuous functions. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 359–371. (Hans Strauss) **99e:65014** 65D07 (41A15)
— (*with* Agwu, Nwojo N.) Optimal control of dynamic systems: application to spline approximations. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 99–138. (Summary) **99d:41012** 41A15 (49N10)
— (*with* Schovanec, Lawrence) Muscle mechanics and dynamics of ocular motion. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 14 *pp.* (*electronic*). (Summary) **99e:92010** 92C10 (92J30)
— (*with* Egerstedt, Magnus) A control theoretic model of the muscular actions in human head-eye coordination. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 19 *pp.* (*electronic*). (Andrzej Świerniak) **99m:92005** 92C10 (49N55, 70Q05, 92J30, 93C95)
— (*with* Belinskiĭ, B. P.; Dauer, Jerald P.; Shubov, Marianna A.) On controllability of an elastic string with a viscous damping. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 227–255. (Vilmos Komornik) **99f:93009** 93B05 (35L05, 73K50, 93C20)
— (*with* Schovanec, Lawrence) The control and mechanics of human movement systems. *Dynamical systems, control, coding, computer vision (Padova, 1998)*, 173–202, *Progr. Systems Control Theory*, 25, *Birkhäuser, Basel*, 1999. (*see* **99k:93006**) 93C85 (70Q05, 92C10, 93C95)
vidal Martín, Concepción *see* **Vidal Martín, Concepción**
Martin, David F. (*with* Homeier, Peter V.) Mechanical verification of total correctness through diversion verification conditions. (English summary) *Theorem proving in higher order logics (Canberra, 1998)*, 189–206, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68Q60 (68T15)
Martin, Eric (*with* Osherson, Daniel) Scientific discovery based on belief revision. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1352–1370. (David Makinson) **99i:03029** 03B60
Martin, Fernando (*with* Flores-Sintas, Antonio; Cadenas, José M.) A local geometrical properties application to fuzzy clustering. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 245–256. (Summary) **99h:62082** 62H30
plaza Martín, Francisco J. *see* **Plaza Martín, Francisco J.**
moreau de saint-Martin, François *see* **Moreau de Saint-Martin, François**
Martin, G. J. (*with* Cao, Chun; Gehring, F. W.) Lattice constants and a lemma of Zagier. (English summary) *Lipa's legacy (New York, 1995)*, 107–120, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (C. Maclachlan) **99a:30040** 30F40 (11H06, 20H10, 57S30)
— (*with* Gehring, F. W.; Maclachlan, C.) Two-generator arithmetic Kleinian groups. II. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 3, 258–266. (R. Michael Porter) **99j:30050** 30F40 (20H10, 57M25)
Martin, Geoffrey (*with* Sterling, Ivan) Visualizing nonlinear electrodynamics. (English summary) *Visualization and mathematics (Berlin-Dahlem, 1995)*, 37–51, *Springer, Berlin*, 1997. (*see* **99g:68212**) 78A99 (53–04, 78–04)
Martin, Georgia (*with* Beigel, Richard; Gasarch, William I.; Kummer, Martin Walter; McNicholl, Timothy; Stephan, Frank) On the query complexity of sets. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 206–217, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **99b:03057** 03D15 (03D30)
Martin, Greg Uniform bounds for the least almost-prime primitive root. *Mathematika* **45** (1998), *no.* 1, 191–207. (D. R. Heath-Brown) **99j:11113** 11N69 (11N36)
— Dense Egyptian fractions. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3641–3657. (A. J. Hildebrand) **99m:11035** 11D68 (11N25)
verdú Martín, Gumersindo *see* **Verdú Martín, Gumersindo**
Martin, Heath M. (*with* Migliore, Juan C.) Submodules of the deficiency modules and an extension of Dubreil's theorem. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 463–476. (Chikashi Miyazaki) **99k:14080** 14M06 (13D02, 14M07)
— (*with* Migliore, Juan C.; Nollet, Scott) Degrees of generators of ideals defining curves in projective space. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1209–1231. (Giorgio Bolondi) **99b:14051** 14M06 (13C40, 13H10)
Martin, I. *see* **Martín, Isbelia**
Martin, Ian (*with* Sidorenko, Vladimir; Honary, Bahram) On the rectangularity of nonlinear block codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 720–725. (Summary) **99k:94064** 94B60
Martín, Isbelia (*with* Restuccia, A.) On the construction of global duality maps in strings and supermembrane theories. (English summary) *Supersymmetry and quantum field theory (Kharkov, 1997)*, 109–115, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 81T30
— (*with* Restuccia, A.; Torrealba, R.) On the stability of compactified $D = 11$ supermembranes: global aspects of the bosonic sector. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 1-2, 117–128. (Summary) **99j:81150** 81T30
Martín, J. *see* **Martín, Jésus**
Martin, J. A. *see* **Martín Alustiza, J. A.**
san Martín, Jaime *see* **San Martín, Jaime**
Martín, Jésus (*with* Hernández-Pastora, J. L.; Ruiz, Eduardo) Approaches to the monopole-dynamic dipole vacuum solution concerning the structure of its Ernst potential on the symmetry axis. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 7, 999–1023. (Summary) **99f:83011** 83C15 (83C25)
Martin, John N. Aristotle's natural deduction reconsidered. (English summary) *Hist. Philos. Logic* **18** (1997), *no.* 1, 1–15. (Summary) **99d:03001** 03–03 (01A20)
gómez Martín, José Ramón *see* **Gómez Martín, José Ramón**

Martin, Keith M. (*with* Casse, Louis Reynolds Antoine; Wild, Peter R.) Bounds and characterizations of authentication/secrecy schemes. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 107–129. (Andrea Sgarro) **99c:94027** 94A60 (05B15, 94A15)
— (*with* van Dijk, Marten; Jackson, Wen-Ai) A general decomposition construction for incomplete secret sharing schemes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 301–321. (Summary) **99i:94041** 94A60
— (*with* Jackson, Wen-Ai) Combinatorial models for perfect secret sharing schemes. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 249–265. (Summary) **99j:94050** 94A60 (05B35)
— (*with* Jackson, Wen-Ai) An algorithm for efficient geometric secret sharing schemes. (English summary) *Util. Math.* **54** (1998), 127–150. (Corrado Zanella) **99k:94036** 94A60
Martin, Lionel (*with* Vrain, Christel) Systematic predicate invention in inductive logic programming. (English summary) *Inductive logic programming* (*Prague*, 1997), 189–204, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)
san Martin, Luiz A. B. *see* **San Martin, Luiz A. B.**
Martin, M. *see* **Martin, Mathieu**
Martín, M. A. *see* **Martín, Miguel Ángel**
blanco Martin, Maria Francisca *see* **Blanco Martin, Maria Francisca**
Martin, Mathieu Quota games and stability set of order d. (English summary) *Econom. Lett.* **59** (1998), *no.* 2, 145–151. (Maurice Salles) **99i:90127** 90D12 (90A08)
Martín, Miguel *see* **Martín Suarez, Miguel**
Martín, Miguel Ángel (*with* Arratia, Oscar; del Olmo, Mariano A.) Moyal quantization and group theory. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 191–201. (Günter Braunss) **99h:58071** 58F06 (81S10)
Martin, Mircea (*with* Szeptycki, Paweł) Sharp inequalities for convolution operators with homogeneous kernels and applications. *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 975–988. (Maria J. Carro) **99b:42017** 42B15 (42B25, 44A35)
— (*with* Salinas, Norberto) Flag manifolds and the Cowen-Douglas theory. (English summary) *J. Operator Theory* **38** (1997), *no.* 2, 329–365. (Harald Upmeier) **99f:47008** 47A13 (46L99, 47B20, 58B25)
— (*with* Salinas, Norberto) The canonical complex structure of flag manifolds in a C^*-algebra. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 173–187, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Gustavo Corach) **99k:46129** 46L99 (58B20)
— Joint seminormality and Dirac operators. (English summary) *Integral Equations Operator Theory* **30** (1998), *no.* 1, 101–121. (Raúl E. Curto) **99f:58186** 58G05 (47B20, 47F05, 58G25, 58G30)
— Higher-dimensional Ahlfors-Beurling type inequalities in Clifford analysis. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2863–2871. (Michael V. Shapiro) **99a:30045** 30G35 (47B20)
Martin, Olivier C. (*with* Percus, Allon G.) Scaling universalities of kth-nearest neighbor distances on closed manifolds. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 424–436. (Ren Ding) **99i:60024** 60D05 (52A22)
— (*with* Houdayer, J.; Boutet de Monvel, J. H.) Comparing mean field and Euclidean matching problems. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **6** (1998), *no.* 3, 383–393. (Summary) **99i:82023** 82B44 (82D30)
Martin, P. *see* **Martín de la Torre, Pau**
Martin, P. A. *see* **Martin, Paul Andrew**
Martín, P. J. (*with* Gavilanes-Franco, Antonio; Leach Albert, Javier) Free variable tableaux for a logic with term declarations. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 202–216, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B70)
Martín, Pablo *see* **Martín Ordóñez, Pablo**
Martin, Paul Andrew Diffraction by non-planar cracks. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 102–106, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 73D25 (45E05)
— (*with* Rizzo, F. J.; Cruse, T. A.) Smoothness-relaxation strategies for singular and hypersingular integral equations. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 5, 885–906. (Summary) **99c:65248** 65R20 (45E05, 45L05)
— On the added mass of rippled discs. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 4, 421–435. (Summary) **99f:76020** 76B10 (76B40)
— Multiple scattering and the Rehr-Albers-Fritzsche formula for the propagator matrix. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8923–8932. (Summary) **99h:76082** 76Q05 (78A45)
— On potential flow past wrinkled discs. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2209–2221. (Summary) **99f:76019** 76B10
Martin, Paul Purdon (*with* Rollet, G.) The Potts model representation and a Robinson-Schensted correspondence for the partition algebra. (English summary) *Compositio Math.* **112** (1998), *no.* 2, 237–254. (Yasuyuki Kawahigashi) **99f:05121** 05E10 (82B20)
— (*with* Woodcock, D.) The partition algebras and a new deformation of the Schur algebras. *J. Algebra* **203** (1998), *no.* 1, 91–124. (Karin Erdmann) **99g:16038** 16S80 (05E10, 20G05)
Martin, Philippe *see* **Martin, Philippe Pierre**
Martin, Philippe André[1] (*with* Macris, Nicolas; Pulé, Joseph V.) Large volume asymptotics of Brownian integrals and orbital magnetism. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 2, 147–183. (Roberto Fernández) **99d:82022** 82B21 (60J65, 82B10, 82D40)
— (*with* Kovar, Thomas) Scattering with a periodically kicked interaction and cyclic states. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 385–396. (Summary) **99a:81186** 81U05
— (*with* Macris, Nicolas; Pulé, Joseph V.) On edge states in semi-infinite quantum Hall systems. (English summary) *J. Phys. A* **32** (1999), *no.* 10, 1985–1996. (Summary) **99m:81295** 81V70
Martin, Philippe Pierre (*with* Fliess, Michel; Lévine, Jean; Rouchon, Pierre) Nonlinear control and diffieties, with an application to physics. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 81–92, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Emilia Petrisor) **99i:93026** 93C10 (58H99, 70Q05)
Martin, R. J. *see* **Martin, Richard John**
Martin, Reiner Non-uniquely ergodic foliations of thin type. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 667–674. (Summary) **99a:57026** 57R30 (57M20)
Martin, Richard John Spatial experimental design. *Design and analysis of experiments*, 477–514, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K05 (62M30)
— (*with* Cheng, Ching-Shui; Tang, Boxin) Two-level factorial designs with extreme numbers of level changes. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1522–1539. (Damaraju Raghavarao) **99k:62142** 62K15
— (*with* Jones, Geoff; Eccleston, J. A.) Some results on two-level factorial designs with dependent observations. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 363–384. (Rainer Schwabe) **99f:62096** 62K15 (62M10)
— (*with* Jones, Geoff; Eccleston, J. A.) Eight-run two-level factorial designs under dependence. (English summary) *Metrika* **48** (1998), *no.* 2, 127–139. 62K15
Martin, Robert H. (*with* Pierre, Michel) Influence of mixed boundary conditions in some reaction-diffusion systems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 1053–1066. (Weihua Ruan) **99c:35113** 35K57 (35B30)
Martin, Stuart (*with* Russell, Lee) Defect 3 blocks of symmetric group algebras. *J. Algebra* **213** (1999), *no.* 1, 304–339. (Alexander Kleshchev) **99k:20028** 20C30 (20C20)
Martin, T. P. (*with* Baldwin, J. F.; Lawry, J.) The application of generalised fuzzy rules to machine learning and automated knowledge discovery. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 5, 459–487. 68T05 (03B52, 03B70)
Martin, Thierry Cournot et les mathématiques. [Cournot and mathematics] *Les philosophes et les mathématiques*, 193–211, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)
Martin, Ursula New directions for syntactic termination orderings. (English summary) *Symbolic rewriting techniques* (*Ascona*, 1995), 209–224, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Summary) **99d:68135** 68Q42
Martin, Vance L. (*with* Pagan, A. R.; Hall, A. D.) Modeling the term structure. *Statistical methods in finance*, 91–118, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62145** 62P20 (90A09)
Martin, Wayne Fast equi-partitioning of rectangular domains using stripe decomposition. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 193–207. (Summary) **99a:90218** 90C35
Martin, William J. Completely regular designs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 261–273. (Willem H. Haemers) **99k:05029** 05B05 (05E30)
Martin, Wolfgang (*with* Flandrin, Patrick) The Wigner-Ville spectrum of nonstationary random signals. (English summary) *The Wigner distribution*, 211–267, *Elsevier, Amsterdam*, 1997. (*see* **99k:94018**) 94A12 (60G10, 60G35)
Martina, L. (*with* Pashaev, O. K.; Soliani, Giulio) Chern-Simons-Witten topological field theory and integrable models. *Symmetry methods in physics, Vol. 2* (*Dubna*, 1995), 396–401, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81T70
— (*with* Pashaev, O. K.; Soliani, Giulio) Bright solitons as black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084025, 13 *pp.* (Summary) **99m:83127** 83C57 (83C47)
Martín Alustiza, J. A. (*with* Morera, J. L.; Sirvent, A.) Linear multistep matrix methods for a class of functional-differential equations: convergence and error bounds. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 17–30. (Summary) **99h:65147** 65L99 (34K05)
— *see also* **Jódar, Lucas, 99g:65101**
Martín Andrés, A. (*with* Tapia García, J. M.) On determining the P-value in 2×2 multinomial trials. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 33–49. (Graham J. G. Upton) **99g:62081** 62H17
Martín Cabrera, Francisco Almost hyper-Hermitian structures in bundle spaces over manifolds with almost contact 3-structure. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 545–563. (María Laura Barberis) **99k:53056** 53C15 (53C25)
Martindale, S. C. (*with* Zhu, Jerry Ye; Dawson, Darren M.) A new design for model reference robust control using state-space techniques. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1061–1084. 93B51 (93B35)
Martindale, W. S., III (*with* Beidar, K. I.) On functional identities in prime rings with involution. (English summary) *J. Algebra* **203** (1998), *no.* 2, 491–532. (Matej Brešar) **99f:16024** 16R50 (16N60, 16W10)
Martín de Diego, David (*with* Ibort, Luis Alberto; de León, Manuel; Marmo, Giuseppe) Non-holonomic constrained systems as implicit differential equations. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 295–317. (Frans Cantrijn) **99g:70021** 70F25 (34A09, 34A26, 58F05, 70Hxx)
— (*with* Ibáñez, Raúl; de León, Manuel; Marrero, Juan Carlos) Nambu-Poisson dynamics. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 405–413. (Frans Cantrijn) **99h:58063** 58F05 (70H05, 70H99)
— (*with* Ibort, Luis Alberto; de León, Manuel; Lacomba, Ernesto A.; Marrero, Juan Carlos; Pitanga, Paulo) Geometric formulation of mechanical systems subjected to time-dependent one-sided constraints. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2655–2674. (Frans Cantrijn) **99d:70021** 70F30 (58F05, 70F25)
— (*with* Ibort, Luis Alberto; de León, Manuel; Marrero, Juan Carlos) A Dirac bracket for non-holonomic Lagrangian systems. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 85–101. (Frans Cantrijn) **99j:70018** 70F25 (58F05, 70H35)
— (*with* de León, Manuel; Marrero, Juan Carlos) Time-dependent mechanical systems with non-linear constraints. (English summary) *New developments in differential geometry, Budapest* 1996, 221–234, *Kluwer Acad. Publ., Dordrecht*, 1999. (Jesús Marín-Solano) **99k:58073** 58F05 (70F25, 70H35)
Martín de la Torre, Pau (*with* Fontich, E.) Construction of some unstable symplectic maps. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 95–103, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Dmitry V. Treshchëv) **99b:58213** 58F30 (34C99, 58F10, 70H05, 70K99)
Martín-Delgado, Miguel A. (*with* Sierra, Germán) Dualities in spin ladders. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1657–1665. (Gunter Schütz) **99d:82020** 82B20

(81V70)
— (*with* Román, J. M.; Sierra, Germán; Dukelsky, J.) The matrix product approach to quantum spin ladders. (English summary) *J. Phys. A* **31** (1998), *no.* 48, 9729–9759. (Summary) **99j:82019** 82B20
Martin-Deschamps, Mireille (*with* Piene, Ragni) Arithmetically Cohen-Macaulay curves in $\mathbf{P}^4$ of degree 4 and genus 0. (English summary) *Manuscripta Math.* **93** (1997), *no.* 3, 391–408. (Summary) **99b:14001** 14C05
— (*with* Perrin, Daniel) Quand un morphisme de fibrés dégénère-t-il le long d'une courbe lisse? [When does a bundle morphism degenerate along a smooth curve?] *Algebraic geometry (Catania, 1993/Barcelona, 1994)*, 119–167, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Maria Luisa Spreafico) **99i:14035** 14H50 (14M05, 14M06)
Martineau, André Théorèmes sur le prolongement analytique du type "edge of the wedge theorem". ["Edge of the wedge"-type analytic extension theorems] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 340, 445–461, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 32A07 (46F10, 81T05)
— Les hyperfonctions de M. Sato. [The hyperfunctions of M. Sato] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 214, 127–139, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 32A45 (46F15)
Martinec, Emil (*with* Li, Miao[1]) Black holes in Matrix theory. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 329–335. (From the introduction) **99i:81195** 81T30 (83C57, 83E30)
Martinek, Pavel Limits of pure grammars with monotone productions. (English summary) *Fund. Inform.* **33** (1998), *no.* 3, 265–280. (Summary) **99j:68074** 68Q50 (68Q45)
Martinelli, Fabio (*with* Cesi, F.; Maes, Christian) Relaxation of disordered magnets in the Griffiths' regime. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 135–173. (Agoston Pisztora) **99f:82031** 82B44
— (*with* Cesi, F.; Maes, Christian) Relaxation to equilibrium for two-dimensional disordered Ising systems in the Griffiths phase. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 323–335. (Roberto Fernández) **99h:82067** 82C44 (82C26)
— (*with* Cesi, F.; Maes, Christian) Relaxation of random magnets: exact results for the Griffiths' regime. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 465–474. (Massimo Campanino) **99m:60150** 60K35 (82B44, 82C22)
— An improvement of algorithms for solving interface equations. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 4, 185–190. (Summary) **99e:68047** 68Q10
— (*with* Alexander, Kenneth S.; Cesi, F.; Chayes, L.; Maes, Christian) Convergence to equilibrium of random Ising models in the Griffiths phase. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 337–351. (Aernout C. D. van Enter) **99i:82037** 82C44 (60K35, 82B44, 82C22)
Martinenko, Mikhaĭlo D. (*with* Voĭnich, V. P.) Fundamental matrix of solutions of an evolution system of Navier-Stokes equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 4, 10–12, 122. (Summary) **99i:35128** 35Q30 (76D05)
Martinet, Jacques Algebraic constructions of lattices; isodual lattices. *Number theory (Eger*, 1996), 349–360, *de Gruyter, Berlin*, 1998. (Gabriele Nebe) **99c:11082** 11H06 (11H31, 11H55)
roca Martinez, Alicia *see* **Roca Martinez, Alicia**
meca-Martínez, Ana *see* **Meca-Martínez, Ana**
Martínez, Aurea *see* **Martínez Varela, A. M.**
Martínez, C. *see* **Martínez, Conrado**
Martínez, Celso *see* **Martínez Carracedo, Celso**
Martinez, Concha *see* **Martínez Vidal, C.**
Martínez, Conrado (*with* Kirschenhofer, Peter; Prodinger, Helmut) Analysis of Hoare's FIND algorithm with median-of-three partition. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 143–156. (Jean-Luc Lambert) **99c:68063** 68P10
— (*with* Roura, Salvador) Optimal sampling strategies in quicksort. (English summary) *Automata, languages and programming (Aalborg*, 1998), 327–338, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68038** 68P10
— (*with* Panholzer, Alois; Prodinger, Helmut) On the number of descendants and ascendants in random search trees. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 20, 36 *pp.* (*electronic*). (Peter Kirschenhofer) **99b:05003** 05A15 (68P05, 68P10)
— (*with* Roura, Salvador) Randomized binary search trees. (English summary) *J. ACM* **45** (1998), *no.* 2, 288–323. (Ricardo Baeza-Yates) **99e:68026** 68P05 (68P10, 68Q25)
Martínez, Consuelo *see* **Martínez López, Consuelo**
Martínez, Cristián Instability of a three-dimensional conformally dressed black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 027501, 4 *pp.* 83C57
louis-Martinez, D. *see* **Louis-Martinez, D.**
Martínez, Daniel A. (*with* Chen, Shiyi; Mei, Renwei) On boundary conditions in lattice Boltzmann methods. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2527–2536. (Summary) **99m:76090** 76M25
Martínez, Eduardo (*with* Sarlet, W.; Crampin, M.) The integrability conditions in the inverse problem of the calculus of variations for second-order ordinary differential equations. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 3, 233–273. (Frans Cantrijn) **99m:58072** 58E30 (34A26, 49N45, 58F05, 70H35)
— *see also* **Geometry and physics, 99g:58001**
monari-Martinez, Elisabetta *see* **Monari-Martinez, Elisabetta**
Martínez, F. (*with* Villena Muñoz, Armando R.) Path regularity and regularity in mean of 1st order processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 435–442. (Zhan Shi) **99i:60091** 60G17
Martínez, Fernando (*with* Quintanilla, Ramón) Decay estimates for p-harmonic functions in unbounded domains. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 501–506, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35J65 (35B05)
— (*with* Quintanilla, Ramón) Existence, uniqueness and asymptotic behaviour of solutions to the equations of viscoelasticity with voids. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 25, 3347–3361. (Kenneth Kuttler) **99g:73062** 73F15 (35Q72)
— (*with* Quintanilla, Ramón) On the incremental problem in thermoelasticity with microstructure. *Meccanica* **33** (1998), *no.* 6, 601–604. (J. Ignaczak) **99k:73026** 73B30 (35Q72)
— (*with* Quintanilla, Ramón) On the incremental problem in thermoelasticity of nonsimple materials. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 703–710. (Andrzej Chrzęszczyk) **99i:73013** 73B30 (34G20, 35Q72)
sánchez Martínez, Francisco *see* **Sánchez Martínez, Francisco**
terán Martínez, Gabriel *see* **Terán Martínez, Gabriel**
mora Martínez, Gaspar *see* **Mora Martínez, Gaspar**
Martínez, Isabelle ★ Implizite Darstellung parametrischer Splinekurven. (German) [Implicit representation of parametric spline curves] Dissertation, Universität Stuttgart, Stuttgart, 1997. Wissenschaftliche Schriftenreihe Mathematik [Scientific Series Mathematics], 9. *Verlag Dr. Köster, Berlin*, 1997. *iv*+85 *pp. ISBN* 3-89574-276-7 (Manfred Tasche) **99m:65035** 65D17 (65D07)
Martínez, J. (*with* Tkach, V. I.; Rosales, J. J.) Action for the FRW model and complex matter field with local supersymmetry. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3755–3762. (Alfredo Macías) **99i:83106** 83E50 (81Q60, 83F05)
Martínez, J. J. *see* **Martínez, José-Javier**
lucio Martinez, J. L. *see* **Lucio Martínez, J. L.**
Martínez, J. M. *see* **Martínez, José Mario**
Martínez, Jorge[2] (*with* Hager, Anthony W.) Pushout-invariant extensions and monoreflections. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 263–295. (Summary) **99e:18002** 18A40 (13B99)
Martínez, José-Javier (*with* Peña, J. M.) Fast algorithms of Björck-Pereyra type for solving Cauchy-Vandermonde linear systems. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 3, 343–352. (J. Segethová) **99c:65060** 65F10
— (*with* Peña, J. M.) Factorizations of Cauchy-Vandermonde matrices. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 229–237. (Summary) **99g:65055** 65F30 (15A23)
— A generalized Kronecker product and linear systems. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 1, 137–141. 15A23
rocha-Martínez, José M. *see* **Rocha-Martínez, José M.**
Martínez, José Mario A trust-region SLCP model algorithm for nonlinear programming. (English summary) *Foundations of computational mathematics (Rio de Janeiro*, 1997), 246–255, *Springer, Berlin*, 1997. (*see* **99g:00039**) 90C30
— (*with* Dos Santos, Lucio Tunes; Santos, Sandra Augusta) A minimax method with application to the initial vector coding problem. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 273–284. (Summary) **99f:65095** 65K05
— (*with* Kozakevich, D. N.; Santos, Sandra Augusta) Solving nonlinear systems of equations with simple constraints. (English and Portuguese summaries) *Mat. Apl. Comput.* **16** (1997), *no.* 3, 215–235. (E. Spedicato) **99m:65113** 65H10 (90C08)
— (*with* Gomes-Ruggiero, Márcia A.; Lopes, Vera Lúcia Rocha) On the global convergence of Newton-like methods for nonsmooth systems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 959–969. (Bernd Luderer) **99b:90120** 90C30 (49J52, 65H10)
— Augmented Lagrangians and sphere packing problems. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 75–86. (Summary) **99k:90136** 90C27 (52C17, 90C35)
— Two-phase model algorithm with global convergence for nonlinear programming. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 397–436. (D. Klatte) **99i:90089** 90C30 (65K05, 90C31)
— (*with* Andreani, Roberto) On the solution of the extended linear complementarity problem. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 247–257. (S. R. Mohan) **99g:90143** 90C33 (49J40)
— A semifeasible trust-region model algorithm for minimization with inequality constraint. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 1–29. (Nada I. Djuranović-Miličić) **99j:90083** 90C30 (65K05)
— (*with* Krejić, Nataša) Inexact-Newton methods for semismooth systems of equations with block-angular structure. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 239–249. (Roxin Zhang) **99m:90098** 90C06 (65H10)
Martínez, Juan Carlos On cardinal sequences of scattered spaces. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 187–196. (Antonio Aizpuru Tomás) **99j:54036** 54G12
prieto Martínez, Juan José *see* **Prieto Martínez, Juan José**
Martínez, Julia *see* **Martínez Rodríguez, Julia**
Martínez, Justino (*with* Herrera, L.) Thermal conduction before relaxation in slowly rotating fluids. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3260–3270. (Gh. Procopiuc) **99c:83039** 83C55
— (*with* Herrera, L.; Di Prisco, A.) Breakdown of the linear approximation in the perturbative analysis of heat conduction in relativistic systems. (English summary) *Phys. Lett. A* **243** (1998), *no.* 1-2, 7–12. (Summary) **99d:83055** 83C55 (76Y05, 80A20)
Martínez, L. *see* **Martínez Lopez, Luis**
Martínez, Luis *see* **Martínez Fernandez, Luis**
Martínez, M. C. (*with* Granja Barón, Angel) Zariski's equisingularity for families of plane curves in positive characteristic. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2241–2263. (Victor Zvonilov) **99g:14034** 14H20 (14G27, 14H10)
Martínez, Mónica Lucía (*with* Chippada, S.; Dawson, Clint N.; Wheeler, Mary F.) A Godunov-type finite volume method for the system of shallow water equations. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 105–129. (*see* **99b:76003**) 76M25 (76B15)
— (*with* Chippada, S.; Dawson, Clint N.; Wheeler, Mary F.) Finite element approximations to the system of shallow water equations. I. Continuous-time a priori error estimates. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 692–711 (*electronic*). (A. Jami) **99d:65279** 65M60 (76B15, 76M10)
— (*with* Chippada, S.; Dawson, Clint N.; Wheeler, Mary F.) Finite element approximations to the system of shallow water equations. II. Discrete-time a priori error estimates. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 226–250 (*electronic*). (A. Jami) **99k:65094** 65M60 (65N30, 76B15, 76M10)
Martinez, Patrick Decay of solutions of the wave equation with a local highly degenerate dissipation. (English summary) *Asymptot. Anal.* **19** (1999), *no.* 1, 1–17. (Yu. V. Egorov)

99m:35138 35L05 (35B40)

Martínez, Raquel (*with* Llovet, Juan; Castaño, Bonifacio) Computing the characteristic polynomial of multivariate polynomial matrices given by straight-line programs. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 39–57. (Summary) **99a:68096** 68Q40

Martínez, S. *see* **Martínez, Servet A.**

Martínez, Salomé (*with* Felmer, Patricio L.) Existence and uniqueness of positive solutions to certain differential systems. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 4, 575–593. (Minoru Murata) **99m:35052** 35J55 (35B05, 35J65)

Martínez, Servet A. Introduction to neural networks. Storage capacity and optimization. *Disordered systems* (*Temuco*, 1991/1992), 113–133, *Travaux en Cours*, 53, *Hermann, Paris*, 1996. (Dimitri Petritis) **99c:82054** 82C32 (92B20)

— (*with* Picco, Pierre; San Martín, Jaime) Domain of attraction of quasi-stationary distributions for the Brownian motion with drift. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 385–408. (F. B. Knight) **99i:60156** 60J65 (60J60)

— (*with* Dellacherie, C.; Taïbi, D.; San Martín, Jaime) Noyaux potentiels associés à une filtration. (English and French summaries) [Potential kernels associated with a filtration] *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 6, 707–725. (Ivor E. McGillivray) **99k:60114** 60G42 (60G44, 60H05, 60J45)

— (*with* Maass, Alejandro) On Cesàro limit distribution of a class of permutative cellular automata. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 435–452. (François Blanchard) **99a:58097** 58F08 (58F11, 68Q80, 82C20)

— (*with* Ferrari, Pablo A.) Hamiltonians on random walk trajectories. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 1, 47–68. (Filippo Cesi) **99k:60247** 60K35 (82B41, 82C41)

— (*with* Collet, Pierre; Schmitt, Bernard) On the enhancement of diffusion by chaos, escape rates and stochastic instability. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2875–2897. (Viviane Baladi) **99j:58121** 58F11 (58F13, 60J10, 60J60)

— *see also* **Dynamical systems, 99b:58005** *and* **Disordered systems, 99b:82002**

Martínez, V. J. (*with* Momparler, J. C.) Nonlinear filters applied to hyperbolic problems with stiff source terms. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 7 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70

— (*with* Balaguer, Ángel; Conde, Carlos; López, José A.) A conservative numerical method for the convection-diffusion equation in a two-dimensional domain. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M60 (76M25)

Martínez-Abejón, Antonio (*with* González, Manuel) Ultrapowers and semi-Fredholm operators. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 415–433. (Introduction) **99e:47019** 47A53 (03H05, 46B08, 47S20)

— (*with* González, Manuel) Tauberian operators on $L_1(\mu)$ spaces. (English summary) *Studia Math.* **125** (1997), *no.* 3, 289–303. (Summary) **99f:47039** 47B38 (46E99, 47A53)

— (*with* González, Manuel) Lifting unconditionally converging series and semigroups of operators. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 135–145. (Hans-Olav Tylli) **99g:47021** 47A53 (46B28)

— An elementary proof of the principle of local reflexivity. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1397–1398. (Jesús M. F. Castillo) **99h:46008** 46B10 (46B07)

Martínez-Acosta, R. R. (*with* Duff, M. J.; Hoxha, P.; Lu, Hong[1]; Pope, C. N.) A lattice universe from M-theory. (English summary) *Phys. Lett. B* **451** (1999), *no.* 1-2, 38–45. (Summary) **99m:83187** 83E30 (81T30, 83F05)

Martínez Alfaro, J. (*with* Campos, B.; Vindel, P.) Links and bifurcations in nonsingular Morse-Smale systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 8, 1717–1736. (Robert Ghrist) **99f:58110** 58F09 (57M25)

— (*with* Casasayas, J.; Nunes, Ana Maria) Knots and links in integrable Hamiltonian systems. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 2, 123–153. (Robert Ghrist) **99f:58111** 58F09 (57M25, 58F05)

Martínez Alonso, Luis (*with* Mañas, Manuel) From Ramond fermions to Lamé equations for orthogonal curvilinear coordinates. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 316–322. (Summary) **99f:58101** 58F07 (17B69)

Martínez Alvarez, Clotilde Bounded solutions for a nonautonomous logistic equation with finite delay. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 315–320, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34K15

Martínez-Amores, Pedro (*with* Torres, Pedro J.) Dynamics of a periodic differential equation with a singular nonlinearity of attractive type. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 431–435, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C25 (34D99)

Martínez Arcos, E. (*with* Abia, Luis M.; López Marcos, Juan Carlos) A pseudospectral scheme for Zakharov equations. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 16 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70 (76M25, 76X05)

— (*with* Abia, Luis M.; López Marcos, Juan Carlos) A semidiscrete finite difference scheme for the Zakharov equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 835–840, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M06

Martínez Avendaño, R. A. (*with* Cruz-Sampedro, J.; Navarro Cruz, R.) Perturbations of the Wigner-von Neumann potential. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 69–77, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99i:47081** 47E05 (34A55, 34L40, 81Q05)

Martínez-Canales, M. L. *see* **Martínez, Mónica Lucía**

Martínez Carracedo, Celso (*with* Sanz Alix, Miguel A.) Spectral mapping theorem for fractional powers in locally convex spaces. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 4, 685–702 (1998). (Alberto Venni) **99g:47031** 47A60 (47A10)

— (*with* Sanz Alix, Miguel A.; Pastor, Javier) Fractional powers of multivalued linear operators. Generation of analytic semigroups. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 507–512, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 47D06 (34G10)

— (*with* Sanz Alix, Miguel A.; Periago, Francisco) Imaginary powers of nonnegative operators and their applications to PDEs. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 513–518, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34G10 (35J15, 47D06)

Martínez-de-Albeniz, F. Javier (*with* Rafels, Carles) On the intersection between the imputation set and the Weber set. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 111–120. (Summary) **99i:90128** 90D12

Martínez Fernandez, Luis Prime and primary L-fuzzy ideals of L-fuzzy rings. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 489–494. 16W99

Martínez-Finkelshtein, Andrei Trajectories of quadratic differentials and approximations of exponents on the semiaxis. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 69–84, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Zygmunt Wronicz) **99f:30056** 30E10 (41A25)

— (*with* Moreno-Balcázar, Juan J.; Pijeira-Cabrera, Héctor) Asymptotics for Gegenbauer-Sobolev type polynomials. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 85–91, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Summary) **99h:33043** 33C45

— (*with* Zarzo, A.) Zero distribution of solutions of linear second order differential equations. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 93–108, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Summary) **99e:34038** 34C10 (33C45, 34A20, 34E20)

— (*with* Moreno-Balcázar, Juan J.) Asymptotics of Sobolev orthogonal polynomials for a Jacobi weight. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 4, 430–437. (Walter Van Assche) **99b:33020** 33C45 (42C05)

— (*with* Barrios, Dolores; López Lagomasino, G.; Torrano Giménez, E.) On the domain of convergence and poles of complex J-fractions. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 177–200. (Summary) **99b:30003** 30B70 (40A15)

— (*with* Artés, P. L.; Dehesa, Jesús S.; Sánchez-Ruiz, Jorge) Linearization and connection coefficients for hypergeometric-type polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 15–26. (Harold Exton) **99k:33006** 33C05

— Asymptotic properties of Sobolev orthogonal polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 491–510. (Summary) **99m:33007** 33C45 (42C15)

— *see also* **Complex methods in approximation theory, 99b:00012**

Martínez-García, J. C. Geometry and structure in the control of linear time invariant systems. (English summary) *Geometric control and non-holonomic mechanics* (*Mexico City*, 1996), 221–236, *CMS Conf. Proc.*, 25, *Amer. Math. Soc., Providence, RI*, 1998. (David L. Elliott) **99g:93021** 93B27 (93C05)

Martínez García, Ma. Lina (*with* Girón González-Torre, Fco. Javier; Morcillo Aixelá, Carmen) Outlier detection in Poisson and exponential samples. (Spanish. English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fis. Nat.* (*Esp.*) **91** (1997), *no.* 1, 1–7. (Summary) **99i:62049** 62F15

Martínez-Legaz, Juan-Enrique (*with* Singer, Ivan) On conjugations for functions with values in extensions of ordered groups. (English summary) *Positivity* **1** (1997), *no.* 3, 193–218. (Alberto Seeger) **99k:49076** 49N15 (06F20, 90C48)

— (*with* Flores-Bazán, Fabián) Simplified global optimality conditions in generalized conjugation theory. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 305–329, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Christian Michelot) **99j:90060** 90C26 (49N15, 90C48)

— A duality theory for totally balanced games. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 151–161, *Univ. Rovira Virgili, Tarragona*, 1998. (Summary) **99a:90246** 90D10 (49N15)

— (*with* Singer, Ivan) On Φ-convexity of convex functions. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 163–181. (S. Kutateladze) **99f:49055** 49N15 (49J52, 52A41, 90C25)

— *see also* **Generalized convexity, generalized monotonicity: recent results, 99f:90006**

Martínez López, Consuelo (*with* Bernad, J.; González, Santos; Iltyakov, A. V.) On identities of baric algebras and superalgebras. *J. Algebra* **197** (1997), *no.* 2, 385–408. (Irvin Roy Hentzel) **99a:17034** 17D92 (17A30, 17A70)

— (*with* Mann, Avinoam) Groups nearly of prime exponent and nearly Engel Lie algebras. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 1, 5–11. (Gunnar Traustason) **99f:20029** 20D15 (17B60, 20F40, 20P05)

— (*with* González, Santos; Grishkov, A. N.) A radical splitting theorem for Bernstein algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2529–2542. (Moussa Ouattara) **99e:17045** 17D92

— (*with* Bernad, J.; González, Santos; Iltyakov, A. V.) Polynomial identities of Bernstein algebras of small dimension. (English summary) *J. Algebra* **207** (1998), *no.* 2, 664–681. (Irvin Roy Hentzel) **99g:17056** 17D92 (17A30)

— Graded simple Jordan algebras and superalgebras. (English summary) *Recent progress in algebra* (*Taejon/Seoul*, 1997), 189–197, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Robert Lewand) **99i:17037** 17C70 (17A70)

— (*with* González, Santos; López-Díaz, Miguel; Shestakov, Ivan P.) Bernstein superalgebras and supermodules. (English summary) *J. Algebra* **212** (1999), *no.* 1, 119–131. (Henrique Guzzo, Jr.) **99m:17045** 17D92 (17A70)

Martínez Lopez, Luis (*with* Delgado, Miguel; Herrera, Francisco; Herrera-Viedma, E.) Combining numerical and linguistic information in group decision making. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 177–194. (Summary) **99b:68184** 68T30 (90A05)

Martínez López, Pablo E. (*with* Baum, Gabriel A.) Fork algebraic datatypes. (English summary) *Log. J. IGPL* **6** (1998), *no.* 4, 531–543. (V. Căzănescu) **99g:68134** 68Q65 (03B70, 08A70, 68Q55)

Martínez-Maure, Yves Sur les hérissons projectifs (enveloppes paramétrées par leur application de Gauss). (English and French summaries) [On projective hedgehogs (envelopes parametrized by their Gauss map)] *Bull. Sci. Math.* **121** (1997), *no.* 8, 585–601. (Luis J. Alías) **99a:53071** 53C40 (53A07)

Martínez Molada, Eulalia (*with* Soler Fernández, David) Exact solution of the Chinese postman problem with turn penalties. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 1111–1115, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 90B10

Martínez Moreno, J. (*with* Carrasco, P.) A 2-dimensional cohomology with coefficients in categorical groups. *Extracta Math.* **12** (1997), *no.* 3, 231–241. (P. S. Green) **99h:18014** 18G55 (18D10, 55P20, 55U10)

Martínez Olivé, Víctor (*with* Gabriel Argüelles, J. Rigoberto) Asymptotics of the kinematic dynamo equation with initial conditions located on invariant manifolds of the field ABC, $A = B = C = 1$, with strong accumulation of magnetic energy. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish)* (*Queretaro*, 1994), 259–278, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Manuel Núñez Jiménez) **99h:76089** 76W05 (34E20)

— *see also* **Dobrokhotov, Sergei Yu. et al.**

Martínez-Pastor, A. (*with* Arroyo-Jordá, P.) On certain actions of groups and injective Fitting sets. *Comm. Algebra* **26** (1998), *no.* 5, 1557–1566. (Arnold D. Feldman) **99d:20050** 20F17 (20D10, 20D45, 20F28)

— (*with* Ballester-Bolinches, A.; Pérez-Ramos, M. D.) A family of dominant Fitting classes of finite soluble groups. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 33–43. (A. Scarselli) **99a:20013** 20D10

— A self-centralizing subgroup of S-stable groups. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 21–33. (George Glauberman) **99m:20030** 20D10 (20D20)

Martínez Rodríguez, Julia (*with* Abia, Luis M.; López Marcos, Juan Carlos) Numerical blowup in discretizations of reaction-diffusion models. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 3 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M30

— (*with* Abia, Luis M.; López Marcos, Juan Carlos) Blowup in semidiscretizations of reaction-diffusion models. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 365–370, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35K57 (35B99, 65M99)

— (*with* Abia, Luis M.; López Marcos, Juan Carlos) On the blow-up time convergence of semidiscretizations of reaction-diffusion equations. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 4, 399–414. (Reinhard Redlinger) **99b:65108** 65M20 (65M12)

— (*with* Rincón Zapatero, J. P.; Martín-Herrán, G.) New method to characterize subgame perfect Nash equilibria in differential games. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 377–395. (Han Sheng Wu) **99c:90173** 90D25 (93C10)

Martínez Varela, A. M. (*with* Alvarez Vázquez, L. J.) Natural convection in canned foods: modelling and control. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 1039–1044, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76R10 (35Q35)

— (*with* Rodríguez, Carmen; Vázquez-Méndez, Miguel E.) A control problem related to wastewater treatment. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 35–40. (Summary) **99i:49044** 49N55 (76R50, 86A05)

Martínez Vidal, C. (*with* Sagüillo, Jose-Miguel; Vilanova Arias, Javier) Fitch's problem and the knowability paradox: logical and philosophical remarks. (English summary) *Log. Trianguli* **1** (1997), 73–91. (Torben Braüner) **99g:03005** 03A05 (03B45)

Martínez-Villa, Roberto Contravariantly finite subcategories and torsion theories. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 4, 321–337. (Sverre O. Smalø) **99b:16001** 16B50 (16S90, 18E40)

— (*with* Green, Edward L.[1]) Koszul and Yoneda algebras. II. *Algebras and modules, II (Geiranger*, 1996), 227–244, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Alexander E. Polishchuk) **99k:16091** 16W50 (16G20)

— (*with* Guo, Jin Yun; Takane, Martha) Koszul generalized Auslander regular algebras. (English summary) *Algebras and modules, II (Geiranger*, 1996), 263–283, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (G. Krause) **99k:16092** 16W50 (16E70, 16G70, 16P90)

— (*with* Green, Edward L.[1]; Reiten, Idun; Solberg, Øyvind; Zacharia, D.) On modules with linear presentations. *J. Algebra* **205** (1998), *no.* 2, 578–604. (Sverre O. Smalø) **99i:16075** 16W50 (16E10, 16G20, 16G70)

— *see also* **Engl, Heinz W., 99i:00002**

Martín-García, José M. (*with* Gundlach, Carsten) All nonspherical perturbations of the Choptuik spacetime decay. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064031, 19 *pp.* 83C15 (83C25)

Martín González, Cándido (*with* Calderón Martín, A. J.) Dual pairs techniques in H^*-theories. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 59–63. (Alain D'Amour) **99j:17047** 17C50 (17C65)

Martín-Gutiérrez, Emma (*with* García-Roig, J.-L.) On a conditional Cauchy functional equation involving cubes of finite fields. I. The case of characteristic $p \equiv 1 \pmod 3$. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 385–396. (K. D. Magill, Jr.) **99f:39039** 39B52 (12E20)

Martín-Herrán, G. (*with* Rincón Zapatero, J. P.; Martínez Rodríguez, Julia) New method to characterize subgame perfect Nash equilibria in differential games. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 377–395. (Han Sheng Wu) **99c:90173** 90D25 (93C10)

Martini, Alfio (*with* Wolter, Uwe) A systematic study of mappings between institutions. (English summary) *Recent trends in algebraic development techniques (Tarquinia*, 1997), 300–315, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 03G30 (03C52, 68Q60, 68Q65)

Martini, Claude Polynômes harmoniques sur l'espace du bruit blanc. (English and French summaries) [Harmonic analysis on white noise space] *Potential Anal.* **9** (1998), *no.* 4, 351–382. (Isamu Dôku) **99m:60102** 60H99 (26E15, 28C20, 46F25)

de Martini, Francesco *see* **De Martini, Francesco**

Martini, Frank ★ Das Markovspektrum indefiniter quadratischer Formen. (German) [The Markov spectrum of indefinite quadratic forms] Dissertation, Rheinische Friedrich-Wilhelms-Universität Bonn, Bonn, 1995. Bonner Mathematische Schriften [Bonn Mathematical Publications], 290. *Universität Bonn, Mathematisches Institut, Bonn*, 1996. 55 *pp.* (Thomas A. Schmidt) **99e:11044** 11E20 (11H55, 11J06)

Martini, Horst On the theorem of Napoleon and related topics. (English summary) *Math. Semesterber.* **43** (1996), *no.* 1, 47–64. (H. S. M. Coxeter) **99c:51027** 51M20 (01A99)

— (*with* Makai, Endre, Jr.; Soltan, V. P.) Unilateral tilings of the plane with squares of three sizes. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 481–495. (R. Blind) **99i:52023** 52C20

— (*with* Schöbel, Anita) Median hyperplanes in normed spaces—a survey. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 181–195. (Summary) **99b:65242** 65Y25 (52B55, 52C10)

— (*with* Makai, Endre, Jr.) The cross-section body, plane sections of convex bodies and approximation of convex bodies. II. (English summary) *Geom. Dedicata* **70** (1998), *no.* 3, 283–303. (Peter M. Gruber) **99d:52005** 52A20 (52A22, 52A27, 52A38)

— (*with* Soltan, Petru) On convex partitions of polygonal regions. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 167–180. (George E. Martin) **99j:52016** 52B55 (05C10, 52A10)

— *see also* **Schmidt, Vasco Alexander, 99b:01022**

de Martino, A. *see* **De Martino, A.**

di Martino, Bernard (*with* Orenga, Pierre) Résolution des équations de shallow water par la méthode de Galerkin non linéaire. (English and French summaries) [Solution of the shallow water equations by the nonlinear Galerkin method] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 4, 451–477. (Summary) **99e:76090** 76M25 (65M60, 76C99, 76U05, 86-08, 86A05)

Martino, Enrico Negationless intuitionism. (English summary) *J. Philos. Logic* **27** (1998), *no.* 2, 165–177. (N. C. A. da Costa) **99m:03014** 03B20 (03B15)

Martino, John (*with* Priddy, Stewart) A classification of the stable type of $BG_p^\wedge$ for compact Lie groups. *Topology* **38** (1999), *no.* 1, 1–21. (Don Shimamoto) **99h:55026** 55R35 (55P42)

di Martino, Lino *see* **Groups and geometries, 99c:51004**

de Martino, Salvatore *see* **De Martino, Salvatore**

Martinón, Antonio (*with* Banaś, Józef; Sadarangani, Kishin B.) Set quantities related to the Hausdorff distance in Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1421–1433. (S. Cobzaş) **99b:46010** 46B20 (46B45, 47H09)

— (*with* Bermúdez, Teresa; González, Manuel) On the poles of the local resolvent. (English summary) *Math. Nachr.* **193** (1998), 19–26. (George R. Exner) **99f:47006** 47A11

Martín Ordóñez, Pablo (*with* González, Ana-Belén) One-step methods for the numerical integration of perturbed oscillators. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 787–792, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L99 (70-08, 70K99)

— (*with* López, David J.) Variable-step and -order algorithms for the integration of perturbed linear equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 811–816, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L99

— (*with* López, David J.) A numerical method for the integration of perturbed linear problems. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 65–73. (Summary) **99d:65240** 65L99

— (*with* Farto, José-Miguel; González, Ana-Belén) An algorithm for the systematic construction of solutions to perturbed problems. (English summary) *Comput. Phys. Comm.* **111** (1998), *no.* 1-3, 110–132. (Summary) **99a:34157** 34E10 (34-04, 65L99, 70-04, 70-08, 70M20)

— (*with* Farto, José-Miguel) Improved numerical integration of perturbed oscillators via average. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 129–139. 65L05 (65L60)

Martinović, Milan The eigenfunctions expansion for a differential-functional operator of the second order. (English summary) *Math. Montisnigri* **8** (1997), 113–126. (Walter Eberhard) **99c:34192** 34L10 (34L15, 47E05)

Martín-Peinador, E. (*with* Banaszczyk, Wojciech) The Glicksberg theorem on weakly compact sets for nuclear groups. (English summary) *Papers on general topology and applications (Amsterdam*, 1994), 34–39, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Dieter Remus) **99e:22001** 22A05 (54A10)

— (*with* Chasco Ugarte, Ma. Jesús) Pontryagin reflexive groups are not determined by their continuous characters. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 155–160. (Keith Taylor) **99g:43006** 43A40 (22B05, 46A20)

Martín-Reyes, F. J. (*with* Ortega Salvador, Pedro; Sarrión Gavilán, María Dolores) Boundedness of operators of Hardy type in $\Lambda^{p,q}$ spaces and weighted mixed inequalities for singular integral operators. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 1, 157–170. (B. Muckenhoupt) **99d:42025** 42B20 (26D15, 46E30, 47B38, 47G10)

Martín Ruiz, Sebastián Smarandache's function applied to perfect numbers. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 114–115. 11A25

— A result obtained using Smarandache function. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 123–127. 11A25

— A congruence with Smarandache's function. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 130–132. 11A07

Martins, Bo (*with* Forchhammer, Søren) Tree coding of bilevel images. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 4, 517–528. (Summary) **99k:94012** 94A12

Martins, C. J. A. P. (*with* Shellard, E. P. S.) Evolution of superconducting string currents. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 58–64. (Summary) **99c:83106** 83F05 (83E30)

Martins, C. M. A note on the autocorrelations related to a bilinear model with non-independent shocks. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 3, 245–250. (Summary) **99c:62257** 62M10

Martins, J. A. C. (*with* Simões, F. M. F.) Instability and ill-posedness in some friction problems. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 11, 1265–1293. (Summary) **99e:73093** 73T05 (73H10)

— (*with* Gastaldi, F.; Monteiro Marques, Manuel D. P.) Mathematical analysis of a two degree-of-freedom frictional contact problem with discontinuous solutions. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 247–261. (David E. Stewart) **99g:73097** 73T05 (34A60)

— (*with* Simões, F. M. F.; Loret, Benjamin) Instabilities in elastic-plastic fluid-saturated porous media: harmonic wave versus acceleration wave analyses. (English summary)

Internat. J. Solids Structures **36** (1999), *no.* 9, 1277–1295. (Summary) **99k:73054** 73D15 (73E50, 73E70, 73K70, 76S05)

Martins, L. C. (*with* Duda, F. P.; Podio-Guidugli, Paolo) On the representation of the stored energy for elastic materials with full transverse response-symmetry. (English summary) *J. Elasticity* **51** (1998), *no.* 2, 167–176. (D. Ieşan) **99k:73029** 73B40

Martins, Luiz Felipe A simple decision rule for a guessing game. *College Math. J.* **29** (1998), *no.* 5, 371–375. 90D35

Martins, M. J. *see* **Martins, Márcio José**

Martins, M. Madalena (*with* Evans, David John[1]) The accelerated overrelaxation quadrant interlocking iterative method. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 707–712, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65F10

Martins, Márcio José (*with* Ramos, P. B.) Exact solution of the lattice vertex model analogue of the coupled Bariev XY chains. (English summary) *J. Phys. A* **30** (1997), *no.* 14, L465–L470. (Summary) **99a:82034** 82B23 (82B20)

— (*with* Nienhuis, Bernard) Applications of Temperley-Lieb algebras to Lorentz lattice gases. (English summary) *J. Phys. A* **31** (1998), *no.* 43, *L723–L729*. (Summary) **99m:82009** 82B20 (82B23, 82B44)

— On the integrability of the SU(N) Hubbard model. (English summary) *Phys. Lett. A* **247** (1998), *no.* 3, 218–220. (Summary) **99j:82026** 82B23 (81R50)

— (*with* Nienhuis, Bernard; Rietman, R.) Intersecting loop model as a solvable super spin chain. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 3, 504–507. (Summary) **99c:82027** 82B23 (82B20)

Martins, Pedro *see* **Martins Girão, Pedro**

Martins, R. *see* **Martins, Roberto Cintra**

Martins, Ricardo F. (*with* de Camargo, Murilo S.; Scheffel, Roberto M.) Formal specification, verification and simulation of time-dependent systems: a timed process algebra approach. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems* (*Rio de Janeiro*, 1997/*New Orleans, LA*, 1997), 24 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q60 (68Q10)

Martins, Roberto Cintra (*with* Salim, J. M.; Sautú, S. L.) Dilaton electromagnetic Bianchi-I cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1521–1526. (Sunil D. Maharaj) **99f:83020** 83C22 (83C15)

Martins, Simone L. (*with* Ribeiro, Celso C.; Souza, Mauricio C.) A parallel GRASP for the Steiner problem in graphs. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 285–297, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05

— (*with* Pardalos, Panos M.; Resende, Mauricio G. C.; Ribeiro, Celso C.) Greedy randomized adaptive search procedures for the Steiner problem in graphs. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 133–145, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:90109** 90C35 (68R10)

Martins-Costa, M. L. (*with* Carneiro de Araújo, J. H.; Frey, Sérgio L.) An alternative Galerkin formulation for streamline problems. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 3, 219–225. (Summary) **99m:76089** 76M25 (65N30)

Martins Girão, Pedro (*with* Sousa Ramos, J.) Algebraic results on Markov shifts of torus automorphisms. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 436–441, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 58F15 (28D15)

— (*with* Gouveia, Luis) The capacitated minimal spanning tree problem: an experiment with a hop-indexed model. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 271–294. (*see* **99k:90002**) 90C35 (90C27)

Martín Suarez, Miguel (*with* López, Ginés; Payá-Albert, Rafael) Real Banach spaces with numerical index 1. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 2, 207–212. (Summary) **99k:46024** 46B22 (47A12)

Martinussen, Torben (*with* Sørensen, Thorkild I. A.) Age-dependent U-shaped risk functions and Aalen's additive risk model. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 989–1001. 62P10

Martín-Vide, Carlos Ideas for the embedding of rooted trees into category theory. (English summary) *Mathematical linguistics and related topics*, 234–242, *Ed. Acad. Române, Bucharest*, 1995. (Summary) **99h:68141** 68S05 (18B99)

— (*with* Miquel-Vergés, Joan; Păun, Gheorghe) Two-level contextual grammars: the internal case. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 388–397, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q50 (68Q45)

— (*with* Miquel-Vergés, Joan; Păun, Gheorghe; Salomaa, Arto) Attempting to define the ambiguity of internal contextual languages. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 59–81, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (Summary) **99i:68100** 68S05 (68Q45)

— (*with* Păun, Gheorghe) PM-colonies. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 6, 553–582. (Summary) **99j:68073** 68Q50 (68T99)

— (*with* Păun, Gheorghe; Salomaa, Arto) Characterizations of recursively enumerable languages by means of insertion grammars. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 195–205. (Summary) **99d:68149** 68Q45 (03D05)

— *see also* **Mathematical and computational analysis of natural language, 99g:68003**

Martin Witkowski, L. (*with* Marty, Ph.; Trombetta, P.; Tomasino, T.; Garandet, J. P.) On the stability of rotating MHD flows. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 327–343, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76E25 (76U05, 76W05)

— (*with* Walker, John S.; Marty, Ph.) Nonaxisymmetric flow in a finite-length cylinder with a rotating magnetic field. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1821–1826. 76W05

Martín Yague, Jesús (*with* Dopazo, César; Valiño, Luis) Dynamics of velocity gradient invariants in turbulence: restricted Euler and linear diffusion models. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2012–2025. (Summary) **99d:76050** 76F99

— (*with* Ooi, Andrew; Chong, M. S.; Soria, Julio) Dynamics of the velocity gradient tensor invariants in isotropic turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2336–2346. 76F99

Martín Yagüez, M. C. (*with* Hermida-Alonso, J. A.) On the application of the factorization ideals associated to a finite free resolution. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 167–173, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Joseph Gubeladze) **99e:13019** 13D25 (13C12)

Martio, Olli The Hardy-Littlewood maximal function and Sobolev spaces on a metric space. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 113–124, *Prometheus, Prague*, 1996. (Michael B. Korey) **99h:46054** 46E35 (42B25)

— (*with* Gutlyanskiĭ, V. Ya.; Ryazanov, Vladimir I.; Vuorinen, Matti K.) On the asymptotic behavior of quasiconformal mappings in space. (English summary) *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 159–180, *Springer, New York*, 1998. (Summary) **99i:30036** 30C65

— (*with* Fuchs, Martin[2]; Li, Gongbao) Second order obstacle problems for vectorial functions and integrands with subquadratic growth. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 549–558. (Giuseppe Mingione) **99i:49003** 49J10 (35J85, 49N60)

— (*with* Gutlyanskiĭ, V. Ya.; Ryazanov, Vladimir I.; Vuorinen, Matti K.) On convergence theorems for space quasiregular mappings. (English summary) *Forum Math.* **10** (1998), *no.* 3, 353–375. (M. Yu. Vasil'chik) **99f:30035** 30C65

— (*with* Li, Gongbao) Stability of solutions of varying degenerate elliptic equations. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 873–891. (Zuchi Chen) **99k:35069** 35J70 (35B35, 35J60)

— (*with* Miklyukov, Vladimir M.; Vuorinen, Matti K.) Morrey's lemma on Riemannian manifolds. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 183–210. (M. Yu. Vasil'chik) **99m:46081** 46E35 (30C65)

— (*with* Gutlyanskiĭ, V. Ya.; Ryazanov, Vladimir I.; Vuorinen, Matti K.) On local injectivity and asymptotic linearity of quasiregular mappings. (English summary) *Studia Math.* **128** (1998), *no.* 3, 243–271. (Susan G. Staples) **99c:30044** 30C65

— (*with* Srebro, Uri; Väisälä, Jussi) Normal families, multiplicity and the branch set of quasiregular maps. (English summary) *Ann. Acad. Sci. Fenn. Math.* **24** (1999), *no.* 1, 231–252. (Matti Vuorinen) **99m:30043** 30C65 (30D45)

Martí-Oliet, Narciso (*with* Meseguer, José) Inclusions and subtypes. I. First-order case. (English summary) *J. Logic Comput.* **6** (1996), *no.* 3, 409–438. (Summary) **99d:03026a** 03B70 (03G30, 68N15, 68Q55)

— (*with* Meseguer, José) Inclusions and subtypes. II. Higher-order case. (English summary) *J. Logic Comput.* **6** (1996), *no.* 4, 541–572. (Summary) **99d:03026b** 03B70 (03B15, 03B40, 68N15, 68Q55)

Martirosian, Valeri A. *see* **Martirosyan, V. A.**

Martirossian, S. S. *see* **Martirosyan, S. S.**

Martirosyan, D. G. Phase transitions for martingale-difference Gibbs lattice models. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 3, 93–98 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 3, 76–80. (Nicolae Angelescu) **99k:60120** 60G48 (60K35, 82B05)

Martirosyan, S. S. (*with* Khachatryan, G. G.) Code construction for the T-user noiseless adder channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1953–1957. (Summary) **99h:94030** 94A24

Martirosyan, V. A. (*with* Gabrielyan, È. V.) On the uniqueness of entire functions that have lacunary power series and are bounded in a Jordan angle. (Russian. Russian summary) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 58–68; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 49–58 (1996). (Vanja Hadzijski) **99k:30045** 30D15 (30B10, 30E10)

— On a uniformly tangent approximation by lacunary power series on Carleman sets. (Russian. Russian summary) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 69–78; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 59–67 (1996). (Yuri A. Farkov) **99f:30057** 30E10 (30B10)

— (*with* Arutyunyan, G. V.) On a uniformly tangent approximation by lacunary power series on Carleman sets. II. (Russian. Russian summary) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 79–86; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 68–75 (1996). (Yuri A. Farkov) **99f:30058** 30E10 (30B10)

— (*with* Luh, Wolfgang; Müller, Jürgen[3]) T-universal functions with lacunary power series. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 67–79. (Raphaële Supper) **99f:30055** 30E10 (30B10, 30B60, 41A10, 46E10)

Márton, G. (*with* Szirmay-Kalos, L.) Worst-case versus average case complexity of ray-shooting. (English summary) *Computing* **61** (1998), *no.* 2, 103–131. (Summary) **99h:68171** 68U05 (65Y25, 68Q25)

Marton, Katalin Measure concentration for a class of random processes. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 3, 427–439. (Summary) **99g:60074** 60G10 (28A99)

Martorell, J. (*with* Sprung, D. W. L.) Addendum: "The symmetrized Fermi function and its transforms" [J. Phys. A **30** (1997), no. 18, 6525–6534; MR 98m:33049]. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8973–8975. (Summary) **99j:33026** 33E20

Martsenyuk, V. P. On construction of exponential estimates for linear systems with delay. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 439–444, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 34K20

Martucci, G. (*with* Marathe, K. B.) Geometry of gravitational instantons. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1175–1189. (Thalia D. Jeffres) **99k:53138** 53C80 (58E30)

Marty, Katta G. *see* **Murty, Katta G.**

Marty, Ph. (*with* Plunian, F.; Alemany, A.) Chaotic behaviour of the Rikitake dynamo with symmetric mechanical friction and azimuthal currents. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1835–1842. (Summary) **99d:76102** 76W05 (76E25, 86A25)

— (*with* Martin Witkowski, L.; Trombetta, P.; Tomasino, T.; Garandet, J. P.) On the stability of rotating MHD flows. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 327–343, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76E25 (76U05, 76W05)

— (*with* Plunian, F.; Alemany, A.) Kinematic dynamo action in a network of screw motions; applications to the core of a fast breeder reactor. (English summary) *J. Fluid Mech.* **382** (1999), 137–154. (Summary) **99m:76128** 76W05

— (*with* Martin Witkowski, L.; Walker, John S.) Nonaxisymmetric flow in a finite-length cylinder with a rotating magnetic field. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1821–1826. 76W05

— *see also* **Transfer phenomena in magnetohydrodynamic and electroconducting flows, 99k:76007**

Martynenko, A. V. (*with* Kulikova, I. V.) Construction of an equiresistant configuration of elastic bodies under constraints on the displacement vector. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 11, 51–56. 73K40

Martynenko, M. D. *see* **Martinenko, Mikhaĭlo D.**

Martynov, B. Van der Waerden's pathological function: examining a "miserable sore". *Quantum* **8** (1998), *no.* 6, 12–19. (Joseph L. Gerver) **99g:26011** 26A27

Martynov, G. A. ★ Classical statistical mechanics. (English summary) Translated from the Russian manuscript by V. Kisin. Fundamental Theories of Physics, 89. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xx+341 *pp. ISBN* 0-7923-4774-9 (Julio Alcántara-Bode) **99e:82001** 82–01 (82–02, 82B05, 82C05)

Martynov, L. M. (*with* Butakov, V. V.) Semigroups all of whose noncyclic subsemigroups are ideals. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 94–96. 20M12

Martynov, S. I. Hydrodynamic interaction of particles. *Fluid Dynam.* **33** (1998), *no.* 2, 245–251; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 112–119 (*Russian. Russian summary*). (Summary) **99h:76034** 76D99 (76T05)

Martynov, V. I. Distribution of flows with fuzzy parameters in packet-switching networks. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 5, 124–141; *translation in Automat. Remote Control* **59** (1998), *no.* 5, *part* 2, 713–726. (Summary) **99m:90069** 90B12 (90C35)

Martynov, Ya. B. A special form of boundary conditions for a system of equations of low-temperature semiconductor plasma. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 2, 309–314. 76X05 (82D10)

Martynyuk, A. A. A contraction principle. *Advances in nonlinear dynamics*, 99–105, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Xiang Sheng Xie) **99c:34012** 34A34 (34D20)

— (*with* Nikitina, N. V.) On an estimate for the boundary of the domain of aperiodic motions. (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 12, 89–95; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 12, 1008–1013 (1998). (Introduction) **99j:34052** 34C15 (34D45, 70K40, 70K50)

— ★ Stability by Liapunov's matrix function method with applications. (English summary) Monographs and Textbooks in Pure and Applied Mathematics, 214. *Marcel Dekker, Inc., New York*, 1998. x+276 *pp. ISBN* 0-8247-0191-7 (Josef Diblík) **99i:34001** 34–02 (34D20)

— (*with* Stavroulakis, I. P.) Generalized stability of motion of impulsive Lurie-Postnikov systems with structural perturbation. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 481–492. (Raúl M. Naulin) **99m:34114** 34D20 (34A37, 34D10, 93D05)

Maru, Nobuhito (*with* Nishimura, Jun) Lattice formulation of supersymmetric Yang-Mills theories without fine tuning. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 16, 2841–2855. (Summary) **99c:81154** 81T25 (81T13, 81T60)

— (*with* Ito, Kei) Matrix string theory from brane configuration. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 43–49. (Summary) **99b:81195** 81T30

— A new model of direct gauge mediation with an affine quantum moduli space. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 311–315. (Summary) **99g:81231** 81V22 (81R40, 81T60)

Maru, V. M. (*with* Singh, Rita; Moharir, P. S.) Complex chaotic systems and emergent phenomena. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 3, 235–259. (Boris G. Zaslavskiĭ) **99e:93002** 93A30 (58F40, 93C10)

Marubayashi, Hidetoshi (*with* Zhang, Yang^2; Yang, Po) On the rings of the Morita context which are some well-known orders. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1429–1444. (W. K. Nicholson) **99d:16036** 16U20 (16D20)

— (*with* Yang, Po; Zhang, Yang^2) Some examples of PBW extensions which are Krull orders. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 27–30. (Summary) **99d:16018** 16H05 (16S32)

mena Marugán, Guillermo A. *see* **Mena Marugán, Guillermo A.**

Marumoto, Yoshihiko (*with* Kanenobu, Taizo) Unknotting and fusion numbers of ribbon 2-knots. *Osaka J. Math.* **34** (1997), *no.* 3, 525–540. (Martin Scharlemann) **99h:57049** 57Q45

Maruno, Ken-ichi (*with* Kajiwara, Kenji; Oikawa, Masayuki) Casorati determinant solution for the discrete-time relativistic Toda lattice equation. (English summary) *Phys. Lett. A* **241** (1998), *no.* 6, 335–343. (Spyridon Kamvissis) **99e:58105** 58F07 (58F37)

Maruoka, Akira (*with* Takimoto, Eiji; Miyashiro, Akira; Sakai, Yoshifumi) Learning orthogonal F-Horn formulas. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 177–190. (John Shawe-Taylor) **99f:68174** 68T05 (03B05, 68Q25)

— (*with* Takimoto, Eiji) Structured weight-based prediction algorithms. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 127–142, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05

— (*with* Paterson, Michael S.; Koizumi, Hirotaka) Consistency of natural relations on sets. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 281–293. (A. N. Philippou) **99m:05015** 05A99

— (*with* Marin, Maxim; Kawahara, Mutsuto) Optimal control in Navier-Stokes equations. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 313–322. (*see* **99f:76004**) 49N55 (76D05, 76M10)

— (*with* Takimoto, Eiji; Vovk, Vladimir G.) Predicting like the best pruning of a decision tree based on the on-line DP. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 191–198. (*see* **99i:65003**) 68T05

Marušič, Dragan (*with* Nedela, Roman) Maps and half-transitive graphs of valency 4. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 345–354. (Brian Alspach) **99e:05069** 05C25

— (*with* Scapellato, Raffaele) Permutation groups, vertex-transitive digraphs and semiregular automorphisms. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 707–712. (Arthur T. White) **99g:05101** 05C25 (05C20)

— Half-transitive group actions on finite graphs of valency 4. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 1, 41–76. (Ming-Yao Xu) **99h:05056** 05C25 (20B25)

— (*with* Du, Shao-Fei; Waller, Adrian O.) On 2-arc-transitive covers of complete graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 276–290. (Brian Alspach) **99h:05051** 05C25 (05C10)

— (*with* Malnič, Aleksander) Constructing 4-valent $\frac{1}{2}$-transitive graphs with a nonsolvable automorphism group. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 46–55. (Ming-Yao Xu) **99j:05091** 05C25

Marušić, Sanja Low concentration limit for a fluid flow through a filter. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 4, 623–643. (Samia Lyaghfouri-Challal) **99h:76026** 76D07 (35Q35, 73B27)

Marušić-Paloka, Eduard (*with* Aganović, Ibrahim; Jurak, M.; Tutek, Zvonimir) Moderately wrinkled plate. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 273–297. (Veronique Lods) **99d:73053** 73K10 (35B27)

— (*with* Bourgeat, Alain) Mathematical modelling of a non-Newtonian viscous flow through a thin filter. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 607–612. (Samia Lyaghfouri-Challal) **99i:76003** 76A05 (35Q35, 73B27, 76D30, 76S05)

— (*with* Bourgeat, Alain) Nonlinear effects for flow in periodically constricted channel caused by high injection rate. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 379–405. (Samia Lyaghfouri-Challal) **99g:76032** 76D05 (35Q35, 76D20, 76S05)

Maruszewski, B. (*with* Restuccia, L.) Nonlinear thermoelasticity of ferroelastics. *Mech. Res. Comm.* **25** (1998), *no.* 2, 137–145. (Gérard A. Maugin) **99a:73028** 73B30 (73C50, 73R05)

Maruyama, Fumitsuna On the geometric phase of the perturbed Lamé-Ince equation. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 2, 453–468. (From the introduction) **99e:34076** 34E20 (34L40, 81U05)

Maruyama, Ken-ichi (*with* Arkowitz, Martin) Self-homotopy equivalences which induce the identity on homology, cohomology or homotopy groups. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 133–154. (Gregory Lupton) **99i:55009** 55P10

Maruyama, Osamu (*with* Akutsu, Tatsuya; Kuhara, Satoru; Miyano, Satoru) Identification of gene regulatory networks by strategic gene disruptions and gene overexpressions. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 695–702, *ACM, New York*, 1998. (*see* **99d:68011**) 92D10 (68T05, 92D20)

Maruyama, Yukihiro A duality theorem in parametric associative shortest path problems. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 50–61. (*see* **99b:90009**) 90C35 (49N15)

Maruyama, Yuzo A new positive estimator of loss function. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 3, 269–274. (Summary) **99c:62020** 62C15 (62H12)

Marvan, M. Some local properties of Bäcklund transformations. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 1, 1–25. (Juha Pohjanpelto) **99j:58230** 58G37 (35A30)

Marx, Maarten Amalgamation in relation algebras. *J. Symbolic Logic* **63** (1998), *no.* 2, 479–484. (Manuel Abad) **99m:03128** 03G15 (08B05)

Maryška, Jiří (*with* Rozložník, Miroslav; Tůma, Miroslav) The potential fluid flow problem and the convergence rate of the minimal residual method. (English summary) *Numer. Linear Algebra Appl.* **3** (1996), *no.* 6, 525–542. (Summary) **99a:76087** 76M10 (65N30, 76S05)

März, Roswitha EXTRA-ordinary differential equations: attempts to an analysis of differential-algebraic systems. *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 313–334, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Peter Kunkel) **99g:34008** 34A09 (34C25, 34D20)

— (*with* Lamour, René; Winkler, Renate) How Floquet theory applies to index 1 differential algebraic equations. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 372–394. (Vladimir A. Danilov) **99f:34001** 34A09 (34C25, 34D05, 34D20)

— (*with* Hanke, Michael; Izquierdo Macana, Ebroul) On asymptotics in case of linear index-2 differential-algebraic equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1326–1346 (*electronic*). (Viktor F. Chistyakov) **99d:34002** 34A09 (34A45, 34D05, 65L06)

Marzantowicz, Wacław (*with* Borisovich, A. Yu.) Bifurcation of the equivariant minimal interfaces in a hydromechanics problem. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 3, 291–304. (Summary) **99c:58035** 58E12 (35B32, 35J65, 76D45, 76M30)

— Determination of the periodic points of smooth mappings using Lefschetz numbers and their powers. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 86–96; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 2, 80–89. (Alexander Fel'shtyn) **99b:58187** 58F20 (55M20)

— A note on the minimal periods of a homeomorphism of compact surface. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 115–119. (Héctor Sánchez-Morgado) **99j:58160** 58F20 (55M20)

Marzec, Leszek (*with* Marzec, Paweł) On fitting Cox's regression model with time-dependent coefficients. (English summary) *Biometrika* **84** (1997), *no.* 4, 901–908. (Per Kragh Andersen) **99h:62130** 62P10 (62J12)

— (*with* Marzec, Paweł) Testing based on sampled data for proportional hazards model. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 303–313. (Summary) **99b:62080** 62G10 (62M07, 62N05)

Marzec, Paweł (*with* Marzec, Leszek) On fitting Cox's regression model with time-dependent coefficients. (English summary) *Biometrika* **84** (1997), *no.* 4, 901–908. (Per Kragh Andersen) **99h:62130** 62P10 (62J12)

— (*with* Marzec, Leszek) Testing based on sampled data for proportional hazards model. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 303–313. (Summary) **99b:62080** 62G10 (62M07, 62N05)

Marzetta, A. (*with* Bremner, D.; Fukuda, Komei) Primal-dual methods for vertex and facet enumeration. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 333–357. (Jesús A. de Loera) **99h:52016** 52B55 (68Q25, 68U05, 90C27)

Marzetta, Markus (*with* Strahm, Thomas) The μ quantification operator in explicit mathematics with universes and iterated fixed point theories with ordinals. (English summary) Logic Colloquium '95 (Haifa). *Arch. Math. Logic* **37** (1998), *no.* 5-6, 391–413. (Thomas Glaß) **99m:03122** 03F50 (03F35)

Marzinzik, Kerstin (*with* Eckhardt, Bruno; Schmiegel, Armin) Transition to turbulence in shear flows. (English summary) *A perspective look at nonlinear media*, 327–338, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99d:76045** 76F10

Marzocchi, Alfredo Uniform time bounds on the amplitude of nonlinear plane air waves in the presence of viscosity. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 7, 993–1003. (Bruno Scheurer) **99a:76128** 76N10 (35Q35)

— (*with* Bianchi, Giselle) Inertial manifold for the motion of strongly damped nonlinear elastic beams. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 181–192. (R. Kodnár) **99h:35209** 35Q72 (34G20, 35B40, 47H20, 73D35, 73K05)

— (*with* Giorgi, Claudio; Pata, Vittorino) Asymptotic behavior of a semilinear problem in heat conduction with memory. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 333–354. (Sergei A. Vakulenko) **99h:35081** 35K20 (35B40, 45K05)

Marzougui, Habib Structure of foliations on 2-manifolds. *Illinois J. Math.* **42** (1998), *no.* 3, 398–405. (Sandra L. Shields) **99e:57025** 57M50 (57R30, 58F18)

Marzuoli, Annalisa (*with* Carfora, Mauro; Martellini, Maurizio) Four-dimensional combinatorial gravity from the recoupling of angular momenta. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste*, 1994), 253–270, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83024** 83C27

murillo-Mas, Aniceto *see* **Murillo-Mas, Aniceto**

Mas, José (*with* Corral, Cristina; Giménez, Isabel; Marín, José) Parallel m-step preconditioners for the conjugate gradient method. (English summary) *Parallel Comput.* **25** (1999), *no.* 3, 265–281. (Summary) **99m:65090** 65F35 (65F50)

Masáková, Zuzana (*with* Patera, Jiří; Pelantová, Edita) Inflation centres of the cut and project quasicrystals. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1443–1453. (Summary) **99i:52028** 52C22 (82D25)

— (*with* Patera, Jiří; Pelantová, Edita) Minimal distances in quasicrystals. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1539–1552. (Summary) **99i:82038** 82D25 (52C22)

— (*with* Patera, Jiří; Pelantová, Edita) Self-similar Delone sets and quasicrystals. (English summary) *J. Phys. A* **31** (1998), *no.* 21, 4927–4946. (Summary) **99k:52033** 52C22 (82D25)

Masala, Giovanni Théorèmes de congruence pour triplets de points dans les variétés de Grassmann $G_2(\mathbf{R}^N)$. (Italian summary) [Congruence theorems for triplets of points in Grassmann manifolds $G_2(\mathbf{R}^N)$] *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 351–376. (O. Kowalski) **99j:53070** 53C35 (15A72, 51M35)

Masalagiu, Cristian (*with* Andrei, Ştefan) About the Collatz conjecture. (English summary) *Acta Inform.* **35** (1998), *no.* 2, 167–179. (Renzo Sprugnoli) **99d:68097** 68Q25 (03D15, 11B83)

Masamoto, Keiji (*with* Hayashi, Masahito) Statistical model with measurement degrees of freedom and quantum physics. (Japanese) Large deviation and statistical inference (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1055 (1998), 96–110. (*see* **99m:62007**) 81P15

Masani, P. R. Relative entropy as a countably-additive measure. (English summary) *Stochastic processes*, 263–274, *Springer, New York*, 1993. (Beloslav Riečan) **99b:28022** 28D20 (94A17)

— The homogeneous chaos from the standpoint of vector measures. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1727, 1099–1258. (Amarjit Budhiraja) **99f:60102a** 60H05 (28B05, 28C20)

— Errata: "The homogeneous chaos from the standpoint of vector measures". *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1734, 2519. (Amarjit Budhiraja) **99f:60102b** 60H05 (28B05, 28C20)

Mašanović, Goran Z. (*with* Iričanin, Bratislav D.; Gvozdić, Dejan M.) On the analytical and numerical treatment of a class of PDE's with the application to some two-valley semiconductor electron devices. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 71–93. 82D99 (65N30)

Masaoka, Hiroaki (*with* Segawa, Shigeo) Harmonic dimension of covering surfaces and minimal fine neighborhood. *Osaka J. Math.* **34** (1997), *no.* 3, 659–672. (M. Nakai) **99g:30054** 30F25 (31C35)

— (*with* Jin, Naondo; Segawa, Shigeo) Kuramochi boundaries of finite sheet unbounded covering surfaces. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 166–171. (*see* **99a:00036**) 31C12 (30F25, 31C35)

— (*with* Segawa, Shigeo) Positive harmonic functions on unbounded covering surfaces. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 64–73. (*see* **99i:00018**) 30F15

Mascagni, Michael Parallel linear congruential generators with prime moduli. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 923–936. (Summary) **99d:65022** 65C10 (65Y05)

Mascarello Rodino, Maria (*with* Rodino, Luigi) ★ Partial differential equations with multiple characteristics. (English summary) Mathematical Topics, 13. *Akademie Verlag, Berlin*, 1997. 352 *pp. ISBN* 3-05-501764-1 (Vladimir Tulovsky) **99a:35009** 35A27 (35A30, 35Sxx, 47G30)

Mascarenhas, Luisa (*with* Bouchitté, Guy; Fonseca, Irene) A global method for relaxation. (English summary) *Arch. Rational Mech. Anal.* **145** (1998), *no.* 1, 51–98. (Giovanni Alberti) **99j:49020** 49J45 (73B27, 73V25)

Mascarenhas, M. L. (*with* Chenais, D.; Trabucho, L.) On the optimization of nonperiodic homogenized microstructures. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 5, 559–597. (Dan Poliševski) **99j:73007** 73B27 (35B27, 49J45, 73K40)

— (*with* Ene, H. I.; Saint Jean Paulin, Jeannine) Fading memory effects in elastic-viscoelastic composites. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 7, 927–952. (Gérard Michaille) **99f:73005** 73B27 (73F15, 73K20)

Mascarenhas, Walter F. The affine scaling algorithm fails for stepsize 0.999. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 1, 34–46. (Summary) **99d:90070** 90C05 (68Q25)

tamariz-Mascarúa, Angel *see* **Tamariz-Mascarúa, Angel**

Maschietti, Antonio Difference sets and hyperovals. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 89–98. (Alexander Pott) **99j:05033** 05B10 (51E20)

Maschke, Erich K. (*with* Boussari, A.; Saramito, Bernard) Bifurcations of stationary tearing modes with a resistivity depending on a flux function. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 61–68. (Summary) **99c:76114** 76W05 (35B32, 35Q35, 76E25, 76M25)

— (*with* Berroukeche, Mostefa; Saramito, Bernard) Convergence of an unconditionally stable semi-implicit scheme for linear incompressible MHD equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 81–86. (Summary) **99k:76097** 76M20 (76W05)

Maschler, Michael (*with* Bennett, Elaine; Zame, William R.) A demand adjustment process. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 423–438. (Theo Driessen) **99f:90199** 90D12

Mascia, Corrado Continuity in finite time of entropy solutions for nonconvex conservation laws with reaction term. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 913–931. (Roberto Natalini) **99j:35136** 35L65

Mascioni, Vania (*with* Molnár, Lajos) Linear maps on factors which preserve the extreme points of the unit ball. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 434–441. (È. V. Kissin) **99m:46145** 46L10 (46L35, 47B49, 47D25)

Mascle, Christian (*with* Jabbour, Toni; Maranzana, Roland) A database for the representation of assembly features in mechanical products. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 483–507. 90B30 (90A11)

Mascolo, E. (*with* Dall'Aglio, Andrea; Papi, G.) Local boundedness for minima of functionals with nonstandard growth conditions. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 305–326. (Giuseppe Mingione) **99i:49045** 49N60 (49J20, 49J45)

Maşek, Vladimir Kawachi's invariant for normal surface singularities. (English summary) *Internat. J. Math.* **9** (1998), *no.* 5, 623–640. (Marco Andreatta) **99k:14057** 14J17 (14C20, 14E15)

— (*with* Kawachi, Takeshi) Reider-type theorems on normal surfaces. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 2, 239–249. (Marco Andreatta) **99f:14040** 14J17 (14C20, 14E05)

— *see also* **Fujita, Takao**, **99f:14041**

Mashal, Nira (*with* Hershkowitz, Daniel) P^{α}-matrices and Lyapunov scalar stability. (English summary) *Electron. J. Linear Algebra* **4** (1998), 39–47 (*electronic*). (Mihail Voicu) **99k:15039** 15A57 (15A18, 34D20)

Masharipova, S. Sh. (*with* Chilin, V. I.) Functional description of commutative symmetric operator algebras in a Pontryagin space of type Π_1. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 44–53. (È. V. Kissin) **99h:47044** 47B50 (46L99, 47D25)

Mashat, Daoud (*with* Daripa, Prabir) Singular integral transforms and fast numerical algorithms. (English summary) *Numer. Algorithms* **18** (1998), *no.* 2, 133–157. (Summary) **99j:65256** 65Y20 (65D30, 65T20)

— (*with* Daripa, Prabir) An efficient and novel numerical method for quasiconformal mappings of doubly connected domains. (English summary) *Numer. Algorithms* **18** (1998), *no.* 2, 159–175. (N. Papamichael) **99m:65052** 65E05 (30C62, 65Y99)

Mashayekhy, Behrooz The Baer-invariant of a semidirect product. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 4, 529–535. (Martyn R. Dixon) **99d:20040** 20E22 (20E10, 20F12)

— A remark on generalized covering groups. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 711–713. (Summary) **99g:20065** 20F18 (20E10)

Mashchenko, L. Z. (*with* Kirichenko, V. V.; Yaremenko, Yu. V.) Decomposition theorems for associative rings. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 42–47, *Gomel. Gos. Univ., Gomel'*, 1997. (*see* **99g:20007**) 16N40

Mashimo, Katsuya Spectra of the Laplacian on the Cayley projective plane. *Tsukuba J. Math.* **21** (1997), *no.* 2, 367–396. (Noureddine Rahmani) **99d:58173** 58G25

— (*with* Hashimoto, Hideya; Sekigawa, Kouei) 4-dimensional CR submanifolds in the 6-dimensional sphere. (Japanese. Japanese summary) Geometry of homogeneous spaces and submanifolds (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1044 (1998), 4–12. (*see* **99i:53001**) 53C40 (53C15)

— *see also* **Tojo, Koji**, **99d:53048**

Mashinchi, M. (*with* Ziaie, S. A.; Kumbhojkar, H. V.) On cardinality of the truth-value set of a fuzzy subgroup. (English summary) *Sci. Iran.* **3** (1996), *no.* 1-3, 97–103. (John Mordeson) **99h:20109** 20N25

— (*with* Tata, M.; Maleki, H. R.) Fuzzy numbers and its application to fuzzy programming. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 331–337, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 90C70

Mashkevich, Stefan Quantum mechanics of multispecies anyons. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 124–127, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99i:81272** 81V70

— Fractional statistics: the three-body problem is almost solved. (English summary) *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 402–408, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81V70

— Exclusion statistics and integrable models. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1751–1755. (Summary) **99j:81211** 81V70 (58F07)

Mashkour, M. A. Covariant canonical formalism of fields. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 785–797. (Hans P. Künzle) **99e:70044** 70G50 (58E30, 78A25)

Mashuryan, A. S. Pólya series and the representability of functions in finite models of some arithmetical theories. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 1, 66–88 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 1, 56–74. (Roman Murawski) **99g:03040** 03C62

Mash'yanov, G. B. (*with* Kirpichnikov, B. K.; Malafeev, O. A.) Dynamic programming in a renewal problem with gains. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 41–45, *Yakut-sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 90A09 (90C39)

de Masi, Anna *see* **De Masi, Anna**
di Masi, G. B. *see* **Di Masi, G. B.**
Masiani, R. (*with* Trovalusci, P.) Material symmetries of micropolar continua equivalent to lattices. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 14, 2091–2108. (Summary) **99i:73002** 73B10 (73B25)
Masiello, Antonio (*with* Giannoni, Fabio; Piccione, Paolo) A Morse theory for light rays on stably causal Lorentzian manifolds. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 4, 359–412. (Author's review (P.P.)) **99i:58034** 58E10
— (*with* Giannoni, Fabio; Piccione, Paolo) A timelike extension of Fermat's principle in general relativity and applications. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 3, 263–283. (Anna Germinario) **99c:58033** 58E10 (58E05)
— (*with* Piccione, Paolo) Shortening null geodesics in Lorentzian manifolds. Applications to closed light rays. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 1, 47–70. (Maria Letizia Bertotti) **99a:58039** 58E10 (53C22, 53C50)
— (*with* Benci, Vieri; Giannoni, Fabio) Some properties of the spectral flow in semi-Riemannian geometry. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 267–280. (Paolo Piccione) **99f:58039** 58E10
Masiero, A. (*with* Covi, L.; Mangano, Gianpiero; Miele, G.) Hybrid inflation from supersymmetric SU(5). (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 253–258. (Summary) **99b:81271** 81V22 (81T60)
Masip, M. The light Higgs in supersymmetric models with Higgs triplets. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 352–357. 81V25 (81T60)
Maskin, Eric (*with* Tirole, Jean) Unforeseen contingencies and incomplete contracts. (English summary) *Rev. Econom. Stud.* **66** (1999), *no.* 1, 83–114. (Summary) **99m:90055** 90A60
Maskit, Bernard Remarks on m-symmetric Riemann surfaces. (English summary) *Lipa's legacy (New York, 1995)*, 433–445, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Jane Gilman) **99b:30061** 30F40 (30F10)
— (*with* Kra, Irwin) Pinched 2-component Kleinian groups. *Analysis and topology*, 425–465, *World Sci. Publishing, River Edge, NJ*, 1998. (R. Michael Porter) **99m:20119** 20H10 (30F40)
— *see also* **Bers, Lipman**, **99g:01041a** *and* **99g:01041b**
Maślanka, Paweł (*with* Kosiński, Piotr; Lukierski, Jerzy; Sobczyk, Jan T.) Quantum deformation of the Poincaré supergroup. (English summary) *Quantum groups (Karpacz, 1994)*, 353–357, *PWN, Warsaw*, 1995. (*see* **99e:17001**) 81R50 (17B37)
— The induced representations of the κ-Poincaré group. (English summary) *Quantum groups (Karpacz, 1994)*, 389–396, *PWN, Warsaw*, 1995. (*see* **99e:17001**) 81R50 (17B37)
— The κ-deformation—recent development. *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 27–41, *PWN, Warsaw*, 1997. (Andrzej Sitarz) **99e:81097** 81R50 (16W30, 17B37)
— (*with* Kosiński, Piotr; Majewski, Michał) Representations of generalized oscillator algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3983–3990. (From the introduction) **99e:81095** 81R50
— (*with* Gonera, Cezary; Kosiński, Piotr; Tarlini, M.) Projective representations of κ-Galilei group. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8473–8482. (Roberto Casalbuoni) **99h:81087** 81R50
Maslen, David K. Efficient computation of Fourier transforms on compact groups. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 1, 19–52. (Krishnan Parthasarathy) **99k:43002** 43A30 (33C55, 43A80, 65T20)
— The efficient computation of Fourier transforms on the symmetric group. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1121–1147. (Jorn B. Olsson) **99a:20009** 20C30 (05E15, 20C40)
Maslennikova, V. N. (*with* Bogovskiĭ, M. E.) A hydrodynamic approach to the modeling of the dynamics of sea waves created by a hurricane. (Russian) *Computational modelling and computing in physics (Dubna, 1996)*, 352–359, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 76D33 (76M25, 86–08, 86A05)
— (*with* Kuznetsov, M. V.) Solution of the stationary flow problem in the Stokes formulation in the spaces $L^2_\sigma(\Omega)$. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 908–930, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 784–805. (Vladimir V. Shelukhin) **99j:35167** 35Q30 (76D07)
Maslikov, A. (*with* Naumov, Igor Anatolievich; Volkov, G. G.) The unification in the string theories with the $G \times G$ gauge groups. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 26, 1909–1927. (Angel Maria Uranga) **99b:81200** 81T30 (81V22, 83E30)
Maslov, Petr Pavlovich *see* **Orlov, I. B.**, **99j:01022**
Maslov, Sergei S. (*with* Zhang, Yi-Cheng) Probability distribution of drawdowns in risky investments. (English summary) *Phys. A* **262** (1999), *no.* 1-2, 232–241. (Summary) **99j:90014** 90A09
Maslov, V. P. (*with* Shvedov, O. Yu.) The complex germ method in the Fock space. I. Asymptotics of wave packet type. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 310–329; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 1013–1028 (1996). (Alexander Tovbis) **99j:81042** 81Q20
— (*with* Shvedov, O. Yu.) The complex germ method in the Fock space. II. Asymptotics that correspond to finite-dimensional isotropic manifolds. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 479–506; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1141–1161 (1996). (Alexander Tovbis) **99j:81043** 81Q20
— (*with* Shvedov, O. Yu.) Spectral problems with an operator-valued symbol in quantum field theory. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 3, 312–314. (Yu. M. Berezanskiĭ) **99f:81049** 81Q10 (46F25, 47N50)
— Semiclassical approximation for an ergodic classical Hamiltonian flow. The derivation of the semiclassical chaos equations. The role of the self-consistent potential. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 3, 377–392. (Summary) **99e:81057** 81Q20 (70H05, 81Q50)
— (*with* Shafarevich, Andrei I.) A laminar wake in an arbitrary external flow. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 4, 476–480; *translation in Phys. Dokl.* **42** (1997), *no.* 10, 552–556. (Sergey Nikolaevich Alekseenko) **99i:76042** 76D25 (35Q35)
— (*with* Shvedov, O. Yu.) On the problem of divergences in quantum field theory. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 604–608. (George K. Savvidy) **99i:81153** 81T15
— (*with* Kucherenko, V. V.) Normal forms of quadratic Bose operators. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 69–90; *translation in Math. Notes* **61** (1997), *no.* 1-2, 58–75. (Lech Jakóbczyk) **99c:81103** 81S05 (47N50)
— (*with* Shvedov, O. Yu.) On the number of particles in the condensate of a weakly nonideal Bose gas. (Russian) *Mat. Zametki* **61** (1997), *no.* 5, 790–792; *translation in Math. Notes* **61** (1997), *no.* 5-6, 661–664. (V. I. Yukalov) **99d:82012** 82B10
— (*with* Kucherenko, V. V.) On the spectrum of finite-dimensional quadratic Bose operators. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 835–854; *translation in Math. Notes* **61** (1997), *no.* 5-6, 700–716. (Lech Jakóbczyk) **99d:81061** 81S05 (47N50)
— On a new variational principle for fermions. (Russian) *Mat. Zametki* **62** (1997), *no.* 4, 633–634; *translation in Math. Notes* **62** (1997), *no.* 3-4, 527–528 (1998). (K. Wódkiewicz) **99b:81055** 81Q20 (81V70)
— On basis elements in idempotent subspaces. (Russian) *Mat. Zametki* **62** (1997), *no.* 5, 796–797; *translation in Math. Notes* **62** (1997), *no.* 5-6, 667–669 (1998). (Andrei V. Dmitruk) **99i:46037** 46H99 (47N10, 49L20)
— Quasi-particles associated with isoenergetic manifolds corresponding to classical self-consistent fields. IX. *Russian J. Math. Phys.* **5** (1997), *no.* 1, 123–130 (1998). (J. S. Joel) **99k:81163** 81S99 (81Q20)
— Quasi-particles associated with isoenergetic manifolds corresponding to classical self-consistent fields. X. *Russian J. Math. Phys.* **5** (1997), *no.* 2, 273–278 (1998). (J. S. Joel) **99k:81164** 81S99 (81Q20)
— Quasi-particles associated with isoenergetic manifolds corresponding to classical self-consistent fields. XI. *Russian J. Math. Phys.* **5** (1997), *no.* 3, 405–412 (1998). (J. S. Joel) **99k:81165** 81S99 (81Q20)
— Deterministic quantum chaos for systems of bosons and fermions. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 473–488 (1998). (Summary) **99h:81055** 81Q50
— Quasi-particles associated with isoenergetic manifolds corresponding to classical self-consistent fields. XII. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 529–534 (1998). (J. S. Joel) **99k:81166** 81S99 (81Q20)
— Axiomatics of thermodynamics and idempotent analysis. *Idempotency (Bristol, 1994)*, 416–419, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Ryszard Mrugała) **99a:80001** 80A05 (80A10)
— (*with* Litvinov, G. L.) The correspondence principle for idempotent calculus and some computer applications. *Idempotency (Bristol, 1994)*, 420–443, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Jonathan Golan) **99c:16050** 16Y60 (81P99)
— (*with* Shvedov, O. Yu.) On complex germ in relativistic field theory. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 319–322. (J. S. Joel) **99d:58182** 58G99 (58G18, 81T99)
— On a new class of Lagrangian manifolds corresponding to variational problems and to problems in control theory and thermodynamics. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 89–91; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 139–141. (J. S. Joel) **99h:58048** 58E50 (82B05)
— (*with* Mishchenko, A. S.) Quasi-classical asymptotics of quasiparticles. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 6, 85–116; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 901–930. (Oleg Yu. Shvedov) **99i:81044** 81Q20 (82D50)
— A theorem on the classical limit $\hbar \to 0$ for N interacting fermions. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 145–146; *translation in Math. Notes* **63** (1998), *no.* 1-2, 131–132. (J. S. Joel) **99e:81122** 81S30
— (*with* Shvedov, O. Yu.) On the axiomatics of quantum field theory with ultraviolet cutoff. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 147–150; *translation in Math. Notes* **63** (1998), *no.* 1-2, 133–136. (J. S. Joel) **99e:81131** 81T05
— (*with* Shafarevich, Andrei I.) Localized asymptotic solutions of the Navier-Stokes equations, and laminar wakes in an incompressible fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 424–432; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 389–396. (Summary) **99m:76046** 76D05 (35C20, 35Q30, 76D25)
Maslowe, S. A. (*with* Mallier, Roland) Weakly nonlinear evolution of a wave packet in a zonal mixing layer. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 1, 69–85. (Summary) **99j:76042** 76E20 (35Q35, 76C15, 86A10)
Maslowski, Bohdan (*with* Duncan, T. E.; Pasik-Duncan, Bożenna) Ergodic distributed control for parameter dependent stochastic semilinear systems. (English summary) *Stochastic differential and difference equations (Győr, 1996)*, 43–58, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Ł. Stettner) **99f:93142** 93E20 (60H15)
— (*with* Seidler, Jan) Invariant measures for nonlinear SPDE's: uniqueness and stability. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 153–172. (Ralf Manthey) **99e:60139** 60H15 (35R60, 47D07)
— (*with* Duncan, T. E.; Pasik-Duncan, Bożenna) Ergodic boundary/point control of stochastic semilinear systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1020–1047 (*electronic*). (Ł. Stettner) **99e:49020** 49J55 (60H15, 93C20, 93E20)
Masmoudi, Nader The Euler limit of the Navier-Stokes equations, and rotating fluids with boundary. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 4, 375–394. (Alexander Yurjevich Chebotarev) **99i:35129** 35Q30 (76D05, 76U05)
— (*with* Lions, Pierre-Louis) Unicité des solutions faibles de Navier-Stokes dans $L^N(\Omega)$. (English and French summaries) [Uniqueness of weak solutions of the Navier-Stokes equations in $L^N(\Omega)$] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 491–496. (Summary) **99h:35164** 35Q30 (35D05, 76D05)
— (*with* Lions, Pierre-Louis) Incompressible limit for a viscous compressible fluid. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 6, 585–627. (Piotr Biler) **99d:76084** 76N10 (35Q30, 76D05)
dal Maso, Gianni *see* **Dal Maso, Gianni**
Masoliver, Jaume (*with* Boguñá, Marián; Porrà, Josep M.) Generalization of the persistent random walk to dimensions greater than 1. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 6992–6998. (Summary) **99g:82026** 82B41
Mason, A. W. (*with* Odoni, R. W. K.) Ideal class groups of Dedekind domains contained in function fields. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 155–162. (Abdeslam Mimouni) **99h:13011** 13C20
— Unipotent matrices, modulo elementary matrices, in SL_2 over a coordinate ring. *J. Algebra* **203** (1998), *no.* 1, 134–155. (B. Sury) **99f:20080** 20G30 (11E57, 20H05)
Mason, David M. (*with* Einmahl, Uwe) Strong approximations to the local empirical process. (English summary) *High dimensional probability (Oberwolfach, 1996)*, 75–92,

Progr. Probab., 43, *Birkhäuser, Basel*, 1998. (Miguel A. Arcones) **99h:60060** 60F15 (60F17)

— (*with* Giné, Evarist) On the LIL for self-normalized sums of IID random variables. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 351–370. (Erich Haeusler) **99e:60082** 60F15

— (*with* Deheuvels, Paul) Random fractal functional laws of the iterated logarithm. *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 89–106. (Lajos Horváth) **99g:60061** 60F15 (60G17, 60J65)

Mason, Geoffrey (*with* Dong, Chongying; Li, Hai Sheng; Montague, P. S.) The radical of a vertex operator algebra. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 17–25, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Dražen Adamović) **99j:17042** 17B69

— (*with* Dong, Chongying; Li, Hai Sheng; Norton, S. P.) Associative subalgebras of the Griess algebra and related topics. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 27–42, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Chang Heon Kim) **99k:17048** 17B69 (20D08)

— (*with* Dong, Chongying; Li, Hai Sheng) Twisted representations of vertex operator algebras and associative algebras. *Internat. Math. Res. Notices* **1998**, *no.* 8, 389–397. (Dražen Adamović) **99f:17032** 17B69

— (*with* Dong, Chongying; Li, Hai Sheng) Vertex operator algebras and associative algebras. (English summary) *J. Algebra* **206** (1998), *no.* 1, 67–96. (Mirko Primc) **99i:17029** 17B69

— (*with* Dong, Chongying; Li, Hai Sheng) Twisted representations of vertex operator algebras. *Math. Ann.* **310** (1998), *no.* 3, 571–600. (Mirko Primc) **99d:17030** 17B69

Mason, Julian D. (*with* Sutanto, E. L.; Warwick, Kevin) Mean-tracking clustering algorithm for radial basis function centre selection. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 961–977. 93B40 (93B30)

Mason, Lionel J. Complex methods and new variables. (English summary) *Proceedings of the* 14*th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 429–433, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83C60

— (*with* Nicolas, Jean-Philippe) Résultats globaux pour les équations de Rarita-Schwinger en espace-temps d'Einstein asymptotiquement plats. (English and French summaries) [Global results for the Rarita-Schwinger equations on asymptotically flat vacuum space-times] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 743–748. (Jörg Frauendiener) **99i:83071** 83C60 (58G40, 83C05)

— The asymptotic structure of algebraically special spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1019–1030. (Simonetta Frittelli) **99d:83035** 83C30 (83C20)

— (*with* Dunajski, M.; Woodhouse, N. M. J.) From 2D integrable systems to self-dual gravity. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6019–6028. (Maciej Przanowski) **99i:83013** 83C15 (58F07, 83C60)

— (*with* Bailey, Toby N.; Eastwood, Michael G.; Gover, A. Rod) The Funk transform as a Penrose transform. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 67–81. (Peter R. Law) **99i:32037** 32L25

— *see also* **Geometric universe, 99b:00015**

Mason, Matthew T. *see* **Robotics: the algorithmic perspective, 99m:68012**

Masood Gilani, Ghosia (*with* Ghazali, Syed Shakir Ali) A formal algorithm of a sampling procedure for a 3-way stratified population. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 149–156. 62D05

Masoom Ali, M. *see* **Ali, Mir Masoom**

muñoz Masqué, Jaime *see* **Muñoz Masqué, Jaime**

Masri, S. F. (*with* Gehle, R. W.) Active control of shallow, slack cable using the parametric control of end tension. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 1, 77–94. 93C85 (93C95)

Masrour, Tawfik (*with* Bardos, Claude; Tatout, Frederic) Observation and control of elastic waves. (English summary) *Singularities and oscillations* (*Minneapolis, MN*, 1994/1995), 1–16, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (Guenter Leugering) **99c:93056** 93C20 (35Q72, 58G40, 73D30, 93B05, 93B07)

Masry, Elias Multivariate probability density estimation by wavelet methods: strong consistency and rates for stationary time series. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 177–193. (Patricia B. Cerrito) **99a:62053** 62G05 (62M10)

Massacci, Fabio Anytime approximate modal reasoning. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 274–279, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B35, 03B45, 03D15)

— Simplification: a general constraint propagation technique for propositional and modal tableaux. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 217–231, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B45)

Massaguer, J. M. (*with* Prat, Joana d'Arc; Mercader, Isabel) Secondary instabilities in the two-dimensional Rayleigh-Bénard problem. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76E15

Massam, Hélène (*with* Letac, Gérard) Quadratic and inverse regressions for Wishart distributions. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 573–595. (Évelyne Bernadac) **99f:62071** 62H05 (17C99)

— (*with* Letac, Gérard) A formula on multivariate Dirichlet distributions. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 247–253. (Évelyne Bernadac) **99e:60044** 60E05 (62E10, 62E15)

Massaneda, Xavier Interpolation by holomorphic functions in the unit ball with polynomial growth. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 277–296. (Pascal J. Thomas) **99b:32014** 32E30 (46E10)

— $A^{-\infty}$-interpolation in the ball. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 359–367. (Pascal J. Thomas) **99e:32017** 32E30 (32A35, 46E10, 46J15)

Massar, M. (*with* Grisaru, Marcus T.; Sevrin, Alexander; Troost, Jan) The quantum geometry of $N = (2, 2)$ non-linear σ-models. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 53–58. (Summary) **99a:81172** 81T60 (81T15, 81T30, 81T40)

Massari, U. (*with* Gonzalez, Eduardo H. A.; Miranda, Mario) On minimal cones. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 135–143. (Summary) **99m:35012** 35A25 (35B50, 49Q20)

Massaro, Domenico Mathematics and philosophy in Plato. (Italian. English and French summaries) *Quad. Ric. Didatt. No.* 7 (1997), 118–135 (1998). (Summary) **99d:01010** 01A20 (00A30)

Massart, D. Stable norms of surfaces: local structure of the unit ball of rational directions. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 6, 996–1010. (Lee Mosher) **99b:53061** 53C22 (53C20, 57M50)

Massart, P. (*with* Rio, Emmanuel) A uniform Marcinkiewicz-Zygmund strong law of large numbers for empirical processes. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 199–211, *North-Holland, Amsterdam*, 1998. (Miguel A. Arcones) **99k:60087** 60F15 (60B12)

Massazza, P. (*with* Bertoni, Alberto) On the inclusion problem for finitely ambiguous rational trace languages. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 1-3, 79–98. (Yves Metivier) **99i:68073** 68Q45 (68Q10)

Massé, Jean-Claude Nonparametric maximum likelihood estimation in a non-locally compact setting. (English summary) *Metrika* **46** (1997), *no.* 2, 123–145. (Summary) **99g:62043** 62G05

Massey, Gerald J. *see* **Carnap, Rudolf**, (**99a:00006a**); **Heyting, Arend**, (**99a:00006a**) *and* **Hahn, Hans**, (**99a:00006a**)

Massey, W. S. Higher order linking numbers. *J. Knot Theory Ramifications* **7** (1998), *no.* 3, 393–414. (J. P. Levine) **99e:57016** 57M25 (55S30, 57Q45)

Massey, William A. (*with* Mandelbaum, Avi; Reiman, Martin I.) Strong approximations for Markovian service networks. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 1-2, 149–201. (John P. Lehoczky) **99i:60163** 60K20 (60K25, 90B22)

Massó, J. *see* **Massó, Jordi**

Massó, Joan (*with* Anninos, Peter; Camarda, Karen; Libson, Joseph; Seidel, Edward; Suen, Wai-Mo) Finding apparent horizons in dynamic 3D numerical spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024003, 12 *pp.* 83–08 (83C57)

Massó, Jordi (*with* Barberà, Salvador; Serizawa, Shigehiro) Strategy-proof voting on compact ranges. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 2, 272–291. (Maurice Salles) **99m:90015** 90A08

Masson, David R. (*with* Gupta, Dharma P.) Contiguous relations, continued fractions and orthogonality. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 769–808. (Mayumi Ohmiya) **99c:33028** 33D45 (39A10, 40A15)

Masson, Gerald M. (*with* Du, Yi[2]) Strictly nonblocking conferencing meshes. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 221–233, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 68R10 (05C90, 68M07, 68M10, 90B12)

Masson, T. (*with* Georgelin, Y.; Madore, J.; Mourad, J.) On the noncommutative Riemannian geometry of $GL_q(n)$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3263–3277. (Axel Schüler) **99d:58025** 58B30 (81R50)

Massoni, J. (*with* Saurel, Richard; Baudin, G.; Demol, G.) A mechanistic model for shock initiation of solid explosives. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 710–736. (Summary) **99j:76068** 76L05 (80A25)

Massonnet, C. E. (*with* Save, M. A.; De Saxcé, G.) ★ Plastic limit analysis of plates, shells and disks. Translated from the French by Save. Second edition. North-Holland Series in Applied Mathematics and Mechanics, 43. *North-Holland Publishing Co., Amsterdam*, 1997. xxii+580 *pp. ISBN* 0-444-89479-9 (V. K. Arya) **99g:73050** 73E20 (73E05, 73K10, 73K15)

Massopust, Peter R. A multiwavelet based on piecewise C^1 fractal functions and related applications to differential equations. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 2, 249–283. (Andreas Rieder) **99j:65248** 65T99 (28A80, 35A35, 42C15, 65D15)

— Generalized multiresolution schemes. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 574–594. (Gerlind Plonka) **99c:42068** 42C15 (18B30, 46A35, 65M06)

Massot, Marc (*with* Giovangigli, Vincent) The local Cauchy problem for multicomponent reactive flows in full vibrational non-equilibrium. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 15, 1415–1439. (Vitaly A. Volpert) **99g:80011** 80A32 (35Q80, 76N10)

— (*with* Giovangigli, Vincent) Asymptotic stability of equilibrium states for multicomponent reactive flows. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 251–297. (Thierry Goudon) **99c:35197** 35Q35 (35L65, 76E99, 80A32)

Massoulié, Laurent Large deviations ordering of point processes in some queueing networks. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 4, 317–335. (Volker Schmidt) **99g:60173** 60K25 (60G55)

Massouros, Christos G. Hypergroups and geometry. (French summary) *Mem. Secţ. Ştiinţ. Acad. Română Ser. IV* **19** (1996), 185–191 (1998). 20N20 (51N20, 52A01)

Masters, Joseph D. The perimeter-minimizing enclosure of two areas in S^2. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 645–654. (J. E. Brothers) **99a:52010** 52A40 (49Q15, 53A10)

Mastorakis, Nikos E. A multi-step factorization scheme for a specific class of m-D polynomials. (English summary) *Control Cybernet.* **26** (1997), *no.* 4, 659–663. 13P99

— A method for computing the 2-D stability margin based on a new stability test for 2-D systems. (English summary) *Multidimens. Systems Signal Process.* **10** (1999), *no.* 1, 93–99. 93D05 (93B40)

Mastroeni, Giandomenico (*with* Castellani, Marco; Jama, Jama Musse) Duality relations for variational inequalities with applications to network flows. Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 39–55. (Giandomenico Mastroeni) **99m:49013** 49J40 (49N15, 90C35)

— Some remarks on a minimax formulation of a variational inequality. (English summary) *Minimax theory and applications* (*Erice*, 1996), cv7–166, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Igor' V. Konnov) **99m:49017** 49J40 (47H19, 49J35)

— (*with* Pappalardo, Massimo) Separation and regularity in the image space. (English summary) *New trends in mathematical programming*, 181–190, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (C. Bergthaller) **99j:90084** 90C30 (49N15)

Mastroeni, Loretta Dynamic programming methods for the American option pricing problem with stochastic volatility. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 943–948. (Summary) **99g:90028** 90A09 (90C39)

— (*with* Matzeu, Michele) A degenerate parabolic variational inequality for the American option pricing problem. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 485–493. (Summary) **99a:90042** 90A09 (49J40)

Mastroianni, Giuseppe (*with* Capobianco, M. R.; Junghanns, Peter; Luther, Uwe) Weighted uniform convergence of the quadrature method for Cauchy singular integral equations. (English summary) *Singular integral operators and related topics* (*Tel Aviv*, 1995), 153–181, *Oper. Theory Adv. Appl.*, 90, *Birkhäuser, Basel*, 1996. (From the introduction) **99e:45012** 45L05 (45E05, 65R20)

— (*with* Szabados, J.) On Bernstein-Markov inequalities for n-convex functions. *Mathematica* **38(61)** (1996), *no.* 1-2, 141–148. (I. Gavrea) **99f:26034** 26D15 (26A51, 41A17)

— (*with* Capobianco, M. R.; Russo, M. G.) Pointwise and uniform approximation of the finite Hilbert transform. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 45–66, *Transilvania, Cluj-Napoca*, 1997. (B. P. Parashar) **99b:65168** 65R10 (41A05)

— (*with* Vértesi, P.) Some applications of generalized Jacobi weights. *Acta Math. Hungar.* **77** (1997), *no.* 4, 323–357. (José Javier Guadalupe Hernández) **99e:42037** 42C05 (33C45, 41A05)

— (*with* Russo, M. G.) Lagrange interpolation in some weighted uniform spaces. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 185–201. (Kewal Krishna Mathur) **99m:41004** 41A05

— (*with* Ehrich, Sven) Marcinkiewicz inequalities based on Stieltjes zeros. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 129–141. (L. Leindler) **99j:41021** 41A17 (26D20)

— (*with* Totik, Vilmos) Jackson type inequalities for doubling and A_p weights. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 83–99. (Kairat T. Mynbaev) **99g:41013** 41A17

— (*with* Bos, L. P.; Della Vecchia, B.) On the asymptotics of Christoffel functions for centrally symmetric weight functions on the ball in $\mathbf{R}^d$. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 277–290. (K. Pan) **99h:42043** 42C05

— (*with* Della Vecchia, B.; Vértesi, P.) One-sided convergence conditions for Hermite-Fejér interpolation of higher order of Lagrange type. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 294–309. (Kewal Krishna Mathur) **99k:41007** 41A10 (41A25)

Mastronardi, N. (*with* Occorsio, Donatella) Product integration rules on the semiaxis. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 605–618. (Summary) **99f:41034** 41A55 (65D30)

Mastropietro, Vieri Stochastic limit for interacting fermions. (English summary) *New perspectives in the physics of mesoscopic systems* (*Caserta*, 1996), 206–215, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99e:81003**) 81S20

— (*with* Benfatto, G.; Gentile, Guido) Electrons in a lattice with an incommensurate potential. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 655–708. (Summary) **99g:82025** 82B28 (82B10)

— (*with* Bonetto, Federico; Gallavotti, Giovanni M.; Gentile, Guido) Lindstedt series, ultraviolet divergences and Moser's theorem. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 545–593. (Luigi Chierchia) **99i:58132** 58F27 (34C30, 70H05)

— (*with* Bonetto, Federico; Gallavotti, Giovanni M.; Gentile, Guido) Quasi-linear flows on tori: regularity of their linearization. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 707–736. (O. Christov) **99e:58148** 58F27 (34C27, 58F30, 70H05)

— (*with* Accardi, Luigi; Lu, Yun Gang) The semi-circle diagrams in the stochastic limit of the Anderson model. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 467–483. (John E. Gough) **99k:81139** 81S25 (82B44)

— (*with* Benfatto, G.; Gentile, Guido) Peierls instability for the Holstein model with rational density. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1071–1113. (Summary) **99h:82074** 82D20 (82B05)

Mastroserio, C. (*with* Lopez, Luciano; Politi, T.) Variable step-size techniques in continuous Runge-Kutta methods for isospectral dynamical systems. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 261–278. (Summary) **99b:65087** 65L06 (58F19, 65L15)

Mastyanitsa, V. S. (*with* Shulyaev, D. S.) Approximate solution of the generalized Prandtl integro-differential equation. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1998**, *no.* 2, 70–73, 81. 45L05 (45E05)

Mastylo, Mieczysław Interpolation spaces containing l_1. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 189–199. (Fernando Cobos) **99c:46082** 46M35 (46B20)

— (*with* Cerdà, Joan; Hudzik, Henryk; Kamińska, Anna) Geometric properties of symmetric spaces with applications to Orlicz-Lorentz spaces. (English summary) *Positivity* **2** (1998), *no.* 4, 311–337. (Alexander Mekler) **99m:46070** 46E30

Masubuchi, Izumi (*with* Ohara, Atsumi; Suda, Nobuhide) LMI-based controller synthesis: a unified formulation and solution. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 669–686. (Summary) **99e:93031** 93B40 (93B51)

Masuch, Michael (*with* Huang, Zhisheng) A case study in logical deconstruction: formalizing J. D. Thompson's organizations in action in a multiagent action logic. (English summary) *Comput. Math. Organ. Theory* **2** (1996), *no.* 2, 71–113. (Yeneng Sun) **99h:90060** 90B70 (03B80, 92H10)

Masuda, K. *see* **Masuda, Kyūya**

Masuda, Kayo Moduli of equivariant algebraic vector bundles over a product of affine varieties. *Duke Math. J.* **88** (1997), *no.* 1, 181–199. (Bernd Kreussler) **99b:14011** 14D20 (14D22, 14D25, 14J60, 14L30)

Masuda, Kenshin The fractal dimension of the attractor of the logistic map with diffusion. Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 21–39. (Remo Badii) **99d:58117** 58F12 (28A78, 28A80, 58F13)

Masuda, Kyūya *see* **Theory of the Navier-Stokes equations, 99c:35002**

Masuda, Mikiya (*with* Moser-Jauslin, Lucy; Petrie, Ted) Equivariant algebraic vector bundles over cones with smooth one-dimensional quotient. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 379–414. (Amnon Neeman) **99k:14079** 14L30 (14J60)

— (*with* Moser-Jauslin, Lucy; Petrie, Ted) Invariants of equivariant algebraic vector bundles and inequalities for dominant weights. *Topology* **37** (1998), *no.* 1, 161–177. (Kayo Masuda) **99c:14064** 14L30 (14D25, 20G05)

Masuda, Shiro Supervisory control using lookahead policies for discrete event systems. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 428–433. (*see* **99g:93006**) 93C83 (93C55)

— (*with* Yoshinaga, Shin-ichi; Inoue, Akira) A design of an adaptive servo control system estimating the internal model. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 324–329. 93C40 (93C85)

Masuda, Takahiro (*with* Suzuki, Hisao) Periods and prepotential of $N = 2$ SU(2) supersymmetric Yang-Mills theory with massive hypermultiplets. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3413–3431. (Michael A. I. Flohr) **99b:81245** 81T60 (14D05, 14H52, 33C20, 81T13)

— (*with* Sasaki, Toru[2]; Suzuki, Hisao) Seiberg-Witten theory of rank two gauge groups and hypergeometric series. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3121–3144. (Summary) **99i:81248** 81T60 (14H45, 33C80, 81T13)

Masuda, Teruo (*with* Mohri, Shintaro; Ishii, Hiroaki[1]) Parallel machines scheduling with resource dependent processing times. Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 200–204. (*see* **99b:90009**) 90B35

Masuda, Tetsu (*with* Sasa, Narimasa; Fukuyama, Takeshi) Neugebauer-Kramer solutions of the Ernst equation in Hirota's direct method. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5717–5731. (Dmitri Korotkin) **99i:83015** 83C15

Masuda, Tetsuya (*with* Hajac, Piotr M.) Quantum double-torus. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 553–558. (Summary) **99h:16060** 16W30 (46L87)

— Connes' cyclic theory [translation of Sūgaku **41** (1989), no. 3, 208–222; MR 91k:46084]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 1, 1–17. (*see* **99a:00057**) 46L87

Masuda, Toshihiko Classification of actions of discrete amenable groups on strongly amenable subfactors of type III_λ. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2053–2057. (Summary) **99j:46072** 46L37 (46L55)

Mašulović, Dragan On the path number of a digraph. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 115–117. (Summary) **99g:05091** 05C20 (05C38)

Masumoto, Makoto Conformal and holomorphic mappings of a once-holed torus. (Japanese) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 1–6. (*see* **99e:30001**) 30C20

Masuoka, Akira Corrigendum: "Calculations of some groups of Hopf algebra extensions" [J. Algebra **191** (1997), no. 2, 568–588; MR 98i:16042]. *J. Algebra* **197** (1997), *no.* 2, 656. (Bodo Pareigis) **99f:16042** 16W30

Masur, Howard (*with* Kaimanovich, Vadim A.) The Poisson boundary of Teichmüller space. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 2, 301–332. (Athanase Papadopoulos) **99h:30044** 30F60 (32G15, 60J15, 60J45, 60J50)

— (*with* Farb, Benson) Superrigidity and mapping class groups. *Topology* **37** (1998), *no.* 6, 1169–1176. (Sylvain Gervais) **99f:57017** 57M50 (57M60)

Matache, A. M. (*with* Gerdes, Klaus; Schwab, Christoph) Analysis of membrane locking in *hp* FEM for a cylindrical shell. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 663–686. (Manil Suri) **99h:73077** 73V05 (65N30, 73K15)

Matache, Valentin The eigenfunctions of a certain composition operator. (English summary) *Studies on composition operators* (*Laramie, WY*, 1996), 121–136, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (Wayne Stewart Smith) **99a:47049** 47B38 (46E20, 47A10, 47A15)

— Composition operators on Hardy spaces of a half-plane. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1483–1491. (Peter R. Mercer) **99h:47038** 47B38 (47B10)

Mataga, P. A. (*with* Bose, K.; Ponte Castañeda, P.) Stable crack growth along a brittle/ductile interface. II. Small scale yielding solutions and interfacial toughness predictions. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 1, 1–34. (From the summary) **99k:73098** 73M25 (73E05, 73V05)

Matala-Aho, Tapani (*with* Väänänen, Keijo) On approximation measures of q-logarithms. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 15–31. (Yann Bugeaud) **99e:11098** 11J82 (11J61)

Mataloni, Silvia Some duality results for the capacity theory related to non-symmetric Dirichlet forms. (English summary) *Note Mat.* **16** (1996), *no.* 1, 81–97 (1998). (Niels Jacob) **99j:31013** 31C25 (49J40, 60J45)

Matalytskiĭ, M. A. Methods for the analysis of mean values for a network with a central server and different types of customers. (Russian. English and Russian summaries) *Vestn. Belorus. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1997**, *no.* 3, 58–62, 77. 90B12 (90B22)

Matamala, Martín On the height used by additive BSS machines. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 256–266, *Springer, Berlin*, 1997. (Summary) **99j:68033** 68Q05 (68Q15)

tshikuna-Matamba, T. *see* **Tshikuna-Matamba, T.**

Matarazzo, Benedetto (*with* Greco, Salvatore; Słowiński, Roman) Rough approximation of a preference relation in a pairwise comparison table. (English summary) *Rough sets in knowledge discovery*, 2, 13–36, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 90C70 (90A05)

— (*with* Greco, Salvatore; Słowiński, Roman; Tsoukiàs, Alexis) Exploitation of a rough approximation of the outranking relation in multicriteria choice and ranking. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 45–60, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90A05)

Matarazzo, G. On the irreversibility of time for an electromagnetic hereditary linear system. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **50** (1998), *no.* 1, 143–147; *reprinted in Ukrainian Math. J.* **50** (1998), *no.* 1, 164–169. (Summary) **99k:78014** 78A25

Matarrese, Sabino (*with* Bruni, Marco; Pantano, Ornella) Dynamics of silent universes with and without Λ. 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 443–451, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83F05

— (*with* Mollerach, Silvia; Bruni, Marco) Relativistic second-order perturbations of the Einstein-de Sitter universe. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 043504, 22 *pp.* 83C25

Matasov, A. (*with* Kolmanovskii, Vladimir B.; Mao, Xuerong) On approximate solving the mean-square filtering problem in hereditary systems. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 259–275. (Summary) **99c:93105** 93E11 (34F05)

Matatov, V. I. (*with* Mikhaĭlovskaya, L. V.) Nonautonomous cubic systems of two differential equations with the Painlevé property. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 216–221, 286; *translation in Differential Equations* **34** (1998), *no.* 2, 220–225. (Summary) **99k:34014** 34A34 (34A20, 34A25)

Mataušek, Miroslav R. (*with* Stanković, Srdjan S.; Chen, Xue-Bo; Šiljak, Dragoslav D.) Stochastic inclusion principle applied to decentralized automatic generation control. (English summary) *Internat. J. Control* **72** (1999), *no.* 3, 276–288. (Muhidin Lelic) **99m:93096** 93E03 (93A13)

Matawie, K. M. (*with* McGilchrist, C. A.) Recursive residuals in generalised linear models. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 335–344. (Holger Dette) **99i:62161** 62J12

Matchanov, O. S. (*with* Takhirov, Zh. O.) The Stefan problem with unknown lateral boundaries for a degenerate parabolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 58–67 (1997). (Summary) **99e:35248** 35R35 (35K65, 80A22)

— The Stefan problem for a degenerate semilinear parabolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1998), 44–51. 35R35 (35B45, 35K60, 80A22)

Matczuk, J. (*with* Lam, T. Y.; Leroy, André) Primeness, semiprimeness and prime radical of Ore extensions. *Comm. Algebra* **25** (1997), *no.* 8, 2459–2506. (J. F. Watters) **99a:16023** 16S36 (16N60)

Máté, László On infinite products of affine mappings of $\mathbf{R}^n$. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 445–458, *Gordon and Breach, Amsterdam*, 1997. (Remo Badii) **99e:58127** 58F12 (39B12, 58F13)

— On infinite composition of affine mappings. (English summary) *Fund. Math.* **159** (1999), *no.* 1, 85–90. (Irene Hueter) **99m:28043** 28D99 (54H20)

Mateescu, Alexandru A survey of teams in cooperating distributed grammar systems. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 137–151, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50

— (*with* Mateescu, George Daniel) Associative shuffle of infinite words. (English summary) *Structures in logic and computer science*, 291–307, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99c:68155** 68Q45

— CD grammar systems and trajectories. (English summary) *Acta Cybernet.* **13** (1997), *no.* 2, 141–157. (Summary) **99a:68115** 68Q50 (68T20)

— Splicing on routes: a framework of DNA computation. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 273–285, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99g:68115** 68Q45 (68Q05, 92D20)

— Words on trajectories. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 65 (1998), 118–135. 68Q45

— (*with* Păun, Gheorghe; Rozenberg, Grzegorz; Salomaa, Arto) Simple splicing systems. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 145–163. (Summary) **99d:68150** 68Q45 (92D20)

— (*with* Rozenberg, Grzegorz; Salomaa, Arto) Shuffle on trajectories: syntactic constraints. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 1–56. (Jetty Kleijn) **99c:68156** 68Q45

Mateescu, George Daniel (*with* Mateescu, Alexandru) Associative shuffle of infinite words. (English summary) *Structures in logic and computer science*, 291–307, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99c:68155** 68Q45

Matei, Codruţ Time-varying grammars and referenced automata. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **46** (1994), *no.* 6, 595–601. (Summary) **99m:68109** 68Q45 (68Q50)

Matei, Pavel An existence result in the theory of nonlinear steady creep via the Ekeland variational principle. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 1-2, 37–48. (Weimin Han) **99k:73046** 73C50 (73V25)

Mateĭko, O. M. (*with* Tavgen′, O. I.) Linear representations of the automorphism groups of free groups. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 48–59, *Gomel. Gos. Univ., Gomel′*, 1997. (I. Ya. Subbotin) **99k:20016** 20C15 (20E05, 20F28)

— (*with* Tavgen′, O. I.) Linear representations of degrees 2 and 3 of the automorphism group of a free group of rank 2. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 3, 5–9, 123. (Abram I. Saksonov) **99c:20006** 20C15 (20E05, 20F28)

— Linear two-dimensional representations of the free product of two finite cyclic groups. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 1, 46–49, 140. (Abram I. Saksonov) **99b:20022** 20C25 (20E06)

Matejaš, J. (*with* Hari, V.) Scaled almost diagonal matrices with multiple singular values. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 2, 121–131. (Zhenyue Zhang) **99c:15012** 15A18 (65F30)

Matejdes, Milan Continuity points of functions on product spaces. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 275–280. (Summary) **99a:26010** 26B05

Matejička, Ladislav (*with* Piatka, Ľudovít) Markov process for electric current drain. (English summary) *Stud. Univ. Žilina Math. Phys. Ser.* **11** (1997), 31–47. 94C99 (60J99)

Mateljević, M. (*with* Božin, Vladimir; Marković, V.) Unique extremality in the tangent space of the universal Teichmuller space. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 145–149. (Summary) **99d:30023** 30C62 (30C70, 32G15)

— Holomorphic fixed point theorem on Riemann surfaces. *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 1–4. (Makoto Masumoto) **99m:30091** 30F45 (32H15, 32H20)

Mateos, Alfonso (*with* Ríos-Insua, Sixto) Multi-attribute evaluation with imprecise vector utility. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fis. Nat.* (*Esp.*) **90** (1996), *no.* 3, 149–155. (Summary) **99i:90022** 90A10

— (*with* Ríos-Insua, Sixto) Utility efficiency and its approximation. (English summary) *Top* **4** (1996), *no.* 2, 285–299. (Summary) **99h:90020** 90A09 (90C29)

— (*with* Ríos-Insua, Sixto; Nevado, Gregorio) Solving discrete multiobjective optimization problems based on approximation. (English summary) *Opsearch* **35** (1998), *no.* 2, 93–105. 90C29 (90C27)

Mateos, David (*with* Gomis, Joaquim; Simón, Joan; Townsend, Paul K.) Brane-intersection dynamics from branes in brane backgrounds. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 231–236. (Summary) **99c:81182** 81T30

— (*with* Brandt, Friedemann; Gomis, Joaquim; Simón, Joan) Infinitely many rigid symmetries of kappa-invariant D-string actions. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 147–152. (Summary) **99h:81156** 81T30

rodríguez Mateos, Francisco *see* **Rodríguez Mateos, Francisco**

Mateos, M. (*with* Casas Rentería, Eduardo) Uniform convergence of the finite element method for semilinear equations and applications to control theory. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1063–1068, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 49J45 (49K20)

Mateos Guilarte, Juan (*with* Fuertes, Wifredo García) Self-dual solitons in $N = 2$ supersymmetric Chern-Simons gauge theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6214–6229. (Summary) **99b:81235** 81T60 (81T13, 81V70)

— (*with* Muñoz Porras, José María; de la Torre Mayado, Marina) Elliptic theta functions and the fractional quantum Hall effect. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 297–332. (Martin Schlichenmaier) **99k:14049** 14H42 (14D20, 14H60, 81V70, 82D20)

— (*with* Alonso Izquierdo, A.; González León, M. A.) Kink manifolds in (1 + 1)-dimensional scalar field theory. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 209–229. (Luigi Martina) **99e:81141** 81T10 (35Q51, 70G50)

Matera, Guillermo (*with* Turull Torres, Jose Maria) The space complexity of elimination theory: upper bounds. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 267–276, *Springer, Berlin*, 1997. (Summary) **99j:65255** 65Y10 (65F05, 68Q25)

— (*with* Aldaz, Mikel; Heintz, Joos; Montaña, José Luis; Pardo, Luis Miguel) Combinatorial hardness proofs for polynomial evaluation (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 167–175, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q40 (68Q25)

— (*with* Aldaz, Mikel; Heintz, Joos; Montaña, José Luis; Pardo, Luis Miguel) Time-space tradeoffs for polynomial evaluation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 10, 907–912. (Summary) **99j:68047** 68Q25 (68Q40)

Matera, Josefina (*with* González Matos, Beatríz) Some results involving generalized Hermite polynomials. (Spanish. English and Spanish summaries) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 33–45. (Summary) **99h:33044** 33C45

— (*with* Nishimoto, Katsuyuki) N-fractional calculus of some elementary functions. II. (English summary) *J. Fract. Calc.* **14** (1998), 23–31. 26A33

— (*with* González Matos, Beatríz) The Saigo operator applied to some special functions. (English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 2, 146–150. (Summary) **99i:33009** 33C45

Materassi, M. (*with* Longhi, G.) A canonical realization of the BMS algebra. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 480–500. (Jörg Frauendiener) **99j:83026** 83C30 (83C40)

Materna, Pavel Rules of existential quantification into "intensional contexts". (English summary) *Studia Logica* **59** (1997), *no.* 3, 331–343. (J. M. Plotkin) **99a:03028** 03B45

Matet, P. (*with* Pawlikowski, Janusz) Ideals over ω and cardinal invariants of the continuum. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 3, 1040–1054. (Miroslav Repický) **99m:03094** 03E05 (03E50)

Máth, J. (*with* Terdik, György) A new test of linearity of time series based on the bispectrum. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 6, 737–753. (Summary) **99j:62135** 62M10

Mathai, A. M. Special functions of matrix arguments. II. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **65** (1995), *no.* 3, 227–246. (J. M. C. Joshi) **99d:33018** 33C70

— Special functions of matrix arguments. III. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **65** (1995), *no.* 4, 367–393. (J. M. C. Joshi) **99d:33019** 33C70

— Special functions of matrix arguments. IV. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **66** (1996), *no.* 1, 1–22. (J. M. C. Joshi) **99d:33020** 33C70

— ★ Jacobians of matrix transformations and functions of matrix argument. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xii+435 *pp. ISBN* 981-02-3095-8 (J. V. Baxley) **99j:26015** 26B10 (33C60)

— (*with* Pederzoli, Giorgio) Random points with reference to a circle, revisited. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 235–258. (P. N. Rathie) **99a:60006** 60D05 (60E05)

— (*with* Moschopoulos, P. G.) A multivariate inverted beta model. (English and Italian summaries) *Statistica* (*Bologna*) **57** (1997), *no.* 2, 189–197. 62E15

— Random distances associated with triangles. (English summary) Statistical theory and applications. *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 1, 77–96. (J. Glaz) **99m:60023** 60D05 (62E15)

— On Pearson's statistic for goodness-of-fit. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 187–200. (Summary) **99i:62108** 62G10 (62F03)

— (*with* Pederzoli, Giorgio) A Whittaker function of matrix argument. (English summary) *Linear Algebra Appl.* **269** (1998), 91–103. (Gary R. Miller) **99c:33009** 33C15

Mathai, Varghese (*with* Carey, Alan L.; Coulhon, Thierry; Phillips, John) Von Neumann spectra near the spectral gap. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 3, 203–242. (Patrick T. McDonald) **99g:58128** 58G26 (58G11, 58G25)

— (*with* Carey, Alan L.; Hannabuss, K. C.; McCann, P.) Quantum Hall effect on the hyperbolic plane. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 629–673. (Albert Jeu-Liang Sheu) **99f:58195** 58G12 (19K35, 19K56, 46L60, 81V70)

— Von Neumann algebra invariants of Dirac operators. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 1–21. (Jinsung Park) **99a:58149** 58G12 (46L10, 58G26)

— (*with* Dodziuk, Jozef) Approximating L^2 invariants of amenable covering spaces: a combinatorial approach. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 359–378. (Tadeusz Januszkiewicz) **99e:58201** 58G26 (43A07, 57M10)

— (*with* Rothenberg, Melvin G.) On the homotopy invariance of L^2 torsion for covering spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 887–897. (Matthias Lesch) **99c:58167** 58G26 (57N10, 57N65, 57Q10)

Mathar, Rudolf (*with* Kind, Jaakob; Niessen, Thomas) Theory of maximum packing and related channel assignment strategies for cellular radio networks. (English summary)

Math. Methods Oper. Res. **48** (1998), *no.* 1, 1–16. (Imma J. Curiel) **99g:90046** 90B12 (90C27)

— *see also* **Classification, data analysis, and data highways, 99g:62002**

Mathas, Andrew Simple modules of Ariki-Koike algebras. (English summary) *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 383–396, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Hiroshi Naruse) **99d:20018** 20C20 (16G99)

— (*with* Malle, Gunter) Symmetric cyclotomic Hecke algebras. (English summary) *J. Algebra* **205** (1998), *no.* 1, 275–293. (Götz Pfeiffer) **99g:20026** 20C99 (20F55)

— (*with* Dipper, Richard; James, Gordon) The (Q, q)-Schur algebra. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 327–361. (Jochen Gruber) **99e:20019** 20C99 (16G99, 20G05)

Mathé, Peter Asymptotically optimal weighted numerical integration. (English summary) *J. Complexity* **14** (1998), *no.* 1, 34–48. (G. A. Evans) **99d:65072** 65D30

— Relaxation of product Markov chains on product spaces. (English summary) *J. Complexity* **14** (1998), *no.* 3, 319–332. (David J. Aldous) **99i:60139** 60J10

Matheny, Kenneth J. Non-neutral responses to money supply shocks when consumption and leisure are Pareto substitutes. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 379–402. (Dave Furth) **99f:90025** 90A16 (90A53, 90A58)

Matheron, Etienne How to recognize a true Σ^0_3 set. (English summary) *Fund. Math.* **158** (1998), *no.* 2, 181–194. (Arnold W. Miller) **99m:43005** 43A46 (04A15)

Mathes, D. Benjamin (*with* Livshits, Leonya; MacDonald, Gordon Wilson; Radjavi, Heydar) Reducible semigroups of idempotent operators. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 35–69. (Cecelia Laurie) **99m:47004** 47A15 (20M99, 47D03)

Matheson, A. L. (*with* Bourdon, P. S.; Cima, Joseph) Compact composition operators on BMOA. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2183–2196. (Wayne Stewart Smith) **99i:47052** 47B38 (30D50)

Mathéus, Frédéric Empilements de cercles et théorème de Liouville (d'après T. Dubejko). [Circle packings and Liouville's theorem (following T. Dubejko)] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 53–58, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (*see* **99b:53003**) 52C15 (30C80)

Mathew, George (*with* Datta, Somnath; McCormick, William P.) Nonlinear autoregression with positive innovations. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 229–239. (Summary) **99c:62248** 62M10

— (*with* McCormick, William P.) A bootstrap approximation to the joint distribution of sum and maximum of a stationary sequence. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 287–299. (Hung Trung Nguyen) **99j:62058** 62G09

Mathew, T. P. Uniform convergence of the Schwarz alternating method for solving singularly perturbed advection-diffusion equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1663–1683 (*electronic*). (Martin Stynes) **99f:65156** 65N12

— (*with* Polyakov, P. L.; Russo, Giovanni; Wang, Jun Ping[1]) Domain decomposition operator splittings for the solution of parabolic equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 912–932 (*electronic*). (Lutz Tobiska) **99j:65158** 65M55 (65F30)

Mathew, Thomas[1] (*with* Khuri, André I.; Sinha, Bimal Kumar) ★ Statistical tests for mixed linear models. (English summary) Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xvi+352 *pp. ISBN* 0-471-15653-1 (J. Kleffe) **99e:62123** 62J10 (62F03)

— (*with* Zha, Wenxing) Some single use confidence regions in a multivariate calibration problem. (English summary) *Applied statistical science, III*, 351–363, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62077** 62H12

Mathews, David (*with* Cohen, Jo-Ann; Shell, Niel) F-transcendental Ostrowski nets. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 316–323, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Niels Schwartz) **99b:12007** 12J10

Mathews, Prakash (*with* Raychaudhuri, Sreerup; Sridhar, K.) Getting to the top with extra dimensions. (English summary) *Phys. Lett. B* **450** (1999), *no.* 4, 343–347. 81V22

Mathias, H. David A model of interactive teaching. (English summary) *J. Comput. System Sci.* **54** (1997), *no.* 3, 487–501. (Summary) **99d:68213** 68T05 (68Q99)

— (*with* Bshouty, Nader H.; Goldman, Sally A.; Suri, Subhash; Tamaki, Hisao) Noise-tolerant distribution-free learning of general geometric concepts. (English summary) *J. ACM* **45** (1998), *no.* 5, 863–890. (Summary) **99m:68159** 68T05 (68Q99)

— (*with* Bshouty, Nader H.; Goldberg, Paul W.; Goldman, Sally A.) Exact learning of discretized geometric concepts. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 675–700 (*electronic*). (Summary) **99e:68065** 68Q25 (68T05)

Mathias, Roy A bound for the matrix square root with application to eigenvector perturbation. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 861–867. (Summary) **99a:15006** 15A45

— (*with* Li, Chi-Kwong) Some interlacing theorems on the Schur complement. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 373–382. (Summary) **99f:15026** 15A42 (15A18)

— (*with* Li, Chi-Kwong) Generalizations of Ky Fan's dominance theorem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 99–106 (*electronic*). (Fuad Kittaneh) **99g:15019** 15A45 (15A15, 15A60)

Mathies, S. (*with* Mevert, P.) A hybrid algorithm for solving network flow problems with side constraints. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 9, 745–756. 90C35 (90B10)

Mathies, Thomas R. (*with* Haggard, Gary) The computation of chromatic polynomials. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 227–231. (Summary) **99k:05078** 05C15 (05C85)

Mathieu, Frédéric (*with* Fernique, Xavier) En appliquant un théorème de Talagrand: une caractérisation des espaces auto-reproduisants. (English and French summaries) [Applying Talagrand's theorem to characterize the reproducing kernel spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 4, 347–350. (Summary) **99k:60009** 60B11

Mathieu, Martin Characterising completely positive elementary operators. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 6, 603–610. (Bojan P. Magajna) **99g:47080** 47B47 (46L05)

— Representation theorems for some classes of operators on C^*-algebras. (English summary) *Irish Math. Soc. Bull. No.* 41 (1998), 44–56. (Summary) **99j:46065** 46L05 (47A67, 47B48)

— Derivations implemented by local multipliers. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1133–1138. (J. P. Sproston) **99a:46122** 46L57 (16W25, 46L05, 47B47)

— *see also* **Banach algebras '97, 99f:46002**

Mathieu, Olivier Homologies associated with Poisson structures. (English summary) *Deformation theory and symplectic geometry (Ascona, 1996)*, 177–199, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Manuel de León) **99b:58097** 58F05 (58F06, 58H10)

Mathieu, P. *see* **Mathieu, Pierre[1]**

Mathieu, Pierre *see* **Mathieu, Pierre[2]**

Mathieu, Pierre[1] (*with* Grabowski, M. P.) The structure of the conservation laws in integrable spin chains. (English summary) *Field theory, integrable systems and symmetries (Quebec, PQ, 1995)*, 71–78, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:82027** 82B23 (82B20)

— (*with* Watts, Gerard M. T.) Probing integrable perturbations of conformal theories using singular vectors. II. $N = 1$ superconformal theories. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 577–607. (Zoltán Bajnok) **99b:81078** 81R10 (17B81, 81T40)

— (*with* Maassarani, Ziad) The su(N) XX model. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 395–408. (Summary) **99g:82012** 82B20

Mathieu, Pierre[2] (*with* Picco, Pierre) Metastability and convergence to equilibrium for the random field Curie-Weiss model. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 679–732. (Anton Bovier) **99d:82057** 82C44 (60J27)

— On random perturbations of dynamical systems and diffusions with a Brownian potential in dimension one. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 53–67. (Kiyoshi Kawazu) **99g:60142** 60J60 (60F05, 60H10)

Mathiot, J.-F. (*with* Carbonell, Jaume; Desplanques, B.; Karmanov, V. A.) Explicitly covariant light-front dynamics and relativistic few-body systems. (English summary) *Phys. Rep.* **300** (1998), *no.* 5-6, 215–347. (Summary) **99c:81276** 81V25

bertrand-Mathis, Anne *see* **Bertrand-Mathis, Anne**

Mathon, Rudolf A. (*with* Hamilton, Nicholas) Baer partitions of small order projective planes. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 87–94. (Summary) **99j:05043** 05B25

Mathonet, Pierre (*with* Lecomte, Pierre B. A.; Tousset, Eric) Comparison of some modules of the Lie algebra of vector fields. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 4, 461–471. (Sen Yue Lou) **99c:17038** 17B66 (58H15)

— Intertwining operators between some spaces of differential operators on a manifold. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 755–776. (Janusz Grabowski) **99m:58209** 58G99 (16S32, 17B66)

— (*with* Marichal, Jean-Luc; Tousset, Eric) Characterization of some aggregation functions stable for positive linear transformations. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 293–314. 90C70 (90C08)

Mathur, Ashwini (*with* Doksum, Kjell; Gould, Jeffrey; Hammarstrand, Robert; Vittinghoff, Eric) An analysis of nonparametric smoothers. (English summary) *Applied statistical science, III*, 13–40, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62044** 62G05

Mathur, K. K. *see* **Mathur, Kewal Krishna**

Mathur, Kamlesh An integer-programming-based heuristic for the balanced loading problem. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 1, 19–25. (Summary) **99b:90084** 90C10

Mathur, Kewal Krishna (*with* Srivastava, Arun Kamar) Weighted (0; 0, 1, 3)-interpolation on the zeros of Hermite polynomials. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 49–67 (1998). (P. Vértesi) **99e:41002** 41A05 (41A10)

— (*with* Srivastava, Rekha) An interpolation process on the roots of Hermite polynomials: (0; 0, 1)-interpolation on infinite interval. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 3, 229–237. (Heinz H Gonska) **99f:41005** 41A05 (41A25)

— (*with* Bahadur, Swarnima) Quasi-Hermite interpolation on the unit circle. (English summary) *Ganita* **49** (1998), *no.* 1, 1–6. 41A05

Mathur, Manu (*with* Di Giacomo, Adriano) Abelianization of SU(N) gauge theory with gauge invariant dynamical variables and magnetic monopoles. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 302–322. (Summary) **99i:81148** 81T13

Mathur, Rachana (*with* Rathie, Arjun K.) Integrals involving hypergeometric function. I. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 344–346. (Summary) **99g:33005** 33C05

Mathur, S. K. (*with* Sen, Kanwar) A two sample signed rank test for location. (English summary) *J. Stat. Stud.* **17** (1997), 1–12. 62G10

Mathur, Samir D. (*with* Das, Sumit R.; Rama, S. Kalyana; Ramadevi, P.) Boosts, Schwarzschild black holes and absorption cross sections in M-theory. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 187–204. (Marco Cavaglià) **99i:83056** 83C57 (81T30, 83E30)

— Emission rates, the correspondence principle and the information paradox. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 295–320. (Marco Spaans) **99h:83059** 83E30 (83C57)

Matias, José (*with* Giga, Yoshikazu; Gurtin, Morton E.) On the dynamics of crystalline motions. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 1, 7–50. (Karsten Grosse-Brauckmann) **99h:73008** 73B30 (35K65, 49J99, 58E50)

Matias, Yossi (*with* Muthukrishnan, S.; Şahinalp, Süleyman Cenk; Ziv, Jacob) Augmenting suffix trees, with applications. (English summary) *Algorithms—ESA '98 (Venice)*, 67–78, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q20 (68P20)

— (*with* Berkman, Omer; Ragde, Prabhakar) Triply-logarithmic parallel upper and lower bounds for minimum and range minima over small domains. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 197–215. (Summary) **99c:68107** 68Q22 (68P10)

— (*with* Gil, Joseph) Simple fast parallel hashing by oblivious execution. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1348–1375 (*electronic*). (Friedhelm Meyer auf der Heide) **99f:68041** 68P10 (68Q10, 68Q22)

— (*with* Gibbons, Phillip B.; Ramachandran, Vijaya) The queue-read queue-write asynchronous PRAM model. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 3–29. (Wojciech Rytter) **99f:68053** 68Q05 (68Q10, 68Q22)

— (*with* Gibbons, Phillip B.; Ramachandran, Vijaya) The queue-read queue-write PRAM model: accounting for contention in parallel algorithms. (English summary) *SIAM J.*

Comput. **28** (1999), *no.* 2, 734–770 (*electronic*). (Summary) **99g:68057** 68Q05 (68Q22)

Matić, Gordana (*with* Lisca, Paolo) Stein 4-manifolds with boundary and contact structures. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 55–66. (John B. Etnyre) **99f:57037** 57R57 (32E10, 57M50, 57R15)

— *see also* **Symplectic, contact and low-dimensional topology, 99b:00020**

Matić, M. (*with* Pearce, C. E. M.; Pečarić, Josip) Improvements of some bounds on entropy measures in information theory. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 295–304. (Wolfgang Sander) **99j:94019** 94A17 (26D15)

Matić-Kekić, Snežana (*with* Acketa, Dragan M.; Žunić, Joviša D.) Limitations for the non-symmetric part of lattice convex n-gons with minimum L_∞ diameter. (English summary) *Filomat No.* 11 (1997), 19–28. (Rade Živaljević) **99c:52015** 52B20 (52A40, 52B55, 52C05)

— (*with* Acketa, Dragan M.) On minimal area augmentation of digital convex n-gons. (English summary) *Math. Slovaca* **48** (1998), *no.* 1, 87–99. (Summary) **99e:68162** 68U05 (52A41)

Matignon, Daniel P^2-reducibility of 3-manifolds. (English summary) *Kobe J. Math.* **14** (1997), *no.* 1, 33–47. (Marc Lackenby) **99a:57016** 57N10

— Plan projectif créé par chirurgie de Dehn. (English and French summaries) [Projective plane produced by Dehn surgery] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 975–978. (Summary) **99i:57036** 57N10 (57M25)

Matignon, Denis Stability properties for generalized fractional differential systems. (English and French summaries) *Systèmes différentiels fractionnaires* (*Paris*, 1998), 145–158, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99m:26008** 26A33 (34D99, 93D99)

— *see also* **Fractional differential systems, 99h:00027**

Matignon, Michel (*with* Green, Barry) Liftings of Galois covers of smooth curves. (English summary) *Compositio Math.* **113** (1998), *no.* 3, 237–272. (Akio Tamagawa) **99k:14045a** 14H30 (11G20, 14D15, 14E22)

— (*with* Green, Barry) Order p automorphisms of the open disc of a p-adic field. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 269–303. (Noriko Yui) **99j:13017** 13F25 (11S31, 14L05)

— *see also* **Errata: "Liftings of Galois covers of smooth curves", 99k:14045b**

Matinyan, S. G. (*with* Biró, T. S.; Müller, Berndt) ★ Chaos and gauge field theory. (English summary) World Scientific Lecture Notes in Physics, 56. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1994. $x+288$ *pp. ISBN* 981-02-2079-0 (Massimo Di Pierro) **99d:81083** 81T13 (58F13, 58F40, 81T25, 81T80)

Matioli, Luiz Carlos (*with* Sri Ranga, Alagacone) Bounds for the extreme zeros of polynomials generated by a certain recurrence relation. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 113–120. (Paolo Emilio Ricci) **99f:33015** 33C45 (26C10)

— (*with* Yuan, Jin Yun) Asymptotically optimal row-action methods for generalized least squares problems. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 1–18. 65F10 (65F30)

Matison, Thor (*with* Barge, Marcy) A Poincaré-Birkhoff theorem on invariant plane continua. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 41–52. (Beverly Diamond) **99g:54035** 54H20 (54F15, 58F20)

Matkowski, Janusz (*with* Kahlig, Peter) Envelopes of families of curves related to some iterative functional equations. (English summary) *Iteration theory* (*ECIT* 94) (*Opava*), 163–171, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 39B12

— Iteration groups with generalized convex and concave elements. (English summary) *Iteration theory* (*ECIT* 94) (*Opava*), 199–216, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 39B12 (26A18, 26A51)

— (*with* Singh, Shyam Lal) Round-off stability of functional iterations on product spaces. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 275–286. (E. A. Nurminski) **99f:65081** 65J05 (65Q05)

— (*with* Kahlig, Peter) On the composition of homogeneous quasi-arithmetic means. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 69–85. (Roland Girgensohn) **99b:26035** 26D15 (39B22)

— (*with* Zhang, Wei Nian) Characteristic analysis for a polynomial-like iterative equation. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 192–196. (B. Choczewski) **99h:39023** 39B12

— (*with* Kahlig, Peter) Decomposition of homogeneous means and construction of some metric spaces. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 463–480. (P. S. Bullen) **99h:26021** 26D07

— (*with* Zgraja, Tomasz) A separation theorem for M_φ-convex functions. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 103–109. (Stefan Mititelu) **99e:26012** 26A51

— Continuous solutions of a functional equation. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 559–562. (Summary) **99c:39030** 39B22 (39B52)

Matkowsky, Bernard J. (*with* Aldushin, A. P.) Selection in the Saffman-Taylor finger problem and the Taylor-Saffman bubble problem without surface tension. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 57–62. (Summary) **99e:76116** 76S05 (76D99)

— (*with* Schult, D. A.; Bayliss, Alvin) Traveling waves in natural counterflow filtration combustion and their stability. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 806–852 (*electronic*). (Vitaly A. Volpert) **99b:80010** 80A25 (76E99, 76S05)

— (*with* Class, Andreas G.; Bayliss, Alvin) Localized flickering cellular flames. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 942–964 (*electronic*). (Summary) **99j:80008** 80A25

Matloka, Marian Optimalization problem for fuzzy mapping. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 333–338. 90C29 (90C70)

Mato Eiroa, Pilar (*with* Kerdid, Nabil) A finite element method for a model of not very regular shells. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 805–810, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73V05 (65N30, 73K15)

— (*with* Kerdid, Nabil) Approximation par éléments finis conformes d'un modèle de coques peu régulières. (English and French summaries) [Conforming finite element approximation for shells with little regularity] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1335–1340. (From the text) **99g:73081** 73K15 (65N30, 73V05)

Matolcsi, T. Spacetime without reference frames: an application to synchronizations on a rotating disk. (English summary) *Found. Phys.* **28** (1998), *no.* 11, 1685–1701. (Abraham A. Ungar) **99m:83006** 83A05

Matone, Marco (*with* Bertoldi, Gaetano) Beta function, c-theorem and WDVV equations in 4D $N = 2$ SYM. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 104–106. (Summary) **99c:81228** 81T60 (81T50)

— (*with* Faraggi, Alon E.) Equivalence principle, Planck length and quantum Hamilton-Jacobi equation. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 77–81. (Summary) **99m:81068** 81Q99

— (*with* Bonelli, Giulio) RG flow irreversibility, C theorem, and the topological nature of 4D $N = 2$ super-Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045006, 4 *pp.* (Summary) **99m:81152** 81T17 (81T17, 81T60)

Matos, Ana C. Integral representation of the error and asymptotic error bounds for generalized Padé type approximants. (English summary) ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 239–254. (Summary) **99c:41033** 41A21 (30E10)

González Matos, Beatríz *see* **González Matos, Beatríz**

Matos, Júlia Blow up of critical and subcritical norms in semilinear heat equations. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 23–31, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (*see* **99d:35004**) 35K60 (35B40)

— Blow up of critical and subcritical norms in semilinear heat equations. *Adv. Differential Equations* **3** (1998), *no.* 4, 497–532. (Song Mu Zheng) **99k:35099** 35K60 (35B05)

— Phénomène d'explosion totale pour l'équation de la chaleur avec non-linéarité du type puissance. (English and French summaries) [Complete blow-up phenomenon for the heat equation with power nonlinearity] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 4, 297–302. (Summary) **99k:35100** 35K60 (35B40)

Matos, Manuel A. (*with* Ponce de Leão, M. Teresa) Multicriteria distribution network planning using simulated annealing. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 4, 377–391. 90B10 (90C29, 90C35)

Matos, Mario C. (*with* Junek, Heinz) On unconditionally p-summing and weakly p-convergent polynomials. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 1, 41–51. (Andreas Defant) **99c:47021** 47B10 (46G20)

Matos, Marivaldo P. (*with* de Lima, Osmundo A.) On a system of partial differential equations on unbounded domains. *Nonlinear Anal.* **35** (1999), *no.* 5, *Ser. A: Theory Methods*, 531–540. (Olena V. Roman) **99k:35134** 35L75 (45K05, 73K05)

Matos, Tonatiuh Harmonic maps in dilaton gravity. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 166–173, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83064** 83D05 (58E20)

— The interior field of a magnetized Einstein-Maxwell object. (English summary) *Phys. Lett. A* **249** (1998), *no.* 4, 271–274. (Leonardo Fernández-Jambrina) **99m:83031** 83C15 (83C22)

— (*with* Hayashi, Nakao; Naumkin, Pavel I.) Large time behavior of solutions of higher order nonlinear dispersive equations of KdV type with weak nonlinearity. (English summary) *Differential Integral Equations* **12** (1999), *no.* 1, 23–40. (Yvan Martel) **99m:35206** 35Q53 (35B40)

— (*with* Arreaga, Guillermo; Piccinelli, Gabriella) Inflation from an effective standard model of particle physics for curved spacetime. (English summary) *Internat. J. Modern Phys. D* **8** (1999), *no.* 3, 337–347. 81T20 (81V17)

Matoušek, Jiří (*with* Nešetřil, Jaroslav) ★ Invitation to discrete mathematics. (English summary) *The Clarendon Press, Oxford University Press, New York*, 1998. *xvi*+410 *pp. ISBN* 0-19-850208-7; 0-19-850207-9 05-01

— Geometric set systems. (English summary) *European Congress of Mathematics, Vol. II* (*Budapest*, 1996), 1–27, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (H. W. Guggenheimer) **99j:52025** 52C20 (65Y25, 68Q25, 68R05)

— (*with* Plecháč, P.) On functional separately convex hulls. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 105–130. (Stelian S. Dumitrascu) **99c:52001** 52A01 (65Y25)

— On constants for cuttings in the plane. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 427–448. (Summary) **99f:52019** 52B55

— Mathematical snapshots from the computational geometry landscape. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 365–375 (*electronic*). (Evangelos Kranakis) **99i:68123** 68U05 (52B55)

— (*with* Agarwal, Pankaj K.; Schwarzkopf, Otfried) Computing many faces in arrangements of lines and segments. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 491–505 (*electronic*). (Summary) **99a:68079** 68Q20 (68R05, 68U05)

— (*with* Agarwal, Pankaj K.; de Berg, Mark; Schwarzkopf, Otfried) Constructing levels in arrangements and higher order Voronoi diagrams. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 654–667 (*electronic*). (Summary) **99c:68242** 68U05 (52B55, 68Q25)

Matoušková, Eva (*with* Fabian, Marián; Heisler, M.) Remarks on continuous images of Radon-Nikodým compacta. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 59–69. (Jesús M. F. Castillo) **99g:46014** 46B22

— The Banach-Saks property and Haar null sets. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 71–80. (Jesús M. F. Castillo) **99g:46013** 46B20 (28A75)

— (*with* Zajíček, Luděk) Second order differentiability and Lipschitz smooth points of convex functionals. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 617–640. (Warren B. Moors) **99m:46107** 46G05 (26A24, 46N10, 49J52, 58C20)

— An almost nowhere Fréchet smooth norm on superreflexive spaces. (English summary) *Studia Math.* **133** (1999), *no.* 1, 93–99. (Gilles Godefroy) **99m:46037** 46B20 (46G05)

Matrán, C. (*with* Cuesta-Albertos, J. A.; Gordaliza, A.) Trimmed k-means and the Cauchy mean-value property. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 247–265, *VSP, Utrecht*, 1995. (Summary) **99h:62033** 62G05 (62F35)

— (*with* Cuesta-Albertos, J. A.) The asymptotic distribution of the bootstrap sample mean of an infinitesimal array. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 1, 23–48. (K. B. Athreya) **99k:62085** 62G09 (60F05, 62E20)

— (*with* Cuesta-Albertos, J. A.; Gordaliza, A.) On the geometric behaviour of multidimensional location measures. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2,

191–208. (Summary) **99f:62069** 62H05
— (*with* Cuesta-Albertos, J. A.; Gordaliza, A.) Trimmed best k-nets: a robustified version of an L_∞-based clustering method. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 401–413. (P. Laurie Davies) **99m:62087** 62H30 (60F15)
Matravers, David R. (*with* Humphreys, Neil P.; Maartens, Roy) Exact isotropic cosmologies with local fractal number counts. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3041–3049. 83F05
Matros, A. D. Asymptotic solution of a boundary value problem for a singularly perturbed equation of mixed type. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 4, 3–7, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 4, 1–5. (V. V. Kovrizhkin) **99i:35112** 35M10 (35B25, 35C20)
Matrosov, V. M. (*with* Finogenko, I. A.) On attraction for autonomous mechanical systems with sliding friction. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 100–109; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 95–102. (Summary) **99d:70020** 70F20 (34D99, 70K20)
Matsak, Ī. K. Weak convergence of extreme values of independent Gaussian random elements in the spaces l_p, $1 \le p < \infty$. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 109–115; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 115–120. (Vadim R. Fatalov) **99f:60013** 60B12 (60G70)
— On limit points of a sequence of extreme values of normal random elements of a Banach space with an unconditional basis. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 136–143; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 143–151 (1998). (A. Ya. Dorogovtsev) **99g:60011** 60B12 (46B15, 60F15)
Matsas, George E. A. (*with* Brevik, I.; Moreira, E. S., Jr.) Note on the point-splitting procedure to evaluate vacuum fluctuation in certain cylindrically symmetric backgrounds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 027502, 4 *pp.* 81T20
— (*with* Crispino, Luís C. B.; Higuchi, Atsushi) Interaction of Hawking radiation and a static electric charge. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084027, 4 *pp.* 83C47
— (*with* Higuchi, Atsushi; Sudarsky, Daniel) Interaction of Hawking radiation with static sources outside a Schwarzschild black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104021, 10 *pp.* 83C57
Matschull, Hans-Jürgen (*with* Welling, Max) Quantum mechanics of a point particle in (2 + 1)-dimensional gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 2981–3030. (Alexander N. Petrov) **99j:83040** 83C47 (81S30)
Matskewich, Tanya (*with* Bercovier, Michel; Volpin, Oleg) Globally G^1 free form surfaces using Kirchhoff-Love plate energy methods. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 25–34, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17
— (*with* Volpin, Oleg; Bercovier, Michel) "Discrete" G^1 assembly of patches over irregular meshes. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 351–358, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65Y25 (65D17)
— (*with* Sobolevskiĭ, Pavel E.) The sharp constant in Hardy's inequality for complement of bounded domain. *Nonlinear Anal.* **33** (1998), *no.* 2, 105–120. (Luboš Pick) **99c:26012** 26D10 (46E30)
Matson, Jeremy B. (*with* Mita, Tsutomu; Anderson, Brian D. O.) A complete and simple parametrization of controllers for a nonstandard H_∞ control problem. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 369–374. (Ian Petersen) **99k:93047** 93B36 (93D21)
Matsubara, Shugo (*with* Hirayama, Minoru) Stokes theorem for loop variables of non-abelian gauge field. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 4, 691–706. (José A. Zapata) **99e:81146** 81T13 (53C07)
Matsubara, Yō Nonstationary ideals and the universe of sets. (Japanese. Japanese summary) *Sūgaku* **51** (1999), *no.* 1, 18–33. 03E55 (03E05, 03E15)
Matsubayashi, Akira (*with* Ueno, Shuichi) Small congestion embedding of graphs into hypercubes. (English summary) *Networks* **33** (1999), *no.* 1, 71–77. (Summary) **99j:05056** 05C10 (05C85, 68R10)
Matsuda, H. *see* **Matsuda, Hirotsugu**
Matsuda, Hiroaki (*with* Prato, Domingo P.; Lamberti, Pedro W.) An alternative approach to the Terwiel cumulants expansion in disordered media. (English summary) *J. Phys. A* **32** (1999), *no.* 22, 4027–4034. 82B44
Matsuda, Hiroshi Tangle decompositions of doubled knots. (English summary) *Tokyo J. Math.* **21** (1998), *no.* 1, 247–253. (Daniel Silver) **99f:57010** 57M25
Matsuda, Hirotsugu (*with* Ishihara, Tatsuya; Hashimoto, Akihiro[1]) Classifying molecular sequences using a linkage graph with their pairwise similarities. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 305–325. (Michael A. Steel) **99k:92019** 92D20 (05C90, 68Q25)
Matsuda, K. *see* **Matsuda, Koichi**
Matsuda, Kazuyuki (*with* Kurata, Kazuhiro) On some symmetry property of solutions to the scalar curvature equation. *Functional analysis and global analysis* (*Quezon City*, 1996), 179–184, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35J60
— (*with* Kurata, Kazuhiro) Existence of non-topological solutions to a nonlinear elliptic equation arising in self-dual Chern-Simons-Higgs theory. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 66–74. (Gabriella Tarantello) **99m:58074** 58E50 (35Q60)
Matsuda, Koh-ichi (*with* Ohwaki, Shin-ichi) On a formula for correlation coefficients between normally scattered functions. *Kumamoto J. Math.* **12** (1999), 73–79. 65U05
Matsuda, Koichi (*with* Kanemitsu, Y.; Kijimoto, S.) A wave-based controller design for general flexible structures. (English summary) *J. Sound Vibration* **216** (1998), *no.* 2, 269–279. 93C20 (93B50)
Matsuda, Minoru On localized weak precompactness in Banach spaces. II. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 399–418. (H. E. Lacey) **99k:46019** 46B20
Matsuda, Nami (*with* Ōeda, Kazuo) Initial value problems for the heat convection equations in exterior domains. *Tokyo J. Math.* **21** (1998), *no.* 2, 359–375. (Alexander L. Gladkov) **99m:35109** 35K55 (35D05, 35Q30)
Matsuda, Ryûki (*with* Okabe, Akira; Sato, Iwao[2]) Note on multiplicative ideal theory of semigroups. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 39–42, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M12
— (*with* Kanemitsu, Mitsuo) On seminormal semigroups. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 43–47, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M99
— Note on Schreier semigroup rings. *Math. J. Okayama Univ.* **39** (1997), 41–44 (1999). 16S36 (20M25)
— Kronecker function rings of semistar-operations on rings. (English summary) *Algebra Colloq.* **5** (1998), *no.* 3, 241–254. (Daniel D. Anderson) **99m:13003** 13A15 (13F05)
— Some theorems for semigroups. *Math. J. Ibaraki Univ.* **30** (1998), 1–7. (Jan Snellman) **99j:20068** 20M14
— Note on overrings without a specified element. *Math. J. Ibaraki Univ.* **30** (1998), 9–14. (David F. Anderson) **99i:13002** 13A15 (13F45, 20M14)
— The Mori-Nagata theorem for semigroups. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 17–19. (David F. Anderson) **99k:20122** 20M99
Matsuda, Shigeki On the Swan conductor in positive characteristic. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 705–739. (Abdellah Mokrane) **99h:14022** 14F20 (14F05, 14F30, 19F05)
Matsuda, Tomohiro On the cosmological domain wall problem in supersymmetric models. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 264–268. (Summary) **99f:81224** 81V22 (81R40, 81T60)
Matsuda, Y. *see* **Matsuda, Yoshi**
Matsuda, Yasumasa A diagnostic statistic for functional-coefficient autoregressive models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2257–2273. (Summary) **99i:62211** 62M10
Matsuda, Yoshi (*with* Shao, Cnangcheng) Modified Galerkin method for unsteady two-dimensional viscous fluid flow analysis. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 293–301. (*see* **99f:76004**) 65M70 (76M10)
Matsuda, Yoshihisa (*with* Enomoto, Takeshi) Behavior of Rossby waves at a critical latitude. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 102–112. (*see* **99f:76003**) 76C20
Matsudo, Mie (*with* Takeo, Fukiko) The limit set of cellular automata. (English summary) *Natur. Sci. Rep. Ochanomizu Univ.* **48** (1997), *no.* 1, 9–22. (Henning Fernau) **99e:68110** 68Q80 (58F08)
— (*with* Takeo, Fukiko) Classification of some rules of cellular automata. (English summary) Proceedings of the First Symposium on Non-linear Analysis (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997**, *Special issue no.* 1, 63–76. (Fernanda Botelho) **99c:58087** 58F08 (68Q80)
— (*with* Matsui, Mai) Dynamical systems for the Frobenius-Perron operator. Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 102–111. (Makoto Mori) **99k:58114** 58F11 (28D05)
Matsueda, Hideaki (*with* Fukumi, Toshio; Nagao, Hidemi; Kamada, Kenji; Ohta, Koji) Quantum calculations connected with path integrals. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 203–206. (*see* **99b:00018**) 81S40
— Spatiotemporal evolution of quantum entangled pure states in quantum computing solid block circuits. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 286–292, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05 (81P99)
— (*with* Cohen, David W.) Reduction of theoretical uncertainty in quantum computing. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 701–711. 81P99
Matsufuji, Tetsu (*with* Naka, Shigefumi) A scalar-tensor theory of gravity based on non-commutative geometry. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 3, 719–731. (Kamran Kaviani) **99b:83065** 83D05 (58B30, 81V17)
Matsugu, Yasuo (*with* Izuchi, Keiji) A_φ-invariant subspaces on the torus. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 99–133. (Takahiko Nakazi) **99f:47011** 47A15 (46E99)
Matsui, Akihiko (*with* Lagunoff, Roger) Asynchronous choice in repeated coordination games. *Econometrica* **65** (1997), *no.* 6, 1467–1477. (Sylvain Sorin) **99c:90169** 90D20
Matsui, Mai (*with* Takeo, Fukiko) Julia sets of $z^2 + c$ and laminations. (English summary) *Natur. Sci. Rep. Ochanomizu Univ.* **48** (1997), *no.* 1, 1–8. (Fuyao Ren) **99e:58144** 58F23 (30D05)
— (*with* Matsudo, Mie) Dynamical systems for the Frobenius-Perron operator. Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 102–111. (Makoto Mori) **99k:58114** 58F11 (28D05)
Matsui, Takashi Selection problems based on ranked data. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 1, 55–93. (S. Panchapakesan) **99d:62014** 62F07 (62G30)
Matsui, Taku Translational symmetry breaking and soliton sectors for massive quantum spin models in 1 + 1 dimensions. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 1, 127–144. (Summary) **99g:82007** 82B10 (82B20)
— On the spectra of the kink for ferromagnetic XXZ models. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 3, 229–239. (Summary) **99e:82016** 82B20 (82B05)
— Positive energy representations for quantum spin models in 1 + 1 dimensions. (English summary) *Quantum probability* (*Gdańsk*, 1997), 309–320, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Demetris P. K. Ghikas) **99m:82032** 82C10 (46L60, 46N55, 82–02, 82C20)
— Positive energy representations of quantum spin systems. (Japanese) Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 80–83. (*see* **99d:46001**) 82B10 (46L60)
Matsui, Tetsuo (*with* Takano, Hiroshi; Onoda, Masaru; Ichinose, Ikuo) Finite-temperature renormalization-group study of a dissipative gauge theory with fermions. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 3, 581–620. 81T17
Matsui, Tomomi (*with* Iwata, Satoru; McCormick, S. Thomas) A fast bipartite network flow algorithm for selective assembly. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 137–143. (Mechthild Opperud) **99h:90110** 90C35 (90B10, 90B30)
Matsuki, Toshihiko Double coset decompositions of reductive Lie groups arising from two involutions. *J. Algebra* **197** (1997), *no.* 1, 49–91. (Joachim Hilgert) **99a:22012** 22E15

(22E46)

— Classification and root systems of two involutions of Lie groups. (Japanese) Representation theory of groups and homogeneous spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1008 (1997), 101–109. (*see* **99a:17002**) 22E20

Matsukidaira, Junta (*with* Satsuma, Junkichi; Takahashi, Daisuke; Tokihiro, Tetsuji; Torii, M.) Toda-type cellular automaton and its N-soliton solution. (English summary) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 1–15. (Fernanda Botelho) **99k:58104** 58F08 (68Q80)

— (*with* Takahashi, Daisuke) Box and ball system with a carrier and ultra-discrete modified KdV equation. (English summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 1–14. (*see* **99c:00013**) 65M99 (35Q53)

— (*with* Sasa, Narimasa; Ohta, Yasuhiro) Bilinear form approach to the self-dual Yang-Mills equations and integrable systems in $(2+1)$-dimension. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 1, 83–86. (Ian A. B. Strachan) **99f:58105** 58F07 (58E15, 81T13)

Matsumoto, Hiroyuki[2] (*with* Yor, Marc) On Bougerol and Dufresne's identities for exponential Brownian functionals. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 10, 152–155. (Kiyoshi Kawazu) **99m:60128** 60J65 (60J70)

Matsumoto, Keiji (*with* Kita, Michitake) Duality for hypergeometric functions and invariant Gauss-Manin systems. (English summary) *Compositio Math.* **108** (1997), *no.* 1, 77–106. (V. Leksin) **99k:33047** 33C80 (32G34, 33C65)

Matsumoto, Kengo (*with* Katayama, Yoshikazu; Watatani, Yasuo) Simple C^*-algebras arising from β-expansion of real numbers. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 937–962. (Jonathan M. Rosenberg) **99m:46136** 46L05 (11K60, 19K14, 46L55, 46L80, 54H20, 58F03)

— (*with* Watatani, Yasuo; Yoshida, Masamichi) KMS states for gauge actions on C^*-algebras associated with subshifts. *Math. Z.* **228** (1998), *no.* 3, 489–509. (Claudia Pinzari) **99g:46086** 46L30 (46L50, 46L55)

— Interpolated Cuntz algebras from β-expansions of real numbers. (Japanese) Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 84–86. (*see* **99d:46001**) 46L05 (11K16)

Matsumoto, Kenichiro (*with* Hayakawa, Kisaburo; Yamashita, Masashi; Suzuki, Yoshiaki; Fujimori, Kazuo; Kimura, Hidenori) Robust H^∞-output feedback control of decoupled automobile active suspension systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 392–396. 93B36 (93C95)

Matsumoto, Kohji Asymptotic series for double zeta and double gamma functions of Barnes. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 162–165. (Alessandro Languasco) **99g:11102** 11M41 (11M35, 33B15)

— (*with* Kiuchi, Isao) The resemblance of the behaviour of the remainder terms $E_\sigma(t)$, $\Delta_{1-2\sigma}(x)$ and $R(\sigma+it)$. (English summary) *Sieve methods, exponential sums, and their applications in number theory (Cardiff, 1995)*, 255–273, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Matti Jutila) **99e:11115** 11M06 (11N37)

— (*with* Laurinčikas, Antanas) Joint value-distribution theorems on Lerch zeta-functions. (Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 3, 312–326; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 3, 238–249 (1999). (Matti Jutila) **99j:11099** 11M35

— Asymptotic series for double zeta, double gamma, and Hecke L-functions. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 385–405. (Andreas Guthmann) **99i:11079** 11M41 (11R42)

Matsumoto, Makoto Theory of Finsler spaces with mth root metric. III. Strongly non-Riemannian spaces. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 137–148 (1997). (Mihai Anastasiei) **99e:53021** 53B40

— (*with* Park, Hong-Suh) Equations of geodesics in two-dimensional Finsler spaces with (α,β)-metric. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 787–793. (László Kozma) **99k:53028** 53B40 (53C22)

— (*with* Maehara, Hiroshi) Is there a circle that passes through a given number of lattice points? (English summary) *European J. Combin.* **19** (1998), *no.* 5, 591–592. (Andrew Bremner) **99e:11028** 11D09

— (*with* Jaeger, François; Nomura, Kazumasa) Bose-Mesner algebras related to type II matrices and spin models. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 1, 39–72. (Andrew Woldar) **99f:05125** 05E30 (05B20, 82B23)

— (*with* Bácsó, Sándor) On Finsler spaces of Douglas type. II. Projectively flat spaces. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 423–438. (Tadashi Aikou) **99k:53025** 53B40

Matsumoto, Michihiro (*with* Futatsugi, Kokichi) Test set coinduction—toward automated verification of behavioural properties. (English summary) *International Workshop on Rewriting Logic and its Applications (Pont-à-Mousson, 1998)*, 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 15, *Elsevier, Amsterdam*, 1998. (*see* **99h:68014**) 68Q65 (68Q42)

Matsumoto, Saburo (*with* Aitchison, I. R.; Rubinstein, Joachim H.) Dehn surgery on the figure 8 knot: immersed surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2437–2442. (Kimihiko Motegi) **99j:57012** 57M50 (57M25, 57N10, 57N35, 57Q35)

Matsumoto, Shigenori K. M. Kuperberg's counterexample to the Seifert conjecture [translation of Sūgaku **47** (1995), no. 1, 38–45; MR 96k:57013]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 1, 39–49. (*see* **99a:00057**) 57N10 (57R30, 58F25)

Matsumoto, Toshiko (*with* Watanabe, Seiji) Surjective linear isometries of the domain of a *-derivation equipped with the Cambern norm. *Math. Z.* **230** (1999), *no.* 1, 185–200. (Krzysztof Jarosz) **99m:46069** 46E25 (46J10)

Matsumoto, Toshitaka Time-dependent nonlinear perturbations of analytic semigroups in Banach spaces. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 119–163. (Piermarco Cannarsa) **99d:47072** 47H20 (34G20, 35K55, 47D06)

— (*with* Peiris, Joseph Jude) Quasilinear reaction-diffusion systems in L^∞ spaces. *Nihonkai Math. J.* **9** (1998), *no.* 2, 171–186. (Jesús Hernández) **99m:35121** 35K57 (34G20, 47H06, 47H20)

Matsumoto, Waichiro The strong hyperbolicity of first order systems with coefficients depending only on the time variable. *International Conference on Differential Equations (Lisboa, 1995)*, 442–447, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35L45 (35F05)

Matsumoto, Yukio (*with* Vo Thanh Liem; Venema, Gerard A.) A homotopy equivalence that is not homotopic to a topological embedding. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 211–222. (Alexander N. Dranishnikov) **99m:57019** 57N35 (55N05, 55P10, 55P55, 57N15)

— *see also* **Topology and Teichmüller spaces, 99g:00051**

Matsumura, Akitaka (*with* Mei, Ming) Nonlinear stability of viscous shock profile for a non-convex system of viscoelasticity. *Osaka J. Math.* **34** (1997), *no.* 3, 589–603. (J. A. Nohel) **99c:35147** 35L65 (35L67, 35Q72, 73D40, 73F15)

— (*with* Komatsu, Yukie; Kotani, Shin-ichi) A period-doubling bifurcation for the Duffing equation. *Osaka J. Math.* **34** (1997), *no.* 3, 605–627. (Sergei A. Dovbysh) **99a:34113** 34C23 (34C15, 34C25, 58F14, 70K40)

— (*with* Liu, Tai-Ping; Nishihara, Kenji) Behaviors of solutions for the Burgers equation with boundary corresponding to rarefaction waves. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 293–308 (*electronic*). (Summary) **99a:35184** 35L70 (35Q53, 76L05)

— Asymptotic stability of traveling wave solutions for the one-dimensional viscous conservation laws [translation of Sūgaku **48** (1996), no. 1, 37–53; MR 97h:35148]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 2, 215–234. (*see* **99h:00040**) 35L65

Matsumura, Kiyoshi (*with* Yamaguchi, Fujio; Niizeki, Masatoshi; Yamada, Atsushi; Yoshida, Norimasa) Totally homogeneous paradigm for geometric processing based on the principle of duality. (English summary) *Math. Student* **65** (1996), *no.* 1-4, 81–109. (Luiz Henrique de Figueiredo) **99f:68203** 68U05

Matsunaga, Hideaki (*with* Sugie, Jitsuro; Chen, Da-Li) On global asymptotic stability of systems of Liénard type. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 140–164. (Bo Hua Yu) **99c:34111** 34D20 (34C15)

Matsunaga, Nami Comparison of three finite difference approximations for Dirichlet problems. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 55–64. (*see* **99h:65005**) 65N06

Matsunawa, Tadashi (*with* Tsuchiya, Takahiro) Discrete multivariate model building based on a statistical fundamental difference equation. (Japanese. Japanese summary) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 1, 227–240. 62H05 (62E15)

— (*with* Yamada, Tomoya) Uniform approximations of probability distributions based on K-L information defined on approximate main domains—with applications to quantitative evaluations of fluctuations in multivariate general exponential families. (Japanese. English and Japanese summaries) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 2, 461–476. (Editors) **99m:60012** 60B10

Matsuno, Kenichi Two-dimensional vertex-centered finite volume scheme for the Euler equations. (English summary) *Mem. Fac. Engrg. Design Kyoto Inst. Tech. Ser. Sci. Tech.* **46** (1997), 13–24. (Summary) **99e:76091** 76M25 (65M60, 76J20, 76L05)

Matsuno, Koichiro Constructions from divisions of the category of time and their unification. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 9–16. (*see* **99b:00018**) 00A69 (00A30, 00A79)

Matsuno, Yoshimasa Phase shift of interacting algebraic solitary waves in a two-layer fluid system. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 335–341, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76D33 (76B25)

— The small dispersion limit of the Benjamin-Ono equation and the evolution of a step initial condition. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1814–1817. (Summary) **99e:76023** 76C10 (76V05)

— Nonlinear modulation of periodic waves in the small dispersion limit of the Benjamin-Ono equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part B*, 7934–7940. (Summary) **99i:76018** 76B15 (35Q53, 76B25)

— Oblique interaction of interfacial solitary waves in a two-layer deep fluid. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 835–856. (Summary) **99d:76016** 76B25 (76B15)

— Linear stability of multiple internal wave solitons and related topics. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 74–85. (*see* **99f:76003**) 76C10 (76E99)

— (*with* Kaup, D. J.; Lakoba, T. I.) Perturbation theory for the Benjamin-Ono equation. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 215–240. (From the text) **99k:35156** 35Q53 (34L25, 76B25)

Matsuo, Atsushi Summary of the theory of primitive forms. *Topological field theory, primitive forms and related topics (Kyoto, 1996)*, 337–363, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Aleksandr G. Aleksandrov) **99m:32047** 32S30 (32G81, 32S25, 81T30, 81T40)

— The achievements of Fields medalist R. E. Borcherds. II. (Japanese) *Sūgaku* **51** (1999), *no.* 1, 57–61. 01A70 (17–02)

— *see also* **Topological field theory, primitive forms and related topics, 99e:00029**

Matsuo, Koji Examples of locally conformal Kähler structures. (English summary) *Note Mat.* **15** (1995), *no.* 2, 147–152 (1997). (Sorin Dragomir) **99d:53031** 53C15 (53C56)

Matsuo, T. *see* **Matsuo, Takekiyo**

Matsuo, Takami (*with* Nakano, Kazushi) Robust stabilization of closed-loop systems by PID + Q controller. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 631–650. (Summary) **99c:93097** 93D21

Matsuo, Takekiyo (*with* Itoyama, Hiroshi) Berry's connection and USp($2k$) Matrix model. (English summary) *Phys. Lett. B* **439** (1998), *no.* 1-2, 46–54. (Summary) **99g:81168** 81T30 (81Q99)

Matsuo, Yutaka (*with* Okuyama, Kazumi) BPS condition of string junction from M theory. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 294–296. (David S. Berman) **99f:81173** 81T30

— (*with* Ezawa, Kiyoshi; Murakami, Koichi) Matrix model for Dirichlet open string. (English summary) *Phys. Lett. B* **439** (1998), *no.* 1-2, 29–36. (Summary) **99g:81159** 81T30

— (*with* Ezawa, Kiyoshi; Murakami, Koichi) Matrix regularization of an open supermembrane: towards M-theory five-branes via open supermembranes. (English summary)

Phys. Rev. D (3) **57** (1998), *no.* 8, 5118–5133. (Summary) **99m:81184** 81T30 (83E30)

Matsuoka, Chihiro Bifurcation phenomena in viscous fingering. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 74–81. (*see* **99a:00032**) 76D99 (34C23, 76E15)

— Geometric aspects of unbalanced viscous fingering. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 214–221. (*see* **99f:76003**) 76D05 (76D45)

Matsuoka, Satoshi A new proof search method for linear logic. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 338–350, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 03B35 (03F50)

— Towards a higher order unification based on proof nets. (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 1–15. (Summary) **99e:68143** 68T15 (03B35, 03F50)

Matsuoka, Takashi *see* **Matsuoka, Takashi[2]**

Matsuoka, Takashi[1] Periodic points of disk homeomorphisms having a pseudo-Anosov component. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 423–455. (Robert Freeman Brown) **99f:58166** 58F20

Matsuoka, Takashi[2] (*with* Ohya, Masanori) Information acquisition in duopolistic markets and mutual entropy. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 28–40. (*see* **99b:00018**) 90A99

Matsuoka, Takeo (*with* Haba, Naoyuki) Large lepton flavor mixing and E_6-type unification models. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 831–842. (Summary) **99e:81259** 81V22

— The CKM matrix and its origin. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 1, 107–122. (Summary) **99i:81269** 81V22 (81T60)

Matsushima, Hitoshi (*with* Kandori, Michihiro) Private observation, communication and collusion. (English summary) *Econometrica* **66** (1998), *no.* 3, 627–652. (Françoise Forges) **99d:90148** 90D10 (90A12, 90D20)

Matsushima, T. (*with* Marcus, P. S.) A spectral method for unbounded domains. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 2, 321–345. (Summary) **99f:65181** 65N35

Matsushima, Toshiyasu (*with* Maeda, Yasunari; Ukita, Yoshifumi; Hirasawa, Shigeichi) The optimal algorithms for the reinforcement learning problem separated into a learning period and a control period. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1116–1126. (Summary) **99a:68144** 68T05

— (*with* Ukita, Yoshifumi; Hirasawa, Shigeichi) A note on decision-theoretic formulation for learning from queries. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 2937–2948. (Summary) **99i:68107** 68T05 (90A05)

Matsushima, Yozô Pseudo-groupes de Lie transitifs. [Transitive Lie pseudogroups] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 118, 183–196, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 58H05 (22E65)

Matsushita, Daisuke On smooth 4-fold flops. (English summary) *Saitama Math. J.* **15** (1997), 47–54. (Sándor J. Kovács) **99b:14038** 14J35 (14E05, 14E30)

— On fibre space structures of a projective irreducible symplectic manifold. (English summary) *Topology* **38** (1999), *no.* 1, 79–83. (Daniel Huybrechts) **99f:14054** 14J40 (14J32, 32J18)

Matsutani, Shigeki On density of state of quantized Willmore surface—a way to a quantized extrinsic string in $\mathbf{R}^3$. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3595–3606. (Piotr G. Grinevich) **99c:58049** 58E50 (35J60, 53A05, 81S99, 81T30)

Matsuto, Mie *see* **Matsudo, Mie**

Matsutomi, Tatsuo (*with* Ishii, Hiroaki[1]) Minimax location problem with A-distance. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 2, 181–195. (Giovanni Andreatta) **99h:90062** 90B80 (90C30)

Matsuuchi, Kazuo A new approach to the description of deep water waves using fractional derivatives. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 301–310, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 76B15 (35Q35, 35Q51)

Matsuura, Akihiro (*with* Nagoya, Akira) Formulation of the addition-shift-sequence problem and its complexity. (English summary) *Algorithms and computation* (*Singapore*, 1997), 42–51, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68104** 68Q25 (68M07)

Matsuura, Atsushi The automorphism group of the Klein curve in the mapping class group of genus 3. Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967 (1996), 14–24. (Antonio F. Costa) **99d:30043** 30F50 (20H10)

— The Lefschetz hyperplane section theorem for étale homotopy groups. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 214–223. (*see* **99d:11001**) 14F35

Matsuyama, Tokio (*with* Ikehata, Ryo; Nakao, Mitsuhiro) Global solutions to the initial-boundary value problem for the quasilinear viscoelastic wave equation with a perturbation. *Funkcial. Ekvac.* **40** (1997), *no.* 2, 293–312. (Sophia Demoulini) **99h:35141** 35L70 (35B40, 73F15)

— Quasilinear hyperbolic-hyperbolic singular perturbations with nonmonotone nonlinearity. *Nonlinear Anal.* **35** (1999), *no.* 5, *Ser. A: Theory Methods*, 589–607. (Ivan Straškraba) **99k:35127** 35L70 (35B25)

Matsuyama, Yoshio On totally real minimal submanifolds in $\mathbf{CP}^n(c)$. *Tsukuba J. Math.* **22** (1998), *no.* 2, 477–482. (Hiroo Naitoh) **99i:53063** 53C42 (53C40)

Matsuzaki, Katsuhiko Stability of Kleinian groups. Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 87–92. (Shigeyasu Kamiya) **99i:30063** 30F40 (20H10)

— (*with* Taniguchi, Masahiko) ★ Hyperbolic manifolds and Kleinian groups. Oxford Mathematical Monographs. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1998. $x+253$ *pp. ISBN* 0-19-850062-9 (I. Kra) **99g:30055** 30F40 (20H10, 30F10)

— The isomorphism theorem of Kleinian groups. (English summary) *Analysis and topology*, 507–513, *World Sci. Publishing, River Edge, NJ*, 1998. (Andrei Yu. Vesnin) **99m:30088** 30F40 (20H10, 57M60)

— Geometric convergence of Kleinian groups and the Hausdorff dimension of limit sets. (Japanese) Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 176–190. (Ken-ichi Ohshika) **99m:30089** 30F40 (20H10, 57M50)

Matsuzawa, Tadato Gevrey hypoellipticity for Grushin operators. *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 5, 775–799. (Jorge Hounie) **99a:35030** 35H05 (46N20, 47F05)

— Gevrey hypoellipticity of the Grushin operators and the heat kernel method. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 63–69. (Summary) **99f:35239** 35S05 (35F10, 35H05, 35J70)

— Optimal Gevrey exponents for some degenerate elliptic operators. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 981–997. (Luca Capogna) **99m:35090** 35J70 (35H05)

Matsuzawa, Yuki Finite element approximation for some quasilinear elliptic problems. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 1, 13–25. (Summary) **99h:65195** 65N30

Matsuzoe, Hiroshi On realization of conformally-projectively flat statistical manifolds and the divergences. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 409–421. (John W. Rice) **99j:53012** 53A15

— (*with* Furuhata, Hitoshi; Urakawa, Hajime) Open problems in affine differential geometry and related topics. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 2, 125–127. 53A15 (53–02)

Matsuzuka, Isamu (*with* Nagasawa, Koji; Kitahama, Akihiro) A proposal for two-sided Laplace transforms and its application to electronic circuits. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 1–11. (Summary) **99h:44003** 44A10 (94C05)

Matta, C. H. (*with* Mokaddis, G. S.; El Genaidy, M. M.) On Poisson queue with three heterogeneous servers. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 4, 53–60. 90B22 (60K25)

de Matta, Renato (*with* Hsu, Vernon Ning; Lowe, Timothy J.) Capacitated selection problem. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 19–37. (Summary) **99h:90038** 90B05 (90B30)

Mattei, Jean-François (*with* Salem, Éliane) Classification formelle de feuilletages singuliers de $(\mathbf{C}^2,0)$. (English and French summaries) [Formal classification of singular foliations of $(\mathbf{C}^2,0)$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 773–778. (J. S. Joel) **99c:32059** 32S70 (32S30, 58F18)

Mattes, Josef (*with* Andersen, Jørgen Ellegaard; Reshetikhin, N. Yu.) Quantization of the algebra of chord diagrams. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 451–467. (Justin D. Roberts) **99m:58040** 58D29 (57M25, 58F06)

Matteucci, Gionata (*with* Maggiolo-Schettini, Andrea) Processes in cause-effect systems. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 305–335. (Rüdiger Valk) **99g:68144** 68Q90 (68Q10, 68Q55)

Mattfeld, Dirk C. (*with* Bierwirth, Christian; Kopfer, Herbert) A search space analysis of the job shop scheduling problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 441–453. (*see* **99k:90002**) 90B35 (90C35)

Matthaeus, William H. (*with* Oughton, Sean; Ghosh, Sanjoy) Scaling of spectral anisotropy with magnetic field strength in decaying magnetohydrodynamic turbulence. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4235–4242. (Summary) **99g:76150** 76W05 (76F99)

Matthai, Stephan (*with* Roberts, Stephen G.) High resolution potential flow methods in oil exploration. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 677–684, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M10 (76S05)

Matthäus, Frank (*with* Just, Wolfram; Sauermann, Herwig) On the degenerated soft-mode instability. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5925–5938. (Summary) **99e:76049** 76E30 (35B32, 35Q35)

Mattheij, Robert M. M. (*with* van de Vorst, G. Alfred L.) Mathematical modelling and numerical simulation of viscous sintering processes. (English summary) *Surveys Math. Indust.* **7** (1998), *no.* 4, 255–281. 76D07 (65N38, 76M15)

— (*with* He, Yin Nian) The coupling of boundary integral and finite element methods for the exterior steady Oseen problem. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 27–40. (Summary) **99j:76073** 76M10 (35Q35, 65N30, 76D05, 76M15)

Matthes, Klaus (*with* Nawrotzki, Kurt; Siegmund-Schultze, Rainer) On the structure of spatial branching processes. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 269–312. (Anton Wakolbinger) **99m:60134** 60J80 (60G57, 60J05, 60K35)

Matthes, Rainer (*with* Rudolph, Gerd; Wulkenhaar, Raimar) Graded Lie algebras with derivation and model building. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 149–158, *World Sci. Publishing, River Edge, NJ*, 1996. (Florian Scheck) **99f:58021** 58B30 (17B70, 81V22)

Matthes, Roland Shimura lift of real analytic Poincaré series and Hilbert modular Eisenstein series. *Math. Z.* **229** (1998), *no.* 3, 547–574. (Hiroshi Saito) **99k:11063** 11F25 (11F41)

Matthews, Patricia Theresa (*with* McMaster, T. B. M.) Quasiorder contexts for total negation. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 283–287 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99b:06003** 06A06 (18B30, 54A25)

Matthews, Rex W. (*with* Coulter, Robert S.) Bent polynomials over finite fields. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 429–437. (S. D. Cohen) **99a:11135** 11T06

— (*with* Henderson, Marie) Composition behaviour of sub-linearised polynomials over a finite field. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 67–75, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (S. D. Cohen) **99h:11140** 11T06

Matthews, Seán (*with* Basin, David; Viganò, Luca) Natural deduction for non-classical logics. (English summary) Natural deduction. *Studia Logica* **60** (1998), *no.* 1, 119–160. (Décio Krause) **99f:03007** 03B22 (03B35, 68T15)

Matthias, Ulrich Constructive upper bounds for the Turán number. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 475–479. (Summary) **99a:05077** 05C35

Matthies, G. (*with* John, Volker; Schieweck, F.; Tobiska, Lutz) A streamline-diffusion method for nonconforming finite element approximations applied to convection-diffusion problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 85–97. (Dennis C. Jespersen) **99h:65169** 65M60 (65N30, 76M10, 76Rxx)

Matthies, Hermann G. (*with* Bucher, Christian) Finite elements for stochastic media problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 3–17. 65N30 (73K35, 73V05)

Mattila, Jorma K. Consistency of LPC + Ch. Letter to the editor: "Algebraic analysis of LPC + Ch calculus" [Kybernetika (Prague) **31** (1995), no. 1, 99–106; MR 96c:03051] by E. Turunen. *Kybernetika (Prague)* **34** (1998), *no.* 2, 235–237. (Siegfried Gottwald) **99h:03013** 03B52 (03G25)

Mattila, Pertti Singular integrals, analytic capacity and rectifiability. (English summary) Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 797–812. (Joan Verdera) **99e:42026** 42B20 (28A75, 30E20, 49Q20)

— Rectifiability, analytic capacity, and singular integrals. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 657–664 (*electronic*). (Summary) **99g:28010** 28A75 (31A05, 42B20)

— (*with* Järvenpää, Maarit) Hausdorff and packing dimensions and sections of measures. (English summary) *Mathematika* **45** (1998), *no.* 1, 55–77. (Norbert Patzschke) **99g:28014** 28A78 (28A80)

Mattioli, Franco On the Hamiltonian decomposition of the Boussinesq equations in a pair of coupled Korteweg-de Vries equations. (English summary) *Wave Motion* **28** (1998), *no.* 3, 283–296. (Summary) **99e:76012** 76B15

Mattis, Michael P. (*with* Dorey, Nicholas; Khoze, Valentin V.; Tong, David; Vandoren, Stefan) Instantons, three-dimensional gauge theory, and the Atiyah-Hitchin manifold. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 59–93. (Summary) **99a:81168** 81T60 (53C25, 58D27, 81T13)

— (*with* Dorey, Nicholas; Khoze, Valentin V.) Multi-instantons, three-dimensional gauge theory, and the Gauss-Bonnet-Chern theorem. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 94–106. (Summary) **99a:81169** 81T60 (53C25, 58D27, 81T13)

— (*with* Dorey, Nicholas; Khoze, Valentin V.) Supersymmetry and the multi-instanton measure. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 3, 681–708. (Summary) **99h:81206a** 81T60 (58D20, 58D27)

— (*with* Dorey, Nicholas; Hollowood, Timothy J.; Khoze, Valentin V.) Supersymmetry and the multi-instanton measure. II. From $N = 4$ to $N = 0$. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 470–482. (Summary) **99h:81206b** 81T60 (58D20, 58D27)

— (*with* Dorey, Nicholas; Khoze, Valentin V.; Vandoren, Stefan) Yang-Mills instantons in the large-N limit and the AdS/CFT correspondence. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 145–151. (Summary) **99k:81302** 81T60 (81T13, 81T30)

— (*with* Khoze, Valentin V.; Slater, Matthew J.) The instanton hunter's guide to supersymmetric SU(N) gauge theories. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 69–109. (Bernd J. Schroers) **99m:81254** 81T60 (14H45, 81T13)

Mattman, T. (*with* Boyer, Steven; Zhang, Xing Ru) The fundamental polygons of twist knots and the $(-2, 3, 7)$ pretzel knot. (English summary) *KNOTS '96 (Tokyo)*, 159–172, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57008** 57M25

Mattner, L. Remarkable asymmetric random walks. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1847–1854. (Anthony G. Pakes) **99i:62020** 62E10 (30E05, 60E10)

Mattone, Raffaella (*with* De Luca, Alessandro; Oriolo, Giuseppe) Control of redundant robots under end-effector commands: a case study in underactuated systems. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 225–251. (Summary) **99d:70005** 70B15 (70Q05, 93C85)

Mattor, Nathan Collisionless fluid closure theory and the phase velocity transform. (English summary) 39th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Pittsburgh, PA, 1997). *Phys. Plasmas* **5** (1998), *no. 5, part* 2, 1822–1831. (Summary) **99d:76107** 76X05 (82D10)

frota-Mattos, Luis A. *see* **Frota-Mattos, Luis A.**

Mattos, Luiz A. Frota *see* **Frota-Mattos, Luis A.**

Mattson, H. F., Jr. (*with* Key, J. D.) Edward F. Assmus, Jr. (1931–1998). *Bull. Inst. Combin. Appl.* **24** (1998), 13–19. 01A70

— *see also* **Applied algebra, algebraic algorithms and error-correcting codes, 99b:94002**

Matucci, Serena (*with* Busoni, Giorgio) A problem of optimal harvesting policy in two-stage age-dependent populations. (English summary) *Math. Biosci.* **143** (1997), *no.* 1, 1–33. (K. E. Swick) **99a:92024** 92D25

Matuła, Przemysław Probability and moment bounds for sums of negatively associated random variables. (English summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 130–135; *reprinted in Theory Probab. Math. Statist. No.* 55 (1997), 135–141 (1998). (Alexander V. Bulinskiĭ) **99h:60033** 60E15 (60G10, 62G30)

— The Glivenko-Cantelli lemma for a class of discrete associated random variables. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **51** (1997), *no.* 1, 129–132. (Alexander V. Bulinskiĭ) **99d:60045** 60F15

— On the almost sure central limit theorem for associated random variables. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 2, 411–416. (Peter Schatte) **99k:60060** 60F05

— A note on mixing properties of certain associated processes. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 107–112. (Alexander V. Bulinskiĭ) **99k:60104** 60G12 (60E15)

Matula, Thomas J. Inertial cavitation and single-bubble sonoluminescence. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 225–249. (*see* **99k:76002**) 76Q05 (76-05, 76B10, 78A99)

Matumiya, Atusi On some Hamiltonian structures of Painlevé systems. III. *Kumamoto J. Math.* **10** (1997), 45–73. (Andrei A. Kapaev) **99c:34008** 34A20 (34A34, 34C30, 58F05)

Matumoto, Takao (*with* Kurazono, Ichiji) Classification of closed oriented 4-manifolds modulo connected sum with simply connected manifolds. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 207–212. (Darryl McCullough) **99f:57023** 57N13 (55M30, 57M50)

Maturana, Ana María A Shil'nikov's theorem in an extended neighborhood of a saddle point of focus-focus type in Banach spaces. (English summary) *Proyecciones* **16** (1997), *no.* 2, 157–180. (Sergei A. Dovbysh) **99k:58137** 58F15 (34C37, 34G20)

Matúš, František Combining m-dependence with Markovness. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 4, 407–423. (Vincent De Valk) **99f:60126** 60J10 (60G10)

Matus, Petr P. (*with* Samarskiĭ, Aleksandr Andreevich; Vabishchevich, Petr N.) Difference schemes of increased order of approximation on nonuniform grids for elliptic equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 9–14, 124. (Summary) **99a:65130** 65N06

— Monotone difference schemes of running computation on nonuniform grids. (Russian. Russian summary) *Computational modelling and computing in physics (Dubna*, 1996), 347–351, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65L06

— (*with* Samarskiĭ, Aleksandr Andreevich; Jovanović, Boško S.; Shcheglik, V. S.) Difference schemes on time-adaptive grids for parabolic equations with generalized solutions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 975–984, 1007; *translation in Differential Equations* **33** (1997), *no.* 7, 981–990 (1998). (Summary) **99e:65117** 65M06

— (*with* Samarskiĭ, Aleksandr Andreevich; Mazhukin, V. I.; Mikhaĭlik, I. A.) L_2-conservative schemes for the Korteweg-de Vries equation. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 458–461. (Michael Fröhner) **99h:65150** 65M06 (35Q53, 65M12)

— (*with* Samarskiĭ, Aleksandr Andreevich; Vabishchevich, Petr N.) Stability and convergence of two-level difference schemes in integral with respect to time norms. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1055–1070. (Mohammad Asadzadeh) **99i:65094** 65M12 (65M06)

— (*with* Samarskiĭ, Aleksandr Andreevich; Vabishchevich, Petr N.; Lemeshevskiĭ, S. V.) Difference schemes for the problem of the conjugation of equations of hyperbolic and parabolic types. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 954–962, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 825–833. (Sui Yang Chen) **99j:65148** 65M12 (35M10, 65M06)

— (*with* Vabishchevich, Petr N.; Samarskiĭ, Aleksandr Andreevich) Difference schemes of second-order accuracy on nonuniform grids. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 413–424; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 399–410. (V. D. Glushenkov) **99h:65182** 65N06 (65N15)

— (*with* Samarskiĭ, Aleksandr Andreevich; Mazhukin, V. I.; Rychagov, V. G.; Smurov, I.) Invariant difference schemes for parabolic equations with transformations of independent variables. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 93–110. (Meng Zhao Qin) **99m:65166** 65M06 (65M12, 65M15)

Matusevich, Laura Felicia (*with* Levstein, Fernando) The discrete version of the bispectral problem. (English summary) *The bispectral problem (Montreal, PQ*, 1997), 93–104, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Valeri Kaliaguine) **99f:39026** 39A12 (33C45, 47B39)

Matušů-Nečasová, Šárka (*with* Lukáčová-Medviďová, Mária) Bipolar isothermal non-Newtonian compressible fluids. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 168–192. (Michael Renardy) **99f:76008** 76A05 (35Q35, 76N10)

— Existence and uniqueness of steady motions of a third-grade fluid. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 2, 117–128. (Hamid Bellout) **99a:76005** 76A05 (35Q35)

— (*with* Sequeira, Adélia; Videman, Juha H.) Existence of classical solutions for compressible viscoelastic fluids of Oldroyd type past an obstacle. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 5, 449–460. (Didier Bresch) **99m:76004** 76A10 (35Q35, 35R35)

Matveenko, S. I. (*with* Frahm, Holger) Correlation functions in the Calogero-Sutherland model with open boundaries. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 671–675. (Summary) **99h:81236** 81V70

Matveev, A. F. (*with* Junghanns, Peter) On the construction of an approximate solution of a nonlinear integral equation of permeable profile. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1242–1252, 1295; *translation in Differential Equations* **33** (1997), *no.* 9, 1249–1259 (1998). (Adrian Carabineanu) **99g:76010** 76B05 (76G25, 76M25)

Matveev, A. S. On the convexity of the images of quadratic mappings. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 2, 159–196. (Dỗ Văn Lu'u) **99e:49047** 49N15 (90C26, 90C48)

— Spectral approach to duality in nonconvex global optimization. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 336–378 (*electronic*). (Mikhail I. Sumin) **99e:49048** 49N15 (49K27)

Matveev, E. R. (*with* Kruglyak, N. Ya.) Onesided approximation and real interpolation. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 619–634. (Mario Milman) **99h:46064** 46E99 (41A29, 46M35)

— On the modulus of continuity for k-monotone functions. (English summary) *East J. Approx.* **3** (1997), *no.* 3, 303–315. (Yu. A. Brudnyĭ) **99j:41014** 41A10 (26A15)

Matveev, Mikhail Vyacheslavovich Reversible systems with first integrals. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 148–157. (Mikhail B. Sevryuk) **99b:34090** 34D20 (34C20, 58F10, 58F27)

Matveev, O. V. On a method for the interpolation of functions on chaotic grids. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 404–417; *translation in Math. Notes* **62** (1997), *no.* 3-4, 339–349 (1998). (Summary) **99b:41002** 41A05

Matveev, Sergei V. On the recognition problem for Haken 3-manifolds. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 131–148. (Darren D. Long) **99a:57017** 57N10

Matveev, V. S. Square-integrable geodesic flows on the torus and the Klein bottle. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 96–102. (Evgenii Zhuzhoma) **99k:58146** 58F17

— (*with* Topalov, P. Ĭ.) Jacobi fields of integrable geodesic flows. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 103–116. (Evgenii Zhuzhoma) **99k:58145** 58F17 (53C22)

— Geodesic flows on the Klein bottle that are integrable by a polynomial in momenta of the fourth degree. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 106–112. (J. S. Joel) **99f:58159** 58F17

Matveev, Vladimir B. Darboux transformations in associative rings and functional-difference equations. (English summary) *The bispectral problem (Montreal, PQ*, 1997), 211–226, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Dmitri Korotkin) **99c:58144** 58F37 (35Q58, 35R10)

Matveeva, A. A. On an approximate solution of integral equations with a strong singularity in the kernel. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1253–1259,

1295; *translation in Differential Equations* **33** (1997), *no.* 9, 1260–1267 (1998). (Andreas Rathsfeld) **99f:45018** 45L05 (45E05, 65R20)

Matveeva, I. I. The Cauchy problem for systems with a singular matrix multiplying the time derivative. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 6, 1338–1356, *iii*. (Taras A. Mel′nyk) **99m:35019** 35B25 (35K65, 45K05)

Matveĭchuk, M. S. Unitary self-adjoint logics of projections. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 103–107. (Jan Hamhalter) **99e:81018** 81P10 (03G12, 06C15)

— Unitary selfadjoint logics of projections and measures on them. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 67–74. (Anatolij Dvurečenskij) **99j:46076** 46L50 (03G12, 81P10)

Matvejev, E. *see* **Matveev, E. R.**

Matvejev, Evgeni *see* **Matveev, E. R.**

Matveyev, Mikhail V. *see* **Matveev, Mikhail Vyacheslavovich**

Matveyev, Rostislav (*with* Akbulut, Selman) A convex decomposition theorem for 4-manifolds. *Internat. Math. Res. Notices* **1998**, *no.* 7, 371–381. (John B. Etnyre) **99f:57030** 57R15 (57N13)

— (*with* Akbulut, Selman) A note on contact structures. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 201–204. (John B. Etnyre) **99b:57033** 57N10 (57R15)

Matvienko, V. T. (*with* Kirichenko, N. F.) Optimal synthesis of structures for linear control systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 162–171, 299. 49N35 (49K15)

Matvīchuk, K. S. On the technical stability of controlled dynamical processes. (Russian. English, Russian and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 9, 90–96; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 9, 754–759 (1998). 93D09

— On conditions for the technical stability of controlled processes with distributed parameters. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1337–1344; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1507–1515 (1998). 93D09 (93D05)

— (*with* Plakhtienko, N. P.) Sufficient conditions for the technical stability of oscillations of two coupled gyrostats supporting moving flywheels. (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **34** (1998), *no.* 6, 104–112; *translation in Internat. Appl. Mech.* **34** (1998), *no.* 6, 598–605. 70E15 (70K20)

Mátyás, Ferenc Real roots of Fibonacci-like polynomials. (English summary) *Number theory* (*Eger*, 1996), 361–370, *de Gruyter, Berlin*, 1998. (Neville Robbins) **99d:11013** 11B39

Matyjasek, Jerzy Entropy of the quantized spin-$\frac{1}{2}$ field in the Schwarzschild spacetime. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7615–7621. (Summary) **99k:81199** 81T20 (83C47)

— $\langle T^{\mu}_{\nu}\rangle_{\rm ren}$ of the quantized conformal fields in the Unruh state in Schwarzschild spacetime. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044002, 6 *pp.* 81T20 (83C47)

Matyssek, Heinz *see* **Lavrinovich, K. K., 99d:01032**

hansen-Matyssek, Katja *see* **Hansen-Matyssek, Katja**

Matyukhin, V. I. Stabilization of the motions of a flexible manipulator. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 9, 15–30; *translation in Automat. Remote Control* **58** (1997), *no.* 9, *part* 1, 1414–1426 (1998). (Krzysztof Tchoń) **99a:70010** 70B15 (70Q05, 73K99, 93C85, 93D15)

Matyushichev, K. V. The simplest example of a completely regular nonnormal space. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 97–98. 54D15

Matyushin, S. V. On an algorithm for the graphic realization of two-dimensional oriented surfaces. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 41–43, 49; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 60–65. 68U05 (57N05)

Matyushina, S. N. Record values in stationary diffusion processes. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 6–10, 111; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 4-8. 60G70 (60J60)

Matz, Oliver On piecewise testable, starfree, and recognizable picture languages. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 203–210, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q45 (03B70, 03D05)

— One quantifier will do in existential monadic second-order logic over pictures. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 751–759, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 03C85 (68Q45)

Matzat, B. Heinrich Introduction to Drinfeld modules. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 3–16, *World Sci. Publishing, River Edge, NJ*, 1997. (Bruno Anglès) **99i:11045** 11G09

— Fortschritte in der inversen Galoistheorie. [Progress in inverse Galois theory] *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 79–102, *Springer, Berlin*, 1999. (John Swallow) **99m:12005** 12F12 (12-02)

— *see also* **Algorithmic algebra and number theory, 99h:00020**

Matzeu, Michele (*with* Mastroeni, Loretta) A degenerate parabolic variational inequality for the American option pricing problem. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 485–493. (Summary) **99a:90042** 90A09 (49J40)

Matzeu, Paola Chern forms and C-projective curvature of normal almost contact manifolds. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 193–200 (1997). (Domingo Chinea) **99b:53045** 53C15

— (*with* Oproiu, Vasile) The Bochner type curvature tensor of pseudo-convex CR-structures on real hypersurfaces in complex space forms. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 134–146. (Sorin Dragomir) **99i:53028** 53C15 (53C40)

Matzner, Richard A. (*with* Bishop, Nigel T.; Gómez, Roberto; Holvorcem, Paulo R.; Papadopoulos, Philippos; Winicour, Jeffrey) Erratum: "Cauchy-characteristic evolution and waveforms" [J. Comput. Phys. **136** (1997), no. 1, 140–167; MR 98e:76084]. *J. Comput. Phys.* **148** (1999), *no.* 1, 299–301. 76M25 (76Q05)

Matzner-Løber, Eric (*with* Berlinet, Alain; Gannoun, Ali) Propriétés asymptotiques d'estimateurs convergents des quantiles conditionnels. (English and French summaries) [Asymptotic properties of convergent estimators of conditional quantiles] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 611–614. (Arnold Janssen) **99k:62069** 62G05 (62E20)

— (*with* Berlinet, Alain; Gannoun, Ali) Normalité asymptotique d'estimateurs convergents du mode conditionnel. (English and French summaries) [Asymptotic normality of convergent estimators of the conditional mode] *Canad. J. Statist.* **26** (1998), *no.* 2, 365–380. (Yves Lepage) **99k:62034** 62E20 (62G05)

— (*with* Gannoun, Ali; De Gooijer, Jan G.) Nonparametric forecasting: a comparison of three kernel-based methods. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1593–1617. (Summary) **99f:62117** 62M20 (62G05)

nguyen van Mau *see* **Nguyen Van Mau**

Mau, Frank (*with* Dümont, Jürgen) Are there true contradictions? A critical discussion of: *Beyond the limits of thought* [Cambridge Univ. Press, Cambridge, 1995; MR 97a:00014] by G. Priest. (English summary) *J. Gen. Philos. Sci.* **29** (1998), *no.* 2, 289–299. (Summary) **99k:00010** 00A30 (01A05, 03A05, 03B53, 03E70)

Mau, Lih-Gwo (*with* Wang, Wen-June) Eigenvalues assignment by a particular Lyapunov-type equation. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1231–1238. 93B55 (93D05)

Maubach, Joseph M. (*with* Ervin, Vincent J.; Layton, William J.) An adaptive defect correction approach for convection dominated, convection diffusion problems. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 287–294, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M25 (65M55)

— (*with* Rabier, Patrick J.) On boundary-hybrid finite element methods for the Laplace equation. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 273–287. (Jean-Luc Guermond) **99e:65158** 65N30 (65N50)

— (*with* John, Volker; Tobiska, Lutz) Nonconforming streamline-diffusion-finite-element-methods for convection-diffusion problems. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 165–188. (N. Gass) **99a:65151** 65N30 (65N15, 76M10, 76Rxx)

— (*with* Lu, Hao[1]) A finite element method and variable transformations for a forward-backward heat equation. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 249–272. (Eun-Jae Park) **99j:65172** 65M60

— (*with* Layton, William J.; Rabier, Patrick J.) Robustness of an elementwise parallel finite element method for convection-diffusion problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1870–1891 (*electronic*). (Summary) **99d:65322** 65N30 (76M10)

Maubon, Julien Geometrically finite Kleinian groups: the completeness of Nayatani's metric. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1065–1070. (Paul M. Albuquerque) **99a:30041** 30F40 (20H10, 58F11)

Mauborgne, Laurent Abstract interpretation using typed decision graphs. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 91–112. (Victor N. Kas′yanov) **99g:68041** 68N20 (68Q60)

Mauceri Del Prete, Vincenza The Slepian property for a class of time-frequency localization operators on the hyperbolic space. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 1, 119–139. (Summary) **99i:42016** 42B10

Maucher, Roland (*with* Hartmann, Friedel) Corner singularities of Kirchhoff plates and the boundary element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **173** (1999), *no.* 3-4, 273–285. (Summary) **99m:73074** 73V10 (73K10)

Mauclaire, Jean-Loup A characterization of some additive arithmetical functions. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 205–211, *VSP, Utrecht*, 1997. (Alessandro Languasco) **99k:11149** 11N64 (11A25)

Maudlin, Tim Discussion: R. Healey on the Aharonov-Bohm effect: "Nonlocality and the Aharonov-Bohm effect" [Philos. Sci. **64** (1997), no. 1, 18–41]. (English summary) *Philos. Sci.* **65** (1998), *no.* 2, 361–368. 81P05

Mauduit, Christian (*with* Sárközy, András) On the arithmetic structure of the integers whose sum of digits is fixed. *Acta Arith.* **81** (1997), *no.* 2, 145–173. (Gérald Tenenbaum) **99a:11096** 11K65 (11A63)

— (*with* Sárközy, András) On finite pseudorandom binary sequences. I. Measure of pseudorandomness, the Legendre symbol. *Acta Arith.* **82** (1997), *no.* 4, 365–377. (Peter J. Hellekalek) **99g:11095** 11K45 (11K36)

— (*with* Erdős, Paul[1]; Sárközy, András) On arithmetic properties of integers with missing digits. I. Distribution in residue classes. (English summary) *J. Number Theory* **70** (1998), *no.* 2, 99–120. (Yuri Bilu) **99e:11127** 11N69 (11K36, 11L07, 11L26, 11N36, 11N60, 11P55)

— (*with* Sárközy, András) On finite pseudorandom binary sequences. II. The Champernowne, Rudin-Shapiro, and Thue-Morse sequences, a further construction. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 256–276. (Peter J. Hellekalek) **99m:11084** 11K31 (11K45)

Mauduit, Véronique Explicit reciprocity law for a rank one Drinfeld $\mathbf{F}_q[t]$-module. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 282–297, *World Sci. Publishing, River Edge, NJ*, 1997. (Alain Thiery) **99g:11074** 11G09

Mauer, Murielle Domains of analytic existence in inductive limits of real separable normed spaces. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 93–100. (Nguyễn Văn Khuê) **99c:46048** 46G20 (46E50)

Mauersberger, Klaus Die "Maschinen-Elemente" Carl von Bachs—ein Standardwerk des Maschinenbaus. [Carl Bach's "Machine elements"—a standard textbook for mechanical engineers] *Carl Julius von Bach* (1847–1931) (*Chemnitz*, 1997; *Stuttgart*, 1997), 155–167, *Wittwer, Stuttgart*, 1998. (*see* **99h:01001**) 01A70

Mauger, A. (*with* Galam, S.) Topology invariance in percolation thresholds. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **1** (1998), *no.* 2, 255–258. 82B43

Maugeri, Antonino Monotone and nonmonotone variational inequalities. Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 179–184. (Igor′ V. Konnov) **99d:49024** 49J40 (47H19, 90B10)

— (*with* Oettli, Werner; Schläger, Dirk) A flexible form of Wardrop's principle for traffic equilibria with side constraints. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 185–193. (J. Černý) **99d:90043** 90B06

— Dynamic models and generalized equilibrium problems. (English summary) *New trends in mathematical programming*, 191–202, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99f:90169** 90C35 (49J35)

— (*with* Marino, Mario) $\mathcal{S}^{2,\lambda}$-theory for nonvariational basic parabolic systems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations*

(*Plovdiv*, 1997), 293–300, *VSP*, *Utrecht*, 1998. (Mikhail P. Vishnevskii) **99i:35076** 35K60 (35B65)

— (*with* Daniele, Patrizia; Oettli, Werner) Variational inequalities and time-dependent traffic equilibria. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1059–1062. (Summary) **99g:90041** 90B06 (49J40, 90C35)

— (*with* Palagachev, Dian K.) Boundary value problem with an oblique derivative for uniformly elliptic operators with discontinuous coefficients. (English summary) *Forum Math.* **10** (1998), *no.* 4, 393–405. (Philip W. Schaefer) **99f:35037** 35J25 (35B45)

— *see also* **Equilibrium problems with side constraints. Lagrangean theory and duality**, **99a:49002**

Maugin, Gérard A. (*with* Engelbrecht, Jüri; Salupere, Andrus; Peipman, Tõnu) Spectral analysis of soliton formation. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 216–222, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing*, *River Edge*, *NJ*, 1995. (*see* **99m:76003**) 65M70 (35Q53)

— Thermomechanics of forces driving singular point sets. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 509–519. (Summary) **99g:80009** 80A22 (73B30)

— (*with* Restuccia, L.) Pseudomomentum in relativistic continuum mechanics. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 521–530. (Summary) **99g:73016** 73B99

— On the structure of the theory of polar elasticity. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1741, 1367–1395. (Summary) **99f:73002a** 73B25 (73B30, 73C50)

— Errata: "On the structure of the theory of polar elasticity". *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1746, 2447. (Editors) **99f:73002b** 73B25 (73B30, 73C50)

— *see also* **Errata: "On the structure of the theory of polar elasticity"**

le Mau Hai *see* **Le Mau Hai**

Maul, A. A discrete time sequential process for analyzing censored survival data using the likelihood ratio. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 271–285. 62L10 (62N05, 62P10)

Mauldin, R. Daniel (*with* Williams, Stanley Carl) Redistribution of velocity: collision transformations. (English summary) *Statistics, probability and game theory*, 209–231, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist.*, *Hayward*, *CA*, 1996. (T. M. Liggett) **99e:60226** 60K40 (60H99)

— (*with* Urbański, Mariusz) Dimension and measures for a curvilinear Sierpinski gasket or Apollonian packing. (English summary) *Adv. Math.* **136** (1998), *no.* 1, 26–38. (Claude Tricot) **99h:28015** 28A78 (28A80, 52C15)

— On sets which meet each line in exactly two points. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 4, 397–403. (Marek Balcerzak) **99f:28010** 28A78 (28A05, 54C50)

— (*with* Denker, Manfred; Nitecki, Z.; Urbański, Mariusz) Conformal measures for rational functions revisited. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 161–173. (Sanju L. Velani) **99j:58122** 58F11 (28D99, 30D05, 58F23)

Maume, Véronique (*with* Kondah, Abdelaziz; Schmitt, Bernard) Vitesse de convergence vers l'état d'équilibre pour des dynamiques markoviennes non höldériennes. (English and French summaries) [Rate of convergence to equilibrium for non-Hölder Markov dynamics] *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 6, 675–695. (Manfred Denker) **99e:28032** 28D20 (58F11, 60F05)

Maunder, E. A. W. (*with* Almeida Pereira, O. J. B.; Moitinho de Almeida, J. P.) Adaptive methods and related issues from the viewpoint of hybrid equilibrium finite element models. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 427–441, *Stud. Appl. Mech.*, 47, *Elsevier*, *Amsterdam*, 1998. (*see* **99d:73001**) 73V05

Maunder, S. B. (*with* Kelmanson, M. A.) Modelling high-velocity impact phenomena using unstructured dynamically-adaptive Eulerian meshes. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 731–762. (Summary) **99k:73050** 73D05 (73E50, 73V15)

martinez-Maure, Yves *see* **Martinez-Maure, Yves**

chaleyat-Maurel, Mireille *see* **Chaleyat-Maurel, Mireille**

Maurer, Bertram Der Gaußschüler Ludwig Christoph Schnürlein. [The Gauss student Ludwig Christoph Schnürlein] *Gauss-Ges. Göttingen Mitt. No.* 35 (1998), 17–39. (D. J. Struik) **99i:01035** 01A70

Mäurer, Christoph Generalized parameter representations of tori, Dupin cyclides and supercyclides. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 295–302, *Vanderbilt Univ. Press*, *Nashville*, *TN*, 1997. (Summary) **99i:65014** 65D17 (53A05)

— (*with* Krasauskas, Rimvydas) Joining cyclide patches along quartic boundary curves. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 359–366, *Innov. Appl. Math.*, *Vanderbilt Univ. Press*, *Nashville*, *TN*, 1998. (Summary) **99d:65395** 65Y25 (65D17)

Mäurer, Helmut² (*with* Büskens, Ch.; Feichtinger, Gustav) Solution techniques for periodic control problems: a case study in production planning. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 185–203. (Summary) **99e:90022** 90A16 (49N20)

Maurer, Hermann *see* **J.UCS. The Journal of Universal Computer Science**, **99k:68011**

Maurer, Ueli M. (*with* Bleichenbacher, Daniel) On the efficiency of one-time digital signatures. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 145–158, *Lecture Notes in Comput. Sci.*, 1163, *Springer*, *Berlin*, 1996. (Summary) **99a:94023** 94A60

— (*with* Wolf, Stefan) Diffie-Hellman oracles. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara*, *CA*), 268–282, *Lecture Notes in Comput. Sci.*, 1109, *Springer*, *Berlin*, 1996. (Winfried Müller) **99k:94039** 94A60 (11T71)

— (*with* Wolf, Stefan) Privacy amplification secure against active adversaries. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara*, *CA*, 1997), 307–321, *Lecture Notes in Comput. Sci.*, 1294, *Springer*, *Berlin*, 1997. (Summary) **99b:94037** 94A60

— Information-theoretically secure secret-key agreement by NOT authenticated public discussion. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 209–225, *Lecture Notes in Comput. Sci.*, 1233, *Springer*, *Berlin*, 1997. (Summary) **99d:94027** 94A60

— (*with* Wolf, Stefan) Unconditionally secure key agreement and the intrinsic conditional information. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 499–514. (Summary) **99m:94034** 94A60

Maureso, M. (*with* Brunat, Josep M.; Mora, Mercè) Endo-circulant digraphs: connectivity and generalized cycles. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 157–167. (Summary) **99i:05089** 05C20 (05C38, 05C40, 05C75)

Maurey, Bernard (*with* Tacchi, Jean-Pierre) À propos du théorème de densité de Lebesgue. (English summary) [On Lebesgue's density theorem] *Travaux mathématiques*, *Fasc. IX*, 1–21, *Sém. Math. Luxembourg*, *Centre Univ. Luxembourg*, *Luxembourg*, 1997. (R. A. Zalik) **99f:26002** 26A03 (03F60, 04A15, 54H05)

gillio berta Mauri, Anna *see* **Gillio Berta Mauri, Anna**

Mauri, Giancarlo (*with* Bertoni, Alberto; Pighizzini, Giovanni; Sabadini, N.) Algebraic and informational aspects of Zielonka's theorem. (English summary) *Semigroups* (*Luino*, 1992), 17–26, *World Sci. Publishing*, *River Edge*, *NJ*, 1993. (*see* **99f:20003**) 68Q45 (20M35, 68Q70)

— (*with* Cattaneo, Gianpiero; Formenti, Enrico; Margara, Luciano) Transformations of the one-dimensional cellular automata rule space. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1593–1611. (Henning Fernau) **99d:68166** 68Q80 (58F08)

— *see also* **Cellular automata**, **99k:68007**

Maurice, S. (*with* Tur, A. V.; Blanc, M.; Yanovskiĭ, V. V.) Solutions of the plasma equilibrium within the magnetic field of a point dipole. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3101–3115. (Summary) **99f:76132** 76W05 (85A30)

Maurin, Françoise Ehrenfeucht games and ordinal addition. (English and French summaries) Logic Colloquium '94 (Clermont-Ferrand). *Ann. Pure Appl. Logic* **89** (1997), *no.* 1, 53–73. (N. C. A. da Costa) **99a:03037** 03C10 (03B25, 03E10)

Maurin, Krzysztof ★ The Riemann legacy. (English summary) Riemannian ideas in mathematics and physics. Translated from the Polish by Jerzy Kowalski-Glikman. Mathematics and its Applications, 417. *Kluwer Academic Publishers Group*, *Dordrecht*, 1997. xxii+717 *pp. ISBN* 0-7923-4636-X (Akira Asada) **99g:00007** 00A05 (01A55, 01A60, 11–03, 14–03, 32–03, 53–03, 58–03)

Mauris, G. (*with* Benoît, Eric; Foulloy, L.) Fuzzy linguistic methods for the aggregation of complementary sensor information. (English summary) *Aggregation and fusion of imperfect information*, 214–230, *Stud. Fuzziness Soft Comput.*, 12, *Physica*, *Heidelberg*, 1998. (*see* **99e:04005**) 04A72

Maurits, N. M. (*with* van der Ven, H.; Veldman, Arthur E. P.) Explicit multi-time stepping methods for convection-dominated flow problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 133–150. (Summary) **99b:76057** 76M20

Mauss, J. (*with* Roget, C.; Brazier, J. Ph.; Cousteix, J.) A contribution to the physical analysis of separated flows past three-dimensional humps. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 3, 307–329. (Summary) **99e:76036** 76D15 (76D10)

Mauthner, Susanne Step size control in the numerical solution of stochastic differential equations. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 93–109. (Summary) **99h:65128** 65L06 (65U05)

Mautner, Friederich Ignaz Théorie des idéaux dans certaines algèbres d'un groupe. [Theory of ideals in certain group algebras] *Séminaire Bourbaki*, *Vol.* 5, *Exp. No.* 179, 163–168, *Soc. Math. France*, *Paris*, 1995. (*see* **99f:00037**) 22E46 (22D20)

Mavelli, G. (*with* Carravetta, F.) Minimax quadratic filtering of uncertain linear stochastic systems with partial fourth-order information. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1287–1292. 93E11

Mavlyutov, A. R. Nilpotency of degree 3 that is stable in some class of algebras. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 6, 1336–1337, *iii.* (Summary) **99i:13008** 13A99

Mavoungou, T. (*with* Cherruault, Yves) Solving frontier problems of physics by decomposition method: a new approach. (English summary) *Kybernetes* **27** (1998), *no.* 8-9, 990, 1053–1061. 65J15

Mavridou, Thelma (*with* Pardalos, Panos M.; Xue, Jue) The graph coloring problem: a bibliographic survey. *Handbook of combinatorial optimization*, *Vol.* 2, 331–395, *Kluwer Acad. Publ.*, *Boston*, *MA*, 1998. (*see* **99g:90002**) 90–00 (05C15, 90C35)

Mavriplis, Dimitri J. Directional coarsening and smoothing for anisotropic Navier-Stokes problems. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 182–197 (*electronic*). (Summary) **99a:76099** 76M20 (65M55, 76D05)

— Multigrid strategies for viscous flow solvers on anisotropic unstructured meshes. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 141–165. 65M55 (76D07)

— (*with* Morano, Eric; Venkatakrishnan, V.) Coarsening strategies for unstructured multigrid techniques with application to anisotropic problems. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 393–415 (*electronic*). (Summary) **99e:76077** 76M10 (65M55, 65N55)

Mavromatis, Harry A. From Turbiner's quasi-exactly soluble potentials in N dimensions to analytic solutions of the combined Coulomb plus oscillator system. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2592–2596. (Peter N. Zhevandrov) **99e:81042** 81Q05

Mavromatos, Nick E. (*with* Diamandis, G. A.; Georgalas, B. C.; Ellis, Jonathan Richard; Nanopoulos, Dimitri V.; Papantonopoulos, E.) Irreversible time flow in a two-dimensional dilaton black hole with matter. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4265–4279. (Summary) **99d:83046** 83C45

— (*with* Winstanley, Elizabeth) Existence theorems for hairy black holes in $su(N)$ Einstein-Yang-Mills theories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4849–4873. (Leonardo Fernández-Jambrina) **99m:83128** 83C57 (81T20, 83C75)

— (*with* Ellis, Jonathan Richard; Kanti, P.; Winstanley, Elizabeth; Nanopoulos, Dimitri V.) Decoherent scattering of light particles in a D-brane background. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 4, 303–319. (Summary) **99e:81186** 81T30 (81U99)

— (*with* Diamandis, G. A.; Georgalas, B. C.) $N = 1$ supersymmetric spin-charge separation in effective gauge theories of planar magnetic superconductors. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 387–404. 82D55

— (*with* Lizzi, Fedele; Szabo, Richard J.) Matrix σ-models for multi D-brane dynamics. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 829–842. (Héctor H.

García-Compeán) **99h:81171** 81T30 (81Q60, 81T13, 81T60)
— (*with* Kanti, P.; Rizos, J.; Tamvakis, K.; Winstanley, Elizabeth) Dilatonic black holes in higher curvature string gravity. II. Linear stability. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6255–6264. (Summary) **99m:83116** 83C57 (83E30)
— (*with* Szabo, Richard J.) Spacetime quantization from non-abelian D-particle dynamics. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064016, 5 *pp.* (Summary) **99k:81261** 81T30
Mavronicolas, Marios A q-analog of approximate inclusion-exclusion. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 1, 108–129. (William Y. C. Chen) **99g:05014** 05A30
— *see also* **Networks in distributed computing, 99h:68009**
Mavrotas, G. (*with* Diakoulaki, D.; Papayannakis, L.) An energy planning approach based on mixed 0-1 multiple objective linear programming. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 2, 231–244. 90C90 (90C11, 90C29)
Mawhin, Jean Leray-Schauder continuation theorems in the absence of a priori bounds. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 1, 179–200. (Maria Patrizia Pera) **99m:47075** 47H15 (34B15, 34C25)
— Nonlinear complex-valued differential equations with periodic, Floquet or nonlinear boundary conditions. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 154–164, *World Sci. Publishing, River Edge, NJ*, 1998. (Rafael Ortega) **99i:34037** 34B15 (34C25)
— (*with* Manásevich, Raúl) Periodic solutions for some nonlinear systems with p-Laplacian like operators. *Proceedings of the IV Catalan Days of Applied Mathematics (Tarragona, 1998)*, 103–122, *Univ. Rovira Virgili, Tarragona*, 1998. (Rafael Ortega) **99e:34050** 34C25 (34B15)
— (*with* Manásevich, Raúl) Periodic solutions for nonlinear systems with p-Laplacian-like operators. *J. Differential Equations* **145** (1998), *no.* 2, 367–393. (Pedro Martínez-Amores) **99c:34034** 34B15 (34C25, 47H15)
— (*with* Ge, Wei Gao) Positive solutions to boundary value problems for second order ordinary differential equations with singular nonlinearities. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 108–119. (P. P. Zabreĭko) **99f:34025** 34B15 (34C25)
— Bound sets and Floquet boundary value problems for nonlinear differential equations. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 41–53. (Roman Srzednicki) **99k:34073** 34C11 (34B15)
Maxemchuk, Nicholas F. (*with* Low, Steven H.) A collusion problem and its solution. (English summary) *Inform. and Comput.* **140** (1998), *no.* 2, 158–182. (Summary) **99j:94053** 94A60
Max-Plus Working Group (*with* Quadrat, Jean-Pierre) Min-plus linearity and statistical mechanics. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 565–587. (Ofer Zeitouni) **99b:60105** 60J10 (06F25, 60F15, 82B03)
Maxson, Carl J. (*with* Kreuzer, Alexander) Full ideals of polynomial rings. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 315–326. (Daniel D. Anderson) **99k:13029** 13F20
Maxson, S. (*with* Bohm, Arno; Loewe, Mark; Patuleanu, P.; Püntmann, C.; Gadella, M.) Gamow-Jordan vectors and non-reducible density operators from higher-order S-matrix poles. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6072–6100. (Summary) **99b:81261** 81U20
Maxwell, George Euler characteristics and imbeddings of hyperbolic Coxeter groups. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 149–161. (Ruth Kellerhals) **99b:20068** 20F55 (52A38)
Maxwell, James Clerk ★ A treatise on electricity and magnetism. Vol. 1. (English summary) With prefaces by W. D. Niven and J. J. Thomson. Reprint of the third (1891) edition. Oxford Classic Texts in the Physical Sciences. *The Clarendon Press, Oxford University Press, New York*, 1998. *xxxii*+521 *pp. ISBN* 0-19-850373-3 (Editors) **99k:01087a** 01A75 (01A55, 78–03, 78A25)
— ★ A treatise on electricity and magnetism. Vol. 2. (English summary) Reprint of the third (1891) edition. Oxford Classic Texts in the Physical Sciences. *The Clarendon Press, Oxford University Press, New York*, 1998. *xxiv*+507 *pp. ISBN* 0-19-850374-1 (Editors) **99k:01087b** 01A75 (01A55, 78–03, 78A25)
— *see also* **Harman, P. M., 99g:01021** *and* **Toyoda, Toshiyuki, 99g:01025**
Maxworthy, Tony (*with* Petitjeans, Philippe; Chen, Ching-Yao; Meiburg, Eckart) Miscible quarter five-spot displacements in a Hele-Shaw cell and the role of flow-induced dispersion. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1705–1716. 76D99 (76–05, 76S05)
May, Coy L. Finite 3-groups acting on bordered surfaces. *Glasgow Math. J.* **40** (1998), *no.* 3, 463–472. (Darryl McCullough) **99j:57015** 57M60 (20H10)
May, J. P. (*with* Greenlees, J. P. C.) Localization and completion theorems for MU-module spectra. (English summary) *Ann. of Math.* (2) **146** (1997), *no.* 3, 509–544. (Kathryn P. Hess) **99i:55012** 55P42 (19L47, 55N22, 55P60, 55P91, 57R77, 57R85)
— Brave new worlds in stable homotopy theory. *Homotopy theory via algebraic geometry and group representations (Evanston, IL, 1997)*, 193–212, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (David A. Blanc) **99g:55012** 55P42 (18D10, 55U35)
piket-May, Melinda *see* **Piket-May, Melinda**
May, Robert C. (*with* Fiengo, Robert) Names and expressions. *J. Philos.* **95** (1998), *no.* 8, 377–409. 03B45 (03A05, 03B65)
May, Robert L. (*with* White, Andrew M.; Connell, H. J.; Shepherd, J. J.) Annular time-dependent flow of a Bingham fluid. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 779–786, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76A05 (76M25)
— *see also* **Computational techniques and applications: CTAC95, 99g:00035**
May, Warren Lee² (*with* Zanardo, Paolo) Non-Henselian valuation domains and the Krull-Schmidt property for torsion-free modules. (English summary) *Forum Math.* **10** (1998), *no.* 2, 249–257. (Günter Törner) **99b:13024** 13F30 (13C13)
Maya, C. (*with* Shivaji, Ratnasingham) Instability of nonnegative solutions for a class of semilinear elliptic boundary value problems. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 125–128. (Summary) **99b:35068** 35J65 (35B05)
de la torre Mayado, Marina *see* **de la Torre Mayado, Marina**
Maybank, S. J. Bearings-only tracking in the plane. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 975–998 (*electronic*). (Summary) **99a:93102** 93E11 (60G35)
Maybee, J. New insights on the sign stability problem. (English summary) *Matrices and graphs (Brescia, 1993/1995)*, 1–6, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99j:15016** 15A18
Mayburov, S. N. Quantum space-time transformations and reference frames states. (English summary) *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 409–415, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81P99
— Asymptotic state vector collapse and QED nonequivalent representations. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 401–409. (*see* **99e:81004**) 81V10
Mayer, Alain (*with* Bar-Noy, Amotz; Schieber, Baruch; Sudan, Madhu) Guaranteeing fair service to persistent dependent tasks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1168–1189 (*electronic*). (H. T. Lau) **99c:90061** 90B35 (68M20, 68Q25)
Mayer, Daniel (*with* Zachariáš, Svatopluk) Maxwell stress tensor and forces in magnetic fields. (English summary) *Acta Tech. CSAV* **43** (1998), *no.* 6, 543–554. (A. P. Stone) **99k:78015** 78A25 (78A30)
Mayer, Dieter (*with* Chang, Cheng-Hung) The period function of the nonholomorphic Eisenstein series for PSL(2, **Z**). (English summary) *Math. Phys. Electron. J.* **4** (1998), *Paper* 6, 8 *pp.* (*electronic*). (Andrea Mori) **99k:11070** 11F37 (11M36)
Mayer, Günter Epsilon-inflation with contractive interval functions. (English summary) *Appl. Math.* **43** (1998), *no.* 4, 241–254. (Ljiljana Cvetković) **99j:65084** 65G10 (65F10)
— (*with* Alefeld, G. E.; Kreinovich, Vladik) The shape of the solution set for systems of interval linear equations with dependent coefficients. (English summary) *Math. Nachr.* **192** (1998), 23–36. (Summary) **99c:15004** 15A06 (14Q99, 65G10)
— (*with* Rohn, Jiří) On the applicability of the interval Gaussian algorithm. (English summary) *Reliab. Comput.* **4** (1998), *no.* 3, 205–222. (M. A. Wolfe) **99f:65071** 65G10 (65F05)
Mayer, J. *see* **Mayer, János**
Mayer, J. R. René (*with* Phan, Anh-Vũ; Mukherjee, Subrata) Stresses, stress sensitivities and shape optimization in two-dimensional linear elasticity by the boundary contour method. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 8, 1391–1407. (Summary) **99e:73074** 73K40 (73V10)
Mayer, János (*with* Kall, Peter) On testing SLP codes with SLP-IOR. (English summary) *New trends in mathematical programming*, 115–135, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 90C15 (90–04)
— (*with* Kall, Peter) On solving stochastic linear programming problems. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 329–344, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99f:90068** 90C15 (90–02)
Mayer, John C. (*with* Blokh, A. M.; Oversteegen, Lex G.) Recurrent critical points and typical limit sets of rational maps. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1215–1220. (Walter Bergweiler) **99f:58169** 58F23 (28D99, 30D05)
— (*with* Grispolakis, Joachim; Oversteegen, Lex G.) Building blocks for quadratic Julia sets. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1171–1201. (Summary) **99g:30030** 30D05 (30C35, 58F23)
Mayer, M. K. A network parallel genetic algorithm for the one machine sequencing problem. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 71–78. 90B35 (90C35)
cialdea Mayer, Marta *see* **Cialdea Mayer, Marta**
Mayer, Marta Cialdea *see* **Cialdea Mayer, Marta**
Mayer, Uwe F. Two-sided Mullins-Sekerka flow does not preserve convexity. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS, 1997)*, 171–179 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Claudia B. Lederman) **99m:35275** 35R35 (35J05, 58E12)
— Gradient flows on nonpositively curved metric spaces and harmonic maps. (English summary) *Comm. Anal. Geom.* **6** (1998), *no.* 2, 199–253. (Raul Quiroga) **99m:58067** 58E20 (53C21)
— (*with* Escher, Joachim; Simonett, Gieri) The surface diffusion flow for immersed hypersurfaces. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1419–1433 (*electronic*). (Vladimir Grebenev) **99f:58042** 58E15 (35K99, 35R35, 65C20)
Mayer, Walter J. (*with* Dorsey, Robert E.) Maximum score estimation of disequilibrium models and the role of anticipatory price-setting. (English summary) *J. Econometrics* **87** (1998), *no.* 1, 1–24. (Summary) **99g:62155** 62P20
Mayergoiz, M. Necessary conditions of the isolated zero-points with nonzero degree and choice of initial approximations for the secant method in the n-dimensional case. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 1079–1128. (G. M. Ostrovsky) **99k:90173** 90C31 (90C30)
Mayergoyz, I. D. (*with* Belbas, S. A.) Optimal control of discrete-time approximations to systems with hysteresis. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 457–459, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 49M25 (49L20)
Mayer-Kress, Gottfried (*with* Campbell, David K.) Chaos and politics: applications of nonlinear dynamics to socio-political issues. (English summary) *The impact of chaos on science and society (Tokyo, 1991)*, 18–63, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92K10 (58F13)
Mayer-Wolf, Eduardo (*with* Bogachev, Vladimir I.) Flows generated by vector fields of Sobolev type, and the corresponding transformations of probability measures. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 4, 442–446. (Alexander Veretennikov) **99f:60009** 60B10 (28C20, 34A12, 34C35, 34G20, 35R15, 46G12, 60G15)
Mayet, René Some characterizations of the underlying division ring of a Hilbert lattice by automorphisms. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 109–114. (Sylvia Pulmannová) **99f:81020** 81P10 (46C15)
Mayeur, Nelly (*with* Haiman, George; Nevzorov, V. B.; Puri, Madan L.) Records and 2-block records of 1-dependent stationary sequences under local dependence. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 4, 481–503. (Patrik Albin) **99i:60069** 60F15 (60G70)

Maynadier, Hélène Polynômes de Bernstein-Sato associés à une intersection complète quasi-homogène à singularité isolée. (English and French summaries) [Bernstein-Sato polynomials associated with a weighted homogeneous complete intersection with isolated singularity] *Bull. Soc. Math. France* **125** (1997), *no.* 4, 547–571. (Aleksandr G. Aleksandrov) **99f:32059** 32S40

— (*with* Biosca, Hélène; Briancon, Joël; Maisonobe, Philippe) Espaces conormaux relatifs. II. Modules différentiels. [Relative conormal spaces. II. Differential modules] *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 2, 123–134. (Orlando Neto) **99i:32044** 32S40

Maynard, Philip (*with* Siemons, Johannes) On the reconstruction of linear codes. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 285–291. (Summary) **99d:94033** 94B05

Mayne, D. Q. (*with* Scokaert, Pierre O. M.) Min-max feedback model predictive control for constrained linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1136–1142. 93D15 (93B52)

— (*with* Scokaert, Pierre O. M.; Rawlings, James B.) Suboptimal model predictive control (feasibility implies stability). (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 648–654. 93D21 (90C90)

— (*with* Seron, M. M.; Braslavsky, J. H.; Kokotović, Petar V.) Feedback limitations in nonlinear systems: from Bode integrals to cheap control. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 829–833. (Summary) **99m:93042** 93B52 (93C10)

Mayntz, Renate Chaos in society: reflections on the impact of chaos theory on sociology. *The impact of chaos on science and society* (*Tokyo*, 1991), 298–323, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92H10 (58F13)

Mayo, Anita A. (*with* Greenbaum, A.) Rapid parallel evaluation of integrals in potential theory on general three-dimensional regions. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 731–742. (Summary) **99e:65038** 65D30 (31B10)

Mayo, Avraham E. Evidence for the adiabatic invariance of the black hole horizon area. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104007, 12 *pp.* (Summary) **99k:83077** 83C57

Mayol Cuevas, Walterio (*with* Fernández Anaya, Guillermo; Muñoz Gutiérrez, Stalin; Sánchez-Guzmán, R. A.) Simultaneous stabilization using evolutionary strategies. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1417–1435. 93D15

— *see also* **Workshop: Pattern Recognition, 99k:68016**

Mayoral, Fernando (*with* Díaz Madrigal, Santiago) Compactness in measure and the sequential Bourgain property. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 1, 55–62. (Henryk Hudzik) **99f:46038** 46E30 (46B03)

— (*with* Fernández López, Antonio[2]; Naranjo, Francisco; Paúl, Pedro J.) Weakly sequentially complete Fréchet spaces of integrable functions. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 223–228. (Summary) **99e:46031** 46E10 (46A04, 46A30, 46E40)

Mayoraz, E. *see* **Artificial intelligence and mathematics, 99m:68006**

Mayr, Ernst W. (*with* Heun, Volker) Efficient dynamic embedding of arbitrary binary trees into hypercubes. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 287–298, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (Summary) **99h:68132** 68R10 (68M10)

— Some complexity results for polynomial ideals. (English summary) *J. Complexity* **13** (1997), *no.* 3, 303–325. (Daniel Lazard) **99a:68093** 68Q25 (13P10, 20M05, 68Q15, 68Q40)

— *see also* **Lectures on proof verification and approximation algorithms, 99h:68060**

Mayr, Peter (*with* Klemm, Albrecht Otto; Vafa, Cumrun) BPS states of exceptional non-critical strings. (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 177–194. (Summary) **99a:81145** 81T30 (14J32, 32G81)

Mayr, Richard Weak bisimulation and model checking for basic parallel processes. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 88–99, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **99a:68067** 68Q10 (68Q55, 68Q90)

— (*with* Jančar, Petr; Kučera, Antonín) Deciding bisimulation-like equivalences with finite-state processes. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 200–211, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q10 (68Q60)

— Strict lower bounds for model checking BPA. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (Summary) **99i:68035** 68Q10 (68Q25, 68Q60)

Mayra, A. (*with* Tarafdar, M.) On nearly Kahler manifold with conservative, concircular and H-projective curvature tensor. *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 491–493. 53C15

Mays, Laurence (*with* Norbury, John) A note on solitary and periodic waves of a new kind. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1831–1834. (Summary) **99g:35110** 35Q51 (47G30, 76B25)

Mays, M. E. (*with* Knopfmacher, Arnold) The sum of distinct parts in compositions and partitions. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 66–78. (Summary) **99i:05016** 05A17 (05A15)

Maysoori, Ch. (*with* Khosrovshahi, G. B.) On the structure of higher incidence matrices. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 13–22. (Summary) **99h:05018** 05B20

Maystre, D. (*with* Bagieu, M.) Waterman and Rayleigh methods for diffraction grating problems: extension of the convergence domain. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1566–1576. (Philip Huddleston) **99d:78026** 78A45

sainz de la Maza, E. *see* **Sainz de la Maza, E.**

moreno Maza, Marc *see* **Moreno Maza, Marc**

Mazalov, M. Ya. An example of a nonconstant bianalytic function vanishing everywhere on a nowhere analytic boundary. (Russian) *Mat. Zametki* **62** (1997), *no.* 4, 629–632; *translation in Math. Notes* **62** (1997), *no.* 3-4, 524–526 (1998). (Vladimir Eiderman) **99c:30065** 30D60

Mazalov, Vladimir V. (*with* Kochetov, Eduard A.) A game with optimal stopping of random walks. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 820–826. (Alexander V. Gnedin) **99f:60085** 60G40

— (*with* Sakaguchi, Minoru) Two person hi-lo poker—stud and draw. II. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 151–164. (Victor J. Baston) **99h:90130** 90D60 (90D05)

— *see also* **Yearbook: Game theory and applications, 99k:90006** *and* **Game theory and applications, 99k:90203**

Mazanik, L. A. (*with* Mazanik, S. A.) On the irreducibility of linear differential systems to systems with functionally commutative matrices of coefficients. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 42–46, 76. (From the text) **99j:34011** 34A30 (34C20)

Mazanik, S. A. On the irreducibility of linear differential systems to Lappo-Danilevskiĭ systems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 30–33, 123. (From the text) **99j:34012** 34A30

— (*with* Mazanik, L. A.) On the irreducibility of linear differential systems to systems with functionally commutative matrices of coefficients. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 42–46, 76. (From the text) **99j:34011** 34A30 (34C20)

— Some properties of Lyapunov transformations. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 3, 63–65, 80. (Summary) **99k:34103** 34D05 (34A30)

Mazanova, E. V. Bayes estimation in the case of the inverse Gaussian distribution. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 828–832. (*see* **99b:62004**) 62F15

Mazel, A. E. (*with* Lebowitz, Joel L.) Improved Peierls argument for high-dimensional Ising models. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 1051–1059. (Takeo Kojima) **99h:82016** 82B20 (82B27)

Mazenc, F. (*with* Nijmeijer, Henk) Forwarding in discrete-time nonlinear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 823–835. (David L. Elliott) **99j:93081** 93D15 (93B55, 93C10)

Mazet, Olivier Classification des semi-groupes de diffusion sur $\mathbf{R}$ associés à une famille de polynômes orthogonaux. [Classification of diffusion semigroups in $\mathbf{R}$ associated with orthogonal polynomials] *Séminaire de Probabilités, XXXI*, 40–53, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Vladimir I. Bogachev) **99c:60171** 60J60 (33C45, 47D07)

Mazet, Pierre Principe du maximum et lemme de Schwarz à valeurs vectorielles. (French summary) [Maximum principle and vector-valued Schwarz lemma] *Canad. Math. Bull.* **40** (1997), *no.* 3, 356–363. (D. Drasin) **99b:30063** 30G30 (30C80, 46G20)

Mazet, Pierre-Alain (*with* Paintandre, Stéphan; Rahmouni, Adib) Interprétation dispersive du milieu PML de Bérenger. (English and French summaries) [Dispersive interpretation of Bérenger's PML medium] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 59–64. (Summary) **99f:78015** 78A45

Mazetis, È. On the theory of subspaces of the Kawaguchi space. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 506–518; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 382–391 (1998). (Zoltan Kovacs) **99h:53027** 53B40

— On the geometry of Cartan spaces. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 2, 221–233; *translation in Lithuanian Math. J.* **38** (1998), *no.* 2, 172–180 (1999). (Andrew Bucki) **99j:53019** 53B40 (53B05)

Mazets, I. E. (*with* Shifrin, L. B.) Nonexponential decay of an atomic excited state in the presence of a Bose-Einstein condensate. (English summary) *Phys. Lett. A* **229** (1997), *no.* 2, 73–76. (Summary) **99c:81285** 81V80

Mazhar, S. M. A note on a theorem of Mercer. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 177–184, *New Age, New Delhi*, 1997. (*see* **99d:00019**) 26A06 (40A05)

— A note on absolute summability factors. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 3, 233–242. (L. Loone) **99a:40005** 40F05 (40D15, 40D25)

— (*with* Móricz, Ferenc) Integrability of double power series with nonnegative coefficients. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 229–245. (Ling Yau Chan) **99e:41022** 41A58 (40A05, 42B08)

Mazhirin, A. P. (*with* Papin, A. A.) An example of an exact solution to the problem of the distribution of an ionized dopant in the surface region of a semiconductor. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 4, 17–24; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 4, 493–500 (1999). (Summary) **99g:78025** 78A55 (34A12, 82D99)

Mazhorova, O. S. (*with* Popov, Yu. P.; Sakharchuk, A. S.) Stability of a difference problem for a system of parabolic equations with nonstandard boundary conditions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 946–954, 1006; *translation in Differential Equations* **33** (1997), *no.* 7, 950–958 (1998). (W. Govaerts) **99c:65168** 65M12

Mazhukin, V. I. (*with* Samarskiĭ, Aleksandr Andreevich; Kastel'yanos, Orlando; Shapranov, A. V.) The dynamic adaptation method for nonstationary problems with large gradients. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 4, 32–56. 65M55

— (*with* Samarskiĭ, Aleksandr Andreevich; Matus, Petr P.; Mikhaĭlik, I. A.) L_2-conservative schemes for the Korteweg-de Vries equation. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 458–461. (Michael Fröhner) **99h:65150** 65M06 (35Q53, 65M12)

— (*with* Samarskiĭ, Aleksandr Andreevich; Matus, Petr P.; Rychagov, V. G.; Smurov, I.) Invariant difference schemes for parabolic equations with transformations of independent variables. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 93–110. (Meng Zhao Qin) **99m:65166** 65M06 (65M12, 65M15)

marinescu-Mazilu, Dorin *see* **Marinescu-Mazilu, Dorin**

Mazilu, T. (*with* Udrişte, Constantin; Postolache, Mihai; Udrişte, Aneta) Equilibrium sets of magnetic fields around electric circuits. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 125–136, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Robert L. Warnock) **99m:78009** 78A30

Mazkur, A. (*with* Sushkov, Yu. A.) Transfer functions of linear systems with variable structure. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 87–96, 220–221. 93B12 (93C05)

— (*with* Sushkov, Yu. A.; Fattash, I.) Mathematical models of multistate systems. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 84–104, 222–223. (Summary) **99k:93010** 93A30 (93C83)

Mazliak, Laurent (*with* Abraham, Romain) Branching properties of Brownian paths and trees. *Exposition. Math.* **16** (1998), *no.* 1, 59–73. (Xue Lei Zhao) **99f:60141** 60J65 (60J80)

— (*with* Briane, M.) Homogenization of two randomly weakly connected materials. *Portugal. Math.* **55** (1998), *no.* 2, 187–207. (Jacqueline Mossino) **99e:73010** 73B27 (73B35)

Mazloum, Reda I. Bayesian estimation of the scale parameter of the complete even power exponential distribution. (English summary) *Egyptian Statist. J.* **41** (1997), *no.* 1, 60–68. 62F15

Maznytsia, Alexey (*with* Preitschopf, Christian R.; Sorokin, D. P.) Duality of self-dual actions. (English summary) *Nuclear Phys. B* **539** (1999), *no.* 1-2, 438–452. (Summary) **99i:81149** 81T13

Mazón, J. M. (*with* Andreu, F.; Segura de León, Sergio; Toledo, Julián) Entropy solutions for a degenerated parabolic equation. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 151–161, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:35148** 35K65 (35R70)

— (*with* Andreu, F.; Toledo, Julián; Simondon, F.) Attractor for a degenerate nonlinear parabolic equation with a nonlinear flux. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 1–7, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 35K60 (34G20, 35B40, 47H20, 58F39)

— (*with* Andreu, F.; Simondon, F.; Toledo, Julián) Attractor for a degenerate nonlinear diffusion problem with nonlinear boundary condition. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 347–377. (Sergei A. Vakulenko) **99j:35102** 35K57 (35B40)

— (*with* Andreu, F.; Segura de León, Sergio; Toledo, Julián) Existence and uniqueness for a degenerate parabolic equation with L^1-data. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 285–306. (Ya Zhe Chen) **99c:35125** 35K65 (35K60)

Mazorchuk, Vladimir Tableaux realization of generalized Verma modules. (English summary) *Canad. J. Math.* **50** (1998), *no.* 4, 816–828. (Yuliy Billig) **99g:17018** 17B10 (05E15)

— (*with* Futornyĭ, V. M.) BGG-resolution for α-stratified modules over simply-laced finite-dimensional Lie algebras. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 229–240. (James E. Humphreys) **99g:17016** 17B10 (17B55)

— (*with* Khomenko, O. M.) Generalized Verma modules over the Lie algebra of type G_2. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 777–783. (William M. McGovern) **99m:17010** 17B10 (22E46)

Mazouz, A. On the range and the kernel of the operator $X \mapsto AXB - X$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2105–2107. (Summary) **99j:47051** 47B47 (47D50)

Mazouzi, S. (*with* Pederson, R. N.) Explicit representation of the solution to some boundary value problem. (English summary) *Math. Scand.* **82** (1998), *no.* 1, 101–112. (Maria A. Ragusa) **99f:34017** 34B05 (31B10, 34B27, 45P05)

Mazoyer, Jacques (*with* Cattaneo, Gianpiero; Formenti, Enrico; Margara, Luciano) A shift-invariant metric on $S^{\mathbf{Z}}$ inducing a non-trivial topology. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 179–188, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68107** 68Q80

— (*with* Rapaport, Ivan) Inducing an order on cellular automata by a grouping operation. (English summary) *STACS* 98 (*Paris*, 1998), 116–127, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99g:68142** 68Q80

— (*with* Rapaport, Ivan) Inducing an order on cellular automata by a grouping operation. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 177–196. (Summary) **99k:68118** 68Q80

Mazumdar, Anupam (*with* Saffin, P. M.; Copeland, Edmund J.) Instantons from low energy string actions. (English summary) *Phys. Lett. B* **435** (1998), *no.* 1-2, 19–24. (Summary) **99d:83100** 83E30 (81T30)

Mazumdar, Mainak (*with* Iyengar, Satish) A saddle point approximation for certain multivariate tail probabilities. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1234–1244 (*electronic*). (Summary) **99a:62082** 62H99 (62E20)

Mazumdar, Ravi R. (*with* Simonian, Alain D.; Roberts, James W.; Théberge, F.) Asymptotic estimates for blocking probabilities in a large multi-rate loss network. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 806–829. (Peter Gerrard Taylor) **99c:60211** 60K30 (60F10, 90B15)

— (*with* Bagchi, Arunabha) A representation result for nonlinear filter maps in a white noise framework. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 124–129. (Summary) **99j:93105** 93E11

Mazumder, B. S. (*with* Bandyopadhyay, S.) Unsteady convective diffusion in a pulsatile flow through a channel. (English summary) *Acta Mech.* **134** (1999), *no.* 1-2, 1–16. 76R50

Mazur, Barry An introduction to the deformation theory of Galois representations. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 243–311, *Springer, New York*, 1997. (*see* **99k:11004**) 11F80

— (*with* Gouvêa, Fernando Q.) On the density of modular representations. (English summary) *Computational perspectives on number theory* (*Chicago, IL*, 1995), 127–142, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Andrea Mori) **99a:11056** 11F33 (11F80)

— (*with* Harris, Joseph Daniel; Pandharipande, Rahul) Hypersurfaces of low degree. *Duke Math. J.* **95** (1998), *no.* 1, 125–160. (Fyodor L. Zak) **99j:14043** 14J70 (14M20, 14N05)

Mazur, Marcin (*with* Stolot, Kinga; Tabor, Jacek) Semi-hyperbolicity implies hyperbolicity in the linear case. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 121–126. (Peter E. Kloeden) **99i:58119** 58F15

Mazur, Pawel O. (*with* Antoniadis, Ignatios; Mottola, Emil) Fractal geometry of quantum spacetime at large scales. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 284–292. (Summary) **99m:83062** 83C45

Mazur, Tomasz Recurrence theorem for biholomorphic mappings. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 3, 209–212. (Gregor Herbort) **99d:32028** 32H02 (32H10)

Mazure, Bertrand (*with* Saïs, Lakhdar; Grégoire, Éric) Boosting complete techniques thanks to local search methods. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 319–331. (Summary) **99g:68183** 68T15 (03B05, 03B35, 03B70, 68N17)

Mazure, Marie-Laurence (*with* Laurent, Pierre-Jean) Marsden identity, blossoming and de Boor-Fix formula. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 227–242, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:41040** 41A63 (65D15)

— (*with* Laurent, Pierre-Jean; Morin, Géraldine) Shape effects with polynomial Chebyshev splines. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 255–262, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (L. Leindler) **99j:41019** 41A15 (41A29, 65D07)

— Vandermonde type determinants and blossoming. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 4, 291–315. (Heinz H. Gonska) **99g:65020** 65D17

— (*with* Laurent, Pierre-Jean) Nested sequences of Chebyshev spaces and shape parameters. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 773–788. (Antonio López-Carmona) **99i:65015** 65D17 (41A29)

Mazurkiewicz, Antoni Locally computable enumerations. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 51–66, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **99c:68088** 68Q10

Mazurov, P. A. On the construction of variational principles. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 432–439; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 419–425. (Sergey V. Nikitin) **99f:49071** 49S05 (73V25, 76M30)

Mazurov, Viktor Danilovich On sharply 2-transitive groups [translation of *Proceedings of the Institute of Mathematics, 30* (Russian), 114–118, Izdat. Ross. Akad. Nauk, Sibirsk. Otdel., Inst. Mat., Novosibirsk, 1996]. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 3, 91–97. (Wolfgang Knapp) **99b:20006** 20B22 (20F24)

— (*with* Revin, D. O.) On the Hall D_π-property for finite groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 125–134, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 106–113. (N. D. Podufalov) **99d:20030** 20D20

— Characterizations of finite groups by the set of orders of their elements. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 173–176, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 20D60

— (*with* Zenkov, V. I.) Intersections of Sylow subgroups in finite groups. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 191–197, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Michael C. Slattery) **99g:20036** 20D20 (20D06, 20D08)

— (*with* Kostochka, A. V.; Savel'ev, L. Ya.) The number of q-ary words with restrictions on the length of a maximal series. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 1, 10–19; *translation in Discrete Math. Appl.* **8** (1998), *no.* 2, 109–118. (Nikolai Volodin) **99k:05009** 05A15

Mazurov, Vl. D. (*with* Smirnov, A. I.) Duality in pattern recognition and in expert systems. (Russian. Russian summary) *Pattern recognition. Classification. Prediction* (*Russian*), 80–98, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68T10 (68T35)

Mazurovskiĭ, V. F. Nonsingular configurations of at most five $2n$-dimensional subspaces of the projective space $\mathbf{RP}^{4n+1}$. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 5, 84–91; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 5, 961–967. (Eugenii Shustin) **99a:51002** 51A20 (14P05, 52A37, 57Q45)

Maz'ya, Vladimir G. (*with* Poborchiĭ, S. V.) ★ Differentiable functions on bad domains. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xx+481 *pp. ISBN* 981-02-2767-1 (J. Horváth) **99k:46057** 46E35

— (*with* Kozlov, Vladimir Arkad'evich; Roßmann, Jürgen) Spectral properties of operator pencils generated by elliptic boundary value problems for the Lamé system. *Rostock. Math. Kolloq. No.* 51 (1997), 5–24. (Kamoliddin Kh. Boimatov) **99f:35141** 35P05 (35J25, 47F05, 73C02)

— (*with* Kresin, G. I.) On the maximum modulus principle for linear parabolic systems with zero boundary data. (English summary) *Funct. Differ. Equ.* **5** (1998), *no.* 1-2, 165–181. (Summary) **99m:35094** 35K20 (35B50)

— (*with* Solov'ëv, Aleksandr Artëmovich) L_p-theory of boundary integral equations on a contour with outward peak. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 75–100. (Heinrich Begehr) **99i:31001** 31A10 (35J25, 45E10, 47G10)

— (*with* Solov'ëv, Aleksandr Artëmovich) L_p-theory of boundary integral equations on a contour with inward peak. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 641–673. (Andreas Rathsfeld) **99g:31003** 31A10 (35J05, 45A05, 45P05, 47G10)

Mazzacurati, L. (*with* Balbinot, R.; Fabbri, Alessandro) Dilaton gravity black holes with a regular interior. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6185–6190. (Summary) **99m:83094** 83C57

Mazzarella, Francesco (*with* Pesamosca, Giancarlo) A graphic representation of the solution of the Weber problem in the space of the weights. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 3, 343–350. (Summary) **99a:90114** 90B80 (90C20)

Mazzei, Luca (*with* Hughes, Thomas J. R.; Feijóo, Gonzalo R.; Quincy, Jean-Baptiste) The variational multiscale method—a paradigm for computational mechanics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 3–24. (I. N. Molchanov) **99m:65239** 65N55 (65M55, 73V05, 73V25)

Mazzi, L. (*with* Tabasso, V.) On stabilization of time-dependent affine control systems. (English summary) *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 1, 53–66. (Éva Gyurkovics) **99a:93086** 93D15 (34H05)

Mazzi, Sonia (*with* Berrendero, José R.; Romo, Juan; Zamar, Ruben H.) On the explosion rate of maximum-bias functions. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 333–351. (Summary) **99i:62057** 62F35

Mazzia, Francesca (*with* Amodio, Pierluigi) Numerical solution of differential algebraic equations and computation of consistent initial/boundary conditions. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 135–146. (Alexander Alenitsyn) **99b:65078** 65L05 (34A09, 65L10)

— (*with* Iavernaro, Felice) Convergence and stability of multistep methods solving nonlinear initial value problems. (English summary) Dedicated to C. William Gear on the occasion of his 60th birthday. *SIAM J. Sci. Comput.* **18** (1997), *no.* 1, 270–285. (Severiano Gonzalez-Pinto) **99c:65126** 65L05 (65L06, 65L12, 65L20)

— (*with* Iavernaro, Felice; La Scala, Massimo) Boundary values methods for time-domain simulation of power system dynamic behavior. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 1, 50–63. (Summary) **99b:65094** 65L99 (34A45, 65Y05, 94A05)

— (*with* Amodio, Pierluigi) An algorithm for the computation of consistent initial values for differential-algebraic equations. (English summary) Differential algebraic equations

(Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 13–23. (Summary) **99k:65067** 65L99 (34A09, 34A45, 65L05)

Mazzilli, Emmanuel (*with* Diederich, Klas) Extension and restriction of holomorphic functions. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 4, 1079–1099. (Harold P. Boas) **99d:32012** 32D15 (32A10, 32A37, 46E99)

— Extension des fonctions holomorphes dans les pseudo-ellipsoïdes. [Extension of holomorphic functions in pseudoellipsoids] *Math. Z.* **227** (1998), *no.* 4, 607–622. (Francine A. Meylan) **99d:32014** 32D15

Mazzini, Gianluca (*with* Capriz, G.) Invariance and balance in continuum mechanics. *Nonlinear analysis and continuum mechanics (Ferrara, 1992)*, 27–35, *Springer, New York*, 1998. (Gérard A. Maugin) **99e:73005** 73A05 (73B25, 73S10)

— (*with* Rovatti, Riccardo; Setti, Gianluca) Chaotic complex spreading sequences for asynchronous DS-CDMA. II. Some theoretical performance bounds. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 496–506. (Summary) **99e:94002** 94A05

Mazzitelli, Francisco D. (*with* Lombardo, Fernando C.) Influence functional in two-dimensional dilaton gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024009, 10 *pp.* (Summary) **99m:83076** 83C45

— (*with* Lombardo, Fernando C.; Russo, Jorge G.) Energy-momentum tensor for scalar fields coupled to the dilaton in two dimensions. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064007, 8 *pp.* 83C45 (83C47)

Mazzocco, Renzo (*with* Romani, Giuliano) Symmetry properties for submanifolds and totally geodesic maps. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 423–431. (O. Kowalski) **99i:53059** 53C40 (53C35)

Mazzone, A. M. Analysis of serial and parallel algorithms for use in molecular dynamics. Review and proposals. (English summary) *Internat. J. Modern Phys. C* **9** (1998), *no.* 1, 179–194. 65L06 (65Y05)

— Parallel predictor-corrector methods for the solution of ordinary differential equations. II. (English summary) *Internat. J. Modern Phys. C* **10** (1999), *no.* 1, 135–145. 65L06 (65Y05)

Mazzone, Fernando On the norm of the metric projections. (English summary) *J. Approx. Theory* **97** (1999), *no.* 2, 214–219. (Summary) **99m:46038** 46B20 (41A65)

Mazzone, Silvia (*with* Roero, Clara Silvia) ★Jacob Hermann and the diffusion of the Leibnizian calculus in Italy. Biblioteca di Nuncius: Studi e Testi [Nuncius Library: Studies and Texts], XXVI. *Leo S. Olschki Editore, Florence*, 1997. *xiv+556 pp. ISBN* 88-222-4555-5 (Detlef Laugwitz) **99f:01010** 01A50 (01A45, 01A70, 26–03)

Mazzotti, Massimo The geometers of God: mathematics and reaction in the kingdom of Naples. (English summary) *Isis* **89** (1998), *no.* 4, 674–701. (Summary) **99k:01026** 01A55 (01A80)

Mazzuchi, Thomas A. (*with* van Dorp, J. René; Soyer, Refik) Sequential inference and decision making for single mission systems development. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 207–218. (Richard A. Johnson) **99b:62123** 62L15 (62N05)

Mbakop, G. M. (*with* Bank, Bernd; Giusti, M.; Heintz, Joos; Mandel, R.) Polar varieties and efficient real equation solving: the hypersurface case. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995)*, 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 65H10 (68Q40)

Mbaraga, Pontien (*with* Langevin, André; Laporte, Gilbert) Two exact algorithms for the vehicle routing problem on trees. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 75–89. (Summary) **99h:90111** 90C35 (90C27)

Mbekhta, Mostafa Ascente, descente et spectre essentiel quasi-Fredholm. (French summary) [Ascent, descent and quasi-Fredholm essential spectrum] *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 2, 175–196. (Vladimir Rakočević) **99e:47020** 47A53 (47A10, 47A55)

— (*with* Bermúdez, Teresa; González, Manuel) Local ergodic theorems. *Extracta Math.* **13** (1998), *no.* 2, 243–248. (Vladimir Müller) **99k:47018** 47A35 (28D99, 47A11)

— (*with* Koliha, J. J.; Müller, Vladimír; Poon, Pak Wai) Corrigendum and addendum: "On the axiomatic theory of spectrum. II" [Studia Math. **119** (1996), no. 2, 129–147; MR 97c:47005] by Mbekhta and Müller. (English summary) *Studia Math.* **130** (1998), *no.* 2, 193–198. (Summary) **99d:47003** 47A10 (46H30, 47A05)

— (*with* Badea, Cătălin) Compressions of resolvents and maximal radius of regularity. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2949–2960. (Lawrence Fialkow) **99j:47005** 47A10 (47A20, 47A58)

Mbodj, Oumar D. Quadratic Gauss sums. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 347–361. (Charles Helou) **99h:11143** 11T24 (11L05)

Mboup, Mamadou (*with* Regalia, Phillip A.; Ashari, Mehdi) A multivariable Steiglitz-McBride method: stationary points and a priori error bound. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 125–153. 93B30

McAdam, Peter (*with* Juillard, Michel; Laxton, Douglas; Pioro, Hope) An algorithm competition: first-order iterations versus Newton-based techniques. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1291–1318. (F. Szidarovszky) **99m:90052** 90A58 (62P20, 65F10)

McAlister, Donald B. Semigroups generated by a group and an idempotent. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 515–547. (P. M. Higgins) **99c:20090** 20M20 (20M17)

McAllester, David (*with* Charatonik, Witold; Niwiński, Damian; Podelski, Andreas; Walukiewicz, Igor) The Horn mu-calculus. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 58–69, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68079** 68Q60 (03B70, 68N17)

McAllister, Patrick Adaptive behavior in games. (English summary) *Decision making under risk and uncertainty (Durham, NC, 1990)*, 201–210, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90D35 (90A46)

McAllister, S. (*with* Needham, D. J.) Centre families in two-dimensional complex holomorphic dynamical systems. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2267–2278. (Summary) **99d:34010** 34A20 (34C05, 58F25)

McAnally, D. S. (*with* Bracken, Anthony J.) Uncolouring of Lie colour algebras. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 425–452. (Summary) **99b:81107** 81R50 (17B37, 81R05)

McArthur, I. N. The Wess-Zumino term for supermembranes and descent equations. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 645–657. (Sergey Nikolaevich Roshchupkin) **99c:81199** 81T30 (83E30)

— (*with* Gargett, T. D.) Derivative expansion of one-loop effective actions for Yang-Mills fields. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4430–4448. (R. Delbourgo) **99f:81134** 81T18 (81T13)

— Higher order spin-dependent terms in D0-brane scattering from the Matrix model. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 183–201. (Summary) **99h:81177** 81T30

McArthur, Monica The asymptotic behavior of $L^k_{\infty,\omega}$ on sparse random graphs. (English summary) *Logic and random structures (New Brunswick, NJ, 1995)*, 53–63, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Damian Niwiński) **99b:03046** 03C13 (05C80, 68P99, 68Q99, 68R10)

— (*with* Hurkens, A. J. C.; Moschovakis, Yiannis N.; Moss, Lawrence S.; Whitney, Glen T.) The logic of recursive equations. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 451–478. (Thomas Glaß) **99m:03092a** 03D75 (03D70)

— (*with* Hurkens, A. J. C.; Moschovakis, Yiannis N.; Moss, Lawrence S.; Whitney, Glen T.) Erratum: "The logic of recursive equations". *J. Symbolic Logic* **64** (1999), *no.* 1, 406. (Thomas Glaß) **99m:03092b** 03D75 (03D70)

McAuley, K. B. (*with* Dadebo, S. A.; McLellan, P. J.) On the computation of optimal singular and bang-bang controls. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 4, 287–297. (Summary) **99e:49035** 49M05 (65K10)

McAven, L. F. (*with* Butler, P. H.; Hamel, A. M.) Split bases and multiplicity separations in symmetric group transformation coefficients. (English summary) *J. Phys. A* **31** (1998), *no.* 41, 8363–8372. (Himmet Can) **99m:05164** 05E10 (20C30, 81R05)

McBain, N. (*with* Ling, M.; Lawler, K.; Moscardini, A.) Optimization of advertising resources over time: a strategic analysis. (English summary) Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems (Sozopol, 1997). *Pliska Stud. Math. Bulgar.* **12** (1998), 85–96. (*see* **99k:49002**) 90B60 (90A80)

McBride, A. C. (*with* McLaughlin, D. J.; Lamb, Wilson) Existence results for non-autonomous multiple-fragmentation models. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 15, 1313–1323. (Pavel Dubovskiĭ) **99b:45006** 45K05 (35Q99, 47D06, 80A99, 86A10)

— (*with* McLaughlin, D. J.; Lamb, Wilson) A semigroup approach to fragmentation models. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1158–1172. (Hassan Emamirad) **99i:35166** 35Q99 (35F10, 45K05, 47D06, 47N20, 80A30)

— (*with* McLaughlin, D. J.; Lamb, Wilson) An existence and uniqueness result for a coagulation and multiple-fragmentation equation. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1173–1190. (Hassan Emamirad) **99i:35167** 35Q99 (35F25, 45K05, 47D06, 47N20, 80A30)

— (*with* Belleni-Morante, A.) ★Applied nonlinear semigroups. (English summary) An introduction. Wiley Series in Mathematical Methods in Practice, 3. *John Wiley & Sons, Ltd., Chichester*, 1998. *xii+275 pp. ISBN* 0-471-97867-1 (Kiyoko Furuya) **99m:47083** 47H20 (34G20, 35K99, 47N20, 82C70)

— (*with* McLaughlin, D. J.; Lamb, Wilson) Existence and uniqueness results for the non-autonomous coagulation and multiple-fragmentation equation. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 11, 1067–1084. (Hassan Emamirad) **99i:35168** 35Q99 (35F10, 45K05, 47N20, 80A30)

McBride, Richard D. Progress made in solving the multicommodity flow problem. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 947–955 (*electronic*). (Summary) **99i:90110** 90C35 (90C27)

McCabe, Brendan P. M. (*with* Leybourne, S. J.) On estimating an ARMA model with an MA unit root. (English summary) *Econometric Theory* **14** (1998), *no.* 3, 326–338. (Summary) **99b:62140** 62M10

— (*with* Smith, Richard J.) The power of some tests for difference stationarity under local heteroscedastic integration. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 751–761. (Summary) **99i:62212a** 62M10

— (*with* Smith, Richard J.) Errata: "The power of some tests for difference stationarity under local heteroscedastic integration". *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1252. (Editors) **99i:62212b** 62M10

McCabe, Cynthia L. An upper bound on edge numbers of 2-bridge knots and links. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 6, 797–805. (Lorenzo Traldi) **99h:57015** 57M25

McCabe, J. H. (*with* Bracciali, C. F.) Computing the coefficients of some continued fractions. *Comm. Anal. Theory Contin. Fractions* **6** (1997), 74–82. (L. J. Lange) **99a:30004** 30B70

McCabe, John Francis (*with* Wydro, Tomasz) Critical correlations of the two-dimensional, three-state Potts model. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 6, 1013–1029. (Takeo Kojima) **99j:82032** 82B27 (81T40, 82B20)

McCabe, Kevin A. (*with* Rassenti, Stephen J.; Smith, Vernon L.) Reciprocity, trust, and payoff privacy in extensive form bargaining. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 10–24. (Summary) **99b:90172** 90D12 (90A60)

McCabe, P. M. (*with* Leach, J. A.; Needham, D. J.) The evolution of travelling waves in fractional order autocatalysis with decay. I. Permanent form travelling waves. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 870–899 (*electronic*). (Hong Ming Yin) **99k:35092** 35K57 (35Q99, 80A32)

McCaffery, S. J. (*with* Elliott, Lionel; Ingham, D. B.) One-dimensional enhanced sedimentation in inclined fracture channels. (English summary) *Math. Engrg. Indust.* **6** (1998), *no.* 4, 261–290. (Summary) **99a:76152** 76S05 (76T05, 86A99)

— (*with* Elliott, Lionel; Ingham, D. B.) Two-dimensional enhanced sedimentation in inclined fracture channels. (English summary) *Math. Engrg. Indust.* **7** (1998), *no.* 1, 97–125. (Summary) **99g:76145** 76T05 (76A05, 86A05)

McCall, Thomas M. (*with* Parry, Charles J.; Ranalli, Ramona R.) The 2-rank of the class group of imaginary bicyclic biquadratic fields. (English summary) *Canad. J. Math.* **49** (1997), *no.* 2, 283–300. (Bart de Smit) **99d:11116** 11R16 (11R29)

McCallum, Bennett T. Solutions to linear rational expectations models: a compact exposition. (English summary) *Econom. Lett.* **61** (1998), *no.* 2, 143–147. (Summary) **99g:90033** 90A16 (90A14)

McCallum, Scott (*with* Arnon, Dennis S.; Collins, George E.) Cylindrical algebraic decomposition. I. The basic algorithm. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 136–151, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40
— (*with* Arnon, Dennis S.; Collins, George E.) Cylindrical algebraic decomposition. II. An adjacency algorithm for the plane. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 152–165, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40
— An improved projection operation for cylindrical algebraic decomposition. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 242–268, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40
McCann, P. (*with* Carey, Alan L.; Hannabuss, K. C.; Mathai, Varghese) Quantum Hall effect on the hyperbolic plane. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 629–673. (Albert Jeu-Liang Sheu) **99f:58195** 58G12 (19K35, 19K56, 46L60, 81V70)
McCann, Robert J. Equilibrium shapes for planar crystals in an external field. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 699–723. (Barbara Priwitzer) **99j:73018** 73B99 (35Q72, 49Q10, 52A10, 73V25)
McCardle, Kevin F. (*with* Nau, Robert F.) Arbitrage, rationality, and equilibrium. (English summary) *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 189–199, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A05 (90A46)
McCarragher, Brenan J. (*with* Astuti, Pudji) The stability of a class of discrete event systems using Markov chains. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 391–408. 93C83 (93E03)
— (*with* Astuti, Pudji) Optimal control for the convergence of a class of discrete event systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 1029–1046. 93C83 (93C30)
— (*with* Austin, David J.) Model adaptive hybrid dynamic control for constrained motion systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 560–564. (*see* **99a:93006**) 93C95 (93C85)
— (*with* Binkowski, Michael) A queueing model for the design and analysis of a mining stockyard. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 75–98. 90B22 (93E20)
McCartan, S. D. (*with* Kennedy, G. J.) Submaximality and supraconnectedness are complementary topological invariants. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 163–166 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99b:54003** 54A10 (54D25, 54F65)
— (*with* McCluskey, A. E.) T_0 and loosely nested are not complementary. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 288–290 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99b:54031** 54D10 (54A10, 54G20)
McCarthy, C. Maeve (*with* Cox, Steven J.) The shape of the tallest column. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 547–554 (*electronic*). (Bernard Rousselet) **99k:73090** 73K40 (34L40, 49J10, 73H05)
— The tallest column—optimality revisited. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 27–37. (Vadim Komkov) **99k:73093** 73K40 (34H05, 49N55, 73H05, 73K05)
McCarthy, Dennis D. The Julian and modified Julian dates. *J. Hist. Astronom.* **29** (1998), *no.* 4, 327–330. 01A99
McCarthy, J. *see* **McCarthy, James G.**
McCarthy, J. E. *see* **McCarthy, John E.**
McCarthy, J. M. (*with* Collins, C. L.) The quartic singularity surfaces of planar platforms in the Clifford algebra of the projective plane. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 7, 931–944. (Summary) **99f:70005** 70B15
McCarthy, James G. (*with* Bouwknegt, Peter; Pilch, Krzysztof) Operator algebra of the 4D $\mathscr{W}_3$ string. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 63–76, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81069** 81R10 (17B68, 81T30, 81T70)
— (*with* Figueroa-O'Farrill, José M.; Imaanpur, A.) Supersymmetry and gauge theory on Calabi-Yau 3-folds. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 167–174. (Joan Simón Soler) **99e:53024** 53C07 (14J32, 32J81, 53C80, 58D27, 81T30, 81T60)
— (*with* Susskind, Leonard; Wilkins, Andy) Large N and the Dine-Rajaraman problem. (English summary) *Phys. Lett. B* **437** (1998), *no.* 1-2, 62–68. (Summary) **99j:81151** 81T30 (83E30, 83E50)
McCarthy, John D. (*with* Wolfson, Jon G.) Symplectic resolution of isolated algebraic singularities. *Geometry, topology, and dynamics* (*Montreal, PQ*, 1995), 101–105, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Karl Friedrich Siburg) **99f:57041** 57R65 (53C15, 57R15)
— (*with* Ivanov, N. V.) On injective homomorphisms between Teichmüller modular groups. I. (English summary) *Invent. Math.* **135** (1999), *no.* 2, 425–486. (Athanase Papadopoulos) **99m:57014** 57M60 (20F38, 30F10)
McCarthy, John E. (*with* Yang, Li Ming) Cyclic subnormal operators with finite-rank self-commutators. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 173–177. (Warren R. Wogen) **99i:47041** 47B20 (47A99)
— (*with* Agler, Jim) Operators that dominate normal operators. (English summary) *J. Operator Theory* **40** (1998), *no.* 2, 385–407. (Warren R. Wogen) **99i:47038** 47B20 (47A15)
— (*with* Fajans, J.; Backhaus, E. Yu.) Equilibrium of highly asymmetric non-neutral plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 12–18. 76X05
— *see also* **Holomorphic spaces, 99a:00028**
McCarthy, Randy Relative algebraic K-theory and topological cyclic homology. *Acta Math.* **179** (1997), *no.* 2, 197–222. (Teimuraz Pirashvili) **99e:19006** 19D55 (19D10, 19D35)
McCartin, Brian J. Prelude to musical geometry. *College Math. J.* **29** (1998), *no.* 5, 354–370. (Arthur T. White) **99k:00016** 00A69 (51–01)
— A model-trust region algorithm utilizing a quadratic interpolant. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 249–259. (Christian Michelot) **99g:90128** 90C30 (49M30, 65K10)
McCartor, Gary Subtleties in the light-cone representation. (English summary) *Perspectives of strong coupling gauge theories* (*Nagoya*, 1996), 360–366, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99b:81144** 81T10 (81T40)
McCasland, R. L. (*with* Moore, M. E.; Smith, Patrick F.) Modules with bounded spectra. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3403–3417. (Aihua Li) **99g:13013** 13C13 (13E05)
— (*with* Wang, Fang Gui) On strong Mori domains. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 2, 155–165. (Valentina Barucci) **99m:13044** 13G05 (13A15, 13F05)
McCaughan, Gareth A recurrence/transience result for circle packings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3647–3656. (Summary) **99b:52041** 52C15 (30C35, 30G25, 60J15)
McCauley, Joseph L. ★ Classical mechanics. (English summary) Transformations, flows, integrable and chaotic dynamics. *Cambridge University Press, Cambridge*, 1997. *xviii+469 pp. ISBN* 0-521-57882-5 (Luigi Chierchia) **99j:70001** 70–01 (58F05, 70Fxx, 70Hxx, 70K50)
McCauley Bell, Pamela (*with* Wang, Heng[1]) Fuzzy linear regression models for assessing risks of cumulative trauma disorders. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 317–340. (Summary) **99m:92013** 92C60 (04A72)
McCausland, Ian *see* **Percival, J. N., 99c:83003**
McCleary, John An appreciation of the work of Jim Stasheff. *Higher homotopy structures in topology and mathematical physics* (*Poughkeepsie, NY*, 1996), 1–16, *Contemp. Math.*, 227, *Amer. Math. Soc., Providence, RI*, 1999. (Editors) **99i:01036** 01A70 (55–03)
— *see also* **Higher homotopy structures in topology and mathematical physics, 99g:00041**
McCloskey, Robert (*with* Wang, Jie[1]; Belanger, Jay) Parallel parsing of languages generated by ambiguous bounded context grammars. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 738–757 (*electronic*). (*see* **99f:68006**) 68Q52 (68Q22)
— An $O(n^2)$ time algorithm for deciding whether a regular language is a code. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 79–89 (*electronic*). (Summary) **99g:68116** 68Q45
McClure, J. Peter (*with* Benson, Harold P.; Lee, Dongyeup) Global optimization in practice: an application to interactive multiple objective linear programming. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 353–372. (Summary) **99d:90098** 90C29 (90C05, 90C90)
McClure, Mark The Hausdorff dimension of the hyperspace of compact sets. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 611–625. (Maria Moszyńska) **99a:28006** 28A78 (28C20, 54B20, 54F45)
— The prevalent dimension of graphs. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 241–246. (Summary) **99a:28008** 28A80 (54E52)
McCluskey, A. E. (*with* McCartan, S. D.) T_0 and loosely nested are not complementary. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 288–290 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99b:54031** 54D10 (54A10, 54G20)
— (*with* McMaster, T. B. M.) Representing quasi-orders by embeddability ordering of families of topological spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1275–1279. (Marcel Erné) **99h:06002** 06A06 (54A10, 54A25, 54H10)
McCluskey, C. Connell (*with* Muldowney, James S.) Stability implications of Bendixson's criterion. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 931–934 (*electronic*). (Summary) **99g:34093** 34C25 (34D99)
McColl, W. F. (*with* Huang, Yu-Guang) Analytical inversion of general tridiagonal matrices. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7919–7933. (S. Zlobec) **99h:15007** 15A09 (15A57, 65F10)
McColm, Gregory L. A splitting inequality. (English summary) *Ramanujan J.* **2** (1998), *no.* 4, 511–519. (Darko Veljan) **99k:26029** 26D20 (05A20)
McConley, Marc W. (*with* Appleby, Brent D.; Dahleh, Munther A.; Feron, Eric) Computational complexity of Lyapunov stability analysis problems for a class of nonlinear systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2176–2193 (*electronic*). (Guy Jumarie) **99f:93060** 93B40 (65Y20, 93D09)
— (*with* Dahleh, Munther A.; Feron, Eric) Polytopic control Lyapunov functions for robust stabilization of a class of nonlinear systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 77–83. (Ji Tao Sun) **99d:93062** 93D21 (93C10)
McConnell, N. R. (*with* Stokes, Tim) Generalising quasiregularity for rings. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 5, 250–252. 16N60
McConnell, Ross Complement-equivalence classes on graphs. (English summary) *Structures in logic and computer science*, 174–191, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99d:68197** 68R10 (05C85)
McCool, James (*with* Krstić, Sava) The non-finite presentability of the automorphism group of the free Z-group of rank two. *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 264–274. (S. Andreadakis) **99a:20035** 20F28 (20E06)
McCord, Christopher K. Bifurcations of the Hill's region in the three body problem. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2135–2142. (Carles Simó) **99j:70014** 70F07 (58F05)
McCormack, Daniel K. R. (*with* Brown, B. Malcolm; Eastham, Michael S. P.) Absolute continuity and spectral concentration for slowly decaying potentials. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 2, 181–197. (Alexander Alenitsyn) **99g:34165** 34L40 (34B24, 65L10)
— (*with* Brown, B. Malcolm; Eastham, Michael S. P.; Hinz, Andreas M.; Kriecherbauer, Thomas; Schmidt, Karl Michael) Welsh eigenvalues of radially periodic Schrödinger operators. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 347–357. (Carol Shubin) **99m:34196** 34L40 (35J10, 35P15)
— (*with* Brown, B. Malcolm; Eastham, Michael S. P.) Extensions of a new algorithm for the numerical solution of linear differential systems on an infinite interval. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 547–558. (Marco Marletta) **99f:65099** 65L05 (34A45)
— (*with* Brown, B. Malcolm; Eastham, Michael S. P.; Plum, Michael) On a new algorithm for the computation of enclosures for the Titchmarsh-Weyl m-function. *Results Math.* **33** (1998), *no.* 1-2, 50–64. (Anton Zettl) **99b:34138** 34L40 (34B24, 34E05, 34E20, 65L05)
McCormick, J. W. (*with* Horowitz, Roberto; Li, Bo[2]) Wiener-filter-based minimum variance self-tuning regulation. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 531–545. (Summary) **99c:93104** 93E11 (93D15)

McCormick, Julie A. (*with* Smith, Steven W.; Hall, Carol K.; Freeman, Benny D.) Self-diffusion coefficients and atomic mean-squared displacements in entangled hard chain fluids. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 203–215, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82D60

McCormick, S. Thomas How to compute least infeasible flows. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 179–194. (Gerald Hammer) **99a:90219** 90C35 (90B10)

— (*with* Karzanov, A. V.) Polynomial methods for separable convex optimization in unimodular linear spaces with applications. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1245–1275. (Gerald Hammer) **99b:90103** 90C27 (90B10)

— (*with* Iwata, Satoru; Shigeno, Maiko) A faster algorithm for minimum cost submodular flows. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 167–174, *ACM, New York*, 1998. (Summary) **99f:90162** 90C35 (90B10)

— (*with* Iwata, Satoru; Matsui, Tomomi) A fast bipartite network flow algorithm for selective assembly. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 137–143. (Mechthild Opperud) **99h:90110** 90C35 (90B10, 90B30)

McCormick, Stephen F. (*with* Berndt, Markus; Manteuffel, Thomas A.) Local error estimates and adaptive refinement for first-order system least squares (FOSLS). (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 35–43 (*electronic*). (Summary) **99a:65143** 65N30 (65N15)

— (*with* Cai, Zhi Qiang; Manteuffel, Thomas A.; Parter, Seymour V.) First-order system least squares (FOSLS) for planar linear elasticity: pure traction problem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 320–335 (*electronic*). (Summary) **99a:73119** 73V05 (73C02)

— (*with* Bochev, Pavel B.; Cai, Zhi Qiang; Manteuffel, Thomas A.) Analysis of velocity-flux first-order system least-squares principles for the Navier-Stokes equations. I. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 990–1009 (*electronic*). (Summary) **99a:76106** 76M25 (65N12, 65N30, 76D05)

McCormick, William P. (*with* Datta, Somnath) Inference for the tail parameters of a linear process with heavy tail innovations. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 2, 337–359. (Friedrich Liese) **99k:62148** 62M09 (62M10)

— (*with* Datta, Somnath; Mathew, George) Nonlinear autoregression with positive innovations. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 229–239. (Summary) **99c:62248** 62M10

— (*with* Mathew, George) A bootstrap approximation to the joint distribution of sum and maximum of a stationary sequence. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 287–299. (Hung Trung Nguyen) **99j:62058** 62G09

McCorquodale, Peter (*with* Edelman, Alan; Toledo, Sivan) The future fast Fourier transform? (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1094–1114 (*electronic*). (Manfred Tasche) **99m:65253** 65T20 (65Y20)

McCoskey, Suzanne (*with* Kao, Chihwa) A residual-based test of the null of cointegration in panel data. (English summary) *Econometric Rev.* **17** (1998), *no.* 1, 57–84. (Summary) **99a:62158** 62P20

McCourt, Steve (*with* Lodwick, Weldon A.; Newman, Francis; Humphries, Stephen M.) Optimization methods for radiation therapy plans. (English summary) *Computational radiology and imaging* (*Minneapolis, MN*, 1997), 229–249, *IMA Vol. Math. Appl.*, 110, *Springer, New York*, 1999. (*see* **99m:92012**) 92C50

McCoy, Barry M. (*with* Berkovich, Alexander; Schilling, Anne) Rogers-Schur-Ramanujan type identities for the $M(p, p')$ minimal models of conformal field theory. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 325–395. (Mirko Primc) **99d:81047** 81R10 (11B65, 11Z05, 81T40, 82B23)

— (*with* Berkovich, Alexander) Rogers-Ramanujan identities: a century of progress from mathematics to physics. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 163–172 (*electronic*). (Anne Schilling) **99f:11137** 11P82 (01A60, 11-03, 82B23)

— (*with* Berkovich, Alexander; Pearce, Paul A.) The perturbations $\varphi_{2,1}$ and $\varphi_{1,5}$ of the minimal models $M(p, p')$ and the trinomial analogue of Bailey's lemma. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 597–625. (Anne Schilling) **99g:81195** 81T40 (11P82)

McCoy, John J. (*with* Steinberg, Ben Zion) A multiresolution study of effective properties of complex electromagnetic systems. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 7, 971–981. (Summary) **99c:78016** 78A45 (78-08)

McCoy, Robert A. (*with* Di Maio, G.; Holá, Ľubica; Holý, D.) Topologies on the space of continuous functions. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 77–91 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54C35 (54C05, 54E05, 54E15, 54E35)

— (*with* Di Maio, G.; Holá, Ľubica; Holý, D.) Topologies on the space of continuous functions. (English summary) *Topology Appl.* **86** (1998), *no.* 2, 105–122. (S. A. Peregudov) **99c:54020** 54C35 (54E05, 54E15)

McCoy, T. L. A principle of O. Szász and the Sendov-Ilyeff problem for polynomials near $z^n - 1$. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 2, 121–155. (Summary) **99b:30005** 30C15

McCracken, Michael W. (*with* West, Kenneth D.) Regression-based tests of predictive ability. (English summary) Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 817–840. (Summary) **99k:62131** 62J05

McCranie, Judson S. (*with* Hurd, Spencer P.) Small integer labels for Egyptian and super-Egyptian graphs. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 77–84. (*see* **99i:00022**) 05C78

McCready, Mark J. (*with* King, Michael R.; Leighton, David T., Jr.) Stability of oscillatory two-phase Couette flow: theory and experiment. (English summary) *Phys. Fluids* **11** (1999), *no.* 4, 833–844. 76E99 (76V05)

McCrory, Clint (*with* Adams, Malcolm R.; Shifrin, T.; Varley, Robert) Conic Lagrangian singularities. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 155–178. (Stanisław Janeczko) **99i:57049** 57R45 (58F05)

— *see also* **Symplectic, contact and low-dimensional topology, 99b:00020**

McCrosky, Carl (*with* Wang, Yuke) Solving Boolean equations using ROSOP forms. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 171–177. (Summary) **99c:94075** 94C10

McCrudden, Michael An introduction to the embedding problem for probabilities on locally compact groups. *Positivity in Lie theory: open problems*, 147–164, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (S. G. Dani) **99i:60015** 60B15 (43A05, 60E07)

McCulloch, J. Huston Financial applications of stable distributions. *Statistical methods in finance*, 393–425, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:60026** 60E07 (90A09)

McCullough, Darryl (*with* Hatcher, Allen) Finiteness of classifying spaces of relative diffeomorphism groups of 3-manifolds. (English summary) *Geom. Topol.* **1** (1997), 91–109 (*electronic*). (Summary) **99j:57018** 57N10 (55R35)

McCullough, Scott (*with* Clancy, Robert S.) Projective modules and Hilbert spaces with a Nevanlinna-Pick kernel. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3299–3305. (Sarah H. Ferguson) **99a:47014** 47A20 (46E20, 46H25, 46J15, 47A57, 47B37)

McCune, William 33 basic test problems: a practical evaluation of some paramodulation strategies. *Automated reasoning and its applications*, 71–114, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 68T15 (03B35)

McCusker, Guy (*with* Abramsky, Samson) Linearity, sharing and state: a fully abstract game semantics for IDEALIZED ALGOL with active expressions. (English summary) *ALGOL-like languages, Vol.* 2, 297–329, *Progr. Theoret. Comput. Sci., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **99f:68129** 68Q55 (68N15)

— Games and definability for FPC. (English summary) *Bull. Symbolic Logic* **3** (1997), *no.* 3, 347–362. (Harold Schellinx) **99f:03015** 03B40 (03F50)

— (*with* Abramsky, Samson; Honda, Kohei) A fully abstract game semantics for general references. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 334–344, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68N15

McCutcheon, R. (*with* Bergelson, Vitaly) Recurrence for semigroup actions and a non-commutative Schur theorem. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 205–222, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (G. R. Goodson) **99f:28022** 28D05 (54H20)

McDaniel, Andrew (*with* Smolinsky, Lawrence) Lax equations, weight lattices, and Prym-Tjurin varieties. *Acta Math.* **181** (1998), *no.* 2, 283–305. (V. V. Chueshev) **99k:14047** 14H40 (17B10, 58F07)

McDaniel, Wayne L. (*with* Ribenboim, Paulo) Squares in Lucas sequences having an even first parameter. *Colloq. Math.* **78** (1998), *no.* 1, 29–34. (Péter Kiss) **99j:11019** 11B39

— (*with* Ribenboim, Paulo) Square-classes in Lucas sequences having odd parameters. (English summary) *J. Number Theory* **73** (1998), *no.* 1, 14–27. (Péter Kiss) **99j:11017** 11B39

— Perfect squares in the sequence 3, 5, 7, 11, ···. (English summary) *Portugal. Math.* **55** (1998), *no.* 3, 349–353. (Péter Kiss) **99j:11018** 11B39

McDermott, Aidan (*with* Ellis, Graham J.) Tensor products of prime-power groups. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 2, 119–128. (E. F. Robertson) **99g:20049** 20E22 (20D60, 20J05)

McDermott, Michael P. (*with* Wang, Yining) A conditional test for a non-negative mean vector based on a Hotelling's T^2-type statistic. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 64–70. (M. S. Srivastava) **99j:62080** 62H15

McDermott, Moira A. Strongly bounded rings. *J. Algebra* **199** (1998), *no.* 2, 690–702. (Jürgen Ribbe) **99c:13006** 13A35 (13B22, 13B30)

— Regular closure. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1975–1979. (Ian M. Aberbach) **99j:13004** 13A99 (13A35, 13H99)

McDiarmid, Colin A random bit-flipping method for seeking agreement. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 2, 121–130. (Kevin Lawrence McAvaney) **99a:05050** 05C15

— Probability. (English summary) *Graph connections*, 194–207, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 05C80 (60C05)

— (*with* Frieze, Alan M.) Algorithmic theory of random graphs. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 5–42. (Mark R. Jerrum) **99c:05177** 05C80 (05C85, 68Q25, 68R10)

— (*with* Johnson, Theodore; Stone, Harold S.) On finding a minimum spanning tree in a network with random weights. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 187–204. (Andrzej Ruciński) **99f:68161** 68R10 (05C05, 05C85)

— (*with* Reed, Bruce A.) Colouring proximity graphs in the plane. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 123–137. (Qiao Li) **99m:05063** 05C15

— *see also* **Probabilistic methods for algorithmic discrete mathematics, 99i:05003**

McDonald, David R. (*with* Huang, Alan) Connection admission control for constant bit rate traffic at a multi-buffer multiplexer using the oldest-cell-first discipline. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 1, 1–16. (Summary) **99f:60158** 60K25

— (*with* Qian, Kun) An approximation method for complete solutions of Markov-modulated fluid models. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 3-4, 365–384. (Summary) **99i:60170** 60K30

McDonald, J. J. *see* **McDonald, Judith J.**

McDonald, James B. Probability distributions for financial models. *Statistical methods in finance*, 427–461, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:60023** 60E05 (62E10, 90A09)

McDonald, Judith J. (*with* Olesky, D. Dale; Schneider, Hans; Tsatsomeros, Michael J.; van den Driessche, P.) Z-pencils. (English summary) *Electron. J. Linear Algebra* **4** (1998), 32–38 (*electronic*). (Ronald L. Smith) **99h:15013** 15A22 (05C50, 15A48)

— (*with* Krupnik, Mark) Hereditary properties of matrices with cut-points. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 1–17. (Summary) **99h:05084** 05C50 (15A03, 15A18)

— (*with* Nabben, Reinhard; Neumann, Michael; Schneider, Hans; Tsatsomeros, Michael J.) Inverse tridiagonal Z-matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 75–97. (Summary) **99i:15037** 15A57 (15A09)

— (*with* Schneider, Hans) Block LU factorizations of M-matrices. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 109–130. (Jin Xi Zhao) **99g:65036** 65F05

McDonald, Michael A. (*with* Venakides, Stephanos) Renormalization of the τ-functions for integrable systems: a model problem. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 8, 937–966. (Alexey V. Samokhin) **99d:58087** 58F07 (35Q58, 70K99)

McDonald, N. Robb The time-dependent behaviour of a spinning disc on a rotating planet: a model for geophysical vortex motion. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 3-4, 253–272. (Summary) **99k:76037** 76C05 (76U05, 86A10)

— The decay of cyclonic eddies by Rossby wave radiation. (English summary) *J. Fluid Mech.* **361** (1998), 237–252. (Summary) **99c:76027** 76C20 (86A05)

— The motion of an intense vortex near topography. (English summary) *J. Fluid Mech.* **367** (1998), 359–377. (Summary) **99e:76020** 76C05 (76U05, 86A05)

McDonald, Patrick (*with* Kinateder, Kimberly K. J.; Miller, David F.) Exit time moments, boundary value problems, and the geometry of domains in Euclidean space. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 4, 469–487. (Ming Liao) **99h:60151** 60J60 (58G32, 60J65)

— (*with* Kinateder, Kimberly K. J.) Variational principles for average exit time moments for diffusions in Euclidean space. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2767–2772. (Fuqing Gao) **99m:60121** 60J60 (58G32)

McDonald, Robert J. (*with* Sri Namachchivaya, N.) Global dynamics in gyroscopic and aeroelastic systems. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 471–482, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (Alexander P. Seyranian) **99j:70030** 70K99 (34C23, 70F99, 73K70)

McDonough, James On intrinsic errors in turbulence models based on Reynolds-averaged Navier-Stokes equations. (English summary) *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 2, 27–55. (Summary) **99c:76056** 76F99

McDougall, Robert A generalisation of the lower radical class. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 139–146. (R. L. Tangeman) **99k:16044** 16N80

McDougall, Trevor J. Three-dimensional residual-mean theory. (English summary) *Ocean modeling and parameterization (Les Houches, 1998)*, 269–302, *NATO Sci. Ser. C Math. Phys. Sci.*, 516, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:86008** 86A05 (76C05, 76V05)

McDowell, Eric L. Absolute fixed point sets for multi-valued maps. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3733–3741. (L. E. Ward, Jr.) **99b:54027** 54C60 (54H25)

McDuff, Dusa Recent developments in symplectic topology. *European Congress of Mathematics, Vol. II (Budapest, 1996)*, 28–42, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (Hansjörg Geiges) **99i:58061** 58F05 (53C15, 57R15, 58D05, 58E05)

— (*with* Lalonde, François; Polterovich, Leonid) On the flux conjectures. (English summary) *Geometry, topology, and dynamics (Montreal, PQ, 1995)*, 69–85, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Miguel T. Abreu) **99e:58025** 58D05 (58F05)

— From symplectic deformation to isotopy. (English summary) *Topics in symplectic 4-manifolds (Irvine, CA, 1996)*, 85–99, *First Int. Press Lect. Ser., I, Internat. Press, Cambridge, MA*, 1998. (Paolo Lisca) **99j:57025** 57R15 (57R52, 57R57)

— Fibrations in symplectic topology. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 339–357 (*electronic*). (Miguel T. Abreu) **99j:57034** 57R57 (57R15)

— Symplectic structures—a new approach to geometry. *Notices Amer. Math. Soc.* **45** (1998), *no.* 8, 952–960. (Karl Friedrich Siburg) **99e:57040** 57R15 (53C15, 58F05)

— Symplectic topology and capacities. *Prospects in mathematics (Princeton, NJ, 1996)*, 69–81, *Amer. Math. Soc., Providence, RI*, 1999. (Miguel T. Abreu) **99k:57069** 57R57 (57R15, 58F05)

McDunnough, Philip (*with* Fraser, Donald A. S.; Naderi, Amir; Plante, André) From the likelihood map to Euclidean minimal sufficiency. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 223–230 (19*N*). (Dieter Mussmann) **99e:62007** 62B05 (62A10)

— (*with* Cakmak, S.; Fraser, Donald A. S.; Reid, N.; Yuan, Xiaojin) Likelihood centered asymptotic model exponential and location model versions. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 211–222. (Summary) **99g:62019** 62F03

McElroy, F. W. Comparative convexity. *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 277–289. (Andrea Colesanti) **99k:26012** 26A51

McElwain, D. L. S. (*with* Liu, Fa Wang; Donskoi, E.) The use of a modified Petrov-Galerkin method for gas-solid reaction modelling. (English summary) *IMA J. Appl. Math.* **61** (1998), *no.* 1, 33–46. (Summary) **99g:80001** 80-08 (80A32)

— (*with* McNabb, A.; Please, C. P.) Spontaneous combustion in coal pillars: buoyancy and oxygen starvation. (English summary) *Math. Engrg. Indust.* **7** (1999), *no.* 3, 283–300. (Summary) **99k:80011** 80A25 (76S05)

McEneaney, William M. A uniqueness result for the Isaacs equation corresponding to nonlinear H_∞ control. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 4, 303–334. (Joseph A. Ball) **99k:93046** 93B36 (49L25)

— Robust/H_∞ filtering for nonlinear systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 5, 315–325. (Nina N. Subbotina) **99e:93082** 93E11 (93B36)

McFadden, G. B. (*with* Anderson, Daniel Michael; Wheeler, A. A.) Diffuse-interface methods in fluid mechanics. (English summary) *Annual review of fluid mechanics, Vol. 30*, 139–165, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (Summary) **99a:76048** 76D99

McFadden, Robert B. (*with* Levi, Inessa) The shape of $\mathscr{D}$-classes in S_n-normal semigroups. (English summary) *Proceedings of the Tennessee Topology Conference (Nashville, TN, 1996)*, 111–119, *World Sci. Publishing, River Edge, NJ*, 1997. (T. Tamura) **99f:20099** 20M20

— (*with* Cheng, Raymond; Dasgupta, Abhijit; Ebanks, Bruce R.; Kinch, L. F.; Larson, L. M.) When does $f^{-1} = 1/f$? *Amer. Math. Monthly* **105** (1998), *no.* 8, 704–717. (James Foran) **99h:39026** 39B22 (30C35, 39B32)

McFarlane, Duncan C. (*with* Petersen, Ian R.; Rotea, Mario A.) Optimal guaranteed cost control of discrete-time uncertain linear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 649–657. (Andrzej Świerniak) **99f:93092** 93C55 (49N35, 93C41)

McFarlane, Isobel (*with* Gomatam, Jagannathan) Generalisation of the Mandelbrot set to integral functions of quaternions. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 107–116. (Summary) **99k:30041** 30D05 (15A33, 30G35)

McGee, Vann The complexity of the modal predicate logic of "true in every transitive model of ZF". *J. Symbolic Logic* **62** (1997), *no.* 4, 1371–1378. (M. S. Burgin) **99j:03013** 03B45 (03D15, 03E30)

McGibbon, C. A. Some problems about phantom maps. (English summary) *Stable and unstable homotopy (Toronto, ON, 1996)*, 241–250, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Jesper M. Møller) **99h:55016** 55P99 (55Q05)

McGilchrist, C. A. (*with* Matawie, K. M.) Recursive residuals in generalised linear models. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 335–344. (Holger Dette) **99i:62161** 62J12

McGill, William James *see* **Link, Stephen**

McGillivray, Ivor (*with* Demuth, Michael; Noll, A.) Capacity and spectral theory. *Spectral theory, microlocal analysis, singular manifolds*, 12–77, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Zhong Xin Zhao) **99f:31007** 31A35 (35J99, 47D07, 47F05, 60J45)

— On critical and subcritical semigroups. (English summary) *Univ. Iagel. Acta Math. No.* 34 (1997), 71–79. (Peter Stollmann) **99b:47060** 47D07 (35J10, 47F05)

McGloin Knoll, C. (*with* Deo, S. G.) kth order convergence of an iterative method for integro-differential equations. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 2, 191–200. (Iulian Coroian) **99h:45012** 45J05 (45L05, 65R20)

McGough, Jeff S. Nonexistence and uniqueness in semilinear elliptic systems. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 157–176. (Summary) **99f:35059** 35J65 (35J55)

McGrath, J. L. (*with* Fernando, Harindra J. S.; Hunt, J. C. R.) Turbulence, waves and mixing at shear-free density interfaces. II. Laboratory experiments. (English summary) *J. Fluid Mech.* **347** (1997), 235–261. (From the summary) **99i:76071b** 76F99 (76-05)

McGregor, Malcolm T. On an inequality of Horst Alzer. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 161–164. (Summary) **99c:26018** 26D15

— On a generalized Wiener-Hopf integral equation. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 4, 273–278. (N. K. Karapetyants) **99a:45007** 45E10

McGrew, J. Michael (*with* Bagga, Jay S.; Emert, John W.) Directed polygon visibility graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 61–67. (Summary) **99j:05079** 05C20

McGuinness, Deborah L. (*with* Baader, Franz; Borgida, Alex) Matching in description logics: preliminary results. (English summary) *Conceptual structures: theory, tools and applications (Montpellier, 1998)*, 15–34, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (*see* **99h:68003**) 68T30 (68Q25)

McGuinness, Sean (*with* Goddyn, Luis A.; van den Heuvel, Jan) Removable circuits in multigraphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 130–143. (Bradley W. Jackson) **99c:05113** 05C38 (05C40)

McGuire, Gary (*with* Ward, Harold N.) The weight enumerator of the code of the projective plane of order 5. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 63–77. (Summary) **99j:94068** 94B05 (51E15)

— (*with* Ward, Harold N.) Characterization of certain minimal rank designs. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 42–56. (Vladimir D. Tonchev) **99c:05026** 05B05

McHugh, P. R. (*with* Knoll, D. A.) Enhanced nonlinear iterative techniques applied to a nonequilibrium plasma flow. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 291–301 (*electronic*). (*see* **99a:65007**) 65N22 (65M99, 76M25, 76X05)

McIlroy, M. Douglas (*with* Savicki, Joseph P.) Isomorphism of classical rearrangeable networks. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 147–155, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C10

McIlroy, Paul (*with* Williams, David) The OK Corral and the power of the law (a curious Poisson-kernel formula for a parabolic equation). *Bull. London Math. Soc.* **30** (1998), *no.* 2, 166–170. (Bożenna Pasik-Duncan) **99d:60028** 60F05

McInerney, S. J. (*with* Pugh, A. C.; Boudellioua, M. S.; Johnson, Dean Spencer; Hayton, G. E.) A transformation for 2-D linear systems and a generalization of a theorem of Rosenbrock. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 491–503. (Summary) **99h:93059** 93C30 (93B25)

— (*with* Pugh, A. C.; Boudellioua, M. S.; Hayton, G. E.) Matrix pencil equivalents of a general 2-D polynomial matrix. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1027–1050. (T. Kaczorek) **99j:93023** 93B25 (15A22, 93C55)

McInnes, Brett Existence of parallel spinors on nonsimply connected Riemannian manifolds. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2362–2366. (Hans-Bert Rademacher) **99a:53060** 53C25

— Methods of Alice physics. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3607–3623. (S. Timothy Swift) **99d:53024** 53C07 (53C80, 81T13)

McInnes, Lois C. (*with* Susan-Resiga, Romeo F.; Keyes, David E.; Atassi, Hafiz M.) Additive Schwarz methods with nonreflecting boundary conditions for the parallel computation of Helmholtz problems. *Domain decomposition methods*, 10 (*Boulder, CO, 1997*), 325–333, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65N30, 65Y05)

McIntosh, Alan G. R. (*with* Auscher, Pascal; Nahmod, Andrea R.) The square root problem of Kato in one dimension, and first order elliptic systems. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 659–695. (Yehuda Pinchover) **99e:47061** 47F05 (35J15, 47A60, 47B25, 47E05)

— (*with* Li, Chun[2]; Zhang, Ke Wei[1]; Wu, Zhi Jian[1]) Compensated compactness, paracommutators, and Hardy spaces. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 289–306. (Loukas Grafakos) **99c:42038** 42B30 (46E15)

— (*with* Jefferies, Brian) The Weyl calculus and Clifford analysis. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 329–341. (Vladimir V. Kisil) **99e:47022** 47A60 (30G35, 46H30, 47A13, 47B25)

— (*with* Franks, Edwin) Discrete quadratic estimates and holomorphic functional calculi in Banach spaces. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 271–290. (Christian Le Merdy) **99j:47017** 47A60 (30A99, 47A13)

— (*with* Albrecht, David; Franks, Edwin) Holomorphic functional calculi and sums of commuting operators. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 291–305. (Christian Le Merdy) **99j:47018** 47A60 (47A13)

— (*with* Auscher, Pascal; Tchamitchian, Philippe) Heat kernels of second order complex elliptic operators and applications. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 22–73. (Yehuda Pinchover) **99e:47062** 47F05 (35J15, 47A60)

McIntosh, Ian On the existence of superconformal 2-tori and doubly periodic affine Toda fields. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 3, 223–243. (Martin A. Guest) **99a:58048** 58E20 (58F07)

McIntosh, J. G. (*with* Leslie, F. M.; Sloan, D. M.) Stability for shearing flow of nematic liquid crystals. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 5, 293–308. (Paolo Biscari) **99m:76006** 76A15 (76E99)

McIntosh, Richard J. (*with* Gordon, Basil) Algebraic dilogarithm identities. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 431–448. (John H. Loxton) **99b:11010** 11B65 (33D15, 41A60)

— Asymptotic transformations of q-series. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 412–425. (George E. Andrews) **99k:33049** 33D10 (11B65)

McIntyre, D. W. (*with* Knight, R. W.; Gartside, P. M.) All finite distributive lattices occur as intervals between Hausdorff topologies. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 167–172 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54A10 (06D05, 54D80)

— (*with* Watson, W. Stephen) Basic intervals in the partial order of metrizable topologies. (English summary) *Topology Appl.* **83** (1998), *no.* 3, 213–230. (Judith Roitman) **99c:54006** 54A10 (06A15, 54E35)

McIntyre, M. E. (*with* Eames, Ian) On the connection between Stokes drift and Darwin drift. (English summary) *Math. Proc. Cambridge Philos. Soc.* **126** (1999), *no.* 1, 171–174. (From the introduction) **99m:76031** 76B99 (76D99, 76S05, 76V05)

McIver, Annabelle (*with* Morgan, Carroll C.) A probabilistic temporal calculus based on expectations. (English summary) *Formal Methods Pacific '97* (*Wellington*), 4–22, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99b:68121** 68Q60 (03B45)

McIver, M. (*with* Linton, C. M.) Trapped modes in cylindrical waveguides. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 389–412. (Summary) **99e:76108** 76Q05

— (*with* McIver, P.; Linton, C. M.) Construction of trapped modes for wave guides and diffraction gratings. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2593–2616. (Summary) **99h:78017** 78A40 (76B15, 76Q05, 78A45, 78A50)

McIver, P. (*with* Kuznetsov, N. G.) On uniqueness and trapped modes in the water-wave problem for a surface-piercing axisymmetric body. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 4, 565–580. (Summary) **99j:76011** 76B15 (35Q35)

— The dispersion relation and eigenfunction expansions for water waves in a porous structure. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 3, 319–334. (Summary) **99g:76017** 76B15 (34L40, 76S05)

— (*with* Linton, C. M.; McIver, M.) Construction of trapped modes for wave guides and diffraction gratings. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2593–2616. (Summary) **99h:78017** 78A40 (76B15, 76Q05, 78A45, 78A50)

— (*with* Rawlins, A. D.) Diffraction by a thick half-plane with an absorbent end face. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3167–3182. (Summary) **99h:76084** 76Q05

— (*with* Linton, C. M.) Acoustic resonances in the presence of radial fins in circular cylindrical waveguides. (English summary) *Wave Motion* **28** (1998), *no.* 2, 99–117. (Summary) **99e:76109** 76Q05

McKane, Alan (*with* Goldenfeld, Nigel; Hou, Qing) Block spins for partial differential equations. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 699–714. (Summary) **99i:82029** 82C28 (65M99)

McKay, Brendan D. (*with* Wormald, Nicholas C.) The degree sequence of a random graph. I. The models. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 2, 97–117. (Zbigniew Palka) **99b:05127** 05C80

— (*with* Myrvold, Wendy; Nadon, Jacqueline) Fast backtracking principles applied to find new cages. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 188–191, *ACM, New York*, 1998. (*see* **99d:68011**) 68T20 (05C85, 68R10)

— (*with* Aldred, R. E. L.) Graceful and harmonious labellings of trees. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 69–72. (Summary) **99c:05170** 05C78 (05C05)

— (*with* Wanless, I. M.) Maximising the permanent of (0, 1)-matrices and the number of extensions of Latin rectangles. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 11, 20 *pp.* (*electronic*). (Peter M. Gibson) **99a:05019** 05B15 (05C70, 15A15)

— (*with* Miller, Mirka; Širáň, Jozef) A note on large graphs of diameter two and given maximum degree. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 110–118. (Summary) **99c:05108** 05C35

McKay, G. (*with* Leslie, F. M.) A continuum theory for smectic liquid crystals allowing layer dilation and compression. (English summary) Mathematical models of liquid crystals (Durham, 1995). *European J. Appl. Math.* **8** (1997), *no.* 3, 273–280. (Summary) **99f:76014** 76A15 (82D30)

— Onset of double-diffusive convection in a saturated porous layer with time-periodic surface heating. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 4, 241–251. (Summary) **99d:76036** 76E15 (76S05)

McKay, John (*with* Conway, John H.; Hulpke, Alexander) On transitive permutation groups. (English summary) *LMS J. Comput. Math.* **1** (1998), 1–8 (*electronic*). (D. F. Holt) **99g:20011** 20B05 (20B40)

Mckay, Steven M. (*with* Weingartner, Cecilia L.) Solution of the Sharpe-Lotka population model via a modified method of characteristics. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 161–177. (Summary) **99c:92044** 92D25 (35Q80, 65M25)

McKeague, Ian W. (*with* van der Laan, Mark J.) Efficient estimation from right-censored data when failure indicators are missing at random. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 164–182. (Niels Keiding) **99c:62104** 62G05 (62F12, 62P10)

McKean, H. P. A quick proof of Riemann's mapping theorem. *Comm. Pure Appl. Math.* **52** (1999), *no.* 3, 405–409. (F. W. Stallmann) **99i:30013** 30C35 (30C20)

— Variations on a theme of M. G. Kreĭn. *Comm. Pure Appl. Math.* **52** (1999), *no.* 4, 453–459. (Introduction) **99m:34191** 34L05

— *see also* **Levinson, Norman, 99d:01039a**

McKean, Joseph W. (*with* Hettmansperger, Thomas P.; Sheather, Simon J.) Rank-based analyses of linear models. *Robust inference*, 145–173, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62G10 (62J05)

— (*with* Hettmansperger, Thomas P.) ★ Robust nonparametric statistical methods. (English summary) Kendall's Library of Statistics, 5. *Edward Arnold, London*; *copublished by John Wiley & Sons, Inc., New York*, 1998. xiv+467 *pp. ISBN* 0-340-54937-8; 0-471-19479-4 (Xuming He) **99c:62075** 62Gxx

McKee, James A note on the number of divisors of quadratic polynomials. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 275–281, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (D. R. Heath-Brown) **99d:11106** 11N37 (11E41, 11N32)

McKee, Sean (*with* Popenda, Jerzy) On the existence of asymptotically constant solutions of a system linear difference equations. (English summary) *Fasc. Math. No.* 28 (1998), 109–117. (Summary) **99i:39011** 39A10

— (*with* Merino, Sandro; Grinfeld, Michael) A degenerate reaction diffusion system modelling an optical biosensor. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 1, 46–85. (Arnaldo do Nascimento) **99b:35095** 35K57 (34G20, 35B40, 92J30)

— (*with* Hyland, K. E.; Reeks, M. W.) Exact analytic solutions to turbulent particle flow equations. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1249–1261. (Summary) **99m:76072** 76F99 (76M35)

McKee, Terry A. Graph structure for inclusion-exclusion equalities. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 121–126. (Summary) **99j:05002** 05A05

— (*with* Lin, In-Jen; West, Douglas B.) The leafage of a chordal graph. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 23–48. (Dieter Kratsch) **99i:05180** 05C75 (05C05, 05C35)

— F-free interval graphs. (English summary) *Util. Math.* **53** (1998), 147–158. (Summary) **99a:05135** 05C85 (05C75)

— An inequality characterizing chordal graphs. (English summary) *Ars Combin.* **51** (1999), 121–127. (Summary) **99j:05112** 05C35

McKellar, Bruce H. J. (*with* Fried, H. M.; Gabellini, Y.) A functional approach to chaos in quantum field theory. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 192–195, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 81T15

McKellar, D. (*with* Chayes, L.; Winn, B.) Percolation and Gibbs states multiplicity for ferromagnetic Ashkin-Teller models on $\mathbf{Z}^2$. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9055–9063. (Giambattista Giacomin) **99k:82038** 82B43 (60K35)

McKellips, A. L. (*with* Campbell, L. L.; Wittke, P. H.) Correction: "Distributions and expectations of singular random variables" [J. Appl. Probab. **32** (1995), no. 4, 1032–1040; MR 96m:60046]. *J. Appl. Probab.* **35** (1998), *no.* 1, 253. (From the text) **99b:60031** 60E99 (94A40)

McKelvey, Robert Game-theoretic insights into the international management of fisheries. (English summary) *Natur. Resource Modeling* **10** (1997), *no.* 2, 129–171. (Summary) **99c:90037** 90A53 (90D80)

McKenna, P. J. (*with* Choi, Yung Sze; Lazer, Alan C.) Some remarks on a singular elliptic boundary value problem. *Nonlinear Anal.* **32** (1998), *no.* 3, 305–314. (Andrea Colesanti) **99a:35085** 35J65 (34B15)

— Large torsional oscillations in suspension bridges revisited: fixing an old approximation. *Amer. Math. Monthly* **106** (1999), *no.* 1, 1–18. (Yuri V. Mikhlin) **99m:70017** 70K40 (73K12)

— (*with* Yew, A. C.; Champneys, A. R.) Multiple solitary waves due to second-harmonic generation in quadratic media. (English summary) *J. Nonlinear Sci.* **9** (1999), *no.* 1, 33–52. (Summary) **99i:78025** 78A60 (34C37, 35Q51)

McKenna, Patricia A. (*with* Fisher, David C.; Boyer, Elizabeth D.) Hamiltonicity, diameter, domination, packing, and biclique partitions of Mycielski's graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 93–105. (Jerrold W. Grossman) **99f:05089** 05C70 (05C15, 05C35, 05C45, 05C50)

McKenzie, Pierre (*with* Jenner, Birgit; Torán, Jacobo) A note on the hardness of tree isomorphism. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 101–105, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q25 (68Q15)

— (*with* Caussinus, Hervé; Thérien, Denis; Vollmer, Heribert) Nondeterministic NC^1 computation. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 200–212. (Summary) **99m:68059** 68Q15

McKenzie, Ralph Nelson (*with* Kaarli, Kalle) Affine complete varieties are congruence distributive. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 329–354. (Ewa Graczyńska) **99m:08010** 08A40 (08A30)

McKenzie, Thomas Weakly Henselian rings. *Math. J. Okayama Univ.* **38** (1996), 47–51 (1998). (Giuseppe Paxia) **99g:13034** 13J15 (13B40)

— The separable closure of a local ring. *J. Algebra* **207** (1998), *no.* 2, 657–663. (F. DeMeyer) **99g:13006** 13B02 (13B05, 13J15)

McKenzie-Smith, J. J. (*with* Toms, D. J.) ζ-function regularization, the multiplicative anomaly, and finite temperature quantum field theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105001, 10 *pp.* 81T16 (81T50)

McKeon, D. G. C. Path integrals and loop calculations in thermal field theory. (English summary) *Path integrals: Dubna '96*, 127–132, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40 (81T99)

— Summing logarithms in quantum field theory: the renormalization group. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 817–826. (Summary) **99a:81113** 81T17

— (*with* Dilkes, F. A.) The superconformal particle. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 5, 761–767. (Gagik T. Ter-Kazarian) **99m:81247** 81T60 (81T30)

McKernan, James (*with* Keel, Seán) Rational curves on quasi-projective surfaces. (English summary) *Mem. Amer. Math. Soc.* **140** (1999), *no.* 669, *viii*+153 *pp.* (Alessio Corti) **99m:14068** 14J26 (14B10, 14E20, 14E30)

McKinnon, K. I. M. (*with* Hall, J. A. J.) ASYNPLEX, an asynchronous parallel revised simplex algorithm. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 27–49. (*see* **99b:90006**) 90C05 (65Y05)

— (*with* Mongeau, Marcel) A generic global optimization algorithm for the chemical and phase equilibrium problem. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 325–351. (V. I. Bykov) **99f:90187** 90C90 (90C30)

— Convergence of the Nelder-Mead simplex method to a nonstationary point. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 148–158 (*electronic*). (John J. Dinkel) **99j:90082** 90C30 (65K05)

McKinstrie, C. J. (*with* Kanaev, A. V.) Exact Green's function for a class of parametric instabilities. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4511–4514. (Summary) **99g:76158** 76X05 (78A99)

— (*with* Giacone, R. E.; Startsev, E. A.) Accurate formulas for the Landau damping rates of electrostatic waves. (English summary) *Phys. Plasmas* **6** (1999), *no.* 2, 463–466. (Summary) **99j:76147** 76X05

McKinzie, Mark (*with* Tuckey, Curtis) Hidden lemmas in Euler's summation of the reciprocals of the squares. *Arch. Hist. Exact Sci.* **51** (1997), *no.* 1, 29–57. (Herman J. J. te Riele) **99c:11003** 11-03 (01A50, 11Y60, 26-03)

McLachlan, Geoffrey J. (*with* Peel, David) Robust cluster analysis via mixtures of multivariate t-distributions. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 658–666, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62H30

McLachlan, Robert I. (*with* Gray, Stephen K.) Optimal stability polynomials for splitting methods, with application to the time-dependent Schrödinger equation. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 275–286. (George W. Reddien) **99b:65082** 65L05 (65L20, 65M12)

— (*with* Quispel, G. R. W.) Generating functions for dynamical systems with symmetries, integrals, and differential invariants. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 298–309. (Benedict J. Leimkuhler) **99b:58098** 58F05 (58F35, 65L06, 70–08, 70H05)

— (*with* Dupont, F.; Zeitlin, Vladimir) On a possible mechanism of anomalous diffusion by Rossby waves. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3185–3193. (Summary) **99g:76027** 76C20 (58F40, 76U05, 86A05, 86A10)

— (*with* Quispel, G. R. W.; Robidoux, Nicolas) Unified approach to Hamiltonian systems, Poisson systems, gradient systems, and systems with Lyapunov functions or first integrals. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 12, 2399–2403. (Summary) **99f:58079** 58F05 (34A34)

— (*with* Quispel, G. R. W.; Turner, G. S.) Numerical integrators that preserve symmetries and reversing symmetries. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 586–599 (*electronic*). (Werner M. Seiler) **99b:65083** 65L05 (34A50, 70–08, 70H33)

McLain, Timothy W. (*with* Beard, Randal W.) Successive Galerkin approximation algorithms for nonlinear optimal and robust control. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 717–743. (Fabio Camilli) **99j:49059** 49L20 (93B36, 93B40)

McLaren, Christopher (*with* Herzog, Jonathan; Godbole, Anant P.) Generalized k-matches. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 167–175. (Lars Holst) **99f:60018** 60C05 (60F05)

McLaughlin, D. A. (*with* Brylinski, Jean-Luc) The converse of the Segal-Witten reciprocity law. *Internat. Math. Res. Notices* **1996,** *no.* 8, 371–380. (Alan L. Carey) **99c:58026** 58D29 (22E67, 58B25)

McLaughlin, D. J. (*with* Lamb, Wilson; McBride, A. C.) Existence results for non-autonomous multiple-fragmentation models. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 15, 1313–1323. (Pavel Dubovskiĭ) **99b:45006** 45K05 (35Q99, 47D06, 80A99, 86A10)

— (*with* Lamb, Wilson; McBride, A. C.) A semigroup approach to fragmentation models. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1158–1172. (Hassan Emamirad) **99i:35166** 35Q99 (35F10, 45K05, 47D06, 47N20, 80A30)

— (*with* Lamb, Wilson; McBride, A. C.) An existence and uniqueness result for a coagulation and multiple-fragmentation equation. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1173–1190. (Hassan Emamirad) **99i:35167** 35Q99 (35F25, 45K05, 47D06, 47N20, 80A30)

— (*with* Lamb, Wilson; McBride, A. C.) Existence and uniqueness results for the non-autonomous coagulation and multiple-fragmentation equation. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 11, 1067–1084. (Hassan Emamirad) **99i:35168** 35Q99 (35F10, 45K05, 47N20, 80A30)

McLaughlin, David W. (*with* Shatah, Jalal) Homoclinic orbits for PDE's. (English summary) *Recent advances in partial differential equations, Venice* 1996, 281–299, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Satyanad Kichenassamy) **99b:58218** 58F39 (34C37, 35B99, 35Q51, 58F07, 58F30)

— (*with* Jin, Shan; Levermore, C. David) The semiclassical limit of the defocusing NLS hierarchy. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 5, 613–654. (Nakao Hayashi) **99m:35232** 35Q55 (81Q20)

— (*with* Cai, David; Shatah, Jalal) Spatiotemporal chaos and effective stochastic dynamics for a near-integrable nonlinear system. (English summary) *Phys. Lett. A* **253** (1999), *no.* 5-6, 280–286. (Summary) **99m:58175** 58F39 (58F13)

McLaughlin, Joyce R. (*with* Sacks, Paul E.; Somasundaram, M.) Inverse scattering in acoustic media using interior transmission eigenvalues. *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 357–374, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (I. Kay) **99b:35217** 35R30 (34A55, 34L25, 35J05, 76Q05)

— (*with* Wang, Shixiao) Recovery of a vertically stratified seabed in shallow water. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 232–236, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 76Q05 (35Q35)

— (*with* Karpeshina, Yu. E.) Two methods of solution of the three-dimensional inverse nodal problem. (English summary) *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. I*, 9 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35R30 (35J25)

— (*with* Hald, Ole H.) Inverse problems: recovery of BV coefficients from nodes. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 245–273. (Vjacheslav A. Yurko) **99b:34028** 34A55 (34B24, 34L40, 73D50)

McLaughlin, K. T.-R. (*with* Deift, P.; Kriecherbauer, Thomas; Venakides, Stephanos; Zhou, Xin) Asymptotics for polynomials orthogonal with respect to varying exponential weights. *Internat. Math. Res. Notices* **1997,** *no.* 16, 759–782. (Alexander Vladimirovich Kitaev) **99g:34038** 34A55 (15A52, 34L25, 35Q53, 82B44)

— (*with* Deift, P.; Kriecherbauer, Thomas) New results for the asymptotics of orthogonal polynomials and related problems via the Lax-Levermore method. (English summary) *Recent advances in partial differential equations, Venice* 1996, 87–104, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Heinrich Begehr) **99c:31006** 31A99 (41A99, 60K99)

— (*with* Deift, P.; Kriecherbauer, Thomas; Venakides, Stephanos; Zhou, Xin) Uniform asymptotics for orthogonal polynomials. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998,** *Extra Vol. III*, 491–501 (*electronic*). (V. Totik) **99m:42038** 42C05 (45E05, 81Q99)

McLaughlin, Richard M. (*with* Forest, M. Gregory) An anelastic, scale-separated model for mixing, with application to atmospheric transport phenomena. (English summary) *Phys. Fluids* **11** (1999), *no.* 4, 880–892. (Summary) **99k:86005** 86A10 (76R99)

McLaurin, Sandra C. (*with* Berman, David R.; Smith, Douglas D.) Fairness in whist tournaments. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 189–198. (Summary) **99k:05048** 05B30

McLean, D. R. (*with* Fearn, D. R.; Lamb, C. J.; Ogden, R. R.) The influence of differential rotation on magnetic instability, and nonlinear magnetic instability in the magnetostrophic limit. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 173–200. (Summary) **99j:76045** 76E25 (76U05, 76W05, 86A25)

McLean, Richard P. (*with* Conley, John P.; Wilkie, Simon) Reference functions and possibility theorems for cardinal social choice problems. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 1, 65–78. (Wulf Gaertner) **99a:90026** 90A08 (90D12)

McLean, Robert C. Deformations and moduli of superminimal surfaces in the four-sphere. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 6, 555–569. (Knut Smoczyk) **99d:53069** 53C42 (58E20)

— Deformations of calibrated submanifolds. (English summary) *Comm. Anal. Geom.* **6** (1998), *no.* 4, 705–747. (N. J. Hitchin) **99j:53083** 53C42 (32G10, 32J18, 53C25, 58D27)

McLellan, P. J. (*with* Guay, Martin; Bacon, D. W.) A condition for dynamic feedback linearization of control-affine nonlinear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 87–106. 93B11 (93C10)

— (*with* Dadebo, S. A.; McAuley, K. B.) On the computation of optimal singular and bang-bang controls. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 4, 287–297. (Summary) **99e:49035** 49M05 (65K10)

McLenaghan, R. G. (*with* Kavian, Masoud; Geddes, K. O.) MapleTensor: a new system for performing indicial and component tensor calculations by computer. *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 269–272, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Fernando D. Sasse) **99b:83001** 83–04 (83–08)

— (*with* Walker, David McPetrie) Symmetry operators for the Weyl neutrino equation on curved spacetime. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 291–295, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99d:83074** 83C60

McLennan, Andrew *see* **Dagan, Nir et al., 99k:90045**

McLeod, J. Bryce (*with* Friesecke, G.) Dynamic stability of non-minimizing phase mixtures. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2427–2436. (Nenad Antonić) **99d:73009** 73B30 (35Q99)

— (*with* Bassom, Andrew P.; Clarkson, Peter A.; Law, Chun-Kong) Application of uniform asymptotics to the second Painlevé transcendent. (English summary) *Arch. Rational Mech. Anal.* **143** (1998), *no.* 3, 241–271. (Andrei A. Kapaev) **99g:34122** 34E20 (34A30, 34A34)

— (*with* Wang, Chie Bing) Relation between Painlevé-II ($\alpha = 0$) and Painlevé-II ($\alpha = \pm 1/2$). (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 241–247. (From the text) **99f:34007** 34A25 (34A05)

— (*with* Cheung, Leung-Fu; Law, Chun-Kong; Leung, Man Chun) Entire solutions of quasilinear differential equations corresponding to p-harmonic maps. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 701–715. (Caio J. C. Negreiros) **99g:58033** 58E20 (34B15)

McLeod, T. S. The implications of time dilation measurements on special relativity theory. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 2, 187–193. 83A05 (83B05)

M'Closkey, Robert T. An averaging theorem for time-periodic degree zero homogeneous differential equations. (English summary) *Systems Control Lett.* **32** (1997), *no.* 3, 179–183. (Matthias Kawski) **99b:34089** 34D20 (34C29, 34D05, 34H05, 93D05)

— (*with* Morin, Pascal) Time-varying homogeneous feedback: design tools for the exponential stabilization of systems with drift. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 837–869. (Paulo Sérgio Pereira da Silva) **99j:93080** 93D15 (70F25, 70Q05, 93C10, 93D20)

Mc Manus, Des (*with* Abolghasem, Hossein; Coley, Alan A.) Spherically symmetric solutions of Einstein's vacuum equations in five dimensions. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1569–1608. (Alicia M. Sintes) **99i:83082** 83E15 (53C80, 83C20)

McMaster, T. B. M. (*with* Marron, D. J.) Splittability in ordered sets and spaces. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 280–282 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54F05 (06A06)

— (*with* Matthews, Patricia Theresa) Quasiorder contexts for total negation. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 283–287 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99b:06003** 06A06 (18B30, 54A25)

— (*with* McCluskey, A. E.) Representing quasi-orders by embeddability ordering of families of topological spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1275–1279. (Marcel Erné) **99b:06002** 06A06 (54A10, 54A25, 54H10)

McMillan, Christine Alicia Equivalent conditions for the solvability of nonstandard LQ-problems with applications to partial differential equations with continuous input-output solution map. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 3, 27 *pp.* (*electronic*). (Shin-ichi Nakagiri) **99i:49038** 49N10 (47N70, 49K27, 49N35)

— Uniform stabilization of a thin cylindrical shell with rotational inertia terms. (English summary) *Optimal control (Gainesville, FL, 1997)*, 354–368, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:93039** 93C20 (73K15, 73K20)
— (*with* Bradley, Mary E.) Well-posedness for a nonlinear shallow spherical shell. *Nonlinear Anal.* **34** (1998), *no.* 3, 405–425. (Guenter Leugering) **99m:35242** 35Q72 (73K15)
McMillan, Ken (*with* Alur, Rajeev; Peled, Doron) Deciding global partial-order properties. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 41–52, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (03B45)
McMillen, Tyler (*with* Powell, James A.; White, Peter William) Connecting a chemotactic model for mass attack to a rapid integro-difference emulation strategy. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 547–572 (*electronic*). (Gabriela Kirlinger) **99j:92027** 92D50 (65C20)
McMorris, F. R. (*with* Powers, R. C.) The median function on weak hierarchies. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 265–269, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Michael A. Steel) **99c:92006** 92B10 (05C65)
— (*with* Mulder, Henry Martyn; Roberts, Fred S.) The median procedure on median graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 165–181. (Pranava K. Jha) **99f:05033** 05C12
— (*with* Wang, Chi; Zhang, Peisen) On probe interval graphs. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 315–324. (Michael A. Steel) **99k:92020** 92D20 (05C15, 05C90)
— (*with* Bock, Hans-Hermann; Day, William H. E.) Consensus rules for committee elections. (English summary) *Math. Social Sci.* **35** (1998), *no.* 3, 219–232. (Summary) **99c:90033** 90A28
McMullen, Curtis T. Self-similarity of Siegel disks and Hausdorff dimension of Julia sets. *Acta Math.* **180** (1998), *no.* 2, 247–292. (Petra Bonfert-Taylor) **99f:58172** 58F23 (28A78, 28A80, 30D05)
— (*with* Sullivan, Dennis P.) Quasiconformal homeomorphisms and dynamics. III. The Teichmüller space of a holomorphic dynamical system. *Adv. Math.* **135** (1998), *no.* 2, 351–395. (Athanase Papadopoulos) **99e:58145** 58F23 (30C62, 30D05, 30F60)
— (*with* Freedman, Michael Hartley) Elder siblings and the taming of hyperbolic 3-manifolds. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 415–428. (Athanase Papadopoulos) **99i:57031** 57M60 (30F40, 57M50)
— Rigidity and inflexibility in conformal dynamics. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 841–855 (*electronic*). (Darryl McCullough) **99h:58159a** 58F23 (30D05, 30F40, 57M50, 58F11)
— Lipschitz maps and nets in Euclidean space. *Geom. Funct. Anal.* **8** (1998), *no.* 2, 304–314. (Jie Yang) **99e:58017** 58C07 (26B35)
— Kleinian groups and John domains. (English summary) *Topology* **37** (1998), *no.* 3, 485–496. (B. H. Bowditch) **99c:20070** 20H10 (30F40, 57M60, 57S30)
— *see also* **Errata: "Rigidity and inflexibility in conformal analysis", 99h:58159b**; **Lepowsky, James et al., 99k:01066**; **Smale, Stephen, 99k:58001**; **Jackson, Allyn**; **Smale, Stephen**; **Rajan, C. S. et al.** *and* **Quirós, Adolfo**
McMullen, Peter (*with* Schulte, Egon) Flat regular polytopes. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 261–278. (Barry Monson) **99m:52014** 52B05 (51F15, 51M20)
— Isometry covariant valuations on convex bodies. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 259–271. (J. M. Wills) **99a:52016** 52B45 (52B11, 52C07)
— The groups of the regular star-polytopes. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 426–448. (H. W. Guggenheimer) **99f:52016** 52B15 (20F05)
McMurran, Shawnee (*with* Tattersall, James) Mary Cartwright (1900–1998). *Notices Amer. Math. Soc.* **46** (1999), *no.* 2, 214–220. (From the text) **99k:01067** 01A70
McNabb, A. (*with* Please, C. P.; McElwain, D. L. S.) Spontaneous combustion in coal pillars: buoyancy and oxygen starvation. (English summary) *Math. Engrg. Indust.* **7** (1999), *no.* 3, 283–300. (Summary) **99k:80011** 80A25 (76S05)
McNally, Joseph Scott (*with* Fister, K. Renee; Lenhart, Suzanne) Optimizing chemotherapy in an HIV model. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 32, 12 *pp.* (*electronic*). (Summary) **99i:92007** 92C50 (49N55)
McNamara, Guy R. (*with* Garcia, Alejandro L.; Alder, Berni J.) A hydrodynamically correct thermal lattice Boltzmann model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1111–1121. (Summary) **99f:82055** 82C40 (76P05)
McNamara, J. M. (*with* Collins, E. J.) Finite-horizon dynamic optimisation when the terminal reward is a concave functional of the distribution of the final state. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 122–136. (Jean B. Lasserre) **99a:90225** 90C40 (92D40, 93E20)
McNamara, Paul F. (*with* Mares, Edwin D.) Supererogation in deontic logic: metatheory for DWE and some close neighbours. (English summary) *Studia Logica* **59** (1997), *no.* 3, 397–415. (George F. Schumm) **99c:03022** 03B45
— (*with* Prakken, Henry) Introduction. *Norms, logics and information systems (Bologna, 1998)*, 1–14, *Frontiers Artificial Intelligence Appl.*, 49, *IOS, Amsterdam*, 1999. (*see* **99k:03014**) 03B45
— *see also* **Norms, logics and information systems, 99k:03014**
McNaughton, Robert Contributions of Ronald V. Book to the theory of string-rewriting systems. In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 13–23. (Friedrich Otto) **99m:68103** 68Q42 (20M05)
McNicholl, Timothy (*with* Beigel, Richard; Gasarch, William I.; Kummer, Martin Walter; Martin, Georgia; Stephan, Frank) On the query complexity of sets. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 206–217, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **99b:03057** 03D15 (03D30)
McNickle, Donald C. Mean simultaneous busy period lengths in open Jackson networks. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 2, 1–8. (Summary) **99c:60207** 60K25 (90B22)
McNinch, George J. Dimensional criteria for semisimplicity of representations. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 1, 95–149. (Ben Ford) **99b:20076** 20G05 (20C20)
McPhail, Carolyn E. (*with* Morris, Sidney A.) The variety of topological groups generated by the class of all Banach spaces. (English summary) *Abelian groups, module theory, and topology (Padua, 1997)*, 319–325, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Temple H. Fay) **99j:22003** 22A05 (20K45, 46B99, 46M99)
— Hausdorffness in varieties of topological groups. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 147–151. (Douglass L. Grant) **99f:22002** 22A05
McPherson, Joseph (*with* Armstrong-Hélouvry, Brian; Li, Yonggang) On the stability of nonlinear PD control. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 273–292. (*see* **99b:70004**) 93D05 (93C10)
McQuarrie, Allan D. R. (*with* Tsai, Chih-Ling) ★ Regression and time series model selection. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xxii+455 pp. ISBN* 981-02-3242-X (Kajal Lahiri) **99m:62141** 62M10 (62J05)
McQuillan, Michael Diophantine approximations and foliations. (English summary) *Inst. Hautes Études Sci. Publ. Math. No.* 87 (1998), 121–174. (Paul Vojta) **99m:32028** 32H25 (14J29, 32H30)
McRae, Alice A. (*with* Dunbar, Jean E.; Hattingh, Johannes H.; Slater, Peter J.) Efficient coverage of edge sets in graphs. (English summary) *Util. Math.* **51** (1997), 183–192. (László Pyber) **99b:05109** 05C70
— (*with* Hattingh, Johannes H.; Ungerer, Elna) Minus k-subdomination in graphs. III. (English summary) *Australas. J. Combin.* **17** (1998), 69–76. (Summary) **99f:05061** 05C35
— (*with* Dunbar, Jean E.; Hedetniemi, Stephen T.; Henning, Michael A.) Minus domination in graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 35–47. (Summary) **99j:05104** 05C35
McShane, Greg Simple geodesics and a series constant over Teichmuller space. (English summary) *Invent. Math.* **132** (1998), *no.* 3, 607–632. (Thomas A. Schmidt) **99i:32028** 32G15 (30F60, 57M50)
McSherry, David Inferring wins, draws and losses from points scored in a sports tournament. *Irish Math. Soc. Bull. No.* 42 (1999), 48–53. 05A99 (68T99)
McShine, Lisa (*with* Tetali, Prasad) On the mixing time of the triangulation walk and other Catalan structures. *Randomization methods in algorithm design (Princeton, NJ, 1997)*, 147–160, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Robert P. Dobrow) **99k:68125** 68R05 (05A10, 60J15, 68Q25)
McSwiggen, Patrick D. A geometric characterization of partial linearizability. *Michigan Math. J.* **45** (1998), *no.* 1, 3–29. (Romeo F. Thomas) **99d:58154** 58F36 (34C20)
McWilliams, James C. Oceanic general circulation models. *Ocean modeling and parameterization (Les Houches, 1998)*, 1–44, *NATO Sci. Ser. C Math. Phys. Sci.*, 516, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99f:86001**) 86A05
— (*with* Hua, Bach Lien; Klein, Patrice) Lagrangian accelerations in geostrophic turbulence. (English summary) *J. Fluid Mech.* **366** (1998), 87–108. (Summary) **99c:76054** 76F99 (76U05, 86A10)
— (*with* Weiss, Jeffrey B.; Provenzale, Antonello) Lagrangian dynamics in high-dimensional point-vortex systems. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1929–1941. (Summary) **99d:76053** 76F99 (76C05, 76M35)
— (*with* Yavneh, Irad) Fluctuation growth and instability associated with a singularity of the balance equations. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2587–2596. (Summary) **99h:86011** 86A10 (76E20, 76U05)
— (*with* Yavneh, Irad; Cullen, Michael J. P.; Gent, Peter R.) The breakdown of large-scale flows in rotating, stratified fluids. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3178–3184. (Summary) **99h:86012** 86A10 (73V05, 76U05)
Mdzinarishvili, L. (*with* Günther, Bernd) Continuous Alexander-Spanier cohomology classifies principal bundles with abelian structure group. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 120–127 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 55N05 (55R15, 55U10)
Mead, D. G. (*with* Stein, S. K.) Some algebra of Newton polynomials. *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 303–309. (James K. Deveney) **99h:12006** 12F20
Meade, A. J., Jr. (*with* Zeldin, B. A.) Establishing criteria to ensure successful feedforward artificial neural network modelling of mechanical systems. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 5, 61–74. (Summary) **99a:73135** 73V20 (65J20)
— (*with* Zeldin, B. A.) Approximation properties of local bases assembled from neural network transfer functions. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 43–62. 93B30 (41A30)
Meadows, Edward S. (*with* Henson, Michael A.; Eaton, John W.; Rawlings, James B.) Receding horizon control and discontinuous state feedback stabilization. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1217–1229. 93D15
Meakin, J. (*with* Margolis, Stuart W.; Sapir, Mark V.) Algorithmic problems in groups, semigroups and inverse semigroups. *Semigroups, formal languages and groups (York, 1993)*, 147–214, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Václav Koubek) **99e:20043** 20F10 (03D40, 08A50, 20M05, 20M35)
laucelli Meana, Marco *see* **Laucelli Meana, Marco**
Meana, Marco Laucelli *see* **Laucelli Meana, Marco**
Meaney, Christopher (*with* Prestini, Elena) Almost everywhere convergence of inverse spherical transforms on noncompact symmetric spaces. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 2, 277–304. (Summary) **99j:43001** 43A22
— (*with* Prestini, Elena) Bochner-Riesz means on symmetric spaces. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 557–570. (Sergei S. Platonov) **99j:43003** 43A50 (22E30, 43A85, 46M35)
Mears, Mark J. (*with* Polycarpou, Marios M.) Stable adaptive tracking of uncertain systems using nonlinearly parametrized on-line approximators. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 363–384. (Summary) **99a:93059** 93C40 (93D15)
Mebkhout, Zoghman (*with* Narváez-Macarro, Luis) Le théorème de constructibilité de Kashiwara. [The Kashiwara constructibility theorem] *Éléments de la théorie des systèmes différentiels. Images directes et constructibilité (Nice, 1990)*, 47–98, *Travaux en Cours*, 46, *Hermann, Paris*, 1993. (Orlando Neto) **99g:32061** 32S60 (32C38)
— Sur le théorème de finitude de la cohomologie p-adique d'une variété affine non singulière. (French summary) [On the finiteness theorem for the p-adic cohomology of a nonsingular affine variety] *Amer. J. Math.* **119** (1997), *no.* 5, 1027–1081. (Bruno Chiarellotto) **99a:14027** 14F30
— (*with* Christol, G.) Sur le théorème de l'indice des équations différentielles p-adiques. II. [On the index theorem for p-adic differential equations. II] *Ann. of Math.* (2) **146** (1997),

no. 2, 345–410. (Bruno Chiarellotto) **99a:12009** 12H25 (14F30, 14G20)

Meca-Martínez, Ana (*with* Sánchez-Soriano, J.; García-Jurado, Ignacio; Tijs, Stef) Strong equilibria in claim games corresponding to convex games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 211–217. (Milan Mareš) **99k:90218** 90D12

Mecca, Giansalvatore (*with* Bonner, Anthony J.) Querying sequence databases with transducers. (English summary) *Database programming languages* (*Estes Park, CO*, 1997), 118–135, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15 (68Q15)

— (*with* Bonner, Anthony J.) Sequences, datalog, and transducers. (English summary) 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Jose, CA, 1995). *J. Comput. System Sci.* **57** (1998), *no.* 3, 234–259. (Summary) **99j:68024** 68P15

Mechab, Mustapha (*with* Gourdin, Daniel) Solutions globales du problème de Goursat non linéaire dans les classes de Gevrey. (French summary) [Global solutions of the nonlinear Goursat problem in Gevrey classes] *Bull. Sci. Math.* **121** (1997), *no.* 4, 323–344. (Summary) **99c:35171** 35L75 (35B60, 35Q72)

— (*with* Gourdin, Daniel) Problème de Cauchy global pour des équations de Kirchhoff. (English and French summaries) [Global Cauchy problem for Kirchhoff equations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 941–944. (Summary) **99g:35085** 35L70 (35Q99)

— (*with* Gourdin, Daniel) Problème de Cauchy pour des équations de Kirchhoff généralisées. (English summary) [Cauchy problem for generalized Kirchhoff equations] *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 761–776. (Summary) **99c:35160** 35L70 (35B60, 35Q99)

ben-el-Mechaiekh, Hichem *see* **Ben-El-Mechaiekh, Hichem**

Mecheri, Salah Derivation ranges. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 31–38. (Hong W. Kim) **99g:47081** 47B47

Mecke, Klaus R. Integral geometry in statistical physics. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 9, 861–899. (Summary) **99d:52007** 52A22 (82B03)

Meckl, Peter H. (*with* Piedmonte, Michael D.; Nwokah, Osita D. I.; Franchek, Matthew A.) Multivariable vibration control of a coupled flexible structure using QFT. (English summary) *Internat. J. Control* **69** (1998), *no.* 4, 475–498. 93C85 (73K50)

Mecklenbräuker, W. *see* **Wigner distribution, 99k:94018**

Męczarski, Marek (*with* Zieliński, Ryszard) Stability of the posterior mean in linear models: an admissibility property of D-optimum and E-optimum designs. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 117–123. (N. Gaffke) **99c:62013** 62C10 (62J05, 62K05)

Meda, A. (*with* Ney, Peter E.) A conditioned law of large numbers for Markov additive chains. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 305–316. (R. J. Tomkins) **99k:60076** 60F10 (60F05, 60K15)

Médan, Christine On critical level sets of some two degrees of freedom integrable Hamiltonian systems. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 134–151. (Luis A. Piovan) **99c:70025** 70H05 (58F07)

Medanic, J. V. (*with* Diong, B. M.) Simplex-type variable structure controllers for systems with non-matching disturbances and uncertainties. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 625–656. 93B12

rojas Medar, Marko A. *see* **Rojas Medar, Marko A.**

Medasani, Swarup (*with* Kim, Jaeseok[2]; Krishnapuram, Raghu) An overview of membership function generation techniques for pattern recognition. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 391–417. (Summary) **99g:68180** 68T10

Meddahi, Salim (*with* Pérez, Pablo) A coupling of boundary elements and mixed finite elements. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 12 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:65196** 65N30

— Schwarz analysis of an iterative substructuring algorithm for P1 nonconforming finite elements. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 17 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:65197** 65N30

— (*with* González Taboada, María; Pérez, Pablo) Numerical analysis of a monotonic nonlinear problem in an exterior domain. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 793–798, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N99

— A domain-decomposition method for the coupling of mixed finite and boundary elements. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 841–846, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N55

— An optimal iterative process for the Johnson-Nedelec method of coupling boundary and finite elements. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1393–1415 (*electronic*). (Beny Neta) **99f:65173** 65N30 (65F10)

Medeiros, Luis Adauto (*with* Cousin, A. T.; Frota, C. L.; Lar'kin, N. A.) On the abstract model of the Kirchhoff-Carrier equation. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 3, 389–404. (From the introduction) **99b:34105** 34G20 (35Q99, 47N20)

— (*with* Ferrel, Juan Límaco) Elliptic regularization and Navier-Stokes system. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 165–177. (Long An Ying) **99f:35165** 35Q30 (35R35, 76D05)

hernández Mederos, Victoria *see* **Hernández Mederos, Victoria**

Medgalchi, A. R. (*with* Pourbarat, Kh.) Left amenability of weighted groups. (English and Persian summaries) *Bull. Iranian Math. Soc.* **22** (1996), *no.* 1, 41–55. (Niels Grønbæk) **99a:43002** 43A07

— Isometric isomorphisms on the dual and second dual of a hypergroup. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 343–351, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Editors) **99f:43002** 43A10 (43A20, 43A22, 43A62)

— $M(X)^{**}$ determines X. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 109–114. (W. Christopher Lang) **99f:28006** 28A33 (43A62, 46E27)

Medic, G. (*with* Mohammadi, Bijan) A critical evaluation of the classical k-ϵ model and wall-laws for unsteady flows over bluff bodies. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 1, 1–11. (Summary) **99d:76052** 76F99

de Médicis, Anne The combinatorics of Meixner polynomials: linearization coefficients. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 355–367. (B. D. Agrawal) **99j:03042** 03E35 (33C45)

faiña-Medín, Andrés *see* **Faiña-Medín, Andrés**

Medina, A. (*with* Bromberg, Sh.) Complétude de l'équation d'Euler. (English summary) [Completeness of the Euler equation] *Algebra and operator theory* (*Tashkent*, 1997), 127–144, *Kluwer Acad. Publ., Dordrecht*, 1998. (Frans Cantrijn) **99h:58141** 58F17 (17B99, 34A12, 70E15, 70H99)

Medina, E. *see* **Medina Reus, Elena**

Medina, Herbert A. (*with* Baggett, Lawrence W.; Merrill, Kathy D.) Cohomology of polynomials under an irrational rotation. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2909–2918. (Karma Dajani) **99a:28013** 28D05 (11K38)

Medina, J. M. (*with* Cubero, J. C.; Pons, Olga; Vila, M. A.) Fuzzy loss less [lossless] decompositions in databases. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 145–167. (Summary) **99e:68029** 68P15 (03B52, 03B70)

ruiz-Medina, M. D. *see* **Ruiz-Medina, M. D.**

hernández-Medina, Miguel Ángel *see* **Hernández-Medina, Miguel Ángel**

Medina, Rigoberto (*with* Pinto, Manuel) Asymptotic representation of solutions of ordinary difference systems. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 31–44. (Summary) **99a:39021** 39A10

— (*with* Pinto, Manuel) Asymptotic equivalence and asymptotic behavior of difference systems. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 511–523. (Shu Tang Liu) **99a:39022** 39A10

— Stability and asymptotic behavior of difference equations. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 17–30. (V. G. Kurbatov) **99e:39065** 39A11 (39A10)

— (*with* Pinto, Manuel) Variationally stable difference equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1141–1152. (Jerzy Popenda) **99c:39016** 39A11

— Nonoscillatory solutions for the one-dimensional p-Laplacian. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 27–33. (Vladimir Sh. Burd) **99j:39014** 39A11 (35J99)

— Stability and asymptotic behavior of perturbed difference systems. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 179–189. (Summary) **99g:39010** 39A10

— Asymptotic behavior of nonlinear difference systems. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 294–311. (André Hautot) **99f:39022** 39A11

Medina Reus, Elena (*with* Herrero, Miguel A.; Velázquez, Juan J. L.) Self-similar blow-up for a reaction-diffusion system. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 99–119. (Summary) **99h:35100** 35K57 (35B40, 93C20)

Medio, Alfredo Nonlinear dynamics and chaos. I. A geometrical approach. (English summary) *Macroecon. Dyn.* **2** (1998), *no.* 4, 505–532. (Summary) **99i:90028** 90A16 (34C35, 34D45, 58F13, 58F40)

tachim Medjo, Theodore *see* **Tachim Medjo, Theodore**

Medková, Dagmar Solution of the Robin problem for the Laplace equation. (English summary) *Appl. Math.* **43** (1998), *no.* 2, 133–155. (Maria A. Ragusa) **99a:35054** 35J25 (31B10, 31C15)

— The boundary-value problems for Laplace equation and domains with nonsmooth boundary. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math.* (*Brno*) **34** (1998), *no.* 1, 173–181. (Heinrich Begehr) **99f:35038** 35J25 (31B05, 31B10, 35J05)

— (*with* Král, Josef) On the Neumann-Poincaré operator. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 653–668. (Otto Fekete) **99k:30069** 30E20 (47B38)

— Solution of the Neumann problem for the Laplace equation. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 763–784. (Juan Bory Reyes) **99k:31005** 31B10 (35J10)

— Reflected double layer potentials and Cauchy's operators. (English summary) *Math. Bohem.* **123** (1998), *no.* 3, 295–300. (Faizo A. Shamoyan) **99m:30079** 30E20 (31A15, 46E10)

— (*with* Král, Josef) Essential norms of a potential-theoretic boundary integral operator in L^1. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 419–436. (D. H. Armitage) **99m:31009** 31B20 (31B10, 31B25)

Mednitskiĭ, V. G. (*with* Kolbanov, V. M.) Solution of problems of adjusting the manufacturing structure. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 139–143. (Summary) **99k:90041** 90A11 (49M30, 90C90)

Mednitskiĭ, Yu. V. On the existence of strong solutions of linear stochastic differential equations on $\mathbf{R}^\infty$. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 826–831. (Ya. Ī. Bīlopol's'ka) **99h:60122** 60H10

— On the parallel use of the decomposition method in a pair of dual linear programming problems. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 107–112. (Summary) **99k:90098** 90C05 (65Y05)

Mednykh, Aleksandr D. (*with* Vesin, A. Yu.) The Heegaard genus of three-dimensional hyperbolic manifolds of small volume. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1013–1018, *i–ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 893–897. (Jennifer Schultens) **99f:57022** 57N10 (57M12, 57M50)

— (*with* Vesnin, Andrei) Covering properties of small volume hyperbolic 3-manifolds. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 3, 381–392. (Bruno Zimmermann) **99d:57008** 57M50 (57M25)

— (*with* Vesnin, Andrei) Visualization of the isometry group action on the Fomenko-Matveev-Weeks manifold. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 51–66. (Summary) **99c:57042** 57M60 (57M12, 57N10)

Medolla, Guia Rough isometries between networks. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 997–1009. (Janusz J. Szuster) **99c:94077** 94C15 (05C12, 94C05)

Medori, C. (*with* Nacinovich, Mauro) Pluriharmonic functions on abstract CR manifolds. *Ann. Mat. Pura Appl.* (4) **170** (1996), 377–394. (J. Merker) **99d:32019** 32F05 (32C16)

— (*with* Nacinovich, Mauro) Levi-Tanaka algebras and homogeneous CR manifolds. (English summary) *Compositio Math.* **109** (1997), *no.* 2, 195–250. (J. Merker) **99d:32007** 32C16 (32F25, 53C15)

Medova-Dempster, E. A. Chance-constrained stochastic programming for integrated services network management. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 213–229. (*see* **99b:90006**) 90C15 (90C35)

Medovikov, A. A. High order explicit methods for parabolic equations. (English summary) *BIT* **38** (1998), *no.* 2, 372–390. (Rudolf Gorenflo) **99i:65096** 65M20 (65L06)

— (*with* Lebedev, V. I.) An explicit method of the second order of accuracy for solving stiff systems of ordinary differential equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 55–63. (Alexander Alenitsyn) **99k:65053** 65L05 (65L20)

da rocha Medrado, João Carlos *see* **da Rocha Medrado, João Carlos**

ramón Medrano, M. *see* **Ramón Medrano, M.**

lópez de Medrano, Santiago *see* **López de Medrano, Santiago**

Medrano-Cerda, G. A. Robust stabilization of a triple inverted pendulum-cart. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 849–865. 93D21 (70Q05, 93C85)

Meduna, Alexandr Symbiotic E0L systems. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 122–128, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (68Q50, 92B05)

— Six-nonterminal multi-sequential grammars characterize the family of recursively enumerable languages. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 179–189. (Summary) **99k:68098** 68Q45 (68Q50)

— Uniform rewriting based on permutations. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 57–74. (Summary) **99e:68083** 68Q42 (68Q45)

Medveď, Milan Generic saddle-node bifurcation for cascade second order ODEs on manifolds. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 211–225. (Vincent Naudot) **99c:34076** 34C23 (34A26, 58F14)

— Singular integral inequalities and stability of semilinear parabolic equations. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 183–190. (Summary) **99d:34112** 34G20 (34D05, 35K55, 45G10)

Medvedev, Alexander Vladislavovich Fault detection and isolation by functional continuous deadbeat observers. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 425–439. 93B07 (93B30)

Medvedev, F. A. Nonstandard analysis and the history of classical analysis. Translated by Abe Shenitzer. *Amer. Math. Monthly* **105** (1998), *no.* 7, 659–664. (Detlef Laugwitz) **99g:01003** 01A05 (03–03, 03H05, 26E35)

Medvedev, Nikolai Ya. On automorphisms of the lattice of quasivarieties of lattice-ordered groups. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 131–135 (1997). (J. Jakubík) **99d:06022** 06F15 (08B15, 08C15)

— Partial right orders on periodic extensions of abelian groups. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 4, 39–43. (W. C. Holland) **99m:06034** 06F15 (20F60)

Medvedev, P. B. (*with* Aref′eva, Irina Ya.; Arutyunov, G. È.) Bicovariant differential calculus on quantum groups from Poisson Lie structures. (English summary) *Quantum groups* (*Karpacz*, 1994), 207–220, *PWN, Warsaw*, 1995. (Władysław Marcinek) **99f:58011** 58B30 (16W30, 17B37, 81R50)

— (*with* Arutyunov, G. È.; Frolov, Sergeĭ Anatol′evich) Elliptic Ruijsenaars-Schneider model from the cotangent bundle over the two-dimensional current group. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5682–5689. (V. A. Golubeva) **99h:81234** 81V70 (81R10)

— (*with* Aref′eva, Irina Ya.; Rytchkov, O. A.; Volovich, I. V.) Chaos in D0 brane dynamics. (English summary) *Quantum probability* (*Gdańsk*, 1997), 41–51, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Christophe Grojean) **99j:81177** 81T60 (58F40, 81Q60, 81T30)

— (*with* Aref′eva, Irina Ya.; Koshelev, Alexey S.) Chaos-order transition in Matrix theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2481–2493. (Yolanda Lozano) **99j:81133** 81T30

Medvedev, Sergeĭ The slow manifold for the shallow water equations on the f plane. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 8, 1050–1054. (Summary) **99m:76032** 76B99 (76U05, 86A10)

Medvedev, Vladislav Sergeevich (*with* Aranson, S. Kh.; Zhuzhoma, E. V.) A strengthened C^r-closing lemma for dynamical systems and foliations on a torus. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 323–331; *translation in Math. Notes* **61** (1997), *no.* 3-4, 265–271. (Stanisław Sędziwy) **99d:58097** 58F10 (58F18)

— (*with* Aranson, S. Kh.; Zhuzhoma, E. V.) Continuity and collapse of geodesic distributions of flows on surfaces. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 7–11. (J. S. Joel) **99m:58145** 58F17

Medvedev, Yu. I. (*with* Ivchenko, G. I.) The contribution of the Russian mathematicians to the study of urn models. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 1–9, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60C05 (05–03, 60–03)

Medvedev, Yurīĭ Aleksandrovich p-groups, Lie p-rings and p-automorphisms. *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 27–37. (Eamonn A. O'Brien) **99m:20035** 20D15 (20D45)

Medvedeva, M. V. On sigmoidal functions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 16–20, 79; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 16–19. (Summary) **99c:41040** 41A30

Medvedeva, T. (*with* Gorenflo, Rudolf; Rubin, Boris) Locally controllable regularization of Abel integral equations via operator complementation. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 5, 427–436. (Anatoly Kilbas) **99b:45002** 45E10 (45L05, 65J10)

lukáčová-Medviďová, Mária *see* **Lukáčová-Medviďová, Mária**

Medviďová-Lukáčová, M. *see* **Lukáčová-Medviďová, Mária**

Medyanik, S. N. (*with* Ustinov, Yu. A.) Homogeneous solutions and the problem of dislocations in an elastic annulus. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 3, 59–63, 112. (Summary) **99j:73025** 73C02 (73S10)

van der Mee, C. V. M. (*with* Rodriguez, Giuseppe; Seatzu, Sebastiano) *LDU* factorization results for bi-infinite and semi-infinite scalar and block Toeplitz matrices. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 307–335 (1998). (Lucas Jódar) **99f:65045** 65F05

— (*with* Aktosun, Tuncay; Klaus, Martin) Wave scattering in 1-D nonconservative media. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 1–18, *Plenum, New York*, 1998. (Vyacheslav N. Pivovarchik) **99d:34163** 34L25 (34A55, 34L40, 35J10, 35P25)

— (*with* Aktosun, Tuncay; Klaus, Martin) Inverse scattering in one-dimensional nonconservative media. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 279–316. (Vyacheslav N. Pivovarchik) **99b:34136** 34L25 (34A55, 34L40)

— (*with* Aktosun, Tuncay; Klaus, Martin) Wave scattering in one dimension with absorption. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1957–1992. (Vyacheslav N. Pivovarchik) **99b:34137** 34L25 (34L40, 35P25, 81U05)

— (*with* Aktosun, Tuncay; Klaus, Martin) On the number of bound states for the one-dimensional Schrödinger equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4249–4256. (Summary) **99j:81026** 81Q05

— (*with* Kaashoek, M. A.; Ran, A. C. M.) Wiener-Hopf factorization of transfer functions of extended Pritchard-Salamon realizations. (English summary) *Math. Nachr.* **196** (1998), 71–102. (L. Rodman) **99k:47030** 47A56 (47A68, 47N70, 93B15)

— (*with* Rodriguez, Giuseppe; Seatzu, Sebastiano) Block Cholesky factorization of infinite matrices and orthonormalization of vectors of functions. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 423–455, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Guo Rong Wang) **99m:65079** 65F25 (15A23)

Meeden, Glen (*with* Geyer, Charles J.; Lang, Joseph; Funo, Eiichiro) The admissibility of the maximum likelihood estimator for decomposable log-linear interaction models for contingency tables. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 473–493. (Summary) **99c:62021** 62C15 (62F10, 62H17)

Meehan, Eleanor (*with* Laffey, Thomas J.) A refinement of an inequality of Johnson, Loewy and London on nonnegative matrices and some applications. (English summary) *Electron. J. Linear Algebra* **3** (1998), 119–128 (*electronic*). (Linda J. Patton) **99f:15031** 15A48 (05C50, 15A18, 15A45)

Meehan, Maria (*with* O'Regan, Donal) ★ Existence theory for nonlinear integral and integrodifferential equations. (English summary) Mathematics and its Applications, 445. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii+218 pp. ISBN* 0-7923-5089-8 (Maria Patrizia Pera) **99i:45008** 45Gxx (45J05, 47H15, 47N20)

— (*with* O'Regan, Donal) Existence principles for nonresonant operator and integral equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 79–87. (S. N. Askhabov) **99h:47076** 47H15 (45G10, 47H10, 47N20)

— (*with* O'Regan, Donal) Existence principles for nonlinear resonant operator and integral equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 41–52. (Da Jun Guo) **99k:47159** 47H15 (45G10)

— (*with* O'Regan, Donal) Existence theory for nonlinear Fredholm and Volterra integral equations on half-open intervals. *Nonlinear Anal.* **35** (1999), *no.* 3, *Ser. A: Theory Methods*, 355–387. (S. N. Askhabov) **99h:45009** 45G10 (47H10, 47H30)

Meek, Christopher Strong completeness and faithfulness in Bayesian networks. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 411–418, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68189** 68T30

— (*with* Geiger, Dan; Heckerman, David) Asymptotic model selection for directed networks with hidden variables. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 283–290, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T05 (68T30)

Meek, D. S. (*with* Walton, D. J.) Planar spirals that match G^2 Hermite data. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 2, 103–126. (Yu Yu Feng) **99c:65035** 65D17 (68U05, 68U07)

— (*with* Walton, D. J.) G^2 curves composed of planar cubic and Pythagorean hodograph quintic spirals. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 6, 547–566. (Summary) **99c:65040** 65D17 (68U07)

— (*with* Walton, D. J.) Planar G^1 Hermite interpolation with spirals. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 8, 787–801. (Antonio López-Carmona) **99f:41041** 41A63 (65D05)

— *see also* **Computational methods in computer graphics, 99h:65003**

Meeker, William Q. (*with* Escobar, Luis A.) Fisher information matrices with censoring, truncation, and explanatory variables. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 221–237. (Summary) **99a:62138** 62N05 (62B10)

Meeks, William H., III (*with* Pérez, Joaquín; Ros, Antonio) Uniqueness of the Riemann minimal examples. (English summary) *Invent. Math.* **133** (1998), *no.* 1, 107–132. (Kichoon Yang) **99b:53013** 53A10

Meena, A. S. (*with* Kumar, Rohtash) Various types of reflexivity and the dual of a locally convex space. *Math. Student* **66** (1997), *no.* 1-4, 233–241. (D. N. Zarnadze) **99m:46005** 46A20

Meena, B. L. (*with* Bali, Raj) Generalised Bianchi type I tilted homogeneous cosmological model in general relativity. (English summary) *Ganita Sandesh* **12** (1998), *no.* 1-2, 1–6. 83C15

Meena, S. (*with* Arumugam, S.) Graphs that are randomly packable by some common disconnected graphs. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1129–1136. (L. W. Beineke) **99m:05116** 05C70 (05C75)

Meer, Klaus Counting problems over the reals. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 398–407, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68054** 68Q15 (68Q05)

— (*with* Lickteig, Thomas) Semi-algebraic complexity—additive complexity of matrix computational tasks. (English summary) *J. Complexity* **13** (1997), *no.* 1, 83–107. (Summary) **99d:68114** 68Q25 (68Q40)

Meerbergen, Karl (*with* De Samblanx, Gorik; Bultheel, Adhemar) The implicit application of a rational filter in the RKS method. (English summary) *BIT* **37** (1997), *no.* 4, 925–947. (Raffaella Pavani) **99a:65046** 65F15

— A theoretical comparison between inner products in the shift-invert Arnoldi method and the spectral transformation Lanczos method. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 90–103 (*electronic*). (Summary) **99h:65069** 65F15 (65M99)

— (*with* Lehoucq, R. B.) Using generalized Cayley transformations within an inexact rational Krylov sequence method. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 131–148 (*electronic*). (Zeng Rong Chen) **99h:65056** 65F10 (65F15, 65N25)

Meere, M. G. An analysis of a kick-out diffusion mechanism with charge effects. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 515–541. (Summary) **99g:78024** 78A55 (82D99)

Meerkov, Semyon M. (*with* Kabamba, Pierre T.; Poh, E.-K.) Pole placement capabilities of vibrational control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9,

1256–1261. (Summary) **99d:93032** 93B55
— (*with* Kabamba, Pierre T.; Poh, E.-K.) Stability robustness in closed loop vibrational control. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1101–1111. (Summary) **99f:93111** 93D09 (93C20)
— (*with* Davison, Daniel E.; Kabamba, Pierre T.) Limitations of disturbance rejection in feedback systems with finite bandwidth. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1132–1144. 93E03 (93C95, 93E35)
Meerov, M. V. (*with* Jury, Eliahu I.) On aperiodicity robustness. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 193–201. (Summary) **99c:93034** 93B35 (93D09)
Meerschaert, Mark M. (*with* Scheffler, Hans-Peter) Convergence of semitypes. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 119–131. (Lajos Horváth) **99k:60061** 60F05 (60E07)
— ★ Mathematical modeling. (English summary) Second edition. *Academic Press, Inc., San Diego, CA*, 1999. *xvi+351 pp. ISBN* 0-12-487652-8 (From the preface) **99k:00019** 00A71 (00A72, 60–01, 90–01, 93A30)
Mees, Alistair I. (*with* Walker, David McPetrie) Reconstructing nonlinear dynamics by extended Kalman filtering. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 557–569. 93E11
— (*with* Walker, David McPetrie; Allie, Stuart P.) Exploiting the periodic structure of chaotic systems for noise reduction of nonlinear signals. (English summary) *Phys. Lett. A* **242** (1998), *no.* 1-2, 63–73. (Summary) **99a:94008** 94A12 (58F13)
— *see also* **Chen, Guanrong**, **99i:93003**
Meessen, Patrick (*with* Álvarez, Enrique; Ortín, Tomás) Transformation of black-hole hair under duality and supersymmetry. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 181–218. (Summary) **99i:83054** 83C57 (81T60, 83E30)
— (*with* Álvarez, Enrique) Newtonian M(atrix) cosmology. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 282–286. (Summary) **99b:81168** 81T30
Meester, Ronald (*with* Häggström, Olle) Nearest neighbor and hard sphere models in continuum percolation. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 3, 295–315. (Rahul Roy) **99c:60217** 60K35
— (*with* Burton, Robert M., Jr.; Dajani, Karma) Entropy for random group actions. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 109–124. (Thomas Bogenschütz) **99b:28021** 28D20
— (*with* Kraaikamp, Cor) Convergence of continued fraction type algorithms and generators. (English summary) *Monatsh. Math.* **125** (1998), *no.* 1, 1–14. (G. Ramharter) **99c:11087** 11J70 (11K50, 28D05)
— (*with* Steif, Jeffrey E.) Consistent estimation of percolation quantities. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 2, 226–238. (M. Hušková) **99k:60251** 60K35 (62F99, 82B43)
Megahed, Fouad A. (*with* Sherief, Hany H.) Two-dimensional problems for thermoelasticity, with two relaxation times in spherical regions under axisymmetric distributions. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 3, 299–314. 73B30
— (*with* Sherief, Hany H.) A two-dimensional thermoelasticity problem for a half space subjected to heat sources. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 9, 1369–1382. (Summary) **99j:73015** 73B30
Megged, O. Non-split geometry on products of vector bundles. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1455–1465. (Sergiu I. Vacaru) **99m:53043a** 53C05 (53C80)
— Corrigendum: "Non-split geometry on products of vector bundles". *J. Phys. A* **31** (1998), *no.* 22, 5191. (Sergiu I. Vacaru) **99m:53043b** 53C05 (53C80)
Megginson, Robert E. ★ An introduction to Banach space theory. (English summary) Graduate Texts in Mathematics, 183. *Springer-Verlag, New York*, 1998. *xx+596 pp. ISBN* 0-387-98431-3 (Ehrhard Behrends) **99k:46002** 46–01 (46Bxx, 47–01)
Megibben, Charles (*with* Hill, Paul) The nonseparability of simply presented mixed groups. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 1–5. (K. M. Rangaswamy) **99m:20132** 20K21
Megiddo, Nimrod (*with* Kojima, Masakazu; Mizuno, Shinji) A conjugate direction method for approximating the analytic center of a polytope. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 181–194. (Shu Zhong Zhang) **99m:90100** 90C08 (15A39, 52B55)
— (*with* Mizuno, Shinji; Tsuchiya, Takashi) A modified layered-step interior-point algorithm for linear programming. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 339–355. (S. S. Chadha) **99h:90063** 90C05
— (*with* Beling, Peter A.) Using fast matrix multiplication to find basic solutions. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 307–316. (Summary) **99e:65069** 65F30 (65K05)
abdel-Megied, M. *see* **Abdel-Megied, M.**
Megill, Norman D. (*with* Pavičić, Mladen) Quantum and classical implication algebras with primitive implications. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2091–2098. (Marjan Matvejchuk) **99k:03048** 03G10 (03G12, 06C15, 81P10)
Megrabov, A. G. The group bundle, the Lax representation, and the kinematic seismic problem. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 6, 549–564 (1998). (Alexander V. Shapovalov) **99h:58090** 58F07 (58F40, 86A15)
Megrelishvili, Michael G. (*with* Scarr, Tzvi) Constructing Tychonoff G-spaces which are not G-Tychonoff. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 291–302 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54H15 (22A99, 22D05)
— (*with* Nickolas, Peter; Pestov, Vladimir G.) Uniformities and uniformly continuous functions on locally connected groups. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 279–283. (Summary) **99c:22005** 22A10
— G-minimal topological groups. (English summary) *Abelian groups, module theory, and topology (Padua*, 1997), 289–299, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Temple H. Fay) **99j:22002** 22A05
— Fragmentability and continuity of semigroup actions. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 101–126. (Summary) **99c:54053** 54H15 (22A15, 47D03)
— (*with* Scarr, Tzvi) Constructing Tychonoff G-spaces which are not G-Tychonoff. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 69–81. (Helmut Ludescher) **99g:54034** 54H15 (54D35)
Megretskiĭ, A. V. (*with* Blanchini, Franco) Robust state feedback control of LTV systems: nonlinear is better than linear. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 802–806. 93D15 (93B35)
Meguid, S. A. (*with* Hu, Guang Di) A new finite element for treating plane thermomechanical heterogeneous solids. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 4, 567–585. (Summary) **99i:73071** 73V05 (73B27, 73B30, 80–08)
Megyesi, G. Fano threefolds in positive characteristic. *J. Algebraic Geom.* **7** (1998), *no.* 2, 207–218. (Yuri G. Prokhorov) **99d:14039** 14J45
Megyesi, Z. Coverage probabilities of Rényi confidence bands. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 317–332. (M. Hušková) **99j:62070** 62G15
Méhats, Florian The Child-Langmuir asymptotics applied to a bipolar diode. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 12, 1115–1148. (R. Glassey) **99g:76159** 76X05 (35B25, 35Q99, 78A35, 82D10)
— (*with* Ben Abdallah, Naoufel; Degond, Pierre) Mathematical models of magnetic insulation. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1522–1534. (Summary) **99a:78030** 78A55 (76X05)
le Méhauté, Alain *see* **Le Méhauté, Alain**
Méhes, András (*with* Zeger, Kenneth) Randomly chosen index assignments are asymptotically bad for uniform sources. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 788–794. 94A40
Mehl, Christian (*with* Ammar, Gregory S.; Mehrmann, Volker) Schur-like forms for matrix Lie groups, Lie algebras and Jordan algebras. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 11–39. (Morris Newman) **99k:17007** 17B05 (17C10)
Mehler, Michel J. (*with* Demeterscu, Christian; Budaev, Bair V.; Constantinou, Constantinos C.) TM electromagnetic scattering by a transparent wedge with resistive faces. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 47–54. (Summary) **99m:78011** 78A45
Mehlhorn, Kurt (*with* Crauser, A.; Meyer, Ulrich; Sanders, Peter) A parallelization of Dijkstra's shortest path algorithm. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 722–731, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q22)
— (*with* Müller, M.; Näher, Stefan; Schirra, Stefan; Seel, Michael; Uhrig, Christian; Ziegler, Joachim Rudolf) A computational basis for higher-dimensional computational geometry and applications. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 289–303. (*see* **99b:68003**) 68U05 (52B55)
— (*with* Althaus, Ernst) Maximum network flow with floating point arithmetic. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 109–113. (Summary) **99c:68187** 68R10 (68Q20, 90C35)
— (*with* Näher, Stefan; Seel, Michael; Seidel, Raimund; Schilz, Thomas; Schirra, Stefan; Uhrig, Christian) Checking geometric programs or verification of geometric structures. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 85–103. (Summary) **99k:68196** 68U05 (52B55, 68Q60)
Mehlum, Even (*with* Cai, Xing) Application of Cauchy integrals and singular integral equations in scattered data problems. (English summary) *BIT* **38** (1998), *no.* 2, 242–255. (Kai Diethelm) **99f:65025** 65D17 (45E05, 65N38, 65R20)
ali Mehmeti, Felix *see* **Ali Mehmeti, Felix**
Mehra, Aparna (*with* Bhatia, Davinder) Fractional programming involving set-valued functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 525–539. (Summary) **99b:90133** 90C32
— (*with* Bhatia, Davinder) A note on generalized Q-connected functions. (English summary) *Opsearch* **35** (1998), *no.* 3, 226–237. 90C29 (90C48)
Mehra, Jagdish Josiah Willard Gibbs and the foundations of statistical mechanics. (English summary) *Found. Phys.* **28** (1998), *no.* 12, 1785–1815. (Lawrence Sklar) **99m:01021** 01A55 (01A60, 82–03)
— *see also* **Wigner, Eugene Paul**, **99k:01088** *and* **99k:01089**
Mehra, K. L. (*with* Bagui, Subhash C.; Vaughn, Brandon K.) An M-stage version of the k-RNN rule in statistical discrimination. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 323–333. (Margaret P. Gessaman) **99h:62080** 62H30 (62G10, 62L99)
Mehrabadi, M. L. (*with* Hajiabolhassan, H.) Commutative graph algebras. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 201–203, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05E99
— (*with* Hajiabolhassan, H.; Tusserkani, R.) Minimal coloring and strength of graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 353–357, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:05057** 05C15
— (*with* Hajiabolhassan, H.; Tusserkani, R.; Zaker, M.) Improving Erdős-Kubicka bounds. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 565–567, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C15
— (*with* Hajiabolhassan, H.; Tusserkani, R.; Zaker, M.) Minimal defining sets in vertex coloring of graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 587–589, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C15
— (*with* Eslahchi, Ch.; Hajiabolhassan, H.; Tusserkani, R.) A counterexample for Hilton-Johnson's conjecture on list-coloring of graphs. (English summary) *Australas. J. Combin.* **18** (1998), 127–131. (Summary) **99g:05075** 05C15
— (*with* Hajiabolhassan, H.) On clique polynomials. (English summary) *Australas. J. Combin.* **18** (1998), 313–316. (Summary) **99j:05182** 05C99
— (*with* Hajiabolhassan, H.; Tusserkani, R.; Zaker, M.) A characterization of uniquely vertex colorable graphs using minimal defining sets. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 233–236. (Summary) **99k:05137** 05C75 (05C15)
Mehrafarin, M. (*with* Panahi, Mehrdad) Comments on the unification of electromagnetism and gravitation through: "Generalized Einstein manifolds" [J. Geom. Phys. **17** (1995), no. 4, 342–380; MR 99m:53130] by H. Akbar-Zadeh. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 3-4, 346–348. (Summary) **99m:53131** 53C60 (53C25, 83C22)
Mehrez, Abraham (*with* Goldstein, Zvi) A concave cost stochastic replacement problem. (English summary) *Opsearch* **35** (1998), *no.* 1, 13–31. (Summary) **99a:90098** 90B25
Mehri, B. (*with* Shadman, D.) Periodic solutions of certain nth order non-autonomous differential equations. (English summary) *Sci. Iran.* **1** (1995), *no.* 4, 321–326. (Summary) **99f:34065** 34C25

— (*with* Niksirat, M. A.) On the existence of periodic oscillations for vector non-linear second order system. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 417–424, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (J. Angel Rodríguez) **99f:34066** 34C25 (34C15)

— (*with* Shadman, D.) Periodic solution of a certain class of nonlinear fourth order differential equation. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 1–7. (Summary) **99j:34060** 34C25

— (*with* Shadman, D.) Periodic solutions of certain third order nonlinear differential equations. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 345–350. (Gabriele Villari) **99i:34063** 34C25 (47H11)

— (*with* Shadman, D.) On the existence of periodic solutions of a certain class of second order nonlinear differential equation. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 431–436. (Summary) **99b:34074** 34C25 (65L06)

Mehrmann, Volker (*with* Xu, Hongguo) An analysis of the pole placement problem. II. The multi-input case. (English summary) *Electron. Trans. Numer. Anal.* **5** (1997), *Sept.*, 77–97 (*electronic*). (Petko Petkov) **99f:93068** 93B55 (65F35, 93C05)

— (*with* Benner, Peter; Xu, Hongguo) A new method for computing the stable invariant subspace of a real Hamiltonian matrix. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 17–43. (Marlis Hochbruck) **99b:65042** 65F15 (93B40)

— (*with* Kunkel, Peter) The linear quadratic optimal control problem for linear descriptor systems with variable coefficients. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 3, 247–264. (Summary) **99f:49054** 49N10 (49K15)

— (*with* Hench, J. J.; He, Chun Yang; Kučera, Vladimír) Dampening controllers via a Riccati equation approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1280–1284. (Summary) **99d:93056** 93D15 (93C40)

— (*with* He, Chun Yang; Hench, J. J.) On damped algebraic Riccati equations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1634–1637. (Vladimir B. Larin) **99m:93021** 93B25 (93D15)

— (*with* Byers, Ralph; He, Chun Yang) Where is the nearest non-regular pencil? (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 81–105. (Bo Kågström) **99k:15026** 15A22 (15A18, 65F15, 65F35)

— (*with* Benner, Peter; Xu, Hongguo) A numerically stable, structure preserving method for computing the eigenvalues of real Hamiltonian or symplectic pencils. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 329–358. (Rafael Bru) **99f:65057** 65F15 (15A18, 15A22)

— (*with* Xu, Hongguo) Choosing poles so that the single-input pole placement problem is well conditioned. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 664–681 (*electronic*). (M. M. Konstantinov) **99f:93069** 93B55 (65F15, 93B40)

— (*with* Bunse-Gerstner, Angelika) Ludwig Elsner and his contributions to core, applied and numerical linear algebra. Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 3–10. (Editors) **99m:01046** 01A70

— (*with* Ammar, Gregory S.; Mehl, Christian) Schur-like forms for matrix Lie groups, Lie algebras and Jordan algebras. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 11–39. (Morris Newman) **99k:17007** 17B05 (17C10)

— *see also* **Proceedings: Conference of the International Linear Algebra Society**, **99a:00039** *and* **Special Issue: Celebrating the 60th birthday of Ludwig Elsner**

Mehrotra, Anuj (*with* Trick, Michael A.) Cliques and clustering: a combinatorial approach. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 1, 1–12. (Summary) **99b:90148** 90C35 (05C90)

Mehrotra, Sharad (*with* Rastogi, Rajeev; Breitbart, Yuri; Korth, Henry F.; Silberschatz, Avi) On correctness of nonserializable executions. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 68–82. (Armin Cremers) **99c:68074** 68P15 (68Q10)

Mehrvarz, A. A. (*with* Samei, K.) Dependent prime ideals in continuous functions rings. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 371–373, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 54C35

Mehta, Ghanshyam (*with* Sessa, Salvatore) General coincidence theorems for maps and multivalued maps in topological vector spaces. (English summary) *Bull. Greek Math. Soc.* **37** (1995), 79–92. (Adrian Petruşel) **99e:47081** 47H10 (47H04)

Mehta, Gobind P. (*with* Kumar, Narinder; Kumar, Virender) A note on whether the selected population is the best: the scale parameter case. (English summary) *South African Statist. J.* **30** (1996), *no.* 1, 15–26. (Summary) **99j:62023** 62F07

Mehta, Madan Lal (*with* Normand, Jean-Marie) On some definite multiple integrals. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8671–8684. (E. R. Love) **99g:33059** 33E30

— (*with* Eynard, Bertrand) Matrices coupled in a chain. I. Eigenvalue correlations. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4449–4456. (Alexei Khorunzhy) **99g:82028** 82B41 (15A52)

— (*with* Mahoux, Gilbert; Normand, Jean-Marie) Matrices coupled in a chain. II. Spacing functions. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4457–4464. (Alexei Khorunzhy) **99g:82029** 82B41 (15A52)

Mehta, Mitaxi On the dimensionality of the phase-space survivors in the Banerjea-Taylor map. (English summary) *Phys. Lett. A* **252** (1999), *no.* 6, 288–290. 58F13

Mehta, R. D. Simultaneous algebraic extensions for vector function algebras. *Math. Today (Ahmedabad)* **15** (1997), 33–36. (S. J. Sidney) **99a:46097** 46J10 (46E25, 46E40)

Mehta, V. B. (*with* Srinivas, Vasudevan) A characterization of rational singularities. *Asian J. Math.* **1** (1997), *no.* 2, 249–271. (Karen E. Smith) **99e:13009** 13A99 (14B05)

— (*with* Lakshmibai, Venkatramani; Parameswaran, A. J.) Frobenius splittings and blow-ups. *J. Algebra* **208** (1998), *no.* 1, 101–128. (Harry Tamvakis) **99i:14059** 14M15 (20G10)

Mehtieva, A. I. *see* **Mekhtieva, A. I.**

Mei, Chiang C. (*with* Ng, Chiu-On) Homogenization theory applied to soil vapor extraction in aggregated soils. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2298–2306. 76R50

Mei, Denghua (*with* Cai, Huai; Xu, Zhigen) Decision-making in fuzzy environment. (English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 199–203. 90A05 (90C70)

Mei, F. X. *see* **Mei, Feng Xiang**

Mei, Fei (*with* Man, Zhihong; Yu, Xing-Huo; Nguyen, Thong) A robust tracking control scheme for a class of nonlinear systems with fuzzy nominal model. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 145–158. (*see* **99a:93003**) 93C10 (93B99)

Mei, Feng Xiang Stability for the manifold of equilibrium state of the autonomous Birkhoff system. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 2, 106–109. (I. A. Galiullin) **99a:70029** 70H99 (34D35, 70K20)

— (*with* Shang, Mei) The Noether's theory of constrained Birkhoffian system. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 3, 221–228. (Summary) **99d:70028** 70H99 (70H33)

— (*with* Wu, Run Heng) On the Lie symmetries of the nonholonomic mechanical systems. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 3, 229–235. (David Martín de Diego) **99a:70023** 70F25 (70H33, 70H35)

— (*with* Yang, Ming Yan; Guo, Yong Xin) Diffusion motions and quantization of mechanical systems. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 2, 203–212. (Summary) **99e:81027** 81P20

— (*with* Wu, Run Heng; Zhang, Yong Fa) Lie symmetries and conserved quantities of nonholonomic systems of non-Chetaev type. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 4, 468–474. (Haiping Zhu) **99k:70016** 70F25 (70G10, 70H33)

— (*with* Zhang, Yi[7]) Algebraic structure of the dynamical equations of holonomic mechanical system in relative motion. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 12–18. (A. Sumbatov) **99e:70035** 70F20 (70H05)

— (*with* Zhang, Yi[7]) Differential variational principles and equations of motion of mechanical systems with unilateral constraints. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 19–25. (A. Sumbatov) **99e:70036** 70F20 (70F25, 70H30)

— Lie symmetries and conserved quantities of holonomic systems with remainder coordinates. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 26–31. (Takayuki Nōno) **99i:70016** 70F20 (70H33, 70H35)

— (*with* Fu, Jingli; Liu, Rongwan) Lie symmetries and conserved quantities of holonomic mechanical systems in terms of quasi-coordinates. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 215–220. (P. G. L. Leach) **99k:70012** 70F20 (58F07, 70H33)

— (*with* Liu, Rongwan; Fu, Jingli) Lie symmetries and conserved quantities of systems of relative motion dynamics. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 221–225. (P. G. L. Leach) **99k:70013** 70F20 (58F07, 70H33)

— Lie symmetries and conservation laws of Birkhoff systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 18, 1937–1939. 70H33 (58F05)

— Algebraic structure and Poisson theory for equations of motion of nonholonomic systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 162–165; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 155–158. (From the text) **99e:70041** 70F25 (58F05, 70H05)

— (*with* Zhang, Yong Fa; Shang, Mei) Lie symmetries and conserved quantities of Birkhoffian system. *Mech. Res. Comm.* **26** (1999), *no.* 1, 7–12. (I. A. Galiullin) **99m:70013** 70H33 (58F35)

Mei, Han Fei (*with* Sun, Sheng Fang) A further extension of Störmer's theorem. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 42–44. (Zhen Fu Cao) **99e:11029** 11D09

Mei, Hong Necessary and sufficient conditions for absolute stability of a class of direct control systems with time delays. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 243–246. 93D20 (93D05)

Mei, Jiaqiang (*with* Xu, Sen Lin) On complete open manifolds with non-negative curvature along ray directions. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 197–202. (Sérgio J. Mendonça) **99h:53041** 53C20 (53C21)

Mei, Li Quan (*with* Wu, Jian Hua[3]) Global solutions for the classical A-I model with common sources. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 4, 6–8. (Jianzhong Su) **99m:35113** 35K55 (35B05)

— (*with* Shi, Rui Min; Huang, Ai Xiang) Analysis of a spectral-finite element method for the 3D unsteady Boltzmann transport equation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 44–50, 102. 65N35

Mei, Ming Long-time behavior of solution for Rosenau-Burgers equation. I. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 315–330. (Summary) **99a:35225** 35Q53

— (*with* Matsumura, Akitaka) Nonlinear stability of viscous shock profile for a non-convex system of viscoelasticity. *Osaka J. Math.* **34** (1997), *no.* 3, 589–603. (J. A. Nohel) **99c:35147** 35L65 (35L67, 35Q72, 73D40, 73F15)

— (*with* Chern, I-Liang) Asymptotic stability of critical viscous shock waves for a degenerate hyperbolic viscous conservation laws. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 869–886. (Denis Serre) **99d:35105** 35L67 (35B35, 76L05, 76N10)

— (*with* Yang, Tong) Convergence rates to travelling waves for a nonconvex relaxation model. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 1053–1068. (Alexander Doktor) **99k:35116** 35L65 (35B40, 65M99)

Mei, Quan Xiong (*with* Hu, Ya Hui) A distance inequality for an undirected graph and its application to nonnegative matrices. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 2, 141–144. (Summary) **99i:05072** 05C12 (15A48)

van der Mei, R. D. Polling systems with periodic server routing in heavy traffic. (English summary) *Comm. Statist. Stochastic Models* **15** (1999), *no.* 2, 273–297. (Summary) **99m:90064** 90B06 (90B22)

Mei, Renwei (*with* Chen, Shiyi; Martínez, Daniel A.) On boundary conditions in lattice Boltzmann methods. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2527–2536. (Summary) **99m:76090** 76M25

— (*with* Shyy, Wei) On the finite difference-based lattice Boltzmann method in curvilinear coordinates. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 426–448. (Summary) **99b:76065** 76M25 (76P05)

Mei, Sheng Wei (*with* Hong, Yi Guang; Qin, Hua Shu; Wen, Shao Peng) Viscosity solutions and an analysis of approximate algorithms for nonlinear H_∞ control. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 447–453. 93B36 (49L25)

— (*with* Lü, Xian Qing; Li, Min Shan) Exact solutions in 1 + 1 dimensions of the general two-velocity discrete Illner model. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 12, 1197–1203; *translated from Appl. Math. Mech.* **19** (1998), *no.* 12, 1101–1106 (*Chinese. English and Chinese summaries*). (Summary) **99k:82064** 82C40 (35Q99, 76P05)

— (*with* Qin, Hua Shu; Hong, Yi Guang; Zhu, Quan Min) Finite attraction for nonlinear uncertain mechanical systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 397–407. (Alexander M. Kovalev) **99k:70024** 70Q05 (70H05, 93D21)

— (*with* Lü, Xian Qing; Shi, Aifen) Exact (1 + 1)-dimensional similarity solutions of the Broadwell model. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1249–1252. (Nicola Bellomo) **99m:82042** 82C40 (76P05)

Mei, W. N. Combined variational-perturbative approach to anharmonic oscillator problems. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 875–893. (Summary) **99j:81041** 81Q15 (65L99, 81Q05)

Mei, Zhen (*with* Roberts, A. J.) Equations for turbulent flood waves. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 342–352, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:86005** 86A05 (76F99)

— (*with* Chien, C. S.; Shen, Chi-Long) Numerical continuation at double bifurcation points of a reaction-diffusion problem. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 117–139. (Summary) **99c:35108** 35K57 (35B32, 35B60, 58F39, 65M99)

— (*with* Ashwin, Peter) A numerical bifurcation function for homoclinic orbits. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 2055–2069 (*electronic*). (W. S. Loud) **99j:58146** 58F14 (34C23, 34C25, 34C37, 65L05)

Meiburg, Eckart (*with* Chen, Ching-Yao) Miscible porous media displacements in the quarter five-spot configuration. I. The homogeneous case. (English summary) *J. Fluid Mech.* **371** (1998), 233–268. 76S05 (76M25)

— (*with* Chen, Ching-Yao) Miscible porous media displacements in the quarter five-spot configuration. II. Effect of heterogeneities. (English summary) *J. Fluid Mech.* **371** (1998), 269–299. 76S05 (76M25)

— (*with* Petitjeans, Philippe; Chen, Ching-Yao; Maxworthy, Tony) Miscible quarter five-spot displacements in a Hele-Shaw cell and the role of flow-induced dispersion. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1705–1716. 76D99 (76–05, 76S05)

Meidanis, João (*with* de Figueiredo, Celina Miraglia Herrera; de Mello, Célia Picinin) On edge-colouring indifference graphs. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 91–106. (Summary) **99f:05037** 05C15 (68R10)

— (*with* Gutierrez, Marisa) On the clique operator. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 261–272, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68192** 68R10 (05C85, 68Q25)

— (*with* Barbosa, Marcelo Marcos; de Mello, Célia Picinin) Local conditions for edge-colouring of cographs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 45–55. (Summary) **99k:05075** 05C15

— (*with* Porto, Oscar; Telles, Guilherme P.) On the consecutive ones property. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 325–354. (A. A. Chernyak) **99k:05043** 05B20

— A simple toolkit for DNA fragment assembly. (English summary) *Mathematical support for molecular biology*, 271–288, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99k:92003**) 92D20

Meidl, Wilfried The number of different Dickson-functions in the Galois field GF(q). (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 229–235, *Heyn, Klagenfurt*, 1998. (S. D. Cohen) **99i:11111** 11T06

zeller-Meier, Georges *see* **Zeller-Meier, Georges**

Meier, John (*with* Meinert, Holger; Van Wyk, Leonard) Higher generation subgroup sets and the Σ-invariants of graph groups. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 1, 22–44. (Ross Geoghegan) **99f:57002** 57M07 (20F32)

Meier, Peter (*with* Brack, M.; Tanaka, Kaori) Uniform trace formulae for SU(2) and SO(3) symmetry breaking. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 331–353. (Summary) **99j:81065** 81R40 (81Q15)

Meier, Ulrich Asymptotic normality of two-sample linear rank statistics under association. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 235–252. (M. Hušková) **99e:62081** 62G10 (62G20)

Meier, Willi (*with* Staffelbach, Othmar) Kryptographie und elliptische Kurven. (German summary) [Cryptography and elliptic curves] *Elem. Math.* **52** (1997), *no.* 4, 137–151. (Thomas W. Cusick) **99b:94038** 94A60 (11G20, 14G15)

Meignen, Pierrick Generating series for the Coxeter groups and applications. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 7–18. (James E. Humphreys) **99e:20051** 20F55 (11J70, 51B10)

Meigniez, Gaël Feuilletages de Lie résolubles. (English and French summaries) [Solvable Lie foliations] *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 4, 801–817. (Fernando Alcalde-Cuesta) **99e:57042** 57R30 (22E25, 58H05)

— (*with* Beniere, J.-C.) Flows without minimal set. (English summary) *Ergodic Theory Dynam. Systems* **19** (1999), *no.* 1, 21–30. (Michael Hurley) **99m:58160** 58F25 (34C40, 54H20)

Meijer, H. *see* **Meijer, Henk**

Meijer, H. E. H. (*with* Galaktionov, O. S.; Meleshko, V. V.; Peters, G. W. M.) Stokes flow in a rectangular cavity with a cylinder. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 2, 81–102. (Summary) **99i:76037** 76D07

— (*with* van der Sluis, O.; Vosbeek, P. H. J.; Schreurs, P. J. G.) Homogenization of heterogeneous polymers. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 21, 3193–3214. (Summary) **99m:73004** 73B27

— (*with* Anderson, P. D.; Galaktionov, O. S.; Peters, G. W. M.; van de Vosse, F. N.) Analysis of mixing in three-dimensional time-periodic cavity flows. (English summary) *J. Fluid Mech.* **386** (1999), 149–166. 76R99

Meijer, Hendrik Gerrit Determination of all coherent pairs. (English summary) *J. Approx. Theory* **89** (1997), *no.* 3, 321–343. (L. Leindler) **99c:42046** 42C05

— (*with* Marcellán, Francisco; Pérez, Teresa E.; Piñar, Miguel A.) An asymptotic result for Laguerre-Sobolev orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 87–94. (Summary) **99a:33006** 33C45 (42C05)

Meijer, Henk (*with* Liotta, Giuseppe; Lubiw, Anna; Whitesides, S. H.) The rectangle of influence drawability problem. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 1–22. (Vladimir P. Korzhik) **99b:05039** 05C10 (65Y25, 68U05)

— (*with* Arkin, Esther M.; Mitchell, Joseph S. B.; Rappaport, David; Skiena, Steven S.) Decision trees for geometric models. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 343–363. (Summary) **99b:68193** 68U05 (52B55, 68U10)

— (*with* de Berg, Mark; Overmars, Mark H.; Wilfong, Gordon) Computing the angularity tolerance. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 467–482. (Summary) **99f:68208** 68U30 (68U05)

— (*with* Bose, Prosenjit; Everett, Hazel; Fekete, Sándor P.; Houle, Michael E.; Lubiw, Anna; Romanik, Kathleen; Rote, Günter; Shermer, Thomas C.; Whitesides, S. H.; Zelle, Christian) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)

— (*with* Fekete, Sándor P.) Rectangle and box visibility graphs in 3D. (English summary) *Internat. J. Comput. Geom. Appl.* **9** (1999), *no.* 1, 1–27. (Henk J. A. M. Heijmans) **99m:68210** 68U05 (68R10)

Meijer, Henk G. *see* **Meijer, Hendrik Gerrit**

Meijerink, Ellen (*with* Sleijpen, Gerard L. G.; Van der Vorst, Henk A.) Efficient expansion of subspaces in the Jacobi-Davidson method for standard and generalized eigenproblems. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 75–89 (*electronic*). (Summary) **99i:65040** 65F15

van der Meilen, È. *see* **van der Meulen, Edward C.**

Mel'liev, Kh. Zh. Description of surjective quadratic operators and classification of the extreme points of a set of quadratic operators defined on S^3. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 39–48. (Summary) **99e:15031** 15A63 (52A40)

Meinardus, G. (*with* Oettli, Werner) On a certain duality of segmented minmax problems. (English summary) *Computing* **61** (1998), *no.* 2, 91–101. (Manfred Sommer) **99h:41015** 41A15 (41A50, 49K35, 49N15)

Meinel, Christoph (*with* Theobald, Thorsten) On the influence of the state encoding on OBDD-representations of finite state machines. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 408–417, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68038** 68Q05 (68Q68)

— *see also* **STACS 98**, **99f:68011**

Meinert, Holger (*with* Meier, John; Van Wyk, Leonard) Higher generation subgroup sets and the Σ-invariants of graph groups. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 1, 22–44. (Ross Geoghegan) **99f:57002** 57M07 (20F32)

Meini, Beatrice (*with* Bini, Dario Andrea) Exploiting the Toeplitz structure in certain queueing problems. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 289–305 (1998). (Summary) **99c:60199** 60K25 (15A57, 90B22)

— (*with* Favati, Paola) Relaxed functional iteration techniques for the numerical solution of $M/G/1$ type Markov chains. (English summary) *BIT* **38** (1998), *no.* 3, 510–526. (John P. Lehoczky) **99f:60167** 60K25 (90B22)

— (*with* Bini, Dario Andrea) Inverting block Toeplitz matrices in block Hessenberg form by means of displacement operators: application to queueing problems. (English summary) *Linear Algebra Appl.* **272** (1998), 1–16. (A. Bultheel) **99b:65055** 65F30 (15A09, 15A57, 90B22)

— (*with* Favati, Paola) On functional iteration methods for solving nonlinear matrix equations arising in queueing problems. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 39–49. 90B22 (65F30)

Meinke, Karl *see* **Algebraic and logic programming, 99b:68002**

Meinrenken, Eckhard Symplectic surgery and the Spin^c-Dirac operator. (English summary) *Adv. Math.* **134** (1998), *no.* 2, 240–277. (Christopher T. Woodward) **99h:58179** 58G10 (58F06)

— (*with* Alekseev, Anton Yu.; Malkin, Anton Z.) Lie group valued moment maps. (English summary) *J. Differential Geom.* **48** (1998), *no.* 3, 445–495. (Johannes Huebschmann) **99k:58062** 58F05 (55N91, 57S25)

— (*with* Lerman, Eugene; Tolman, Sue; Woodward, Chris T.) Nonabelian convexity by symplectic cuts. (English summary) *Topology* **37** (1998), *no.* 2, 245–259. (Michel Brion) **99a:58069** 58F05 (57S15)

Meir, A. *see* **Meir, Amram**

Meir, A. J. (*with* Layton, William J.; Schmidt, Paul Günter) A two-level discretization method for the stationary MHD equations. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 198–210 (*electronic*). (Magdi M. Shoucri) **99c:76067** 76M10 (65N50, 76W05)

Meir, Amram (*with* Moon, J. W.) On the log-product of the subtree-sizes of random trees. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 2, 197–212. (E. M. Palmer) **99j:05171** 05C80

— (*with* Moon, J. W.) Addendum to: "On the log-product of the subtree-sizes of random trees" [Random Structures Algorithms **12** (1998), no. 2, 197–212; MR 99j:05171]. *Random Structures Algorithms* **12** (1998), *no.* 4, 405. (E. M. Palmer) **99j:05172** 05C80

Meir, Ron (*with* Zeevi, Assaf J.; Maïorov, V. E.) Error bounds for functional approximation and estimation using mixtures of experts. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1010–1025. (Summary) **99b:68160** 68T05 (62F99, 92B20)

Meira, S. (*with* Gonçalves, José Valdo Abreu) On a class of semilinear elliptic problems near critical growth. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 321–330. (Yong Qing Li) **99b:35067** 35J65 (58E05)

Meiri, David Entropy and uniform distribution of orbits in $\mathbf{T}^d$. (English summary) *Israel J. Math.* **105** (1998), 155–183. (Daniel Berend) **99f:58129** 58F11

Meirmanov, A. M. (*with* Shemetov, N.) The classical solution for the Stefan problem with hysteresis. *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 125–136, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (Tomáš Roubíček) **99d:35187a** 35R35 (35K65, 80A22)

— (*with* Shemetov, N.) The Stefan problem with hysteresis-type phase function. (English summary) *Adv. Math. Sci. Appl.* **6** (1996), *no.* 2, 541–558. (Tomáš Roubíček) **99d:35187b** 35R35 (35K65, 80A22)

— (*with* Antontsev, Stanislav N.; Yurinskiĭ, V. V.) Homogenization of Stokes-type equations with variable viscosity. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 2, 1–29. (I. Aganović) **99m:35022** 35B27 (35Q30, 73B27, 76D07, 76S05)

Meiron, Daniel I. (*with* Haroldsen, David J.) Numerical calculation of three-dimensional interfacial potential flows using the point vortex method. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 648–683 (*electronic*). (Summary) **99c:76010** 76B15 (65M06, 65N06, 76M25)

Meise, Reinhold (*with* Braun, Rüdiger W.; Taylor, B. A.) An example concerning radial Phragmén-Lindelöf estimates for plurisubharmonic functions on algebraic varieties. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 24–29. (Norman Levenberg) **99d:32016** 32F05

— (*with* Bonet, José; Galbis, A.) On the range of convolution operators on non-quasianalytic ultradifferentiable functions. (English summary) *Studia Math.* **126** (1997), *no.* 2, 171–198. (Michael Langenbruch) **99a:46071** 46F10 (35R50, 46E10)

Meisinger, Peter N. (*with* Bender, Carl M.; Dunne, Gerald V.) Complex periodic potentials with real band spectra. (English summary) *Phys. Lett. A* **252** (1999), *no.* 5, 272–276. 81Q20

Meisner, Andreas (*with* Arango, Jaime; Grabmüller, Hans) Curved annular elastic membranes under partially vanishing surface load. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 683–709. (Summary) **99j:73027** 73C50 (73K10)

Meiss, James D. (*with* Lomeli, Héctor E.) Quadratic volume-preserving maps. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 557–574. (Benedict J. Leimkuhler) **99d:58153** 58F36 (34C35, 58F25, 70H05)

— (*with* Robins, V.; Bradley, Elizabeth) Computing connectedness: an exercise in computational topology. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 913–922. (Beverly Diamond) **99g:54017** 54D05 (68U05)

— (*with* Sterling, David) Computing periodic orbits using the anti-integrable limit. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 46–52. (Summary) **99b:58189** 58F20 (70K50)

— (*with* Dullin, Holger R.) Stability of minimal periodic orbits. (English summary) *Phys. Lett. A* **247** (1998), *no.* 3, 227–234. (Summary) **99f:58168** 58F22 (58F10, 70H05)

Meissen, Monica Edge number results for piecewise-linear knots. (English summary) *Knot theory (Warsaw, 1995)*, 235–242, *Banach Center Publ.*, **42**, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57029** 57M25

Meissner, K. A. (*with* Gasperini, Maurizio; Giovannini, M.; Veneziano, Gabriele) Evolution of a string network in backgrounds with rolling horizons. (English summary) *String theory in curved space times (Paris, 1996)*, 49–67, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (83F05)

Meister, Andreas[2] (*with* Sonar, Thomas) Finite-volume schemes for compressible fluid flow. (English summary) *Surveys Math. Indust.* **8** (1998), *no.* 1, 1–36. (Claus-Dieter Munz) **99k:76115** 76M25 (76J20, 76N10)

— (*with* Oevermann, M.) An implicit finite volume approach of the k-ϵ turbulence model on unstructured grids. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 743–757. (Tomás Chacón Rebollo) **99k:76080** 76F99 (76M25)

Meister, Erhard (*with* Hinder, R.) Integral equations arising from instationary flows around thin wings. *Boundary element topics (Stuttgart, 1995)*, 167–188, *Springer, Berlin*, 1997. (Introduction) **99i:76024** 76B99 (35J05, 45A05, 65R20, 76B05, 76M15)

— Einige Klassen singulärer Integral- und Integro-Differentialgleichungen auf der Halbachse. [Some classes of singular integral and integrodifferential equations on the semi-axis] *Mathematik aus Berlin*, 265–290, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 01A60

— (*with* Penzel, F.; Speck, F.-O.; Teixeira, F. S.) Some interior and exterior boundary-value problems for the Helmholtz equation in a quadrant. (English summary) *Differential and integral operators (Regensburg, 1995)*, 169–178, *Oper. Theory Adv. Appl.*, **102**, *Birkhäuser, Basel*, 1998. (Summary) **99e:35028** 35J05 (45E05, 47G10)

— Nachruf Siegfried Prössdorf (2.1.1939–19.7.1998). [Obituary for Siegfried Prössdorf (2.1.1939–19.7.1998)] *Math. Nachr.* **201** (1999), 3–4. 01A70

Meisters, Gary (*with* Chamberland, Marc) A mountain pass to the Jacobian conjecture. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 442–451. (L. Andrew Campbell) **99m:58044** 58E05 (14E07, 26B10)

Meixner, Thomas Extending the dual of the Petersen graph. *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 689–700. (Joseph Zaks) **99c:51018** 51E24 (05C25)

— (*with* Pasini, Antonio) On flat extended grids. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 207–226. (Johannes Siemons) **99a:05020** 05B25

— On Weiss' geometric characterization of the Rudvalis simple group. (English summary) *Forum Math.* **10** (1998), *no.* 2, 135–146. (Hiroyoshi Yamaki) **99c:20014** 20D08 (51E12)

Meiyappan, D. (*with* Vasantha Kandasamy, W. B.) Note on lower and upper approximations in a fuzzy group. (English summary) *Ganita Sandesh* **11** (1997), *no.* 2, 85–90 (1998). 20N25

— (*with* Vasantha Kandasamy, W. B.) Fuzzy symmetric subgroups and conjugate fuzzy subgroups of a group. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 905–913. (Branimir Šešelja) **99m:20165** 20N25

Mejía, C. E. (*with* Murio, D. A.; Zhan, Shenghe) Discrete mollification and automatic numerical differentiation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 1–16. (De Hui Chen) **99d:65066** 65D25

Mejía, Diego (*with* Arango, Juan H.; Ruscheweyh, Stephan) Exponentially convex univalent functions. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 33–50. (Summary) **99a:30014** 30C45

rincón-Mejía, Hugo Alberto *see* **Rincón-Mejía, Hugo Alberto**

pino-Mejías, R. *see* **Pino-Mejías, R.**

Mejza, Iwona Characterisation of certain split-block designs with a control. (English summary) *Biom. J.* **40** (1998), *no.* 5, 627–639. 62K10

Mejza, S. (*with* Kageyama, Sanpei) Some statistical properties of nested block designs. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design (Marseilles, 1998)*, 231–238, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62093** 62K10

Mekerov, Dimitʺr G. (*with* Kostadinov, Georgi) On a four-dimensional generalized biaxial space. (English summary) *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 73–84. 53A20

Mekhtieva, A. I. (*with* Iskenderov, B. A.) Principles of radiation for Helmholtz equation in N-dimensional layer with impedance boundary conditions. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 291–303. (Summary) **99i:78017** 78A40 (35J05, 35L05)

Melachrinoudis, Emanuel (*with* Xanthopulos, Zaharias) A maximum L_p distance problem. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 650–671. (Gerard Sierksma) **99d:90042** 90B05 (51M16, 52A40)

Meladze, Gamlet (*with* Criado, Francisco; Odisehlidze, Nana) An optimal control problem for Helmholtz equation with non-local boundary conditions and quadratic functional. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fis. Nat. (Esp.)* **91** (1997), *no.* 1, 65–69. (Sabine Pickenhain) **99j:49047** 49K20

Meladze, H. (*with* Criado, Francisco; Gachechiladze, T. G.) Inverse spline-interpolation for numerically solving a piston problem with isothermic gas compression and constant velocity. (English summary) *Int. J. Comput. Math.* **71** (1999), *no.* 1, 83–95. 65H10 (65D07)

Melamed, Benjamin (*with* Rubinstein, Reuven Y.) ★ Modern simulation and modeling. (English summary) Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xx+352 *pp. ISBN* 0-471-17077-1 (From the preface) **99c:90055** 90B22 (60K99, 62F99, 93A30)

Melamed, I. I. (*with* Sigal, I. Kh.) Numerical investigation of tricriterial tree and assignment problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1780–1787; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1707–1714. (Summary) **99f:90111** 90C29 (90C27, 90C35)

Melançon, Guy (*with* Jacquet, Hélène) Langages de Dyck généralisés et factorisations du monoide libre. (English and French summaries) [Generalized Dyck languages and factorizations of the free monoid] *Ann. Sci. Math. Québec* **21** (1997), *no.* 2, 103–122. (Pascal Weil) **99c:68204** 68R15 (05A15, 20M05)

Mélard, Guy (*with* Azrak, Rajae) The exact quasi-likelihood of time-dependent ARMA models. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 31–45. (Summary) **99b:62129** 62M10

Melas, A. (*with* Nestoridis, V.; Papadoperakis, I.) Growth of coefficients of universal Taylor series and comparison of two classes of functions. *J. Anal. Math.* **73** (1997), 187–202. (Elgin H. Johnston) **99i:30003** 30B10

Melas, V. B. Analytical theory of E-optimal designs for polynomial regression on a segment. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design (Marseilles, 1998)*, 51–58, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05 (62J02)

Melbourne, Ian Derivation of the time-dependent Ginzburg-Landau equation on the line. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 1, 1–15. (Yun Bo Zeng) **99i:35153** 35Q55 (35B32, 58F14, 58F40, 76E30)

— Steady-state bifurcation with Euclidean symmetry. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1575–1603. (Michael Dellnitz) **99f:58038** 58E09 (35B32, 35Q55)

Meldrum, J. D. P. (*with* Samman, M. S.) On free d.g. seminear-rings. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 93–102 (1998). (Hubert Kiechle) **99g:16059** 16Y30

Méléard, Sylvie (*with* Graham, Carl) A large deviation principle for a large star-shaped loss network with links of capacity one. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 475–492. (Anatolii A. Pukhal'skiĭ) **99h:60054** 60F10 (60K20, 60K25)

— (*with* Fernández, Begoña) A Hilbertian approach for fluctuations on the McKean-Vlasov model. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 33–53. (René Ferland) **99b:60127** 60J60 (60K35)

— Convergence of the fluctuations for interacting diffusions with jumps associated with Boltzmann equations. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 195–225. (Summary) **99g:60103** 60H10 (82C40)

Melʹe-Èrnadez, A. *see* **Melle-Hernández, Alejandro**

Melenberg, Bertrand (*with* Lee, Myoung-jae) Bounding quantiles in sample selection models. (English summary) *Econom. Lett.* **61** (1998), *no.* 1, 29–35. (Summary) **99j:62073** 62G30 (62P20)

Melendo, Begoña (*with* Palacios, Manuel) Multirevolution algorithms for the long-term integration of quasiperiodic problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 847–852, *Colecc. Congr.*, **9**, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70–08 (70F15)

Melenk, Jens Markus On the robust exponential convergence of hp finite element method for problems with boundary layers. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 4, 577–601. (Bernard Brighi) **99b:65145** 65N30 (65N12)

— (*with* Schwab, Christoph) *HP* FEM for reaction-diffusion equations. I. Robust exponential convergence. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1520–1557 (*electronic*). (Manil Suri) **99d:65333** 65N35 (35B25, 35C20)

gracia Melero, Juan Miguel *see* **Gracia Melero, Juan Miguel**

Meleshko, S. V. Steady three-dimensional nonisentropic gas flows of double wave type. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 159–167; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 157–163. (Summary) **99b:76071** 76N15 (35Q35)

— Group classification of two-dimensional stable viscous gas equations. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 3, 449–456. (Olena V. Roman) **99k:35150** 35Q35 (35A30, 76N15)

Meleshko, V. I. (*with* Zhukovskiĭ, E. L.) The orthogonal projection method and its regularized and statistical interpretation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 724–727; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 694–697. (Summary) **99d:65379** 65U05 (62J05)

Meleshko, V. V. Biharmonic problem in a rectangle. (English summary) *Appl. Sci. Res.* **58** (1997), *no.* 1-4, 217–249. (Summary) **99d:76025** 76D07 (35Q35, 65M99, 73K10, 73V20, 76M25)

— (*with* Galaktionov, O. S.; Peters, G. W. M.; Meijer, H. E. H.) Stokes flow in a rectangular cavity with a cylinder. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 2, 81–102. (Summary) **99i:76037** 76D07

Meletlidou, Efthymia (*with* Bozis, G.) Nonintegrability detected from geometrically similar orbits. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 4, 335–346. (Summary) **99a:70011** 70D05

— (*with* Locatelli, Ugo) Convergence of Birkhoff normal form for essentially isochronous systems. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 2, 195–211. (A. D. Bruno) **99k:34081** 34C20 (58F36, 70H05)

Melham, R. S. Generalized triple products. *Fibonacci Quart.* **36** (1998), *no.* 5, 452–456. (Neville Robbins) **99i:11008** 11B37

— Lucas sequences and functions of a 3-by-3 matrix. *Fibonacci Quart.* **37** (1999), *no.* 2, 111–116. 11B39

bertoloni Meli, Domenico *see* **Bertoloni Meli, Domenico**

garcía Melián, J. *see* **García Melián, J.**

Melicherčík, Igor Asymptotic behaviour of some Markov operators appearing in mathematical models of biology. (English summary) *Math. Slovaca* **48** (1998), *no.* 3, 303–314. (Wojciech Bartoszek) **99h:47015** 47A35 (47B38, 47N60, 60J25, 92B05)

Melideo, Giovanna (*with* Varricchio, Stefano) Learning unary output two-tape automata from multiplicity and equivalence queries. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 87–102, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (Summary) **99m:68170** 68T05 (68Q45, 68Q68)

Melik-Adamyan, F. È. On spectral functions of a class of canonical differential operators. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 3, 49–59; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 3, 42–51. (M. M. Malamud) **99k:34186** 34L05 (47E05)

Melikyan, A. *see* **Melikyan, A. O.**

Melikyan, A. A. ★ Generalized characteristics of first order PDEs. Applications in optimal control and differential games. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xiv*+310 *pp. ISBN* 0-8176-3984-5 (E. N. Barron) **99j:35020** 35F20 (35A30, 49L25, 90D25)

— (*with* Ovakimyan, N. V.; Arutyunyan, L. L.) Games of simple pursuit and approach on a two-dimensional cone. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 515–543. (A. M. Tarasyev) **99m:90177** 90D25

Melikyan, A. O. (*with* Manvelyan, R.; Mkrtchyan, R. L.) Representations and BPS states of $10+2$ superalgebra. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2147–2152. (Sergey Nikolaevich Roshchupkin) **99h:81175** 81T30 (81R05)

— (*with* Manvelyan, R.; Mkrtchyan, R. L.) Light-cone formulation of the D2-brane. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 277–281. (Summary) **99a:81147** 81T30

— (*with* Manvelyan, R.; Mkrtchyan, R. L.; Müller-Kirsten, H. J. W.) Light-cone formulation of super D2-brane. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 86–91. (Summary) **99h:81176** 81T30

Melikyan, T. T. (*with* Avetisyan, V. V.) Controlled search for a moving object in a family of trajectories in a rectangular domain. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 4, 17–24 (1998). 93C15 (49K15)

Melilli, Eugenio (*with* Guglielmi, Alessandra) Non-informative invariant priors yield peculiar marginals. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2293–2306. (S. K. Chatterjee) **99m:62008** 62A15 (62F15)

Melis, Erica (*with* Whittle, Jon) Analogy in inductive theorem proving. (English summary) *J. Automat. Reason.* **22** (1999), *no.* 2, 117–147. (Summary) **99k:68173** 68T15 (03B35)

Melissen, Hans (*with* Heppes, Aladár) Covering a rectangle with equal circles. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 65–81. (Summary) **99b:52045** 52C17

— How different can colours be? Maximum separation of points on a spherical octant. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1499–1508. (Summary) **99c:52028** 52C17

Meljanac, Stjepan (*with* Stojić, Marko; Mileković, Marijan) On parastatistics defined as triple operator algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 995–1005. (Władysław Adam Majewski) **99h:81097** 81S05 (81T05)

Melka, Richard (*with* Yousif, Hashim A.) Bessel function of the first kind with complex argument. (English summary) *Comput. Phys. Comm.* **106** (1997), *no.* 3, 199–206. (E. R. Love) **99e:33003** 33C10 (65D20)

van Melkebeek, Dieter (*with* Buhrman, Harry; Regan, Kenneth W.; Sivakumar, D.; Strauss, Martin Joel) A generalization of resource-bounded measure, with an application (extended abstract). (English summary) *STACS* 98 (*Paris*, 1998), 161–171, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q15

— (*with* Buhrman, Harry) Hard sets are hard to find. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 170–181, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15

— Deterministic and randomized bounded truth-table reductions of P, NL, and L to sparse sets. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 213–232. (Marius Zimand) **99m:68066** 68Q15

Melkebeek, J. A. A. (*with* Van Keer, Roger; Dupré, L. R.) Computational methods for the evaluation of the electromagnetic losses in electrical machinery. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 4, 385–443. (Summary) **99j:78005** 78–08 (78A55)

— (*with* Dupré, L. R.; Van Keer, Roger) Complementary 2-D finite element procedures for the magnetic field analysis using a vector hysteresis model. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1005–1023. (Summary) **99f:78001** 78–08

Melkersson, Leif Properties of cofinite modules and applications to local cohomology. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 417–423. (Michinori Sakaguchi) **99k:13024** 13D45

Melkonyan, V. G. Quasi-identities and conditional super-identities of distributive lattices. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 4, 195–199 (1994). 06D05 (08B05)

— (*with* Movsisyan, Yu. M.) Superidentities of distributive lattices. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 2, 75–78. 06D05 (08B05)

Mella, Massimiliano Extremal contractions and n-dimensional geometry. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 43–46. 14E30

Mellado, M. E. (*with* Gatica, Gabriel N.; Hernandez, E. C.) A domain decomposition method for linear exterior boundary value problems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 1–9. (Summary) **99d:65345** 65N55 (80–08)

Melle-Hernández, Alejandro (*with* Gusein-Zade, Sabir M.; Luengo, Ignacio) Zeta functions of germs of meromorphic functions, and the Newton diagram. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 26–35, 95; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 93–99. (Aleksandr G. Aleksandrov) **99j:32040** 32S25 (32S40, 32S45, 32S55)

Meller, B. (*with* Duclos, Pierre[1]; Exner, Pavel) Exponential bounds on curvature-induced resonances in a two-dimensional Dirichlet tube. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 133–162. (Hitoshi Kitada) **99a:35051** 35J25 (35J10, 35P05, 47F05, 81Q10)

Meller, Russell D. (*with* Narayanan, Venkat; Vance, Pamela H.) Optimal facility layout design. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 117–127. 90B80 (90C90)

Melliès, Paul-André On a duality between Kruskal and Dershowitz theorems. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 518–529, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68143** 68R05 (68Q42)

— A stability theorem in rewriting theory. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 287–298, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99j:68062** 68Q42 (03B40)

de Mello, Célia Picinin (*with* de Figueiredo, Celina Miraglia Herrera; Gimbel, John; Szwarcfiter, Jayme L.) Sources and sinks in comparability graphs. (English summary) *Order* **14** (1997), *no.* 1, 75–83. (H. A. Jung) **99b:05138** 05C99 (06A07)

— (*with* de Figueiredo, Celina Miraglia Herrera; Meidanis, João) On edge-colouring indifference graphs. (English summary) Latin American Theoretical INformatics (Valparaiso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 91–106. (Summary) **99f:05037** 05C15 (68R10)

— (*with* Barbosa, Marcelo Marcos; Meidanis, João) Local conditions for edge-colouring of cographs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 45–55. (Summary) **99k:05075** 05C15

— (*with* de Figueiredo, Celina Miraglia Herrera; Gimbel, John; Szwarcfiter, Jayme L.) Even and odd pairs in comparability and in P_4-comparability graphs. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 293–297. (Summary) **99i:05188** 05C85 (68Q25)

bezerra de Mello, E. R. *see* **Bezerra de Mello, E. R.**

Mello, Paola (*with* Brogi, Antonio; Lamma, Evelina; Mancarella, Paolo) A unifying view for logic programming with non-monotonic reasoning. (English summary) *Theoret. Comput. Sci.* **184** (1997), *no.* 1-2, 1–59. (Summary) **99g:68031** 68N17 (03B60, 03B70, 68T27)

— (*with* Lamma, Evelina; Milano, Michela; Riguzzi, Fabrizio) A system for abductive learning of logic programs. (English summary) *Logic programming and knowledge representation* (*Port Jefferson, NY*, 1997), 102–122, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99m:68033** 68N17 (68T05)

— (*with* Lamma, Evelina; Milano, Michela) Extending constraint logic programming for temporal reasoning. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 139–158. (Summary) **99a:68031** 68N17 (68T20)

— (*with* Lamma, Evelina; Milano, Michela; Riguzzi, Fabrizio) Integrating induction and abduction in logic programming. (English summary) *Inform. Sci.* **116** (1999), *no.* 1, 25–54. (Summary) **99k:68029** 68N17

— (*with* Lamma, Evelina; Milano, Michela) Reasoning on constraints in CLP(FD). (English summary) *J. Logic Programming* **38** (1999), *no.* 1, 93–110. 68N17 (68T20)

homem-de-Mello, Tito *see* **Homem-de-Mello, Tito**

de Mello Koch, Robert (*with* Rodrigues, João P.) Duality and light cone symmetries of the equations of motion. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 83–89. (Summary) **99c:81200** 81T30

— (*with* Tătar, Radu) Higher derivative terms from threebranes in F theory. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-2, 99–108. (Summary) **99k:81316** 81T60 (81T30)

Mellon, Pauline (*with* Chu, Cho-Ho) Jordan structures in Banach spaces and symmetric manifolds. (English summary) *Exposition. Math.* **16** (1998), *no.* 2, 157–180. (Yaakov Friedman) **99h:58009** 58B10 (17C65, 46G20, 46H70)

Mellone, R. (*with* Carozza, M.) The distance to L^∞ or to VMO for BMO functions. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 439–448 (1996). (Richard Rochberg) **99i:42031** 42B30 (42B25, 46E30)

Mellouk, M. (*with* Millet, A.) Large deviations for stochastic flows and anticipating SDEs in Besov-Orlicz spaces. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 267–302. (Summary) **99g:60059** 60F10 (60H10)

Mellouli, Taïeb Improving vehicle scheduling support by efficient algorithms. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 307–312, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B06

Melloy, G. F. (*with* Bracken, Anthony J.) Probability backflow for a Dirac particle. (English summary) Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), *no.* 3, 505–514. (Summary) **99i:81013** 81P05

Melman, A. A numerical comparison of methods for solving secular equations. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 237–249. (Guo Rong Wang) **99b:65049** 65F15 (65H05)

— Spectral functions for real symmetric Toeplitz matrices. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 233–243. (A. Bultheel) **99i:65036** 65F15 (15A18)

Mel'nichenko, I. P. (*with* Plaksa, S. A.) Potential fields with axial symmetry and algebras of monogenic functions of a vector argument. III. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 2, 228–243; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 253–268. (Wazir Hasan Abdi) **99e:30002** 30A05

Mel'nichuk, Yurīĭ *see* **Obituary: Mel'nichuk, Yurīĭ Vsevolodovich**

Melnik, K. N. (*with* Melnik, R. V. N.) A note on the class of weakly coupled problems of non-stationary piezoelectricity. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 9, 839–847. (Summary) **99g:73094** 73R05 (65N06, 73V15, 78–08, 78A99)

Mel'nik, O. È. (*with* Barmin, A. A.) Modeling of nonstationary processes in the volcanic eruption of highly viscous gas-saturated magma. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 91–98, 113. 86A60 (86–04, 86–06)

Melnik, R. V. N. (*with* Melnik, K. N.) A note on the class of weakly coupled problems of non-stationary piezoelectricity. (English summary) *Comm. Numer. Methods Engrg.* **14**

(1998), *no.* 9, 839–847. (Summary) **99g:73094** 73R05 (65N06, 73V15, 78–08, 78A99)

— Convergence of the operator-difference scheme to generalized solutions of a coupled field theory problem. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 2, 185–212. (Summary) **99g:73112** 73V15 (65M06, 73R05)

Mel'nik, Tat'yana Anatol'evna (*with* Plotnikov, V. A.) A generalization of a theorem of A. N. Tikhonov for quasidifferential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1030–1034, 1150; *translation in Differential Equations* **33** (1997), *no.* 8, 1036–1040 (1998). (Tzanko D. Donchev) **99g:34042** 34A99 (34A60, 34E05, 34E15)

— An iterative method for solving systems of quasidifferential equations with slow and fast variables. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1329–1333, 1437; *translation in Differential Equations* **33** (1997), *no.* 10, 1335–1340 (1998). (From the text) **99i:34021** 34A45 (34A60)

— (*with* Plotnikov, V. A.) Averaging of quasidifferential equations with fast and slow variables. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1098–1103, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 947–952. (Jan I. Seidler) **99g:34043** 34A99 (34A60, 34C29)

Mel'nik, V. S. On extremal problems for plants described by nonlinear operator equations and variational inequalities. I. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 79–90, 297. 49J40 (49K27)

— (*with* Akbarov, D. E.; Yasinskiĭ, V. V.) On optimization problems for mixed systems. I. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 87–96, 155. 49K27

— (*with* Akbarov, D. E.; Yasinskiĭ, V. V.) On optimization problems for mixed systems. II. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 23–28, 151. 49K27

— (*with* Solonukha, O. V.) On variational inequalities with multivalued operators. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 5, 32–38. (George Isac) **99b:49007** 49J40 (47H19)

— (*with* Solonukha, O. V.) On stationary variational inequalities with multivalued operators. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 3, 74–89, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 3, 366–378 (1998). (Julian Revalski) **99d:47070** 47H19 (47H04, 49J40)

— On the theory of the duality of vector and affine processes. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 49–59, 187; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 498–504 (1998). (Pando Georgiev) **99c:49036** 49N15 (46N10, 47H04, 58C06)

— (*with* Akbarov, D. E.; Modebadze, T. A.; Yasinskiĭ, V. V.) On optimization problems for mixed systems. III. Necessary conditions for optimality, and finite-dimensional approximations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 52–63, 156. 49K27

— On estimates for the fractal and Hausdorff dimensions of sets that are invariant under multivalued mappings. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 217–224; *translation in Math. Notes* **63** (1998), *no.* 1-2, 190–196. (Igor D. Chueshov) **99g:47123** 47H04 (28A78, 47H09, 58C06)

— (*with* Valero, José) On attractors of multivalued semi-flows and differential inclusions. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 1, 83–111. (Igor D. Chueshov) **99e:34087** 34G20 (34A60, 35R70, 47H04, 47H20, 58F12)

Melnikov, Anna Dense orbits in orbital varieties in $\mathfrak{sl}_n$. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 281–294, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Andrzej Daszkiewicz) **99f:20074** 20G15 (17B45, 22E60)

— Orbital varieties in $\mathfrak{sl}_n$ and the Smith conjecture. (English summary) *J. Algebra* **200** (1998), *no.* 1, 1–31. (Andrzej Daszkiewicz) **99f:20075** 20G15 (17B45, 22E60)

Mel'nikov, B. F. (*with* Vakhitova, A. A.) Some more on the finite automata. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 495–505. (I. Meznik) **99k:68099** 68Q45 (68Q68)

— (*with* Radionov, A. N.) On the choice of strategy in nondeterministic antagonistic games. (Russian. Russian summary) *Programmirovanie* **1998**, *no.* 5, 55–62; *translation in Program. Comput. Software* **24** (1998), *no.* 5, 247–252. 90D46 (68T20)

Mel'nikov, I. I. (*with* Vinogradova, I. A.; Lupanov, O. B.; Potapov, M. K.; Sadovnichiĭ, V. A.; Sergeev, I. N.) In memory of Slav Nikolaevich Olekhnik [1945–1995]. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 108–109. 01A70

Mel'nikov, M. S. A discrete approach to analytic capacity and the curvature of a measure. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 109–112, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Summary) **99d:30027** 30C85 (31A15)

Mel'nikov, O. I. (*with* Sarvanov, V.; Tyshkevich, Regina I.; Emelichev, V. A.; Zverovich, Igor E.) ★ Exercises in graph theory. (English summary) Translated from the Russian by Nikolai Korneenko. Kluwer Texts in the Mathematical Sciences, 19. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *viii*+354 *pp. ISBN* 0-7923-4906-7 (From the introduction) **99c:05001** 05–01

Mel'nikov, O. V. Indecomposability of minimal idempotents of the semigroup of formations. (Russian. English summary) *Problems in algebra, No. 9* (*Russian*), 42–47, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20005**) 20D10

— (*with* Nesterovich, T. V.) Some properties of the semigroup of formations as a topological semigroup. (Russian. English summary) *Problems in algebra, No. 11* (*Russian*), 68–75, *Gomel. Gos. Univ., Gomel'*, 1997. (Summary) **99h:20029** 20D10 (22A15)

Melnikov, V. N. (*with* Ivashchuk, V. D.) Inflationary solutions in multidimensional cosmology with perfect fluid. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 488–493, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83E15 (53C80)

— (*with* Ivashchuk, V. D.) Billiard representation for pseudo-Euclidean Toda-like systems of cosmological origin. (English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 23–35. (Edoh Amiran) **99i:58135** 58F40 (58F13, 70H35, 83F05)

— (*with* Ivashchuk, V. D.) Corrigenda: "Sigma-model for the generalized composite p-branes" [Classical Quantum Gravity **14** (1997), no. 11, 3001–3029; MR 98j:81280]. *Classical Quantum Gravity* **15** (1998), *no.* 12, 3941. 81T30 (83E30)

— (*with* Ivashchuk, V. D.) Multidimensional classical and quantum cosmology with intersecting p-branes. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2866–2888. (Paulo Moniz) **99d:83087** 83E15 (83C45, 83E30)

Melnikov, Yu. *see* **Mel'nikov, Yu. B.**[1]

Mel'nikov, Yu. A. Green's function formalism extended to systems of applied mechanical differential equations posed on graphs. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 4, 369–386. (Summary) **99h:34025** 34B05 (34B27, 73K99)

— ★ Influence functions and matrices. (English summary) Mechanical Engineering, 119. *Marcel Dekker, Inc., New York*, 1999. *x*+469 *pp. ISBN* 0-8247-1941-7 (Peter Wagner) **99k:73036** 73C02 (34A05, 34B27, 35Q72, 73Kxx)

Mel'nikov, Yu. B. *see* **Mel'nikov, Yu. B.**[2]

Mel'nikov, Yu. B.[1] A generalization of algebraic systems. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol.* 4 (*Russian*), 53–70, 374, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Andreĭ A. Krokhin) **99c:08001** 08A02

— (*with* Kuperin, Yu. A.; Levin, S. B.; Pavlov, Boris S.) Quantum Lorentz gas: effective equations and spectral analysis. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 599–612. (András Krámli) **99b:82065** 82C10 (81Q10, 82C40)

— On spectral analysis of an integral-difference operator. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 4, 379–387. (Summary) **99b:47075a** 47G20 (45P05, 47N55, 82C35)

— (*with* Antoniou, Ioannis) Quantum scattering of resonances: poles of a continued S-matrix and poles of an extended resolvent. *Irreversibility and causality* (*Goslar*, 1996), 246–256, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (François Nicoleau) **99h:81222** 81U20 (47A40, 47N50, 81U05)

— Erratum: "On spectral analysis of an integral-difference operator". *Lett. Math. Phys.* **43** (1998), *no.* 4, 379. (Editors) **99b:47075b** 47G20 (45P05, 47N55, 82C35)

Mel'nikov, Yu. B.[2] Representation of the endomorphism semigroup of a finite group on the space of its class functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 64–68. (Grigori I. Žitomirskiĭ) **99m:20154** 20M30 (20D99)

Melnikov, Yuri A. *see* **Mel'nikov, Yu. A.**

Mel'nikova, I. A. Properties of the Morse form that determines a compact foliation on M^2_g. (Russian) *Mat. Zametki* **60** (1996), *no.* 6, 942–945; *translation in Math. Notes* **60** (1996), *no.* 5-6, 714–716 (1997). (Serge L. Tabachnikov) **99d:57020** 57R30 (57N05)

— Singular points of a Morse form, and foliations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 37–40, 111; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 33–36. (M. Craioveanu) **99g:57035** 57R70 (57R30)

Mel'nikova, I. V. Properties of the Lions d-semigroups, and generalized well-posedness of the Cauchy problem. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 3, 23–34, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 3, 167–175 (1998). (Ioana Ciorănescu) **99g:47096** 47D06 (34G10, 46F10)

— (*with* Al'shanskiĭ, M. A.) Well-posedness of the Cauchy problem in a Banach space: regular and degenerate cases. Analysis, 9. *J. Math. Sci.* (*New York*) **87** (1997), *no.* 4, 3732–3780. (Kiyoko Furuya) **99a:34162** 34G10 (34A09, 47D06, 47N20)

— (*with* Anufrieva, U. A.; Ushkov, V. Yu.) Degenerate distribution semigroups and well-posedness of the Cauchy problem. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 247–256. (Summary) **99d:47037** 47D06 (34A60, 34G10, 46F10)

Mel'nikova, N. V. (*with* Taras'ev, A. M.) Gradients of local linear hulls in finite-difference operators for Hamilton-Jacobi equations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 422–431; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 409–417. (Nina N. Subbotina) **99e:49037** 49M07 (49L25, 90D12)

— (*with* Taras'ev, A. M.) Synthesis of optimal guaranteed control in grid approximation schemes. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 570–583; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 553–565. (Summary) **99d:49067** 49N35 (49L20, 93B52)

— (*with* Taras'ev, A. M.) Optimal synthesis in grid schemes for quasiconvex approximation functions. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 576–585; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 537–544. (Summary) **99m:49050** 49M25 (49N35)

de Melo, W. Rigidity and renormalization in one-dimensional dynamical systems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 765–778 (*electronic*). (Alexander Loskutov) **99m:58082** 58F03

Meloche, J. (*with* Chan, A.) Image restoration. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 233–254. (Salvatore Ingrassia) **99g:62072** 62H11 (62M40, 68U10)

Melone, Nicola (*with* Ferrara Dentice, Eva; Lo Re, Pia Maria) Tallini set and Grassmannian. (Italian. English summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 527–539. (Norman L. Johnson) **99f:51013** 51E20

bousquet-Mélou, Mireille *see* **Bousquet-Mélou, Mireille**

Melrose, G. (*with* Kerr, Gilbert; Tweed, John) Antiplane shear of a strip containing a periodic array of rigid line inclusions. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 4, 505–512. (Summary) **99h:73053** 73K20

Melrose, Richard B. (*with* Sá Barreto, Antônio; Zworski, Maciej) Semi-linear diffraction of conormal waves. (English and French summaries) *Astérisque* **1996**, *no.* 240, *vi*+132 *pp.* (1997). (Jean-Marc Delort) **99f:35136** 35L70 (58G17)

— (*with* Piazza, Paolo) Families of Dirac operators, boundaries and the b-calculus. (English summary) *J. Differential Geom.* **46** (1997), *no.* 1, 99–180. (Daniel Grieser) **99a:58144** 58G10

— (*with* Piazza, Paolo) An index theorem for families of Dirac operators on odd-dimensional manifolds with boundary. (English summary) *J. Differential Geom.* **46** (1997), *no.* 2, 287–334. (Daniel Grieser) **99a:58145** 58G10

— (*with* Nistor, Victor) K-theory of C^*-algebras of b-pseudodifferential operators. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 1, 88–122. (Jonathan M. Rosenberg) **99i:58145** 58G12 (19K35, 19K56, 46L80, 47G30, 58G15, 58G20)

Melsheimer, O. (*with* Lanz, L.) Time scale, objectivity and irreversibility in quantum mechanics. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 345–358, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Adonai S. Sant'Anna) **99h:81014** 81P05

Melter, Robert A. (*with* Rudeanu, Sergiu) Voronoĭ diagrams for Boolean algebras. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 429–434. 06E20

— (*with* Rhodes, Frank) Geodetic metrizations of graphs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 267–279. (Summary) **99f:05034** 05C12

Meltzer, Hagen Tubular mutations. *Colloq. Math.* **74** (1997), *no.* 2, 267–274. (A. Verschoren) **99a:18004** 18E30 (14H60, 16G20)

— Exceptional sequences and tilting complexes for hereditary algebras of type $\mathbf{A}_n$. (English summary) *Algebras and modules, II (Geiranger, 1996)*, 409–414, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Flávio Ulhoa Coelho) **99i:16026** 16G10 (16E30, 16G70)

Melville, Duncan J. (*with* Futornyĭ, V. M.; Grishkov, A. N.) Quantum imaginary Verma modules for affine Lie algebras. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 4, 119–123. (Stefano Capparelli) **99k:17029** 17B37 (17B10)

— (*with* Benkart, Georgia; Kang, Seok-Jin) Quantized enveloping algebras for Borcherds superalgebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3297–3319. (From the text) **99f:17014** 17B37 (17B67)

Melville, Robert C. (*with* Watson, Layne T.; Sosonkina, Maria; Morgan, Alexander P.; Walker, Homer F.) Algorithm 777: HOMPACK90: a suite of Fortran 90 codes for globally convergent homotopy algorithms. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 514–549. 65Y15

— (*with* Geoghegan, Ross; Lagarias, Jeffrey C.) Threading homotopies and dc operating points of nonlinear circuits. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 159–178 (*electronic*). (T. Y. Li) **99j:65098** 65H20 (94C05)

Melville, W. Kendall (*with* Fedorov, Alexey V.) Nonlinear gravity—capillary waves with forcing and dissipation. (English summary) *J. Fluid Mech.* **354** (1998), 1–42. (F. Milinazzo) **99d:76028** 76D33 (76B15, 76D45)

Melvin, Robin G. (*with* Cai, Xiao-Chuan; Gropp, William D.; Keyes, David E.; Young, David P.) Parallel Newton-Krylov-Schwarz algorithms for the transonic full potential equation. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 246–265 (*electronic*). (Summary) **99b:65138** 65N30 (65H20, 65Y05, 76H05, 76M10)

Mémin, Jean (*with* Coquet, François; Mackevičius, Vigirdas) Stability in **D** of martingales and backward equations under discretization of filtration. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 235–248. (Fabio Antonelli) **99f:60109** 60H10 (60G44)

Mena, Filipe C. (*with* Tavakol, R. K.) Evolution of the density contrast in inhomogeneous dust models. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, 435–452. 83C55

Mena, Juan F. *see* **Mena-Jurado, Juan Francisco**

Menaa, M. (*with* Tahiri, M.) BRST–anti-BRST symmetry and observables for topological gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7312–7317. (Summary) **99k:81325** 81T70 (81T60)

Mena-Jurado, Juan Francisco (*with* López, Ginés) Point of continuity property and Schauder bases. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1177–1185. (Paolo Terenzi) **99g:46009** 46B15

Mena Marugán, Guillermo A. (*with* Garay, Luis J.) Thiemann transform for gravity with matter fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3763–3775. (Jorge A. Pullin) **99j:83036** 83C45 (83C05)

— (*with* Montejo, Manuel) Quantization of pure gravitational plane waves. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104017, 11 *pp.* (Summary) **99k:83033** 83C35

Menárguez, M. Trinidad Weak boundedness properties for maximal operators defined on weighted spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 421–436. (Summary) **99a:42012** 42B25

— (*with* Torrea Hernández, José Luis) Some inequalities arising from vector-valued Dirac deltas. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 301–319. (C. Carton-Lebrun) **99g:46050** 46E40 (42B25, 46F10)

— (*with* Pérez, Sonsoles; Soria, Fernando) Pointwise and norm estimates for operators associated with the Ornstein-Uhlenbeck semigroup. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 25–30. (Summary) **99f:35070** 35K10 (47D07, 60J35)

Menasco, William W. (*with* Kleinberg, Robert D.) Train tracks and zipping sequences for pseudo-Anosov braids. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 793–809. (Robert Ghrist) **99h:57014** 57M25 (57N05)

dominguez-Menchero, J. S. *see* **Domínguez-Menchero, J. S.**

Mencía, J. J. (*with* Arroyo, J.; Garay, Oscar J.) On a family of surfaces of revolution of finite Chen-type. (English summary) *Kodai Math. J.* **21** (1998), *no.* 1, 73–80. (Theodoros Vlachos) **99b:53075** 53C40

Mendelsohn, Eric (*with* Mahmoodian, E. S.) On the defining numbers of vertex coloring of regular graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 327–330, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99c:05067** 05C15

— (*with* Haddad, Lucien; Hell, Pavol) On the complexity of coloring areflexive h-ary relations with given permutation group. (English summary) *Ars Combin.* **48** (1998), 111–128. (Gary MacGillivray) **99d:05033** 05C15 (05C85, 68Q25)

— (*with* Stevens, Brett; Moura, Lucia) Lower bounds for transversal covers. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 279–299. (Luisa Gargano) **99m:68144** 68R05 (05B30)

— (*with* Mahmoodian, E. S.) On defining numbers of vertex colouring of regular graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 543–554. (Summary) **99i:05085** 05C15

Mendelson, Elliott ★ Introduction to mathematical logic. (English summary) Fourth edition. *Chapman & Hall, London*, 1997. $x+440$ *pp. ISBN* 0-412-80830-7 (From the preface) **99b:03002** 03–01

Mendes, Beatriz Vaz de Melo (*with* Tyler, David E.) Bias robustness of the CM-estimates of location and scale. (English summary) *Rebrape* **12** (1998), *no.* 1, 41–53. 62F35

Mendes, Eduardo M. A. M. (*with* Aguirre, Luis A.; Billings, S. A.) Smoothing data with local instabilities for the identification of chaotic systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 483–505. (Summary) **99f:93137** 93E14 (93C10)

— (*with* Billings, S. A.) On overparametrization of nonlinear discrete systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 535–556. (Summary) **99e:58167** 58F40

vilela Mendes, R. *see* **Vilela Mendes, R.**

Mendes Lopes, Margarida (*with* Pardini, Rita) Irregular canonical double surfaces. (English summary) *Nagoya Math. J.* **152** (1998), 203–230. (Caryn Werner) **99k:14061** 14J29

Mendes Lopes, Nazaré (*with* Gonçalves, Esmeralda) Some statistical results on autoregressive conditionally heteroscedastic models. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 193–202. (Summary) **99b:62085** 62G20 (62M10)

Méndez, Fernando (*with* Bañados, Máximo) Note on covariant action integrals in three dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104014, 5 *pp.* 83C45 (83C57)

Méndez, Héctor *see* **Symposium: High Energy Physics, 99d:81004**

Mendez, José M. (*with* Salto, Francisco) A natural negation completion of Urquhart's many-valued logic C^1. *J. Philos. Logic* **27** (1998), *no.* 1, 75–84. (Walter Alexandre Carnielli) **99j:03021** 03B50

Méndez, Miguel A. Umbral shifts and symmetric functions of Schur type. *Mathematical essays in honor of Gian-Carlo Rota (Cambridge, MA, 1996)*, 285–303, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Daniel Elliott Loeb) **99i:05022** 05A40 (05E05)

vázquez-Méndez, Miguel E. *see* **Vázquez-Méndez, Miguel E.**

Mendez, Osvaldo (*with* Fabes, Eugene B.; Mitrea, Marius) Boundary layers on Sobolev-Besov spaces and Poisson's equation for the Laplacian in Lipschitz domains. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 323–368. (H. Triebel) **99j:35036** 35J25 (46E35, 46N20)

de Mendez, P. Ossona (*with* de Fraysseix, H.) A short proof of a Gauss problem. (English summary) *Graph drawing (Rome, 1997)*, 230–235, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99g:05059** 05C10

Méndez-Naya, José (*with* Faíña-Medín, Andrés; García-Jurado, Ignacio; Méndez-Naya, Luciano) Unilateral commitment in the finitely repeated prisoners' dilemma. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 187–194. (Summary) **99i:90134** 90D20

Méndez-Naya, Luciano (*with* Faíña-Medín, Andrés; García-Jurado, Ignacio; Méndez-Naya, José) Unilateral commitment in the finitely repeated prisoners' dilemma. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 187–194. (Summary) **99i:90134** 90D20

— Weak topology and infinite matrix games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 219–229. (O. A. Malafeyev) **99m:90184** 90D44

Méndez-Pérez, J. M. R. (*with* Miquel Morales, G.) On the convolution of the generalized finite Legendre transform. (English summary) *Math. Nachr.* **188** (1997), 219–236. (Hans-Jürgen Glaeske) **99e:44003** 44A35 (46F12)

— (*with* Miquel Morales, G.) The generalized discrete Legendre transformation. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 183–206. (Mahmood Ahmad Pathan) **99b:33021** 33C45 (44A15)

Mendiondo, Marta Susana (*with* Stockbridge, Richard H.) Approximation of infinite-dimensional linear programming problems which arise in stochastic control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1448–1472 (*electronic*). (O. L. V. Costa) **99e:90061** 90C15 (49M35, 90C05, 93E20)

Mendivil, Franklin (*with* Forte, B.) A classical ergodic property for IFS: a simple proof. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 609–611. (Thomas Bogenschütz) **99d:58103** 58F11 (28D05)

— A generalization of ifs with probabilities to infinitely many maps. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1043–1051. (Remo Badii) **99i:58095** 58F11 (28A99, 54E40, 58F12)

— (*with* Forte, B.; Vrscay, E. R.) "Chaos games" for iterated function systems with grey level maps. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 878–890 (*electronic*). (Summary) **99a:28007** 28A80 (58F13, 60J15)

— Function algebras and the lattice of compactifications. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1863–1871. (Eliza Wajch) **99i:54025** 54D35 (46E25, 46J10, 54C35, 54D40)

de Mendonça, J. Ricardo G. (*with* de Oliveira, Mário J.) Stationary coverage of a stochastic adsorption-desorption process with diffusional relaxation. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 651–658. (M. Yu. Rasulova) **99j:82060** 82C31 (82C70)

xavier de Mendonça Neto, Candido Ferreira *see* **Xavier de Mendonça Neto, Candido Ferreira**

Mendori, Atsuhiko (*with* Kasue, Atsushi) Riemannian submersions and isoperimetric inequalities. (English summary) *Geom. Dedicata* **70** (1998), *no.* 1, 27–47. (Alberto G. Setti) **99e:53051** 53C21 (58G30)

rivero Mendoza, Jesús *see* **Rivero Mendoza, Jesús**

Mendoza, José (*with* Cembranos, Pilar) ★ Banach spaces of vector-valued functions. Lecture Notes in Mathematics, 1676. *Springer-Verlag, Berlin*, 1997. viii+118 *pp. ISBN* 3-540-63745-1 (Giovanni Emmanuele) **99f:46049** 46E40 (46B20)

— Proximinality in $L_p(\mu, X)$. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 331–343. (Summary) **99b:46053** 46E40 (41A65, 46B20)

— (*with* Gámez, José L.) On Denjoy-Dunford and Denjoy-Pettis integrals. (English summary) *Studia Math.* **130** (1998), *no.* 2, 115–133. (Kevin T. Andrews) **99k:28013** 28B05 (26A39, 46G10)

Mendoza, Ramón (*with* Gómez, Pedro; Moraes, Fernando) Fluctuating metrics in one-dimensional manifolds. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5293–5300. (Helmut Rumpf) **99a:81111** 81T16 (58D30, 58G26, 81S40)

vera Mendoza, Rigoberto *see* **Vera Mendoza, Rigoberto**

Mendoza-Blanco, José R. (*with* Kowalski, Jeanne; Tu, Xin M.; Day, Roger S.) On the rate of convergence of the ECME algorithm for multiple regression models with t-distributed errors. (English summary) *Biometrika* **84** (1997), *no.* 2, 269–281. (Murray A. Jorgensen) **99a:62094** 62J05

Mendoza T., F. J. (*with* Arredondo Ruiz, J. H.) Operators that are invariant under the analytic dilation group. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro, 1994)*, 13–21, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99i:47084** 47F05 (35B20, 35P05)

Mendris, Robert (*with* Zlatoš, Pavol) Axiomatization and undecidability results for linear betweenness relations. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 305–315. (Françoise Point) **99d:03036** 03C60 (03B30, 03C52, 03D35, 08A02)

Mendygulov, Yu. D. (*with* Moskovkin, V. M.) Fluctuations in one-dimensional dynamic systems. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2521–2523. (*see* **99e:00033**) 34F05 (34C35)

Menegatto, V. A. Fundamental sets of functions on spheres. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 4, 387–398. (Kirill A. Kopotun) **99k:41030** 41A30 (42A65)

Meneghini, L. (*with* Dai Pra, Paolo; Runggaldier, Wolfgang J.) Explicit solutions for multivariate, discrete-time control problems under uncertainty. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 169–176. (Summary) **99e:49029** 49K45 (49K35, 93C55, 93E03)

Meneguzzi, M. Numerical simulation of two-phase flows. *Numerical methods in fluid mechanics*, 171–178, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 76T05 (76M25)

Menéndez, E. *see* **Menéndez Acuña, Ernesto**

Menéndez, M. L. (*with* Morales, Domingo; Pardo, Leandro; Vajda, Igor) Two approaches to grouping of data and related disparity statistics. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 609–633. (K. K. Ferentinos) **99g:62009** 62B10 (62F03)

— (*with* Frank, O.; Pardo, Leandro) Asymptotic distributions of weighted divergence between discrete distributions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 867–885. (Summary) **99c:62038** 62E20 (62B10)

— (*with* Morales, Domingo; Pardo, Leandro; Vajda, Igor) Asymptotic distributions of φ-divergences of hypothetical and observed frequencies on refined partitions. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 1, 71–89. (Jan Beirlant) **99f:62065** 62G10

— (*with* Morales, Domingo; Pardo, Leandro; Zografos, K.) Statistical inference for finite Markov chains based on divergences. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 9–17. (Summary) **99j:62119** 62M05

Menéndez Acuña, Ernesto (*with* Zamora, L.) Study of a ratio-type estimator assisted by superpopulation models. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 87–94. 62D05

— (*with* Reyes, A.) A proposal for applying Srivastava's estimator when the optimum value of the parameter is unknown. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 107–110. 62D05

anzaldo-Meneses, Alfonso *see* **Anzaldo-Meneses, Alfonso**

Meneveau, Charles (*with* Liu, Shewen; Katz, Joseph) Evolution and modelling of subgrid scales during rapid straining of turbulence. (English summary) *J. Fluid Mech.* **387** (1999), 281–320. 76F99

— (*with* Scotti, Alberto Daniele) A fractal model for large eddy simulation of turbulent flow. (English summary) *Phys. D* **127** (1999), *no.* 3-4, 198–232. (Summary) **99k:76069** 76F05 (76M25)

Menezes, Alfred J. (*with* van Oorschot, Paul C.; Vanstone, Scott A.) ★ Handbook of applied cryptography. With a foreword by Ronald L. Rivest. CRC Press Series on Discrete Mathematics and its Applications. *CRC Press, Boca Raton, FL*, 1997. xxviii+780 *pp. ISBN* 0-8493-8523-7 (Yvo Desmedt) **99g:94015** 94A60 (00A20, 00A69, 11T71, 68P25, 94-00, 94-01)

— (*with* Blake-Wilson, Simon; Johnson, Donald Byron) Key agreement protocols and their security analysis (extended abstract). (English summary) *Cryptography and coding (Cirencester*, 1997), 30–45, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (*see* **99g:94019**) 94A60

Menezes, Carlos An upper bound for the characteristic variety of an induced $\mathscr{D}$-module. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 5, 751–764. (Andrea D'Agnolo) **99c:32009** 32C38 (58G07)

Menezes, P. Blauth Diagonal compositionality of partial Petri nets. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro*, 1997/*New Orleans, LA*, 1997), 27 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (Summary) **99j:68093** 68Q90 (68Q55)

— (*with* Sernadas, Amílcar; Costa, J. Félix) Nonsequential automata semantics for a concurrent, object-based language. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro*, 1997/*New Orleans, LA*, 1997), 29 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q55 (68Q10)

Meng, Biao Long Prime filters in lattice implication algebras. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 3, 189–192. 03G10

Meng, Bo Qin Sphere-packing problems in a class of Orlicz spaces. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **27** (1998), *no.* 2, 81–84. 46E30 (52C17)

Meng, C. (*with* Cui, Yun An; Hudzik, Henryk) On some local geometry of Orlicz sequence spaces equipped with the Luxemburg norm. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 143–154. (Anna H. Kamińska) **99e:46028** 46B45 (46B20)

Meng, C. L. (*with* Gibson, J. S.) Fast identification of parameters in optical systems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 73–101. (Jin Yun Yuan) **99g:93022** 93B30 (78-08)

Meng, Dao Ji (*with* Jiang, Cui Po) The structure of Lie algebras where nilpotent radicals are Heisenberg algebras, and their construction. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 19, 2047–2050. 17B05

— (*with* Jiang, Cui Po) The structures of some complete Lie algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 267–274. (Zhi Xue Zhang) **99k:17009** 17B05 (17B30)

— (*with* Jiang, Cui Po) The automorphism group of the derivation algebra of the Virasoro-like algebra. (English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 2, 175–183. (Santos González) **99g:17039** 17B40 (17B65)

— (*with* Bai, Cheng Ming) On bi-symmetric algebras. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 2, 127–145. (Joseph C. Ferrar) **99k:17001** 17A30 (17B60)

— (*with* Jiang, Cui Po) The derivation algebra of the associative algebra $C_q[X, Y, X^{-1}, Y^{-1}]$. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1723–1736. (Andrzej Trzepizur) **99c:16032** 16W25 (17B20)

— A review of complete Lie algebras. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 11, 1127–1130. 17B99

— (*with* Bai, Cheng Ming) The structure of bisymmetric algebras and their adjoint Lie algebras. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 12, 1258–1262. 17B60

— (*with* Zhu, Lin Sheng[1]) Complete Lie algebras with nilpotent radicals of maximal rank. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 16, 1717–1720. 17B99

Meng, Fan Shen The commutant elements of BCI-algebras. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 609–612. 06F35

Meng, Fan Wen (*with* Gao, Yan[1]; Xia, Zun Quan) Second-order directional derivatives for max-type functions. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 6, 621–624. 49J52 (49J50, 49K35)

— Some equivalent propositions on approximations of set-valued mappings. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 56–58. 49J52 (90C48)

Meng, Fanwei Oscillation theorems for second order matrix differential systems. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 1, 7–12. (Summary) **99c:34063** 34C10

Meng, Guang (*with* Zhi, Xi Zhe; Gu, Zhi Ping) A construction of Lyapunov functions by computer and its applications. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 59–63, *V.* 34D20 (70K15)

Meng, Guang Da (*with* Wu, You Lin; Ma, Guang Wen; Zhang, Guo Min) Quantum decoherence and gravity. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 2, 40–54. (Summary) **99m:81040** 81P99 (83C99)

Meng, Guang Wu (*with* Fang, Jin Xuan) L-fuzzy homomorphisms between L-fuzzy topological groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 4, 13–17. (Summary) **99d:22007** 22A99

— (*with* Zhang, Xingfang; Meng, Han; Chen, Shui-Li) On the category of L-fuzzy topological rings. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 381–394. (W. J. Kotzé) **99g:16058** 16W80 (54A40)

— (*with* Zhang, Xingfang) The stratodensity of L-fuzzy topological spaces. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 535–538. 54A40

— (*with* Shi, Fu Gui) Topologies in pointwise quasi-uniform molecular lattices. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 41–44. (Summary) **99b:06019** 06F30 (54E15)

Meng, Han (*with* Meng, Guang Wu; Zhang, Xingfang; Chen, Shui-Li) On the category of L-fuzzy topological rings. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 381–394. (W. J. Kotzé) **99g:16058** 16W80 (54A40)

Meng, J. *see* **Meng, Jie**

Meng, J. H. (*with* Chan, Ling-Yau; Jiang, Yong Cai; Guan, Ying-Nan) D-optimal axial designs for quadratic and cubic additive mixture models. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 359–371. (Summary) **99e:62127** 62K05

Meng, Ji-Xiang Isomorphisms of hierarchical circulant digraphs. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 14–16. (Summary) **99i:05148** 05C60

— (*with* Guo, Xiaofeng) Cartesian product decomposition of circulant digraphs. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 33–36. (*see* **99i:05002**) 05C70

— (*with* Liu, Xin[2]) The diameters of almost all Cayley digraphs. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 410–413. (Qaiser Mushtaq) **99b:05075** 05C25

— Connectivity of random Cayley digraphs. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 493–498. (Xiao Feng Guo) **99e:05082** 05C40 (05C25)

— (*with* Wang, Jian Zhong[1]) The exponent of the primitive Cayley digraphs on finite abelian groups. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 177–191. (Dragan Marušič) **99h:05058** 05C25 (05C20)

— (*with* Xu, Ming-Yao) On the isomorphism problem of Cayley graphs of abelian groups. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 161–169. (Hugo S. Sun) **99j:20045** 20F32 (05C25)

— (*with* Luo, Xin Mi) Cayley graphs of abelian groups are edge-Hamiltonian. (English summary) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 3, 1–4. (Summary) **99j:05092** 05C25 (05C45)

Meng, Jie (*with* Jun, Young Bae; Xin, Xiao Long) Anti-fuzzy BCK-filters. (English summary) *Far East J. Math. Sci.* **1997,** *Special Volume, Part II*, 137–145. (Summary) **99b:06021** 06F35 (03G25)

— (*with* Xin, Xiao Long; Kim, Hee Sik; Jun, Young Bae) On free d-algebras. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 155–163. (Introduction) **99g:06027** 06F35

— (*with* Jun, Young Bae; Xin, Xiao Long) Prime ideals in commutative BCK-algebras. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 5–15. (Elias Deeba) **99f:06023** 06F35 (03G25)

— (*with* Jun, Young Bae; Roh, Eun Hwan; Xin, Xiao Long) Fuzzy dual ideals in BCK-algebras. II. (English summary) *Far East J. Math. Sci.* **1998,** *Special Volume, Part II*, 203–214. 06F35 (03G25, 04A72)

Meng, Ling Qi (*with* Wang, Li Qin; Gao, Hang) Existence and Hölder continuity of solutions for a class of semilinear degenerate elliptic equations. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997,** *no.* 3, 10–15. 35J70 (35B65, 35J60)

Meng, Pei Yuan (*with* Li, Yeping) The stability for the hyperneutral type nonlinear time varying control systems. I. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 3, 277–282. 93D05 (34K35)

Meng, Qing Sheng (*with* Liu, Guang Yun; Zhang, Xiu Yan) The concept of metacongruence in semigroups with identity and a classification theorem for them. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 1–3. 20M99

Meng, Teng-De (*with* Lin, Chih-Min) Simultaneous deadbeat tracking control of two plants. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 921–931. 93D15

Meng, Teresa H. (*with* Hung, Andy C.) Multidimensional rotations for robust quantization of image data. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 1, 1–12. 94A12

Meng, Weiyi (*with* Chen, Rongquen) Distribution of selections over joins in the presence of data inconsistency in a multidatabase environment. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 780–793 (*electronic*). (*see* **99d:68010**) 68P15

Meng, Xian Meng Estimation of exponential sums with Möbius function coefficients. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 4, 397–404. (Ping Ding) **99b:11094** 11L07

Meng, Xiang Hui (*with* Du, Jiang; Shi, Bao Chang; Yu, Yin) An improved algorithm for the branch and bound method. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 55–58. 90C05

Meng, Xiangxu (*with* Wang, Jia Ye; Liu, Dingyuan) Modification in parameter design. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 111–115. 65Y25

Meng, Xiao-Li (*with* van Dyk, David) Fast EM-type implementations for mixed effects models. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 559–578. (Summary) **99c:62187** 62J05 (62F10)

Meng, Xu (*with* Huang, Zheng Hai; Hu, Xin Xin) A high-order infeasible interior point algorithm for solving monotone linear complementarity problems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 105–109. 90C33

Meng, Ya Qin (*with* Ye, Zheng Lin; Liu, Ke Xuan) Generation of C^1 parametric spline curves using piecewise affine transformations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 33–35. (Summary) **99d:65050** 65D17

Meng, Zhi Qing (*with* Hu, Yu Da) The existence theorem of the cone-weak subdifferential of set-valued mapping. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 485. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 473–477. 49J52 (90C29)

— Hahn-Banach theorem of set-valued map. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 1, 59–66; *translated from Appl. Math. Mech.* **19** (1998), *no.* 1, 55–61 (*Chinese. English and Chinese summaries*). (Przemo Kranz) **99k:47129** 47H04 (46A22, 47N10, 49J50, 90C48)

— (*with* Tang, Yong) Existence of a kind of generalized subdifferential for set-valued functions. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 99–101. 49J52

— Some properties of a cone generalized subdifferential of set-valued functions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 3–6. 49J52 (90C29)

Menger, Karl The new logic. Translated by H. B. Gottlieb and J. K. Senior. *Logical empiricism at its peak*, 141–178, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006a**) 00A30

— ★ Ergebnisse eines mathematischen Kolloquiums. (German) [Results of a mathematical colloquium] With contributions by J. W. Dawson, Jr., R. Engelking and W. Hildenbrand, a foreword by G. Debreu and an afterword in English by F. Alt. Edited by E. Dierker and K. Sigmund. *Springer-Verlag, Vienna*, 1998. $x+470$ *pp. ISBN* 3-211-83104-5 (Roman Duda) **99j:01028** 01A75 (01–06, 01A60, 03–03, 51–03, 54–03, 55–03, 90–03)

Mengersen, Ingrid (*with* Lortz, Roland) Size Ramsey results for paths versus stars. (English summary) *Australas. J. Combin.* **18** (1998), 3–12. (Summary) **99f:05081** 05C55

— (*with* Dochkowa, Juliana; Harborth, Heiko) Cut set Catalan numbers. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 133–139. (*see* **99i:00020**) 05A10

Menghini, Marta (*with* Israel, Giorgio) The "essential tension" at work in qualitative analysis: a case study of the opposite points of view of Poincaré and Enriques on the relationships between analysis and geometry. (English and Italian summaries) *Historia Math.* **25** (1998), *no.* 4, 379–411. (I. Grattan-Guinness) **99k:01023** 01A55 (00A30)

Menicocci, Renato (*with* Golić, Jovan Đ.) Correlation attacks on up/down cascades. (English summary) *Information security and privacy (Brisbane, 1998)*, 123–134, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60 (94A55)

— (*with* Golić, Jovan Đ.) Correlation attacks on up/down and stop/go cascades. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 486–498. (Zhao Zhi Zhang) **99m:94035** 94A60 (94A55)

Menikhes, L. D. (*with* Tanana, V. P.) On convergence of approximations in the regularization method and the Tikhonov regularization method on the nth order. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 3, 243–262. (Otmar Scherzer) **99i:65063** 65J20 (47A50)

Menikoff, Ralph (*with* Henderson, Le Roy F.) Triple-shock entropy theorem and its consequences. (English summary) *J. Fluid Mech.* **366** (1998), 179–210. (Philippe G. LeFloch) **99g:76079** 76L05 (35L67, 35Q35, 76N15)

Menini, Claudia (*with* Phạm Ngọc Ánh; Herbera, Dolors) AB-5* for module and ring extensions. *Abelian groups, module theory, and topology (Padua, 1997)*, 59–68, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Robert Wisbauer) **99k:16014** 16D90 (16P99)

Menke, C. (*with* Hug, M.; Schleich, W. P.) How to calculate the Wigner function from phase space. (English summary) *J. Phys. A* **31** (1998), *no.* 11, *L*217–*L*224. (Summary) **99b:81124** 81S30

— (*with* Hug, M.; Schleich, W. P.) Modified spectral method in phase space: calculation of the Wigner function. I. Fundamentals. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3188–3205. (Summary) **99c:81116a** 81S30

— (*with* Hug, M.; Schleich, W. P.) Modified spectral method in phase space: calculation of the Wigner function. II. Generalizations. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3206–3224. (Summary) **99c:81116b** 81S30

Menkho, O *see* **Oh, Myoungho**

Men'kov, G. B. (*with* Vinogradov, Yu. I.) The method of functional normalization of solutions of stiff linear ordinary differential equations for boundary value problems. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 6, 763–764; *translation in Dokl. Phys.* **43** (1998), *no.* 2, 122–123. 34A05 (73K15)

el-Mennaoui, O. *see* **El-Mennaoui, O.**

Mennessier, C. (*with* Desbat, L.) On the invertibility of Doppler imaging: an approach based on generalized tomography. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 193–213. (Summary) **99m:85001** 85–08 (85A15)

Mennicke, J. L. (*with* Helling, H.; Kim, Ann Chi) A geometric study of Fibonacci groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 1–23. (Ronnie Lee) **99c:57005** 57M07 (20F34, 57M05, 57N10)

Mennicken, R. (*with* Adamyan, V. M.; Saurer, J.) On the discrete spectrum of some selfadjoint operator matrices. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 3–41. (M. M. Malamud) **99g:47046** 47B25 (34L05, 47A10, 47E05)

— *see also* **Differential and integral operators**, **99d:47001**; **Recent progress in operator theory**, **99d:47002**; **ICIAM/GAMM 95**, **99f:00010a**; **99f:00010b**; **75 years of GAMM**, **99f:01027**; **GAMM 97**, **99m:00025a**; **99m:00025b** *and* **99m:00025c**

Mennucci, Andrea (*with* Cannarsa, Piermarco; Sinestrari, Carlo) Regularity results for solutions of a class of Hamilton-Jacobi equations. (English summary) *Arch. Rational Mech. Anal.* **140** (1997), *no.* 3, 197–223. (Martino Bardi) **99e:49032** 49L25 (35D10, 35F25, 49N60)

Mennucci, Benedetta (*with* Cancès, Eric) New applications of integral equations methods for solvation continuum models: ionic solutions and liquid crystals. (English summary) *J. Math. Chem.* **23** (1998), *no.* 3-4, 309–326. (Summary) **99d:82076** 82D30 (45L05)

— (*with* Cancès, Eric; Le Bris, Claude; Tomasi, Jacopo) Integral equation methods for molecular scale calculations in the liquid phase. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 35–44. (Summary) **99j:92030** 92E20 (92C40)

Menon, Jai (*with* Guo, Baining) Free-form modeling in bilateral Brep and CSG representation schemes. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 537–575. (Luiz Henrique de Figueiredo) **99j:68147** 68U07

Menon, V. J. (*with* Agrawal, D. C.) Comment on: "The Stefan-Boltzmann constant in n-dimensional space" [J. Phys. A **22** (1989), no. 8, 1073–1084; MR 90b:83052] by P. T. Landsberg and A. De Vos. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1109–1110. (Summary) **99c:83038** 83C47 (81T20, 82B99, 83E30)

Menotti, Pietro Gravity in 2 + 1 dimensions. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 47–69, *World Sci. Publishing, River Edge, NJ*, 1996. (Michael O. Katanaev) **99i:83030** 83C40 (83C45)

— (*with* Peirano, P. P.) Functional integration for Regge gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 82–90. (From the introduction) **99g:83024** 83C27 (83C45)

— Group theoretical derivation of Liouville action for Regge surfaces. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 611–619. (Saburo Higuchi) **99g:83025** 83C27

Menous, Frédéric (*with* Ecalle, Jean) Well-behaved convolution averages and the non-accumulation theorem for limit-cycles. (English summary) *The Stokes phenomenon and Hilbert's 16th problem (Groningen, 1995)*, 71–101, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexander Tovbis) **99b:34058** 34C05 (40H05, 58F21)

Menq, Chia-Hsiang *see* **Holmberg, Ulf**

Menser, D. K. (*with* Clark, Lane H.; Ellingham, M. N.) On the circumference of class 2 graphs. (English summary) *Util. Math.* **53** (1998), 243–253. (Summary) **99a:05046** 05C15

Men'shikov, G. G. Intersection subdistributivity and interval hull superdistributivity with respect to the interval maps. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 377–381. (E. R. Hansen) **99k:65043** 65G10

Menshikov, Mikhail (*with* Volkov, Stanislav) Branching Markov chains: qualitative characteristics. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 2, 225–241. (J. D. Biggins) **99c:60192** 60J80 (60J15)

— Martingale approach for Markov processes in random environment and branching Markov chains. (English summary) *Resenhas* **3** (1997), *no.* 2, 159–171. (Francis Comets) **99c:60152** 60J15 (60J80)

— *see also* **School: Probability**, **99i:60002**

Menskiĭ, M. B. Decoherence in continuous measurements: from models to phenomenology. (English summary) *Found. Phys.* **27** (1997), *no.* 12, 1637–1654. (Seth A. Major) **99e:81024** 81P15 (81S40)

— (*with* Audretsch, Jürgen) Continuous measurement of energy for a two-level system. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 215–217. (*see* **99e:81004**) 81P15

— Continuously measured systems, path integrals, and information. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 273–280. (Summary) **99f:81029** 81P15 (81S40)

Menteshashvili, M. Z. On the Cauchy problem with initial data on the unit circle. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 2, 190–192 (1994). 35L80

Menth, Martin Feinste Unterraumketten in unendlich-dimensionalen Vektorräumen. (German summary) [Finest subspace chains in infinite-dimensional vector spaces] *Math. Semesterber.* **43** (1996), *no.* 2, 123–130. (E. W. Ellers) **99c:15003** 15A03

Mentrasti, L. Paradoxes in rigid-body kinematics of structures. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 1, 218–222. (Robert Connelly) **99j:70006** 70B10 (52C25, 70B15)

Mentz, Raul P. (*with* Morettin, Pedro A.; Toloi, Clélia M. C.) On residual variance estimation in autoregressive models. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 2, 187–208. (Jiří Anděl) **99b:62141** 62M10

— (*with* Morettin, Pedro A.; Toloi, Clélia M. C.) On least-squares estimation of the residual variance in the first-order moving average model. (English summary) *Comput. Statist. Data Anal.* **29** (1999), *no.* 4, 485–499. 62M10

Menyuk, C. R. (*with* Fokas, A. S.) Integrability and self-similarity in transient stimulated Raman scattering. (English summary) *J. Nonlinear Sci.* **9** (1999), *no.* 1, 1–31. (Summary) **99i:78024** 78A45 (34A34, 34A55, 34L25, 35Q60)

di Menza, Laurent *see* **Di Menza, Laurent**

perla Menzala, Gustavo *see* **Perla Menzala, Gustavo**

Menzel, A. (*with* Betsch, P.; Stein, Erwin) On the parametrization of finite rotations in computational mechanics. A classification of concepts with application to smooth shells. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 3-4, 273–305. (Summary) **99a:73090** 73K15 (73V10)

Menzer, H. (*with* Bhowmik, Gautami) On the number of subgroups of finite abelian groups. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 117–121. (Douglas Hensley) **99b:11111** 11N45 (11M06)

Meo, Maria Chiara (*with* Etalle, Sandro; Gabbrielli, Maurizio) Unfold/fold transformations of CCP programs. (English summary) *CONCUR'98: concurrency theory (Nice)*, 348–363, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68N17)

— (*with* Etalle, Sandro; Gabbrielli, Maurizio) Unfold/fold transformations of CCP programs. (English summary) *CWI Quarterly* **11** (1998), *no.* 2-3, 299–321. 68T20 (68N20, 68Q10)

— (*with* Comini, Marco) Compositionality properties of SLD-derivations. (English summary) *Theoret. Comput. Sci.* **211** (1999), *no.* 1-2, 275–309. (Summary) **99m:68030** 68N17 (68Q15, 68Q55)

Meo, Michel Inégalités d'auto-intersection pour les courants positifs fermés définis dans les variétés projectives. [Self-intersection inequalities for closed positive currents defined in projective varieties] *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 1, 161–184. (Mongi Blel) **99e:32013** 32C30

Mer, Katherine Variational analysis of a mixed element/volume scheme with fourth-order viscosity on general triangulations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 1-2, 45–62. (Claus-Dieter Munz) **99c:76070** 76M10 (65N30, 76M25, 76M30)

Merabet, Houari (*with* Brzeziński, Tomasz) Nahm's equations and root systems. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1101–1106. (Conor J. Houghton) **99g:53029** 53C07 (81T13)

— Two-component reduction of Nahm's equations and hyper-elliptic solutions. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 119–122. (Roger Bielawski) **99a:53023** 53C07 (58E15)

Merazhov, I. Z. (*with* Blokhin, A. M.; Trakhinin, Yu. L.) Investigation on stability of electrohydrodynamic shock waves. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 87–114 (1998). (V. D. Sharma) **99e:76125** 76W05 (35Q35, 76E25, 76L05)

— (*with* Blokhin, A. M.; Trakhinin, Yu. L.) On the stability of shock waves in a continuum with bulk charge. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 29–39. (Introduction) **99i:76081** 76L05 (76E99, 76W05)

Mercader, Isabel (*with* Prat, Joana d'Arc; Massaguer, J. M.) Secondary instabilities in the two-dimensional Rayleigh-Bénard problem. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995), 8 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 76E15

— (*with* Prat, Joana d'Arc; Knobloch, Edgar) Resonant mode interactions in Rayleigh-Bénard convection. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 3145–3156. (Summary) **99f:76053** 76E15

pérez-Mercader, Juan *see* **Pérez-Mercader, Juan**

Mercader del Río, L. (*with* Katsenelenbaum, B. Z.; Pereyaslavets, M.; Sorolla Ayza, M.; Thumm, M.) ★ Theory of nonuniform waveguides. (English summary) The cross-section method. IEE Electromagnetic Waves Series, 44. *Institution of Electrical Engineers (IEE), London*, 1998. *xvi+249 pp. ISBN* 0-85296-918-X (A. S. Silbergleit) **99f:78017** 78A50 (35Q99, 78A40)

Mercaldo, Anna (*with* Ferone, Vincenzo) A second order derivation formula for functions defined by integrals. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 549–554. (Summary) **99g:49019** 49K10 (26B05)

Mercan, H. Murat (*with* Wee, Hui-Ming) Exponentially decaying inventory with partial back-ordering. (English summary) *Optimal Control Appl. Methods* **20** (1999), *no.* 1, 43–50. 90B05 (93E03)

Mercat, Vincent Le problème de Brill-Noether pour des fibrés stables de petite pente. [The Brill-Noether problem for stable bundles with small slopes] *J. Reine Angew. Math.* **506** (1999), 1–41. (Montserrat Teixidor i Bigas) **99k:14021** 14D20 (14H60)

Mercer, A. McD. An "error term" for the Ky Fan inequality. *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 774–777. (P. S. Bullen) **99b:26039** 26D15

— Some new inequalities involving elementary mean values. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 677–681. (Summary) **99i:26025** 26D15

Mercer, G. N. (*with* Weber, R. O.; Sidhu, H. S.) An oscillatory route to extinction for solid fuel combustion waves due to heat losses. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 2015–2022. (Summary) **99d:80011** 80A25

jimenéz-Merchán, A. *see* **Jimenéz-Merchán, A.**

Merchant, Gregory (*with* Keller, Joseph B.; King, Andrew C.) Surface tension. (English summary) *Of fluid mechanics and related matters (La Jolla, CA, 1990)*, 161–168, *Scripps. Inst. Oceanogr. Ref. Ser.*, 91-24, *Scripps Inst. Oceanogr., San Diego, CA*, 1991. (John F. Harper) **99d:76029** 76D45 (76B45)

— *see also* **Concus, Paul**, **99d:76030**

fernández-Merchant, S. *see* **Fernández-Merchant, S.**

Mercier, Dany-Jack (*with* Cherdieu, J. P.; Delcroix, A.; Mado, J. C.) Weight distribution of the Hermitian forms codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 307–314. (Marc Perret) **99d:11131** 11T71 (94B27)

— (*with* Rolland, Robert) Polynômes homogènes qui s'annulent sur l'espace projectif $P^m(F_q)$. (French summary) [Homogeneous polynomials that vanish on the projective space $P^m(F_q)$] *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 227–240. (Francisco Jesús Castro-Jiménez) **99h:13015** 13D02

Mercier, Denis (*with* Nicaise, Serge) Existence results for general systems of differential equations on one-dimensional networks and prewavelets approximation. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 273–300. (Peter R. Massopust) **99b:35021** 35G20 (34B05, 65M60)

Mercier, S. (*with* Molinari, Alain) Steady-state shear band propagation under dynamic conditions. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1463–1495. 73E99

Mercier Ythier, Jean Existence of an equilibrium of property rights. (English summary) *Math. Social Sci.* **35** (1998), *no.* 3, 261–272. (Anjan Mukherji) **99h:90028** 90A14

Mercik, Jacek W. Power and expectations. *Control Cybernet.* **26** (1997), *no.* 4, 617–621. 90A05

Mercik, Szymon (*with* Weron, Rafal) Scaling in currency exchange: a conditionally exponential decay approach. (English summary) *Phys. A* **267** (1999), *no.* 1-2, 239–250. 90A09

Mercourakis, S. (*with* Argyros, S. A.; Tsarpalias, A.) Convex unconditionality and summability of weakly null sequences. (English summary) *Israel J. Math.* **107** (1998), 157–193. (G. J. O. Jameson) **99m:46021** 46B15 (40H05)

— (*with* Grekas, S.) On the measure-theoretic structure of compact groups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2779–2796. (W. W. Comfort) **99b:22007** 22C05 (28A25, 28A35, 54H11)

Mercuri, Francesco Hypersurfaces of revolution: an intrinsic approach. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 149–157. (Andrea Spiro) **99e:53092** 53C42 (53A07, 53C40)

— (*with* Noronha, Maria Helena) Conformal flatness, cohomogeneity one and hypersurfaces of revolution. (English summary) *Differential Geom. Appl.* **9** (1998), *no.* 3, 243–249. (Fabio Podestà) **99j:53077** 53C40 (53C42)

Merdivenci Atici, Ferhan (*with* Peterson, Allan C.) Bounds for positive solutions for a focal boundary value problem. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 99–107. (Summary) **99k:39028** 39A10

le Merdy, Christian *see* **Le Merdy, Christian**

Mereghetti, Carlo (*with* Pighizzini, Giovanni) Optimal simulations between unary automata. (English summary) *STACS 98 (Paris, 1998)*, 139–149, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q68 (68Q45)

— (*with* Geffert, Viliam; Pighizzini, Giovanni) Sublogarithmic bounds on space and reversals. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 325–340 (*electronic*). (Summary) **99c:68092** 68Q15 (68Q05)

Merenciano, Josep M. (*with* Morrill, Glyn) Generation as deduction on labelled proof nets. (English summary) *Logical aspects of computational linguistics (Nancy, 1996)*, 310–328, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (03B65, 03F50)

Merentes, N. (*with* Nikodem, Kazimierz; Rivas, S.) Continuity of the superposition of set-valued functions. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 43–48. (Isaac V. Shragin) **99a:47114** 47H30 (54C05, 54C60)

Merhav, Neri (*with* Arikan, Erdal) Guessing subject to distortion. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1041–1056. (Summary) **99g:94011** 94A34 (94A29)

— (*with* Arikan, Erdal) Joint source-channel coding and guessing with application to sequential decoding. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1756–1769. (Summary) **99h:94028** 94A24 (94A29, 94A34)

— (*with* Feder, Meir) Universal prediction. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2124–2147. (Summary) **99h:94026** 94A15

— (*with* Roth, Ron M.; Arikan, Erdal) Hierarchical guessing with a fidelity criterion. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 330–337. (Summary) **99j:94026** 94A34 (94A29)

Meric, R. Alsan An optimization approach for torsion analysis of prismatic bars. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 1, 57–63. 73K40 (73K05)

Meringer, Markus (*with* Brinkmann, Gunnar) The smallest 4-regular 4-chromatic graphs with girth 5. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 40–41. (*see* **99k:05003**) 05C15

— Fast generation of regular graphs and construction of cages. (English summary) *J. Graph Theory* **30** (1999), *no.* 2, 137–146. (Summary) **99i:05191** 05C85

Merino, L. M. (*with* García, Josefa M.; Jara, P.) Decomposition of locally finite modules. (English summary) *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996)*, 147–157, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (S. S. Page) **99e:16008** 16D70 (16W30)

Merino, M. (*with* Algaba, A.; García, Cristóbal; Maestre, M.) Resonance phenomena in an electronic circuit. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 139–144, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C15 (94C05)

Merino, Orlando (*with* Helton, J. William) ★ Classical control using H^∞ methods. (English summary) An introduction to design. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xii+171 pp. ISBN* 0-89871-424-9 (N. Harris McClamroch) **99i:93001** 93-01 (93-02, 93B36, 93B50)

— (*with* Helton, J. William) ★ Classical control using H^∞ methods. (English summary) Theory, optimization, and design. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xvi+292 pp. ISBN* 0-89871-419-2 (N. Harris McClamroch) **99i:93002** 93-01 (93-02, 93B36, 93B50)

— (*with* Helton, J. William; Walker, Trent E.) H^∞ optimization with plant uncertainty and semidefinite programming. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 9, 763–802. (Long Wang) **99e:93028** 93B36 (90C30)

Merino, Sandro (*with* Guidotti, Patrick) Hopf bifurcation in a scalar reaction diffusion equation. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 209–222. (Gunter Bengel) **99a:35130** 35K57 (35B32, 58F39)

— A note on the existence of travelling waves for the Fisher-Kolmogorov equation via the method of sub- and supersolutions. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 448–452, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35K57

— (*with* Grinfeld, Michael; McKee, Sean) A degenerate reaction diffusion system modelling an optical biosensor. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 1, 46–85. (Arnaldo do Nascimento) **99b:35095** 35K57 (34G20, 35B40, 92J30)

Merinov, Igor E. *see* **Vorotnikov, V. I.**, **99a:93002**

Merisi, Piercarlo (*with* Vámos, Peter) On rings whose Morita class is represented by matrix rings. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 297–315. (Lillian Hupert) **99f:16008** 16D90 (13C20)

Meriste, Merik (*with* Penjam, Jaan) Attributed models of computing. (English, Russian and Estonian summaries) *Proc. Est. Acad. Sci. Eng.* **1** (1995), *no.* 2, 139–157. (Summary) **99d:68164** 68Q68 (68Q45, 68Q60)

Merker, Joël (*with* Porten, Egmont) On the local meromorphic extension of CR meromorphic mappings. (English summary) Complex analysis and applications (Warsaw, 1997). *Ann. Polon. Math.* **70** (1998), 163–193. (Dmitri Zaitsev) **99j:32016** 32D20

— (*with* Meylan, Francine) On the Schwarz symmetry principle in a model case. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1097–1102. (Henri-Michel Maire) **99f:32020** 32D15 (32H40)

Merkes, E. P. (*with* Salmassi, Mohammad) On univalence of certain infinite products. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 207–215. (Summary) **99b:30023** 30C55 (33B15, 33C10)

Merkin, John H. (*with* Ševčíková, H.; Šnita, D.; Marek, M.) The effects of an electric field on an autocatalytic ionic reaction in a system with high ionic strength. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 1, 1–31. (Summary) **99c:92064** 92E20

— (*with* Satnoianu, Razvan A.; Scott, Stephen K.) Travelling waves in a differential flow reactor with simple autocatalytic kinetics. (English summary) *J. Engrg. Math.* **33** (1998),

no. 2, 157–174. (Yoram Schiffmann) **99d:92053** 92E20 (35K57)
— (*with* Šnita, D.; Lindner, Jiří; Marek, M.) Propagating reaction fronts in an ionic autocatalytic system: the effects of electric field intensity and ionic strength. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 2, 1–25. (Summary) **99d:92054** 92E20
— (*with* Satnoianu, Razvan A.; Scott, Stephen K.) Spatio-temporal structures in a differential flow reactor with cubic autocatalator kinetics. (English summary) *Phys. D* **124** (1998), *no.* 4, 345–367. (Vitaly A. Volpert) **99k:76057** 76E15 (80A32, 92E20)
— (*with* Finlayson, A. B.) Travelling waves in an ionic quadratic autocatalytic chemical system. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 5, 89–112. (Summary) **99m:92055** 92E20
Merkle, Milan Conditions for convexity of a derivative and some applications to the gamma function. (English summary) *Aequationes Math.* **55** (1998), *no.* 3, 273–280. (E. R. Love) **99d:33002** 33B15
— Convexity, Schur-convexity and bounds for the gamma function involving the digamma function. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1053–1066. (E. R. Love) **99m:33001** 33B15 (26D20)
— Convolutions of logarithmically concave functions. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 113–117. (Summary) **99i:26012** 26A51
— Representations of error terms in Jensen's and some related inequalities with applications. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 76–90. (B. Crstici) **99m:26026** 26D10
Merklen, Héctor A. Modules of finite projective dimension over nice weakly triangular algebras. (English summary) *Resenhas* **3** (1998), *no.* 4, 423–445. (Sverre O. Smalø) **99m:16008** 16E10 (16E30, 16G20, 16G70)
Merkov, A. B. Finite-order invariants of ornaments. (English summary) Algebraic geometry, 6. *J. Math. Sci. (New York)* **90** (1998), *no.* 4, 2215–2273. (Volkmar Welker) **99j:57031** 57R45 (57M25)
Merkulov, Sergei (*with* Manin, Yuriĭ Ivanovich) Semisimple Frobenius (super)manifolds and quantum cohomology of $\mathbf{P}^r$. (English summary) *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 1, 107–161. (Alexandre I. Kabanov) **99f:32032** 32G34 (14N10, 32C11, 58A50, 58D29, 58F07)
— (*with* Schwachhöfer, L. J.) Twistor solution of the holonomy problem. *The geometric universe* (*Oxford*, 1996), 395–402, *Oxford Univ. Press, Oxford*, 1998. (Francisco M. Cabrera) **99j:53025** 53C10 (32L25, 53C05)
— Formality of canonical symplectic complexes and Frobenius manifolds. *Internat. Math. Res. Notices* **1998**, *no.* 14, 727–733. (J. Terilla) **99j:58078** 58F05 (16E99, 58A12, 58H15)
— *see also* **Manin, Yuriĭ Ivanovich**, **99e:32001**
Merkur'ev, A. S. Comparison of the equivariant and the standard K-theory of algebraic varieties. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 175–214; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 815–850. (Marek Szyjewski) **99d:19003** 19E08 (14L30)
— K-theory and algebraic groups. *European Congress of Mathematics, Vol. II* (*Budapest*, 1996), 43–72, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (Dominique Arlettaz) **99m:14085** 14L10 (14M20, 19B99, 20G15)
— (*with* Chernousov, Vladimir I.) R-equivalence and special unitary groups. (English summary) *J. Algebra* **209** (1998), *no.* 1, 175–198. (Jean-Claude Douai) **99m:20101** 20G15 (14E05, 14G05, 14M20)
— (*with* Panin, I. A.; Wadsworth, A. R.) Index reduction formulas for twisted flag varieties. II. (English summary) *K-Theory* **14** (1998), *no.* 2, 101–196. (Jean-Pierre Tignol) **99k:16037** 16K20 (14L30, 19E08, 20G05)
— *see also* **Ivanov, O. A.**, **99g:00001**
Merle, Frank (*with* Zaag, Hatem) Reconnection of vortex with the boundary and finite time quenching. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1497–1550. (Peter L. Christiansen) **99b:35204** 35Q99 (35B40, 35K99, 82D55)
— Blow-up phenomena for critical nonlinear Schrödinger and Zakharov equations. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 57–66 (*electronic*). (Nakao Hayashi) **99h:35200** 35Q55 (35B05)
— (*with* Vega, Luis) Compactness at blow-up time for L^2 solutions of the critical nonlinear Schrödinger equation in 2D. *Internat. Math. Res. Notices* **1998**, *no.* 8, 399–425. (Elaine Machtyngier) **99d:35156** 35Q55 (35B05)
du Merle, Olivier (*with* Goffin, Jean-Louis; Vial, Jean-Philippe) On improvements to the analytic center cutting plane method. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 37–52. (Pham Trong Quat) **99g:90129** 90C30
— (*with* Villeneuve, Daniel; Desrosiers, Jacques; Hansen, Pierre) Stabilized column generation. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 229–237. (Summary) **99g:90066** 90C05 (90C06)
Merle, V. (*with* Manna, M. A.) Asymptotic dynamics of short waves in nonlinear dispersive models. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 6206–6209. (Summary) **99b:35186** 35Q53
Merlet, Jean-Pierre Determination of the presence of singularities in 6D workspace of a Gough parallel manipulator. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 39–48, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70010** 70B15 (70–08)
— (*with* Gosselin, Clément M.; Mouly, Nicolas) Workspaces of planar parallel manipulators. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 1-2, 7–20. (Summary) **99f:70010** 70B15 (70–08)
Merlevède, Florence (*with* Peligrad, Magda; Utev, Sergei) Sharp conditions for the CLT of linear processes in a Hilbert space. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 681–693. (Alexander V. Bulinskiĭ) **99e:60022** 60B12
Merlier, Thérèse ★ Exercices corrigés sur les formes quadratiques et groupes classiques. (French. French summary) [Quadratic forms and classical groups: exercises with answers] Mathématiques. [Mathematics] *Presses Universitaires de France, Paris*, 1998. *iv*+182 *pp. ISBN* 2-13-045796-7 (Editors) **99m:11048** 11E57 (00A07, 15A63, 15A66, 20G15)
Merlini, Donatella (*with* Corsani, Cristiano; Sprugnoli, Renzo) Left-inversion of combinatorial sums. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 107–122. (Alessandro Di Bucchianico) **99c:05017** 05A19 (05A15, 05A40)
Mermin, N. David The symmetry of crystals. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 377–401, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (T. Janssen) **99a:52023** 52C07 (20H15, 82D25)
— Nonlocal character of quantum theory? (English summary) *Amer. J. Phys.* **66** (1998), *no.* 10, 920–924. (Summary) **99k:81036** 81P15
— Space-time intervals as light rectangles. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 12, 1077–1080. (Mary L. Boas) **99j:83005** 83A05
Mérő, László ★ Moral calculations. Game theory, logic, and human frailty. Translated by Anna C. Gösi-Greguss. *Copernicus, New York*, 1998. *xii*+276 *pp. ISBN* 0-387-98419-4 (A. Rapoport) **99g:90177** 90D40 (90A05, 92J10)
Meroño, Miguel A. (*with* Barros, Manuel; Ferrández, Angel; Lucas, Pascual) Willmore tori and Willmore-Chen submanifolds in pseudo-Riemannian spaces. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 45–66. (Summary) **99m:53098** 53C40 (53C50)
— (*with* Ferrández, Angel; Lucas, Pascual) Biharmonic Hopf cylinders. *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 957–975. (Udo Hertrich-Jeromin) **99k:53126** 53C50 (53C40)
— (*with* Alías, Luis J.; Ferrández, Angel; Lucas, Pascual) On the Gauss map of B-scrolls. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 371–377. (Christos Baikoussis) **99k:53123** 53C50 (53A40)
Merrachi, Najia (*with* Benslimane, Mohamed) Caractérisation spectrale d'une classe d'algèbres de Jordan Banach. [Spectral characterization of a class of Jordan-Banach algebras] *Comm. Algebra* **26** (1998), *no.* 5, 1393–1397. (Antonio Fernández López) **99c:46056** 46H70 (17C65, 17D05)
— (*with* Benslimane, Mohamed) Algèbres de Jordan Banach vérifiant $\|x\|\,\|x^{-1}\| = 1$. [Jordan-Banach algebras satisfying $\|x\|\,\|x^{-1}\| = 1$] *J. Algebra* **206** (1998), *no.* 1, 129–134. (Khristo N. Boyadzhiev) **99h:46094** 46H70 (17C65)
Merrien, Jean-Louis (*with* Dubuc, Serge; Sablonnière, Paul) The length of the de Rham curve. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 182–195. (G. Maess) **99f:65013** 65D05
— Interpolants D'Hermite C^2 obtenus par subdivision. (English and French summaries) [C^2 Hermite interpolants obtained by subdivision] *M2AN Math. Model. Numer. Anal.* **33** (1999), *no.* 1, 55–65. (Summary) **99m:41005** 41A05 (65D05)
Merrill, Kathy D. (*with* Baggett, Lawrence W.; Medina, Herbert A.) Cohomology of polynomials under an irrational rotation. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2909–2918. (Karma Dajani) **99a:28013** 28D05 (11K38)
Merrill, Samuel, III (*with* Grofman, Bernard) Modeling large electorates with Fourier series, with applications to Nash equilibria in proximity and directional models of spatial competition. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 4, 545–562. (Fouad T. Aleskerov) **99a:90070** 90A28
Merrill, Stephen J. (*with* Root-Bernstein, Robert S.) A model of the role of cofactors in the initiation and development of AIDS. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 2, 173–185. (Summary) **99k:92043** 92D30
Merriman, Barry (*with* Fedkiw, Ronald P.; Osher, Stanley) Numerical methods for a one-dimensional interface separating compressible and incompressible flows. (English summary) *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 155–194, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:76067** 76M20 (65M99, 76M25, 76N10)
— (*with* Fedkiw, Ronald P.; Osher, Stanley) Efficient characteristic projection in upwind difference schemes for hyperbolic systems. The complementary projection method. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 1, 22–36. (Summary) **99a:76096** 76M20 (65M06)
— (*with* Zhao, Hong-Kai; Osher, Stanley; Wang, Lihe) Capturing the behavior of bubbles and drops using the variational level set approach. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 495–518. (Summary) **99c:76089** 76M25 (76D99)
— (*with* Fedkiw, Ronald P.; Marquina, Antonio) An isobaric fix for the overheating problem in multimaterial compressible flows. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 545–578. (Summary) **99i:76110** 76M25 (76N15)
Merris, Russell ★ Combinatorics. *PWS Publishing Company, Boston, MA*, 1996. *x*+367 *pp. ISBN* 0-534-95154-6 05–01
— Laplacian graph eigenvectors. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 221–236. (Slobodan Simić) **99i:05141** 05C50
— Doubly stochastic graph matrices. II. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 275–285. (Summary) **99k:05110** 05C50 (15A51)
Merritt, Adele J. (*with* Finizio, Norman J.) Z-cyclic triplewhist tournaments—some exceptional cases. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 19–34. (Summary) **99j:05047** 05B30
Merritt, Michael *see* **Networks in distributed computing**, **99h:68009**
Merro, Massimo (*with* Sangiorgi, Davide) On asynchrony in name-passing calculi. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 856–867, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q10 (68Q55, 68Q60)
— On the expressiveness of chi, update, and fusion calculi. (English summary) *Fifth International Workshop on Expressiveness in Concurrency* (*EXPRESS* '98) (*Nice*), 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68Q10 (68Q55, 68Q60)
Merryfield, William J. (*with* Holloway, Greg) Eddy fluxes and topography in stratified quasi-geostrophic models. (English summary) *J. Fluid Mech.* **380** (1999), 59–80. (Summary) **99j:86008** 86A05 (76C99, 76V05)
Mertens, Jean-François The speed of convergence in repeated games with incomplete information on one side. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 343–357. (James Bergin) **99m:90162** 90D05 (90D20)
Mertens, Stephan Phase transition in the number partitioning problem. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 20, 4281–4284. (Summary) **99g:68097** 68Q25 (82B26)
Mèrts, R. (*with* Krasnosel'skiĭ, Mark Aleksandrovich; Kuznetsov, N. A.; Rachinskiĭ, D. I.) Iterative procedures with incomplete corrections, and the solution of nonlinear

equations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 8, 46–56; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 1, 1285–1293 (1998). (A. M. Galperin) **99d:65164** 65H10 (47H17)

Mertsching, J. (*with* Hayn, R.) Exact solution for the disordered Peierls-Fröhlich chain. (English summary) *Path integrals: Dubna '96*, 240–244, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 82B44 (82D30)

Mertzios, Basil G. Fast implementation of direct robot kinematics with CORDIC systolic arrays. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 239–260. 70B15

— *see also* **Karampetakis, N. P.**

van der Merwe, Abraham Johannes Closed extensions of a pair of linear operators and dynamic boundary value problems. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 85–98. (Summary) **99b:47031** 47B25 (35K99, 47F05)

— Perturbations of evolution equations. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 367–380. (Summary) **99b:34101** 34G10 (35K20, 47D06)

— (*with* du Plessis, J. L.; van der Merwe, C. A.; Muller, M. A. E.) A Bayesian solution to the Behrens-Fisher problem using Monte Carlo simulation techniques. (English summary) *South African Statist. J.* **31** (1997), *no.* 2, 299–329. (Summary) **99c:62065** 62F15

van der Merwe, Andries B. (*with* Kelarev, Andrei V.; van Wyk, Leon) The minimum number of idempotent generators of an upper triangular matrix algebra. (English summary) *J. Algebra* **205** (1998), *no.* 2, 605–616. (John Hannah) **99g:16036** 16S50 (16S15)

— Near-rings of homogeneous maps. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 1–9. (Gordon Mason) **99i:16081** 16Y30 (16S50)

van der Merwe, Brink Homogeneous maps and divisorial ideals. (English summary) *J. Algebra* **207** (1998), *no.* 2, 547–556. (J. Hausen) **99h:16008** 16D99 (16S50, 16Y30)

van der Merwe, C. A. (*with* van der Merwe, Abraham Johannes; du Plessis, J. L.; Muller, M. A. E.) A Bayesian solution to the Behrens-Fisher problem using Monte Carlo simulation techniques. (English summary) *South African Statist. J.* **31** (1997), *no.* 2, 299–329. (Summary) **99c:62065** 62F15

van der Merwe, Lucas C. (*with* Mynhardt, Christina M.; Haynes, Teresa W.) Criticality index of total domination. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 67–73. (Summary) **99j:05113** 05C35

— (*with* Mynhardt, Christina M.; Haynes, Teresa W.) Total domination edge critical graphs. (English summary) *Util. Math.* **54** (1998), 229–240. (Summary) **99g:05112** 05C35

Merz, Sarah K. (*with* Fisher, David C.; Lundgren, J. Richard; Reid, K. B.) The domination and competition graphs of a tournament. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 103–110. (Robert C. Brigham) **99g:05086** 05C20 (05C75)

Merz, Stephan Rules for abstraction. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 32–45, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60

Merz, W. (*with* Pulverer, K.; Wilczok, E.) Single species dopant diffusion in silicon. (English summary) *Math. Sci.* **23** (1998), *no.* 1, 1–17. (Summary) **99e:35225** 35Q80 (82D45)

— (*with* Pulverer, K.; Stoth, Barbara) Construction of an asymptotic model for the oxidation process of silicon. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 711–720. (Summary) **99h:35211** 35Q80 (35R35, 80A22)

Merzbach, Ely (*with* Ivanoff, B. Gail; Lin, Yan-Xia) Weak convergence of set-indexed point processes and the Poisson process. (English summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 77–89; *reprinted in Theory Probab. Math. Statist. No.* 55 (1997), 79–91 (1998). (Ely Merzbach) **99e:60013** 60B10 (60G55)

— (*with* Lukacher, B.) Asymptotic results for mixing random ordinary differential equations. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 111–124 (1998). (Summary) **99k:60152** 60H10 (60F17, 60J60)

Merzbach, Uta C. (*with* Green, Judy; LaDuke, Jeanne; Mac Lane, Saunders) Mina Spiegel Rees (1902–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 7, 866–873. (Michael A. B. Deakin) **99h:01036** 01A70

Merzlyakov, S. G. A generalization of Laguerre theorems on zeros of entire functions. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 855–863; *translation in Math. Notes* **61** (1997), *no.* 5-6, 717–723. (Miodrag Petković) **99g:30006** 30C15 (30D99)

Merzon, A. E. (*with* Zhevandrov, P. N.) High-frequency asymptotics of edge waves on a beach of nonconstant slope. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 529–546 (*electronic*). (F. Ursell) **99j:76012** 76B15 (35B25, 86A05)

del sol Mesa, A. *see* **del Sol Mesa, A.**

rodríguez-Mesa, Lourdes *see* **Rodríguez-Mesa, Lourdes**

Mesak, Hani I. (*with* Clark, James W.) Monopolist optimum pricing and advertising policies for diffusion models of new product innovations. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 2, 111–136. (Summary) **99b:90028** 90A12 (90B60)

Meschiari, M. (*with* Cavicchioli, Alberto; Ruini, Beatrice; Spaggiari, Fulvia) A survey on snarks and new results: products, reducibility and a computer search. (English summary) *J. Graph Theory* **28** (1998), *no.* 2, 57–86. (Martin Kochol) **99d:05031** 05C15 (05C38, 05C40)

Meseguer, A. (*with* Marquès, F.; Sánchez Umbría, Juan Jose) Period doubling scenario in low-dimensional models for the regularized cavity flow. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 18 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76D05 (58F40, 76F20)

— (*with* Marquès, F.) Axial effects in the Taylor-Couette problem. Discontinuities in critical regime. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 519–524, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76U05

Meseguer, José (*with* Martí-Oliet, Narciso) Inclusions and subtypes. I. First-order case. (English summary) *J. Logic Comput.* **6** (1996), *no.* 3, 409–438. (Summary) **99d:03026a** 03B70 (03G30, 68N15, 68Q55)

— (*with* Martí-Oliet, Narciso) Inclusions and subtypes. II. Higher-order case. (English summary) *J. Logic Comput.* **6** (1996), *no.* 4, 541–572. (Summary) **99d:03026b** 03B70 (03B15, 03B40, 68N15, 68Q55)

— Membership algebra as a logical framework for equational specification. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 18–61, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (Summary) **99h:68117** 68Q65 (03B70, 03C05)

— (*with* Montanari, Ugo) Mapping tile logic into rewriting logic. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 62–91, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (Summary) **99h:68118** 68Q65 (03B70, 03C05, 68Q42)

Meseguer, Pedro (*with* Larrosa, Javier; Schiex, Thomas; Verfaillie, Gérard) Reversible DAC and other improvements for solving Max-CSP. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 347–352, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C35

— (*with* Larrosa, Javier; Schiex, Thomas) Maintaining reversible DAC for Max-CSP. (English summary) *Artificial Intelligence* **107** (1999), *no.* 1, 149–163. 68T20

Meshcheryakov, M. V. Multiple points of geodesics and extremals for invariant variational problems on homogeneous spaces. (English summary) *Tensor and vector analysis*, 71–75, *Gordon and Breach, Amsterdam*, 1998. (Chalya S. Aravinda) **99m:58053** 58E10 (58F17)

Meshkov, A. G. (*with* Kulemin, I. V.) To the classification of integrable systems in $1+1$ dimensions. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 115–121, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 58F07 (35Q58)

Meshreky-Daoud, Suzanne *see* **Daoud, Suzanne**

Meshulam, Roy (*with* Kahn, Jeff) On the number of group-weighted matchings. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 3, 285–290. (Mechthild Opperud) **99b:05113** 05C70 (05C25)

— (*with* Radwan, Nizar) On linear subspaces of nilpotent elements in a Lie algebra. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 195–199. (Summary) **99d:17005** 17B05

Mesiar, Radko (*with* Pap, Endre) On additivity and pseudo-additivity of a pseudo-additive measure based integral. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 351–364. (Constantin Drossos) **99b:28025** 28E10 (04A72)

— (*with* Komorníková, Magda) Triangular norm-based aggregation of evidence under fuzziness. (English summary) *Aggregation and fusion of imperfect information*, 11–35, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 04A72 (90C70)

— (*with* De Baets, Bernard) $\mathscr{T}$-partitions. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 211–223. (Summary) **99d:04007** 04A72

— (*with* Rybárik, Ján) Entropy of fuzzy partitions: a general model. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 73–79. 28E10

— (*with* Klement, Erich Peter; Pap, Endre) On some geometric transformation of t-norms. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 57–67. (Summary) **99c:04007** 04A72

— (*with* Pap, Endre) Idempotent integral as limit of g-integrals. (English summary) Fuzzy measures and integrals. *Fuzzy Sets and Systems* **102** (1999), *no.* 3, 385–392. (Summary) **99m:28046** 28E99

— Generalizations of k-order additive discrete fuzzy measures. (English summary) Fuzzy measures and integrals. *Fuzzy Sets and Systems* **102** (1999), *no.* 3, 423–428. (Summary) **99m:28045** 28E10

— *see also* **Fuzzy measures and integrals**, **99k:00021**

Meškauskas, T. (*with* Ivanauskas, F.; Kaulakys, B.) Solution of the equations of dynamical chaos. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 467–474, *VSP, Utrecht*, 1997. (Summary) **99i:70030** 70K50 (34F05, 58F13)

— On well posedness of initial-boundary value problem for derivative nonlinear Schrödinger equation. (English and Lithuanian summaries) *Liet. Mat. Rink.* **38** (1998), *no.* 3, 327–341; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 3, 250–261 (1999). (Summary) **99i:35154** 35Q55

Meskens, Nadine *see* **Advances in decision analysis**, **99m:90003**

Meskes, Michael Subsumption-stratified Datalog. (English summary) *J. Logic Programming* **36** (1998), *no.* 1, 55–90. (Summary) **99b:68033** 68N17 (68Q55)

Meskhi, A. Two-weight inequalities for singular integrals on Heisenberg groups. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 1, 34–36. 42B20 (22E25)

— Two-weight inequalities for potentials on homogeneous groups. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 353–355 (1997). 31C99

— (*with* Kokilashvili, Vakhtang) Two-weight inequalities for singular integrals defined on homogeneous groups. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **112** (1997), 57–90. (Dashan Fan) **99a:43006** 43A80 (42B25, 47B38, 47G10)

— Two-weight inequalities for potentials defined on homogeneous groups. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **112** (1997), 91–111. (A. È. Djrbashian) **99d:42034** 42B25 (43A80, 47B38)

— Koosis type theorems for singular integrals and potentials defined on homogeneous groups. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **114** (1997), 59–70. (Marius Mitrea) **99i:42021** 42B20 (43A80)

— (*with* Kokilashvili, Vakhtang) Two-weight inequalities for Hardy type transforms and singular integrals defined on homogeneous type spaces. *Proc. A. Razmadze Math. Inst.* **114** (1997), 119–123. 42B20 (42B25)

— (*with* Gabisonija, I.) Two-weight inequalities for discrete Hardy-type and Hilbert transforms. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 2, 191–193. 42B10

— Solution of some weight problems for the Riemann-Liouville and Weyl operators. (English summary) *Georgian Math. J.* **5** (1998), *no.* 6, 565–574. (Luboš Pick) **99k:42044** 42B25 (46E35, 47B38)

— Boundedness and compactness weighted criteria for Riemann-Liouville and one-sided maximal operators. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **117** (1998), 126–128. 42B20 (47B38, 47G10)

— (*with* Kokilashvili, Vakhtang) Two-weighted inequalities for integral operators in Lorentz spaces defined on homogeneous groups. (English summary) *Georgian Math. J.* **6** (1999), *no.* 1, 65–82. (Gerald B. Folland) **99m:42026** 42B20 (43A15, 47G10)

Meskhishvili, M. R. Relations between spin coefficients for a certain space-time class. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 273–276 (1991). 83C60

— Space-time of embedding class one. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 33–36. 53C50

Mesmoudi, M. M. Un théorème de type Fatou pour les densités quasi-conformes sur le bord d'un disque hyperbolique au sens de Gromov. (English and French summaries) [A Fatou-type theorem for quasiconformal densities on the boundary of a Gromov hyperbolic disc] *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 2, 179–190. (Paul M. Albuquerque) **99a:53054** 53C23 (31A20)

Mesnard, F. (*with* Hoarau, S.; Maillard, A.) CLP(χ) for automatically proving program properties. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 77–93. (Summary) **99f:68031** 68N17 (68Q60)

Mesón, Alejandro M. (*with* Vericat, Fernando) Geodesic flow on an hyperboloid model and the two-body motion under repulsive Coulomb forces. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1993–1996. (Kotik K. Lee) **99d:78024** 78A35 (58F17, 70F05)

Messac, Achille (*with* Sivanandan, Arun) A new family of convex splines for data interpolation. (English summary) *Comput. Aided Geom. Design* **15** (1997), *no.* 1, 39–59. (Summary) **99f:41023** 41A29 (65D17, 65Y25)

Messager, Jean Claude (*with* Le Pennec, Thierry; Måløy, Knut Jørgen; Flekkøy, Eirik G.; Ammi, Madani) Silo hiccups: dynamic effects of dilatancy in granular flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3072–3079. 76-05 (73E99, 76A99)

Messano, Basilio (*with* Zitarosa, Antonio) Sequences of a compact metric space for which the limit set is rigid. (English and Italian summaries) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **131** (1997), 165–168. (Summary) **99i:54040** 54E40 (54H25)

Messaoudene, Mohamed The unit mass ball of three-vectors in $\mathbf{R}^6$. (English summary) *Linear Algebra Appl.* **265** (1997), 247–298. (Summary) **99e:49053** 49Q05 (53C42)

Messeguer, Xavier (*with* Gabarró, Joaquim) Parallel dictionaries with local rules on AVL and brother trees. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 2, 79–85. (Summary) **99f:68035** 68P05 (68Q22)

Messina, Eleonora (*with* de Swart, Jacques J. B.; van der Veen, Wolter A.) Parallel iterative linear solvers for multistep Runge-Kutta methods. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 145–167. (T. E. Simos) **99a:65089** 65L06 (65F05, 65F50, 65Y05)

— (*with* van der Houwen, P. J.) Splitting methods for second-order initial value problems. (English summary) *Numer. Algorithms* **18** (1998), *no.* 3-4, 233–257. (Severiano Gonzalez-Pinto) **99m:65128** 65L05 (65F10, 65M20)

Messine, Frédéric (*with* Lagouanelle, Jean-Louis) Algorithme d'encadrement de l'optimum global d'une fonction différentiable. (English and French summaries) [An inclusion algorithm for finding the global optimum of a multivariate differentiable function] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 629–632. (Summary) **99e:90093** 90C30 (65G10)

— (*with* Lagouanelle, Jean-Louis) Enclosure methods for multivariate differentiable functions and application to global optimization. (English summary) *J.UCS* **4** (1998), *no.* 6, 589–603 (*electronic*). (Summary) **99i:90090** 90C30 (65G10)

Messner, Jochen (*with* Köbler, Johannes) Complete problems for promise classes by optimal proof systems for test sets. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 132–140, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15

Meste, Michel (*with* Averous, Jean) Median balls: an extension of the interquantile intervals to multivariate distributions. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 222–241. (Summary) **99k:62111** 62H12

Mestel, A. J. (*with* Zabielski, L.) Steady flow in a helically symmetric pipe. (English summary) *J. Fluid Mech.* **370** (1998), 297–320. (Summary) **99g:76162** 76Z05

— (*with* Zabielski, L.) Unsteady blood flow in a helically symmetric pipe. (English summary) *J. Fluid Mech.* **370** (1998), 321–345. (Summary) **99g:76163** 76Z05

Mestel, B. D. (*with* Osbaldestin, Andrew H.) Feigenbaum theory for unimodal maps with asymmetric critical point: rigorous results. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 1, 211–228. (Mikhail Zaks) **99i:58100** 58F12 (39B32)

— (*with* Osbaldestin, Andrew H.) Feigenbaum theory for unimodal maps with asymmetric critical point. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3287–3296. (Eleonora Catsigeras) **99f:58143** 58F13

Mestl, Thomas (*with* Plahte, Erik; Omholt, Stig W.) A methodological basis for description and analysis of systems with complex switch-like interactions. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 321–348. (Joseph So) **99j:92003** 92C20 (34C23, 34D20, 92B05, 92B20)

palanques Mestre, August *see* **Palanques Mestre, August**

Mestre, Jean-François Rang de certaines familles de courbes elliptiques d'invariant donné. (English and French summaries) [Rank of some families of elliptic curves with given modular invariant] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 763–764. (Alain Kraus) **99j:11063** 11G05

— Extensions Q-régulières de Q(t) de groupe de Galois $6.A_6$ et $6.A_7$. (English summary) [Q-regular extensions of Q(t) with Galois groups $6.A_6$ and $6.A_7$] *Israel J. Math.* **107** (1998), 333–341. (Noriko Yui) **99i:12003** 12F12

Mestre, Ricardo (*with* Banerjee, Anindya[1]; Dolado, Juan J.) Error-correction mechanism tests for cointegration in a single-equation framework. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 267–283. (Luis Firinguetti) **99i:62197** 62M10 (62P20)

Meštrović, Romeo Ideals in some rings of Nevanlinna-Smirnov type. (English summary) *Math. Montisnigri* **8** (1997), 127–135. (A. A. Borichev) **99h:46100** 46J15 (30H05, 46J20)

— (*with* Pavićević, Žarko) The logarithmic analogue of Szegö's theorem. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 97–102. (Manfred Stoll) **99f:46033** 46E15 (30H05, 46J15)

Mestsherjakov, M. V. *see* **Meshcheryakov, M. V.**

Mestvirishvili, M. A. (*with* Gershteĭn, S. S.; Logunov, A. A.) On an upper limit for graviton mass. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 3, 332–334; *translation in Dokl. Phys.* **43** (1998), *no.* 5, 293–296. 83F05

Mészáros, Csaba (*with* Andersen, Erling D.; Gondzio, Jacek; Xu, Xiaojie) Implementation of interior-point methods for large scale linear programs. (English summary) *Interior point methods of mathematical programming*, 189–252, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05 (90C06)

— Ordering heuristics in interior point LP methods. (English summary) *New trends in mathematical programming*, 203–221, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 90C05

— On free variables in interior point methods. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 121–139. (Summary) **99a:90124** 90C05

Mészáros, Gabriella (*with* Kálovics, Ferenc) Equation fitting to given points by Chebyshev approximation. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 55–64. 65D15 (41A50)

— (*with* Tóth, Béla) Indicator functions in solving nonlinear systems of equations. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 87–95. 65H10

Mészáros, Milán The adiabatic changes of state of a photon gas. *The enigmatic photon, Vol.* 4, 147–161, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 82B30

Meszéna, György (*with* Barancsi, Éva; Bánki, Géza; Borlói, Rudolf; Chikán, Attila; Kelle, Péter; Kulcsár, Tamás) ★ Inventory models. (English summary) Translated from the 1983 Hungarian original by B. Szönyi and Kelle and revised by the authors. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 16. *Kluwer Academic Publishers, Dordrecht*, 1990. xii+419 *pp. ISBN* 0-7923-0494-2 (Heinz-Uwe Küenle) **99a:90085** 90B05 (90–02)

Meszka, M. (*with* Ivančo, Jaroslav; Skupień, Z.) Decomposition of multigraphs into isomorphic graphs with two edges. (English summary) *Ars Combin.* **51** (1999), 105–112. (Summary) **99j:05154** 05C70

Metacalfe, R. *see* **Metcalfe, Ralph W.**

Metaftsis, Vasileios (*with* Miyamoto, Izumi) One-relator products of two groups of order three with short relators. *Kyushu J. Math.* **52** (1998), *no.* 1, 81–97. (David I. Moldavanskiĭ) **99d:20045** 20F05 (20–04)

Metafune, G. (*with* Campiti, M.) Ventcel's boundary conditions and analytic semigroups. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 5, 377–390. (Jacek Banasiak) **99e:47043** 47D06 (35B65, 35K65, 47D07)

— (*with* Campiti, M.; Pallara, Diego) Degenerate self-adjoint evolution equations on the unit interval. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 1–36. (Paolo Acquistapace) **99e:35119** 35K65 (34D05, 47D06)

Métais, Olivier Large-eddy simulations of three-dimensional turbulent flows: geophysical applications. *Ocean modeling and parameterization* (*Les Houches*, 1998), 351–372, *NATO Sci. Ser. C Math. Phys. Sci.*, 516, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99f:86001**) 76M25 (76F99, 86–08)

Metaxas, Panagiotis (*with* Johnson, Donald B.) Connected components in $O(\log^{3/2} n)$ parallel time for the CREW PRAM. (English summary) 32nd Annual Symposium on Foundations of Computer Science (San Juan, PR, 1991). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 1, 227–242. (Summary) **99e:68127** 68R10 (05C40, 05C85, 68Q22)

le Métayer, Daniel *see* **Le Métayer, Daniel**

Metcalfe, A. M. (*with* Pedley, T. J.) Bacterial bioconvection: weakly nonlinear theory for pattern selection. (English summary) *J. Fluid Mech.* **370** (1998), 249–270. (Summary) **99g:76164** 76Z10 (76E15, 92C15)

Metcalfe, Ralph W. (*with* Ilin, Andrew V.; Bagheri, Babak; Scott, L. Ridgway) Error control and mesh optimization for high-order finite element approximation of incompressible viscous flow. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 313–325. (Summary) **99a:76085** 76M10 (65M60)

— (*with* He, Jiwen; Glowinski, Roland; Périaux, Jacques) A numerical approach to the control and stabilization of advection-diffusion systems: application to viscous drag reduction. Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 131–156. (Summary) **99m:93053** 93C20 (76M10, 76Rxx, 93B40)

Metel'skiĭ, V. M. (*with* Kovalenko, N. S.) Organization of the synchronous execution of distributed competing processes. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 117–121, 143. 68M20

Metel'skiĭ, Yu. M. Split edge graphs of hypergraphs with bounded rank. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 117–122, 143. (Jaroslav Ivančo) **99i:05154** 05C65 (05C75)

Methfessel, M. (*with* Bott, E.; Krabs, Werner; Schmidt, P. C.) Nonsingular Hankel functions as a new basis for electronic structure calculations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3393–3425. (Ashok Kumar Mishra) **99h:82075** 82D20 (33D55, 81–08, 81V55)

Méthot, André (*with* Côté, Jean; Gravel, Sylvie; Roch, Michel; Patoine, Alain; Caveen, James; Valin, Michel; Thomas, Steve; Staniforth, Andrew) Forecasting with a variable-resolution global model. (English summary) *Numerical methods in fluid mechanics*, 23–32, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 86–08 (86A10)

Methven, John (*with* Hoskins, Brian) Spirals in potential vorticity. I. Measures of structure. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 11, 2053–2066. (From the summary) **99e:86005** 86A10 (76C99)

— Spirals in potential vorticity. II. Stability. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 11, 2067–2079. (Summary) **99e:86006** 86A10 (76C99)

Métivet, Brigitte (*with* Boukir, K.; Maday, Yvon; Razafindrakoto, E.) A high-order characteristics/finite element method for the incompressible Navier-Stokes equations. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 12, 1421–1454. (M. M. Sussman) **99a:76082** 76M10 (65M12, 76D05)

— (*with* Destuynder, Philippe) Explicit error bounds for a nonconforming finite element method. (English summary) *Finite element methods* (*Jyväskylä*, 1997), 95–111, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Qian Li) **99c:65199** 65N30 (65N15)

— (*with* Destuynder, Philippe) Explicit error bounds for a nonconforming finite element method. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 2099–2115 (*electronic*). (Leonid Yasnitsky) **99k:65106** 65N30 (65N15, 73V05, 76M10)

— (*with* Destuynder, Philippe) Explicit error bounds in a conforming finite element method. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1379–1396. (Zheng Hui Xie) **99m:65211** 65N30

Métivier, Guy (*with* Schochet, S.) Interactions trilinéaires résonantes. [Resonant trilinear interactions] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No.*

VI, 16 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Hermano Frid) **99m:35143** 35L60 (35L40, 35Q99, 76N10)

— (*with* Donnat, P.; Joly, J.-L.; Rauch, Jeffrey B.) Diffractive nonlinear geometric optics. *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. XVII*, 25 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Ya-Guang Wang) **99m:35147** 35L60 (35B25, 35L05, 78A60)

— (*with* Joly, J.-L.; Rauch, Jeffrey B.) Nonlinear oscillations and caustics. *Singularities and oscillations* (*Minneapolis, MN*, 1994/1995), 79–95, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (L. Kalyakin (Zbl 909.35093)) **99j:35222** 35Q99 (35L60)

— (*with* Francheteau, Jacques) Existence de chocs faibles pour des systèmes quasi-linéaires hyperboliques multidimensionnels. (English and French summaries) [Existence of weak shocks for multidimensional hyperbolic quasilinear systems] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 725–728. (Summary) **99g:35081** 35L67

— (*with* Schochet, S.) Trilinear resonant interactions of semilinear hyperbolic waves. *Duke Math. J.* **95** (1998), *no.* 2, 241–304. (Denis Serre) **99m:35144** 35L60 (35B30, 35L40)

Métivier, Yves (*with* Bottreau, Anne) Minor searching, normal forms of graph relabelling: two applications based on enumerations by graph relabelling. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 110–124, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q42 (68R10)

— (*with* Bottreau, Anne) Some remarks on the Kronecker product of graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 2, 55–61. (Martin Sonntag) **99i:05174** 05C75 (05C10, 05C40, 68R10)

Metrikin, A. V. (*with* Wolfert, A. R. M.; Dieterman, H. A.) Passing through the elastic wave barrier by a load moving uniformly along a smoothly inhomogeneous elastic system. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 179–183. 73D15

Metrikin, V. S. (*with* Nagaev, R. F.; Stepanova, V. V.) Periodic and stochastic auto-oscillations in a system with dry friction of hereditary type. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 859–864; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 845–850. (Summary) **99c:70029** 70K25 (70K50)

Metrikine, A. V. *see* **Metrikin, A. V.**

Métris, Gilles (*with* Xu, Jin; Wytrzyszczak, Iwona) Derivatives of the gravity potential with respect to rectangular coordinates. (English summary) *Celestial Mech. Dynam. Astronom.* **71** (1998/99), *no.* 2, 137–151. (Summary) **99j:70017** 70F15 (31B15, 70–08)

Metsaev, R. R. Cubic interaction vertices for higher spin fields. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 509–514, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81057** 81R20

— (*with* Tseytlin, Arkady A.) Supersymmetric D3 brane action in $AdS_5 \times S^5$. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 281–288. (Summary) **99f:81174** 81T30 (83E30)

Metsch, Klaus The sets closest to ovoids in $Q^-(2n+1, q)$. Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 389–392. (Kishore Sinha) **99d:51010** 51E20 (51E21)

— (*with* Ebert, G. L.; Szőnyi, T.) Caps embedded in Grassmannians. (English summary) *Geom. Dedicata* **70** (1998), *no.* 2, 181–196. (Antonio Cossidente) **99c:51016** 51E22 (51E20)

— (*with* Webb, Bridget S.) A note on the cycle structures of automorphisms of 2-$(v, k, 1)$ designs. *Ars Combin.* **51** (1999), 224–228. (From the text) **99k:05030** 05B05

Mettler, Eberhard (*with* Dörr, J.; Görtler, H.; Hämmerlin, G.; Gericke, H.) 50 Jahre GAMM. [50 years of GAMM] Reprint of the 1972 original. 75 Jahre GAMM. *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 2, 1–36. (*see* **99f:01027**) 01A74

Metwally, M. S. (*with* Sayyed, K. A. M.; Mahmoud, M. T.) Effectiveness of equivalent sets of polynomials in Faber regions. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 485–496. (Stephen M. Zemyan) **99h:30015** 30C45

Metz, Charles E. (*with* Pan, Xiaochuan) "Proper" binormal ROC curves: theory and maximum-likelihood estimation. (English summary) *J. Math. Psych.* **43** (1999), *no.* 1, 1–33. 62P10

Metz, J. A. J. (*with* Diekmann, Odo; De Jong, M. C. M.) A deterministic epidemic model taking account of repeated contacts between the same individuals. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 448–462. (P. R. Parthasarathy) **99k:92041** 92D30

— (*with* Diekmann, Odo; Gyllenberg, Mats; Thieme, Horst R.) On the formulation and analysis of general deterministic structured population models. I. Linear theory. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 349–388. (V. N. Razzhevaikin) **99k:92025** 92D25

Metz, Volker Shorted operators: an application in potential theory. (English summary) *Linear Algebra Appl.* **264** (1997), 439–455. (Zoran Vondraček) **99c:31018** 31C99 (31C25, 47H99)

— (*with* Hambly, B. M.) The homogenization problem for the Vicsek set. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 2, 167–190. (Kiyoshi Kawazu) **99g:60140** 60J60

Metzler, Ralf (*with* Nonnenmacher, Theo F.) Fractional diffusion, waiting-time distributions, and Cattaneo-type equations. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6409–6414. (Summary) **99b:82076** 82C31

Metzler, Wolfgang² ★ Nichtlineare Dynamik und Chaos. (German) [Nonlinear dynamics and chaos] Eine Einführung. [An introduction] Teubner Studienbücher Mathematik. [Teubner Mathematical Textbooks] *B. G. Teubner, Stuttgart*, 1998. 486 *pp. ISBN* 3-519-02391-1 (Peter Raith) **99k:58058** 58Fxx (58–01, 58F13, 70Hxx, 70K50)

Meuleau, Nicolas (*with* Hauskrecht, Milos; Kim, Kee-Eung; Peshkin, Leonid; Kaelbling, Leslie Pack; Dean, Thomas; Boutilier, Craig) Solving very large weakly coupled Markov decision processes. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 165–172, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C40

van der Meulen, Edward C. (*with* Vajda, Igor) Global statistical information in exponential experiments and selection of exponential models. (English summary) *Appl. Math.* **43** (1998), *no.* 1, 23–51. (Friedrich Liese) **99c:62009** 62B10 (62B15, 62F05)

— (*with* Berlinet, Alain; Vajda, Igor) About the asymptotic accuracy of Barron density estimates. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 999–1009. (Summary) **99d:94010** 94A15 (94A17)

— (*with* Pinsker, M. S.; Prelov, Vyacheslav V.) The information creation rate in some stationary non-Gaussian channels in the case of transmission with weak signals. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 1, 3–17; *translation in Problems Inform. Transmission* **34** (1998), *no.* 1, 1–13. (Summary) **99i:94036** 94A40 (94A15)

vander Meulen, Kevin N. *see* **Vander Meulen, Kevin N.**

bouchon-Meunier, Bernadette *see* **Bouchon-Meunier, Bernadette**

Meunier, N. (*with* Proctor, M. R. E.; Sokolov, D. D.; Soward, Andrew M.; Tobias, S. M.) Asymptotic properties of a nonlinear $\alpha\omega$-dynamo wave: period, amplitude and latitude dependence. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 249–285. (Summary) **99k:85006** 85A30 (76W05, 85A20)

Meunier, Pierre ★ Agrégation interne de mathématiques. (French. French summary) [Internal Agrégation in mathematics] Problèmes corrigés et commentés. [Problems with answers and commentary] Mathématiques. [Mathematics] *Presses Universitaires de France, Paris*, 1998. *ii*+433 *pp. ISBN* 2-13-049404-8 00A07

— ★ Agrégation interne de mathématiques. 3. (French. French summary) [Internal Agrégation in mathematics. 3] Exercices d'oral corrigés et commentés. [Exercises for the oral examination with answers and commentary] Mathématiques. [Mathematics] *Presses Universitaires de France, Paris*, 1998. *iv*+335 *pp. ISBN* 2-13-049636-9 00A07

Meurant, Gérard (*with* Golub, Gene H.) Matrices, moments and quadrature. II. How to compute the norm of the error in iterative methods. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 687–705. (Stephen W. Brady) **99d:65090** 65F05 (15A99, 65D32)

— The computation of bounds for the norm of the error in the conjugate gradient algorithm. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 77–87 (1998). (Summary) **99c:65089** 65F50

Meurman, Arne (*with* Primc, Mirko) Annihilating fields of standard modules of $\mathfrak{sl}(2, \mathbf{C})^\sim$ and combinatorial identities. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 652, *viii*+89 *pp.* (Hai Sheng Li) **99g:17052** 17B69 (05A19, 17B67)

Meusel, Steffen G. Solving a traveling salesman problem with a special cost-matrix. *Operations Research Proceedings* 1997 (*Jena*), 108–113, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C08

Mevert, P. (*with* Mathies, S.) A hybrid algorithm for solving network flow problems with side constraints. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 9, 745–756. 90C35 (90B10)

de Meyer, Bernard *see* **De Meyer, Bernard**

Meyer, Carl D. (*with* Ipsen, Ilse C. F.) The idea behind Krylov methods. *Amer. Math. Monthly* **105** (1998), *no.* 10, 889–899. (Introduction) **99g:65040** 65F10

Meyer, Christoph (*with* Jacquemard, Florent; Weidenbach, Christoph) Unification in extensions of shallow equational theories. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 76–90, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99e:03008** 03B25 (68Q40, 68T15)

Meyer, Fernand From connected operators to levelings. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 191–198, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (68P99)

— The levelings. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 199–206, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10

Meyer, François G. (*with* Coifman, Ronald R.) Brushlets: a tool for directional image analysis and image compression. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 2, 147–187. (Summary) **99c:42069** 42C15 (65T20)

Meyer, G. H. *see* **Meyer, Gunter H.**

Meyer, George (*with* Hunt, L. R.; Ramakrishna, Viswanath) Stable inversion and parameter variations. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 203–207. 93B40 (93C40)

Meyer, Gerard G. L. (*with* Carrig, James J., Jr.) Efficient Householder QR factorization for superscalar processors. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 362–378. 65Y15

— (*with* Carrig, James J., Jr.) A parameterized ordering for cache-, register- and pipeline-efficient Givens QR decomposition. (English summary) *Adv. Comput. Math.* **10** (1999), *no.* 1, 97–113. 65F05 (65Y10)

Meyer, Gunter H. The numerical valuation of options with underlying jumps. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 69–82. (Summary) **99g:90029** 90A09 (60G40)

— (*with* Kenmochi, Nobuyuki; Koyama, Tetsuya) Parabolic PDEs with hysteresis and quasivariational inequalities. *Nonlinear Anal.* **34** (1998), *no.* 5, 665–686. (Martin Brokate) **99e:35123** 35K85 (35K60, 47H30, 49J40)

de Meyer, H. *see* **De Meyer, H.**

Meyer, John-Jules Ch. (*with* van Eijk, Rogier M.; de Boer, Frank S.; van der Hoek, Wiebe) A language for modular information-passing agents. (English summary) *CWI Quarterly* **11** (1998), *no.* 2-3, 273–297. (Summary) **99j:68130** 68T25 (68Q10)

— (*with* van Linder, B.; van der Hoek, Wiebe) Formalising abilities and opportunities of agents. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 53–101. (Summary) **99g:68193** 68T27 (03B70)

Meyer, Kenneth R. The evolution of the stable and unstable manifold of an equilibrium point. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 3, 159–165. (Summary) **99i:70021** 70H05 (34C23, 58F05, 70F07)

— Continuation of periodic solutions in three dimensions. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 310–318. (Todd Ray Young) **99j:70015** 70F07 (34C25, 58F05, 58F22)

Meyer, Léa Probabilistic language learning under monotonicity constraints. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 81–128. (Editors) **99m:68171** 68T05 (03D05, 03D20)

Meyer, Mathieu (*with* König, Hermann H.; Pajor, A.) The isotropy constants of the Schatten classes are bounded. *Math. Ann.* **312** (1998), *no.* 4, 773–783. (Keith Ball) **99j:52003** 52A20 (46B28, 47B10, 52A38)

— (*with* Reisner, Shlomo) Inequalities involving integrals of polar-conjugate concave functions. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 219–227. (Andrea

Colesanti) **99c:52004** 52A20 (52A40)
— (*with* Gordon, Yehoram; Guédon, Olivier) An isomorphic Dvoretzky's theorem for convex bodies. (English summary) *Studia Math.* **127** (1998), *no.* 2, 191–200. (Apostolos A. Giannopoulos) **99d:46011** 46B20 (52A21, 60G15)
— (*with* Werner, Elisabeth) The Santaló-regions of a convex body. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4569–4591. (Daniel Hug) **99a:52008** 52A38 (52A20)
Meyer, Michael Josef Heinz Reflections on Johnson's disjointness lemma. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 205–211. (B. E. Johnson) **99m:46122** 46H40
Meyer, Paul-André Lemme maximal et martingales (d'après D. L. Burkholder). [Maximal lemma and martingales (after D. L. Burkholder)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 334, 355–366, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 60G42
— Le théorème ergodique de Chacón-Ornstein. [The Chacón-Ornstein ergodic theorem] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 293, 233–242, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 28D05 (47A35)
— Le théorème de continuité de P. Lévy sur les espaces nucléaires (d'après X. Fernique). [P. Lévy's continuity theorem for nuclear spaces (after X. Fernique)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 311, 509–522, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 60B12 (60B10, 60F05)
— Formule d'Ito généralisée pour le mouvement brownien linéaire, d'après Föllmer, Protter et Shiryaev. [Generalized Itô formula for linear Brownian motion, after Föllmer, Protter and Shiryaev] *Séminaire de Probabilités, XXXI*, 252–255, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Marek Rutkowski) **99c:60111** 60H05 (60J65)
Meyer, R. *see* **Meyer, Raphaël**
Meyer, Ralf Acceleration of superlinearly convergent sequences. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 655–665. (Mariano Gasca) **99d:65009** 65B05 (41A25, 65D99)
Meyer, Raphaël (*with* Petit, Antoine) Decomposition of TrPTL formulas. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 418–427, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q60 (68Q10)
— (*with* Gastin, Paul; Petit, Antoine) A (non-elementary) modular decision procedure for LTrL. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 356–365, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q60 (03B25, 03B35, 03B45)
— (*with* Petit, Antoine) Expressive completeness of LTrL on finite traces: an algebraic proof. (English summary) *STACS* 98 (*Paris*, 1998), 533–543, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68106** 68Q45 (68Q10, 68Q60)
— (*with* Guaiana, G.; Petit, Antoine; Weil, Pascal) An extension of the wreath product principle for finite Mazurkiewicz traces. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 277–282. (Summary) **99e:68042** 68Q10 (68Q45, 68Q70)
Meyer, Robert K. (*with* Slaney, John K.; Restall, Greg) Linear arithmetic desecsed. (English summary) *Logique et Anal. (N.S.)* **39** (1996), *no.* 155-156, 379–387. (Christian Bennet) **99m:03041** 03B46 (03F30)
— (*with* Dunn, J. Michael) Combinators and structurally free logic. (English summary) *Log. J. IGPL* **5** (1997), *no.* 4, 505–537 (*electronic*). (J. P. Seldin) **99d:03013** 03B40
— In memoriam: Richard (Routley) Sylvan, 1935–1996. *Bull. Symbolic Logic* **4** (1998), *no.* 3, 338–340. 01A70 (03–03)
Meyer, Robert R. (*with* Kontogiorgis, Spyridon) A variable-penalty alternating directions method for convex optimization. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 29–53. (E. A. Nurminski) **99k:90116** 90C25
handrock-Meyer, S. *see* **Handrock-Meyer, S.**
Meyer, Theodore E. (*with* Fortner, Brand) ★ Number by colors. (English summary) A guide to using color to understand technical data. *TELOS. The Electronic Library of Science, Santa Clara, CA*; *Springer-Verlag, New York*, 1997. xxvi+349 *pp. ISBN* 0-387-94685-3 (Editors) **99a:92043** 92J99 (92J10)
Meyer, U. *see* **Meyer, Ulrich**
Meyer, Ulrich New interactions in q-scalar electrodynamics? (English summary) *Quantum groups* (*Karpacz*, 1994), 555–560, *PWN, Warsaw*, 1995. (Roberto Casalbuoni) **99f:81095** 81R50 (78A25, 81V10)
Meyer, Ulrich (*with* Sanders, Peter) Δ-stepping: a parallel single source shortest path algorithm. (English summary) *Algorithms—ESA* '98 (*Venice*), 393–404, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q22 (68R10)
— (*with* Crauser, A.; Mehlhorn, Kurt; Sanders, Peter) A parallelization of Dijkstra's shortest path algorithm. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 722–731, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q22)
Meyer, Uwe Correctness of on-line partial evaluation for a Pascal-like language. (English summary) *Sci. Comput. Programming* **34** (1999), *no.* 1, 55–73. 68N20 (68N15)
Meyer, Yves Problèmes de l'unicité, de la synthèse et des isomorphismes en analyse harmonique. (French summary) [Problems of uniqueness, synthesis and isomorphism in harmonic analysis] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 341, 463–471, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 43A45
— (*with* Xu, Hong) Wavelet analysis and chirps. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 4, 366–379. (Peter A. McCoy) **99c:42070** 42C15 (94A12)
— ★ Wavelets, vibrations and scalings. With a preface in French by the author. CRM Monograph Series, 9. *American Mathematical Society, Providence, RI*, 1998. x+133 *pp. ISBN* 0-8218-0685-8 (Lars F. Villemoes) **99i:42051** 42C15 (26A16, 42–02, 46F10)
— (*with* Cohen, Albert; Oru, F.) Improved Sobolev embedding theorem. *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XVI*, 16 *pp.*, *École Polytech., Palaiseau*, 1998. (J. Musielak) **99k:46053** 46E35 (26D20, 42C15)
— (*with* Daoudi, K.; Lévy Véhel, Jacques) Construction of continuous functions with prescribed local regularity. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 349–385. (S. Dubuc) **99f:26005** 26A16 (28A80)
Meyer auf der Heide, Friedhelm (*with* Grigor'ev, D. Yu.; Karpinski, Marek; Smolensky, Roman) A lower bound for randomized algebraic decision trees. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 357–375. (Claus-Peter Schnorr) **99d:68107** 68Q25 (68Q15, 68Q40)
— (*with* Terán Martinez, Gabriel) Communication-efficient parallel multiway and approximate minimum cut computation. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 316–330, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68198** 68R10 (05C85, 68Q22)
— (*with* Bäumker, Armin; Dittrich, Wolfgang) Truly efficient parallel algorithms: 1-optimal multisearch for an extension of the BSP model. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 175–203. (Summary) **99g:68080** 68Q22
— *see also* **ACM Symposium: Parallel Algorithms and Architectures, 99a:68002**
Meyer Eikenberry, Shawna (*with* Sorenson, Jonathan P.) Efficient algorithms for computing the Jacobi symbol. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 4, 509–523. (Jeffrey O. Shallit) **99h:11146** 11Y16 (11A15)
Meyer-Ortmanns, Hildegard (*with* Reisz, Thomas) The monotony criterion for a finite size scaling analysis of phase transitions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5316–5323. (Summary) **99g:82024** 82B26
— (*with* Reisz, Thomas) Dynamical linked cluster expansions: a novel expansion scheme for point-link-point interactions. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 6, 947–985. (Summary) **99k:81207** 81T25 (82D30)
— *see also* **Field theoretical tools for polymer and particle physics, 99k:82001**
Meyerowitz, Aaron (*with* Coven, Ethan M.) Tiling the integers with translates of one finite set. (English summary) *J. Algebra* **212** (1999), *no.* 1, 161–174. (Mihail N. Kolountzakis) **99k:11032** 11B75
Meyers, Albert Thomas Marie (*with* Xiao, Heng; Bruhns, Otto Timme) On symmetric tensor-valued isotropic functions of a symmetric tensor and a skewsymmetric tensor and related transversely isotropic functions. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 4, 731–741. (Summary) **99j:73005** 73B10 (73B40)
— (*with* Xiao, Heng; Bruhns, Otto Timme) On objective corotational rates and their defining spin tensors. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 30, 4001–4014. (Summary) **99f:73022** 73B99 (73C99)
— (*with* Xiao, Heng; Bruhns, Otto Timme) Strain rates and material spins. (English summary) *J. Elasticity* **52** (1998), *no.* 1, 1–41. (Summary) **99m:73021** 73C50 (73B05, 73B99)
— (*with* Xiao, Heng; Bruhns, Otto Timme) Direct relationship between the Lagrangean logarithmic strain and the Lagrangean stretching and the Lagrangean Kirchhoff stress. *Mech. Res. Comm.* **25** (1998), *no.* 1, 59–67. (P. Villaggio) **99b:73003** 73B05
— (*with* Bruhns, Otto Timme; Xiao, Heng) On representations of yield functions for crystals, quasicrystals and transversely isotropic solids. (English summary) *Eur. J. Mech. A Solids* **18** (1999), *no.* 1, 47–67. (Summary) **99j:73049** 73E05 (73B40)
— On the consistency of some Eulerian strain rates. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 171–177. (Summary) **99k:73032** 73B99 (73C50, 73G99)
Meyers, Ronald E. (*with* Zak, Michail; Zbilut, Joseph P.) ★ From instability to intelligence. (English summary) Complexity and predictability in nonlinear dynamics. Lecture Notes in Physics. New Series m: Monographs, 49. *Springer-Verlag, Berlin*, 1997. xiv+552 *pp. ISBN* 3-540-63055-4 (Bing Hong Wang) **99c:92010** 92B20 (34C35, 58F12, 70K50, 76E30, 82C32, 92–02, 92J30)
Meyer-Spasche, Rita (*with* Düchs, D.) A general method for obtaining unconventional and nonstandard difference schemes. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 4, 453–467. (Snezhana Gocheva-Ilieva) **99d:65207** 65L05 (34A45, 65L12)
— (*with* Grote, K.) Euler-like discrete models of the logistic differential equation. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 211–225. (Summary) **99j:65131** 65L12
— Difference schemes of optimum degree of implicitness for a family of simple ODEs with blow-up solutions. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 137–152. 65L05 (65L60)
Meylan, Francine (*with* Merker, Joël) On the Schwarz symmetry principle in $\mathbb{C}$ model case. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1097–1102. (Henri-Michel Maire) **99f:32020** 32D15 (32H40)
Meyn, S. P. Stability and optimization of queueing networks and their fluid models. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 175–199, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99d:90052** 90B22 (60J20, 60K25)
— (*with* Down, D.) Piecewise linear test functions for stability and instability of queueing networks. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 205–226 (1998). (Summary) **99a:60102** 60K25 (90B22)
Meyniel, H. (*with* Stefan, Janaqi; Lescure, F.; Maamoun, M.) Digraphs contractible onto ${}^*K_3$. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 365–369. (R. J. Douglas) **99k:05081** 05C20
Mezentsev, Vladimir K. (*with* Turitsyn, Sergei K.; Aceves, Alejandro B.; Jones, Christopher K. R. T.; Zharnitsky, Vadim) Hamiltonian averaging in soliton-bearing systems with a periodically varying dispersion. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 3843–3846. (Summary) **99m:78012** 78A60 (35Q55)
Mezerdi, Brahim (*with* Bahlali, Khaled; Ouknine, Youssef) Pathwise uniqueness and approximation of solutions of stochastic differential equations. (English summary) *Séminaire de Probabilités, XXXII*, 166–187, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Tomás Caraballo) **99j:60078** 60H10
Mezey, Paul G. Generalized chirality and symmetry deficiency. (English summary) Girona 97 special issue. *J. Math. Chem.* **23** (1998), *no.* 1-2, 65–84. (Summary) **99c:80008** 80A50 (92E10)
Mezhirov, A. (*with* Katok, A.) Entropy and growth of expanding periodic orbits for one-dimensional maps. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 245–254. (Anthony Quas) **99g:58103** 58F20 (28D20)
Mezić, Igor (*with* Malhotra, Naresh K.; Wiggins, Stephen) Patchiness: a new diagnostic for Lagrangian trajectory analysis in time-dependent fluid flows. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1053–1093. (Summary) **99i:76068** 76F20 (58F40, 76E15)
— (*with* Haller, György) Reduction of three-dimensional, volume-preserving flows with symmetry. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 319–339. (Yi-Sui Sun) **99a:58135** 58F25 (34A26, 34C35, 58F40, 76C99, 76W05)
— (*with* Wiggins, Stephen; Betz, David) Residence-time distributions for chaotic flows in pipes. (English summary) *Chaos* **9** (1999), *no.* 1, 173–182. (Summary) **99m:76068**

76F20 (58F13, 58F40)

Mezincescu, Luca (*with* Nepomechie, Rafael I.) Fractional-spin integrals of motion for the boundary sine-Gordon model at the free fermion point. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 16, 2747–2764. (Konstantin G. Selivanov) **99j:81115** 81T10

— (*with* Doikou, Anastasia; Nepomechie, Rafael I.) Boundary S-matrix for the XXZ chain. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 53–59. (Konstantin G. Selivanov) **99h:82012** 82B20 (33D05, 82B23)

Mezzetti, Claudio (*with* Friedman, James W.) Games with partially enforceable agreements. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 2, 176–200. (Summary) **99b:90171** 90D12

Mezzetti, Emilia (*with* Portelli, Dario) Linear systems representing threefolds which are scrolls on a rational surface. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 417–431. (Giorgio Ottaviani) **99m:14011** 14C20 (14J30)

Mezzetti, G. Topological Morita equivalences induced by ideals generated by dense idempotents. (English summary) *J. Algebra* **201** (1998), *no.* 1, 167–188. (Witold Więsław) **99a:16042** 16W80 (16D90)

Mezzetti, Maura (*with* Giudici, Paolo) Nonparametric estimation of survival functions by means of partial exchangeability structures. (English summary) *Test* **7** (1998), *no.* 1, 111–132. 62G05

Mhashi, Mahmoud M. Gaining efficiency on the word-length string searching algorithm. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 105–124 (1998). 68Q25

Mhaskar, H. N. (*with* Blatt, H.-P.) Some discrepancy theorems in the theory of weighted polynomial approximation. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 312–330. (Franz Peherstorfer) **99e:41003** 41A10 (30C15)

Mi, Dong (*with* Yang, Fu-zhong; Hou, Bo-yuan) The statistical interaction and the Bethe ansatz of the XXZ chain corresponding Potts case. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 1, 137–140. (Summary) **99h:82017** 82B20

— (*with* Yang, Fu-zhong; Hou, Bo-yuan) Factorized representation of Felder's elliptic quantum group. (English summary) *J. Phys. A* **31** (1998), *no.* 13, L267–L272. (Robert Rałowski) **99g:81099** 81R50 (17B37, 82B23)

Mi, Jie (*with* Chen, Zhenmin) Statistical estimation for the scale parameter of the gamma distribution based on grouped data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 3035–3045. (Summary) **99j:62025** 62F10

Mi, Li Qin (*with* Li, Zhong Heng) The determination of event horizons in non-static space-times. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 238–240. 83C57

Miamee, A. G. (*with* Smith, Gregory L.) A two-dimensional power spectral study for some nonstationary processes. (English summary) *Current topics in nonstationary analysis (San Diego, CA, 1995)*, 75–95, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99h:60079** 60G12

— (*with* Makagon, A.) On the spectrum of correlation autoregressive sequences. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 179–193. (Summary) **99f:60076** 60G10 (60G25)

Mian, M. Abid (*with* Spencer, A. J. M.) Exact solutions for functionally graded and laminated elastic materials. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 12, 2283–2295. (Summary) **99h:73017** 73C02 (73B27, 73K10, 73K20)

Miano, G. (*with* Maffucci, A.) On the dynamic equations of linear multiconductor transmission lines with terminal nonlinear multiport resistors. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 8, 812–829. (Summary) **99h:94081** 94C05 (94A05)

Miao, Changxing H^m-modified wave operator for nonlinear Hartree equation in space of dimension $n \geq 2$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 480. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 247–268. (Evgeni L. Korotyaev) **99f:35154** 35P25 (35Q55, 47A40, 47N20)

— (*with* Guo, Bo Ling) Well-posedness of Cauchy problem for coupled system of long-short wave equations. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 83–96. (Tohru Ozawa) **99c:35221** 35Q55 (35L05)

— (*with* Gu, Yong Geng) Space-time estimates for parabolic type operator and application to nonlinear parabolic equations. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 4, 301–312. (Atsushi Yagi) **99m:35107** 35K55 (35B45, 42B15)

— (*with* Guo, Bo Ling; Huang, Haiyang) Global flow generated by coupled system of Schrödinger-BBM equations. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 131–138. (Nakao Hayashi) **99a:35209** 35Q35 (47H20, 76X05)

— (*with* Guo, Bo Ling) Space-time means and solutions to a class of nonlinear parabolic equations. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 682–693. (R. Guenther) **99i:35075** 35K60

— The Cauchy problem for general coupled Maxwell-Schrödinger equations. II. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 193–203. (Summary) **99j:35207** 35Q55 (81Q05, 81V10)

Miao, Guo Ping (*with* You, Yun Xiang) On the regularization method of the first kind of Fredholm integral equation with a complex kernel and its application. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 1, 75–83; *translated from Appl. Math. Mech.* **19** (1998), *no.* 1, 71–78 (*Chinese. English and Chinese summaries*). (Summary) **99a:45004** 45B05 (45L05, 76B15)

Miao, Huaikou (*with* Wu, Maokang; Tong, Fu[2]) Some properties and theorems of belief logic. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 242–244. (David Makinson) **99c:03027** 03B45 (68T27)

Miao, Li Jing (*with* Yang, Jie[3]; Lu, Zheng Gang) Prioritized justification-based nonmonotonic logic. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 1, 18–21. (Summary) **99c:68235** 68T27 (03B60, 03B70)

Miao, Lian Ying (*with* Chen, Dong Ling; Pang, Shi You) A simple proof of a conjecture on path chromatic numbers of graphs. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 89–91. 05C15

Miao, Shumei (*with* Xu, Pengcheng) Nonlinear periodic boundary value problem for second order integro-differential equations of Volterra type. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 291–298. (George Karakostas) **99a:34179** 34K10 (45J05)

Miao, Tianxuan The exposed points of the set of invariant means on an ideal. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3571–3579. (Jean-Paul Pier) **99b:43001** 43A07

Miao, Ying (*with* Kageyama, Sanpei) Nested designs with block size five and subblock size two. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 125–139. (Damaraju Raghavarao) **99c:05025** 05B05 (62K10)

— (*with* Mishima, Miwako; Kageyama, Sanpei; Jimbo, Masakazu) Constructions of nested directed BIB designs. (English summary) *Australas. J. Combin.* **18** (1998), 157–172. (Frank E. Bennett) **99m:05023** 05B05

— (*with* Kageyama, Sanpei) A construction for resolvable designs and its generalizations. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 11–24. (Dieter Jungnickel) **99f:05015** 05B05

— (*with* Kageyama, Sanpei) Nested designs of superblock size four. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 1–5. (Summary) **99f:05016** 05B05 (62K10)

— (*with* Kageyama, Sanpei) Two classes of q-ary codes based on group divisible association schemes. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 269–276. (Patrick Solé) **99j:05199** 05E30 (94B60)

Miao, Yuan (*with* Li, Chun Wen) Construction of Lyapunov functions for systems with a two-dimensional critical part. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 1, 129–132. 93D05 (34D08)

Miao, Zhengke (*with* Zhang, Ke Min[1]) Two order exponent set of strong connected digraphs. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 9–14. (Summary) **99f:05076** 05C50 (05C20)

Miaojuan, Peng (*with* Cheng, Yu Min; Zhang, Wu) On the asymptotic behavior of the solutions of a class of second order nonlinear differential equations. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 63–79. (Mauro Marini) **99j:34051** 34C11 (34B15, 34D05)

Miara, Bernadette Nonlinearly elastic shell models: a formal asymptotic approach. I. The membrane model. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 4, 331–353. (Petr E. Tovstik) **99h:73050** 73K15 (35Q72)

— (*with* Lods, Véronique) Nonlinearly elastic shell models: a formal asymptotic approach. II. The flexural model. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 4, 355–374. (Petr E. Tovstik) **99j:73072** 73K15 (35C20, 35Q72)

— (*with* Valente, Vanda) Contrôlabilité exacte d'une coque de Koiter par action sur sa frontière. (English and French summaries) [Exact controllability of a Koiter shell by a boundary action] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 269–273. (Vilmos Komornik) **99j:93009** 93B05 (73K15, 73K50)

dotti Miatello, Isabel G. *see* **Dotti Miatello, Isabel G.**

Miatello, R. J. (*with* Bruggeman, R. W.) Sum formula for SL_2 over a number field and Selberg type estimate for exceptional eigenvalues. *Geom. Funct. Anal.* **8** (1998), *no.* 4, 627–655. (Stefan Kühnlein) **99m:11061** 11F72 (11F55)

— (*with* Kisbye, N. P.) On the residues and special values of Poincaré series. (English summary) *Indag. Math. (N.S.)* **9** (1998), *no.* 1, 35–53. (Jae-Hyun Yang) **99d:11040** 11F12 (11F11, 22E45)

Micali, Artibano Albert Crumeyrolle, la démarche algébrique d'un géomètre. (English summary) [Albert Crumeyrolle, the algebraic approach of a geometer] *Clifford algebras and spinor structures*, ix–xiv, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Summary) **99a:01022a** 01A70

— (*with* da Motta Ferreira, João Carlos) Sur les algèbres nucléaires. (English summary) [On nuclear algebras] *Indag. Math. (N.S.)* **7** (1996), *no.* 3, 331–342. (Antonio Fernández López) **99c:46054** 46H05 (16B99, 17A05, 17D05)

— Formes quadratiques de Hardy-Weinberg et algèbres de Clifford. II. (English and French summaries) [Hardy-Weinberg quadratic forms and Clifford algebras. II] *Afrika Mat.* (3) **8** (1997), 81–92. (Bertfried Fauser) **99f:17039** 17D92 (11E16, 15A63, 15A66, 92D15)

— Formes quadratiques de Hardy-Weinberg et algèbres de Clifford. (English summary) [Hardy-Weinberg quadratic forms and Clifford algebras] *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 259–266, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Moussa Ouattara) **99f:17038** 17D92 (15A63, 15A66)

Micali, Silvio (*with* Even, Shimon; Goldreich, Oded) On-line/off-line digital signatures. (English summary) *J. Cryptology* **9** (1996), *no.* 1, 35–67. (Summary) **99a:94029** 94A60

Micchelli, Charles A. (*with* Buhmann, Martin D.; Ron, Amos) Asymptotically optimal approximation and numerical solutions of differential equations. (English summary) *Approximation theory and optimization (Cambridge, 1996)*, 59–82, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99f:65023** 65D15 (65M06)

— (*with* Sauer, Thomas) Sobolev norm convergence of stationary subdivision schemes. (English summary) *Surface fitting and multiresolution methods (Chamonix-Mont-Blanc, 1996)*, 245–260, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65230** 65T99 (65J05)

— (*with* Chen, Zhongying; Xu, Yuesheng) The Petrov-Galerkin method for second kind integral equations. II. Multiwavelet schemes. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 199–233. (Iulian Coroian) **99h:65215** 65R20 (45B05, 45L05)

— (*with* Sauer, Thomas) Regularity of multiwavelets. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 4, 455–545. (Peter A. McCoy) **99d:42067** 42C15 (39B12, 65T20)

— (*with* Dahmen, Wolfgang) Biorthogonal wavelet expansions. (English summary) *Constr. Approx.* **13** (1997), *no.* 3, 293–328. (Gerlind Plonka) **99c:39039** 39B62 (41A63, 42A38)

— (*with* Xu, Yuesheng; Zhao, Yunhe) Wavelet Galerkin methods for second-kind integral equations. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 251–270. (Fritz Keinert) **99b:65176** 65R20 (42C15, 45L05)

— (*with* Lawton, Wayne) Construction of conjugate quadrature filters with specified zeros. (English summary) *Numer. Algorithms* **14** (1997), *no.* 4, 383–399. (Summary) **99b:41021** 41A55 (41A30, 42C15)

— (*with* Floater, Michael S.) Nonlinear means in geometric modeling. (English summary) *Approximation theory*, 197–207, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:65031** 65D17 (41A30)

— (*with* Floater, Michael S.) Nonlinear stationary subdivision. (English summary) *Approximation theory*, 209–224, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New*

York, 1998. (*see* **99a:00051**) 65D05 (41A05)
— (*with* Goodman, Tim N. T.; Rodriguez, Giuseppe; Seatzu, Sebastiano) On the limiting profile arising from orthonormalizing shifts of exponentially decaying functions. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 331–354. (Summary) **99d:15011** 15A23 (41A15, 65D07)
— (*with* Sauer, Thomas; Xu, Yuesheng) A construction of refinable sets for interpolating wavelets. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 359–372. (I. Ya. Novikov) **99h:42063** 42C15 (65D15)
— (*with* Chen, Zhongying; Xu, Yuesheng) A construction of interpolating wavelets on invariant sets. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1569–1587. (Andreas Rathsfeld) **99m:65017** 65D05 (42C15, 65T99)
— *see also* **Advances in computational mathematics, 99g:65002**
Michael, Jerzy (*with* Dziechcińska-Halamoda, Z.; Szwiec, W.) Games without repetitions on graphs with vertex disjoint cycles. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 3, 254–258. (Summary) **99d:90143** 90D05 (05C99)
— (*with* Majcher, Zofia) Degree sequences of digraphs with highly irregular property. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 49–61. (Prabir Das) **99h:05048** 05C20
Michael, Michaelis Tichý on Kripke on a posteriori necessities. *Philos. Stud.* **92** (1998), *no.* 1-2, 113–126. 03A05
Michael, Ofer (*with* Barbone, Paul E.; Montgomery, Joshua M.; Harari, Isaac) Scattering by a hybrid asymptotic/finite element method. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 141–156. (Summary) **99h:76054** 76M10 (65M60, 76Q05)
Michael, T. S. (*with* Hwang, Suk-Geun; Kräuter, Arnold R.) An upper bound for the permanent of a nonnegative matrix. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 259–263. (Peter M. Gibson) **99k:15011** 15A15
Michaelis, Jens (*with* Kracht, Marcus) Semilinearity as a syntactic invariant. (English summary) *Logical aspects of computational linguistics (Nancy, 1996)*, 329–345, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (68Q45)
Michail, Amir Optimal broadcast and summation on hierarchical ring architectures. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 1, 83–94. (Summary) **99c:68019** 68M10
Michaille, Gérard (*with* Michel, Julien) The subadditive ergodic theorem and some random problems in mechanics. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics (Tarragona, 1998)*, 139–149, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 28D99 (60F10, 73B27)
Michalak, B. Stability of elastic slightly wrinkled plates. (English summary) *Acta Mech.* **130** (1998), *no.* 1-2, 111–119. (Summary) **99c:73034** 73H05 (73K10)
Michalak, Danuta (*with* Borowiecki, Mieczysław) Generalized independence and domination in graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 51–56. (Summary) **99d:05044** 05C35
Michaleas, Ch. (*with* Tsagas, Grigorios T.) The spectrum of the exceptional Lie groups. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 3, 221–232. (J. Alfredo Jiménez) **99a:58161a** 58G25 (17B25, 22E30)
— (*with* Tsagas, Grigorios T.) The spectra of the classical simple Lie groups. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 3, 273–282. (J. Alfredo Jiménez) **99a:58161b** 58G25 (17B25, 22E30)
Michálek, Jaroslav Application of kernel smoothing to additive models. *Summer Schools MATLAB 94, 95 Proceedings (Velké Karlovice, 1994; Čeřínek, 1995)*, 103–111, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 62G05 (65D10)
— Kernel smoothing with variable bandwidth. *Summer Schools MATLAB 94, 95 Proceedings (Velké Karlovice, 1994; Čeřínek, 1995)*, 113–128, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (Girdhar G. Agarwal) **99g:62044** 62G05
Michálek, Jiří Maximum likelihood principle and I-divergence: discrete time observations. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 3, 265–288. (Pham Dinh Tuan) **99i:62009** 62B10 (62F12)
Michaletzky, György (*with* Ferrante, Augusto) Splitting subspaces and acausal spectral factors. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 3, 26 *pp.* (*electronic*). (Summary) **99g:93038** 93B60 (60G10, 93E03)
— (*with* Szeidl, L.) Limit theorems for random symmetric functions. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci. (New York)* **89** (1998), *no.* 5, 1507–1516. (Summary) **99e:60064** 60F05
— *see also* **Stochastic differential and difference equations, 99c:60002**
Michalewicz, Zbigniew (*with* Schoenauer, Marc) Evolutionary computation. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 307–338. (*see* **99b:90008**) 90–02 (90C27, 90C30)
— (*with* Khouja, Moutaz; Vijayaragavan, Poorani) Evolutionary algorithm for economic lot and delivery scheduling problem. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 113–123. 90B35 (90B30)
— *see also* **Evolutionary computation, 99b:90008**
Michalewski, Henryk Game-theoretic approach to the hereditary Baire property of $C_P(\mathbf{N}_F)$. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 135–140. (T. Thrivikraman) **99k:54008** 54C35 (04A20, 54E52)
chojnowska-Michalik, A. *see* **Chojnowska-Michalik, A.**
Michalowski, Wojtek (*with* Kaliszewski, Ignacy; Kersten, Gregory) A hybrid interactive technique for the MCDM problems. (English summary) *Essays in decision making*, 48–59, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90A05)
Michalska, Hannah (*with* Rehman, Fazal-Ur) Stabilization of a class of nonlinear systems through Lyapunov function decomposition. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 381–409. 93D15
— (*with* Rehman, Fazal-Ur) Guiding functions and discontinuous control: the underwater vehicle example. (English summary) *Internat. J. Control* **69** (1998), *no.* 1, 1–30. 93C95 (70Q05)
Michalski, Krzysztof A. Extrapolation methods for Sommerfeld integral tails. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 10, 1405–1418. (Summary) **99g:78007** 78–08 (78A40)
Michaylov, Spiro Repeated redundant inequalities in constraint logic programming. (English summary) International Conference on Constraints in Computational Logics (Munich, 1994). *Inform. and Comput.* **142** (1998), *no.* 1, 26–39. (Summary) **99b:68034** 68N17
Michéa, Sébastien (*with* Araki, Huzihiro; Flato, Moshé; Sternheimer, Daniel) Some infinite-dimensional algebras arising in spin systems and in particle physics and their grand algebra. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 155–171. (Albert Jeu-Liang Sheu) **99h:81067** 81R10 (17B65, 22E70, 81R50)
Michel, Alexis Integral and modular representations attached to the Selmer group of an elliptic curve with complex multiplication. (English summary) *Math. Z.* **230** (1999), *no.* 3, 451–470. (Gabriel D. Villa-Salvador) **99m:11064** 11G05 (11R23)
Michel, Anthony N. (*with* Feng, Zhaoshu) Global asymptotic stability of a class of feedback neural networks with an application to optimization problems. (English summary) Sydney R. Parker Memorial Issue, Part II. *Circuits Systems Signal Process.* **17** (1998), *no.* 2, 219–241. (Summary) **99h:92001** 92B20
— (*with* Ye, Hui; Hou, Ling) Stability theory for hybrid dynamical systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 461–474. (Summary) **99c:93079** 93D05 (34H05)
— (*with* Hou, Ling) Asymptotic stability of systems with saturation constraints. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1148–1154. (Nicolay A. Magnitskiĭ) **99f:93124** 93D20 (34D20)
— (*with* Ye, Hui; Hou, Ling) Stability analysis of systems with impulse effects. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1719–1723. (Yuri V. Rogovchenko) **99k:34019** 34A37 (34D20, 93D05)
Michel, Joachim (*with* Shaw, Mei-Chi) Subelliptic estimates for the $\overline{\partial}$-Neumann operator on piecewise smooth strictly pseudoconvex domains. *Duke Math. J.* **93** (1998), *no.* 1, 115–128. (Der-Chen E. Chang) **99b:32019** 32F20 (35H05, 35N15)
— (*with* Shaw, Mei-Chi) C^∞-regularity of solutions of the tangential CR-equations on weakly pseudoconvex manifolds. *Math. Ann.* **311** (1998), *no.* 1, 147–162. (Hervé Gaussier) **99g:32032** 32F40 (32F30, 35N10)
Michel, Julien (*with* Michaille, Gérard) The subadditive ergodic theorem and some random problems in mechanics. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics (Tarragona, 1998)*, 139–149, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 28D99 (60F10, 73B27)
— (*with* Piau, Didier) Large deviations, central limit theorems and L^p convergence for Young measures and stochastic homogenizations. (English summary) *ESAIM Probab. Statist.* **2** (1998), 135–161 (*electronic*). (Boualem Djehiche) **99m:60046** 60F10 (35B27, 49J45, 60F05, 60G50, 60J75)
Michel, Laurence (*with* Azé, Dominique) Computable dual characterizations of asymptotically well-behaved convex functions. *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 39–49. (T. Zolezzi) **99m:49041** 49K45 (90C25, 90C31)
Michel, Laurent (*with* Van Hentenryck, Pascal) LOCALIZER: a modeling language for local search. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 1–14. 90C27 (90–04)
Michel, Louis History of the IHÉS and its foundation by Léon Motchane. *Math. Intelligencer* **21** (1999), *no.* 2, 28–31. 01A74
Michel, Olivier Dynamical genomic network applied to artificial neurogenesis. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 511–531. (*see* **99b:90008**) 90C27
Michel, P. *see* **Michel, Philippe**
Michel, Philippe Le range de familles de variétés abéliennes. [The rank of families of abelian varieties] *J. Algebraic Geom.* **6** (1997), *no.* 2, 201–234. (H. Lange) **99e:14053** 14K15 (14H25, 14H40)
— Autour de la conjecture de Sato-Tate pour les sommes de Kloosterman. II. [On the Sato-Tate conjecture for Kloosterman sums. II] *Duke Math. J.* **92** (1998), *no.* 2, 221–254. (D. R. Heath-Brown) **99d:11094** 11L05
— Minorations de sommes d'exponentielles. [Lower bounds of exponential sums] *Duke Math. J.* **95** (1998), *no.* 2, 227–240. (D. R. Heath-Brown) **99i:11069** 11L07 (11N36)
— (*with* Ullmo, Emmanuel) Points de petite hauteur sur les courbes modulaires $X_0(N)$. (English summary) [Points of small height on the modular curves $X_0(N)$] *Invent. Math.* **131** (1998), *no.* 3, 645–674. (Carlo Gasbarri) **99c:11074** 11G18 (14G35, 14G40)
Michel, Philippe Gaston (*with* Gevers, Louis) Economic dynasties with intermissions. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 2, 251–271. (Summary) **99g:92047** 92H10 (90A99, 90D20)
— (*with* Dutta, Jayasri) The distribution of wealth with imperfect altruism. (English summary) *J. Econom. Theory* **82** (1998), *no.* 2, 379–404. (From the introduction) **99k:90026** 90A09 (90A53)
Michel, Reinhard Aspekte der Stirlingschen Zahlen zweiter Art. (German summary) [Aspects of Stirling numbers of the second kind] *Math. Semesterber.* **43** (1996), *no.* 1, 81–92. (L. Skula) **99e:11025** 11B73 (60B99)
Michel, V. (*with* Diederich, Klas; Herbort, G.) Weights of holomorphic extension and restriction. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 7, 697–719. (Manfred Stoll) **99k:46036** 46E20 (32F05, 32H10, 47B38)
Michelacakis, N. J. Projective flat manifolds of cyclic and dihedral holonomy. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 469–482. (Karel Dekimpe) **99g:14057** 14J99 (11R04, 20C15)
de Michele, L. *see* **De Michele, L.**
Micheletti, Alessandra Problems of stochastic geometry in polymer crystallization processes. Modelling, statistical and computational aspects. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 193–196. 60D05 (82D60)
Micheletti, Anna Maria (*with* Pistoia, Angela) About the multiplicity of solutions for certain class of fourth order semilinear problems. (English summary) *Matematiche (Catania)* **51** (1996), *no.* 2, 253–271 (1997). (Yi Hong Du) **99a:35092** 35J65 (58E05)
— (*with* Pistoia, Angela) Multiple eigenvalues of the Laplace-Beltrami operator and deformation of the Riemannian metric. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 709–720. (Alberto G. Setti) **99f:58216** 58G25
— (*with* Pistoia, Angela) Multiplicity results for a fourth-order semilinear elliptic problem. *Nonlinear Anal.* **31** (1998), *no.* 7, 895–908. (Yu. P. Rybakov) **99d:35059** 35J65 (35B32, 58E05)

— (*with* Pistoia, Angela) Nontrivial solutions for some fourth order semilinear elliptic problems. *Nonlinear Anal.* **34** (1998), *no.* 4, 509–523. (Andrzej Szulkin) **99h:35066** 35J65

Micheletti, S. (*with* Gatti, E.; Sacco, Riccardo) A new Galerkin framework for the drift-diffusion equation in semiconductors. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 2, 101–135. (J. W. Jerome) **99j:65207** 65N30 (65N15, 82D99)

de Micheli, Enrico *see* **De Micheli, Enrico**

Michell, Joel *see* **Hölder, Otto, 99i:00003**

Michelsohn, M.-L. (*with* Lawson, H. Blaine, Jr.; Lima-Filho, P.) On equivariant algebraic suspension. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 4, 627–650. (Andrzej Kozlowski) **99m:14016** 14C25

Michelson, Jeremy Scattering of four-dimensional black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1092–1097. (Marco Spaans) **99d:83062** 83C57 (83E30)

Michener, H. Andrew (*with* Myers, Daniel J.) An empirical comparison of probabilistic coalition structure theories in 3-person sidepayment games. (English summary) *Theory and Decision* **45** (1998), *no.* 1, 37–82. (Summary) **99g:90166** 90D06 (90D10)

Michener, Ronald (*with* Ravikumar, Balasubrahmanian) Chaotic dynamics in a cash-in-advance economy. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 7, 1117–1137. (Summary) **99b:90033** 90A16

Michiels, B. (*with* Molenberghs, Geert; Kenward, M. G.; Diggle, P. J.) Monotone missing data and pattern-mixture models. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 2, 153–161. (Summary) **99h:62030** 62F99

Michielsen, Paul F. M. (*with* Koren, Barry; Kars, Jan-Willem; Wesseling, Pieter) A computational method for high-frequency oleodynamics: application to hydraulic-shock-absorber designs. (English summary) *Surveys Math. Indust.* **7** (1998), *no.* 4, 283–301. 76M25 (65M20, 76N10)

Michielssen, Eric (*with* Ergin, A. Arif; Shanker, Balasubramaniam) Fast evaluation of three-dimensional transient wave fields using diagonal translation operators. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 157–180. (Summary) **99g:76134** 76Q05 (76M25, 78–08, 78A45)

— (*with* Jandhyala, Vikram; Shanker, Balasubramaniam; Chew, Weng Cho) Fast algorithm for the analysis of scattering by dielectric rough surfaces. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 7, 1877–1885. (Summary) **99c:78004** 78–08 (78A45)

Michler, Gerhard O. (*with* Solberg, Øyvind) Testing modules of groups of even order for simplicity. (English summary) *J. Algebra* **202** (1998), *no.* 1, 229–242. (D. F. Holt) **99b:20008** 20C05 (20–04, 20C40)

— *see also* **Proceedings: Conference of the International Linear Algebra Society, 99a:00039**

Michler, Ruth I. Cyclic homology of affine hypersurfaces with isolated singularities. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 3, 291–299. (Joseph P. Brennan) **99c:13032** 13D03 (19D55)

Michna, Zbigniew Self-similar processes in collective risk theory. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 429–448. (Hanspeter Schmidli) **99j:60049** 60G15 (62E17, 68M20, 90A46)

— (*with* Dębicki, Krzysztof; Rolski, Tomasz) On the supremum from Gaussian processes over infinite horizon. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 83–100 (19*N*). (Simeon M. Berman) **99g:60075** 60G15

Michod, Richard E. (*with* Roze, Denis) Cooperation and conflict in the evolution of individuality. III. Transitions in the unit of fitness. (English summary) *Mathematical and computational biology* (*Aizu-Wakamatsu City*, 1997), 47–91, *Lectures Math. Life Sci.*, 26, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99k:92002**) 92D15 (92C15)

Michoel, T. (*with* Momont, B.; Verbeure, A.) CCR-algebra structure of normal k-mode fluctuations. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 361–395. (Lech Jakóbczyk) **99m:82006** 82B10 (46L60, 47N55)

Michor, Peter W. The Jacobi flow. Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 4, 365–372. (David Martín de Diego) **99f:53043** 53C22 (53C05, 58F17)

— (*with* Vinogradov, A. M.) n-ary Lie and associative algebras. (English summary) Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 4, 373–392. (Raúl Ibáñez) **99g:17007** 17A42 (16Y99, 58F05, 70H05)

— (*with* Schichl, H.) No slices on the space of generalized connections. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 221–228. (Jan Slovák) **99g:58018** 58D19 (53C05)

— (*with* Dubois-Violette, Michel) More on the Frölicher-Nijenhuis bracket in noncommutative differential geometry. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 2, 107–135. (J. Vanžura) **99c:58014** 58B30 (17B66)

— (*with* Alekseevskiĭ, D. V.; Grabowski, Janusz; Marmo, Giuseppe) Completely integrable systems—a generalization. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1637–1648. (Charles-Michel Marle) **99f:58089** 58F07 (22E70, 58F05, 70H05)

— (*with* Alekseevskiĭ, D. V.; Grabowski, Janusz; Marmo, Giuseppe) Poisson structures on double Lie groups. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 340–379. (Johannes Huebschmann) **99g:58048** 58F05 (17B45, 53C15, 58F07)

Michoud, Didier (*with* Katritch, Vsevolod; Bednar, Jan; Scharein, Robert G.; Dubochet, Jacques; Stasiak, Andrzej) Geometry and physics of knots. (English summary) *Nature* **384** (1996), *no.* 6605, 142–145. (Summary) **99b:92032** 92D20 (57M25)

Michta, Mariusz Note on the selection properties of set-valued semimartingales. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), *no.* 2, 161–169. (Ilya S. Molchanov) **99f:60089** 60G48 (28B20, 60D05)

— (*with* Rybiński, Longin E.) Selections of set-valued stochastic processes. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 73–78. (Christian Hess) **99h:60038** 60E99 (28B20, 60D05)

Miciano-Cariño, Agnes (*with* Graef, John R.; Qian, Chuanxi) A Sturm type comparison theorem for higher order nonlinear difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 263–270, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99f:39005** 39A10

— (*with* Graef, John R.; Qian, Chuanxi) A comparison result for nonlinear difference equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1547–1553. (*see* **98i:00029**) 39A10

Mick, S. (*with* Röschel, Otto) Geometry & architecturally shaky platforms. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 455–464, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:70011** 70B15

— (*with* Röschel, Otto) Characterisation of architecturally shaky platforms. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 465–474, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70014** 70B15

Mickelsson, Jouko Gerbes and Hamiltonian quantization of chiral fermions. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 216–225, *World Sci. Publishing, River Edge, NJ*, 1996. (Edwin Langmann) **99f:58218** 58G26 (81T50)

— Schwinger terms, gerbes, and operator residues. *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 345–361, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Michael Murray) **99e:58204** 58G26 (22E65, 81T50)

— (*with* Carey, Alan L.; Murray, Michael K.) Index theory, gerbes, and Hamiltonian quantization. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 707–722. (Introduction) **99f:58189** 58G10 (58G26, 81T50)

Mickens, Ronald E. Asymptotic properties of solutions to discrete Coulomb equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 285–289. (Summary) **99k:39029** 39A10 (81U05)

— (*with* Hence, Christina R.) Analytic approximations to the solutions of the Michaelis-Menten equation. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 2, 149–155. 65L06

— Nonstandard finite difference scheme for a scalar reaction-convection PDE. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 359–367. (Summary) **99a:65101** 65M06 (39A12)

— Periodic solutions of the relativistic harmonic oscillator. *J. Sound Vibration* **212** (1998), *no.* 5, 905–908. (From the text) **99d:70027** 70H40 (34C25, 70K25)

— Comments on: "A rational harmonic balance approximation for the Duffing equation of mixed parity" [J. Sound Vibration **207** (1997), no. 4, 597–599; 1 622 195] by M. S. Sarma and B. Nageswara Rao. With a reply by Sarma and Nageswara Rao. *J. Sound Vibration* **216** (1998), *no.* 1, 187–189. 70K99 (34C15)

— Liénard systems, limit cycles, Melnikov theory, and the method of slowly varying amplitude and phase. *J. Sound Vibration* **217** (1998), *no.* 4, 790–793. (Ramajayam Sahadevan) **99j:34038** 34C05 (70K10)

— A finite difference scheme for traveling wave solutions to Burgers equation. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 6, 815–820. (S. Galanis) **99j:65139** 65M06 (65L12, 76D99, 76M20)

— (*with* Brewley, Denise N.; Russell, Matasha L.) A model of dieting. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 667–672 (*electronic*). (Summary) **99d:92004** 92B05 (34C99, 34D99)

Micklewright, B. (*with* Cornish, F. H. J.) The news function for Robinson-Trautman radiating metrics. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, 611–617. (Richard Hansen) **99k:83027** 83C30 (83C20)

Miclăuș, Gh. Some integral operators and Hardy classes. (English summary) *Studia Univ. Babeș-Bolyai Math.* **41** (1996), *no.* 3, 57–64. (Jacqueline Detraz) **99g:30014** 30C45 (30D55)

Miclo, Laurent Une étude des algorithmes de recuit simulé sous-admissibles. (English and French summaries) [A study of subadmissible simulated annealing algorithms] *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 4, 819–877. (Dominique Lépingle) **99c:60156** 60J27

— Remarques sur l'hypercontractivité et l'évolution de l'entropie pour des chaînes de Markov finies. (English and French summaries) [Remarks on hypercontractivity and evolution of entropy in finite Markov chains] *Séminaire de Probabilités, XXXI*, 136–167, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Matthias Löwe) **99b:60104** 60J10 (47D07)

— Une variante de l'inégalité de Cheeger pour les chaînes de Markov finies. (French summary) [A variant of the Cheeger inequality for finite Markov chains] *ESAIM Probab. Statist.* **2** (1998), 1–21 (*electronic*). (Pierre Mathieu) **99e:60152** 60J10 (60J35)

— Sur les temps d'occupations des processus de Markov finis inhomogènes à basse température. (English and French summaries) [Occupation times of low-temperature nonhomogeneous finite Markov processes] *Stochastics Stochastics Rep.* **63** (1998), *no.* 1-2, 65–137. (Summary) **99e:60162** 60J27 (60F15)

Micu, C. (*with* Papp, E.) Non-polynomial solutions to the q-difference form of the Harper equation. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2881–2887. (Dharma P. Gupta) **99g:39021** 39A12 (33D90)

Micu, Sorin Boundary stabilization for a hyperbolic system. *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 60–69 (1994). 93D15 (35L99, 93C20)

— (*with* Zuazua, Enrique) On a weakly damped system arising in the control of noise. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 207–222, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Fausto Gozzi) **99i:93035** 93C20 (35B37, 35L99, 73K50, 73K70, 76Q05)

— Stabilization of a hybrid system for noise reduction. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 235–253 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99m:93087** 93D15 (35L99, 35Q99, 73K50, 73K70, 93C20)

— (*with* Zuazua, Enrique) Asymptotics for the spectrum of a fluid/structure hybrid system arising in the control of noise. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 967–1001 (*electronic*). (Akira Tsutsumi) **99e:35170** 35P20 (35L05, 35L55, 73K70, 76Q05)

Micula, Gheorghe (*with* Fairweather, Graeme) Direct numerical spline methods for first-order Fredholm integro-differential equations. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 59–66. (H. Brunner) **99c:65249** 65R20 (65L06)

— (*with* Kobza, Jiří; Blaga, Petru P.) Low order splines in solving neutral delay differential equations. (English summary) *Studia Univ. Babeș-Bolyai Math.* **41** (1996), *no.* 2, 73–85. (Haydar Akça) **99d:65206** 65L05 (34A45, 34K40)

— (*with* Ayad, Ahmet) A polynomial spline approximation method for solving Volterra integro-differential equations. (English summary) *Studia Univ. Babeș-Bolyai Math.* **41** (1996), *no.* 4, 71–80. (Summary) **99f:65204** 65R20 (45L05)

— (*with* Blaga, Petru P.; Chung, Seiyoung) A polynomial spline approximation method for solving delay differential equations. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 181–192, *Transilvania, Cluj-Napoca*, 1997. (Philip W. Sharp) **99c:65123** 65L05 (34K05, 41A15, 65D07)

— (*with* Blaga, Petru P.; Micula, M.) The numerical solution of differential equations with retarded argument by means of natural spline functions of even degree. (English

summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 245–262. (Summary) **99d:65201** 65L05 (65D07)

Micula, M. (*with* Blaga, Petru P.; Micula, Gheorghe) The numerical solution of differential equations with retarded argument by means of natural spline functions of even degree. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 245–262. (Summary) **99d:65201** 65L05 (65D07)

Miculescu, Radu A note about positive continuous functions on a compact topological group. (Romanian. English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 85–87. (Summary) **99k:22004** 22A10 (43A77)

— A note about coordinate functions. (Romanian. English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 211–215. 22C05

Middeldorp, Aart (*with* Hanus, Michael; Lucas, Salvador) Strongly sequential and inductively sequential term rewriting systems. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 1–8. (Summary) **99c:68142** 68Q42

Middendorf, Martin (*with* ElGindy, Hossam) Matrix multiplication on processor arrays with optical buses. (English summary) *Informatica (Ljubl.)* **22** (1998), *no.* 3, 255–262. (Summary) **99i:65048** 65F30 (15–04, 68Q22)

Middleditch, Alan (*with* Gomes, Abel) Synthesis of a unified approach to shape modeling. (English summary) *Geometric modeling: theory and practice (Blaubeuren, 1996)*, 226–246, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65194** 65Y25 (52–04, 65D17, 68U05)

— (*with* Evans, Guy; Miles, Nick) Stable computation of the 2D medial axis transform. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 577–598. (Summary) **99g:68208** 68U05

Middleton, Jason (*with* Sloan, Ian H.) V. T. Buchwald [1929–1998]—an obituary. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 224–225. 01A70

Midha, Chand K. (*with* Dey, Aloke) Addition or deletion? (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 409–414. (Summary) **99b:62116** 62K15 (62K05)

Midorikawa, Hisaichi On Dirichlet series of a certain commutative matrix ring. *Tokyo J. Math.* **20** (1997), *no.* 2, 265–286. (Boris Datskovsky) **99f:11113** 11M41 (11R42)

Midorikawa, Shoichi[2] (*with* Tomoda, Toshiaki; Horibata, Takatoshi; Muraoka, Mitsuo) Recurrence relations for counting the number of permutations with forbidden successive numbers. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 9, 2551–2562. 05A05 (68R05)

Midura, Stanisław On solutions of some system of functional equations. *Demonstratio Math.* **31** (1998), *no.* 2, 299–304. (Branka P. Alimpić) **99k:39065** 39B22

Midy, Pierre (*with* Petit, Jean-Pierre) Scale invariant cosmology. (English summary) *Internat. J. Modern Phys. D* **8** (1999), *no.* 3, 271–289. 83F05

van Mieghem, Jan A. *see* **Van Mieghem, Jan A.**

Miehe, Christian A formulation of finite elastoplasticity based on dual co- and contra-variant eigenvector triads normalized with respect to a plastic metric. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 3-4, 223–260. (Summary) **99c:73029** 73E99 (73G20, 73V20)

— (*with* Lambrecht, Matthias) Two non-associated isotropic elastoplastic hardening models for frictional materials. (English summary) *Acta Mech.* **135** (1999), *no.* 1-2, 73–90. (Summary) **99m:73034** 73E05 (73Q05)

Miękisz, Jacek (*with* Gazeau, Jean Pierre) A symmetry group of a Thue-Morse quasicrystal. (English summary) *J. Phys. A* **31** (1998), *no.* 23, *L435–L440*. (Jean-Paul Allouche) **99j:11023** 11B85 (68R15, 82D25)

— (*with* van Enter, Aernout C. D.; Zahradník, Miloš) Nonperiodic long-range order for fast-decaying interactions at positive temperatures. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1441–1447. (Dimitri Petritis) **99e:82006** 82B05

Miekkala, Ulla (*with* Nevanlinna, Olavi) Iterative solution of systems of linear differential equations. *Acta numerica*, 1996, 259–307, *Acta Numer., 5, Cambridge Univ. Press, Cambridge*, 1996. (Alexander Ostermann) **99f:65104** 65L05 (34A09, 34A45)

— Remarks on waveform relaxation method with overlapping splittings. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 349–361. (Zahari Zlatev) **99e:65104** 65L05

Miele, A. (*with* Mancuso, S.) Optimal ascent trajectories and feasibility of next-generation orbital spacecraft. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 519–550. (Summary) **99b:49037** 49N55 (70M20, 93C95)

Miele, G. (*with* Lizzi, Fedele; Mangano, Gianpiero; Sparano, G.) Mirror fermions in noncommutative geometry. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 231–237. (Raimar Wulkenhaar) **99f:81131** 81T13 (58B30)

— (*with* Covi, L.; Mangano, Gianpiero; Masiero, A.) Hybrid inflation from supersymmetric SU(5). (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 253–258. (Summary) **99b:81271** 81V22 (81T60)

— *see also* **New perspectives in the physics of mesoscopic systems, 99e:81003**

Mieleszko, Małgorzata (*with* Morchało, Jarosław) Asymptotic equivalence between a nonlinear system and its nonlinear perturbation. (English summary) *Fasc. Math. No.* 27 (1997), 55–65. (E. Thandapani) **99e:39033** 39A10

Mielke, Alexander (*with* Afendikov, Andrei) Instability of standing waves in large wavelength in problems with O(2) symmetry. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 133–138, *Adv. Ser. Nonlinear Dynam., 7, World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:35192** 35Q35 (35B35, 76E30)

— (*with* Dangelmayr, Gerhard; Fiedler, Bernold; Kirchgässner, Klaus) ★ Dynamics of nonlinear waves in dissipative systems: reduction, bifurcation and stability. (English summary) With a contribution by G. Raugel. Pitman Research Notes in Mathematics Series, 352. *Longman, Harlow*, 1996. vi+277 *pp. ISBN* 0-582-22929-4 (Arnd Scheel) **99d:58002** 58–02 (35L70, 35Q55, 58Fxx, 76B15, 76E30)

— Mathematical analysis of sideband instabilities with application to Rayleigh-Bénard convection. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 1, 57–99. (Alexander Lifschitz) **99a:76063** 76E99 (35Q35, 76D05, 76E15)

— (*with* Gallay, Thierry) Diffusive mixing of stable states in the Ginzburg-Landau equation. (English summary) *Comm. Math. Phys.* **199** (1998), *no.* 1, 71–97. (Peter E. Zhidkov) **99m:35223** 35Q55 (76E30)

— (*with* Sprenger, Pius) Quasiconvexity at the boundary and a simple variational formulation of Agmon's condition. (English summary) *J. Elasticity* **51** (1998), *no.* 1, 23–41. (Igor Yu. Chudinovich) **99k:35040** 35J45 (49J10, 73C02, 73V25)

— (*with* Holmes, Philip J.; Kutz, J. Nathan) Global existence and uniqueness for an optical fibre laser model. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1489–1504. (Summary) **99f:35194** 35Q55 (78A60)

— Bounds for the solutions of the complex Ginzburg-Landau equation in terms of the dispersion parameters. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 106–116. (Arjen Doelman) **99f:35195** 35Q55 (35B40, 76E30)

— Flow properties for Young-measure solutions of semilinear hyperbolic problems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **129** (1999), *no.* 1, 85–123. (Summary) **99m:35145** 35L60 (35B05)

— *see also* **Proceedings: Symposium on Structure and Dynamics of Nonlinear Waves in Fluids, 99m:76003**

Mielke, Andreas (*with* Abad, Enrique) Brownian motion in fluctuating periodic potentials. (English summary) *Ann. Physik* (8) **7** (1998), *no.* 1, 9–23. (Summary) **99b:82074** 82C31

Mielke, Eckehard W. (*with* Macías, Alfredo; Morales-Técotl, Hugo A.; Tresguerres, Romualdo) Torsion and non-metricity in metric-affine gravity. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields (Rio de Janeiro, 1995)*, 494–501, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83D05

— (*with* Macías, Alfredo; Morales-Técotl, Hugo A.) Chiral fermions coupled to chiral gravity. (English summary) *Field theory, integrable systems and symmetries (Quebec, PQ, 1995)*, 157–165, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83056** 83C60 (83C99, 83E50)

— Chern-Simons solution of the Ashtekar constraints for the teleparallelism equivalent of gravity. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 871–880. (Summary) **99m:83019** 83C05

— (*with* Kreimer, Dirk) Chiral anomaly in Ashtekar's approach to canonical gravity. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 535–548. (José A. Zapata) **99f:81188** 81T50 (83C45, 83D05)

— (*with* Macías, Alfredo; Socorro, José) Supersymmetric quantum cosmology for Bianchi class A models. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 5, 701–712. (Seth A. Major) **99h:83023** 83C45

— (*with* Socorro, José; Lämmerzahl, Claus; Macías, Alfredo) Multipole-like solutions in metric-affine gravity. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 317–323. (Mark D. Roberts) **99e:83046** 83D05 (83E30)

— (*with* Macías, Alfredo; Socorro, José) Supersymmetric quantum cosmology: the physical states. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1027–1033. (Seth A. Major) **99g:83040** 83C45

— (*with* García Díaz, Alberto; Lämmerzahl, Claus; Macías, Alfredo; Socorro, José) Colliding waves in metric-affine gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3457–3462. 83D05

Miellou, Jean Claude (*with* Bahi, Jacques; Rhofir, K.) Asynchronous multisplitting methods for nonlinear fixed point problems. (English summary) *Numer. Algorithms* **15** (1997), *no.* 3-4, 315–345. (Gerd Pönisch) **99c:65100** 65H10

— (*with* Bahi, Jacques) Asynchronous multisplitting algorithms for differential-algebraic systems discretized by Runge-Kutta methods. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 35–41, *VSP, Utrecht*, 1998. (Summary) **99f:65108** 65L06 (34A09)

— (*with* El Baz, Didier; Spiteri, Pierre) Asynchronous multisplitting methods with flexible communication for pseudolinear P.D.E. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 145–152, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65M55 (65Y05)

Mielniczuk, Paweł (*with* Pacholski, Leszek) Tarskian set constraints are in NEXPTIME. (English summary) *Mathematical foundations of computer science, 1998 (Brno)*, 589–596, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25 (03D15, 68N15, 68Q15)

Mielnik, Bogdan State echo and dynamical manipulation. (English summary) *Field theory, integrable systems and symmetries (Quebec, PQ, 1995)*, 174–182, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:81133** 81S99

— (*with* Fernández C., David J.; Hussin, V.) A simple generation of exactly solvable anharmonic oscillators. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 309–316. (Peter N. Zhevandrov) **99g:81036** 81Q05

— (*with* Delgado C., Francisco) Are there Floquet quanta? (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 369–375. 81P99

Mierczyński, Janusz Three-dimensional cooperative irreducible systems with a first integral. *Colloq. Math.* **76** (1998), *no.* 2, 181–190. (Hal Leslie Smith) **99a:34104** 34C11 (34C35)

— Globally positive solutions of linear parabolic partial differential equations of second order with Dirichlet boundary conditions. *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 326–347. (Galina I. Bizhanova) **99m:35096** 35K20 (35B05, 35B60, 47N20)

— On smoothness of carrying simplices. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 543–551. (Christopher K. McCord) **99c:34086** 34C30 (34C35, 34D45, 58F12)

Mierowski, A. (*with* Mozgawa, Witold) Isoptics of rosettes and rosettes of constant width. (English summary) *Note Mat.* **15** (1995), *no.* 2, 203–213 (1997). (G. D. Chakerian) **99c:53004** 53A04 (52A99)

Miettinen, Kaisa (*with* Mäkelä, Marko M.) Interactive method NIMBUS for nondifferentiable multiobjective optimization problems. (English summary) *Multicriteria analysis (Coimbra, 1994)*, 310–319, *Springer, Berlin*, 1997. (*see* **99d:90006**) 90C29 (90C30)

— (*with* Mäkelä, Marko M.; Männikkö, Timo) Optimal control of continuous casting by nondifferentiable multiobjective optimization. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 2, 177–194. (Summary) **99g:90112** 90C29 (49N55, 90C90)

Miettinen, Markku (*with* Panagiotopoulos, Panagiotis D.) Hysteresis and hemivariational inequalities: semilinear case. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 269–298. (Daniel Goeleven) **99i:49017** 49J40 (47H19, 47H30)

— (*with* Haslinger, Jaroslav) Finite element approximation of parabolic hemivariational inequalities. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 565–585. (Daniel Goeleven) **99d:65289** 65M60 (35K85, 49J40)

— (*with* Panagiotopoulos, Panagiotis D.) On parabolic hemivariational inequalities and applications. *Nonlinear Anal.* **35** (1999), *no.* 7, *Ser. A: Theory Methods*, 885–915. (Daniel Goeleven) **99k:47171** 47H19 (34G20, 35K85, 49J40)

Mifdal, Abdelkrim (*with* Conrad, Francis) Strong stability of a model of an overhead crane. (English summary) *Control Cybernet.* **27** (1998), *no.* 3, 363–374. (Summary) **99i:93050** 93D15 (35Q99, 73K50)

Mifflin, Robert (*with* Sun, De Feng; Qi, Liqun) Quasi-Newton bundle-type methods for nondifferentiable convex optimization. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 583–603 (*electronic*). (J. Frédéric Bonnans) **99f:90131** 90C30 (49J45, 65K05, 90C25)

Migda, Małgorzata (*with* Drozdowicz, Andrzej) Asymptotic behavior of solutions of the mth-order nonhomogeneous difference equations. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 75–81. (Summary) **99a:39011** 39A10

— (*with* Schmeidel, Ewa) Asymptotic behaviour of solutions of higher order difference equations. *Demonstratio Math.* **31** (1998), *no.* 1, 71–80. (E. Thandapani) **99e:39034** 39A10

Migita, Takafumi (*with* Hosoi, Tsutomu) Gentzen-type formulation of some modal logics. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 207–237. (Branislav Boričić) **99b:03030** 03B45 (03F05)

Miglani, A. (*with* Kumar, Rajneesh; Debnath, Lokenath) Radial displacements of an infinite liquid saturated porous medium with cylindrical cavity. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 7, 117–123. 73N20 (76S05)

Migliorati, Sonia Order statistics as minimal sufficient statistics. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 2943–2951. (Summary) **99h:62066** 62G30 (62B05)

Migliore, Juan C. (*with* Martin, Heath M.) Submodules of the deficiency modules and an extension of Dubreil's theorem. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 463–476. (Chikashi Miyazaki) **99k:14080** 14M06 (13D02, 14M07)

— (*with* Martin, Heath M.; Nollet, Scott) Degrees of generators of ideals defining curves in projective space. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1209–1231. (Giorgio Bolondi) **99b:14051** 14M06 (13C40, 13H10)

Migliorini, Massimiliano Transversality property for the Nijenhuis tensor of an almost complex manifold. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 47–50. (Sorin Dragomir) **99i:53029** 53C15

Mignani, Roberto (*with* Cardone, Fabio; Francaviglia, Mauro) Energy and relativistic clock rates in five dimensions. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1619–1627. (Helmuth K. Urbantke) **99k:83110** 83E15 (83A05)

Mignemi, S. Black hole solutions in four-dimensional gauge theories of gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2157–2166. (A. D. Popova) **99d:83063** 83C57 (83D05)

— Charged gravitational instantons in five-dimensional Einstein-Gauss-Bonnet-Maxwell theory. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1795–1801. (Alberto Saa Vazquez) **99j:83048** 83C57 (83E15)

— (*with* Demelio, S.) Multi-black holes and instantons in effective string theory. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 73–80. (Summary) **99a:83063** 83E30 (81T30, 83C57)

— (*with* Schmidt, Hans-Jürgen) Classification of multidimensional inflationary models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 998–1010. (Alfredo Macías) **99e:53113** 53C80 (83E15, 83F05)

Mignon, Thierry Systèmes linéaires de courbes planes à singularités ordinaires imposées. (English and French summaries) [Linear systems of plane curves with prescribed ordinary singularities] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 651–654. (Summary) **99g:14038** 14H45

Mignosi, Filippo (*with* Crochemore, Maxime; Restivo, Antonio) Automata and forbidden words. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 111–117. (Summary) **99d:68204** 68R15 (68Q45)

— (*with* Restivo, Antonio; Salemi, Sergio) Periodicity and the golden ratio. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 153–167. (Valérie Berthé) **99h:68140** 68R15 (11B85)

— (*with* Giammarresi, Dora; Mantaci, Sabrina; Restivo, Antonio) Periodicities on trees. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 145–181. (Summary) **99d:68205** 68R15 (68R05)

Mignot, Fulbert (*with* Puel, Jean-Pierre) Quelques résultats sur un problème elliptique avec non linéarité exponentielle. (French summary) [Some results on an elliptic problem with exponential nonlinearity] *Équations aux dérivées partielles et applications*, 683–704, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Monica Lazzo) **99j:35065** 35J65 (34A12, 35B99, 35D05, 58F39)

— *see also* **Control and partial differential equations, 99g:00037**

Mignot, Pascal Une méthode d'estimation du spectre multifractal. (English and French summaries) [An estimation method for the multifractal spectrum] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 689–692. (Summary) **99g:62143** 62M15

Mignotte, Maurice (*with* Shorey, T. N.) The equations $(x+1)\cdots(x+k)=(y+1)\cdots(y+mk)$, $m=5,6$. *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 215–225. (Yann Bugeaud) **99h:11032** 11D41

— On the Diophantine equation $D_1x^2+D_2^m=4y^n$. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 457–460. (Mao Hua Le) **99a:11039** 11D61

— (*with* Roy, Yves) Lower bounds for Catalan's equation. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 351–356. (Michael A. Bennett) **99g:11042** 11D61 (11J86)

— Complete resolution of some families of Diophantine equations. (English summary) *Number theory (Eger, 1996)*, 383–399, *de Gruyter, Berlin*, 1998. (Michel Waldschmidt) **99d:11026** 11D25 (11J86)

— A corollary to a theorem of Laurent-Mignotte-Nesterenko. *Acta Arith.* **86** (1998), *no.* 2, 101–111. (Yann Bugeaud) **99i:11060** 11J86

— (*with* Ştefănescu, Doru) On the roots of lacunary polynomials. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 1–13. (P. L. Walker) **99k:26017** 26C10 (26D05)

Migórski, Stanisław Identification of nonlinear heat transfer laws in problems modeled by hemivariational inequalities. (English summary) *Inverse problems in engineering mechanics (Nagano, 1998)*, 27–36, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 49J40 (80A20)

— (*with* Denkowski, Zdzisław) Optimal shape design problems for a class of systems described by hemivariational inequalities. (English summary) *J. Global Optim.* **12** (1998), *no.* 1, 37–59. (From the introduction) **99m:49063** 49Q10 (49J40)

— (*with* Denkowski, Zdzisław) Optimal shape design for hemivariational inequalities. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 81–87. (*see* **99f:58002**) 49Q10 (49J40)

de Miguel, Juan Ramón *see* **De Miguel, Juan Ramón**

garcía-carpintero sánchez-Miguel, Manuel *see* **García-Carpintero Sánchez-Miguel, Manuel**

san Miguel, Rosario Rubio *see* **San Miguel, Rosario Rubio**

Mihai, Paun *see* **Paun, Mihai**

Mihăilescu, Viorel (*with* Udrişte, Constantin) Connexions ayant la propriété tensorielle associées à une transformation projective quaternionique. (French summary) [Connections with the tensor property associated with a quaternionic projective transformation] *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 53–59. (V. Oproiu) **99k:53016** 53B15

Mihăilescu-Suliciu, M. (*with* Suliciu, I.) Energy estimates for piecewise smooth rate type thermo-viscoelastic models with van der Waals type equilibrium surface. (English summary) *IUTAM Symposium on Rheology of Bodies with Defects (Beijing, 1997)*, 67–86, *Solid Mech. Appl.*, 64, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99j:73062** 73F15 (73B30)

Mihalache, Dumitru (*with* Crasovan, Lucian-Cornel; Malomed, Boris A.; Lederer, Falk) Exact solitary-wave solutions of $\mathscr{P}^{(2)}$ Ginzburg-Landau equations. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 6, 7173–7177. 78A60

Mihalache, Nicolae Topological results in analytic convexity. *Analysis and topology*, 515–524, *World Sci. Publishing, River Edge, NJ*, 1998. (Viorel Vâjâitu) **99m:32015** 32E10 (32-02, 32C18)

Mihalache, Valeria (*with* Dassow, Jürgen) Eco-grammar systems, matrix grammars and E0L systems. (English summary) *Artificial life: grammatical models (Mangalia, 1994)*, 210–226, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (68Q50, 92B05, 92D40)

— General artificial intelligence systems as eco-grammar systems. (English summary) *Artificial life: grammatical models (Mangalia, 1994)*, 245–259, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (68T01, 92B05, 92D40)

— Terminal versus non-terminal symbols in parallel communicating grammar systems. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 89–105. (Summary) **99f:68128** 68Q50 (68Q10, 68Q45)

— Variants of parallel communicating grammar systems. (English summary) *Mathematical and computational analysis of natural language (Tarragona, 1996)*, 83–93, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68Q50 (68Q10, 68Q45)

— (*with* Freund, Rudolf J.) Molecular computations on circular and linear strings. (English summary) *Unconventional models of computation (Auckland, 1998)*, 201–217, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99h:68044** 68Q05 (68Q45, 92D20)

Mihalik, Michael L. Group extensions and tame pairs. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1095–1107. (D. F. Holt) **99e:57002** 57M05 (20E06, 20F32, 57N10)

Mihaljević, Miodrag J. An iterative probabilistic decoding algorithm for binary linear block codes beyond the half minimum distance. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 237–249, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94034** 94B05

— Security examination of a cellular automata based pseudorandom bit generator using an algebraic replica approach. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 250–262, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94028** 94A60

Mihálykó, C. (*with* Stoyan, G.; Ulbert, Z.) Convergence and nonnegativity of numerical methods for an integrodifferential equation describing batch grinding. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 69–81. (Philip W. Sharp) **99e:65185** 65R20 (45K05, 45L05)

Mihara, H. Reiju Anonymity and neutrality in Arrow's theorem with restricted coalition algebras. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 4, 503–512. (Summary) **99f:90016** 90A09 (90A14)

Miheţ, Dorel (*with* Radu, Viorel) A fixed point theorem for mappings with contractive iterate in PM-spaces. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 311–314 (1998). 54H25 (54E70)

Mihnea, Georgeta On the truncation recursive functions. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 303–312. 03D20 (68Q05)

fătu-Mihoc, Cristina Ioana *see* **Fătu-Mihoc, Cristina Ioana**

Mihoc, Ion Some properties of weighted information. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 153–160, *Transilvania, Cluj-Napoca*, 1997. (Ram Autar) **99g:94009** 94A17

— (*with* Fătu-Mihoc, Cristina Ioana) The informational study of a statistical collectivity. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 2, 161–172. 62B99 (94A17)

Mihoc, Maria Nomographic functions of four variables. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 161–168, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 65S05

— On the classification of the nomographic functions of four variables. I. (English summary) Modern applied analysis (Ilieni, 1997). *Pure Math. Appl.* **9** (1998), *no.* 1-2, 129–137. (Summary) **99m:65252** 65S05

Mihók, Peter (*with* Borowiecki, Mieczysław; Broere, Izak; Frick, Marietjie; Semanišin, Gabriel) A survey of hereditary properties of graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 5–50. (Vadim E. Zverovich) **99d:05029** 05C15 (05C35, 05C75)

— (*with* Kratochvíl, Jan; Semanišin, Gabriel) Graphs maximal with respect to hom-properties. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 77–88. (I. Broere) **99k:05092** 05C35

— (*with* Bucko, Jozef; Frick, Marietjie; Vasky, Roman) Uniquely partitionable graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 103–113. (Summary) **99b:05107** 05C70

— (*with* Broere, Izak; Frick, Marietjie) The order of uniquely partitionable graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 115–125. (Summary) **99b:05106** 05C70

— (*with* Borowiecki, Mieczysław; Broere, Izak) On generalized list colourings of graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 127–132. (T. T. Raghunathan) **99e:05047** 05C15

— (*with* Filáková, Z.; Semanišin, Gabriel) A note on maximal k-degenerate graphs. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 489–498. (J. Mitchem) **99m:05133** 05C75

— (*with* Bucko, Jozef; Voigt, Margit) On uniquely partitionable planar graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 149–158. (A. G. Thomason) **99h:05029** 05C10 (05C15)

Mihoubi, Douadi Characterization and closure properties of linear ω-languages. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 79–95. (Hideki Yamasaki) **99f:68121** 68Q45 (03D05, 68Q50)

Mihuţ, Iosefina About integration on foliated manifolds. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A (Arad, 1996)*, 113–116, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 58A10

Mijalković, S. (*with* Joppich, W.) Fourier analysis—a tool to estimate multigrid convergence. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 257–271. (Summary) **99d:65348** 65N55 (65M55)

Mijatović, Milorad (*with* Pilipović, Stevan S.) α-times integrated semigroups ($\alpha \in \mathbf{R}^-$). (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 153–162. (Alexei I. Filinkov) **99k:47096** 47D06 (34G10, 46F99)

Mika, Janusz R. (*with* Banasiak, Jacek) Singularly perturbed telegraph equations with applications in the random walk theory. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 9–28. (A. V. Perzhan) **99d:35014** 35B25 (35L50, 60J15)

Mikadze, I. (*with* Kakubava, R.; Nachkebia, Sh.) Generalization of the virtual waiting time problem. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 1, 93–95. 90B25

Mikaelyan, G. V. (*with* Mikaelyan, Z. S.) Complete monotonicity of a certain class of functions of Mittag-Leffler type. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 1, 16–19. (Adam Janik) **99k:30046** 30D15

Mikaelyan, V. G. Identities of finite extensions of groups. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 5, 277–280 (1994). 20E10

— On identities of finite extensions of groups and of extensions of finite groups. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 2, 72–74. 20E22

— On identities of extensions of abelian groups. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 1, 20–23. 20K35

Mikaelyan, Z. S. (*with* Mikaelyan, G. V.) Complete monotonicity of a certain class of functions of Mittag-Leffler type. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 1, 16–19. (Adam Janik) **99k:30046** 30D15

Mikami, Kentaro Another proof of decomposability of Nambu-Poisson tensors. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 227–232. (Jeffrey K. Lawson) **99m:58093** 58F05 (70H05)

Mikami, Masahiro (*with* Kajitani, Kunihiko) The Cauchy problem for degenerate parabolic equations in Gevrey classes. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 383–406. (K. A. Yagdjian) **99f:35107** 35K65 (35K30)

Mikami, Toshio Weak convergence on the first exit time of randomly perturbed dynamical systems with a repulsive equilibrium point. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 3, 669–684. (R. Sh. Liptser) **99e:60065** 60F05 (60H10)

— Asymptotic behavior of the first exit times of randomly perturbed dynamical systems with unstable equilibrium points. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4077–4087. (Pierre Mathieu) **99b:60082** 60H10 (60F10)

— Asymptotic behavior of the first exit time of randomly perturbed dynamical systems with a repulsive equilibrium point. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 95–117. (R. Sh. Liptser) **99e:60066** 60F05 (60H10)

— Equivalent conditions on the central limit theorem for a sequence of probability measures on **R**. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 237–242. (Sergei Utev) **99h:60008** 60B10 (60E05)

Mikawa, Kenji (*with* Semba, Ichiro) A high-speed method for generating parenthesis strings by at most two transpositions. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 235–240. (*see* **99i:65003**) 68R05

Mikelić, Andro (*with* Bourgeat, Alain; Wright, Stephen James) Stochastic two-scale convergence in the mean and applications. *J. Reine Angew. Math.* **456** (1994), 19–51. (From the introduction) **99b:35008** 35B27 (35R60, 60H15, 73B27)

— (*with* Jäger, Willi) On the boundary conditions at the contact interface between a porous medium and a free fluid. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 3, 403–465. (From the introduction) **99a:76147** 76S05 (35B27, 35Q35, 73B27)

— (*with* Bourgeat, Alain; Luckhaus, Stephan) Convergence of the homogenization process for a double-porosity model of immiscible two-phase flow. (English summary) *SIAM J. Math. Anal.* **27** (1996), *no.* 6, 1520–1543. (Vasily V. Zhikov) **99a:76143** 76S05 (35B27, 35K55, 35Q35, 73B27, 76T05)

— (*with* Fasano, Antonio; Primicerio, Mario) Homogenization of flows through porous media with permeable grains. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 1–31. (Robert Lipton) **99e:76119** 76S05 (35B27, 35Q35, 73B27)

— (*with* Bourgeat, Alain; Pyatnitskii, Andrei L.) Modèle de double porosité aléatoire. (English and French summaries) [Random double porosity model] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 99–104. (Antonio Fasano) **99i:76141** 76S05 (35B25, 35Q35, 73B27, 76M35)

— (*with* Jäger, Willi) On the effective equations of a viscous incompressible fluid flow through a filter of finite thickness. (English summary) Dedicated to the memory of Fritz John. *Comm. Pure Appl. Math.* **51** (1998), *no.* 9-10, 1073–1121. (Alain Brillard) **99f:35012** 35B27 (35Q30, 73B27, 76D05)

— (*with* Shillor, Meir; Tapiéro, R.) Homogenization of an elastic material with inclusions in frictionless contact. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 287–307. (Alain Brillard) **99i:73064** 73T05 (35B27, 73B27, 73C02)

— (*with* Clopeau, Thierry; Robert, Raoul) On the vanishing viscosity limit for the 2D incompressible Navier-Stokes equations with the friction type boundary conditions. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1625–1636. (Summary) **99g:35102** 35Q30 (73D30, 76D05)

— (*with* Robert, Raoul) On the equations describing a relaxation toward a statistical equilibrium state in the two-dimensional perfect fluid dynamics. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1238–1255 (*electronic*). (Alexandre J. Chorin) **99d:76051** 76F99 (76M35, 82D15)

— (*with* Paoli, Laetitia) Homogenization of the inviscid incompressible fluid flow through a 2D porous medium. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2019–2028. (Summary) **99j:76125** 76S05 (35B27, 35Q35, 73B27)

Mikenberg, Irene F. (*with* Lewin, Renato A.; Schwarze, María G.) On the algebraizability of annotated logics. (English summary) *Studia Logica* **59** (1997), *no.* 3, 359–386. (G. Mirkowska) **99c:03043** 03B70 (03B60)

Mikeš, Josef (*with* Berezovski, Vladimir) On a classification of almost geodesic mappings of affine connection spaces. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 21–24 (1997). (V. C. Gupta) **99h:53019** 53B05

— (*with* Bácsó, Sándor; Zedník, Josef) On f-planar mappings of affine-connection spaces with infinite dimension. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 157–162. (Andrew Bucki) **99b:53020** 53B05

— Holomorphically projective mappings and their generalizations. Geometry, 3. *J. Math. Sci. (New York)* **89** (1998), *no.* 3, 1334–1353. (Sándor Bácsó) **99f:53031** 53C15 (53B35, 53C55)

— (*with* Němčíková, Jana; Pokorná, Olga) On the theory of the 4-quasiplanar mappings of almost quaternionic spaces. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srni, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 75–81. (Andrew Bucki) **99m:53060** 53C15 (53C10)

— (*with* Radulovich, Zhelko) On projective transformations of Riemannian spaces with harmonic curvature. (English summary) *New developments in differential geometry, Budapest* 1996, 279–283, *Kluwer Acad. Publ., Dordrecht*, 1999. (Andrew Bucki) **99k:53095** 53C25 (53C20)

Mikeska, H.-J. (*with* Kolezhuk, A. K.) Finitely correlated generalized spin ladders. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 23, 2325–2348. (Summary) **99g:82010** 82B20

Mikhaĭlichenko, G. G. The simplest polymetric geometries. I. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 377–395, *ii–iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 331–345. (Summary) **99g:51012** 51K99

Mikhaĭlik, I. A. (*with* Samarskiĭ, Aleksandr Andreevich; Mazhukin, V. I.; Matus, Petr P.) L_2-conservative schemes for the Korteweg-de Vries equation. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 458–461. (Michael Fröhner) **99h:65150** 65M06 (35Q53, 65M12)

Mikhailov, A. *see* **Mikhailov, Andrei Yurevich**

Mikhaĭlov, A. P. (*with* Stepanova, V. V.; Shamraĭ, A. A.) Self-similar LS-regimes of adiabatic self-compression of a gas. (Russian) *Mat. Model.* **9** (1997), *no.* 3, 109–120. (From the text) **99b:76072** 76N15

— (*with* Vasil'ev, A. N.) Self-similar solutions of the Cauchy problem for the nonlinear heat equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 788–800; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 758–770. (Summary) **99c:35104** 35K55 (35K05, 80A20)

Mikhailov, Andrei Yurevich Symmetries of the BFKL equation. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3215–3233. (Lewis H. Ryder) **99f:81216** 81V05 (81R05)

— Momentum lattice for CHL string. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 3, 612–652. (Angel Maria Uranga) **99k:81262** 81T30

Mikhailov, Dmitry (*with* Katsylo, Pavel) Ternary quartics and 3-dimensional commutative algebras. (English summary) *J. Lie Theory* **7** (1997), *no.* 2, 165–169. (R. K. Markanda) **99e:13007** 13A99 (14J25)

Mikhaĭlov, G. A. (*with* Makarov, R. N.) Solution of boundary value problems by the "random walk on spheres" method with reflection from the boundary. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 6, 720–722. (Sergei A. Nemnyugin) **99a:65191** 65R20 (65C05, 65N99)

— (*with* Lotova, G. Z.) Estimates for probabilistic moments of critical values of parameters of the particle transport equation in a stochastic medium. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 166–169. (A. D. Khon'kin) **99b:82083** 82C70

— New weighted "path estimates" in the Monte Carlo method. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 396–404, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 346–353. (Stefan Heinrich) **99k:65011** 65C05 (82C70)

— (*with* Makarov, R. N.) Parametric differentiation and estimates for eigenvalues by the Monte Carlo method. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 931–941, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 806–815. (Sergei A. Nemnyugin) **99m:65011** 65C05 (35G15, 45L05, 65D25)

— (*with* Cheshkova, A. F.) Solution of the Dirichlet difference problem for the multidimensional Helmholtz equation by the Monte Carlo method. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 99–106. (Sergei A. Nemnyugin) **99c:65007** 65C05 (65N06)

Mikhaĭlov, M. Ė. Decomposition of finite pseudometric spaces. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 225–234; *translation in Math. Notes* **63** (1998), *no.* 1-2, 197–204. (V. V. Mykhaylyuk) **99e:54023** 54E99 (54B99)

— Supplementary conditions for the nondecomposability of finite pseudometric spaces. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 421–424; *translation in Math. Notes* **63** (1998), *no.* 3-4, 370–373. (Summary) **99f:54041** 54E99 (54D05)

Mikhailov, S. A. (*with* Müller, Peter C.) Time-suboptimal control design of singularly perturbed systems by reduced order feedback design. (English summary) 2nd IMACS Symposium on Mathematical Modelling (Vienna, 1997). *Math. Comput. Simulation* **46** (1998), *no.* 5-6, 593–600. (*see* **99d:00030**) 93C70 (49N35)

Mikhailov, S. E. On some weighted Hardy type classes of one-parametric holomorphic functions. I. Function properties and Mellin transforms. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 339–364. (Dragan Vukotić) **99g:46022** 46E15 (44A15, 47G10)

— On some weighted Hardy type classes of one-parametric holomorphic functions. II. Partial Volterra operators in parameter. (English summary) *J. Math. Anal. Appl.* **222**

(1998), *no.* 2, 374–396. (Dragan Vukotić) **99g:46023** 46E15 (44A15, 47G10)

Mikhaĭlova, A. V. Convolution of Faber series. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 107–111. (Yuri A. Farkov) **99f:30059** 30E10

Mikhaĭlova, T. Yu. (*with* Godunov, S. K.; Romenskiĭ, E. I.) Systems of thermodynamically consistent conservation laws that are invariant under rotations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 790–806, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 690–705. (Victor V. Zharinov) **99g:35078** 35L65 (35Q99)

— (*with* Pupyshev, V. I.) Algebraic method for the evolution operator approximation. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4263–4275. (Summary) **99e:81272** 81V55 (47N50)

Mikhaĭlovskaya, L. V. (*with* Matatov, V. I.) Nonautonomous cubic systems of two differential equations with the Painlevé property. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 216–221, 286; *translation in Differential Equations* **34** (1998), *no.* 2, 220–225. (Summary) **99k:34014** 34A34 (34A20, 34A25)

Mikhaĭlovskiĭ, N. È. Mosaic approximations of discrete analogues of Calderón-Zygmund operators. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 81–94; *translation in Math. Notes* **63** (1998), *no.* 1-2, 72–83. (Krzysztof Nowak) **99e:42027** 42B20 (41A29)

Mikhaĭlyuk, Vladimir Vasil'evich On the set of discontinuity points of a separately continuous mapping. (Ukrainian. English and Russian summaries) *Mat. Stud.* **3** (1994), 91–94, 122. 54C10

Mikhajlova, Anna (*with* von Wright, Joakim) Proving isomorphism of first-order logic proof systems in HOL. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 295–314, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (Summary) **99m:03023** 03B35 (03B15, 68T15)

Mikhalëv, A. A. (*with* Yu, Jie-Tai) Test elements, retracts and automorphic orbits of free algebras. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 3, 295–310. (Vesselin Drensky) **99h:17002** 17A36 (17A50, 17B01)

Mikhalev, A. V. (*with* Zakharov, Valeriĭ Konstantinovich) The problem of integral representation for Radon measures on a Hausdorff space. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 1, 13–15. 28C05 (28C15)

Mikhalev, Alexander A. *see* **Mikhalëv, A. A.**

Mikhaljević, N. On the solvability of nonlinear equations. (Russian. Russian summary) *Math. Montisnigri* **9** (1998), 81–86. (Andrey Ponomaryov) **99j:47097** 47H15 (47H05, 47H17)

Mikhalkin, G. Topology of curves of degree 6 on cubic surfaces in $\mathbf{RP}^3$. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 2, 219–237. (Nicolas Dutertre) **99d:14064** 14P25 (14F45, 57M99)

Mikhasëv, G. I. Localized wave forms of motion of an infinite shell of revolution. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 826–834; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 813–820. (Summary) **99c:73049** 73K15 (73D99, 73K12)

— Asymptotic solutions of a system of equations of shallow shells in the form of two-dimensional wave packets. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 47–53; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 2, 44–50. (From the text) **99c:73050** 73K15 (35B25, 35Q72, 73K12)

— Erratum: "Asymptotic solutions of a system of equations of shallow shells in the form of two-dimensional wave packets" [Izv. Vyssh. Uchebn. Zaved. Mat. **1998**, no. 2, 47–53; MR 99c:73050]. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. 73K15 (35B25, 35Q72, 73K12)

Mikhas'kiv, V. V. Boundary-integral formulation of three-dimensional problems of steady vibrations of an infinite body with a crack located on an open Lyapunov surface. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 2, 1956–1960. (Summary) **99h:73032** 73D30 (73M25, 73V99)

Mikheev, Pavel O. Analytic composition laws with identities. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 33–43. (Huberta Lausch) **99h:08001** 08A02 (08B05, 20N05)

Miki, Kei (*with* Hayaishi, Norifumi) L operators and Drinfeld's generators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1623–1636. (Andrei G. Bytsko) **99e:17021** 17B37 (17B67)

Mikiashvili, M. On the spectral sequence of a covering. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 3, 373–375 (1996). (Summary) **99h:55024** 55R20 (55T10)

— (*with* Berikashvili, N.; Kadeishvili, T.; Khazhomiya, S. M.; Makalatia, D.; Saneblidze, S.) On the obstruction functor. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 172–176. 55S35

Mikityuk, Ya. V. (*with* Tarasyuk, Svyatoslav I.) On sequences of compact operators. (Ukrainian. English and Russian summaries) *Mat. Stud.* **8** (1997), *no.* 1, 111–112, 127. 47B07 (47A05)

— (*with* Nagnibīda, N. Ĭ.) On the equivalence of some Pommiez operators in spaces of analytic functions. (Ukrainian. English and Russian summaries) *Mat. Stud.* **9** (1998), *no.* 2, 193–198, 224. (Summary) **99m:47037** 47B38 (30H05, 46E10)

Mikk, Erich (*with* Lakhnech, Yassine; Siegel, Michael) Hierarchical automata as model for statecharts (extended abstract). (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 181–196, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60 (68Q68)

Mikkelsen, Kurt V. (*with* Billing, Gert D.) ★ Advanced molecular dynamics and chemical kinetics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xiv+288 *pp. ISBN* 0-471-12740-X (L. E. H. Trainor) **99b:81283** 81V55 (80A30, 92E20)

Mikkelsen, Per Effective bounds for integral points on arithmetic surfaces. *J. Reine Angew. Math.* **496** (1998), 55–72. (Dan Abramovich) **99g:11081** 11G35 (14G40)

Mikkelson, Gregory M. Methods and metaphors in community ecology: the problem of defining stability. (English summary) *Perspect. Sci.* **5** (1997), *no.* 4, 481–498 (1999). 92D40

Mikkola, Seppo Non-canonical perturbations in symplectic integration. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 3, 249–255. (Summary) **99a:70004** 70–08 (70F15)

Miklaszewski, Dariusz (*with* Idzik, Adam) Borsuk-Ulam type theorems. I. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 119–122. (Summary) **99i:55001** 55M20

— The two-point problem for nonlinear ordinary differential equations and differential inclusions. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 127–132. (G. Anichini) **99j:34026** 34B15 (34A60)

Miklavčič, Milan (*with* Spiga, Giampiero) On the nonlinear stability of Maxwellian states for discrete velocity models of the extended Boltzmann equation. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5393–5400. (Yan Guo) **99g:82070** 82C40 (76P05)

— (*with* Spiga, Giampiero) Stability of Maxwellian states for the Broadwell model of the extended Boltzmann equation. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 590–601. (Carlo Cercignani) **99g:82071** 82C40 (76P05)

Miklós, D. (*with* Demetrovics, János; Katona, Gyula O. H.; Seleznev, O. V.; Thalheim, Bernhard) The average length of keys and functional dependencies in (random) databases. (English summary) *Database theory—ICDT'95* (*Prague*), 266–279, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— (*with* Demetrovics, János; Katona, Gyula O. H.; Seleznev, O. V.; Thalheim, Bernhard) Functional dependencies in random databases. *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 127–140. (Lawrence V. Saxton) **99m:68041** 68P15 (15A52)

— (*with* Demetrovics, János; Katona, Gyula O. H.; Seleznev, O. V.; Thalheim, Bernhard) Asymptotic properties of keys and functional dependencies in random databases. (English summary) Database theory (Prague, 1995). *Theoret. Comput. Sci.* **190** (1998), *no.* 2, 151–166. (Summary) **99d:68063** 68P15

Miklyukov, Vladimir M. (*with* Martio, Olli; Vuorinen, Matti K.) Morrey's lemma on Riemannian manifolds. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 183–210. (M. Yu. Vasil'chik) **99m:46081** 46E35 (30C65)

— (*with* Vuorinen, Matti K.) A boundary uniqueness theorem for Sobolev functions. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 503–511. (Qi Ren Gao) **99j:31011** 31B25

— (*with* Vuorinen, Matti K.) Hardy's inequality for $W_0^{1,p}$-functions on Riemannian manifolds. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2745–2754. (Gilles Carron) **99m:58196** 58G25 (26D10, 46E35)

Mikosch, Thomas (*with* Norvaiša, R.) Uniform convergence of the empirical spectral distribution function. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 1, 85–114. (Miguel A. Arcones) **99b:62146** 62M15 (60F17, 60G10)

— Periodogram estimates from heavy-tailed data. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 241–257, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62M15

— (*with* Nagaev, Aleksandr Viktorovich) Large deviations of heavy-tailed sums with applications in insurance. (English summary) *Extremes* **1** (1998), *no.* 1, 81–110. (Boualem Djehiche) **99i:60057** 60F10 (60G50, 60G70, 62P05)

— (*with* Davis, Richard Alan) Gaussian likelihood-based inference for non-invertible MA(1) processes with SαS noise. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 99–122. (Yoshihiro Yajima) **99k:62158** 62M10 (62M07, 62M09)

Mikosz, Małgorzata On classification of the linear Lagrangian and isotropic subspaces. *Demonstratio Math.* **30** (1997), *no.* 2, 437–450. (Raúl Ibáñez) **99b:53046** 53C15 (58F05)

Miković, A. (*with* Cruz, Javier; Navarro-Salas, J.) Free field realization of cylindrically symmetric Einstein gravity. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 273–278. (Summary) **99f:83031** 83C45 (83C99)

Mikrut, Piotr Bordism of oriented 4-manifolds with T-structure. (English summary) *Topology Appl.* **83** (1998), *no.* 2, 109–125. (Masaaki Ue) **99c:57051** 57N13 (57M60, 57R20, 57R85)

— Bordism of spin 4-manifolds with local action of tori. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4423–4444. (Torsten Asselmeyer) **99g:57024** 57N13 (57M60, 57R15, 57R85, 57S15)

Miksis, Michael J. (*with* Kriegsmann, James J.; Vanden-Broeck, Jean-Marc) Pressure driven disturbances on a thin viscous film. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1249–1255. (Summary) **99a:76045** 76D45 (76D99)

— (*with* Ida, M. P.) The dynamics of thin films. I. General theory. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 456–473 (*electronic*). (Stephen K. Wilson) **99a:76040** 76D08 (35Q30, 76D10, 76D45, 76M30)

— (*with* Ida, M. P.) The dynamics of thin films. II. Applications. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 474–500 (*electronic*). (Stephen K. Wilson) **99a:76041** 76D08 (35Q30, 76D10, 76D45, 76M25)

Mikula, K. (*with* Beneš, Michal) Simulation of anisotropic motion by mean curvature—comparison of phase field and sharp interface approaches. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian. (N.S.)* **67** (1998), *no.* 1, 17–42. (Summary) **99k:73017** 73B30 (35Q72, 58E99, 65M99, 73V20, 80A22)

— *see also* **Proceedings: Conference on Scientific Computing, 99f:00021**

Mikulás, Szabolcs (*with* Andréka, Hajnal; Givant, Steven; Németi, István; Simon, András) Notions of density that imply representability in algebraic logic. (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 2-3, 93–190. (Ivo Düntsch) **99f:03089** 03G15 (03C05, 06E25, 08B05)

Mikulevičius, R. (*with* Pragarauskas, H.) On the existence of a viscosity solution to the integro-differential Bellman equation. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 553–564, *TEV, Vilnius*, 1994. (Min Sun) **99m:35253** 35Q99 (35D05, 45K05, 49L25)

Mikulík, Miloslav (*with* Bauer, Luboš) The least squares problem with linear equality constraints. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřinek*, 1995), 129–132, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 65F20

— The algorithm for cubic spline of the prescribed shape for the given data. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřinek*, 1995), 133–138, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 65D07

— Shape preserving C^1 cubic splines. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřinek*, 1995), 139–142, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 65D07

Mikulski, W. M. Natural affinors on r-jet prolongation of the tangent bundle. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 2, 321–328. (I. Kolář) **99h:58008** 58A20 (53A55)

Mikusiński, Piotr (*with* Caron, R. M.; Li, Xin^3; Sherwood, H.; Taylor, M. D.) Nonsquare "doubly stochastic" matrices. (English summary) *Distributions with fixed marginals and related topics (Seattle, WA, 1993)*, 65–75, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Ryszard Grząślewicz) **99b:15025** 15A51 (15A48)

— (*with* Li, Xin^3; Sherwood, H.; Taylor, M. D.) In quest of Birkhoff's theorem in higher dimensions. (English summary) *Distributions with fixed marginals and related topics (Seattle, WA, 1993)*, 187–197, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Ryszard Grząślewicz) **99b:15027** 15A51 (15A48)

— On flexibility of Boehmians. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 141–146. (Harris S. Shultz) **99e:44004** 44A40 (44A35, 46F10)

— (*with* Li, Xin^3; Sherwood, H.; Taylor, M. D.) On approximation of copulas. (English summary) *Distributions with given marginals and moment problems (Prague, 1996)*, 107–116, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:60009** 60E05 (62H05)

— (*with* Li, Xin^3; Taylor, M. D.) Strong approximation of copulas. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 608–623. (Roger B. Nelsen) **99j:60029** 60E99 (46N30, 46S50, 47B38, 60B10)

— (*with* Debnath, Lokenath) ★ Introduction to Hilbert spaces with applications. (English summary) Second edition. *Academic Press, Inc., San Diego, CA*, 1999. *xx*+551 *pp. ISBN* 0-12-208436-5 (Editors) **99k:46001** 46–01 (47–01, 81–01)

Milac, Thomas I. (*with* Gregory, R. Douglas; Wan, Frederic Y. M.) A thick hollow sphere compressed by equal and opposite concentrated axial loads: an asymptotic solution. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 1080–1097 (*electronic*). (Summary) **99k:73034** 73C02 (73K15)

Miladinova, S. P. (*with* Slavchev, Slavcho Georgiev) Weakly nonlinear Marangoni convection under an external magnetic field. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 5, 345–357. (Summary) **99a:76165** 76W05 (76E15, 76E25)

Milanese, M. (*with* Giarré, L.) SM identification of approximating models for H_∞ robust control. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 6, 319–332. 93B36 (93B30)

Milani, A. *see* **Milani, Andrea**

Milani, Albert A remark on the Sobolev regularity of classical solutions of strongly elliptic equations. (English summary) *Math. Nachr.* **190** (1998), 203–219. (Nguyễn Minh Trí) **99b:35041** 35J25 (35B65)

Milani, Andrea (*with* Baccili, S.) Dynamics of earth-crossing asteroids: the protected Toro orbits. (English summary) *Celestial Mech. Dynam. Astronom.* **71** (1998/99), *no.* 1, 35–53. 70F15

— (*with* Knežević, Zoran) Asteroid mean elements: higher order and iterative theories. (English summary) *Celestial Mech. Dynam. Astronom.* **71** (1998/99), *no.* 1, 55–78. (Summary) **99k:70011** 70F15 (70–08)

— (*with* Gronchi, G. F.) Averaging on Earth-crossing orbits. (English summary) *Celestial Mech. Dynam. Astronom.* **71** (1998/99), *no.* 2, 109–136. (Summary) **99j:70016** 70F15

Milano, Michela (*with* Lamma, Evelina; Mello, Paola; Riguzzi, Fabrizio) A system for abductive learning of logic programs. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY, 1997)*, 102–122, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99m:68033** 68N17 (68T05)

— (*with* Lamma, Evelina; Mello, Paola) Extending constraint logic programming for temporal reasoning. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 139–158. (Summary) **99a:68031** 68N17 (68T20)

— (*with* Lamma, Evelina; Mello, Paola; Riguzzi, Fabrizio) Integrating induction and abduction in logic programming. (English summary) *Inform. Sci.* **116** (1999), *no.* 1, 25–54. (Summary) **99k:68029** 68N17

— (*with* Lamma, Evelina; Mello, Paola) Reasoning on constraints in CLP(FD). (English summary) *J. Logic Programming* **38** (1999), *no.* 1, 93–110. 68N17 (68T20)

Milazzo, Lorenzo Common blocks for ASQS(12). (English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 143–148 (1998). (Summary) **99c:05027** 05B05

Milchtaich, Igal Vector measure games based on measures with values in an infinite-dimensional vector space. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 25–46. (Summary) **99m:90172** 90D12

Mildenberger, Heike Order types of free subsets. (English summary) Logic Colloquium '94 (Clermont-Ferrand). *Ann. Pure Appl. Logic* **89** (1997), *no.* 1, 75–83. (Pierre Matet) **99j:03037** 03E05 (03E10, 03E35, 03E55)

— Non-constructive Galois-Tukey connections. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1179–1186. (L. Bukovský) **99j:03041** 03E15

— Changing cardinal invariants of the reals without changing cardinals or the reals. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 593–599. (Peter Vojtáš) **99m:03101** 03E35 (03E15, 03E40, 03E55)

Miled, Slimane Ben (*with* Gambaudo, Jean-Marc) Cascades of periodic orbits in two dimensions. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1627–1641. (Michael Hurley) **99c:58129** 58F20 (54H20)

Mileković, Marijan (*with* Meljanac, Stjepan; Stojić, Marko) On parastatistics defined as triple operator algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 995–1005. (Władysław Adam Majewski) **99h:81097** 81S05 (81T05)

Milenkovic, Victor J. (*with* Daniels, K.) Multiple translational containment. I. An approximate algorithm. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 148–182. (Summary) **99e:68157** 68U05 (52B55, 90B80, 90C90)

— Multiple translational containment. II. Exact algorithms. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 183–218. (Summary) **99e:68158** 68U05 (52B55, 90B80, 90C90)

— Rotational polygon overlap minimization and compaction. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 305–318. (Summary) **99d:68237** 68U05

Miles, J. W. (*with* Chamberlain, P. G.) Topographical scattering of gravity waves. (English summary) *J. Fluid Mech.* **361** (1998), 175–188. (Summary) **99d:76013** 76B15 (86A05)

— (*with* Henderson, D. M.) A note on interior vs. boundary-layer damping of surface waves in a circular cylinder. (English summary) *J. Fluid Mech.* **364** (1998), 319–323. (Summary) **99c:76038** 76D33

— On gravity-wave scattering by non-secular changes in depth. (English summary) *J. Fluid Mech.* **376** (1998), 53–60. (Summary) **99j:76013** 76B15

Miles, Nick (*with* Evans, Guy; Middleditch, Alan) Stable computation of the 2D medial axis transform. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 577–598. (Summary) **99g:68208** 68U05

Milev, L. An inequality of Schur's type. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 56–63. (Gianluca Vinti) **99j:41023** 41A17

Milewski, P. A. Long wave interaction over varying topography. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 36–47. (Shu Ming Sun) **99j:76014** 76B15 (86A05)

— (*with* Vanden-Broeck, Jean-Marc) Time dependent gravity-capillary flows past an obstacle. (English summary) *Wave Motion* **29** (1999), *no.* 1, 63–79. (Summary) **99j:76015** 76B15 (76B45)

Milgram, R. James The 14-dimensional Kervaire invariant and the sporadic group M_{12}. *Asian J. Math.* **1** (1997), *no.* 2, 314–329. (David Benson) **99a:55011** 55Q45 (20J06, 55R35, 55R40)

— (*with* Fong, Paul) On the geometry and cohomology of the simple groups $G_2(q)$ and ${}^3D_4(q)$. *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 221–244, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Kaustuv M. Das) **99f:20088** 20J06 (20D06, 55R25, 55R40)

— On the geometry and cohomology of the simple groups $G_2(q)$ and ${}^3D_4(q)$. II. *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 397–418, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Kaustuv M. Das) **99f:20089** 20J06 (20D06, 55R25, 55R40)

— On the relation between simple groups and homotopy theory. *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 419–440, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (David Benson) **99a:55012** 55Q45 (20J06, 55R35, 55R40)

— (*with* Overton, C.) The stable splitting of $B_{M_{12}}$ and related groups. *Homotopy theory via algebraic geometry and group representations (Evanston, IL, 1997)*, 213–228, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (David J. Green) **99m:55021** 55R35 (20D08, 55P42, 55R40)

— (*with* Adem, Alejandro; Karagueuzian, Dikran; Umland, Kristin) The cohomology of the Lyons group and double covers of alternating groups. *J. Algebra* **208** (1998), *no.* 2, 452–479. (David J. Green) **99m:20128** 20J06 (20D08)

Milgrom, Mordehai Suspension and levitation in nonlinear theories. (English summary) *Phys. Lett. A* **243** (1998), *no.* 1-2, 33–37. (Summary) **99c:82076** 82D55 (82D40)

Milhaud, Xavier (*with* Bunke, Olaf) Asymptotic behavior of Bayes estimates under possibly incorrect models. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 617–644. (Tapas Samanta) **99g:62032** 62F15

— (*with* Hallin, Marc; Jurečková, Jana) Characterization of error distributions in time-series regression models. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 335–345. (Vipul A. Kalamkar) **99i:62205** 62M10 (62E10, 62J05)

Milić, Svetozar Dj. (*with* Đorđević, Zoran D.) On ideals of a class of semigroups. (English summary) *Math. Montisnigri* **8** (1997), 137–149. (D. C. Jackson) **99e:20075** 20M12

Milici, C. (*with* Neamțu, Nicolae N.; Rachin, N.) About equivalence of Cauchy's functional equation $f(x+y)=f(x)f(y)$ with some other equations. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 1, 26–29. (Summary) **99j:39021** 39B22

Miličić, Dragan (*with* Soergel, Wolfgang) The composition series of modules induced from Whittaker modules. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 503–520. (H. H. Andersen) **99e:17010** 17B10 (17B35, 22E47)

— (*with* Pandžić, Pavle) On degeneration of the spectral sequence for the composition of Zuckerman functors. *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 179–199. (Jeffrey Adams) **99d:22026** 22E46

djuranović-Miličić, Nada I. *see* **Djuranović-Miličić, Nada I.**

Miličić, Pavle Resolvability of g-orthogonality in normed spaces. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 1-2, 161–170. (Ioan Şerb) **99m:46062** 46C50 (46B20)

Milik, Alexandra (*with* Feichtinger, Gustav; Hommes, Cars H.) Chaotic consumption patterns in a simple 2-D addiction model. (English summary) *Econom. Theory* **10** (1997), *no.* 1, 147–173. (Summary) **99d:90033** 90A40

— (*with* Gragnani, Alessandra; Prskawetz, Alexia; Sanderson, Warren C.) Persistent unstable equilibria and the grace period in dynamic models of environmental change. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 1, 3–25. (Bing Hong Wang) **99g:92043** 92D40 (34C23, 34E15, 90A30, 92D25)

Milinković, Darko (*with* Oh, Yong-Geun) Generating functions versus action functional. Stable Morse theory versus Floer theory. *Geometry, topology, and dynamics (Montreal, PQ, 1995)*, 107–125, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (David E. Hurtubise) **99e:58040** 58E05 (58F05)

— Morse homology for generating functions of Lagrangian submanifolds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 3953–3974. (Joa Weber) **99m:58048** 58E05 (57R70, 58F05)

Milinković, S. A. (*with* Debeljković, D. Lj.; Bajić, V. B.; Erić, T. N.) A Lyapunov analysis of stability robustness for discrete linear descriptor systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 53–62. (Summary) **99a:93077** 93D09 (93C05, 93C55)

Milis, I. (*with* Bampis, E.; Giannakos, A.; Karzanov, A. V.; Manoussakis, Y.) A parallel algorithm for finding a perfect matching in a planar graph. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 399–405. (Summary) **99g:68079** 68Q22 (05C70, 05C85, 68Q25)

Milisavljević, Mile (*with* Verriest, Erik I.) Qualitative smooth dynamics in combinatorial problems based on a notion of concentration. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 2, 141–162. 90C27 (90C10)

Militaru, G. Functors for relative Hopf modules. Applications. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 497–512. (Juan Ramon Garcia Rozas) **99f:16043** 16W30

— The Hopf modules category and the Hopf equation. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3071–3097. (Stefaan Caenepeel) **99h:16062** 16W30

— New types of bialgebras arising from the Hopf equation. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3099–3117. (Stefaan Caenepeel) **99h:16063** 16W30

knežević Miljanović, Julka *see* **Knežević Miljanović, Julka**

van Mill, Jan (*with* Comfort, W. W.; Gladdines, Helma) Proper pseudocompact subgroups of pseudocompact abelian groups. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 237–247, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Dieter Remus) **99g:22005** 22C05 (54H11)

— (*with* Ran, A. C. M.) On a generalization of Lyapounov's theorem. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 227–242. (Ion Chiţescu) **99k:28014** 28B05 (46G10)

— (*with* Koetsier, Teun) General topology, in particular dimension theory, in the Netherlands: the decisive influence of Brouwer's intuitionism. *Handbook of the history of general topology, Vol.* 1, 135–180, *Kluwer Acad. Publ., Dordrecht*, 1997. (Roman Duda) **99e:01021** 01A60 (54–03, 54F45)

— (*with* Dijkstra, Jan J.) Projections of planar Cantor sets in potential theory. *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 173–180. (Vladimir Eiderman) **99d:28005** 28A12 (31A15)

— (*with* Comfort, W. W.) How many ω-bounded subgroups? (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 105–113. (Dieter Remus) **99d:22003** 22A05 (54H11)

— (*with* Dijkstra, Jan J.) Extending monotone mappings. *Colloq. Math.* **77** (1998), *no.* 2, 201–210. (Eliza Wajch) **99e:54012** 54C20 (54C10, 54D35)

— (*with* Dijkstra, Jan J.; Kunen, Kenneth) Hausdorff measures and two point set extensions. (English summary) *Fund. Math.* **157** (1998), *no.* 1, 43–60. (Vladimir Eiderman) **99e:28010** 28A78 (54G99)

— (*with* Brandsma, Henno) A compact HL-space need not have a monolithic hyperspace. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3407–3411. (J. E. Vaughan) **99a:54007** 54B20 (54A20, 54A25, 54A35, 54D30, 54G20)

— (*with* Marciszewski, Witold) An example of t_p^*-equivalent spaces which are not t_p-equivalent. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 281–285. (Taras Banakh) **99b:54025** 54C35

— (*with* Brandsma, Henno) Monotone normality, measures and hyperspaces. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 287–298. (Gary Gruenhage) **99f:54027** 54D15 (28C15, 54A25, 54B20, 54D30)

— (*with* van Hartskamp, Michael) Normal spaces and fixed points of Čech-Stone extensions. (English summary) *Topology Appl.* **87** (1998), *no.* 1, 21–27. (Oleksandr V. Sobchuk) **99c:54062** 54H25 (54A10, 54C20, 54D35, 54G20)

Milla Miranda, Manuel (*with* Ferrel, Juan Límaco) The Navier-Stokes equation in noncylindrical domain. (English and Portuguese summaries) *Mat. Apl. Comput.* **16** (1997), *no.* 3, 247–265. (Rodolfo Salvi) **99k:76042** 76D05

— (*with* Clark, Haroldo R.; San Gil Jutuca, L. P.) On a mixed problem for a linear coupled system with variable coefficients. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 4, 20 *pp.* (*electronic*). (Ya. A. Roĭtberg) **99a:35163** 35L55

Millan, Ana (*with* Ausejo, Elena) The Spanish Mathematical Society and its periodicals in the first third of the 20th century. *Messengers of mathematics: European mathematical journals* (1800–1946), 159–187, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

Millan, William How to improve the nonlinearity of bijective S-boxes. (English summary) *Information security and privacy* (*Brisbane*, 1998), 181–192, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60

Millás, Eduardo (*with* Samsó, Julio) The computation of planetary longitudes in the zīj of Ibn al-Bannā'. (English and French summaries) *Arabic Sci. Philos.* **8** (1998), *no.* 2, 165, 167, 259–286. (George Saliba) **99h:01012** 01A30

Miller, A. *see* **Miller, Andrew G.**

Miller, A. D. Distorted elements in finite element analysis. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 565–572, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N30 (65M60)

Miller, Allen R. (*with* Moskowitz, Ira S.) On certain generalized incomplete gamma functions. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 179–190. (R. N. Kalia) **99h:33007** 33B20

— Remarks on a generalized beta function. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 23–32. (P. Anandani) **99k:33005** 33B15 (33C15, 33C45)

— Incomplete Lipschitz-Hankel integrals of Anger and Weber functions. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 311–322. (H. M. Srivastava) **99i:33004** 33C10 (33C65, 33C70)

Miller, Andrew G. (*with* Maclachlan, C.) Generating functions for finite group actions on surfaces. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 21–49. (Denis Sjerve) **99e:57026** 57M60 (14H55, 57S17)

Miller, Arnold W. (*with* Steprāns, Juris) Orthogonal families of real sequences. *J. Symbolic Logic* **63** (1998), *no.* 1, 29–49. (Jakub Jasiński) **99i:03058** 03E15 (46C99)

Miller, Boris M. The generalized solutions of ordinary differential equations in the impulse control problems. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 3, 21 *pp.* (*electronic*). (Summary) **99g:93052** 93C57 (34A37, 34H05, 49K15)

— (*with* Bentsman, Joseph) Control of distributed systems with generalized input actions. (Russian. Russian summary) Current problems in control theory and their applications (singular solutions and perturbations in control systems) (Russian). *Avtomat. i Telemekh.* **1997**, *no.* 7, 65–80; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1119–1131. (Florin Iacob) **99d:93035** 93C20 (34Gxx, 34H05, 93C57)

Miller, Cass T. (*with* Tocci, Michael D.; Kelley, C. T.; Kees, Christopher E.) Inexact Newton methods and the method of lines for solving Richards' equation in two space dimensions. (English summary) *Comput. Geosci.* **2** (1998), *no.* 4, 291–309 (99). 65H10 (65M20, 76M25, 76S05)

— (*with* Kelley, C. T.; Tocci, Michael D.) Termination of Newton/chord iterations and the method of lines. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 280–290 (*electronic*). (Summary) **99c:65104** 65H10 (65M20, 65N40, 76M25, 76S05)

Miller, Charles F., III (*with* Shapiro, Michael David) Solvable Baumslag-Solitar groups are not almost convex. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 123–127. (Michael L. Mihalik) **99k:20075** 20F32

Miller, Chris (*with* Marker, David) Levelled o-minimal structures. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 241–249. (Fuxing Shen) **99c:03060** 03C62 (03C60, 12L12)

— (*with* Starchenko, Sergei) A growth dichotomy for o-minimal expansions of ordered groups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3505–3521. (A. M. W. Glass) **99e:03025** 03C60 (06F15, 20F60)

Miller, Claudia Recovering divisor classes via their (T)-adic filtrations. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 257–271. (Abdeslam Mimouni) **99f:13012** 13C20 (13C14)

Miller, D. *see* **Miller, Dianne**

Miller, Dale A. (*with* Nadathur, Gopalan) Higher-order logic programming. *Handbook of logic in artificial intelligence and logic programming, Vol.* 5, 499–590, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99c:68044** 68N17 (03B15, 03B70)

Miller, Daniel E. On the order of nonlinear time-invariant stabilizing controllers. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 119–129. (John Tsinias) **99j:93093** 93D21 (93C40)

Miller, David F. (*with* Fu, Jyun-Horng) Computational matrix representation modules for linear operators with explicit constructions for a class of Lie operators. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 1–26. (Summary) **99h:65092** 65F99 (34C20, 58F36, 65J10, 93B29)

— (*with* Kinateder, Kimberly K. J.; McDonald, Patrick) Exit time moments, boundary value problems, and the geometry of domains in Euclidean space. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 4, 469–487. (Ming Liao) **99h:60151** 60J60 (58G32, 60J65)

Miller, Dianne (*with* Moore, Dennis W. G.; Smyth, William F.) Counting distinct strings. (English summary) *Algorithmica* **23** (1999), *no.* 1, 1–13. (Summary) **99i:68087** 68R05 (68Q20)

Miller, Douglas R. (*with* Ahmed, Mohamed A.; Al-Khamis, Talal M.) Time-inhomogeneous discrete stochastic search methods for optimal Bernoulli parameters. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 3, 199–217. (Summary) **99i:62231** 62M99

Miller, Ezra Multiplicities of ideals in Noetherian rings. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 47–51. (Elsa Zatini) **99c:13044** 13H10

Miller, Forrest R. (*with* Neill, James W.; Sherfey, Brian W.) Maximin clusters for near-replicate regression lack of fit tests. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1411–1433. (Goetz Trenkler) **99i:62149** 62J05 (62F03)

Miller, Gary L. (*with* Gremban, Keith D.; Teng, Shang-Hua) Moments of inertia and graph separators. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 1, 79–104. (Summary) **99j:05126** 05C40

— Control volume meshes using sphere packing. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 128–131, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30

— (*with* Guattery, Stephen) On the quality of spectral separators. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 701–719 (*electronic*). (Koduvayur R. Parthasarathy) **99e:68125** 68R10 (05C50, 05C85, 68Q25)

— (*with* Teng, Shang-Hua; Thurston, William P.; Vavasis, Stephen A.) Geometric separators for finite-element meshes. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 364–386 (*electronic*). (I. Norman Katz) **99d:65396** 65Y25 (65M60, 65N30)

— (*with* Gilbert, John R.; Teng, Shang-Hua) Geometric mesh partitioning: implementation and experiments. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 2091–2110 (*electronic*). (Summary) **99d:65391** 65Y25

Miller, Gary R. Shift operators and fractional calculus. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 3, 279–296. (R. K. Raina) **99j:26008** 26A33 (33C45, 47B38, 47G20)

Miller, H. G. (*with* Bhaduri, R. K.; Whelan, Niall D.; Brack, M.; Murthy, M. V. N.) Weyl series and the trace formula: a prescription for adding them. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, *R*911–*R*914. (Summary) **99k:81063** 81Q20

Miller, Harry I. (*with* Schnitzer, Franz Josef; Wyzinski, Henry L.) On a result of M. Kuczma. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 207–212. (Elżbieta Wagner) **99c:28003** 28A05 (39B05)

Miller, Haynes *see* **Rudyak, Yu. B., 99f:55001**

Miller, J. H. *see* **Miller, John H.**

Miller, J. Lyn (*with* Adams, William W.; Hoşten, Serkan; Loustaunau, Philippe) SAGBI and SAGBI-Gröbner bases over principal ideal domains. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 1, 31–47. (Karin Gatermann) **99j:13023** 13P99 (68Q40)

Miller, John H. (*with* Stadler, Peter F.) The dynamics of locally adaptive parties under spatial voting. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 2, 171–189. (Summary) **99f:90026** 90A28

Miller, John J. H. (*with* O'Riordan, Eugene) The necessity of fitted operators and Shishkin meshes for resolving thin layer phenomena. International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 207–213. (*see* **99a:65009**) 65M50

— (*with* Hegarty, Alan F.; O'Riordan, Eugene; Shishkin, G. I.) Numerical solution of elliptic convection-diffusion problems on fitted meshes. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 239–251. (*see* **99a:65009**) 65N50 (76M20, 76Rxx)

— (*with* O'Riordan, Eugene; Shishkin, G. I.) Fitted numerical methods for four simple convection-diffusion problems. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 444–448, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65N06 (65N30)

Miller, Judith R. Spectral properties and time decay for an Airy operator with potential. (English summary) *J. Differential Equations* **141** (1997), *no.* 1, 102–121. (Grzegorz Karch) **99k:35159** 35Q53 (35Q55, 47N20)

Miller, Keith (*with* Marcellini, Paolo) Regularization for the mean curvature equation. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 213–223. (Summary) **99f:35052** 35J60 (35K55)

— (*with* Carlson, Neil N.) Design and application of a gradient-weighted moving finite element code. I. In one dimension. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 728–765 (*electronic*). (Zhangxin Chen) **99e:65130** 65M60 (76M10)

— (*with* Carlson, Neil N.) Design and application of a gradient-weighted moving finite element code. II. In two dimensions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 766–798 (*electronic*). (Zhangxin Chen) **99e:65131** 65M60 (76M10)

Miller, Kenneth S. (*with* Samko, Stefan G.) A note on the complete monotonicity of the generalized Mittag-Leffler function. *Real Anal. Exchange* **23** (1997/98), *no.* 2, 753–755. 33E20

Miller, L. J. (*with* Costen, R. C.) Pulsing inertial oscillation, supercell storms, and surface mesonetwork data. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 3, 277–299. (Summary) **99e:86003** 86A10 (76C05)

Miller, M. *see* **Miller, Mirka**

Miller, M. A. (*with* Payne, Stanley E.) Collineations and characterizations of generalized quadrangles of order $(q+1, q-1)$. (English summary) Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 137–166. (T. G. Ostrom) **99j:51005** 51E12 (51E21)

Miller, Michael I. (*with* Dupuis, Paul; Grenander, Ulf) Variational problems on flows of diffeomorphisms for image matching. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 587–600. (Naoyuki Ishimura) **99f:49006** 49J20 (58E25)

Miller, Michael J. Some maximal polynomials must be nonreal. *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 283–291. (Bl. Sendov) **99h:41010** 41A10 (30C15)

Miller, Mirka (*with* Baskoro, Edy Tri; Širáň, Jozef) A remark on almost Moore digraphs of degree three. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 2, 285–291. (Joseph B. Klerlein) **99f:05042** 05C20

— (*with* Dahlhaus, Elias; Kratochvíl, Jan; Manuel, Paul D.) Transveral partitioning in balanced hypergraphs. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 75–89. (Summary) **99a:05105** 05C65

— (*with* Branković, Ljiljana; Plesník, Ján; Ryan, Joseph; Širáň, Jozef) Large graphs with small degree and diameter: a voltage assignment approach. (English summary) *Australas. J. Combin.* **18** (1998), 65–76. (Summary) **99h:05063** 05C35

— (*with* Kratochvíl, Jan; Manuel, Paul D.; Proskurowski, Andrzej) Disjoint and unfolding domination in graphs. (English summary) *Australas. J. Combin.* **18** (1998), 277–292. (Vadim E. Zverovich) **99j:05108** 05C35

— (*with* Dahlhaus, Elias; Manuel, Paul D.) A characterization of strongly chordal graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 269–271. (Summary) **99a:05123** 05C75

— (*with* Baskoro, Edy Tri; Plesník, Ján) On the structure of digraphs with order close to the Moore bound. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 109–119. (Matúš Harminc) **99g:05085** 05C20

— (*with* Dahlhaus, Elias; Manuel, Paul D.) Maximum h-colourable subgraph problem in balanced graphs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 301–303. (Summary) **99c:05098** 05C35 (05C15, 68R10)

— (*with* Slamin; Ryan, Joseph; Smyth, William F.) Labelling wheels for minimum sum number. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 289–297. (Summary) **99j:05168** 05C78

— (*with* McKay, Brendan D.; Širáň, Jozef) A note on large graphs of diameter two and given maximum degree. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 110–118. (Summary) **99c:05108** 05C35

— (*with* Ryan, Joseph; Slamin) Integral sum numbers of cocktail party graphs and symmetric complete bipartite graphs. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 23–28. (Summary) **99k:05143** 05C78

— (*with* Horák, Peter; Branković, Ljiljana) A combinatorial problem in database security. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 119–126. (Summary) **99k:68124** 68R05 (68P15, 94A60)

— (*with* Sutton, Martin; Ryan, Joseph; Slamin) Connected graphs which are not mod sum graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 287–293. (Summary) **99h:05104** 05C78 (05C40, 05C75)

tanović-Miller, N. *see* **Tanović-Miller, N.**

Miller, Paige (*with* Swanson, Ronald E.; Heckler, Charles E.) Contribution plots: a missing link in multivariate quality control. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 775–792. (*see* **99h:93003**) 90B25 (93E35)

Miller, Patrick D. Nonmonotone waves in a three species reaction-diffusion model. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 261–282. (N. F. Britton) **99j:35106** 35K57 (34C37, 58F39, 92D40)

Miller, Paul A. (*with* Sarkar, Sarben) Entropy production, dynamical localization and criteria for quantum chaos in the open quantum kicked rotor. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 419–442. 81Q50

Miller, Peter D. (*with* Akhmediev, N. N.) Modal expansions and completeness relations for some time-dependent Schrödinger equations. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 513–524. (Peter N. Zhevandrov) **99m:81046** 81Q05 (35Q55, 42C30)

— (*with* Kamvissis, Spyridon) On the semiclassical limit of the focusing nonlinear Schrödinger equation. (English summary) *Phys. Lett. A* **247** (1998), *no.* 1-2, 75–86. (Summary) **99e:81058** 81Q20

— (*with* Bang, Ole) Macroscopic dynamics in quadratic nonlinear lattices. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 6038–6049. (Summary) **99b:82093** 82D99 (35Q55)

Miller, R. *see* **Miller, Ron**

Miller, R. E. *see* **Miller, Robert E.**

Miller, R. K. *see* **Miller, Richard Keith[1]**

Miller, Raymond E. (*with* Ramalingam, G.; Song, J.; Joskowicz, L.) Solving systems of difference constraints incrementally. (English summary) *Algorithmica* **23** (1999), *no.* 3, 261–275. (Summary) **99j:90105** 90C35 (15A39, 68T20)

Miller, Richard Keith[1] (*with* Brunner, Hermann; Makroglou, A.) Mixed interpolation collocation methods for first and second order Volterra integro-differential equations with periodic solution. (English summary) *Appl. Numer. Math.* **23** (1997), *no.* 4, 381–402. (Summary) **99b:65171** 65R20 (45L05)

Miller, Rob *see* **Miller, Robert Simon**

Miller, Robert E. Homogenization of systems with unsymmetric damping. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 11–16. (Summary) **99b:35010** 35B27 (73B27, 73K12)

Miller, Robert Simon (*with* Kakas, Antonios C.) Reasoning about actions, narratives, and ramification. (English summary) Commentary is available at http://www.ida.liu.se/ext/etai/received/rac/003/aip.html. *Electron. Trans. Artif. Intell.* **1** (1997), *no.* 4, 39–72 (*electronic*). (Summary) **99f:68182** 68T25 (68T30)

Miller, Ron (*with* Phillips, Rob; Beltz, Glen; Ortiz, Michael) A non-local formulation of the Peierls dislocation model. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1845–1867. (*see* **99g:73003**) 73S10

— (*with* Shenoy, V. B.; Tadmor, E. B.; Rodney, D.; Phillips, Rob; Ortiz, Michael) An adaptive finite element approach to atomic-scale mechanics—the quasicontinuum method. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 3, 611–642. (Summary) **99k:73116** 73V05 (73B99, 73S10)

Miller, Sanford S. (*with* Mocanu, Petru T.) Differential inequalities and boundedness preserving integral operators. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 81–88. (William Ma) **99g:30026** 30C80

— (*with* Mocanu, Petru T.) Briot-Bouquet differential equations and differential subordinations. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 217–237. (Summary) **99a:34012** 34A20 (30C35, 30C80, 34A25)

Miller, Steven D. A stochastic method for Brownian-like optical transport calculations in anisotropic biosuspensions and blood. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1534–1550. (Brian D. Sleeman) **99g:92010** 92C05 (78A99, 92C30)

— Stochastic construction of a Feynman path integral representation for Green's functions in radiative transfer. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5307–5315. (Paul F. Zweifel) **99k:85001** 85A25 (81S40, 82C31, 82C70)

Miller, Thomas Len (*with* Miller, V. G.) An operator satisfying Dunford's condition (C) but without Bishop's property (β). *Glasgow Math. J.* **40** (1998), *no.* 3, 427–430. (Jörg Eschmeier) **99i:47007** 47A11 (47B40)

— (*with* Miller, V. G.; Smith, Robert C.) Bishop's property (β) and the Cesàro operator. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 197–207. (Jörg Eschmeier) **99m:47002** 47A11 (47B38, 47B40)

— (*with* Miller, V. G.) Local spectral theory and orbits of operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1029–1037. (Jörg Eschmeier) **99f:47007** 47A11 (47B40)

Miller, Tobias (*with* Frigioni, Daniele; Nanni, Umberto; Pasqualone, Giulio; Schaefer, Guido; Zaroliagis, Christos D.) An experimental study of dynamic algorithms for directed graphs. *Algorithms—ESA '98 (Venice)*, 368–380, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q25 (68R10)

Miller, V. G. (*with* Miller, Thomas Len) An operator satisfying Dunford's condition (C) but without Bishop's property (β). *Glasgow Math. J.* **40** (1998), *no.* 3, 427–430. (Jörg Eschmeier) **99i:47007** 47A11 (47B40)

— (*with* Miller, Thomas Len; Smith, Robert C.) Bishop's property (β) and the Cesàro operator. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 197–207. (Jörg Eschmeier) **99m:47002** 47A11 (47B38, 47B40)

— (*with* Miller, Thomas Len) Local spectral theory and orbits of operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1029–1037. (Jörg Eschmeier) **99f:47007** 47A11 (47B40)

Miller, W. *see* **Miller, Webb Colby**

Miller, W. C. *see* **Miller, William C.**

Miller, W., Jr. *see* **Miller, Willard, Jr.**

Miller, Walter M. (*with* Akin, Ethan) Invariant measures for set-valued dynamical systems. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1203–1225. (Douglas P. Dokken) **99g:54040** 54H20 (58F11)

Miller, Warner A. (*with* Gentle, Adrian P.) A fully $(3+1)$-dimensional Regge calculus model of the Kasner cosmology. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 389–405. (José A. Zapata) **99a:83026** 83C27 (83–08)

Miller, Webb Colby (*with* Zhang, Zhen Yue; He, Bingjin) Local multiple alignment via subgraph enumeration. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 337–365. (Summary) **99a:92009** 92C40 (05C30, 92D20)

Miller, Willard, Jr. (*with* Chung, Won Sang; Kalnins, E. G.) Tensor products of q-superalgebra representations and q-series identities. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7147–7166. (R. N. Kalia) **99h:33060** 33D80

— (*with* Kalnins, E. G.) q-algebra and q-superalgebra tensor products and identities for special function. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1659–1665. (From the text) **99k:33057** 33D80 (17B99)

— (*with* Kalnins, E. G.; Williams, Graeme C.; Pogosyan, G. S.) Superintegrability in three-dimensional Euclidean space. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 708–725. (Ya. I. Granovskiĭ) **99m:81044** 81Q05 (35Q55, 81R05)

Miller, William C. (*with* Dimitrov, Vassil S.; Jullien, Graham A.) A residue number system implementation of real orthogonal transforms. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 563–570. (Summary) **99h:94014** 94A12

— (*with* Dimitrov, Vassil S.; Jullien, Graham A.) An algorithm for modular exponentiation. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 155–159. (Summary) **99d:94023** 94A60

Miller, William David Quasi-Heyting algebras: a new class of lattices. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 115–119. (R. Balbes) **99i:06013** 06D20 (03G12, 03G30, 81P10)

Miller, Zevi (*with* Pritikin, Dan) On randomized greedy matchings. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 3, 353–383. (Lyuben R. Mutafchiev) **99b:05134** 05C85 (05C35)

Millerioux, G. (*with* Mira, Christian) Coding scheme based on chaos synchronization from noninvertible maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 10, 2019–2029. (Summary) **99j:94054** 94A60 (58F13, 58F40)

Millet, A. (*with* Mellouk, M.) Large deviations for stochastic flows and anticipating SDEs in Besov-Orlicz spaces. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 267–302. (Summary) **99g:60059** 60F10 (60H10)

fauquant-Millet, Florence *see* **Fauquant-Millet, Florence**

Millet, Olivier (*with* Hamdouni, Aziz; Elamri, Khalid; Vallée, Claude) Compatibility of large deformations in nonlinear shell theory. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 855–864. (Summary) **99f:73056** 73K15 (73C50)
— (*with* Hamdouni, Aziz; Elamri, Khalid; Vallée, Claude) Intrinsic formulation of compatibility conditions in nonlinear shell theory. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 421–429. (Summary) **99a:73093** 73K15
Millot, Florence (*with* Collino, Francis; Joly, Patrick) Fictitious domain method for unsteady problems: application to electromagnetic scattering. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 907–938. (J. R. Kuttler) **99i:78003** 78–08 (65N55, 78A45)
Mills, Donald (*with* Brawley, Joel V.; Gao, Shu Hong) Computing composed products of polynomials. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 1–15, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Vincenzo Acciaro) **99i:12008** 12Y05 (68Q25)
Mills, William H. (*with* Lamken, E. R.; Rees, Rolf S.) Resolvable minimum coverings with quadruples. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 431–450. (G. H. J. Van Rees) **99k:05055** 05B40
Milman, Mario (*with* Andruchow, Esteban; Corach, Gustavo; Stojanoff, Demetrio) Geodesics and interpolation. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 83–91. (Summary) **99c:46063** 46L05 (46M35, 58B20)
— A note on interpolation and higher integrability. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 169–180. (Evgeniy I. Pustylnik) **99b:46116** 46M35 (42B25)
— *see also* **Monge Ampère equation: applications to geometry and optimization, 99f:00018**
Milman, V. *see* **Milman, Vitali D.**
Mil'man, V. A. Extension of functions that preserve the modulus of continuity. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 2, 236–245; *translation in Math. Notes* **61** (1997), *no.* 1-2, 193–200. (V. A. Baskakov) **99d:26002** 26A15
Milman, Vitali D. Surprising geometric phenomena in high-dimensional convexity theory. (English summary) *European Congress of Mathematics, Vol. II* (*Budapest*, 1996), 73–91, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (Summary) **99j:52001** 52Axx (46B07, 52–02, 53Cxx)
— (*with* Giannopoulos, A. A.) Mean width and diameter of proportional sections of a symmetric convex body. *J. Reine Angew. Math.* **497** (1998), 113–139. (G. Schechtman) **99c:52006** 52A22 (46B07)
— (*with* Litvak, A. E.; Pajor, A.) The covering numbers and "low M^*-estimate" for quasi-convex bodies. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1499–1507. (Wolfgang Lusky) **99h:52022** 52C17 (46B07, 52A21, 52A30)
— *see also* **Convex geometric analysis, 99h:00026**
Milne, A. M. (*with* Evans, David John[2]; Lambert, A.; Taylor, S.) A study of transmission and reflection characteristics of an aircraft antenna using INGRID. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 363–373, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (78A50)
Milne, J. S. Lefschetz classes on abelian varieties. *Duke Math. J.* **96** (1999), *no.* 3, 639–675. (Fumio Hazama) **99m:14017** 14C25 (11G10, 14C30, 14K05)
Milne, Stephen C. New infinite families of exact sums of squares formulas, Jacobi elliptic functions, and Ramanujan's tau function. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **93** (1996), *no.* 26, 15004–15008 (*electronic*). (Ken Ono) **99k:11162** 11P82 (11F11, 33E05)
— Balanced ${}_3\varphi_2$ summation theorems for U(n) basic hypergeometric series. (English summary) *Adv. Math.* **131** (1997), *no.* 1, 93–187. (Jiang Zeng) **99d:33025** 33D20 (05A30)
— (*with* Bhatnagar, Gaurav) Generalized bibasic hypergeometric series and their U(n) extensions. (English summary) *Adv. Math.* **131** (1997), *no.* 1, 188–252. (Axel Riese) **99b:33038** 33D45
Milner, E. C. (*with* Li, Bo Yu) The ANTI-order and the fixed point property for caccc posets. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 197–209. (Michael E. Detlefsen) **99e:06003** 06A06 (06A23)
— (*with* Shelah, Saharon) A tree-arrowing graph. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 175–182, *Kluwer Acad. Publ., Dordrecht*, 1998. (Lorenz Halbeisen) **99f:03065** 03E05 (05C15)
— (*with* Li, Bo Yu) Isomorphic ANTI-cores of caccc posets—an improvement. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 213–221. (Summary) **99c:06001** 06A06
Milner, Fabio A. (*with* Cha, Youngjoon; Iannelli, Mimmo) Are multiple endemic equilibria possible? (English summary) *Advances in mathematical population dynamics—molecules, cells and man* (*Houston, TX*, 1995), 779–788, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:92022** 92D25
— (*with* Lee, Miyoung) Mixed finite element methods for nonlinear elliptic problems: the *h-p* version. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 2, 239–261. (Qian Li) **99a:65152** 65N30 (65N12)
— (*with* Cha, Youngjoon; Iannelli, Mimmo) Existence and uniqueness of endemic states for the age-structured S-I-R epidemic model. (English summary) *Math. Biosci.* **150** (1998), *no.* 2, 177–190. (Summary) **99g:92036** 92D30
— (*with* Duan, Quanzhu; Li, Gang[4]) A first-second order splitting method for a third-order partial differential equation. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 89–96. (Biyue Liu) **99c:65182** 65M60 (65M15)
— (*with* Patton, C. A.) A new approach to mathematical modeling of host-parasite systems. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 93–110. (Summary) **99m:92036** 92D25
— *see also* **Epidemiology, cellular automata, and evolution, 99m:92001** *and* **Deterministic models with applications in population dynamics and other fields of biology, 99m:92002**
Milner, Robin Strong normalisation in higher-order action calculi. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 1–19, *Lecture Notes in Comput. Sci.*, *Springer, Berlin*, 1997. (Andrea Maggiolo-Schettini) **99a:68068** 68Q10 (03B40, 03B70)
Milnes, Paul Some graphic flows that are not proximal orbit dense. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 375–381, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99c:54059** 54H20 (28D05)
Milnor, John The work of M. H. Freedman [MR 89d:01064]. *Fields Medallists' lectures*, 405–408, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (57–03)
— John Nash, and *A beautiful mind* [Simon Schuster, New York, 1998; MR 99j:01021] by S. Nasar. *Notices Amer. Math. Soc.* **45** (1998), *no.* 10, 1329–1332. 01A70
— Growing up in the old Fine Hall. *Prospects in mathematics* (*Princeton, NJ*, 1996), 1–11, *Amer. Math. Soc., Providence, RI*, 1999. (Editors) **99m:01081** 01A70 (57–03, 57M50)
— (*with* Lepowsky, James; Lindenstrauss, Joram; Manin, Yuriĭ Ivanovich) The mathematical work of the 1998 Fields medalists. *Notices Amer. Math. Soc.* **46** (1999), *no.* 1, 17–26. (Editors) **99k:01066** 01A70
— *see also* **Foschini, Gerard J., 99h:26013**
Milo, Tova (*with* Grumbach, Stéphane) An algebra for pomsets (extended abstract). (English summary) *Database theory—ICDT '95* (*Prague*), 191–207, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68Q15)
— (*with* Abiteboul, Serge; Cluet, Sophie) Correspondence and translation for heterogeneous data. *Database theory—ICDT '97* (*Delphi*), 351–363, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68T30)
— (*with* Beeri, Catriel; Ta-Shma, Paula) Towards a language for the fully generic queries. *Database programming languages* (*Estes Park, CO*, 1997), 239–259, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15
— (*with* Consens, Mariano P.) Algebras for querying text regions: expressive power and optimization. (English summary) 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Jose, CA, 1995). *J. Comput. System Sci.* **57** (1998), *no.* 3, 272–288. (Ricardo Baeza-Yates) **99m:68040** 68P15 (68P20)
Milocco, Rubén H. (*with* De Doná, José A.) Optimal parallel model solutions using the polynomial approach. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 681–697. 93C40 (93A30)
Miloh, T. (*with* Galper, A. R.) Hydrodynamics and stability of a deformable body moving in the proximity of interfaces. (English summary) *Phys. Fluids* **11** (1999), *no.* 4, 795–806. (Summary) **99k:73095** 73K70 (76B10)
Milosavljević, D. (*with* Milovanović, E. I.; Milovanović, Gradimir V.; Milovanović, Igor Ž.) Designing hexagonal systolic array by composite mappings. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 283–296. (Summary) **99d:68127** 68Q35 (68M07)
Milosavljević, Milan M. (*with* Dostanić, Milutin R.) On generalized stable nonuniform sampling expansions involving derivatives. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1714–1716. (Peter A. McCoy) **99a:94002** 94A11 (94A12)
Milošević, I. (*with* Nikolić, B.; Damnjanović, M.; Krčmar, M.) Irreducible representations of diperiodic groups. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3625–3648. (Jochen Gruber) **99d:20012** 20C15 (20C35, 82D25)
Milota, Jaroslav Persistence in an epidemiological model. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 387–395, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99g:92002**) 92D30 (34D05, 92C60)
el Miloudi, Marhrani *see* **El Miloudi, Marhrani**
Milovanov, T. S. (*with* Rushchits'kiĭ, Ya. Ya.) A modified Philips-Lorentz model for an economic system (a corporation of firms) with a stable capital stock. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 12, 36–40. 90A09
Milovanović, E. I. (*with* Milovanović, Gradimir V.; Milovanović, Igor Ž.; Milosavljević, D.) Designing hexagonal systolic array by composite mappings. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 283–296. (Summary) **99d:68127** 68Q35 (68M07)
Milovanović, Gradimir V. (*with* Rajković, P. M.; Marjanović, Z. M.) A class of orthogonal polynomials on the radial rays in the complex plane. II. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 29–47. (Boris Petrovich Osilenker) **99d:33012** 33C45 (30C10, 30C15)
— *S*-orthogonality and generalized Turán quadratures: construction and applications. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 91–106, *Transilvania, Cluj-Napoca*, 1997. (Hans Strauss) **99d:65073** 65D30 (41A55)
— (*with* Danković, Bratislav M.; Rančić, Snežana Lj.) Malmquist and Müntz orthogonal systems and applications. *Inner product spaces and applications*, 22–41, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (K. Pan) **99f:42047** 42C05
— Orthogonal polynomial systems and some applications. *Inner product spaces and applications*, 115–182, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (Pascal Maroni) **99f:42051** 42C05 (33C45)
— (*with* Rajković, P. M.; Marjanović, Z. M.) Zero distribution of polynomials orthogonal on the radial rays in the complex plane. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 127–142. (Summary) **99h:42048** 42C05 (33C45)
— (*with* Milovanović, E. I.; Milovanović, Igor Ž.; Milosavljević, D.) Designing hexagonal systolic array by composite mappings. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 283–296. (Summary) **99d:68127** 68Q35 (68M07)
— (*with* Gautschi, Walter) *s*-orthogonality and construction of Gauss-Turán-type quadrature formulae. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 205–218. (I. P. Mysovskikh) **99a:65030** 65D30 (41A55)
— A class of orthogonal polynomials on the radial rays in the complex plane. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 1, 121–139. (Boris Petrovich Osilenker) **99d:33011** 33C45 (30C10, 30C15)
— Extremal problems for restricted polynomial classes in L' norm. (English summary) *Approximation theory*, 405–432, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Michael Felten) **99d:41026** 41A17 (41A10)
— (*with* Rassias, Themistocles M.) New developments on Turán's extremal problems for polynomials. (English summary) *Approximation theory*, 433–447, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Michael Felten) **99e:41014** 41A17 (41A10)
— Life and inequalities: D. S. Mitrinović (1908–1995). *Recent progress in inequalities* (*Niš*, 1996), 1–10, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Editors)

99k:01068a 01A70
— (*with* Milovanović, Igor Ž.) Discrete inequalities of Wirtinger's type. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 289–308, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Darko Veljan) **99e:26020** 26D15 (33C45, 41A44)
— Numerical calculation of integrals involving oscillatory and singular kernels and some applications of quadratures. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 19–39. (Ilya V. Boikov) **99j:65032** 65D30 (65R10)
— (*with* Danković, Bratislav M.; Rančić, Snežana Lj.) Some Müntz orthogonal systems. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 299–310. (Summary) **99i:33010** 33C45
— Orthogonal polynomials on the radial rays and an electrostatic interpretation of zeros. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math. (Beograd) (N.S.)* **64(78)** (1998), 53–68. (Boris Petrovich Osilenker) **99m:33008** 33C45 (78A30)
— (*with* Rančić, Snežana Lj.) Some improvements in calculation of the natural log of a square matrix. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 619–623. (Summary) **99d:65133** 65F30
— (*with* Spalević, Miodrag M.) Construction of Chakalov-Popoviciu's type quadrature formulae. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 625–636. (Dimitar Kolev Dimitrov) **99f:41035** 41A55 (65D32)
Milovanović, Igor Ž. (*with* Milovanović, E. I.; Milovanović, Gradimir V.; Milosavljević, D.) Designing hexagonal systolic array by composite mappings. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 283–296. (Summary) **99d:68127** 68Q35 (68M07)
— (*with* Milovanović, Gradimir V.) Discrete inequalities of Wirtinger's type. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 289–308, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Darko Veljan) **99e:26020** 26D15 (33C45, 41A44)
Milovich, Jose L. (*with* Shestakov, Aleksei I.) Parallelization of an unstructured grid, hydrodynamic-diffusion code. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 182–193, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N55 (65Y05)
— (*with* Kershaw, David S.; Prasad, Manoj K.; Shaw, Michael J.) 3D unstructured mesh ALE hydrodynamics with the upwind discontinuous finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 81–116. (From the summary) **99d:76060** 76M10 (76L05, 76M25)
Mil′shteĭn, G. N. Stability index for invariant manifolds of stochastic systems. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 4, 177–211. (Summary) **99m:60091** 60H10 (34C30, 34D08, 34F05, 93E15)
— (*with* Nussbaum, Michael) Diffusion approximation for nonparametric autoregression. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 4, 535–543. (Paulo E. Oliveira) **99k:62172** 62M10 (60H10, 62G07)
— (*with* Platen, Eckhard; Schurz, H.) Balanced implicit methods for stiff stochastic systems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1010–1019 (*electronic*). (Summary) **99a:65019** 65C20 (60H10)
Milson, Robert Liouville transformation and exactly solvable Schrödinger equations. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1735–1752. (Zoya I. Symenoh) **99i:81034** 81Q05
— (*with* Richter, David A.) Quantization of cohomology in semi-simple Lie algebras. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 401–414. (Elena Poletaeva) **99j:17031** 17B56 (58H99)
Milstein, G. N. *see* **Mil′shteĭn, G. N.**
Milstein, Grigori *see* **Mil′shteĭn, G. N.**
Milstein, Jaime (*with* Moeller, Thomas L.) Generalized algebraic structures for the representation of discrete systems. (English summary) *Linear Algebra Appl.* **274** (1998), 161–191. (Heinrich Seidel) **99b:68065** 68Q05
Miltersen, Peter Bro (*with* Frandsen, Gudmund Skovbjerg; Skyum, Sven) Dynamic word problems. (English summary) *J. ACM* **44** (1997), *no.* 2, 257–271. (Itsuo Takanami) **99b:68094** 68Q25 (20M05, 68P05)
— Error correcting codes, perfect hashing circuits, and deterministic dynamic dictionaries. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 556–563, *ACM, New York*, 1998. (*see* **99d:68011**) 94B60 (68P10, 68P20, 94A60)
— (*with* Barrington, David A. Mix; Lu, Chi-Jen; Skyum, Sven) Searching constant width mazes captures the AC^0 hierarchy. (English summary) *STACS* 98 (*Paris*, 1998), 73–83, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68065** 68Q15
— (*with* Nisan, Noam; Safra, Shmuel; Wigderson, Avi) On data structures and asymmetric communication complexity. (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 37–49. (Ricardo Baeza-Yates) **99i:68064** 68Q25 (68P05)
Milton, Graeme W. (*with* Berryman, James G.) On the effective viscoelastic moduli of two-phase media. II. Rigorous bounds on the complex shear modulus in three dimensions. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1849–1880. (Summary) **99h:73004** 73B27 (73F05, 73K20)
— (*with* Grabovsky, Yury) Exact relations for composites: towards a complete solution. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 623–632 (*electronic*). (David J. Bergman) **99j:73008** 73B27 (35B27, 49J45)
— (*with* Movchan, A. B.) Mapping certain planar elasticity problems to antiplane ones. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 1, 1–11. (Leonid V. Gibiansky) **99a:73035** 73C02 (73B27, 73B40)
— (*with* Grabovsky, Yury) Rank one plus a null-Lagrangian is an inherited property of two-dimensional compliance tensors under homogenisation. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 283–299. (Leonid V. Gibiansky) **99b:73005** 73B27 (73C02, 73K20)
— *see also* **Mathematics of multiscale materials, 99c:73001**
Milton, Kimball A. (*with* Bender, Carl M.) Model of supersymmetric quantum field theory with broken parity symmetry. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3595–3608. 81T60 (81R40)
Milusheva, Svetla D. (*with* Vel′misov, Petr A.; G#rnevska, L. V.) Investigation of the asymptotic stability of a pipeline with time delay. (Russian. Russian summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 57–59, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 34K30 (35B35, 35Q99, 73D30)
— (*with* Vel′misov, Petr A.; G#rnevska, L. V.) Investigation of the stability of the solution of the equation of oscillations of an axis or a plate with a delay in time of the reaction and friction forces. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 83–88, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 73H10 (35Q72, 73D30, 73K10)
— (*with* Vel′misov, Petr A.; G#rnevska, L. V.) On the dynamical stability of nonlinear oscillations of axes and plates. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 89–95, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 73H10 (35Q72, 73D35, 73K05, 73K10)
Milyukova, O. Yu. A parallel variant of the generalized alternating triangular method for elliptic equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 2002–2012; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1922–1932. (Summary) **99i:65117** 65N06 (65N22)
Milyutin, Alekseĭ A. (*with* Bodneva, V. L.) On the mathematical theory of vibration. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 141–166 (1998). (J. W. Macki) **99d:34081** 34C99 (70K99)
— (*with* Osmolovskiĭ, Nikolaĭ P.) ★ Calculus of variations and optimal control. (English summary) Translated from the Russian manuscript by Dimitrii Chibisov. Translations of Mathematical Monographs, 180. *American Mathematical Society, Providence, RI*, 1998. *xii*+372 *pp. ISBN* 0-8218-0753-6 (Alexander D. Ioffe) **99g:49002** 49–02 (49K15, 49L05, 93–02)
Mimachi, Katsuhisa (*with* Noumi, Masatoshi) An integral representation of eigenfunctions for Macdonald's q-difference operators. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 517–525. (Mayumi Ohmiya) **99e:39077** 39A70 (33D80)
— The little q-Jacobi polynomial associated with a q-Selberg integral. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 91–100. (Laurent Habsieger) **99j:33019** 33D05 (33D15, 33D45, 33D80)
lópez-Mimbela, J. Alfredo *see* **López-Mimbela, J. Alfredo**
Mimna, Roy A. (*with* Wingler, Eric J.) Locally bounded functions. *Real Anal. Exchange* **23** (1997/98), *no.* 1, 251–258. (Jozef Doboš) **99e:26002** 26A15 (54C08, 54C30)
— Omega-limit sets and non-continuous functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 267–273. (Raymond J. Grinnell) **99m:26003** 26A18 (26A15, 54H20)
Mimnagh, M. L. (*with* Majerus, J. N.; Jannone, J. A.; Tenney, D. A.; Lamphear, S. P.) Blending hierarchical economic decision matrices (EDM) with FE and stochastic modeling. II. Detailing EDM. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 219–234. 73K25 (73K15)
Mimoso, José P. (*with* Nunes, Ana Maria) General relativity as a cosmological attractor of scalar-tensor gravity theories. (English summary) *Phys. Lett. A* **248** (1998), *no.* 5-6, 325–331. (Summary) **99h:83045** 83D05 (83C99)
Mimouni, S. (*with* Besnard, D.; Ducros, F.; Loreaux, Ph.; Vasseur, Alexis) Turbulent mixing modeling and simulation. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 294–302, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76F99 (76M25)
Mimura, Kazuo Nonlinear effects in Rossby wave propagation in a spherical atmosphere. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 242–251. (*see* **99a:00032**) 86A10 (76C20)
Mimura, M. *see* **Mimura, Masayasu**
Mimura, Mamoru (*with* Body, Richard; Shiga, Hiroo; Sullivan, Dennis P.) p-universal spaces and rational homotopy types. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 427–442. (Edgar H. Brown, Jr.) **99e:55017** 55P60 (55P62)
— (*with* Hunton, John Robert; Nishimoto, Tetsu; Schuster, Björn) Higher v_n torsion in Lie groups. (English summary) *J. Math. Soc. Japan* **50** (1998), *no.* 4, 801–818. (Vidhyanath K. Rao) **99i:55005** 55N22 (55T25, 57T10)
— (*with* Ōshima, Hideaki) Self homotopy groups of Hopf spaces with at most three cells. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 71–92. (A. H. Copeland, Jr.) **99j:55007** 55P45 (55M30, 55P60)
— (*with* Arlettaz, Dominique; Nakahata, Koji; Yagita, Nobuaki) The mod 2 cohomology of the linear groups over the ring of integers. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2199–2212. (Daniel K. Nakano) **99j:20052** 20G10 (55S10)
Mimura, Masayasu (*with* Ei, Shin-Ichiro; Ikota, Ryo) A three phase partition problem arising in a competition-diffusion system. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 55–63, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57 (35Q55)
— (*with* Ikeda, Hideo; Ikeda, Tsutomu) Global structure of travelling pulse solutions in some reaction-diffusion systems. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 85–92, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57 (35B25, 35B32)
— (*with* Iida, Masato; Yanagida, Eiji) A free boundary problem as a singular limit of a competition-diffusion system. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 217–221, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35R35 (35K55, 92D25)
— (*with* Ikota, Ryo; Ishimura, Naoyuki; Yamaguchi, Tomohiko) On the structure of steady solutions for the kinematic model of spiral waves in excitable media. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 223–228, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99b:92009** 92C05 (92E20)
— (*with* Nagayama, Masaharu; Ohta, Takao) Non-annihilation of travelling pulses in reaction-diffusion systems. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 239–245, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57

— A Stefan-like problem in biology. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 208–216, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 35R30 (35Q80, 92D25)

— (*with* Kan-on, Yukio) Singular perturbation approach to a 3-component reaction-diffusion system arising in population dynamics. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1519–1536 (*electronic*). (Siegfried Carl) **99e:35106** 35K57 (35B25, 35Q80, 92D40)

— (*with* Kawaguchi, Satoshi) Collision of travelling waves in a reaction-diffusion system with global coupling effect. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 920–941 (*electronic*). (Summary) **99j:35105** 35K57 (65C05)

— *see also* **Symposium: Reaction-Diffusion Equations and Their Applications and Computational Aspects, 99f:00026**

Min, Byoung-Kwang (*with* Chang, Keun-Shik) A momentum coupling method for the unsteady incompressible Navier-Stokes equations on the staggered grid. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 443–460. (Summary) **99e:76092** 76M25 (76D05)

Min, Chung-ki A Gibbs sampling approach to estimation and prediction of time-varying-parameter models. (English summary) *Comput. Statist. Data Anal.* **27** (1998), *no.* 2, 171–194. (Summary) **99b:62107** 62J05 (62F15)

Min, Guo Hua Inequalities for rational functions with prescribed poles. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 152–166. (Lucio Renato Berrone) **99g:26036** 26D07 (26C15, 26D10)

— Lagrange interpolation and quadrature formula in rational systems. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 123–145. (Gen Sun Fang) **99g:41003** 41A05 (41A20)

— Lobatto-type quadrature formula in rational spaces. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 1, 1–12. (Francesco Romani) **99m:65048** 65D32 (41A55)

— Inequalities for the derivatives of rational functions with real zeros. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 11–20. (Summary) **99h:26022** 26D10

Min, Honglin (*with* Wang, Xiaolin) The boundedness of singular integral operator along an open curve. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 4, 383–388. (Summary) **99m:30080** 30E20 (45E05, 47G10)

Min, Kyung Jin (*with* Yeom, Seung Wha) On the some properties of the limits sets. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **3** (1996), *no.* 2, 123–129. 54H20 (58F12)

— (*with* Yang, Seung Kab; Cho, Seong Hoon) A note on minimal sets of the circle maps. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 13–16. (Karen Brucks) **99d:54025** 54H20 (58F03)

Min, Lu (*with* Kazhikhov, A. V.; Ukai, Seiji) Global solutions to the Cauchy problem of the Stokes approximation equations for two-dimensional compressible flows. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 985–1006. (Benoît P. Desjardins) **99f:35166** 35Q30 (76N10)

— (*with* Ukai, Seiji) Non-relativistic global limits of weak solutions of the relativistic Euler equation. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 525–537. (Ming Mei) **99i:76134** 76N10 (35B40, 35Q30, 76Y05)

— (*with* Kazhikhov, A. V.; Ukai, Seiji) Global solutions to the Cauchy problem of the Stokes approximation equations for two-dimensional compressible flow. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 155–174. (Vladimir V. Shelukhin) **99d:76085** 76N10 (35Q30)

Min, Seungjae (*with* Nishiwaki, Shinji; Frecker, Mary I.; Kikuchi, Noboru) Topology optimization of compliant mechanisms using the homogenization method. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 535–559. (Summary) **99a:73011** 73B27 (73K40)

Min, Won Keun On L-fuzzy almost precontinuous functions. *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **3** (1996), *no.* 1, 53–58. 54A40 (54C08)

Min, Ying Hua (*with* Li, Zhongcheng; Zhao, Zhuxing) Boolean process. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 3, 250–257. (Christoph Meinel) **99a:94072** 94C10 (68Q35)

— (*with* Xie, Gao Gang; Zhang, Da Fang; Wang, Zhong Sheng[2]) Diagnosis algorithms based on the Chaw & Hakimi model. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 6, 96–101. 68M15

Minahan, Joseph A. (*with* Nemeschansky, D.; Warner, N. P.) Partition functions for BPS states of the non-critical E_8 string. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 167–183. (Summary) **99c:81201** 81T30 (11F11, 11Z05, 14N10)

— (*with* Nemeschansky, D.; Warner, N. P.) Investigating the BPS spectrum of non-critical E_n strings. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 64–106. (Summary) **99i:81197** 81T30 (32G81)

— Quark-monopole potentials in large N super Yang-Mills. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 3, 559–569. (C. Gauthier) **99i:81249** 81T60 (81T13)

— (*with* Nemeschansky, D.; Vafa, Cumrun; Warner, N. P.) E-strings and $N = 4$ topological Yang-Mills theories. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 581–623. (Bruce Hunt) **99j:81152** 81T30 (32J81, 58D27, 81T60)

— (*with* Nemeschansky, D.; Warner, N. P.) Instanton expansions for mass deformed $N = 4$ super Yang-Mills theories. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 109–132. (Summary) **99m:81258** 81T60 (11F11, 14H45, 81T13, 81T50)

— Glueball mass spectra and other issues for supergravity duals of QCD models. (English summary) *J. High Energy Phys.* **1999**, *no.* 1, *Paper* 20, 16 *pp.* (*electronic*). (Summary) **99m:81204** 81T30 (81V05, 83E30, 83E50)

— *see also* **Strings '95, 99h:81008**

Minai, Ali A. (*with* Anand, Tirunelveli) Synchronizing multiple chaotic maps with a randomized scalar coupling. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 241–259. 58F13 (58F40)

Minaĭlos, A. N. The accuracy of numerical solutions of Navier-Stokes equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1220–1232; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1168–1180. (Summary) **99g:76094** 76M20 (65M15, 76D05)

Minakata, Hisakazu (*with* Chodos, Alan) The TBA, the Gross-Neveu model, and polyacetylene. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 231–239, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82B26 (92D20)

Minakawa, Tsuyoshi (*with* Sugihara, Kōkichi) Topology oriented vs. exact arithmetic—experience in implementing the three-dimensional convex hull algorithm. (English summary) *Algorithms and computation* (*Singapore*, 1997), 273–282, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68U05 (68M07)

Minami, Haruo Note on complex K-groups of compact Lie groups with fundamental group of prime order. *Osaka J. Math.* **35** (1998), *no.* 3, 547–551. (Nicolae Cristian Costinescu) **99i:55002** 55N15 (19L47)

Minami, Mihoko Multivariate Lagrange distributions and a subfamily. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2185–2197. (Summary) **99g:62015** 62E15 (62H10)

Minami, Norihiko On the Kervaire invariant problem. (English summary) *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 229–253, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (R. E. Stong) **99g:55018** 55Q45

— On some BP, BP-primitive elements related to the Kervaire invariant problem. *Stable and unstable homotopy* (*Toronto, ON*, 1996), 251–254, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Donald M. Davis) **99b:55024** 55Q45 (55Q10, 55T15)

— The iterated transfer analogue of the new doomsday conjecture. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2325–2351. (David C. Johnson) **99i:55023** 55R12 (55Q10, 55Q45, 55R35, 55T15, 57R77)

Minamide, Nariyasu (*with* Fujisaki, Yasumasa; Simizu, Akira) A parametrization of all observers for descriptor systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 767–777. 93B07 (93C30)

Minamoto, Teruya (*with* Nakao, Mitsuhiro T.) Numerical verifications of solutions for nonlinear parabolic equations in one-space dimensional case. (English summary) *Reliab. Comput.* **3** (1997), *no.* 2, 137–147. (Reinhard Redlinger) **99c:65174** 65M15 (35K55)

Miñarro, M. Angeles (*with* Díaz Alcaide, Juan Carlos) Universal Köthe sequence spaces. (English summary) *Monatsh. Math.* **127** (1999), *no.* 2, 111–118. (M. S. Ramanujan) **99m:46011** 46A45

stancu-Minasian, I. M. *see* **Stancu-Minasian, I. M.**

Minasian, Ruben (*with* Antoniadis, Ignatios; Ferrara, Sergio; Narain, K. S.) R^4 couplings in M- and type II theories on Calabi-Yau spaces. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 571–588. (Gonzalo Violero) **99c:81159** 81T30 (32J81, 83E30)

— (*with* Duff, M. J.; Evans, Jonathan M.; Khuri, Ramzi R.; Lu, Jian Xin) The octonionic membrane. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 281–287. (Sergey Nikolaevich Roshchupkin) **99a:83064** 83E30 (81T30, 83E50)

— (*with* Liu, James T.) U-branes and T^3 fibrations. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 538–554. (Alexander E. Polishchuk) **99d:81126** 81T30 (14J32, 32J81, 53C80)

— (*with* Duff, M. J.; Evans, Jonathan M.; Khuri, Ramzi R.; Lu, Jian Xin) The octonionic membrane. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 295–302. (Summary) **99f:83065** 83E30 (81T30, 83E50)

— (*with* Lerche, Wolfgang; Schweigert, Christoph; Theisen, Stefan) A note on the geometry of CHL heterotic strings. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 53–59. (Summary) **99c:81198** 81T30

Minasyan, M. M. (*with* Ambartsumyan, S. A.; Belubekyan, M. V.) Axisymmetric oscillations of a nonlinearly elastic cylindrical shell in a longitudinal magnetic field. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 2, 3–12. 73K15 (73R05)

— (*with* Belubekyan, M. V.) On the flutter problem for a plate in a supersonic gas flow. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **50** (1997), *no.* 2, 27–35. 73K70 (73K10, 73K12, 76J20)

Minasyan, R. S. A thermal field in a curvilinear arrow-shaped body. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 3, 141–145 (1996). 80A20

Min Aung Three types of trees with prescribed maximum degree in a graph. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 260–264, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99g:05054** 05C05 (05C35)

— (*with* Kyaw, Aung) Maximal trees with bounded maximum degree in a graph. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 209–221. (Jenő Lehel) **99h:05067** 05C35 (05C05)

Minc, Piotr A weakly chainable tree-like continuum without the fixed point property. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1109–1121. (Jacek Nikiel) **99e:54024** 54F15 (54F50, 54H25)

Minces, Pablo (*with* Namazie, M. A.; Núñez, Carmen A.) Fusion rules in $N = 1$ superconformal minimal models. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 117–125. (Isabel P. Ennes) **99h:81194** 81T40

Minchenko, Leonid I. (*with* Duda, E. V.) On optimality conditions for differential inclusions with delay. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 4, 13–17, 122. 49K24 (34A60, 34K35)

— (*with* Sakolchik, P. P.) Epiderivatives of marginal functions in nonlinear programming problems. (Belorussian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 127–131, 143. 90C31 (49K40)

Minchenko, O. Yu. (*with* Duda, E. V.; Korzun, A. I.) On the local controllability of discrete systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 462–469, 573; *translation in Differential Equations* **33** (1997), *no.* 4, 461–468. (È. G. Al'brekht) **99d:93003** 93B05 (49K24, 93C55)

— (*with* Zhivitskaya, E. N.) On the sensitivity of discrete control systems to perturbations of the parameters. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 1, 29–32, 140. (T. R. Gichev) **99a:49037** 49K40 (93B35)

Minchev, B. V. (*with* Ivanov, Ivan Ganchev; Hasanov, V. I.) Positive definite solutions of the equation $X - A^*\sqrt{X^{-1}}A = I$. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 113–116, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65F30

Minchev, Emil (*with* Bainov, Drumi Dimitrov; Myshkis, Anatolii) Monotone iterative method for semilinear parabolic systems of operator-differential equations. (English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 9–18 (1998). 35K55 (35A35)

— (*with* Bainov, Drumi Dimitrov) Blowing up of solutions to nonlinear Schrödinger equations in noncylindrical domains. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 4, 9–12. (Nakao Hayashi) **99h:35194** 35Q55 (35B05)

— (*with* Bainov, Drumi Dimitrov; Nakagawa, Kiyokazu) Asymptotic behaviour of solutions of impulsive semilinear parabolic equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2725–2734. (L. Hatvani) **99c:35249** 35R10 (35B40, 35K55, 35R20)

— (*with* Bainov, Drumi Dimitrov) Forced oscillations of solutions of parabolic equations of neutral type with maxima. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 43–49, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 35R10 (35K10)

— (*with* Bainov, Drumi Dimitrov) On the stability of solutions of impulsive parabolic differential-functional equations. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 51–56, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 35R10 (35B35, 35K10)

— (*with* Bainov, Drumi Dimitrov) Forced oscillations of solutions of impulsive nonlinear parabolic equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 107–116. (Florin Iacob) **99a:35264** 35R10 (35B05, 35K55)

— (*with* Bainov, Drumi Dimitrov; Stamova, Ivanka) Present state of the stability theory for impulsive differential equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 197–226. (Yuri V. Rogovchenko) **99c:34014** 34A37 (34Dxx, 35B35, 35R10)

— (*with* Bainov, Drumi Dimitrov; Rauh, A.) Finite time singularities of solutions of initial-boundary value problem for the Davey-Stewartson system. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 421–430. (P. L. Sulem) **99e:35206** 35Q55 (76B15)

— (*with* Karabis, A.; Rauh, A.) Finite-time singularities of solutions of a class of nonlinear Schrödinger equations. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1593–1606. (Summary) **99c:35223** 35Q55 (35B05)

— (*with* Bainov, Drumi Dimitrov) Forced oscillations of solutions of impulsive nonlinear parabolic differential-difference equations. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 881–890. 35R10 (35B05, 35K55)

Mincheva, Svetlana (*with* Dimovski, I. H.) Automorphisms of C which commute with the integration operator. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 69–76. (M. M. Malamud) **99c:47035** 47B38 (45D05, 45P05, 47G10)

— Automorphisms in the commutant of the integration operator in the space of Lebesgue integrable functions. (English summary) *Transform methods & special functions, Varna '96*, 335–344, *Bulgarian Acad. Sci., Sofia*, 1998. (Maria J. Carro) **99k:47067** 47B38

Minda, David (*with* Ma, Wan Cang) Two-point distortion theorems for strongly close-to-convex functions. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 185–205. (Summary) **99b:30019** 30C45 (30C20)

— (*with* Burckel, R. B.) A characterization of simple and double connectivity. (English summary) *Exposition. Math.* **16** (1998), *no.* 2, 133–144. (D. Gaier) **99d:30011** 30C35

Minderovic, Zoran *see* **Notable mathematicians, 99f:01002**

Mindlin, I. M. (*with* Gil′man, O. A.) Waves in a heavy two-layer liquid excited by an oscillating sphere. *Fluid Dynam.* **33** (1998), *no.* 2, 252–263; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 120–133 (*Russian. Russian summary*). (Summary) **99i:76033** 76C10 (76B15, 76V05)

Minelli, Enrico (*with* Forges, Françoise) Self-fulfilling mechanisms in Bayesian games. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 2, 292–310. (Sylvain Sorin) **99j:90130** 90D20 (90D15)

Minemura, Kenji On totally real cubic fields whose unit groups are of type $\{\theta + r, \theta + s\}$. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 10, 156–159. (Amara Hédi) **99m:11126** 11R27 (11R16, 11R80)

Miner, Robert (*with* Basmajian, Ara) Discrete subgroups of complex hyperbolic motions. *Invent. Math.* **131** (1998), *no.* 1, 85–136. (Athanase Papadopoulos) **99e:32039** 32H20 (57M60)

Mines, Ray (*with* Bridges, Douglas) Sequentially continuous linear mappings in constructive analysis. *J. Symbolic Logic* **63** (1998), *no.* 2, 579–583. (A. Kučera) **99f:03085** 03F60 (54C99)

Minesaki, Yukitaka (*with* Nakamura, Yoshimasa) On an integrable discretization of integrable systems with a separatrix. (English summary) *Phys. Lett. A* **250** (1998), *no.* 4-6, 300–310. (Summary) **99h:58091** 58F07 (70H05)

Mineur, Yves (*with* Lichah, Tony; Castelain, Jean Marie; Giaume, Henri) A shape controlled fitting method for Bézier curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 879–891. (Summary) **99d:65051** 65D17

Ming, Ma *see* **Ma, Ming**

Ming, Ping Bing (*with* Feng, Minfu) A stabilized finite difference method for the equation of fluidized bed modelling and its nonlinear stability analysis. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 298–311. (Jian-Ping Zhu) **99i:76095** 76M20 (65M06, 76S05, 86A05)

Mingalev, I. V. (*with* Vedenyapin, V. V.; Mingalev, O. V.) Representations of general commutation relations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 369–383; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1508–1519 (1998). (Lech Jakóbczyk) **99i:81117** 81S05 (81R50)

Mingalev, O. V. (*with* Vedenyapin, V. V.; Mingalev, I. V.) Representations of general commutation relations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 369–383; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1508–1519 (1998). (Lech Jakóbczyk) **99i:81117** 81S05 (81R50)

Mingarelli, Angelo B. (*with* Alaca, Ayşe) An inverse matrix eigenvalue problem. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN, 1996)*, 135–148, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (Summary) **99a:39004** 39A10 (15A18)

— (*with* Hu, Zuo Sheng) On a question in the theory of almost periodic differential equations. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2665–2670. (George Seifert) **99m:34095** 34C27 (34B05)

Mingione, Giuseppe (*with* Esposito, Luca) Some remarks on the regularity of weak solutions of degenerate elliptic systems. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 203–219. (Giuseppe Di Fazio) **99e:35033** 35J15 (35D10)

Mingo, James A. (*with* Nica, Alexandru) On the distribution of the area enclosed by a random walk on $\mathbf{Z}^2$. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 1, 55–86. (Alain Valette) **99j:60107** 60J15 (60F05, 60J65)

— *see also* **Operator algebras and their applications, 99c:46002**

Mingozzi, Aristide (*with* Bianco, Lucio; Ricciardelli, Salvatore) Dynamic programming strategies for the traveling salesman problem with time window and precedence constraints. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 365–377. (P. F. Körner) **99f:90098** 90C27 (90C35)

nguyễn văn Minh *see* **Nguyễn Văn Minh**

Minh, Nguyen Van *see* **Nguyễn Văn Minh**

Minh, Pham Anh *see* **Phạm Anh Minh**

hoang ngoc Minh, V. *see* **Hoang Ngoc Minh, V.**

Minhas, Tahira Yasmeen (*with* Ali, Faryad) Some fixed point theorems for expansive mappings on Riesz spaces. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 147–153. (Da Jun Guo) **99j:47083** 47H10

nguyễn Minh Chu'o'ng *see* **Nguyễn Minh Chu'o'ng**

phan Minh Dung *see* **Phan Minh Dung**

nguyen Minh Hang *see* **Nguyen Minh Hang**

bui Minh Phong *see* **Bui Minh Phong**

nguyễn Minh Trí *see* **Nguyễn Minh Trí**

nguyen Minh Tuan *see* **Nguyen Minh Tuan**

Minic, Djordje (*with* Awata, Hidetoshi) Comments on the problem of a covariant formulation of Matrix theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 6, 10 *pp.* (*electronic*). (Summary) **99a:81125** 81T30

— (*with* Günaydin, Murat) Singletons, doubletons and M-theory. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 145–157. (Christian Fronsdal) **99k:81079** 81R05 (22E10, 81T30)

— (*with* Chaudhuri, Shyamoli) On the Hagedorn transition and collective dynamics of D0-branes. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 301–306. (Summary) **99d:81113** 81T30 (83C57, 83E30)

— On the space-time uncertainty principle and holography. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 102–108. (Introduction) **99j:83069** 83E30 (81T30)

— (*with* Awata, Hidetoshi; Chaudhuri, Shyamoli; Li, Miao[1]) Many-body dynamics of D0-branes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5303–5306. (Summary) **99m:81169** 81T30 (81V70)

Minicozzi, William P., II (*with* Colding, Tobias H.) Weyl type bounds for harmonic functions. *Invent. Math.* **131** (1998), *no.* 2, 257–298. (Man Chun Leung) **99b:53052** 53C21 (58G30)

Minis, I. (*with* Rokni, M.; Berger, B. S.) Singular values of cumulant matrices. *J. Sound Vibration* **205** (1997), *no.* 5, 706–711. (Zhenyue Zhang) **99b:15032** 15A57 (15A18)

Minjárez-Sosa, J. Adolfo (*with* Gordienko, Evgueni I.) Adaptive control for discrete-time Markov processes with unbounded costs: discounted criterion. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 2, 217–234. (Andrew James Heunis) **99g:93090** 93E35 (60J05, 93C40)

— (*with* Gordienko, Evgueni I.) Adaptive control for discrete-time Markov processes with unbounded costs: average criterion. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 37–55. (Aleksey B. Piunovskiĭ) **99i:93071** 93E20 (60K25, 90C40)

Minker, Jack (*with* Seipel, Dietmar; Ruiz, Carolina) A characterization of the partial stable models for disjunctive deductive databases. (English summary) *Logic programming (Port Washington, NY, 1997)*, 245–259, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68030** 68P15 (68N17)

— (*with* Ruiz, Carolina) Combining closed world assumptions with stable negation. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 163–181. (Neculai Curteanu) **99j:68016** 68N17 (03B70, 68T27, 68T30)

— (*with* Lobo, Jorge; Rajasekar, Arcot) Semantics for disjunctive and normal disjunctive logic programs. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 325–353, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99g:68038** 68N17 (03B70, 68Q55)

— (*with* Ruiz, Carolina) Logic knowledge bases with two default rules. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 333-361. (Neculai Curteanu) **99i:68020** 68N17 (03B70, 68Q55, 68T27)

Minkevich, A. V. Problem of cosmological singularity and gauge theories of gravitation. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 949–960. (Summary) **99m:83152** 83C75 (83C99)

Minkevičius, Saulius On the law of the iterated logarithm in multiphase queueing systems. II. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 3, 367–376. (Summary) **99i:60169** 60K25 (60F15)

— Complex transient phenomena in multiphase queueing systems. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 519–531; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 392–401 (1998). (L. M. Abol′nikov) **99g:60174** 60K25 (90B22)

Minkin, A. M. A first-order boundary value problem with a boundary condition with a countable number of points. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 418–424; *translation in Math. Notes* **62** (1997), *no.* 3-4, 350–355 (1998). (Summary) **99a:34037** 34B05 (34L10, 47E05)

— Equiconvergence. A generalization of the Tamarkin-Stone theorem. (Russian) *Mat. Zametki* **62** (1997), *no.* 6, 942–944; *translation in Math. Notes* **62** (1997), *no.* 5-6, 789–791 (1998). (Teresa Winiarska) **99e:34120** 34L10

— Necessity of the Muckenhoupt condition for the unconditional basis property of eigenfunctions. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 3, 65–91. (D. Sarason) **99i:47036** 47A70 (47A45, 47B44)

Minkler, G. (*with* Minkler, J.; Richardson, Gary D.) T-regular probabilistic convergence spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 210–221. (Liviu Florescu) **99e:54022** 54E70 (54A20)

Minkler, J. (*with* Minkler, G.; Richardson, Gary D.) T-regular probabilistic convergence spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 210–221. (Liviu Florescu) **99e:54022** 54E70 (54A20)

Minkova, Leda (*with* Danchev, Danail) Modelling of financial markets in the currency board conditions. *Applications of mathematics in engineering (Sozopol, 1997)*, 130–132, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 90A09

Minkowski, Hermann *see* **Tonietti, Tito M., (99a:00007)**

Minkowski, P. (*with* Leibundgut, M.) On the spontaneous identity of chiral and supersymmetry breaking in pure super Yang-Mills theories. (English summary) *Nuclear*

Phys. B **531** (1998), *no.* 1-3, 95–107. (Summary) **99h:81078** 81R40 (81T13, 81T60)

Minkwitz, Torsten An algorithm for solving the factorization problem in permutation groups. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 1, 89–95. (Peter Müller) **99e:20004** 20B40 (68Q40)

— (*with* Egner, Sebastian) Sparsification of rectangular matrices. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 2, 135–149. (Summary) **99d:65139** 65F50 (65Y20)

Minkyavichyus, S. *see* **Minkevičius, Saulius**

Minlos, R. A. (*with* Boldrighini, C.; Pellegrinotti, A.) Almost-sure central limit theorem for directed polymers and random corrections. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 533–557. (Aernout C. D. van Enter) **99d:60107** 60K35 (60F15, 82B44, 82D60)

— (*with* Zhizhina, E. A.) A limit diffusion process for an inhomogeneous random walk on a one-dimensional lattice. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 87–100; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 327–340. (B. L. Granovskiy) **99b:60112** 60J15 (60F17, 60J60)

— (*with* Albeverio, Sergio; Kondrat'ev, Yu. G.; Rebenko, A. L.) Small-mass behavior of quantum Gibbs states for lattice models with unbounded spins. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1153–1172. (Summary) **99j:82008** 82B10

Minnaert, Pierre (*with* Mozrzymas, Marek) $U_q(\mathrm{osp}(1|2))$ Clebsch-Gordan coefficients. (English summary) *Quantum groups* (*Karpacz*, 1994), 193–204, *PWN, Warsaw*, 1995. (Roberto Casalbuoni) **99e:81098** 81R50 (17B37)

— (*with* Daumens, Michel) Coulomb problem in superspaces. (English summary) *Quantum groups* (*Karpacz*, 1994), 581–586, *PWN, Warsaw*, 1995. (Summary) **99f:81063** 81Q60

— (*with* Mozrzymas, Marek) Representation properties, Racah sum rule, and Biedenharn-Elliott identity for $U_q(\mathrm{osp}(1|2))$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 610–624. (Mariano A. del Olmo) **99f:81096** 81R50 (17B37)

— (*with* Daumens, Michel) Canonical and quasicanonical realizations of the $\mathrm{osp}(D|d)$ superalgebra and the Coulomb problem in superspaces. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5716–5725. (Anargyros Fellouris) **99m:81072** 81R05

salamanca-Miño, Begoña *see* **Salamanca-Miño, Begoña**

Mino, Kazuo Non-separable utility function and indeterminacy of equilibrium in a model with human capital. (English summary) *Econom. Lett.* **62** (1999), *no.* 3, 311–317. (Summary) **99m:90034** 90A10

Mino, M. (*with* Shi, Q.; Safonov, V. L.; Yamazaki, Hitoshi) Unitary transformations in weakly nonideal Bose gases. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 258–264. (Summary) **99a:82024** 82B20 (81V70)

Min-Oo, Maung Scalar curvature rigidity of certain symmetric spaces. (English summary) *Geometry, topology, and dynamics* (*Montreal, PQ*, 1995), 127–136, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Marcelo Llarull) **99e:53056** 53C21 (53C35, 53C80)

Minoux, Michel (*with* Gondran, M.) Eigenvalues and eigen-functionals of diagonally dominant endomorphisms in Min-Max analysis. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 47–61. (Hongyuan Zha) **99f:15010** 15A18 (65F15)

— (*with* Boros, Endre; Hammer, Peter L.; Rader, David J., Jr.) Optimal cell flipping to minimize channel density in VLSI design and pseudo-Boolean optimization. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 69–88. (Summary) **99k:68123** 68R05 (68Q35)

Mintchev, Mihail (*with* Liguori, Antonio; Zhao, Liu) Boundary exchange algebras and scattering on the half line. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 569–589. (Hanno Gottschalk) **99m:81129** 81T10 (81S05)

— (*with* Liguori, Antonio) Quantum field theory, bosonization and duality on the half line. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 345–372. (Hanno Gottschalk) **99f:81126** 81T10 (81T40)

— (*with* Gattobigio, Mario; Liguori, Antonio) Quantization of the nonlinear Schrödinger equation on the half line. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 143–148. (Summary) **99g:81124** 81T10 (81U40)

Mint Elhacen, Salma (*with* Molitor-Braun, Carine) Étude de l'algèbre $L^1_\omega(G)$ avec G groupe de Lie nilpotent et ω poids polynomial. (English summary) [Study of the Lie algebra $L^1_\omega(G)$, with G a nilpotent Lie group and ω a polynomial weight] *Travaux mathématiques, Fasc. X*, 77–94, *Sém. Math. Luxembourg, Centre Univ. Luxembourg, Luxembourg*, 1998. (Summary) **99m:43001** 43A20 (22E25, 22E30, 46J99)

Mints, G. Three faces of natural deduction. *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 16–30, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (Henry Africk) **99k:03011** 03B35 (03B40, 03F03, 03F05, 03F50, 03F55)

— Normal deduction in the intuitionistic linear logic. (English summary) Logic Colloquium '95 (Haifa). *Arch. Math. Logic* **37** (1998), *no.* 5-6, 415–425. (Aldo Ursini) **99h:03038** 03F50

— *see also* **Colloquium: Logic '96, 99i:03002**

Minwalla, Shiraz Particles on $AdS_{4/7}$ and primary operators on $M_{2/5}$ brane worldvolumes. (English summary) *J. High Energy Phys.* **1998**, *no.* 10, *Paper* 2, 10 *pp.* (*electronic*). (Marco Spaans) **99i:83091** 83E30 (81T30)

Minyuk, S. A. On an exact solution of the time-optimality problem in the case of linear time-independent systems. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1645–1652, 1725; *translation in Differential Equations* **32** (1996), *no.* 12, 1637–1644 (1997). (Grigory M. Sklyar) **99a:49031** 49K15 (49J15)

— On an exact solution of the time-optimality problem in the case of linear time-independent systems with a real spectrum. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1035–1040, 1150; *translation in Differential Equations* **33** (1997), *no.* 8, 1041–1046 (1998). (Summary) **99d:49009** 49J15 (49M05)

— (*with* Lomakina, L. V.) On pointwise-degenerate systems with deviating argument. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1507–1515, 1581; *translation in Differential Equations* **33** (1997), *no.* 11, 1513–1521 (1998). (Elena Litsyn) **99k:34182** 34K40

— On pointwise-degenerate systems with delay. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 4, 18–22, 122. (Michael I. Gil') **99m:34148** 34K05

Minzner, Max (*with* Lee, Travis; Fisher, Evan) Excursions of a random walk related to the strong law of large numbers. *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 595–606. (M. S. Sgibnev) **99h:60141** 60J15 (60F20)

Minzoni, Antonmaría (*with* Ize, Jorge; Turbiner, A. V.) Weierstrass today. (Spanish) Dedicated to the memory of Karl Weierstrass (Spanish). *Miscelánea Mat. No.* 25 (1997), 97–100. (I. Grattan-Guinness) **99m:01036** 01A70

— (*with* Cruz-Pacheco, G.; Flores-Reyna, G.; Jorge, M. C.; Smyth, Noel F.) Approximate evolution of lump initial conditions for the Benjamin-Ono equation. (English summary) *Wave Motion* **28** (1998), *no.* 3, 195–202. 35Q53 (76B15)

Miocchi, P. (*with* Capuzzo-Dolcetta, R.) A comparison between the fast multipole algorithm and the tree-code to evaluate gravitational forces in 3-D. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 29–48. (Summary) **99c:70001** 70-08 (70F10, 85-08)

Mioduchowski, A. (*with* Ru, Chong-Qing; Schiavone, Peter) Uniformity of stresses within a three-phase elliptic inclusion in anti-plane shear. (English summary) *J. Elasticity* **52** (1998/99), *no.* 2, 121–128. (Summary) **99m:73015** 73C02

Miquel Morales, G. (*with* Méndez-Pérez, J. M. R.) On the convolution of the generalized finite Legendre transform. (English summary) *Math. Nachr.* **188** (1997), 219–236. (Hans-Jürgen Glaeske) **99e:44003** 44A35 (46F12)

— (*with* Méndez-Pérez, J. M. R.) The generalized discrete Legendre transformation. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 183–206. (Mahmood Ahmad Pathan) **99b:33021** 33C45 (44A15)

Miquel-Vergés, Joan (*with* Martín-Vide, Carlos; Păun, Gheorghe) Two-level contextual grammars: the internal case. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 388–397, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q50 (68Q45)

— (*with* Martín-Vide, Carlos; Păun, Gheorghe; Salomaa, Arto) Attempting to define the ambiguity of internal contextual languages. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 59–81, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (Summary) **99i:68100** 68S05 (68Q45)

— On contextual automata. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 95–109, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (68Q45, 68Q68)

etayo Miqueo, José Javier *see* **Etayo Miqueo, José Javier**

el Mir, Hassine *see* **El Mir, Hassine**

Mir, Khalid Latif Prof. Dr. Mohammad Rafique (1940–1996). *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 157–160. 01A70

Mir, Nordine Sur l'analyticité des germes d'applications CR entre hypersurfaces analytiques réelles dans $\mathbf{C}^{N+1}$. (English and French summaries) [On the analytic extension of germs of CR mappings between real analytic hypersurfaces in $\mathbf{C}^{N+1}$] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1283–1288. (Dmitri Zaitsev) **99k:32026** 32F25 (32D15, 32H99)

Mira, Christian (*with* Fournier-Prunaret, Danièle; Gardini, Laura) Some contact bifurcations in two-dimensional examples. (English summary) *Iteration theory* (*ECIT 94*) (*Opava*), 77–96, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F14 (58F13)

— Some historical aspects of nonlinear dynamics—possible trends for the future. (English summary) Visions of nonlinear science in the 21st century (Sevilla, 1996). *J. Franklin Inst. B* **334** (1997), *no.* 5-6, 1075–1113. (Summary) **99m:01027** 01A60 (01A67, 34-03, 58-03)

— (*with* Millerioux, G.) Coding scheme based on chaos synchronization from noninvertible maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 10, 2019–2029. (Summary) **99j:94054** 94A60 (58F13, 58F40)

Mira, J. A. *see* **Mira López, Juan A.**

Mirabelli, Eugene A. (*with* Peskin, Michael E.) Transmission of supersymmetry breaking from a four-dimensional boundary. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 065002, 14 *pp.* (Summary) **99k:81263** 81T30 (81R40)

Miraglia, F. (*with* Dickmann, M. A.) On quadratic forms whose total signature is zero mod 2^n. *Invent. Math.* **133** (1998), *no.* 2, 243–278. (Murray Marshall) **99f:11052** 11E81 (12D15)

Mirakhmedov, Sh. A. (*with* Saidova, O.) A Berry-Esseen bound for empty boxes statistic on the scheme an allocations of several type balls. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 47–52. (M. P. Quine) **99c:60049** 60F05 (60C05)

— (*with* Kalandarov, U.) The non-uniform bounds of remainder term in CLT for the sum of functions of uniform spacings. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 53–60. (Noël Veraverbeke) **99d:60027** 60F05 (62G30)

Miralles, David On Dirac equations in curved space-times. *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 267–273, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Jorge Goncalves Cardoso) **99e:81082** 81R20 (83C60)

peña Miralles, Juan *see* **Peña Miralles, Juan**

Mira López, Juan A. (*with* Goberna, Miguel A.; Torregrosa, G.) Redundancy in linear inequality systems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 529–548. (Jan Rückmann) **99i:90062** 90C08 (65F30, 90C31, 90C34)

— (*with* López, Marco Antonio; Torregrosa, G.) On the stability of infinite-dimensional linear inequality systems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 1065–1077. (Edward J. Anderson) **99j:90092** 90C31 (15A39, 65K99)

Miramontes, J. Luis (*with* Fernández-Pousa, Carlos R.; Gallas, M. V.; Sánchez Guillén, Joaquín) Integrable systems and W-algebras. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 475–479, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 58F07 (17B68)

— Solitonic integrable perturbations of conformal field theories. (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 218–237, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Henrik Aratyn) **99i:58080** 58F07 (81T40)

— (*with* Fernández-Pousa, Carlos R.) Semi-classical spectrum of the homogeneous sine-Gordon theories. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 745–769. (Luigi Martina) **99e:81139** 81T10 (35Q53, 58F07, 81T40)

Miramontes, Pedro (*with* Sánchez Garduño, Faustino) Elegant variables: a method for determining the parameters of simple mathematical models in biology. (Spanish) *Miscelánea Mat. No.* 23 (1996), 27–38. 92B05 (34C35)

Miranda, José A. *see* **de Miranda-Neto, J. A.**

Miranda, M. *see* **Miranda, Mario**

milla Miranda, Manuel *see* **Milla Miranda, Manuel**

Miranda, Mario (*with* Tilli, Paolo) Block Toeplitz matrices and preconditioning. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 79–86 (1998). (F. Szidarovszky) **99e:65079** 65F35 (15A12, 15A57, 65F15)
— (*with* Gonzalez, Eduardo H. A.; Massari, U.) On minimal cones. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 135–143. (Summary) **99m:35012** 35A25 (35B50, 49Q20)
— Minimal boundaries inside a sphere. (Italian. English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 249–256. (Summary) **99f:49062** 49Q05
Miranda, Rick An overview of algebraic surfaces. *Algebraic geometry* (*Ankara*, 1995), 157–217, *Lecture Notes in Pure and Appl. Math.*, 193, *Dekker, New York*, 1997. (C. A. M. Peters) **99d:14024** 14Jxx (14–02)
— (*with* Ciliberto, Ciro; Lopez, Angelo Felice) Classification of varieties with canonical curve section via Gaussian maps on canonical curves. (English summary) *Amer. J. Math.* **120** (1998), *no.* 1, 1–21. (Alexandr V. Pukhlikov) **99d:14037** 14J45 (14J28)
— (*with* DeMeyer, Frank; Schneider, Kim) Examples of the failure of the local-global principle for similarity of matrices. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4179–4185. (Robert M. Guralnick) **99k:13016** 13C99 (15A21)
— (*with* Ciliberto, Ciro) Interpolation on curvilinear schemes. *J. Algebra* **203** (1998), *no.* 2, 677–678. (From the text) **99b:14047** 14J99 (14J70)
— (*with* Allgower, Eugene L.; Georg, Kurt; Tausch, Johannes) Numerical exploitation of equivariance. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 12, 795–806. (Summary) **99h:65226** 65T20 (47H15, 58E40)
— (*with* Hahn, David W.) Quadruple covers of algebraic varieties. (English summary) *J. Algebraic Geom.* **8** (1999), *no.* 1, 1–30. (Andrew J. Sommese) **99k:14028** 14E20 (14E22)
— Linear systems of plane curves. *Notices Amer. Math. Soc.* **46** (1999), *no.* 2, 192–201. (Thomas Bauer) **99m:14012** 14C20 (14H20)
de Miranda-Neto, J. A. (*with* Widom, Michael) Viscous fingering patterns in ferrofluids. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 411–426. (Summary) **99i:76151** 76W05 (76E25)
— (*with* Widom, Michael) Radial fingering in a Hele-Shaw cell: a weakly nonlinear analysis. (English summary) *Phys. D* **120** (1998), *no.* 3-4, 315–328. (Summary) **99e:76042** 76D99 (76S05)
Miranda-Valenzuela, J. C. (*with* Muci-Küchler, K. H.; Rudolphi, T. J.) Formulation of a new error indicator for adaptive meshing with Hermite boundary elements. (English summary) *Comput. Methods Appl. Mech. Engrg.* **173** (1999), *no.* 3-4, 419–431. 65N55
Miranker, Willard L. (*with* Mjolsness, Eric) A Lagrangian formulation of neural networks. I. Theory and analog dynamics. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 3, 297–335. (Clark Jeffries) **99m:68014a** 68M07 (90C90)
— (*with* Mjolsness, Eric) A Lagrangian formulation of neural networks. II. Clocked objective functions and applications. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 3, 337–371. (Clark Jeffries) **99m:68014b** 68M07 (90C90)
Miranville, Alain (*with* Ziane, Mohammed) On the dimension of the attractor for the Bénard problem with free surfaces. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 489–502 (1998). (Igor D. Chueshov) **99c:76047** 76E15 (35B40, 35R35, 76D99)
— (*with* Piétrus, A.; Rakotoson, Jean Michel) Dynamical aspect of a generalized Cahn-Hilliard equation based on a microforce balance. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 315–345. (V. Lakshmikantham) **99c:35095** 35K45 (34G20, 35B40, 35Q53, 47H20)
— (*with* Fabrie, Pierre) Exponential attractors for nonautonomous first-order evolution equations. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 225–240. (Igor D. Chueshov) **99c:34132** 34G20 (35K55, 35Q30, 47H20, 58F39)
— (*with* Chehab, Jean-Paul) Incremental unknowns on nonuniform meshes. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 5, 539–577. (Tsorng-Whay Pan) **99i:65140** 65N55 (65F35, 65N06)
— (*with* Galusinski, Cédric; Hnid, M.) Exponential attractors for nonautonomous partially dissipative equations. (English summary) *Differential Integral Equations* **12** (1999), *no.* 1, 1–22. (Piotr Biler) **99m:35100** 35K55 (34G20, 35B40, 35Q30, 47H20, 58F39, 76D05)
— (*with* Efendiev, Messoud) Finite-dimensional attractors for reaction-diffusion equations in $\mathbf{R}^n$ with a strong nonlinearity. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 399–424. (Piotr Biler) **99m:35117** 35K57 (34G20, 35B40, 47H20, 58F39)
casas Miras, José Manuel *see* **Casas Miras, José Manuel**
Mirbach, B. (*with* Korsch, H. Jürgen) A generalized entropy measuring quantum localization. (English summary) *Ann. Physics* **265** (1998), *no.* 1, 80–97. (Summary) **99m:81065** 81Q50 (81P99)
Mirchandani, Prakash (*with* Balakrishnan, Anantaram; Magnanti, Thomas L.) Heuristics, LPs, and trees on trees: network design analyses. (English summary) *Oper. Res.* **44** (1996), *no.* 3, 478–496. (Xue Liang Li) **99k:90184** 90C35 (90B10)
Mirea, Mihaela (*with* Dăescu, Dacian) Une forme plus général du théorème du col. [A more general form of the mountain pass theorem] *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 59–64 (1995). 58E05
Miri, M. R. (*with* Pourabdollah, Mohammad Ali) Minimally weakly almost periodic semigroups. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 191–202. (H. Günzler) **99m:43006** 43A60 (43A07, 54D35)
Miri, S. A. (*with* Aplevich, J. D.) Equivalence of n-dimensional Roesser and Fornasini-Marchesini models. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 401–405. (T. Kaczorek) **99a:93008** 93A30 (93C30)
— (*with* Aplevich, J. D.) Modeling and realization of n-dimensional linear discrete systems. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 3, 241–253. (Summary) **99b:93031** 93C30 (93A30, 94A12)
Mirianashvili, M. G. (*with* Sanikidze, D. G.; Khubedzhashvili, Sh. S.; Emel'yanenko, G. A.; Machavariani, A. I.) On a numerical solution of Lippman-Schwinger singular integral equations. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 261–263 (1991). 65R20
Mirică, Ştefan Quasitangent intersection property and generalized multiplier rules applicable in optimal control. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **6** (1998), *no.* 1, 111–121 (1999). 49J52 (49K27)
Miritzis, J. (*with* Cotsakis, S.) Proof of the cosmic no-hair conjecture for some quadratic homogeneous cosmologies. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2795–2801. (Marco Cavaglià) **99j:83008** 83C05 (83D05, 83F05)
Mir-Kasimov, R. M. The curved momentum space and deformations. (English summary) *Quantum groups* (*Karpacz*, 1994), 397–408, *PWN, Warsaw*, 1995. (Summary) **99f:81097** 81R50 (81T20)
— Spacetime quantization and geometry of momentum space. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1837–1841. (Dan Radu Grigore) **99k:81127** 81S05
Mirkin, Boris G. ★ Mathematical classification and clustering. Nonconvex Optimization and its Applications, 11. *Kluwer Academic Publishers, Dordrecht*, 1996. xvi+428 *pp. ISBN* 0-7923-4159-7 (A. D. Gordon) **99c:62167** 62H30 (92G30)
— Mathematical classification and clustering: from how to what and why. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 172–181, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62H30
— (*with* Muchnik, Ilya) Combinatorial optimization in clustering. *Handbook of combinatorial optimization, Vol.* 2, 261–329, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 62H30 (90–02, 90C27, 90C90)
Mirkin, Leonid On discrete-time H^∞ problem with a strictly proper controller. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 747–765. 93B36
— (*with* Palmor, Zalman J.) A new representation of the parameters of lifted systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 833–840. 93C57 (93B51)
Mirković, Dragan (*with* Čanić, Sunčica) A numerical study of Riemann problems for the two-dimensional unsteady transonic small disturbance equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1365–1393 (*electronic*). (Summary) **99c:35145** 35L65 (35L67, 65M99, 76H05, 76L05, 76M25)
Mirman, Boris Numerical ranges and Poncelet curves. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 59–85. (Summary) **99j:51013** 51N20 (15A60)
Mirman, Leonard J. (*with* Flåm, Sjur Didrik) Groping for optimal growth. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 2, 191–207. (Summary) **99f:90024** 90A16
Mirmostafaee, A. K. (*with* Niknam, A.) A remark on uniquely remotal sets. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 849–854. (Horst Behncke) **99i:46010** 46B20 (46H70)
— On non-fragmentability of Banach spaces. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 163–167. (Ioan Şerb) **99e:46019** 46B20
Mirnia, K. (*with* Spedicato, Emilio; Xia, Zun Quan; Zhang, Li Wei) ABS algorithms for linear equations and applications to optimization. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 291–319, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F30 (65K05)
Miroiu, Adrian Worlds within worlds. *Nordic J. Philos. Logic* **2** (1997), *no.* 1, 25–40. (Steve Kuhn) **99c:03024** 03B45
Miron, D. J. Parallel LU factorisation. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 573–578, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65F10 (65F30)
Miron, Radu The higher-order Lagrange spaces: theory of subspaces. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 49–56, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (L. Tamássy) **99i:53018** 53B40
— (*with* Balan, Vladimir; Stavrinos, P. C.; Tsagas, Grigorios T.) Deviations of stationary curves in the bundle $\mathrm{Osc}^{(2)}(M)$. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 51–60. (Tadashi Aikou) **99g:53033** 53C10 (53C05, 53C60)
— ★ The geometry of higher-order Finsler spaces. (English summary) With a foreword by Ruggero Maria Santilli. Hadronic Press Monographs in Mathematics. *Hadronic Press, Inc., Palm Harbor, FL*, 1998. *ii+222 pp. ISBN* 1-57485-033-4 (Vladimir Balan) **99e:53022** 53B40 (53B50, 53C60, 53C80)
— *see also* **Anastasiei, Mihai, 99m:01031; Collection of papers in honour of Academician Radu Miron on his 70th birthday** *and* **Crucianu, V.**
Mironescu, Petru (*with* Rădulescu, Vicenţiu D.) On an orthogonality theorem in Banach spaces. (Romanian) *Stud. Cerc. Mat.* **46** (1994), *no.* 3, 393–396. 46B20
— (*with* Comte, Myriam) A bifurcation analysis for the Ginzburg-Landau equation. *Arch. Rational Mech. Anal.* **144** (1998), *no.* 4, 301–311. (Achilles Tertikas) **99m:35220** 35Q55 (34B15, 35B32, 35J10)
Mironov, A. *see* **Mironov, A. D.**
Mironov, A. A. (*with* Tsurkov, V. I.) A triplanar transportation problem with a minimax criterion. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 6, 743–746. 90C08
Mironov, A. D. (*with* Kharchev, S.; Morozov, A. Yu.) Non-standard KP evolution and quantum τ-function. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 129–143; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 866–878 (1996). (Pavel Šťovíček) **99d:58083** 58F07 (81R50)
— Group theory structures underlying integrable systems. *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 515–521, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 58F07
— (*with* Marshakov, A.) 5d and 6d supersymmetric gauge theories: prepotentials from integrable systems. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 59–91. (Henrik Aratyn) **99g:81213** 81T60 (58F07, 81T13)
— (*with* Gorskiĭ, A. S.; Marshakov, A.; Morozov, A. Yu.) RG equations from Whitham hierarchy. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 690–716. (Henrik Aratyn) **99h:58086** 58F07 (14K25, 81T13, 81T17, 81T60)
— WDVV equations in Seiberg-Witten theory and associative algebras. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 177–185. (Henrik Aratyn) **99d:58034** 58D29 (58F07, 81T13, 81T60)
— (*with* Morozov, A. Yu.) Covariance of WDVV equations. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 48–52. (Alexander V. Shapovalov) **99f:58029** 58D29 (81T70)
— (*with* Braden, H. W.; Marshakov, A.; Morozov, A. Yu.) Seiberg-Witten theory for a non-trivial compactification from five to four dimensions. (English summary) *Phys. Lett. B* **448** (1999), *no.* 3-4, 195–202. (Summary) **99k:81293** 81T60 (81T13)

Mironov, A. L. (*with* Oleĭnik, V. L.) On the limits of applicability of the tight binding approximation method for a complex-valued potential. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 448–466; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1157–1171 (1998). (Evgeni L. Korotyaev) **99g:35029** 35J10 (34L40, 35P05, 81Q10)

Mironova, S. R. Singular integral equations on a countable set of closed nonrectifiable and fractal curves. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 43–49; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 5, 41–47. (Elias Wegert) **99g:45003** 45E05 (28A80, 30E20, 47G10)

Mironova, V. A. (*with* Sobolev, V. A.; Tsirlin, A. M.) Optimal control of flows of raw materials and finished goods by price variations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 91–100; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 2, 229–236. 90A16 (90A53)

Miró-Roig, Rosa M. (*with* Kleppe, Jan O.) The dimension of the Hilbert scheme of Gorenstein codimension 3 subschemes. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 1, 73–82. (Vincenzo Di Gennaro) **99a:14002** 14C05 (14M05, 14M07)

— *see also* **Six lectures on commutative algebra, 99e:13001**

Miroshin, R. N. An asymptotic estimate for the integral of the product of two modified Bessel functions and a power function. (Russian) *Mat. Zametki* **61** (1997), *no.* 3, 456–458; *translation in Math. Notes* **61** (1997), *no.* 3-4, 373–376. (Dimitar Kolev Dimitrov) **99h:33014** 33C10

Mirotin, A. R. The action of functions of the Schoenberg class $\mathscr{T}$ on the cone of dissipative elements of a Banach algebra. (Russian) *Mat. Zametki* **61** (1997), *no.* 4, 630–633; *translation in Math. Notes* **61** (1997), *no.* 3-4, 524–527. (Jaroslav Zemánek) **99c:46055** 46H30 (47A13, 47A60, 47B44)

— On the $\mathscr{T}$-calculus of generators of C_0-semigroups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 571–582, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 493–503. (Ioana Ciorănescu) **99g:47097** 47D06 (47A60)

— Positive semicharacters of Lie semigroups. (English summary) *Positivity* **3** (1999), *no.* 1, 23–31. (Andrei Kelarev) **99k:22006** 22A15

Mirsaburov, M. A problem with nonlocal boundary conditions on the elliptic part of the boundary of a mixed domain. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 59–66 (1996). 35M10

— A problem with nonlocal boundary conditions in the elliptic part of a mixed domain for the Gellerstedt equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 61–68. 35M10

— On a simple generalization of the Tricomi problem. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 46–54 (1997). 35M10

— A problem with nonlocal boundary conditions in the elliptic and hyperbolic parts of a mixed domain for the Gellerstedt equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 48–55. 35M10

— (*with* Salakhitdinov, M. S.) An analogue of the Bitsadze-Samarskiĭ problem for a class of hyperbolic-type equations. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1998), 91–100. 35L80 (35M10)

— On a generalization of the Dirichlet and Holmgren problems for a degenerate elliptic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1998), 46–50. 35J70

Mirschinka, D. (*with* Jentsch, Lothar) Bimetal problems. *Boundary element topics (Stuttgart, 1995)*, 77–98, *Springer, Berlin*, 1997. (D. G. Natroshvili) **99j:73036** 73C99 (45P05, 65N38, 73B27, 73V10)

Mirumyan, A. N. (*with* Asratyan, A. S.) On transformations of edge colorings of the complete bipartite graph $K_{n,n}$. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 1, 10–12. (Ioan Tomescu) **99g:05071** 05C15 (05C38)

— (*with* Kamalyan, R. R.) Interval edge colorings of bipartite graphs of a certain class. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 4, 3–5 (1998). 05C15

Mirza, M. Y. (*with* Thorpe, B.) Some new o-Tauberian theorems for double series. (English summary) *Fourier analysis, approximation theory and applications (Aligarh, 1993)*, 185–198, *New Age, New Delhi*, 1997. (Summary) **99d:40002** 40E05 (40B05, 40G05)

— (*with* Thorpe, B.) Tauberian constants for double series. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 170–182. (Hubert Tietz) **99k:40003** 40B05 (40E20)

Mirzov, J. D. Asymptotic representations of oscillatory solutions of a nonlinear equation. *Mem. Differential Equations Math. Phys.* **13** (1998), 130–131. 34C10

Mirzoyan, V. A. Structure theorems for Kählerian Ric-semisymmetric spaces. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 1, 3–5. (Valery Marenich) **99h:53095** 53C55 (53B35)

— On a class of submanifolds with a parallel fundamental form of higher order. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 46–53; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 6, 42–48. (Zbigniew Olszak) **99j:53078** 53C40 (53B25)

— Submanifolds with higher-order semiparallel fundamental forms as envelopes. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 8, 79–80; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 8, 75–76 (1999). 53C40

Misane, Driss (*with* Khamsi, Mohamed A.) Disjunctive signed logic programs. (English summary) *Fund. Inform.* **32** (1997), *no.* 3-4, 349–357. (Summary) **99g:68037** 68N17

Misawa, Masashi On regularity for heat flows for p-harmonic maps. *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon, 1996)*, 14 *pp., Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Martin Fuchs) **99a:58049** 58E20 (35J60, 35K55, 58G11)

— Existence and regularity results for the gradient flow for p-harmonic maps. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 36, 17 *pp. (electronic)*. (Norbert Hungerbühler) **99k:58048** 58E20 (35B65, 35K55)

— Existence and regularity results for the gradient flow for p-harmonic maps. Regularity, blowup and related properties of solutions to nonlinear evolution equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1045 (1998), 57–72. (Andreas Gastel) **99m:58068** 58E20

Mischaikow, Konstantin (*with* Kokubu, Hiroshi; Nishiura, Yasumasa; Oka, Hiroe; Takaishi, Takeshi) Connecting orbit structure of monotone solutions in the shadow system. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 309–364. (Anibal Rodriguez-Bernal) **99e:35107** 35K57 (34C99, 35B99, 58F39)

— (*with* Dockery, Jack; Hutson, Vivian; Pernarowski, Mark) The evolution of slow dispersal rates: a reaction diffusion model. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 61–83. (Si Ning Zheng) **99j:92006** 92D10 (35K57)

— (*with* Hutson, Vivian) An approach to practical persistence. (English summary) *J. Math. Biol.* **37** (1998), *no.* 5, 447–466. (Peter Moson) **99m:92030** 92D25 (39A10, 92D40)

— *see also* **Conley index theory, 99m:58005**

Miserendino, Doriano (*with* Esposito, Vincenzo) Poisson operators for Grüschin [Grushin] differential operators with double characteristic and related continuity theorems. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 101–126. (Ya. A. Roĭtberg) **99b:35075** 35J70 (35B30, 35G05, 35S05, 47G30)

von Mises, Richard *see* **Föllmer, Hans, (99k:01080)**

Mishachev, N. M. (*with* Eliashberg, Yakov) Wrinkling of smooth mappings and its applications. I. *Invent. Math.* **130** (1997), *no.* 2, 345–369. (Serge L. Tabachnikov) **99d:57021** 57R45 (57R52)

Mishchenko, A. A. On the properties of reversible polynomial functions. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 5, 44–49, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 647–651 (1998). (Summary) **99m:68128** 68Q68 (94C10)

Mishchenko, A. S. (*with* Luke, Glenys) ★ Vector bundles and their applications. (English summary) Mathematics and its Applications, 447. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii*+254 *pp. ISBN* 0-7923-5154-1 (V. P. Snaith) **99m:55019** 55R25 (58G10)

— (*with* Maslov, V. P.) Quasi-classical asymptotics of quasiparticles. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 6, 85–116; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 901–930. (Oleg Yu. Shvedov) **99i:81044** 81Q20 (82D50)

Mishchenko, E. F. (*with* Kolesov, A. Yu.; Rozov, Nikolaĭ Khristovich) Relay with delay and its C^1-approximation. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 126–153. (Vladimir Sh. Burd) **99f:34113** 34K25 (34E15)

Mishchenko, S. P. The standard Lie identity in solvable varieties of associative type. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 30–36, 112; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 29–33. (Plamen Koshlukov) **99i:17005** 17B01 (16R10, 17B30)

— A sufficient condition for the nilpotence of the commutant of a Lie algebra. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 8, 43–47; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 8, 41–45 (1999). (Aleksandr A. Mikhalev) **99m:17004** 17B01 (17B30)

Mishev, Dimitar P. (*with* Petrova, Zornitza A.) Oscillation properties of a class of nonlinear hyperbolic equations with constant deviations. (English summary) *Applications of mathematics in engineering (Sozopol, 1997)*, 85–87, *Heron Press, Sofia*, 1998. (Summary) **99g:35138** 35R10 (35B05, 35L15)

— (*with* Petrova, Zornitza A.) Oscillation properties of the neutral Timoshenko beam equation. (English summary) *Applications of mathematics in engineering (Sozopol, 1998)*, 74–76, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 35Q72 (35B05, 73D35, 73K05)

Mishev, Ilya D. Finite volume methods on Voronoi meshes. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 2, 193–212. (K. Najzar) **99c:65191** 65N06 (65N12, 65N15)

Mishev, Yordan P. On the Faddeev-Tahtajan identity. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 275–280. (Tetsuya Taniguchi) **99j:58097** 58F07 (34B24)

Mishima, Miwako (*with* Miao, Ying; Kageyama, Sanpei; Jimbo, Masakazu) Constructions of nested directed BIB designs. (English summary) *Australas. J. Combin.* **18** (1998), 157–172. (Frank E. Bennett) **99m:05023** 05B05

Mishkov, Roumen L. Formula for the nth derivative of a composite function with a vector argument. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 149–160. (Summary) **99c:26008** 26B05

Mishra, A. *see* **Mishra, Amarendra**

Mishra, A. K. *see* **Mishra, Ashok Kumar**

Mishra, Akshaya Kumar (*with* Srivastava, Hari M.; Das, Manoj Kumar) A nested class of analytic functions defined by fractional calculus. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 321–332. (Shigeyoshi Owa) **99g:30020** 30C45 (26A33)

Mishra, Amarendra (*with* Sen, Kanwar) A generalized Polya-Eggenberger model generating various discrete probability distributions. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 243–251. (Moshe Shaked) **99h:60016** 60C05 (60E05, 62E15)

Mishra, Amruta (*with* Gupta, Anshu; Mishra, Hiranmaya; Prasanna, A. R.) Rotating compact objects with magnetic fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3131–3145. (Summary) **99g:83046** 83C55

Mishra, Anju (*with* Agrawal, Ramesh Chandra) Characterization of commutative quasi-groups and Boolean groups. *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 75–79. 20N05

Mishra, Ashok Kumar (*with* Malik, R. P.; Rajasekaran, G.) Dynamics in a noncommutative phase space. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4759–4775. (Roberto Casalbuoni) **99h:81093** 81R50 (58B30)

Mishra, Babban Prasad On product summability methods of functions. *J. Nat. Acad. Math. India* **10** (1992/96), 17–22 (1997). (Amnon Jakimovski) **99f:40004** 40C10 (40D25, 40G05)

— (*with* Singh, Dinesh[2]) Translativity of (A_λ) methods of functions. *J. Nat. Acad. Math. India* **10** (1992/96), 55–59 (1997). (Amnon Jakimovski) **99f:40005** 40C10 (40D99, 40G99)

— (*with* Ansari, Amir Ali) On sequence spaces of scalars. (English summary) *J. Nat. Acad. Math. India* **10** (1992/96), 75–81 (1997). (Enno Kolk) **99f:40003** 40C05 (40D25, 40G10, 40H05, 46A45)

Mishra, Bandana (*with* Kumar, Arun) Sūlb-conversion method for circle-square problem. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 211–214. 01A32

Mishra, Hiranmaya (*with* Gupta, Anshu; Mishra, Amruta; Prasanna, A. R.) Rotating compact objects with magnetic fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3131–3145. (Summary) **99g:83046** 83C55

Mishra, Manav (*with* Sivalingam, Krishna M.; Wang, Jie[1]; Wu, Xiangjun) Improved on-line scheduling algorithms for optical WDM networks. (English summary) *Multichannel optical networks: theory and practice (Piscataway, NJ, 1998)*, 43–61, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 68M10 (68M20, 90B12)

Mishra, S. K. *see* **Mishra, Sashi Kant**
Mishra, S. N. *see* **Mishra, Swami Nath**
Mishra, Sashi Kant On sufficiency and duration in nonsmooth multiobjective programming. (English summary) *Opsearch* **34** (1997), *no.* 4, 221–231. (Jia Liu Mei) **99a:90176** 90C29 (49N15)
— On multiple-objective optimization with generalized univexity. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 131–148. (Summary) **99c:90108** 90C29
— Generalized pseudo-convex minmax programming. (English summary) *Opsearch* **35** (1998), *no.* 1, 32–44. (Fred Behringer) **99g:90113** 90C29 (49K35)
Mishra, Subhash C. (*with* Prasad, Manohar) Radiative heat transfer in participating media—a review. (English summary) *Sādhanā* **23** (1998), *no.* 2, 213–232. (Summary) **99f:80003** 80A20 (85A25)
Mishra, Swami Nath (*with* Singh, Shyam Lal; Gairola, U. C.) Convergence of sequences of iterates of multivalued operators. (English summary) *J. Natur. Phys. Sci.* **9/10** (1995/96), 13–24. (Charles Ejike Chidume) **99f:47065** 47H04
— (*with* Singh, Shyam Lal) A family of nonlinear second order integrodifferential equations in physical phenomena. (English summary) *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 37–43. (Summary) **99a:45015** 45J05 (34K05, 47H15)
— (*with* Kalinde, Albert K.) A note on an Ishikawa type iteration scheme. *Demonstratio Math.* **31** (1998), *no.* 3, 587–594. 54H25 (54E40)
Mishref, M. Atif A. Admissible and K-invariant fuzzy subgroups. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 811–819. (John Mordeson) **99i:20092** 20N25
Mīshura, Yu. S. Some properties of local times for Markov random fields. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 116–121; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 121–126. (Summary) **99e:60119** 60G60 (60J25, 60J55)
Mishuris, Gennady S. 2-D boundary value problems of thermoelasticity in a multi-wedge–multi-layered region. I. Sweep method. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 6, 1103–1134. (B. Belinskiy) **99a:73025** 73B30 (65Nxx, 73C99)
— 2-D boundary value problems of thermoelasticity in a multi-wedge–multi-layered region. II. Systems of integral equations. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 6, 1135–1165. (B. Belinskiy) **99a:73026** 73B30 (65Nxx, 73C99)
— Stress singularity at a crack tip for various intermediate zones in bimaterial structures (mode III). (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 7, 999–1015. (Summary) **99h:73066** 73M25
Misiak, Aleksander (*with* Ryż, Alicja) Generalized φ-functions. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 189–194. (Summary) **99a:46052** 46E30 (26D15)
— (*with* Ryż, Alicja) φ-functions of N variables. *Demonstratio Math.* **31** (1998), *no.* 2, 387–393. (J. Musielak) **99i:26015** 26B25 (46E30)
Mišić, Jelena Unicast-based multicast algorithm in wormhole-routed star graph interconnection networks. (English summary) *Parallel Comput.* **24** (1998), *no.* 2, 267–286. (Summary) **99c:68020** 68M10
Misiołek, Gerard (*with* Himonas, Alexandros Alexandrou) The Cauchy problem for a shallow water type equation. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 123–139. (Alan Shapiro) **99b:35176** 35Q35 (76B15)
— A shallow water equation as a geodesic flow on the Bott-Virasoro group. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 3, 203–208. (C. J. Atkin) **99d:58018** 58B20 (35Q53, 58B25, 58D05)
— Exponential maps of Sobolev metrics on loop groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2475–2482. (Shigeki Fujiwara) **99j:58015** 58B20 (22E65)
Misiurewicz, Michał (*with* Blokh, A. M.) Entropy of twist interval maps. (English summary) *Israel J. Math.* **102** (1997), 61–99. (P. Mendes) **99b:58139** 58F11 (58F03, 58F20)
— (*with* Blokh, A. M.) Collet-Eckmann maps are unstable. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 61–70. (Víctor Jiménez López) **99b:58133** 58F10 (54H20, 58F03)
— (*with* Blokh, A. M.) Wild attractors of polymodal negative Schwarzian maps. (English summary) *Comm. Math. Phys.* **199** (1998), *no.* 2, 397–416. (Peter Petek) **99k:58116** 58F12
— (*with* Blokh, A. M.) Rotating an interval and a circle. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 63–78. (Witold Jarczyk) **99j:58063** 58F03 (54H20, 58F08)
— (*with* Geller, William) Rotation and entropy. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2927–2948. (P. Mendes) **99j:58125** 58F11 (54H20, 58F03)
— *see also* **Dedicated to the memory of Wiesław Szlenk**
Miśkiewicz, Janusz An indirect measurement in EEQT. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8539–8552. (S. Gudder) **99k:81034** 81P15
Mislin, Guido (*with* Kropholler, Peter H.) Groups acting on finite-dimensional spaces with finite stabilizers. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 1, 122–136. (Olympia Talelli) **99f:20086** 20J05 (55P91)
Mislove, Michael W. (*with* Hofmann, Karl H.) Principles underlying the degeneracy of topological models of the untyped lambda calculus. *Semigroup theory and its applications (New Orleans, LA, 1994)*, 123–155, *London Math. Soc. Lecture Note Ser.*, 231, *Cambridge Univ. Press, Cambridge*, 1996. (Vladimiro Sassone) **99c:03014** 03B40 (54D30, 68Q55)
— Generalizing domain theory. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 1–19, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q55 (06B35)
— Topology, domain theory and theoretical computer science. (English summary) Domain theory. *Topology Appl.* **89** (1998), *no.* 1-2, 3–59. (Peter Johnstone) **99i:54046** 54F05 (06B35, 06F30, 18B30, 54B20, 68Q55)
— *see also* **Workshop: Formal Foundations of Software Systems, 99h:68012**
Mislow, Kurt (*with* Liang, Chengzhi; Flapan, Erica) Amphicheiral links with odd crossing number. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 1, 87–91. (G. Burde) **99c:57027** 57M25
Misner, Charles W. Variational principle for Lagrangian hydrodynamics. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 288–293, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:83051** 83C55 (83C05)
— (*with* New, Kimberly C. B.; Watt, Keith; Centrella, Joan M.) Stable 3-level leapfrog integration in numerical relativity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064022, 14 *pp.* 83–04 (83–08)
Misono, Shinji (*with* Tajima, Akira) Airline crew-scheduling problem with many irregular flights. (English summary) *Algorithms and computation (Singapore, 1997)*, 2–11, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 90B35 (90C90)
Misovec, Kathleen M. (*with* Annaswamy, Anuradha M.) Friction compensation using adaptive non-linear control with persistent excitation. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 457–479. 93D15 (93C10)
Misra, Arun K. (*with* Pradhan, Satyabrata; Modi, V. J.) Control of tethered satellite systems using thruster and offset strategies. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 175–193. 93C95 (70M20, 70Q05, 93C85)
— (*with* Caron, M.; Modi, V. J.) Order-N formulation and dynamics of multi-unit flexible space manipulators. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 4, 347–368. 73K12 (70B15)
Misra, B. L. (*with* Saxena, Ravi R.) Construction of block designs and arrays through 2^n-factorial experiment. (English summary) *J. Statist. Res.* **31** (1997), *no.* 2, 49–54. (Summary) **99b:62114** 62K10 (05B05)
— (*with* Chaure, N. K.; Wanjari, N.) On construction of mutually orthogonal F-squares. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **68** (1998), *no.* 1, 87–92. (Summary) **99e:05024** 05B15
Misra, Gadadhar (*with* Douglas, Ronald G.) Geometric invariants for resolutions of Hilbert modules. *Nonselfadjoint operator algebras, operator theory, and related topics*, 83–112, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (F.-H. Vasilescu) **99g:46065** 46H25 (46E22, 46J15, 46M20, 47A45, 47D99)
Misra, J. C. (*with* Pal, Biswajit; Gupta, A. S.) Hydromagnetic flow of a second-grade fluid in a channel—some applications to physiological systems. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1323–1342. (Summary) **99a:76092** 76W05 (76Z05, 92C05, 92C30)
— (*with* Pal, Biswajit) A mathematical model for the study of the pulsatile flow of blood under an externally imposed body acceleration. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 1, 89–106. 76Z05 (92C35)
Misra, Kailash C. (*with* Jing, Naihuan; Koyama, Yoshitaka) Bosonic realizations of $U_q(C_n^{(1)})$. (English summary) *J. Algebra* **200** (1998), *no.* 1, 155–172. (Jun'ichi Shiraishi) **99c:17028** 17B37 (81R50)
— (*with* Kuniba, Atsuo; Okado, Masato; Takagi, Taichiro; Uchiyama, Jun) Crystals for Demazure modules of classical affine Lie algebras. (English summary) *J. Algebra* **208** (1998), *no.* 1, 185–215. (Ben Lewis Cox) **99h:17008** 17B10 (17B67)
— (*with* Foda, Omar; Okado, Masato) Demazure modules and vertex models: the $\widehat{\mathfrak{sl}}(2)$ case. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1601–1622. (Christoph Schweigert) **99e:17036** 17B67 (17B10, 81R10)
— (*with* Kuniba, Atsuo; Okado, Masato; Takagi, Taichiro; Uchiyama, Jun) Characters of Demazure modules and solvable lattice models. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 555–576. (Yasmine B. Sanderson) **99m:17019** 17B37 (81R50, 82B23)
— (*with* Jing, Naihuan) Vertex operators for twisted quantum affine algebras. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1663–1690. (Hai Sheng Li) **99i:17027** 17B67 (17B69, 81R50)
Misra, Manavendra (*with* DeSanto, John A.; Erdmann, G.; Hereman, Willy) Theoretical and computational aspects of scattering from rough surfaces: one-dimensional perfectly reflecting surfaces. (English summary) *Waves Random Media* **8** (1998), *no.* 4, 385–414. (Summary) **99j:76112** 76Q05 (76M25, 78–08, 78A45)
Misra, O. P. (*with* Saxena, Vinod P.; Sinha, P.) On the stability of an egg-eating predator-prey system with an age-structured predator population. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 879–888. (Summary) **99k:92036** 92D25 (34K20, 45J05)
Misra, Pradeep (*with* Gu, Guoxiang; Patel, Rajnikant V.) Computation of simple and group factors of multivariate polynomials. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 4, 455–473. (Summary) **99f:93061** 93B40 (65H05, 93C80)
Misra, Sheela (*with* Chaturvedi, Ajit; Pandey, Sunil Kumar) A class of asymptotically efficient and consistent sequential procedures to construct fixed-size confidence regions. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **48** (1996), *no.* 3, 346–355, v. (Nitis Mukhopadhyay) **99d:62075** 62L10 (62H12)
Missarov, M. D. Functional equations and renormalizations in p-adic field theories. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 3–16; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1249–1259 (1997). (Eugen Belokolos) **99b:81159** 81T17 (11Z05)
Missirlis, N. M. (*with* Boukas, L. A.) The parallel local modified SOR for nonsymmetric linear systems. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 153–174. (Summary) **99m:65205** 65N22 (65F10)
Mistakidis, E. S. (*with* Stavroulakis, Georgios E.) ★ Nonconvex optimization in mechanics. (English summary) Algorithms, heuristics and engineering applications by the F.E.M. Nonconvex Optimization and its Applications, 21. *Kluwer Academic Publishers, Dordrecht*, 1998. xx+285 *pp. ISBN* 0-7923-4812-5 (Pekka Neittaanmäki) **99b:73032** 73K40 (47H19, 49J40, 73V25, 90C90)
— (*with* Theocaris, Pericles S.; Panagiotopoulos, Panagiotis D.; Panagouli, O. K.) On debonding and delamination effects in adhesively bonded cracks on fractal type. (English summary) *J. Elasticity* **51** (1998), *no.* 3, 177–201. (Summary) **99j:73086** 73M25 (73K20, 73V25)
— (*with* Panagiotopoulos, Panagiotis D.) The search for substationarity points in the unilateral contact problems with nonmonotone friction. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 341–358. (Summary) **99f:73077** 73T05 (73V20, 73V25)
Mistryukov, A. A. (*with* Kan, Yu. S.) On the equivalence in stochastic programming with probability and quantile objectives. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 145–153, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99f:90069** 90C15
Mita, Tsutomu (*with* Matson, Jeremy B.; Anderson, Brian D. O.) A complete and simple parametrization of controllers for a nonstandard H_∞ control problem. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 369–374. (Ian Petersen) **99k:93047** 93B36 (93D21)

— (*with* Xin, Xin) Inner-outer factorization for non-square proper functions with infinite and finite $j\omega$-axis zeros. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 145–161. (Summary) **99d:93046** 93C80 (93B25)

Mitchell, Chris J. (*with* Paterson, Kenneth G.) Perfect factors from cyclic codes and interleaving. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 241–264 (*electronic*). (Wende Chen) **99i:94069** 94B15 (68R10)

Mitchell, David Geoffrey Hard problems for CSP algorithms. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 398–405, *MIT Press, Cambridge, MA*, 1998. (Summary) **99f:68105** 68Q25 (68T20)

Mitchell, Heather (*with* Brockwell, P. J.) Linear prediction for a class of multivariate stable processes. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 297–310. (A. Weron) **99d:60050** 60G25 (60E07, 62M20)

Mitchell, John E. Interior point methods for combinatorial optimization. (English summary) *Interior point methods of mathematical programming*, 417–466, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C27

— (*with* Lee, Eva K.) Computational experience in nonlinear mixed integer programming. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 95–100, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C11

— (*with* Pardalos, Panos M.; Resende, Mauricio G. C.) Interior point methods for combinatorial optimization. *Handbook of combinatorial optimization, Vol.* 1, 189–297, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C10)

— An interior point cutting plane algorithm for Ising spin glass problems. *Operations Research Proceedings* 1997 (*Jena*), 114–119, *Springer, Berlin*, 1998. (*see* **99d:90008**) 82D30 (90C30)

Mitchell, Joseph S. B. (*with* Arkin, Esther M.; Chiang, Yi-Jen; Held, Martin; Sacristan, V.; Skiena, Steven S.; Yang, Tae-Cheon) On minimum-area hulls. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 119–136. (Evangelos Kranakis) **99c:68243** 68U05 (52B55)

— (*with* Arkin, Esther M.; Meijer, Henk; Rappaport, David; Skiena, Steven S.) Decision trees for geometric models. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 343–363. (Summary) **99b:68193** 68U05 (52B55, 68U10)

— (*with* Albers, Gerhard; Guibas, Leonidas J.; Roos, Thomas) Voronoi diagrams of moving points. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 365–379. (Summary) **99b:68192** 68U05 (52B55)

— (*with* Tamir, Arie) A maximum b-matching problem arising from median location models with applications to the roommates problem. (English summary) *Math. Programming* **80** (1998), *no.* 2, *Ser. A*, 171–194. (Koduvayur R. Parthasarathy) **99a:90116** 90B80 (05C70)

— (*with* Blum, Avrim L.; Chalasani, Prasad; Vempala, Santosh) A constant-factor approximation algorithm for the geometric k-MST problem in the plane. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 771–781 (*electronic*). (Summary) **99g:68098** 68Q25 (68R10, 68U05)

Mitchell, Patrick (*with* Cochrane, Todd) Small solutions of the Legendre equation. (English summary) *J. Number Theory* **70** (1998), *no.* 1, 62–66. (P. G. Walsh) **99a:11029** 11D09

Mitchell, S. A. *see* **Mitchell, Stephen A.**

Mitchell, Sidney S. Convex algebra. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 177–184, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 12K10

Mitchell, Stephen A. Hypercohomology spectra and Thomason's descent theorem. (English summary) *Algebraic K-theory* (*Toronto, ON*, 1996), 221–277, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99f:19002** 19D99 (18F20, 55R45)

— (*with* Dwyer, William G.) On the K-theory spectrum of a ring of algebraic integers. (English summary) *K-Theory* **14** (1998), *no.* 3, 201–263. (V. P. Snaith) **99i:19003** 19F27 (11R70, 19L64, 55N15, 55R40)

— Units and general linear group cohomology for a ring of algebraic integers. *Math. Z.* **228** (1998), *no.* 2, 207–220. (V. P. Snaith) **99k:19002** 19F99 (11R70, 19L64)

Mitchell, William John (*with* Larson, Jean A.) On a problem of Erdős and Rado. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 245–252. (Sheshayya A. Choudum) **99f:05080** 05C55 (05C20, 06A07)

— A hollow shell: covering lemmas without a core. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 183–198, *Kluwer Acad. Publ., Dordrecht*, 1998. (Philip D. Welch) **99m:03103** 03E45 (03E35, 03E40)

— The complexity of the core model. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 4, 1393–1398. (A. Kanamori) **99i:03064** 03E45 (03E55)

Mitchell, William P. R. The carcinogenic example. (English summary) *Log. J. IGPL* **5** (1997), *no.* 6, 795–810 (*electronic*). (Henry Africk) **99f:03080** 03F50 (03B45, 03C80, 68Q60)

Mitchem, John (*with* Morriss, Patrick; Schmeichel, Edward) On the cost chromatic number of outerplanar, planar, and line graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 229–241. (R. J. Douglas) **99i:05086** 05C15 (05C10)

— (*with* Hakimi, S. Louis; Schmeichel, Edward) Short proofs of theorems of Nash-Williams and Tutte. (English summary) *Ars Combin.* **50** (1998), 257–266. (Summary) **99i:05165** 05C70

Mitidieri, Enzo (*with* Clément, Philippe; Felmer, Patricio L.) Homoclinic orbits for a class of infinite-dimensional Hamiltonian systems. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 367–393. (Vittorio Coti Zelati) **99d:58036** 58E05 (35B10, 35K55, 58F05, 58F22)

— (*with* Garcia-Huidobro, Marta; Manásevich, Raúl; Yarur, Cecilia S.) Existence and nonexistence of positive singular solutions for a class of semilinear elliptic systems. *Arch. Rational Mech. Anal.* **140** (1997), *no.* 3, 253–284. (Rolando Magnanini) **99e:35049** 35J60 (35B05)

— (*with* Clément, Philippe) On a class of nonlinear elliptic systems. (English summary) Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 132–140. (Introduction) **99c:35055** 35J60

— (*with* Clément, Philippe; Manásevich, Raúl) Some existence and non-existence results for a homogeneous quasilinear problem. *Asymptot. Anal.* **17** (1998), *no.* 1, 13–29. (Guido Sweers) **99i:34014** 34A34 (35B05, 35J60)

— (*with* Caristi, Gabriella; Soranzo, Ramon) Isolated singularities of polyharmonic equations. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 257–294. (Nicolai N. Tarkhanov) **99i:35035** 35J60 (31B30, 35B05)

— (*with* Birindelli, Isabeau) Liouville theorems for elliptic inequalities and applications. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 6, 1217–1247. (Ya. A. Roĭtberg) **99m:35277** 35R45 (35B05, 35J60)

Mitin, A. V. Undecidability of the elementary theory of groups of measure-preserving transformations. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 414–420; *translation in Math. Notes* **63** (1998), *no.* 3-4, 363–369. (Summary) **99d:20001** 20A15 (03D35, 28D10)

Mitin, S. P. (*with* Soldatov, A. P.) On a class of strongly elliptic systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1118–1122, 1152; *translation in Differential Equations* **33** (1997), *no.* 8, 1125–1129 (1998). (Ya. A. Roĭtberg) **99g:35034** 35J55

Mititelu, Ştefan Optimality and Mond-Weir duality in nonsmooth programming. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 435–444. 90C29 (49J52)

— Invex sets. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 5, 529–532. 90C26 (90C29)

— (*with* Stancu-Minasian, I. M.) On the quasi-invexity and semistrict quasi-invexity at a point. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 313–316. 90C29

— Generalized invexities and global minimum properties. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 61–72. (Summary) **99a:90160** 90C26 (49J52, 90C29)

Mitjana, M. (*with* Comellas, F.) Broadcasting in cycle prefix digraphs. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 31–39. (Summary) **99c:68191** 68R10 (05C20, 68M10)

Mit'kin, D. A. On some Diophantine equations connected with Pellian equation. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 27–32, *VSP, Utrecht*, 1997. (P. G. Walsh) **99h:11025** 11D09 (11R04)

— On a lower bound for the number of variables for the solvability of the Hilbert-Kamke system in 3-adic integers. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 266–286. (Eugene M. Matveev) **99k:11051** 11D85 (11P55)

Mitkov, Igor (*with* Zharnitsky, Vadim) π-kinks in the parametrically driven sine-Gordon equation and applications. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 301–307. (*see* **99h:00031**) 35Q53 (35L70)

Mitra, A. N. (*with* Ramanathan, R.) On simulating Liouvillian flow from quantum mechanics via Wigner functions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4492–4498. (Jacques Renaud) **99g:81119** 81S30

Mitra, Amit (*with* Kundu, Debasis) Different methods of estimating sinusoidal frequencies: a numerical comparison. (English summary) *J. Statist. Comput. Simulation* **62** (1998), *no.* 1-2, 9–27. (Summary) **99k:62170** 62M10

— (*with* Kundu, Debasis) Estimating the parameters of the linear compartment model. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 317–334. 62J02 (62F10)

Mitra, Debasis (*with* Borst, Sem) Asymptotically achievable performance in ATM networks. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 568–585. (Charles Tier) **99k:60222** 60K20 (68M20, 90B12)

Mitra, Gautam (*with* Baricelli, Paola; Nygreen, Bjørn) Modelling of augmented makespan assignment problems (AMAPs): computational experience of applying integer presolve at the modelling stage. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 269–288. (*see* **99e:90003**) 90C27 (90C90)

— (*with* Maros, István) Strategies for creating advanced bases for large-scale linear programming problems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 248–260. 90C06 (90C05)

— (*with* Gülpınar, Nalân; Maros, István) Detecting embedded pure network structures in LP problems. (English summary) *Top* **6** (1998), *no.* 1, 67–95. 90C08 (90C35)

— *see also* **Applied mathematical programming and modeling, 99b:90006**

Mitra, Indrajit (*with* DasGupta, Ananda; Dutta-Roy, Binayak) Regularization and renormalization in scattering from Dirac delta potentials. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 12, 1101–1109. (Summary) **99h:81221** 81U05 (81T15)

Mitra, Kaushik On capital accumulation paths in a neoclassical stochastic growth model. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 457–464. (Summary) **99m:90043** 90A16 (90A09)

Mitra, Mahan Cannon-Thurston maps for trees of hyperbolic metric spaces. (English summary) *J. Differential Geom.* **48** (1998), *no.* 1, 135–164. (Michah Sageev) **99e:57004** 57M07 (20F32, 57M50)

— Cannon-Thurston maps for hyperbolic group extensions. *Topology* **37** (1998), *no.* 3, 527–538. (Sadayoshi Kojima) **99d:57001** 57M07 (20F32, 57M10)

— On a theorem of Scott and Swarup. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1625–1631. (Dubravko Ivanšić) **99i:20050** 20F32 (57M50, 57N10)

Mitra, Parthasarathi Black hole entropy. (English summary) *Classical and quantum aspects of gravitation and cosmology* (*Madras*, 1996), 177–187, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (*see* **99b:83003**) 83C57

— Entropy of extremal black holes in asymptotically anti-de Sitter spacetime. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 89–95. (Gil De Oliveira-Neto) **99i:83067** 83C57 (83C45)

— Entropy of near-extremal dyonic black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7369–7372. (Summary) **99k:83078** 83C57

Mitra, Pinaki (*with* Nandy, Subhas C.) Efficient computation of rectilinear geodesic Voronoi neighbor in the presence of obstacles. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 315–338. (Summary) **99d:68238** 68U05 (52B55, 52C07, 68Q05)

Mitra, R. K. (*with* Mandal, Nripes K.) A series of group divisible designs from self-complementary BIB designs. (English summary) *J. Indian Soc. Agricultural Statist.* **51** (1998), *no.* 1, 1–5. (Summary) **99e:62132** 62K10

Mitra, Sujit Kumar (*with* Puntanen, Simo; Styan, George P. H.) Shorted matrices and their applications in linear statistical models: a review. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 289–311, *VSP, Utrecht*, 1995. (Summary) **99h:62090** 62J05

Mitra, Suman K. (*with* Murthy, C. A.; Kundu, Malay K.) A study on partitioned iterative function systems for image compression. (English summary) *Fund. Inform.* **34** (1998), *no.* 4, 413–428. (Summary) **99k:68201** 68U10 (94A12)
— (*with* Murthy, C. A.; Kundu, Malay K.) Technique for fractal image compression using genetic algorithm. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 4, 586–593. (Summary) **99j:94011** 94A12 (94A29)
Mitra, Tapan (*with* Bala, Venkatesh; Majumdar, Mukul) Controlling chaos: some analytical results and applications to tatonnement. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 363–379. (Summary) **99a:90064** 90A16 (93C10)
— (*with* Ok, Efe A.) The measurement of income mobility: a partial ordering approach. (English summary) *Econom. Theory* **12** (1998), *no.* 1, 77–102. (Summary) **99i:90036** 90A40 (90A53)
— (*with* Sorger, Gerhard) Rationalizing policy functions by dynamic optimization. (English summary) *Econometrica* **67** (1999), *no.* 2, 375–392. (Lorenzo Peccati) **99k:90193** 90C39 (90A09)
Mitran, Ilie On the maximum probability criterion. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 169–178, *Transilvania, Cluj-Napoca*, 1997. (J. A. Rickard) **99c:90009** 90A05 (90D40)
Mitrana, Victor (*with* Dassow, Jürgen; Păun, Gheorghe) Szilard languages associated to cooperating distributed grammar systems. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 403–413. 68Q50 (68Q45)
— Eco-pattern systems. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 202–209, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (92B05, 92D40)
— On the interdependence between shuffle and crossing-over operations. (English summary) *Acta Inform.* **34** (1997), *no.* 4, 257–266. (Satoru Miyano) **99b:68116** 68Q45 (92D20)
— (*with* Dassow, Jürgen) The degree of parallelism in contextual grammars with the minimal competence strategy. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 3–16, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (Summary) **99i:68097** 68S05 (68Q45)
— Parallelism in contextual grammars. (English summary) *Fund. Inform.* **33** (1998), *no.* 3, 281–294. (Summary) **99g:68161** 68S05 (68Q45)
Mitrani, Isi ★ Probabilistic modelling. (English summary) *Cambridge University Press, Cambridge*, 1998. *x*+223 *pp. ISBN* 0-521-58530-9 (Publisher's description) **99d:60104** 60K25 (60–01, 60J10, 60K05)
Mitrea, A. I. The unbounded superdense divergence of numerical differentiation for extreme odd Chebyshev nodes. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 30–33. 65D25
Mitrea, Dorina (*with* Mitrea, Marius; Pipher, Jill) Vector potential theory on nonsmooth domains in $\mathbf{R}^3$ and applications to electromagnetic scattering. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 2, 131–192. (Margaret A. M. Murray) **99e:31009** 31B10 (31B20, 35Q60, 42B20, 78A45)
— (*with* Mitrea, Marius) Uniqueness for inverse conductivity and transmission problems in the class of Lipschitz domains. *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1419–1448. (Serge Lvin) **99f:35225** 35R30 (35J05)
Mitrea, Irina (*with* Mitrea, Marius) Monogenic Hardy spaces on Lipschitz domains and compensated compactness. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 3, 225–282. (Summary) **99a:42015** 42B30 (30D55, 30G35, 42B20)
Mitrea, Marius (*with* Mitrea, Dorina; Pipher, Jill) Vector potential theory on nonsmooth domains in $\mathbf{R}^3$ and applications to electromagnetic scattering. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 2, 131–192. (Margaret A. M. Murray) **99e:31009** 31B10 (31B20, 35Q60, 42B20, 78A45)
— (*with* Mitrea, Dorina) Uniqueness for inverse conductivity and transmission problems in the class of Lipschitz domains. *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1419–1448. (Serge Lvin) **99f:35225** 35R30 (35J05)
— (*with* Mitrea, Irina) Monogenic Hardy spaces on Lipschitz domains and compensated compactness. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 3, 225–282. (Summary) **99a:42015** 42B30 (30D55, 30G35, 42B20)
— (*with* Fabes, Eugene B.; Mendez, Osvaldo) Boundary layers on Sobolev-Besov spaces and Poisson's equation for the Laplacian in Lipschitz domains. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 323–368. (H. Triebel) **99j:35036** 35J25 (46E35, 46N20)
— (*with* Şabac, Florin) Pompeiu's integral representation formula. History and mathematics. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 211–226. (S. D. Chatterji) **99k:30001** 30–03 (01A60)
Mitreuter, U. G. (*with* Ford, Christopher; Tok, T.; Wipf, A.; Pawlowski, J. M.) Monopoles, Polyakov loops, and gauge fixing on the torus. (English summary) *Ann. Physics* **269** (1998), *no.* 1, 26–50. (Massimo Di Pierro) **99j:81119** 81T13 (53C80)
— (*with* Pawlowski, J. M.; Wipf, A.) Polyakov loops and fermionic zero-modes in QCD_2 on the torus. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 381–398. (Edwin Langmann) **99c:81136** 81T13 (81T10)
Mitreva, Mariya I. On the means of an entire function and its derivatives. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 1-2, 125–132. (Carl Prather) **99c:30056** 30D15
Mitrinović, Dragoslav S. *see* **Milovanović, Gradimir V., 99k:01068a**; **Đorđević, Radosav Ž., 99k:01068b** *and* **Dedicated to Professor Dragoslav S. Mitrinović**
Mitropol'skiĭ, Yuriĭ Alekseevich (*with* Berezovs'kiĭ, A. A.; Berezovs'kiĭ, M. A.) Free boundary problems for a nonlinear parabolic equation. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1360–1372; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1533–1547 (1998). (Summary) **99k:35198** 35R35 (35K60)
— (*with* Samoĭlenko, Anatoliĭ Mikhaĭlovich; Kalinovich, V. N.; Onishchenko, S. M.; Polishchuk, A. N.) On the work of V. N. Koshlyakov in mechanics and its applications. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1444–1453; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1622–1631 (1998). 70E15 (01A70)
— (*with* Boĭchuk, A. A.; Gaĭshun, I. V.; Izobov, N. A.; Il'in, Vladimir Aleksandrovich[1]; Perestyuk, N. A.) Anatoliĭ Mikhaĭlovich Samoĭlenko (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **34** (1998), *no.* 1, 3–6; *translation in Differential Equations* **34** (1998), *no.* 1, 1–4. (Editors) **99k:01046** 01A70
Mitrouli, Marilena (*with* Karcanias, N.; Koukouvinos, Christos) Numerical aspects for nongeneric computations in control problems and related applications. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 5–19. (Summary) **99b:65060** 65F35 (93B40)
— (*with* Kalogeropoulos, Gr.) Generalised linear discrete-time systems and matrix pencils algebraic duality. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 81–90. (Summary) **99h:93031** 93B25 (93C55)
— (*with* Koukouvinos, Christos) On the computation of the Smith normal form of compound matrices. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 95–105 (1998). (Wasin So) **99d:15009** 15A21
— (*with* Koukouvinos, Christos; Seberry, Jennifer) Numerical algorithms for the computation of the Smith normal form of integral matrices. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 127–162. (Summary) **99j:15020** 15A21
— (*with* Koukouvinos, Christos; Seberry, Jennifer) Necessary and sufficient conditions for some two variable orthogonal designs in order 44. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 267–287. (Summary) **99k:05040** 05B15
— (*with* Kalogeropoulos, Gr.) A matrix pencil approach computing the elementary divisors of a matrix: numerical aspects and applications. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 627–644. (Jaroslav Zemánek) **99h:65085** 65F30
— (*with* Karcanias, N.) Approximate algebraic computations of algebraic invariants. *Symbolic methods in control system analysis and design*, 135–168, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93B25)
— Numerical linear algebra techniques in control problems. (English summary) *Int. J. Appl. Math.* **1** (1999), *no.* 1, 91–102. 93C40 (65F30, 93C05)
Mitrović, Dragiša (*with* Žubrinić, Darko) ★ Fundamentals of applied functional analysis. (English summary) Distributions—Sobolev spaces—nonlinear elliptic equations. Pitman Monographs and Surveys in Pure and Applied Mathematics, 91. *Longman, Harlow*, 1998. x+399 *pp. ISBN* 0-582-24694-6 (J. Horváth) **99f:46001** 46–01 (35Jxx, 46N20, 47–01, 47F05)
Mitsopoulou, E. N. (*with* Doudoumis, I. N.) A class of sufficiently small friction coefficients for the uniqueness of the solution of the quasistatic contact problem. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 309–321. (Summary) **99f:73074** 73T05 (73V20)
Mitsui, Taketomo (*with* Feng, Bao-Feng) A finite difference method for the Korteweg-de Vries and the Kadomtsev-Petviashvili equations. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 95–116. (D. Schultz) **99m:65158** 65M06 (65M12)
— (*with* Saito, Yoshihiro[2]; Shingu, Kohei) A numerical solution method for Langevin diffusion equations (equations of KPZ types). (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 86–100. (*see* **99f:65007**) 65M06 (65U05, 82C31)
Mitsukawa, Atsushi (*with* Ikeda, Toshiharu) On a class of simple Lie algebras with a basis indexed by $\mathbf{Z}^2$. *Bull. Kyushu Inst. Technol. Pure Appl. Math. No.* 45 (1998), 17–23. (Oleg Smirnov) **99k:17019** 17B20
Mitsunari, Shigeo A special divisor on a double covering of a compact Riemann surface. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 4, 61–62. (R. F. Lax) **99c:14039** 14H30 (14C20)
Mittag, Laurence (*with* Stephen, Michael J.) Dual transformations in one-dimensional classical and quantum mechanics. (English summary) *J. Phys. A* **31** (1998), *no.* 20, *L*381–*L*389. (Summary) **99b:81069** 81Q99 (70H99)
Mittag-Leffler, Magnus Gösta *see* **Nabonnand, Philippe, 99m:01082**
Mittal, Madan Lal A sufficient condition for (F_1)-effectiveness of the C^1T-method. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 434–450. (Y. Sitaraman) **99f:42012** 42A24 (40C05, 40G05)
Mittal, S. (*with* Tezduyar, T.) A unified finite element formulation for compressible and incompressible flows using augmented conservation variables. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 229–243. (Summary) **99d:76061** 76M10
Mittas, Jean *M*- et quasi *M*-hypergroupes polysymétriques et 1-hypergroupes. (English summary) [*M*-polysymmetric and quasi-*M*-polysymmetric hypergroups and 1-hypergroups] *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 47–55, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (*see* **99d:53001**) 20N20
ramírez Mittelbrunn, J. *see* **Ramírez Mittelbrunn, J.**
Mittelstaedt, Peter Unifying quantum mechanics and its interpretation. Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 127–151. (*see* **99g:00024**) 81P05 (00A30)
— *see also* **Hendry, Robin Findlay**, (**99g:00024**)
Mittenhuber, Dirk Compression semigroups in semisimple Lie groups: a direct approach. *Positivity in Lie theory: open problems*, 165–183, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Michael Wüstner) **99j:22009** 22E15 (93B05)
Mitter, Sanjoy K. (*with* Zampieri, Sandro) Linear systems over Noetherian rings in the behavioural approach. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 26 *pp.* (*electronic*). (Summary) **99h:93032** 93B25 (93A30, 93C05)
— (*with* Richardson, T. J.) A variational formulation-based edge focussing algorithm. (English summary) *Sādhanā* **22** (1997), *no.* 4, 553–574. (Sisto Baldo) **99e:49015** 49J45 (68U10, 94A13)
— (*with* Branicky, Michael S.; Borkar, Vivek S.) A unified framework for hybrid control: model and optimal control theory. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 31–45. (Anton A. Stoorvogel) **99a:93007** 93A30 (49J27)
— (*with* Tannenbaum, Allen R.) The legacy of George Zames [1934–1997]. *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 590–595. 01A70
— (*with* Sahai, Anant) Information and control: Witsenhausen revisited. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 281–293, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B30

Mittmann, Katrin (*with* Manthey, Ralf) The initial value problem for stochastic reaction-diffusion equations with continuous reaction. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 4, 555–583. (Fred Espen Benth) **99e:60137** 60H15 (35K57, 35R60, 60H05)

— (*with* Manthey, Ralf) On a class of stochastic functional-differential equations arising in population dynamics. (English summary) *Stochastics Stochastics Rep.* **64** (1998), *no.* 1-2, 75–115. (Summary) **99e:60138** 60H15 (92D25)

Mittnik, Stefan (*with* Rachev, Svetlozar T.; Paolella, Marc S.) Stable Paretian modeling in finance: some empirical and theoretical aspects. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 79–110, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 90A09

— (*with* Rachev, Svetlozar T.; Kim, Jeong-Ryeol) Time series with unit roots and infinite-variance disturbances. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 69–74. 62M10

— (*with* Rachev, Svetlozar T.; Kim, Jeong-Ryeol) Chi-square-type distributions for heavy-tailed variates. (English summary) *Econometric Theory* **14** (1998), *no.* 3, 339–354. (Summary) **99b:62015** 62E15

Mittra, Raj (*with* Pekel, Ü.; Veihl, J.) A theoretical and numerical study of Berenger's perfectly matched layer (PML) concept for mesh truncation in time and frequency domains. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 1–19, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78027** 78A40 (78–08)

— (*with* Varadarajan, V. S.) Numerically efficient solution of dense linear system of equations arising in electromagnetic scattering problems. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 263–274, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65F10, 78A45)

— (*with* Kuzuoglu, Mustafa) Finite element solution of electromagnetic problems over a wide frequency range via the Padé approximation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 263–277. 78–08 (78A40)

Mityagin, B. (*with* Kappeler, Thomas) Gap estimates of the spectrum of Hill's equation and action variables for KdV. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 619–646. (Spyridon Kamvissis) **99d:35141** 35Q53 (34A55, 34L40, 35J10, 58F19)

Mityushev, Vladimir (*with* Barannik, L. F.; Kloskowska, B.) Invariant solutions of the multidimensional Boussinesq equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 62–69, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:35193** 35Q35

— On the construction of abelian differentials on closed Riemannian surface. *Shup. Pr. Mat. Przyr. Fiz. A* **11** (1997), 213–228. (Masahiko Taniguchi) **99j:30048** 30F30 (30F10)

— Conformal mapping of the domain bounded by a circular polygon with zero angles onto the unit disc. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 227–236. (F. W. Stallmann) **99d:30010** 30C20 (30E25)

— Hilbert boundary value problem for multiply connected domains. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 4, 283–295. (Summary) **99c:30071** 30E25

— Steady heat conduction of a material with an array of cylindrical holes in the nonlinear case. (English summary) *IMA J. Appl. Math.* **61** (1998), *no.* 1, 91–102. (N. L. Vulchanov) **99m:80010** 80A20 (35B27, 73B27)

Mitzenmacher, Michael (*with* Albers, Susanne) Average-case analyses of first fit and random fit bin packing. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 290–299, *ACM, New York*, 1998. (Summary) **99h:68070** 68Q25 (90C27)

— (*with* Luby, Michael G.; Shokrollahi, M. Amin) Analysis of random processes via And-Or tree evaluation. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 364–373, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (68T20, 94B60)

— (*with* Albers, Susanne) Average case analyses of list update algorithms, with applications to data compression. (English summary) *Algorithmica* **21** (1998), *no.* 3, 312–329. (Summary) **99c:68060** 68P10 (68Q25, 94A29)

— (*with* Adler, Micah; Chakrabarti, Soumen; Rasmussen, Lars Eilstrup) Parallel randomized load balancing. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 2, 159–188. (Mukkai S. Krishnamoorthy) **99m:68021** 68M20

Miu, Ying Hua *see* **Min, Ying Hua**

Miura, Hideaki (*with* Kida, Shigeo) Dynamics of vortex tubes in turbulence. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 121–130. (*see* **99e:76056**) 76F99 (76C05)

Miura, K. (*with* da Rocha, Armando Freitas; Rebello, M. P.) Toward a theory of molecular computing. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 123–157. (From the introduction) **99e:68039** 68Q05 (68Q45)

Miura, Kenjiro T. (*with* Zhang, Cai Ming; Cheng, Fuhua) A method for determining knots in parametric curve interpolation. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 4, 399–416. (Yu Yu Feng) **99g:65023** 65D17 (65Y25, 68U05)

— Interpolation of 3D points by unit quaternion integral curves. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2159–2167. (Summary) **99d:65029** 65D05 (65D17)

Miura, Kimio Finite sums containing Γ functions and a binomial coefficient. *Bull. Lib. Arts Sci. Nippon Med. Sch. No.* 23 (1997), 39–41. (From the text) **99e:33001** 33B15 (81V05)

Miura, Robert M. (*with* de Vries, Gerda) Analysis of a class of models of bursting electrical activity in pancreatic β-cells. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 607–635 (*electronic*). (Joseph So) **99f:92005** 92C30 (34C15, 34E10, 92C05)

Miura, Takashi Path integration for the Dirac particle. (English summary) *Path integrals: Dubna* '96, 374–378, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

Miura, Yasuhide On a completely positive projection on a non-commutative L^2-space. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 521–530. (Stanisław Goldstein) **99j:46077** 46L50 (46L10)

— Completely positive maps in noncommutative L^2-spaces. Recent topics in operator theory concerning the structure of operators (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 979 (1997), 57–74. (From the introduction) **99c:46078** 46L50

Miwa, Takuo (*with* Yoshimura, M.; Noiri, Takashi) A generalization of regular closed and g-closed functions. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 353–358. (Summary) **99k:54006** 54C10 (54D10)

— (*with* Buhagiar, David) Ordered uniform completions of GO-spaces. (English summary) *Topology Proc.* **22** (1997), 59–80. (Summary) **99i:54045** 54F05 (54D20, 54D35, 54E15)

— (*with* Buhagiar, David) Covering properties on maps. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 53–66. (Summary) **99a:54016** 54D20 (54C10, 54D15)

— (*with* Buhagiar, David; Pasynkov, Boris A.) Superparacompact type properties. (English summary) *Yokohama Math. J.* **46** (1998), *no.* 1, 71–86. (Summary) **99k:54013** 54D20 (54C10)

Miwa, Tetsuhisa (*with* Hayter, Anthony J.) Combining the advantages of one-sided and two-sided test procedures for comparing several treatment effects. (English summary) *J. Amer. Statist. Assoc.* **94** (1999), *no.* 445, 302–307. 62J10

Miwa, Tetsuji (*with* Weston, Robert) The monodromy matrices of the *XXZ* model in the infinite volume limit. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7509–7523. (Andrey V. Tsiganov) **99a:82021** 82B20 (17B81, 81R50, 82B23)

— Symmetry approach to the *XXZ* model. *Symétries quantiques* (*Les Houches*, 1995), 473–517, *North-Holland, Amsterdam*, 1998. (Andrei G. Bytsko) **99m:82015** 82B23 (17B37, 81R50)

— (*with* Feĭgin, B. L.; Jimbo, Michio; Odesskiĭ, A. V.; Pugai, Yaroslav) Algebra of screening operators for the deformed W_n algebra. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 501–541. (Jun'ichi Shiraishi) **99b:81075** 81R10 (17B68, 81T40)

— Solvable lattice models and representation theory of quantum affine algebras. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 359–379 (*electronic*). (Rinat Kedem) **99k:82023** 82B23 (17B37, 81R50)

— (*with* Hong, Jin; Kang, Seok-Jin; Weston, Robert) Mixing of ground states in vertex models. (English summary) *J. Phys. A* **31** (1998), *no.* 28, *L*515–*L*525. (Summary) **99e:82027** 82B23 (81R50)

— Half transfer matrices in solvable lattice models. *Particles and fields* (*Banff, AB*, 1994), 109–126, *CRM Ser. Math. Phys., Springer, New York*, 1999. (Anne Schilling) **99k:82024** 82B23 (17B37, 81R50, 82B20)

Miya, Kenzo (*with* Gilányi, Attila) Application of wavelet technique to electromagnetic boundary value problems. (English summary) *J. Grad. Sch. Fac. Eng. Univ. Tokyo Ser. B* **44** (1997), *no.* 1, 37–53. (Summary) **99a:78004** 78–08 (65N99, 78A25)

Miyachi, Akihiko On the extension properties of Triebel-Lizorkin spaces. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 273–301. (M. Yu. Vasil'chik) **99h:46055** 46E35

Miyachi, Jun-ichi Cohen-Macaulay approximations and Noetherian algebras. *Comm. Algebra* **26** (1998), *no.* 7, 2181–2190. (Dieter Happel) **99h:16030** 16G50 (13C14)

— Derived categories and Morita duality theory. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 2, 153–170. (Weimin Xue) **99d:16004** 16D30 (16D90)

Miyadera, Youzou (*with* Anzai, Koushi; Unno, Hiroshi; Yaku, Takeo) Depth-first layout algorithm for trees. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 187–194. (Summary) **99c:68253** 68U05

Miyagaki, Olimpio H. (*with* Carrião, Paulo C.; Pádua, João Carlos) Radial solutions of elliptic equations with critical exponents in $\mathbf{R}^N$. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 61–68. (Yong Qing Li) **99b:35051** 35J60 (35B05)

— (*with* Gonçalves, José Valdo Abreu) Multiple positive solutions for semilinear elliptic equations in $\mathbf{R}^N$ involving subcritical exponents. *Nonlinear Anal.* **32** (1998), *no.* 1, 41–51. (Xin Kang Guo) **99a:35066** 35J60 (35B05, 58E05)

— (*with* Carrião, Paulo C.; Gonçalves, José Valdo Abreu) Existence and λ-behavior of positive solutions of the equation $-\Delta u + a(x)u = \lambda u^q + u^p$ in $\mathbf{R}^N$. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 19–37. (Summary) **99j:35044** 35J60 (35B05, 58E05)

Miyagi, Mitsuhiro (*with* Honda, Tatsuhiro; Nishihara, Masaru; Yoshida, Mamoru) On the extension of polynomials of weak type. (English summary) *Fukuoka Univ. Sci. Rep.* **27** (1997), *no.* 1, 9–16. (Luiza Amália de Moraes) **99a:46083** 46G20 (46A32)

Miyagi, Sayuri (*with* Hashimoto, Yoshitake; Yasui, Yukinori; Ootsuka, Takayoshi) Applications of the Ashtekar gravity to four-dimensional hyper-Kähler geometry and Yang-Mills instantons. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5833–5839. (Andrew Swann) **99b:53067** 53C25 (53C07, 83C05)

Miyagi, Yashushi (*with* Kinjo, Yoshiyuki) Complete noncommutative integration of Hamiltonian systems. (English summary) *Ryukyu Math. J.* **11** (1998), 17–24. (Frans Cantrijn) **99m:58090** 58F05 (70H05)

Miyaji, Atsuko A message recovery signature scheme equivalent to DSA over elliptic curves. (English summary) *Advances in cryptology—ASIACRYPT* '96 (*Kyongju*), 1–14, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99h:94050** 94A60 (11T71)

Miyajima, Kimio Deformation theory of CR-structures and its application to deformations of isolated singularities. II. *CR-geometry and overdetermined systems* (*Osaka*, 1994), 247–275, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Aleksandr G. Aleksandrov) **99d:32024** 32G07 (32C16, 32S30, 32S45, 32S55)

— Deformations of strongly pseudoconvex CR structures and deformations of normal isolated singularities. (Japanese) CR geometry and isolated singularities (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1037 (1998), 49–62. (Kunio Takijima) **99k:32030** 32G07 (32S30)

Miyakawa, Masahiro Determination of the number of intersecting antichains on an n-cube. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 9–11. (*see* **99i:65003**) 05A15

Miyakawa, Tetsuro Notes on decay properties of nonstationary Navier-Stokes flows in $\mathbf{R}^n$. *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 17 *pp., Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Marek Capiński) **99e:35178** 35Q30 (35B40, 76D05)

— Application of Hardy space techniques to the time-decay problem for incompressible Navier-Stokes flows in $\mathbf{R}^n$. *Funkcial. Ekvac.* **41** (1998), *no.* 3, 383–434. (Didier Bresch) **99m:35190** 35Q30 (35B35, 76D05)

Miyake, Katsuya Class numbers and ideal class groups—old and new problems. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997).

Sūrikaisekikenkyūsho Kōkyūroku No. 1026 (1998), 1–11. (*see* **99d:11001**) 11R29

Miyake, Masatake Toeplitz operators in the analytic Goursat problem. Algebraic analysis methods in microlocal analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 983 (1997), 47–59. (V. S. Rabinovich) **99a:35026** 35G05 (47B35, 47F05)

Miyake, Mitsunobu On the incentive properties of multi-item auctions. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 1–19. (S. N. Alam) **99i:90043** 90A60 (90A10, 90A14, 90D80)

Miyakoda, Tsuyako On iterative methods for two-point boundary value problems of ordinary differential equations. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv, 1994)*, 109–116, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 65L06

— On the computation of the characteristic values of Mathieu's function. Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 65–69. (*see* **99h:65005**) 65D20

— (*with* Nishimoto, Katsuyuki) N-method to fractional differintegral equations $\varphi_{\pm 3/4} + \varphi \cdot a = f$ $(a \neq 0)$. (English summary) *J. Fract. Calc.* **15** (1999), 7–12. 26A33

Miyakoshi, Masaaki (*with* Imai, Hideyuki; Kikuchi, Ken[2]) Unattainable solutions of a fuzzy relation equation. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 193–196. (From the summary) **99f:04004** 04A72

— (*with* Kawaguchi, Mayuka F.) Composite fuzzy relational equations with non-commutative conjunctions. (English summary) *Inform. Sci.* **110** (1998), *no.* 1-2, 113–125. (Summary) **99f:03023** 03B52 (04A72)

Miyamoto, I. *see* **Miyamoto, Izumi**

Miyamoto, Ikuko (*with* Yoshida, Hidenobu) Particular solutions of the Dirichlet problem on a strip with continuous data. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 322–337, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Giovanni Crosta) **99j:31007** 31B10 (35C15, 35J05)

— (*with* Okuyama, Yasuo) On the generalized Nörlund summability of Fourier series and its conjugate series. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 561–574. (Niranjan Singh) **99k:42008** 42A24 (40G05)

— (*with* Yoshida, Hidenobu) Solutions of the Dirichlet problem on a cone with continuous data. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 71–93. (Vladimir S. Azarin) **99b:31005** 31B20 (35J25)

Miyamoto, Izumi (*with* Campbell, Colin Matthew; Robertson, Edmund; Williams, P. D.) The efficiency of $\mathrm{PSL}(2, p)^3$ and other direct products of groups. *Glasgow Math. J.* **39** (1997), *no.* 3, 259–268. (Julian Petresco) **99c:20037** 20F05 (20G40)

— (*with* Hanaki, Akihide) Classification of association schemes with 18 and 19 vertices. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 543–551. (Sung-Yell Song) **99m:05170** 05E30 (20B25)

— (*with* Metaftsis, Vasileios) One-relator products of two groups of order three with short relators. *Kyushu J. Math.* **52** (1998), *no.* 1, 81–97. (David I. Moldavanskiĭ) **99d:20045** 20F05 (20–04)

— (*with* Hanaki, Akihide) Classification of association schemes with 16 and 17 vertices. *Kyushu J. Math.* **52** (1998), *no.* 2, 383–395. (Paul-Hermann Zieschang) **99i:05207** 05E30 (62K10)

— (*with* Higuchi, Osamu) The 2-generators for certain simple permutation groups of small degree. (English summary) *SUT J. Math.* **34** (1998), *no.* 1, 63–74. (A. S. Kondrat'ev) **99f:20004** 20B05 (20F05)

Miyamoto, John M. (*with* Wakker, Peter) Multiattribute utility theory without expected utility foundations. (English summary) *Oper. Res.* **44** (1996), *no.* 2, 313–326. (Summary) **99j:90023** 90A43 (90A10)

Miyamoto, Masahiko Introduction to vertex operator algebras and representations of code vertex operator algebras. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 121–133. (*see* **99a:00029**) 17B69

— Representation theory of code vertex operator algebra. (English summary) *J. Algebra* **201** (1998), *no.* 1, 115–150. (Hai Sheng Li) **99a:17028** 17B69

Miyamoto, Sadaaki (*with* Umayahara, Kazutaka) Two methods of fuzzy c-means and classification functions. (English summary) *Advances in data science and classification (Rome, 1998)*, 105–110, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

— Fuzzy multisets and a rough approximation by multiset-valued function. *Rough sets in knowledge discovery*, 1, 141–159, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 04A72

Miyamoto, Takashi[1] (*with* Ohmori, Hiroyuki) Construction of weighing matrices $W(17, 9)$ having the intersection number 8. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 259–269. (Jennifer Seberry) **99i:05048** 05B20

Miyanishi, Masayoshi (*with* Aoki, Hisayo) Finitely generated algebras associated with rational vector fields. *J. Algebra* **198** (1997), *no.* 2, 481–498. (R. V. Gurjar) **99b:13007** 13B10

— (*with* Yang, Jin-Gen) Surfaces of general type whose canonical map is composed of a pencil of genus 3 with small invariants. *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 123–149. (Caryn Werner) **99h:14041** 14J29

Miyanisi, Yosihisa Asymptotic behavior of eigenfunctions and classical ergodicity (necessary and sufficient conditions on semiclassical eigenfunctions for general Hamiltonian systems to be ergodic). (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 138–154. (*see* **99a:00049**) 58G18 (81Q20)

Miyano, Eiji (*with* Iwama, Kazuo; Kambayashi, Yahiko) New bounds for oblivious mesh routing. (English summary) *Algorithms—ESA '98 (Venice)*, 295–306, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68017** 68M10

— (*with* Iwama, Kazuo; Tajima, Satoshi; Tamaki, Hisao) Efficient randomized routing algorithms on the two-dimensional mesh of buses. (English summary) *Computing and combinatorics (Taipei, 1998)*, 229–240, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68M10

— (*with* Iwama, Kazuo) Better approximations of non-Hamiltonian graphs. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 239–261. (Mirosław Truszczyński) **99b:68097** 68Q25 (05C45, 05C85)

Miyano, Satoru (*with* Akutsu, Tatsuya; Kuhara, Satoru; Maruyama, Osamu) Identification of gene regulatory networks by strategic gene disruptions and gene overexpressions. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 695–702, *ACM, New York*, 1998. (*see* **99d:68011**) 92D10 (68T05, 92D20)

— *see also* **Symposium: Algorithms and Computation, 99d:68013**

Miyasaka, Takashi (*with* Yasukura, Osami; Yokota, Ichiro) Diagonalization of an element P of $\mathfrak{p}^C$ by the compact Lie group E_7. *Tsukuba J. Math.* **22** (1998), *no.* 3, 687–703. (Mark R. Sepanski) **99k:22013** 22E15

Miyasato, Yoshihiko (*with* Ohmori, Hiromitsu) Trends in adaptive control theory. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 6, 287–299. 93–02 (93C40)

— Nonlinear adaptive control for systems with unknown degrees and uncertain relative degrees. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 330–340. 93C40 (93C41)

Miyashiro, Akira (*with* Takimoto, Eiji; Maruoka, Akira; Sakai, Yoshifumi) Learning orthogonal F-Horn formulas. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 177–190. (John Shawe-Taylor) **99f:68174** 68T05 (03B05, 68Q25)

Miyata, Takahisa Uniform Vietoris-Begle theorems. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 39–47. (Summary) **99g:54023** 54E15 (55N05)

Miyata, Y. *see* **Miyata, Yoshimasa**

Miyata, Yoichiro Spectral geometry of Kähler hypersurfaces in the complex Grassmann manifold. Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 95–110. (Novica Blažić) **99c:58163** 58G25 (53C55)

Miyata, Yoshimasa On the module structure of rings of integers in p-adic number fields over associated orders. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 199–212. (Nigel Byott) **99b:11132** 11S23 (11R33)

Miyazaki, Hitoshi (*with* Tsutsui, Izumi) Quantum mechanically induced Wess-Zumino term in the principal chiral model. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 3017–3024. (Summary) **99h:81195** 81T40

Miyazaki, Katura (*with* Motegi, Kimihiko) Seifert fibered manifolds and Dehn surgery. II. *Math. Ann.* **311** (1998), *no.* 4, 647–664. (Ying Qing Wu) **99g:57010** 57M25 (57N10)

— Band-sums are ribbon concordant to the connected sum. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3401–3406. (Daniel Silver) **99a:57008** 57M25 (57Q60)

Miyazaki, Masamichi (*with* Fukamachi, Shuichi; Takeda, Masayuki; Shinohara, Takeshi) Speeding up the pattern matching machine for compressed texts. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 9, 2638–2648. (Summary) **99h:68061** 68Q20 (68P20)

Miyazaki, Naoya A remark on the Maslov form on the group generated by invertible Fourier integral operators. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 1, 35–41. (Min You Qi) **99c:58152** 58G15 (22E65, 35S50, 58F06)

— Maslov form on the group generated by invertible Fourier integral operators. Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 66–75. (*see* **99d:00021**) 58G15

— On a certain class of oscillatory integral transformations which determine canonical graphs. *Japan. J. Math. (N.S.)* **24** (1998), *no.* 1, 61–81. (Naoya Miyazaki) **99f:58200** 58G15 (22E65)

— (*with* Ōmori, Hideki; Maeda, Yoshiaki; Yoshioka, Akira) Deformation quantizations of the Poisson algebra of Laurent polynomials. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 2, 171–180. (Summary) **99k:58078** 58F06 (58H15)

Miyazaki, Rinko Characteristic equation and asymptotic behavior of delay-differential equation. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 471–481. (Luiz Fichmann) **99b:34124** 34K20 (34K25)

Miyazaki, Shigeji (*with* Lee, Kyo-Won; Ishii, Hiroaki[1]; Han, Sang-Su) Fuzzy scheduling problem on a multiprocessor system with memories. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 139–144. 90B35 (68M20, 90C70)

Miyazaki, T. *see* **Miyazaki, Teruo**

Miyazaki, Takeshi (*with* Lifschitz, Alexander E.; Fabijonas, B.) A new class of instabilities of rotating flows. (English summary) Dynamics and statistics of concentrated vortices in turbulent flow (Carry-le-Rouet, 1997). *Eur. J. Mech. B Fluids* **17** (1998), *no.* 4, 605–613. (Summary) **99g:76146** 76U05 (76E99, 76F99)

— (*with* Adachi, Kei) Short-wavelength instabilities of waves in rotating stratified fluids. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3168–3177. (Summary) **99g:76147** 76U05 (76E99, 76V05)

Miyazaki, Takuya The generalized Whittaker functions for several admissible representations of $\mathrm{Sp}(2, \mathbf{R})$. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 7, 130–133. (Leticia Barchini) **99a:22027** 22E46

— Geometric automorphic forms and spherical functions related to them. II. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 195–203. (Takao Watanabe) **99i:11032b** 11F55 (11F70, 22E45)

— (*with* Oda, Takayuki) Principal series Whittaker functions on $\mathrm{Sp}(2; \mathbf{R})$. II. (English summary) *Tohoku Math. J. (2)* **50** (1998), *no.* 2, 243–260. (Paolo Casati) **99d:22027** 22E46 (33C80)

Miyazaki, Teruo (*with* Priĭmak, V. G.) Accurate Navier-Stokes investigation of transitional and turbulent flows in a circular pipe. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 370–411. (Summary) **99a:76118** 76M25 (76F99)

Miyazaki, Yutaka Semigroup semantics for orthomodular logic. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 14–27. (*see* **99d:03003**) 03G12 (81P10)

Miyazawa, Haruko A. (*with* Okamoto, Miyuki) Quantum SU(3) invariants derived from the linear skein theory. *KNOTS '96 (Tokyo)*, 299–308, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99k:57039** 57N10 (17B37, 57M25)

Miyazawa, Masakiyo Structure-reversibility and departure functions of queueing networks with batch movements and state dependent routing. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 45–75. (Richard F. Serfozo) **99a:60107** 60K25 (90B22)

— (*with* Chao, Xiuli; Serfozo, Richard F.; Takada, H.) Markov network processes with product form stationary distributions. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 4, 377–401. (Peter Gerrard Taylor) **99m:60142** 60K25 (68M20, 90B12)

— *see also* **Performance evaluation of information communication networks, 99a:90008**

Miyazawa, Toru Algebraic approach to scattering theory of the Fokker-Planck equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2035–2076. (Pierre C. Sabatier) **99g:82061** 82C31 (34L25)

Miyazawa, Yasuyuki (*with* Kanenobu, Taizo) HOMFLY polynomials as Vassiliev link invariants. (English summary) *Knot theory (Warsaw*, 1995), 165–185, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57024** 57M25

— The Jones polynomial of an unknotting number one knot. (English summary) *Topology Appl.* **83** (1998), *no.* 3, 161–167. (Mark R. Woodard) **99b:57016** 57M25

Miyoshi, Naoto (*with* Horibe, Daiji) Application of smoothed perturbation analysis to a discrete-time stationary queue. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 152–165. (Summary) **99b:60158** 60K25 (90B22)

— Gradient estimation for stochastic discrete event systems by perturbation analysis. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 440–446. (*see* **99g:93006**) 93E10 (93C83)

— The idea of ordinal optimization for stochastic systems. (Japanese) *Systems Control Inform.* **43** (1999), *no.* 3, 149–152. 90C15 (93E20)

Miyoshi, Tetsuya (*with* Ohtani, Takashi; Ichihashi, Hidetomo; Nagasaka, Kazunori) Orthogonal and successive projection methods for the learning of neurofuzzy GMDH. (English summary) *Inform. Sci.* **110** (1998), *no.* 1-2, 5–24. 68T05

— (*with* Ichihashi, Hidetomo; Nagasaka, Kazunori) Fuzzy projection pursuit density estimation by eigenvalue method. (English summary) *Internat. J. Approx. Reason.* **20** (1999), *no.* 3, 237–248. (Summary) **99m:62061** 62G07

— (*with* Kanaumi, Yoshihiko; Yamakawa, Asuka; Ichihashi, Hidetomo) Simultaneous application of fuzzy clustering and correspondence analysis. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 3, 191–198. 62H30 (68T10)

Mizel, V. J. (*with* Peletier, L. A.; Troy, William C.) Periodic phases in second order materials, and higher order model equations. *Progress in partial differential equations, Vol. 2 (Pont-à-Mousson*, 1997), 32–43, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Naoyuki Ishimura) **99g:73031** 73C50 (35Q72, 49J10, 73B05, 73V25)

— (*with* Peletier, L. A.; Troy, William C.) Periodic phases in second-order materials. *Arch. Ration. Mech. Anal.* **145** (1998), *no.* 4, 343–382. (Matthias Wilhelm Winter) **99j:73011** 73B30 (34B15, 34C25, 49J45, 73V25, 80A22)

Mizera, Ivan (*with* Wellner, Jon A.) Necessary and sufficient conditions for weak consistency of the median of independent but not identically distributed random variables. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 672–691. (Gutti J. Babu) **99d:62020** 62F12 (62E20)

— (*with* Dufour, Jean-Marie; Hallin, Marc) Generalized runs tests for heteroscedastic time series. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 1, 39–86. (Summary) **99a:62128** 62M10 (62G10)

Mizera-Florczak, B. (*with* Gajek, Lesław) Information inequalities for the minimax risk of sequential estimators (with applications). (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 1, 85–100. (Mayer Alvo) **99e:62137** 62L12 (62C20)

Mizner, Robert (*with* Garrity, Thomas) The equivalence problem for higher-codimensional CR structures. (English summary) *Pacific J. Math.* **177** (1997), *no.* 2, 211–235. (Summary) **99b:32007** 32C16

Mizobuchi, Shoji (*with* Ando, Kazuaki; Shishibori, Masami; Aoe, Jun-ichi) Efficient multi-attribute pattern matching. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 21–38. (Summary) **99c:68105** 68Q20 (68Q25)

Mizoguchi, Noriko (*with* Yanagida, Eiji) Critical exponents for the decay rate of solutions in a semilinear parabolic equation. (English summary) *Arch. Ration. Mech. Anal.* **145** (1998), *no.* 4, 331–342. (Summary) **99j:35097** 35K55 (35B40)

— (*with* Yanagida, Eiji) Critical exponents for the blowup of solutions with sign changes in a semilinear parabolic equation. II. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 295–331. (Hongwei Chen) **99d:35076** 35K55 (35B05)

— (*with* Ninomiya, Hirokazu; Yanagida, Eiji) Critical exponent for the bipolar blowup in a semilinear parabolic equation. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 495–518. (Nobuyuki Kenmochi) **99c:35122** 35K60 (35B40)

— (*with* Yanagida, Eiji) Blowup and life span of solutions for a semilinear parabolic equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1434–1446 (*electronic*). (Lubomira G. Softova) **99h:35103** 35K57 (35B40)

Mizoguchi, Shun'ya (*with* Gebert, Reinhold W.) BPS saturation from null reduction. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2165–2171. (Sergey Nikolaevich Roshchupkin) **99h:83048** 83E15 (83E50)

— E_{10} symmetry in one-dimensional supergravity. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 238–264. (Ilya Shapiro) **99h:83062** 83E50 (17B81)

— (*with* Ohta, Nobuyoshi) More on the similarity between $D = 5$ simple supergravity and M theory. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 123–132. (Summary) **99j:83070** 83E30 (81T30, 83E50)

Mizohata, Kiyoshi Kinetic formulations of the compressible Euler equation with spherical symmetry. Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 109–118. (Thierry Goudon) **99i:76135** 76N10 (35Q30, 76P05)

— *see also* **Proceedings: Symposium on Applied Mathematics, 99a:00043**

Mizokami, Takemi (*with* Fisher, S. G.; Gartside, P. M.; Shimane, Norihito) Near metric properties of hyperspaces. (English summary) *Topology Proc.* **22** (1997), 197–211. (Summary) **99h:54014** 54B20 (54E20)

— (*with* Shimane, Norihito) On perfect mappings between hyperspaces of compact subsets. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 391–399. 54E20 (54C35)

— (*with* Shimane, Norihito) On D-paracompact p- and Σ-spaces. *Tsukuba J. Math.* **22** (1998), *no.* 2, 379–392. (R. M. Stephenson, Jr.) **99k:54016** 54D20 (54C10, 54E18, 54E30)

Mizon, Grayham E. (*with* Ericsson, Neil R.; Hendry, David Forbes) Exogeneity, cointegration, and economic policy analysis. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 370–387. 62P20 (62M10)

Mizuhara, Akira Left invariant indefinite Riemannian metrics with constant sectional curvature on Lie groups. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 143–154. (O. Kowalski) **99e:53068** 53C30 (53C05)

Mizuhara, Takahiro (*with* Arai, Hitoshi) Morrey spaces on spaces of homogeneous type and estimates for $\Box_b$ and the Cauchy-Szegő projection. (English summary) *Math. Nachr.* **185** (1997), 5–20. (Gerald B. Folland) **99d:42021** 42B20 (42B25, 43A80, 46E30, 47G10)

Mizui, Masayuki (*with* Kuratsuji, Hiroshi; Tochishita, Teruyuki) Quantum mechanics of guiding center motion in strong magnetic field (coherent state path integral approach). (English summary) Conference on Geometry and Mathematical Physics (Zlatograd, 1995). *Serdica Math. J.* **23** (1997), *no.* 2, 177–186. (Jiu Qing Liang) **99g:81078** 81R30 (81S40)

Mizukami, Koichi (*with* Suzumura, Fumihiro) Suboptimal control strategy with output feedback from with two-criteria control problems. (Japanese. English summary) *Bull. Fac. Eng. Hiroshima Univ.* **44** (1995), *no.* 1, 17–22. 49K15 (90C29)

— (*with* Zhang, Suyu) Simultaneous robust stabilization control for a collection of systems with uncertainty. (English summary) *Bull. Fac. Eng. Hiroshima Univ.* **45** (1996), *no.* 1, 29–35. 93D21 (93C42)

— (*with* Watanabe, Miyoko) Stability of decentralized control for a LQG large-scale interconnected system with uncertainty. (Japanese. English summary) *Bull. Fac. Eng. Hiroshima Univ.* **47** (1998), *no.* 1, 13–20. 93D05 (93A14)

— (*with* Xu, Hua; Kobara, Michihiko) Memoryless equilibrium strategies in multilevel decision processes of discrete-time descriptor systems. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 81–103. (Krzysztof Malinowski) **99k:93008** 93A13 (90A14, 90D05)

— (*with* Hashimoto, Yuki; Wu, Hansheng) Robust output tracking of nonlinear systems with mismatched uncertainties. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 411–417. (Summary) **99k:93084** 93D21 (93C41)

— (*with* Wu, Hansheng; Zhang, Suyu) Robust stability conditions for large-scale interconnected systems with structured and unstructured uncertainties. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 70–96. (Ji Tao Sun) **99m:93078** 93D09 (93A14)

Mizuki, Takaaki (*with* Shizuya, Hiroki; Nishizeki, Takao) Eulerian secret key exchange (extended abstract). (English summary) *Computing and combinatorics (Taipei*, 1998), 349–360, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 94A60

Mizumachi, Hitoshi (*with* Satô, Hiroshi[1]) Absolute continuity of a two-valued random translation of a Gaussian sequence. *Trends in probability and related analysis (Taipei*, 1996), 233–246, *World Sci. Publishing, River Edge, NJ*, 1997. (M. P. Eršov) **99m:60068** 60G30

— (*with* Satô, Hiroshi[1]) Absolute continuity of two-valued stochastic parallel translations of a Gaussian measure. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 95–110. (*see* **99i:00029**) 28C20 (46G12, 60G15)

Mizumoto, Ikuro (*with* Iwai, Zenta) Simplified adaptive model output following control for plants with unmodelled dynamics. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 61–80. 93C40 (93C41)

Mizumoto, Masaharu (*with* Yan, Shi; Yubazaki, Naoyoshi) An improvement of fuzzy rules generation based on fuzzy c-means clustering algorithm. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 4, 395–405 (1998). 68T05

Mizumoto, Shin-ichiro Nearly holomorphic Eisenstein liftings. (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 82–88. (Yasushi Tokuno) **99d:11044** 11F37 (11F67)

Mizuno, Kazunori (*with* Kanoh, Hitoshi; Nishihara, Seiichi) Solving constraint satisfaction problems by an adaptive stochastic search method. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 8, 2413–2420. 68T20

Mizuno, Naoki (*with* Yamada, Manabu; Riadh, Zaier) Adaptive zero phase error tracking controller with extended gain characteristics. (English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 306–315. 93B55 (90C40)

Mizuno, Shinji Infeasible–interior-point algorithms. (English summary) *Interior point methods of mathematical programming*, 159–187, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05

— (*with* Jarre, Florian) Global and polynomial-time convergence of an infeasible-interior-point algorithm using inexact computation. (English summary) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 22–35. (Shu Zhong Zhang) **99a:90125** 90C05

— (*with* Kojima, Masakazu; Megiddo, Nimrod) A conjugate direction method for approximating the analytic center of a polytope. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 181–194. (Shu Zhong Zhang) **99m:90100** 90C08 (15A39, 52B55)

— (*with* Stoer, Josef; Wechs, Martin) High order infeasible-interior-point methods for solving sufficient linear complementarity problems. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 832–862. (Jie Sun) **99j:90101** 90C33

— (*with* Megiddo, Nimrod; Tsuchiya, Takashi) A modified layered-step interior-point algorithm for linear programming. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 339–355. (S. S. Chadha) **99h:90063** 90C05

— Homotopy methods and interior-point methods. (Japanese. English and Japanese summaries) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 2, 335–343. 90C30 (90C08)

Mizushima, Jiro (*with* Adachi, Takahiro) Instability of a flow in a rectangular pipe and its transition to turbulence. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 202–214. (*see* **99k:76004**) 76E99 (76F99)

Mizuta, Hideyuki (*with* Sekine, Tatsuo; Tezuka, Shu) Acceleration of low-discrepancy sequences. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 84–91. (*see* **99i:00028**) 90A09

Mizuta, S. Critical learning rates and exact learning of a perceptron with linear units. (English summary) *Bull. Fac. Sci. Technol. Hirosaki Univ.* **1** (1998), *no.* 1, 85–91. (Summary) **99j:68118** 68T05 (92B20)

Mizuta, Yo Description of the spike set of a free surface wave on a magnetic fluid. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 122–133. (*see* **99a:00032**) 76W05

Mizuta, Yoshihiro (*with* Shimomura, Tetsu) Exponential integrability for Riesz potentials of functions in Orlicz classes. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 355–371. (Petr Gurka) **99h:31012** 31B15 (46E35)

— (*with* Shimomura, Tetsu) Boundary limits of spherical means for BLD and monotone BLD functions in the unit ball. (English summary) *Ann. Acad. Sci. Fenn. Math.* **24** (1999), *no.* 1, 45–60. (Stephen J. Gardiner) **99m:31012** 31B25

Mizutani, Jiro (*with* Shibuya, Tomoharu; Sakaniwa, Kohichi) On generalized Hamming weights of codes constructed on affine algebraic sets. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 311–320, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99h:94068** 94B27 (13P10, 94B65)

Mizutani, Masashi (*with* Tanaka, Satoshi[1]; Namiki, Mikio; Ohba, Ichiro; Komoike, Nobuyuki; Kanenaga, Masahiko) Stochastic quantization of bottomless systems based on kerneled Langevin equation. (English summary) *Comm. Theoret. Phys. (Allahabad)* **5** (1996), *no.* 2, 105–124 (1997). (Summary) **99b:82078** 82C31

Mjølhus, Einar (*with* Wikan, Arild) Overcompensatory recruitment and generation delay in discrete age-structured population models. (English summary) *J. Math. Biol.* **35** (1996), *no.* 2, 195–239. (R. K. Watson) **99c:92048** 92D25

Mjolsness, Eric (*with* Miranker, Willard L.) A Lagrangian formulation of neural networks. I. Theory and analog dynamics. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 3, 297–335. (Clark Jeffries) **99m:68014a** 68M07 (90C90)

— (*with* Miranker, Willard L.) A Lagrangian formulation of neural networks. II. Clocked objective functions and applications. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 3, 337–371. (Clark Jeffries) **99m:68014b** 68M07 (90C90)

Mkhadri, Abdallah On the rate of convergence of the ECME algorithm. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 81–87. (Summary) **99b:62033** 62F12

Mkrtchyan, L. R. (*with* Belubekyan, M. V.) On allowance for shears and rotation inertia in the problem of free oscillations of a plate. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 4, 237–242 (1994). 73K15 (73D30)

Mkrtchyan, M. A. On the number of distinct zeros of a polynomial. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **31** (1996), *no.* 6, 87–88 (1998); *translation in J. Contemp. Math. Anal.* **31** (1996), *no.* 6, 78–79 (1997). 30C15

Mkrtchyan, R. L. (*with* Manvelyan, R.; Melikyan, A. O.) Representations and BPS states of 10 + 2 superalgebra. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2147–2152. (Sergey Nikolaevich Roshchupkin) **99h:81175** 81T30 (81R05)

— (*with* Manvelyan, R.; Melikyan, A. O.) Light-cone formulation of the D2-brane. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 277–281. (Summary) **99a:81147** 81T30

— (*with* Manvelyan, R.; Melikyan, A. O.; Müller-Kirsten, H. J. W.) Light-cone formulation of super D2-brane. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 86–91. (Summary) **99h:81176** 81T30

Mladenov, D. M. (*with* Gogilidze, S. A.; Khvedelidze, A. M.; Pervushin, V. N.) On Hamiltonian framework for Bianchi IX cosmology. Abelianization of constraints. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 299–303, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 83C05 (83C20)

— (*with* Gogilidze, S. A.; Khvedelidze, A. M.; Pavel, H.-P.) Hamiltonian reduction of SU(2) Dirac-Yang-Mills mechanics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7488–7500. (Summary) **99k:81132** 81S10 (58F05, 81T13)

Mladenov, V. M. (*with* Leenaerts, D. M. W.; Uhlmann, F. H.) Estimation of the basin of attractions in CNN's. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 571–574. (Summary) **99b:92005** 92B20 (58F40, 68T05)

Mladenović, Nenad (*with* Hansen, Pierre; Taillard, Éric) Heuristic solution of the multisource Weber problem as a p-median problem. (English and French summaries) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 55–62. 90C25 (90B80)

— (*with* Pérez-Brito, Dionisio; Moreno, José A.) A note on spanning trees for network location problems. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, 129–135. (Summary) **99a:90115** 90B80 (90C27)

M'lan, C.-É. (*with* Genest, C.) Deriving priorities from the Bradley-Terry model. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 4, 87–102. (Summary) **99m:90027** 90A09 (90A06)

Mlitz, R. (*with* Sands, A. D.; Wiegandt, Richárd) Radicals coinciding with the von Neumann regular radical on Artinian rings. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 229–239. (Andrei Kelarev) **99d:16025** 16N80

Młynarska, Elżbieta Sufficient optimality conditions and the dual dynamic programming for the calculus of variations. (English summary) *Control Cybernet.* **26** (1997), *no.* 4, 641–652. (Rolf Klötzler) **99f:49042** 49L20 (49K05, 49K15)

Mnatsakanova, M. N. (*with* Vernov, Yu. S.) Properties of the algebra of q-deformed commutators in a space with an indefinite metric. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 355–368; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1497–1507 (1998). (Pavel Šťovíček) **99f:81102** 81R50 (17B37, 47B50, 47N50, 81S05)

— (*with* Morchio, Gianni; Strocchi, Franco; Vernov, Yu. S.) Irreducible representations of the Heisenberg algebra in Krein spaces. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2969–2982. (Gerald Hofmann) **99j:81080** 81S05 (22E27, 46C20, 47B50, 47N50)

Mnukhin, V. B. The k-orbit reconstruction for abelian and Hamiltonian groups. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 149–162. (B. Manvel) **99i:20006** 20B27 (05C60)

Mo, Guo Duan (*with* Liu, Kai Di) Approximation by rational functions in closed bounded sets in the complex plane. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 48–52. 30E10

— (*with* Liu, Kai Di) The distributions of the zeroes of the zeta-function and its derivative. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 14–18. (Xian-Jin Li) **99f:11111** 11M26

Mo, Hai Ping The Fredholm property for a class of Toeplitz operators on $H(\mathbf{T})$. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 35–38. (Shunhua Sun) **99g:47053** 47B35 (47A53)

Mo, Jia Qi (*with* Zhang, Xiang[3]) A singular perturbation problem for higher-order quasilinear elliptic equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 544–550. (Jun Yu Wang) **99d:35015** 35B25 (35J65)

— (*with* Zhang, Wei Jiang) The asymptotic behavior of solutions to a class of singularly perturbed reaction-diffusion problems. (Chinese) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 623–627. (Xiao Biao Lin) **99c:35016** 35B25 (35K57)

— (*with* Chen, Yu Sen) A class of singular perturbation problems for reaction-diffusion equations with nonlocal boundary conditions. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 25–30. (Summary) **99e:35108** 35K57 (35B25)

— (*with* Wu, Qin Kuan) A class of singular perturbation problems with nonlocal boundary conditions for semilinear elliptic equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 283–288. (Summary) **99k:35016** 35B25 (35J60)

— (*with* Zhang, Wei Jiang) A class of singularly perturbed boundary value problems for higher-order elliptic equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 315–320. (Zong Chi Lin) **99m:35020** 35B25 (35J40, 35J65)

— A class of nonlocal reaction-diffusion problems. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 111–113. (Weihua Ruan) **99j:35107** 35K57

— (*with* Zhang, Han Lin) Singularly perturbed problems for nonlocal semilinear elliptic equations. (Chinese) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 471–473. 35B25 (35J65)

— The singularly perturbed nonlocal boundary value problems for higher order nonlinear elliptic equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 1–7. (C. A. Swanson) **99e:35010** 35B25 (35C20, 35J65)

— (*with* Huang, Wei Zhang[2]) The singularly perturbed nonlinear elliptic integral differential equations of fourth order. (English summary) *Chinese Quart. J. Math.* **13** (1998), *no.* 2, 79–83. 35B25 (35J60, 45K05)

— A class of singularly perturbed nonlinear elliptic systems in unbounded domain. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 520–522. 35B25 (35J60)

— (*with* Huang, Wei Zhang[2]) Singularly perturbed problems for reaction-diffusion equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 80–82. (Summary) **99k:35015** 35B25 (35K57)

— A singularly perturbed problem for stable supersonic flow. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 2, 245. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 2, 153–157. 34B15 (34E15, 76J20)

— A class of singularly perturbed boundary value problems for nonlinear differential systems. (English summary) *Systems Sci. Math. Sci.* **12** (1999), *no.* 1, 55–58. (Summary) **99k:34048** 34B15 (34E15)

Mo, Jing Liang (*with* Zhai, Dong Hua) Estimation of financial risk of health insurance. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 3, 10–13. 90A09

Mo, Shao Kui A new treatment of multivalued functions. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 1, 1–9. 30F99 (26E25)

Mo, Xiaohuan A characterization of harmonic surfaces in $\mathbf{CP}^n$ with special constant Kähler angle. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 3, 277–281. (Yuan-Jen Chiang) **99a:58050** 58E20

— Harmonic two-spheres in $\mathbf{CP}^n$ with antipodal symmetry and complementation. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 3, 273–281. (Yuan-Jen Chiang) **99a:58051** 58E20

— Characterization and structure of Finsler spaces with constant flag curvature. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 910–917. (Zhongmin Shen) **99j:53092** 53C60 (53C25)

Mo, Xiaokang (*with* Chi, Quo-Shin) The moduli space of branched superminimal surfaces of a fixed degree, genus and conformal structure in the four-sphere. *Osaka J. Math.* **33** (1996), *no.* 3, 669–696. (From the introduction) **99a:58021** 58D27 (14D20, 53C42, 58E20)

Mo, Yu Ren (*with* Ge, Wei Gao) Existence of solutions to differential-iterative equation. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 3, 192–200. (Alberto Cabada) **99a:34174** 34K05 (47H15, 47N20)

— (*with* Ge, Wei Gao) Existence and bifurcation of solutions to differential-iterative equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 113–122. (Summary) **99b:34116** 34K15

Mo, Ze Yao (*with* Li, Xiao Mei) The effects of Jacobi components along pseudoboundaries in the block by block relaxation operator. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 251–262. 65N55 (65M55)

— (*with* Li, Xiao Mei; Zhang, Bao Lin[1]) Parallel multigrid algorithms for high Reynolds number incompressible Navier-Stokes equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 135–143. 65M55 (65Y05, 76M25)

— (*with* Li, Xiao Mei) On the effects of Jacobi components along pseudo-boundaries during parallel multigrid computations. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 9–18. 65N55

Mo, Zhi Wen (*with* Shu, Lan) Max-product fuzzy grammars and automata. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 18–22. 68Q45 (03D05, 03E72)

— (*with* Shu, Lan; Xu, Biao) A survey of the theory and applications of fuzzy mathematics. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 330–335. 03E72

Mo, Zhong Xi The SLDF algorithm for solving shortest path problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 41–46. (Summary) **99m:05089** 05C38 (05C85)

turki-Moalla, Kaoukeb *see* **Turki-Moalla, Kaoukeb**

Moallem, M. (*with* Khorasani, K.; Patel, Rajnikant V.) Inversion-based sliding control of a flexible-link manipulator. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 477–490. 93C85 (70B15, 70Q05)

Moatimid, Galal M. (*with* El-Dib, Yusry O.) Effects of an external periodic body force on the interfacial stability of a nematic layer. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 413–429. (Summary) **99f:76015** 76A15

Mobio, Akichi Joseph Influence de la structure générale des forces sur la stabilité de l'équilibre. (English and French summaries) [Influence of the general structure of

forces on the stability of equilibrium] *Afrika Mat.* (3) **9** (1998), 67–72. (P. Hagedorn) **99c:73036** 73H10 (34D20, 70J25, 70K15)

Möbius, Michael Wie erkennt man eine Fibonacci Zahl? (German summary) [How can one tell a Fibonacci number?] *Math. Semesterber.* **45** (1998), *no.* 2, 243–246. (Pentti Haukkanen) **99m:11012** 11B39

Mocanu, Petru T. (*with* Al-Amiri, Hassoon) Some simple criteria of starlikeness and convexity for meromorphic functions. *Mathematica* **37(60)** (1995), *no.* 1-2, 11–20. (R. Parvatham) **99c:30011** 30C45

— New extensions of a theorem of R. Singh and S. Singh. *Mathematica* **37(60)** (1995), *no.* 1-2, 171–182. (Grigore Stefan Sălăgean) **99b:30020** 30C45

— (*with* Miller, Sanford S.) Differential inequalities and boundedness preserving integral operators. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 81–88. (William Ma) **99g:30026** 30C80

— (*with* Miller, Sanford S.) Briot-Bouquet differential equations and differential subordinations. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 217–237. (Summary) **99a:34012** 34A20 (30C35, 30C80, 34A25)

— Conditions for diffeomorphism in the complex plane. (English summary) *Analysis and topology*, 525–540, *World Sci. Publishing, River Edge, NJ*, 1998. (Zhong Zhu Zou) **99k:30023** 30C45

— (*with* Ruscheweyh, Stephan) On a majorization-subordination problem for univalent functions. (English summary) *J. Anal.* **6** (1998), 43–48. (Dov Aharonov) **99m:30023** 30C45 (30C55)

Mochimaru, Yoshihiro Application of a spectral finite difference scheme to a complex configuration. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv*, 1997), 311–318, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65M06

Mochizuki, Atsushi (*with* Motoki, Mitsuo; Watanabe, Osamu[2]) On a positive instance generation for the 3-satisfiability (3SAT) problem. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 6, 1850–1857. (Summary) **99e:68113** 68R05 (68Q25)

Mochizuki, Kiyoshi Critical blow-up and asymptotic behavior of solutions to quasilinear degenerate parabolic equations in exterior domain. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai*, 1995), 121–127, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:35082** 35K65 (35B40, 35K55)

— (*with* Huang, Qing[3]; Mukai, Kentaro) Life span and asymptotic behavior for a semilinear parabolic system with slowly decaying initial values. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 393–407. (Summary) **99g:35055** 35K55 (35B40)

— (*with* Huang, Qing[3]) Existence and behavior of solutions for a weakly coupled system of reaction-diffusion equations. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 2, 109–124. (Summary) **99e:35109** 35K57

Mochizuki, Nozomu (*with* Iida, Yasuo) Isometries of some F-algebras of holomorphic functions. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 4, 297–300. (Raymond Mortini) **99h:30050** 30H05 (30D99, 46J15, 47B38)

— Some conditions for the strong starlikeness. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 103–111. (*see* **99i:00018**) 30C45

Mochizuki, Shinichi The intrinsic Hodge theory of p-adic hyperbolic curves. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 187–196 (*electronic*). (Yaacov Kopeliovich) **99j:14023** 14G20 (11G20, 14F35)

— Correspondences on hyperbolic curves. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 3, 227–244. (Atanas Iliev) **99g:14036** 14H35 (14E10, 14H10)

— *see also* **Namikawa, Yukihiko** *and* **Ihara, Yasutaka**

Mocioalcă, Oana (*with* Postolache, Mihai) On a geometrical study of population ecosystems. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 101–108. (From the introduction) **99f:92024** 92D25 (34C99, 34D99)

Močkoř, Jiří (*with* Smolíková, Renata) Fuzzy automata. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 41–50. (Janusz J. Szuster) **99b:68133** 68Q68

ho-Mock-Qai, Bertina *see* **Ho-Mock-Qai, Bertina**

Mockus, Audris (*with* Mockus, Jonas; Mockus, Linas) Bayesian approach for randomization of heuristic algorithms of discrete programming. (English summary) *Randomization methods in algorithm design (Princeton, NJ*, 1997), 161–177, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, **43**, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:90084** 90C27 (90C15)

Mockus, Jonas (*with* Mockus, Audris; Mockus, Linas) Bayesian approach for randomization of heuristic algorithms of discrete programming. (English summary) *Randomization methods in algorithm design (Princeton, NJ*, 1997), 161–177, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, **43**, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:90084** 90C27 (90C15)

Mockus, Linas (*with* Mockus, Jonas; Mockus, Audris) Bayesian approach for randomization of heuristic algorithms of discrete programming. (English summary) *Randomization methods in algorithm design (Princeton, NJ*, 1997), 161–177, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, **43**, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:90084** 90C27 (90C15)

garrido-Moctezuma, R. *see* **Garrido-Moctezuma, R.**

Moczo, Peter (*with* Lucká, Mária; Kristek, Jozef; Kristeková, Miriam) 3D displacement finite differences and a combined memory optimization. (English summary) *Bull. Seismol. Soc. Amer.* **89** (1999), *no.* 1, 69–79. (Summary) **99j:86004** 86–08 (86A15)

Modak, B. (*with* Kamilya, S.; Biswas, Satyabrata) A Noether symmetry study in scalar-tensor theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4163–4171. 83D05

Modan, Laurenţiu About a new proof of a theorem in the matroid theory. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 89–92. 05B35

— The relation between the abstract and geometric duals of a planar graph. (English summary) *Libertas Math.* **18** (1998), 71–75. 05C99 (05B35)

— About the convergence of a recurrent sequence. *Octogon Math. Mag.* **6** (1998), *no.* 1, 79–80. 40A05

Modarres-Hashemi, M. (*with* Aref, M. R.) The linear complexity of the universal logic sequences. (English summary) *Sci. Iran.* **2** (1995), *no.* 1, 89–92. 94A60

Mode, Charles J. (*with* Sleeman, Candace K.) A computer exploration of some properties of non-linear stochastic partnership models for sexually transmitted diseases with stages. (English summary) Epidemiology, cellular automata, and evolution (Sofia, 1997). *Math. Biosci.* **156** (1999), *no.* 1-2, 123–145. (*see* **99m:92001**) 92D30

Modebadze, T. A. (*with* Akbarov, D. E.; Mel′nik, V. S.; Yasinskiĭ, V. V.) On optimization problems for mixed systems. III. Necessary conditions for optimality, and finite-dimensional approximations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 52–63, 156. 49K27

— (*with* Kovalev, P. A.) Optimal control of a nonlinear stationary heat-exchange process in a dispersive layer of pellets taking into account heat radiation. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 100–117, 155. 49K20 (49J20)

Moderski, Rafał (*with* Rogatko, Marek) Euclidean dilaton black hole vortex. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3449–3456. 83C57

— (*with* Rogatko, Marek) Abelian Higgs hair for electrically charged dilaton black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124016, 13 *pp.* 83C57

Modi, V. J. (*with* Pradhan, Satyabrata; Misra, Arun K.) Control of tethered satellite systems using thruster and offset strategies. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 175–193. 93C95 (70M20, 70Q05, 93C85)

— (*with* Caron, M.; Misra, Arun K.) Order-N formulation and dynamics of multi-unit flexible space manipulators. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 4, 347–368. 73K12 (70B15)

Modica, S. (*with* Rustichini, Aldo) Awareness and partitional informational structures [MR 95b:90187]. *Epistemic logic and the theory of games and decisions*, 151–168, *Theory Decis. Lib. Ser. C Game Theory Math. Program. Oper. Res.*, 20, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **99k:00028**) 90D35 (03B45, 90A05)

Modugno, Marco (*with* Kolář, Ivan) The Frölicher-Nijenhuis bracket on some functional spaces. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 97–106. (Vadim V. Shurygin) **99c:58009** 58B20 (53C05, 58A20)

Mœglin, C. Correspondance de Howe et front d'onde. [Howe correspondence and wave front] *Adv. Math.* **133** (1998), *no.* 2, 224–285. (David Manderscheid) **99f:22030** 22E50 (11F27)

Moehlis, Jeff (*with* Knobloch, Edgar) Bursts. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY*, 1997), 51–60, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 76E99 (34C23, 58F14)

Moeller, Thomas L. (*with* Milstein, Jaime) Generalized algebraic structures for the representation of discrete systems. (English summary) *Linear Algebra Appl.* **274** (1998), 161–191. (Heinrich Seidel) **99b:68065** 68Q05

van Moerbeke, P. (*with* Adler, Mark; Shiota, T.) Random matrices, Virasoro algebras, and noncommutative KP. *Duke Math. J.* **94** (1998), *no.* 2, 379–431. (Kazuhiro Hikami) **99e:58088** 58F07 (17B68, 60H25)

— (*with* Adler, Mark) Toda-Darboux maps and vertex operators. (English summary) *Internat. Math. Res. Notices* **1998**, *no.* 10, 489–511. (Iskander A. Taimanov) **99h:58075** 58F07 (17B69)

Moerdijk, Ieke Classifying spaces for toposes with enough points. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 377–389 (1998). (Colin McLarty) **99m:18002** 18B25 (03G30, 18E30)

— (*with* Palmgren, Erik) Minimal models of Heyting arithmetic. *J. Symbolic Logic* **62** (1997), *no.* 4, 1448–1460. (Roman Murawski) **99i:03074** 03F30 (03C62, 03F55)

— (*with* Butz, Carsten) Representing topoi by topological groupoids. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 3, 223–235. (Kimmo I. Rosenthal) **99i:18005** 18B25 (18B35, 18B40, 22A22)

— Sets, topoi and intuitionism. (English summary) Perspectives on intuitionism. *Philos. Math.* (3) **6** (1998), *no.* 2, 169–177. (John L. Bell) **99k:03009** 03A05 (03G30, 18B25)

— Proof of a conjecture of A. Haefliger. *Topology* **37** (1998), *no.* 4, 735–741. (V. P. Snaith) **99b:18015** 18F20 (57R30)

Moerkotte, Guido (*with* Cluet, Sophie) On the complexity of generating optimal left-deep processing trees with cross products. (English summary) *Database theory—ICDT '95 (Prague*), 54–67, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68068** 68P15 (68Q25)

Moës, Nicolas (*with* Oden, J. Tinsley; Vemaganti, Kumar) A two-scale strategy and a posteriori error estimation for modeling heterogeneous structures. *Advances in adaptive computational methods in mechanics (Cachan*, 1997), 115–133, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N15 (65N30)

— (*with* Ladevèze, Pierre) A posteriori constitutive relation error estimators for nonlinear finite element analysis and adaptive control. *Advances in adaptive computational methods in mechanics (Cachan*, 1997), 231–256, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99d:73090** 73V05 (65N30, 73E60)

— (*with* Ladevèze, Pierre) A new a posteriori error estimation for nonlinear time-dependent finite element analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 45–68. (Mark Ainsworth) **99e:73095** 73V05 (73E60)

— (*with* Oden, J. Tinsley; Zohdi, Tarek I.) Investigation of the interactions between the numerical and the modeling errors in the homogenized Dirichlet projection method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 1-2, 79–101. (Summary) **99e:73096** 73V05 (73B27, 73K20)

Moeschlin, O. (*with* Grycko, E.) A criterion for the occurrence or non-occurrence of a traffic collapse at a bottleneck. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 571–584. (Jian-Min Li) **99g:90042** 90B06 (90C35)

— (*with* Grycko, E.) A concept of optimal control at a bottleneck with symmetric volume of traffic. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 585–600. (Jian-Min Li) **99g:90043** 90B06 (90C35)

— (*with* Grycko, E.) Controlling traffic lights at a bottleneck: the objective function and its properties. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 727–740. (Summary) **99j:90030** 90B20 (60K30)

Moews, David Optimally pebbling hypercubes and powers. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 271–276. (Summary) **99c:05188** 05C99

amir-Moéz, Ali R. *see* **Amir-Moéz, Ali R.**

Moffat, Alistair (*with* Turpin, Andrew) Efficient construction of minimum-redundancy codes for large alphabets. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1650–1657. (Summary) **99i:94037** 94A45

Moffat, J. W. A dynamical model of the capital markets. (English summary) *Phys. A* **264** (1999), *no.* 3-4, 532–542. (Summary) **99k:90033** 90A09 (90A60)

Moffatt, H. Keith (*with* Fukumoto, Yasuhide) Motion of a vortex ring in a viscous fluid. Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 107–120. (*see* **99e:76056**) 76D99 (76C05)

— (*with* Mak, V.) Corner singularities in three-dimensional Stokes flow. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 21–26, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D07

— *see also* **Dynamics and statistics of concentrated vortices in turbulent flow**, **99e:76002**

Mofid, M. (*with* Vafai, A.; Farahani, K.) Finite element solution of Dirichlet's nonlinear partial differential equation with mixed boundary conditions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 81–88. (Summary) **99j:65210** 65N30 (65M60, 65N30)

Moggi, Eugenio (*with* Hyland, J. Martin E.) The S-replete construction. *Category theory and computer science* (*Cambridge*, 1995), 96–116, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (Ioan Tofan) **99i:03084** 03G30 (18D15, 68Q55)

— Metalanguages and applications. *Semantics and logics of computation* (*Cambridge*, 1995), 185–239, *Publ. Newton Inst.*, 14, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **99h:68111**) 68Q55 (03B70, 68N15)

— Functor categories and two-level languages. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 211–225, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q55 (68N15)

— *see also* **Category theory and computer science**, **99c:68004**

mohseni Moghadam, Mahmoud *see* **Mohseni Moghadam, Mahmoud**

Moghaddam, Mohammad Reza R. (*with* Kayvanfar, S.) $\mathscr{Y}$-perfect groups. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 4, 537–542. (Martyn Quick) **99c:20026** 20E10 (20E22)

— (*with* Salemkar, Ali Reza) Some remarks on generalized Schur pairs. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 12–16. (Dennis Spellman) **99f:20056** 20F10 (20E05)

Moghrabi, Issam A. R. (*with* Ford, J. A.) Further investigation of multi-step quasi-Newton methods. (English summary) *Sci. Iran.* **1** (1995), *no.* 4, 327–334. 65H10 (90C30)

— (*with* Obeid, S. E.) A new minimum curvature multi-step method for unconstrained optimization. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 319–326, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 90C30 (65K05)

— New quasi-Newton update formulae for optimization. (English summary) *Int. J. Appl. Math.* **1** (1999), *no.* 1, 55–66. 90C30 (65K05)

— (*with* Obeid, S. E.) A new family of multi-step quasi-Newton algorithms for unconstrained optimization. (English summary) *Int. J. Appl. Math.* **1** (1999), *no.* 1, 67–74. 90C30 (65K05)

Mogilevskaya, S. G. (*with* Linkov, A. M.) Complex fundamental solutions and complex variables boundary element method in elasticity. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 88–92. (Summary) **99f:73089** 73V35 (73V10)

Mogilevskiĭ, I. Sh. (*with* Solonnikov, Vsevolod A.) The problem of the steady motion of a second-grade fluid in Hölder classes of functions. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 154–168, 341. (Antonín Novotný) **99g:35108** 35Q35 (76A05)

Mogilevskii, V. I. (*with* Malamud, M. M.) On extensions of dual pairs of operators. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 30–37. (E. R. Tsekanovs′kiĭ) **99k:47016** 47A20 (47A10, 47B25)

Mogilner, Alexander (*with* Geigant, Edith; Ladizhansky, Karina) An integrodifferential model for orientational distributions of F-actin in cells. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 787–809 (*electronic*). (Summary) **99j:92005** 92C40 (45K05, 92C15)

Mogk, Georg Hybride Modellierung reaktiver Systeme unter Nutzung von funktionalem Vorwissen. [Hybrid modelling of reactive systems by using functional prior knowledge] Dissertation, Justus-Liebig-Universität Giessen, Giessen, 1999. *Mitt. Math. Sem. Giessen No.* 237 (1999), *iii*+85 *pp.* 93A30 (00A69, 00A71, 80A32, 92E20)

Mogra, M. L. (*with* Assiri, E. Q.) A unified approach for univalent functions with negative coefficients using Hadamard product. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1162–1170. (O. P. Ahuja) **99e:30005** 30C45

— Convolutions of certain classes of meromorphic univalent functions with positive coefficients. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 47–55. (Sergey V. Popënov) **99h:30012** 30C45

Mogul′skiĭ, A. A. (*with* Borovkov, A. A.; Sakhanenko, A. I.) Limit theorems for random processes. (Russian. Russian summary) *Probability theory*, 7 (*Russian*), 5–199, *Itogi Nauki i Tekhniki, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform.* (*VINITI*), *Moscow*, 1995. (Anatolii A. Pukhal′skiĭ) **99d:60021b** 60Fxx

— (*with* Borovkov, A. A.) Large deviations for stationary Markov chains in a quarter plane. *Probability theory and mathematical statistics* (*Tokyo*, 1995), 12–19, *World Sci. Publishing, River Edge, NJ*, 1996. (Paolo Baldi) **99d:60029** 60F10 (60J10)

— (*with* Borovkov, A. A.) The second function of deviations and asymptotic problems of the reconstruction and attainment of a boundary for multidimensional random walks. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 745–782, *i*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 647–682. (R. Sh. Liptser) **99h:60139** 60J15 (60E10)

— A probability inequality for obtaining lower bounds in the principle of large deviations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 889–894, *iii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 782–787. (Alexander Veretennikov) **99m:60047** 60F10 (60E15)

el Mohajir, Mohammed *see* **El Mohajir, Mohammed**

Mohamad, A. M. Generalization of G_δ^*-diagonals and $w\Delta$-spaces. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 4, 285–291. (R. Hodel) **99h:54041** 54E35

al-Mohamad, H. A. *see* **Al-Mohamad, H. A.**

Mohamed, A. S. *see* **Mohamed, Adel Samy**

Mohamed, Abderemane Asymptotic of the density of states for the Schrödinger operator with periodic electromagnetic potential. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4023–4051. (Serguei E. Tcheremchantsev) **99d:81036** 81Q10 (35J10, 35P20, 47F05, 47N50)

— (*with* Helffer, Bernard) Asymptotic of the density of states for the Schrödinger operator with periodic electric potential. *Duke Math. J.* **92** (1998), *no.* 1, 1–60. (Timo Weidl) **99e:35166** 35P20 (35J10, 47F05, 47N50, 81Q10)

Mohamed, Adel Samy (*with* El-Gendi, B. A.) Separation for ordinary differential equation with matrix coefficient. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 243–252. (Anton Zettl) **99b:34038** 34B05 (34L99)

— (*with* Amer, Y. A.) Separation of a nonlinear Dirac operator in the Hilbert space $H = L_2(\mathbf{R})^l$. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 37–48. (Gerhard Freiling) **99d:47043** 47E05 (34L40)

Mohamed, Boucetta Métriques de Lorentz Zoll sur la surface de de Sitter. (English summary) [Lorentz-Zoll metrics on the de Sitter surface] *Proyecciones* **17** (1998), *no.* 1, 13–21. (Summary) **99h:53091** 53C50 (53C22)

Mohamed, Mashhour Ibrahim A note on BOL algebra operators. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 651–656. (Vladislav Goldberg) **99b:20104** 20N05 (17D99, 53A60)

Mohamed, Ramadan Hamed (*with* Apte, Aruna Uday; Jayasuriya, A.; Kennington, J.; Krass, I.; Sorensen, S.; Whitler, J.) Class scheduling algorithms for Navy training schools. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 533–551. 90B35 (90B90)

Mohamed Ali, M. A. (*with* Pani, Amiya K.) Mixed finite element methods for compressible miscible displacement problems in reservoir studies. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 332–352, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Gert Lube) **99b:65119** 65M60 (76M10, 76S05)

Mohammad, Ch. Wali Bilinear and bilateral generating functions of generalized polynomials. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 2, 257–270. (Hukum Chand Agrawal) **99c:33026** 33C99

Mohammad-Djafari, Ali (*with* Nikolova, Mila; Idier, Jérôme) Inversion of large-support ill-posed linear operators using a piecewise Gaussian MRF. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 4, 571–585. (Summary) **99j:94012** 94A12

Mohammadi, Bijan (*with* Hovland, Paul; Bischof, Christian H.) Automatic differentiation and Navier-Stokes computations. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 265–284, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 65D25 (76M25)

— (*with* Achdou, Yves; Pironneau, Olivier; Valentin, Frederic G. C.) Domain decomposition & wall laws. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 1–14, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:76070** 76M25 (76D10)

— Mesh adaption and automatic differentiation for optimal shape design. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 346–359, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 65Y25 (76M30)

— (*with* Medic, G.) A critical evaluation of the classical k-ϵ model and wall-laws for unsteady flows over bluff bodies. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 1, 1–11. (Summary) **99d:76052** 76F99

— Mesh adaption and automatic differentiation for optimal shape design. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 3, 199–211. (Summary) **99g:76112** 76M25 (76G25)

Mohammadian, Alireza H. (*with* Gedney, Stephen D.; Roden, J. Alan; Madsen, Niel K.; Hall, William F.; Shankar, Vijaya; Rowell, Chris) Explicit time-domain solutions of Maxwell's equations via generalized grids. *Advances in computational electrodynamics*, 163–262, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78002** 78–08 (65M06, 78A45)

Mohammadian, M. (*with* Stonier, R. J.) Intelligent hierarchical control for obstacle-avoidance. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 733–740, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 93A13 (49N55)

Mohammadi Hassanabadi, A. (*with* Rhemtulla, Akbar H.) Criteria for commutativity in large groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 65–70. (Patrizia Longobardi) **99f:20061** 20F24 (20F99)

— A property equivalent to permutability for groups. (English summary) *Rend. Sem. Mat. Univ. Padova* **100** (1998), 137–142. (Summary) **99m:20094** 20F99

Mohammadzadeh, Majid (*with* Wolf, Thomas Otto; Brand, Andreas) Computer algebra algorithms and routines for the computation of conservation laws and fixing of gauge in differential expressions. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 2, 221–238. 65M06 (35–04, 65–04, 65M30)

Mohammed, S. *see* **Mohammed, Seid**

Mohammed, Salah-Eldin A. (*with* Scheutzow, Michael K. R.) Lyapunov exponents of linear stochastic functional-differential equations. II. Examples and case studies. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1210–1240. (Summary) **99e:60134** 60H10 (34K50, 60H20, 60H25)

— Stochastic differential systems with memory: theory, examples and applications. *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 1–77, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Xue Rong Mao) **99k:60155** 60H10 (60H07, 93E03)

— (*with* Scheutzow, Michael K. R.) Spatial estimates for stochastic flows in Euclidean space. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 56–77. (Xue Rong Mao) **99d:60064** 60H10

Mohammed, Seid (*with* Marras, M.; Porru, G.) Differential inequalities for Minkowski functionals of level sets. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 573–584. (H. J. Kuiper) **99k:35053** 35J60 (35B99, 35K55)

Mohammedi, N. On mirror symmetry in Wess-Zumino-Novikov-Witten models. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 55–63; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 803–809 (1996). (Isabel P. Ennes) **99b:81079** 81R10 (81T40)

— (*with* Balázs, L. K.; Balog, J.; Forgács, P.; Palla, László; Schnittger, J.) Quantum equivalence of σ models related by non-abelian duality transformations. (English

summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3585–3594. (Summary) **99k:81191** 81T15

Mohan, Chander (*with* Zboon, Radhi A.; Yadav, Shiv Prasad) Penalty method for an optimal control problem with equality and inequality constraints. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 1, 1–14. 49M30 (49K15)

Mohan, Chilukuri K. (*with* Shih, Ching-Cheng; Wulff, Christopher R.; Hartmann, Carlos R. P.) Efficient heuristic search algorithms for soft-decision decoding of linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3023–3038. (Summary) **99i:94067** 94B05 (94B35)

Mohan, N. R. (*with* Subramanya, U. R.) On the convergence of the density of the power normalized maximum. (English summary) *Calcutta Statist. Assoc. Bull.* **48** (1998), *no.* 189-190, 13–20. (Lajos Horváth) **99m:60035** 60F05 (62E20)

Mohan, Srinivasa Raghavan (*with* Neogy, S. K.; Parthasarathy, T.) On linear complementarity and a discounted polystochastic game. (English summary) *Stochastic and differential games*, 377–380, *Ann. Internat. Soc. Dynam. Games*, 4, *Birkhäuser Boston, Boston, MA*, 1999. (*see* **99m:90005**) 90C33 (90D15)

Mohanavadivu, P. (*with* Sridharan, Varadachari) Optimum ordering policies with the effect of weather condition, random lead times and salvage cost. (English summary) *Optimization* **39** (1997), *no.* 3, 295–309. (Summary) **99a:90100** 90B25 (90B90)

— (*with* Sridharan, Varadachari) Stochastic behaviour of a two-unit standby system with two types of repairmen and patience time. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 63–71. 90B25 (90B05)

Mohankumar, N. Some problems in TANH and IMT quadratures. (English summary) *Special functions and differential equations* (*Madras*, 1997), 432–436, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 65D32

Mohanty, Ganeshwar Anisotropic Brans-Dicke field. (English and Serbian summaries) *Theoret. Appl. Mech.* **23** (1997), 105–114. (Summary) **99d:83084** 83D05

— (*with* Daud, Sk. Md.) Vacuum cosmological models in Wesson's theory. (English and Serbian summaries) *Theoret. Appl. Mech.* **23** (1997), 115–128. (Summary) **99g:83070** 83D05

Mohanty, R. K. (*with* Pandey, Pramod Kumar) Families of accurate discretizations of order two and four for 3-D mildly nonlinear biharmonic problems of second kind. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 363–380. 65L10 (65L06)

— High accuracy difference schemes for a class of three-space-dimensional singular parabolic equations with variable coefficients. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 39–51. (Meng Zhao Qin) **99d:65250** 65M06

— (*with* Jain, Mahinder Kumar; George, Kochurani) Fourth-order approximations at first time level, linear stability analysis and the numerical solution of multidimensional second-order nonlinear hyperbolic equations in polar coordinates. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 1, 1–12. (Guan Quan Zhang) **99f:65129** 65M06 (65M12)

— (*with* Evans, David John[1]) Block iterative methods for one-dimensional nonlinear biharmonic problems on a parallel computer. (English summary) *Parallel Algorithms Appl.* **13** (1999), *no.* 3, 239–263. (Summary) **99m:65133** 65L06 (65Y05)

Mohanty, S. G. (*with* Böhm, Walter M.; Krinik, A.) The combinatorics of birth-death processes and applications to queues. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 3-4, 255–267. (B. R. K. Kashyap) **99a:60099** 60K25 (60J80, 90B22)

Mohanty, Subhendra (*with* Prasanna, A. R.) Photon propagation in Einstein and higher derivative gravity. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 501–508. (Volker Perlick) **99i:83049** 83C50 (83C10)

— (*with* Gupta, Anshu; Samal, Manoj K.) Čerenkov radiation emitted by charged particles in a gravitational field. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 291–298. 83C30

Mohapatra, R. N. (*with* Pani, Ashis K.; Bhattacharjee, G. P.) Event scheduling using Allen's algebra. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 87–97. (Summary) **99i:68115** 68T30 (68T27)

Mohapatra, Ram Narayan Bernstein-type inequalities and their generalizations. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 199–214, *New Age, New Delhi*, 1997. (A. S. Cavaretta) **99g:41014** 41A17 (41A20)

— (*with* Vajravelu, K.; Yin, Yunfeng) An improved quasilinearization method for second order nonlinear boundary value problems. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 55–62. (Summary) **99e:34026** 34B15 (34A45)

— (*with* Govil, Narendra K.) Inequalities for maximum modulus of rational functions with prescribed poles. (English summary) *Approximation theory*, 255–263, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Lai Yi Zhu) **99f:30002** 30A10 (30C10)

— (*with* Govil, Narendra K.) Bernstein type inequalities for rational functions with prescribed poles. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 249–270, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Ralitza Kovacheva) **99c:41028** 41A17 (26D07, 30C10)

— (*with* Jones, Roy; Li, Xin[3]; Rodriguez, R. S.) On the Bernstein inequality for rational functions with a prescribed zero. (English summary) *J. Approx. Theory* **95** (1998), *no.* 3, 476–496. (Wiesław Pleśniak) **99m:41019** 41A17

— (*with* Vajravelu, K.; Yin, Yunfeng) Cubic and quartic convergence for first-order periodic boundary-value problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 465–480. (Alberto Cabada) **99h:34021** 34A45 (34B15)

— *see also* **Approximation theory, 99a:00051**

Mohapl, Jaroslav On maximum likelihood estimation for Gaussian spatial autoregression models. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 165–186. (Yuzo Hosoya) **99c:62258** 62M10 (62F12, 62M30)

Mohar, Bojan (*with* Juvan, Martin; Žerovnik, Janez) Distance-related invariants on polygraphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 57–71. (Douglas J. Klein) **99a:05039** 05C12

— Circle packings of maps in polynomial time. (English summary) *European J. Combin.* **18** (1997), *no.* 7, 785–805. (Frédéric Mathéus) **99f:52022** 52C15 (05B40, 05C85, 68R05)

— Face-width of embedded graphs. (English summary) Graph theory (Donovaly, 1994). *Math. Slovaca* **47** (1997), *no.* 1, 35–63. (D. Barnette) **99b:05040** 05C10 (57M15)

— (*with* Juvan, Martin; Marinček, Jože) Elimination of local bridges. (English summary) Graph theory (Donovaly, 1994). *Math. Slovaca* **47** (1997), *no.* 1, 85–92. (Stanley Gill Williamson) **99c:05053** 05C10 (68R10)

— On the orientable genus of graphs with bounded nonorientable genus. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 245–253. (E. J. Janse van Rensburg) **99b:05041** 05C10 (57M15)

— (*with* Klabjan, D.) The number of matchings of low order in hexagonal systems. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 167–175. (Summary) **99a:05101** 05C50 (05C70)

— (*with* Juvan, Martin; Škrekovski, Riste) On list edge-colorings of subcubic graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 137–149. (Michael E. Raines) **99d:05034** 05C15

Moharir, P. S. (*with* Singh, Rita; Maru, V. M.) Complex chaotic systems and emergent phenomena. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 3, 235–259. (Boris G. Zaslavskiĭ) **99e:93002** 93A30 (58F40, 93C10)

Mohaupt, Thomas (*with* Behrndt, Klaus; Cardoso, Gabriel Lopes; de Wit, Bernard; Kallosh, Renata; Lüst, Dieter) Classical and quantum $N = 2$ supersymmetric black holes. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 236–260. (Summary) **99f:83060** 83E30 (32J81, 81T30, 83C57)

— (*with* Behrndt, Klaus; Gaida, Ingo; Lüst, Dieter; Mahapatra, Swapna) From type IIA black holes to T-dual type IIB D-instantons in $N = 2$, $D = 4$ supergravity. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 659–699. (Gianguido Dall'Agata) **99h:83051** 83E30 (81T30, 83C57, 83E50)

— (*with* Cardoso, Gabriel Lopes) Dual heterotic black holes in four and two dimensions. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 277–283. (Marco Spaans) **99g:83075** 83E30 (83C57)

Mohd, Ismail Bin (*with* Dasril, Yosza) A note on the violated constraints-approach for solving the quadratic programming problem. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 2, 141–148. 90C20

Mohdeb, Zaher (*with* Mokkadem, Abdelkader) Tests d'hypothèses sur les coefficients de Fourier d'une fonction de régression non linéaire. (English and French summaries) [Testing hypotheses on the Fourier coefficients of a nonlinear regression function] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1141–1144. (Arnold Janssen) **99k:62097** 62G10

espejo Mohedano, R. *see* **Espejo Mohedano, R.**

Mohedano, V. (*with* Bustince Sola, Humberto; Calderón, M.) Some considerations about a least squares model for fuzzy rules of inference. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 315–336. (Summary) **99d:03019** 03B52

Moheimani, S. O. Reza (*with* Savkin, Andrey V.; Petersen, Ian R.) Robust filtering, prediction, smoothing, and observability of uncertain systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 446–457. (Jacob Hammer) **99f:93134** 93E11 (93B35)

Moher, Michael (*with* Gulliver, T. Aaron) Cross-entropy and iterative decoding. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3097–3104. (Summary) **99i:94072** 94B35

Möhle, M. A convergence theorem for Markov chains arising in population genetics and the coalescent with selfing. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 493–512. (John Haigh) **99f:92010a** 92D10 (60F05, 60J27, 92D25)

— Coalescent results for two-sex population models. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 513–520. (John Haigh) **99f:92010b** 92D10 (60F05, 60J27, 92D25)

Mohlenkamp, Martin J. (*with* Beylkin, Gregory; Coult, Nicholas) Fast spectral projection algorithms for density-matrix computations. (English summary) *J. Comput. Phys.* **152** (1999), *no.* 1, 32–54. 81–08 (81V55)

Mohorianu, Corina Comparison between strong shape groups and shape groups for a pointed topological space. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **43** (1997), *no.* 1, 173–190 (1998). 55Q07

Mohr, G. A. Numerical procedures for input-output analysis. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 1, 89–98. 65N30 (65M60)

von Mohrenschildt, Martin A normal form for function rings of piecewise functions. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 5, 607–619. (Summary) **99j:68060** 68Q40

Mohri, Mehryar String-matching with automata. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 2, 217–231. (Summary) **99e:68057** 68Q20 (68Q68)

Mohri, Shintaro (*with* Masuda, Teruo; Ishii, Hiroaki[1]) Parallel machines scheduling with resource dependent processing times. Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 200–204. (*see* **99b:90009**) 90B35

Möhring, Leonhard (*with* Möhring, Willi) On the determination of a velocity field with prescribed vorticity. *J. Comput. Phys.* **147** (1998), *no.* 1, 229–235. (Yuri N. Skiba) **99j:76022** 76C05 (76D05, 76M25, 86A05)

Möhring, Rolf H. (*with* Müller-Hannemann, Matthias) Complexity and modeling aspects of mesh refinement into quadrilaterals. (English summary) *Algorithms and computation* (*Singapore*, 1997), 263–272, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:65243** 65Y25 (65M50, 65N50, 65Y20)

— (*with* Müller-Hannemann, Matthias; Weihe, Karsten) Mesh refinement via bidirected flows: modeling, complexity, and computational results. (English summary) *J. ACM* **44** (1997), *no.* 3, 395–426. (H. P. Dikshit) **99b:65113** 65M50 (68Q25)

— (*with* Schäffter, Markus W.) Scheduling series-parallel orders subject to 0/1-communication delays. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 23–40. (Summary) **99m:68023** 68M20 (90B12)

— *see also* **Proceedings: Operations Research, 99a:90009**; **Graph-theoretic concepts in computer science, 99d:68005** *and* **Proceedings: Operations Research, 99d:90008**

Möhring, Willi (*with* Möhring, Leonhard) On the determination of a velocity field with prescribed vorticity. *J. Comput. Phys.* **147** (1998), *no.* 1, 229–235. (Yuri N. Skiba) **99j:76022** 76C05 (76D05, 76M25, 86A05)

Mohseni Moghadam, Mahmoud (*with* Rahmani, Morteza) Application of variable nodes in approximation of a function. (English and Persian summaries) *Bull. Iranian Math. Soc.* **23** (1997), *no.* 1, 23–36. (Summary) **99e:41005** 41A10

— (*with* Panahi, Mehdi) Application of iterates of maps on the unit interval concerning equicontinuity and its various equivalent forms. (English and Persian summaries) *Bull. Iranian Math. Soc.* **23** (1997), *no.* 1, 37–47. (R. S. Booth) **99j:26003** 26A18 (39B12, 54H25)

Moin, Parviz (*with* Morinishi, Y.; Lund, Thomas S.; Vasilyev, Oleg V.) Fully conservative higher order finite difference schemes for incompressible flow. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 90–124. (Summary) **99a:76100** 76M20
— (*with* Vasilyev, Oleg V.; Lund, Thomas S.) A general class of commutative filters for LES in complex geometries. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 82–104. (Summary) **99e:76096** 76M25 (76F99)
— (*with* Na, Y.) Direct numerical simulation of a separated turbulent boundary layer. (English summary) *J. Fluid Mech.* **374** (1998), 379–405. 76F99 (76D10)
— (*with* Na, Y.) The structure of wall-pressure fluctuations in turbulent boundary layers with adverse pressure gradient and separation. (English summary) *J. Fluid Mech.* **377** (1998), 347–373. (From the summary) **99j:76062** 76F99 (76D10)
— (*with* Pierce, Charles D.) A dynamic model for subgrid-scale variance and dissipation rate of a conserved scalar. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3041–3044. (Summary) **99g:76078** 76F99 (80A32)
— (*with* Temam, Roger; Bewley, Thomas R.) Control of turbulent flows. *Systems modelling and optimization* (*Detroit, MI*, 1997), 3–11, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C20 (76F99, 76M99, 93–02)
— (*with* Kravchenko, Arthur G.; Shariff, Karim) *B*-spline method and zonal grids for simulations of complex turbulent flows. (English summary) *J. Comput. Phys.* **151** (1999), *no.* 2, 757–789. 76M25 (76F99)
Moiola, Jorge L. (*with* Colantonio, María C.; Doñate, Pedro D.) Analysis of static and dynamic bifurcations from a feedback systems perspective. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 293–317. (Summary) **99a:34114** 34C23 (34H05, 93C15)
— (*with* Berns, Daniel W.; Chen, Guanrong) Predicting period-doubling bifurcations and multiple oscillations in nonlinear time-delayed feedback systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 759–763. (Summary) **99c:94065** 94C05
Moise, Ioana (*with* Temam, Roger; Ziane, Mohammed) Asymptotic analysis of the Navier-Stokes equations in thin domains. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 249–282. (Ivan Straškraba) **99h:35166** 35Q30 (76D05, 76D30)
— (*with* Simonnet, E.; Temam, Roger; Ziane, Mohammed) Numerical simulation of differential systems displaying rapidly oscillating solutions. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 201–214. (Summary) **99d:65241** 65L99
— (*with* Goubet, Olivier) Attractor for dissipative Zakharov system. *Nonlinear Anal.* **31** (1998), *no.* 7, 823–847. (Igor D. Chueshov) **99a:35259** 35Q99 (34G20, 35B40, 35L70, 47H20, 58F39)
— (*with* Rosa, Ricardo; Wang, Xiao Ming[1]) Attractors for non-compact semigroups via energy equations. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1369–1393. (Piotr Biler) **99h:35020** 35B40 (35K55, 35Q53, 47H20, 58F39, 76D05)
Moiseenko, S. I. *see* **Zubov, Leonid M., 99a:73045**
Moiseev, A. V. (*with* Latyshev, Anatoliĭ Vasil′evich) A boundary value problem for the radiation transfer equation with combined Rayleigh and isotropic scattering. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 638–650; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 614–626. (Summary) **99f:85001** 85A25 (30E25, 45E05, 45J05)
Moiseev, E. V. On spaces with M-structure. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 27–34. 54E18
— Characterization of Hilbert cubes in terms of M-structure. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 2 (1995), 58–61. (Longin Rybiński) **99b:54049** 54F15 (54C20, 54C55, 54F65, 57N20)
— On an internal characterization of absolute retracts. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 112–114. (G. D. Dimov) **99g:54010** 54C55 (54C15)
— On an internal characterization of AR-spaces. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 161–166. (M. van de Vel) **99e:54013** 54C55
Moiseev, Evgeniĭ Ivanovich (*with* Kapustin, N. Yu.) On spectral problems with a spectral parameter in the boundary condition. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 115–119, 143; *translation in Differential Equations* **33** (1997), *no.* 1, 116–120. (Michael A. Perel′muter) **99a:35190** 35M10 (34L10, 35P10)
— (*with* Il′in, Vladimir Aleksandrovich[1]) An upper bound taken on the diagonal for the spectral function of the multidimensional Schrödinger operator with a potential satisfying the Kato condition. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 359–369, 430; *translation in Differential Equations* **34** (1998), *no.* 3, 358–368. (Alimdjan R. Khalmukhamedov) **99m:35177** 35P15 (35J10, 47F05)
— (*with* Prudnikov, Anatoliĭ Platonovich; Skórnik, Urszula) On the generalized Fourier sine- and cosine- transforms. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 163–166. 42A38 (33C15)
— *see also* **Belotserkovskiĭ, O. M.**
Moiseyev, Evgeney *see* **Moiseev, E. V.**
Moiseyev, Nimrod State-of-state transition probabilities and control of laser-induced dynamical processes by the (t, t') method. (English summary) *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 225–241, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Summary) **99a:81032** 81Q10 (81V80)
Moisio, Marko Exponential sums, Gauss sums and cyclic codes. (English summary) Dissertation, University of Oulu, Oulu, 1998. *Acta Univ. Oulu. Ser. A Sci. Rerum Natur. No.* 306 (1998), 79 *pp.* (Mihai Caragiu) **99h:11142** 11T23 (11L05, 11T24, 11T71, 94B15)
Moision, Bruce E. (*with* Altekar, Shirish A.; Berggren, Magnus; Siegel, Paul H.; Wolf, Jack K.) Error-event characterization on partial-response channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 241–247. (Summary) **99k:94019** 94A13 (94A14, 94A40)
Moitinho de Almeida, J. P. (*with* Almeida Pereira, O. J. B.; Maunder, E. A. W.) Adaptive methods and related issues from the viewpoint of hybrid equilibrium finite element models. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 427–441, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05
Mojdeh, D. (*with* Mahdavi-Hezavehi, M.) On derived groups of division ring extensions. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 53–56. (Summary) **99h:16035** 16K40
Mojia, Huang *see* **Huang, Mo Jia**
Mojirsheibani, Majid Iterated bootstrap prediction intervals. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 489–504. (Summary) **99a:62062** 62G09 (62G15)
Mok, Jinsik A six-point characterization of Hilbert spaces. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 905–909. (Wolfgang Lusky) **99j:46026** 46C15 (52A38, 52A41)
Mok, Ngaiming Holomorphic foliations with compatible degenerate Kähler metrics: applications to the Shafarevich conjecture and to fibration theorems. *Geometric complex analysis* (*Hayama*, 1995), 475–484, *World Sci. Publishing, River Edge, NJ*, 1996. (From the text) **99e:32048** 32J27 (32E05, 32L30)
— The generalized theorem of Castelnuovo-de Franchis for unitary representations. *Geometry from the Pacific Rim* (*Singapore*, 1994), 261–284, *de Gruyter, Berlin*, 1997. (Philippe P. Eyssidieux) **99a:32038** 32J27 (32C17)
— (*with* Hwang, Jun-Muk) Uniruled projective manifolds with irreducible reductive G-structures. *J. Reine Angew. Math.* **490** (1997), 55–64. (From the introduction) **99h:32034** 32L07 (14J60, 53C10)
— (*with* Hwang, Jun-Muk) Rigidity of irreducible Hermitian symmetric spaces of the compact type under Kähler deformation. *Invent. Math.* **131** (1998), *no.* 2, 393–418. (Kimio Miyajima) **99b:32027** 32G05 (32J27, 32M15)
Mokaddis, G. S. (*with* Matta, C. H.; El Genaidy, M. M.) On Poisson queue with three heterogeneous servers. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 4, 53–60. 90B22 (60K25)
Mokhlis, N. (*with* Khamis, S. M.) An exact enumeration of the reliability of some linear & circular connected X-out-of-(n, m):F lattice systems. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 93–118. (Summary) **99k:68145** 68R10
Mokhov, O. I. Differential geometry of symplectic and Poisson structures on loop spaces of smooth manifolds, and integrable systems. (Russian) *Tr. Mat. Inst. Steklova* **217** (1997), *Prostran. Petel′ i Gruppy Diffeomorf.*, 100–134. (Henrik Aratyn) **99f:58102** 58F07 (58B25)
— On compatible potential deformations of Frobenius algebras and associativity equations. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 153–154; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 396–397. (J. S. Joel) **99e:16037** 16S80 (16L60, 58F07)
— Symplectic and Poisson structures on loop spaces of smooth manifolds, and integrable systems. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 85–192; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 515–622. (Iskander A. Taimanov) **99j:58016** 58B20 (58F05, 58F07)
Mokhtari, Aïcha (*with* Kayser, Daniel) Time in a causal theory. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 117–138. (Summary) **99a:68155** 68T27
Mokhtarian, F. *see* **Mokhtarian, Farzin**
Mokhtarian, F. Sharifi (*with* Goffin, Jean-Louis) Long-step interior-point algorithms for a class of variational inequalities with monotone operators. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 181–210. (Igor′ V. Konnov) **99e:49038** 49M10 (47H17, 47H19, 49J40, 65K10)
— (*with* Goffin, Jean-Louis) A nonlinear analytic center cutting plane method for a class of convex programming problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1108–1131 (*electronic*). (Summary) **99f:90081** 90C25
Mokhtarian, Farzin Curvature scale space representation for robust, silhouette-based object recognition with occlusion. (English summary) *Sci. Iran.* **3** (1997), *no.* 4, 121–135. 68T10
Mokhtar-Kharroubi, Mustapha ★ Mathematical topics in neutron transport theory. New aspects. With a chapter by M. Choulli and P. Stefanov. Series on Advances in Mathematics for Applied Sciences, 46. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xvi+344 *pp. ISBN* 981-02-2869-4 (Hassan Emamirad) **99c:82078** 82D75 (45K05, 47D06, 47N55, 82–02, 82C70)
— (*with* Chabi, Mohamed; Stefanov, Plamen) Scattering theory with two L^1 spaces: application to transport equations with obstacles. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 3, 511–523. (Alexei Yu. Konstantinov) **99b:47018** 47A40 (47N20, 47N55, 82C70)
— (*with* Ammar-Khodja, Farid) On the exponential stability of advection semigroups with boundary operators. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 95–106. (Hassan Emamirad) **99b:47057** 47D06 (47N55, 82C70)
Mokkadem, Abdelkader A measure of information and its applications to test for randomness against ARMA alternatives and to goodness-of-fit test. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 2, 145–159. (Somnath Datta) **99f:62111** 62M10 (62M15)
— (*with* Mohdeb, Zaher) Tests d'hypothèses sur les coefficients de Fourier d'une fonction de régression non linéaire. (English and French summaries) [Testing hypotheses on the Fourier coefficients of a nonlinear regression function] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1141–1144. (Arnold Janssen) **99k:62097** 62G10
Mokni, Kamel (*with* van Dijk, Gerrit) Harmonic analysis on a class of generalized Gel′fand pairs associated with hyperbolic spaces. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 167–178 (1998). (Jacques Faraut) **99c:43016** 43A85 (22E30, 43A90)
Mokrane, Abdelhafid (*with* Murat, François) Proving the Lewy-Stampacchia's inequality by penalization. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 315–334. (Jianfu Yang) **99k:35071** 35J85 (49J40)
— Existence for quasilinear elliptic systems with quadratic growth having a particular structure. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 59–73. (Summary) **99b:35056** 35J60 (35D05)
— (*with* Murat, François) A proof of the Lewy-Stampacchia's inequality by a penalization method. (English summary) *Potential Anal.* **9** (1998), *no.* 2, 105–142. (Gary M. Lieberman) **99k:35070** 35J85 (35B40, 49J40)
Mokri, Tahar Matched pairs of Lie algebroids. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 2, 167–181. (Summary) **99a:58165** 58H05 (17B99)
martínez Molada, Eulalia *see* **Martínez Molada, Eulalia**

Molchan, G. M. Burgers equation with self-similar Gaussian initial data: tail probabilities. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1139–1150. (W. A. Woyczyński) **99c:60130** 60H15 (35Q53, 60G18, 76F99)
— Anomalies in multifractal formalism for local time of Brownian motion. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 199–220. (Lars Olsen) **99g:60134** 60J55 (28A80, 60J30, 60J65)
Molchanov, A. P. (*with* Morozov, M. V.) Algorithms for the analysis of the robust stability of linear time-dependent control systems with periodic constraints. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 100–111; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 2, 795–804. (Summary) **99e:93056** 93D09 (93B40)
— (*with* Bauer, Peter H.) Robust stability of linear time-varying delta-operator formulated discrete-time systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 325–327. 93D09 (93C55)
Molchanov, Ilya S. (*with* Baddeley, Adrian) On the expected measure of a random set. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 3–20, *World Sci. Publishing, River Edge, NJ*, 1997. (M. Zähle) **99k:60018** 60D05 (28A12)
— Unions of random sets and their applications. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 35–48, *World Sci. Publishing, River Edge, NJ*, 1997. (Dietrich Stoyan) **99i:60023** 60D05
— Grey-scale images and random sets. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 247–257, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10
— (*with* Friel, Nial) Distances between grey-scale images. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 283–290, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (60B99)
— (*with* van Lieshout, Marie-Colette N. M.) Shot noise weighted processes: a new family of spatial point processes. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 715–734. (Volker Schmidt) **99g:60089** 60G55
— (*with* Kreinovich, Vladik) How to define an average of several sets? I. (English summary) *Geombinatorics* **7** (1998), *no.* 4, 123–131. (Herbert Ziezold) **99e:60039** 60D05 (52A22)
— (*with* Kreinovich, Vladik) How to define an average of several sets? II. (English summary) *Geombinatorics* **8** (1998), *no.* 1, 160–165. (Herbert Ziezold) **99k:60022** 60D05 (03D15, 03F10, 28B20)
— (*with* Baddeley, Adrian) Averaging of random sets based on their distance functions. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 1, 79–92. (Dietrich Stoyan) **99e:60036** 60D05 (68U10)
— (*with* Heijmans, Henk J. A. M.) Morphology on convolution lattices with applications to the slope transform and random set theory. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 3, 199–214. (Christian Ronse) **99c:68256** 68U10 (06A15, 06A23, 60D05)
— A limit theorem for solutions of inequalities. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 235–242. (V. K. Oganyan) **99k:60026** 60D05 (60F17)
Molchanov, Stanislav Alekseevich Hierarchical random matrices and operators. Application to Anderson model. *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 179–194, *VSP, Utrecht*, 1996. (Nariyuki Minami) **99b:82054** 82B44 (60H25, 60K35)
— (*with* Anderson, Robert Frank) One-dimensional random walk in a random medium. *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 25–56, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Wan Ding Ding) **99c:60146** 60J15 (60F05, 60F15, 82B41)
— (*with* Carmona, René A.; Grishin, Stanislav; Xu, Lin) Surface stretching for Ornstein Uhlenbeck velocity fields. (English summary) *Electron. Comm. Probab.* **2** (1997), *no.* 1, 1–11 (*electronic*). (Nariyuki Minami) **99c:60132** 60H25 (60H30)
— Multiscattering on sparse bumps. *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 157–181, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Peter Stollmann) **99b:82055** 82B44 (35J10, 47B80, 47N50)
— (*with* Jakšić, Vojkan) On the spectrum of the surface Maryland model. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 189–193. (Aernout C. D. van Enter) **99h:82046** 82B44 (47B39, 47N55, 60H25)
— (*with* Gärtner, J.) Parabolic problems for the Anderson model. II. Second-order asymptotics and structure of high peaks. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 1, 17–55. (Matthias Löwe) **99f:82059** 82C44 (47B80, 60H25)
Molchanov, Vladimir A. Nonstandard congruences and lattices of pseudovarieties. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 183–193, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99a:08005** 08B15 (03H05, 08A30)
— Nonstandard convergences in spaces of partial mappings. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 28–33; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 3, 25–30. (R. Gylys) **99m:54033** 54J05 (03H05, 54A20, 54C35)
Molchanov, Vladimir F. Separation of series for hyperboloids. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 3, 35–43, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 3, 176–182 (1998). (Tomasz Przebinda) **99d:22023** 22E45
— Holomorphic discrete series for hyperboloids of Hermitian type. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 1, 26–50. (Gestur Ólafsson) **99b:22026** 22E46 (22E30, 43A65, 43A85)
— Maximal degenerate series representations of the universal covering of the group $SU(n, n)$. (English summary) *Lie groups and Lie algebras*, 313–336, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Tuong Ton That) **99e:22031** 22E46 (43A85)
— Discrete series and analyticity. *Positivity in Lie theory: open problems*, 185–194, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Jacques Faraut) **99k:43013** 43A85 (22E46)
— (*with* van Dijk, Gerrit) The Berezin form for rank one para-Hermitian symmetric spaces. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 8, 747–799. (Nobukazu Shimeno) **99j:22012** 22E30 (43A85)
Moldavanskiĭ, David I. (*with* Tieudjo, D.) Endomorphisms of the group $G_{mn} = \langle a, b;\ [a^m, b^n] = 1\rangle$ $m, n > 1$. (English summary) *Afrika Mat.* (3) **9** (1998), 11–18. (L. Ribes) **99i:20044** 20F05 (20E06)
Moldovan, Grigor (*with* Boboilă, Cristea) Une approche sur la modélisation d'objets complexes dans un système orienté-objet. (French summary) [An approach to the modelling of complex objects in an object-oriented system] *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 98–106 (1997). 68P15 (68R10)
Moldovyan, A. (*with* Moldovyan, N.; Izbash, V.) Software encryption: new 64-bit block cryptoscheme. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 1, 10–19. 94A60
Moldovyan, N. (*with* Moldovyan, A.; Izbash, V.) Software encryption: new 64-bit block cryptoscheme. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 1, 10–19. 94A60
Molenaar, Johannes (*with* de Neef, M. J.) Analysis of DNAPL infiltration in a medium with a low-permeable lens. (English summary) *Comput. Geosci.* **1** (1997), *no.* 2, 191–214. 76S05 (65M06, 76M25)
Molenaar, Peter C. M. Comment on fitting MA time series by structural equation models. (English summary) *Psychometrika* **64** (1999), *no.* 1, 91–94. 62M10
Molenberghs, Geert (*with* Lapp, Krista; Lesaffre, Emmanuel) Models for the association between ordinal variables. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 4, 387–411. 62H17
— (*with* Michiels, B.; Kenward, M. G.; Diggle, P. J.) Monotone missing data and pattern-mixture models. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 2, 153–161. (Summary) **99h:62030** 62F99
— (*with* Kenward, M. G.) Likelihood based frequentist inference when data are missing at random. (English summary) *Statist. Sci.* **13** (1998), *no.* 3, 236–247. 62A10
Molev, A. I. Factorial supersymmetric Schur functions and super Capelli identities. (English summary) *Kirillov's seminar on representation theory*, 109–137, *Amer. Math. Soc. Transl. Ser.* 2, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Joaquin O. Carbonara) **99j:05190** 05E05 (17B35)
— Stirling partitions of the symmetric group and Laplace operators for the orthogonal Lie algebra. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 281–300. (Summary) **99k:17011** 17B05 (05E10)
— Finite-dimensional irreducible representations of twisted Yangians. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5559–5600. (Tomasz Brzeziński) **99i:81106** 81R50 (17B37)
Molfino, Maria Teresa (*with* Forcheri, Paola; Gentilini, Paolo) Informational logic as a tool for automated reasoning. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 167–190. (Editors) **99b:68172** 68T27 (03B35, 68T15)
Molho, Elena (*with* Zaffaroni, Alberto[2]) Quasiconcavity of sets and connectedness of the efficient frontier in ordered vector spaces. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 407–424, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Johannes Jahn) **99j:90074** 90C29 (90C48)
palma Molina, Francisco José *see* **Palma Molina, Francisco José**
lópez Molina, J. A. *see* **López Molina, J. A.**
gallardo Molina, José María *see* **Gallardo Molina, José María**
Molina, Juan Estimates of the number of periodic trajectories on a class of Lorentz manifolds. *Nonlinear Anal.* **34** (1998), *no.* 6, 927–939. (Paolo Piccione) **99g:58025** 58E10 (53C50)
Molina, M. *see* **Molina Fernández, Manuel**
Molina, Manuel *see* **Molina Fernández, Manuel**
siles Molina, Mercedes *see* **Siles Molina, Mercedes**
Molina, R. *see* **Molina Legaz, R.**
Molina Fernández, Manuel (*with* Gonzalez-Velasco, Miguel) On the partial and total progeny of a bisexual Galton-Watson branching process. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 3-4, 225–232. (Summary) **99b:60143** 60J80 (62G05, 62M05)
— (*with* Gonzalez-Velasco, Miguel; Mota, M.) Bayesian inference for bisexual Galton-Watson processes. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1055–1070. (Summary) **99d:62079** 62M05
— (*with* Gonzalez-Velasco, Miguel) A note on the L^1-convergence of a superadditive bisexual Galton-Watson process. *Extracta Math.* **13** (1998), *no.* 1, 69–72. (Fima Klebaner) **99j:60128** 60J80 (60F25)
Molina Legaz, R. (*with* Cavas, J. A.; Vigueras Campuzano, Antonio) Equilibrium solutions and stability in a generalized Lagrange-Poisson problem. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 70E15 (70K20)
Molina-París, Carmen (*with* De Witt, Bryce) Gauge theory without ghosts. *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 396–408, *World Sci. Publishing, River Edge, NJ*, 1997. (Mohamed Kachkachi) **99m:81139** 81T13 (53C80, 81S10)
— (*with* De Witt, Bryce) Quantum gravity without ghosts. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2475–2479. (Subenoy Chakraborty) **99k:83040** 83C45
— (*with* Hochberg, David; Pérez-Mercader, Juan; Visser, Matt) Zeta functions, renormalization group equations, and the effective action. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 22, 4802–4805. (Summary) **99h:81140** 81T16 (81T17)
Molinari, Alain (*with* Dinzart, Florence) Structure of adiabatic shear bands in thermo-viscoplastic materials. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 923–938. 73B30 (73E60)
— (*with* Mercier, S.) Steady-state shear band propagation under dynamic conditions. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1463–1495. 73E99
Molinari, Luca Transfer matrices, non-Hermitian Hamiltonians and resolvents: some spectral identities. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8553–8562. (Alexei Khorunzhy) **99j:81036** 81Q05 (82B20)
— (*with* Akemann, G.; Cicuta, G. M.; Vernizzi, G.) Compact support probability distributions in random matrix theory. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1489–1497. (Summary) **99j:82038** 82B41
horsin-Molinaro, Thierry *see* **Horsin-Molinaro, Thierry**
Molinelli, S. (*with* Patil, D. P.; Tamone, G.) On the Cohen-Macaulayness of the associated graded ring of certain monomial curves. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 433–446. (Santiago Zarzuela Armengou) **99g:13003** 13A30 (13H10, 14H20)

Molinet, Frédéric (*with* Bouche, Daniel) ★ Méthodes asymptotiques en électromagnétisme. (French. French summary) [Asymptotic methods in electromagnetism] With a preface by Robert Dautray. Mathématiques & Applications [Mathematics & Applications], 16. *Springer-Verlag, Paris*, 1994. *xviii+416 pp. ISBN* 3-540-58229-0 (Pierre Hillion) **99a:78001** 78–02 (78A40, 78A45)

Molinet, Luc On the asymptotic behavior of solutions to the (generalized) Kadomtsev-Petviashvili-Burgers equations. (English summary) *J. Differential Equations* **152** (1999), *no.* 1, 30–74. (Grzegorz Karch) **99m:35212** 35Q53 (35B40)

Molino, Pierre (*with* Currás Bosch, Carlos) Holonomie, suspensions et classifications pour les feuilletages lagrangiens. (English and French summaries) [Holonomy, suspension, and classification of Lagrangian foliations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1317–1320. (Tedi C. Draghici) **99i:57047** 57R30

Molitor-Braun, Carine Actions exponentielles et noyaux d'opérateurs. (English summary) [Exponential actions and kernels of operators] *Travaux mathématiques, Fasc. IX*, 23–101, *Sém. Math. Luxembourg, Centre Univ. Luxembourg, Luxembourg*, 1997. (Rainer Felix) **99e:22014** 22E27 (22E60)

— (*with* Mint Elhacen, Salma) Étude de l'algèbre $L^1_\omega(G)$ avec G groupe de Lie nilpotent et ω poids polynomial. (English summary) [Study of the Lie algebra $L^1_\omega(G)$, with G a nilpotent Lie group and ω a polynomial weight] *Travaux mathématiques, Fasc. X*, 77–94, *Sém. Math. Luxembourg, Centre Univ. Luxembourg, Luxembourg*, 1998. (Summary) **99m:43001** 43A20 (22E25, 22E30, 46J99)

— (*with* Ludwig, Jean) Exponential actions, orbits and their kernels. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 497–513. (Chal Benson) **99f:22010** 22E25 (22E60)

— Exponential actions and maximal $\mathcal{D}$-invariant ideals. (English summary) *Manuscripta Math.* **96** (1998), *no.* 1, 23–35. (Jean Ludwig) **99h:43008** 43A20 (22E25)

Moll, Christoph (*with* Hamacher, Anja) A new heuristic for vehicle routing with narrow time windows. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 301–306, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B06 (90C90)

— (*with* Blasum, Ulrich; Bussieck, Michael R.; Hochstättler, Winfried; Scheel, Hans-Helmut; Winter, Thomas) Scheduling trams in the morning. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 137–148. (Summary) **99m:90083** 90B35 (90C27)

Moll, Victor H. (*with* Boros, George) A criterion for unimodality. (English summary) *Electron. J. Combin.* **6** (1999), *no.* 1, *Research Paper* 10, 4 *pp.* (*electronic*). (Summary) **99k:05017** 05A20

Mollah, Alarif (*with* Chakraborty, H. S.) Order level inventory system with different demand patterns for items with variable rate of deterioration (probabilistic model). (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 207–215. 90B05

Molland, A. George Roger Bacon's appropriation of past mathematics. *Tradition, transmission, transformation* (*Norman, OK*, 1992/1993), 347–365, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (Y. Dold) **99a:01008** 01A35 (01A30)

Mollard, Michel (*with* Berrachedi, Abdelhafid) On two problems about (0, 2)-graphs and interval-regular graphs. (English summary) *Ars Combin.* **49** (1998), 303–309. (Summary) **99c:05089** 05C25

— (*with* Gravier, Sylvain; Payan, Charles) On the non-existence of 3-dimensional tiling in the Lee metric. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 567–572. (Oded Schramm) **99e:52030** 52C22 (05B45)

Molle, Riccardo Elliptic nonlinear variational problems. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 133–136. 35J85 (35J60, 49J40)

Moller, Faron A taxonomy of infinite state processes. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q68 (68Q10, 68Q45)

Möller, H. M. Solving of algebraic equations—an interplay of symbolical and numerical methods. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 161–176, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Nobuki Takayama) **99k:13040** 13P10 (65–04, 65H10)

Möller, J. Dominique (*with* Montgomery, Michael T.; Nicklas, Christopher T.) Linear and nonlinear vortex motion in an asymmetric balance shallow water model. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 5, 749–768. (Summary) **99k:76038** 76C20 (86A10)

Møller, Jesper M. Deterministic p-compact groups. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 255–278, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:55012** 55P35 (55P10, 55P15)

— (*with* Waagepetersen, Rasmus Plenge) Markov connected component fields. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 1–35. (Ilya S. Molchanov) **99e:60120** 60G60 (60D05, 68U10)

— (*with* Ishiguro, Kenshi; Notbohm, Dietrich) Rational self-equivalences of spaces in the genus of a product of quaternionic projective spaces. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 45–61. (Jean-Claude Thomas) **99j:55004** 55P10 (55R35)

— Perfect simulation of conditionally specified models. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 251–264. (Summary) **99j:62131** 62M10

Möller, Manfred On the essential spectrum of a class of operators in Hilbert space. (English summary) *Math. Nachr.* **194** (1998), 185–196. (Catalin Badea) **99i:47006** 47A10 (47B25)

Möller, Rögnvaldur G. (*with* Bhattacharjee, Meenaxi; Macpherson, Dugald; Neumann, Peter M.) ★ Notes on infinite permutation groups. (English summary) Texts and Readings in Mathematics, 12. *Hindustan Book Agency, New Delhi*, 1997. *xii+202 pp. ISBN* 81-85931-13-5 (Cheryl E. Praeger) **99e:20003** 20B07

— (*with* Seifter, Norbert) Digraphical regular representations of infinite finitely generated groups. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 597–602. (Raffaele Scapellato) **99i:20007** 20B27 (05C25)

Mollerach, Silvia (*with* Matarrese, Sabino; Bruni, Marco) Relativistic second-order perturbations of the Einstein-de Sitter universe. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 043504, 22 *pp.* 83C25

Möllers, Th. (*with* van Laak, O.) On the global approximation and interpolation of locally described real-valued functions. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 1–10. (R. Franke) **99e:65016** 65D15

Molli, P. (*with* Canals, G.; Godart, C.; Munier, Manuel) A criterion to enforce correctness of indirectly cooperating applications. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 279–302. 68Q10

Mollica, F. (*with* Rajagopal, K. R.) Secondary flows due to axial shearing of a third grade fluid between two eccentrically placed cylinders. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 4, 411–429. (Summary) **99j:76002** 76A05

Mollin, R. A. Jacobi symbols, ambiguous ideals, and continued fractions. *Acta Arith.* **85** (1998), *no.* 4, 331–349. (Gabriel D. Villa-Salvador) **99e:11136** 11R11 (11A55, 11R29, 11R65)

— Class number one and prime-producing quadratic polynomials revisited. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 328–334. (Franz Lemmermeyer) **99g:11127** 11R11 (11R29)

— A survey of Jacobi symbols, ideals, and continued fractions. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 355–368. (Amara Hédi) **99h:11119** 11R11 (11A15)

— (*with* Goddard, B.) Quadratic prime-producing polynomials. (English summary) *J. Math. Sci. (Calcutta)* **9** (1998), *no.* 1, 1–8. (F. Diaz y Diaz) **99g:11126** 11R09 (11A41, 11R11)

— (*with* Goddard, B.) Richaud-Degert prime-producers. (English summary) *Util. Math.* **54** (1998), 273–286. (Stéphane Louboutin) **99i:11098** 11R11 (11R29)

— (*with* Cheng, Kell Hiu Fai) Palindromy and ambiguous ideals revisited. (English summary) *J. Number Theory* **74** (1999), *no.* 1, 98–110. (Vincent Fleckinger) **99m:11123** 11R11 (11A55)

Mollison, Denis (*with* Ball, Frank; Scalia-Tomba, Gianpaolo) Epidemics with two levels of mixing. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 46–89. (Andrew D. Barbour) **99a:92033** 92D30

Molloy, Michael Sean O'Brien (*with* Hind, Hugh R.; Reed, Bruce A.) Colouring a graph frugally. (English summary) *Combinatorica* **17** (1997), *no.* 4, 469–482. (David E. Woolbright) **99j:05070** 05C15

— (*with* Reed, Bruce A.) Colouring graphs where chromatic number is almost their maximum degree. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 216–225, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:05053** 05C15 (05C85, 68R10)

— (*with* Reed, Bruce A.) A bound on the total chromatic number. (English summary) *Combinatorica* **18** (1998), *no.* 2, 241–280. (Ortrud R. Oellermann) **99j:05074** 05C15 (05C80)

— (*with* Reed, Bruce A.; Steiger, William) On the mixing rate of the triangulation walk. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 179–190, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:60124** 60J15 (60C05)

— (*with* Hind, Hugh R.; Reed, Bruce A.) Total coloring with $\Delta + \mathrm{poly}(\log \Delta)$ colors. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 816–821 (*electronic*). (Summary) **99e:05050** 05C15 (05C85)

Molnár, Emil (*with* Prok, István; Szirmai, J.) Classification of solid transitive simplex tilings in simply connected 3-spaces. II. Metric realizations of the maximal simplex tilings. *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 47–94. (Ren Ding) **99j:52026** 52C22 (57S30)

égertné Molnár, Éva *see* **Égertné Molnár, Éva**

Molnár, Lajos (*with* Šemrl, Peter) Order isomorphisms and triple isomorphisms of operator ideals and their reflexivity. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 6, 497–506. (Hans-Olav Tylli) **99a:47054** 47B49 (15A99, 47D25, 47D50)

— The automorphism and isometry groups of $l_\infty(\mathbb{N}, \mathcal{B}(\mathcal{H}))$ are topologically reflexive. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 671–680. (Miron E. Shpigel) **99k:47083** 47D03 (46B45, 46L05)

— Characterization of additive $*$-homomorphisms and Jordan $*$-homomorphisms on operator ideals. (English summary) *Aequationes Math.* **55** (1998), *no.* 3, 259–272. (A. Niknam) **99m:47042** 47B49 (41A65, 46L99, 47D50)

— (*with* Győry, Máté) Diameter preserving linear bijections of $C(X)$. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 4, 301–310. (John N. McDonald) **99h:46098** 46J10 (47B38)

— (*with* Mascioni, Vania) Linear maps on factors which preserve the extreme points of the unit ball. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 434–441. (È. V. Kissin) **99m:46145** 46L10 (46L35, 47B49, 47D25)

— An algebraic approach to Wigner's unitary-antiunitary theorem. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 3, 354–369. (Michael Frank) **99k:46031** 46C99 (15A30, 46L05, 47D25)

— Stability of the surjectivity of Jordan *-homomorphisms of $\mathcal{B}(H)$. (English summary) *J. Natur. Geom.* **14** (1998), *no.* 2, 149–154. (Shukhrat M. Usmanov) **99g:46102** 46L70 (47D25)

— (*with* Šemrl, Peter) Some linear preserver problems on upper triangular matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 189–206. (Summary) **99h:15003** 15A04 (15A03, 15A27)

— A proper standard C^*-algebra whose automorphism and isometry groups are topologically reflexive. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 563–574. (Stephen Power) **99e:46082** 46L40 (47D25)

Molnar, N. P. Approximation of the Lauricella hypergeometric functions $F_D^{(N)}$ by branched continued fractions. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2381–2384. (Summary) **99f:33017** 33C65 (40A15, 41A30)

Molnár, Pal R. (*with* Borbély, Tamas; Fajszi, Bulcsu) On the pressure of electromagnetic radiation. (English summary) *The enigmatic photon, Vol. 4*, 205–218, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78A40

Molnar-Egert, Eva *see* **Égertné Molnár, Éva**

Molodenskiĭ, S. M. (*with* Sasao, Tetsuo) On a new approach to the theory of Earth's nutation. I. Fundamental equations. (Russian. Russian summary) *Fiz. Zemli* **1995**, *no.* 12, 24–38. (Summary) **99f:86006** 86A17 (86A60)

— (*with* Sasao, Tetsuo) On a new approach to the theory of Earth's nutation. II. Numerical results. (Russian. Russian summary) *Fiz. Zemli* **1995**, *no.* 12, 39–47. (Summary) **99f:86007** 86A17 (86A60)

Molodtsov, Sergey G. The generation of molecular graphs with obligatory, forbidden, and desirable fragments. *Match No.* 37 (1998), 157–162. (E. Keith Lloyd) **99d:92052** 92E10 (05C50, 05C90)

Molokov, S. (*with* Rajan, K.) Magnetohydrodynamic flows around bodies in strong transverse magnetic fields. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 45–60, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:76125** 76W05

Moloney, Jerome V. Ultrafast intense probes of nonlinear optical material interactions. *Nonlinear optical materials* (*Minneapolis, MN*, 1996), 177–204, *IMA Vol. Math. Appl.*, 101, *Springer, New York*, 1998. (Alexei D. Kiselev) **99g:78029** 78A60 (78A40)

— (*with* Xin, Jack X.) Global solutions and attractors of a Maxwell-Bloch Raman laser system in two transverse dimensions. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 501–527. (Guenther Hoermann) **99e:35217** 35Q60 (35B40, 47H20, 78A60, 81V80)

— *see also* **Nonlinear optical materials**, **99d:78001**

Molostvov, V. S. (*with* Zhukovskiĭ, V. I.; Vaisman, Konstantin S.) Non-cooperative games under uncertainty. *Game theory and applications, III*, 189–222, *Nova Sci. Publ., Commack, NY*, 1997. (Nina N. Subbotina) **99a:90249** 90D10 (90D06)

Molotkov, I. A. (*with* Vakulenko, S. A.) The initial stage of evolution of displacement fronts in a nonlinear filtration problem. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 108–114; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 103–109. (Summary) **99b:76088** 76S05 (35K99, 76E15)

Molski, Marcin A compact representation of the Dirac field equations. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 2, 302–304. 81R20

Molter, Ursula M. (*with* Cabrelli, Carlos A.; Heil, Christopher) Accuracy of lattice translates of several multidimensional refinable functions. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 5–52. (Steen Pedersen) **99g:42038** 42C15 (39B62)

— (*with* Cabrelli, Carlos A.) Generalized self-similarity. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 251–260. (Andreas Schief) **99k:28011** 28A80 (39B22, 58F11)

Moltmann, Friederike Resumptive quantifiers in exception sentences. *Quantifiers, deduction, and context* (*Stanford, CA*, 1993), 139–170, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03B65

— Part structures, integrity, and the mass-count distinction. *Synthese* **116** (1998), *no.* 1, 75–111. 03B65

Mom, Alain Eigenstructure of distance matrices with an equal distance subset. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 245–251. (F. Szidarovszky) **99f:15012** 15A18

Momont, B. (*with* Verbeure, A.) Algebraic structure of k-mode fluctuations. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 97–105. (Lech Jakóbczyk) **99a:82010** 82B10 (47N55)

— (*with* Michoel, T.; Verbeure, A.) CCR-algebra structure of normal k-mode fluctuations. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 361–395. (Lech Jakóbczyk) **99m:82006** 82B10 (46L60, 47N55)

Momparler, J. C. (*with* Martínez, V. J.) Nonlinear filters applied to hyperbolic problems with stiff source terms. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 7 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70

Monaco, Antonio (*with* Monaco, Giuseppe) Development of a determinant in function of the differences among the elements of each line. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 29–47. (Peter Butkovič) **99i:15011** 15A15

Monaco, Giuseppe (*with* Monaco, Antonio) Development of a determinant in function of the differences among the elements of each line. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 29–47. (Peter Butkovič) **99i:15011** 15A15

Monaco, Roberto (*with* Borgioli, G.; Gerasimenko, V. I.; Lauro, Giuliana) A discrete velocity model of a gas: global in time solutions of the BBGKY hierarchy. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 431–442. (Carlo Cercignani) **99e:82078** 82C40 (76P05)

— (*with* Polewczak, Jacek; Rossani, Alberto) Kinetic theory of atoms and photons: an application to the Milne-Chandrasekhar problem. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 625–637. (Alexei Heintz) **99h:82069** 82C70 (76N10, 81V80)

Monaco, Salvatore (*with* Normand-Cyrot, D.) A unified representation for nonlinear discrete-time and sampled dynamics. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 27 *pp.* (*electronic*). (Summary) **99e:93046** 93C55 (93C10)

— (*with* Barbot, J.-P.; Normand-Cyrot, D.) Quadratic forms and approximate feedback linearization in discrete time. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 567–586. 93C55 (93B11)

— (*with* Califano, C.; Normand-Cyrot, D.) On the discrete-time normal form. *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1654–1658. (Sauro Longhi) **99j:93049** 93C10 (93B10, 93C55)

— (*with* Amicucci, G. L.) On nonlinear detectability. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 6, 1105–1123. (Summary) **99c:93013** 93B07 (93C10)

Monadi, A. On the closedness of the space of holomorphic maps. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 2, 105–108. (Richard M. Aron) **99c:46049** 46G20 (46E50, 46M15, 58B12)

Monagan, Michael B. (*with* Bernardin, Laurent) Efficient multivariate factorization over finite fields. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 15–28, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (*see* **99b:94002**) 68Q40

— (*with* Margot, Roger) Computing univariate GCDs over number fields. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 42–49, *ACM, New York*, 1998. (Summary) **99g:11149** 11Y16 (68Q40)

Monaghan, Joseph J. (*with* Cleary, Paul W.) Conduction modelling using smoothed particle hydrodynamics. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 227–264. (Summary) **99i:80002** 80–08 (76M25, 80A20)

Monahan, John (*with* Genz, Alan) Stochastic integration rules for infinite regions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 426–439 (*electronic*). (Summary) **99a:65014** 65C05 (65D30)

Monakhov, V. S. (*with* Sel′kin, M. V.) On the structure of normal subgroups of finite groups. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 96–100, 104, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20E07

— On nonsolvable groups with given subgroups of nonprime index. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 93–96, *Gomel. Gos. Univ., Gomel′*, 1995. (*see* **99g:20004**) 20D10

— Finite groups with supersolvable subgroups of even index. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 123–130, *Gomel. Gos. Univ., Gomel′*, 1996. (E. I. Khukhro) **99j:20025** 20D10 (20D05, 20F16)

— On bijectors in finite solvable groups. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 152–156, *Gomel. Gos. Univ., Gomel′*, 1996. (From the text) **99h:20030** 20D10

— On the product of two groups with cyclic subgroups of index 2. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fiz.-Mat. Navuk* **1996**, *no.* 3, 21–24, 130. (From the text) **99b:20039** 20D40 (20F16)

— (*with* Skiba, A. N.; Kamornikov, S. F.; Sel′kin, M. V.) Leonid Aleksandrovich Shemetkov (on the occasion of his sixtieth birthday). (Russian) *Problems in algebra, No.* 11 (*Russian*), 3–5, *Gomel. Gos. Univ., Gomel′*, 1997. (*see* **99g:20007**) 01A70

— Finite groups with 2-nilpotent subgroups of even index. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 700–705; *translation in Math. Notes* **61** (1997), *no.* 5-6, 585–589. (Czesław Bagiński) **99h:20048** 20E07 (20F19)

— *see also* **Problems in algebra**, **99g:20007**

Monari, P. (*with* Costantini, Domenico; Garibaldi, Ubaldo) From single events to statistical events. (Italian. English and Italian summaries) *Statistica* (*Bologna*) **58** (1998), *no.* 2, 191–211. 62F15

Monari-Martinez, Elisabetta (*with* Rangaswamy, K. M.) Torsion-free modules over valuation domains whose balanced-projective dimension is at most one. *J. Algebra* **205** (1998), *no.* 1, 91–104. (C. Vinsonhaler) **99g:13029** 13F30 (13C13, 13D05, 20K20)

Monasse, Pascal (*with* Perrier, Valérie) Orthonormal wavelet bases adapted for partial differential equations with boundary conditions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 1040–1065 (*electronic*). (Andreas Rieder) **99c:35028** 35C10 (42C10, 65T10)

Monasson, R. (*with* Biroli, G.) Relationship between long timescales and the static free-energy in the Hopfield model. (English summary) *J. Phys. A* **31** (1998), *no.* 21, *L*391–*L*396. (Summary) **99a:82096** 82D30

Monastyrnyĭ, P. I. (*with* Shan′ko, D. V.) An invariant embedding for nonlinear difference boundary value problems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 1, 10–15, 122. (Summary) **99a:65093** 65L10 (65L12)

Monastyrskĭ, M. I. (*with* Nechaev, Sergei) Statistics of knots and some relations with random walks on hyperbolic plane. *KNOTS '96* (*Tokyo*), 147–157, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99i:57020** 57M25 (60J15)

— (*with* Joets, A.; Ribotta, R.) Ensembles of singularities generated by surfaces with polyhedral symmetry. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 8, 1547–1550. (Summary) **99c:58018** 58C27

Moncrief, V. (*with* Nelson, J. E.) Constants of motion and the conformal anti-de Sitter algebra in $(2+1)$-dimensional gravity. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 5, 545–562. (Viqar Husain) **99b:83027** 83C40 (83C57)

— (*with* Fischer, A. E.) Hamiltonian reduction of Einstein's equations of general relativity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 142–161. (Alan D. Rendall) **99a:83005** 83C05 (53C80)

— (*with* Berger, Beverly K.; Garfinkle, David; Isenberg, James A.; Weaver, Marsha) The singularity in generic gravitational collapse is spacelike, local and oscillatory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1565–1573. (Robert J. Low) **99j:83052** 83C75

Mond, B. (*with* Dragomir, Sever Silvestru; Pearce, C. E. M.; Pečarić, Josip) Interpolations to Jensen's inequality with application to refinements of the triangle inequality for normed linear spaces. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 17–31. (Maria J. Carro) **99f:26028** 26D15 (46B20)

— (*with* Pečarić, Josip) On Schwarz's inequality in Hilbert space. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 3-4, 269–274. (Takayuki Furuta) **99j:47022** 47A63

— (*with* Zhang, Jinyun) Higher order invexity and duality in mathematical programming. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 357–372, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alberto Cambini) **99i:90075** 90C26 (49N15)

— (*with* Pečarić, Josip) Hadamard products and generalized inverses. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 194–197. (From the introduction) **99k:15006** 15A09

— (*with* Dragomir, Sever Silvestru) Integral inequalities of Hadamard type for log-convex functions. (English summary) *Demonstratio Math.* **31** (1998), *no.* 2, 355–364. (J. Sándor) **99g:26041** 26D15

— (*with* Zhang, Jinyun) Generalized dual to the monotone nonlinear complementarity problem. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 73–86. (Alberto Seeger) **99a:90213** 90C33 (49N15)

— (*with* Zhang, Jinyun) Higher order duality and matrix game equivalence. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 87–96. (Alberto Seeger) **99b:90160** 90D05 (90C30)

Mond, David (*with* Cooper, Thomas) Complex monodromy and changing real pictures. *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 599–608. (Kevin Houston) **99k:32067** 32S40 (14B07, 14P25)

Mondadori, Marco (*with* D'Agostino, Marcello) Carnap and logical truth. (Italian) *The legacy of Rudolf Carnap* (*Italian*) (*Cesena*, 1992), 347–355, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (Ignacio Angelelli) **99c:03005** 03A05

Mondal, Tapas Kumar (*with* Samanta, Syamal Kumar) Topology of interval-valued fuzzy sets. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 1, 23–38. 54A40

Mondéjar, F. (*with* Balibrea Gallego, Francisco; Esquembre, F.) Simple triangular maps of the unit square. (English summary) *Iteration theory* (*ECIT 94*) (*Opava*), 243–246, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F08

Monderer, Dov (*with* Hart, Sergiu) Potentials and weighted values of nonatomic games. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 619–630. (Summary) **99f:90203** 90D13 (90A14)

— (*with* Tennenholtz, Moshe) Optimal auctions revisited. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 32–37, *MIT Press, Cambridge,*

MA, 1998. (*see* **99f:68005**) 90A60 (90A09)
— (*with* Einy, Ezra; Moreno, Diego) The least core, kernel and bargaining sets of large games. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 585–601. (Kensaku Kikuta) **99f:90202** 90D12 (90D13)
— (*with* Hon-Snir, Shlomit; Sela, Aner) A learning approach to auctions. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 65–88. (Milan Mareš) **99m:90054** 90A60
shaked-Monderer, Naomi *see* **Shaked-Monderer, Naomi**
Mondescu, Radu P. (*with* Muthukumar, M.) Brownian motion and polymer statistics on certain curved manifolds. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4411–4419. (Summary) **99a:82046** 82B41
Mondié, Sabine (*with* Loiseau, Jean-Jacques; Zaballa, Ion; Zagalak, Petr) Assigning the Kronecker invariants of a matrix pencil by row or column completions. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 327–336. (Jacek Kabziński) **99e:15016** 15A22
Mondragón, A. (*with* Hernández, E. S.) Accidental degeneracy and Berry phase of resonant states. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 257–281, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Piotr Kosiński) **99f:81069** 81Q99 (81S99)
Mondragón-Sánchez, J. A. (*with* Torres del Castillo, G. F.) Invariance of the massless field equations under changes of the metric. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 379–387. (Sunil D. Maharaj) **99d:83027** 83C22 (83C50)
Monegato, G. (*with* Aimi, A.; Carini, Angelo; Diligenti, M.) Numerical integration schemes for evaluation of (hyper)singular integrals in 2D BEM. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 1–11. (Summary) **99e:65034** 65D30
— (*with* Scuderi, L.) High order methods for weakly singular integral equations with nonsmooth input functions. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1493–1515. (Summary) **99a:65192** 65R20 (45E05, 45L05)
— (*with* Lyness, J. N.) The Euler-Maclaurin expansion and finite-part integrals. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 273–291. (Christian Coatmélec) **99m:65049** 65D32 (43A55, 65B15)
— (*with* Scuderi, L.) Approximation of nonsmooth solutions of linear integral equations on bounded intervals. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 101–124. (Javad Abdalkhani) **99m:65250** 65R20 (45L05)
Monfort, Alain (*with* Billio, Monica) Switching state-space models: likelihood function, filtering and smoothing. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 65–103. (Summary) **99c:62241** 62M10 (62M20)
Monfroy, Eric Chaotic iteration for polynomial constraints. (English summary) *CWI Quarterly* **11** (1998), *no.* 2-3, 249–272. (H. Ratschek) **99m:65102** 65G10 (65H10)
Mong, Peiyuan *see* **Meng, Pei Yuan**
victoria-Monge, Carles *see* **Victoria-Monge, Carles**
Monge, Gaspard *see* **Liu, Ke Ming**
Mongeau, Marcel (*with* McKinnon, K. I. M.) A generic global optimization algorithm for the chemical and phase equilibrium problem. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 325–351. (V. I. Bykov) **99f:90187** 90C90 (90C30)
Mongin, Philippe (*with* Lismont, L.) On the logic of common belief and common knowledge [MR 96b:90149]. *Epistemic logic and the theory of games and decisions*, 3–34, *Theory Decis. Lib. Ser. C Game Theory Math. Program. Oper. Res.*, 20, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **99k:00028**) 90D35 (03B45)
— The paradox of the Bayesian experts and state-dependent utility theory. (English summary) *J. Math. Econom.* **29** (1998), *no.* 3, 331–361. (Yew-Kwang Ng) **99i:90021** 90A10
— *see also* **Epistemic logic and the theory of games and decisions, 99k:00028** *and* **Logic & foundation of the theory of games and decisions, 99m:03039**
Mongioví, Marco Fabio (*with* Bittanti, Sergio; Colaneri, Patrizio) From singular to nonsingular filtering of periodic systems: filling the gap with the spectral interactor matrix. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 222–227. 93E11 (93C80)
Monien, Burkhard (*with* Diekmann, Ralf; Frommer, Andreas) Nearest neighbor load balancing on graphs. (English summary) *Algorithms—ESA '98* (*Venice*), 429–440, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68022** 68M20
— (*with* Bezrukov, Sergei; Unger, Walter; Wechsung, Gerd) Embedding ladders and caterpillars into the hypercube. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 21–29. (Summary) **99c:68188** 68R10 (05C10, 68M10)
— (*with* Klasing, Ralf; Lüling, Reinhard) Compressing cube-connected cycles and butterfly networks. (English summary) *Networks* **32** (1998), *no.* 1, 47–65. (Dominique Sotteau) **99g:68018** 68M10 (05C38)
Monin, François (*with* Groote, Jan Friso; van de Pol, Jaco) Checking verifications of protocols and distributed systems by computer. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 629–655, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68T15)
Moniz, Paulo Rodrigues Lima Vargas Conserved currents in supersymmetric quantum cosmology? (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 5, 625–641. (Orfeu Bertolami) **99c:83032** 83C45
— Origin of structure in supersymmetric quantum cosmology. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, *R7071–R7074*. (Summary) **99k:83043** 83C45 (83E50)
Moniz Pereira, Luís *see* **Pereira, Luís Moniz**
Monk, N. A. M. (*with* Hiley, B. J.) A unified algebraic approach to quantum theory. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 4, 371–377. (Summary) **99d:81008** 81P05 (81R99)
Monk, P. B. (*with* Parrott, A. K.; LeHyaric, A.; Jennings, N.; Murphy, John Andrew; Rowse, D.) Parallelisation of a 3-D electromagnetic scattering code. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 329–340, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65N30)
— (*with* Collino, Francis) Optimizing the perfectly matched layer. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 245–254, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 78–08 (78A45)
— (*with* Collino, Francis) Optimizing the perfectly matched layer. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 157–171. (Summary) **99h:78002** 78–08 (78A45)
— (*with* Colton, David L.) A linear sampling method for the detection of leukemia using microwaves. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 926–941 (*electronic*). (Summary) **99b:92019** 92C50 (35R30, 78A55)
— (*with* Kirsch, Andreas) Corrigendum: "A finite element/spectral method for approximating the time-harmonic Maxwell system in $\mathbf{R}^3$" [SIAM J. Appl. Math. **55** (1995), no. 5, 1324–1344; MR 96j:65124]. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 2024–2028 (*electronic*). (Summary) **99h:65192** 65N30 (78–08, 78A45)
— (*with* Collino, Francis) The perfectly matched layer in curvilinear coordinates. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 2061–2090 (*electronic*). (Summary) **99e:78029** 78A45 (65M99, 78–08)
— (*with* Cohen, Gary) Mur-Nédélec finite element schemes for Maxwell's equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 197–217. (Summary) **99k:78002** 78–08 (65M70, 78A45)
Monma, C. L. (*with* Grötschel, Martin; Stoer, Mechthild) Polyhedral and computational investigations for designing communication networks with high survivability requirements. (English summary) *Oper. Res.* **43** (1995), *no.* 6, 1012–1024. (Rainer Burkard) **99b:90050** 90B12 (90C05)
Monneau, Régis (*with* Hamel, François) Solutions d'équations elliptiques semi-linéaires dans $\mathbf{R}^N$ ayant des courbes de niveau de forme conique. (English and French summaries) [Solutions of semilinear elliptic equations in $\mathbf{R}^N$ with conical-shaped level sets] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 645–650. (Summary) **99h:35047** 35J60
Monney, Paul-André (*with* Kohlas, J.; Anrig, Bernhard; Haenni, R.) Model-based diagnostics and probabilistic assumption-based reasoning. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 71–106. (Summary) **99h:68024** 68M15 (68T27)
— (*with* Anrig, Bernhard) Using propositional logic to compute probabilities in multistate systems. (English summary) *Internat. J. Approx. Reason.* **20** (1999), *no.* 2, 113–143. 93C42 (03B80, 06E99)
Monnier, J. *see* **Monnier, Jérôme**
Monnier, Jean-Philippe Anneaux d'holomorphie et Positivstellensatz archimédien. (English summary) [Holomorphy rings and Archimedean Positivstellensatz] *Manuscripta Math.* **97** (1998), *no.* 3, 269–302. (Aviva Szpirglas) **99m:13013** 13A99 (12D15, 14P99)
Monnier, Jérôme (*with* Trabucho, L.) Existence and uniqueness of a solution to an adaptive elasticity model. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 217–228. (Hilmi Demiray) **99e:73085** 73P20 (73B99, 73C99)
Monoszová, Gabriela (*with* Haviar, Alfonz; Hrnčiar, Pavel) Minimal eccentric sequences with least eccentricity three. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 27–50. (Summary) **99i:05071** 05C12
Monreal, Amadeo (*with* Tomás, Maria Santos) On some functional equations arising in computer graphics. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 61–72. (Dumitru Acu) **99f:39031** 39B05 (39B22, 65Y25)
Monro, D. M. (*with* Sherlock, B. G.) On the space of orthonormal wavelets. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1716–1720. 42C15
Monroe, Christopher (*with* Brassard, Gilles; Chuang, Isaac; Lloyd, Seth) Quantum computing. *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 19, 11032–11033 (*electronic*). (Emanuel H. Knill) **99g:81029** 81P99 (68Q05)
Monroy, L. (*with* Fernández García, Francisco Ramón; Puerto Albandoz, Justo) Two-person non-zero-sum games as multicriteria goal games. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 195–208. (Summary) **99j:90113** 90D05 (90A05)
— (*with* Fernández García, Francisco Ramón; Puerto Albandoz, Justo) Multicriteria goal games. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 403–421. (Summary) **99g:90165** 90D06 (90C29)
Monsan, Vincent (*with* Rachdi, Mustapha) Spectral density estimation for p-adic stationary processes. (English summary) *Ann. Math. Blaise Pascal* **5** (1998), *no.* 1, 25–41. (Summary) **99c:62271** 62M15 (62G20)
abd el-Monsef, M. E. *see* **Abd El-Monsef, M. E.**
Monsky, Paul Hilbert-Kunz functions in a family: point-S_4 quartics. *J. Algebra* **208** (1998), *no.* 1, 343–358. (Elsa Zatini) **99k:13005** 13A35 (13D40)
— Hilbert-Kunz functions in a family: line-S_4 quartics. *J. Algebra* **208** (1998), *no.* 1, 359–371. (Elsa Zatini) **99k:13006** 13A35 (13D40)
Monson, Sylvia D. (*with* Fraughnaugh, Kathryn; Pullman, Norman J.; Rees, Rolf S.) Uni-intersection graphs. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 14–22. (Hiroshi Maehara) **99d:05074** 05C75
— (*with* Beasley, Leroy B.; Pullman, Norman J.) Linear operators that strongly preserve graphical properties of matrices. II. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 53–66. (Summary) **99j:15004** 15A04 (05C50)
Monsuur, Herman (*with* Storcken, Ton) Measuring intransitivity. (English summary) *Math. Social Sci.* **34** (1997), *no.* 2, 125–152. (Summary) **99a:90023** 90A06 (05C20, 90A05)
perea y Monsuwé, A. *see* **Perea y Monsuwé, A.**
gómez-Mont, Xavier *see* **Gómez-Mont, Xavier**
Montagard, P.-L. Sur les faces du cône associé au pléthysme. [The faces of the cone associated with plethysm] *Comm. Algebra* **26** (1998), *no.* 7, 2321–2336. (Jorge A. Vargas) **99e:20057** 20G05
Montagna, Franco Paradoxes and incompleteness theorems: the Solovay theorem. (Italian) *Epistemology of mathematics*. 1992–1993 *Seminars* (*Italian*) (*Siena/Bologna/Pavia*), 85–95, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 03B45 (03F30)
— Investigations on measure-one identification of classes of languages. (English summary) *Inform. and Comput.* **143** (1998), *no.* 1, 74–107. (Sanjay Jain) **99g:68145** 68Q99 (03D05, 68T05)
Montague, P. S. (*with* Dong, Chongying; Li, Hai Sheng; Mason, Geoffrey) The radical of a vertex operator algebra. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 17–25, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Dražen Adamović) **99j:17042** 17B69

— Conjectured Z_2-orbifold constructions of self-dual conformal field theories at central charge 24—the neighborhood graph. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 2, 105–120. (Mirko Primc) **99e:81225** 81T40 (17B68, 81R10)

Montague, Richard *see* **Sandri, Giorgio**, **99a:03033**

Montaldi, Emilio (*with* Brambilla, Nora) Remarks on some series considered by Ramanujan. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 1-2, 153–168. (Bruce C. Berndt) **99g:33055** 33D99 (11M06)

— (*with* Zecca, Antonio) Second quantization of the Dirac field: normal modes in the Robertson-Walker space-time. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 995–1009. (Summary) **99a:81116** 81T20

Montaldi, J. A. (*with* Roberts, Richard Mark) Relative equilibria of molecules. (English summary) *J. Nonlinear Sci.* **9** (1999), *no.* 1, 53–88. (M. E. R. de Sousa Dias) **99j:58079** 58F05 (70F99, 70H05, 70K20)

Montaña, José Luis (*with* Giusti, M.; Heintz, Joos; Hägele, K.; Morais, J. E.; Pardo, Luis Miguel) Lower bounds for Diophantine approximations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 277–317. (Summary) **99d:68106** 68Q25 (14Q15)

— (*with* Aldaz, Mikel; Heintz, Joos; Matera, Guillermo; Pardo, Luis Miguel) Combinatorial hardness proofs for polynomial evaluation (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 167–175, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q40 (68Q25)

— (*with* Aldaz, Mikel; Heintz, Joos; Matera, Guillermo; Pardo, Luis Miguel) Time-space tradeoffs for polynomial evaluation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 10, 907–912. (Summary) **99j:68047** 68Q25 (68Q40)

— (*with* Pardo, Luis Miguel) On Kolmogorov complexity in the real Turing machine setting. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 81–86. (Summary) **99c:68134** 68Q30 (03D10, 68Q05)

Montanari, Angela (*with* Lizzani, Laura) Projection pursuit and departure from unimodality. (English and Italian summaries) *Metron* **56** (1998), *no.* 1-2, 139–153. 62H40

Montanari, Angelo (*with* de Rijke, Maarten) Two-sorted metric temporal logics. (English summary) Algebraic methodology and software technology (Montreal, PQ, 1995). *Theoret. Comput. Sci.* **183** (1997), *no.* 2, 187–214. (Zoran Ognjanović) **99c:03025** 03B45 (03B70, 68Q60)

— (*with* van Benthem, Johan; D'Agostino, Giovanna; Policriti, Alberto) Modal deduction in second-order logic and set theory. II. (English summary) *Studia Logica* **60** (1998), *no.* 3, 387–420. (Summary) **99i:03016** 03B45

— (*with* Cervesato, Iliano) A general modal framework for the event calculus and its skeptical and credulous variants. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 111–164. (Zoran Ognjanović) **99m:68181** 68T27 (03B45)

— *see also* **Temporal representation and reasoning**, **99a:68016**

Montanari, Enrico On the propagation of electromagnetic radiation in the field of a plane gravitational wave. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2493–2507. (Summary) **99d:83039** 83C35 (83C30)

— (*with* Calura, Mirco; Fortini, Pierluigi) Lagrangian planetary equations in Schwarzschild spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3121–3129. (Summary) **99g:83012** 83C10 (83C15)

Montanari, Ugo (*with* Corradini, Andrea; Rossi, Francesca; Ehrig, Hartmut; Heckel, Reiko; Löwe, Michael) Algebraic approaches to graph transformation. Basic concepts and double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 163–245, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

— (*with* Ferrari, Gian Luigi) A tile-based coordination view of asynchronous π-calculus. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 52–70, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68101** 68Q55 (68Q10)

— (*with* Ristori, Gioia) A concurrent functional semantics for a process algebra based on action systems. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 357–377. (Editors) **99c:68167** 68Q55 (68Q10)

— (*with* Baldan, Paolo; Corradini, Andrea) Concatenable graph processes: relating processes and derivation traces. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 283–295, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q42 (68Q55, 68R10)

— (*with* Gadducci, Fabio) Axioms for contextual net processes. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 296–308, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q90 (68Q10)

— (*with* Baldan, Paolo; Corradini, Andrea) An event structure semantics for P/T contextual nets: asymmetric event structures. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 63–80, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q90 (68Q10)

— (*with* Meseguer, José) Mapping tile logic into rewriting logic. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 62–91, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (Summary) **99h:68118** 68Q65 (03B70, 03C05, 68Q42)

— (*with* Bruni, Roberto) Zero-safe nets: the individual token approach. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 122–140, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q90 (68Q10, 68Q55)

— (*with* Pistore, Marco) An introduction to history dependent automata. *Second Workshop on Higher-order Operational Techniques in Semantics* (*HOOTS II*) (*Stanford, CA*, 1997), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 10, *Elsevier, Amsterdam*, 1998. (*see* **99e:68003**) 68Q10 (68Q68)

— (*with* Ferrari, Gian Luigi) Parameterized structured operational semantics. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 1–31. (Summary) **99g:68127** 68Q55

Montanaro, Adriano Global equivalence for deformable thermoelastic bodies. (English summary) *Arch. Rational Mech. Anal.* **143** (1998), *no.* 4, 375–400. (Summary) **99h:73010** 73B30

Montaner, Fernando On the Lie structure of associative superalgebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2337–2349. (Hartmut Schlosser) **99g:16055** 16W55 (17B60)

Montañes Bernal, Antonio (*with* Reyes García, Marcelo) Effect of a shift in the trend function on Dickey-Fuller unit root tests. (English summary) *Econometric Theory* **14** (1998), *no.* 3, 355–363. (Summary) **99d:62086** 62M10 (62P20)

Montangero, Manuela (*with* Ferragina, Paolo; Grossi, Roberto) On updating suffix tree labels. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 249–262. (Summary) **99b:68042** 68P05

Montani, G. On the quasi-isotropic solution in the presence of ultrarelativistic matter and a scalar field. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 3, 723–730. (Summary) **99k:83016** 83C15 (83F05)

Montani, H. (*with* Trinchero, R.) Quantum mechanics over a q-deformed $(0+1)$-dimensional superspace. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4173–4182. (Summary) **99d:81043** 81Q60 (81R50)

— (*with* Grillo, S.) q-deformed anisotropic superexchange interaction, frustration and $GL_{pq}(2)$. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 21, 859–866. (Roberto Casalbuoni) **99i:81100** 81R50 (82D40)

— (*with* Montemayor, R.) Lagrangian approach to a symplectic formalism for singular systems. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125018, 11 *pp.* (Summary) **99m:58094** 58F05 (81S10)

Montani, Ruben A. (*with* Appignanesi, Gustavo A.; Fernández, Ariel) Glassy relaxation dynamics and ruggedness beyond the ultrametric limit. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 669–677. (Summary) **99c:82039** 82B80

amor Montaño, José Alfredo *see* **Amor Montaño, José Alfredo**

Montarnal, Philippe Study of hydrodynamical limits in a multicollision scale Boltzmann equation for semiconductors. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2781–2799. (Summary) **99b:82094** 82D99

— (*with* Shu, Chi-Wang) Real gas computation using an energy relaxation method and high-order WENO schemes. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 59–80. (Summary) **99h:76068** 76M20 (76N15)

Montasser, M. (*with* Hendi, M.; Al-Nachawati, H. M.; Alwasel, I. A.) An exact test for HNBUE class of life distributions. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 3, 261–275. (Summary) **99i:62104** 62G10 (62N05)

Monte, E. M. (*with* Maia, M. D.) Geometry of the Einstein and Yang-Mills equations. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2827–2837. (Hans P. Künzle) **99c:53085** 53C80 (53C07, 81T13, 83C05)

— (*with* Maia, M. D.) Topology and extension of Schwarzschild. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 229–233. (Nora Bretón Báez) **99m:83032** 83C15

Monte, Roberto (*with* Fagnola, Franco) Quantum extensions of semigroups generated by Bessel processes. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 519–537, 639; *translation in Math. Notes* **60** (1996), *no.* 3-4, 389–401 (1997). (John E. Gough) **99f:81108** 81S25 (47D07, 60J35)

— A quantum extension of transient Bessel processes. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 2, 117–136. (Kalyanapuram R. Parthasarathy) **99b:46118** 46N50 (47D03, 47N50, 60J60, 81S25)

— (*with* Colombo, Fabrizio; Vespri, Vincenzo) On some equations about European option pricing. *Systems modelling and optimization* (*Detroit, MI*, 1997), 33–41, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90A09

Monte Carmelo, E. L. (*with* Carnielli, W. A.) On the Ramsey problem for multicolor bipartite graphs. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 1, 48–59. (R. H. Schelp) **99k:05115** 05C55 (05D10)

Montecchiari, Piero (*with* Nolasco, Margherita; Terracini, Susanna) Multiplicity of homoclinics for a class of time recurrent second order Hamiltonian systems. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 6, 523–555. (Vittorio Coti Zelati) **99b:58052** 58E05 (34C37, 58F05, 58F15, 70H05)

— (*with* Alessio, Francesca; Caldiroli, Paolo) On the existence of infinitely many solutions for a class of semilinear elliptic equations in $\mathbf{R}^N$. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **9** (1998), *no.* 3, 157–165. (Summary) **99m:35055** 35J60 (35B99)

— (*with* Bertotti, Maria Letizia) Connecting orbits for some classes of almost periodic Lagrangian systems. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 453–468. (Boris Buffoni) **99b:34081** 34C37 (58F05, 58F15, 70H35)

— (*with* Alessio, Francesca) Multibump solutions for a class of Lagrangian systems slowly oscillating at infinity. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **16** (1999), *no.* 1, 107–135. (Maria Letizia Bertotti) **99m:58042** 58E05 (34C37, 58F05, 58F15, 70H35)

— (*with* Nolasco, Margherita; Terracini, Susanna) A global condition for periodic Duffing-like equations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3713–3724. (Boris Buffoni) **99m:34107** 34C37 (58E05, 58F15)

Montefusco, Eugenio Perturbation results for semilinear elliptic equations in $\mathbf{R}^n$. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 39–51. (Qing Fang) **99f:35060** 35J65 (35B20)

Montefusco, L. B. *see* **Bacchelli Montefusco, Laura**

bacchelli Montefusco, Laura *see* **Bacchelli Montefusco, Laura**

Montefusco, Laura B. *see* **Bacchelli Montefusco, Laura**

Monteiro, Luís (*with* Caires, Luís) Proof net semantics of proof search computation. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 194–208, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (03F50, 68Q55, 68Q60)

— Semantic domains based on sets with families of equivalences. (English summary) *First Workshop on Coalgebraic Methods in Computer Science* (*CMCS '98*) (*Lisbon*), 34 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (Summary) **99g:68128** 68Q55

Monteiro, Luiz F. (*with* Abad, Manuel; Savini, Sonia; Sewald, Julio) Finite free generating sets. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 177–189. (S. Comer) **99i:08004** 08B20 (03Gxx, 06D25, 06D30)

Monteiro, Paulo K. (*with* Page, Frank H., Jr.) Optimal selling mechanisms for multiproduct monopolists: incentive compatibility in the presence of budget constraints. (English summary) *J. Math. Econom.* **30** (1998), *no.* 4, 473–502. (Summary) **99g:90031** 90A12 (90A53)

Monteiro, Renato D. C. (*with* Tsuchiya, Takashi) Polynomiality of primal-dual algorithms for semidefinite linear complementarity problems based on the Kojima-Shindoh-Hara family of directions. (English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 138–152. (Tamás Terlaky) **99c:90135** 90C33

— (*with* Zhang, Yin[1]) A unified analysis for a class of long-step primal-dual path-following interior-point algorithms for semidefinite programming. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 281–299. (Jos F. Sturm) **99c:90073** 90C05 (90C25)

— Polynomial convergence of primal-dual algorithms for semidefinite programming based on the Monteiro and Zhang family of directions. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 797–812 (*electronic*). (Florian Jarre) **99e:90068** 90C25 (90C20)

Monteiro Marques, Manuel D. P. (*with* Kunze, Markus) Existence of solutions for degenerate sweeping processes. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 165–176. (Luc Doyen) **99c:34135** 34G20 (34A60, 35K99, 35R70, 49J24, 73E99)

— (*with* Laghdir, M.) Measure-differential inclusions in percussional dynamics. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 381–393. (Markus Kunze) **99a:34028** 34A37 (34A60, 70F99)

— (*with* Kunze, Markus) BV solutions to evolution problems with time-dependent domains. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 1, 57–72. (Giovanni Colombo) **99c:34026** 34A60 (34G20)

— (*with* Gastaldi, F.; Martins, J. A. C.) Mathematical analysis of a two degree-of-freedom frictional contact problem with discontinuous solutions. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 247–261. (David E. Stewart) **99g:73097** 73T05 (34A60)

— (*with* Kunze, Markus) On the discretization of degenerate sweeping processes. (English summary) *Portugal. Math.* **55** (1998), *no.* 2, 219–232. (Giovanni Colombo) **99c:34027** 34A60 (34G20)

— (*with* Kunze, Markus) Degenerate sweeping processes. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 301–307, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Giovanni Colombo) **99k:34035** 34A60 (34G20, 73E50)

Montejano, Luis *see* **Hadwiger, H., 99e:52001**

Montejo, Manuel (*with* Mena Marugán, Guillermo A.) Quantization of pure gravitational plane waves. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104017, 11 *pp.* (Summary) **99k:83033** 83C35

Montemayor, R. (*with* Montani, H.) Lagrangian approach to a symplectic formalism for singular systems. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125018, 11 *pp.* (Summary) **99m:58094** 58F05 (81S10)

Montenegro, Carlos H. *see* **Montenegro E., Carlos H.**

Montenegro, R. (*with* Escobar, J. M.; Montero García, Gustavo) A numerical model for three-dimensional wind fields. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 959–964, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 86–08 (86A10)

— (*with* Florez, E.; Montero García, Gustavo; Suarez, A.; García León, María Dolores) Control of a system governed by the convection-diffusion equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1087–1092, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93C20 (35K57)

Montenegro E., Carlos H. Partition properties for reals. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 199–205, *Kluwer Acad. Publ., Dordrecht*, 1998. (N. H. Williams) **99f:03064** 03E05

— *see also* **Models, algebras, and proofs, 99k:03005**

Montepiedra, Grace (*with* Fedorov, Valerii V.) Minimum bias designs with constraints. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 1, 97–111. (N. Gaffke) **99c:62209** 62K05

— (*with* Wong, Weng Kee) Optimal designs for models with ignored heteroscedasticity. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 59–66, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05

— (*with* Yeh, Arthur B.) Two-stage designs for model discrimination and parameter estimation. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 195–203, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05 (62J02)

— (*with* Fedorov, Valerii V.; Nachtsheim, Christopher J.) Optimal design and the model validity range. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 215–227. (Summary) **99g:62107** 62K05

Monterde, J. (*with* Muñoz Masqué, Jaime; Sánchez-Valenzuela, O. A.) Geometric properties of involutive distributions on graded manifolds. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 2, 217–246. (Frans Cantrijn) **99c:58007** 58A50 (58A30)

Monterie, M. A. Capacities of certain Cantor sets. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 2, 247–266. (Jack Quine) **99h:31006** 31A15 (32F05)

Montero, G. *see* **Montero García, Gustavo**

Montero, J. A. (*with* Cañada, A.; Gámez, J. L.) Uniqueness of the optimal for a nonlinear elliptic control problem arising from population dynamics. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 7 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 49J20 (35J25, 92D25)

— (*with* Cañada, A.; Gámez, J. L.) Study of an optimal control problem for diffusive nonlinear elliptic equations of logistic type. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1171–1189 (*electronic*). (Srdjan Stojanovic) **99m:49005** 49J20 (35Q99, 49M25, 92D25)

Montero, Javier *see* **Montero de Juan, Francisco Javier**

Montero, Lídia (*with* Barceló, Jaime) A simplicial decomposition algorithm for solving the variational inequality formulation of the general traffic assignment problem for large scale networks. (English summary) *Top* **4** (1996), *no.* 2, 225–256. (Summary) **99c:90136** 90C33 (90B20)

calderón Montero, Susana *see* **Calderón Montero, Susana**

Montero de Juan, Francisco Javier (*with* Cutello, Vincenzo) Aggregation operators for fuzzy rationality measures. (English summary) *Aggregation and fusion of imperfect information*, 98–105, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 04A72 (90C70)

Montero García, Gustavo (*with* Suarez, A.; Garcia Vera, Diego Antonio; Florez, E.) Preconditioning Krylov methods. *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 151–174, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F35

— Solving inverse thermal problems using Krylov methods. *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 321–342, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F30

— (*with* Montenegro, R.; Escobar, J. M.) A numerical model for three-dimensional wind fields. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 959–964, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 86–08 (86A10)

— (*with* Winter Althaus, Gabriel; Betancor Ortiz, Juan D.) A model of the transport and scattering of contaminants in the atmosphere. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1019–1024, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 86A10

— (*with* Florez, E.; Suarez, A.; García León, María Dolores; Montenegro, R.) Control of a system governed by the convection-diffusion equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1087–1092, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93C20 (35K57)

Montes, Antonio Algebraic solution of the load-flow problem for a 4-nodes electrical network. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 163–174. (Summary) **99b:94062** 94C05

Montes, G. *see* **Montes Cañete, Guillermo**

Montesano, Aldo Risk aversion measures with expected and non-expected utility. *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 69–81, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A43 (90A46)

Montes Cañete, Guillermo (*with* Conde, Carlos; Francos, A.; Kindelán, U.) Modelling two-dimensional thermohydraulic processes using second-order finite-volume methods. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 683–688, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25

Montes de Oca, Francisco (*with* Sarabia, José) Some results on the logistic equation with harvesting. (Spanish. English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 2, 131–137. (Summary) **99h:92040** 92D40 (34C11, 90A30)

Montes-de-Oca, Raúl (*with* Hernández-Lerma, Onésimo) Conditions for average optimality in Markov control processes with unbounded costs and controls. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 1, 19 *pp.* (*electronic*). (Summary) **99h:93112** 93E20 (90C40)

— (*with* Vega-Amaya, Oscar) Application of average dynamic programming to inventory systems. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 3, 451–471. (Jean B. Lasserre) **99e:90028** 90B05 (90C39, 90C40)

— *see also* **Congress: Mexican Mathematical Society, 99i:00016**

Montesi, Danilo (*with* Torlone, Riccardo) A rewriting technique for the analysis and the optimization of active databases. (English summary) *Database theory—ICDT '95* (*Prague*), 238–251, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68Q42)

Montesinos, Merced *see* **Montesinos-Velásquez, Merced**

Montesinos Amilibia, Angel (*with* Gadea, Pedro M.; Muñoz Masqué, Jaime) La classe $\mathscr{X}_2 \oplus \mathscr{X}_4$ d'Abbena et Garbiero des structures homogènes kählériennes. (English and French summaries) [The Abbena-Garbiero class $\mathscr{X}_2 \oplus \mathscr{X}_4$ of Kähler homogeneous structures] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 383–386. (Sergio Console) **99h:53068** 53C30 (53C55)

Montesinos Amilibia, José María The question of the consistency of hyperbolic geometry. (Spanish) *History of mathematics in the XIXth century, Part* 2 (*Spanish*) (*Madrid*, 1993), 213–232, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1994. (*see* **98d:01004**) 01A55 (51–03)

— Numbers, combinatorics and knots: from the discrete to the continuous. (Catalan) *Butl. Soc. Catalana Mat.* **12** (1997), *no.* 2, 7–45. (J. S. Joel) **99c:00001** 00A05 (11Y60, 57M25, 57M40)

Montesinos-Velásquez, Merced (*with* Rovelli, Carlo) The fermionic contribution to the spectrum of the area operator in nonperturbative quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3795–3801. (Kirill V. Krasnov) **99i:83041** 83C45

— (*with* Morales-Técotl, Hugo A.; Urrutia, Luis F.; Vergara, J. David) Real sector of the nonminimally coupled scalar field to self-dual gravity. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1504–1517. (Alexander N. Petrov) **99m:83163** 83C99 (83D05)

Montes-Rodríguez, Alfonso Vector spaces of universal functions. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 113–116, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Summary) **99c:30067** 30E10

— A Birkhoff theorem for Riemann surfaces. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 663–693. (Helmut Köditz) **99h:30047** 30F99 (30B60)

Montgomery, Bruce (*with* Chao, Chong-Yun) Some families of S-graphs. (English summary) *Bull. Malaysian Math. Soc.* (2) **21** (1998), *no.* 1, 1–10. (Xiao Feng Guo) **99m:05131** 05C75

Montgomery, David C. (*with* Kamp, L. P. J.; Bates, Jason W.) Toroidal flows in resistive magnetohydrodynamic steady states. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1757–1766. (Summary) **99a:76164** 76W05

— (*with* Bates, Jason W.) Toroidal visco-resistive magnetohydrodynamic steady states contain vortices. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2649–2653. (Summary) **99c:76113** 76W05

Montgomery, Douglas C. (*with* Simpson, James R.) The development and evaluation of alternative generalized M-estimation techniques. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 999–1018. 62F35

Montgomery, Hugh L. (*with* Erdős, Paul[1]) Sums of numbers with many divisors. (English summary) *J. Number Theory* **75** (1999), *no.* 1, 1–6. (Jie Wu) **99k:11153** 11P05

Montgomery, Joshua M. (*with* Barbone, Paul E.; Michael, Ofer; Harari, Isaac) Scattering by a hybrid asymptotic/finite element method. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 141–156. (Summary) **99h:76054** 76M10 (65M60, 76Q05)

Montgomery, Michael T. (*with* Enagonio, Janice) Tropical cyclogenesis via convectively forced vortex Rossby waves in a three-dimensional quasigeostrophic model. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 20, 3176–3207. (Summary) **99f:86004** 86A10 (76C20)

— (*with* Möller, J. Dominique; Nicklas, Christopher T.) Linear and nonlinear vortex motion in an asymmetric balance shallow water model. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 5, 749–768. (Summary) **99k:76038** 76C20 (86A10)

Montgomery, P. J. (*with* Moodie, T. B.) Front speeds for gravity currents on an incline. (English summary) *Advances in fluid mechanics, II* (*Udine*, 1998), 327–342, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76B15 (76M20, 86–08, 86A05)

— (*with* Moodie, T. B.) Two-layer gravity currents with topography. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 3, 221–266. (Summary) **99k:76029** 76B15 (35Q35, 76M20, 86A05)

Montgomery, Richard The N-body problem, the braid group, and action-minimizing periodic solutions. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 363–376. (Christopher K. McCord) **99a:70019** 70F10 (20F36, 34C25, 58F22)

Montgomery, Susan (*with* Chin, William) Basic coalgebras. (English summary) *Modular interfaces* (*Riverside, CA*, 1995), 41–47, *AMS/IP Stud. Adv. Math.*, 4, *Amer. Math. Soc., Providence, RI*, 1997. (Richard K. Molnar) **99c:16037** 16W30

— Constructing simple Lie superalgebras from associative graded algebras. *J. Algebra* **195** (1997), *no.* 2, 558–579. (Fernando Montaner) **99g:17043** 17B60 (16W50)

— Classifying finite-dimensional semisimple Hopf algebras. *Trends in the representation theory of finite-dimensional algebras* (*Seattle, WA*, 1997), 265–279, *Contemp. Math.*, 229, *Amer. Math. Soc., Providence, RI*, 1998. (Sara Westreich) **99k:16084** 16W30

— (*with* Witherspoon, S. J.) Irreducible representations of crossed products. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 315–326. (Akira Masuoka) **99d:16030** 16S35 (16W30)

Montgomery-Smith, Stephen J. (*with* Asmar, Nakhlé H.) A transference theorem for ergodic H^1. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 417–430. (Alberto de la Torre) **99b:47013** 47A35 (42B30, 47B38)

— (*with* Asmar, Nakhlé H.) On a weak type (1, 1) inequality for a maximal conjugate function. (English summary) *Studia Math.* **125** (1997), *no.* 1, 13–21. (Aleš Založnik) **99f:42018** 42A61 (42B25, 43A17)

— (*with* Asmar, Nakhlé H.) Analytic measures and Bochner measurability. *Bull. Sci. Math.* **122** (1998), *no.* 1, 39–66. (Yuji Takahashi) **99d:43014** 43A65 (42B30, 46B22, 46E99, 46G10)

— Time decay for the bounded mean oscillation of solutions of the Schrödinger and wave equations. *Duke Math. J.* **91** (1998), *no.* 2, 393–408. (Vasiliy I. Sedenko) **99e:35006** 35B05 (35J10, 35K10, 35L05)

— Concrete representation of martingales. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 15, 15 *pp.* (*electronic*). (Dominique Lépingle) **99k:60116** 60G42 (60G07, 60H05)

— (*with* Asmar, Nakhlé H.; Kelly, Annela R.) Vector-valued weakly analytic measures. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 457–473. (Yuji Takahashi) **99h:43015** 43A65 (43A05, 43A70)

Montheillet, F. (*with* Riccardi, A.) A generalized self-consistent method for solids containing randomly oriented spheroidal inclusions. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 39–56. (Summary) **99i:73053** 73K20

Monthus, Cécile (*with* Comtet, Alain; Yor, Marc) Exponential functionals of Brownian motion and disordered systems. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 255–271. (Paul McGill) **99g:60148** 60J65 (60K35, 90A09)

— (*with* Le Doussal, Pierre; Fisher, Daniel S.) Random walkers in one-dimensional random environments: exact renormalization group analysis. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part A*, 4795–4840. 82B41

Monti, Angelo (*with* Peron, Adriano) A logical characterization of systolic languages. (English summary) *STACS* 98 (*Paris*, 1998), 466–476, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99g:68117** 68Q45 (03C85)

— (*with* De Prisco, Roberto; Pagli, Linda) Testing and reconfiguration of VLSI linear arrays. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 171–188. (Summary) **99b:68104** 68Q35 (94C12)

— (*with* Auletta, V.; Parente, M.; Persiano, Pino) A linear-time algorithm for the feasibility of pebble motion on trees. (English summary) *Algorithmica* **23** (1999), *no.* 3, 223–245. (Summary) **99k:68069** 68Q20 (68R10, 68U05)

Monti, F. (*with* Jauslin, H. R.) Quantum Nekhoroshev theorem for quasi-periodic Floquet Hamiltonians. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 3, 393–428. (Pavel Šťovíček) **99h:81047** 81Q15 (35Q40)

Monti, Valerio (*with* Gavioli, Norberto; Mann, Avinoam; Previtali, Andrea; Scoppola, Carlo M.) Groups of prime power order with many conjugacy classes. *J. Algebra* **202** (1998), *no.* 1, 129–141. (W. E. Deskins) **99d:20028** 20D15

Monticino, Michael (*with* Hill, Theodore P.) Constructions of random distributions via sequential barycenters. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1242–1253. (David J. Aldous) **99h:60099** 60G57 (60A10, 62A15)

— Constructing prior distributions with trees of exchangeable processes. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 113–133. (Jean Vaillancourt) **99j:60065** 60G57 (60G09, 60G30, 62A15)

tetlalmatzi Montiel, M. *see* **Tetlalmatzi Montiel, M.**

Montiel, Mariana Algebra and music. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 117–128, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (J. S. Joel) **99j:00006** 00A69 (08A02, 20M99)

Montiel, Sebastián Stable constant mean curvature hypersurfaces in some Riemannian manifolds. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 4, 584–602. (João Lucas Marques Barbosa) **99g:53066** 53C42 (58E12)

de Montigny, M. (*with* Grimm, Stefan; Patera, Jiří) The signatures of finite-dimensional representations of the de Sitter groups SO(4, 1) and SO(3, 2). (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7463–7471. (J. F. Cornwell) **99a:22022** 22E46 (22E70, 81R05)

Montijano, J. I. (*with* Calvo Pinilla, Manuel; Laburta, M. P.; Rández, L.) Numerical solution of unit flows by the Runge-Kutta method. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 623–628, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L06

— (*with* Calvo Pinilla, Manuel; Gonzalez-Pinto, S.) On the convergence of Runge-Kutta methods for stiff non-linear differential equations. (English summary) *Numer. Math.* **81** (1998), *no.* 1, 31–51. (T. E. Simos) **99j:65121** 65L06

Montonen, Claus Strings as the philosopher's stone in the theory of particles. (Finnish. English summary) *Arkhimedes* **1999**, *no.* 1, 27–31. 81T30 (81–01)

— (*with* Chaichian, Masud; Chen, Wen-Feng) On the low-energy effective action of $N = 2$ supersymmetric Yang-Mills theory. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 161–183. (Summary) **99i:81226** 81T60 (81T13, 81T16, 81T17)

marco Montoro, Luis *see* **Marco Montoro, Luis**

Montoya, Fausto V. (*with* Romera, Miguel; Pastor, Gerardo; Álvarez, Gonzalo) Ordering of the Mandelbrot-like set of the exponential map. (English summary) *Chaos* **8** (1998), *no.* 4, 739–740. (Summary) **99h:58160** 58F23

Montseny, Gérard Diffusive representation of pseudo-differential time-operators. (English and French summaries) *Systèmes différentiels fractionnaires* (*Paris*, 1998), 159–175, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Kenneth B. Hannsgen) **99k:47126** 47G30 (26A33, 35S99)

— *see also* **Fractional differential systems, 99h:00027**

Montvay, I. (*with* Kirchner, R.; Westphalen, J.; Luckmann, S.; Spanderen, K.) Evidence for discrete chiral symmetry breaking in $N = 1$ supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **446** (1999), *no.* 3-4, 209–215. 81R40 (81T13, 81T80)

boutet de Monvel, J. H. *see* **Boutet de Monvel, J. H.**

boutet de Monvel, Louis *see* **Boutet de Monvel, Louis**

boutet de Monvel-Berthier, Anne-Marie *see* **Boutet de Monvel-Berthier, Anne-Marie**

Monz, Christof (*with* de Rijke, Maarten) A tableaux calculus for ambiguous quantification. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 232–246, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B65)

Moodie, T. B. (*with* Montgomery, P. J.) Front speeds for gravity currents on an incline. (English summary) *Advances in fluid mechanics, II* (*Udine*, 1998), 327–342, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76B15 (76M20, 86–08, 86A05)

— (*with* Montgomery, P. J.) Two-layer gravity currents with topography. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 3, 221–266. (Summary) **99k:76029** 76B15 (35Q35, 76M20, 86A05)

Moody, Robert V. (*with* Baake, Michael) Similarity submodules and semigroups. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 1–13, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Kenyon) **99h:52024** 52C22 (11M41, 20M20)

— (*with* Chen, Liang[5]; Patera, Jiří) Non-crystallographic root systems. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 135–178, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Kenyon) **99h:52025** 52C22 (17B20)

— (*with* Baake, Michael; Schlottmann, Martin) Limit-(quasi)periodic point sets as quasicrystals with p-adic internal spaces. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5755–5765. (Summary) **99f:82061** 82D25 (52C20)

Mook, D. T. (*with* Yang, Shaopu; Nayfeh, Ali Hasan) Combination resonances in the response of the Duffing oscillator to a three-frequency excitation. (English summary) *Acta Mech.* **131** (1998), *no.* 3-4, 235–245. 34C15 (70K40)

Mookerjee, Abhijit (*with* Ghosh, Subhradip; Das, Nityananda) A geometrical approach to Feenberg multiple-scattering series. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2837–2852. (Introduction) **99e:82094** 82D20 (81U99)

Moon, Byung Soo A curve smoothing method by using fuzzy sets. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 3, 353–358. (Summary) **99b:65012** 65D10

Moon, Dongho The centralizer algebra of the Lie superalgebra $\mathfrak{p}(n)$ and the decomposition of $V^{\otimes k}$ as a $\mathfrak{p}(n)$-module. (English summary) *Recent progress in algebra* (*Taejon/Seoul*, 1997), 199–212, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Hiro-Fumi Yamada) **99j:17009** 17B10

Moon, Francis C. *see* **IUTAM Symposium: New Applications of Nonlinear and Chaotic Dynamics in Mechanics, 99h:70002**

Moon, Hie-Tae *see* **Proceedings: Workshop on Nonlinear Dynamics and Chaos, 99f:58003**

Moon, Hwan Pyo (*with* Choi, Hyeong In; Choi, Sung Woo) Mathematical theory of medial axis transform. (English summary) *Pacific J. Math.* **181** (1997), *no.* 1, 57–88. (Summary) **99m:53008** 53A05 (52B55)

Moon, Ilkyeong (*with* Choi, Sangjin) A note on lead time and distributional assumptions in continuous review inventory models. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 11, 1007–1012. 90B05

Moon, J. W. (*with* Meir, Amram) On the log-product of the subtree-sizes of random trees. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 2, 197–212. (E. M. Palmer) **99j:05171** 05C80

— (*with* Meir, Amram) Addendum to: "On the log-product of the subtree-sizes of random trees" [Random Structures Algorithms **12** (1998), no. 2, 197–212; MR 99j:05171]. *Random Structures Algorithms* **12** (1998), *no.* 4, 405. (E. M. Palmer) **99j:05172** 05C80

Moon, Myung In F-rationality of a pure subring of an F-rational ring. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 851–854. (Ian M. Aberbach) **99h:13003** 13A35

Moon, S. Y. (*with* Yoon, K. T.; Garcia, S. A.; Heard, G. W.; Chung, T. J.) Flowfield-dependent mixed explicit-implicit (FDMEI) methods for high and low speed and compressible and incompressible flows. (English summary) Symposium on

Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 75–104. (*see* **99b:76003**) 76M25

Moon, Sang-Jae (*with* Ha, Jae-Cheol) A common-multiplicand method to the Montgomery algorithm for speeding up exponentiation. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 105–107. (Summary) **99b:94034** 94A60

Moon, Young Soo (*with* Kwon, Wook Hyun; Ahn, Sang Chul) Bounds in algebraic Riccati and Lyapunov equations: a survey and some new results. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 377–389. 93C05 (93B40)

Moonen, B. J. J. Linearity properties of Shimura varieties. II. (English summary) *Compositio Math.* **114** (1998), *no.* 1, 3–35. (Conjeeveram S. Rajan) **99k:14039** 14G35 (11G18)

— Linearity properties of Shimura varieties. I. *J. Algebraic Geom.* **7** (1998), *no.* 3, 539–567. (Conjeeveram S. Rajan) **99e:14028** 14G35

— (*with* Zarkhin, Yu. G.) Weil classes on abelian varieties. *J. Reine Angew. Math.* **496** (1998), 83–92. (Fumio Hazama) **99a:14010** 14C30 (14C25)

Moonen, Marc (*with* Dehaene, Jeroen; Vandewalle, Joos) Analysis of a class of continuous-time algorithms for principal component analysis and subspace tracking. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 3, 364–372. (Summary) **99k:94006** 94A12

Mooney, Douglas D. (*with* Richmond, Thomas A.) Cardinality and structure of semilattices of ordered compactifications. (English summary) *Papers on general topology and applications (Slippery Rock, PA, 1993)*, 188–193, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Aleksander Błaszczyk) **99b:54034** 54D35 (06A12, 54D40, 54F05)

— (*with* Richmond, Thomas A.) The lattice of ordered compactifications of a direct sum of totally ordered spaces. (English summary) *Order* **15** (1998), *no.* 1, 1–19. (Summary) **99h:54044** 54F05 (54D35)

de Moor, Bart *see* **De Moor, Bart**

Moore, Calvin C. (*with* Chern, Shiing-Shen; Kailath, Thomas; Kostant, Bertram; Tsao, Anna) Louis Auslander (1928–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 3, 390–395. (Editors) **99k:01053** 01A70

Moore, Chika (*with* Chidume, C. E.) Fixed point iteration for pseudocontractive maps. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1163–1170. (Summary) **99f:47068** 47H09 (47H10)

Moore, Cristopher (*with* Griffeath, David) Life without death is **P**-complete. (English summary) *Complex Systems* **10** (1996), *no.* 6, 437–447. (Summary) **99d:68168** 68Q80 (68Q15)

— Dynamical recognizers: real-time language recognition by analog computers (extended abstract). *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 278–286, *Springer, Berlin*, 1997. (*see* **99g:00039**) 68Q05

— (*with* Boykett, Timothy H. H.) Commuting cellular automata. (English summary) *Complex Systems* **11** (1997), *no.* 1, 55–64. (Karel Culik, II) **99i:68084** 68Q80

— Quasilinear cellular automata. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 100–132. (Summary) **99d:68170** 68Q80 (58F08)

— Finite-dimensional analog computers: flows, maps, and recurrent neural networks. (English summary) *Unconventional models of computation (Auckland, 1998)*, 59–71, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05 (58F08, 68T05)

— Predicting nonlinear cellular automata quickly by decomposing them into linear ones. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 27–41. (Fernanda Botelho) **99c:58088** 58F08 (68Q80)

— (*with* Koiran, Pascal) Closed-form analytic maps in one and two dimensions can simulate universal Turing machines. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 1, 217–223. (Summary) **99g:68058** 68Q05

Moore, D. *see* **Moore, Dennis W. G.**

Moore, D. J. *see* **Moore, David Jeffrey**

Moore, D. W. *see* **Moore, Derek W.**

Moore, David Jeffrey Closure categories. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2707–2723. (Jiří Rosický) **99b:18007** 18A99 (06A15)

— Categorical structures in physics. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 121–126. (Summary) **99f:18008** 18B99 (81P10)

Moore, Dennis W. G. (*with* Smyth, William F.; Miller, Dianne) Counting distinct strings. (English summary) *Algorithmica* **23** (1999), *no.* 1, 1–13. (Summary) **99i:68087** 68R05 (68Q20)

Moore, Derek W. (*with* Pullin, D. I.) On steady compressible flows with compact vorticity; the compressible Hill's spherical vortex. (English summary) *J. Fluid Mech.* **374** (1998), 285–303. (Summary) **99i:76136** 76N10 (76C05)

Moore, Douglas H. (*with* Liu, Faye F.) An implementation of Kripke-Kleene semantics. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 31–50. (Summary) **99c:68042** 68N17 (68Q55)

Moore, Gregory W. (*with* Witten, Edward) Integration over the u-plane in Donaldson theory. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 298–387. (Daniel S. Freed) **99k:57070** 57R57 (11F11, 57N13, 58D29, 81T60)

— (*with* Cordes, Stefan; Ramgoolam, Sanjaye) Large N 2D Yang-Mills theory and topological string theory. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 543–619. (Martin Schlichenmaier) **99d:58032** 58D29 (55N91, 58D27, 81T40, 81T70)

— (*with* Losev, Andrei; Shatashvili, Samson L.) M & m's. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 105–124. (Marco Spaans) **99g:81174** 81T30 (83E30)

— String duality, automorphic forms, and generalized Kac-Moody algebras. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 56–67. (I. Dolgachev) **99f:81175** 81T30 (11E45, 11F37, 11Z05, 17B67)

— (*with* Losev, Andrei; Nekrasov, Nikita; Shatashvili, Samson L.) Central extensions of gauge groups revisited. (English summary) *Selecta Math. (N.S.)* **4** (1998), *no.* 1, 117–123. (C. J. Atkin) **99k:22031** 22E65 (58B25, 81R10)

Moore, J. B. *see* **Moore, John Barratt**

Moore, J. C. *see* **Moore, James C.**

Moore, J. Strother (*with* Boyer, Robert S.) Mechanized formal reasoning about programs and computing machines. *Automated reasoning and its applications*, 147–176, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 68Q60 (68T15)

— (*with* Lynch, Thomas W.; Kaufmann, Matt) A mechanically checked proof of the AMD5$_K$86™ floating-point division program. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 9, 913–926. 68M07 (68T15)

Moore, J. Tatch (*with* Burke, Dennis K.) Subspaces of the Sorgenfrey line. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 57–68. (Paul R. Meyer) **99j:54030** 54F05

— Some of the combinatorics related to Michael's problem. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2459–2467. (Dimitrina Stavrova) **99j:54008** 54A25 (03E05, 54D15)

Moore, James C. (*with* Richmond, W. B.; Whinston, A. B.) An optimal search strategy based on user preferences for choice oriented databases. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 1, 1–32. (Summary) **99a:68051** 68P20 (68P15)

Moore, John Barratt (*with* Aggoun, Lakhdar; Elliott, Robert J.) A measure change derivation of continuous state Baum-Welch estimators. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 3, 12 *pp.* (*electronic*). (Summary) **99g:93078** 93E10

— (*with* Elliott, Robert J.) State and parameter estimation for linear systems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 1, 13 *pp.* (*electronic*). (Summary) **99h:93108** 93E12

— (*with* Collings, Iain B.; James, Matthew R.) An information-state approach to risk-sensitive tracking problems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 24 *pp.* (*electronic*). (Summary) **99h:93111** 93E20 (93E35)

— (*with* Elliott, Robert J.; Dey, Subhrakanti) Risk-sensitive generalizations of minimum variance estimation and control. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 1, 15 *pp.* (*electronic*). (Daniel Hernández-Hernández) **99h:93113** 93E20 (49L20, 90C40, 93E11)

— (*with* Lim, Andrew E. B.) A path following algorithm for infinite quadratic programming on a Hilbert space. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 653–670. (Hubertus Th. Jongen) **99g:90081** 90C20 (49M30, 90C48)

— (*with* Elliott, Robert J.) A martingale Kronecker lemma and parameter estimation for linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1263–1265. (Engin Yaz) **99h:93101** 93E10 (60G44)

— (*with* Brushe, Gary D.; Mahony, Robert E.) A soft output hybrid algorithm for ML/MAP sequence estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3129–3140. (Summary) **99i:94007** 94A12

— (*with* Elliott, Robert J.) Zakai equations for Hilbert space valued processes. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 597–605. (N. U. Ahmed) **99e:60109** 60G35 (60B12, 60H15)

— (*with* Dey, Subhrakanti) Finite-dimensional risk-sensitive filters and smoothers for discrete-time nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1234–1239. 93E14 (93E11)

Moore, Joseph G. Misdisquotation and substitutivity: when not to infer belief from assent. (English summary) *Mind* **108** (1999), *no.* 430, 362–365. 03B45 (03A05, 03B65)

— Propositions without identity. *Noûs* **33** (1999), *no.* 1, 1–29. 03A05 (03B65)

Moore, Kevin L. (*with* Abdelrahman, M. A.; Naidu, D. S.) Gas metal arc welding control. II. Control strategy. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 85–93. 93C95 (93C20)

Moore, Leon C. (*with* Arthurs, Kayne M.; Peskin, Charles S.; Pitman, E. Bruce; Layton, H. E.) Modeling arteriolar flow and mass transport using the immersed boundary method. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 402–440. 76M25 (76Z05, 92C35)

Moore, M. E. (*with* McCasland, R. L.; Smith, Patrick F.) Modules with bounded spectra. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3403–3417. (Aihua Li) **99g:13013** 13C13 (13E05)

Moore, Philip R. (*with* Wang, Jihong; Pu, Junsheng; Zhang, Zongmao) Modelling study and servo-control of air motor systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 459–476. 93C95 (93A30)

Moore, R. L. *see* **Moore, Robert Lee**

Moore, Robert Laurens (*with* Trent, T. T.) Interpolation in inflated Hilbert spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 499–507. (Victor Kaftal) **99c:47067** 47D25

Moore, Robert Lee *see* **Fitzpatrick, Ben, Jr., 99c:01020**

Moorhouse, G. Eric Ovoids and translation planes from lattices. (English summary) *Mostly finite geometries (Iowa City, IA, 1996)*, 123–134, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Summary) **99i:51006** 51E15

Moorhouse, Timothy B. (*with* Corneil, Derek G.) Completeness for intersection classes. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 277–286. (Summary) **99c:05166** 05C75

Moori, Jamshid (*with* Ganief, Shahiem) Generating pairs for the Conway groups Co_2 and Co_3. (English summary) *J. Group Theory* **1** (1998), *no.* 3, 237–256. (Jürgen Müller) **99f:20025** 20D08 (20C15)

— (*with* Ganief, Shahiem) 2-generations of the fourth Janko group J_4. (English summary) *J. Algebra* **212** (1999), *no.* 1, 305–322. (Hiroyoshi Yamaki) **99m:20024** 20D08 (20F05)

Moors, Warren B. (*with* Borwein, Jonathan M.) Essentially smooth Lipschitz functions: compositions and chain rules. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 16–22, *Springer, Berlin*, 1997. (Marián Fabian) **99k:49031** 49J52 (46N10, 58C20)

— (*with* Hu, Zhibao; Smith, Mark A.) On a Banach space without a weak mid-point locally uniformly rotund norm. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 193–196. (Stephen J. Dilworth) **99a:46015** 46B03 (46B20)

— (*with* Borwein, Jonathan M.) A chain rule for essentially smooth Lipschitz functions. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 300–308 (*electronic*). (John R. Giles) **99g:49014** 49J52 (46N10, 58C20)

— (*with* Borwein, Jonathan M.) Null sets and essentially smooth Lipschitz functions. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 309–323 (*electronic*). (John R. Giles) **99g:49013** 49J52 (46N10, 58C20)

ganesa Moorthy, C. *see* **Ganesa Moorthy, C.**

subramanian Moosath, K. S. *see* **Subramanian Moosath, K. S.**

Moosavizadeh, S. (*with* Dorrepaal, J. M.) Steady incompressible magnetohydrodynamic flow near a point of reattachment. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1512–1518. (Summary) **99a:76160** 76W05

Moothathu, T. S. K. (*with* Kumar, C. Satheesh) On bivariate generalized hypergeometric probability distributions. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 51–59. 62E15

Mor, Tal (*with* Bennett, Charles H.; DiVincenzo, David P.; Fuchs, Christopher A.; Rains, Eric M.; Shor, Peter W.; Smolin, John A.; Wootters, William K.) Quantum nonlocality without entanglement. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1070–1091. (V. Ya. Kreinovich) **99m:81027** 81P99 (68Q75, 81P15)

barrera-Mora, Fernando *see* **Barrera-Mora, Fernando**

Mora, Gaspar *see* **Mora Martínez, Gaspar**

niño-Mora, José *see* **Niño-Mora, José**

Mora, Leonardo (*with* Romero, Neptali) Persistence of homoclinic tangencies for area-preserving maps. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 711–725. (Dario Bambusi) **99e:58137** 58F15 (58F22, 58F30)

— Homoclinic bifurcations of endomorphisms: the codimension one case. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 81–86. (Summary) **99f:58149** 58F14

Mora, Mercè (*with* Brunat, Josep M.; Maureso, M.) Endo-circulant digraphs: connectivity and generalized cycles. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 157–167. (Summary) **99i:05089** 05C20 (05C38, 05C40, 05C75)

Mora, Teo (*with* Green, Edward L.[1]; Ufnarovskiĭ, V. A.) The non-commutative Gröbner freaks. *Symbolic rewriting techniques* (*Ascona*, 1995), 93–104, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Vesselin Drensky) **99i:16050** 16S15 (13P10, 68Q40, 68Q42)

— *see also* **Applied algebra, algebraic algorithms and error-correcting codes, 99b:94002**

Mora, Xavier *see* **Mora Giné, Xavier**

de Moraes, Carlos Roberto Some aspects of L^p-spaces in the context of harmonic analysis. (Portuguese. Portuguese summary) *Rev. Mat. Estatist.* **15** (1997), 29–42. (Summary) **99k:42046** 42B30 (46E30)

Moraes, Fernando (*with* Mendoza, Ramón; Gómez, Pedro) Fluctuating metrics in one-dimensional manifolds. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5293–5300. (Helmut Rumpf) **99a:81111** 81T16 (58D30, 58G26, 81S40)

— (*with* Bazeia, D.) Chiral solitons in generalized Korteweg-de Vries equations. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 450–454. (Summary) **99i:35134** 35Q53

Moraes, Luiza A. Weakly continuous holomorphic mappings. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 139–144. (Javier Gómez Gil) **99b:46078** 46G20

Moraes, Mara S. S. (*with* Táboas, Plácido) Asymptotic profile of periodic solutions of a two-dimensional system of delay equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2605–2616. (Ju Rang Yan) **99b:34118** 34K15 (34E15)

de Moraes, Patricia Erthal (*with* Scheimberg, Susana) Note on a sufficient condition for a local minimum of a class of nonconvex quadratic programs. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 401–405. (Summary) **99a:90146** 90C20 (90C26)

Moraga, Claudio (*with* Stanković, Radomir S.; Janković, Dragan) Reed-Muller-Fourier versus Galois field representations of four-valued logic functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 186–191, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

— Spectral techniques and soft computing. (English summary) *Approx. Theory Appl.* (*N.S.*) **14** (1998), *no.* 4, 1–11. 68T05 (03B52, 03B70)

Mora Giné, Xavier The dynamical approach to elliptic partial differential equations on cylinders. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 165–191, *World Sci. Publishing, River Edge, NJ*, 1998. (Boris Buffoni) **99j:35052** 35J60 (35B35, 47H15, 58F39)

Morain, F. Classes d'isomorphismes des courbes elliptiques supersingulières en caractéristique ≥ 3. (French summary) [Isomorphism classes of supersingular elliptic curves in characteristic ≥ 3] *Util. Math.* **52** (1997), 241–253. (Amílcar Pacheco) **99k:11089** 11G20 (14G05, 14G15)

— (*with* Lercier, R.) Algorithms for computing isogenies between elliptic curves. (English summary) *Computational perspectives on number theory* (*Chicago, IL*, 1995), 77–96, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Jean-Marc Couveignes) **99a:11079** 11G20 (11Y16)

Morais, J. E. (*with* Giusti, M.; Heintz, Joos; Hägele, K.; Pardo, Luis Miguel; Montaña, José Luis) Lower bounds for Diophantine approximations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 277–317. (Summary) **99d:68106** 68Q25 (14Q15)

— (*with* Giusti, M.; Heintz, Joos; Morgenstern, Jacques; Pardo, Luis Miguel) Straight-line programs in geometric elimination theory. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 101–146. (Jean Moulin Ollagnier) **99d:68128** 68Q40 (14Q99, 68Q25)

cabral Morais, Manuel *see* **Cabral Morais, Manuel**

manzano del Moral, Carlos *see* **Manzano del Moral, Carlos**

Moral, Leandro (*with* Alfaro, Manuel; Cantero, Maria José) Semiorthogonal functions and orthogonal polynomials on the unit circle. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 3–14. (Pascal Maroni) **99k:33016** 33C45 (42C05)

del Moral, Pierre *see* **Del Moral, Pierre**

Moral, Serafín (*with* de Campos Ibáñez, Luis Miguel) Independence concepts for convex sets of probabilities. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 108–115, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 60A99 (68T30)

— (*with* del Sagrado, José) Aggregation of imprecise probabilities. (English summary) *Aggregation and fusion of imperfect information*, 162–188, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 90C70

— (*with* Hernández, Luis D.; Salmerón, Antonio) A Monte Carlo algorithm for probabilistic propagation in belief networks based on importance sampling and stratified simulation techniques. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 53–91. (Maria-Teresa Lamata) **99m:68194** 68T30 (65C05)

Morales, Carlos Arnoldo (*with* Pacífico, Maria José; Pujals, Enrique Ramiro) On C^1 robust singular transitive sets for three-dimensional flows. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 81–86. (Michael Hurley) **99j:58183** 58F25 (34C35)

— (*with* Pujals, Enrique Ramiro) Strange attractors containing a singularity with two positive multipliers. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 3, 671–679. (Lorenzo J. Díaz) **99i:58106** 58F13 (58F12)

Morales, Claudio H. Approximation of fixed points for locally nonexpansive mappings. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **51** (1997), *no.* 2, 203–212. (Tomás Domínguez Benavides) **99k:47146** 47H10 (47H09)

Morales, D. *see* **Morales, Domingo**

cárdenas-Morales, Daniel *see* **Cárdenas-Morales, Daniel**

Morales, Domingo (*with* Pardo, Leandro; Vajda, Igor) Some new statistics for testing hypotheses in parametric models. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 1, 137–168. (Adnan M. Awad) **99a:62019** 62F05 (62B10)

— (*with* Menéndez, M. L.; Pardo, Leandro; Vajda, Igor) Two approaches to grouping of data and related disparity statistics. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 609–633. (K. K. Ferentinos) **99g:62009** 62B10 (62F03)

— (*with* Menéndez, M. L.; Pardo, Leandro; Vajda, Igor) Asymptotic distributions of φ-divergences of hypothetical and observed frequencies on refined partitions. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 1, 71–89. (Jan Beirlant) **99f:62065** 62G10

— (*with* Menéndez, M. L.; Pardo, Leandro; Zografos, K.) Statistical inference for finite Markov chains based on divergences. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 9–17. (Summary) **99j:62119** 62M05

Morales, E. *see* **Morales M., Eduardo**

miquel Morales, G. *see* **Miquel Morales, G.**

Morales, Guillermo *see* **Morales-Luna, Guillermo**

labbé Morales, Gustavo *see* **Labbé Morales, Gustavo**

Morales, J. *see* **Morales, Jesús**

Morales, J. F. *see* **Morales, Jose F.**

Morales, Jesús (*with* Gaftoi N., Violeta; Ovando Zúñiga, Gerardo; Peña, J. J.) Lanczos spintensor for the Robinson-Trautman metrics of the vacuum and Einstein-Maxwell fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1297–1308. (Brian Edgar) **99k:83017** 83C20 (83C22, 83C60)

Morales, Jose F. (*with* Gava, E.; Narain, K. S.; Thompson, George) Bound states of type I D-strings. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 95–108. (Summary) **99k:81238** 81T30 (58Z05, 81T40)

— (*with* Scrucca, Claudio A.; Serone, Marco) Scale-independent spin effects in D-brane dynamics. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 223–249. (Summary) **99g:81177** 81T30

— (*with* Scrucca, Claudio A.; Serone, Marco) A note on supersymmetric D-brane dynamics. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 233–239. (Summary) **99a:81148** 81T30 (83E30)

Morales, José R. A note about L∞R spaces. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 15–19. (S. Cobzaş) **99h:46016** 46B20

Morales, Marcel (*with* Barile, Margherita) On the equations defining projective monomial curves. *Comm. Algebra* **26** (1998), *no.* 6, 1907–1912. (Apostolos Thoma) **99c:14043** 14H45 (14H50)

— (*with* Barile, Margherita) On certain algebras of reduction number one. *J. Algebra* **206** (1998), *no.* 1, 113–128. (Aron Simis) **99f:13023** 13H10 (13A30, 13D40)

álvarez de Morales, María *see* **Álvarez de Morales, María**

de Morales, María Álvarez *see* **Álvarez de Morales, María**

Morales, N. (*with* Macías, Alfredo; Morales-Técotl, Hugo A.; Urrutia, Luis F.) 5D Chern-Simons cosmology. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 502–507, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83E15 (83C99)

Morales, Pedro (*with* De Lucia, Paolo) Decomposition of group-valued measures on orthoalgebras. (English summary) *Fund. Math.* **158** (1998), *no.* 2, 109–124. (L. Ya. Savel'ev) **99m:28028** 28B15 (06F20, 28B10)

Morales Acosta, J. Josué (*with* Álvarez Díaz, Lilliam; Orozco Gómez, María M.) The method of lines and its application to some partial differential equation problems. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 1, 83–92. 65M20

Morales-Bueno, R. (*with* Ramos-Jiménez, G.; López-Muñoz, J.) Comparisons of Parikh's condition to other conditions for context-free languages. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 231–244. (Summary) **99b:68117** 68Q45 (03D05)

Morales Galindo, Soledad B. (*with* Fernández Muñiz, José L.) The topology of Rf-convergence. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 43–47, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (*see* **99i:00016**) 46A19 (46E99)

Morales-Guzmán, J. D. (*with* Torres-Vega, Go.; Zúñiga-Segundo, A.) Special functions in phase space: Mathieu functions. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6725–6739. (Bing Hong Wang) **99i:81084** 81R30 (33E10, 81S30)

Morales-Luna, Guillermo (*with* Vazquez Garcia, Fernando) Cryptography and number theory. (Spanish. Spanish summary) *Miscelánea Mat. No.* 18 (1989), 25–54. (Summary) **99j:94055** 94A60 (11T71)

— (*with* De Ita Luna, Guillermo) Genetic treatment of the SAT problem. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 53–65, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 68T05 (68Q25)

— (*with* De Ita Luna, Guillermo) Approximation algorithms for MaxSAT. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 15 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:90115** 90C60 (68Q15, 68Q25)

Morales M., Eduardo (*with* Morales-Manzanares, R.) SICIB, an interactive system of musical composition and improvisation for dancers. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 55–67, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Summary) **99j:00007** 00A69

Morales-Manzanares, R. (*with* Morales M., Eduardo) SICIB, an interactive system of musical composition and improvisation for dancers. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis*

Potosí, 1996), 55–67, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Summary) **99j:00007** 00A69

Morales Pérez, J. L. *see* **Congress: Mexican Mathematical Society, 99h:00025**

Morales-Técotl, Hugo A. (*with* Macías, Alfredo; Mielke, Eckehard W.; Tresguerres, Romualdo) Torsion and non-metricity in metric-affine gravity. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields (Rio de Janeiro, 1995)*, 494–501, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83D05

— (*with* Macías, Alfredo; Morales, N.; Urrutia, Luis F.) 5D Chern-Simons cosmology. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields (Rio de Janeiro, 1995)*, 502–507, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83E15 (83C99)

— (*with* Macías, Alfredo; Mielke, Eckehard W.) Chiral fermions coupled to chiral gravity. (English summary) *Field theory, integrable systems and symmetries (Quebec, PQ, 1995)*, 157–165, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83056** 83C60 (83C99, 83E50)

— (*with* Urrutia, Luis F.; Vergara, J. David) Reality conditions as second class constraints. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields (Mérida, 1996)*, 541–544, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99d:83005** 83C05

— (*with* Gambini, Rodolfo; Urrutia, Luis F.; Vergara, J. David) Loop variables for compact two-dimensional quantum electrodynamics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3711–3724. (Summary) **99k:81340** 81V10

— (*with* Montesinos-Velásquez, Merced; Urrutia, Luis F.; Vergara, J. David) Real sector of the nonminimally coupled scalar field to self-dual gravity. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1504–1517. (Alexander N. Petrov) **99m:83163** 83C99 (83D05)

Mora Martínez, Gaspar A topology over a set of systems. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fis. Nat. (Esp.)* **90** (1996), *no.* 3, 141–147. (Edward J. Anderson) **99g:90152** 90C34 (15A39, 46N10)

— (*with* Cherruault, Yves) The theoretic calculation time associated to α-dense curves. (English summary) *Kybernetes* **27** (1998), *no.* 8-9, 860, 919–939. 65Y25 (65K05)

— *see also* **Cherruault, Yves, 99e:92001**

Morame, Abderemane Absence of singular spectrum for a perturbation of a two-dimensional Laplace-Beltrami operator with periodic electromagnetic potential. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7593–7601. (Mihai Pascu) **99i:81039** 81Q10 (47F05, 47N50)

Moran, Alan The right regular representation of a compact right topological group. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 463–472. (Adrian C. Albu) **99k:22009** 22C05 (22D05)

— Minimal normal systems of compact right topological groups. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 243–258. (Joseph Max Rosenblatt) **99e:22003** 22A05 (22C05, 54H11)

Moran, Brian (*with* Sukumar, N.; Belytschko, Ted) The natural element method in solid mechanics. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 5, 839–887. (Summary) **99g:73110** 73V05 (73V20)

Moran, Chris (*with* Chadœuf, Joël; Goulard, Michel) A note on extension variances in $\mathbf{R}^2$. (English summary) *Math. Geol.* **30** (1998), *no.* 6, 575–587. (Summary) **99c:86005** 86A32

Moran, Judith Flagg The growth rate and balance of homogeneous tilings in the hyperbolic plane. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 151–186. (Bojan Mohar) **99h:52023** 52C20

Morán, Manuel (*with* Rey, José-Manuel) Geometry of self-similar measures. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 2, 365–386. (Hermann Haase) **99f:28011** 28A78 (28A80)

— (*with* Rey, José-Manuel) Singularity of self-similar measures with respect to Hausdorff measures. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2297–2310. (Lars Olsen) **99c:28019** 28A78 (28A80)

Morán, Maria D. (*with* Urbina, Wilfredo) Invariant subspaces and commutant for the Gaussian Hilbert transform. (English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 102–105. (Summary) **99h:42069** 42C20 (47A15, 47B38)

Moran, N. (*with* Schechtman, E.; Spiegelman, Clifford) Interval estimate for the X-intercept of a straight line: a nonlinear approach. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 1093–1115. 62F25

Moran, Regina C. C. P. (*with* Fukushima, Júlia T.; Vlachonikolis, Ioannis G.) On the distribution of quadratic forms and applications in the analysis of repeated measurements. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2625–2640. (Summary) **99i:62024** 62E15 (62J99)

Moran, Shlomo (*with* Alekhnovich, Michael; Buss, Samuel R.; Pitassi, Toniann) Minimum propositional proof length is NP-hard to linearly approximate (extended abstract). (English summary) *Mathematical foundations of computer science, 1998 (Brno)*, 176–184, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25 (03F20, 68Q15)

Morand, Jacqueline Closures of torus orbits in adjoint representations of semisimple groups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 197–202. (Daniel K. Nakano) **99k:20098** 20G20

Morandi, Patrick J. (*with* Sethuraman, B. A.) Divisors on division algebras and error correcting codes. *Comm. Algebra* **26** (1998), *no.* 10, 3211–3221. (L. R. Vermani) **99m:94048** 94B05 (16K20)

Morandi, R. (*with* Sestini, A.) Precise controls in numerical grid generation. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 243–258, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 65N55 (41A63, 65N30)

— (*with* Conti, Costanza; Rabut, Christophe) Shape-preserving quasi-interpolating univariate cubic splines. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 55–62, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65038** 65D17 (65D07)

Morandi Cecchi, Maria (*with* Salasnich, Luca) Shallow water theory and its application to the Venice lagoon. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 63–74. (*see* **99b:76003**) 86–08

Morando, Paola (*with* Gaeta, Giuseppe) Commuting-flow symmetries and common solutions to differential equations with common symmetries. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 337–347. (Philip J. Aston) **99h:58204** 58G35 (34A26, 35A30, 58F35)

— (*with* Vignolo, Stefano) A geometric approach to constrained mechanical systems, symmetries and inverse problems. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8233–8245. (Frans Cantrijn) **99i:58062** 58F05 (34A26, 70F25, 70H33, 70H35)

— (*with* Gaeta, Giuseppe) Reducible connections in gauge theories. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 121–129. (Manuel de León) **99i:58022** 58D19 (58E15)

Morano, Eric (*with* Amundson, N. R.; Sanders, Richard) Techniques for the numerical solution of steady reaction-diffusion systems employing Stefan-Maxwell diffusion. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 1, 9–25. (Reinhard Redlinger) **99f:65140** 65M60 (76M25, 80A32)

— (*with* Sanders, Richard; Druguet, Marie-Claude) Multidimensional dissipation for upwind schemes: stability and applications to gas dynamics. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 511–537. (Summary) **99g:76095** 76M20 (65M06, 76K05, 80A32)

— (*with* Mavriplis, Dimitri J.; Venkatakrishnan, V.) Coarsening strategies for unstructured multigrid techniques with application to anisotropic problems. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 393–415 (*electronic*). (Summary) **99e:76077** 76M10 (65M55, 65N55)

belleni-Morante, A. *see* **Belleni-Morante, A.**

Moraru, Vasile An algorithm for solving quadratic programming problems. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 2, 223–235. 90C20

Morato, Laura M. (*with* Illuminati, Fabrizio) Stochastic variational quantization of dissipative systems. (English summary) *New perspectives in the physics of mesoscopic systems (Caserta, 1996)*, 152–164, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:81026** 81P20 (81S20)

— (*with* Albeverio, Sergio; Ugolini, S.) Non-symmetric diffusions and related Hamiltonians. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 195–204. (J. A. Van Casteren) **99j:60117** 60J60 (35Q40, 81P20, 81Q10)

Morava, Jack (*with* Ando, Matthew; Sadofsky, Hal) Completions of $\mathbf{Z}/(p)$-Tate cohomology of periodic spectra. (English summary) *Geom. Topol.* **2** (1998), 145–174 (*electronic*). (Edgar H. Brown, Jr.) **99e:55016** 55P60 (14L05, 55N22)

Mora-Valbuena, Oriol (*with* Charris, Jairo A.; Moreno, Carmenza) Some remarks on the local path-connectedness of infinite point compactifications. (English and Spanish summaries) *Rev. Acad. Colombiana Cienc. Exact. Fis. Natur.* **22** (1998), *no.* 83, 221–228. 54D35 (54D05)

Morávková, Zuzana A note on relative complements in lattices. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 163–166. (Manfred Stern) **99m:06020** 06C15 (06C20)

Morawetz, Cathleen Synge Memories of a wartime student of math and physics at the University of Toronto. *Canadian Mathematical Society. 1945–1995, Vol. 1*, 307–311, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A70

— Mathematics to the rescue (retiring Presidential address). *Notices Amer. Math. Soc.* **46** (1999), *no.* 1, 9–16. (Denis Serre) **99j:01018** 01A60 (00A69, 35-03, 47A40, 65M06, 76H05, 76L05)

Morawiec, Janusz Some properties of probability distribution solutions of linear functional equations. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 81–90. (Wolfgang Sander) **99m:39021** 39B12 (26A30, 28D99, 39B22)

Morayne, Michał (*with* Ryll-Nardzewski, C.) Errata: "Superpositions with differences of semicontinuous functions" [Houston J. Math. **22** (1996), no. 4, 719–735; MR 98g:26004]. *Houston J. Math.* **23** (1997), *no.* 2, 384. 26A15 (26A16, 26A21, 54C08)

— Partial-order analogue of the secretary problem: the binary tree case. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 165–181. (Alexander V. Gnedin) **99f:60086** 60G40 (60C05)

Morbidelli, D. (*with* Lascialfari, F.) A boundary value problem for a class of quasilinear ultraparabolic equations. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 847–868. (Stepan D. Ivasyshen) **99f:35110** 35K70

Morchało, Jarosław Stability and boundedness of integrodifferential equations with delay. (English summary) *Math. Notae* **38** (1995/96), 21–37 (1997). (Yoshihiro Hamaya) **99e:34099** 34K15 (45J05, 45M10)

— (*with* Mieleszko, Małgorzata) Asymptotic equivalence between a nonlinear system and its nonlinear perturbation. (English summary) *Fasc. Math. No.* 27 (1997), 55–65. (E. Thandapani) **99e:39033** 39A10

— Stability analysis of nonlinear difference systems. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 27–36. (Shu Nian Zhang) **99g:39017** 39A11 (39A10)

— Asymptotic equivalence of difference equations. (English summary) *Math. Slovaca* **48** (1998), *no.* 1, 57–68. (André Hautot) **99k:39030** 39A10

Morchio, Gianni (*with* Buchholz, Detlev; Doplicher, Sergio; Roberts, John E.; Strocchi, Franco) A model for charges of electromagnetic type. *Operator algebras and quantum field theory (Rome, 1996)*, 647–660, *Internat. Press, Cambridge, MA*, 1997. (Władysław Adam Majewski) **99a:81092** 81T05 (46L60)

— (*with* Wojciechowski, K. P.; Scott, S. G.; Booss, Bernhelm) Determinants, manifolds with boundary and Dirac operators. (English summary) *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 423–432, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Friedbert Prüfer) **99j:58222** 58G26 (58G20)

— (*with* Mnatsakanova, M. N.; Strocchi, Franco; Vernov, Yu. S.) Irreducible representations of the Heisenberg algebra in Krein spaces. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2969–2982. (Gerald Hofmann) **99j:81080** 81S05 (22E27, 46C20, 47B50, 47N50)

Morcillo Aixelá, Carmen (*with* Girón González-Torre, Fco. Javier; Martínez García, Ma. Lina) Outlier detection in Poisson and exponential samples. (Spanish. English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fis. Nat. (Esp.)* **91** (1997), *no.* 1, 1–7. (Summary) **99i:62049** 62F15

Mordecki, Ernesto Ruin probabilities and optimal stopping for a diffusion with jumps. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish) (Bahía Blanca, 1997)*, 39–48, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (*see* **99a:00040**) 60J60 (60G40)

— Optimal stopping for a compound Poisson process with exponential jumps. (English summary) *Publ. Mat. Urug.* **7** (1997), 55–66 (1998). (Summary) **99f:60087** 60G40 (62L15, 90A09)

Mordeson, John N. (*with* Nair, Premchand S.) ★ Fuzzy mathematics. An introduction for engineers and scientists. With a foreword by Azriel Rosenfeld. Studies in Fuzziness and Soft Computing, 20. *Physica-Verlag, Heidelberg*, 1998. *xiv*+258 *pp. ISBN* 3-7908-1121-1 (Siegfried Gottwald) **99i:03070** 03E72 (00A06, 54A40)

— (*with* Al-Khamees, Yousif) Local examination of fuzzy intersection equations. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 249–254. (Summary) **99d:13005** 13A99

— (*with* Lee, Kyoung Hee) Fractionary fuzzy ideals and Dedekind domains. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 105–110. (Summary) **99e:13008** 13A99 (13F05)

— (*with* Nair, Premchand S.) Cartesian composition of transition spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 511–521. (Janusz J. Szuster) **99f:68138** 68Q68 (05C20)

— (*with* Malik, D. S.; Sen, Mridul Kanti) Minimization of fuzzy finite automata. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 323–330. (Summary) **99h:68121** 68Q68 (68Q45)

— (*with* Malik, D. S.) On fuzzy recognizers. (English summary) *Kybernetes* **28** (1999), *no.* 1, 47–60. (Summary) **99k:68097** 68Q45 (03D05, 03E72, 68Q68)

Mordukhovich, Boris S. Optimal control of nonconvex discrete and differential inclusions. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 25 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:49035** 49K24 (49J24, 49M25)

— (*with* Zhang, Kaixia) Dirichlet boundary control of parabolic systems with pointwise state constraints. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 223–236, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Uldis Ë. Raitums) **99f:49032** 49K20 (35K40, 49J20, 93C20)

— (*with* Borwein, Jonathan M.; Shao, Yongheng) On the equivalence of some basic principles in variational analysis. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 228–257. (Abderrahim Jourani) **99j:49024** 49J52 (46N10)

More, Malika (*with* Esbelin, Henri-Alex) Rudimentary relations and primitive recursion: a toolbox. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 129–148. (George Tourlakis) **99f:03051** 03D20

More, Richard M. (*with* Kosaka, Keiji) Wave-front curvature in geometrical optics. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 6127–6134. (Summary) **99a:78005** 78A05 (78A60, 81Q20)

More, S. V. (*with* Panchal, S. K.) Alternative proof for the inversion of Marchi-Zgrablich transform of distributions. (English summary) *Ganita* **48** (1997), *no.* 1, 21–26. (Summary) **99b:44004** 44A12 (46F12)

More, Willi The LD probable prime test. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 185–191, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Samuel S. Wagstaff, Jr.) **99h:11145** 11Y11 (94A60)

— *see also* **Contributions to general algebra, 99f:00014**

Moreau, Michel (*with* Gaveau, Bernard; Tóth, János) Dissipation of energy and of information in nonequilibrium reaction-diffusion systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5351–5354. (Summary) **99f:82041** 82C05

— (*with* Benichou, Olivier; Gaveau, Bernard) Resonant diffusion in a linear network of fluctuating obstacles. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part A*, 103–116. (Summary) **99h:82066** 82C44

Moreau de Saint-Martin, François (*with* Faugère, Jean-Charles; Rouillier, Fabrice) Design of regular nonseparable bidimensional wavelets using Gröbner basis techniques. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 845–856. 94A11 (42C15)

Moreaux, Michel (*with* Amigues, Jean-Pierre; Favard, Pascal; Gaudet, Gérard) On the optimal order of natural resource use when the capacity of the inexhaustible substitute is limited. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 153–170. 90A30

Moreaux, P. (*with* Haddad, S.; Chiola, G.) Distributions de Cox et phase-type dans les réseaux de Petri stochastiques: une méthode efficace de résolution. (English and French summaries) [Cox and phase-type distributions in stochastic Petri nets: an efficient solution method] Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 289–323. (Summary) **99f:68145** 68Q90 (60K99)

Moree, Pieter Improvement of an estimate of H. Müller involving the order of 2 (mod u). (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 197–200. (Peter Stevenhagen) **99m:11111** 11N64 (11B37)

— Counting divisors of Lucas numbers. (English summary) *Pacific J. Math.* **186** (1998), *no.* 2, 267–284. (Peter Stevenhagen) **99m:11013** 11B39 (11N45)

Moreira, E. S., Jr. Aspects of classical and quantum motion on a flux cone. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1678–1686. (Summary) **99d:81046** 81Q99

— (*with* Brevik, I.; Matsas, George E. A.) Note on the point-splitting procedure to evaluate vacuum fluctuation in certain cylindrically symmetric backgrounds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 027502, 4 *pp.* 81T20

Moreira, R. N. (*with* Rica da Silva, A.; Sousa Ramos, J.; Croca, J. R.) Non-linear Schrödinger equation, Burger's equation and superposition of solutions. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 421–430, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81Q05 (35Q53, 35Q55)

Morel, Christophe An order of magnitude analysis of the two-phase k-ε model. (English summary) *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 3-4, 21–44. (Tomás Chacón Rebollo) **99h:76051** 76F99 (76T05)

Morel, Fabien Voevodsky's proof of Milnor's conjecture. *Bull. Amer. Math. Soc.* (*N.S.*) **35** (1998), *no.* 2, 123–143. (Luca Barbieri Viale) **99e:19005** 19D45 (11G09, 14C35)

Morel, J. E. *see* **Morel, Jim Emanuel**

Morel, Jean-Michel (*with* Guichard, Frédéric) Images and movies scale-spaces. *Hyperbolic problems: theory, numerics, applications* (*Stony Brook, NY*, 1994), 137–147, *World Sci. Publishing, River Edge, NJ*, 1996. (Inge Troch) **99a:68177** 68U10 (35K99, 49Q99)

— (*with* Caselles, Vicent; Coll, Bartomeu) Partial differential equations and image smoothing. (English summary) *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. XXI*, 32*pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Summary) **99d:94004** 94A12 (35Q80, 65D15, 65Y25)

— (*with* Caselles, Vicent; Coll, Bartomeu) Junction detection and filtering. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 23–42, *Springer, Berlin*, 1997. (Summary) **99g:68213** 68U10 (65U05)

— (*with* Guichard, Frédéric) Partial differential equations and image iterative filtering. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 525–562, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99c:65239** 65N99 (68U10, 94A12)

— (*with* Guichard, Frédéric) Geometric partial differential equations and iterative filtering. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 127–138, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (35R99)

Morel, Jim Emanuel (*with* Roberts, Randy M.; Shashkov, Mikhail) A local support-operators diffusion discretization scheme for quadrilateral r-z meshes. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 17–51. (Stanisław Burys) **99k:65091** 65M55

— (*with* Moulton, J. David; Ascher, Uri M.) Approximate Schur complement preconditioning of the lowest-order nodal discretizations. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 185–205 (*electronic*). (Summary) **99b:65131** 65N22 (65F10, 65N55)

Morel, Jorge G. (*with* Neerchal, Nagaraj K.) Large cluster results for two parametric multinomial extra variation models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1078–1087. (Summary) **99e:62082** 62G10 (62F03)

Moreland, T. (*with* Gudder, Stanley) Infima of Hilbert space effects. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 1–17. (M. J. Mączyński) **99j:81015** 81P10 (47N50)

Moreles, Miguel Angel A classical approach to uniform null controllability for elastic beams. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1073–1085 (*electronic*). (Zhuangyi Liu) **99k:93024** 93B05 (35Q72, 73K50, 93C20)

— Uniform controllability for Kirchhoff and Mindlin-Timoshenko elastic systems. (English summary) *Electron. J. Differential Equations* **1999**, *No.* 3, 13 *pp.* (*electronic*). (Sergei A. Ivanov) **99m:93008** 93B05 (73K50, 93C20)

Morelli, Robert The birational geometry of toric varieties. (English summary) *J. Algebraic Geom.* **5** (1996), *no.* 4, 751–782. (G. Ewald) **99b:14056** 14M25 (14E05)

Morelon, Régis General survey of Arabic astronomy. *Encyclopedia of the history of Arabic science, Vol.* 1–3, 1–19, *Routledge, London*, 1996. (*see* **99k:01001**) 01A30

— Eastern Arabic astronomy between the eighth and the eleventh centuries. *Encyclopedia of the history of Arabic science, Vol.* 1–3, 20–57, *Routledge, London*, 1996. (*see* **99k:01001**) 01A30

— *see also* **Encyclopedia: History of Arabic science, 99k:01001**

Morelos-Zaragoza, Robert (*with* Fujiwara, Toru; Kasami, Tadao; Lin, Shu) Constructions of generalized concatenated codes and their trellis-based decoding complexity. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 725–731. (Summary) **99k:94051** 94B12

beato-Moreno, A. *see* **Beato-Moreno, A.**

foulquié Moreno, Ana *see* **Foulquié Moreno, Ana**

Moreno, Ana Foulquié *see* **Foulquié Moreno, Ana**

Moreno, Carlos (*with* Valero, Luis) The set of equivalent classes of invariant star products on $(G; \beta_1)$. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 3-4, 360–378. (Markus J. Pflaum) **99d:58074** 58F06 (81S10)

Moreno, Carlos Julio (*with* Moreno, Oscar) A p-adic Serre bound. *Finite Fields Appl.* **4** (1998), *no.* 3, 201–217. (Charles Helou) **99h:11068** 11G25 (11T23, 14G20)

Moreno, Carmenza (*with* Charris, Jairo A.; Mora-Valbuena, Oriol) Some remarks on the local path-connectedness of infinite point compactifications. (English and Spanish summaries) *Rev. Acad. Colombiana Cienc. Exact. Fis. Natur.* **22** (1998), *no.* 83, 221–228. 54D35 (54D05)

Moreno, Diego (*with* Einy, Ezra; Monderer, Dov) The least core, kernel and bargaining sets of large games. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 585–601. (Kensaku Kikuta) **99f:90202** 90D12 (90D13)

— (*with* Wooders, John) An experimental study of communication and coordination in noncooperative games. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 47–76. (Summary) **99b:90166** 90D10

— (*with* Einy, Ezra; Shitovitz, Benyamin) The core of a class of non-atomic games which arise in economic applications. (English summary) *Internat. J. Game Theory* **28** (1999), *no.* 1, 1–14. (O. A. Malafeyev) **99m:90170** 90D12

Moreno, Elías (*with* Bertolino, Francesco; Racugno, Walter) An intrinsic limiting procedure for model selection and hypotheses testing. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1451–1460. (Summary) **99i:62054** 62F15

— (*with* Girón González-Torre, Fco. Javier) Estimating with incomplete count data: a Bayesian approach. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 147–159. (Summary) **99a:62032** 62F15

— (*with* Girón González-Torre, Fco. Javier) A note on an assertion by E. Gutiérrez-Peña and A. F. M. Smith: "Exponential and Bayesian conjugate families: review and extensions" [Test **6** (1997), no. 1, 1–90; MR 98d:62047]. (English summary) *Test* **7** (1998), *no.* 2, 427–429. (Summary) **99k:62058** 62F15

Moreno, Enrique Francisco (*with* Kudinov, Maxime; Orland, Peter) Potential topography and mass generation. *New developments in quantum field theory* (*Zakopane*, 1997), 315–327, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Summary) **99g:81229** 81V05 (81T99)

— (*with* Cabra, Daniel C.; Rossini, Gerardo L.) Quasiparticle operators with non-abelian braiding statistics. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 362–368. (Matthias Dörrzapf) **99h:81068** 81R10 (81T40)

mustieles Moreno, Francisco J. *see* **Mustieles Moreno, Francisco J.**

Moreno, G. *see* **Moreno Socías, Guillermo**

Moreno, Guillermo Symmetry. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 371–402, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 51F99 (20G20)

— G_2 as the solution of a problem of singularity theory. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 129–134, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Enrique Outerelo Domínguez) **99k:58023** 58C27

— The zero divisors of the Cayley-Dickson algebras over the real numbers. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 13–28. (Alain D'Amour) **99c:17001** 17A20

martínez Moreno, J. *see* **Martínez Moreno, J.**

Moreno, J. C. *see* **Moreno Piquero, Juan Carlos**

Moreno, J. M. *see* **Moreno, Jesus M.**

Moreno, J. P. Geometry of Banach spaces with (α,ε)-property or (β,ε)-property. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 241–256. (Summary) **99b:46017** 46B20

— On the weak* Mazur intersection property and Fréchet differentiable norms on dense open sets. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 2, 93–105. (Li Xin Cheng) **99h:46017** 46B20 (46G05)

— (*with* Suárez Granero, Antonio; Jiménez Sevilla, M.) Convex sets in Banach spaces and a problem of Rolewicz. (English summary) *Studia Math.* **129** (1998), *no.* 1, 19–29. (Wolfgang Lusky) **99b:46021** 46B20 (46B42, 46E05)

Moreno, Jesus M. (*with* Quirós, M.; Seco, M.) Bubbles in the supersymmetric standard model. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 489–500. (Summary) **99f:81225** 81V22

Moreno, José A. (*with* Tamir, Arie; Pérez-Brito, Dionisio) A polynomial algorithm for the p-centdian problem on a tree. (English summary) *Networks* **32** (1998), *no.* 4, 255–262. (Johannes Terno) **99k:90139** 90C27 (90C35)

— (*with* Pérez-Brito, Dionisio; Mladenović, Nenad) A note on spanning trees for network location problems. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, 129–135. (Summary) **99a:90115** 90B80 (90C27)

díaz Moreno, José Manuel *see* **Díaz Moreno, José Manuel**

rosales Moreno, M. J. *see* **Rosales Moreno, M. J.**

Moreno, Oscar (*with* Janwa, H.) Coding-theoretic constructions of some number-theoretic Ramanujan graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 63–76. (Summary) **99j:05139** 05C50 (94A60, 94B27, 94C10)

— (*with* Zinov'ev, V. A.) Three-regular subgraphs of four-regular graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 369–373. (Summary) **99c:05207** 05E30

— (*with* Moreno, Carlos Julio) A p-adic Serre bound. *Finite Fields Appl.* **4** (1998), *no.* 3, 201–217. (Charles Helou) **99h:11068** 11G25 (11T23, 14G20)

— (*with* Duursma, Iwan M.; Cherdieu, J. P.; Edouard, A.) Cyclic subcodes of generalized Reed-Muller codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 307–311. (Summary) **99a:94051** 94B15

— (*with* Pedersen, J. P.; Polemi, D.) An improved Serre bound for elementary abelian extensions of $F_q(x)$ and the generalized Hamming weights of duals of BCH codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1291–1293. (Summary) **99e:94051** 94B65

pérez-Moreno, Rafael A. *see* **Pérez-Moreno, Rafael A.**

Moreno Armella, Luis Weierstrass a hundred years later. (Spanish) Dedicated to the memory of Karl Weierstrass (Spanish). *Miscelánea Mat. No.* 25 (1997), 11–27. (I. Grattan-Guinness) **99m:01034** 01A70 (26–03)

Moreno-Balcázar, Juan J. (*with* Martínez-Finkelshtein, Andrei; Pijeira-Cabrera, Héctor) Asymptotics for Gegenbauer-Sobolev type polynomials. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 85–91, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Summary) **99h:33043** 33C45

— (*with* Martínez-Finkelshtein, Andrei) Asymptotics of Sobolev orthogonal polynomials for a Jacobi weight. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 4, 430–437. (Walter Van Assche) **99b:33020** 33C45 (42C05)

— *see also* **Complex methods in approximation theory, 99b:00012**

Moreno Galindo, A. (*with* Rodríguez-Palacios, Ángel) The norm extension problem: positive results and limits. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 165–171. (Khristo N. Boyadzhiev) **99e:46061** 46H70 (17C65)

— (*with* Cabrera García, M.; Rodríguez-Palacios, Ángel) Zel'manov's theorem for primitive Jordan-Banach algebras. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 231–244. (Antonio Fernández López) **99g:46066** 46H70

— (*with* Rodríguez-Palacios, Ángel) Algebra norms on tensor products of algebras, and the norm extension problem. (English summary) *Linear Algebra Appl.* **269** (1998), 257–305. (Maria Fragoulopoulou) **99f:46076** 46K05 (15A69, 16W10, 46M05)

Moreno Maza, Marc (*with* Rioboo, Renaud) Polynomial gcd computations over towers of algebraic extensions. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 365–382, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **99c:13049** 13P05 (68Q40)

Moreno-Pérez, José A. *see* **Moreno, José A.**

Moreno Piquero, Juan Carlos (*with* Hayek Calil, Nácere; Trujillo, Juan J.; Rivero, Margarita; Bonilla, B.) On existence of solutions of ordinary differential equations of fractional order. (English summary) *Transform methods & special functions, Varna* '96, 150–158, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26006** 26A33 (34A12)

Moreno R., Guillermo *see* **Moreno, Guillermo**

Moreno Socías, Guillermo (*with* Alpuente, M.; Falaschi, M.; Vidal, Germán) Safe folding/unfolding with conditional narrowing. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 1–15, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N17 (68N15)

Morera, J. L. (*with* Martín Alustiza, J. A.; Sirvent, A.) Linear multistep matrix methods for a class of functional-differential equations: convergence and error bounds. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 17–30. (Summary) **99h:65147** 65L99 (34K05)

Moreschi, Osvaldo M. (*with* Dain, Sergio) Rest frame system for asymptotically flat space-times. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6631–6650. (Alan D. Rendall) **99i:83028** 83C30

Moresco, Pablo (*with* Ponce Dawson, Silvina) The PIM-simplex method: an extension of the PIM-triple method to saddles with an arbitrary number of expanding directions. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 38–48. (Summary) **99m:58132** 58F13 (65M60)

Moret, Bernard M. E. (*with* Collins, Michael Joseph) Improved lower bounds for the link length of rectilinear spanning paths in grids. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 317–319. (Summary) **99i:68089** 68R10

Moreton, Jennifer Doubts about the calendar: Bede and the eclipse of 664. (English summary) *Isis* **89** (1998), *no.* 1, 50–65. (Summary) **99a:01009** 01A35

Moretta, Brian (*with* Ziedins, Ilze) Admission controls for Erlang's loss system with service times distributed as a finite sum of exponential random variables. (English summary) *J. Appl. Math. Decis. Sci.* **2** (1998), *no.* 2, 119–132. 90B12 (94C10)

Moretti, Antonio Carlos (*with* Barnes, Earl R.) A new characterization of the center of a polytope. (English and Portuguese summaries) *Mat. Apl. Comput.* **16** (1997), *no.* 3, 185–204. (Stelian S. Dumitrascu) **99m:65261** 65Y25 (52B55, 90C08)

Moretti, Valter Direct ζ-function approach and renormalization of one-loop stress tensors in curved spacetimes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7797–7819. (Ivan G. Avramidi) **99c:81144** 81T16 (58G26, 81T20, 83C47)

— (*with* Iellici, Devis) ζ-function regularization and one-loop renormalization of field fluctuations in curved space-time. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 33–40. (Summary) **99c:81143** 81T16 (58G26, 81T20)

— (*with* Klemm, Dietmar; Vanzo, Luciano) Rotating topological black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6127–6137. (Summary) **99m:83121** 83C57 (83C20)

Morettin, Pedro A. Wavelets in statistics. (English summary) *Resenhas* **3** (1997), *no.* 2, 211–272. (Jacques Istas) **99c:62107** 62G05 (60G10, 62M15)

— (*with* Mentz, Raul P.; Toloi, Clélia M. C.) On residual variance estimation in autoregressive models. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 2, 187–208. (Jiří Anděl) **99b:62141** 62M10

— (*with* Mentz, Raul P.; Toloi, Clélia M. C.) On least-squares estimation of the residual variance in the first-order moving average model. (English summary) *Comput. Statist. Data Anal.* **29** (1999), *no.* 4, 485–499. 62M10

Morey, Chris (*with* Scales, John; Van Vleck, Erik S.) A feedback algorithm for determining search parameters for Monte Carlo optimization. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 263–281. (Summary) **99g:90076** 90C15 (65C05)

sánchez Morgado, Héctor *see* **Sánchez Morgado, Héctor**

Morgan, Alexander P. (*with* Watson, Layne T.; Sosonkina, Maria; Melville, Robert C.; Walker, Homer F.) Algorithm 777: HOMPACK90: a suite of Fortran 90 codes for globally convergent homotopy algorithms. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 514–549. 65Y15

de Morgan, Augustus *see* **De Morgan, Augustus**

Morgan, B. J. T. (*with* Catchpole, E. A.; Freeman, S. N.) Estimation in parameter-redundant models. (English summary) *Biometrika* **85** (1998), *no.* 2, 462–468. (C. J. Park) **99i:62036** 62F10

Morgan, Carroll C. (*with* McIver, Annabelle) A probabilistic temporal calculus based on expectations. (English summary) *Formal Methods Pacific* '97 (*Wellington*), 4–22, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99b:68121** 68Q60 (03B45)

Morgan, Christopher ★ Wizards and their wonders: portraits in computing. (English summary) Photographs by Louis Fabian Bachrach. With an introduction by James Burke. *ACM Press, New York; The Computer Museum, Boston, MA*, 1997. *iv*+414 *pp. ISBN* 0-89791-960-2 (Editors) **99g:01034** 01A70 (68–03)

Morgan, Frank Immiscible fluid clusters in $\mathbf{R}^2$ and $\mathbf{R}^3$. *Michigan Math. J.* **45** (1998), *no.* 3, 441–450. (Giandomenico Orlandi) **99k:49093** 49Q20 (58E12, 76M30)

— (*with* Adams, Colin C.) Isoperimetric curves on hyperbolic surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1347–1356. (Michel Coornaert) **99h:53080** 53C42 (30F45, 49Q10, 53A35)

— The hexagonal honeycomb conjecture. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1753–1763. (Igor Rivin) **99m:52030** 52C22 (49Q20, 58E12)

Morgan, Ilene H. Properties of complete sets of mutually equiorthogonal frequency hypercubes. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 377–389. (Charles Laywine) **99i:05041** 05B15

— Equiorthogonal frequency hypercubes: preliminary theory. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 177–185. (Gary L. Mullen) **99d:05014** 05B15

— Construction of complete sets of mutually equiorthogonal frequency hypercubes. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 237–251. (Gary L. Mullen) **99e:05025** 05B15

Morgan, J. J. (*with* Fitzgibbon, William E.; Parrott, Mary E.; Webb, G. F.) An age dependent regularization of Martin's problem. *Reaction diffusion systems* (*Trieste*, 1995), 131–139, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Hal Leslie Smith) **99f:92032** 92D30 (34C99, 35Q80, 47H05)

— (*with* Fitzgibbon, William E.; Parrott, Mary E.) Periodicity in diffusive age-structured SEIR models. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 2, 195–216. (K. Gopalsamy) **99m:92047** 92D30 (35B10, 35Q80)

— (*with* Kirschner, Denise) Solution of the asymmetric mixing problem. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 725–736 (*electronic*). (K. Gopalsamy) **99g:92027** 92D25 (45G10, 92D40)

Morgan, Jacqueline (*with* Lignola, Maria Beatrice) Convergence for variational inequalities and generalized variational inequalities. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 377–388. (N. Pacchiarotti) **99a:49018** 49J40 (47H19, 49J45)

— (*with* Lignola, Maria Beatrice) Convergence of solutions of quasi-variational inequalities and applications. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 375–385. (Paolo Cubiotti) **99e:49010** 49J40 (47H19, 47N10, 49J45, 90C31)

— (*with* Lignola, Maria Beatrice) Existence of solutions to generalized bilevel programming problem. (English summary) *Multilevel optimization: algorithms and applications*, 315–332, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Luis N. Vicente) **99f:90145** 90C31 (90D65)

Morgan, John *see* **Morgan, John W.**

Morgan, John P. Nested designs. *Design and analysis of experiments*, 939–976, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K10 (62J05)

— (*with* Uddin, Nizam) Efficient block designs for settings with spatially correlated errors. (English summary) *Biometrika* **84** (1997), *no.* 2, 443–454. (R. J. Martin) **99c:62212** 62K05 (62K10)

— Orthogonal collections of Latin squares. (English summary) *Technometrics* **40** (1998), *no.* 4, 327–333. (Summary) **99h:62099** 62K10

— (*with* Uddin, Nizam) Errata: "Efficient block designs for settings with spatially correlated errors" [Biometrika **84** (1997), no. 2, 443–454; MR 99c:62212]. *Biometrika* **86** (1999), *no.* 1, 233. 62K05 (62K10)

Morgan, John W. (*with* Friedman, Robert David; Witten, Edward) Vector bundles and F theory. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 679–743. (I. Dolgachev) **99g:14052** 14J60 (14B07, 14D20, 14H52, 14J27, 14J32, 32J81, 81T30)

— (*with* Friedman, Robert David) Algebraic surfaces and Seiberg-Witten invariants. *J. Algebraic Geom.* **6** (1997), *no.* 3, 445–479. (Yildiray Ozan) **99b:32045** 32J27 (14J26, 14J29, 57R57, 58D27)

— (*with* Mrowka, Tomasz S.; Szabó, Zoltán) Product formulas along T^3 for Seiberg-Witten invariants. *Math. Res. Lett.* **4** (1997), *no.* 6, 915–929. (Dave Auckly) **99f:57039** 57R57 (57N13)

— An introduction to gauge theory. *Gauge theory and the topology of four-manifolds* (*Park City, UT*, 1994), 51–143, *IAS/Park City Math. Ser.*, 4, *Amer. Math. Soc., Providence, RI*, 1998. (Paolo Lisca) **99c:53018** 53C07 (57R57, 58G05)

— (*with* Szabó, Zoltán) On h-cobordisms and Seiberg-Witten invariants. *Topics in symplectic 4-manifolds* (*Irvine, CA*, 1996), 117–124, *First Int. Press Lect. Ser., I, Internat. Press, Cambridge, MA*, 1998. (Vicente Muñoz) **99h:57061** 57R57 (57N13, 57R55, 57R80)

— (*with* Friedman, Robert David; Witten, Edward) Principal G-bundles over elliptic curves. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 97–118. (Arnaud Beauville) **99j:14037** 14H60 (14D20, 14H52)

Morgan, Kenneth (*with* Hassan, O.; Peraire, Jaime) A finite element procedure for electromagnetic scattering simulations. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 313–327, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78007** 78–08 (65N30, 78A45)

— *see also* **Approximations and numerical methods for the solution of Maxwell's equations, 99a:00020**

Morgan, Mark D. The distribution of second order linear recurrence sequences mod 2^m. *Acta Arith.* **83** (1998), *no.* 2, 181–195. (Walter Carlip) **99e:11021** 11B39 (11B37, 11B50)

Morgan, Michael J. (*with* Thatcher, Marcus J.) Stability of string defects in models of non-abelian symmetry breaking. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065017, 13 *pp.* (Summary) **99k:81272** 81T30 (81V22)

Morgan, Peter B. (*with* Cressie, Noel) A comparison of the cost-efficiencies of the sequential, group-sequential, and variable-sample-size-sequential probability ratio tests. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 2, 181–200. (Yanhong Wu) **99a:62119** 62L10 (62L05)

Morgan, Ronald B. (*with* Zeng, Min) Harmonic projection methods for large non-symmetric eigenvalue problems. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 1, 33–55. (Rafael Bru) **99g:65046** 65F15

Morgan, Samuel P. Richard Wesley Hamming (1915–1998). *Notices Amer. Math. Soc.* **45** (1998), *no.* 8, 972–977. (Editors) **99k:01069** 01A70

Morgana, Aurora (*with* Bauer, Douglas; van den Heuvel, Jan; Schmeichel, Edward) The complexity of toughness in regular graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 47–61. (Summary) **99j:05173** 05C85 (68Q25)

— (*with* Liu, Yan Pei; Simeone, Bruno) A linear algorithm for 2-bend embeddings of planar graphs in the two-dimensional grid. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 69–91. (Summary) **99k:05067** 05C10 (05C85)

Morgenstern, B. (*with* Dress, Andreas W. M.; Stoye, Jens) The number of standard and of effective multiple alignments. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 43–49. (Summary) **99b:92030** 92D20 (05A15)

Morgenstern, Ingo (*with* Schneider, Johannes; Singer, Johannes Maria) Bouncing towards the optimum: improving the results of Monte Carlo optimization algorithms. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5085–5095. 65C05

Morgenstern, Jacques (*with* Giusti, M.; Heintz, Joos; Morais, J. E.; Pardo, Luis Miguel) Straight-line programs in geometric elimination theory. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 101–146. (Jean Moulin Ollagnier) **99d:68128** 68Q40 (14Q99, 68Q25)

Morgenstern, Leora Inheritance comes of age: applying nonmonotonic techniques to problems in industry. (English summary) *Artificial Intelligence* **103** (1998), *no.* 1-2, 237–271. 68T30 (03B60, 03B70)

Morgenthaler, S. *see* **Practice of data analysis, 99b:62003** *and* **Conference: Statistical Science, 99e:62002**

Morgül, Ömer On the synchronization of logistic maps. (English summary) *Phys. Lett. A* **247** (1998), *no.* 6, 391–396. (Laura Gardini) **99i:58053** 58F03

— (*with* Conrad, Francis) On the stabilization of a flexible beam with a tip mass. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1962–1986 (*electronic*). (Sergey V. Nikitin) **99g:93072** 93D15 (73K50, 93C20)

Mori, Hazime (*with* Kuramoto, Yoshiki) ★ Dissipative structures and chaos. (English summary) Translated from the second Japanese edition by Glenn C. Paquette. *Springer-Verlag, Berlin*, 1998. *xx*+299 *pp. ISBN* 3-540-62744-8 (A. K. Prykarpat·skiĭ) **99h:58126** 58F13 (34C35, 35Q35, 76Exx, 76F20)

Mori, Hiroshi[1] (*with* Watanabe, Yoshiyuki) From Sasakian 3-structures to quaternionic geometry. (English summary) *Arch. Math.* (*Brno*) **34** (1998), *no.* 3, 379–386. (Roger Bielawski) **99k:53103** 53C25

Mori, Izuru The center of some quantum projective planes. (English summary) *J. Algebra* **204** (1998), *no.* 1, 15–31. (Michel Van den Bergh) **99e:16059** 16W50

Mori, Kazuyoshi (*with* Abe, Kenichi) Feedback stabilization and robustness of stabilizability over integral domains. *J. Math. Systems Estim. Control* **8** (1998), *no.* 3, 19 *pp.* (*electronic*). (Han Sheng Wu) **99j:93082** 93D15 (93D21)

Mori, Kunihiko Einstein metrics on solvable Lie groups. (Japanese) Geometry of homogeneous spaces and submanifolds (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1044 (1998), 38–48. (*see* **99i:53001**) 53C25

Mori, M. *see* **Mori, Masatake**

Mori, Makoto Low discrepancy sequences generated by piecewise linear maps. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 2, 141–162. (Robert F. Tichy) **99f:11097** 11K38 (11K06)

— Dynamical system on Cantor set. *Tokyo J. Math.* **21** (1998), *no.* 1, 217–231. (Peter Raith) **99f:58069** 58F03 (28A78, 54H20, 58F11)

Mori, Masaaki (*with* Fukada, Atsushi; Kaji, Tadashi; Higashino, Teruo; Taniguchi, Kenichi) A conformance testing for communication protocols modeled as a set of DFSMs. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 8, 2519–2527. 68Q60

Mori, Masao[1] (*with* Komiya, Toru) A routing problem in surveillance operations at sea. (Japanese. English and Japanese summaries) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 455–469. 90B06 (90C35)

Mori, Masatake Optimality of transformations of double exponential function type in numerical analysis. (Japanese) *Sūgaku* **50** (1998), *no.* 3, 248–264. 65E05 (42B20)

— Recommendations concerning double exponential function transformations. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 143–153. (*see* **99i:00028**) 44A05 (65D32)

— *see also* **Recent developments in domain decomposition methods and flow problems, 99g:00054**

Mori, Seiki Elimination of defects of meromorphic mappings of $\mathbf{C}^m$ into $\mathrm{P}^n(\mathbf{C})$. (English summary) *Ann. Acad. Sci. Fenn. Math.* **24** (1999), *no.* 1, 89–104. (Min Ru) **99m:32030** 32H30

Mori, Shigefumi Birational classification of algebraic threefolds [MR 93b:14031]. *Fields Medallists' lectures*, 496–509, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 14E05 (14E35)

— *see also* **Hironaka, Heisuke, (99b:00010)**

Móri, T. F. Asymptotics of periodic permanents. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 333–344. (Natalia Bebiano) **99g:15009** 15A15

Mori, Takakazu (*with* Tsujii, Yoshiki; Yasugi, Mariko) Computability structures on metric spaces. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 351–362, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:03030** 03D45 (03F65)

Moriah, Yoav (*with* Lustig, Martin) On the complexity of the Heegaard structure of hyperbolic 3-manifolds. *Math. Z.* **226** (1997), *no.* 3, 349–358. (From the introduction) **99h:57037** 57N10 (57M50)

— Incompressible surfaces and connected sum of knots. *J. Knot Theory Ramifications* **7** (1998), *no.* 7, 955–965. (Jennifer Schultens) **99h:57016** 57M25 (57N10)

— (*with* Schultens, Jennifer) Irreducible Heegaard splittings of Seifert fibered spaces are either vertical or horizontal. *Topology* **37** (1998), *no.* 5, 1089–1112. (Lee Mosher) **99g:57021** 57N10

Moriarty, K. J. M. (*with* Golse, G.; Jirari, H.; Kröger, Helmut) Generalized Aharonov-Bohm effect. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 67–74, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05

Moriconi, L. (*with* Takakura, F. I.) Circulation statistics in three-dimensional turbulent flows. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 3187–3201. (Summary) **99f:76075** 76F99 (76M35)

Moriconi, Marco (*with* De Martino, A.; Mussardo, G.) Reflection scattering matrix of the Ising model in a random boundary magnetic field. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 615–636. (Konstantin G. Selivanov) **99a:82050** 82B44 (81U40)

— (*with* De Martino, A.) Tricritical Ising model with a boundary. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 3, 577–594. (Konstantin G. Selivanov) **99k:82013** 82B20 (82B23)

— (*with* De Martino, A.) Quantum integrability of certain boundary conditions. (English summary) *Phys. Lett. B* **447** (1999), *no.* 3-4, 292–297. (Summary) **99k:81177** 81T10

Móricz, Ferenc (*with* Németh, Zoltán[1]) On the order of magnitude of Fourier coefficients with respect to uniformly bounded orthonormal systems. (Russian summary) *Anal. Math.* **22** (1996), *no.* 3, 187–198. (Mursaleen) **99h:42005** 42A16 (42C05)

— (*with* Dăng Vũ Giang) The two-dimensional Cesàro operator is bounded on the multi-parameter Hardy space $\mathscr{H}^1(\mathbf{R}\times\mathbf{R})$. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 1-2, 279–288. (William T. Sledd) **99b:47040** 47B38

— (*with* Németh, Zoltán[1]) A new characterization of regular summability $(C, 1, 1)$ of double series. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 471–485. (D. C. Russell) **99d:40004** 40G05 (40B05)

— (*with* Bagota, Mónika) The maximal Riemann operator for functions in Hardy spaces on the two-dimensional torus. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 281–291. (S. Baron) **99f:42024** 42B08 (42A50, 42B25, 46E30)

— Summability $(C, 1)$ of integrals on $\mathbf{R}_+$. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 1, 1–8. (D. C. Russell) **99j:40004** 40A10 (40G05, 46B15)

— (*with* Mazhar, S. M.) Integrability of double power series with nonnegative coefficients. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 229–245. (Ling Yau Chan) **99e:41022** 41A58 (40A05, 42B08)

— (*with* Rhoades, Billy E.) An equivalent reformulation of summability by weighted mean methods. (English summary) *Linear Algebra Appl.* **268** (1998), 171–181. (S. Baron) **99c:40001** 40A05 (40G05)

— The maximal conjugate Fejér operator is bounded from L^1 to weak-L^1. (English summary) *Arch. Math.* (*Basel*) **72** (1999), *no.* 2, 118–126. (Michael T. Lacey) **99j:42017** 42B15 (47B38)

— (*with* Tandori, Károly) Integrability behaviour of the maximal partial sum of orthogonal series. (English summary) *Math. Pannon.* **10** (1999), *no.* 1, 5–15. (J. Musielak) **99m:42051** 42C15 (46E30)

— Exact estimates for integrals involving Dirichlet series with nonnegative coefficients. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2417–2422. (J. Gopala Krishna) **99j:30003** 30B50 (30B10)

Morifuji, Takayuki A note on the reducibility of automorphisms of the Klein curve and the η-invariant of mapping tori. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1945–1947. (From the introduction) **99g:14039** 14H45 (14E09, 57R20, 57S25)

Morigi, Marta Some problems concerning finite p-groups. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 51–54. 20D15

Morigi, Serena (*with* Casciola, Giulio) Spline curves in polar and Cartesian coordinates. (English summary) *Curves and surfaces with applications in CAGD*

(*Chamonix–Mont-Blanc*, 1996), 61–68, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D07

— Modelling with p-spline curves and surfaces. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 197–200. 65D17 (65D07)

Morikawa, Hisasi On differential polynomials. I, II. (English summary) *Nagoya Math. J.* **148** (1997), 39–72, 73–112. (Summary) **99m:05013** 05A40 (12H05)

Morikawa, Masahiro (*with* Itoh, Yousuke; Hotta, M.; Futamase, Toshifumi) Thermal hair of a quantum black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064016, 11 *pp.* 83C57

Morikawa, Ryozo On the linear Diophantine problem of Frobenius in three variables. *Bull. Fac. Liberal Arts Nagasaki Univ.* **38** (1997), *no.* 1, 1–17. (Béla Vizvári) **99k:11043** 11D04

Morillon, Marianne (*with* Fossy, Jules) The Baire category property and some notions of compactness. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 1–19. (J. M. Plotkin) **99m:03096** 03E25 (03E35)

Morimoto, H. *see* **Morimoto, Hiroko**

Morimoto, Hiroaki (*with* Fujita, Yasuhiro) On Bellman equations in quadratic ergodic control with controller constraints. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 1, 1–15. (E. N. Barron) **99i:49031** 49L20 (49K45, 93E20)

Morimoto, Hiroko Stationary solutions for the Navier-Stokes equations and the Boussinesq equations under general outflow condition. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 100–104. (*see* **99a:35003**) 35Q30 (76D05)

— (*with* Fujita, Hiroshi[1]; Okamoto, Hisashi) Stability of some Navier-Stokes flows in doubly connected domains. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 116–125, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99g:76063** 76E99 (35Q30, 76D05)

— General outflow condition for Navier-Stokes flow. *Recent topics on mathematical theory of viscous incompressible fluid* (*Tsukuba*, 1996), 209–224, *Lecture Notes Numer. Appl. Anal.*, 16, *Kinokuniya, Tokyo*, 1998. (Maria Specovius-Neugebauer) **99d:35128** 35Q30 (76D05)

Morimoto, Kanji Planar surfaces in a handlebody and a theorem of Gordon-Reid. *KNOTS '96* (*Tokyo*), 123–146, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99k:57040** 57N10

Morimoto, M. *see* **Morimoto, Mitsuo**

Morimoto, Mari (*with* Sumioka, Takeshi) Generalizations of theorems of Fuller. *Osaka J. Math.* **34** (1997), *no.* 3, 689–701. (John Clark) **99b:16031** 16L30 (16D50, 16P20, 16P60)

Morimoto, Masaharu (*with* Laitinen, Erkki) Finite groups with smooth one fixed point actions on spheres. (English summary) *Forum Math.* **10** (1998), *no.* 4, 479–520. (C. B. Thomas) **99k:57078** 57S17 (57R67, 57R85, 57S25)

— Equivariant surgery theory: deleting-inserting theorems of fixed point manifolds on spheres and disks. (English summary) *K-Theory* **15** (1998), *no.* 1, 13–32. (Frans Clauwens) **99i:57056** 57R67 (19G24, 57R85, 57R91)

— A geometric quadratic form of 3-dimensional normal maps. (English summary) *Topology Appl.* **83** (1998), *no.* 2, 77–102. (Dave Auckly) **99a:57018** 57N10 (57R19, 57R65, 57R90)

Morimoto, Mitsuo (*with* Fujita, Keiko) Conical Fourier-Borel transformations for harmonic functionals on the Lie ball. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 95–113, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Roberto Luiz Soraggi) **99b:32006** 32A45 (42A38, 46F12)

— (*with* Fujita, Keiko) Spherical Fourier-Borel transformation. *Functional analysis and global analysis* (*Quezon City*, 1996), 78–87, *Springer, Singapore*, 1997. (Yoshifumi Ito) **99k:32002** 32A25 (32A45, 35A22, 44A15, 46N20)

— The Poisson kernel and the Cauchy kernel. *Functional analysis and global analysis* (*Quezon City*, 1996), 185–193, *Springer, Singapore*, 1997. (Yoshifumi Ito) **99k:32006** 32A25 (35A22)

— (*with* Fujita, Keiko) Eigen functions of the Laplacian of exponential type. *New trends in microlocal analysis* (*Tokyo*, 1995), 39–58, *Springer, Tokyo*, 1997. (Günter Berger) **99f:35025** 35J05 (35P05, 46N20)

— (*with* Lê Hai Khôi) Representation of harmonic functions in the Lie ball by Dirichlet series. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 2, 331–342. (Ragnar Sigurdsson) **99e:32003** 32A05 (31B05)

— An integral formula for holomorphic functions on the Lie ball. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 39–43, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 32A25

— *see also* **New trends in microlocal analysis, 99d:00024**

Morimoto, Shuma (*with* Nishida, Goro) Elliptic cohomology of classifying spaces of cyclic groups and higher level modular forms. *J. Math. Kyoto Univ.* **37** (1997), *no.* 4, 701–715. (Andrew J. Baker) **99f:11055** 11F11 (55N15, 55N22, 55R35, 57R99)

Morimoto, Yasuo The dynamics of nonlinear recurrence equations having integer variable. (English summary) *Phys. Lett. A* **227** (1997), *no.* 3-4, 187–191. (V. G. Kurbatov) **99d:39018** 39A12 (58F14)

Morimoto, Yoshinori (*with* Morioka, Tatsushi) The positivity of Schrödinger operators and the hypoellipticity of second order degenerate elliptic operators. (English summary) *Bull. Sci. Math.* **121** (1997), *no.* 7, 507–547. (Nguyễn Minh Trí) **99c:35033** 35H05 (35B05, 35J10, 35J70)

— (*with* Dencker, Nils; Morioka, Tatsushi) Hypoellipticity for operators of infinitely degenerate Egorov type. Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 101–109. (*see* **99f:35004**) 35H05

Morin, Bernard Un contre-exemple de Milnor à la Hauptvermutung. [A counterexample of Milnor to the Hauptvermutung] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 226, 41–63, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 57Q25

— Champs de vecteurs sur les sphères d'après J. F. Adams. [Vector fields on spheres, after J. F. Adams] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 233, 163–189, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 57R25 (55S40)

Morin, Géraldine (*with* Laurent, Pierre-Jean; Mazure, Marie-Laurence) Shape effects with polynomial Chebyshev splines. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 255–262, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (L. Leindler) **99j:41019** 41A15 (41A29, 65D07)

Morin, Pascal (*with* M'Closkey, Robert T.) Time-varying homogeneous feedback: design tools for the exponential stabilization of systems with drift. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 837–869. (Paulo Sérgio Pereira da Silva) **99j:93080** 93D15 (70F25, 70Q05, 93C10, 93D20)

Morin, Pedro (*with* Spies, Rubén D.) A quasilinearization approach for parameter identification in a nonlinear model of shape memory alloys. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1551–1563. (Summary) **99h:65158** 65M12 (35Q55, 35R30, 73B30)

Morin, Rémi Decompositions of asynchronous systems. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 549–564, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68057** 68Q10 (68Q68, 68Q70)

— (*with* Kleijn, H. C. M.; Rozoy, B.) Event structures for local traces. (English summary) *Fifth International Workshop on Expressiveness in Concurrency* (*EXPRESS '98*) (*Nice*), 16 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68Q10 (68Q90)

Morin, T. L. (*with* Prabhu, Nagabhushana; Zhang, Z.) Complexity of the gravitational method for linear programming. *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 212–223, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Levent Tunçel) **99j:90044** 90C05 (90C60)

Morina, S. I. (*with* Chentsov, A. G.) Extension of control problems in the class of finitely additive vector measures. (Russian. Russian summary) Current problems in control theory and their applications (singular solutions and perturbations in control systems) (Russian). *Avtomat. i Telemekh.* **1997**, *no.* 7, 207–216; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1235–1242. (Uldis Ē. Raitums) **99c:93004** 93B03 (49J15, 49Q20)

Morini, Benedetta (*with* Dieci, Luca; Papini, Alessandra; Pasquali, Aldo) On real logarithms of nearby matrices and structured matrix interpolation. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 145–165. (Summary) **99h:65021** 65D15 (65D05, 65F30)

— Convergence behaviour of inexact Newton methods. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1605–1613. (A. M. Galperin) **99m:65114** 65H10

Morinishi, Y. (*with* Lund, Thomas S.; Vasilyev, Oleg V.; Moin, Parviz) Fully conservative higher order finite difference schemes for incompressible flow. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 90–124. (Summary) **99a:76100** 76M20

Morino, L. (*with* Iemma, U.; Marchese, V.) High-order BEM for potential transonic flows. (English summary) *Comput. Mech.* **21** (1998), *no.* 3, 243–252. (Summary) **99c:76074** 76M15 (76H05)

Morioka, Tatsushi (*with* Morimoto, Yoshinori) The positivity of Schrödinger operators and the hypoellipticity of second order degenerate elliptic operators. (English summary) *Bull. Sci. Math.* **121** (1997), *no.* 7, 507–547. (Nguyễn Minh Trí) **99c:35033** 35H05 (35B05, 35J10, 35J70)

— Hypoellipticité pour un certain opérateur à caractéristique double. [Hypoellipticity of a certain operator with double characteristic] *Tsukuba J. Math.* **21** (1997), *no.* 3, 739–762. (Makhlouf Derridj) **99d:35028** 35H05

— (*with* Dencker, Nils; Morimoto, Yoshinori) Hypoellipticity for operators of infinitely degenerate Egorov type. Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 101–109. (*see* **99f:35004**) 35H05

— Une perturbation des opérateurs microhypoelliptiques. [A perturbation of microhypoelliptic operators] *Tsukuba J. Math.* **22** (1998), *no.* 2, 537–550. (Luigi Rodino) **99i:35015** 35H05 (35A27, 35S05, 47F05)

Morishima, Takahiro (*with* Futamase, Toshifumi) Collapsing open isotropic universe generated by nonminimally coupled scalar field. (English summary) *Phys. Lett. B* **447** (1999), *no.* 1-2, 46–50. 83F05

Morishita, Masanori A mean value theorem in adele geometry. Algebraic number theory and Fermat's problem (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 971 (1996), 1–11. (Dan Abramovich) **99a:11084** 11H60 (11E72, 11H16)

— Hasse principle and approximation theorems for homogeneous spaces. Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 102–116. (Jean-Claude Douai) **99e:11047** 11E72 (11G99, 11R34, 14G05)

— (*with* Watanabe, Takao) On S-Hardy-Littlewood homogeneous spaces. (English summary) *Internat. J. Math.* **9** (1998), *no.* 6, 723–757. (T. Ono) **99g:11082** 11G35 (11E20, 14M17)

Morisugi, Kaoru Projective elements in K-theory and self maps of ΣCP^{∞}. *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 151–165. (Ross Staffeldt) **99g:55008** 55N15 (55Q05, 55R45, 55S37)

Morita, Hideaki (*with* Yamada, Hiro-Fumi) Higher Specht polynomials for the complex reflection group $G(r, p, n)$. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 505–515. (Sait Halıcıoğlu) **99k:20085** 20F55 (05E10)

Morita, Hiroshi Thoughts concerning stochastic efficiency. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 32–40. (*see* **99h:90006**) 90C15

— Data envelopment analysis—theory and applications. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 10, 529–534. 90C08 (90–02)

Morita, Jun Generalizations of the homo[iso]morphism $H_3^+ \simeq A_5$ to hyperbolic Coexter groups and their applications. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 109–120. (*see* **99a:00029**) 20F55

Morita, K. *see* **Morita, Kiiti**

Morita, Kenji On the basis of twisted de Rham cohomology. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 567–603. (Sándor J. Kovács) **99m:14037** 14F40 (32S40)

Morita, Kiiti (*with* Collins, P. J.) Coverings versus entourages. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 125–130. (J. R. Isbell) **99a:54021** 54E15 (54E25, 54E35)

— Results related to the Michael line. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 359–362. (A. H. Stone) **99c:54009** 54B10 (54D15, 54D20)

Morita, Satoru (*with* Chawanya, Tsuyoshi) On the bifurcation structure of the mean-field fluctuation in the globally coupled tent map systems. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 44–70. (Volker Matthias Gundlach) **99b:58158** 58F13 (34D10)

Morita, Shigeyuki Casson invariant, signature defect of framed manifolds and the secondary characteristic classes of surface bundles. *J. Differential Geom.* **47** (1997), *no.* 3, 560–599. (Dave Auckly) **99h:57029** 57M50 (57R20)

Morita, Takehiko Markov systems and transfer operators associated with cofinite Fuchsian groups. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1147–1181. (Dieter H. Mayer) **99d:58137** 58F20 (11M36, 58F19)

Morita, Tohru Expansion in harmonic wavelets of a periodic function. (English summary) *Interdiscip. Inform. Sci.* **3** (1997), *no.* 1, 5–12. (Summary) **99c:94008** 94A12 (42C15, 68U10)

Morita, Yoshihisa Stable solutions with zeros to the Ginzburg-Landau equation under Neumann condition. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 227–232, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 35Q55 (35J10)

— Invariant manifold theorems for reaction-diffusion equations and their applications. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 112–117, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35K57 (58F39)

— Stabilization of vortices in the Ginzburg-Landau equation. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 192–196, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35K55 (35J65, 35Q99, 58E50)

— (*with* Jimbo, Shuichi) Ginzburg-Landau equation with a variable coefficient in a disk. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 35–43. (Vitaly B. Moroz) **99j:35202** 35Q55 (49K10, 58E15, 58E50)

— (*with* Pernarowski, Mark; Dockery, Jack) Homoclinic bifurcations in a diffusively coupled excitable system. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 397–407, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:92001** 92C10 (34C23, 34C37)

Morita, Yoshiyuki (*with* Kamita, Atsushi; Tanisaki, Toshiyuki) Quantum deformations of certain prehomogeneous vector spaces. I. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 527–540. (Shao-Ming Fei) **99i:17019** 17B37 (17B10, 20G05)

Moritoh, Shinya Wavelet transforms and operators in various function spaces. *New trends in microlocal analysis* (*Tokyo*, 1995), 59–68, *Springer, Tokyo*, 1997. (Ding-Xuan Zhou) **99h:42064** 42C15 (46E99)

Moritsch, O. (*with* Feichtinger, U.; Rant, J.; Schweda, M.; Zerrouki, H.) The finiteness of the four-dimensional antisymmetric tensor field model in a curved background. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4513–4537. (Summary) **99e:81165** 81T20 (81T60)

Moritsugu, Shuichi (*with* Kuriyama, Kazuko) A calculation method for converting a matrix from rational normal form to Jacobson normal form through computer algebra. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 17–22. (*see* **99h:00034**) 15A21

Moritta, Yoshihisa *see* **Morita, Yoshihisa**

Moritz, B. (*with* Schwalm, W. A.; Giona, M.; Schwalm, M. K.) Vector difference calculus for physical lattice models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 1217–1233. (Summary) **99j:58008** 58A10 (73V99, 76M99, 78A25)

Moriwaki, Atsushi Relative Bogomolov's inequality and the cone of positive divisors on the moduli space of stable curves. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 569–600. (Montserrat Teixidor i Bigas) **99a:14034** 14H10 (14C20, 14G40)

Moriya, Hajime Strong subadditivity property of entropy in fermion systems. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 128–132. (D. Petz) **99m:82007** 82B10 (46L60)

Moriya, Katsuhiro On a variety of algebraic minimal surfaces in Euclidean 4-space. (English summary) *Tokyo J. Math.* **21** (1998), *no.* 1, 121–134. (Rabah Souam) **99h:53010** 53A10 (58D27)

Moriyasu, Kazumine Axiom A endomorphisms having no cycle. *Dynamical systems and chaos, Vol.* 1 (*Hachioji*, 1994), 182–186, *World Sci. Publishing, River Edge, NJ*, 1995. (Romeo F. Thomas) **99b:58134** 58F10 (58F15)

— (*with* Aoki, Nobuo; Oka, Masatoshi) Differentiable maps having hyperbolic sets. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 15–48. (Romeo F. Thomas) **99d:58130** 58F15 (58F10)

Morland, L. C. Resonant triads of capillary-gravity waves in the presence of a wind-drift current. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 71–82, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:76022** 76B15 (76B45, 86A05)

Morland, L. W. (*with* Staroszczyk, R.) Viscous response of polar ice with evolving fabric. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 3, 135–152. (Summary) **99d:73077** 73N20 (73B99, 73E60, 86A40)

— (*with* Staroszczyk, R.) A material coordinate treatment of the sea-ice dynamics equations. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 2819–2857. (Summary) **99i:86009** 86A05 (73K70, 73N20, 73V05, 76D99, 86–08)

Morlet, Anne C. (*with* Lybeck, Nancy J.; Bowers, Kenneth L.) The Schwarz alternating sinc domain decomposition method. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 461–483. (Larisa V. Maslovskaya) **99c:65145** 65L10 (65N55)

— Further properties of a continuum of model equations with globally defined flux. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 132–160. (Summary) **99a:76049** 76D99 (35Q35, 76C05, 76M25)

— (*with* Lybeck, Nancy J.; Bowers, Kenneth L.) Convergence of the sinc overlapping domain decomposition method. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 209–227. (Weimin Han) **99i:65142** 65N55 (65L10, 65N35)

Morlet, Claude Microfibrés et structures différentiables [MR 33 #729]. [Microbundles and differentiable structures] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 263, 285–295, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 57Q50

Morley, Steve (*with* Chong, Eugene Inseok; Maddila, Sanjeev) On finding single-source single-destination k shortest paths. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 40–47 (*electronic*). (*see* **99d:68010**) 68R10 (05C38)

Mormann, Thomas (*with* Echeverría, Javier; Ibarra, Andoni) The long and winding road to the philosophy of science in Spain. (English summary) *Representations of scientific rationality*, 11–55, *Poznań Stud. Philos. Sci. Humanities*, 61, *Rodopi, Amsterdam*, 1997. (*see* **99k:00024**) 01A60 (00A30)

— Topological aspects of combinatorial possibility. (English summary) *Logic Log. Philos. No.* 5 (1997), 75–92. (Summary) **99e:03017** 03B45 (54A99)

— (*with* Ibarra, Andoni) Data, phenomena and theoretical constructs—a representational account. (Spanish. English and Spanish summaries) Semantics and representation in scientific theories: formal analysis. *Theoria* (*San Sebastián*) (2) **13** (1998), *no.* 31, 61–87. (*see* **99a:00056**) 00A30

— *see also* **Kuipers, Theo A. F., 99j:03002** *and* **Representations of scientific rationality, 99k:00024**

Mormul, Piotr (*with* Pelletier, Fernand) Contrôlabilité complète par courbes anormales par morceaux d'une distribution de rang 3 générique sur des variétés connexes de dimension 5 et 6. (English summary) [Complete controllability by piecewise abnormal curves of a generic rank-3 distribution on connected manifolds of dimension 5 and 6] *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 399–418. (L. E. Faybusovich) **99b:58068** 58E25 (49K15, 58A30, 93B05)

Moro, Julio (*with* Berrone, Lucio R.) Lagrangian means. (English summary) *Aequationes Math.* **55** (1998), *no.* 3, 217–226. (Zsolt Páles) **99d:39022** 39B22 (26B40)

— (*with* García, Antonio G.; Hernández-Medina, Miguel Ángel) On the distributional Fourier duality and its applications. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 43–54. (Stevan Pilipović) **99m:46103** 46F12 (40A05, 42A38)

— (*with* Vegas, José Manuel) Reduced stability of parameter-dependent matrices. (English summary) *Linear Algebra Appl.* **268** (1998), 289–321. (Jürgen Scheurle) **99d:34060** 34C20 (34A30, 34D20)

— (*with* Borobia, Alberto) On the boundary of the set of real spectra of nonnegative matrices. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 287–293. (Marc Artzrouni) **99g:15010** 15A18 (15A48)

Morohosi, Hozumi (*with* Fushimi, Masanori) Error estimation for quasi-Monte Carlo methods. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 101–108. (*see* **99f:65007**) 65C05 (65U05)

— (*with* Fushimi, Masanori) Designing a uniform random number generator with approximate asymptotic randomness. (Japanese. English summary) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 109–117. (*see* **99f:65007**) 65C10

Moroianu, Andrei (*with* Semmelmann, U.) Kählerian Killing spinors, complex contact structures and twistor spaces. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 197–202 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Hans-Bert Rademacher) **99i:53049** 53C25 (53C15, 58G25)

— Spin^c manifolds and complex contact structures. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 661–674. (Hans-Bert Rademacher) **99c:53048** 53C25 (53C15, 53C55, 58G25)

Morokhovets, Marina K. (*with* Chebotarev, Anatoliĭ Nikolaevich) Resolution-based approach to compatibility analysis of interacting automata. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 183–205. (Summary) **99m:68117** 68Q60 (68Q68)

Morokoff, William J. (*with* Caflisch, Russel E.) Quasi-Monte Carlo simulation of random walks in finance. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 340–352, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (*see* **99d:65005**) 90A09 (65C05)

— (*with* Harten, Amiram; Lax, Peter D.; Levermore, C. David) Convex entropies and hyperbolicity for general Euler equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2117–2127 (*electronic*). (Denis Serre) **99j:76107** 76N15 (35L65, 65M12)

— (*with* Levermore, C. David) The Gaussian moment closure for gas dynamics. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 72–96 (*electronic*). (Summary) **99f:76114** 76N15 (35L99, 35Q30, 76L05, 76P05, 82C40)

Morón, M. A. (*with* Cuchillo-Ibáñez, E.; Ruíz del Portal, F. R.) A note on isomorphic groups and nonhomeomorphic spaces. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 4, 297–300. (Summary) **99m:54028** 54H15 (54B20, 57N20)

Moroşanu, Costică Approximation and numerical results for phase field system by a fractional step scheme. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 137–151. (Jennifer Zhao) **99c:65158** 65M06 (65N12)

— (*with* Motreanu, Dumitru) An extension of the nonlinear parabolic equation in Caginalp's model. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 159–168. (Alan V. Lair) **99b:35104** 35K60 (47H11, 47N20)

Moroşanu, Gheorghe (*with* Zofotă, Daniela) On a boundary value problem for a second order differential equation. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 89–94. (L. E. Bobisud) **99b:34048** 34B15

— (*with* Perzhan, A. V.) The singular limit of telegraph equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 91–106. (Ivan Straškraba) **99c:35240** 35Q60 (35B25, 35L50)

— (*with* Barbu, Luminita) Asymptotic analysis of the telegraph equations with non-local boundary value conditions. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 13–22. (A. V. Perzhan) **99j:35126** 35L60 (35B25, 35B40, 47H15)

Morosawa, Shunsuke Julia sets of inlay exponential functions. (Japanese) Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 221–230. (*see* **99h:58002**) 58F23 (30D05)

Morosi, Carlo (*with* Pizzocchero, Livio) On the continuous limit of integrable lattices. III. Kupershmidt systems and sl(N + 1) KdV theories. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2727–2746. (Ahmet Satir) **99k:58095** 58F07 (35Q58)

— (*with* Tondo, G.) On a class of dynamical systems both quasi-bi-Hamiltonian and bi-Hamiltonian. (English summary) *Phys. Lett. A* **247** (1998), *no.* 1-2, 59–64. (Robert Brouzet) **99h:58066** 58F05

— (*with* Pizzocchero, Livio) On the continuous limit of integrable lattices. II. Volterra systems and sp(N) theories. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 2,

235–270. (Yun Bo Zeng) **99b:58120** 58F07 (35Q58)

Morosov, Anatoly V. Classical decay of a nonsupersymmetric configuration of two D-branes. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 291–300. (Summary) **99d:81129** 81T30

Moroz, B. Z. On the distribution of integer points in the real locus of an affine toric variety. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 283–291, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Noriko Yui) **99i:14026** 14G05 (11G35, 14G10, 14M25)

Moroz, Irene M. (*with* Penrose, Roger; Tod, Kenneth Paul) Spherically-symmetric solutions of the Schrödinger-Newton equations. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2733–2742. (Summary) **99j:83057** 83C99 (81P99)

— (*with* Smith, Leonard A.; Hide, Raymond) Synchronized chaos in coupled double disk homopolar dynamos. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2125–2133. (Summary) **99m:76126** 76W05 (34C99, 58F13, 58F40, 78A55)

— (*with* Skeldon, Anne C.) On a codimension-three bifurcation arising in a simple dynamo model. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 117–127. (Manuel Núñez Jiménez) **99e:78039** 78A99 (34C23, 58F14, 58F36, 76E25, 76W05)

— (*with* Hide, Raymond; Soward, Andrew M.) On self-exciting coupled Faraday disk homopolar dynamos driving series motors. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 128–144. (Manuel Núñez Jiménez) **99e:78040** 78A99 (34C23, 58F13, 58F36, 76W05)

Moroz, V. B. (*with* Vignoli, Alfonso; Zabreĭko, Petr Petrovich) Critical values of lower-bounded functionals, and Hammerstein equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 2, 16–21, 123. (Vyacheslav N. Pavlenko) **99i:58030** 58E05 (45G10)

— (*with* Vignoli, Alfonso; Zabreĭko, Petr Petrovich) On the three critical points theorem. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 103–113. (Marco Degiovanni) **99j:58042** 58E05 (45G10, 47H15, 47H30)

Morozan, T. Asymptotic almost periodic solutions for Riccati equations of stochastic control. *Stud. Cerc. Mat.* **46** (1994), *no.* 6, 603–612. 93E20 (34C27, 34H05)

— Parametrized Riccati equations for controlled linear differential systems with jump Markov perturbations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 661–682. (Sergey V. Lototsky) **99d:93064** 93E03 (49K10)

— Parametrized Riccati equations associated to input-output operators for discrete-time systems with state-dependent noise. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 915–931. (M. M. Konstantinov) **99i:93072** 93E20 (93A25, 93B36)

Morozov, A. *see* **Morozov, A. Yu.**

Morozov, A. D. (*with* Dragunov, T. N.) On the investigation of systems of Hénon-Heiles type. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 43–54. (Summary) **99f:34074** 34C99 (58F13)

Morozov, A. Yu. (*with* Kharchev, S.; Mironov, A. D.) Non-standard KP evolution and quantum τ-function. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 129–143; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 866–878 (1996). (Pavel Šťovíček) **99d:58083** 58F07 (81R50)

— (*with* Vinet, Luc) Free-field representation of group element for simple quantum groups. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 10, 1651–1707. (Henrik Aratyn) **99c:81093** 81R50 (17B37)

— (*with* Gorskiĭ, A. S.; Marshakov, A.; Mironov, A. D.) RG equations from Whitham hierarchy. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 690–716. (Henrik Aratyn) **99h:58086** 58F07 (14K25, 81T13, 81T17, 81T60)

— (*with* Mironov, A. D.) Covariance of WDVV equations. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 48–52. (Alexander V. Shapovalov) **99f:58029** 58D29 (81T70)

— Integrable structure behind the generalized WDVV equations. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 93–96. (Henrik Aratyn) **99j:58098** 58F07 (58D29, 81T60)

— (*with* Braden, H. W.; Marshakov, A.; Mironov, A. D.) Seiberg-Witten theory for a non-trivial compactification from five to four dimensions. (English summary) *Phys. Lett. B* **448** (1999), *no.* 3-4, 195–202. (Summary) **99k:81293** 81T60 (81T13)

Morozov, E. V. (*with* Sigovtsev, S. G.) Simulation of queueing processes based on weak regeneration. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci.* (*New York*) **89** (1998), *no.* 5, 1517–1523. (*see* **99d:00033**) 60K25

— Weak regenerative structure of an open Jackson queueing network. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 2956–2961. (Gerard Hooghiemstra) **99k:60232** 60K25

Morozov, Igor B. Comment on: "A mathematical theorem useful for the direct estimation of seismic source spectra" [Bull. Seismol. Soc. Amer. **87** (1997), no. 5, 1281–1287; MR 98f:86005] by S. G. Kim, Y. Chen, Z.-L. Wu and G. F. Panza. *Bull. Seismol. Soc. Amer.* **88** (1998), *no.* 3, 880. (Editors) **99b:86002** 86A15

Morozov, M. V. (*with* Molchanov, A. P.) Algorithms for the analysis of the robust stability of linear time-dependent control systems with periodic constraints. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 100–111; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 2, 795–804. (Summary) **99e:93056** 93D09 (93B40)

Morozov, S. F. (*with* Kalinin, A. V.) The Cauchy problem for a nonlinear integro-differential transport equation. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 677–686; *translation in Math. Notes* **61** (1997), *no.* 5-6, 566–573. (Hana Petzeltová) **99c:35246** 35Q99 (45K05, 82C70)

Morozov, V. V. *see* **Morozov, Vladimir Viktorovich**

Morozov, Vladimir A. On the rate of convergence for regularized solutions. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 345–352. (Summary) **99c:65114** 65J20 (47A50)

— (*with* Vasil'ev, F. P.; Ivanitskiĭ, A. Yu.) The pointwise residual method for solving some problems of linear algebra and linear programming. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1140–1152; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1090–1102. (C. Ilioi) **99f:90059** 90C05 (65F35)

Morozov, Vladimir Viktorovich (*with* Belyankin, G. A.; Bezhuashvili, B. T.) A game-theoretic approach to a pattern recognition problem. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 179–191, 225. (Summary) **99m:90187** 90D80

— A game-theoretic model of reinsurance. (English summary) Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 4, 342–346. (Summary) **99j:90116** 90D05 (90A46)

— (*with* Ismailov, I. G.) Some optimal design problems and their reduction to an antagonistic game. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 21–25, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 30–38. (Summary) **99d:49069** 49N55 (90C30, 90D10)

Morozova, I. M. Approximation of zero by a scalar product of integer-valued vectors and an analytic vector function. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 2, 22–25, 139. (V. P. Khavin) **99m:30077** 30E10 (41A30)

Morreale, J. (*with* Lemoine, X.; Sabar, H.; Berveiller, M.) Plastic inclusion with moving boundary. Application to dislocation cell structures. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 4, 757–789. 73E99 (73S10)

Morrice, Douglas J. (*with* Jacobson, Sheldon H.) A mathematical model for assessing the temporal association between health disorders and medical treatments. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 209–228. (Summary) **99e:92015** 92C50 (62P10)

Morrill, Glyn Grammar and logic. *Theoria* **62** (1996), *no.* 3, 260–293. 03B65

— (*with* Merenciano, Josep M.) Generation as deduction on labelled proof nets. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 310–328, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (03B65, 03F50)

Morris, Daniel D. (*with* Kanade, Takeo) Factorization methods for structure from motion. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1153–1173. (Henk J. A. M. Heijmans) **99f:68205** 68U10 (68T10)

Morris, Gary David (*with* Ward, Thomas B.) A note on mixing properties of invertible extensions. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 307–311. (B. Kamiński) **99j:28018** 28D15 (22D40)

— (*with* Ward, Thomas B.) Entropy bounds for endomorphisms commuting with K actions. (English summary) *Israel J. Math.* **106** (1998), 1–11. (Miaohua Jiang) **99m:28042** 28D20 (54C70)

Morris, Joy (*with* Dobson, Edward; Gavlas, Heather; Witte, David Riley) Automorphism groups with cyclic commutator subgroup and Hamilton cycles. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 69–78. (Brian Alspach) **99d:05039** 05C25 (05C45)

Morris, K. A. Design of finite-dimensional controllers for infinite-dimensional systems by approximation. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 2, 30 *pp.* (*electronic*). (Hartmut Logemann) **99j:93040** 93B51 (93C25)

— (*with* Gorbet, R. B.; Wang, D. W. L.) Control of hysteretic systems: a state-space approach. *Learning, control and hybrid systems* (*Bangalore*, 1998), 432–451, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C10 (93B51)

— Justification of input-output methods for systems with unbounded control and observation. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 81–85. (Summary) **99j:93083** 93D15 (93C20)

Morris, M. D. (*with* Gray, L. J.) Application of the symmetric-Galerkin boundary integral method for elastic wave scattering. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 181–185, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 73D25 (65M30, 65M60, 73V10)

graves-Morris, P. R. *see* **Graves-Morris, P. R.**

Morris, Paul (*with* Tsamardinos, Ioannis; Muscettola, Nicola) Fast transformation of temporal plans for efficient execution. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 254–261, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20 (68T27)

Morris, Richard J. The use of computer graphics for solving problems in singularity theory. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 53–66, *Springer, Berlin*, 1997. (*see* **99g:68212**) 58–04 (58C27)

Morris, Sidney A. (*with* Hofmann, Karl H.; Nickolas, Peter; Pestov, Vladimir G.) Small large subgroups of a topological group. (English summary) *Note Mat.* **14** (1994), *no.* 2, 161–165 (1997). (Michael Tkačenko) **99a:22005** 22A05 (54H11)

— (*with* Leĭderman, Arkadiĭ Grigor'evich; Pestov, Vladimir G.) The free abelian topological group and the free locally convex space on the unit interval. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 529–538. (A. I. Danilenko) **99a:22006** 22A05

— (*with* Hofmann, Karl H.) ★ The structure of compact groups. A primer for the student—a handbook for the expert. de Gruyter Studies in Mathematics, 25. *Walter de Gruyter & Co., Berlin*, 1998. *xviii*+835 *pp. ISBN* 3-11-015268-1 (Alexander Isaakovich Shtern) **99k:22001** 22–02 (22C05)

— (*with* McPhail, Carolyn E.) The variety of topological groups generated by the class of all Banach spaces. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 319–325, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Temple H. Fay) **99j:22003** 22A05 (20K45, 46B99, 46M99)

— (*with* Pestov, Vladimir G.) On Lie groups in varieties of topological groups. *Colloq. Math.* **78** (1998), *no.* 1, 39–47. (Dikran Dikranjan) **99i:22001** 22A05 (22E65)

— (*with* Pestov, Vladimir G.) A topological generalization of the Higman-Neumann-Neumann theorem. (English summary) *J. Group Theory* **1** (1998), *no.* 2, 181–187. (Michael Tkačenko) **99b:54063** 54H11 (22A05)

— (*with* Comfort, W. W.; Robbie, Desmond; Svetlichny, Sergey; Tkachenko, M. G.) Suitable sets for topological groups. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 25–46. (Klaas Pieter Hart) **99g:54033** 54H11 (22A05, 54A25)

Morris, Stephen Edward (*with* Kajii, Atsushi) The robustness of equilibria to incomplete information. (English summary) *Econometrica* **65** (1997), *no.* 6, 1283–1309. (Summary) **99b:90164** 90D10

— (*with* Kajii, Atsushi) Payoff continuity in incomplete information games. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 267–276. (Summary) **99k:90230** 90D35 (90A05)

Morris, Tim R. New developments in the continuous renormalization group. *New developments in quantum field theory* (*Zakopane*, 1997), 147–158, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (*see* **99e:81002**) 81T17

Morris, Tony R. (*with* Curtis, Robert T.) Codes. (English summary) *Graph connections*, 116–127, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 94B60 (05C50)

Morrison, David R. (*with* Plesser, M. Ronen) Towards mirror symmetry as duality for two-dimensional abelian gauge theories. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 374–387, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99m:81224** 81T40 (14J32, 32J81)

— (*with* Aspinwall, Paul S.) Point-like instantons on $K3$ orbifolds. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 533–564. (Bruce Hunt) **99a:32026** 32G81 (14J28, 14J32, 81T30)

— (*with* Aspinwall, Paul S.) Non-simply-connected gauge groups and rational points on elliptic curves. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 12, 16 *pp.* (*electronic*). (Mark Gross) **99j:14040** 14J28 (11G05, 14H52, 14J32, 81T30)

— (*with* Greene, Brian R.; Polchinski, Joseph) String theory. *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 19, 11039–11040 (*electronic*). (Christophe Grojean) **99g:81164** 81T30 (81–02)

Morrison, Ian (*with* Harris, Joseph Daniel) ★ Moduli of curves. (English summary) Graduate Texts in Mathematics, 187. *Springer-Verlag, New York*, 1998. *xiv*+366 *pp. ISBN* 0-387-98438-0 (R. F. Lax) **99g:14031** 14H10 (14–02, 14D20, 14D22)

Morrison, James R. (*with* Kumar, Panganamala Ramana) On the guaranteed throughput and efficiency of closed re-entrant lines. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 33–54. (Summary) **99b:90058** 90B22 (60K25)

Morrison, Margaret C. Modelling nature: between physics and the physical world. Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 65–85. (*see* **99g:00024**) 00A79

— *see also* **Muschik, Wolfgang**, (**99g:00024**)

Morrison, P. J. (*with* Shadwick, B. A.; Bowman, John C.) Exactly conservative integrators. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 1112–1133 (*electronic*). (Summary) **99m:65136** 65L06 (34A45, 70–08, 70H05)

Morrison, Scott P. (*with* Presnell, Brett; Littell, Ramon C.) Projected multivariate linear models for directional data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1068–1077. 62H11 (62J05)

Morriss, Patrick (*with* Mitchem, John; Schmeichel, Edward) On the cost chromatic number of outerplanar, planar, and line graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 229–241. (R. J. Douglas) **99i:05086** 05C15 (05C10)

Morrissey, John W. (*with* Rice, James R.) Crack front waves. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 3, 467–487. (Alexander B. Movchan) **99e:73083** 73M25 (73D99)

Morro, Angelo (*with* Caviglia, Giacomo) On modelling reflection-transmission problems. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 875–896. (Summary) **99d:76091** 76Q05 (73D25, 78A45)

Morrow, Charlene *see* **Notable women in mathematics**, **99d:01037**

Morrow, James A. (*with* Curtis, Edward B.; Ingerman, David) Circular planar graphs and resistor networks. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 115–150. (W.-K. Chen) **99k:05096** 05C38 (05C40, 05C50, 94C05)

— (*with* Ingerman, David) On a characterization of the kernel of the Dirichlet-to-Neumann map for a planar region. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 106–115 (*electronic*). (Hiroshi Isozaki) **99c:35258** 35R30 (78A55)

Morscher, Edgar Anselm's argument—once again. (English summary) *Logique et Anal.* (*N.S.*) **40** (1997), *no.* 158, 175–188. 03A05

Morse, A. Stephen Estimator-based supervisory control—a review. (English summary) *Systems Control Inform.* **42** (1998), *no.* 6, 319–326. 93C83 (93E10)

— (*with* Borrelli, Donato; Mosca, Edoardo) Discrete-time supervisory control of families of two-degrees-of-freedom linear set-point controllers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 178–181. (Summary) **99j:93063** 93C55 (93B50)

el-Morshedy, H. A. *see* **El-Morshedy, H. A.**

Morsi, Nehad N. (*with* Yakout, M. M.) Axiomatics for fuzzy rough sets. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 327–342. (Summary) **99h:03032** 03E72

Morsink, Sharon M. (*with* Brady, Patrick R.; Droz, Serge) Late-time singularity inside nonspherical black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084034, 15 *pp.* (Summary) **99m:83099** 83C57

Mörters, Peter Average densities and linear rectifiability of measures. (English summary) *Mathematika* **44** (1997), *no.* 2, 313–324. (Hermann Haase) **99c:28014** 28A75

— Symmetry properties of average densities and tangent measure distributions of measures on the line. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 1, 146–179. (Norbert Patzschke) **99e:28015** 28A80

— (*with* Preiss, David) Tangent measure distributions of fractal measures. (English summary) *Math. Ann.* **312** (1998), *no.* 1, 53–93. (Lars Olsen) **99i:28013** 28A75 (28A80, 60G57)

— (*with* Krieg, Daniela) Tangent measure distributions of hyperbolic Cantor sets. (English summary) *Monatsh. Math.* **126** (1998), *no.* 4, 313–328. (Emilia Petrisor) **99m:28017** 28A78 (28A80, 58F11, 58F15)

— The average density of the path of planar Brownian motion. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 133–149. (Norbert Patzschke) **99d:60092** 60J65 (28A75, 60G17)

Morthland, T. E. (*with* Walker, John S.) Instabilities of dynamic thermocapillary liquid layers with magnetic fields. (English summary) *J. Fluid Mech.* **382** (1999), 87–108. 76E15 (76D45, 76E25)

Mortici, Cristinel Semilinear equations with strongly monotone nonlinearity. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 387–392 (1998). (J. V. A. Gonçalves) **99d:47064** 47H15 (35J40)

— On the unique solvability of semilinear problems with strongly monotone nonlinearity. (English summary) *Libertas Math.* **18** (1998), 53–57. (Yu. V. Trubnikov) **99j:47098** 47H15 (35J60, 47N20)

Mortini, Raymond A constructive proof of the Beurling-Rudin theorem. (English summary) *Studia Math.* **129** (1998), *no.* 1, 51–58. (Julià Cufí) **99c:46060** 46J20 (30H05)

Mortola, Stefano (*with* Acanfora, Fausto) Non-semicontinuous quadratic integral functionals with continuous coefficients. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 1–9 (1998). (Gary M. Lieberman) **99j:49019** 49J45 (49J10)

Morton, Blaise (*with* Enns, Dale; Zhang, Bing-Yu) Stability of dynamic inversion control laws applied to nonlinear aircraft pitch-axis models. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 1–25. 93D05 (93C95)

Morton, David P. Stopping rules for a class of sampling-based stochastic programming algorithms. (English summary) *Oper. Res.* **46** (1998), *no.* 5, 710–718. (Summary) **99f:90070** 90C15

— (*with* Mak, Wai-Kei; Wood, R. Kevin) Monte Carlo bounding techniques for determining solution quality in stochastic programs. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 47–56. 90C15

scott-Morton, F. M. *see* **Scott-Morton, F. M.**

Morton, H. R. Unitary quantum groups and mutant knots. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 254–261, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 57M25 (17B37)

— (*with* Aiston, A. K.) Young diagrams, the Homfly skein of the annulus and unitary invariants. *KNOTS '96* (*Tokyo*), 31–45, *World Sci. Publishing, River Edge, NJ*, 1997. (Introduction) **99k:57027** 57M25 (20C35)

— (*with* Aiston, A. K.) Idempotents of Hecke algebras of type A. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 463–487. (J. S. Birman) **99h:57002** 57M25 (17B37)

Morton, K. W. Approximation of multidimensional hyperbolic partial differential equations. *The state of the art in numerical analysis* (*York*, 1996), 473–502, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Rémi Vaillancourt) **99e:65142** 65M99 (35L65)

— (*with* Lin, Peixiong[1]; Süli, Endre) Characteristic Galerkin schemes for scalar conservation laws in two and three space dimensions. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 779–796. (Darrell L. Hicks) **99b:65118** 65M60 (65N30)

— (*with* Andrews, J. G.) A posteriori error estimation based on discrepancies in an entropy variable. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 3, 183–198. (Summary) **99g:76098** 76M25 (65M99)

— On the analysis of finite volume methods for evolutionary problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2195–2222 (*electronic*). (Juhani Pitkäranta) **99m:65172** 65M12

Morton, Margaret (*with* Brand, Neal) A note on the growth rate of planar graphs. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 147–157, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:05039** 05C10

— A note on arc-transitive circulants. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 63–68. (Summary) **99d:05075** 05C75 (05C25)

Morton, Patrick Galois groups of periodic points. *J. Algebra* **201** (1998), *no.* 2, 401–428. (Tara L. Smith) **99a:12005** 12F10

Morvan, Michel (*with* Bertet, Karell; Gustedt, Jens) Weak-order extensions of an order. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 65–77, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:06004** 06A07 (05C85)

— *see also* **STACS 98**, **99f:68011**

Morzenti, Angelo (*with* Galbiati, Giulia; Maffioli, Francesco) On the logical definability of some maximum leaves problems. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 214–225, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99g:68072** 68Q15 (03B70, 03C40, 03D15, 68Q25)

— (*with* Felder, Miguel; Gargantini, Angelo) A theory of implementation and refinement in timed Petri nets. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 127–161. (Raymond Devillers) **99k:68119** 68Q90 (68Q10, 68Q60)

Morzy, Tadeusz (*with* Salza, Silvio; Barone, Giovanni) Distributed query optimization in loosely coupled multidatabase systems. (English summary) *Database theory—ICDT '95* (*Prague*), 40–53, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68Q10)

Mosbah, M. *see* **Mosbah, Mohamed**

Mosbah, Mahel (*with* Bel Hadj Rhouma, Nadra; Boukricha, Abderrahman) Perturbations et espaces harmoniques non linéaires. (English summary) [Perturbations and nonlinear harmonic spaces] *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 33–58. (N. Boboc) **99f:31014** 31D05 (35J60, 35K60)

— (*with* Bel Hadj Rhouma, Nadra) Problème de Dirichlet relatif à une perturbation non lineaire des espaces harmoniques. (English summary) [Dirichlet problem for a nonlinear perturbation of harmonic spaces] *Potential Anal.* **8** (1998), *no.* 4, 303–324. (Martha Bănulescu) **99j:31015** 31C45 (35J65)

Mosbah, Mohamed (*with* Saheb, N.) A syntactic approach to random walks on graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 258–272, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (05C85, 68Q45)

Mosca, Edoardo (*with* Casavola, Alessandro; Grimble, M. J.) Extensions to generalized LQG and H_∞ multivariable controllers. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 507–517. 93B36

— (*with* Chisci, L.; Lombardi, A.; Rossiter, J. A.) State-space approach to stabilizing stochastic predictive control. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 619–637. 93E15 (93D15)

— (*with* Bemporad, Alberto) Fulfilling hard constraints in uncertain linear systems by reference managing. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 451–461. (Summary) **99a:93062** 93C41 (93C05)

— (*with* Borrelli, Donato; Morse, A. Stephen) Discrete-time supervisory control of families of two-degrees-of-freedom linear set-point controllers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 178–181. (Summary) **99j:93063** 93C55 (93B50)

— (*with* Angeli, David) Command governors for constrained nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 816–820. 93B52 (70Q05, 93C10, 93D15)

— (*with* Casavola, Alessandro; Zecca, Pietro) Robust ripple-free deadbeat control design. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 564–573. (Summary) **99m:93037** 93B51

Mosca, Michele Quantum searching, counting and amplitude amplification by eigenvector analysis. (English summary) *Randomized algorithms (Brno, 1998)*, 11 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68Q05 (81P99)

— Removing edges can increase the average number of colours in the colourings of a graph. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 211–216. (K. S. Sarkaria) **99f:05039** 05C15

— (*with* Cleve, Richard; Ekert, Artur; Macchiavello, Chiara) Quantum algorithms revisited. (English summary) Quantum coherence and decoherence (Santa Barbara, CA, 1996). *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1969, 339–354. (Frank Antonsen) **99m:81030** 81P99

Moscardini, A. (*with* Ling, M.; Lawler, K.; McBain, N.) Optimization of advertising resources over time: a strategic analysis. (English summary) Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems (Sozopol, 1997). *Pliska Stud. Math. Bulgar.* **12** (1998), 85–96. (*see* **99k:49002**) 90B60 (90A80)

Moscariello, Gioconda On weak minima of certain integral functionals. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 37–48. (Alberto Fiorenza) **99d:49072** 49N60 (35B65, 49J10, 49K20)

Moscarini, Giuseppe (*with* Ottaviani, Marco; Smith, Lones) Social learning in a changing world. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 657–665. (Summary) **99e:92040** 92H10 (92K10)

Moscarini, Marina (*with* Malvestuto, Francesco Mario) A fast algorithm for query optimization in universal-relation databases. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 3, 299–309. (Summary) **99d:68066** 68P15

Moscatelli, V. B. (*with* Albanese, Angela A.) A method of construction of Fréchet spaces. *Functional analysis*, 1–8, *Narosa, New Delhi*, 1998. (José Bonet) **99m:46002** 46A04 (46A11)

Moscato, Pablo (*with* Norman, Michael G.) On the performance of heuristics on finite and infinite fractal instances of the Euclidean traveling salesman problem. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 121–132. (Anna Rycerz) **99g:90098** 90C27

Moschella, Ugo (*with* Schaeffer, R.) Quantum fluctuations in curved space. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 7, 1927–1939. (Enric Verdaguer) **99k:83049** 83C47 (81T20)

— (*with* Bros, Jacques; Epstein, Henri) Analyticity properties and thermal effects for general quantum field theory on de Sitter space-time. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 3, 535–570. (Michael Keyl) **99i:81135** 81T05 (32C81, 46N50, 81T20)

Moschen, Maria Pia (*with* Greco, Gabriele H.) A minimax inequality for marginally semicontinuous functions. *Minimax theory and applications (Erice, 1995)*, 41–51, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Dỗ Văn Lu'u) **99j:49011** 49J35 (47H10, 49K35)

Moschopoulos, P. G. (*with* Mathai, A. M.) A multivariate inverted beta model. (English and Italian summaries) *Statistica (Bologna)* **57** (1997), *no.* 2, 189–197. 62E15

Moschovakis, Joan Rand A classical view of the intuitionistic continuum. Dedicated to the late Stephen Cole Kleene. *Ann. Pure Appl. Logic* **81** (1996), *no.* 1-3, 9–24. (Wim Veldman) **99b:03077** 03F55 (03F25, 03F35)

Moschovakis, Yiannis N. (*with* Hurkens, A. J. C.; McArthur, Monica; Moss, Lawrence S.; Whitney, Glen T.) The logic of recursive equations. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 451–478. (Thomas Glaß) **99m:03092a** 03D75 (03D70)

— (*with* Hurkens, A. J. C.; McArthur, Monica; Moss, Lawrence S.; Whitney, Glen T.) Erratum: "The logic of recursive equations". *J. Symbolic Logic* **64** (1999), *no.* 1, 406. (Thomas Glaß) **99m:03092b** 03D75 (03D70)

Mosco, Umberto Variations and irregularities. (English summary) *Topological nonlinear analysis, II (Frascati, 1995)*, 273–313, *Progr. Nonlinear Differential Equations Appl.*, 27, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **99c:49044** 49Q20 (49J45)

— (*with* Biroli, Marco; Tchou, N. A.) Homogenization by the Heisenberg group. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 809–831. (A. F. M. ter Elst) **99d:35020** 35B27 (22E25, 22E30, 35H05, 35J99)

— Variational fractals. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 683–712 (1998). (Lars Olsen) **99m:28023** 28A80 (26D10, 31C25, 46E35, 49J45)

— (*with* Jost, Jürgen; Kendall, Wilfrid S.; Röckner, Michael; Sturm, Karl-Theodor) ★ New directions in Dirichlet forms. AMS/IP Studies in Advanced Mathematics, 8. *American Mathematical Society, Providence, RI; International Press, Cambridge, MA*, 1998. *xiv*+277 *pp. ISBN* 0-8218-1061-8 (Editors) **99e:31002** 31–06 (31C25, 60J35)

— Lagrangian metrics on fractals. (English summary) *Recent advances in partial differential equations, Venice* 1996, 301–323, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Ben Hambly) **99a:31007** 31C25 (28A80, 49Q20, 58G11, 60J60)

— Self-similarity and the calculus of variations. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 295–313. (Paolo Cubiotti) **99h:49057** 49Q20 (49J10)

Moscoso, Miguel (*with* Bonilla, Luis L.; Kindelan, Manuel; Venakides, Stephanos) Periodic generation and propagation of traveling fronts in DC voltage biased semiconductor superlattices. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1588–1614. (J. W. Jerome) **99a:35217** 35Q40 (35B25, 35G25, 82D99)

Moscovici, Henri (*with* Jones, Vaughan F. R.) Review of *Noncommutative geometry* [Academic Press, San Diego, CA, 1994; MR 95j:46063] by Alain Connes. *Notices Amer. Math. Soc.* **44** (1997), *no.* 7, 792–799. (Florian Scheck) **99a:46127** 46L87 (58B30)

— (*with* Connes, Alain) Hopf algebras, cyclic cohomology and the transverse index theorem. (English summary) *Comm. Math. Phys.* **198** (1998), *no.* 1, 199–246. (Éric Leichtnam) **99m:58186** 58G12 (16W30, 19D55, 58B30)

Mose, Robert (*with* Younès, Anis; Ackerer, Philippe; Chavent, Guy) Une résolution par les éléments finis mixtes à une inconnue par maille. (English and French summaries) [Solution using the mixed finite element method with one unknown per element] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 7, 623–626. (Summary) **99m:65226** 65N30 (76M10, 76S05, 86–08)

— (*with* Younès, Anis; Ackerer, Philippe; Chavent, Guy) A new formulation of the mixed finite element method for solving elliptic and parabolic PDE with triangular elements. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 148–167. (Summary) **99i:76133** 76M25 (76S05, 86–08, 86A05)

Mosegaard, Klaus (*with* Rygaard-Hjalsted, Camilla) Probabilistic analysis of implicit inverse problems. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 573–583. (Summary) **99m:86016** 86A22 (86A60)

Mosekilde, E. (*with* Grigor'eva, E. V.; Kashchenko, S. A.) Parametric transverse patterns in broad aperture lasers. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 4, 319–339. 78A60

von der Mosel, Heiko ★ Geometrische Variationsprobleme höherer Ordnung. (German) [Geometric variational problems of higher order] Dissertation, Rheinische Friedrich-Wilhelms-Universität Bonn, Bonn, 1996. Bonner Mathematische Schriften [Bonn Mathematical Publications], 293. *Universität Bonn, Mathematisches Institut, Bonn*, 1996. *ii* + 211 *pp.* (Giandomenico Orlandi) **99g:58027** 58E12 (49Q10)

— Minimizing the elastic energy of knots. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 1-2, 49–65. (Anders Linnér) **99m:58054** 58E10 (49Q20, 73K99, 73V25)

Moser, Bernhard Sugeno controllers with a bounded number of rules are nowhere dense. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 269–277. 93C42

Moser, J. *see* **Moser, Jürgen K.**

Moser, Jan The function $\zeta_{-1}(s)$ and formulas of the second generation for $\pi(x)$ and $R(x)$ (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 287–298. (Machiel van Frankenhuysen) **99i:11075** 11M26 (11N05)

— Orthogonality conditions on finite intervals for the functions $\pi(x)$ and $R(x)$ that occur in the law of prime numbers. (Russian) *Acta Arith.* **85** (1998), *no.* 4, 309–330. (Matti Jutila) **99f:11116** 11N05 (11M06)

— *see also* **Balasubramanian, Ramachandran**, **99k:11132**

Moser, Jürgen K. Pseudo-holomorphic curves on a torus. (English summary) The mathematical heritage of Sir William Rowan Hamilton (Dublin, 1993). *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *suppl.*, 13–21. (Véronique Lizan) **99j:58031** 58D10 (58F18)

— Dynamical systems—past and present. Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 381–402 (*electronic*). (J. E. Marsden) **99m:58003** 58–03 (01A60, 34C35, 58Fxx, 70F15, 70Hxx, 70K15)

— (*with* Jauslin, H. R.; Kreiss, Heinz-Otto) On the forced Burgers equation with periodic boundary conditions. *Differential equations: La Pietra* 1996 (*Florence*), 133–153, *Proc. Sympos. Pure Math.*, 65, *Amer. Math. Soc., Providence, RI*, 1999. (Guido Schneider) **99m:35208** 35Q53 (34C27, 58F27)

Moser, Michael (*with* Lucha, Wolfgang) Clifford algebras in finite quantum field theories. I. Irreducible Yukawa finiteness condition. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2047–2073. (Waldyr Alves Rodrigues, Jr.) **99g:81135** 81T15 (15A66)

Moser, Raymond (*with* Haddad, Wassim M.; Collins, Emmanuel G., Jr.) Structured singular value controller synthesis using constant D-scales without D-K iteration. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 813–830. 93B51 (93D15)

Moser, Robert D. (*with* Shariff, Karim) Two-dimensional mesh embedding for B-spline methods. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 471–488. (Summary) **99d:65290** 65M60 (65D07)

— (*with* Rogers, Michael M.; Ewing, Daniel W.) Self-similarity of time-evolving plane wakes. (English summary) *J. Fluid Mech.* **367** (1998), 255–289. (Summary) **99e:76070** 76F99 (76M25)

Moser, William R. Approximation methods in inductive inference. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 217–253. (Philip Ross Watson) **99g:68174** 68T05 (03D20)

Moser-Jauslin, Lucy (*with* Masuda, Mikiya; Petrie, Ted) Equivariant algebraic vector bundles over cones with smooth one-dimensional quotient. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 379–414. (Amnon Neeman) **99k:14079** 14L30 (14J60)

— (*with* Masuda, Mikiya; Petrie, Ted) Invariants of equivariant algebraic vector bundles and inequalities for dominant weights. *Topology* **37** (1998), *no.* 1, 161–177. (Kayo Masuda) **99c:14064** 14L30 (14D25, 20G05)

Moses, Yoram (*with* Brafman, Ronen I.; Latombe, Jean-Claude; Shoham, Yoav) Applications of a logic of knowledge to motion planning under uncertainty. (English summary) *J. ACM* **44** (1997), *no.* 5, 633–668. (I. M. Havel) **99b:68182** 68T30 (03B70, 68Q60, 68U05)

— (*with* Garay, Juan A.) Fully polynomial Byzantine agreement for $n > 3t$ processors in $t + 1$ rounds. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 247–290 (*electronic*). (A. T. Amin) **99d:68094** 68Q22 (68M10, 68M15)

Moshakis, John (*with* Jerwood, David) Discounting a random cash flow distributed as a finite mixture. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 53–62. (Summary) **99h:90026** 90A12 (90A09)

Moshchevitin, N. G. On simultaneous Diophantine approximations. Vectors of a given Diophantine type. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 706–716; *translation in Math. Notes* **61** (1997), *no.* 5-6, 590–599. (Oto Strauch) **99e:11094** 11J13

— Multidimensional Diophantine approximations and dynamical systems. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 81–95. (Mary E. Flahive) **99m:11077** 11J13 (58F03)

— On a theorem of M. Hall. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 145–146; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1312–1313. (Eugene M. Matveev) **99a:11087** 11J70 (11J06)

— (*with* Kozlov, Valeriĭ V.) Diffusion in Hamiltonian systems. (English summary) *Chaos* **8** (1998), *no.* 1, 245–247. (Dario Bambusi) **99a:58068** 58F05 (34C11, 58F27, 70H05, 70H15)

— On a theorem of Poincaré. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 223–224; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 219–220. (Eugene M. Matveev) **99d:11075** 11J83 (11J68)

Moshchuk, N. (*with* Khasminskii, Rafail Z.) Moment Lyapunov exponent and stability index for linear conservative system with small random perturbation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 245–256 (*electronic*). (G. N. Mil'shteĭn) **99g:60100** 60H10 (93E15)

bar-Moshe, David *see* **Bar-Moshe, David**

Moshe, Moshe (*with* Dienes, Keith R.; Myers, Robert C.) Supertraces in string theory. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 178–180, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

Mosheiov, Gur (*with* Lann, Avital; Rinott, Yosef) Asymptotic optimality in probability of a heuristic schedule for open shops with job overlaps. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 63–68. (Summary) **99g:90060** 90B35 (60K30)

Mosher, Lee (*with* Oertel, Ulrich) Spaces which are not negatively curved. *Comm. Anal. Geom.* **6** (1998), *no.* 1, 67–140. (Athanase Papadopoulos) **99b:57006** 57M20 (53C23)

— (*with* Farb, Benson) A rigidity theorem for the solvable Baumslag-Solitar groups. With an appendix by Daryl Cooper. *Invent. Math.* **131** (1998), *no.* 2, 419–451. (Raul Quiroga) **99b:57003** 57M07 (20F32, 57M20)

Moshier, M. Andrew (*with* Jung, Achim; Kegelmann, Mathias) Multilingual sequent calculus and coherent spaces. (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 18 *pp. (electronic)*, *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (S. Awodey) **99f:03036** 03B70 (03B22, 03F05, 68Q55)

Moshin, P. (*with* Falkenberg, Sven; Geyer, Bodo; Lavrov, Petr M.) On the structure of quantum gauge theories with external fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4077–4089. (Mohamed Kachkachi) **99g:81130** 81T13 (81T08, 81T70)

Moshinsky, Marcos (*with* del Sol Mesa, A.; Riquer, V.) Supermultiplicity and the relativistic Coulomb problem with arbitrary spin. (English summary) *Found. Phys.* **27** (1997), *no.* 8, 1139–1157. (A. M. Gavrilik) **99b:81037** 81Q05 (81Q10, 81R05)

— (*with* Sharma, Anju) Variational analysis of an exactly soluble relativistic oscillator. (English summary) *Symmetries in science, X (Bregenz, 1997)*, 293–304, *Plenum, New York*, 1998. (Summary) **99h:81035** 81Q05

— (*with* Nikitin, Anatolii; Sharma, Anju; Smirnov, Yu. F.) Supermultiplets and relativistic problems. II. The Bhabha equation of arbitrary spin and its properties. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6045–6055. (Violeta V. Tretynyk) **99g:81038** 81Q05 (81R20)

— (*with* Sharma, Anju; Smirnov, Yu. F.) Supermultiplets and relativistic problems. III. The non-relativistic limit for a particle of arbitrary spin in an external field. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 10017–10028. (Violeta V. Tretynyk) **99k:81058** 81Q05 (81R20)

— (*with* Nikitin, Anatolii; Sharma, Anju; Smirnov, Yu. F.) Analysis of relativistic particles of arbitrary spin through different chains of groups. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fís.* **44** (1998), *suppl.* 2, 1–10. (Summary) **99m:81078** 81R05

Moshirvaziri, Khosrow (*with* Amouzegar, Mahyar A.) A penalty method for linear bilevel programming problems. (English summary) *Multilevel optimization: algorithms and applications*, 251–271, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99a:90133** 90C08

— (*with* Amouzegar, Mahyar A.) A subdivisional scheme for linear programs with an additional reverse convex constraint. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 2, 179–192. (Summary) **99j:90045** 90C05 (90C08)

Moshkov, Mikhail Unimprovable upper bounds on time complexity of decision trees. (English summary) *Fund. Inform.* **31** (1997), *no.* 2, 157–184. (Milan Mareš) **99c:68227** 68T20 (68Q25)

— On time complexity of decision trees. (English summary) *Rough sets in knowledge discovery*, 1, 160–191, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 68T30 (68Q25, 68Q45)

Moskovkin, V. M. (*with* Mendygulov, Yu. D.) Fluctuations in one-dimensional dynamic systems. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2521–2523. (*see* **99e:00033**) 34F05 (34C35)

Moskow, Shari (*with* Vogelius, Michael) First-order corrections to the homogenised eigenvalues of a periodic composite medium. A convergence proof. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1263–1299. (Gérard Michaille) **99g:35018** 35B27 (35J25, 73B27)

— (*with* Cedio-Fengya, D. J.; Vogelius, Michael) Identification of conductivity imperfections of small diameter by boundary measurements. Continuous dependence and computational reconstruction. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 553–595. (Summary) **99d:78011** 78A25 (35R30, 65N99, 78–08, 78A55)

Moskowitz, Ira S. (*with* Miller, Allen R.) On certain generalized incomplete gamma functions. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 179–190. (R. N. Kalia) **99h:33007** 33B20

Moskowitz, Martin Correction and addenda to: "On the surjectivity of the exponential map for certain Lie groups" [Ann. Mat. Pura Appl. (4) **166** (1994), 129–143; MR 96b:22008]. *Ann. Mat. Pura Appl.* (4) **173** (1997), 351–358. (From the text) **99d:22014** 22E15 (22E10, 22E45, 22E60)

Moskvin, D. B. (*with* Pavlov, V. A.) Gas-dynamic boundary conditions for evaporation processes. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 11, 112–122. 82C40 (76N15, 76P05)

Mosler, Karl (*with* Koshevoĭ, G. A.) Zonoid trimming for multivariate distributions. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 1998–2017. (Tonghui T. Wang) **99c:62151** 62H05 (52A22, 60F05)

— (*with* Koshevoĭ, G. A.) Lift zonoids, random convex hulls and the variability of random vectors. (English summary) *Bernoulli* **4** (1998), *no.* 3, 377–399. (Richard A. Vitale) **99k:60021** 60D05 (60E15)

Mosley, Shaun N. Alternative potentials for the electromagnetic field. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2702–2713. (Summary) **99a:78015** 78A25 (78A40)

Moson, Peter Persistence. Definitions, bifurcations. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv, 1994)*, 117–122, *Sci. Cult. Technol. Publ., Singapore*, 1995. (Summary) **99h:34076** 34D99 (34C23, 92D40)

Mosquera, Carlos (*with* López, Roberto; Pérez-González, Fernando[1]) On the bias of the modified output error algorithm. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1261–1262. 93E12 (93B30)

Moss, David Leonard (*with* Shukurov, Anvar; Sokolov, D. D.) Boundary effects and propagating magnetic fronts in disc dynamos. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 3-4, 285–308. (Summary) **99j:76140** 76W05 (85A30)

— (*with* Brandenburg, Axel; Soward, Andrew M.) New results for the Herzenberg dynamo: steady and oscillatory solutions. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1283–1300. (Summary) **99d:76097** 76W05 (78A99, 86A25)

— (*with* Brandenburg, Axel; Soward, Andrew M.) Erratum: "New results for the Herzenberg dynamo: steady and oscillatory solutions" [R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci. **454** (1998), no. 1973, 1283–1300; MR 99d:76097]. *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3275. 76W05 (78A99, 86A25)

— (*with* Bigazzi, Alberto; Brandenburg, Axel) Vortex tube models for turbulent dynamo action. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 72–80. (Summary) **99j:76131** 76W05 (76C05, 76F99, 85A30)

Moss, Ian G. (*with* Grant, James D. E.) New Hamiltonians for gravity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6284–6292. (Jürgen Tolksdorf) **99a:83006** 83C05 (83C45)

— (*with* Brady, Patrick R.; Myers, Robert C.) Cosmic censorship: as strong as ever. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 16, 3432–3435. (Robert J. Low) **99c:83065** 83C75

Moss, Lawrence S. (*with* Barwise, K. Jon) Modal correspondence for models. (English summary) *J. Philos. Logic* **27** (1998), *no.* 3, 275–294. (Leo Esakia) **99m:03031** 03B45

— (*with* Hurkens, A. J. C.; McArthur, Monica; Moschovakis, Yiannis N.; Whitney, Glen T.) The logic of recursive equations. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 451–478. (Thomas Glaß) **99m:03092a** 03D75 (03D70)

— (*with* Hurkens, A. J. C.; McArthur, Monica; Moschovakis, Yiannis N.; Whitney, Glen T.) Erratum: "The logic of recursive equations". *J. Symbolic Logic* **64** (1999), *no.* 1, 406. (Thomas Glaß) **99m:03092b** 03D75 (03D70)

— *see also* **Workshop: Coalgebraic Methods in Computer Science**, **99e:68002**

Mossakowski, Till Colimits of order-sorted specifications. (English summary) *Recent trends in algebraic development techniques (Tarquinia, 1997)*, 316–332, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (Summary) **99g:68135** 68Q65

— (*with* Kolyang; Krieg-Brückner, Bernd) Static semantic analysis and theorem proving for CASL. (English summary) *Recent trends in algebraic development techniques (Tarquinia, 1997)*, 333–348, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

— (*with* Tarlecki, Andrzej; Pawłowski, Wiesław) Combining and representing logical systems using model-theoretic parchments. (English summary) *Recent trends in algebraic development techniques (Tarquinia, 1997)*, 349–364, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 03G30 (03C52, 18B99, 68Q60, 68Q65)

Mossel, Elchanan (*with* Häggström, Olle) Nearest-neighbor walks with low predictability profile and percolation in $2+\varepsilon$ dimensions. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1212–1231. (Timo Seppäläinen) **99h:60165** 60K35 (60J15, 60J45)

— Recursive reconstruction on periodic trees. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 1, 81–97. (Nikolai Volodin) **99h:05106** 05C80 (05C05, 05C85)

Mosselmans, Bert William Stanley Jevons and the extent of meaning in logic and economics. (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 2, 83–99. (Summary) **99c:03001** 03–03 (01A55, 03A05, 90A05)

Mossin, Christian Higher-order value flow graphs. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 3, 214–234. (Summary) **99g:68042** 68N20 (68N15)

Mossinghoff, Michael J. Polynomials with small Mahler measure. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1697–1705, *S11–S14*. (D. Boyd) **99a:11119** 11R09 (11C08, 11Y35)

— (*with* Pinner, Christopher G.; Vaaler, Jeffrey D.) Perturbing polynomials with all their roots on the unit circle. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1707–1726. (E. J. Barbeau) **99b:26024** 26C10 (12D10, 30C15, 65H05)

Mossino, Jacqueline (*with* Fabre, Sylvie) H-convergence of multiplicable matrices. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 2, 125–139. (Kamel Hamdache) **99h:35018** 35B27 (35J15, 73B27)

— (*with* Courilleau, Patrick; Fabre, Sylvie) Homogénéisation de problèmes non linéaires dans des milieux quasi-stratifiés. (English and French summaries) [Homogenization of some nonlinear problems in quasistratified media] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 401–406. (Summary) **99k:35017** 35B27 (73B27)

Mostafa, M. H. (*with* El-Ghoul, M.) Homology and deformation retract of some real manifolds and their foldings. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 355–362. (Summary) **99c:55006** 55N10

Mostafa, Samy M. (*with* Jun, Young Bae; Roh, Eun Hwan) On fuzzy implicative ideals of BCK-algebras. (English summary) *Soochow J. Math.* **25** (1999), *no.* 1, 57–70. (Summary) **99k:06012** 06F35 (03G25)

Mostafa Ali, N. *see* **Ali, Nasr Mostafa**

Mostafazadeh, Ali (*with* Karimipour, V.) Lattice topological field theory on nonorientable surfaces. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 49–66. (Lowell Abrams) **99a:58026** 58D29 (57N05, 57R57, 81T25, 81T40)

— Two-component formulation of the Wheeler-DeWitt equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4499–4512. (Kazuo Ghoroku) **99g:83041** 83C45

— Time-dependent diffeomorphisms as quantum canonical transformations and the time-dependent harmonic oscillator. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6495–6503. (Summary) **99e:81043** 81Q05

— Relativistic adiabatic approximation and geometric phase. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7829–7845. (Péter Pál Lévay) **99h:81036** 81Q05 (81S99)

— Non-abelian geometric phase, Floquet theory and periodic dynamical invariants. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9975–9982. (Péter Pál Lévay) **99m:81069** 81Q99 (34A26, 81S99)

— Exact semiclassical evolutions in relativistic and non-relativistic scalar quantum mechanics and quantum cosmology. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 529–555. (Alejandro R. Corichi) **99d:83047** 83C45 (81Q20)

Mostepanenko, V. M. (*with* Bezerra, Valdir B.; Romero, Carlos Augusto) Hamiltonian diagonalization for a nonconformal scalar field in an isotropic gravitational background. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 249–259. (Summary) **99c:83036** 83C47 (81T20)

Mostovoy, Jacob Geometry of truncated symmetric products and real roots of real polynomials. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 2, 159–165. (Vagn Lundsgaard Hansen) **99a:57021** 57N99 (26C10)

— Spaces of real algebraic cycles on $\mathbf{CP}^n$. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 221–222; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 217–218. (Vasile Brînzănescu) **99i:14008** 14C25 (14F35, 14P05, 14P25, 55Q52)

Mosyagin, V. V. On the theory of operators in locally convex spaces with a cone. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 35–40. 47B60
— (*with* Veresova, A. T.) Spaces with a multi-inner product in the theory of differential equations. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 25–27. 34G20 (46C99, 46N20)
— A nonlocal Cauchy problem for a differential equation in a locally convex space. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 115–118. (Summary) **99c:34137** 34G20 (47D06)
— (*with* Veresova, A. T.) On the theory of operators in bornological vector spaces with a cone. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 43–49. (Summary) **99d:47056** 47H10 (46A40, 47H07)
— A nonlocal boundary value problem for a nonlinear differential equation with a parameter in a locally convex space. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 99–104. (Summary) **99d:34113** 34G20 (34B15)
Moszkowski, S. A. (*with* van Dijk, W.; Kermode, M. W.) Solvable separable nonlocal potential models. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9571–9577. (Summary) **99h:81230** 81V35
Moszyńska, Maria (*with* Przesławski, Krzysztof) Santaló points associated with radial densities. II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 273–288. (V. K. Oganyan) **99j:52005** 52A22 (53C65)
Moszyński, Krzysztof The optimal explicit unconditionally stable box scheme. (English summary) *Mat. Stos.* **40** (1997), 31–39. (D. Schultz) **99d:65251** 65M06 (65M12)
Moţ, Ghiocel Generalized convexity in metric spaces. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 83–92, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 54E35 (26A51, 39B52, 52A01)
— Applications of the convexity spaces. (English summary) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A* (*Arad*, 1996), 51–56, *"Aurel Vlaicu" Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 78A25 (52A01)
Mota, M. (*with* Molina Fernández, Manuel; Gonzalez-Velasco, Miguel) Bayesian inference for bisexual Galton-Watson processes. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1055–1070. (Summary) **99d:62079** 62M05
Motchane, Léon *see* **Michel, Louis**
Mote, C. D., Jr. (*with* Zhu, W. D.) On the transient response of distributed structures interacting with discrete components. (English summary) *Dynamics and control of distributed systems*, 1–68, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99b:73002**) 73K12 (70K99, 73Vxx)
— (*with* Parker, Robert G.) Exact boundary condition perturbation for eigensolutions of the wave equation. (English summary) 1996 India-U.S.A. Symposium on Emerging Trends in Vibration and Noise Engineering (Delhi). *J. Sound Vibration* **211** (1998), *no.* 3, 389–407. (Summary) **99d:73060** 73K12
Motegi, Kimihiko (*with* Miyazaki, Katura) Seifert fibered manifolds and Dehn surgery. II. *Math. Ann.* **311** (1998), *no.* 4, 647–664. (Ying Qing Wu) **99g:57010** 57M25 (57N10)
— (*with* Hayashi, Chuichiro) Applications of graph theory to cut-and-paste arguments [translation of Sūgaku **47** (1995), no. 4, 377–393; MR 97d:57005]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 2, 123–143. (*see* **99h:00040**) 57M25 (05C10, 57M15, 57N10)
Motet-Bachelot, Agnès Resonances of the Schwarzschild metric. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 483–487, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99e:83039** 83C57 (58G16, 83C35)
— Nonlinear Dirac fields on the Schwarzschild metric. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1815–1825. (Maria J. Esteban) **99e:83010** 83C15 (34L40, 35Q75, 81Q05, 83C10)
Motl, Luboš (*with* Banks, Tom) Heterotic strings from matrices. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 4, 12 *pp.* (*electronic*). (André J. Van Tonder) **99b:81174** 81T30
— (*with* Ganor, Ori J.) Equations of the (2, 0) theory and knitted fivebranes. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 9, 34 *pp.* (*electronic*). (Angel Maria Uranga) **99g:81163** 81T30 (81T60, 83E30)
Motoczyński, M. (*with* Stettner, Łukasz) On option pricing in the multidimensional Cox-Ross-Rubinstein model. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 1, 55–72. (Summary) **99a:90043** 90A09
Motoda, Hiroshi (*with* Washio, Takashi) Discovering admissible simultaneous equations of large scale systems. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 189–196, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 65H10 (65Y05)
Motohashi, Tomoe (*with* Taniyama, Kouki) Delta unknotting operation and vertex homotopy of graphs in $\mathbf{R}^3$. (English summary) *KNOTS '96* (*Tokyo*), 185–200, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57021** 57M25 (57M15)
— A prime decomposition theorem for θ_n-curves in S^3. (English summary) *Topology Appl.* **83** (1998), *no.* 3, 203–211. (Vyacheslav S. Krushkal) **99b:57017** 57M25 (57M15, 57N10)
Motohashi, Yoichi ★ Spectral theory of the Riemann zeta-function. (English summary) Cambridge Tracts in Mathematics, 127. *Cambridge University Press, Cambridge*, 1997. x+228 *pp. ISBN* 0-521-44520-5 (Don Redmond) **99f:11109** 11M06 (11F72)
— An asymptotic expansion of the square of the Riemann zeta-function. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 293–307, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Matti Jutila) **99f:11110** 11M06
— The mean square of Dedekind zeta-functions of quadratic number fields. (English summary) *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 309–324, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Ettore Carletti) **99g:11136** 11R42 (11F72)
Motoki, Mitsuo (*with* Mochizuki, Atsushi; Watanabe, Osamu[2]) On a positive instance generation for the 3-satisfiability (3SAT) problem. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 6, 1850–1857. (Summary) **99e:68113** 68R05 (68Q25)
Motomura, Takashi (*with* Yamamoto, Shigeru[1]; Chen, Wanping) A design method for discrete-time quadratically stabilizing state feedback controllers with time-varying parameters. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 12, 673–679. 93D15 (93C55)
Motos, Joaquín (*with* Castillo, Jesús M. F.; Díaz Alcaide, Juan Carlos) On the Fréchet space L_{p^-}. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 219–230. (Thomas E. Gilsdorf) **99g:46031** 46E30 (46A04, 46A11)
Motose, Kaoru On values of cyclotomic polynomials. III. *Math. J. Okayama Univ.* **38** (1996), 115–122 (1998). (Charles Helou) **99g:11144** 11T22 (11A51)
Motoyoshi, Akio (*with* Machida, Shigeru) Quantum mechanics of the composite system and its subsystems. (English summary) *Found. Phys.* **28** (1998), *no.* 1, 45–57. (S. Gudder) **99e:81010** 81P05 (81P15)
Motreanu, Dumitru (*with* Goeleven, D.; Panagiotopoulos, Panagiotis D.) Semicoercive variational-hemivariational inequalities. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 119–134. (Summary) **99j:49014** 49J40 (47H19)
— (*with* Goeleven, D.) Minimax methods of Szulkin's type in unilateral problems. *Functional analysis*, 158–172, *Narosa, New Delhi*, 1998. (Joakim Petersson) **99m:49016** 49J40 (73T05, 73V25)
— (*with* Adly, Samir; Goeleven, D.) Unilateral Hamiltonian systems: a survey on the inequality approach. *Adv. Nonlinear Var. Inequal.* **1** (1998), *no.* 1, 11–26. (Maria Letizia Bertotti) **99b:58048** 58E05 (47H19, 49J40, 49J52)
— (*with* Moroşanu, Costică) An extension of the nonlinear parabolic equation in Caginalp's model. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 159–168. (Alan V. Lair) **99b:35104** 35K60 (47H11, 47N20)
— (*with* Goeleven, D.) Asymptotic eigenvalues and spectral analysis of variational inequalities. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 343–372. (D. Pascali) **99g:47148** 47H19 (35P05, 47H12, 47H15, 49J40)
— (*with* Goeleven, D.; Panagiotopoulos, Panagiotis D.) Eigenvalue problems for variational-hemivariational inequalities at resonance. *Nonlinear Anal.* **33** (1998), *no.* 2, 161–180. (Benedetta Pellacci) **99b:47094** 47H19 (47H12, 49J40)
— (*with* Varga, Csaba) A nonsmooth equivariant minimax principle. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 115–130. (Vitaly B. Moroz) **99m:49027** 49J52 (35J99, 35R70, 47H15, 58E05)
Mott, Peter L. Margins for error and the Sorites paradox. *Philos. Quart.* **48** (1998), *no.* 193, 494–513. 03A05
Motta, Monica (*with* Rampazzo, Franco) The value function of a slow growth control problem with state constraints. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 3, 20 *pp.* (*electronic*). (M. Margarida Amorim Ferreira) **99j:49063** 49L25 (49K15, 49L20)
— (*with* Sartori, C.) Exit time problems for nonlinear unbounded control systems. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 137–156. (N. N. Petrov) **99j:49006** 49J24 (34A60, 34H05, 49L25)
da Motta Ferreira, João Carlos (*with* Micali, Artibano) Sur les algèbres nucléaires. (English summary) [On nuclear algebras] *Indag. Math.* (*N.S.*) **7** (1996), *no.* 3, 331–342. (Antonio Fernández López) **99c:46054** 46H05 (16B99, 17A05, 17D05)
abdel-Mottaleb, N. *see* **Abdel-Mottaleb, N.**
Motter, A. E. (*with* Rosa, M. A. F.) Hyperbolic calculus. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 109–128. (John Ryan) **99m:30099** 30G35
chassande-Mottin, Eric *see* **Chassande-Mottin, Eric**
Mottola, Emil (*with* Antoniadis, Ignatios; Mazur, Pawel O.) Fractal geometry of quantum spacetime at large scales. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 284–292. (Summary) **99m:83062** 83C45
Möttönen, Jyrki (*with* Hettmansperger, Thomas P.; Oja, Hannu) Affine-invariant multivariate one-sample signed-rank tests. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1591–1600. (Georg Neuhaus) **99c:62133** 62G10
— (*with* Hettmansperger, Thomas P.; Oja, Hannu; Tienari, J.) On the efficiency of affine invariant multivariate rank tests. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 118–132. (Margaret P. Gessaman) **99j:62067** 62G10 (62H15)
— (*with* Hettmansperger, Thomas P.; Oja, Hannu) Affine invariant multivariate rank tests for several samples. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 785–800. (Summary) **99i:62105** 62G10
Motwani, Rajeev (*with* Charikar, Moses; Halperin, Dan) The dynamic servers problem. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 410–419, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25
— (*with* Hsu, David; Kavraki, Lydia E.; Latombe, Jean-Claude; Sorkin, Stephen) On finding narrow passages with probabilistic roadmap planners. (English summary) *Robotics: the algorithmic perspective* (*Houston, TX*, 1998), 141–153, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 68U05 (68T20)
— (*with* Khanna, Sanjeev; Wilson, Randall H.) On certificates and lookahead in dynamic graph problems. (English summary) *Algorithmica* **21** (1998), *no.* 4, 377–394. (Summary) **99b:68149** 68R10 (05C85)
— (*with* Saraswat, Vijay; Tornq, Eric) Online scheduling with lookahead: multipass assembly lines. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 331–340. (Summary) **99f:90049** 90B35
— (*with* Arora, Sanjeev; Lund, Carsten; Sudan, Madhu; Szegedy, Mario) Proof verification and the hardness of approximation problems. (English summary) *J. ACM* **45** (1998), *no.* 3, 501–555. (Oded Goldreich) **99d:68077b** 68Q15 (03B35, 03D15, 68Q25)
— Realization of matrices and directed graphs. (English summary) *J. Algorithms* **27** (1998), *no.* 1, 61–74. (Summary) **99c:15027** 15A36 (05C50)
— (*with* Kavraki, Lydia E.; Latombe, Jean-Claude; Raghavan, Prabhakar) Randomized query processing in robot path planning. (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 50–60. (Summary) **99g:68209** 68U05
— (*with* Aingworth, Donald; Harary, Frank) The difference between a graph and its square. (English summary) *Util. Math.* **54** (1998), 223–228. (Summary) **99f:05056** 05C35
Motygin, O. V. Nonuniqueness examples for a linear problem of potential flow around semisubmerged bodies. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 983–990; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 949–955 (1998). (Summary) **99c:76014** 76B15

— (*with* Kuznetsov, N. G.) On the resistanceless statement of the two-dimensional Neumann-Kelvin problem for a surface-piercing tandem. (English summary) *IMA J. Appl. Math.* **62** (1999), *no.* 1, 81–99. (F. Ursell) **99m:76019** 76B15 (35Q35)

urbańska-Motyka, Agnieszka *see* **Urbańska-Motyka, Agnieszka**

Motyl, Jerzy Existence of solutions of set-valued Itô equation. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 4, 419–430. (N. U. Ahmed) **99j:60098** 60H20 (45N05, 93E03)

— Stochastic functional inclusion driven by semimartingale. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 517–532. (N. U. Ahmed) **99e:60143** 60H20 (45N05, 93E03)

Mou, Lei (*with* Yasui, Yoshikazu) On mosaical collection. (English and Japanese summaries) *Mem. Osaka Kyoiku Univ. III Natur. Sci. Appl. Sci.* **47** (1998), *no.* 1, 1–10. 54E20

Mouayn, Zouhaïr (*with* Askour, Nour eddine; Intissar, Ahmed) Espaces de Bargmann généralisés et formules explicites pour leurs noyaux reproduisants. (English and French summaries) [Explicit formulas for reproducing kernels of generalized Bargmann spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 707–712. (Gerald B. Folland) **99a:46041** 46E22 (32A37)

Moudgalya, K. M. (*with* Manickam, A. V.; Pani, Amiya K.) Second-order splitting combined with orthogonal cubic spline collocation method for the Kuramoto-Sivashinsky equation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 5–25. (Mu Sheng Wei) **99c:65187** 65M70

el Moudni, A. *see* **El Moudni, A.**

le Mouël, J.-L. *see* **Le Mouël, J.-L.**

Moufang, Ruth *see* **Pieper-Seier, Irene, 99d:01034**

Moukamba, Fidèle Elements of anisotropically and approximately differentiable functions theory. (English summary) *J. Math. Sci. (Calcutta)* **9** (1998), *no.* 2, 125–137. (Victor S. Rykhlov) **99m:41049** 41A63 (26B05, 41A99)

Moukouelle, Alice Construction d'une nouvelle classe de tournois presqu'homogènes. (English and French summaries) [Construction of a new class of near-homogeneous tournaments] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 913–916. (Erol Barbut) **99j:05085** 05C20

Moukrim, Aziz (*with* Quilliot, A.) A relation between multiprocessor scheduling and linear programming. (English summary) *Order* **14** (1997/98), *no.* 3, 269–278. (Summary) **99f:68106** 68Q25 (68M20, 90C05)

— (*with* Koko, Jonas) Parallel implementation of a generalized conjugate gradient algorithm. (English and Lithuanian summaries) *Informatica (Vilnius)* **9** (1998), *no.* 4, 437–448. 90C30 (65Y05)

— Optimal scheduling on parallel machines for a new order class. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 91–95. (Summary) **99m:90088** 90B35

Moulaï, Mustapha (*with* Abbas, Moncef) Penalties method for integer linear fractional programs. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 4, 41–51 (1999). 90C10 (90C32)

Moulin, Bernard (*with* Kettani, Driss) Route generation and description using a logical and an analogical framework. (English summary) Artificial intelligence and mathematics, VIII (Fort Lauderdale, FL, 1998). *Ann. Math. Artificial Intelligence* **24** (1998), *no.* 1-4, 155–179 (1999). (*see* **99m:68006**) 68T30

Moulin, Pierre (*with* Kortanek, K. O.) Semi-infinite programming in orthogonal wavelet filter design. (English summary) *Semi-infinite programming*, 323–360, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99b:90141**) 94A12 (90C34)

— (*with* Liu, Juan[3]) Analysis of multiresolution image denoising schemes using generalized Gaussian and complexity priors. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 909–919. 94A12

Mouline, Mehdi (*with* Rachidi, Mustapha) Application of Markov chains properties to r-generalized Fibonacci sequences. *Fibonacci Quart.* **37** (1999), *no.* 1, 34–38. 11B39 (60J10)

Moulinec, Hervé (*with* Suquet, Pierre) Numerical simulation of the effective elastic properties of a class of cell materials. (English summary) *Mathematics of multiscale materials (Minneapolis, MN, 1995–1996)*, 271–280, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (*see* **99c:73001**) 73B27 (73K20, 73V20)

— (*with* Suquet, Pierre) A numerical method for computing the overall response of nonlinear composites with complex microstructure. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 69–94. (Summary) **99c:73080** 73V05 (73K20, 73S10)

Moulines, C. Ulises Sketch of ontoepistemosemantics. (Spanish. English and Spanish summaries) Semantics and representation in scientific theories: formal analysis. *Theoria (San Sebastián)* (2) **13** (1998), *no.* 31, 141–159. (*see* **99a:00056**) 00A30

Moulines, Eric (*with* Bardet, Jean-Marc; Soulier, Philippe) Recent advances on the semi-parametric estimation of the long-range dependence coefficient. (English and French summaries) *Systèmes différentiels fractionnaires (Paris, 1998)*, 29–41, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99i:62198** 62M10 (62M15)

Moulin-Ollagnier, Jean Polynomial first integrals of the Lotka-Volterra system. (English summary) *Bull. Sci. Math.* **121** (1997), *no.* 6, 463–476. (Summary) **99h:34012** 34A34 (34C05)

Moulki, M. (*with* Beylot, André-Luc; Truffet, L.; Becker, Monique) An aggregation technique to evaluate the performance of a two-stage buffered ATM switch. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 373–392. (*see* **99a:90010**) 90B12 (90B22, 94A05)

Moulton, David Petrie (*with* Isaacs, I. M.) Real fields and repeated radical extensions. *J. Algebra* **201** (1998), *no.* 2, 429–455. (James K. Deveney) **99a:12003** 12F05

Moulton, J. David (*with* Dendy, Joel E., Jr.; Hyman, James M.) The black box multigrid numerical homogenization algorithm. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 80–108. (Summary) **99a:76116** 76M25 (73B27, 76S05)

— (*with* Morel, Jim Emanuel; Ascher, Uri M.) Approximate Schur complement preconditioning of the lowest-order nodal discretizations. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 185–205 (*electronic*). (Summary) **99b:65131** 65N22 (65F10, 65N55)

Moulton, Vincent L. (*with* Dress, Andreas W. M.; Steel, Michael) Trees, taxonomy, and strongly compatible multi-state characters. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 1, 1–30. (B. Zelinka) **99g:92003** 92B10 (05C05)

— (*with* Dress, Andreas W. M.; Hendy, Mike; Huber, Katharina) On the number of vertices and edges of the Buneman graph. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 329–337. (Pranava K. Jha) **99h:05114a** 05C99 (05C05, 92B99)

— (*with* Dress, Andreas W. M.; Huber, Katharina) Some variations on a theme by Buneman. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 339–352. (Pranava K. Jha) **99h:05114b** 05C99 (92B99)

— (*with* Koolen, J. H.; Tönges, Udo) The coherency index. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 205–222. (Summary) **99g:54027** 54E35

— Vector braids. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 3, 245–296. (Allan Edmonds) **99f:57001** 57M05 (20F05, 20F36, 57M07)

— (*with* Steel, Michael) Retractions of finite distance functions onto tree metrics. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 215–233. (D. Rosenblatt) **99k:05060** 05C05 (92B10, 92D10, 92D15)

Mouly, Nicolas (*with* Merlet, Jean-Pierre; Gosselin, Clément M.) Workspaces of planar parallel manipulators. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 1-2, 7–20. (Summary) **99f:70010** 70B15 (70–08)

Mounier, Hugues (*with* Fliess, Michel; Rouchon, Pierre; Rudolph, Joachim) Systèmes linéaires sur les opérateurs de Mikusiński et commande d'une poutre flexible. (English and French summaries) [Linear systems involving Mikusiński operators and control of a flexible beam] *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 183–193 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Guenter Leugering) **99c:93057** 93C20 (35Q72, 73K05, 73K50)

— (*with* Loiseau, Jean-Jacques) Stabilisation de l'équation de la chaleur commandée en flux. (English and French summaries) [Stabilization of the heat equation with heat flux control] *Systèmes différentiels fractionnaires (Paris, 1998)*, 131–144, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99j:35083** 35K05 (35B40, 80A20)

— (*with* Fliess, Michel) Controllability and observability of linear delay systems: an algebraic approach. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 301–314 (*electronic*). (Birgit Jacob) **99f:93011** 93B05 (06F25, 93C25)

— (*with* Rudolph, Joachim; Fliess, Michel; Rouchon, Pierre) Tracking control of a vibrating string with an interior mass viewed as delay system. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 315–321 (*electronic*). (Enrique Zuazua) **99h:73057** 73K50 (73D30, 93B05)

— (*with* Rudolph, Joachim) Flatness-based control of nonlinear delay systems: a chemical reactor example. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 871–890. (Krishnan Balachandran) **99i:93028** 93C10 (93D15)

— Stabilization of a class of linear delay systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 329–338. (Summary) **99c:93092** 93D15 (34K20, 93B55)

Mountain, Arthur J. Invariant tensors and Casimir operators for simple compact Lie groups. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5601–5607. (Summary) **99g:81063** 81R05 (22E46)

— (*with* de Azcárraga, J. A.; Macfarlane, A. J.; Pérez Bueno, J. C.) Invariant tensors for simple groups. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 657–687. (Saïd Benayadi) **99e:17011** 17B20 (17B56, 81R05)

Mountford, T. (*with* Dalang, Robert C.) Points of increase of functions in the plane. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 833–841. (Summary) **99g:26032** 26B35 (28C20, 60G60)

— (*with* Andjel, E.) A coupling of infinite particle systems. II. *J. Math. Kyoto Univ.* **38** (1998), *no.* 4, 635–642. (Rinaldo Schinazi) **99k:60240** 60K35

Moura, Arnaldo V. *see* **LATIN'98: theoretical informatics, 99d:68007**

Moura, Lucia (*with* Stevens, Brett; Mendelsohn, Eric) Lower bounds for transversal covers. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 279–299. (Luisa Gargano) **99m:68144** 68R05 (05B30)

de Moura, Marco A. (*with* de Oliveira, Jairo R.) Analytical solution for the modified nonlinear Schrödinger equation describing optical shock formation. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4751–4756. (Summary) **99a:78034** 78A60 (35Q55, 35Q60)

Mourad, J. (*with* Georgelin, Y.; Madore, J.; Masson, T.) On the noncommutative Riemannian geometry of $GL_q(n)$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3263–3277. (Axel Schüler) **99d:58025** 58B30 (81R50)

— (*with* Grojean, Christophe) Superconformal six-dimensional (2, 0) theories in superspace. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3397–3409. (Sergey Nikolaevich Roshchupkin) **99j:81185** 81T60

— (*with* Madore, J.) Quantum space-time and classical gravity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 423–442. (Summary) **99k:58016** 58B30 (83C99)

— Anomalies of the SO(32) five-brane and their cancellation. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 199–208. (Marco Spaans) **99i:81217** 81T50 (81T30)

— (*with* Dudas, Emilian) Solitons in the Hořava-Witten supergravity. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 281–292. (Paul Nelson Watts) **99c:81178** 81T30 (83E30, 83E50)

Moura Santos, A. (*with* Speck, F.-O.; Teixeira, F. S.) Minimal normalization of Wiener-Hopf operators in spaces of Bessel potentials. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 501–531. (R. V. Duduchava) **99h:47034** 47B35 (35S05, 45E10, 47N20)

Mourou, Mohamed Ali (*with* Trimèche, Khélifa) Calderón's formula associated with a differential operator on $(0, \infty)$ and inversion of the generalized Abel transform. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 229–245. (Margit Rösler) **99j:43002** 43A32 (42C15, 43A62)

— (*with* Trimèche, Khélifa) Calderón's reproducing formula associated with the Bessel operator. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 97–109. (B. S. Rubin) **99b:42047** 42C99

— (*with* Trimèche, Khélifa) Inversion of the Weyl integral transform and the Radon transform on $\mathbf{R}^n$ using generalized wavelets. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 73–83. (David F. Walnut) **99k:44004** 44A12 (42B10)

Mourrain, Bernard (*with* Pan, Victor Y.) Solving special polynomial systems by using structured matrices and algebraic residues. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 287–304, *Springer, Berlin*, 1997. (E. Spedicato) **99k:65048** 65H10 (14F10, 15A06, 65F99)

— Computing the isolated roots by matrix methods. (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 715–738. (Iliya Makrelov) **99m:65109** 65H05 (65F30)

Mourre, E. (*with* Combes, J. M.; Hislop, P. D.) Correlated Wegner inequalities for random Schrödinger operators. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 191–203, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Peter Stollmann) **99b:82047** 82B44 (35J10, 35R60)

Mourtzinou, Georgia (*with* Bertsimas, Dimitris) Multiclass queueing systems in heavy traffic: an asymptotic approach based on distributional and conservation laws. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 470–487. (Summary) **99e:90039** 90B22 (90B10)

Mousa, F. R. (*with* Abou-El-Ata, M. O.) Multi-item inventory model with varying order cost under two restrictions: a geometric programming approach. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 221–232. 90B05 (90C28)

ali Mousa, M. A. M. *see* **Ali Mousa, M. A. M.**

Moussa, Larbani About the existence of Nash-Slater equilibrium for a non-cooperative game under uncertainty. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 255–262, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (Bernhard von Stengel) **99b:90161** 90D06 (90C29)

Moussa, M. H. Y. (*with* Baseia, B.) Teleporting the Schrödinger cat state. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 29-30, 1209–1216. 81P15 (81R30)

Moussa, Nabil On C_n-oidal [cnoidal] waves. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 2, 147–151. (Summary) **99m:76028** 76B25 (35Q35, 76B15)

— Capillar-heavy waves in channels with wavelike floor. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 2, 199–206. (Summary) **99k:76030** 76B15 (35Q35, 76B45)

Moussa, Pierre (*with* Abenda, Simonetta; Osbaldestin, Andrew H.) Multifractal dimensions and thermodynamical description of nearly-circular Julia sets. (English summary) *Nonlinearity* **12** (1999), *no.* 1, 19–40. (Lars Olsen) **99m:58126** 58F11 (30D05, 58F12, 58F23)

Moussai, Madani Remarque sur le critère de P. G. Lemarié pour la continuité-Besov de certains opérateurs intégraux singuliers. (English, French and Arabic summaries) [Remark on the criterion of P. G. Lemarié for the Besov continuity of certain integral operators] *Maghreb Math. Rev.* **6** (1997), *no.* 1, 49–56. (Josefina Alvarez) **99c:47078** 47G30 (26B35, 35S05, 42B20)

Moussaoui, Mimoun (*with* El Amrouss, A. R.) Non-résonance entre les deux premières valeurs propres d'un problème quasi-linéaire. (English summary) [Nonresonance between the first two eigenvalues of a quasilinear problem] *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 3, 317–331. (Summary) **99a:34051** 34B15 (34C25)

— (*with* El Amrouss, A. R.) Solvabilité d'un problème aux limites semi-linéaire autour de la première valeur propre. (English summary) [Solvability of a boundary value problem with respect to the first eigenvalue] *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 4, 461–471. (From the introduction) **99g:34047** 34B15 (47H15, 47N20)

— (*with* Jabri, Y.) A critical point theorem without compactness and applications. *Nonlinear Anal.* **32** (1998), *no.* 3, 363–380. (Miguel Ramos) **99a:58029** 58E05 (35J65, 35L20, 47H15)

Moussaoui, Mohammed (*with* Seeger, Alberto) Second-order subgradients of convex integral functionals. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3687–3711. (Adam B. Levy) **99m:49028** 49J52 (28B20)

Moussaoui, Mohand (*with* Belahdji, Kheira) Le problème de Dirichlet pour l'équation de Laplace dans un ouvert de $\mathbf{R}^3$ présentant des points de rebroussement ou des arêtes cuspides. (English, French and Arabic summaries) [The Dirichlet problem for the Laplace equation in a domain in $\mathbf{R}^3$ with cusps or edges of regression] *Maghreb Math. Rev.* **6** (1997), *no.* 2, 77–102. (Serge Nicaise) **99j:35033** 35J25 (35B65)

Mousseau, V. (*with* Słowiński, Roman) Inferring an ELECTRE TRI model from assignment examples. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 157–174. (*see* **99a:90011**) 90C27 (90C29)

Moussu, R. Sur l'existence d'intégrales premières holomorphes. [On the existence of holomorphic first integrals] *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 709–717. (M. G. Soares) **99i:32040** 32L30 (58F18)

Moustafa, K. A. (*with* El-Serbiny, H. M.) A reduction into less order disjoint subclasses of a two-dimensional class of nonlinear partial differential equations. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **24** (1995), *no.* 1, 13–30. (Anthony D. Osborne) **99c:35210** 35Q53 (35A30)

Moustafa, Osama L. (*with* El-Sayed, Ahmed M. A.; El-Sayed, Wagdy G.) On some fractional functional equations. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 4, 321–332. (Summary) **99a:39051** 39B05 (26A33, 34K30, 45J05)

— (*with* El-Borai, Mahmoud M.) On the Cauchy problem of an abstract nonlinear evolution equation. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 11, 19–25. (Nicolae H. Pavel) **99j:34084** 34G20 (47N20)

Moustakides, George V. Quickest detection of abrupt changes for a class of random processes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1965–1968. (Summary) **99i:60095** 60G40 (62L15)

Mouton, S. (*with* Raubenheimer, H.) Cones in Banach algebras. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 4, 489–502. (Robin Harte) **99i:46035** 46H20 (46B40)

Moutoussamy, Isabelle (*with* Grenon-Isselkou, Nathalie; Chaljub-Simon, Alice; Volkmann, Peter) Parabolic differential equations in ordered Banach spaces of bounded functions. (English summary) *Positivity* **1** (1997), *no.* 1, 45–54. (Summary) **99h:35224** 35R20

Movaghar, Ali On queueing with customer impatience until the beginning of service. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 337–350. (Erik A. van Doorn) **99k:60233** 60K25

Movahhedi, A. (*with* Cohen, Stephen D.; Salinier, A.) Double transitivity of Galois groups of trinomials. *Acta Arith.* **82** (1997), *no.* 1, 1–15. (Núria Vila) **99c:11139** 11R32 (11S15, 12E10, 12F10)

Movchan, A. B. Asymptotic analysis of a crack-defect interaction. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 107–111, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 73M25 (73C02)

— (*with* Milton, Graeme W.) Mapping certain planar elasticity problems to antiplane ones. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 1, 1–11. (Leonid V. Gibiansky) **99a:73035** 73C02 (73B27, 73B40)

— (*with* Bigoni, D.; Serkov, S. K.; Valentini, M.) Asymptotic models of dilute composites with imperfectly bonded inclusions. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 24, 3239–3258. (Leonid V. Gibiansky) **99d:73005** 73B27 (73K20, 73M25)

— (*with* Gao, Huajian; Willis, John R.) On perturbations of plane cracks. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 26-27, 3419–3453. (Summary) **99c:73062** 73M25

— (*with* Cherkaev, Andrej V.; Grabovsky, Yury; Serkov, S. K.) The cavity of the optimal shape under the shear stresses. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 33, 4391–4410. (Summary) **99e:73040** 73C99 (73B27, 73K20, 73K40, 73V35)

Movchan, N. V. (*with* Willis, John R.) Penny-shaped crack bridged by fibres. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 327–340. (Summary) **99a:73109** 73M25 (73B50)

Movsisyan, L. A. (*with* Gabrielyan, M. S.) On a problem of the control of the motion of a thermoelastic plate-layer. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 3, 15–22. 73K10 (73B30)

— On the modulation stability of nonlinear waves in a piezoelectric plate. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 3, 3–6. 73R05 (73D99)

— (*with* Gabrielyan, M. S.) A return to the problem of the control of the motion of an elastic beam. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **51** (1998), *no.* 3, 23–27. 73K50 (73K05)

Movsisyan, S. A. (*with* Shakhbazyan, K. V.) Solution of the pipeline stabilization problem, based on decomposition processes. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 3, 142–146 (1994). 90C35 (90B35)

Movsisyan, Yu. M. (*with* Melkonyan, V. G.) Superidentities of distributive lattices. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 2, 75–78. 06D05 (08B05)

— Superidentities in algebras and varieties. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 61–114; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 57–108. (Anna Romanowska) **99f:08002** 08B05 (20M30, 20N05)

Mow, Wai Ho Multiuser coding based on detecting matrices for synchronous-CDMA systems. (English summary) *Cryptography and coding* (*Cirencester*, 1997), 251–257, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (*see* **99g:94019**) 94A60

Mowbray, Miranda (*with* Davis, James Andrew; Jedwab, Jonathan) New families of semi-regular relative difference sets. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 131–146. (Siu Lun Ma) **99i:05036** 05B10

Moy, Allen (*with* Barbasch, Dan) Local character expansions. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 5, 553–567. (Dihua Jiang) **99j:22021** 22E50

— (*with* Barbasch, Dan) Classification of one K-type representations. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4245–4261. (Marko Tadić) **99m:22017** 22E50

Moya-Cessa, Héctor (*with* Arévalo-Aguilar, Luis M.) Solution to the master equation for a quantized cavity mode. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 5, 671–674. (K. Wódkiewicz) **99k:81354** 81V80

Moyal, José Enrique *see* **Gani, Joseph Mark**, **99k:01058**

Moylan, Patrick Joseph Embedding Euclidean Lie algebras into quantum structures. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1251–1258. (Pavel Šťovíček) **99c:81094** 81R50 (22E70)

— (*with* Buchwalter, S. A.) Representations of the Poincaré Lie algebra from unitary representations of SO(1, 4). (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2264–2272. (A. J. Coleman) **99d:17008** 17B10 (81R05)

Mozer, Yan *see* **Moser, Jan**

Mozes, Shahar (*with* Weiss, Benjamin) Minimality and unique ergodicity for subgroup actions. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 5, 1533–1541. (Scot Adams) **99j:22007** 22D40 (22E40, 58F11)

— (*with* Eskin, Alex; Margulis, Grigorii A.) Upper bounds and asymptotics in a quantitative version of the Oppenheim conjecture. *Ann. of Math.* (2) **147** (1998), *no.* 1, 93–141. (Alexander Starkov) **99a:11043** 11E04 (11E57, 22E40, 58F11)

— (*with* Margulis, Grigorii A.) Aperiodic tilings of the hyperbolic plane by convex polygons. (English summary) *Israel J. Math.* **107** (1998), 319–325. (G. D. Chakerian) **99k:52031** 52C20

Mozgawa, Witold (*with* Miernowski, A.) Isoptics of rosettes and rosettes of constant width. (English summary) *Note Mat.* **15** (1995), *no.* 2, 203–213 (1997). (G. D. Chakerian) **99c:53004** 53A04 (52A99)

— (*with* Hołubowicz, Ryszard) On compact non-Kählerian manifolds admitting an almost Kähler structure. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 53–57. (Sorin Dragomir) **99k:53131** 53C56 (53C15)

vázquez-Mozo, M. A. *see* **Vázquez-Mozo, M. A.**

Mozrzymas, Marek (*with* Minnaert, Pierre) $U_q(\mathrm{osp}(1|2))$ Clebsch-Gordan coefficients. (English summary) *Quantum groups* (*Karpacz*, 1994), 193–204, *PWN, Warsaw*, 1995. (Roberto Casalbuoni) **99e:81098** 81R50 (17B37)

— (*with* Minnaert, Pierre) Representation properties, Racah sum rule, and Biedenharn-Elliott identity for $U_q(\mathrm{osp}(1|2))$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 610–624. (Mariano A. del Olmo) **99f:81096** 81R50 (17B37)

— *see also* **New symmetries in the theories of fundamental interactions**, **99b:81004**

Mozyrsky, Dima (*with* Privman, Vladimir) Adiabatic decoherence. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 787–799. (Summary) **99c:82044** 82C10

Mozzochi, C. J. On the scattering matrix for the Eisenstein series for the Hecke congruence groups. (English summary) *Forum Math.* **10** (1998), *no.* 1, 75–87. (Roland Matthes) **99a:11063** 11F72 (11F11, 11F12)

el Mrabet, Yamina *see* **El Mrabet, Yamina**

Mráz, František On the set of feasible coefficients in interval LP. *Operations Research Proceedings* 1997 (*Jena*), 25–28, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C05 (65G10)

— Calculating the exact bounds of optimal values in LP with interval coefficients. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 51–62. (*see* **99b:90006**) 90C05 (90C31)

Mrowka, Tomasz S. (*with* Morgan, John W.; Szabó, Zoltán) Product formulas along T^3 for Seiberg-Witten invariants. *Math. Res. Lett.* **4** (1997), *no.* 6, 915–929. (Dave Auckly) **99f:57039** 57R57 (57N13)

Mróz, Zenon (*with* Piekarski, J.) Sensitivity analysis and optimal design of non-linear structures. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 7, 1231–1262. (Summary) **99c:73056** 73K40

— *see also* **Recent advances in structural modelling and optimization, 99k:73003**

Mrozek, Marian Rigorous error analysis of numerical algorithms via symbolic computations. (English summary) *J. Symbolic Comput.* **22** (1996), *no.* 4, 435–458. (Pavel S. Pankov) **99d:65145** 65G05 (65G10, 65L06, 65L70, 68Q40)

— (*with* Kaczyński, Tomasz) Stable index pairs for discrete dynamical systems. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 448–455. (Summary) **99g:54038** 54H20

— (*with* Żelawski, Marcin) Heteroclinic connections in the Kuramoto-Sivashinsky equation: a computer assisted proof. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 277–285. (Mark J. Friedman) **99c:34090** 34C37 (34–04, 35Q99, 58F35, 65C99)

— (*with* Kaczyński, Tomasz) Connected simple systems and the Conley functor. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 183–193. (James F. Reineck) **99j:58134** 58F12

— (*with* Kaczyński, Tomasz; Ślusarek, M.) Homology computation by reduction of chain complexes. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 59–70. (Michael Joswig) **99a:18001** 18–04 (18G35, 55–04, 55U15)

— Algorithms and the Conley index theory. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 227–230. (James F. Reineck) **99m:58177** 58F99 (34C35, 65L99)

— *see also* **Conley index theory, 99m:58005**

Mršević, Mila (*with* Reilly, Ivan L.) A note on local connectedness in bitopological spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 715–721. 54E55 (54D05)

Mrugalla, C. (*with* Dobrev, Vladimir K.; Doebner, Heinz-Dietrich) q-deformed quantum mechanical evolution equations via a q-deformed Schrödinger algebra. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 187–196, *World Sci. Publishing, River Edge, NJ*, 1996. (Roberto Casalbuoni) **99e:81092** 81R50

— (*with* Dobrev, Vladimir K.; Doebner, Heinz-Dietrich) Lowest weight representations of q-Schrödinger algebra and generalized q-deformed heat/Schrödinger equations. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 149–161, *PWN, Warsaw*, 1997. (Valery P. Karassiov) **99i:81094** 81R50

Mruthyunjaya, T. S. (*with* Dasgupta, Bhaskar[2]) Singularity-free path planning for the Stewart platform manipulator. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 6, 711–725. (Summary) **99g:70007** 70B15

— (*with* Dasgupta, Bhaskar[2]) Force redundancy in parallel manipulators: theoretical and practical issues. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 6, 727–742. (Summary) **99f:70006** 70B15

— (*with* Dasgupta, Bhaskar[2]) Closed-form dynamic equations of the general Stewart platform through the Newton-Euler approach. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 7, 993–1012. (Summary) **99f:70007** 70B15 (70–08)

— (*with* Dasgupta, Bhaskar[2]) A Newton-Euler formulation for the inverse dynamics of the Stewart platform manipulator. (English summary) International Conference on Advances in Mechanical Engineering (ICAME) (Bangalore, 1995). *Mech. Mach. Theory* **33** (1998), *no.* 8, 1135–1152. (Summary) **99h:70005** 70B15 (70–08)

Mrziglod, Thomas On the solution structure of nonlinear Hill's equation. II. Local results. (English summary) *Math. Nachr.* **190** (1998), 221–250. (Tetsutaro Shibata) **99g:34055** 34B15 (34B30, 34L30)

M'saad, M. (*with* Chaoui, F. Z.; Giri, F.; Dugard, Luc; Dion, Jean-Michel) Adaptive tracking with saturating input and controller integral action. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1638–1643. (Summary) **99h:93092** 93D21 (93C40)

Mu, Chunlai (*with* Dong, Guangchang) Some results and open problems on nonlinear parabolic equations. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 43–49, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:35052** 35K55 (35D05, 35K65)

— (*with* Tang, Xianjiang) L^p-L^q estimates for higher order perturbed hyperbolic equation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 31–38. (Summary) **99b:35122** 35L30 (35B45)

— (*with* Dong, Guangchang) The measurable viscosity solutions for fully nonlinear elliptic equations. *Nonlinear Anal.* **33** (1998), *no.* 4, 401–412. (Naoki Yamada) **99c:35057** 35J60 (35D05, 35R05, 49L25)

Mu, De Jun (*with* Dai, Hang; Tong, Ming An; Dai, Guan Zhong) Parallel methods for LQ optimization. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 755–758. 49M30 (65Y05)

Mu, Le Hua The rate of convergence for the conjugate series of mixed Jacobi series. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 1, 14–18, 24. (Ahmed I. Zayed) **99d:33013** 33C45 (41A25, 41A58)

— The rate of convergence for conjugate Neumann-Bessel series. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 132–137. (D. C. Russell) **99b:42048** 42C99 (33C10)

— On properly divergent series. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 366–372. (J. Gopala Krishna) **99i:30004** 30B30

— (*with* Al-oushoush, Nizar) The equiconvergence theorem for Bessel series on the unit circle. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 21–25. (Summary) **99i:30057** 30E10 (33C10)

Mu, Mo (*with* Huang, Yun Qing) An alternating Crank-Nicolson method for decoupling the Ginzburg-Landau equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1740–1761 (*electronic*). (J. W. Neuberger) **99m:65215** 65N30 (35Q55, 65N55, 82D55)

— (*with* Deng, Yuefan; Chou, Chung-Chiang) Numerical methods for simulating Ginzburg-Landau vortices. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1333–1339 (*electronic*). (Summary) **99a:65154** 65N30 (65N06)

Mu, Mu Optimality of a nonlinear stability criterion of two-layer Phillips model. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 656–659. (Summary) **99i:76056** 76E20 (76E30, 86A05)

— (*with* Wu, Yong-Hui) A remark on the nonlinearly symmetric stability criteria. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 12, 1050–1053. (Summary) **99i:86014** 86A10 (76E20, 76E30)

— (*with* Vladimirov, Vsevolod A.; Wu, Yong-Hui) Energy-Casimir and energy-Lagrange methods in the study of nonlinear symmetric stability problems. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 3, 400–411. (Summary) **99j:76043** 76E20 (76E30, 76U05, 86A10)

— (*with* Wu, Yong-Hui) Nonlinear instability of dipole vortices and the atmospheric blocking. (English summary) *Progr. Natur. Sci.* (*English Ed.*) **9** (1999), *no.* 3, 234–237. (Summary) **99m:86014** 86A10

Mu, Shan Zhi The Diophantine equation $x^4 - 4x^2y^2 + y^4 = 526$. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 12–15. 11D25

Mu, Yong (*with* Han, Zhi Gang; Huang, Ti Yun; Li, Ming Xing) A parametrized approach to the identification of systems with randomly varying structure. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 2, 104–107. 93B35 (93E12)

Mubarakzyanov, R. G. Algorithmic decidability of the finiteness of the set of states of a channel realized by a finite probabilistic automaton. (Russian) *Probabilistic methods and cybernetics, No.* 25 (*Russian*), 99–130, *Izdat. Kazan. Univ., Kazan'*, 1993. (*see* **99h:00017**) 68Q75 (94A40)

— (*with* Ablaev, Farid M.; Karpinski, Marek) On BPP versus NP ∪ coNP for ordered read-once branching programs. (English summary) *Randomized algorithms* (*Brno*, 1998), 10 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68Q15 (68Q05)

Mubayi, Dhruv Edge-coloring cliques with three colors on all 4-cliques. (English summary) *Combinatorica* **18** (1998), *no.* 2, 293–296. (Summary) **99h:05042** 05C15

— (*with* Jiang, Tao[5]) Connectivity and separating sets of cages. (English summary) *J. Graph Theory* **29** (1998), *no.* 1, 35–44. (Chris Rodger) **99f:05071** 05C40

Mucciolo, Eduardo R. (*with* Ozorio de Almeida, Alfredo M.; Lewenkopf, Caio H.) Semiclassical limit of universal parametric density correlations. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5693–5703. (Summary) **99g:81050** 81Q20 (81Q50)

Mucha, P. B. The Cauchy problem for the Einstein-Vlasov system. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 1, 111–127. (Alan D. Rendall) **99i:83052a** 83C55 (35Q75, 76P05)

— The Cauchy problem for the Einstein-Boltzmann system. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 1, 129–141. (Alan D. Rendall) **99i:83052b** 83C55 (35Q75, 76P05)

Muche, Lutz The Poisson Voronoi tessellation. III. Miles' formula. (English summary) *Math. Nachr.* **191** (1998), 247–267. (V. K. Oganyan) **99f:60023** 60D05 (52A22, 60G55)

Muchnik, An. A. (*with* Semenov, Aleksei L'vovich; Uspenskiĭ, V. A.) Mathematical metaphysics of randomness. (English summary) *Theoret. Comput. Sci.* **207** (1998), *no.* 2, 263–317. (Cristian Calude) **99h:68091** 68Q30 (60A05)

— On common information. (English summary) *Theoret. Comput. Sci.* **207** (1998), *no.* 2, 319–328. (Marius Zimand) **99h:68092** 68Q30 (94A17)

Muchnik, Ilya (*with* Mirkin, Boris G.) Combinatorial optimization in clustering. *Handbook of combinatorial optimization, Vol.* 2, 261–329, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 62H30 (90–02, 90C27, 90C90)

Muci-Küchler, K. H. (*with* Miranda-Valenzuela, J. C.; Rudolphi, T. J.) Formulation of a new error indicator for adaptive meshing with Hermite boundary elements. (English summary) *Comput. Methods Appl. Mech. Engrg.* **173** (1999), *no.* 3-4, 419–431. 65N55

Muciño-Raymundo, Jesús (*with* Brambila Paz, Leticia) Stability of vector bundles in products of varieties. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 173–178, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99g:14050** 14J60

— Geometry and dynamics of polyhedra. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 403–435, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99h:53050** 53C22 (57M50, 58F25)

— (*with* Brambila Paz, Leticia) Stability of the tangent bundle, endomorphisms and vector fields. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 37–43, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Summary) **99i:14013** 14D20 (14J60)

— Integration, Euclidean geometry and meromorphic vector fields. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 135–156, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Summary) **99j:30049** 30F30 (34A20)

— *see also* **Congress: Mexican Mathematical Society, 99i:00016**

Mück, Stefan ★ Level-2 large deviations and semilinear stochastic equations for symmetric diffusions. Dissertation, Rheinische Friedrich-Wilhelms-Universität zu Bonn, Bonn, 1995. Bonner Mathematische Schriften [Bonn Mathematical Publications], 289. *Universität Bonn, Mathematisches Institut, Bonn*, 1996. *iv* + 121 *pp.* (Bohdan Maslowski) **99d:60065** 60H10 (60F10, 60J60)

— Semilinear stochastic equations for symmetric diffusions. (English summary) *Stochastics Stochastics Rep.* **62** (1998), *no.* 3-4, 303–325. (Summary) **99a:60062** 60H15 (31C25, 60G10, 60J60)

Mück, W. (*with* Viswanathan, K. S.) Conformal field theory correlators from classical scalar field theory on anti-de Sitter space. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 041901, 5 *pp.* (Summary) **99k:81284** 81T40 (83E50)

Mücke, Ernst P. (*with* Saias, Isaac; Zhu, Binhai) Fast randomized point location without preprocessing in two- and three-dimensional Delaunay triangulations. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 63–83. (Summary) **99k:68197** 68U05 (65Y25)

Mucuk, Osman An application of monodromy groupoid. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 227–234. 20L15

— Locally topological groupoids. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 235–243. (Summary) **99f:22006** 22A30

— Coverings and ring-groupoids. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 475–482. (Manuel Sanchis) **99g:22001** 22A05 (55P99, 55R15)

Mudawi, Mohamed Hassan (*with* Khan, S. U.) A bibliography on the theory of queueing networks. *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 1–37. 60K25

— (*with* Maggu, P. L.; Khan, S. U.) Scheduling of n items on three-machine in tandem involving transportation times and break-down of machines. (English summary) *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 55–64. 90B35

Mudholkar, Govind S. (*with* Hutson, Alan D.) Improvements in the bias and precision of sample quartiles. (English summary) *Statistics* **30** (1997), *no.* 3, 239–257. (Summary) **99c:62149** 62G30 (62F12, 62G20)
— (*with* Hutson, Alan D.) Hermitian quantile curves as statistical plots. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 3, 783–805. 62G99 (62–09)
— (*with* Hutson, Alan D.) *LQ*-moments: analogs of *L*-moments. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 191–208. (Summary) **99j:62074** 62G30
Mudrinić, M. (*with* Burić, N.) Modular smoothing of action. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1875–1892. (Summary) **99b:58205** 58F27 (58F22)
— (*with* Burić, N.; Todorović, K.) Universal scaling of critical quasiperiodic orbits in a class of twist maps. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7847–7854. (Summary) **99h:58163** 58F27
Mudrinski, Vojislav (*with* Acketa, Dragan M.) Some designs with projective symplectic groups as automorphism groups. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 93–110. (Stanisław P. Radziszowski) **99k:05049** 05B30 (20B25)
Mudrov, A. I. Quantum deformations of the Lorentz algebra. *Phys. Atomic Nuclei* **60** (1997), *no.* 5, 848–859; *translated from Yadernaya Fiz.* **60** (1997), *no.* 5, 946–958 (*Russian*). (Mariano A. del Olmo) **99c:81095** 81R50 (17B37)
— Twisting cocycles in fundamental representation and triangular bi-crossproduct Hopf algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5608–5616. (Władysław Marcinek) **99h:16064** 16W30 (17B37, 81R50)
— Erratum: "On quantization of Z_2-graded algebras" [J. Math. Phys. **38** (1997), no. 1, 476–483; MR 97h:17019]. *J. Math. Phys.* **39** (1998), *no.* 11, 6242. 17B37 (17B70)
— Twisting cocycle for null-plane quantized Poincaré algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6219–6224. (Roberto Casalbuoni) **99g:81096** 81R50 (17B37)
Muehlegger, Erich J. (*with* Raich, Andrew S.; Silva, Cesar E.; Zhao, Wenhuan) Lightly mixing on dense algebras. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 259–265. (Nathaniel Friedman) **99c:28052** 28D05
Mueller, Carl Eric (*with* Tribe, Roger) Finite width for a random stationary interface. (English summary) *Electron. J. Probab.* **2** (1997), *no.* 7, 27 *pp.* (*electronic*). (Richard B. Sowers) **99g:60106** 60H15 (35R60)
— Long-time existence for signed solutions of the heat equation with a noise term. *Probab. Theory Related Fields* **110** (1998), *no.* 1, 51–68. (Richard B. Sowers) **99b:60094** 60H15 (35K55, 35R60, 60H20)
— The heat equation with Lévy noise. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 67–82. (Ya. Ī. Bīlopol′s′ka) **99g:60107** 60H15 (35K05, 35R60)
Mueller, Ian (*with* Artmann, B.) Plato and mathematics. (English and German summaries) *Math. Semesterber.* **44** (1997), *no.* 1, 1–17. (Summary) **99a:01003** 01A20 (00A30)
Mueller, Julia (*with* Bombieri, Enrico) On a conjecture of Siegel. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 293–308. (Dimitrios Poulakis) **99d:11034** 11D99
Mueller, Olaf *see* **Müller, Olaf**
Muench, Uwe (*with* Gronwald, Frank; Hehl, Friedrich W.) A brief guide to variations in teleparallel gauge theories of gravity and the Kaniel-Itin model. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 933–961. (Summary) **99a:83058** 83D05
— (*with* Gronwald, Frank; Macías, Alfredo; Hehl, Friedrich W.) Volume elements of spacetime and a quartet of scalar fields. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084021, 4 *pp.* (Summary) **99k:83101** 83C99 (83D05)
Muga, J. G. *see* **Kijowski, Jerzy, 99m:81023**
Muğan, U. (*with* Sakka, A.) Second-order second-degree Painlevé equations related to Painlevé IV, V, VI equations. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2471–2490. (Andrei A. Kapaev) **99e:34005** 34A25 (34C20)
Muganda, Godfrey C. Fuzzy algebras based on algebraic properties. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 649–658. (John Mordeson) **99g:20126** 20N25 (16Y99)
Mugelli, Francesco (*with* Talenti, Giorgio) Sobolev inequalities in 2-D hyperbolic space: a borderline case. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 3, 195–228. (Alexander Yuri Brudnyi) **99m:46082** 46E35 (26D10, 34C99)
Müger, Michael Disorder operators, quantum doubles, and Haag duality in 1 + 1 dimensions. *Quantum fields and quantum space time* (*Cargèse*, 1996), 349–356, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Stephen J. Summers) **99a:81094** 81T05 (46L60, 81R50, 81T40)
— Superselection structure of massive quantum field theories in 1 + 1 dimensions. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 8, 1147–1170. (Stephen J. Summers) **99m:81125** 81T05 (46L60)
Mugglestone, Moira A. (*with* Nirel, Ronit; Barnett, Vic) Outlier-robust spectral estimation for spatial lattice processes. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 3095–3111. (Summary) **99i:62224** 62M15
Muggleton, Stephen Completing inverse entailment. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 245–249, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (*see* **99k:68010**) 68N17
Mugnier, Marie-Laure (*with* Preller, Anne; Chein, Michel) Logic for nested graphs. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 335–357. (Marcus Kracht) **99g:68200** 68T30 (03B65, 03F03)
— *see also* **Conceptual structures: theory, tools and applications, 99h:68003**
Muhamad, N. K. (*with* Sharma, Shri Deo) On integrals involving product of three spheroidal functions of general order. I. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 85–96. (Summary) **99h:33065** 33E10
abu Muhanna, Yusuf *see* **Abu Muhanna, Yusuf**
Muharliamov, R. G. Robot simulation and constrained mechanical systems. (English summary) *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 31–35. 70B15 (70–08, 70F25, 70Q05)
Muharramov, M. A. Application of quasi-linearisation to the study of non-linear diffusion. (Russian and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **16** (1995), *no.* 5-6, *Inform. i Probl. Upr.*, 59–64 (1997). 35B25 (35K55)
Mühlhaus, H.-B. (*with* Sakaguchi, Hide; Hobbs, B. E.) Evolution of three-dimensional folds for a non-Newtonian plate in a viscous medium. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3121–3143. (From the summary) **99i:76004** 76A05 (73H05)
Mühlherr, Bernhard (*with* Van Maldeghem, Hendrik) On certain twin buildings over tree diagrams. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 393–402. (Harald Gottschalk) **99g:51009** 51E24
— A rank 2 characterization of twinnings. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 603–612. (Theo Grundhöfer) **99g:20051** 20E42
Muhly, Paul S. (*with* Solel, Baruch) An algebraic characterization of boundary representations. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 189–196, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Summary) **99f:47057** 47D25 (46L05, 47A20)
— (*with* Xia, Jingbo) Reduction of Calderón commutators. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 1, 67–72. (Steen Pedersen) **99a:42007** 42B20 (45E10, 45P05, 47B35, 47G10)
— (*with* Solel, Baruch) Tensor algebras over C^*-correspondences: representations, dilations, and C^*-envelopes. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 389–457. (Michael Frank) **99j:46066** 46L05 (46H25, 46H35)
— (*with* Solel, Baruch) On the simplicity of some Cuntz-Pimsner algebras. (English summary) *Math. Scand.* **83** (1998), *no.* 1, 53–73. (Claudia Pinzari) **99m:46140** 46L05 (46L40)
Mui Ann Chan, Lap *see* **Chan, Lap Mui Ann**
Muić, Goran Some results on square integrable representations; irreducibility of standard representations. *Internat. Math. Res. Notices* **1998**, *no.* 14, 705–726. (David Manderscheid) **99f:22031** 22E50 (11F70)
— (*with* Shahidi, Freydoon) Irreducibility of standard representations for Iwahori-spherical representations. *Math. Ann.* **312** (1998), *no.* 1, 151–165. (Vladimir V. Kisil) **99g:22012** 22E35
Muir, P. H. (*with* Voss, D. A.) Mono-implicit Runge-Kutta schemes for the parallel solution of initial value ODEs. (English summary) *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 235–252. (Zeng Fu Qin) **99m:65137** 65L06 (65Y05)
Mujaković, Nermina One-dimensional flow of a compressible viscous micropolar fluid: a local existence theorem. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 71–91. (H. Ramkissoon) **99k:76014** 76A99 (35Q35, 76N10)
— Micropolar fluid flow with rapidly variable initial conditions. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 2, 197–204. 35Q35 (35B27)
Mujica, Jorge Separable quotients of Banach spaces. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 299–330. (Jesús M. F. Castillo) **99a:46024** 46B20 (46A08, 46B15, 46B45)
Mukai, Juno Some homotopy groups of the double suspension of the real projective space RP^6. 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 235–249. (Donald M. Davis) **99e:55023** 55Q52
— (*with* Kikkawa, S.; Takaba, D.) Cohomotopy sets of projective planes. (English summary) *J. Fac. Sci. Shinshu Univ.* **33** (1998), *no.* 1, 1–7. (Katsumi Shimomura) **99j:55010** 55Q05 (55Q55)
Mukai, Kentaro (*with* Huang, Qing[3]; Mochizuki, Kiyoshi) Life span and asymptotic behavior for a semilinear parabolic system with slowly decaying initial values. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 393–407. (Summary) **99g:35055** 35K55 (35B40)
Mukai, Mariko The deformation of harmonic maps given by the Clifford tori. (Japanese) Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 28–39. (Tetsuya Taniguchi) **99e:58050** 58E20 (53C42)
Mukai, Shigeru Vector bundles and Brill-Noether theory. (English summary) *Current topics in complex algebraic geometry* (*Berkeley, CA*, 1992/93), 145–158, *Math. Sci. Res. Inst. Publ.*, 28, *Cambridge Univ. Press, Cambridge*, 1995. (Summary) **99g:14043** 14H60 (14J45)
— Noncommutativizability of Brill-Noether theory and 3-dimensional Fano varieties. (Japanese) *Sūgaku* **49** (1997), *no.* 1, 1–24. (Takao Fujita) **99b:14012** 14D20 (14H60, 14J45)
— *see also* **Kondō, Shigeyuki, 99i:14042**
Mukaidono, Masao (*with* Araki, Tomoyuki; Tatsumi, Hisayuki; Yamamoto, Fujio) Minimization of incompletely specified regular ternary logic functions and its application to fuzzy switching functions. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 289–296, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (03B52)
— (*with* Tatsumi, Hisayuki; Araki, Tomoyuki; Tokumasu, Shinji) Upper and lower bounds on the number of fuzzy/c switching functions. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 297–303, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B52
— (*with* Yamauchi, Yukari) A study on operations in interval and paired probabilities. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 310–315, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B52 (68T27)
— (*with* Li, Rui-Ping) Gaussian clustering method based on maximum-fuzzy-entropy interpretation. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 253–258. (Summary) **99j:62088** 62H30
Mukamel, D. (*with* Evans, M. R.; Kafri, Y.; Koduvely, H. M.) Phase separation and coarsening in one-dimensional driven diffusive systems: local dynamics leading to long-range Hamiltonians. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 2764–2778. (Summary) **99e:82057** 82C05
Mukerjee, Rahul (*with* Gupta, Sudhir) Developments in incomplete block designs for parallel line bioassays. *Design and analysis of experiments*, 875–901, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K10 (62P10)
— Optimal partial diallel crosses. (English summary) *Biometrika* **84** (1997), *no.* 4, 939–948. (Sanpei Kageyama) **99h:62096** 62K05
— (*with* Ghosh, Malay) Second-order probability matching priors. (English summary) *Biometrika* **84** (1997), *no.* 4, 970–975. (Nancy Reid) **99h:62024** 62F15
— (*with* Ghosh, Malay) Recent developments on probability matching priors. (English summary) *Applied statistical science, III*, 227–252, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99k:62057** 62F15
Mukha, V. S. Differentiation of functions of symmetric matrices. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 2, 46–53, 140. (Kirill A. Kopotun) **99b:15041** 15A99

Mukhamadiev, È. M. (*with* Takha, Adel'; Baĭzaev, S.) On the normal solvability of differential equations with retarded argument. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 58–62. (From the text) **99c:34148** 34K05 (47G99)

— (*with* Aliakbarov, S. M.; Vasil'ev, F. P.) Justification of the dynamic programming method for problems of standardization type. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 740–748; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 711–718. (Summary) **99c:90153** 90C39 (49L20)

Mukhamadullina, G. (*with* Alimov, M. M.; Kornev, K.) Hysteretic effects in the problems of artificial freezing. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 387–410 (*electronic*). (Summary) **99g:80006** 80A22 (76S05, 80A20)

Mukhamedov, A. K. Weak convergence of empirical processes and a probability inequality for the Kolmogorov-Smirnov statistic of weakly dependent random variables. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 58–65. (Igor S. Borisov) **99g:60071** 60F17 (60B12, 60G10, 62G30)

Mukhamedov, F. M. (*with* Ganikhodzhaev, N. N.) On quantum quadratic stochastic processes and some ergodic theorems for such processes. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 8–20. (John E. Gough) **99i:81124** 81S25 (46L50)

Mukhamedov, M. A. Some generalizations of operator semigroups of class C_0. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 65–75. (Yuri Sil'chenko) **99h:47049** 47D06 (34A30)

Mukhamedzhanov, K. M. (*with* Sanginov, M. B.) A local limit theorem for densities in the case of regular variation of the tail. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 45–53. (M. Iosifescu) **99h:60057** 60F10

Mukheimer, A. (*with* Siddiqi, A. H.; Ahmad, M. K.) Current developments in fractal image compression. *Functional analysis with current applications in science, technology and industry (Aligarh, 1996)*, 304–331, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (*see* **98i:00018**) 94A12 (28A80)

Mukherjea, Arunava Semigroups of $d \times d$ real matrices. (English summary) *Semigroups (Luino, 1992)*, 183–190, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M20 (15A99)

— (*with* Ratti, J. S.) A functional equation involving iterates of a bijection on the unit interval. II. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 459–464. (R. A. Rosenbaum) **99d:39021** 39B12

Mukherjee, A. *see* **Mukherjee, Arup**

Mukherjee, Amitabha (*with* Jassal, H. K.; Saxena, R. P.) Duality and cosmological compactification of superstrings with unbroken supersymmetry. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1035–1047. 83E30 (81T30, 83F05)

Mukherjee, Amiya (*with* Naolekar, Aniruddha C.) An axiomatic approach to equivariant cohomology theories. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 151–162. (Haruo Minami) **99f:55013** 55N91 (55N25, 57S30)

Mukherjee, Arup (*with* Arnold, Douglas N.; Pouly, L.) Adaptive finite elements and colliding black holes. (English summary) *Numerical analysis 1997 (Dundee)*, 1–15, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99f:83039** 83C57 (65N55, 83–08)

Mukherjee, Biswanath (*with* Ramamurthy, S.) Fault-tolerant design of wavelength-routed optical networks. (English summary) *Multichannel optical networks: theory and practice (Piscataway, NJ, 1998)*, 117–128, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, **46**, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 68M10 (90B12)

Mukherjee, Debasis (*with* Kesh, Dipak; Sarkar, Ashis Kumar; Roy, Amiya Bhusan) Ratio dependent predation: a bifurcation analysis. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 295–305. (Summary) **99c:92041** 92D25 (34K15)

— (*with* Bhakta, Paresh Chandra; Roy, Amiya Bhusan) Uniform persistence in Kolmogorov models with convex growth functions. *Nonlinear Anal.* **34** (1998), *no.* 3, 427–432. (From the introduction) **99j:92009** 92D15 (34C99, 34D20)

Mukherjee, Indranil (*with* Ghosh, Himadri; Chatterjee, Aditya) A numerical Bayesian approach to spatial data analysis. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 187-188, 181–197. (Summary) **99j:62036** 62F15 (62M30)

Mukherjee, Kanchan (*with* Arora, Vipin; Lahiri, Parthasarathi) Empirical Bayes estimation of finite population means from complex surveys. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1555–1562. (Kun He) **99i:62014** 62D05 (62C12)

— On preliminary test and shrinkage estimation in linear models with long-memory errors. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 319–328. (Yoshihiro Yajima) **99h:62091** 62J05 (62F12)

Mukherjee, M. (*with* Arora, S. C.) Compact composition operators on Sobolev spaces. (English summary) *Indian J. Math.* **37** (1995), *no.* 3, 207–219 (1997). (Summary) **99a:47041** 47B38

Mukherjee, M. N. (*with* Nandi, J. N.) Characterizations of bitopological QHC spaces via certain classes of sets. (English summary) *J. Pure Math.* **14** (1997), 56–61. 54E55

— (*with* Chakraborty, R. P.) On fuzzy almost compact spaces. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 207–210. 54A40 (54D30)

— (*with* Nandi, J. N.) Bitopological δ-cluster sets and some applications. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 837–848. 54E55 (54C60)

— (*with* Debray, Atasi) On nearly paracompact spaces via regular even covers. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 23–29. 54D20

— (*with* Debray, Atasi) On nearly paracompact spaces and nearly full normality. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 99–104. (Summary) **99k:54015** 54D20 (54D15)

Mukherjee, Manik Chandra On bilateral generating functions of extended Jacobi polynomials. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 81–84. 33C45

— Application of modified Jacobi partial differential operators to partial differential equations. *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 47–56. (From the introduction) **99h:33015** 33C10 (33C45, 35A25)

Mukherjee, Mithu Orthogonal polynomial solutions for a flat elliptic indenter on a multilayered elastic half space. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 991–1010. 73T05 (73C02)

Mukherjee, N. P. (*with* Bhattacharya, Prabir B.) On formations of finite supersolvable groups. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 289–292. (Sergey F. Kamornikov) **99a:20015** 20D10 (20F16)

Mukherjee, Pradip (*with* Banerjee, R. S.) Galilean symmetry in a nonabelian Chern-Simons matter system. (English summary) *Ann. Physics* **264** (1998), *no.* 1, 30–50. (Biswajit Chakraborty) **99m:81136** 81T13

Mukherjee, Rathindra Nath[1] (*with* Purnachandra Rao, Ch.) Optimality and duality for variational problems with generalized convexity. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 11, 1535–1546. (Summary) **99b:90112** 90C29 (49N15)

— (*with* Reddy, L. Venkateswara) Efficiency and duality of multiobjective fractional control problems under (F, ρ)-convexity. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 1, 51–69. 90C29 (90C32)

Mukherjee, S. (*with* Krishnamoorthy, C. S.) A weighted element patch based superconvergent stress extraction strategy. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 8, 731–749. (Summary) **99d:73091** 73V05

— (*with* Krishnamoorthy, C. S.) A pollution controlled hybrid interior error estimator for linear elastostatics. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 3, 507–532. (Summary) **99f:73082** 73V05

Mukherjee, S. P. (*with* Maiti, Sudhansu S.) A percentile estimator of the inverse Rayleigh parameter. (English summary) *IAPQR Trans.* **21** (1996), *no.* 1, 63–65. 62F10

— (*with* Dutta, Tridib K.) Optimum sampling plan for detection of independent defect categories in case of defect interference. (English summary) *IAPQR Trans.* **22** (1997), *no.* 1, 63–80. (Summary) **99k:62197** 62N10

— (*with* Roy, Dilip) Bivariate distributions through Cox's regression model. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 290–300, *Narosa, New Delhi*, 1998. (Ramesh C. Gupta) **99k:62029** 62E10

— *see also* **Frontiers in probability and statistics, 99g:62003**

Mukherjee, Sailaja Nanda (*with* Paul, B. C.; Beesham, Aroonkumar) Higher derivative theory with viscosity. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 499–507. 83D05

— (*with* Paul, B. C.; Beesham, Aroonkumar) Viscous cosmological models in $(1 + 1)$ dimensions. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 567–579. 83C99

Mukherjee, Samir Kumar On a functional equation in information theory. (English summary) *J. Maulana Azad College Tech.* **30** (1997), 137–154. (Summary) **99a:39060** 39B52 (94A15)

— On the properties and applications of two specially-designed time-dependent entropies. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 100–107. (Summary) **99h:94027** 94A17

— Information-theoretic mappings. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 164–168. 94A15

— Space S^n of vectors $\overrightarrow{AB}$ and vector-sequence spaces. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 194–200. 46A45

Mukherjee, Subrata (*with* Mukherjee, Y. X.) On boundary conditions in the element-free Galerkin method. (English summary) *Comput. Mech.* **19** (1997), *no.* 4, 264–270. (Summary) **99g:73114** 73V20

— (*with* Phan, Anh-Vũ; Mayer, J. R. René) Stresses, stress sensitivities and shape optimization in two-dimensional linear elasticity by the boundary contour method. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 8, 1391–1407. (Summary) **99e:73074** 73K40 (73V10)

— (*with* Mukherjee, Y. X.) The hypersingular boundary contour method for three-dimensional linear elasticity. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 2, 300–309. (Summary) **99c:73084** 73V10

Mukherjee, T. K. (*with* Sen, Mridul Kanti; Roy, Dipak) Primary representation in Noetherian modules. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 285–298. (Sylvia Wiegand) **99j:13013** 13E05

— (*with* Sen, Mridul Kanti; Ghosh, Shamik) Additively cancellative congruences on hemirings. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 3, 297–301. 16Y99

Mukherjee, U. K. (*with* Chattopadhyay, K. C.; Samanta, Syamal Kumar) A note on fuzzy ultrafilters. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 695–704. (Summary) **99d:04005** 04A72

Mukherjee, Y. X. (*with* Mukherjee, Subrata) On boundary conditions in the element-free Galerkin method. (English summary) *Comput. Mech.* **19** (1997), *no.* 4, 264–270. (Summary) **99g:73114** 73V20

— (*with* Mukherjee, Subrata) The hypersingular boundary contour method for three-dimensional linear elasticity. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 2, 300–309. (Summary) **99c:73084** 73V10

Mukherji, Anjan On the uniqueness of competitive equilibrium. (English summary) *Econom. Theory* **10** (1997), *no.* 3, 509–520. (Summary) **99a:90059** 90A14 (90A40, 90A56)

Mukherji, Sudipta On the SL(2, **Z**) covariant worldsheet action with sources. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 35, 2819–2825. (Yolanda Lozano) **99m:81205** 81T30

Mukherji, Sutapa (*with* Bhattacharjee, Somendra M.) Incommensuration in quantum antiferromagnetic chain. (English summary) *J. Phys. A* **31** (1998), *no.* 40, *L*695–*L*700. (Summary) **99f:82026** 82B26 (82B20, 82D35)

Mukhi, Sunil (*with* Dasgupta, Keshav) Anomaly inflow on orientifold planes. (English summary) *J. High Energy Phys.* **1998**, *no.* 3, *Paper* 4, 11 *pp.* (*electronic*). (Summary) **99a:81133** 81T30 (83E30)

— (*with* Dasgupta, Keshav; Jatkar, Dileep P.) Gravitational couplings and Z_2 orientifolds. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 465–484. (C. Gauthier) **99i:81177** 81T30 (83E30)

Mukhin, A. B. Asymptotic estimates in local limit theorems. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 34–44. 60F05

— Approximation of local probabilities of sums of independent random variables. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 715–730. (Petr Lachout) **99h:60094** 60G50 (60E10, 60F05, 62E17)

— (*with* Tkachuk, K. S.) Estimates for the concentration of convolutions of symmetric unimodal distributions. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 63–70. (R. Theodorescu) **99f:60033** 60E15

Mukhin, S. I. (*with* Abakumov, M. V.; Gavrilyuk, K. V.; Esikova, N. B.; Lukshin, An. V.; Sosnin, N. V.; Tishkin, V. F.; Favorskiĭ, A. P.) A mathematical model of the hemodynamics of a cardio-vascular system. (Russian. Russian summary) *Differ. Uravn.*

33 (1997), *no.* 7, 892–898, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 895–901 (1998). (Introduction) **99b:92017** 92C50 (92–08, 92C30)

Mukhin, V. V. Subsets of semigroups, and congruences defined by them. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 92–96, 104, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D10

— (*with* Khamza, Buzhuf) On the embedding of n-ary abelian topological semigroups into n-ary topological groups. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 157–160, *Gomel. Gos. Univ., Gomel'*, 1996. (From the text) **99h:22002** 22A30

— Quasi-invariant measures on topological semigroups. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 4, 5–8, 123. (A. G. Myasnikov) **99c:43001** 43A05

Mukhopadhyay, A. (*with* Adhikari, M. R.) A step towards incommensurability of π and Bhāskara (I). An episode of the sixth century AD. (English summary) *Indian J. Hist. Sci.* **33** (1998), *no.* 2, 119–129. (A. I. Volodarskiĭ) **99i:01012** 01A32

Mukhopadhyay, A. C. (*with* Dhar, Debjyoti) Nonparametric estimation of component survival function in $K-1$ out of K system and its application under random censoring with proportional hazard assumption. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 153–169, *Narosa, New Delhi*, 1998. (Truc Nguyen) **99k:62186** 62N05 (62G05)

Mukhopadhyay, Asish (*with* Rao, S. V.) Fast algorithms for computing β-skeletons and their relatives. (English summary) *Algorithms and computation* (*Singapore*, 1997), 374–383, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68R10 (05C85, 68U05)

— (*with* Chattopadhyay, J.; Tapaswi, P. K.) A delay differential equations model of plankton allelopathy. (English summary) *Math. Biosci.* **149** (1998), *no.* 2, 167–189. (K. Smítalová) **99m:92050** 92D40 (34K15)

Mukhopadhyay, Indranil[2] (*with* Roy Chowdhury, Asesh) Marsden-Ratiu reduction and W_3^2 algebra. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 878–885. (Josep Herrero) **99e:58075** 58F05 (17B68, 58F07, 81R10)

— (*with* Roy Chowdhury, Asesh) Classical r-matrices and the four-wave interaction equation. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 471–477. (Woodford W. Zachary) **99f:58103** 58F07 (22E67, 35Q58)

— (*with* Roy Chowdhury, Asesh) On integrable and super-integrable systems with explicit x-dependence: an Adler-Kostant-Symes approach. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 262–268. (Pol Vanhaecke) **99j:58099** 58F07

Mukhopadhyay, Nitis (*with* de Silva, Basil M.) Multi-stage fixed-width confidence intervals in the two-sample problem: the normal case. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 1–20. (Summary) **99c:62229** 62L12

— (*with* Solanky, T. K. S.) Estimation after sequential selection and ranking. (English summary) *Metrika* **45** (1997), *no.* 2, 95–106. (Neeraj Misra) **99c:62055** 62F10 (62F07)

— (*with* Duggan, William T.) Can a two-stage procedure enjoy second-order properties? (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 3, 435–448. (Summary) **99m:62122** 62L12

— (*with* de Silva, Basil M.) Sequential estimation of the mean of an exponential distribution via partial piecewise sampling. (English summary) *Applied statistical science, III*, 215–226, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62116** 62L12

— (*with* Solanky, T. K. S.) On an improved accelerated sequential methodology with applications in selection and ranking. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 250–259, *Narosa, New Delhi*, 1998. (Introduction) **99j:62024** 62F07 (62L10)

— (*with* Aoshima, Makoto) Fixed-width simultaneous confidence intervals for multinormal means in several intraclass correlation models. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 46–63. (Issa Fakhre-Zakeri) **99i:62183** 62L12

— (*with* de Silva, Basil M.) Multistage partial piecewise sampling and its applications. (English summary) *Sequential Anal.* **17** (1998), *no.* 1, 63–90. (Summary) **99e:62135** 62L10

Mukhopadhyay, Parimal Predicting a finite population distribution function under measurement error models. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 213–227. (Summary) **99j:62005** 62D05

Mukhopadhyay, Subir (*with* Ray, Koushik) Conifolds from D-branes. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 247–254. (Summary) **99a:81149** 81T30 (14M25, 32G81)

— (*with* Bhattacharyya, Sandip; Kumar, Alok[2]) String network and U duality. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 4, 754–757. (Summary) **99c:81165** 81T30

Mukminov, F. Kh. On the set of limit functions for solutions of the nonstationary exterior Stokes problem. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1101–1105, 1151; *translation in Differential Equations* **33** (1997), *no.* 8, 1108–1112 (1998). (Jürgen Socolowsky) **99h:35167** 35Q30 (76D07)

— (*with* Bormisov, A. A.; Gudkova, E. S.) On the integrability of hyperbolic systems of the Riccati equation type. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 2, 261–275; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 2, 1418–1430 (1998). (Piotr G. Grinevich) **99c:58065** 58F07 (17B70, 35L70)

Mukohyama, Shinji (*with* Seriu, Masafumi; Kodama, Hideo) Thermodynamics of entanglement in Schwarzschild spacetime. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064001, 11 *pp.* (Summary) **99k:83080** 83C57

— (*with* Israel, Werner) Black holes, brick walls, and the Boulware state. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104005, 10 *pp.* (Summary) **99k:83079** 83C57

— Comments on entanglement entropy. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104023, 9 *pp.* (Summary) **99m:81038** 81P99 (83C57)

Mukouchi, Yasuhito (*with* Sato, Masako; Zheng, Dao) Characteristic sets for unions of regular pattern languages and compactness. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 220–233, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68Q45 (68T05)

— (*with* Terada, Mikiharu; Sato, Masako) Prefix free generating sets of formal languages. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 143–150. (*see* **99i:65003**) 68Q45

— (*with* Yamaue, Ikuyo; Sato, Masako) Inferring families that are generated by a rewriting system. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 159–166. (*see* **99i:65003**) 68Q42 (68T05)

Mukund, Madhavan (*with* Narayan Kumar, K.; Radhakrishnan, Jaikumar; Sohoni, Milind) Robust asynchronous protocols are finite-state. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 188–199, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q10 (68M10, 68Q45)

Mukunda, N. Geometrical methods for physics. *Geometry, fields and cosmology* (*Pune*, 1989), 1–268, *Fund. Theories Phys.*, 88, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:83002**) 53–02 (58–02)

— (*with* Simon, Rajiah) Shape-invariant anisotropic Gaussian Schell-model beams: a complete characterization. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1361–1370. (Summary) **99a:78009** 78A10

— (*with* Simon, Rajiah) Iwasawa decomposition in first-order optics: universal treatment of shape-invariant propagation for coherent and partially coherent beams. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 8, 2146–2155. (Summary) **99e:78014** 78A10

— (*with* Arvind[1]; Simon, Rajiah) Characterizations of classical and nonclassical states of quantized radiation. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 565–583. (K. Wódkiewicz) **99e:81274** 81V80

— Mathematics and the physicist's conception of nature. (English summary) *Current Sci.* **76** (1999), *no.* 5, 634–639. 00A69 (00A30)

Mulansky, Bernd Tensor products of convex cones. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 167–176, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (D. N. Zarnadze) **99a:41051** 41A65 (41A29)

— (*with* Neamtu, Marian) Interpolation and approximation from convex sets. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 82–100. (W. W. Breckner) **99a:41052** 41A65 (41A29)

Mulder, Henry Martyn The majority strategy on graphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 97–105. (Valentin E. Brimkov) **99c:05058** 05C12 (05C75, 90B80)

— (*with* McMorris, F. R.; Roberts, Fred S.) The median procedure on median graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 165–181. (Pranava K. Jha) **99f:05033** 05C12

— (*with* Klavžar, Sandi; Škrekovski, Riste) An Euler-type formula for median graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 255–258. (Summary) **99a:05040** 05C12

— (*with* Imrich, Wilfried; Klavžar, Sandi) Median graphs and triangle-free graphs. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 111–118 (*electronic*). (Summary) **99k:68137** 68R10 (05C12, 05C85, 68Q25)

de Mulder, Tom *see* **De Mulder, Tom**

Muldoon, Mark R. (*with* Broomhead, David S.; Huke, Jeremy P.; Hegger, Rainer) Delay embedding in the presence of dynamical noise. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 2, 175–186. (Dieter Beule) **99d:58158** 58F40 (65U05)

Muldoon, Martin E. (*with* Raza, Asad) Convolution formulae for functions of Rayleigh type. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9327–9330. (Summary) **99k:33008** 33C15

Muldowney, James S. (*with* Li, Michael Y.) Poincaré's stability condition for quasi-periodic orbits. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 4, 367–381. (Jialin Hong) **99k:34094** 34C27 (34D05)

— (*with* McCluskey, C. Connell) Stability implications of Bendixson's criterion. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 931–934 (*electronic*). (Summary) **99g:34093** 34C25 (34D99)

Mulet, J. (*with* Verschoren, Alain) Strong biradicals and sheaves. *Anneaux et modules* (*Colmar*, 1991), 119–135, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (Pascual Jara) **99f:16032** 16S60 (16S20, 16S90)

Mulet, Pep (*with* Chan, Tony F. C.) Iterative methods for total variation image restoration. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 359–381, *Springer, Singapore*, 1997. (*see* **99g:65001**) 94A12 (65F05, 65F10, 65T20)

Mulgrew, Bernard (*with* Hassell Sweatman, Catherine Z. W.; Gibson, Gavin J.) Exact classification with two-layer neural nets in n dimensions. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 19–39. (Summary) **99k:68157** 68T05 (92B20)

Mulholland, L. S. (*with* Huang, Wei Zhang[1]; Sloan, D. M.) Pseudospectral solution of near-singular problems using numerical coordinate transformations based on adaptivity. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1261–1289 (*electronic*). (Summary) **99b:65155** 65N35 (76D30, 76M25)

Muliere, Pietro (*with* Walker, Stephen Graham) A Bayesian non-parametric approach to survival analysis using Polya trees. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 331–340. (Eswar G. Phadia) **99c:62108** 62G05 (62F15, 62N05)

— (*with* Tardella, Luca) Approximating distributions of random functionals of Ferguson-Dirichlet priors. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 283–297. (Summary) **99i:62007** 62A15 (62F15)

— (*with* Walker, Stephen Graham) Extending the family of Bayesian bootstraps and exchangeable urn schemes. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 175–182. (Summary) **99a:62063** 62G09 (62D05)

Mulinacci, Sabrina American options pricing: probabilistic methods. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 137–140. 90A09

Mull, Bruce P. Enumerating the orientable 2-cell imbeddings of complete bipartite graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 2, 77–90. (Arthur T. White) **99k:05084** 05C30 (05C10)

Mullen, Gary L. (*with* Laywine, Charles F.) ★ Discrete mathematics using Latin squares. (English summary) Wiley-Interscience Series in Discrete Mathematics and Optimization. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xviii*+305 *pp.* *ISBN* 0-471-24064-8 (J. Dénes) **99k:05041** 05B15

— (*with* Knopfmacher, Arnold; Ridley, J. N.) Nets and sequences obtained from irreducible polynomials over finite fields. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 3, 265–269. (Harald Niederreiter) **99m:11142** 11T06 (11K38)

— (*with* Liu, Mu Lan; Lu, Pei Zhong) Correlation-immune functions over finite fields. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1273–1276.

(Summary) **99d:94019** 94A55 (94A60)
— *see also* **Finite fields: theory, applications, and algorithms, 99f:11002**
Mullen, Julie S. (*with* Fischer, Paul F.) Filtering techniques for complex geometry fluid flows. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 1, 9–18. (Summary) **99i:76126** 76M25
Müller, Alfred[2] Comparing risks with unbounded distributions. (English summary) *J. Math. Econom.* **30** (1998), *no.* 2, 229–239. (Summary) **99m:90049** 90A46
Müller, B. *see* **Müller, Bernhard**
Müller, Bernd Classification and construction of quantum communication systems. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 1–13. (Summary) **99e:94001** 94A05 (81P99)
Müller, Berndt (*with* Biró, T. S.; Matinyan, S. G.) ★ Chaos and gauge field theory. (English summary) World Scientific Lecture Notes in Physics, 56. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1994. *x*+288 *pp. ISBN* 981-02-2079-0 (Massimo Di Pierro) **99d:81083** 81T13 (58F13, 58F40, 81T25, 81T80)
Müller, Bernhard (*with* Jenny, P.) Rankine-Hugoniot-Riemann solver considering source terms and multidimensional effects. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 575–610. (Summary) **99g:76091** 76M20 (65M99, 80–08, 80A25)
— Low-Mach-number asymptotics of the Navier-Stokes equations. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 97–109. (Summary) **99f:76111** 76N10 (80A20)
gottschlich-Müller, Birgit *see* **Gottschlich-Müller, Birgit**
Müller, C. (*with* Richardt, J.; Karl, F.) Connections between fuzzy theory, simulated annealing, and convex duality. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 3, 307–334. (Roman Słowiński) **99g:90162** 90C70 (68T05, 90C27, 90C29)
Müller, C. H. *see* **Müller, Christine H.**
Müller, Carl Emil Gottfried Dieter Simulated annealing without a cooling schedule. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 9–20. (Summary) **99b:90105** 90C27 (90B30)
Müller, Christine H. Breakdown points of estimators for aspects of linear models. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 137–144, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99g:62095** 62J05 (62F35)
— Optimum robust testing in linear models. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1126–1146. (Wojciech Zieliński) **99i:62059** 62F35 (62J05, 62K05)
— (*with* Pázman, Andrej) Applications of necessary and sufficient conditions for maximin efficient designs. (English summary) *Metrika* **48** (1998), *no.* 1, 1–19. (Weng Kee Wong) **99m:62111** 62K05
Müller, D. *see* **Müller, Dieter[1]**
Müller, Detlef Horst Differentialoperatoren zweiter Ordnung und harmonische Analysis. [Differential operators of second order and harmonic analysis] *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 4, 149–163. (J. S. Joel) **99a:35031** 35H05 (22E30, 35A30, 35S05)
— Functional calculus on Lie groups and wave propagation. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 679–689 (*electronic*). (Leticia Barchini) **99k:22015** 22E30 (35A30, 47A60, 47F05)
Müller, Dieter *see* **Müller, Carl Emil Gottfried Dieter**
Müller, Dieter[1] (*with* Belitsky, A. V.) Next-to-leading order evolution of twist-two conformal operators: the abelian case. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 207–234. (Summary) **99e:81155** 81T15 (81T10)
— (*with* Belitsky, A. V.; Schäfer, Andreas) Implications of $\mathcal{N} = 1$ supersymmetry for QCD conformal operators. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 126–135. (Summary) **99k:81291** 81T60 (81T13, 81V05)
Müller, Dirk (*with* Brückmann, Peter) Birational invariants in the case of prime characteristic. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 413–429. (Reinhold Hübl) **99f:14023** 14F10 (13A35, 14M10)
Müller, Eric Ferdinand Some topics on Frobenius-Lusztig kernels. I, II. (English summary) *J. Algebra* **206** (1998), *no.* 2, 624–658, 659–681. (Mitsuhiro Takeuchi) **99g:16051** 16W30 (17B37)
— (*with* Podleś, Piotr) Introduction to quantum groups. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 4, 511–551. (Tomasz Brzeziński) **99g:46106** 46L89 (16W30, 81R50)
Müller, Frank (*with* Brigger, Patrick; Illgner, Klaus; Unser, Michael) Multiresolution approximation using shifted splines. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2555–2558. 94A11
Müller, Georg (*with* Fischer, B.; Friedrich, Jochen; Kupfer, C.; Vizman, D.) Experimental and numerical analysis of the influence of a rotating magnetic field on convection in Rayleigh-Bénard configurations. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 279–294, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76W05 (76–05, 76E15, 76E25)
Müller, Gerd Finite automorphism groups of cusp singularities. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 79–87. (Vasile Brînzănescu) **99c:14050** 14J17 (11F41, 14J50, 32S25)
— Automorphisms of simplicial complexes and their Stanley-Reisner rings. *Indag. Math. (N.S.)* **8** (1997), *no.* 3, 405–409. (Doru Ştefănescu) **99k:13032** 13F99 (14L17, 55U05)
— (*with* Hauser, Herwig) The Lie algebra of polynomial vector fields and the Jacobian conjecture. (English summary) *Monatsh. Math.* **126** (1998), *no.* 3, 211–213. (Summary) **99g:17045** 17B66 (14E09)
Müller, Gerhard (*with* Stepanov, Vyacheslav Vyacheslavovich) Integrability and level crossing manifolds in a quantum Hamiltonian system. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5720–5726. (Summary) **99f:81062** 81Q50
Müller, H. (*with* Lube, Gert; Otto, Frank-Christian) A non-overlapping domain decomposition method for parabolic initial-boundary value problems. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 359–369. (*see* **99e:65002**) 65M55
Müller, Haiko (*with* Kloks, Ton; Kratsch, Dieter) Asteroidal sets in graphs. *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 229–241, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68112** 68Q25 (05C85, 68R10)
— Recognizing interval digraphs and interval bigraphs in polynomial time. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 189–205. (Douglas B. West) **99b:05135** 05C85 (68Q25, 68R10)
— (*with* Rampon, Jean-Xavier) Partial orders and their convex subsets. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 507–517. (Gerhard Behrendt) **99b:06004** 06A06
— (*with* Broersma, H. J.; Huck, Andreas; Kloks, Ton; Koppius, Otto; Kratsch, Dieter; Tuinstra, Hilde) Degree-preserving forests. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 713–721, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q25)
— (*with* Kloks, Ton; Wong, Chiu-Kwong) Vertex ranking of asteroidal triple-free graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 4, 201–206. (Summary) **99h:05112** 05C85 (68R10)
— (*with* Kloks, Ton; Kratsch, Dieter) Bandwidth of chain graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 313–315. (Summary) **99i:68093** 68R10 (05C85)
— (*with* Bodlaender, Hans L.; Kloks, Ton; Kratsch, Dieter) Treewidth and minimum fill-in on *d*-trapezoid graphs. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 5, 23 *pp.* (*electronic*). (Xiao Tie Deng) **99d:05079** 05C85
— (*with* Bodlaender, Hans L.; Deogun, Jitender S.; Jansen, Klaus; Kloks, Ton; Kratsch, Dieter; Tuza, Zsolt) Rankings of graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 168–181 (*electronic*). (Peter Damaschke) **99b:68143** 68R10 (05C15, 05C78, 05C85)
Müller, Hanns Walter Linear aspects of the Faraday instability. (English summary) *A perspective look at nonlinear media*, 45–60, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99d:76014** 76B15 (76E99)
Müller, Hans-Georg (*with* Wang, Jane-Ling; Capra, William B.) From lifetables to hazard rates: the transformation approach. (English summary) *Biometrika* **84** (1997), *no.* 4, 881–892. (Summary) **99a:62152** 62P10 (62G05)
— (*with* Wang, Jane-Ling; Capra, William B.) Analysis of oldest-old mortality: lifetables revisited. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 126–163. (Jack Cuzick) **99c:62117** 62G05 (62N05, 62P05, 62P10)
— (*with* Chiou, Jeng-Min) Quasi-likelihood regression with unknown link and variance functions. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1376–1387. (Summary) **99j:62091** 62J02
Müller, Heinrich Augustinus (*with* Kohler, Markus) Efficient calculation of subdivision surfaces for visualization. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 165–179, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)
— (*with* Ruprecht, Detlef) A scheme for edge-based adaptive tetrahedron subdivision. (English summary) *Mathematical visualization* (*Berlin*, 1997), 61–70, *Springer, Berlin*, 1998. (*see* **99k:65005**) 52B55
Müller, Ingo (*with* Ruggeri, Tommaso) ★ Rational extended thermodynamics. (English summary) Second edition. With supplementary chapters by H. Struchtrup and Wolf Weiss. Springer Tracts in Natural Philosophy, 37. *Springer-Verlag, New York*, 1998. *xvi*+396 *pp. ISBN* 0-387-98373-2 (Vittorio Romano) **99h:80001** 80–02 (73–02, 73B30, 76–02, 76A02)
— Six lectures on shape memory. (English summary) *Boundaries, interfaces, and transitions* (*Banff, AB*, 1995), 125–161, *CRM Proc. Lecture Notes*, 13, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:73027** 73B30 (73E99, 80A22)
— (*with* Kremer, G. M.) Thermal conductivity and dynamic pressure in extended thermodynamics of chemically reacting mixture of gases. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 3, 309–334. (Summary) **99h:80014** 80A32 (76N15, 85A30)
Müller, Johannes Heinrich Otto Gustav (*with* Hillen, Thomas) Modulation equations and parabolic limits of reaction random-walk systems. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 13, 1207–1226. (Summary) **99d:35193** 35R60 (35L60)
Müller, Jörg (*with* Burgdörfer, Joachim; Qiu, Yanghui) Periodic orbit spectra of simple atoms. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 304–338, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45 (81Q50)
Müller, Jürgen *see* **Müller, Jürgen[4]**
Müller, Jürgen[3] (*with* Luh, Wolfgang; Martirosyan, V. A.) T-universal functions with lacunary power series. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 67–79. (Raphaële Supper) **99f:30055** 30E10 (30B10, 30B60, 41A10, 46E10)
— (*with* Wengenroth, Jochen) Separating singularities of holomorphic functions. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 473–477. (Summary) **99g:30050** 30E10
Müller, Jürgen[4] (*with* Cooperman, Gene; Hiss, Gerhard; Lux, Klaus) The Brauer tree of the principal 19-block of the sporadic simple Thompson group. (English summary) *Experiment. Math.* **6** (1997), *no.* 4, 293–300. (Andrew Woldar) **99b:20026** 20C34 (20C20, 20C40)
— (*with* Latour, Vera; Nickel, Werner) Stationary subdivision for general scaling matrices. *Math. Z.* **227** (1998), *no.* 4, 645–661. (A. Bultheel) **99c:65027** 65D15
Muller, Keith E. (*with* Pasour, Virginia B.) Bias in linear model power and sample size due to estimating variance. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 839–851. (Summary) **99a:62095a** 62J05
— (*with* Pasour, Virginia B.) Erratum: "Bias in linear model power and sample size due to estimating variance". *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1811. (Summary) **99a:62095b** 62J05
— (*with* Glueck, Deborah H.) On the trace of a Wishart. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2137–2141. 62H10
Müller, M. (*with* Mehlhorn, Kurt; Näher, Stefan; Schirra, Stefan; Seel, Michael; Uhrig, Christian; Ziegler, Joachim Rudolf) A computational basis for higher-dimensional computational geometry and applications. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 289–303. (*see* **99b:68003**) 68U05 (52B55)
Muller, M. A. Pseudotopological Riesz spaces. (Afrikaans. English and Afrikaans summaries) *Suid-Afrikaanse Tydskr. Natuurwetenskap Tegnol.* **16** (1997), *no.* 4, 148–149. (Summary) **99a:46009** 46A40
Muller, M. A. E. (*with* van der Merwe, Abraham Johannes; du Plessis, J. L.; van der Merwe, C. A.) A Bayesian solution to the Behrens-Fisher problem using Monte Carlo simulation techniques. (English summary) *South African Statist. J.* **31** (1997), *no.* 2, 299–329. (Summary) **99c:62065** 62F15

Müller, Manfred Wolfgang (*with* Lupaş, Alexandru; Mache, Detlef H.; Maier, Volker) Linear combinations of gammaoperators in L_p-spaces. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 156–168. (Ha Huy Bang) **99g:41019** 41A25 (41A28, 41A36)

Müller, Marlene (*with* Härdle, Wolfgang; Mammen, Enno) Testing parametric versus semiparametric modeling in generalized linear models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1461–1474. (Summary) **99j:62102** 62J12 (62G05)

Müller, Martin[2] (*with* Niehren, Joachim) Ordering constraints over feature trees expressed in second-order monadic logic. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 196–210, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99f:03010** 03B25 (68Q25, 68S05)

— (*with* Niehren, Joachim; Treinen, Ralf) The first-order theory of ordering constraints over feature trees. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 432–443, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68101** 68S05 (03B70, 03D15, 03D35, 68T30)

Müller, Olaf I/O automata and beyond: temporal logic and abstraction in Isabelle. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 331–348, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68Q60 (03B35, 03B45, 03B70, 68Q10, 68Q68, 68T15)

— Does the Quine/Duhem thesis prevent us from defining analyticity? On fallacy in Quine. (English summary) *Erkenntnis* **48** (1998), *no.* 1, 81–99. 03A05

Müller, Peter *see* **Müller, Peter**[2]

Müller, Peter[1] (*with* Fischer, Werner; Hupfer, Thomas; Leschke, Hajo) Existence of the density of states for multi-dimensional continuum Schrödinger operators with Gaussian random potentials. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 133–141. (Nariyuki Minami) **99b:82049** 82B44 (47B80, 47N55)

— (*with* Fischer, Werner; Leschke, Hajo) On the averaged quantum dynamics by white-noise Hamiltonians with and without dissipation. (English summary) *Ann. Physik* (8) **7** (1998), *no.* 2, 59–100. (Serguei E. Tcheremchantsev) **99m:81109** 81S20

— (A_n, S_n) realizations by polynomials—on a question of Fried. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 465–468. (N. Sankaran) **99k:12007** 12F10

Müller, Peter[2] (*with* Ríos Insua, David) Feedforward neural networks for nonparametric regression. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 181–193, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99e:62058** 62G05 (62F15, 62J02, 68T05)

— *see also* **Practical nonparametric and semiparametric Bayesian statistics, 99a:62004**

Müller, Peter C. Stability and optimal control of nonlinear descriptor systems: a survey. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 269–286. (Summary) **99e:93041** 93C30 (49K27, 93D05)

— (*with* Mikhailov, S. A.) Time-suboptimal control design of singularly perturbed systems by reduced order feedback design. (English summary) 2nd IMACS Symposium on Mathematical Modelling (Vienna, 1997). *Math. Comput. Simulation* **46** (1998), *no.* 5-6, 593–600. (*see* **99d:00030**) 93C70 (49N35)

— (*with* Hou, Ming) Causal observability of descriptor systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 158–163. (Heide Glüsing-Lüerßen) **99k:93028** 93B07 (93C30)

— (*with* Hou, Ming) Observer design for descriptor systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 164–169. (Heide Glüsing-Lüerßen) **99k:93029** 93B07 (93C30)

— (*with* Hou, Ming; Pugh, A. C.) Disturbance decoupled functional observers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 382–386. (Summary) **99j:93015** 93B07 (93B25, 93B52)

Muller, R. (*with* Dumitrescu, Constantin A.) To enjoy is a permanent component of mathematics. *Smarandache Notions J.* **9** (1998), *no.* 1-2, 11–26. 11B65

Müller, S. *see* **Müller, Stefan C.**

Müller, Siegfried (*with* Gottschlich-Müller, Birgit) Application of multiscale techniques to hyperbolic conservation laws. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 113–138, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Louise A. Raphael) **99j:65181** 65M99 (35L65)

Müller, Siguna M. S. On strong Lucas pseudoprimes. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 237–249, *Heyn, Klagenfurt*, 1998. (Samuel S. Wagstaff, Jr.) **99k:11008** 11A15 (11B39, 11Y11)

— (*with* Müller, Winfried B.) The security of public key cryptosystems based on integer factorization. (English summary) *Information security and privacy* (*Brisbane*, 1998), 9–23, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94056** 94A60

— A note on strong Dickson pseudoprimes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 3, 247–264. (Stan Gurak) **99j:11008** 11A51 (11Y11)

— Carmichael numbers and Lucas tests. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 193–202, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Lawrence Somer) **99m:11008** 11A51 (11B39, 11Y11)

Müller, Stefan (*with* Struwe, Michael) Global existence of wave maps in $1 + 2$ dimensions with finite energy data. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 245–259. (Caio J. C. Negreiros) **99b:58063** 58E20 (35L70)

Müller, Stefan C. (*with* Freire, Alexandre; Struwe, Michael) Weak convergence of wave maps from $(1 + 2)$-dimensional Minkowski space to Riemannian manifolds. (English summary) *Invent. Math.* **130** (1997), *no.* 3, 589–617. (Caio J. C. Negreiros) **99g:58035** 58E20

— (*with* Dolzmann, Georg; Hungerbühler, Norbert) Non-linear elliptic systems with measure-valued right hand side. *Math. Z.* **226** (1997), *no.* 4, 545–574. (Rolando Magnanini) **99c:35069** 35J65 (35R05)

— (*with* Šverák, Vladimír) Unexpected solutions of first and second order partial differential equations. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 691–702 (*electronic*). (Bruno Scheurer) **99j:35040** 35J50 (35F05, 49L25, 53C23, 73B30, 73V25)

— (*with* Flucher, Martin) Radial symmetry and decay rate of variational ground states in the zero mass case. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 712–719 (*electronic*). (Summary) **99a:35063** 35J60 (35B40)

— (*with* Fonseca, Irene; Pedregal, Pablo) Analysis of concentration and oscillation effects generated by gradients. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 736–756 (*electronic*). (Georg K. Dolzmann) **99e:49013** 49J45 (35B99)

— (*with* Chipot, Michel) Sharp energy estimates for finite element approximations of non-convex problems. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 317–325, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Pekka Neittaanmäki) **99m:65209** 65N30 (49Q10, 73S10, 73V05, 73V25)

— *see also* **Perspective look at nonlinear media, 99d:00025**

Müller, Thomas W. Finite group actions and asymptotic expansion of $e^{P(z)}$. (English summary) *Combinatorica* **17** (1997), *no.* 4, 523–554. (Ja. N. Nuzhin) **99m:05009** 05A16 (20B99)

Müller, Ulrich A. (*with* Pictet, Olivier V.; Dacorogna, Michel M.) Hill, bootstrap and jackknife estimators for heavy tails. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 283–310, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62G05 (62G09)

Müller, Vladimír (*with* Koliha, J. J.; Mbekhta, Mostafa; Poon, Pak Wai) Corrigendum and addendum: "On the axiomatic theory of spectrum. II" [Studia Math. **119** (1996), no. 2, 129–147; MR 97c:47005] by Mbekhta and Müller. (English summary) *Studia Math.* **130** (1998), *no.* 2, 193–198. (Summary) **99d:47003** 47A10 (46H30, 47A05)

— (*with* Zajac, Michal) A quasi-nilpotent operator with reflexive commutant. II. (English summary) *Studia Math.* **132** (1999), *no.* 2, 173–177. (Warren R. Wogen) **99k:47015** 47A15 (47B37, 47C15)

Müller, Volker[2] (*with* Vanstone, Scott A.; Zuccherato, Robert) Discrete logarithm based cryptosystems in quadratic function fields of characteristic 2. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 159–178. (Thomas W. Cusick) **99c:94033** 94A60 (11T71)

— Fast multiplication on elliptic curves over small fields of characteristic two. (English summary) *J. Cryptology* **11** (1998), *no.* 4, 219–234. (Edlyn E. Teske) **99j:11147** 11Y16 (11G07, 94A60)

— (*with* Stein, Andreas; Thiel, Christoph) Computing discrete logarithms in real quadratic congruence function fields of large genus. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 807–822. (Martha Rzedowski-Calderón) **99i:11119** 11Y16 (11R58, 11T71, 68P25, 94A60)

Müller, Werner[1] (*with* Schmidt, Martin U.; Schrader, Robert) Theta functions for infinite period matrices. *Internat. Math. Res. Notices* **1996**, *no.* 12, 565–587. (Ch. Birkenhake (Zbl 872.14038)) **99a:14071** 14K25 (11F27, 14H15)

— Relative zeta functions, relative determinants and scattering theory. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 309–347. (Steven Rosenberg) **99k:58189** 58G26 (35P25, 47A40, 47A55, 58G25)

— The trace class conjecture in the theory of automorphic forms. II. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 2, 315–355. (Werner Hoffmann) **99b:11056** 11F72 (22E40)

Müller, Werner G. (*with* Fedorov, Valerii V.) Another view on optimal design for estimating the point of extremum in quadratic regression. (English summary) *Metrika* **46** (1997), *no.* 2, 147–157. (A. I. Khuri) **99c:62206** 62K05

— (*with* Pázman, Andrej) A new interpretation of design measures. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 239–246, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99g:62112** 62K05

Müller, Winfried B. (*with* Müller, Siguna M. S.) The security of public key cryptosystems based on integer factorization. (English summary) *Information security and privacy* (*Brisbane*, 1998), 9–23, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94056** 94A60

— *see also* **Contributions to general algebra, 99f:00014**

Müller, Wolfdietrich (*with* Schneider, Klaus R.) Feedback stabilization of nonlinear discrete-time systems. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 6, 579–596. (Jacob Hammer) **99m:93088** 93D15

Müller-Groeling, Axel (*with* Frahm, Klaus M.; Guhr, Thomas) Between Poisson and GUE statistics: role of the Breit-Wigner width. (English summary) *Ann. Physics* **270** (1998), *no.* 2, 292–327. (Summary) **99j:82041** 82B41

— (*with* Guhr, Thomas; Weidenmüller, Hans A.) Random-matrix theories in quantum physics: common concepts. (English summary) *Phys. Rep.* **299** (1998), *no.* 4-6, 189–425. (Summary) **99b:82037** 82B41 (81V05, 81V70)

Müller-Gronbach, Thomas Hyperbolic cross designs for approximation of random fields. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 321–344. (Michael L. Stein) **99c:62272** 62M20 (60G60, 62K05, 62M40)

Müller-Hannemann, Matthias (*with* Weihe, Karsten) Improved approximations for minimum cardinality quadrangulations of finite element meshes. (English summary) *Algorithms—ESA '97* (*Graz*), 364–377, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 65N30 (65D15)

— (*with* Möhring, Rolf H.) Complexity and modeling aspects of mesh refinement into quadrilaterals. (English summary) *Algorithms and computation* (*Singapore*, 1997), 263–272, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:65243** 65Y25 (65M50, 65N50, 65Y20)

— (*with* Möhring, Rolf H.; Weihe, Karsten) Mesh refinement via bidirected flows: modeling, complexity, and computational results. (English summary) *J. ACM* **44** (1997), *no.* 3, 395–426. (H. P. Dikshit) **99b:65113** 65M50 (68Q25)

Müller-Hoissen, Folkert Physical aspects of differential calculi on commutative algebras. (English summary) *Quantum groups* (*Karpacz*, 1994), 267–289, *PWN, Warsaw*, 1995. (Axel Schüler) **99j:58020** 58B30 (81R50)

— (*with* Dimakis, Aristophanes) Connes' distance function on one-dimensional lattices. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 907–913. (Francois Vanderseypen) **99d:58023** 58B30

Müller-Kirsten, H. J. W. (*with* Manvelyan, R.; Melikyan, A. O.; Mkrtchyan, R. L.) Light-cone formulation of super D2-brane. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 86–91. (Summary) **99h:81176** 81T30

— (*with* Ohta, Nobuyoshi; Zhou, Jian-Ge) AdS_3/CFT correspondence, Poincaré vacuum state and greybody factors in BTZ black holes. (English summary) *Phys. Lett. B* **445** (1999), *no.* 3-4, 287–295. (Summary) **99m:83129** 83C57 (81T20, 81T40, 83E30)

Müller-Olm, Markus Derivation of characteristic formulae. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q60)

Müllers, Katharina Cascades for dynamical games. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 20 *pp.* (*electronic*). (Summary) **99h:93007** 93A13 (90D25, 93A20)

— (*with* Bonneuil, Noël) Viable populations in a prey-predator system. (English summary) *J. Math. Biol.* **35** (1997), *no.* 3, 261–293. (C. P. Ortlieb) **99e:92024** 92D25 (49J24)

Müller-Stach, Stefan J. Constructing indecomposable motivic cohomology classes on algebraic surfaces. (English summary) *J. Algebraic Geom.* **6** (1997), *no.* 3, 513–543. (From the introduction) **99k:14016** 14C35 (14C25, 14C40, 14D07)

— (*with* del Angel R., Pedro Luis) Motives of uniruled 3-folds. (English summary) *Compositio Math.* **112** (1998), *no.* 1, 1–16. (Luca Barbieri Viale) **99c:14004** 14C15 (14J30)

Müller-Wichards, Dieter ★ Transformationen und Signale. (German. German summary) [Transformations and signals] *B. G. Teubner, Stuttgart*, 1999. 320 *pp. ISBN* 3-519-02742-9 (A. Bultheel) **99m:94013** 94A12 (42-01, 94-01)

Mullick, L. (*with* Bandyopadhyay, Pratul) Quantum gravity, torsion and space-time singularity. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1083–1089. (Kazuo Ghoroku) **99j:83054** 83C75 (83C45)

Mulligan, Kevin Relations—through thick and thin. *Erkenntnis* **48** (1998), *no.* 2-3, 325–353. 03A05 (03B65)

Mullin, Ronald C. (*with* Bennett, Frank E.; Colbourn, Charles J.) Quintessential pairwise balanced designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 15–66. (Jeffrey H. Dinitz) **99i:05026** 05B05

— (*with* Stanton, R. G.) A type of pairwise balanced design. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 95–99. (Summary) **99i:05033** 05B05

— *see also* **Finite fields: theory, applications, and algorithms**, **99f:11002** *and* **Papers in honor of Anne Penfold Street**

Mullin, Tom (*with* Jäckel, Peter) A numerical and experimental study of codimension-2 points in a parametrically excited double pendulum. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3257–3274. (Summary) **99h:70027** 70K28 (70–05)

— (*with* Juel, A.; Ben Hadid, H.; Henry, Daniel) Magnetohydrodynamic convection to molten gallium. (English summary) *J. Fluid Mech.* **378** (1999), 97–118. (Summary) **99j:76137** 76W05 (76–05, 76R05)

Mullineux, Glen (*with* Hall, Richard Andrew) The Zheng-Ball construction without twist constraints. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 3, 165–175. (Summary) **99m:65033** 65D17

— (*with* Hall, Richard Andrew) Continuity between Gregory-like patches. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 3, 197–216. 65D17

Mulone, G. (*with* Salemi, F.; Wang, Wen Di) Permanence of population models with toxicant input and diffusion. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 4, 16–29. (Summary) **99h:92041** 92D40 (92D25)

— (*with* Rionero, Salvatore) The rotating Bénard problem: new stability results for any Prandtl and Taylor numbers. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 6, 347–363. (Adelina Georgescu) **99i:76054** 76E15 (76E30, 76U05)

Mulry, Philip S. Monads in semantics. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997)*, 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q55

— *see also* **Workshop: Formal Foundations of Software Systems**, **99h:68012**

Mulvey, Irene A geometric algorithm to decide the forcing relation on cycles. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 709–717. (Gian-Italo Bischi) **99j:58164** 58F22 (26A18, 39B12)

Mulvey, John M. (*with* Birge, John R.) Stochastic programming. *Mathematical programming for industrial engineers*, 543–574, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C15 (90–02)

Mumbrú, Pere (*with* Brucks, K.; Galeeva, R.; Rockmore, Daniel N.; Tresser, Charles) On the $*$-product in kneading theory. (English summary) *Fund. Math.* **152** (1997), *no.* 3, 189–209. (Summary) **99c:54055** 54H20

— (*with* Alsedà, Lluís; Guaschi, John; Los, Jérôme; Mañosas, Francesc) Canonical representatives for patterns of tree maps. (English summary) *Topology* **36** (1997), *no.* 5, 1123–1153. (Francisco Balibrea) **99f:58062** 58F03 (58F08)

Mumford, David Pattern theory: a unifying perspective. *Fields Medallists' lectures*, 226–261, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (Mauro Piccioni) **99m:68177** 68T10 (68U10)

— *see also* **Tate, John**, (**99b:00010**)

Mumick, Inderpal Singh (*with* Kawaguchi, Akira; Lieuwen, Daniel; Quass, Dallan; Ross, Kenneth Andrew) Concurrency control theory for deferred materialized views. (English summary) *Database theory—ICDT '97 (Delphi)*, 306–320, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68Q10)

Muminov, K. K. Equivalence of surfaces in complex vector spaces with respect to Sp(2, **C**) groups. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 53–57. (Vladislav Goldberg) **99e:53006** 53A05 (53A55)

— (*with* Bekbaev, U. D.) Equivalence and invariant elementary surfaces with respect to the symplectic group. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 26–30. (Boris È. Kunyavskiĭ) **99f:12005** 12H05 (20G20)

— The property $(t\alpha)$ for locally compact connected groups. *Algebra and operator theory (Tashkent, 1997)*, 207–211, *Kluwer Acad. Publ., Dordrecht*, 1998. (Dietrich Helmer) **99h:22005** 22D12

Muminov, M. È. On the spectrum of the nonselfadjoint generalized Friedrichs model. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 48–58. (Alexei V. Rybkin) **99f:47005** 47A10 (47A55)

Muminov, M. S. On the construction of a Brownian motion process with a multidimensional parameter. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 75–84. 60J65 (60G60, 60H05)

Muminov, Z. M. Some boundary value problems for fourth-order equations of parabolic-hyperbolic type in a domain with a noncharacteristic line of change of type. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 84–93. (Nikolai A. Lar′kin) **99f:35140** 35M20 (35M10)

— A boundary value problem for a fourth-order equation of parabolic-hyperbolic type in a domain with a characteristic line of change of type. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 42–48. 35M10

Münch, Guido *see* **Universe at large**, **99e:85001**

Mund, J. No-go theorem for "free" relativistic anyons in $d = 2 + 1$. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 319–328. (Stephen J. Summers) **99e:81132** 81T05 (46L60, 81T10)

Mund, Patrick (*with* Stephan, Ernst P.) Adaptive coupling and fast solution of FEM-BEM equations for parabolic-elliptic interface problems. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 5, 403–423. (Ke Chen) **99a:65127** 65M60 (65F10, 65M15)

— (*with* Stephan, Ernst P.) The preconditioned GMRES method for systems of coupled FEM-BEM equations. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 131–144. (Andrei I. Tolstykh) **99m:65216** 65N30 (65F35, 65N22)

— (*with* Stephan, Ernst P.; Weiße, J.) Two-level methods for the single layer potential in $\mathbf{R}^3$. (English summary) *Computing* **60** (1998), *no.* 3, 243–266. (Summary) **99b:65157** 65N38 (65N55)

Mundaca, Gabriela (*with* Øksendal, Bernt) Optimal stochastic intervention control with application to the exchange rate. (English summary) *J. Math. Econom.* **29** (1998), *no.* 2, 225–243. (Fausto Gozzi) **99f:90017** 90A09 (93E20)

Mundhenk, Martin (*with* Goldsmith, Judy; Allender, Eric) The complexity of policy evaluation for finite-horizon partially-observable Markov decision processes. (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 129–138, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99f:90179** 90C40 (68Q25)

— NP-hard sets have many hard instances. (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 428–437, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99f:68073** 68Q15 (68Q30)

— (*with* Goldsmith, Judy) Complexity issues in Markov decision processes. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 272–280, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q25, 90C40)

— (*with* Littman, Michael L.; Goldsmith, Judy) The computational complexity of probabilistic planning. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 1–36 (*electronic*). (Summary) **99h:68156** 68T20 (68Q15, 68Q25)

Mundici, Daniele (*with* Olivetti, Nicola) Resolution and model building in the infinite-valued calculus of Łukasiewicz. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 335–366. (Henry Africk) **99m:03017** 03B25 (03B35, 03B50, 03D15, 03F20, 03G20, 68Q25)

— Tensor products and the Loomis-Sikorski theorem for MV-algebras. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 2, 227–248. (Summary) **99h:06006** 06D30 (03G20)

— *see also* **Many-valued logics**, **99d:03005**

Mundra, S. M. (*with* Borkar, Vivek S.) Bayesian parameter estimation and adaptive control of Markov processes with time-averaged cost. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 3, 339–358. (George Yin) **99d:93066** 93E10 (62F15, 90C40)

Mundy, Joseph L. Object recognition based on geometry: progress over three decades. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1213–1231. (Henk J. A. M. Heijmans) **99f:68207** 68U10 (68T10)

Munemasa, Akihiro Orthogonal arrays, primitive trinomials, and shift-register sequences. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 3, 252–260. (Shojiro Sakata) **99m:94029** 94A55 (05B15)

— (*with* Bannai, Etsuko) Duality maps of finite abelian groups and their applications to spin models. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 3, 223–233. (Andrew Woldar) **99j:20058** 20K01 (05E30, 82B23)

Munembe, J. S. P. (*with* Maksimov, V. P.) On the question of enclosing solutions of linear functional-differential systems. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 149–156. (Summary) **99e:34089** 34K05 (34A45, 34K10, 65L99)

Múnera, H. A. (*with* Chubykalo, A. E.; Smirnov-Rueda, R.) Is the free electromagnetic field a consequence of Maxwell's equations or a postulate? (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 6, 573–584. (T. Erber) **99k:78008** 78A25

Muneyasu, Mitsuji (*with* Hinamoto, Takao; Yagi, Hideyuki) A realization of 2-D adaptive filters using affine projection algorithm. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1185–1193. (Summary) **99e:93019** 93B15 (94A12)

Munger, P. Beyond Fourier: the wavelet transform. *The Fourier transform in biomedical engineering*, 129–173, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99c:94011**) 94A12 (42C15)

Munier, Alix Approximation algorithms for scheduling trees with general communication delays. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 41–48. (Summary) **99m:68024** 68M20 (90B12)

Munier, Bertrand R. Market uncertainty and belief formation with a finite number of events. *Decision making under risk and uncertainty (Durham, NC, 1990)*, 179–187, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A08 (90A05)

— Fifty years of Maurice Allais' economic writings: seeds for renewal in contemporary economic thought. *Markets, risk and money*, 1–50, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 26, *Kluwer Acad. Publ., Dordrecht*, 1995. (Salim Rashid) **99c:01022** 01A70 (01A60, 90–03)

Munier, Manuel (*with* Canals, G.; Godart, C.; Molli, P.) A criterion to enforce correctness of indirectly cooperating applications. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 279–302. 68Q10

Munir, M. (*with* Saleem, Muhammad) The projective characters of the hyperoctahedral group. *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 81–98. (Sait Halıcıoğlu) **99h:20012** 20C25

fernández Muñiz, José L. *see* **Fernández Muñiz, José L.**

garcía-Muñiz, M. A. *see* **García-Muñiz, M. A.**

Muñiz, M. C. (*with* Bermúdez de Castro, Alfredo) Numerical solution of an electromagnetic problem in the casting of aluminum. (Spanish) *XV Congress on Differential Equa-*

tions and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (*Vigo*, 1997), 905–910, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 78–08 (65N99)

Muniz, Wagner Barbosa (*with* de Campos Velho, Haroldo F.; Ramos, Fernando Manuel) A comparison of some inverse methods for estimating the initial condition of the heat equation. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 145–163. (Summary) **99k:65086** 65M30 (35K05)

Munk, Axel (*with* Brown, Lawrence D.; Hwang, J. T. Gene) An unbiased test for the bioequivalence problem. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2345–2367. (Holger Dette) **99b:62025** 62F04 (62P10)

— (*with* Dette, Holger) A simple goodness-of-fit test for linear models under a random design assumption. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 2, 253–275. (Winfried Stute) **99m:62070** 62G10

— (*with* Dette, Holger) Validation of linear regression models. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 778–800. (Winfried Stute) **99g:62039** 62G05

— (*with* Czado, Claudia) Nonparametric validation of similar distributions and assessment of goodness of fit. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 223–241. (Summary) **99d:62052** 62G10

— (*with* Dette, Holger) Testing heteroscedasticity in nonparametric regression. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 693–708. (Nariaki Sugiura) **99k:62094** 62G10 (62J02)

— (*with* Dette, Holger; Wagner, Thorsten) Estimating the variance in nonparametric regression—what is a reasonable choice? (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 751–764. (Summary) **99f:62052** 62G05

— A note on unbiased testing for the equivalence problem—another Christmas tree. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 4, 401–406. (Summary) **99m:62026** 62F04 (62P10)

Munn, W. D. A note on special involutions. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 2, 284–288. (M. P. Drazin) **99k:16071** 16W10 (20M18, 20M25, 46K05)

— (*with* Crabb, M. J.) On the l^1-algebra of certain monoids. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 1023–1031. (J. W. Baker) **99i:43003** 43A20 (20M05)

González Muñoz, Antonio *see* **González Muñoz, Antonio**

villena Muñoz, Armando R. *see* **Villena Muñoz, Armando R.**

Muñoz, Carlos (*with* Choi, Kiwoon; Kim, Hang Bae) Four-dimensional effective supergravity and soft terms in M theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7521–7528. (Summary) **99k:83115** 83E30 (81T30, 83E50)

sánchez Muñoz, Isabel *see* **Sánchez Muñoz, Isabel**

lópez-Muñoz, J. *see* **López-Muñoz, J.**

Muñoz, Julio (*with* Pedregal, Pablo) On one-dimensional degenerate convex variational problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 1117–1122, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 49K05

ibarrola Muñoz, María del Pilar *see* **Ibarrola Muñoz, María del Pilar**

Muñoz, Rafael (*with* Fernández Manín, G.) Optimality of the spectral discretization of collocation of the Poisson problem with mixed boundary conditions. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 731–736, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N35

— (*with* de Frutos, Javier) Error estimates for Galerkin-type spectral discretizations for a parabolic problem with not very regular initial data. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 749–754, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M60 (65M15)

Muñoz, Roberto Varieties with low-dimensional dual variety. (English summary) *Manuscripta Math.* **94** (1997), *no.* 4, 427–435. (Summary) **99k:14085** 14N05

Muñoz, Vicente Gluing formulae for Donaldson invariants for connected sums along surfaces. (English summary) *Asian J. Math.* **1** (1997), *no.* 4, 785–800. (Wojciech Wieczorek) **99m:57027** 57R57 (57N13, 57R55)

— Ring structure of the Floer cohomology of $\Sigma \times \mathbf{S}^1$. (English summary) *Topology* **38** (1999), *no.* 3, 517–528. (Nikolai N. Saveliev) **99m:57028** 57R57 (55N35, 55N45)

Muñoz, X. (*with* Gómez Martí, José) Asymptotically optimal (Δ, D', s)-digraphs. (English summary) *Ars Combin.* **49** (1998), 97–111. (Summary) **99c:05082** 05C20

Muñoz-Cobo González, José Luis (*with* Ginestar, D.; Vidal, V.; Verdú Martín, Gumersindo; Peña Miralles, Juan) Modal nodal method for the integration of the neutron diffusion equation. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)* (*Vic*, 1995), 15 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70 (82–08, 82C70)

— (*with* Navarro-Esbrí, J.; Verdú Martín, Gumersindo; Ginestar, D.; Bovea, M. D.; Jiménez Olivo, Pedro José; Peña Miralles, Juan) Complex Lyapunov exponents of a system with Hopf bifurcation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 977–982, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C23

Muñoz-Delgado, Francisco-Javier (*with* Ramírez González, Victoriano; Cárdenas-Morales, Daniel) Korovkin's theorems for certain conservative operators. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 117–126, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (D. E. Wulbert) **99g:41036** 41A36

— (*with* Sánchez-Fernández, Rafael) Korovkin-type theorems for convex polygons in $\mathbf{R}^2$ with five or more vertices. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 127–135, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (D. E. Wulbert) **99g:41037** 41A36

— (*with* Cárdenas-Morales, Daniel) Korovkin type results for shape preserving operators. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 303–310, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Alexey L. Lukashov) **99k:41041** 41A36 (41A29)

— (*with* Ramírez González, Victoriano; Cárdenas-Morales, Daniel) Qualitative Korovkin-type results on conservative approximation. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 144–159. (Alexey L. Lukashov) **99f:41032** 41A36 (41A65)

Muñoz Garcia, E. Hölder absolute values are equivalent to classical ones. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1967–1971. (Summary) **99j:12006** 12J10

Muñoz-García, J. (*with* Jiménez-Gamero, M. D.; Muñoz-Reyes, A.) Bootstrapping the sample median. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1979–1990. (Li-Xing Zhu) **99j:62056** 62G09

— (*with* Jiménez-Gamero, M. D.; Muñoz-Reyes, A.; Pino-Mejías, R.) On Efron's Method II with identification of outlier bootstrap samples. (English summary) *Comput. Statist.* **13** (1998), *no.* 3, 301–318. 62G09

— (*with* Jiménez-Gamero, M. D.; Muñoz-Reyes, A.) Bootstrapping statistical functionals. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 229–236. (Summary) **99g:62050** 62G09

Muñoz Gutiérrez, Stalin (*with* Fernández Anaya, Guillermo; Sánchez-Guzmán, R. A.; Mayol Cuevas, Walterio) Simultaneous stabilization using evolutionary strategies. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1417–1435. 93D15

— *see also* **Workshop: Pattern Recognition, 99k:68016**

Muñoz Hurtado, César Augusto A left-linear variant of $\lambda\sigma$. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 224–239, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (03B40)

Muñoz-Lecanda, Miguel C. (*with* Echeverría-Enríquez, Arturo; Román-Roy, Narciso) Multivector fields and connections: setting Lagrangian equations in field theories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4578–4603. (Manuel de León) **99i:58059** 58F05 (53C05)

Muñoz-Márquez, M. (*with* Carrizosa, Emilio; Puerto Albandoz, Justo) Location and shape of a rectangular facility in $\mathbf{R}^n$. Convexity properties. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 277–290. (Zeng Kun Xu) **99i:90058** 90B85 (52A41)

— (*with* Carrizosa, Emilio; Puerto Albandoz, Justo) A note on the optimal positioning of service units. (English summary) *Oper. Res.* **46** (1998), *no.* 1, 155–156. 90B05 (90C90)

Muñoz Masqué, Jaime (*with* Monterde, J.; Sánchez-Valenzuela, O. A.) Geometric properties of involutive distributions on graded manifolds. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 217–246. (Frans Cantrijn) **99c:58007** 58A50 (58A30)

— (*with* Valdés, A.) A report on functorial connections and differential invariants. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 549–567. (Vadim V. Shurygin) **99b:53039** 53C10 (53A55)

— (*with* Gadea, Pedro M.; Montesinos Amilibia, Angel) La classe $\mathcal{X}_2 \oplus \mathcal{X}_4$ d'Abbena et Garbiero des structures homogènes kählériennes. (English and French summaries) [The Abbena-Garbiero class $\mathcal{X}_2 \oplus \mathcal{X}_4$ of Kähler homogeneous structures] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 383–386. (Sergio Console) **99h:53068** 53C30 (53C55)

— (*with* Marcelo Vega, Agustín) Descent invariant and the S_n condition. *Comm. Algebra* **26** (1998), *no.* 7, 2139–2145. (R. A. Wiegand) **99h:13009** 13C14 (13C15, 13H10)

— (*with* Pozo Coronado, L. M.) Parameter-invariant second-order variational problems in one variable. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6225–6242. (Víctor Tapia) **99f:58057** 58E30

— (*with* Castrillón López, Marco) Structure symplectique généralisée sur le fibré des connexions. (English and French summaries) [Generalized symplectic structure on the bundle of connections] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 41–44. (Luis Hernández Encinas) **99m:58036** 58D19 (53C05, 58F05)

Muñoz-Perez, J. (*with* Fernandez-Ponce, J. M.; Kochar, Subhash) Partial orderings of distributions based on right-spread functions. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 221–228. (Moshe Shaked) **99d:60015** 60E15 (60K10, 62N05)

Muñoz Porras, José María (*with* Bartocci, Claudio; Bruzzo, Ugo; Hernández Ruipérez, Daniel) Mirror symmetry on $K3$ surfaces via Fourier-Mukai transform. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 79–93. (Alexander E. Polishchuk) **99f:14046** 14J28 (14J27, 32G05, 32J81)

— (*with* Mateos Guilarte, Juan; de la Torre Mayado, Marina) Elliptic theta functions and the fractional quantum Hall effect. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 297–332. (Martin Schlichenmaier) **99k:14049** 14H42 (14D20, 14H60, 81V70, 82D20)

Muñoz Quevedo, José M. A modal temporal predicate calculus. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **2** (1995), *no.* 2, 121–140. (Summary) **99e:03018** 03B45

Muñoz-Reyes, A. (*with* Jiménez-Gamero, M. D.; Muñoz-García, J.) Bootstrapping the sample median. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1979–1990. (Li-Xing Zhu) **99j:62056** 62G09

— (*with* Jiménez-Gamero, M. D.; Muñoz-García, J.; Pino-Mejías, R.) On Efron's Method II with identification of outlier bootstrap samples. (English summary) *Comput. Statist.* **13** (1998), *no.* 3, 301–318. 62G09

— (*with* Jiménez-Gamero, M. D.; Muñoz-García, J.) Bootstrapping statistical functionals. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 229–236. (Summary) **99g:62050** 62G09

Muñoz Rivera, Jaime E. (*with* Barreto, Rioco Kamei) Uniform rates of decay in nonlinear viscoelasticity for polynomial decaying kernels. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 341–357. (Summary) **99i:35160** 35Q72

— (*with* Barreto, Rioco Kamei) Decay rates of solutions to thermoviscoelastic plates with memory. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 3, 263–283. (Song Jiang) **99j:73012** 73B30 (73F15, 73K10)

— (*with* Fatori, Luci Harue) Regularizing properties and propagations of singularities for thermoelastic plates. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 9, 797–821. (Song Jiang) **99f:73013** 73B30 (35B40, 35Q72, 73K10)

— (*with* Barreto, Rioco Kamei) Existence and exponential decay in nonlinear thermoelasticity. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 149–162. (Yoshihiro Shibata) **99e:73018** 73B30 (35Q72, 73C50)

— (*with* Jiang, Song; Racke, Reinhard) Asymptotic stability and global existence in thermoelasticity with symmetry. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 259–275. (Reinhard Racke) **99d:35163** 35Q72 (35B40, 73B30)

— (*with* Racke, Reinhard) Multidimensional contact problems in thermoelasticity. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1307–1337 (*electronic*). (Song Jiang) **99f:73015** 73B30 (35Q72, 73C50, 73T05)

Muñoz Sola, R. *see* **Muñoz, Rafael**

Muñoz Tapia, R. (*with* del Águila, F.; Culatti, A.; Pérez-Victoria, M.) Techniques for one-loop calculations in constrained differential renormalization. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 561–585. (Summary) **99h:81136** 81T15

Munro, Neil (*with* Söylemez, M. T.) A note on pole assignment in uncertain systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 487–497. 93B55 (93C41)

— (*with* Kontogiannis, E.) Robust stability conditions for MIMO systems with parametric uncertainty. *Symbolic methods in control system analysis and design*, 169–200, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93D09 (93C41)

— (*with* Söylemez, M. T.) Pole assignment for uncertain systems. *Symbolic methods in control system analysis and design*, 251–272, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B55 (93C41)

— *see also* **Symbolic methods in control system analysis and design, 99h:93005**

Münster, Gernot (*with* Hoppe, Peter) The interface tension of the three-dimensional Ising model in two-loop order. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 265–270. (Summary) **99a:82038** 82B24 (82B26, 82B27)

Munteanu, Gheorghe (*with* Balan, Vladimir; Stavrinos, P. C.) Generalized gauge Asanov equations on $\mathrm{Osc}^{(2)}(M)$ bundle. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1995)*, 21–32, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (V. Oproiu) **99f:53024** 53C07 (53C05, 53C25, 53C60)

— Higher order gauge-invariant Lagrangians. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 2, 101–115. (Mihai Anastasiei) **99k:53029** 53B40 (58F35)

— Complex Lagrange spaces. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 61–71. (Tadashi Aikou) **99j:53093** 53C60 (53C56)

Munthe-Kaas, Hans (*with* Zanna, Antonella) Numerical integration of differential equations on homogeneous manifolds. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 305–315, *Springer, Berlin*, 1997. (Summary) **99i:65082** 65L99 (22E99, 34A45, 34C40, 58F25, 65M99)

— (*with* Zanna, Antonella) Iterated commutators, Lie's reduction method and ordinary differential equations on matrix Lie groups. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 434–441, *Springer, Berlin*, 1997. (Summary) **99k:34023** 34A45 (22E15, 34A26, 65L05)

— Runge-Kutta methods on Lie groups. (English summary) *BIT* **38** (1998), *no.* 1, 92–111. (G. W. Hedstrom) **99f:65117** 65L06

— High order Runge-Kutta methods on manifolds. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 115–127. (Summary) **99i:65075** 65L06 (34A26, 34A45, 34C40)

Munuera Gómez, Carlos (*with* Ramirez, Domingo) The second and third generalized Hamming weights of Hermitian codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 709–712. (Summary) **99j:94069** 94B05

Munz, Claus-Dieter (*with* Klein, Rupert; Geratz, Karl Josef; Terhoeven, Peter; Roller, Sabine; Denet, Bruno; Searby, Geoffrey) Numerical techniques for multi-scale weakly compressible reactive flows. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 242–259, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99j:76091** 76M25 (76N10, 80–08, 80A25)

— (*with* Göz, Manfred F.) Approximate Riemann solvers for fluid flow with material interfaces. (English summary) *Numerical methods for wave propagation (Manchester, 1995)*, 211–235, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76106** 76M25 (65M60)

— (*with* Schneider, Rudolf[2]; Sonnendrücker, Eric; Voss, Ursula) Maxwell's equations when the charge conservation is not satisfied. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 431–436. (Summary) **99k:35170** 35Q60 (78A25)

— (*with* Schneider, Rudolf[2]; Sonnendrücker, Eric; Stein, E.; Voss, Ursula; Westermann, Thomas) A finite-volume particle-in-cell method for the numerical treatment of Maxwell-Lorentz equations on boundary-fitted meshes. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 4, 461–487. (Summary) **99i:78005** 78–08

Mur, V. D. (*with* Belinskiĭ, V. A.; Karnakov, B. M.; Narozhnyĭ, N. B.) Does the Unruh effect exist? *JETP Lett.* **65** (1997), *no.* 12, 902–908; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **65** (1997), *no.* 12, 861–866 (*Russian*). (Guido Cognola) **99d:81097** 81T20 (83C47)

— (*with* Belinskiĭ, V. A.; Karnakov, B. M.; Narozhnyĭ, N. B.) Reply to: "Comment on the paper: 'Does the Unruh effect exist?'" [Pis'ma Zh. Èksper. Teoret. Fiz. **67** (1998), no. 1, 86; translated as JETP Lett. **67** (1998), no. 1, 95; MR 99d:81098] by A. A. Grib. *JETP Lett.* **67** (1998), *no.* 1, 96–97; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **67** (1998), *no.* 1, 87–88 (*Russian. Russian summary*). (Guido Cognola) **99d:81099** 81T20 (83C47)

— *see also* **Grib, A. A., 99d:81098**

Murabayashi, Naoki (*with* Hibino, Takeshi) Modular equations of hyperelliptic $X_0(N)$ and an application. *Acta Arith.* **82** (1997), *no.* 3, 279–291. (Chandrashekhar Khare) **99a:11076** 11G18 (11F25)

Murad, Ghassan (*with* Gu, Da-Wei; Postlethwaite, Ian) On the design of robust internal model-based controllers. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 513–537. 93D21 (93B50)

Muradyan, A. G. (*with* Muradyan, M. G.) Bounded solutions of a class of Riccati matrix equations. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 75–83; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 69–76. (Summary) **99f:34048** 34C11 (34A34)

Muradyan, M. G. (*with* Muradyan, A. G.) Bounded solutions of a class of Riccati matrix equations. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 75–83; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 69–76. (Summary) **99f:34048** 34C11 (34A34)

Murai, Masafumi Blocks of factor groups and heights of characters. *Osaka J. Math.* **35** (1998), *no.* 4, 835–854. (Jian Bei An) **99k:20022** 20C20

Murakami, Atsushi (*with* Yamasaki, Maretsugu) Nonlinear Kuramochi boundaries of infinite networks. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 85–93. (*see* **99a:00036**) 31C20

Murakami, Hitoshi Calculation of the Casson-Walker-Lescop invariant from chord diagrams. *Knot theory (Warsaw, 1995)*, 243–254, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (*see* **99c:57002**) 57N10 (57M25)

Murakami, Jun Representation of mapping class groups via the universal perturbative invariant. (English summary) *KNOTS '96 (Tokyo)*, 573–586, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:57020** 57N10 (57N05)

— (*with* Le Tu Quoc Thang) Parallel version of the universal Vassiliev-Kontsevich invariant. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 271–291. (Alexander Balinsky) **99b:57014** 57M25 (17B37)

— (*with* Le Tu Quoc Thang; Ohtsuki, Tomotada) On a universal perturbative invariant of 3-manifolds. *Topology* **37** (1998), *no.* 3, 539–574. (Zhenghan Wang) **99d:57004** 57M25

Murakami, Koichi (*with* Ezawa, Kiyoshi; Matsuo, Yutaka) Matrix model for Dirichlet open string. (English summary) *Phys. Lett. B* **439** (1998), *no.* 1-2, 29–36. (Summary) **99g:81159** 81T30

— (*with* Ezawa, Kiyoshi; Matsuo, Yutaka) Matrix regularization of an open supermembrane: towards M-theory five-branes via open supermembranes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5118–5133. (Summary) **99m:81184** 81T30 (83E30)

Murakami, Kouichi Asymptotic constancy for systems of delay differential equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4595–4606. (Pyotr M. Simonov) **99f:34106** 34K15 (34K25)

— Hopf bifurcation for delayed equation of Liénard type. (Japanese) Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 130–141. (*see* **99f:00019**) 34K15 (34C23)

Murakami, Masaki A domain for concurrent semantics of mobile processes. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 82–95. (*see* **99a:68004**) 68Q10 (68Q55)

— (*with* Oda, Yukihiro) Multi-action π-calculus. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 111–124. (Summary) **99b:68072** 68Q10 (68Q55)

Murakami, Satoru (*with* Hino, Yoshiyuki) Stabilities in linear integrodifferential equations. *Finite- and infinite-dimensional dynamics (Kyoto, 1988)*, 31–46, *Lecture Notes Numer. Appl. Anal.*, 15, *Kinokuniya, Tokyo*, 1996. (V. B. Smirnova) **99b:45005** 45J05 (34K20, 45M10)

— (*with* Elaydi, Saber N.) Asymptotic stability versus exponential stability in linear Volterra difference equations of convolution type. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 401–410. (Summary) **99e:39058** 39A11 (34K20)

— Representation of solutions of linear functional difference equations in phase space. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1153–1164. (A. Reinfelds) **99h:39009** 39A10

— (*with* Naito, Toshiki; Shin, Jong Son) On solution semigroups of general functional-differential equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4565–4576. (Ioan I. Vrabie) **99b:34129** 34K30 (47D06, 47N20)

— (*with* Naito, Toshiki; Shin, Jong Son) The generator of the solution semigroup for the general linear functional-differential equation. (English summary) *Bull. Univ. Electro-Comm.* **11** (1998), *no.* 1, 29–38. (Shu Chun Gao) **99m:34184** 34K30 (47D06)

— (*with* Hino, Yoshiyuki) Almost periodic processes and the existence of almost periodic solutions. *Electron. J. Qual. Theory Differ. Equ.* **1998**, *no.* 3, 19 *pp.* (*electronic*). (George Seifert) **99f:34067** 34C27 (35B15, 54H20)

— (*with* Hino, Yoshiyuki) A generalization of processes and stabilities in abstract functional-differential equations. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 28–48. (*see* **99f:00019**) 34Kxx (34C35, 45K05, 54H20)

Murakami, Shingo Mr. Toyosaburo Taniguchi and the Taniguchi foundation. *Topology and Teichmüller spaces (Katinkulta, 1995)*, 1–4, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00051**) 01A70

Murakami, Shuichi (*with* Göhmann, Frank) Algebraic and analytic properties of the one-dimensional Hubbard model. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5269–5287. (Summary) **99b:82026** 82B23 (81U40)

— New integrable extension of the Hubbard chain with variable range hopping. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6367–6384. (Andrey V. Tsiganov) **99f:82023** 82B23 (82B20)

— (*with* Göhmann, Frank) Fermionic representations of integrable lattice systems. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7729–7749. (Andrey V. Tsiganov) **99h:82024** 82B23 (82B20)

— (*with* Göhmann, Frank) Algebraic solution of the Hubbard model on the infinite interval. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 637–677. (Deng Feng Wang) **99a:82035** 82B23 (81U40)

Murakami, Shuta (*with* Hayashi, Kenichiro; Otsubo, Akifumi; Maeda, Mikio) Realization of nonlinear and linear PID controls using simplified indirect fuzzy inference method. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 409–414. 93C99 (93A99)

Murakami, Tomoko (*with* Furukawa, Koichi; Ueno, Ken; Ozaki, Tomonobu; Shimazu, Keiko) On a sufficient condition for the existence of most specific hypothesis in Progol. (English summary) *Inductive logic programming (Prague, 1997)*, 157–164, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)

Murakami, Youichi (*with* Hamano, Yasuhiro) A numerical study of selection rules for unstable modes that are due to model equations. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 16–26. (*see* **99f:76003**) 76E99 (76M25)

Murakawa, Yoshihiko (*with* Tojo, Satoshi; Kunifuji, Susumu) Imperfect information flow of agents communication in arrow logic. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1266–1281 (*electronic*). (*see* **99g:68006**) 68T27 (03B45, 03B70)

Muraleedharan Nair, K. R. (*with* Jani, P. N.; Shanubhogue, Ashok) A test for gamma DFR alternative. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2535–2546. 62N05 (62F03)

— (*with* Rajesh, G.) Residual entropy function in discrete time. (English summary) *Far East J. Theor. Stat.* **2** (1998), *no.* 1, 1–10. (Summary) **99j:62143** 62N05 (62E10)

Muraleetharan, M. (*with* Burton, M. H.; Gutiérrez García, J.) Generalised filters. I. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 275–284. 54A40 (18A22, 54A20, 54E15)

Murali, T. M. (*with* Agarwal, Pankaj K.; Vitter, Jeffrey Scott) Constructing binary space partitions for orthogonal rectangles in practice. (English summary) *Algorithms—ESA '98 (Venice)*, 211–222, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68214** 68U05

— (*with* Agarwal, Pankaj K.; Arge, Lars; Varadarajan, Kasturi R.; Vitter, Jeffrey Scott) I/O-efficient algorithms for contour-line extraction and planar graph blocking (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 117–126, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68P20)

Muralidharan, K. *see* **Muraleedharan Nair, K. R.**

Muramatsu, Eiichi (*with* Ikeda, Masao; Hoshii, Naoki) An interpolated controller for stabilization of a plant with variable operating conditions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 76–81. (Summary) **99j:93084** 93D15

Muramatsu, Hisanobu (*with* Fukuma, Seiji) L_p estimates based on Besov norms for maximal functions of solutions to Schrödinger equations. (Japanese) Spectral-scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1047 (1998), 1–11. (*see* **99i:00030**) 35Q55 (35B45)

Muramatsu, Jun (*with* Kanaya, Fumio) Almost-sure variable-length source coding theorems for general sources. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 337–342. (Summary) **99k:94026** 94A29

Muramatsu, Masakazu Affine scaling algorithm fails for semidefinite programming. (English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 128–137. (Shinji Mizuno) **99d:90117** 90C30 (65K05)

— Affine scaling algorithm fails for semidefinite programming. (English summary) *Math. Programming* **83** (1998), *no.* 3, *Ser. A*, 393–406. (Jos F. Sturm) **99k:90159** 90C30 (90C08, 90C25)

Muramatsu, Tatsuya (*with* Iida, Masato; Ninomiya, Hirokazu; Yanagida, Eiji) Diffusion-induced extinction of a superior species in a competition system. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 233–252. (Hal Leslie Smith) **99i:92021** 92D25 (34C99, 34D05, 35Q80)

Muranov, Yu. V. The splitting problem. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 123–146. (A. A. Ranicki) **99e:57047** 57R67 (19J25)

— (*with* Cavicchioli, Alberto; Repovš, Dušan D.) Spectral sequences in K-theory for a twisted quadratic extension. (English summary) *Yokohama Math. J.* **46** (1998), *no.* 1, 1–13. (A. A. Ranicki) **99k:19003** 19J25 (57R67)

Murao, Hirokazu (*with* Fujise, Tetsuro) Parallel algorithms for factoring polynomials in one variable. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 1–6. (*see* **99h:00034**) 65H05 (13P10, 65Y05, 68Q40)

Muraoka, Mitsuo (*with* Midorikawa, Shoichi[2]; Tomoda, Toshiaki; Horibata, Takatoshi) Recurrence relations for counting the number of permutations with forbidden successive numbers. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 9, 2551–2562. 05A05 (68R05)

Murărescu, Gheorghe Sur les connexions de Finsler projectives. (English and French summaries) [On projective Finsler connections] *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1995)*, 57–60, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (*see* **99e:53001**) 53B40

— (*with* Stavre, Petre) Sur les connexions Finsler-projectives. III. (English summary) [Finsler-projective connections. III] *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 99–103. (Aurel Bejancu) **99m:53035** 53B40

Murasugi, Kunio (*with* Kurpita, B. I.) On the Tutte polynomial. (English summary) *KNOTS '96 (Tokyo)*, 173–183, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57004** 57M15

— (*with* Przytycki, Józef H.) Index of graphs and non-amphicheirality of alternating knots. *Progress in knot theory and related topics*, 20–28, *Travaux en Cours*, 56, *Hermann, Paris*, 1997. (Torsten Asselmeyer) **99g:57011** 57M25 (57M15)

— (*with* Kurpita, B. I.) Knots and graphs. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 623–643. (Kouki Taniyama) **99k:57003** 57M15 (05C10, 57M25)

— (*with* Kurpita, B. I.) A graphical approach to the Melvin-Morton conjecture. I. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 297–316. (Mark R. Woodard) **99d:57003** 57M25

Murat, François (*with* Dall'Aglio, Andrea) A corrector result for H-converging parabolic problems with time-dependent coefficients. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 329–373 (1998). (Sergei A. Vakulenko) **99m:35023** 35B27 (35K20)

— (*with* Ferone, Vincenzo) Quasilinear problems having quadratic growth in the gradient: an existence result when the source term is small. (English and French summaries) *Équations aux dérivées partielles et applications*, 497–515, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99h:35046** 35J60

— Renormalized solutions of nonlinear elliptic equations with measure data. (French summary) *Journées "Équations aux Dérivées Partielles" (Saint-Jean-de-Monts, 1998)*, *Exp. No. IX*, 4 *pp.*, *Univ. Nantes, Nantes*, 1998. (*see* **99d:35002**) 35J65 (35R05)

— (*with* Mokrane, Abdelhafid) Proving the Lewy-Stampacchia's inequality by penalization. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 315–334. (Jianfu Yang) **99k:35071** 35J85 (49J40)

— (*with* Dal Maso, Gianni) Almost everywhere convergence of gradients of solutions to nonlinear elliptic systems. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 405–412. (Rolando Magnanini) **99d:35046** 35J60 (35B40)

— (*with* Mokrane, Abdelhafid) A proof of the Lewy-Stampacchia's inequality by a penalization method. (English summary) *Potential Anal.* **9** (1998), *no.* 2, 105–142. (Gary M. Lieberman) **99k:35070** 35J85 (35B40, 49J40)

Murat, Malgorzata (*with* Szynal, Dominik) Non-zero inflated modified power series distributions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 3047–3064. (Summary) **99j:62013** 62E15

Murata, Leo On characters of order p (mod p^2). *Acta Arith.* **87** (1999), *no.* 3, 245–253. (R. C. Baker) **99m:11093** 11L05 (11L40)

Murata, Minoru (*with* Ishige, Kazuhiro) Parabolic equations whose nonnegative solutions in a cylinder are determined only by their initial values. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 1–7. (*see* **99a:00036**) 35K55

— (*with* Ishige, Kazuhiro) An intrinsic metric approach to uniqueness of the positive Cauchy problem for parabolic equations. *Math. Z.* **227** (1998), *no.* 2, 313–335. (W. Watzlawek) **99c:35088** 35K15 (35B05)

— Structure of positive solutions to Schrödinger equations [translation of Sūgaku **47** (1995), no. 4, 360–376; MR 97f:35033]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 1, 101–121. (*see* **99a:00057**) 35J10 (31C12, 35B05, 81Q05)

Murata, Tamotsu Ein Vergleich zwischen japanischer und europäischer Mathematik im 17. und 18. Jahrhundert. [A comparison between Japanese and European mathematics in the 17th and 18th century] Natur, Mathematik und Geschichte. *Acta Hist. Leopold. No.* 27 (1997), 215–222. (Andrea Bréard) **99c:01006** 01A27 (01A45, 01A50)

— The philosophical side of Cantor's set theory—from the recollections of the late Professor Torataro Shimomura. (Japanese) Study of the history of mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1019 (1997), 1–22. (*see* **99d:01002**) 03A05 (01A55, 01A60, 04–03)

Muratbekov, M. B. (*with* Akzhigitov, E. A.) Smoothness of solutions of degenerate elliptic equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 3–11. (Nguyễn Minh Trí) **99g:35049** 35J70 (35B65)

— Separability theorems and spectral properties of a class of differential operators with nonregular coefficients. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 51–55. (Nikolai Bozhinov) **99g:47114** 47F05 (35M10, 35P05)

Muratore-Ginanneschi, Paolo On the mass transport by a Burgers velocity field. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 341–352. (Alp O. Eden) **99e:76043** 76D99 (35Q53, 76D35, 85A30)

— Remark on the relation between passive scalars and diffusion backward in time. (English summary) *Phys. Lett. A* **242** (1998), *no.* 1-2, 13–18. (Summary) **99a:81083** 81S20

Muratori, B. (*with* Dolan, Patrick) Gravitational potentials and the existence of gravitational Green's tensors. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 29, 2347–2353. (Summary) **99j:83020** 83C20

Muratov, C. B. Traveling wave solutions in the Burridge-Knopoff model. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 3847–3857. (Summary) **99m:92004** 92C05 (35Q80)

Muravei, Leonid A. (*with* Filinovskii, Aleksei V.) Stabilization of solutions of the wave equation in domains with a perturbed star-shaped boundary. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 452–454. (A. V. Perzhan) **99f:35116** 35L05 (35B40)

— (*with* Filinovskii, Aleksei V.) Wave equation and Helmholtz equation in domains with perturbed star-shaped boundary. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 503–520 (1998). (D. G. Natroshvili) **99c:35132** 35L05 (35B40, 35J05)

— A boundary control problem for elliptic equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 7–13, 52. (Summary) **99h:49055** 49Q10 (35J99, 49J20)

Murawski, Roman (*with* Bedürftig, Thomas) Die Entwicklung der Symbolik in der Logik und ihr philosophischer Hintergrund. (German summary) [The development of symbolism in logic and its philosophical background] *Math. Semesterber.* **42** (1995), *no.* 1, 1–31. (Ignacio Angelelli) **99k:03001** 03–03 (00A35, 01A05)

— Some remarks on Hilbert's program. (Polish. English summary) *Hilbert's Problems (Polish) (Międzyzdroje, 1993)*, 255–262, *Polsk. Akad. Nauk, Warsaw*, 1997. (Summary) **99g:01028** 01A60 (03–03, 03F03)

— Undefinability of truth. The problem of priority: Tarski vs Gödel. (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 3, 153–160. (John W. Dawson, Jr.) **99k:01038** 01A60 (03–03, 03A05)

Murayama, Hitoshi (*with* Csáki, Csaba) Discrete anomaly matching. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 114–162. (Summary) **99c:81222** 81T50 (81T60)

— (*with* Csáki, Csaba) Instantons in partially broken gauge groups. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 498–526. (Summary) **99i:81227** 81T60 (81R40, 81T13)

— (*with* Csáki, Csaba) New confining $N = 1$ supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065001, 16 *pp.* (Summary) **99k:81299** 81T60 (81T13)

Murayama, Tomoaki On an identity of theta functions obtained from weight enumerators of linear codes. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 6, 98–100. (Rainer Schulze-Pillot) **99k:11067** 11F27 (94B05)

Muraz, Gilbert L. Almost periodicity and ergodicity. (English summary) *Functional analysis and global analysis (Quezon City, 1996)*, 194–205, *Springer, Singapore*, 1997. (László Székelyhidi) **99k:43006** 43A60 (46E99, 46H25, 46J99, 47A35)

— Multiplicateurs compacts. (English and French summaries) [Compact multipliers] *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 601–612. (Krishnan Parthasarathy) **99d:43004** 43A22 (43A60)

— (*with* Hamza, Alaa E.) Spectral criteria of abstract functions; integral and difference problems. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 171–184. (A. G. Baskakov) **99j:43004** 43A60 (46E40)

— (*with* Bernard, Alain) Locally constant almost everywhere Fourier transform. *Function spaces (Edwardsville, IL, 1998)*, 65–68, *Contemp. Math.*, 232, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99k:46003**) 42A16 (46E50)

ó Murchadha, Niall *see* **Ó Murchadha, Niall**

ó Murchú, P. *see* **Ó Murchú, P.**

Murcia, Sônia Regina Dal-Ri (*with* de Oliveira, Antonio Marmo) One-dimensional exact discretization methodology and application to boundary value problems. (Portuguese. Portuguese summary) *Rev. Mat. Estatist.* **15** (1997), 179–193. 65D07 (65M70)

Murciano, M. G. Congruences associated with the kernel and the trace operators for primitive regular semigroups. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 3, 319–336. (R. B. McFadden) **99i:20085** 20M17

Murdoch, A. I. (*with* Bedeaux, D.) A microscopic perspective on the physical foundations of continuum mechanics. II. A projection operator approach to the separation of reversible and irreversible contributions to macroscopic behaviour. (English summary)

Internat. J. Engrg. Sci. **35** (1997), *no.* 10-11, 921–949. (Summary) **99a:73003** 73A05 (73B30, 73V30, 82C31)

Murdoch, D. J. (*with* Green, Peter J.) Exact sampling from a continuous state space. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 483–502. 65C20 (60J27, 62F15)

Murdoch, William W. (*with* Briggs, Cheryl J.; Nisbet, Roger M.) Delayed feedback and multiple attractors in a host-parasitoid system. (English summary) *J. Math. Biol.* **38** (1999), *no.* 4, 317–345. 92D25

Murdock, James Shadowing in perturbation theory. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 161–179. (Summary) **99a:34133** 34C29 (34A45, 34E10)

— Asymptotic unfoldings of dynamical systems by normalizing beyond the normal form. (English summary) *J. Differential Equations* **143** (1998), *no.* 1, 151–190. (Ernest Fontich) **99c:58142** 58F36 (34C23)

Murenzi, Romain (*with* Handy, Carlos R.) On the equivalence of moment quantization and continuous wavelet transform analysis. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9897–9924. (Summary) **99k:81158** 81S99 (42C15)

Mureşan, Anton First-order equilibria for an abstract economy. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 2, 191–196. 90A14

Mureşan, Cornelia (*with* Mureşan, Marian) On the solutions of quasi-linear inclusions of evolution. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 153–171. (Giovanni Colombo) **99c:34138** 34G20 (34A60)

Mureşan, Marian (*with* Mureşan, Cornelia) On the solutions of quasi-linear inclusions of evolution. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 153–171. (Giovanni Colombo) **99c:34138** 34G20 (34A60)

Mureşan, Viorica (*with* Trif, Damian) Newton's method for nonlinear differential equations with linear deviating argument. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 89–95. (Introduction) **99f:65105** 65L05 (34K05)

— ★ Ecuaţii diferenţiale cu modificarea afină a argumentului. (Romanian) [Differential equations with affine modification of the argument] *Transilvania Press, Cluj-Napoca*, 1997. 222 *pp. ISBN* 973-98180-1-2 (Iuliu Dan Coroian) **99m:34164** 34K15 (34K10, 47H15, 47N20)

Muri, Florence (*with* Chauveau, Didier; Cellier, Dominique) Convergence assessment in latent variable models: DNA applications. *Discretization and MCMC convergence assessment*, 127–146, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J05 (60J10, 62F15, 92D20)

Murid, A. H. M. (*with* Razali, M. R. M.) On boundary integral equations of the second kind for symmetric regions. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 449–455, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65R20

— (*with* Nashed, M. Zuhair; Razali, M. R. M.) Numerical conformal mapping for exterior regions via the Kerzman-Stein kernel. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 4, 517–532. (Chenglie Hu) **99k:30008** 30C30 (65E05)

Muriefah, Fadwa S. Abu (*with* Arif, S. Akhtar) On a Diophantine equation. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 189–198. (Edward L. Cohen) **99a:11035** 11D41

— (*with* Arif, S. Akhtar) The Diophantine equation $x^2 + 3^m = y^n$. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 619–620. (Péter Kiss) **99b:11026** 11D61

Muriel, A. (*with* Esguerra, P.; Jirkovsky, L.; Dresden, M.) Instabilities in classical and quantum fluids. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 381–397. (Summary) **99f:76066** 76E99 (76Y05, 82C70, 82D15)

Muriel, Ana (*with* Chan, Lap Mui Ann; Simchi-Levi, David) Parallel machine scheduling, linear programming, and parameter list scheduling heuristics. (English summary) *Oper. Res.* **46** (1998), *no.* 5, 729–741. (Summary) **99f:90045** 90B35 (90C08)

Muriel Patino, M. Concepción Symmetry conservation for order reduction of an ordinary differential equation. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 327–332, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Summary) **99e:34009** 34A26 (34A34)

Murillo, Alex (*with* Trejos, Javier; Piza, Eduardo) Global stochastic optimization techniques applied to partitioning. (English summary) *Advances in data science and classification* (*Rome*, 1998), 185–190, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 90C15 (90C90)

Murillo, Aniceto *see* **Murillo-Mas, Aniceto**

avila Murillo, F. *see* **Avila Murillo, F.**

Murillo, José Alberto (*with* Marco Montoro, Luis) Locally Lipschitz and convex functions. *Mathematica* **38(61)** (1996), *no.* 1-2, 121–131. (Frank N. Huggins) **99b:26016** 26A51 (26A16)

— (*with* Marco Montoro, Luis) Viability results for second-order nonautonomous differential inclusions. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 321–326, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 49J24 (34A60)

— (*with* Marco Montoro, Luis) Higher order differential inclusions and viability. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 2, 219–226. (Luc Doyen) **99i:34024** 34A60 (34H05, 49J24)

— (*with* Marco Montoro, Luis) Viability theorems for higher-order differential inclusions. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 1, 21–37. (Luc Doyen) **99j:49005** 49J24 (34A60, 34H05)

Murillo, Roberto The Weierstrass approximation theorem. (Spanish) Dedicated to the memory of Karl Weierstrass (Spanish). *Miscelánea Mat. No.* 25 (1997), 39–46. (*see* **99i:00034**) 41-01 (01A55, 46-03)

Murillo-Mas, Aniceto (*with* Félix, Yves) Gorenstein graded algebras and the evaluation map. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 28–32. (Jean-Claude Thomas) **99c:57069** 57T05 (16E99, 55P35)

Murio, D. A. (*with* Mejía, C. E.; Zhan, Shenghe) Discrete mollification and automatic numerical differentiation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 1–16. (De Hui Chen) **99d:65066** 65D25

Murnaghan, Fiona (*with* Repka, Joe) Reducibility of some induced representations of split classical p-adic groups. (English summary) *Compositio Math.* **114** (1998), *no.* 3, 263–313. (Volker J. Heiermann) **99m:22021** 22E50 (22E35)

— (*with* Repka, Joe) Reducibility of some induced representations of p-adic unitary groups. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 193–210. (Roman Bezrukavnikov) **99g:22019** 22E50 (11S37)

Muro, Masakazu Singular invariant hyperfunctions on the space of real symmetric matrices. (English summary) Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 49–91. (Hisaichi Midorikawa) **99d:58165** 58G07

Murofushi, Toshiaki (*with* Sugeno, Michio; Narukawa, Yasuo) Choquet integral and fuzzy measures on locally compact space. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 205–211. (Endre Pap) **99i:28027** 28E10 (28C99)

— (*with* Fujimoto, Katsushige; Sugeno, Michio) Canonical separated hierarchical decomposition of the Choquet integral over a finite set. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 3, 257–272. (Endre Pap) **99i:28025** 28E10 (28C99)

— (*with* Fujimoto, Katsushige; Sugeno, Michio) Canonical hierarchical decomposition of Choquet integral over finite set with respect to null additive fuzzy measure. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 345–363. (Endre Pap) **99j:28022** 28E10

Muroi, Kazuo A circular field problem in the late Babylonian metrological-mathematical text W 23291-x. *Gaṇita-Bhāratī* **19** (1997), *no.* 1-4, 86–90. (Jens Høyrup) **99i:01008** 01A17

— Early Old Babylonian mathematical problems written in Sumerian. *Historia Sci.* (2) **7** (1998), *no.* 3, 199–203. (Summary) **99d:01008** 01A17

Murota, Kazuo Fenchel-type duality for matroid valuations. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 357–375. (Winfried Hochstättler) **99h:90085** 90C27 (05B35, 90C25)

— (*with* Scharbrodt, Mark) Computing the combinatorial canonical form of a layered mixed matrix. Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 125–134. (*see* **99i:00028**) 65F30 (15A21)

— (*with* Ikeda, Kiyohiro; Terada, Kenjiro) Bifurcation mechanism underlying echelon-mode formation. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 423–448. (Summary) **99m:73042** 73H05 (73B10)

— On the degree of mixed polynomial matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 196–227 (*electronic*). (András Recski) **99g:05045** 05B35

Murota, Toshio (*with* Tanaka, Yoshio) Generalizations of $w\Delta$-spaces, and developable spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 439–452. (Gary Gruenhage) **99c:54011** 54B10 (54E18, 54E30, 54E35)

Muroya, Yoshiaki (*with* Ishiwata, Emiko) Main convergence theorems for the improved SOR method with orderings. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 123–147. (Summary) **99c:65057** 65F10

Murphey, R. A. (*with* Pardalos, Panos M.; Pitsoulis, Leonidas S.) A greedy randomized adaptive search procedure for the multitarget multisensor tracking problem. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 277–301, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:90112** 90B40

Murphy, B. T. M. (*with* Wood, Alastair D.) Hyperasymptotic solutions of second-order ordinary differential equations with a singularity of arbitrary integer rank. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 250–260. (W. Balser) **99b:34094** 34E05 (34A20)

Murphy, Frederic H. (*with* Panchanadam, Venkat) Understanding linear programming modeling through an examination of the early papers on model formulation. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 341–356. (Summary) **99d:90002** 90-03 (01A60, 90C05)

— (*with* Fuller, J. David) On the convergence of the decoupling algorithm for multiperiod equilibrium models. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 1, 33–39. (Summary) **99b:90029** 90A14

Murphy, Gerard J. (*with* Abodayeh, K.) Compact topological semigroups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 131–137. (Jimmie D. Lawson) **99g:22002** 22A15 (52A99)

— (*with* Marcoux, Laurent W.) Unitarily-invariant linear spaces in C^*-algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3597–3605. (Ferdinand Beckhoff) **99b:46085** 46L05

Murphy, J. *see* **Murphy, John Andrew**

Murphy, J. O. (*with* Li, Nian; Steiner, J. M.) Overstability of a viscoelastic fluid layer heated from below. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 501–508, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76E15 (76A10)

Murphy, Jeremiah G. (*with* Rogerson, Graham A.) Surface waves in slightly compressible, finitely deformed elastic media. *Mech. Res. Comm.* **25** (1998), *no.* 5, 493–502. (Philippe Boulanger) **99k:73056** 73D20 (73C50, 73G05)

Murphy, John Andrew (*with* Parrott, A. K.; LeHyaric, A.; Monk, P. B.; Jennings, N.; Rowse, D.) Parallelisation of a 3-D electromagnetic scattering code. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 329–340, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78-08 (65N30)

Murphy, R. C. (*with* Deaton, Russell; Garzon, Max; Franceschetti, D. R.; Stevens, S. E., Jr.) Good encodings for DNA-based solutions to combinatorial problems. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 247–258, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99f:68052** 68Q05

— (*with* Gao, Yuan; Garzon, Max; Rose, J. A.; Deaton, Russell; Franceschetti, D. R.; Stevens, S. E., Jr.) DNA implementation of nondeterminism. (English summary) *DNA based computers III* (*Philadelphia, PA*, 1997), 137–148, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05

Murphy, S. A. (*with* van der Vaart, A. W.) Semiparametric likelihood ratio inference. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1471–1509. (Philippe Barbe) **99c:62140** 62G15 (62F25, 62G20)

Murphy, Sean An analysis of SAFER. (English summary) *J. Cryptology* **11** (1998), *no.* 4, 235–251. (Summary) **99i:94052** 94A60

Murray, James D. (*with* Lewis, Mark A.; White, K. A. J.) Analysis of a model for wolf territories. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 749–774. (Arthur I. Csetényi) **99a:92036** 92D40
— (*with* Cruywagen, Gerhard C.; Maini, Philip K.) Biological pattern formation on two-dimensional spatial domains: a nonlinear bifurcation analysis. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1485–1509. (Summary) **99m:92006** 92C15 (35B32, 35Q80)
— (*with* Tyson, Rebecca; Lubkin, S. R.) Model and analysis of chemotactic bacterial patterns in a liquid medium. (English summary) *J. Math. Biol.* **38** (1999), *no.* 4, 359–375. 92D25
Murray, Laura (*with* Krasnansky, Kevin) Embedding the dodecahedron in a mesh. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 48. (*see* **99i:05002**) 05C10
Murray, Michael K. (*with* Carey, Alan L.; Jupp, Peter E.) The phylon group and statistics. *Algebraic groups and Lie groups*, 35–49, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (John W. Rice) **99k:62006** 62A05 (58A20)
— (*with* Groisser, David) Instantons and the information metric. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 6, 519–537. (Xiao Wei Peng) **99b:58042** 58D27 (53C07, 57R57, 58E15)
— (*with* Carey, Alan L.; Mickelsson, Jouko) Index theory, gerbes, and Hamiltonian quantization. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 707–722. (Introduction) **99f:58189** 58G10 (58G26, 81T50)
— (*with* Carey, Alan L.; Crowley, Diarmuid) Principal bundles and the Dixmier Douady class. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 171–196. (J. P. C. Greenlees) **99g:58021** 58D29 (55R10)
— *see also* **Algebraic groups and Lie groups, 99b:00024**
Murray, Neil V. (*with* Ramesh, Anavai) Parameterized prime implicant/implicate computations for regular logics. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 2, 155–179. (Petr Jirků) **99m:03045** 03B50 (03B70, 68T27)
— (*with* Hähnle, Reiner; Rosenthal, Erik) Some remarks on completeness, connection graph resolution and link deletion. (English summary) *Automated reasoning with analytic tableaux and related methods (Oisterwijk, 1998)*, 172–186, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35
— (*with* Balaban, Mira) Interleaving time and structure. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 1, 1–34. (Summary) **99a:68160** 68T30
— (*with* Lu, James J.; Rosenthal, Erik) A framework for automated reasoning in multiple-valued logics. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 1, 39–67. (Summary) **99e:03022** 03B50 (03B35, 03B52, 68T15)
zsombor-Murray, P. J. *see* **Zsombor-Murray, P. J.**
Murray, Richard M. (*with* Lewis, Andrew D.) Configuration controllability of simple mechanical control systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 766–790. (Inge Troch) **99a:70045** 70Q05 (73K50, 93B05, 93B29, 93C10)
— (*with* van Nieuwstadt, Michiel J.) Real-time trajectory generation for differentially flat systems. (English summary) Twenty years of feedback linearization of nonlinear systems. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 11, 995–1020. (*see* **99f:93004**) 93C95 (93C10)
— (*with* van Nieuwstadt, Michiel J.; Rathinam, M.) Differential flatness and absolute equivalence of nonlinear control systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1225–1239 (*electronic*). (Henk Nijmeijer) **99f:93034** 93B29 (58A15, 58A17, 93C10)
Murray, Rua Approximation error for invariant density calculations. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 535–557. (T. Y. Li) **99e:28033** 28D99 (26A18, 65C05)
— (*with* Keane, Michael S.; Young, Lai-Sang) Computing invariant measures for expanding circle maps. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 27–46. (Gary Froyland) **99a:58106** 58F11 (28D99, 65U05)
Murray-Smith, David J. (*with* Li, Yun; Ng, Kim Chwee; Gray, Gary J.; Sharman, Ken C.) Genetic algorithm automated approach to the design of sliding mode control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 721–739. 93B12 (90C90)
Murre, J. P. Representation of unramified functors. Applications (according to unpublished results of A. Grothendieck). *Séminaire Bourbaki, Vol. 9, Exp. No. 294*, 243–261, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 14A15 (18F20)
Mursaleen (*with* Qamaruddin) Some new sequence spaces over non-Archimedian fields and their matrix transformations. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 81–86. (Summary) **99k:40009** 40H05
— (*with* Khatib, M. A.; Qamaruddin) On difference Cesàro sequence spaces of non-absolute type. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 337–342. (Summary) **99g:40004** 40H05 (40D25, 40J05)
Murshed, M. M. (*with* Kaykobad, M.; Islam, Md. M.; Amyeen, M. E.) 3 is a more promising algorithmic parameter than 2. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 19–24. 68Q25 (68M07)
Muršič, Milan *see* **Obituary: Muršič, Milan**
Murtagh, Fionn (*with* Starck, J.-L.; Bijaoui, A.) ★ Image processing and data analysis. (English summary) The multiscale approach. *Cambridge University Press, Cambridge*, 1998. *x*+287 *pp. ISBN* 0-521-59084-1; 0-521-59914-8 (From the preface) **99f:94004** 94A12 (68U10)
— Wedding the wavelet transform and multivariate data analysis. (English summary) *J. Classification* **15** (1998), *no.* 2, 161–183. (Summary) **99j:62048** 62G05 (42C15)
vasudeva Murthy, A. S. *see* **Vasudeva Murthy, A. S.**
siva ram Murthy, C. *see* **Siva Ram Murthy, C.**
Murthy, C. A. (*with* Mandal, Deba Prasad; Pal, Sankar K.) Determining the shape of a pattern class: extension to $\mathbf{R}^N$. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 4, 297–324. (Summary) **99g:68179** 68T10
— (*with* Mitra, Suman K.; Kundu, Malay K.) A study on partitioned iterative function systems for image compression. (English summary) *Fund. Inform.* **34** (1998), *no.* 4, 413–428. (Summary) **99k:68201** 68U10 (94A12)
— (*with* Mitra, Suman K.; Kundu, Malay K.) Technique for fractal image compression using genetic algorithm. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 4, 586–593. (Summary) **99j:94011** 94A12 (94A29)
— (*with* Pittman, Jennifer) Multilayer perceptrons and fractals. (English summary) *Inform. Sci.* **112** (1998), *no.* 1-4, 137–150. (Summary) **99g:68175** 68T05 (28A80)
Murthy, C. Siva Ram *see* **Siva Ram Murthy, C.**
Murthy, D. N. P. (*with* Jiang, Ren Yan) Mixture of Weibull distributions—parametric characterization of failure rate function. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 1, 47–65. (Summary) **99e:62014** 62E10
Murthy, G. S. R. (*with* Parthasarathy, T.) Fully copositive matrices. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 401–411. (Bruce D. Craven) **99j:90099** 90C33 (15A48)
— (*with* Parthasarathy, T.; Sriparna, B.) Some recent results on the linear complementarity problem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 898–905 (*electronic*). (Michael M. Kostreva) **99f:90150** 90C33
Murthy, Ishwar (*with* Seo, Phil K.) A dual-ascent procedure for the file allocation and join site selection problem on a telecommunications network. (English summary) *Networks* **33** (1999), *no.* 2, 109–124. (A. A. Chernyak) **99m:90070** 90B12 (68M10)
Murthy, K. N. *see* **Murty, Kanuri Narasimha**
Murthy, M. Pavaman (*with* Mandal, Satya) Ideals as sections of projective modules. *J. Ramanujan Math. Soc.* **13** (1998), *no.* 1, 51–62. (N. Mohan Kumar) **99d:13010** 13C10 (13C40, 13D15)
Murthy, M. S. Ramachandra (*with* Krishna, T. Prasanna) On a new type of slope rotatable central composite design. (English summary) *J. Indian Soc. Agricultural Statist.* **51** (1998), *no.* 1, 12–16. 62K10
Murthy, M. V. N. (*with* Bhaduri, R. K.; Whelan, Niall D.; Brack, M.; Miller, H. G.) Weyl series and the trace formula: a prescription for adding them. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, *R*911–*R*914. (Summary) **99k:81063** 81Q20
Murty, Kanuri Narasimha (*with* Rao, C. V.) Theory of differential inequalities associated with *n*th order nonlinear differential equations and their applications to three point boundary value problems. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 137–143. (P. W. Eloe) **99f:34021** 34B10 (34A40, 34B15)
Murty, Katta G. (*with* Júdice, Joaquim) On the complexity of finding stationary points of nonconvex quadratic programs. (English summary) *Opsearch* **33** (1996), *no.* 3, 162–166. (Summary) **99a:90143** 90C20 (90C60)
— (*with* Alfakih, Abdo Y.) Adjacency on the constrained assignment problem. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 269–274. (Summary) **99g:90092** 90C27 (90C10)
Murty, Maruti Ram *see* **Canadian Mathematical Society, 99m:00020**
ramana Murty, P. V. *see* **Ramana Murty, P. V.**
Murty, Ram *see* **Murty, Maruti Ram**
Murty, T. S. Long gravity waves. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 31–42, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 86A05 (76B15)
Murty, U. S. R. *see* **Tutte, W. T., 99i:05001**
Murty, Vedula N. *see* **Wagner, Clifford H.**
Murua, A. *see* **Murua, Ander**
Muróa, Alejandro E. (*with* Gidas, B.) Optimal transformations for prediction in continuous-time stochastic processes. (English summary) *Stochastic processes and related topics*, 167–183, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (M. P. Moklyachuk) **99k:60111** 60G25 (62M20)
Murua, Ander (*with* Araújo, A. L.; Sanz Serna, J. M.) Symplectic methods based on decompositions. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1926–1947. (Sándor Frivaldszky) **99a:65085** 65L06 (34A45, 70–08)
— Runge-Kutta-Nyström methods for general second order ODEs with application to multi-body systems. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 387–399. (Summary) **99h:65129** 65L06 (70–08, 70E15)
— Formal series and numerical integrators. II. Application to index-2 differential-algebraic systems. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 99–113. (Haydar Akça) **99m:34020** 34A45 (34A05, 34A09, 65L05, 70–08)
— Formal series and numerical integrators. I. Systems of ODEs and symplectic integrators. (English summary) *Appl. Numer. Math.* **29** (1999), *no.* 2, 221–251. (Haydar Akça) **99k:65068** 65L99 (34A45, 70–08)
Muruaga, M. A. (*with* Vélez Ibarrola, Ricardo) Asymptotic behavior of continuous stochastic games. (English summary) *Top* **4** (1996), *no.* 2, 187–214. (Summary) **99g:90170** 90D15 (90C31)
Murukesapillai, K. (*with* Santiapillai, C.) Srinivasa Ramanujan: a different perception of his life and times. *Current Sci.* **75** (1998), *no.* 3, 326–327. 01A70 (01A80)
— *see also* **Tiwari, Suresh Chandra**
banū Mūsā *see* **Banū Mūsā**
Musaev, K. M. (*with* Gasanova, T. Kh.) On some boundary properties of generalized analytic functions. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 142–148. (Igor M. Mitelman) **99m:30094** 30G20
Musaeva, M. A. (*with* Yagubov, G. Ya.) On an identification problem for the nonlinear Schrödinger equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1691–1698, 1727; *translation in Differential Equations* **33** (1997), *no.* 12, 1695–1702 (1998). (Vladislav G. Dubrovsky) **99m:35267** 35R30 (35Q55)
Musakhanov, M. M. (*with* Faizullaev, B. A.; Pak, N. K.) On the higher-loop contributions to the axial anomaly. (English summary) *Symmetry methods in physics, Vol. 1 (Dubna, 1995)*, 192–197, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81T50
al-Musallam, Fadhel *see* **Al-Musallam, Fadhel**
Muscato, G. (*with* Nunnari, G.; Fortuna, L.) Singular perturbation approximation of bounded real balanced and stochastically balanced transfer matrices. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 253–269. 93C70 (93B36)
Muscettola, Nicola (*with* Tsamardinos, Ioannis; Morris, Paul) Fast transformation of temporal plans for efficient execution. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 254–261, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20 (68T27)

Muschik, Wolfgang Objectivity and frame indifference, revisited. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 541–547. (Summary) **99f:73021** 73B99

— Experiments, models, and theories. Comment on Margaret C. Morrison: "Modelling nature: between physics and the physical world" [Philos. Natur. **35** (1998), no. 1, 65–85]. Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 87–93. (*see* **99g:00024**) 00A79

— *see also* **Models, theories and disunity in physics, 99g:00024**

Muscholl, Anca (*with* Peled, Doron; Su, Zhendong) Deciding properties for message sequence charts. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 226–242, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (Summary) **99d:68158** 68Q60 (68Q10)

Musciano, Chiara (*with* D'Ottavio, Anna; Leonetti, Francesco) Maximum principle for vector-valued mappings minimizing variational integrals. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 677–683. (Summary) **99f:49024** 49K10 (49J10)

Muscolino, G. (*with* Caddemi, S.) Pre-envelope covariance differential equations for white and nonwhite input processes. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 1, 1–10. (Summary) **99a:73096** 73K35 (34F05, 70L05)

Musella, Carmela (*with* Cirino Groccia, Maria Cristina) A note on finite complemented groups. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **64** (1997), 279–283 (1998). (Summary) **99d:20034** 20D99 (20E07)

Musès, Charles Erratum: "The dimensional family approach in (hyper)sphere packing: a typological study of new patterns, structures, and interdimensional functions". *Appl. Math. Comput.* **88** (1997), *no.* 1, i. (Summary) **99a:52031b** 52C17

— The dimensional family approach in (hyper)sphere packing: a typological study of new patterns, structures, and interdimensional functions. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 1, 1–26. (Summary) **99a:52031a** 52C17

— Erratum: "The dimensional family approach in (hyper)sphere packing: a typological study of new patterns, structures, and interdimensional functions" [Appl. Math. Comput. **88** (1997), no. 1, 1–26; MR 99a:52031a]. *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 295. 52C17

— A review of the proceedings of the Norbert Wiener Centenary Congress, including a paper not in the collected works. (English summary) *Kybernetes* **27** (1998), *no.* 1, 4, 26–28. 01A99

— De Morgan's Ramanujan: an incident in recovering our endangered cultural memory of mathematics. *Math. Intelligencer* **20** (1998), *no.* 3, 47–51. (Editors) **99k:01070** 01A70 (01A55)

Musette, Micheline (*with* Conte, Robert) Bäcklund transformation of partial differential equations from the Painlevé-Gambier classification. I. Kaup-Kupershmidt equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5617–5630. (Summary) **99e:35201** 35Q53 (35A30, 58F37)

— (*with* Springael, Johan; Conte, Robert) On exact solutions of the Bianchi IX cosmological model in the proper time. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 3–8. (Nora Bretón Báez) **99m:83037** 83C15

— On the links between some generalized Pinney and nonlinear Gambier equations. (English summary) *J. Math. Anal. Appl.* **234** (1999), *no.* 2, 723–726. 35Q53 (35A30)

Musgrave, Peter (*with* Santosuosso, Kevin; Pollney, Denis; Pelavas, Nicos; Lake, Kayll) Invariants of the Riemann tensor for class B warped product space-times. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 381–394. (Emil Zakhary) **99k:83021** 83C20 (83–04)

Mushailov, B. R. (*with* Gerasimov, I. A.) On the existence of objects in the Kuiper belt that are connected by orbital resonances with Neptune. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1999**, *no.* 1, 53–59. 70F15 (70F07)

Mushkudiani, Z. The K_1 and K_2 groups of monoid algebras over regular rings. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 1, 25–27 (1996). (Summary) **99h:19003** 19B99 (19C99)

Mushtaq, Qaiser (*with* Kamran, M. S.) LA-groups as quotients of left inverse quasigroups. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 132–138, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 20N05

— On word structure of the modular group over finite and real quadratic fields. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 155–164. (V. V. Chueshev) **99b:20080** 20G15 (11J70, 20G40)

— (*with* Aslam, Muhammad[1]) Group generated by two elements of orders two and six acting on $\mathbf{R}$ and $\mathbf{Q}(\sqrt{n})$. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 145–154. (Charles R. Traina) **99a:20049** 20H10 (11F06)

Mushtari, D. Kh. Orthoadditive functions on idempotents. (English summary) *Measures on projections and orthomodular posets*, 38–83, *Kazan Tracts Math.*, 4, *Kazan Math. Soc., Kazan'*, 1998. (M. J. Mączyński) **99m:81018** 81P10 (06A06, 06C15, 47B99, 81–02)

— Gleason-type theorem for linear spaces over the field of four elements. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 127–130. (Sylvia Pulmannová) **99f:81021** 81P10

Musiał, Grzegorz *see* **Binney, J. J. et al., 99h:82030**

Musial, Kazimierz (*with* Popa, Dumitru) The weak Radon-Nikodým property in spaces of nuclear operators. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 677–683. (Summary) **99b:46024** 46B22 (46B28, 47B10, 47D15)

Mušicki, Djordje Homogeneous formalism and Dirac's theory of degenerate systems. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1996), *no.* 6, 11–24. (Jesús Marín-Solano) **99g:70025** 70H35 (70F99, 70H05, 70H40)

— Generalization of Noether's theorem for systems with variable mass. (English and Serbian summaries) *Theoret. Appl. Mech.* **23** (1997), 129–150. (A. Sumbatov) **99g:70033** 70P05 (70H33)

Musielak, Anna On approximation by linear integral operations in function spaces. (English summary) *Comment. Math. Prace Mat.* **38** (1998), 93–99. (Paşc Găvruţa) **99m:41037** 41A35 (43A15, 46E30, 47B38)

— (*with* Musielak, Julian) On nonlinear integral operators in function spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 257–266. (Isaac V. Shragin) **99m:47086** 47H30 (45G10, 46A80, 46E30)

Musielak, Julian (*with* Bardaro, Carlo; Vinti, Gianluca) Nonlinear operators of integral type in some function spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 409–422. (Isaac V. Shragin) **99a:47111** 47H30 (41A35, 46A80, 46E30)

— (*with* Bardaro, Carlo; Vinti, Gianluca) On nonlinear integral operators in spaces $L^{\varphi,\psi}(\Omega)$. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 23–36. (Isaac V. Shragin) **99a:47112** 47H30 (41A35, 46E30)

— (*with* Liskowski, Marian) On best approximation in modular spaces. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 183–188. (Gianluca Vinti) **99a:46014** 46A80 (41A65, 46E30)

— On approximation of functions of two variables by integral means and their generalization. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 335–349. (Walter Schempp) **99j:41035** 41A30 (41A63)

— (*with* Musielak, Anna) On nonlinear integral operators in function spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 257–266. (Isaac V. Shragin) **99m:47086** 47H30 (45G10, 46A80, 46E30)

— (*with* Bardaro, Carlo; Vinti, Gianluca) On the ergodic theorem in some spaces of random variables. *Nonlinear Anal.* **33** (1998), *no.* 4, 359–365. (Gianluca Vinti) **99d:46005** 46A80 (28D99, 46E30, 60A10)

— Bernstein inequality and inverse approximation theorem in modular function spaces. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 169–173. (Kairat T. Mynbaev) **99g:41015** 41A17 (41A27, 46E30)

— *see also* **Dedicated to Julian Musielak**

Musil, Robert *see* **Klingenberg, Wilhelm P. A., 99a:01026**

Musina, Roberta (*with* Coti Zelati, Vittorio; Dobarro, Fernando) Prescribing scalar curvature in warped products. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 61–76. (John Urbas) **99e:53048** 53C21 (35J60)

Muslim, Mohammad (*with* Sinha, Balmiki Kumar) Two theorems on semitopological groups and topological groups. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 4, 220–222. 22A05

Mussardo, G. (*with* Cabra, Daniel C.; Honecker, A.; Pujol, P.) A non-perturbative approach to the random-bond Ising model. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8415–8426. (Aernout C. D. van Enter) **99d:82031** 82B44 (81T99)

— (*with* De Martino, A.; Moriconi, Marco) Reflection scattering matrix of the Ising model in a random boundary magnetic field. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 615–636. (Konstantin G. Selivanov) **99a:82050** 82B44 (81U40)

— (*with* LeClair, A.; Ludwig, Andreas W. W.) Integrability of coupled conformal field theories. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 523–542. (Summary) **99i:81215** 81T40

— (*with* Delfino, G.) Non-integrable aspects of the multi-frequency sine-Gordon model. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 675–703. (Summary) **99a:81098** 81T10

Mussawisade, K. (*with* Santos, Jaime Eduardo; Schütz, Gunter M.) Branching-annihilating random walks in one dimension: some exact results. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4381–4394. (Summary) **99b:82040** 82B41

Musschoot, C. A Lanczos-type method for solving nonsymmetric linear systems with multiple right-hand sides—matrix and polynomial interpretation. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 61–85. (Robert Rihm) **99m:65063** 65F10

Mussio, Piero (*with* Bottoni, Paolo; Labella, Anna; Păun, Gheorghe) Pattern control on derivations in context-free rewriting. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 1, 3–28. (Summary) **99h:68108** 68Q50 (68Q45)

Musslimani, Ziad H. (*with* Malomed, Boris A.) Modulational instability in bulk dispersive quadratically nonlinear media. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 235–243. (*see* **99h:00031**) 78A60 (35Q55)

Musso, Emilio (*with* Nicolodi, Lorenzo) On the equation defining isothermic surfaces in Laguerre geometry. *New developments in differential geometry, Budapest* 1996, 285–294, *Kluwer Acad. Publ., Dordrecht*, 1999. (Thomas Ivey) **99m:53027** 53A40 (53A05)

Musso, Monica Existence and multiplicity of solutions for nonlinear elliptic equations. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 141–144. 35J65 (58E05)

— (*with* Passaseo, Donato) Multibump solutions for a class of nonlinear elliptic problems. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 1, 53–86. (Gianni Arioli) **99e:35067** 35J65

Musson, Ian M. (*with* Zou, Yi Ming) Crystal bases for $U_q(\mathrm{osp}(1,2r))$. (English summary) *J. Algebra* **210** (1998), *no.* 2, 514–534. (Aleksandr Panov) **99j:17024** 17B37

— (*with* van den Bergh, Michel) Invariants under tori of rings of differential operators and related topics. (English summary) *Mem. Amer. Math. Soc.* **136** (1998), *no.* 650, *viii*+85 *pp.* (Marie-Paule Malliavin) **99i:16051** 16S32 (14D25, 14L30, 20G05)

del castillo-Mussot, M. *see* **del Castillo-Mussot, M.**

Mustafa, D. (*with* Davidson, T. N.) Generalized PI controllability. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 307–330. 93B05 (93D15)

Mustafa, M. T. (*with* Wood, John C.) Harmonic morphisms from three-dimensional Euclidean and spherical space forms. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 2, 155–172. (Eric Loubeau) **99k:58049** 58E20 (53C12)

— A Bochner technique for harmonic morphisms. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 746–756. (Jia Yu Li) **99k:58050** 58E20 (53C21)

Mustafa, Octavian (*with* Popescu, Luminiţa) On the equivalence of norms on finite-dimensional linear spaces. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 78–80 (1998). 46B07

Mustafa, Omar (*with* Barakat, Thabit) Exact energy eigenvalues of the generalized Dirac-Coulomb equation via a modified similarity transformation. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 3, 411–414. 81Q05

Mustafaev, R. Ch. (*with* Guliev, V. S.) Fractional integrals in spaces of functions defined on spaces of homogeneous type. (Russian. English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 3, 181–200. (Anatoly Kilbas) **99m:26007** 26A33 (43A15, 47B38)

Mustapha, Nazeem (*with* Bassett, B. A. C. C.; Hellaby, Charles; Ellis, George F. R.) The distortion of the area distance-redshift relation in inhomogeneous isotropic universes.

(English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2363–2379. (Summary) **99d:83108** 83F05

Mustapha, Sami Multiplicateurs de Mikhlin pour une classe particulière de groupes non-unimodulaires. (English and French summaries) [Mikhlin multipliers for a particular class of nonunimodular groups] *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 4, 957–966. (Mohammed E. B. Bekka) **99j:22013** 22E30 (22E25)

Mustăţa, Costică (*with* Cobzaş, Ştefan) Extension of bilinear operators and best approximation in 2-normed spaces. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 63–75. (A. S. Cavaretta) **99d:41063** 41A65 (46B99)

— On the derivative-interpolating spline functions of even degree. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 1, 51–58. 41A15

Mustieles Moreno, Francisco J. (*with* Cebrián de Barrio, Elena) Deterministic algorithms for computing collision operators in particle methods. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 4 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 82C80

Musto, R. (*with* Bimonte, G.; Stern, Allen Bruce; Vitale, Patrizia) Deformed Chern-Simons theories. (English summary) *Phys. Lett. B* **406** (1997), *no.* 3, 205–214. (Andrey A. Bogush) **99d:81082** 81T13 (53C80, 58Z05, 81R50)

— (*with* Bimonte, G.; Vitale, Patrizia; Stern, Allen Bruce) $2+1$ Einstein gravity as a deformed Chern-Simons theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4023–4047. (Paulo Moniz) **99j:83007** 83C05 (81T13)

Mustonen, Vesa (*with* Tienari, Matti) An eigenvalue problem for generalized Laplacian in Orlicz-Sobolev spaces. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **129** (1999), *no.* 1, 153–163. (Summary) **99m:35078** 35J65 (49J10)

Musy, François (*with* Hackbusch, Wolfgang; Gutsch, Sabine; Maitre, Jean-François) The appropriate numbering for the multigrid solution of convection dominated problems. (English summary) *Numerical flow simulation, I (Marseille*, 1997), 75–88, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76116** 76M25

Muta, Masanori The representation and the semi-direct product of $U(\varepsilon)$-algebras. (English summary) *J. Fac. Internat. Stud. Cult. Kyushu Sangyo Univ. No.* 10 (1997), 51–56. 17A40

— The representation and the semi-direct product of symplectic algebras. (English summary) *Bull. Fac. Eng. Kyushu Sangyo Univ. No.* 35 (1998), 299–302. 17A40

al-Mutairi, Dhaifalla K. *see* **Al-Mutairi, Dhaifalla K.**

Muthukrishnan, S. (*with* Khanna, Sanjeev; Skiena, Steven S.) Efficient array partitioning. (English summary) *Automata, languages and programming (Bologna*, 1997), 616–626, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **99c:68127** 68Q25 (68Q20)

— (*with* Matias, Yossi; Şahinalp, Süleyman Cenk; Ziv, Jacob) Augmenting suffix trees, with applications. (English summary) *Algorithms—ESA '98 (Venice*), 67–78, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q20 (68P20)

— (*with* Bender, Michael A.; Chakrabarti, Soumen) Flow and stretch metrics for scheduling continuous job streams. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA*, 1998), 270–279, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35

— (*with* Khanna, Sanjeev; Paterson, Michael S.) On approximating rectangle tiling and packing. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA*, 1998), 384–393, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05B45, 52B55, 68R05)

— (*with* Crochemore, Maxime; Gąsieniec, Leszek; Hariharan, Ramesh; Rytter, Wojciech) A constant time optimal parallel algorithm for two-dimensional pattern matching. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 668–681 (*electronic*). (Katsushi Inoue) **99g:68092** 68Q25 (68Q22)

— (*with* Ghosh, Bhaskar; Schultz, Martin H.) First- and second-order diffusive methods for rapid, coarse, distributed load balancing. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 331–354. (Summary) **99c:68029** 68M20 (05C85)

Muthukumar, K. (*with* Bueno, F.; García de la Banda, Maria; Hermenegildo, Manuel) Automatic compile-time parallelization of logic programs for restricted, goal level, independent and-parallelism. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 165–218. (Summary) **99h:68032** 68N17 (68N20)

Muthukumar, M. (*with* Mondescu, Radu P.) Brownian motion and polymer statistics on certain curved manifolds. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4411–4419. (Summary) **99a:82046** 82B41

Muthuvel, S. (*with* Kathiresan, Km.; Nagasubbu, V. N.) Consecutive labelings for two classes of plane graphs. (English summary) *Util. Math.* **55** (1999), 237–241. 05C78

Mutlu, Ali Describe Peiffer commutators with GAP program in the Moore complex of a simplicial group. (English summary) *Hadronic J. Suppl.* **13** (1998), *no.* 2, 179–190. (Summary) **99k:55013** 55Q05 (18G30, 18G50, 18G55)

— (*with* Porter, Timothy) Applications of Peiffer pairings in the Moore complex of a simplicial group. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 7, 148–173 (*electronic*). (R. H. Street) **99k:18018** 18G30 (55P10, 55U10)

— (*with* Porter, Timothy) Freeness conditions for 2-crossed modules and complexes. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 8, 174–194 (*electronic*). (Graham J. Ellis) **99j:18013** 18G30 (18D35, 18G50, 18G55)

Muto, Hideo The dressing up procedure and Delaunay surfaces. (Japanese) Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 51–57. (*see* **99a:58003**) 53A10

Muto, Shigeo (*with* Suzuki, Akihiro) Farsighted stability in the n-person prisoners' dilemma. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 207–214. (*see* **99h:90006**) 90D06

Muto, Tomomi D-branes on orbifolds and topology change. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 1-2, 183–201. (Harald Skarke) **99h:81178** 81T30 (14M25, 32S45)

Mutoh, Yasuhiko A note on the invariant properties of interactors. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1247–1252. 93C35 (93B50)

— (*with* Kase, Wataru; Okuno, Hideki) Design of exact model matching for multivariable systems with measurement or input noise and its application to MRACS. (English summary) *Systems Sci.* **24** (1998), *no.* 1, 33–49. (Summary) **99f:93036** 93B30 (93B51)

Muttalib, K. A. (*with* Blecken, C.) Brownian motion model of a q-deformed random matrix ensemble. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2123–2132. (Summary) **99b:82082** 82C44 (82C31)

Muttlak, Hassen A. (*with* Abu-Dayyeh, Walid) Using ranked set sampling for hypothesis tests on the scale parameter of the exponential and uniform distributions. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 131–138. 62F03

Mutzbauer, Otto (*with* Fomin, A. A.) Abelian groups with an endomorphism with irreducible minimum polynomial. (English summary) *Bull. Greek Math. Soc.* **37** (1995), 49–65. (Ross P. Abraham) **99c:13022** 13C13 (13F05, 13F30, 20K99)

— (*with* Jarisch, Ralf; Toubassi, Elias) Characterizing a class of simply presented modules by relation arrays. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 5, 349–357. (Luigi Salce) **99i:13016** 13C13 (20K21)

Mutzel, Petra (*with* Fialko, Sergej) A new approximation algorithm for the planar augmentation problem (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA*, 1998), 260–269, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68Q25, 68U05)

— (*with* Odenthal, Thomas; Scharbrodt, Mark) The thickness of graphs: a survey. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 59–73. (Joan Hutchinson) **99g:05065** 05C10 (68R10)

le dung Muu *see* **Le Dung Muu**

de Muynck, Willem M. Can we escape from Bell's conclusion that quantum mechanics describes a non-local reality? Comment on: "Non-locality: a defence of widespread beliefs" [Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys. **27** (1996), no. 3, 297–313; MR 99d:81012] by F. Laudisa. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **27** (1996), *no.* 3, 315–330. (Jos Uffink) **99d:81013** 81P10

— An alternative to the Lüders generalization of the von Neumann projection, and its interpretation. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 431–444. (M. J. Mączyński) **99d:81018** 81P15 (47N50)

— *see also* **Laudisa, Federico, 99d:81014**

Muzaev, I. D. (*with* Khosaev, Kh. S.; Vazieva, L. T.) An efficient method for solving initial-boundary value problems of the transverse vibrations of a nonprismatic beam. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 4, 24–30, 103. 73D30 (93D15)

Muzafarov, I. F. (*with* Utyuzhnikov, S. V.) Application of compact difference schemes to the investigation of unsteady flows of a compressible gas. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 3, 74–83. 76M20 (76N15)

Muzhikanov, P. (*with* Liptser, Robert Sh.) Filtering with a limiter (improved performance). (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 289–300. (George Yin) **99f:60083** 60G35 (93E11)

Muzio, Jon C. (*with* Dubrova, E. V.) The spectrality decision problem. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 3, 73–84. (Summary) **99i:94078** 94C10

— (*with* Cattell, Kevin) An explicit similarity transform between cellular automata and LFSR matrices. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 3, 239–251. (Summary) **99d:68167** 68Q80 (15A21, 68Q35)

— (*with* Cattell, Kevin; Zhang, Shujian; Serra, Micaela) 2-by-n hybrid cellular automata with regular configuration: theory and application. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 3, 285–295. (Summary) **99k:68116** 68Q80 (68Q35)

Muzy, J. F. (*with* Arneodo, A.; Bacry, E.; Jaffard, Stéphane) Singularity spectrum of multifractal functions involving oscillating singularities. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 159–174. (B. S. Rubin) **99i:42041** 42C15

— (*with* Arneodo, A.; Bacry, E.) Random cascades on wavelet dyadic trees. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4142–4164. (Summary) **99c:28021** 28A80 (42C15)

— (*with* Arneodo, A.; Manneville, S.; Roux, S. G.) Experimental evidence for anomalous scale dependent cascading process in turbulent velocity statistics. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 3, 374–381. 76-05 (76F99, 76M25)

Muzychuk, Mikhail E. The structure of Schur rings over cyclic groups of square-free order. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 163–181. (Jaume Pujol) **99h:20005** 20C05

— (*with* Klin, Mikhail) On graphs with three eigenvalues. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 191–207. (Willem H. Haemers) **99k:05111** 05C50 (05E30)

— (*with* Tinhofer, Gottfried) Recognizing circulant graphs of prime order in polynomial time. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 25, 28 *pp.* (*electronic*). (Koduvayur R. Parthasarathy) **99c:05186** 05C85

— Difference sets with $n = 2p^m$. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 1, 77–89. (Otokar Grošek) **99e:05023** 05B10

Muzzio, F. J. (*with* Hobbs, D. M.; Alvarez, M. M.) Mixing in globally chaotic flows: a self-similar process. (English summary) *Fractals* **5** (1997), *no.* 3, 395–425. (Vered Rom-Kedar) **99b:76040** 76F20 (58F40)

— (*with* Hobbs, D. M.) The curvature of material lines in a three-dimensional chaotic flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1942–1952. (Summary) **99e:76062** 76F20 (58F13, 58F40)

Mvoi, Sifa (*with* Lin, Yan-Xia; Biondini, Riccardo) Consistency of the asymptotic quasi-likelihood estimate on linear models. (English summary) *Biom. J.* **40** (1998), *no.* 1, 57–78. (Summary) **99b:62108** 62J05 (62F12)

Myasnichenko, O. M. (*with* Zakalyukin, Vladimir M.) Lagrangian singularities in symplectic reduction. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 1–11, 96; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 1–9. (Stanisław Janeczko) **99g:58056** 58F05 (58C27, 58F14)

Myasnikov, A. G. (*with* Kharlampovich, Olga) Tarski's problem about the elementary theory of free groups has a positive solution. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 101–108 (*electronic*). (R. Stöhr) **99k:20051** 20E05 (03B25, 03C60, 20F10)

— Amenable $L_1(G)$-modules that average functions and spaces with a mixed norm. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 54–59; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 2, 51–56. (V. V. Mukhin) **99h:43005** 43A15 (43A07, 46H25, 46J99)

— (*with* Fine, Benjamin; Gaglione, Anthony M.; Rosenberger, Gerhard; Spellman, Dennis) A classification of fully residually free groups of rank three or less. (English summary) *J. Algebra* **200** (1998), *no.* 2, 571–605. (Dimitrios Varsos) **99b:20053** 20E26

— (*with* Kharlampovich, Olga) Equations in a free Q-group. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 947–974. (Jon M. Corson) **99j:20039a** 20F10 (03D40, 11U05)

— (*with* Kharlampovich, Olga) Description of fully residually free groups and irreducible affine varieties over a free group. *Summer School in Group Theory in Banff*, 1996, 71–80, *CRM Proc. Lecture Notes*, 17, *Amer. Math. Soc., Providence, RI*, 1999. (Dennis Spellman) **99j:20032** 20E05 (20E26, 20F10)

— (*with* Kharlampovich, Olga; Lioutikova, E.) Equations in the Q-completion of a torsion-free hyperbolic group. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2961–2978. (Jon M. Corson) **99j:20039b** 20F10 (03D40, 11U05, 57M07)

Myasnikov, V. P. (*with* Baburova, O. V.; Vshivtsev, A. S.; Frolov, B. N.) A model of an ideal fluid with spin and a nonabelian color charge. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 183–186; *translation in Phys. Dokl.* **42** (1997), *no.* 11, 611–614. (M. I. Monastyrskiĭ) **99f:81128** 81T13 (76Y05)

Mychelkin, T. È. (*with* Simakova, T. B.) On the Bertrand-Kepler problem. II. Stability, classification and equivalence of Bertrand's laws of motion. (Russian. English, Russian and Kazakh summaries) *Izv. Nats. Akad. Nauk Respub. Kazakhstan Ser. Fiz.-Mat.* **1996**, *no.* 1, 73–76. (A. S. Baranov) **99k:70008** 70F05 (70F15)

Mycielski, Jan Non-amenable groups with amenable-action and some paradoxical decompositions in the plane. *Colloq. Math.* **75** (1998), *no.* 1, 149–157. (M. Laczkovich) **99e:28004** 28A12 (03F05, 20F38, 28C10)

— (*with* Dougherty, Randall) Representations of infinite permutations by words. II. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2233–2243. (Johannes Huebschmann) **99j:20002** 20B07 (20E05, 20F05, 57M05)

— *see also* **Structures in logic and computer science**, **99b:68008**

Mydlarczyk, Wojciech A singular initial value problem for the equation $u^{(n)}(x) = g(u(x))$. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 177–189. (Oleg M. Odarich) **99b:34003** 34A12

Myers, Daniel J. (*with* Michener, H. Andrew) An empirical comparison of probabilistic coalition structure theories in 3-person sidepayment games. (English summary) *Theory and Decision* **45** (1998), *no.* 1, 37–82. (Summary) **99g:90166** 90D06 (90D10)

Myers, David H. (*with* Cariño, David R.; Ziemba, William T.) Concepts, technical issues, and uses of the Russell-Yasuda Kasai financial planning model. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 450–462. (Summary) **99m:90025** 90A09 (90A46)

Myers, Eugene W. (*with* Oliva, Paulo; Guimarães, Katia) Reporting exact and approximate regular expression matches. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 91–103, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 68Q20 (68U15)

— (*with* Landau, Gad M.; Schmidt, Jeanette P.) Incremental string comparison. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 557–582 (*electronic*). (Erkki Mäkinen) **99b:68087** 68Q20

Myers, Gene A fast bit-vector algorithm for approximate string matching based on dynamic programming. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 1–13, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 68Q25 (68U15)

Myers, John M. (*with* Margetis, Dionisios; Fikioris, George; Wu, Tai Tsun) Highly directive current distributions: general theory. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2531–2547. (Summary) **99e:78025** 78A40

Myers, John Robert Contractible open 3-manifolds which non-trivially cover only non-compact 3-manifolds. *Topology* **38** (1999), *no.* 1, 85–94. (William Dunbar) **99g:57022** 57N10 (57M10, 57M25, 57M60)

Myers, Robert C. (*with* Dienes, Keith R.; Moshe, Moshe) Supertraces in string theory. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 178–180, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

— (*with* Kaloper, Nemanja; Khuri, Ramzi R.) On generalized axion reductions. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 297–302. (Summary) **99b:83075** 83E50 (81T30, 81T60, 83E30)

— (*with* Brady, Patrick R.; Moss, Ian G.) Cosmic censorship: as strong as ever. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 16, 3432–3435. (Robert J. Low) **99c:83065** 83C75

— (*with* Chamblin, Andrew; Emparan, Roberto; Johnson, Clifford V.) Large N phases, gravitational instantons, and the nuts and bolts of AdS holography. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064010, 9 *pp.* (Summary) **99m:83067** 83C45 (81T40, 83E30)

Myers, T. G. Thin films with high surface tension. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 441–462 (*electronic*). (R. Finn) **99g:76046** 76D45 (35Q35, 76D08)

Myerson, Roger B. Dual reduction and elementary games. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 183–202. (Frank Thuijsman) **99b:90167** 90D10 (90C05)

— Population uncertainty and Poisson games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 375–392. (Summary) **99j:90128** 90D15

Myjak, Józef (*with* Lasota, Andrzej) Markov operators and fractals. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 197–210. (M. Iosifescu) **99a:47016** 47A35 (28A80, 47B38, 60J05)

— (*with* Lasota, Andrzej) Semifractals on Polish spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 179–196. (Irene Hueter) **99e:28013** 28A80 (60J05)

— (*with* de Blasi, Francesco S.) On a generalized best approximation problem. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 54–72. (Nikolay V. Zhivkov) **99i:41034** 41A65 (41A52, 46B99, 90C48)

— Periodic solutions of random differential inclusions. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 683–695. (Giovanni Colombo) **99d:34023** 34A60 (34C25, 34F05, 60H99)

Mykkeltveit, Johannes (*with* Hauge, Erik R.) The analysis of de Bruijn sequences of non-extremal weight. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 133–147. (Qing De Kang) **99j:94033** 94A55

Mykland, Per Aslak (*with* Lazar, Nicole) An evaluation of the power and conditionality properties of empirical likelihood. (English summary) *Biometrika* **85** (1998), *no.* 3, 523–534. (Summary) **99i:62005** 62A10

Mynhardt, Christina M. (*with* Cockayne, E. J.; Favaron, Odile; Puech, Joël) Packing, perfect neighbourhood, irredundant and R-annihilated sets in graphs. (English summary) *Australas. J. Combin.* **18** (1998), 253–262. (Summary) **99f:05088** 05C70 (05C35)

— (*with* van der Merwe, Lucas C.; Haynes, Teresa W.) Criticality index of total domination. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 67–73. (Summary) **99j:05113** 05C35

— On two conjectures concerning 3-domination-critical graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 119–138. (Summary) **99j:05114** 05C35

— (*with* Cockayne, E. J.; Hedetniemi, Sandra M.; Hedetniemi, Stephen T.) Irredundant and perfect neighbourhood sets in trees. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 253–260. (Summary) **99a:05030** 05C05 (05C35)

— (*with* Cockayne, E. J.; Favaron, Odile; Puech, Joël) An inequality chain of domination parameters for trees. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 127–142. (Gary MacGillivray) **99m:05118** 05C70 (05C50)

— (*with* van der Merwe, Lucas C.; Haynes, Teresa W.) Total domination edge critical graphs. (English summary) *Util. Math.* **54** (1998), 229–240. (Summary) **99g:05112** 05C35

Myong, R. S. (*with* Roe, Philip L.) On Godunov-type schemes for magnetohydrodynamics. I. A model system. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 545–567. (Magdi M. Shoucri) **99j:76085** 76M20 (76W05)

Myoupo, Jean Frédéric (*with* Luce, Guillaume) Application-specific array processors for the longest common subsequence problem of three sequences. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 1, 27–52. (Summary) **99g:68084** 68Q22 (68Q35)

— (*with* Lecroq, Thierry; Seme, David) A one-phase parallel algorithm for the sequence alignment problem. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 4, 515–526. (Summary) **99m:65258** 65Y05

Myrheim, Jan (*with* Endresen, Lars Petter) A formula for steplength control in numerical integration. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 263–264. (Summary) **99b:65023** 65D30

— (*with* Isakov, Sergei B.; Leinaas, Jon Magne; Polychronakos, Alexios P.; Varnhagen, Raimund) Algebra of observables for identical particles in one dimension. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 151–160. (Summary) **99e:81112** 81S05

— (*with* Kjønsberg, Heidi) Numerical study of charge and statistics of Laughlin quasiparticles. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 537–557. 81S05

Myrvold, Wendy (*with* McKay, Brendan D.; Nadon, Jacqueline) Fast backtracking principles applied to find new cages. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 188–191, *ACM, New York*, 1998. (*see* **99d:68011**) 68T20 (05C85, 68R10)

— (*with* Yan, Wen-Ming; Chung, Kuo Liang) A formula for the number of spanning trees of a multi-star related graph. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 295–298. (Summary) **99k:05085** 05C30 (05C05, 68R10)

— Negative results for orthogonal triples of Latin squares of order 10. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 95–105. (Summary) **99j:05037** 05B15

Myrzakulov, R. (*with* Bliev, N. K.; Borzykh, A. V.) Soliton solutions of the (2 + 1)-dimensional nonlinear Schrödinger equation. (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1997**, *no.* 1, 34–40. 35Q55

— (*with* Vijayalakshmi, S.; Syzdykova, R. N.; Lakshmanan, M.) On the simplest (2 + 1)-dimensional integrable spin systems and their equivalent nonlinear Schrödinger equations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2122–2140. (Ian A. B. Strachan) **99j:58100** 58F07 (35Q55, 58F40, 82B21)

— (*with* Lakshmanan, M.; Vijayalakshmi, S.; Danlybaeva, A. K.) Motion of curves and surfaces and nonlinear evolution equations in (2 + 1) dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3765–3771. (Anders Linnér) **99h:53004** 53A05 (58F07)

— (*with* Nugmanova, G. N.; Syzdykova, R. N.) Gauge equivalence between (2 + 1)-dimensional continuous Heisenberg ferromagnetic models and nonlinear Schrödinger-type equations. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9535–9545. (Nicolae Angelescu) **99j:82022** 82B21 (35Q55)

Myrzaliev, Dzh. Quasiperiodic solutions and invariant tori. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 56–59. (Georgiĭ Osipenko) **99f:34068** 34C27 (34C30, 34C45, 58F27)

Myshkis, Anatoliĭ (*with* Filimonov, A. M.) On approximation of difference operator with differential one by investigation of oscillations of 1-dimensional discrete systems. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 197–204, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 34K05 (35R10, 39A70, 70J99)

— (*with* Bainov, Drumi Dimitrov; Minchev, Emil) Monotone iterative method for semilinear parabolic systems of operator-differential equations. (English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 9–18 (1998). 35K55 (35A35)

— (*with* Kolmanovskiĭ, Vladimir B.) Stability in the first approximation of some Volterra difference equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 563–569. (Summary) **99b:39017** 39A11

— On universal solvability of the first boundary value problem for linear difference equation with constant coefficients. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 571–576. (Summary) **99b:39009** 39A10

— (*with* Filimonov, A. M.) Asymptotic estimate of solution of one mixed difference-differential equation of oscillations theory. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 1, 13–16. (Summary) **99d:34155** 34K25 (70J99)

— (*with* Kamenskiĭ, G. A.) Mixed functional-differential equations. *Nonlinear Anal.* **34** (1998), *no.* 2, 283–297. (Lidia Skóra) **99f:35216** 35R10 (35K55)

Myśliński, A. (*with* Rousselet, Bernard; Piekarski, J.) Design sensitivity for a hyperelastic rod in large displacement with respect to its midcurve shape. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 683–708. (Christian Zillober) **99a:73099** 73K40 (49M30, 49Q10, 73C50, 73K05)

Myslivets, S. G. On holomorphic continuation of functions along complex curves. *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 39–45, *World Sci. Publishing, River Edge, NJ*, 1997. (Stefano Trapani) **99c:32014** 32D15

— (*with* Kytmanov, A. M.) On the holomorphicity of functions representable by the logarithmic residue formula. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997),

no. 2, 351–361, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 302–311. (Harold P. Boas) **99b:32011** 32D15 (32A25, 32A27)

— (*with* Kytmanov, A. M.) On an application of the Bochner-Martinelli operator. (English summary) *Operator theory for complex and hypercomplex analysis (Mexico City, 1994)*, 133–136, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Harold P. Boas) **99b:32012** 32D15 (32A25)

— (*with* Kytmanov, A. M.) On the holomorphic continuation of functions along complex curves. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 302–304. (Marek Jarnicki) **99c:32012** 32D15

Mysovskikh, I. P. On cubature formulas that are exact for trigonometric polynomials. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1114–1117; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1065–1068. (Summary) **99d:65082** 65D32 (41A55)

Myszkorowski, Piotr[1] (*with* Holmberg, Ulf) Comment on: "Precision tracking control of non-minimum phase systems with zero phase error" [Internat. J. Control **61** (1995), no. 4, 791–807] by J. Z. Xia and C.-H. Menq. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 995. 93B55 (93C95)

Mytnik, Leonid Weak uniqueness for the heat equation with noise. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 968–984. (Fred Espen Benth) **99i:60124** 60H15 (35K05, 35R60)

— Uniqueness for a mutually catalytic branching model. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 2, 245–253. (Sylvie Méléard) **99i:60125** 60H15 (60J80)

Myung, Hyo Chul Note on the Jacobi elliptic functions. (English summary) *J. Algebra* **200** (1998), *no.* 1, 134–140. (Michael K. Kinyon) **99a:34025** 34A34 (17A01, 33E05, 34A25)

— *see also* **Recent progress in algebra**, **99e:00027**

Myung, Yun Soo (*with* Lee, Hyung Won; Kim, Jin Young; Park, DaeKil) Unstable propagation of black strings. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 9, 701–713. (Summary) **99c:83097** 83E30 (83C57)

— (*with* Lee, Hyung Won; Kim, N. J.) Probing the BTZ black hole with test fields. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 83–88. (Summary) **99h:83037** 83C57

— (*with* Lee, Hyung Won; Kim, N. J.; Kim, Jin Young) Stability analysis and absorption cross section in three-dimensional black string. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7361–7368. 83E30 (83C57)

— (*with* Lee, Hyung Won; Kim, N. J.) Dynamical behavior of the BTZ black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084022, 4 *pp.* (Summary) **99m:83123** 83C57 (83E30)

— (*with* Lee, Hyung Won; Kim, Jin Young) Role of fixed scalars in scattering off a 5D black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104006, 11 *pp.* 83C57

— (*with* Lee, Hyung Won) Greybody factor for the BTZ black hole and a 5D black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104013, 7 *pp.* (Summary) **99m:83191** 83E30 (81T30, 81T60, 83C57)

— BTZ black hole and quantum Hall effect in the bulk-boundary dynamics. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044028, 3 *pp.* (Summary) **99m:83130** 83C57 (81V70)

–N–

phan le Na *see* **Phan Le Na**

Na, Jonghwa Saddlepoint approximation to the distribution of general statistic. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 2, 287–302. (Summary) **99i:62028** 62E17

Na, Sungsoo (*with* Librescu, L.) Boundary control of free and forced oscillation of shearable thin-walled beam cantilevers. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 687–700. 73K12 (73K05, 73K50, 93C85)

Na, Y. (*with* Moin, Parviz) Direct numerical simulation of a separated turbulent boundary layer. (English summary) *J. Fluid Mech.* **374** (1998), 379–405. 76F99 (76D10)

— (*with* Moin, Parviz) The structure of wall-pressure fluctuations in turbulent boundary layers with adverse pressure gradient and separation. (English summary) *J. Fluid Mech.* **377** (1998), 347–373. (From the summary) **99j:76062** 76F99 (76D10)

Näätänen, Marjatta (*with* Nakanishi, Toshihiro) Parametrization of Teichmüller space by length parameters. (English summary) *Analysis and topology*, 541–560, *World Sci. Publishing, River Edge, NJ*, 1998. (Steffen Timmann) **99m:30092** 30F60 (32G15)

Nababan, S. M. Oscillation criteria for second order nonlinear differential equations. (English summary) *Differential equations* (*Bandung*, 1996), 335–343, *Kluwer Acad. Publ., Dordrecht*, 1997. (L. M. Kuks) **99a:34098** 34C10

Nabben, Reinhard Matrices whose inverses are generalized M-matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 67–84. (Summary) **99d:15002** 15A09 (15A48, 15A57)

— (*with* McDonald, Judith J.; Neumann, Michael; Schneider, Hans; Tsatsomeros, Michael J.) Inverse tridiagonal Z-matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 75–97. (Summary) **99i:15037** 15A57 (15A09)

— (*with* Bai, Zhong Zhi) Some properties of the block matrices in the parallel decomposition-type relaxation methods. (English summary) *Appl. Numer. Math.* **29** (1999), *no.* 2, 167–170. (Summary) **99k:65038** 65F35 (65F50)

Naber, Gregory L. ★ Topology, geometry, and gauge fields. (English summary) Foundations. Texts in Applied Mathematics, 25. *Springer-Verlag, New York*, 1997. xviii+396 *pp. ISBN* 0-387-94946-1 (Liviu I. Nicolaescu) **99b:58001** 58–01 (22E15, 53–01, 53C07, 81T13)

Nabeya, Seiji Asymptotic moments of some unit root test statistics in the null case. (English summary) *Econometric Theory* **15** (1999), *no.* 1, 139–149. 62M10

Nabh, G. (*with* Rannacher, Rolf) A comparative study of nonlinear Galerkin finite element methods for one-dimensional dissipative evolution problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 2, 113–144. (Reinhard Scholz) **99c:65184** 65M60

Nabiev, I. M. (*with* Agalarov, D. G.; Gumbataliev, M. A.) Quasisteady motion of a filament in a space. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 178–183. 73K03

Naboko, Sergei N. (*with* Janas, Jan) On the point spectrum of some Jacobi matrices. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 113–132. (Petru A. Kozhukhar') **99f:47041** 47B39

— (*with* Janas, Jan) Jacobi matrices with absolutely continuous spectrum. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 791–800. (Alexander A. Kiselev) **99f:47042** 47B39 (47A10, 47B37)

Nabonnand, Philippe The Poincaré–Mittag-Leffler relationship. *Math. Intelligencer* **21** (1999), *no.* 2, 58–64. (From the text) **99m:01082** 01A70

al-Nachawati, H. M. *see* **Al-Nachawati, H. M.**

Nachbin, André (*with* Baker, Gregory R.) Stable methods for vortex sheet motion in the presence of surface tension. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1737–1766 (*electronic*). (Thomas Y. Hou) **99c:76073** 76M15 (65N30, 76C05)

— *see also* **Leopoldo Nachbin, 99f:01025** *and* **Workshop: Partial Differential Equations: Theory, Computation, and Applications, 99g:35006**

Nachbin, Léopoldo Régularité des solutions des équations différentielles elliptiques (d'après J. Moser). [Regularity of the solutions of elliptic differential equations (after J. Moser)] *Séminaire Bourbaki, Vol. 8, Exp. No.* 258, 227–237, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 35B65 (35Jxx)

— *see also* **Leopoldo Nachbin, 99f:01025**

Nachkebia, Sh. (*with* Mikadze, I.; Kakubava, R.) Generalization of the virtual waiting time problem. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 1, 93–95. 90B25

Nachtergaele, Bruno Quasi-state decompositions for quantum spin systems. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 565–590, *TEV, Vilnius*, 1994. (Władysław Adam Majewski) **99j:82010** 82B10 (82B31)

— (*with* Periwal, Vipul) Quantum gate arrays as coherent sums over classical logic gate arrays. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8685–8692. (S. Gudder) **99a:81016** 81P15 (81P10)

— Quantum interfaces. (English summary) *Quantum probability* (*Gdańsk*, 1997), 321–329, *Banach Center Publ.*, **43**, *Polish Acad. Sci., Warsaw*, 1998. (Władysław Adam Majewski) **99j:82029** 82B24 (82B10, 82B20)

— (*with* Koma, Tohru) Interface states of quantum lattice models. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 133–144. (*see* **99f:00023**) 82B10 (82B20)

Nachtigall, Karl Powers of matrices over an extremal algebra with applications to periodic graphs. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 87–102. (Summary) **99e:05076** 05C35 (90B35)

Nachtmann, Otto High energy collisions and nonperturbative QCD. (English summary) *Perturbative and nonperturbative aspects of quantum field theory* (*Schladming*, 1996), 49–138, *Lecture Notes in Phys.*, **479**, *Springer, Berlin*, 1997. (*see* **99d:81177**) 81V05

Nachtsheim, Christopher J. (*with* Fedorov, Valerii V.; Montepiedra, Grace) Optimal design and the model validity range. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 215–227. (Summary) **99g:62107** 62K05

Nacinovich, Mauro (*with* Medori, C.) Pluriharmonic functions on abstract CR manifolds. *Ann. Mat. Pura Appl.* (4) **170** (1996), 377–394. (J. Merker) **99d:32019** 32F05 (32C16)

— (*with* Boiti, Chiara) Extension of formal power series solutions. *Rend. Sem. Mat. Univ. Padova* **96** (1996), 205–235. (María-Angeles Zurro) **99k:35006** 35A20 (35C10)

— (*with* Medori, C.) Levi-Tanaka algebras and homogeneous CR manifolds. (English summary) *Compositio Math.* **109** (1997), *no.* 2, 195–250. (J. Merker) **99d:32007** 32C16 (32F25, 53C15)

— (*with* Hill, C. Denson) Simplicially q-pseudoconcave CR manifolds and wedge decomposition. *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 111–124, *Univ. Stud. Bologna, Bologna*, 1998. (Kimio Miyajima) **99k:32012** 32C16 (32F25)

— (*with* Shlapunov, A. A.; Tarkhanov, Nikolai N.) Duality in the spaces of solutions of elliptic systems. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 207–232. (Steven George Krantz) **99e:46032** 46E10 (35J99, 46N20)

Nacken, M. (*with* Nessel, R. J.; Röpsch, C.) On the approximation of Riemann integrable functions by Fejér means. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 41–51. (Michael Felten) **99k:42004** 42A10 (41A40, 42A45)

Nacken, Peter FM (*with* Kalitzin, Stilyan; ter Haar Romeny, Bart M.; Salden, Alfons H.; Viergever, Max A.) Topological numbers and singularities in scalar images: scale-space evolution properties. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 3, 253–269. (Jayant M. Shah) **99m:68222** 68U10

Naculich, Stephen G. (*with* Schnitzer, Howard J.) Superconformal coset equivalence from level-rank duality. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 727–748. (Summary) **99g:81071** 81R10 (81T40)

— (*with* Ennes, Isabel P.; Rhedin, Henric; Schnitzer, Howard J.) One-instanton predictions for non-hyperelliptic curves derived from M-theory. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 245–257. (Summary) **99h:81207** 81T60 (14H45, 81T13)

Nădăban, Sorin-Florin Fredholm pairs associated to Fredholm complexes. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A* (*Arad*, 1996), 99–103, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (F.-H. Vasilescu) **99m:47011** 47A53

Nadarajan, R. (*with* Krishna Reddy, G. V.; Arumuganathan, R.) Analysis of a bulk queue with N-policy multiple vacations and setup times. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 11, 957–967. (Nicole Bäuerle) **99e:90042** 90B22 (60K25)

Nadaraya, E. (*with* Absava, R.; Nadaraya, L.; Vezirishvili, M.) Testing the equality of two regression curves. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 193–195. (Atanu Biswas) **99g:62061** 62G10

Nadaraya, L. (*with* Nadaraya, E.; Absava, R.; Vezirishvili, M.) Testing the equality of two regression curves. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 193–195. (Atanu Biswas) **99g:62061** 62G10

Nadathur, Gopalan (*with* Loveland, Donald W.) Proof procedures for logic programming. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 163–234, *Oxford Univ. Press, New York*, 1998. (Ralph W. Wilkerson) **99d:68043** 68N17 (03B35, 03B70, 68T15)

— (*with* Miller, Dale A.) Higher-order logic programming. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 499–590, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99c:68044** 68N17 (03B15, 03B70)

— (*with* Wilson, Debra Sue) A notation for lambda terms. A generalization of environments. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 49–98. (M. Yasuhara) **99j:68010** 68N15 (03B40, 68Q42)

Nadaud, François Generalised deformations, Koszul resolutions, Moyal products. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 5, 685–704. (Mary Schaps) **99f:16033** 16S80 (81Q60, 81R50)

Nadeau, J. C. (*with* Ferrari, Mauro[2]) Invariant tensor-to-matrix mappings for evaluation of tensorial expressions. (English summary) *J. Elasticity* **52** (1998), *no.* 1, 43–61. (Summary) **99k:73030** 73B40 (73B05, 73C99)

Nadeau, R. (*with* Ben Abdelaziz, F.; Lang, Pascal) Distributional unanimity in multiobjective stochastic linear programming. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 225–236, *Springer, Berlin*, 1997. (Summary) **99d:90097** 90C29 (90C15)

Nadel, Alan M. Invariants for holomorphic vector bundles. *Math. Ann.* **309** (1997), *no.* 1, 37–52. (Laurent Manivel) **99e:32049** 32L05 (32J25)

Naderi, Amir (*with* Fraser, Donald A. S.) On the definition of conditional probability. (English summary) *Research developments in probability and statistics*, 23–26, *VSP, Utrecht*, 1996. (Giulianella Coletti) **99a:60001** 60A05

— (*with* Fraser, Donald A. S.; McDunnough, Philip; Plante, André) From the likelihood map to Euclidean minimal sufficiency. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 223–230 (19*N*). (Dieter Mussmann) **99e:62007** 62B05 (62A10)

Nadim, Ali (*with* Harkin, Anthony; Kaper, Tasso J.) On acoustic cavitation of slightly subcritical bubbles. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 274–287. (Summary) **99k:76017** 76B10

Nadir, M. Sur l'approximation des intégrales singulières. (French summary) [On the approximation of singular integrals] *Far East J. Math. Sci.* **6** (1998), *no.* 4, 663–670. (Nikolay Y. Tikhonenko) **99i:45021** 45L05 (30E20, 45E05, 65R20)

Nadiradze, R. Some formulas for the elliptic cohomology. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 1, 17–21. 55N22 (05A40, 55N35)

— On one class of formal groups. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 1, 17–20. 55N22

Nadirashvili, Nikolai Nonuniqueness in the martingale problem and the Dirichlet problem for uniformly elliptic operators. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 537–550. (Jörg-Uwe Löbus) **99b:35042** 35J25 (60J60)

— (*with* Hoffmann-Ostenhof, M.; Hoffmann-Ostenhof, T.) On the nodal line conjecture. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 33–48, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Vitaly A. Volpert) **99c:35045** 35J25 (35B99, 35P99)

— (*with* Hamel, François) Existence et propriétés qualitatives de solutions entières de l'équation de KPP. (English and French summaries) [Existence and qualitative properties of entire solutions of the KPP equation] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 479–484. (Summary) **99h:35187** 35Q53 (35K55)

Nadkarni, M. G. (*with* Choksi, J. R.) Genericity of certain classes of unitary and self-adjoint operators. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 137–139. (Summary) **99c:47023** 47B15 (47A99, 47B25)

Nadler, David (*with* Yakovenko, S.) Oscillation and boundary curvature of holomorphic curves in $\mathbf{C}^n$. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 137–148. (Min Ru) **99e:32046** 32H99

Nadler, Sam B., Jr. Cones and suspensions that are Hilbert cubes. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 2, 285–289. (Summary) **99i:57041** 57N20 (54B15)

— (*with* Illanes, Alejandro) ★ Hyperspaces. (English summary) Fundamentals and recent advances. Monographs and Textbooks in Pure and Applied Mathematics, 216. *Marcel Dekker, Inc., New York*, 1999. *xx*+512 *pp. ISBN* 0-8247-1982-4 (L. E. Ward, Jr.) **99m:54006** 54B20 (54–02, 54C56, 54F15, 54H25)

Nadon, Jacqueline (*with* McKay, Brendan D.; Myrvold, Wendy) Fast backtracking principles applied to find new cages. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 188–191, *ACM, New York*, 1998. (*see* **99d:68011**) 68T20 (05C85, 68R10)

Nadzieja, T. (*with* Raczyński, A.) A singular radially symmetric problem in electrolytes theory. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 1, 101–112. (J. W. Jerome) **99a:34060** 34B15 (35B40, 35K60, 76X05, 82D99, 92E20)

Naert, A. (*with* Friedrich, Rudolf; Galla, Th.; Peinke, J.; Schimmel, Th.) Disordered structures analyzed by the theory of Markov processes. (English summary) *A perspective look at nonlinear media*, 313–326, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99g:76069** 76F20 (28A80, 60J20, 73B99, 76M35)

Næs, Tormod (*with* Langsrud, Øyvind) A unified framework for significance testing in fractional factorials. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 4, 413–431. (Summary) **99i:62173** 62K15

Nævdal, Geir (*with* Johnson, Charles Royal) The probability that a (partial) matrix is positive semidefinite. (English summary) *Recent progress in operator theory (Regensburg, 1995)*, 171–182, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Tiberiu Constantinescu) **99g:15021** 15A48 (15A52)

— (*with* Bakonyi, Mihály) On the matrix completion method for multidimensional moment problems. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 547–558. (Summary) **99k:42020** 42B10 (44A60, 47A57)

— (*with* Bakonyi, Mihály) Characterization of finite subsets of $\mathbf{Z}^2$ having the extension property. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 417–420. (Mihai Putinar) **99h:47022** 47A57 (42B30, 47B99)

— (*with* Woerdeman, Hugo J.) Cone inclusion numbers. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 613–639 (*electronic*). (Shu An Hu) **99d:15018** 15A48 (47D20)

Naeve, Jörg Nash implementation of the Nash bargaining solution using intuitive message spaces. (English summary) *Econom. Lett.* **62** (1999), *no.* 1, 23–28. (Summary) **99j:90125** 90D12

Naftalevich, A. (*with* Fryant, A.; Vemuri, M. K.) Orthogonal homogeneous polynomials. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 3, 371–379. (F. Móricz) **99m:42039** 42C05 (33C50)

Nag, Nivedita (*with* Sinha, Anjana; Roychoudhury, R.) Quantum deformation of the confined Hulthen problem. (English summary) *Czechoslovak J. Phys.* **48** (1998), *no.* 9, 1025–1033. (From the text) **99j:81073** 81R50

Nag, Subhashis Mathematics in and out of string theory. *Topology and Teichmüller spaces (Katinkulta, 1995)*, 187–220, *World Sci. Publishing, River Edge, NJ*, 1996. (V. V. Chueshev) **99j:58221** 58G26 (32G15, 81T30)

— (*with* Biswas, Indranil) Weil-Petersson geometry and determinant bundles on inductive limits of moduli spaces. (English summary) *Lipa's legacy (New York, 1995)*, 51–80, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel Huybrechts) **99m:14050** 14H15 (32G15, 58G26)

— (*with* Biswas, Indranil) Commensurability automorphism groups and infinite constructions in Teichmüller theory. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 35–40. (Steffen Timmann) **99i:32026** 32G15 (30F10, 30F60)

— (*with* Biswas, Indranil) Jacobians of Riemann surfaces and the Sobolev space $H^{1/2}$ on the circle. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 3, 281–292. (Yoichi Imayoshi) **99g:58009** 58B25 (14H40, 30F60, 32G15)

Nagabuchi, Yutaka (*with* Yagi, Atsushi) A two sector model of chemotaxis. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 387–398. (John G. Milton) **99f:92037** 92D50 (35Q80)

Nagaev, Aleksandr Viktorovich (*with* Jakubowski, Adam; Zaigraev, A. Yu.) Large deviation probabilities for sums of heavy-tailed dependent random vectors. (English summary) Heavy tails and highly volatile phenomena. *Comm. Statist. Stochastic Models* **13** (1997), *no.* 4, 647–660. (Vadim R. Fatalov) **99d:60033** 60F10 (60G10)

— (*with* Zaigraev, A. Yu.; Jakubowski, Adam) Probabilities of large deviations of the sums of lattice random vectors when the original distribution has heavy tails. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 68–81. (S. A. Book) **99d:60037** 60F10 (62E20)

— (*with* Mikosch, Thomas) Large deviations of heavy-tailed sums with applications in insurance. (English summary) *Extremes* **1** (1998), *no.* 1, 81–110. (Boualem Djehiche) **99i:60057** 60F10 (60G50, 60G70, 62P05)

— (*with* Janaszewska, E.) On the joint distribution of the shorth height and length. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 2, 210–229. (Michael Falk) **99m:62079** 62G30 (62E20)

— *see also* **Birthday: Nagaev, Aleksandr Viktorovich**

Nagaev, R. F. (*with* Metrikin, V. S.; Stepanova, V. V.) Periodic and stochastic auto-oscillations in a system with dry friction of hereditary type. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 859–864; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 845–850. (Summary) **99c:70029** 70K25 (70K50)

Nagaev, Sergei On accuracy of approximation with stable laws. (English summary) *Probability theory and mathematical statistics (Vilnius, 1993)*, 591–604, *TEV, Vilnius*, 1994. (Summary) **99f:60068** 60F15 (60E07)

— On accuracy of approximation in central limit theorem. *Probability theory and mathematical statistics (St. Petersburg, 1993)*, 95–108, *Gordon and Breach, Amsterdam*, 1996. (Zdzisław Rychlik) **99k:60062** 60F05

— Some refinements of probability inequalities. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 6, 64–66, 112; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 44–46 (1997). (Bronius Riauba) **99a:60015** 60E15 (60F10)

— Probabilistic inequalities for sums of independent random variables in terms of truncated pseudo-moments. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 615–623; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 520–528 (1998). (Zheng Yan Lin) **99e:60079** 60F10 (60E15, 60G50)

— Some refinements of probabilistic and moment inequalities. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 832–838. (Iosif Pinelis) **99e:60053** 60E15 (60B11)

Nagahara, Takasi (*with* Tanabe, Kazuyuki) Infinite outer Galois theory of semisimple rings. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3909–3922. (H. F. Kreimer) **99h:16051** 16W20 (16K40)

Nagahata, Yukio The gradient condition for one-dimensional symmetric exclusion processes. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 587–602. (Ellen Saada) **99j:82006** 82B05 (60K35, 82C22)

Nagai, Atsushi (*with* Tokihiro, Tetsuji; Satsuma, Junkichi; Willox, Ralph; Kajiwara, Kenji) Two-dimensional soliton cellular automaton of deautonomized Toda-type. (Japanese summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 15–27. (*see* **99c:00013**) 68Q80 (58F08)

— (*with* Tokihiro, Tetsuji; Satsuma, Junkichi) The Toda molecule equation and the ε-algorithm. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1565–1575. (Gh. Adam) **99d:65010** 65B10 (41A21, 58F07, 65D99)

— (*with* Tokihiro, Tetsuji; Satsuma, Junkichi) Ultra-discrete Toda molecule equation. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 383–388. (Sen Yue Lou) **99h:58058** 58F03 (58F08)

Nagai, Hideo (*with* Kaise, Hidehiro) Bellman-Isaacs equations of ergodic type related to risk-sensitive control and their singular limits. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 347–362. (Daniel Hernández-Hernández) **99b:93050** 93E20 (49L20)

Nagai, Hiroyuki The energy pseudo-tensor of a spherically symmetric space. (English summary) *J. Fac. Internat. Stud. Cult. Kyushu Sangyo Univ. No.* 11 (1998), 135–148. (Volker Perlick) **99j:83029** 83C40

Nagai, Setsuo The classification of naturally reductive homogeneous real hypersurfaces in complex projective space. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 6, 523–528. (Hiroo Naitoh) **99a:53072** 53C40 (53C30)

Nagai, Toshitaka (*with* Senba, Takasi; Yoshida, Kiyoshi) Application of the Trudinger-Moser inequality to a parabolic system of chemotaxis. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 411–433. (V. N. Razzhevaikin) **99k:92048** 92D50 (35K55, 35Q80, 92C99)

— (*with* Senba, Takasi) Behavior of radially symmetric solutions of a system related to chemotaxis. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3837–3842. (Yuzo Hosono) **99b:35198** 35Q80 (80A30)

— (*with* Senba, Takasi; Yoshida, Kiyoshi) Global existence of solutions to the parabolic systems of chemotaxis. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 22–28. (N. L. Vulchanov) **99h:92043** 92D50 (35K55, 35Q80, 92C05)

— (*with* Díaz Díaz, Jesús Ildefonso; Rakotoson, Jean Michel) Symmetrization techniques on unbounded domains: application to a chemotaxis system on $\mathbf{R}^N$. *J. Differential Equations* **145** (1998), *no.* 1, 156–183. (Piotr Biler) **99c:35242** 35Q80 (35K15, 92C45)

— (*with* Senba, Takasi; Suzuki, Takashi[1]) Keller-Segel system and the concentration lemma. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 75–80. (H. W. Vayo) **99k:35177** 35Q80 (92D50)

Nagai, Yoshinori (*with* Yamaguchi, Hideki) Correlation dimension as the large deviation for distribution of distances between two points on an embedded manifold. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 10, 3397–3404. (Summary) **99j:58137** 58F12 (60F10)

Nagamachi, S. (*with* Brüning, E.) Closure of field operators, asymptotic abelianness, and vacuum structure in hyperfunction quantum field theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5098–5111. (Roman Gielerak) **99k:81169** 81T05 (46F15, 47N50)

Nagamochi, Hiroshi (*with* Ishii, Toshimasa; Ibaraki, Toshihide) Augmenting edge and vertex connectivities simultaneously. (English summary) *Algorithms and computation (Singapore, 1997)*, 102–111, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:05109** 05C85 (68R10)

— (*with* Deng, Xiao Tie; Ibaraki, Toshihide) Some duality properties of combinatorial optimization games. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 137–149. (Summary) **99e:90124** 90D46

— (*with* Ishii, Toshimasa; Ibaraki, Toshihide) Optimal augmentation to make a graph k-edge-connected and triconnected. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 280–289, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (05C40, 05C85, 68Q25).

— (*with* Ibaraki, Toshihide; Karzanov, A. V.) A fast algorithm for finding a maximum free multiflow in an inner Eulerian network and some generalizations. (English summary) *Combinatorica* **18** (1998), *no.* 1, 61–83. (Mechthild Opperud) **99g:90096** 90C27 (05C85)

— (*with* Ibaraki, Toshihide) A note on minimizing submodular functions. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 239–244. (Summary) **99e:68072** 68Q25 (68R05)

— (*with* Frank, András; Ibaraki, Toshihide) Two arc-disjoint paths in Eulerian digraphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 557–589 (*electronic*). (Cun-Quan Zhang) **99i:05121** 05C38 (05C45)

— (*with* Ibaraki, Toshihide) Augmenting edge-connectivity over the entire range in $\tilde{O}(nm)$ time. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 253–301. (Summary) **99k:68146** 68R10 (05C40, 05C85, 68Q25)

Naganathan, E. R. (*with* Sakthivel, S.) A ratio multiplex algorithm to solve linear fractional programming problems. (English summary) *Opsearch* **35** (1998), *no.* 3, 214–225. 90C32 (90C08)

Nagano, Y. *see* **Nagano, Yoshihiko**

Nagano, Yasutaka (*with* Iida, O.) Coherent structure and heat transfer in geostrophic flow under density stratification. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 368–377. (Summary) **99k:76147** 76U05 (76V05, 86A10)

Nagano, Yoshihiko (*with* Chō, Muneo) Spectral mapping theorems and Weyl spectra for hyponormal operators. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 105–110.

(Wacław Szymański) **99e:47026** 47B20 (47A10, 47A60)

— (*with* Chō, Muneo) Simple proof of the p-hyponormality of the Aluthge transformation. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 2, 248–251. (Ameer Athavale) **99k:47052** 47B20

Nagao, Hidemi (*with* Fukumi, Toshio; Kamada, Kenji; Ohta, Koji; Matsueda, Hideaki) Quantum calculations connected with path integrals. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 203–206. (*see* **99b:00018**) 81S40

Nagao, Hisao Asymptotically pointwise optimal rules of sequential estimation of mean vector when an information matrix has some structure in a multivariate normal population. (English summary) *Sequential Anal.* **16** (1997), *no.* 4, 363–374. (Rasul A. Khan) **99b:62122** 62L12

Nagaoka, Hiroshi (*with* Fujiwara, Akio) Operational capacity and pseudoclassicality of a quantum channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1071–1086. (Summary) **99e:94023** 94A40

Nagaoka, Masataka Chemical reactions in condensed systems and stochastic numerical analysis—the Langevin equations in the quantization of stochastic processes in complex time form. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 74–85. (*see* **99f:65007**) 65U05 (82C31)

Nagapetyan, M. G. (*with* Ushakov, Vladimir Georgievich) Inverse problems in some single-server systems. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 1, 9–15. (Vladimir V. Kalashnikov) **99j:60144** 60K25

Nagar, Anima (*with* Bhatt, Piyush) Self-similarity and Hausdorff spaces. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 377–384. (Run Sheng Yang) **99d:54011** 54C60 (54E40)

Nagar, Daya K. (*with* Tayal, Vipin) Distribution of the determinant of a noncentral complex Wishart matrix. (English summary) *Gaṇita Sandesh* **10** (1996), *no.* 2, 97–103. 62H10

— (*with* Gupta, Arjun K.) Quadratic forms in disguised matrix T-variate. (English summary) *Statistics* **30** (1998), *no.* 4, 357–374. (Summary) **99k:62109** 62H10

Nagar, Vishakha (*with* Rathie, Arjun K.) Some summation formulas for the series ${}_4F_3$. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 63–64. (Summary) **99g:33012** 33C20

— (*with* Joshi, Mukesh M.; Chhajer, G. C.; Rathie, Arjun K.) On Ramanujan's summations. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 65–66. 33C20 (11Y60)

Nagaraj, B. R. Propagation of singularities for a class of Fuchsian operators. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 547–575. (Summary) **99c:35005** 35A20 (35S05, 58G17)

Nagaraj, D. S. (*with* Biswas, Indranil) Parabolic ample bundles. II. Connectivity of zero locus of a class of sections. *Topology* **37** (1998), *no.* 4, 781–789. (Laurent Manivel) **99e:14047** 14J60 (14F17)

Nagaraj, S. V. Optimal binary search trees. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 1–44. (E. M. Reingold) **99f:68039** 68P05

Nagaraja, G. (*with* Sempere, José M.) Learning a subclass of linear languages from positive structural information. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 162–174, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68T05 (68Q45)

Nagaraja, H. N. (*with* Nevzorov, V. B.) On characterizations based on record values and order statistics. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 271–284. (Gwo Dong Lin) **99c:62031** 62E10 (62G30)

Nagarajan, A. (*with* Somasundaram, S.) Graphoidal tree cover. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 95–98. 05C70 (05C05)

Nagarajan, K. R. (*with* Soundararajan, T.) On submanifolds with extension property. *J. Indian Math. Soc.* (*N.S.*) **64** (1997), *no.* 1-4, 53–60. (From the introduction) **99b:57060** 57R40 (54C20)

— (*with* Soundararajan, T.) On the module of 1-forms on a differentiable manifold and parallelizable manifolds. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 115–129. (Akira Asada) **99m:58008** 58A10

Nagarkatti, S. (*with* Canbolat, H.; Dawson, Darren M.; Rahn, Christopher D.) Adaptive boundary control of out-of-plane cable vibration. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 4, 963–969. (Summary) **99j:73075** 73K50 (93C20)

Nagasaka, Hirofumi Vertex dimension of complete graphs on even vertices. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 2, 163–170. (Wolfgang Kühnel) **99m:05052** 05C10 (53A04, 57M15)

Nagasaka, Kazunori (*with* Ohtani, Takashi; Ichihashi, Hidetomo; Miyoshi, Tetsuya) Orthogonal and successive projection methods for the learning of neurofuzzy GMDH. (English summary) *Inform. Sci.* **110** (1998), *no.* 1-2, 5–24. 68T05

— (*with* Miyoshi, Tetsuya; Ichihashi, Hidetomo) Fuzzy projection pursuit density estimation by eigenvalue method. (English summary) *Internat. J. Approx. Reason.* **20** (1999), *no.* 3, 237–248. (Summary) **99m:62061** 62G07

Nagasaka, Kosaku (*with* Sasaki, Tateaki) Approximate factorization of multivariable polynomials and its computational complexity. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 111–118. (*see* **99h:00034**) 65H10 (13P10, 68Q25, 68Q40)

Nagasaki, Ikumitsu Unstable jO-groups and stably linear homotopy representations for p-groups. *Osaka J. Math.* **36** (1999), *no.* 1, 1–16. (Karl Heinz Dovermann) **99m:57033** 57S17 (55P91, 57S25)

Nagasawa, Koji (*with* Matsuzuka, Isamu; Kitahama, Akihiro) A proposal for two-sided Laplace transforms and its application to electronic circuits. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 1–11. (Summary) **99h:44003** 44A10 (94C05)

Nagasawa, Takeyuki (*with* Ueno, Keisuke) Initial-final value problems for ordinary differential equations and applications to equivariant harmonic maps. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 545–555. (J. Eells) **99e:58051** 58E20 (34B15)

Nagase, Michihiro (*with* Ashino, Ryuichi; Vaillancourt, Rémi) A construction of multiwavelets. (Japanese. Japanese summary) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 1–22. (*see* **99f:35004**) 42C15 (65T20)

— (*with* Ashino, Ryuichi; Vaillancourt, Rémi) Gabor, wavelet and chirplet transforms in the study of pseudodifferential operators. (English summary) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 23–45. (Summary) **99f:35237** 35S05 (35A22, 42C15, 47G30)

Nagashima, Hiroyuki (*with* Yoshimoto, Minoru; Kurosawa, Shigeru) Effect of noise on chaos in a one-dimensional map. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1924–1929. (Summary) **99c:58114** 58F13

Nagashima, Takashi Arithmetization of another formulation of a subsystem of Kaneko-Nagashima's GL. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 156–162. (*see* **99d:03003**) 03C75 (03D35)

Nagashima, Tomomasa (*with* Tokuda, Isao; Aihara, Kazuyuki) Adaptive annealing for chaotic optimization. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5157–5160. 90C27 (90B10)

Nagasubbu, V. N. (*with* Kathiresan, Km.; Muthuvel, S.) Consecutive labelings for two classes of plane graphs. (English summary) *Util. Math.* **55** (1999), 237–241. 05C78

Nagata, J. The flowering of general topology in Japan. *Handbook of the history of general topology, Vol.* 1, 181–241, *Kluwer Acad. Publ., Dordrecht*, 1997. (Krzysztof Ciesielski) **99f:54004** 54–03 (01A60, 54–00)

Nagata, M. *see* **Nagata, Masato**

Nagata, Makoto G-functions and number theory. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 104–109. (*see* **99d:11001**) 12H25 (11S80, 12J25, 13F25, 14G20, 34A99)

Nagata, Masato (*with* Fujimura, Kaoru) Degenerate 1:2 steady state mode interaction—MHD flow in a vertical slot. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 377–400. (Summary) **99a:76161** 76W05 (76E25)

Nagata, Wayne (*with* Sri Namachchivaya, N.) Bifurcations in gyroscopic systems with an application to rotating shafts. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 543–585. (Summary) **99d:34065** 34C23 (34C15, 70H05, 70K99)

Nagatani, Hiroshi (*with* Kuroda, S. T.) $\mathscr{R}_{-2}$-construction and Hamiltonians with interactions of various type. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 155–167. (*see* **99a:00049**) 47E05 (34L40, 47A55, 47N50, 81Q10, 81Q15)

Nagatani, Takashi (*with* Emmerich, Heike; Nakanishi, Ken) From modified KdV-equation to a second-order cellular automaton for traffic flow. (English summary) *Phys. A* **254** (1998), *no.* 3-4, 548–556. (Summary) **99h:90046** 90B20

Nagatomo, Yasuyuki Instantons on quaternion-Kähler manifolds. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 219–230 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Antony Maciocia) **99k:53040** 53C07 (53C25, 53C56)

Nagavamsi, P. (*with* Chang, Maw-Shang; Pandu Rangan, C.) Weighted irredundance of interval graphs. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 65–70. (Summary) **99a:05132** 05C85 (68Q25, 68R10)

Nagayama, Masaharu (*with* Mimura, Masayasu; Ohta, Takao) Non-annihilation of travelling pulses in reaction-diffusion systems. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 239–245, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57

Nagel, Alexander (*with* Boggess, Al; Glenn, Laura Ann) Model rigid CR submanifolds of CR dimension 1. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 43–74. (Elisabetta Barletta) **99g:32011** 32C16 (32E20, 32F40)

Nagel, Jan The Abel-Jacobi map for complete intersections. *Indag. Math.* (*N.S.*) **8** (1997), *no.* 1, 95–113. (Alexandru Dimca) **99c:14062** 14K30 (14M10)

— Effective bounds for Nori's connectivity theorem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 189–192. (Summary) **99e:14021** 14F17 (14C25, 14C30)

— The generalized Hodge conjecture for the quadratic complex of lines in projective four-space. (English summary) *Math. Ann.* **312** (1998), *no.* 2, 387–401. (Salman Abdulali) **99m:14020** 14C30 (14C25, 14J45)

Nagel, Rainer Characteristic equations for the spectrum of generators. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 4, 703–717 (1998). (Adam Bobrowski) **99d:47038** 47D06 (47A10, 47N20)

— Extrapolation spaces for semigroups. (English summary) Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 181–191. (Valentina Ivanivna Gorbachuk) **99g:47098** 47D06 (46M35, 47A55)

Nagel, Uwe (*with* Schenzel, Peter) Degree bounds for generators of cohomology modules and Castelnuovo-Mumford regularity. (English summary) *Nagoya Math. J.* **152** (1998), 153–174. (Vincenzo Di Gennaro) **99m:13026** 13D02 (14B15, 14M05)

Nagem, R. J. (*with* Lee, Ding; Resasco, D. C.; Chen, Chi-fang) A coupled 3D fluid-elastic wave propagation model: mathematical formulation and analysis. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 147–178. (Summary) **99a:73105** 73K70 (73D15, 76M20, 76Q05, 86A05)

Nageswara Rao, B. (*with* Sarma, M. S.) Heat transfer in a viscoelastic fluid over a stretching sheet. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 268–275. (Summary) **99b:76005** 76A10 (80A20)

— (*with* Govindan Potti, P. K.; Sarma, M. S.) On the exact periodic solution for $\ddot{x} + \operatorname{sign}(x) = 0$. *J. Sound Vibration* **220** (1999), *no.* 2, 378–381. 34C15 (34C25)

— *see also* **Mickens, Ronald E.**

Nagevich, Ya. P. (*with* Krasinskiĭ, A. Ya.) On a general solution of a class of problems of stabilization up to nonasymptotic stability. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1998), 27–33. 93D15 (34D05)

el-Naggar, A. M. *see* **El-Naggar, A. M.**

al-Naggar, Ibtesam M. A. *see* **Al-Naggar, Ibtesam M. A.**

Nagiev, A. T. (*with* Faradzhev, R. G.; Feĭziev, F. G.) Analytic description and quadratic optimization of binary multi-dimensional nonlinear sequential-cellular machines. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 6, 750–752. 93C30 (68Q80, 90C20)

— (*with* Faradzhev, R. G.; Guseĭnov, I. N.) Criteria for the diagnosability of bilinear sequential machines. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 5, 606–607. 93B30 (68M15)

Nagiev, Sh. M. (*with* Atakishiev, N. M.; Jafarov, Elchin I.; Wolf, Kurt Bernardo) Meixner oscillators. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 3, 235–244. (Summary) **99e:81038** 81Q05 (33C45, 81R30)

Nagisa, Masaru The stable rank of free products of C^*-algebras. (Japanese) Research on bimodules and quantum groups in operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1003 (1997), 1–14. (*see* **99a:46002**) 46L05 (46L50, 46L80)

— (*with* Wada, Shuhei) An extension of the mean ergodic theorem. (English summary) *Math. Japon.* **47** (1998), *no.* 3, 429–438. (Radu Zaharopol) **99e:47016** 47A35 (47B15, 47D03)

— (*with* Hiwatashi, Osamu; Kuroda, Tomoko; Yoshida, Hiroaki) Distribution functions of free random variables. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 53–63. (*see* **99i:00029**) 46L50

— Topics concerning almost commuting matrices. (Japanese) Exact C^*-algebras and related topics (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1046 (1998), 15–28. (*see* **99i:46001**) 46L05

— (*with* Hiwatashi, Osamu; Kuroda, Tomoko; Yoshida, Hiroaki) The free analogue of noncentral chi-square distributions and symmetric quadratic forms in free random variables. *Math. Z.* **230** (1999), *no.* 1, 63–77. (Dimitri Y. Shlyakhtenko) **99m:46155** 46L50 (60F99)

Nagiyev, Shakir M. *see* **Nagiev, Sh. M.**

Nagnibeda, Tatiana (*with* Bacher, Roland; de la Harpe, Pierre) The lattice of integral flows and the lattice of integral cuts on a finite graph. (English and French summaries) *Bull. Soc. Math. France* **125** (1997), *no.* 2, 167–198. (Valentin E. Brimkov) **99c:05111** 05C38 (11H06)

Nagnibida, N. Ĭ. Integral operators in spaces of functions analytic in the disk. (Ukrainian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 77–98, "*Vishcha Shkola*", *Kiev*, 1993. (I. Spitkovsky) **99c:47075** 47G10 (30H05, 46E10, 47B38)

— (*with* Mikityuk, Ya. V.) On the equivalence of some Pommiez operators in spaces of analytic functions. (Ukrainian. English and Russian summaries) *Mat. Stud.* **9** (1998), *no.* 2, 193–198, 224. (Summary) **99m:47037** 47B38 (30H05, 46E10)

Nagoor Gani, A. (*with* Maki, H.; Chandrasekhara Rao, K.) On generalizing semi-open sets and preopen sets. (English summary) *Pure Appl. Math. Sci.* **49** (1999), *no.* 1-2, 17–29. 54A05 (54E55)

Nagoya, Akira (*with* Matsuura, Akihiro) Formulation of the addition-shift-sequence problem and its complexity. (English summary) *Algorithms and computation* (*Singapore*, 1997), 42–51, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68104** 68Q25 (68M07)

Nagrebetskaya, Yu. V. (*with* Vazhenin, Yu. M.) On critical theories of groups and monoids in integer-valued matrices. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 77–79; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 7, 74–76 (1999). 20A15 (15A36, 20G35)

Naguib, Ayman (*with* Tarokh, Vahid; Seshadri, Nambi; Calderbank, A. Robert) Combined array processing and space-time coding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 4, 1121–1128. 94A05 (78A55)

Nagurney, Anna (*with* Ramanujam, P.) Command and control for congestion pricing of general multimodal transportation networks. (English summary) Transportation. *Sci. Iran.* **2** (1995), *no.* 3, 185–195. (*see* **99g:90011**) 90B06 (90C35)

— (*with* Siokos, Stavros) Network modeling of international financial equilibria with hedging. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 139–160. (Summary) **99f:90018** 90A09

— (*with* Zhang, Ding) A massively parallel implementation of a discrete-time algorithm for the computation of dynamic elastic demand traffic problems modeled as projected dynamical systems. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1467–1485. (Summary) **99d:90050** 90B20 (65K05)

Nagy, Attila RGC$_n$-commutative Δ-semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 92–100. (P. G. Trotter) **99e:20074** 20M10

Nagy, B. *see* **Nagy, Béla**

Nagy, Béla (*with* Förster, K.-H.) On nonnegative realizations of rational matrix functions and nonnegative input-output systems. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 89–104, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (K. B. Datta) **99f:93022** 93B15 (47N70)

— (*with* Förster, K.-H.) On nonnegative operators and fully cyclic peripheral spectrum. (English summary) *Electron. J. Linear Algebra* **3** (1998), 13–22 (*electronic*). (Anton Schep) **99h:47045** 47B65 (47A10, 47B15)

— (*with* Förster, K.-H.) Spectral properties of rational matrix functions with nonnegative realizations. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 189–200. (Summary) **99c:93026** 93B25 (15A18)

— (*with* Förster, K.-H.) Transfer functions and spectral projections. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 367–376. (Reinhard Mennicken) **99e:47014** 47A25 (47A10, 47A45)

Nagy, Gábor P. Group invariants of certain Burn loop classes. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 403–415. (A. Schleiermacher) **99m:20162** 20N05

Nagy, Gabriel Deformation quantization and K-theory. (English summary) *Perspectives on quantization* (*South Hadley, MA*, 1996), 111–134, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Andrzej Sitarz) **99b:46107** 46L80 (19K56, 46L87, 58F06)

Nagy, James G. (*with* Pauca, V. Paul; Plemmons, Robert J.; Torgersen, Todd C.) Degradation reduction in optics imagery using Toeplitz structure. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 269–288 (1998). (Summary) **99e:78008** 78–08 (65Y20, 68U10, 94A12)

— (*with* Kamm, Julie) A total least squares method for Toeplitz systems of equations. (English summary) *BIT* **38** (1998), *no.* 3, 560–582. (Israel Koltracht) **99m:65085** 65F30

— (*with* Hanke, Martin) Inverse Toeplitz preconditioners for ill-posed problems. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 137–156. (L. W. Ehrlich) **99j:65045** 65F10 (65F35)

— (*with* Kamm, Julie) Kronecker product and SVD approximations in image restoration. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 177–192. (*see* **99f:00025**) 65F30 (65F35)

Nagy, Karoly On the (H, L) typeness of the maximal operator of the derivate on two-dimensional Vilenkin groups. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 179–186, *Transilvania, Cluj-Napoca*, 1997. (W. R. Wade) **99e:42031** 42B25 (42C10)

szilvási-Nagy, Márta *see* **Szilvási-Nagy, Márta**

Nagy, Peter T. (*with* Strambach, Karl) Loops, their cores and symmetric spaces. (English summary) *Israel J. Math.* **105** (1998), 285–322. (D. A. Robinson) **99h:20105** 20N05 (53C35)

Nagy, Tamás An application of the mixed entropy programming. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1995), *no.* 1, 71–80. 90C08 (90C15)

— Continuous modular design problem. (English summary) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **38** (1998), 65–71. 90C90 (90A05)

Nahak, Chandal (*with* Nanda, Sudarsan) Duality for multiobjective fractional control problems with generalized invexity. *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 433–446. (Emil Iwanow) **99d:49061** 49N15 (90C29, 90C32)

— On multiobjective generalized symmetric dual programs with ρ-(η, θ)-invexity. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 707–713. (Hans Benker) **99k:90146** 90C29 (49N15)

— Duality for multiobjective control problems with generalized invexity. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 191–206. (Summary) **99c:90109** 90C29 (49N15)

Nahar, Tej Singh (*with* Raina, Ravinder Krishna) Certain subclasses of analytic p-valent functions with negative coefficients. (English and Lithuanian summaries) *Informatica* (*Vilnius*) **9** (1998), *no.* 4, 469–478. (S. L. Shukla) **99m:30027** 30C45 (30C50)

Näher, Stefan (*with* Mehlhorn, Kurt; Müller, M.; Schirra, Stefan; Seel, Michael; Uhrig, Christian; Ziegler, Joachim Rudolf) A computational basis for higher-dimensional computational geometry and applications. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 289–303. (*see* **99b:68003**) 68U05 (52B55)

— (*with* Mehlhorn, Kurt; Seel, Michael; Seidel, Raimund; Schilz, Thomas; Schirra, Stefan; Uhrig, Christian) Checking geometric programs or verification of geometric structures. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 85–103. (Summary) **99k:68196** 68U05 (52B55, 68Q60)

el-Nahhas, A. *see* **El-Nahhas, A.**

Nahlus, Nazih Basic groups of Lie algebras and Hopf algebras. (English summary) *Pacific J. Math.* **180** (1997), *no.* 1, 135–151. (Joyce O'Halloran) **99g:17053** 17B99 (16W30)

Nahm, Kyun (*with* You, Sang Koo; Jeon, Kwang Joe; Kim, Chul Koo) A new approximation scheme in quantum mechanics. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 179–186. (Summary) **99b:81051** 81Q15

Nahmod, Andrea R. (*with* Auscher, Pascal; McIntosh, Alan G. R.) The square root problem of Kato in one dimension, and first order elliptic systems. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 659–695. (Yehuda Pinchover) **99e:47061** 47F05 (35J15, 47A60, 47B25, 47E05)

— (*with* Gilbert, John E.) Hardy spaces and a Walsh model for bilinear cone operators. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3267–3300. (Cristian E. Gutiérrez) **99m:42022** 42B15 (42B30, 46E15)

Nai, Bing Inequalities of Gehring and Martin for Möbius transformations of n-dimensional space. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 8, 107–111. (Summary) **99m:20120** 20H10 (51M10)

Naidenov, V. I. (*with* Kozhevnikova, I. A.) A test for adequacy of the regression model with application to data concerning the Caspian Sea. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 800–805. (*see* **99b:62004**) 62M15

Naidu, D. S. (*with* Moore, Kevin L.; Abdelrahman, M. A.) Gas metal arc welding control. II. Control strategy. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 85–93. 93C95 (93C20)

Naik, Ashish V. (*with* Feigenbaum, Joan; Fortnow, Lance; Laplante, Sophie) On coherence, random-self-reducibility, and self-correction. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 174–191. (Uwe Schöning) **99j:68041** 68Q15

— (*with* Rogers, John D.; Royer, James S.; Selman, Alan L.) A hierarchy based on output multiplicity. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 131–157. (Marius Zimand) **99m:68064** 68Q15

Naik, Swatee Equivariant concordance of knots in S^3. *KNOTS* '96 (*Tokyo*), 81–89, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99k:57028** 57M25

Naik, U. H. (*with* Kulkarni, Shripad Rajaram; Srivastava, Hari M.) A certain class of meromorphically p-valent quasi-convex functions. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 57–64. (S. Ponnusamy) **99c:30017** 30C45

ben-Naim, E. *see* **Ben-Naim, E.**

Naiman, Daniel Q. (*with* Wynn, Henry P.) Abstract tubes, improved inclusion-exclusion identities and inequalities and importance sampling. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 1954–1983. (Summary) **99h:60034** 60E15 (60D05, 62F05, 62J05)

— (*with* Stone, Richard E.) A homological characterization of Q-matrices. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 463–478. (Stefan Scholtes) **99g:90148** 90C33

Naĭmark, B. M. (*with* Ismail-zade, A. T.; Korotkiĭ, A. I.; Suetov, A. P.; Tsepelev, I. A.) Realization of a three-dimensional hydrodynamic model of the evolution of sedimentary basins. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1190–1203; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1138–1151. (Summary) **99f:86008** 86A60 (76D05, 86–08)

Naĭmark, K. (*with* Solomyak, M. Z.) Regular and pathological eigenvalue behavior for the equation $-\lambda u'' = Vu$ on the semiaxis. (English summary) *J. Funct. Anal.* **151** (1997),

no. 2, 504–530. (Günter Stolz) **99b:34039** 34B05 (34L20, 47E05)

Naimark, Leonid (*with* Cohen, Nir) H^∞ controller design for pure delay and other distributed systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 355–369. 93B36

— (*with* Kogan, Jacob; Leizarowitz, Arie; Zeheb, Ezra) On rational stabilizing controllers for interval delay systems. (English summary) *Stability and control of time-delay systems*, 184–204, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99b:93004**) 93D15 (93C30)

Nain, Kamal Relationship between coefficients of characteristic equation. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 185–187. 15A18

Nain, Philippe (*with* Liu, Zhen[1]; Towsley, Don) Exponential bounds with applications to call admission. (English summary) *J. ACM* **44** (1997), *no.* 3, 366–394. (Peter Gerrard Taylor) **99a:60105** 60K25 (68M20, 90B22)

safavi-Naini, Reihaneh *see* **Safavi-Naini, Reihaneh**

muraleedharan Nair, K. R. *see* **Muraleedharan Nair, K. R.**

Nair, M. *see* **Nair, Mohan**

Nair, M. Thamban (*with* Limaye, Balmohan V.) On the multiplicities and the ascent of an eigenvalue of a linear map. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 162–166 (1996). (Summary) **99b:47004** 47A10 (15A18)

— (*with* George, Santhosh) Error bounds and parameter choice strategies for simplified regularization in Hilbert scales. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 2, 231–242. (Markus Hegland) **99b:65075** 65J20 (47A50, 65J10)

— (*with* George, Santhosh) On a generalized Arcangeli's method for Tikhonov regularization with inexact data. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 773–787. (V. V. Vasin) **99g:65071** 65J20

Nair, Mohan (*with* Tenenbaum, Gérald) Short sums of certain arithmetic functions. *Acta Math.* **180** (1998), *no.* 1, 119–144. (A. J. Hildebrand) **99j:11110** 11N37 (11N25, 11N32)

— (*with* Codecà, P.) Extremal values of $\Delta(x,N)=\sum_{n<xN,(n,N)=1} 1-x\varphi(N)$. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 335–347. (A. Perelli) **99g:11110** 11N25

unnikrishnan Nair, N. *see* **Unnikrishnan Nair, N.**

Nair, N. Unnikrishnan *see* **Unnikrishnan Nair, N.**

Nair, Premchand S. (*with* Mordeson, John N.) ★ Fuzzy mathematics. An introduction for engineers and scientists. With a foreword by Azriel Rosenfeld. Studies in Fuzziness and Soft Computing, 20. *Physica-Verlag, Heidelberg*, 1998. *xiv*+258 *pp. ISBN* 3-7908-1121-1 (Siegfried Gottwald) **99i:03070** 03E72 (00A06, 54A40)

— (*with* Mordeson, John N.) Cartesian composition of transition spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 511–521. (Janusz J. Szuster) **99f:68138** 68Q68 (05C20)

Nair, Radhakrishnan On metric Diophantine approximation and subsequence ergodic theory. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 117–124 (*electronic*). (Thomas Ward) **99b:11088** 11K50 (28D05)

— On Hartman uniform distribution and measures on compact spaces. (English summary) *Harmonic analysis and hypergroups* (*Delhi*, 1995), 59–75, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Nakhlé Asmar) **99g:28033** 28D05

— On the metric theory of the nearest integer continued fraction expansion. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 241–253. (Mohamed Mkaouar) **99d:11088** 11K50

— (*with* Velani, Sanju L.) Glasner sets and polynomials in primes. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2835–2840. (Daniel Berend) **99a:11095** 11K38 (11J13, 11K06)

Nair, V. C. (*with* Nambisan, T. M. Vasudevan) An integral equation of convolution form with the H-function of one variable as its kernel. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), *no.* 1, 63–72. (Summary) **99a:45008** 45E10 (33C60)

ramachandran Nair, V. K. *see* **Ramachandran Nair, V. K.**

Nair, V. K. R. *see* **Ramachandran Nair, V. K.**

Nair, V. N. (*with* Bérubé, J.) Exploiting the inherent structure in robust parameter design experiments. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 43–66. (Summary) **99a:62102** 62K05 (62N05)

— (*with* James, D. A.; Ehrlich, W. K.; Zevallos, J.) A statistical assessment of some software testing strategies and application of experimental design techniques. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 165–184. (Summary) **99a:62140** 62N05 (62K99)

Nair, V. P. (*with* Giannakis, Ioannis) Symplectic structures and self-dual fields in $(4k+2)$ dimensions. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 145–152. (Hamid Kachkachi) **99e:81140** 81T10 (53C80)

— (*with* Randjbar-Daemi, S.) On brane solutions in M(atrix) theory. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 333–347. (Summary) **99g:81178** 81T30

Naito, Kanta A generalized projection pursuit procedure and its significance level. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 3, 513–554. (Norbert Henze) **99c:62168** 62H40

Naito, Koichiro Lower estimates of dimensions for quasi-periodic orbits. Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 110–125. (H. Scott Dumas) **99j:58187** 58F27 (11K60, 28A80)

Naito, Manabu (*with* Kusano, Takaŝi) A singular eigenvalue problem for second order linear ordinary differential equations. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 122–130. (Summary) **99e:34022** 34B05 (34B24, 34C10)

— An asymptotic theorem for a class of nonlinear neutral differential equations. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 419–432. (Elena Litsyn) **99f:34114** 34K25

— (*with* Kusano, Takaŝi) A singular eigenvalue problem for the Sturm-Liouville equation. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 303–312, 428; *translation in Differential Equations* **34** (1998), *no.* 3, 302–311. (Summary) **99i:34039** 34B24 (34C10, 34L40)

— Singular eigenvalue problems for Sturm-Liouville equations. (Japanese) Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 199–203. (*see* **99f:00019**) 34B24

Naito, Satoshi Harish-Chandra homomorphisms in relation to generalized Kac-Moody algebras. Infinite-dimensional measure theory and representation theory of infinite-dimensional groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1017 (1997), 54–69. (Yasmine B. Sanderson) **99k:17043** 17B67 (17B35)

Naito, Seichi Inlaying vertex function and scattering amplitude. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1413–1453. (Summary) **99b:81201** 81T30

— Physical vertex operators in the Ramond sector. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1402–1440. (Isabel P. Ennes) **99m:81206** 81T30

Naito, Toshiki Adjoint semigroups associated with linear functional-differential equations with infinite delays. *Finite- and infinite-dimensional dynamics* (*Kyoto*, 1988), 165–184, *Lecture Notes Numer. Appl. Anal.*, 15, *Kinokuniya, Tokyo*, 1996. (Sjoerd M. Verduyn Lunel) **99c:34183** 34K30 (47D06, 47N20)

— (*with* Shin, Jong Son; Murakami, Satoru) On solution semigroups of general functional-differential equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4565–4576. (Ioan I. Vrabie) **99b:34129** 34K30 (47D06, 47N20)

— (*with* Shin, Jong Son) Evolution equations with infinite delay. Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 147–160. (Ti Jun Xiao) **99e:34113** 34K30 (34K20, 47D06, 47N20)

— (*with* Shin, Jong Son; Murakami, Satoru) The generator of the solution semigroup for the general linear functional-differential equation. (English summary) *Bull. Univ. Electro-Comm.* **11** (1998), *no.* 1, 29–38. (Shu Chun Gao) **99m:34184** 34K30 (47D06)

— (*with* Nguyễn Văn Minh) Spectral criteria for almost periodicity of solutions of periodic evolution equations. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 49–51. (*see* **99f:00019**) 34G10 (34C27, 47D06)

— (*with* Shin, Jong Son) Existence of periodic solutions for periodic linear functional-differential equations in Banach spaces. II. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 120–129. (From the introduction) **99k:34179** 34K30 (34K15)

— (*with* Nguyễn Văn Minh; Shin, Jong Son) On a spectral criterion for almost periodicity of solutions of periodic evolution equations. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1999**, *No.* 1, 28 *pp.* (*electronic*). (C. J. K. Batty) **99m:34130** 34G10 (34C27, 47D06, 47N20)

— (*with* Nguyễn Văn Minh) Evolution semigroups and spectral criteria for almost periodic solutions of periodic evolution equations. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 358–376. (C. J. K. Batty) **99m:34131** 34G10 (34C27, 47D06, 47N20)

Naito, Yoshihiro (*with* Maejima, Makoto) Semi-selfdecomposable distributions and a new class of limit theorems. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 1, 13–31. (Mark M. Meerschaert) **99g:60033** 60E07 (60F05)

Naito, Yūki (*with* Suzuki, Takashi[1]) Radial symmetry of positive solutions for semilinear elliptic equations on the unit ball in $\mathbf{R}^n$. (English summary) *Funkcial. Ekvac.* **41** (1998), *no.* 2, 215–234. (Summary) **99i:35049** 35J65 (35B05)

Naitoh, Hiroo Grassmann geometries on compact symmetric spaces of general type. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 557–592. (Anna M. Fino) **99g:53054** 53C35 (53C42)

Naït Slimane, Y. (*with* Eymard, R.; Gallouët, Thierry; Hilhorst, D.) Convergence of a finite volume scheme for a parabolic degenerate equation. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 3–11, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 65M60 (35K65, 76M25)

— (*with* Eymard, R.; Gallouët, Thierry; Hilhorst, D.) Finite volumes and nonlinear diffusion equations. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 747–761. (Erwin Schechter) **99j:65166** 65M60 (35K55)

Naitza, C. (*with* Baillie, C. F.; Johnston, Desmond A.; Marinari, E.) Spin glass dynamics on thin graphs. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 346–349, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 82D30

Najafi, Mahmoud (*with* Sarhangi, Reza) Boundary stabilization of coupled wave equations. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 479–494. (Kenneth B. Hannsgen) **99d:93059** 93D15 (35B37, 35L05, 73D30, 73K05)

Najah, A. (*with* Cochelin, B.; Damil, N.; Potier-Ferry, Michel) A critical review of asymptotic numerical methods. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 1, 31–50. (Summary) **99a:73136** 73V99 (65–02)

Najfeld, Igor (*with* Havel, Timothy F.) Embedding with a rigid substructure. (English summary) *J. Math. Chem.* **21** (1997), *no.* 3, 223–260. (T. W. Barrett) **99j:92029** 92E10 (81V45)

Najjar, Faïza (*with* Slimani, Yahya) Extension of the one-shot semijoin strategy to minimize data transmission cost in distributed query processing. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 1–21. (Summary) **99j:68026** 68P15

Najm, Habib N. (*with* Wyckoff, Peter S.; Knio, Omar M.) A semi-implicit numerical scheme for reacting flow. I. Stiff chemistry. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 381–402. (Summary) **99b:80002** 80–08 (76M20, 80A32)

Najman, B. (*with* Çurgus, B.) Examples of positive operators in Krein space with 0 a regular critical point of infinite rank. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 51–56, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Aurelian Gheondea) **99f:47044** 47B50 (35P10, 47F05)

— (*with* Fleige, Andreas) Nonsingularity of critical points of some differential and difference operators. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 85–95, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Jing Lin Liu) **99g:47082** 47B50 (34L05, 39A70, 47B39, 47E05)

Najman, Laurent (*with* Aubin, Jean-Pierre) The Montagne Russe algorithm for global optimization. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 153–168. (Marc Quincampoix) **99k:90148** 90C30 (65K05)

Najmi, M. (*with* Khan, Mumtaz Ahmad) On complex integrals of discrete functions. (English summary) *Math. Notae* **38** (1995/96), 113–135 (1997). (Tomasz Dubejko) **99e:30030** 30E25 (39A12)

— (*with* Khan, Mumtaz Ahmad) On generalised q-Rice polynomials. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 255–258. (Summary) **99f:33021** 33D45

Najzar, Karel (*with* Feistauer, Miloslav) Finite element approximation of a problem with a nonlinear Newton boundary condition. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 403–425. (Qian Li) **99c:65203** 65N30

Naka, Ken-ichi (*with* Bhanot, Vanita) White-noise analysis in retinal physiology. *Advanced mathematical approach to biology*, 109–267, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99c:92005**) 92C30 (92J30)

Naka, Shigefumi (*with* Matsufuji, Tetsu) A scalar-tensor theory of gravity based on non-commutative geometry. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 3, 719–731. (Kamran Kaviani) **99b:83065** 83D05 (58B30, 81V17)

Nakabayashi, Koichi (*with* Sha, Weiming; Ueda, Hiromasa) An accurate second-order approximation factorization method for time-dependent incompressible Navier-Stokes equations in spherical polar coordinates. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 47–66. (Summary) **99a:76102** 76M20 (76D05)

— (*with* Sha, Weiming; Tsuchiya, Kenichi) The linear stability of thermally stratified rotating channel flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 439–449. 76E99 (76U05)

Nakada, Hidemoto (*with* Isobe, Yoshinao; Sato, Yutaka; Ohmaki, Kazuhito) Stepwise synthesis of partial specifications preserving strong (Ω_1, Ω_2)-equivalence. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 39–53. (Summary) **99c:68172** 68Q60 (68Q10)

Nakada, Hitoshi Dynamics of complex continued fractions and geodesics over H^3. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 192–199, *World Sci. Publishing, River Edge, NJ*, 1995. (Wieb Bosma) **99c:11103** 11K50 (11J70, 58F11, 58F17)

Nakade, Koichi (*with* Ohno, Katsuhisa) Stochastic properties of fork/join multi-stage production systems with general blocking. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 341–355. (John P. Lehoczky) **99d:60105** 60K25 (90B30)

Nakagami, Jun-ichi (*with* Yoshida, Yuji; Yasuda, Masami; Kurano, Masami) On a property of fuzzy stopping times. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 176–182. (*see* **99b:90009**) 90C70

— (*with* Yoshida, Yuji; Yasuda, Masami; Kurano, Masami) A limit theorem in dynamic fuzzy systems with a monotone property. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 109–119. (Summary) **99b:54009** 54A40 (54H20)

— (*with* Yoshida, Yuji; Yasuda, Masami; Kurano, Masami) The optimal stopping problem for fuzzy random sequences. Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 178–183. (*see* **99h:90006**) 60G40

— (*with* Kurano, Masami; Huang, Youqiang) Constrained Markov decision processes with compact state and action spaces: the average case. (English summary) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 1–12. (Summary) **99k:90196** 90C40 (90C39)

— (*with* Kurano, Masami; Yasuda, Masami; Yoshida, Yuji) A fuzzy relational equation in dynamic fuzzy systems. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 439–443. 93C42 (49L20)

Nakagami, Keiko A hyperbolic differential equation in the space $\Gamma_0(D) \oplus M_0(D)$. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 31–41. (Vyacheslav V. Chistyakov) **99k:35107** 35L15 (35D05, 46F10)

Nakagami, Yoshiomi (*with* Kurose, Hideki) Compact Hopf *-algebras, quantum enveloping algebras and dual Woronowicz algebras for quantum Lorentz groups. (English summary) *Internat. J. Math.* **8** (1997), *no.* 7, 959–997. (Aldo J. Lazar) **99b:46111** 46L89 (16W30)

Nakagawa, Jin On the relations among the class numbers of binary cubic forms. *Invent. Math.* **134** (1998), *no.* 1, 101–138. (Akihiko Yukie) **99j:11036** 11E41 (11E76)

Nakagawa, Kiyokazu (*with* Bainov, Drumi Dimitrov; Minchev, Emil) Asymptotic behaviour of solutions of impulsive semilinear parabolic equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2725–2734. (L. Hatvani) **99c:35249** 35R10 (35B40, 35K55, 35R20)

— Asymptotic behaviour of solutions of an impulsive semilinear parabolic Cauchy problem. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 335–340, *VSP, Utrecht*, 1998. (Summary) **99f:35217** 35R10 (35B40, 35K55)

Nakagawa, Koji (*with* Suzuki, Taro; Ida, Tetsuo) Higher-order lazy narrowing calculus: a computation model for a higher-order functional logic language. *Algebraic and logic programming* (*Southampton*, 1997), 99–113, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (68N17)

Nakagawa, Nobuo Left cyclic planar functions of degree p^n. (English summary) *Util. Math.* **51** (1997), 89–96. (M. J. Kallaher) **99c:51011** 51E15 (20D60)

Nakagawa, Shigekazu (*with* Niki, Naoto; Hashiguchi, Hiroki) Computer algebra application to the distribution of sample correlation coefficient. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 23–32. (Summary) **99a:62080** 62H20

Nakagawa, T. M. S. (*with* Ishibashi, K.; Tsugē, S.) Solitary-wave solution of turbulence with application to Bēnard convection. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 227–236, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 76F99

Nakagawa, Yoshiyuki (*with* Akiyoshi, Hirotaka; Sakuma, Makoto) Shortest vertical geodesics of manifolds obtained by hyperbolic Dehn surgery on the Whitehead link. (English summary) *KNOTS '96* (*Tokyo*), 433–448, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57034** 57M50 (57N10)

Nakagawa, Yuji (*with* Hikita, Mitsunori) Introduction to substitute objectives in multiobjective discrete optimization problems. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 24–31. (*see* **99b:90009**) 90C29 (90C10)

— (*with* Iwasaki, Akinori; Ohtagaki, Hirokazu; Teraoka, Yoshinobu; Narihisa, Hiroyuki) Approximate method for separable nonconvex programs. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 115–122. (Summary) **99j:90061** 90C26 (90C30)

Nakagawa, Yukiko (*with* Zhang, Kun Long; Hirota, Kaoru) On Kleene algebra with De Morgan algebra with centers. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 1, 131–146. (Manuel Abad) **99b:06012** 06D30 (03G25)

Nakagiri, Shin-ichi (*with* Vanualailai, Jito; Ha, Jun-Hong) A solution to the two-dimensional findpath problem. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 4, 373–401. (Clementina D. Mladenova) **99j:93068** 93C85 (70B15, 70Q05)

— (*with* Ha, Jun-Hong) Existence and regularity of weak solutions for semilinear second order evolution equations. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 1–24. (Enzo Vitillaro) **99f:34085** 34G10 (35L70, 47N20)

— (*with* Elgamal, Mahmoud; Ha, Jun-Hong) Existence, uniqueness and continuous dependence of weak solutions of damped sine-Gordon equations. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 1–13. (*see* **99f:00019**) 35L70 (35B30, 35Q53)

— (*with* Hosokawa, Hiroshi[2]) Auto-control collision avoidance for vehicles by means of Lyapunov functions. (Japanese) Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 14–27. (*see* **99f:00019**) 93C95 (70Q05)

Nakahara, Mikio (*with* Kubo, Masahiro; Maki, Ziro; Saito, Takesi) Grand unification from gauge theory in $M_4 \times Z_N$. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 1, 165–177. (Andrzej Sitarz) **99m:81286** 81V22 (46L87, 58B30, 81P99, 81T13)

Nakahara, Toru Experiments on a problem of D. Shanks concerning quadratic fields. *Number theory* (*Eger*, 1996), 401–408, *de Gruyter, Berlin*, 1998. (Franz Lemmermeyer) **99c:11159** 11Y40 (11R29)

Nakahata, Koji (*with* Arlettaz, Dominique; Mimura, Mamoru; Yagita, Nobuaki) The mod 2 cohomology of the linear groups over the ring of integers. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2199–2212. (Daniel K. Nakano) **99j:20052** 20G10 (55S10)

Nakai, Eiichi Pointwise multipliers on the Morrey spaces. (English and Japanese summaries) *Mem. Osaka Kyoiku Univ. III Natur. Sci. Appl. Sci.* **46** (1997), *no.* 1, 1–11. (Summary) **99b:46045** 46E35

— Pointwise multipliers on Campanato spaces and Morrey spaces. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 1–10. (*see* **99i:00018**) 46E30 (46M35)

Nakai, Isao Periodic and critical orbits of algebraic functions: Teichmüller space of an algebraic function. Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 35–56. (Robert Roussarie) **99b:58198** 58F23 (57M50, 57S25)

— Curvature of curvilinear 4-webs and pencils of one forms: variation on a theorem of Poincaré, Mayrhofer and Reidemeister. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 2, 177–205. (Vladislav Goldberg) **99c:53013** 53A60

Nakai, Mitsuru (*with* Tada, Toshimasa) Picard principle for negative planar potentials. *Math. Ann.* **308** (1997), *no.* 2, 319–332. (Noriaki Suzuki) **99d:31001** 31B25 (31B05, 31B35, 31C35)

— (*with* Tada, Toshimasa) A form of classical Liouville theorem. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 9, 166–167. (Paul Bourdon) **99a:31004** 31B05

— Quasiisometric mappings and the variational capacity. Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 117–135. (Vasily A. Chernecky) **99e:30013** 30C65 (30F25, 31B15, 31C15)

— Domain perturbation in Dirichlet problems. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 74–86. (*see* **99i:00018**) 31B35

Nakai, Teruhisa Stackelberg solution for a stopping game. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 3, 479–491. (U. Krengel) **99c:60092** 60G40 (90D40)

— Optimal decision of price and stock level in consideration of the influence for demand. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 173–183. 90A12

— Optimal plan for using many common machines. (English summary) *J. Inform. Optim. Sci.* **20** (1999), *no.* 1, 85–103. 90B35 (90C90)

Nakajima, Atsushi (*with* Sapanci, Mehmet) Left derivations on skew polynomial rings. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 113–119. (Andrzej Nowicki) **99e:16044** 16W25 (16S36)

— Cubic P-Galois extensions over a field. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 321–328. (George Szeto) **99m:16053** 16W20 (16S30)

Nakajima, Fumio Nonlinear Mathieu equations. I. *Nonlinear waves* (*Sapporo*, 1995), 353–359, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (J. B. Garner) **99a:34120** 34C25 (34C15)

— Some conservative pendulum equation with forcing term. *Nonlinear Anal.* **34** (1998), *no.* 7, 1117–1121. (Kurt Munk Andersen) **99g:34094** 34C25

Nakajima, Hideo The Wiener-Hermite expansions of the Langevin transitions. (English summary) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 142–151. (*see* **99b:00018**) 60H10

Nakajima, Hiraku Gauge theory on resolutions of simple singularities and affine Lie algebras. *Singularities and complex geometry* (*Beijing*, 1994), 183–192, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (I. Dolgachev) **99c:32056** 32S45 (14E15, 14J60, 17B67, 53C07, 57R57)

— Hilbert schemes of points on a curved surface, Heisenberg algebras, and vertex algebras. (Japanese) Representation theory of groups and homogeneous spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1008 (1997), 40–45. (*see* **99a:17002**) 14C05 (17B69)

— Quiver varieties and Kac-Moody algebras. *Duke Math. J.* **91** (1998), *no.* 3, 515–560. (Michael M. Kapranov) **99b:17033** 17B67 (14D25, 16G20, 17B35, 53C25, 58F05)

— The Heisenberg algebra and Hilbert schemes of points on surfaces. (Japanese) *Sūgaku* **50** (1998), *no.* 4, 385–398. 14C05

Nakajima, Hisao (*with* Takada, Takenori) Theorems on the invasion process in stage-structured populations with density-dependent dynamics. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 497–514. (Summary) **99b:92048** 92D25

Nakajima, Kazuo (*with* Tanimoto, Mitsumori; Yaoita, Akira; Osano, Minetada) Evaluation of the efficiency of the partially solving method (PSM) in comparison with the Gaussian elimination method. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 443–459. (A. Barraud) **99m:65055** 65F05 (65F50, 65Y20)

— (*with* Narasimhan, Jagannathan; Rim, Chong S.) A graph theoretical approach for the yield enhancement of reconfigurable VLSI/WSI arrays. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 195–221. (Summary) **99j:68109** 68R10 (05C85, 68M07, 68Q35)

Nakajima, Masaki (*with* Kiriki, Shin) Research announcements of a multi-dimensional Hénon family. *Res. Act. Fac. Sci. Engrg. Tokyo Denki Univ.* **20** (1998), *no.* 1, 15–20. 58F13 (58F15)

Nakajima, Masamitsu Physical interpretation of the electromagnetic mass. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 4, 392–425. (Summary) **99e:78019** 78A25

Nakajima, Masumi Densities for sums of independent random variables and their applications to the value distributions of $\Delta(x)$, $P(x)$ and $\zeta(s)$. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 441–458, *VSP, Utrecht*, 1997. (A. J. Hildebrand) **99m:11110** 11N60 (11K65, 11N37, 60E15, 60F10)

Nakajima, N. *see* **Nakajima, Noriyoshi**

Nakajima, Nobuyuki (*with* Shiraishi, Shunsuke; Obata, Tsuneshi; Daigo, Motomasa) Properties of a positive reciprocal matrix and their application to estimating priority weights for incomplete comparison matrices. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 135–142. (*see* **99h:90006**) 93A13 (65F30)

Nakajima, Noriyoshi (*with* Hegna, C. C.) On the stability of Mercier and ballooning modes in stellarator configurations. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1336–1344. (Summary) **99a:76056** 76E25 (76W05, 76X05)

Nakajima, Shōichi An introduction to Iwasawa theory. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 28–42. (*see* **99d:11001**) 11R23

Nakajima, Sizuo The coset semigroup of a primitive inverse semigroup. (English summary) *Mem. Inst. Sci. Engrg. Ritsumeikan Univ. No.* 56 (1997), 127–132 (1998). (Franco Migliorini) **99f:20098** 20M18 (20M10)

Nakajima, T. *see* **Nakajima, Tomoya**

Nakajima, Tadashi Joint distribution of the first hitting time and first hitting place for a random walk. (English summary) *Kodai Math. J.* **21** (1998), *no.* 2, 192–200. (Kyle Siegrist) **99g:60125** 60J15

Nakajima, Tatsuhiro (*with* Yamada, Hiro-Fumi) On reduced Q-functions. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 3, 407–414. (Angèle M. Hamel) **99b:05143** 05E05 (17B67)

Nakajima, Tomoya (*with* Kida, Teruhiko) Core spreading vortex methods in two-dimensional viscous flows. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 273–298. (Thomas Y. Hou) **99i:76121** 76M25 (76C05, 76D05)

Nakajo, Naoyuki (*with* Kuribayashi, Akikazu; Kawasaki, Masumi) On the zero-maps and automorphism groups of a compact Riemann surface. Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967 (1996), 1–13. (Antonio F. Costa) **99d:30042** 30F10 (20H10)

Nakamaye, Michael (*with* Ein, Lawrence; Lazarsfeld, Robert) Zero-estimates, intersection theory, and a theorem of Demailly. *Higher-dimensional complex varieties* (*Trento*, 1994), 183–207, *de Gruyter, Berlin*, 1996. (Takao Fujita) **99c:14006** 14C20 (14C17, 32L10)

— Intersection theory and Diophantine approximation. *J. Algebraic Geom.* **8** (1999), *no.* 1, 135–146. (Joseph H. Silverman) **99m:11083** 11J99 (14C17)

Nakamigawa, Tomoki (*with* Enomoto, Hikoe; Llado, Anna S.; Ringel, Gerhard) Super edge-magic graphs. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 105–109. (Summary) **99h:05102** 05C78

Nakamizo, Takayoshi Reduced order functional estimator for linear stochastic systems. *Statistical methods in control and signal processing*, 257–272, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (Han Fu Chen) **99h:93107** 93E11 (93C70)

Nakamori, Seiichi Design of predictor using covariance information in continuous-time stochastic systems with nonlinear observation mechanism. (English summary) *Bull. Fac. Ed. Kagoshima Univ. Natur. Sci.* **49** (1997), 81–94. 93E12

Nakamoto, Atsuhiro (*with* Ota, Katsuhiro) Diagonal transformations of graphs and Dehn twists of surfaces. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 292–300. (M. L. Marx) **99a:05036** 05C10 (57M15)

Nakamoto, Ritsuo (*with* Fujii, Masatoshi) Simultaneous extensions of Selberg inequality and Heinz-Kato-Furuta inequality. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 219–225. (Frank Hansen) **99m:47020** 47A63

Nakamula, Ken (*with* Pethő, Attila) Squares in binary recurrence sequences. *Number theory* (*Eger*, 1996), 409–421, *de Gruyter, Berlin*, 1998. (Paul M. Voutier) **99g:11020** 11B37 (11D61)

Nakamura, Akihiro[1] (*with* Fujii, Nobuhiko; Redheffer, Raymond M.) On the excess of sets of complex exponentials. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1815–1818. (N. A. Shirokov) **99i:30006** 30B60

Nakamura, Akira[1] Graded modalities in rough logic. (English summary) *Rough sets in knowledge discovery*, 1, 192–208, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 03B52

Nakamura, Atsuyoshi (*with* Takeuchi, Jun-ichi; Abe, Naoki) Efficient distribution-free population learning of simple concepts. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 53–82. (Summary) **99m:68141** 68Q99 (68T05)

Nakamura, Gen[1] (*with* Uhlmann, Gunther) A layer stripping algorithm in elastic impedance tomography. *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 375–384, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Vladimir A. Sharafutdinov) **99e:35244** 35R30 (44A12, 73D50)

— (*with* Shirota, Kenji; Onishi, Kazuei) Numerical calculation of electrocardiogram inverse problems connected with impedance identification. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 70–77. (*see* **99i:00028**) 92C55 (92C50)

Nakamura, Gou The existence of symmetric Riemann surfaces determined by cyclic groups. (English summary) *Nagoya Math. J.* **151** (1998), 129–143. (Grzegorz Gromadzki) **99m:14061** 14H55 (30F50)

Nakamura, Hideki[1] The Rohlin property for actions of $\mathbf{Z}^2$ on UHF algebras. Recent developments in the theory of operator algebras (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 977 (1997), 92–101. (Ferdinand Beckhoff) **99a:46119** 46L55

— A Rohlin type theorem for automorphisms of certain purely infinite C^*-algebras. Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 12–17. (*see* **99d:46001**) 46L40 (46L05)

Nakamura, Hiroaki (*with* Ihara, Yasutaka) Some illustrative examples for anabelian geometry in high dimensions. *Geometric Galois actions*, 1, 127–138, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Abdellah Mokrane) **99b:14021** 14F99 (14F35)

— *see also* **Namikawa, Yukihiko** *and* **Ihara, Yasutaka**

Nakamura, Hiroki (*with* Stefański, Krzysztof; Someda, Kiyohiko) Divergences of the semiclassical S-matrix formula in irregular scattering. (English summary) Proceedings of the XXVIII Symposium on Mathematical Physics (Toruń, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 3, 399–418. (Summary) **99b:81263** 81U20

— (*with* Osherov, Vladimir I.) Analytic solution of two-state time-independent coupled Schrödinger equations in an exponential model. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 3, 2486–2489. (Summary) **99m:81047** 81Q05

Nakamura, Iku Compactification of the moduli of abelian varieties over $\mathbf{Z}[\zeta_N, 1/N]$. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 10, 875–880. (José M. Muñoz Porras) **99k:14075** 14K10 (11G10, 14D25)

— Global deformations of $\mathbf{P}^2$-bundles over $\mathbf{P}^1$. *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 29–54. (Ulf Persson) **99f:32027** 32G08 (14J30, 32J17)

Nakamura, Ikuo (*with* Tsuji, Yoshiyuki) Probability density function in the log-law region of low Reynolds number turbulent boundary layer. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 647–658. (Summary) **99j:76065** 76F99 (76M35)

Nakamura, Jinya The construction of Milnor K-groups for certain types of complete discrete valuation fields. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 170–179. (*see* **99d:11001**) 19D45 (11S70)

Nakamura, Katsuhiro ★ Quantum versus chaos. (English summary) Questions emerging from mesoscopic cosmos. Fundamental Theories of Physics, 87. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+213 *pp. ISBN* 0-7923-4557-6 (Tomaž Prosen) **99f:81061** 81Q50 (58F13)

Nakamura, M. *see* **Nakamura, Masa Aki**

Nakamura, Makoto[2] (*with* Ozawa, Tohru) Nonlinear Schrödinger equations in the Sobolev space of critical order. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 364–380. (Summary) **99c:35225** 35Q55 (35J60)

— (*with* Ozawa, Tohru) The Cauchy problem for nonlinear wave equations in the Sobolev space of critical order. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 215–231. (Jean-Marc Delort) **99k:35128** 35L70

Nakamura, Masa Aki (*with* Imai, Hitoshi; Ishimura, Naoyuki) On the finite determination of the solutions for the MHD equations. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 126–135, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Manuel Núñez Jiménez) **99j:76136** 76W05 (35Q35, 58F40)

— (*with* Imai, Hitoshi; Ishimura, Naoyuki) Convergence of attractors for simplified magnetic Bénard system. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 136–144, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 76W05 (35B40, 35Q35)

— *see also* **Recent developments in domain decomposition methods and flow problems, 99g:00054**

Nakamura, Noboru Leaky containment vessels of air: a Lagrangian-mean approach to the stratospheric tracer transport. (English summary) *Dynamics of atmospheric flows*, 193–246, *Adv. Fluid Mech.*, 18, *Comput. Mech., Southampton*, 1998. (Summary) **99m:86012** 86A10 (76R50)

Nakamura, Ryozo (*with* Sun, Ningping; Nakashima, Takuo) An approximate analysis of the AVL balanced tree insertion algorithm. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1006–1013. (Summary) **99a:68094** 68Q25 (68P05)

Nakamura, Shin-ichi[1] A remark on the global uniqueness theorem for a semilinear elliptic inverse problem. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1311–1314. (Summary) **99h:35231** 35R30 (35J65)

— Local uniqueness of the unknown diffusivity in some heat conduction problem. *Nihonkai Math. J.* **9** (1998), *no.* 1, 71–75. (Ludwik Byszewski) **99d:35070** 35K05 (35B99, 35R10, 35R30)

Nakamura, Shinsuke Existence and optimality of extended Lindahl equilibria in a large public goods economy with congestion. (English summary) Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 175–194. (Summary) **99b:90032** 90A14 (90A27)

Nakamura, Shu[1] (*with* Jensen, Arne[2]) The 2D Schrödinger equation for a neutral pair in a constant magnetic field. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 4, 387–410. (Mihai Pascu) **99f:81047** 81Q10 (47N50)

— Tunneling estimates for magnetic Schrödinger operators. (Japanese) Spectral-scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1047 (1998), 113–120. (*see* **99i:00030**) 81Q10

Nakamura, Takashi (*with* Ottewill, Adrian C.; Takagi, Shin) The bounce method in the theory of quantum decay. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 9–26. (Christian Grosche) **99b:81130** 81S40 (81Q05, 81Q20)

Nakamura, Takashi[3] (*with* Pogosyan, G. R.) ε-bases of triadic logic operations. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 251–256, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Nakamura, Tetsuo[1] Cyclic torsion of elliptic curves. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1589–1595. (Federico Pellarin) **99i:11040** 11G05

Nakamura, Tsuyoshi (*with* He, Lifeng; Itoh, Hidenori) SRAMCs: skeleton revision algorithm using maximal circles. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 768–771. 68U05

Nakamura, Y. *see* **Nakamura, Yoshimasa**

Nakamura, Yayoi Estimates of coefficients in formal solutions to inhomogeneous linear ordinary differential equations with polynomial coefficients. (Japanese) Partial differential equations in the complex domain (Japanese)(Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1028 (1998), 106–122. (*see* **99e:35002**) 34A20 (34E05)

— (*with* Tajima, Shinichi) Residue calculations for rational functions using differential operators and Horowitz's algorithm. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 23–30. (*see* **99h:00034**) 32A37 (13P99)

Nakamura, Yoshimasa Discrete-time integrable systems and numerical computation. (Japanese) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 132–148. (*see* **99a:00024**) 35Q58 (65M99)
— Continued fraction expansion of the Laplace transformation based on the tau function of the Toda molecule equation. (Japanese) Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 104–117. (*see* **99d:00021**) 58F07 (11A55, 44A10)
— (*with* Kondo, Koichi) Newton–Steffensen–Shanks. (Japanese. Japanese summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 28–38. (*see* **99c:00013**) 65H05
— (*with* Kondo, Koichi) An extension of the Steffensen iteration and its computational complexity. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 2, 129–138. (Klaus Ritter) **99j:65087** 65H05 (65Y20)
— (*with* Kajiwara, Kenji; Shiotani, H.) On an integrable discretization of the Rayleigh quotient gradient system and the power method with a shift. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 77–90. (Summary) **99i:39029** 39A12 (65Q05)
— (*with* Minesaki, Yukitaka) On an integrable discretization of integrable systems with a separatrix. (English summary) *Phys. Lett. A* **250** (1998), *no.* 4-6, 300–310. (Summary) **99h:58091** 58F07 (70H05)
— (*with* Kondo, Koichi) A Steffensen iterative method with high-order convergence. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 228–236. (*see* **99i:00028**) 65H05 (65Q05)
Nakamura, Yukio[1] (*with* Korb, Thomas) On the Cohen-Macaulayness of multi-Rees algebras and Rees algebras of powers of ideals. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 451–467. (Irena Swanson) **99c:13024** 13C14 (13A30, 13D45)
Nakanishi, Ken (*with* Emmerich, Heike; Nagatani, Takashi) From modified KdV-equation to a second-order cellular automaton for traffic flow. (English summary) *Phys. A* **254** (1998), *no.* 3-4, 548–556. (Summary) **99h:90046** 90B20
Nakanishi, Masaki (*with* Hamaguchi, Kiyoharu; Kashiwabara, Toshinobu) Exponential lower bounds on the sizes of division representations by binary moment diagrams. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 63–70. (*see* **99i:65003**) 68Q25 (68Q05, 68Q35)
Nakanishi, Masatake (*with* Kinoshita, Eizo) An application of the group decision making stress method to the group analytic hierarchy process. (Japanese. English and Japanese summaries) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 560–571. 90A05 (90C29)
Nakanishi, Noboru (*with* Abe, Mitsuo) Question on $D = 26$: string theory versus quantum gravity. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3081–3099. (Pavlos I. Porfyriadis) **99e:81169** 81T30 (81T70, 83C45, 83E30)
— (*with* Abe, Mitsuo) Proof of gauge independence of the conformal anomaly of bosonic string in the sense of Kraemmer and Rebhan. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 2, 411–421. (Pavlos I. Porfyriadis) **99m:81227** 81T50 (81T30)
— (*with* Abe, Mitsuo) Anomaly problem in a simple model analogous to the lightcone-gauge two-dimensional quantum gravity. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 5, 1063–1075. (Summary) **99j:81174** 81T50 (81T10)
— (*with* Abe, Mitsuo) $D = 26$ and exact solution to the conformal-gauge two-dimensional quantum gravity. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 521–536. (Summary) **99k:81286** 81T50 (81T30, 81T40)
Nakanishi, Nobutada On Nambu-Poisson manifolds. *Rev. Math. Phys.* **10** (1998), *no.* 4, 499–510. (Frans Cantrijn) **99g:53036** 53C15 (58F05, 70G99, 70H05)
Nakanishi, Shizu (*with* Sakurada, Kuninori) Equivalence of the McShane and Bochner integrals for functions with values in Hilbertian (UCs-N) spaces endowed with nuclearity. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 261–272. (Ralph Henstock) **99i:28018** 28B05 (26A39, 26A42, 46G10)
— Riemann type integrals for functions with values in nuclear spaces and their properties. (English summary) *Math. Japon.* **47** (1998), *no.* 3, 367–396. (R. G. Bartle) **99g:28023** 28B05 (26A39, 46G10)
— Integrals for nuclear countably Hilbert space valued functions and ordinary differential equations. I. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 73–79. (Sergey G. Lobanov) **99m:34140** 34G20 (46G05)
Nakanishi, Shohachiro (*with* Kikuchi, Hiroaki; Otake, Akihiro) Functional completeness of hierarchical fuzzy modeling. (English summary) *Inform. Sci.* **110** (1998), *no.* 1-2, 51–60. 68T05 (04A72)
Nakanishi, Tomoki (*with* Kirillov, Anatol N.; Kuniba, Atsuo) Skew Young diagram method in spectral decomposition of integrable lattice models. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 441–465. (Kailash C. Misra) **99f:17016** 17B37 (05E10, 17B10, 82B23)
— (*with* Kirillov, Anatol N.; Kuniba, Atsuo) Skew Young diagram method in spectral decomposition of integrable lattice models. II. Higher levels. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 611–638. (Wen-li Yang) **99m:17018** 17B37 (05E10, 82B23)
Nakanishi, Toshihiro (*with* Näätänen, Marjatta) Parametrization of Teichmüller space by length parameters. (English summary) *Analysis and topology*, 541–560, *World Sci. Publishing, River Edge, NJ*, 1998. (Steffen Timmann) **99m:30092** 30F60 (32G15)
Nakanishi, Yasutaka Alexander invariant and twisting operation. (English summary) *KNOTS '96 (Tokyo)*, 327–335, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57029** 57M25
Nakano, Daniel K. Varieties for G_rT-modules. (English summary) *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 441–452, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99k:20089** 20G10 (17B55)
— Representation theory of Lie algebras of Cartan type. *The Monster and Lie algebras (Columbus, OH, 1996)*, 235–252, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Ernest Stitzinger) **99h:17009** 17B10 (17B50)
— (*with* Feldvoss, Jörg) Representation theory of the Witt algebra. *J. Algebra* **203** (1998), *no.* 2, 447–469. (Serge M. Skryabin) **99d:17009** 17B10 (17B50)
— (*with* Lin, Zongzhu) Good filtrations for representations of Lie algebras of Cartan type. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 231–256. (Jörg Feldvoss) **99j:17008** 17B10 (17B50, 17B55, 20G05)
— (*with* Doty, Stephen R.) Semisimple Schur algebras. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 15–20. (Karin Erdmann) **99d:16020** 16K20 (16S99, 20G05)
— (*with* Palmieri, J. H.) Support varieties for the Steenrod algebra. *Math. Z.* **227** (1998), *no.* 4, 663–684. (Saïd Zarati) **99d:55011** 55S10
Nakano, Hideo[1] (*with* Bai, Leqiang; Ebara, Hiroyuki; Maeda, Hajime) An adaptive distributed fault-tolerant routing algorithm for the star graph. (English summary) *Algorithms and computation (Singapore, 1997)*, 62–71, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68M10 (68M15)
— (*with* Bai, Leqiang; Maeda, Hajime; Ebara, Hiroyuki) A broadcasting algorithm with time and message optimum on arrangement graphs. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 2, 17 *pp.* (*electronic*). (Summary) **99c:68008** 68M10 (05C85, 68R10)
Nakano, Huzio Hierarchical variational principles of irreversible processes in dynamical and thermal disturbance. Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 131–141. (*see* **99b:00018**) 82C35
Nakano, K. *see* **Nakano, Koji**
Nakano, Kazushi (*with* Matsuo, Takami) Robust stabilization of closed-loop systems by PID + Q controller. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 631–650. (Summary) **99c:93097** 93D21
Nakano, Koji (*with* Hayashi, Tatsuya; Olariu, Stephan) Weighted and unweighted selection algorithms for k sorted sequences. (English summary) *Algorithms and computation (Singapore, 1997)*, 52–61, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99g:68045** 68P10 (68Q22)
— (*with* Hayashi, Tatsuya; Olariu, Stephan) Efficient list ranking on the reconfigurable mesh, with applications. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 593–611. (Summary) **99e:68059** 68Q22 (68M10, 68Q25)
Nakano, Shin-ichi (*with* Rahman, Md. Saidur; Nishizeki, Takao) A linear algorithm for optimal orthogonal drawings of triconnected cubic plane graphs. (English summary) *Graph drawing (Rome, 1997)*, 99–110, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)
— (*with* Rahman, Md. Saidur; Nishizeki, Takao) Rectangular grid drawings of plane graphs. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 203–220. (Vladimir P. Korzhik) **99c:05055** 05C10 (05C85, 68U05)
— (*with* Chrobak, Marek) Minimum-width grid drawings of plane graphs. (English summary) *Comput. Geom.* **11** (1998), *no.* 1, 29–54. (Summary) **99e:68156** 68U05 (05C10, 05C85, 68R10)
Nakano, T. *see* **Nakano, Tetsuo**
Nakano, Takashi Mallat transformation with periodic boundary condition and application to tribology. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 53–68. (Summary) **99f:94002** 94A11 (42C15)
Nakano, Tetsuo Projective threefolds on which SL(2) acts with 2-dimensional general orbits. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2903–2924. (Joyce O'Halloran) **99c:14054** 14J50 (14J30, 14L27)
Nakano, Tohru (*with* Takahashi, Naoya; Kambe, Tsutomu; Gotoh, Toshiyuki; Yamamoto, Kiyoshi) Conditional expectations and probability density distributions in turbulence. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 130–136. (*see* **99k:76004**) 76F99 (60E99, 76M35)
Nakao, Hajime Time dependence of Eulerian velocity correlation tensor spectrum in isotropic homogeneous turbulence. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 2, 113–125. (Summary) **99e:76060** 76F05 (76M35)
Nakao, Hiroshi (*with* Halldórsson, Magnús M.; Ueno, Shuichi; Kajitani, Yoji) Approximating Steiner trees in graphs with restricted weights. (English summary) *Networks* **31** (1998), *no.* 4, 283–292. (Summary) **99c:05048** 05C05 (90C27)
Nakao, Ken-ichi (*with* Chiba, Takeshi; Maeda, Kei-ichi; Tsukamoto, Taro) Two boosted black holes in asymptotically de Sitter space-time: relation between mass and apparent horizon formation. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6119–6126. (Summary) **99m:83105** 83C57
— (*with* Iguchi, Hideo; Harada, Tomohiro) Gravitational waves around a naked singularity: odd-parity perturbation of Lemaître-Tolman-Bondi space-time. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7262–7273. 83C35 (83C75)
— (*with* Ida, Daisuke; Siino, Masaru; Hayward, Sean A.) Hoop conjecture for colliding black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 121501, 4 *pp.* (Summary) **99m:83113** 83C57
Nakao, Mitsuhiro (*with* Ikehata, Ryo; Matsuyama, Tokio) Global solutions to the initial-boundary value problem for the quasilinear viscoelastic wave equation with a perturbation. *Funkcial. Ekvac.* **40** (1997), *no.* 2, 293–312. (Sophia Demoulini) **99h:35141** 35L70 (35B40, 73F15)
— Decay of solutions to the Cauchy problem for the Klein-Gordon equation with a localized nonlinear dissipation. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 245–271. (Summary) **99g:35087** 35L70 (35B40, 35Q53)
Nakao, Mitsuhiro T. (*with* Minamoto, Teruya) Numerical verifications of solutions for nonlinear parabolic equations in one-space dimensional case. (English summary) *Reliab. Comput.* **3** (1997), *no.* 2, 137–147. (Reinhard Redlinger) **99c:65174** 65M15 (35K55)
— (*with* Yamamoto, Nobito; Kimura, Seiji) On the best constant in the error bound for the H_0^1-projection into piecewise polynomial spaces. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 491–500. (Guido Walz) **99d:41035** 41A30 (41A44)
— (*with* Yamamoto, Nobito; Watanabe, Yoshitaka) A posteriori and constructive a priori error bounds for finite element solutions of the Stokes equations. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 137–158. (Kai Tai Li) **99e:65147** 65N15 (76D05, 76M10)
— (*with* Yamamoto, Nobito) Numerical verification of solutions for nonlinear elliptic problems using an L^∞ residual method. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 246–262. (Summary) **99j:65186** 65N15 (35J65)
— (*with* Ryoo, Cheon Seoung) Numerical verification of solutions for variational inequalities. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 305–320. (Joakim

Petersson) **99m:65219** 65N30 (49J40, 65K10)

— (*with* Yamamoto, Nobito; Watanabe, Yoshitaka) Constructive L^2 error estimates for finite element solutions of the Stokes equations. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 115–124. (Summary) **99c:65209** 65N30 (65G10)

— (*with* Watanabe, Yoshitaka; Yamamoto, Nobito) Numerical verification of solutions for the Navier-Stokes equations. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 100–105. (*see* **99i:00028**) 65M12 (76M25)

— (*with* Ryoo, Cheon Seoung) Numerical verifications of solutions for variational inequalities using Newton-like method. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 27–35. (*see* **99h:65005**) 49J40 (65J15)

Nakashima, Kimie On radial and non-radial positive steady-states for Lotka-Volterra competition model on two-dimensional annulus. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 29–37. (N. L. Vulchanov) **99h:92032** 92D25 (35K55, 35Q80)

Nakashima, Kyoichi (*with* Takagi, Noboru; Hon-nami, Akimitsu) A characterization of r-valued functions monotonic in an order based on regularity. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka, 1998), 71–76, IEEE Computer Soc., Los Alamitos, CA, 1998.* (*see* **99i:03025**) 03B50

Nakashima, Takuo (*with* Nakamura, Ryozo; Sun, Ningping) An approximate analysis of the AVL balanced tree insertion algorithm. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1006–1013. (Summary) **99a:68094** 68Q25 (68P05)

Nakata, Akio (*with* Higashino, Teruo; Taniguchi, Kenichi) Time-action alternating model for verifying symbolic bisimulation equivalence of timed processes. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 98–110. (*see* **99a:68004**) 68Q10 (68Q60)

— (*with* Fukada, Atsushi; Higashino, Teruo; Taniguchi, Kenichi) Generation of test cases with timing constraints from timed I/O automata. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 85–94. (Summary) **99m:68127** 68Q68 (68Q60, 90B35)

Nakata, Kazuhide (*with* Fujisawa, Katsuki; Kojima, Masakazu) Using the conjugate gradient method in interior-points methods for semidefinite programs. (Japanese. English and Japanese summaries) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 2, 297–316. 90C30 (90C08)

Nakata, Susumu (*with* Kitagawa, Takashi; Hosoda, Yohsuke) A Tikhonov regularization method involving rank-revealing QR decomposition. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 212–219. (*see* **99i:00028**) 65H10

Nakata, Toshio Pianigiani-Yorke measures for non-Hölder continuous potentials. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 1, 95–111. (Bernard Schmitt) **99c:58095** 58F11 (58F03)

Nakatani, Hajime (*with* Ikemori, Hitoshi; Kitakado, Shinsaku; Otsu, Hideharu; Sato, Toshiro[2]) Quantum mechanics on S^n and meron solution. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 1, 15–21. (Bernd J. Schroers) **99h:81101** 81S10 (81T10)

Nakatani, Masao Strong unique continuation for critical points of some variational quantity. *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 45–53. (Jie Yang) **99c:35041** 35J20 (49Q15, 58E05)

Nakatsu, Toshio Toward second-quantization of D5-brane. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 6, 923–963. (Marco Spaans) **99k:81264** 81T30 (81T60)

— (*with* Ohta, Kazutoshi; Yokono, Takashi; Yoshida, Yuhsuke) Higgs branch of $N = 2$ SQCD and M-theory branes. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 159–179. (Daniel N. Kabat) **99g:81214** 81T60 (81T13)

— (*with* Ohta, Kazutoshi; Yokono, Takashi) Baryonic branch root of $N = 2$ M-theory fivebrane description of QCD. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026003, 10 *pp.* (Summary) **99k:81265** 81T30 (81T60, 81V25)

Nakatsuka, Toshinao Absorbing process in recursive stochastic equations. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 418–426. (Michael Kohlmann) **99g:93083** 93E15 (60G17)

Nakauchi, Nobumitsu p-harmonic maps. (Japanese) Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 111–115. (*see* **99a:58003**) 58E20

— A Liouville type theorem for p-harmonic maps. *Osaka J. Math.* **35** (1998), *no.* 2, 303–312. (Martin Fuchs) **99i:58039** 58E20 (35B05, 35J60)

Nakaya, Yusuke (*with* Oishi, Shin'ichi) Finding all solutions of nonlinear systems of equations using linear programming with guaranteed accuracy. (English summary) SCAN-97 (Lyon). *J.UCS* **4** (1998), *no.* 2, 171–177 (*electronic*). (Summary) **99i:65058** 65H10 (65G10, 90C08)

Nakayama, Chikara Nearby cycles for log smooth families. (English summary) *Compositio Math.* **112** (1998), *no.* 1, 45–75. (Claudio Pedrini) **99g:14044** 14J10 (14E40)

Nakayama, Hirotaka Exploration of multi-objective problems in artificial intelligence. (English summary) *Essays in decision making*, 201–211, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90C90)

— Pattern classification carried out using mathematical programming. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 32–37. (*see* **99b:90009**) 90C90 (90C08)

— (*with* Kagaku, Naoko) Pattern classification by linear goal programming and its extensions. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 111–126. (*see* **99a:90011**) 90C08 (90C29)

Nakayama, Marvin K. Multiple-comparison procedures for steady-state simulations. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2433–2450. (Ivan Křivý) **99b:62110** 62J15 (62M10, 68U20)

— On derivative estimation of the mean time to failure in simulations of highly reliable Markovian systems. (English summary) *Oper. Res.* **46** (1998), *no.* 2, 285–290. 90B25

Nakayashiki, Atsushi On the Thomae formula for Z_N curves. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 6, 987–1015. (Yaacov Kopeliovich) **99c:14041** 14H42 (14H45)

— (*with* Yamada, Yasuhiko) Kostka polynomials and energy functions in solvable lattice models. (English summary) *Selecta Math. (N.S.)* **3** (1997), *no.* 4, 547–599. (Kailash C. Misra) **99m:05162** 05E05 (17B10, 17B37, 81R50, 82B23)

Nakazato, Haruo (*with* Tamashiro, Manabu) θ-Frattini subgroups of finite solvable groups. (English summary) *Ryukyu Math. J.* **11** (1998), 65–74. (Gernot Stroth) **99m:20039** 20D25

Nakazato, Hiromichi (*with* Namiki, Mikio; Pascazio, Saverio) ★ Decoherence and quantum measurements. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. $x+228$ *pp. ISBN* 981-02-3077-X (R. L. Ingraham) **99g:81022** 81P15 (81P05)

— Time development of a wave packet and the time delay. (English summary) *Found. Phys.* **27** (1997), *no.* 12, 1709–1723. (M. Krishna) **99b:81038** 81Q05

— Time development of a wave packet in potential scattering. (English summary) *Symmetries in science, X (Bregenz, 1997), 305–314, Plenum, New York*, 1998. (Summary) **99g:81226** 81U05

— (*with* Namiki, Mikio; Pascazio, Saverio) Time symmetry and quantum dephasing. (English summary) *Symmetries in science, X (Bregenz, 1997), 315–323, Plenum, New York*, 1998. (*see* **99f:81004**) 81Q15 (81P99)

Nakazato, Hiroshi A proof of the duality theorem between the q-numerical ranges and the higher-dimensional numerical ranges. (English summary) *Sci. Rep. Hirosaki Univ.* **44** (1997), *no.* 2, 183–187. (Chi-Kwong Li) **99f:15039** 15A60

Nakazawa, M. (*with* Ikeda, Kiyohiro) Bifurcation hierarchy of a rectangular plate. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 7-8, 593–617. (B. V. Loginov) **99a:73075** 73H05 (58E09, 73K10)

Nakazi, Takahiko Brown-Halmos type theorems of weighted Toeplitz operators. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 196–206. (I. Spitkovsky) **99d:47025** 47B35 (47A10, 47G10)

— (*with* Yamamoto, Takanori[2]) Norms of some singular integral operators and their inverse operators. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 185–207. (A. Böttcher) **99g:47054** 47B35 (45E05, 46J15, 47A30, 47G10)

— (*with* Okubo, Kazuyoshi) p-contraction and 2×2 matrix. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 165–169. (Summary) **99i:47016** 47A45 (15A60)

— The spectra of Toeplitz operators with unimodular symbols. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 133–139. (Miroslav Engliš) **99m:47032** 47B35

— (*with* Yamamoto, Takanori[2]) Fixed points of certain functions and norms of singular integrable operators. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 137–151. (Shūichi Ohno) **99m:47058** 47G10 (47A30)

— Some special bounded homomorphisms of a uniform algebra. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 152–156. (*see* **99i:00018**) 46J10

Nakhaeizadeh, Gholamreza *see* **Risk measurement, econometrics and neural networks, 99j:62148**

Nakkar, H. M. (*with* Al-Khouja, E. A.) On Laskerian lattices and Q-lattices. *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 363–368. (Johnny A. Johnson) **99c:06018** 06F10

Näkki, Raimo (*with* MacManus, Paul; Palka, Bruce) Quasiconformally homogeneous compacta in the complex plane. *Michigan Math. J.* **45** (1998), *no.* 2, 227–241. (D. Drasin) **99k:30031** 30C62 (28A78)

— (*with* MacManus, Paul; Palka, Bruce) Quasiconformally bi-homogeneous compacta in the complex plane. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 215–240. (Matti Vuorinen) **99j:30020** 30C62

Nakonechnyĭ, A. G. Minimax estimation of solutions of quasilinear stochastic equations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 172–183, 299. 93E10 (34F05)

— (*with* Podlipenko, Yu. K.) Minimax prediction of solutions of parabolic equations with incomplete data. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 9, 107–112. (Summary) **99k:93041** 93B30 (35K99, 93C20)

Nakova, G. (*with* Gribachev, K.) Submanifolds of some almost contact manifolds with B-metric with codimension two. I. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 255–267. (José A. Oubiña) **99m:53061** 53C15 (53C40, 53C50)

— (*with* Gribachev, K.) Submanifolds of some almost contact manifolds with B-metric with codimension two. II. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 1-2, 93–108. (José A. Oubiña) **99m:53062** 53C15 (53C40, 53C50)

Nalimov, V. I. Subcritical flows from under a sluice gate. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 1, 54–60; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 1, 47–52. (Summary) **99b:76011** 76B15

Nalinakshi, L. On a class of convex functions of bounded α-type. (English summary) *J. Anal.* **5** (1997), 119–126. (Summary) **99j:30011** 30C45

Nallaswamy, R. (*with* Sridharan, J.; Srinivasan, Aravind) On the rates of convergence of first passage times and their associated processes. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 299–309. (Summary) **99a:60073** 60J15 (60F15, 60G50)

Nalwa, Vishvjit S. The basis of computer vision. (English summary) *Mathematical aspects of artificial intelligence (Orlando, FL, 1996), 139–174, Proc. Sympos. Appl. Math., 55, Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68162**) 68T99 (68U10)

mai qui Nam *see* **Mai Qui Nam**

Nam, Ho Soo (*with* Song, Moon Sup; Park, Changsoon) An efficient Mallows-type one-step GM-estimator in linear models. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 3, 369–383. (Summary) **99i:62152** 62J05

Nam, Ill-Hyeon (*with* Park, Kong-Rae) Nonexistence of global solutions for the semilinear parabolic system. *Honam Math. J.* **20** (1998), *no.* 1, 67–78. (Andrzej Swiech) **99j:35090** 35K50 (35K60)

— (*with* Ju, Hyeong-Kwan) Uniqueness and existence of the solution for certain scalar semilinear elliptic problem. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 89–95. (Xin Kang Guo) **99h:35065** 35J65 (34B15)

Nam, Keeyeol (*with* Ott, Edward; Gabbay, Michael; Guzdar, Parvez N.) Spiral wave dynamics in the complex Ginzburg-Landau equation with broken chiral symmetry. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 69–83. (Summary) **99c:35226** 35Q55

— (*with* Ott, Edward; Guzdar, Parvez N.; Gabbay, Michael) Stability of spiral wave vortex filaments with phase twists. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2580–2585. 35Q35 (76E30)

Nam, Kwanghee (*with* Tahk, Min-Jea) A second-order stochastic filter involving coordinate transformation. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 603–608. 93E11

Nam, Kyung H. (*with* Guess, Frank; Park, Dong Ho) Failure rate and mean residual life with trend changes. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 2, 239–244. 60K10 (90B25)

Nam, Sangwook (*with* Park, Myun-Joo) Efficient calculation of the Green's function for multilayered planar periodic structures. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 10, 1582–1583. 78–08

Nam, Seong-Hyun (*with* Liu, John J.) Regulated quality diffusion under quadratic costs. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 4, 393–409. 93E20 (49N10)

Nam, Soonkeon Calogero-Sutherland model and non-relativistic scatterings. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 164–168, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:81243** 81V70

— (*with* Ahn, Changhyun) Compactifications of F-theory on Calabi-Yau threefolds at constant coupling. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 132–138. (Gonzalo Violero) **99f:81138** 81T30 (14J32, 32J81)

Nam, Yunsun (*with* Cho, Han Hyuk; Kim, Suh-Ryung) A sufficient condition for a tree belonging to $\mathcal{T}(2,2,n)$. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 43–53. (Summary) **99a:05029** 05C05

— (*with* Anstee, Richard P.) Convexity of degree sequences. (English summary) *J. Graph Theory* **30** (1999), *no.* 2, 147–156. (Ian Anderson) **99m:05115** 05C70

sri Namachchivaya, N. *see* **Sri Namachchivaya, N.**

Namah, Gawtum (*with* Roquejoffre, Jean-Michel) Convergence to periodic fronts in a class of semilinear parabolic equations. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 4, 521–536. (Yoshio Yamada) **99a:35123** 35K55 (35B40)

Namar, Rabah (*with* Bourquin, Frédéric) A semi-dual mode synthesis method for plate bending vibrations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 384–390, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the text) **99h:73085** 73V20 (65N25, 65N55, 73K10, 73K12)

Namazie, M. A. (*with* Minces, Pablo; Núñez, Carmen A.) Fusion rules in $N = 1$ superconformal minimal models. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 117–125. (Isabel P. Ennes) **99h:81194** 81T40

Nambisan, T. M. Vasudevan (*with* Nair, V. C.) An integral equation of convolution form with the H-function of one variable as its kernel. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), *no.* 1, 63–72. (Summary) **99a:45008** 45E10 (33C60)

Nambu, Takao Characterization of the domain of fractional powers of a class of elliptic differential operators with feedback boundary conditions. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 141–161. (Vladimir B. Vasilyev) **99h:35033** 35J15 (47F05, 93C20)

Nambu, Yasusada (*with* Taruya, Atsushi) Solutions of gauge-invariant cosmological perturbations in the long-wavelength limit. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2761–2772. (Summary) **99f:83022** 83C25 (83F05)

Namdeo, R. K. (*with* Tiwari, Narendra Kumar) Some results of fixed points in Hausdorff spaces. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 13–18. 54H25

Namenson, Arthur (*with* Antonsen, Thomas M., Jr.; Ott, Edward) Power law wave number spectra of fractal particle distributions advected by flowing fluids. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2426–2434. 76F99

Namikawa, Yoshinori Smoothing Fano 3-folds. *J. Algebraic Geom.* **6** (1997), *no.* 2, 307–324. (Yuri G. Prokhorov) **99d:14040** 14J45 (14B07, 14B12, 14D15)

Namikawa, Yukihiko Award of the Fall 1997 Prize of the Mathematical Society of Japan to Hiroaki Nakamura, Akio Tamagawa and Shinichi Mochizuki for the solution of the Grothendieck conjecture on fundamental groups of algebraic curves. (Japanese) *Sūgaku* **50** (1998), *no.* 2, 199–200. 01A70

— Award of the spring 1998 prize of the Mathematical Society of Japan to Tohru Ozawa for his research on nonlinear Schrödinger equations. (Japanese) *Sūgaku* **50** (1998), *no.* 4, 399. 01A70

Namiki, M. *see* **Namiki, Mikio**

Namiki, Makoto (*with* Fukuda, Komei; Tamura, Akihisa) EP theorems and linear complementarity problems. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 107–119. (David E. Stewart) **99b:90136** 90C33 (68Q25)

Namiki, Mikio (*with* Kanenaga, Masahiko; Kirillov, A. I.; Mamakin, V. Yu.; Ohba, Ichiro; Polyachenko, E. V.; Zav'yalov, O. I.) On evaluation of path integrals for bottomless systems. (English summary) *Path integrals: Dubna '96*, 181–186, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

— (*with* Tanaka, Satoshi[1]; Ohba, Ichiro; Mizutani, Masashi; Komoike, Nobuyuki; Kanenaga, Masahiko) Stochastic quantization of bottomless systems based on kerneled Langevin equation. (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **5** (1996), *no.* 2, 105–124 (1997). (Summary) **99b:82078** 82C31

— (*with* Pascazio, Saverio; Nakazato, Hiromichi) ★ Decoherence and quantum measurements. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. x+228 *pp. ISBN* 981-02-3077-X (R. L. Ingraham) **99g:81022** 81P15 (81P05)

— (*with* Kanenaga, Masahiko) Possible origins of quantum fluctuations. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 145–152, *Plenum, New York*, 1998. (Summary) **99h:81025** 81P99

— (*with* Nakazato, Hiromichi; Pascazio, Saverio) Time symmetry and quantum dephasing. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 315–323, *Plenum, New York*, 1998. (*see* **99f:81004**) 81Q15 (81P99)

Namioka, Isaac (*with* Pol, Roman) Sigma-fragmentability of mappings into $C_p(K)$. (English summary) *Topology Appl.* **89** (1998), *no.* 3, 249–263. (G. D. Dimov) **99k:54009** 54C35 (54C25, 54D30)

Namir, A. (*with* Karrakchou, Jamila; Lahmidi, F.; Rachik, Mostafa) Stability, observers and compensators for discrete-time delay systems. *Systems modelling and optimization* (*Detroit, MI*, 1997), 71–79, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C55 (93D15)

Namjoshi, Kedar S. (*with* Emerson, E. Allen) On model checking for non-deterministic infinite-state systems. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 70–80, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q60

Namn, Su (*with* Harel, Arie; Sturm, Jacob) Migration of zeros for successive derivatives of entire functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 563–567. (Wayne Stewart Smith) **99c:30055** 30D15

el-Namoury, A. R. M. *see* **El-Namoury, A. R. M.**

Namsrai, Kh. Square-root Klein-Gordon operator and physical interpretation. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1531–1540. (Summary) **99b:81039** 81Q05

Nan, Ji Zhu (*with* You, Hong) Decomposition of Steinberg group into involutions. *Chinese Sci. Bull.* **42** (1997), *no.* 24, 2061–2064. (Sue Geller) **99f:20077** 20G15

— (*with* Gao, Suo Gang) Some anzahl theorems in symplectic geometry over the finite local ring $\mathbf{Z}/p^k\mathbf{Z}$. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 2, 214–220. (Yu Chen) **99m:20116** 20G99 (11E57)

— (*with* You, Hong) Decomposition of Steinberg group into involutions. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 21, 2272–2275. 20G15

— (*with* Zhang, Yong Zheng) Finite-dimensional Lie superalgebras $W(m,n,\mathbf{t})$ and $S(m,n,\mathbf{t})$ of Cartan type. (English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 3, 240–246. (Summary) **99h:17012** 17B20

— (*with* You, Hong) Using normal form of matrices over finite fields to construct Cartesian authentication codes. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 341–346. (Summary) **99i:94058** 94A60 (11T71)

Nánásiová, Olga Decomposition of D-sets. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 131–137. (From the summary) **99i:06009** 06C15 (04A72)

Nanbu, Tokumori (*with* Bandle, Catherine; Stakgold, Ivar) Porous medium equation with absorption. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1268–1278 (*electronic*). (Domingo A. Tarzia) **99f:35085** 35K57 (35B40, 35R35, 76S05)

Nanda, Asok K. (*with* Jain, Kanchan) A note on two new ageing properties. (English summary) *IAPQR Trans.* **21** (1996), *no.* 2, 109–117. (Summary) **99i:62237** 62N05

— Optimal replacement in a discrete time shock model. (English summary) *Opsearch* **35** (1998), *no.* 4, 338–345. (Summary) **99j:90034** 90B25

— (*with* Sengupta, Debasis) Log-concave and concave distributions in reliability. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 4, 419–433. (Summary) **99m:90081** 90B25

Nanda, Sudarsan (*with* Dutta, Jayasri; Vetrivel, V.) Semi-invex functions and their subdifferentials. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 385–393. (Summary) **99m:49025** 49J52 (26B25, 90C26)

— (*with* Chakrabarty, Kankana; Biswas, Ranjit) On fuzzy metric spaces. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 111–114. 54A40 (54E35)

— (*with* Nahak, Chandal) Duality for multiobjective fractional control problems with generalized invexity. *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 433–446. (Emil Iwanow) **99d:49061** 49N15 (90C29, 90C32)

— (*with* Chakrabarty, Kankana; Biswas, Ranjit) On Yager's theory of bags and fuzzy bags. (English summary) *Comput. Artificial Intelligence* **18** (1999), *no.* 1, 1–17. (From the summary) **99k:03044** 03E72

— (*with* Chakrabarty, Kankana; Biswas, Ranjit) Fuzzy shadows. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 413–421. (Summary) **99i:03066** 03E72

— (*with* Chakrabarty, Kankana; Biswas, Ranjit) Fuzzy L-structure. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 177–182. (Summary) **99i:06006** 06B99 (03E72)

— (*with* Chakrabarty, Kankana; Biswas, Ranjit) A note on fuzzy union and fuzzy intersection. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 499–502. 03E72

Nandakumaran, A. K. Stackelberg's optimization with microstructure and homogenization. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 113–123. (Stanisław Migórski) **99m:49007** 49J20 (35B27, 49J45, 73B27)

Nandeibam, Shasikanta An alternative proof of Gibbard's random dictatorship result. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 509–519. (Summary) **99k:90018** 90A08

Nandi, J. N. (*with* Mukherjee, M. N.) Characterizations of bitopological QHC spaces via certain classes of sets. (English summary) *J. Pure Math.* **14** (1997), 56–61. 54E55

— (*with* Mukherjee, M. N.) Bitopological δ-cluster sets and some applications. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 837–848. 54E55 (54C60)

Nandi, K. K. (*with* Alam, S. M. K.; Bhattacharjee, B.; Evans, James Carl) Modified no-hair conjecture and the limiting process. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 877–885. (Gil De Oliveira-Neto) **99d:83064** 83C57 (83C15, 83D05)

— (*with* Alam, S. M. K.) Stringy wormholes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1331–1340. 83E05 (83E30)

Nandi, S. B. (*with* Aich, A. B.) A note on testing hypothesis regarding $P(X > Y)$ in bivariate normal samples. (English summary) *IAPQR Trans.* **21** (1996), *no.* 2, 149–153. 62H15

— (*with* Das, Kishore K.) A family of the multivariate Abel series distributions. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 252–263. (C. D. Lai) **99k:60033** 60E05 (62E15, 62F10)

— (*with* Aich, A. B.) Optimal stratified sampling—an information-theoretic approach. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 260–266, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05

Nandigam, Amarendra (*with* Nogueira, Monica) Why intervals? Because if we allow other sets, tractable problems become intractable. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 389–394. (M. A. Wolfe) **99i:65053** 65G10 (68Q25)

Nandy, Subhas C. (*with* Bhattacharya, Bhargab B.) Maximal empty cuboids among points and blocks. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 11–20. (Summary) **99f:68201** 68U05 (52B55, 65Y25)

— (*with* Mitra, Pinaki) Efficient computation of rectilinear geodesic Voronoi neighbor in the presence of obstacles. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 315–338. (Summary) **99d:68238** 68U05 (52B55, 52C07, 68Q05)

Naniewicz, Z. (*with* Panagiotopoulos, Panagiotis D.) On some regularity results for hemivariational inequalities. (English summary) *Generalized analytic functions* (*Graz*, 1997), 197–214, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:47094** 47H19 (49J40, 73V25)

Nanling, Peng *see* **Peng, Nan Ling**

Nanni, Umberto (*with* Frigioni, Daniele; Marchetti-Spaccamela, Alberto) Fully dynamic shortest paths and negative cycles detection on digraphs with arbitrary arc weights. (English summary) *Algorithms—ESA '98* (*Venice*), 320–331, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (05C85)

— (*with* Frigioni, Daniele; Miller, Tobias; Pasqualone, Giulio; Schaefer, Guido; Zaroliagis, Christos D.) An experimental study of dynamic algorithms for directed graphs. *Algorithms—ESA '98* (*Venice*), 368–380, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q25 (68R10)

— (*with* Ausiello, Giorgio; Italiano, Giuseppe F.) Hypergraph traversal revisited: cost measures and dynamic algorithms. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 1–16, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q25)

— (*with* Frigioni, Daniele; Marchetti-Spaccamela, Alberto) Semidynamic algorithms for maintaining single-source shortest path trees. (English summary) *Algorithmica* **22** (1998), *no.* 3, 250–274. (Václav Koubek) **99g:05163** 05C85 (68P05, 68Q25, 68R10)

— (*with* Cicerone, Serafino; Frigioni, Daniele; Pugliese, Francesco) A uniform approach to semi-dynamic problems on digraphs. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 69–90. (Summary) **99g:68151** 68R10 (05C20, 05C85, 68P05)

— (*with* Flammini, Michele; Gambosi, Giorgio; Tan, Richard B.) Multidimensional interval routing schemes. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 115–133. (Summary) **99d:68021** 68M10

Nanopoulos, Dimitri V. (*with* Diamandis, G. A.; Georgalas, B. C.; Mavromatos, Nick E.; Ellis, Jonathan Richard; Papantonopoulos, E.) Irreversible time flow in a two-dimensional dilaton black hole with matter. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4265–4279. (Summary) **99d:83046** 83C45

— (*with* Ellis, Jonathan Richard; Kanti, P.; Mavromatos, Nick E.; Winstanley, Elizabeth) Decoherent scattering of light particles in a D-brane background. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 4, 303–319. (Summary) **99e:81186** 81T30 (81U99)

— (*with* Ellis, Jonathan Richard; Leontaris, G. K.; Lola, S.) Fermion mass textures in an M-inspired flipped SU(5) model derived from string. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 86–96. (Summary) **99b:81273** 81V22 (81T30)

— (*with* Berglund, Per; Ellis, Jonathan Richard; Faraggi, Alon E.; Qiu, Zongan) Toward the M(F)-theory embedding of realistic free-fermion models. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 269–278. (Summary) **99e:81174** 81T30

— (*with* Benakli, Karim; Ellis, Jonathan Richard) Natural candidates for superheavy dark matter in string and M theory. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 047301, 4 *pp.* 81V22 (81T30)

Nanya, Takashi (*with* Savva, Andreas) A gracefully degrading massively parallel system using the BSP model, and its evaluation. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 1, 38–52. 68Q05

Naolekar, Aniruddha C. (*with* Mukherjee, Amiya) An axiomatic approach to equivariant cohomology theories. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 151–162. (Haruo Minami) **99f:55013** 55N91 (55N25, 57S30)

Naón, Carlos M. Field theory approach to one-dimensional electronic systems. (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 325–336, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99h:81133** 81T10 (81T08)

— (*with* Li, Kang[1]) Equivalent bosonic theory for the massive Thirring model with a non-local interaction. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7929–7937. (Summary) **99e:81142** 81T10

— (*with* Manías, M. V.; Trobo, M. L.) Non-local Thirring model at finite temperature. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 721–737. (Summary) **99d:81077** 81T10

Naor, Joseph (*with* Bar-Noy, Amotz; Bhatia, Randeep; Schieber, Baruch) Minimizing service and operation costs of periodic scheduling (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 11–20, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35 (68M20)

— (*with* Orda, Ariel; Rom, Raphael) Scheduled hot-potato routing. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no* 4, 20 *pp.* (*electronic*). (Summary) **99c:68021** 68M10

— (*with* Bar-Yehuda, Reuven; Geiger, Dan; Roth, Ron M.) Approximation algorithms for the feedback vertex set problem with applications to constraint satisfaction and Bayesian inference. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 942–959 (*electronic*). (Summary) **99c:68117** 68Q25 (05C85, 68R10, 68T20)

Naor, Moni (*with* Canetti, Ran; Dwork, Cynthia; Ostrovsky, Rafail) Deniable encryption. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 90–104, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94025** 94A60

— (*with* Ostrovsky, Rafail; Venkatesan, Ramarathnam; Yung, Moti) Perfect zero-knowledge arguments for NP using any one-way permutation. (English summary) *J. Cryptology* **11** (1998), *no.* 2, 87–108. (Juraj Hromkovič) **99j:94057** 94A60 (68Q15, 68Q25)

— (*with* Dwork, Cynthia) An efficient existentially unforgeable signature scheme and its applications. (English summary) *J. Cryptology* **11** (1998), *no.* 3, 187–208. (Summary) **99d:94024** 94A60

— (*with* Wool, Avishai) The load, capacity, and availability of quorum systems. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 423–447 (*electronic*). (Summary) **99b:68142** 68R05 (60K35, 68M10, 90B12)

ben-Naoum, Abdou Kouider *see* **Ben-Naoum, Abdou Kouider**

Naoum, Adil G. Regular multiplication modules. *Period. Math. Hungar.* **31** (1995), *no.* 2, 155–162. (Fazal Mehdi) **99b:13017** 13C13

— (*with* Kider, Jihad R.) On the module of homomorphisms into projective modules and multiplication modules. *Period. Math. Hungar.* **33** (1996), *no.* 1, 55–63. (Satyagopal Mandal) **99b:13015** 13C10 (13C13)

Naoumovitch, A. *see* **Naumovich, A. F.**

Naoumovitch, N. *see* **Naumovich, N. F.**

Napier, Terrence (*with* Ramachandran, Mohan) The Bochner-Hartogs dichotomy for weakly 1-complete Kähler manifolds. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 5, 1345–1365. (Fangyang Zheng) **99e:32012** 32C17

— (*with* Ramachandran, Mohan) The L^2 $\overline{\partial}$-method, weak Lefschetz theorems, and the topology of Kähler manifolds. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 2, 375–396. (Thierry Bouche) **99a:32008** 32C17 (32L20)

Nápoles Valdés, Juan E. On the asymptotic behavior of systems of differential equations in Banach spaces. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 21–27 (1995). 34G20 (34D99, 34G10)

— (*with* Negrón Segura, Carlos) On the behaviour of solutions of second order linear differential equations. (English summary) *Rev. Integr. Temas Mat.* **14** (1996), *no.* 2, 49–56 (1997). (Josef Kalas) **99d:34057** 34C11 (34B20, 34D05)

— (*with* Repilado Ramírez, José Antonio) Boundedness and global stability of the solutions of a system of differential equations. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 1, 71–74. (Antonio R. Tineo) **99m:34111** 34D05 (34C11)

— Uniqueness and stability of the limit cycle for a class of two-dimensional systems. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 1, 75–78. (Miklós Farkas) **99m:34069** 34C05 (34D99)

— (*with* Ruiz Chaveco, Antonio Iván) On the case of a unique stable limit cycle in a two-dimensional system. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 1, 79–82. 34C05

passarelli di Napoli, Antonia *see* **Passarelli Di Napoli, Antonia**

Napoli, E. (*with* Gallerano, F.) A dynamic subgrid-scale tensorial eddy viscosity model. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 1, 1–14. (Summary) **99m:76070** 76F99 (76M25)

Napoli, Margherita (*with* La Torre, Salvatore) Representing hyper-graphs by regular languages. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 571–579, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q45)

— (*with* La Torre, Salvatore; Parente, Domenico) Synchronization of a line of identical processors at a given time. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 103–128. (Summary) **99h:68125** 68Q80

Napolitano, Antonio (*with* Izzo, Luciano) Multirate processing of time series exhibiting higher order cyclostationarity. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 2, 429–439. (Summary) **99k:94008** 94A12 (62M10)

Napolitano, Fabien Configuration spaces on surfaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 10, 887–892. (Summary) **99j:55016** 55R35 (55R40)

Napolitano, M. *see* **Napolitano, Michele**

Napolitano, Marcello R. (*with* Casdorph, Van; Neppach, Charles; Naylor, Steve; Innocenti, Mario; Silvestri, Giovanni) Online learning neural architectures and cross-correlation analysis for actuator failure detection and identification. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 433–455. 93E12 (93E03)

Napolitano, Michele (*with* Pascazio, G.; Quartapelle, L.) A review of vorticity conditions in the numerical solution of the ζ-ψ equations. (English summary) *Comput. & Fluids* **28** (1999), *no.* 2, 139–185. (Summary) **99j:76096** 76M25 (76M10, 76M20)

Napora, Jolanta Remarks on symmetrizable matrices. (English and Polish summaries) *Opuscula Math. No.* 17 (1997), 6–7, 10–11, 51–56. (Shao Kuan Li) **99d:15021** 15A57

Nappa, Ludovico (*with* Chiriță, Stan) Effects of Saint-Venant type and uniqueness and continuous dependence results for incremental elastodynamics. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 159–167. (Cornelius O. Horgan) **99j:73026** 73C10 (73D99)

Nappi, Chiara R. (*with* Dolan, Louise) A modular invariant partition function for the fivebrane. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 683–700. (Claudio A. Scrucca) **99k:81231** 81T30 (81T50)

Nappo, G. (*with* Spizzichino, Fabio) Ordering properties of the TTT-plot of lifetimes with Schur joint densities. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 195–203. (Moshe Shaked) **99i:62238** 62N05

Naqvi, Asad (*with* Erlich, Joshua; Randall, Lisa) Coulomb branch of $N = 2$ supersymmetric product group theories from branes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046002, 10 *pp.* (Summary) **99k:81235** 81T30 (81T60)

Nara, Chiê (*with* Tazawa, Shinsei) Enumeration of unlabelled graphs with specified degree parities. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 255–264. (E. M. Palmer) **99a:05066** 05C30

Narahari, Y. (*with* Hemachandra, N.) On the optimality of exhaustive service policies in multiclass queueing systems with modulated arrivals and switchovers. (English summary) *Sādhanā* **22** (1997), *no.* 1, 69–82. (Summary) **99e:90043** 90B22

Narain, K. S. (*with* Gava, E.; Sarmadi, M. H.) On the bound states of p- and $(p+2)$-branes. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 214–238. (Ion V. Vancea) **99b:81191** 81T30

— (*with* Antoniadis, Ignatios; Ferrara, Sergio; Minasian, Ruben) R^4 couplings in M- and type II theories on Calabi-Yau spaces. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 571–588. (Gonzalo Violero) **99c:81159** 81T30 (32J81, 83E30)

— (*with* Gava, E.; Morales, Jose F.; Thompson, George) Bound states of type I D-strings. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 95–108. (Summary) **99k:81238** 81T30 (58Z05, 81T40)

— *see also* **String theory, gauge theory and quantum gravity, 99a:81005**

Narain, Urvashi (*with* Ligon, Ethan) Computing the equilibria of dynamic common property games. (English summary) *Natur. Resource Modeling* **10** (1997), *no.* 4, 345–369. (Summary) **99c:90172** 90D25 (90A16)

Naralenkova, I. I. (*with* Karapetyan, A. V.) On the bifurcation of the equilibria of mechanical systems with symmetric potential. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 12–21; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 9–17. (Igor Gashenenko) **99g:70031** 70K99 (34C23, 70H05, 70K20)

Naranan, S. Logarithms, practical, pristine and primitive. (English summary) *Math. Ed.* **10** (1993), *no.* 1, 25–32. 00A05

Narang, T. D. Characterizations of elements of best approximation and ε-approximation in non-Archimedean normed spaces. *Demonstratio Math.* **30** (1997), *no.* 3, 513–517. (J. B.

Prolla) **99a:46137** 46S10 (41A65, 46B20)
— Normal structure and fixed point property in linear metric spaces. *Acta Math. Vietnam.* **23** (1998), *no.* 2, 257–262. (S. P. Singh) **99j:47091** 47H10 (46A16)
Naranjo, Francisco (*with* Fernández López, Antonio[2]) Rybakov's theorem for vector measures in Fréchet spaces. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 33–42. (Brian Jefferies) **99f:46061** 46G10 (46E40)
— (*with* Fernández López, Antonio[2]; Mayoral, Fernando; Paúl, Pedro J.) Weakly sequentially complete Fréchet spaces of integrable functions. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 3, 223–228. (Summary) **99e:46031** 46E10 (46A04, 46A30, 46E40)
— (*with* Díaz Alcaide, Juan Carlos; Fernández López, Antonio[2]) Fréchet AL-spaces have the Dunford-Pettis property. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 383–386. (Plamen Dzhakov) **99j:46008** 46A40 (46A04)
— (*with* Fernández López, Antonio[2]; Ricker, Werner J.) Completeness of L^1-spaces for measures with values in complex vector spaces. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 76–87. (Oscar Blasco) **99d:46051** 46E40 (46E30)
Narasimhan, B. (*with* Doss, Hani) Dynamic display of changing posterior in Bayesian survival analysis. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 63–87, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62052** 62G05 (62F15, 62N05)
Narasimhan, Jagannathan (*with* Nakajima, Kazuo; Rim, Chong S.) A graph theoretical approach for the yield enhancement of reconfigurable VLSI/WSI arrays. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 195–221. (Summary) **99j:68109** 68R10 (05C85, 68M07, 68Q35)
Narasimhan, Lakshmi S. (*with* Bhadury, Joyendu; Griffin, Paul M.; Griffin, Susan O.) Finding the majority-rule equilibrium under lexicographic comparison of candidates. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 489–508. (Summary) **99k:90052** 90A28
Narasimhan, M. S. (*with* Biswas, Indranil) Hodge classes of moduli spaces of parabolic bundles over the general curve. *J. Algebraic Geom.* **6** (1997), *no.* 4, 697–715. (P. E. Newstead) **99a:14017** 14D20 (14C30, 14F25, 14H60)
Narasimhan, Rangarajan (*with* Burns, Richard N.; Smith, L. Douglas) A set-processing algorithm for scheduling staff on 4-day or 3-day work weeks. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 8, 839–853. (Summary) **99g:90055** 90B35 (90C90)
Narasimhan, V. S. *see* **Somayāji, Nīlakaṇṭha**, **99f:01008**; **99h:01017** *and* **99h:01018**
Narasimha Sastry, N. S. (*with* Sin, Peter) The code of a regular generalized quadrangle of even order. *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 485–496, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Theo Grundhöfer) **99c:51006** 51E12 (51E22)
Narasinga Rao, A. (*with* Ganapathy Iyer, V.) R. Vaidyanathaswamy (1894–1960). Reprint of the 1961 original [MR **25** #4980]. *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 1–13. 01A70
Narayan, A. (*with* Dubey, R. P.) Fixed point G-iterations. *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 291–292. 54H25
Narayan, K. (*with* Yajnik, Urjit) Canonical quantization inside the Schwarzschild black hole. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1315–1321. (Summary) **99a:83038** 83C47
— (*with* Dadhich, Naresh) Generating spacetimes of zero gravitational mass. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 7, 1133–1139. (Summary) **99c:83011** 83C15
Narayan, Prakash (*with* Lapidoth, Amos) Reliable communication under channel uncertainty. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2148–2177. (Summary) **99h:94040** 94A40
Narayan, Sivaram K. (*with* Fleming, Richard J.; Grossman, George W.; Lenker, Terry; Ong, S.-C.) On Schur D-stable matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 39–50. (Pauline van den Driessche) **99i:15012** 15A18
Narayanan, Lata (*with* Shende, Sunil M.) Partial characterizations of networks supporting shortest path interval labeling schemes. (English summary) *Networks* **32** (1998), *no.* 2, 103–113. (Summary) **99e:68008** 68M10 (05C35, 90B12)
— (*with* Opatrny, J.) Compact routing on chordal rings of degree 4. (English summary) *Algorithmica* **23** (1999), *no.* 1, 72–96. (Summary) **99i:68012** 68M10
Narayanan, Venkat (*with* Meller, Russell D.; Vance, Pamela H.) Optimal facility layout design. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 117–127. 90B80 (90C90)
Narayaninsamy, Tony Fractional iterates for n-dimensional maps. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 261–278. (Laura Gardini) **99k:58105** 58F08
Narayan Kumar, K. (*with* Mukund, Madhavan; Radhakrishnan, Jaikumar; Sohoni, Milind) Robust asynchronous protocols are finite-state. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 188–199, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q10 (68M10, 68Q45)
Narazaki, Takashi Wave equations with strong damping in a noncylindrical domain. *Functional analysis and global analysis (Quezon City, 1996)*, 206–210, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35L70 (35B40)
Nardelli, Enrico (*with* Proietti, Guido; Widmayer, Peter) Finding all the best swaps of a minimum diameter spanning tree under transient edge failures. (English summary) *Algorithms—ESA '98 (Venice)*, 55–66, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (68M20)
— (*with* Proietti, Guido; Widmayer, Peter) Finding the detour-critical edge of a shortest path between two nodes. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 51–54. (Summary) **99c:68198** 68R10 (05C38, 05C85, 68Q25)
— (*with* Gaibisso, Carlo; Proietti, Guido) Intersection reporting on two collections of disjoint sets. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 41–52. (Summary) **99j:68019** 68P05
Nardelli, Giuliana (*with* Bassetto, A.; Begliuomini, R.) Time exponentiation of a Wilson loop for Yang-Mills theories in $2+\epsilon$ dimensions. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 491–512. (Summary) **99h:81143** 81T18 (81T13, 81T15)
Nardi, Daniele (*with* Donini, Francesco M.; Lenzerini, Maurizio; Nutt, Werner) The complexity of concept languages. (English summary) *Inform. and Comput.* **134** (1997), *no.* 1, 1–58. (Lei Qian) **99c:68236** 68T30 (68Q25)
Nardinocchi, Paola (*with* Sepe, Vincenzo) Dynamical interaction between local and overall curving in circular cylindrical shells: a one-dimensional approach. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 565–576. (Summary) **99g:73086** 73K15 (73K12)
Nardone, Pascal Regularization of the three-dimensional gravitational potential. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2889–2898. (Florin N. Diacu) **99c:70013** 70F05 (53B50)
ryll-Nardzewski, C. *see* **Ryll-Nardzewski, C.**
Narendra, Kumpati S. (*with* Duarte, Manuel A.) Error models with parameter constraints. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1089–1111. 93C40 (93E35)
Narendran, Paliath (*with* Guo, Qing; Shukla, Sandeep K.) Unification and matching in process algebras. (English summary) *Rewriting techniques and applications (Tsukuba, 1998)*, 91–105, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68075** 68Q10 (68Q40, 68T15)
— (*with* Degtyarëv, A. I.; Gurevich, Yuri; Veanes, Margus; Voronkov, Andrei) The decidability of simultaneous rigid E-unification with one variable. (English summary) *Rewriting techniques and applications (Tsukuba, 1998)*, 181–195, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99f:03009** 03B25 (68Q25, 68Q40, 68T15)
— (*with* Comon, Hubert; Nieuwenhuis, Robert; Rusinowitch, Michael) Decision problems in ordered rewriting. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 276–286, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68070** 68Q42
— (*with* Otto, Friedrich; Dougherty, Daniel J.) Equational unification, word unification, and 2nd-order equational unification. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 1–47. (Klaus Madlener) **99e:68084** 68Q42 (03B25, 03D05, 03D35)
Narevich, R. (*with* Prange, R. E.; Zaitsev, Oleg) Quasiclassical surface of section perturbation theory. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1694–1710. (Summary) **99j:81044** 81Q20 (81Q15)
Nariai, Hidekazu On some static solutions of Einstein's gravitational field equations in a spherically symmetric case [MR **14**, 1133g]. *Gen. Relativity Gravitation* **31** (1999), *no.* 6, 951–961. 83C15
— On a new cosmological solution of Einstein's field equations of gravitation [MR **14**, 1133f]. *Gen. Relativity Gravitation* **31** (1999), *no.* 6, 963–971. 83C15
Narici, Lawrence (*with* Beckenstein, Edward) The separating map: a survey. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 637–648. (J. Schmets) **99k:46032** 46E10 (46E25, 54D60)
Narihisa, Hiroyuki (*with* Iwasaki, Akinori; Ohtagaki, Hirokazu; Nakagawa, Yuji; Teraoka, Yoshinobu) Approximate method for separable nonconvex programs. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 115–122. (Summary) **99j:90061** 90C26 (90C30)
Narisa (*with* Tang, Huan Wen) Existence of solutions to a static nonlinear input-output model. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 2, 125–128. (Summary) **99d:90029** 90A15
Narita, Fumio Einstein-Weyl structures on almost contact metric manifolds. *Tsukuba J. Math.* **22** (1998), *no.* 1, 87–98. (David Blair) **99g:53051** 53C25 (53C15)
Narita, Junichiro Separation and weak separation on Riemann surfaces. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 625–632. (Helmut Kōditz) **99j:46060** 46J15 (30F99, 30H05)
— Separation by bounded analytic functions on subsets of Riemann surfaces. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 56–63. (*see* **99i:00018**) 30F99
Narita, Kazuaki Solutions for the Mikhailov-Shabat-Yamilov difference-differential equations and generalized solutions for the Volterra and the Toda lattice equations. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 3, 337–348. (Summary) **99e:35192a** 35Q51 (34K99, 35Q40)
— Addenda: "Solutions for the Mikhailov-Shabat-Yamilov difference-differential equations and generalized solutions for the Volterra and the Toda lattice equations". *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 897. (Editors) **99e:35192b** 35Q51 (34K99, 35Q40)
— Errata: "Solutions for the Mikhailov-Shabat-Yamilov difference-differential equations and generalized solutions for the Volterra and the Toda lattice equations" [Progr. Theoret. Phys. **99** (1998), no. 3, 337–348; MR 99e:35192a]. *Progr. Theoret. Phys.* **100** (1998), *no.* 1, 217. 35Q51 (34K99, 35Q40)
— Errata: "N-soliton solution for the triple-humped soliton equation" [Progr. Theoret. Phys. **99** (1998), no. 4, 549–558]. *Progr. Theoret. Phys.* **100** (1998), *no.* 2, 465. 35Q51 (35R10)
Narita, Kouichi (*with* Takagi, Hiroyuki) Compact composition operators between L^p-spaces. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 129–136. (*see* **99i:00018**) 47B38
Narita, Makoto (*with* Maeda, Kengo; Ishibashi, Akihiro) Chronology protection and non-naked singularity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1637–1651. (Robert J. Low) **99i:83075** 83C75
— (*with* Maeda, Kengo; Koike, Tatsuhiko; Ishibashi, Akihiro) Upper bound for entropy in asymptotically de Sitter space-time. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3503–3508. (Summary) **99m:83125** 83C57
— Rigid singularity theorem in globally hyperbolic spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 127501, 2 *pp.* (Summary) **99k:83095** 83C75 (53C80)
— (*with* Maeda, Kengo; Torii, Takashi) Do naked singularities generically occur in generalized theories of gravity? (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 24, 5270–5273. (Summary) **99i:83066** 83C57 (83C75, 83E30)
— (*with* Torii, Takashi; Maeda, Kengo) Toward the no-scalar-hair conjecture in asymptotically de Sitter spacetime. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064027, 8 *pp.* (Summary) **99k:83086** 83C57
Narkiewicz, Władysław (*with* Pezda, Tadeusz) Finite polynomial orbits in finitely generated domains. (English summary) *Monatsh. Math.* **124** (1997), *no.* 4, 309–316. (Liang-Chung Hsia) **99b:11117** 11R09 (11C08, 11S05)
— Arithmetics of dynamical systems: a survey. (English summary) Number theory (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **11** (1997), 69–75. (Liang-Chung Hsia) **99b:11018** 11C08 (11R09, 11S05)

Narlikar, Jayant V. Relativistic cosmology. *Geometry, fields and cosmology* (*Pune*, 1989), 479–524, *Fund. Theories Phys.*, 88, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:83002**) 83F05

— Spinning universes in Newtonian cosmology. (English summary) *On Einstein's path* (*New York*, 1996), 319–327, *Springer, New York*, 1999. (Summary) **99k:85008** 85A40

Narmanov, A. Ya. On the geometry of distributions. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 93–100. (J. Chrastina) **99e:58006** 58A30

— On the dependence of the controllability set on the target point. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1334–1338, 1438; *translation in Differential Equations* **33** (1997), *no.* 10, 1341–1345 (1998). (Yuri L. Sachkov) **99k:93013** 93B03 (49K40, 53C12, 93C73)

— Foliations with an Ehresmann connection. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 93–99. (J. S. Joel) **99f:53026** 53C12 (57R30)

Narnhofer, Heide (*with* Benatti, Fabio) Strong clustering in type III entropic K-systems. (English summary) *Monatsh. Math.* **124** (1997), *no.* 4, 287–307. (C. A. Hurst) **99e:46089** 46L55 (82B10)

— Control on weak asymptotic abelianness with the help of the crossed product construction. (English summary) *Quantum probability* (*Gdańsk*, 1997), 331–339, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99g:46095** 46L55

— Adiabatical stability of density distributions under Vlasov dynamics. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **4** (1998), *no.* 3, 351–356. (Giorgio Cattapan) **99m:82034** 82C22 (82C10, 82D05)

Narozhnyĭ, N. B. (*with* Belinskiĭ, V. A.; Karnakov, B. M.; Mur, V. D.) Does the Unruh effect exist? *JETP Lett.* **65** (1997), *no.* 12, 902–908; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **65** (1997), *no.* 12, 861–866 (*Russian*). (Guido Cognola) **99d:81097** 81T20 (83C47)

— (*with* Belinskiĭ, V. A.; Karnakov, B. M.; Mur, V. D.) Reply to: "Comment on the paper: 'Does the Unruh effect exist?'" [Pis'ma Zh. Èksper. Teoret. Fiz. **67** (1998), no. 1, 86; translated as JETP Lett. **67** (1998), no. 1, 95; MR 99d:81098] by A. A. Grib. *JETP Lett.* **67** (1998), *no.* 1, 96–97; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **67** (1998), *no.* 1, 87–88 (*Russian. Russian summary*). (Guido Cognola) **99d:81099** 81T20 (83C47)

— *see also* **Grib, A. A., 99d:81098**

Nart, Enric *see* **Kostant, Bertram**

Narteau, C. (*with* Blanter, E. M.; Shnirman, M. G.; Le Mouël, J.-L.) Up and down cascade in a dynamo model: spontaneous symmetry breaking. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part A*, 5112–5123. 76W05 (76F99, 86A25)

Narukawa, Kimiaki (*with* Fukagai, Nobuyoshi; Ito, Masayuki[2]) A bifurcation problem of some nonlinear degenerate elliptic equations. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 6, 895–926. (Norman Dancer) **99c:35070** 35J65 (34B15, 35B32, 47H15)

— (*with* Fukagai, Nobuyoshi; Ito, Masayuki[2]) Limit as $p \to \infty$ of p-Laplace eigenvalue problems and L^∞-inequality of the Poincaré type. (English summary) *Differential Integral Equations* **12** (1999), *no.* 2, 183–206. (Jan Bochenek) **99m:35058** 35J60 (35B40, 35P30)

Narukawa, Yasuo (*with* Sugeno, Michio; Murofushi, Toshiaki) Choquet integral and fuzzy measures on locally compact space. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 205–211. (Endre Pap) **99i:28027** 28E10 (28C99)

Narula, Subhash C. (*with* Boffey, Thomas Brian) Models for multi-path covering-routing problems. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 331–342. (Summary) **99f:90054** 90B80 (90C08)

Naruse, Yoshinori (*with* Maeda, Takashi[2]) A game-theoretic approach to cost allocation in network system. Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 192–197. (*see* **99h:90006**) 90B10 (90D40)

Narushima, Hiroshi On MPR-posets in phylogeny. Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 44–49. (*see* **99i:65003**) 92D15 (92B10)

Narutaka, Ozawa *see* **Ozawa, Narutaka**

Narváez-Macarro, Luis (*with* Mebkhout, Zoghman) Le théorème de constructibilité de Kashiwara. [The Kashiwara constructibility theorem] *Éléments de la théorie des systèmes différentiels. Images directes et constructibilité* (*Nice*, 1990), 47–98, *Travaux en Cours*, 46, *Hermann, Paris*, 1993. (Orlando Neto) **99g:32061** 32S60 (32C38)

Narzullaev, Kh. N. On an estimate for the DOTU-neighborhoods of triangular matrices. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 83–93. (Mihail Voicu) **99f:15029** 15A45 (15A15)

Nasar, Sylvia ★ A beautiful mind. (English summary) *Simon & Schuster, New York*, 1998. 461 *pp. ISBN* 0-684-81906-6 (Albert C. Lewis) **99j:01021** 01A70

— *see also* **Milnor, John**

el Naschie, M. S. *see* **El Naschie, M. S.**

do Nascimento, Arnaldo Simal Stable multiple-layer stationary solutions of a semilinear parabolic equation in two-dimensional domains. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 22, 17 *pp.* (*electronic*). (Katsuyuki Ishii) **99f:35083** 35K55 (35B25)

— Stable stationary solutions induced by spatial inhomogeneity via Γ-convergence. (English summary) *Bol. Soc. Brasil. Mat.* (*N.S.*) **29** (1998), *no.* 1, 75–97. (Matthias Wilhelm Winter) **99c:35063** 35J60 (35K57, 49J45)

Nascimento, J. R. S. (*with* Bazeia, D.; Ribeiro, R. F.; Toledo, D.) Soliton stability in systems of two real scalar fields. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8157–8166. (Summary) **99b:58073** 58E50 (70G50)

Nascimento, V. H. (*with* Sayed, Ali H.; Chandrasekaran, S.) Estimation and control with bounded data uncertainties. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 259–306. (B. I. Anan'ev) **99k:93098** 93E24 (93C41)

Nåsell, Ingemar Ross's malaria model and qualitative theory. (Swedish. English summary) *Normat* **46** (1998), *no.* 1, 1–13, 48. (Summary) **99b:92057** 92D30

Nash, J. M. (*with* Selwood, P. M.; Berzins, M.; Dew, P. M.) Portable parallel adaptation of unstructured 3D meshes. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 56–67, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65N55, 65Y05)

Nash, John Forbes, Jr. *see* **Nasar, Sylvia, 99j:01021** *and* **Milnor, John**

Nash, Stephen G. (*with* Sofer, Ariela) On the complexity of a practical interior-point method. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 833–849 (*electronic*). (Shu Zhong Zhang) **99g:90161** 90C70 (90C05)

Nashed, M. Zuhair (*with* Scherzer, Otmar) Stable approximations of a minimal surface problem with variational inequalities. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 137–161. (Michael M. Dediu) **99b:65019** 65D17 (65K10)

— (*with* Xia, Xiang-Gen) A method with error estimates for band-limited signal extrapolation from inaccurate data. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1641–1661. (Summary) **99c:94010** 94A12 (42C10)

— (*with* Gabardo, Jean-Pierre) An analogue of Cohen's condition for nonuniform multiresolution analyses. (English summary) *Wavelets, multiwavelets, and their applications* (*San Diego, CA*, 1997), 41–61, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Steen Pedersen) **99c:42060** 42C15

— (*with* Gabardo, Jean-Pierre) Nonuniform multiresolution analyses and spectral pairs. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 209–241. (A. G. Baskakov) **99g:42031** 42C05 (42C10)

— (*with* Murid, A. H. M.; Razali, M. R. M.) Numerical conformal mapping for exterior regions via the Kerzman-Stein kernel. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 4, 517–532. (Chenglie Hu) **99k:30008** 30C30 (65E05)

— *see also* **Approximation theory, 99a:00051**

Nasipak, Christopher (*with* Hemaspaandra, Lane A.; Parkins, Keith) A note on linear-nondeterminism, linear-sized, Karp-Lipton advice for the P-selective sets. (English summary) *J.UCS* **4** (1998), *no.* 8, 670–677 (*electronic*). (Summary) **99f:68072** 68Q15

Nasir, Sazzad Mahmud Study of Bogomol'nyi vortices on a disk. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 445–466. (Summary) **99g:58042** 58E50 (82D55)

— Vortices and flat connections. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 253–257. (Bernd J. Schroers) **99b:58044** 58D27 (81T13)

Nasiri, S. (*with* Sobouti, Y.) A phase space quantization resulting from symmetric treatment of q^- and p^- representation. *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 529–532, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81S10 (81S30)

Năslău, Pavel Continuity and geometric continuity of some composite spline curves. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 50–55. 41A15 (65D07)

Näslund, Mats (*with* Goldmann, Mikael) The complexity of computing hard core predicates. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 1–15, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99e:94036** 94A60 (68Q15, 68Q25)

Nason, Guy (*with* Antoniadis, Anestis; Grégoire, Gérard) Density and hazard rate estimation for right-censored data by using wavelet methods. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 63–84. (Summary) **99i:62081** 62G07

Nasr, A. H. Bounded solutions of abstract difference equations of the second order and applications. (English summary) *Differential Equations Dynam. Systems* **6** (1998), *no.* 3, 325–332. (V. G. Kurbatov) **99m:39010** 39A10 (47N20)

ben Nasr, F. *see* **Ben Nasr, F.**

Nasr, Ya. (*with* Chirkov, M. K.) On stochastic and nonstochastic minimal forms of stochastic automata. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 37–67, 220. (V. Topencharov) **99f:68140** 68Q75 (68Q45)

— (*with* Chirkov, M. K.) On methods and algorithms for optimizing stochastic automata. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 38–70, 222. (K. G. Peeva) **99m:68135** 68Q75

Nasrabadi, Nasser M. (*with* Wang, Lin-Cheng; Rizvi, Syed A.) A modular neural network vector predictor for predictive image coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 8, 1198–1217. 94A12 (68U10, 90B22)

Nasri-Roudsari, G. (*with* Everitt, W. N.; Hayman, W. K.) On the representation of holomorphic functions by integrals. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 95–102. (Summary) **99j:30041** 30E20 (30D20)

— (*with* Everitt, W. N.; Rehberg, J.) A note on the analytic form of the Kramer sampling theorem. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 310–319. (K. Pan) **99h:30036** 30E20

Nasr-Isfahani, A. R. Representations of weighted hypergroups and their algebras. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 395–403, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Liliana Pavel) **99e:43007** 43A65 (22D20, 43A62)

di Nasso, Mauro *see* **Di Nasso, Mauro**

Nastase, Horatiu (*with* Stephanov, Misha; van Nieuwenhuizen, Peter; Rebhan, Anton) Topological boundary conditions, the BPS bound, and elimination of ambiguities in the quantum mass of solitons. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 471–514. (Summary) **99m:81150** 81T15 (81T10)

Năstăsescu, C. (*with* Dăscălescu, Sorin; Van Oystaeyen, Freddy; Torrecillas Jover, Blas) Duality theorems for graded algebras and coalgebras. *J. Algebra* **192** (1997), *no.* 1, 261–276. (William Chin) **99c:16042** 16W50 (16S40, 16W30)

— (*with* Dăscălescu, Sorin; Raianu, Ş.) Strongly graded coalgebras and crossed coproducts. *Abelian groups, module theory, and topology* (*Padua*, 1997), 131–142, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Blas Torrecillas Jover) **99j:16023** 16W30

— (*with* Beattie, Margaret; Dăscălescu, Sorin; Grünenfelder, L.) Finiteness conditions, co-Frobenius Hopf algebras, and quantum groups. (English summary) *J. Algebra* **200** (1998), *no.* 1, 312–333. (Mitsuhiro Takeuchi) **99c:16035** 16W30

— (*with* Castaño Iglesias, Florencio; Gómez Torrecillas, José) Separable functors in graded rings. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 219–230. (Summary) **99b:18001** 18A22 (16W50, 18E15)

Nastas'ĕva, N. P. (*with* Cherevko, Ĭ. M.) An approximate method for solving a boundary value problem for integrodifferential equations of neutral type. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 2, 147–152. 65R20 (65L06)

Nastasi, Alberto (*with* Campisi, Domenico; Reverberi, Pierfrancesco) Multidimensional signalling and entry decision strategies. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 313–318, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90A05

Nastasi, Pietro *see* **Italian mathematics after Unity, 99i:01001**

Nasykhova, L. G. (*with* Terekhin, M. T.) Existence of a bifurcation value for a parameter of a system of differential equations with deviating argument. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 799–805; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 894–900 (1998). (Klaus Morgenthal) **99d:34138** 34K15 (34C23)

Nasyrov, F. S. On the generalized Lebesgue decomposition of a continuous function. (Russian) *Mat. Zametki* **61** (1997), *no.* 3, 459–462; *translation in Math. Notes* **61** (1997), *no.* 3-4, 376–379. (J. Lukeš) **99g:26006** 26A15

— On continuous local times for functions and random processes. II. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci.* (*New York*) **89** (1998), *no.* 5, 1524–1534. (Summary) **99g:60135** 60J55 (60G17)

— Quasi-integrals and stochastic integration along sample paths. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 2962–2974. (Michèle Mastrangelo-Dehen) **99h:60109** 60H05 (60J55)

— Extended Itô integrals and the reflection problem. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 4051–4057. (Yaozhong Hu) **99m:60083** 60H05

Nasyrov, S. R. (*with* Bil'chenko, G. G.; Kayumov, I. R.; Sadykov, M. F.) Branched coverings of nonorientable surfaces by orientable ones with a given projection of the boundary. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 292–294; *translation in Math. Notes* **63** (1998), *no.* 1-2, 252–255. (A. N. Bezen) **99g:57002** 57M12

Nasyrova, E. V. (*with* Salimov, R. B.; Shabalin, P. L.) Unique solvability of an inverse mixed boundary value problem. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 78–82; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 4, 76–80. (Irina Yu. Dmitrieva) **99i:30061** 30E25

Nataf, Frédéric (*with* Japhet, Caroline; Roux, François-Xavier) Extension of a coarse grid preconditioner to non-symmetric problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 279–286, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65M60 (65F30, 65Y05)

— (*with* Achdou, Yves) A Robin-Robin preconditioner for an advection-diffusion problem. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 377–383, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (76M25)

— (*with* Chevalier, Philippe) Symmetrized method with optimized second-order conditions for the Helmholtz equation. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 400–407, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55

— (*with* Chevalier, Philippe) An optimized order 2 (OO2) method for the Helmholtz equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 769–774. (Summary) **99e:65169** 65N55

— (*with* Nier, Francis) Convergence of domain decomposition methods via semi-classical calculus. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 1007–1059. (Zheng Hui Xie) **99e:65176** 65N55 (35J05, 76M25)

— A Schwarz additive method with high order interface conditions and nonoverlapping subdomains. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 1, 107–116. (From the introduction) **99d:65351** 65N55

Nataf, H. C. (*with* Jault, D.; Cardin, P.) Geodynamo and M.H.D. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 17–30, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 86A25 (76W05)

Natal'chenko, A. V. (*with* Babeshko, V. A.; Buzhan, V. V.; Smirnova, A. V.) On the problem of computing the strength of welded structures. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 2, 12–16, 101. 73K99

Natale, María F. (*with* Briozzo, Adriana C.; Tarzia, Domingo A.) Determination of unknown thermal coefficients for Storm's-type materials through a phase-change process. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 329–340. (Toyohiko Aiki) **99k:80005** 80A22 (35R30)

Natale, Sonia (*with* Andruskiewitsch, Nicolás) Plancherel identity for semisimple Hopf algebras. *Comm. Algebra* **25** (1997), *no.* 10, 3239–3254. (Horia Pop) **99a:16029** 16W30

— *see also* **Schneider, Hans-Jürgen²**, **99k:16087**

Natalini, Pierpaolo (*with* Noschese, Silvia) The relativistic Bessel polynomials. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 117–126. (Summary) **99h:33045** 33C45

— (*with* Noschese, Silvia) Some properties of the relativistic Laguerre polynomials. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 303–314. (J. P. Singhal) **99k:33030** 33C45

— (*with* Noschese, Silvia) Asymptotics for the relativistic Hermite polynomials zeros. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 75–86. (Summary) **99g:33030** 33C45

— (*with* He, Matthew X.; Ricci, Paolo Emilio) Zero's asymptotic distribution of polynomials orthogonal with respect to varying weights. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 183–190, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99j:33014** 33C45 (34E20, 42C05)

Natalini, Roberto A discrete kinetic approximation of entropy solutions to multidimensional scalar conservation laws. (English summary) *J. Differential Equations* **148** (1998), *no.* 2, 292–317. (Yu. G. Rykov) **99e:35139** 35L65 (76P05)

— (*with* Marcati, Pierangelo) Global weak entropy solutions to quasilinear wave equations of Klein-Gordon and sine-Gordon type. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 433–449. (Valery Covachev) **99a:35185** 35L70 (35B60, 35D05)

— (*with* Luo, Tao) BV solutions and relaxation limit for a model in viscoelasticity. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 775–795. (Michael Renardy) **99e:35218** 35Q72 (35L60, 73F15)

— (*with* Hanouzet, Bernard; Tesei, Alberto) On the Chapman-Jouguet limit for a combustion model. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 619–636 (*electronic*). (Denis Serre) **99b:76046** 76L05 (35L60, 80A25)

bar-Natan, Dror *see* **Bar-Natan, Dror**

ben Natan, Yaakov *see* **Ben Natan, Yaakov**

Natanzon, Sergei A Harnack-type theorem for a family of complex-isomorphic real algebraic curves. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 173–174; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1314–1315. (From the text) **99c:14068** 14P05

— (*with* Turaev, Vladimir G.) Systems of correlators and solutions of the WDVV equations. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 2, 399–410. (Alexandre I. Kabanov) **99e:58033** 58D29 (32G34, 81T40)

— The topological structure of the space of holomorphic morphisms of Riemann surfaces. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 155–156; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 398–400. (Grzegorz Gromadzki) **99k:30072** 30F10 (14H55)

Natarajan, Kannan (*with* Ghosh, Malay; Maiti, Tapabrata) Hierarchical Bayes quality measurement plan. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 199–214. (Summary) **99c:62281** 62N10 (62F15)

Natarajan, P. N. (*with* Srinivasan, Vaithinathsamy) Convolution of Nörlund methods in non-Archimedean fields. (English summary) *Ann. Math. Blaise Pascal* **4** (1997), *no.* 2, 41–47. (Amnon Jakimovski) **99f:40007** 40G05 (40D25, 40J05)

— Matrix transformations between certain sequence spaces over valued fields. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 177–182. (Ann Verdoodt) **99f:47036** 47B37 (40J05, 47S10)

— A generalization of Cauchy's theorem on multiplication of absolutely convergent series. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 93–96. (Summary) **99h:40007** 40F05

Natarajan, Ramesh An iterative scheme for dense, complex-symmetric, linear systems in acoustics boundary-element computations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1450–1470 (*electronic*). (Summary) **99b:65037** 65F10 (65N38, 76M15, 76Q05)

Natesan, S. (*with* Ramanujam, N.) A computational method for solving singularly perturbed turning point problems exhibiting twin boundary layers. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 259–275. (Summary) **99c:65146** 65L10 (34E20)

— (*with* Ramanujam, N.) Initial-value technique for singularly perturbed boundary-value problems for second-order ordinary differential equations arising in chemical reactor theory. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 455–470. (Summary) **99a:34038** 34B05 (34A45, 34B15, 34E15)

— (*with* Ramanujam, M.) Initial-value technique for singularly-perturbed turning-point problems exhibiting twin boundary layers. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 37–52. (Summary) **99h:34022** 34A45 (34B05, 34E15, 65L99)

— (*with* Ramanujam, N.) Booster method for singularly-perturbed one-dimensional convection-diffusion Neumann problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 53–72. (Bernhard A. Schmitt) **99j:65128** 65L10 (34A45, 34E15)

— (*with* Ramanujam, N.) A "booster method" for singular perturbation problems arising in chemical reactor theory. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 27–48. (Summary) **99i:65078** 65L10 (34B15, 34E15, 80A30, 80A50)

Nath, G. Baikunth (*with* Takhar, H. S.) Unsteady flow over a stretching surface with a magnetic field in a rotating fluid. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 989–1001. (Summary) **99j:76145** 76W05 (76M25, 76U05)

— (*with* Kumari, Mahesh) Development of flow and heat transfer of a viscous fluid in the stagnation-point region of a three-dimensional body with a magnetic field. (English summary) *Acta Mech.* **135** (1999), *no.* 1-2, 1–12. (Summary) **99m:76123** 76W05 (76D10, 80A22)

Nath, H. K. (*with* Datta, Tarini Kumar) On the gamma-ring of $m \times n$ rectangular matrices. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 207–216. (Geoffrey L. Booth) **99i:16055** 16S50 (15A18, 16Y99)

Nath, Mahadev Chandra (*with* Das, A. G.; Sahu, Gokul) Generalized Henstock Stieltjes integral. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 61–75. (J. Jarník) **99b:26011** 26A39 (26A42)

Nath, Pran SUSY/SUGRA/string phenomenology. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 119–133. (*see* **99b:81006**) 81V22 (81T30, 83E30)

Nath, Prem (*with* Kaur, M. M.; Singh, Ranjit) Some derivations of the Shannon entropy. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 85–100. (Summary) **99i:94024** 94A17

Nath, Suman Kumar (*with* Kaykobad, M.; Hoque, Md. Sanaul; Akbar, Md. Mostofa) An efficient preprocessor for solving systems of linear equations. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 309–315. (Summary) **99f:65044** 65F05

Nathan, Arokia (*with* Thangaraj, D.) A rotated monotone difference scheme for the two-dimensional anisotropic drift-diffusion equation. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 445–461. (Summary) **99d:65256** 65M06

Nathan, Joseph Amal The irrationality of e^x for nonzero rational x. *Amer. Math. Monthly* **105** (1998), *no.* 8, 762–763. (W. W. Adams) **99e:11096** 11J72

Nathanson, Melvyn B. (*with* Han, Shu-Ping; Kirfel, Christoph) Linear forms in finite sets of integers. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 271–281. (Vsevolod F. Lev) **99h:11011** 11B13 (11B05, 11B75)

Nation, J. B. (*with* Pogel, Alex) The lattice of completions of an ordered set. (English summary) *Order* **14** (1997), *no.* 1, 1–7. (Marcel Erné) **99f:06008** 06A23 (06A15)

Nativel, Fabrice (*with* Langlois, Philippe) Réduction et majoration de l'erreur d'arrondi en arithmétique à virgule flottante. (English and French summaries) [Reduction and bounding of the rounding error in floating point arithmetic] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 781–786. (Summary) **99h:65094** 65G05 (65G10, 65Y99)

Natividade, C. P. (*with* do Amaral, R. L. P. G.) Relations between two-dimensional models from dimensional reduction. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 127701, 4 *pp.* (Summary) **99k:81179** 81T13 (81T10, 81T40)

— (*with* de Souza Dutra, A.; Boschi-Filho, H.) Symmetry transform in Faddeev-Jackiw quantization of dual models. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065016, 9 *pp.* (Summary) **99m:81271** 81T70 (81T10)

Natkaniec, Tomasz (*with* Ciesielski, Krzysztof²; Gibson, Richard G.) κ-to-1 Darboux-like functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 671–687. (Ryszard J. Pawlak) **99f:26004** 26A15

— (*with* Ciesielski, Krzysztof²) Algebraic properties of the class of Sierpiński-Zygmund functions. (English summary) *Topology Appl.* **79** (1997), *no.* 1, 75–99. (Marion

Scheepers) **99c:04003** 04A20 (03E50, 03E65, 26A15)
— (*with* Ciesielski, Krzysztof²) On Sierpiński-Zygmund bijections and their inverses. (English summary) *Topology Proc.* **22** (1997), 155–164. (Volodymyr K. Maslyuchenko) **99k:26001** 26A15 (03E35, 03E75)
— Some cardinal invariants in real analysis. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 39–45. (Ryszard J. Pawlak) **99i:26003** 26A15 (03E10, 54A25)
Natori, Makoto (*with* Zhang, Shao Liang; Jin, Cheng-Hai) Product-type Krylov-subspace methods for solving nonsymmetric linear systems. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 95–106, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:65059** 65F10
— (*with* Imai, Hitoshi; Shinohara, Yoshitane; Konno, T.; Zhou, Weidong; Ohnishi, Isamu; Nishiura, Yasumasa) Numerical computations of free boundary problems in quadruple precision arithmetic using an explicit method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 193–207, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 65L06 (65G05)
— (*with* Zhou, Weidong) A free surface OGCM by FVM. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 227–237, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99g:86002** 86A05 (65Y25, 86–08)
— (*with* Itoh, Shoji; Zhang, Shao Liang) On an efficient solution method for vector computers related to block 5-diagonal matrix groups. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 180–187. (*see* **99i:00028**) 15–04
Natroshvili, D. G. (*with* Shargorodskiĭ, E. M.) Three-dimensional problems of dynamics for elastic bodies with cuts. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 281–284 (1991). 73C02 (73D99)
— (*with* Sigua, I.) The mixed boundary value problem of the thermoelastic pseudo-oscillations. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 31–36. (Andrzej Chrzęszczyk) **99g:73014** 73B30 (35Q72, 73C35)
— (*with* Jentsch, Lothar; Wendland, Wolfgang L.) General transmission problems in the theory of elastic oscillations of anisotropic bodies (basic interface problems). (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 397–433. (Matthias Wilhelm Winter) **99d:73043** 73D30 (35Q72, 73B40, 73T05)
— (*with* Duduchava, R.) Mixed crack type problem in anisotropic elasticity. (English summary) *Math. Nachr.* **191** (1998), 83–107. (Igor Yu. Chudinovich) **99d:73025** 73C35 (35Q72, 73B40, 73C15)
Natsheh, M. A. On pseudocompactness of hyperspaces. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 67–71. (Summary) **99a:54008** 54B20 (54D35)
— A sufficient condition for a hyperspace to be pseudocompact. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 213–217. (Summary) **99h:54016** 54B20 (54D35)
Natsiavas, S. Stability of piecewise linear oscillators with viscous and dry friction damping. (English summary) *J. Sound Vibration* **217** (1998), *no.* 3, 507–522. (Summary) **99g:70030** 70K40 (70K20)
— (*with* Verros, G.) Self-excited oscillators with asymmetric nonlinearities and one-to-two internal resonance. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 4, 325–346. (Summary) **99i:70028** 70K30
Natsume, Toshikazu (*with* Olsen, C. L.) Toeplitz operators on noncommutative spheres and an index theorem. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1055–1112. (Éric Leichtnam) **99h:58184** 58G12 (19K56, 46L87, 47B35)
— (*with* Choda, Marie) Reduced C^*-crossed products by free shifts. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1075–1096. (From the introduction) **99j:46080** 46L55
Natsuume, Makoto (*with* Satoh, Yuji) String theory on three-dimensional black holes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1229–1262. (Marco Spaans) **99i:83092** 83E30 (81T30, 83C57)
Natsuyama, H. H. (*with* Kalaba, R. E.; Ueno, Sueo) The estimation of parameters in time-dependent transport problems: dynamic programming and associative memories. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 41–45. 90C29
Natsvlishvili, Z. On some estimation of accuracy of approximation of singular integrals by approximation of their densities. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 2, 202–206. (Summary) **99f:30060** 30E10 (45E05)
— Some estimations of the approximation accuracy of the Cauchy type singular integrals and their applications to some concrete computing processes. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 2, 189–191. 42B20
Natterer, Frank An initial value approach to the inverse Helmholtz problem at fixed frequency. *Inverse problems in medical imaging and nondestructive testing* (*Oberwolfach*, 1996), 159–167, *Springer, Vienna*, 1997. (Yongzhi Xu) **99b:35218** 35R30 (35J05, 65N12)
— Algorithms in tomography. *The state of the art in numerical analysis* (*York*, 1996), 503–523, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Introduction) **99g:44004** 44A12 (65R10, 92C55)
— *see also* **Computational radiology and imaging, 99m:92012**
Nattermann, Peter Generalized quantum mechanics and nonlinear gauge transformations. *Symmetries in science, IX* (*Bregenz*, 1996), 269–280, *Plenum, New York*, 1997. (Stanislav V. Spichak) **99c:81029** 81Q05 (81Q99)
— On (non)linear quantum mechanics. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 270–278, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 81P99
— (*with* Doebner, Heinz-Dietrich) Partial differential equations and physical equivalence in linear and nonlinear quantum mechanics. (English summary) *Special functions and differential equations* (*Madras*, 1997), 297–309, *Allied Publ., New Delhi*, 1998. (Summary) **99j:81048** 81Q99 (33E15, 39B32)
Natvig, Bent (*with* Gåsemyr, Jørund) The posterior distribution of the parameters of component lifetimes based on autopsy data in a shock model. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 271–292. (Mohamed E. Ghitany) **99i:62048** 62F15 (62N05)
Nau, Robert F. (*with* McCardle, Kevin F.) Arbitrage, rationality, and equilibrium. (English summary) *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 189–199, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A05 (90A46)
Nauck, Detlef (*with* Kruse, Rudolf) Neuro-fuzzy systems for function approximation. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 261–271. (*see* **99k:93004**) 65D15 (93C42)
Naud, J. (*with* Nemenman, I.; Van Raamsdonk, Mark; Periwal, Vipul) Minimal subtraction and the Callan-Symanzik equation. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 1-2, 533–539. (Summary) **99m:81154** 81T17 (81V10)
Naude, Cornelia Asymptotic primes and sequences over a module. *Comm. Algebra* **27** (1999), *no.* 4, 1811–1822. (L. J. Ratliff, Jr.) **99m:13004** 13A15 (13C99)
Naudé, Peter (*with* Lockett, Geoff; Islei, Gerd) Influence in group decision making. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 187–198, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A07
Naudts, B. (*with* Verschoren, Alain) Epistasis and deceptivity. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **6** (1999), *no.* 1, 147–154. (Introduction) **99k:68163** 68T05
Nauenberg, Michael Newton's unpublished perturbation method for the lunar motion. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1391–1405. (Niccolò Guicciardini) **99k:01015** 01A45 (70–03)
— The mathematical principles underlying the *Principia* revisited. Essay review of *The key to Newton's dynamics. The Kepler problem and the Principia* [Univ. California Press, Berkeley, CA, 1995; MR 99j:01006] by J. Bruce Brackenridge and *Newton's Principia: the central argument* [Green Lion Press, Santa Fe, NM, 1995; MR 99h:01021] by Dana Densmore. *J. Hist. Astronom.* **29** (1998), *no.* 3, 286–300. (Massimo Galuzzi) **99j:01007** 01A45
Naugolnykh, K. (*with* Ostrovskiĭ, L. A.) ★ Nonlinear wave processes in acoustics. (English summary) Translated from the Russian. Cambridge Texts in Applied Mathematics. *Cambridge University Press, Cambridge*, 1998. *x*+298 *pp. ISBN* 0-521-39080-X (F. Ursell) **99f:76120** 76Q05 (35Q35, 73D99, 76L05)
Nauheim, Raphael Systems of algebraic equations with bad reduction. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 5, 619–641. (Summary) **99c:65106** 65H10 (12F12)
Naulin, Raúl (*with* Avis, Rafael) Asymptotic instability of nonlinear differential equations. (English summary) *Electron. J. Differential Equations* **1997,** *No.* 16, 7 *pp.* (*electronic*). (N. Chafee) **99f:34076** 34D05 (34C11)
— (*with* Urbina, Jaime) Asymptotic integration of linear ordinary differential equations of order *n*. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 129–141. (Ivan N. Grod) **99f:34075** 34C99 (34D05)
— (*with* Urbina, Jaime) Asymptotic behavior of differential equations. (English summary) *Libertas Math.* **18** (1998), 13–21. (Rimma A. Prokhorova) **99k:34104** 34D05 (34C11)
— (*with* Pinto, Manuel) Admissible perturbations of exponential dichotomy roughness. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 559–571. (Nikolay A. Izobov) **99b:34087** 34D10 (34A30, 34C11)
— Weak dichotomies and asymptotic integration of nonlinear differential systems. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 2, 201–218. (Rimma A. Prokhorova) **99k:34105** 34D05 (34C11)
Naumann, David A. A categorical model for higher order imperative programming. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 4, 351–399. (Summary) **99d:68159** 68Q60
Naumann, Friedrich *see* **Carl Julius von Bach, 99h:01001**
Naumann, J. (*with* Wolf, Jörg) Interior differentiability of weak solutions to parabolic systems with quadratic growth nonlinearities. (Italian summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 253–272. (Naoki Yamada) **99e:35099** 35K55 (35B65, 35D10)
— On the interior regularity of weak solutions to nonlinear parabolic systems in two spatial dimensions. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 44–53, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Xiang Sheng Xu) **99g:35057** 35K55 (35D10)
— (*with* Wolf, Jörg; Wolff, Michael) On the Hölder continuity of weak solutions to nonlinear parabolic systems in two space dimensions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 237–255. (Summary) **99h:35091** 35K55 (35D10, 35K40)
— Everywhere Hölder continuity of the spatial gradient of weak solutions to nonlinear parabolic systems. *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 409–430. (Maura Ughi) **99m:35108** 35K55 (35D10)
Naumenko, K. I. Correction of a strapped-down inertial navigational system. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996,** *no.* 6, 123–134, 157. (Summary) **99d:70041** 70Q05 (70E15, 70M20)
Naumkin, Pavel I. (*with* Shishmarëv, I. A.) A periodic problem for a system of equations describing the conductivity of nerve pulses. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 562–564, 575; *translation in Differential Equations* **32** (1996), *no.* 4, 568–570. (Qi Xiao Ye) **99e:35226** 35Q80 (34G20, 35B10, 35K55, 92C20)
— (*with* Hayashi, Nakao) Asymptotics for large time of solutions to the nonlinear Schrödinger and Hartree equations. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 369–389. (Tohru Ozawa) **99f:35190** 35Q55 (35B40, 81Q05)
— (*with* Hayashi, Nakao) Asymptotic behavior in time of solutions to the derivative nonlinear Schrödinger equation. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 2, 159–177. (Tohru Ozawa) **99f:35189** 35Q55 (35B40, 81Q05)
— (*with* Hayashi, Nakao; Kaikina, Elena I.) On the scattering theory for the cubic nonlinear Schrödinger and Hartree type equations in one space dimension. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 651–667. (Tohru Ozawa) **99m:35228** 35Q55 (81U05)
— (*with* Hayashi, Nakao) Large time asymptotics of solutions to the generalized Korteweg-de Vries equation. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 1, 110–136. (Summary) **99i:35139** 35Q53 (35B40, 47N20)
— (*with* Hayashi, Nakao; Ozawa, Tohru) Scattering theory for the Hartree equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1256–1267 (*electronic*). (Summary) **99c:35222** 35Q55 (35B45, 35P25)

— (*with* Hayashi, Nakao) Remarks on scattering theory and large time asymptotics of solutions to Hartree type equations with a long range potential. (English summary) *SUT J. Math.* **34** (1998), *no.* 1, 13–24. (Elaine Machtyngier) **99i:35147** 35Q55 (35P30)
— (*with* Hayashi, Nakao; Matos, Tonatiuh) Large time behavior of solutions of higher order nonlinear dispersive equations of KdV type with weak nonlinearity. (English summary) *Differential Integral Equations* **12** (1999), *no.* 1, 23–40. (Yvan Martel) **99m:35206** 35Q53 (35B40)
— (*with* Hayashi, Nakao; Kaikina, Elena I.) Large time behavior of solutions to the generalized derivative nonlinear Schrödinger equation. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 93–106. (Elaine Machtyngier) **99m:35229** 35Q55 (35B40)
— (*with* Hayashi, Nakao) Large time asymptotics of solutions to the generalized Benjamin-Ono equation. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 109–130. (Yun Bo Zeng) **99i:35148** 35Q55 (35B40, 35P25, 35Q53, 76B15)
Naumov, Igor Anatolievich (*with* Maslikov, A.; Volkov, G. G.) The unification in the string theories with the $G \times G$ gauge groups. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 26, 1909–1927. (Angel Maria Uranga) **99b:81200** 81T30 (81V22, 83E30)
Naumov, M. V. (*with* Kulik, B. A.) Representation of logic systems in a probability space on the basis of the cortege algebra. II. Measurable logic systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 2, 169–179; *translation in Automat. Remote Control* **58** (1997), *no.* 2, *part* 2, 290–298. (Introduction) **99f:68196b** 68T99 (03B70)
Naumov, N. D. (*with* Pavlenko, Yu. G.; Toropova, A. I.) An integrable Hamiltonian system: a relativistic particle in the field of a traveling inhomogeneous wave. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 42–46, 80. (Summary) **99e:78021** 78A35 (70H05, 70H20, 78A25)
Naumov, V. V. (*with* Grigor′ev, Yu. M.) On mean value theorems for Helmholtz and Lamé equations. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 51–52; *translation in Dokl. Phys.* **43** (1998), *no.* 9, 577–578. 35J05 (35B05, 73C02)
Naumovich, A. F. (*with* Vodnev, V. T.; Naumovich, N. F.) ★ Dictionnaire des mathématiques. (French) [Dictionary of mathematics] Translated from the 1989 Russian original by Irina Pétrova. *Ellipses, Paris*; *Éditions Mir, Moscow*, 1993. 544 *pp. ISBN* 2-7298-9430-6 (From the preface) **99g:00019** 00A20
Naumovich, N. F. (*with* Vodnev, V. T.; Naumovich, A. F.) ★ Dictionnaire des mathématiques. (French) [Dictionary of mathematics] Translated from the 1989 Russian original by Irina Pétrova. *Ellipses, Paris*; *Éditions Mir, Moscow*, 1993. 544 *pp. ISBN* 2-7298-9430-6 (From the preface) **99g:00019** 00A20
Nauroschat, Jürgen (*with* an der Heiden, Uwe) A theoretical approach to G-protein modulation of cellular responsiveness. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 609–627. (Frank Gilberg) **99c:92018** 92C45 (92C05, 92C40)
van Nauta Lemke, Hans R. (*with* Kaymak, Uzay) A sensitivity analysis approach to introducing weight factors into decision functions in fuzzy multicriteria decision making. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 169–182. 90C70 (90A05)
Navalagi, G. B. Pre-neighbourhoods. *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 201–206. 54A05
Navara, Mirko (*with* Klement, Erich Peter) A characterization of tribes with respect to the Łukasiewicz t-norm. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 689–700. (Dan Butnariu) **99c:28060** 28E10 (04A72, 28A20, 46S99)
— (*with* Pták, Pavel) Considering uncertainty and dependence in Boolean, quantum and fuzzy logics. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika (Prague)* **34** (1998), *no.* 1, 121–134. (David W. Miller) **99k:03015** 03B48 (03B52, 03G12)
— (*with* Klement, Erich Peter) A survey on different triangular norm-based fuzzy logics. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 241–251. (Summary) **99k:03019** 03B52
Navarria, F.-L. *see* **Irresistible rise of the standard model, 99b:81002**
Navarro, A. (*with* Serna, A.; Alimi, J. M.) Asymptotic and exact solutions of perfect-fluid scalar-tensor cosmologies. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 12, 124015, 16 *pp.* 83D05
Navarro, D. J. (*with* Navarro-Salas, J.) Bäcklund transformations in 2-D dilaton gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 25, 2049–2055. (Voja S. Radovanović) **99g:81203** 81T40 (58F37, 83D05)
— (*with* Cruz, Javier; Izquierdo, José M.[1]; Navarro-Salas, J.) Free fields via canonical transformations of matter-coupled two-dimensional dilaton gravity models. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044010, 7 *pp.* (Summary) **99m:81215** 81T40 (83C99, 83E30)
Navarro, E. (*with* Jódar, Lucas; Defez, Emilio) On the best approximation matrix problem and matrix Fourier series. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 4, 88–98. (Boris Petrovich Osilenker) **99d:42043** 42C05 (41A10, 42C15)
— (*with* Camacho, Javier; Jódar, Lucas) Exact solution of coupled mixed diffusion problems with coupled boundary conditions. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 65–76. (Summary) **99e:35088** 35K10 (35C05)
Navarro, Francisco *see* **Navarro-Bermúdez, Francisco J.**
Navarro, Gabriel (*with* Wolf, Thomas R.) Character degrees and local subgroups of π-separable groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2599–2605. (Jamshid Moori) **99a:20021** 20D20 (20C15)
— (*with* Sanus, Lucia) Partial characters with respect to a normal subgroup. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 104–124. (I. M. Isaacs) **99j:20013** 20C15
silva-Navarro, Gerardo *see* **Silva-Navarro, Gerardo**
Navarro, Gonzalo (*with* Raffinot, Mathieu) A bit-parallel approach to suffix automata: fast extended string matching. (English summary) *Combinatorial pattern matching (Piscataway, NJ*, 1998), 14–33, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68055** 68Q25 (68U15)
— (*with* Baeza-Yates, Ricardo A.) Fast two-dimensional approximate pattern matching. (English summary) *LATIN'98: theoretical informatics (Campinas*, 1998), 341–351, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68Q22 (68Q20, 68U15)
— Improved approximate pattern matching on hypertext. (English summary) *LATIN'98: theoretical informatics (Campinas*, 1998), 352–357, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68Q25 (68Q20, 68U15)
Navarro, J. *see* **Navarro, Jorge**
Navarro, Jaime The wavelet transform of distributions. (English summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro*, 1994), 145–154, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99g:46054** 46F12 (42C15)
Navarro, Jorge (*with* Guillamón, Antonio; Ruiz Gómez, José María) Kernel density estimation using weighted data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2123–2135. (Summary) **99g:62040** 62G05
— (*with* Ruiz Gómez, José María; Zoroa Alonso, Noemí) A unified approach to characterization problems using conditional expectations. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 193–207. (Paweł J. Szabłowski) **99e:62015** 62E10
Navarro, Luis *see* **Navarro Veguillas, Luis**
Navarro, M. *see* **Navarro, Miguel**
Navarro, M. A. Some characterizations of finite-dimensional Hilbert spaces. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 364–365. (Summary) **99d:46032** 46C15
Navarro, Miguel Two-dimensional dilaton gravity made compact. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3479–3483. (Michael O. Katanaev) **99j:81169** 81T40 (83C47)
— Toward a finite-dimensional formulation of quantum field theory. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 6, 585–593. 81P99
— (*with* Cruz, Javier; Navarro-Salas, J.) Free fields for chiral 2D dilaton gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087501, 2 *pp.* 81T40
Navarro, Milagros P. A short survey of some works on the invariant subspace problem. (English summary) *Functional analysis and global analysis (Quezon City*, 1996), 211–221, *Springer, Singapore*, 1997. (Summary) **99h:47009** 47A15 (47–03)
— (*with* Canoy, Sergio R.) Nonlinear integral representation of orthogonally additive operators. (English summary) *Matimyás Mat.* **20** (1997), *no.* 2, 15–20. (Serguey A. Malyugin) **99m:26013** 26A39 (28B05, 46G10, 47H99)
— *see also* **Proceedings: Conference on Inverse Problems and Applications, 99i:00026**
garcía Navarro, P. *see* **García Navarro, P.**
Navarro, Pedro (*with* Navarro-Salas, J.) A note on Einstein gravity on AdS_3 and boundary conformal field theory. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 262–266. (Summary) **99f:83037** 83C47 (81T40)
Navarro, Ramón (*with* Travis, Betty) On Sturmian theory. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 479–483. (Summary) **99d:34051** 34C10
Navarro, Samuel (*with* Aguayo, José; De Grande-De Kimpe, N.) Zero-dimensional pseudocompact and ultraparacompact spaces. *p-adic functional analysis (Nijmegen*, 1996), 11–17, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (S. Swaminathan) **99f:54030** 54D20 (46E25, 46S10)
— (*with* Prolla, João B.) Approximation results in the strict topology. (English summary) *Ann. Math. Blaise Pascal* **4** (1997), *no.* 2, 61–82. (Liaqat Ali Khan) **99a:46068** 46E40 (41A65, 46J10)
Navarro-Bermúdez, Francisco J. (*with* Corrales Sendino, José M.; Cuadrado, Ma. Luisa; Corcuera, Ma. Isabel) On multilevel projection methods. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65J10
Navarro Cruz, R. (*with* Cruz-Sampedro, J.; Martínez Avendaño, R. A.) Perturbations of the Wigner-von Neumann potential. (English summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro*, 1994), 69–77, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99i:47081** 47E05 (34A55, 34L40, 81Q05)
Navarro-Esbrí, J. (*with* Verdú Martín, Gumersindo; Ginestar, D.; Bovea, M. D.; Jiménez Olivo, Pedro José; Peña Miralles, Juan; Muñoz-Cobo González, José Luis) Complex Lyapunov exponents of a system with Hopf bifurcation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 977–982, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C23
Navarro-Salas, J. (*with* Navarro, D. J.) Bäcklund transformations in 2-D dilaton gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 25, 2049–2055. (Voja S. Radovanović) **99g:81203** 81T40 (58F37, 83D05)
— (*with* Cruz, Javier; Miković, A.) Free field realization of cylindrically symmetric Einstein gravity. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 273–278. (Summary) **99f:83031** 83C45 (83C99)
— (*with* Navarro, Pedro) A note on Einstein gravity on AdS_3 and boundary conformal field theory. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 262–266. (Summary) **99f:83037** 83C47 (81T40)
— (*with* Cruz, Javier; Izquierdo, José M.[1]; Navarro, D. J.) Free fields via canonical transformations of matter-coupled two-dimensional dilaton gravity models. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044010, 7 *pp.* (Summary) **99m:81215** 81T40 (83C99, 83E30)
— (*with* Fabbri, Alessandro) Critical energy flux and mass in solvable theories of 2D dilaton gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084011, 6 *pp.* (Summary) **99k:83066** 83C57 (81T40)
— (*with* Cruz, Javier; Navarro, Miguel) Free fields for chiral 2D dilaton gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087501, 2 *pp.* 81T40
— (*with* Cruz, Javier; Fabbri, Alessandro) Can conformal transformations change the fate of 2D black holes? (English summary) *Phys. Lett. B* **449** (1999), *no.* 1-2, 30–38. (Summary) **99m:83107** 83C57
Navarro Veguillas, Luis (*with* Bergia, Silvio) Early quantum concepts and the theorem of equipartition of energy in Einstein's work (1905–1925). (English summary) *Physis Riv. Internaz. Storia Sci. (N.S.)* **34** (1997), *no.* 1-2, 183–223. (H. Treder) **99b:01015** 01A60
— Gibbs, Einstein and the foundations of statistical mechanics. (English summary) *Arch. Hist. Exact Sci.* **53** (1998), *no.* 2, 147–180. (N. D. Sengupta) **99f:01018** 01A55 (01A60, 82–03)
Navas, Juan *see* **Ureña, J. N.**
Navasardyan, K. A. On the coefficients of null series and sets of uniqueness for double Walsh series. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 4, 206–209 (1994). 42C10
— On universal series in the double Walsh system with rapidly decreasing coefficients. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 4, 220–223

(1996). 42A32
— Universal series in a multiple Walsh system. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 5, 22–40; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 5, 14–29 (1996). (W. R. Wade) **99g:42034** 42C10
Navazio, Lisa (*with* Brunetta, Lorenzo; Guastalla, Guglielmo) Solving the multi-airport ground holding problem. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 271–287. (*see* **99b:90006**) 90C90 (90C27)
Naveena Chandran, K. P. Prime ideals in generalized unique factorization rings. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 1–8. (Robert Wisbauer) **99k:16045** 16P50 (16D30, 16U30)
Naveira, Antonio M. (*with* Carreras, Francisco J.) On the volume of a small extrinsic ball in a hypersurface of the hyperbolic space. (English summary) *Math. Scand.* **83** (1998), *no.* 2, 220–234. (Lieven Vanhecke) **99m:53064** 53C20 (53C40)
Navon, I. M. (*with* Li, Ji Chun) Uniformly convergent finite element methods for singularly perturbed elliptic boundary value problems: convection-diffusion type. (English summary) *Comput. Methods Appl. Mech. Engrg.* **162** (1998), *no.* 1-4, 49–78. (Martin Stynes) **99f:65172** 65N30
Navot, Yiftah (*with* Schwartz, Moshe) Fokker-Planck dynamics of the random field spherical model. (English summary) *Phys. A* **255** (1998), *no.* 3-4, 318–331. (Summary) **99e:82070** 82C31
Navrátil, O. (*with* Burdík, Č.; Krejcar, R.) Boson realization of Yangians $Y(B_2)$. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 100–103, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81R50
Navrotskyy, Volodymyr Paraconsistent description of change. (English summary) Analytical philosophy and epistomology in Ukraine. *Theoria* (*San Sebastián*) (2) **14** (1999), *no.* 34, 83–94. (Summary) **99k:03021** 03B53 (03B45)
Nawa, Hayato (*with* Tsutsumi, Masayoshi) On blowup for the pseudo-conformally invariant nonlinear Schrödinger equation. II. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 4, 373–383. (Nakao Hayashi) **99a:35241** 35Q55 (35B05)
— Two points blow-up in solutions of the nonlinear Schrödinger equation with quartic potential on **R**. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 439–458. (Nakao Hayashi) **99d:35157** 35Q55
— Asymptotic and limiting profiles of blowup solutions of the nonlinear Schrödinger equation with critical power. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 2, 193–270. (Yvan Martel) **99m:35235** 35Q55 (35B40)
Nawafleh, K. I. (*with* Rabei, E. M.; Ghassib, H. B.) Some physical applications of the canonical method. (English summary) *Hadronic J.* **22** (1999), *no.* 2, 241–255. 78A35
Nawotki, Alexa (*with* Hagen, Hans; Heinz, Siegfried) Variational design with boundary conditions and parameter optimized surface fitting. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 3–13, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65020** 65D17
Nawrat, Aleksander (*with* Czornik, Adam) On upper bounds for the unified algebraic Riccati equation. (English summary) *Systems Control Lett.* **32** (1997), *no.* 4, 235–239. (Petko Petkov) **99a:93048** 93B60 (65F15)
Nawrocki, M. The martingale Smirnov class. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 713–723. (Ferenc Weisz) **99c:42039** 42B99 (46E99, 60G46)
Nawrotzki, Kurt (*with* Matthes, Klaus; Siegmund-Schultze, Rainer) On the structure of spatial branching processes. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 269–312. (Anton Wakolbinger) **99m:60134** 60J80 (60G57, 60J05, 60K35)
méndez-Naya, José *see* **Méndez-Naya, José**
méndez-Naya, Luciano *see* **Méndez-Naya, Luciano**
Nayak, Ashwin (*with* Sinclair, Alistair; Zwick, Uri) Spatial codes and the hardness of string folding problems (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 639–648, *ACM, New York*, 1998. (Summary) **99d:68118** 68Q25 (92D20)
Nayak, B. K. (*with* Jain, Rajendra Kumar[1]; Shrivastava, A. K.) A related fixed point theorem on four complete metric spaces. (English summary) *Ultra Sci. Phys. Sci.* **11** (1999), *no.* 1, 100–103. 54H25
Nayak, K. Rajesh (*with* Vishveshwara, C. V.) Gyroscopic precession and inertial forces in axially symmetric stationary spacetimes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 593–615. (W. B. Bonnor) **99b:83012** 83C10 (83C20)
Nayak, Lopamudra (*with* Behera, A.) On generalized bi-quasi-variational inequality problem. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 151–158. 49J40 (90C29)
Nayak, S. S. (*with* Wali, K. S.) Almost sure limit points of extremes of samples from two independent populations. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 294–319. (Winfried Stute) **99m:60078** 60G70 (60F15, 62G30)
Nayak, Tapan K. On estimating the conditional probability of discovering a new species. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 9, 2039–2056. (Khursheed Alam) **99a:62025** 62F10 (62B05, 62C15)
— On equivariant estimation of the location of elliptical distributions under Pitman closeness criterion. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 373–378. (Summary) **99c:62056** 62F10 (62C99)
Nayar, Bhamini M. P. A remark on C-compact spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 327–328. (A. H. Stone) **99c:54032** 54D20 (54C08, 54D25)
al-Nayef, A. A. *see* **Al-Nayef, A. A.**
Nayfeh, Ali Hasan (*with* Sanchez, N. E.) Global behavior of a biased non-linear oscillator under external and parametric excitations. (English summary) *J. Sound Vibration* **207** (1997), *no.* 2, 137–149. (Summary) **99a:70034** 70K40 (70K28)
— (*with* Yang, Shaopu; Mook, D. T.) Combination resonances in the response of the Duffing oscillator to a three-frequency excitation. (English summary) *Acta Mech.* **131** (1998), *no.* 3-4, 235–245. 34C15 (70K40)
— Reduced-order models of weakly nonlinear spatially continuous systems. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 2, 105–125. (Summary) **99d:73059** 73K12 (70K99, 73H10)
— (*with* Lacarbonara, Walter; Chin, Char-Ming) Nonlinear normal modes of buckled beams: three-to-one and one-to-one internal resonances. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 3, 253–273. 73K12 (73H05, 73K05)
Naylor, Bruce (*with* Comba, João) Conversion of binary space partitioning trees to boundary representation. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 286–301, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99f:65212** 65Y25 (52–04)
Naylor, D. *see* **Naylor, Derek**
Naylor, D. J. Filling space with tetrahedra. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 10, 1383–1395. (Summary) **99k:65119** 65Y25 (52B55, 65M50, 65N50)
Naylor, Derek A simplified asymptotic expansion of the Kontorovich-Lebedev transform. (English summary) *Analysis* (*Munich*) **18**[*](1998), *no.* 3, 269–283. (Walter Schempp) **99k:44008** 44A15 (41A60)
Naylor, Steve (*with* Napolitano, Marcello R.; Casdorph, Van; Neppach, Charles; Innocenti, Mario; Silvestri, Giovanni) Online learning neural architectures and cross-correlation analysis for actuator failure detection and identification. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 433–455. 93E12 (93E03)
Nazaikinskii, Vladimir E. (*with* Vorob′ev, Yu. M.) On the cycle of singularities of isotropic submanifolds. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 131–134 (1998). (Stanisław Janeczko) **99a:58015** 58C27 (58F05)
— (*with* Sternin, Boris Yu.) Wave packet transform in symplectic geometry and asymptotic quantization. (English summary) *Lie groups and Lie algebras*, 47–69, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Brian C. Hall) **99f:58088** 58F06 (58G40, 81S10, 81S30)
Nazarenko, O. A. (*with* Popov, G. Ya.) On the diffraction of elastic waves by spherical defects. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 835–847; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 821–832. (Summary) **99d:73039** 73D25 (73B50)
Nazareth, J. L. Computer solution of linear programs: non-simplex algorithms. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 119–151, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:90071** 90C05 (90C08)
— (*with* Kolda, Tamara G.; O'Leary, Dianne P.) BFGS with update skipping and varying memory. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1060–1083 (*electronic*). (Summary) **99e:90092** 90C30 (65K05)
Nazarov, A. A. Stable operation of unstable communication networks with random multiple access protocols. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 2, 101–111; *translation in Problems Inform. Transmission* **33** (1997), *no.* 2, 180–189. (Summary) **99h:90044** 90B12 (68M10)
— Engset formulas for nonhomogeneous non-Markov queueing systems and their application to communication networks. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 109–116; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 190–196. (Summary) **99k:60234** 60K25 (68M10, 90B22)
Nazarov, A. N. Fundamentals of the modeling of friction and injection processes in the motion of avalanche-type flows. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 79–85, 113. (Summary) **99d:76006** 76A99 (73N20, 76V05, 86A60)
Nazarov, Fedor (*with* Treĭl′, S. R.) The hunt for a Bellman function: applications to estimates for singular integral operators and to other classical problems of harmonic analysis. (Russian. Russian summary) *Algebra i Analiz* **8** (1996), *no.* 5, 32–162; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 5, 721–824. (Aleš Založnik) **99d:42026** 42B20 (45P05, 49L20)
— (*with* Treĭl′, S. R.) The weighted norm inequalities for Hilbert transform are now trivial. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 7, 717–722. (B. Muckenhoupt) **99j:42010** 42A50 (44A15, 47B38)
— The Bang solution of the coefficient problem. (Russian) *Algebra i Analiz* **9** (1997), *no.* 2, 272–287; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 2, 407–419. (S. Baron) **99e:42049** 42C15 (46G12, 46N99)
— (*with* Treĭl′, S. R.; Vol′berg, A. L.) Cauchy integral and Calderón-Zygmund operators on nonhomogeneous spaces. *Internat. Math. Res. Notices* **1997**, *no.* 15, 703–726. (Joan Verdera) **99e:42028** 42B20 (30E20, 47B38)
— (*with* Treĭl′, S. R.; Vol′berg, A. L.) Weak type estimates and Cotlar inequalities for Calderón-Zygmund operators on nonhomogeneous spaces. *Internat. Math. Res. Notices* **1998**, *no.* 9, 463–487. (Javier Duoandikoetxea) **99f:42035** 42B20
Nazarov, M. L. Capelli identities for Lie superalgebras. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 6, 847–872. (Elena Poletaeva) **99b:17008** 17B35
— Yangians and Capelli identities. (English summary) *Kirillov's seminar on representation theory*, 139–163, *Amer. Math. Soc. Transl. Ser.* 2, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Ian M. Musson) **99g:17033** 17B37
— (*with* Tarasov, V. O.) On irreducibility of tensor products of Yangian modules. *Internat. Math. Res. Notices* **1998**, *no.* 3, 125–150. (Andrew Pressley) **99b:17014** 17B37 (17B35)
— (*with* Tarasov, V. O.) Representations of Yangians with Gelfand-Zetlin bases. *J. Reine Angew. Math.* **496** (1998), 181–212. (Andrew Pressley) **99c:17030** 17B37
Nazarov, Sergei A. (*with* Argatov, I. I.) The pressure of a narrow annular stamp on an elastic half-space. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 810–825; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 799–812. (Alexander B. Movchan) **99e:73089** 73T05 (73C99)
— Asymptotic behavior of solutions of a problem in elasticity theory for a three-dimensional body with thin extensions. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 4, 458–461. (Alexander B. Movchan) **99f:73032** 73C99 (35B40, 35Q72, 73K99)
— Invariant integrals in the Leonov-Panasyuk-Dugdale crack model. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 5, 147–155; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 5, 784–791 (1998). (Alexander B. Movchan) **99a:73110** 73M25 (73B50, 73C02)
— About singularities at angular points of a trailing edge under the Joukowskii-Kutta condition. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 10, 939–967. (Sergey Nikolaevich Alekseenko) **99k:76085** 76G25 (35Q35)
— (*with* Campbell, Alain) An asymptotic study of a plate problem by a rearrangement method. Application to the mechanical impedance. (English and French sum-

maries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 5, 579–610. (Maria Specovius-Neugebauer) **99g:73022** 73C02 (31A30, 35J40, 73K10, 73K12)
— (*with* Pileckas, Konstantin) Asymptotics of solutions to Stokes and Navier-Stokes equations in domains with paraboloidal outlets to infinity. (English summary) *Rend. Sem. Mat. Univ. Padova* **99** (1998), 1–43. (Jürgen Socolowsky) **99h:35168** 35Q30 (35C20, 76D05)
— Asymptotic behavior of the solution of the Poisson-Boltzmann equation in a three-dimensional domain with a thin bridge. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 94–111, *ii–iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 81–98. (Summary) **99c:35076** 35J65 (35B40, 35Q99, 82C40)
Nazarov, V. G. (*with* Anikonov, D. S.; Prokhorov, I. V.) Visible and invisible media in tomography. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 599–603. (J. S. Joel) **99e:92016** 92C55
Nazarova, L. A. (*with* Belousov, K. I.; Roĭter, A. V.) Finitely presentable triadic sets. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 3–27; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 651–673. (Daniel Simson) **99i:16029** 16G20 (16G10, 16G60)
— (*with* Roĭter, A. V.; Belousov, K. I.) Representations of finitely represented dyadic sets. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 61–76, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Sverre O. Smalø) **99k:16031** 16G20 (15A21, 16G50, 18E05)
Nazarova, M. Kh. Boundary value problems for a B-elliptic equation with a boundary operator of fractional order. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 76–83. (Zinovi Sheftel) **99i:35025** 35J25
— (*with* Umarov, S. R.) On the weak well-posedness of some boundary value problems generated by a singular Bessel operator. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 63–70. (Ya. A. Roĭtberg) **99f:35220** 35R20 (35J70)
Nazarova, Natalya (*with* Logvinenko, Vladimir) Criteria of boundedness from above of subharmonic functions of finite order in an angle. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 395–411. (Summary) **99m:31002** 31A05
Nazaryan, O. R. On a renewal equation with a completely monotone kernel. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 49–59; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 44–54. (Summary) **99e:45003** 45E10 (60K05)
— On a renewal equation on the whole axis. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 2, 77–85 (1998); *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 2, 68–76 (1998). (Summary) **99m:45006** 45E10 (47G10, 60K05)
Nazin, A. V. (*with* Juditsky, Anatoli) Information lower bounds in a nonparametric adaptive control problem. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 6, 745–746. 93C40
Nazyrova, Yu. A. (*with* Antonov, Vladimir A.) Layer-projective lattices. I. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 170–182; *translation in Math. Notes* **63** (1998), *no.* 1-2, 150–160. (Summary) **99d:06010** 06B25
Ncube, Mthuli (*with* Asea, Patrick K.) Heterogeneous information arrival and option pricing. (English summary) *J. Econometrics* **83** (1998), *no.* 1-2, 291–323. (Summary) **99a:90032** 90A09
Ndayirinde, I. (*with* Callebaut, Dirk K.) Rational solitary-wave solutions of the generalised Burgers-Huxley equation. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 4, 523–527. (Summary) **99e:35202** 35Q53
— (*with* Malfliet, W.) Dressed solitary waves in an elastic tube. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 92–98. (Summary) **99i:73056** 73K70 (76B25, 76Z05)
Ndii, P. (*with* Blagodat-skikh, V. I.) Convexity of the solution set of a differential inclusion. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 21–22, 52. (Summary) **99g:34039** 34A60 (34K05, 49K24)
Ndogmo, Jean-Claude Invariants of solvable Lie algebras of dimension $k \leq 2$ modulo the nilradical. (English summary) *Indian J. Math.* **38** (1996), *no.* 2, 149–160. (Hans F. de Groote) **99e:22034** 22E60 (17B30)
Ndombol, Bitjong Algèbres de cochaînes quasi-commutatives et fibrations algébriques. (English and French summaries) [Quasicommutative cochain algebras and algebraic fibrations] *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 261–276. (Nicolas Dupont) **99c:55012** 55P62 (55S05)
Neal, David K. (*with* Brooks, J. K.) Generalized stochastic integration on nuclear spaces. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 83–98. (V. Mackevičius) **99h:60107** 60H05 (46G12)
— (*with* Brooks, J. K.) Generalized stochastic integral for real and Hilbert processes. *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 189–247. (Ali Süleyman Üstünel) **99h:60106** 60H05 (46N30)
— Quite when you are ahead. (English summary) *Math. Sci.* **23** (1998), *no.* 1, 41–49. 60G40 (60J15)
Neamtu, Marian (*with* Mulansky, Bernd) Interpolation and approximation from convex sets. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 82–100. (W. W. Breckner) **99a:41052** 41A65 (41A29)
Neamţu, Nicolae N. The stability of Cauchy's functional equation $f(x+y)=f(x)f(y)$. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 2, 52–55. (Summary) **99e:39091** 39B52
— About Cauchy's functional equation $f(x+y)=f(x)f(y)$. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 2, 60–63. (Summary) **99c:39031** 39B22
— About two functional equations. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 1, 12–15. (Summary) **99j:39020** 39B22
— (*with* Milici, C.; Rachin, N.) About equivalence of Cauchy's functional equation $f(x+y)=f(x)f(y)$ with some other equations. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 1, 26–29. (Summary) **99j:39021** 39B22
— About some classical functional equations. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 119–126. (From the text) **99d:39023** 39B22
— A qualitative study about Lobachevsky's functional equation of vectorial argument. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 7–14. (Prasanna Sahoo) **99m:39023** 39B52
Nearchou, Andreas C. Solving the inverse kinematics problem of redundant robots operating in complex environments via a modified genetic algorithm. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 3, 273–292. (Summary) **99f:70011** 70B15 (70–08)
Nebe, Gabriele Some cyclo-quaternionic lattices. (English summary) *J. Algebra* **199** (1998), *no.* 2, 472–498. (Christine Bachoc) **99b:11075** 11H06 (11H56, 20G40)
— The group ring of $SL_2(p^2)$ over the p-adic integers. (English summary) *J. Algebra* **210** (1998), *no.* 2, 593–613. (Jochen Gruber) **99k:20102** 20G40 (16S34, 20C11, 20C20, 20C33)
— (*with* Cohen, Arjeh Marcel; Plesken, Wilhelm) Maximal integral forms of the algebraic group G_2 defined by finite subgroups. (English summary) *J. Number Theory* **72** (1998), *no.* 2, 282–308. (Andy R. Magid) **99i:20063** 20G25 (11E57, 20C33)
— (*with* Bachoc, Christine) Extremal lattices of minimum 8 related to the Mathieu group M_{22}. (English summary) Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 155–171. (Rainer Schulze-Pillot) **99f:11084** 11H55 (11H31, 11H56, 20D08)
— Finite quaternionic matrix groups. (English summary) *Represent. Theory* **2** (1998), 106–223 (*electronic*). (Renaud Coulangeon) **99f:20085** 20H25 (11H06, 11R52, 20C99)
Nebel, Bernhard (*with* Renz, Jochen) On the complexity of qualitative spatial reasoning: a maximal tractable fragment of the region connection calculus. (English summary) *Artificial Intelligence* **108** (1999), *no.* 1-2, 69–123. (Summary) **99m:68188** 68T27 (68Q25)
— *see also* **KI-97: advances in artificial intelligence, 99d:68006**
Nebot, Eduardo M. (*with* Bozorg, Mohammad) l^p parameter perturbation and design of robust controllers for linear systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 3, 267–275. (Summary) **99k:93045** 93B36 (93B51)
matušů-Nečasová, Šárka *see* **Matušů-Nečasová, Šárka**
Necer, Abdelkader Séries formelles et produit de Hadamard. (English and French summaries) [Formal power series and Hadamard product] *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 319–335. (Jean Guérindon) **99e:13028** 13J05 (11B99)
Nechaev, A. A. (*with* Kuz'min, A. S.) Formal duality of linearly presentable codes over a Galois field. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 263–276, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99g:94020** 94B05
— (*with* Kuz'min, A. S.) Trace-function on a Galois ring in coding theory. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 277–290, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Giorgio Faina) **99m:94049** 94B05 (94B27)
Nechaev, Sergei (*with* Monastyrskiĭ, M. I.) Statistics of knots and some relations with random walks on hyperbolic plane. *KNOTS '96* (*Tokyo*), 147–157, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99i:57020** 57M25 (60J15)
— (*with* Desbois, J.) Statistics of reduced words in locally free and braid groups: abstract studies and applications to ballistic growth model. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2767–2789. (Summary) **99e:20047** 20F36 (82D60)
— (*with* Comtet, Alain) Random operator approach for word enumeration in braid groups. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5609–5630. (Avinash Khare) **99k:82041** 82B44 (20F10, 20F36)
Nechaev, V. I. Distribution of signs in a sequence of rectangular matrices over a finite field. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 335–342. (Igor E. Shparlinski) **99h:11144** 11T30 (11C20)
Nechepurenko, Yu. M. On the singular-function approach to eigenproblems. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 3, 219–233. (V. L. Makarov) **99g:65047** 65F15 (15A18)
— An upper bound for stiff parts of solutions to a linear system of ODEs with a given set of initial values. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 5, 405–409. (Summary) **99h:65125** 65L05
Neçsuleu, Gh. Infinitesimal transformations on the tangent bundle of a Riemannian manifold. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **60** (1998), *no.* 1-2, 29–34. 53B05
Necula, George C. (*with* Lee, Peter) Efficient representation and validation of proofs. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 93–104, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68T15
Nedela, Roman (*with* Jendroľ, Stanislav; Škoviera, Martin) Constructing regular maps and graphs from planar quotients. (English summary) *Math. Slovaca* **47** (1997), *no.* 2, 155–170. (Summary) **99h:05054** 05C25 (20F38, 57M15)
— (*with* Marušič, Dragan) Maps and half-transitive graphs of valency 4. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 345–354. (Brian Alspach) **99e:05069** 05C25
Nédélec, Jean-Claude (*with* Ammari, Habib) Couplage éléments finis/équations intégrales pour la résolution des équations de Maxwell en milieu hétérogène. (French summary) [Coupling finite elements and integral equations to solve the Maxwell equations in a heterogeneous medium] *Équations aux dérivées partielles et applications*, 19–33, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (P. Rochus) **99i:65122** 65N30 (35Q60, 45L05, 78–08, 78A25)
— (*with* Ammari, Habib) Propagation d'ondes électromagnétiques à basses fréquences. (English and French summaries) [Propagation of low-frequency electromagnetic waves] *J. Math. Pures Appl.* (9) **77** (1998), *no.* 8, 839–849. (Rainer Picard) **99k:78024** 78A45 (35Q60, 78A40)
— (*with* Ammari, Habib) Small chirality behaviour of solutions to electromagnetic scattering problems in chiral media. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 4, 327–359. (Brian D. Sleeman) **99a:78022** 78A45 (35Q60)
— (*with* Ammari, Habib; Laouadi, M.) Low frequency behavior of solutions to electromagnetic scattering problems in chiral media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 1022–1042 (*electronic*). (Ioannis G. Stratis) **99c:35239** 35Q60 (35B40, 35C15, 45B05, 78A45)
— (*with* Ammari, Habib) Time-harmonic electromagnetic fields in thin chiral curved layers. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 395–423 (*electronic*). (Hideo Soga) **99h:78018** 78A45 (35Q60, 45B05, 45L05)
— (*with* Ammari, Habib) Full low-frequency asymptotics for the reduced wave equation. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 127–131. 35C20 (35J05, 76Q05, 78A45)

Nedelec, L. Asymptotique du nombre de résonances de l'opérateur de Schrödinger avec potentiel linéaire et matriciel. [Asymptotics of the number of resonances of the Schrödinger operator with linear and matrix potential] *Math. Res. Lett.* **4** (1997), *no.* 2-3, 309–320. (H. Hogreve) **99a:81037** 81Q20 (35J10, 35P20, 47F05, 47N50)

Nedeljkov, Marko (*with* Pilipović, Stevan S.; Scarpalézos, D.) ★ The linear theory of Colombeau generalized functions. (English summary) Pitman Research Notes in Mathematics Series, 385. *Longman, Harlow*, 1998. *x*+156 *pp. ISBN* 0-582-35683-0 (P. Szeptycki) **99m:46096** 46Fxx (35D05, 35S05)

— Infinitely narrow soliton solutions to scalar conservation laws in Colombeau sense. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 257–263. (Summary) **99d:35099** 35L65 (35D99)

— (*with* Pilipović, Stevan S.) Generalized solution to a semilinear hyperbolic system with a non-Lipshitz nonlinearity. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 255–261. (Summary) **99a:35167** 35L60 (35D05, 46F10)

Nedev, Stoyan Ĭ. (*with* Choban, Mitrofan M.) Continuous selections for mappings with generalized ordered domain. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 1-2, 87–95. (Longin Rybiński) **99b:54029** 54C65 (46B20, 46G99, 47H04, 54D35)

Nedeva, Todorka Nedeva (*with* Kumchev, Angel) On an equation with prime numbers. *Acta Arith.* **83** (1998), *no.* 2, 117–126. (S. W. Graham) **99g:11122** 11P32 (11L20)

Nedić, Anđelija (*with* Vasil'ev, F. P.; Amochkina, T. V.) On a regularized variant of the second-order continuous gradient projection method. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 39–46; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 33–39. 90C30 (65K05)

Nedić, Jelena (*with* Cvetković, Ljiljana) Prefactorization methods for some subclasses of *H*-matrices. (English summary) *Demonstratio Math.* **31** (1998), *no.* 4, 789–800. (Summary) **99k:65028** 65F05 (65F30)

Nedich, A. *see* **Nedić, Anđelija**

Nedjadi, Y. (*with* Ait-Tahar, S.; Barrett, R. C.) An extended relativistic quantum oscillator for $S = 1$ particles. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3867–3874. (Summary) **99b:81086** 81R20

— (*with* Barrett, R. C.) A generalized Duffin-Kemmer-Petiau oscillator. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6717–6727. (Summary) **99f:81081** 81R20

Nedjah, Nadia (*with* Walter, Colin D.; Eldridge, Stephen E.) Optimal left-to-right pattern-matching automata. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 273–286, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (Summary) **99d:68136** 68Q42 (68Q68)

— Postponing redex contractions in equational programs. (English summary) *Third Fuji International Symposium on Functional and Logic Programming* (*Kyoto*, 1998), 40–60, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:68008**) 68N15 (68Q42)

Nedjalkov, M. (*with* Dimov, Ivan T.) Convergency of the Monte Carlo algorithms for linear transport modeling. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 383–390. (Summary) **99d:82067** 82C80 (65C05, 82C70)

Nedjar, Boumediene (*with* Frémond, Michel; Kuttler, Kenneth L.; Shillor, Meir) One-dimensional models of damage. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 541–570. (Ramon Quintanilla) **99k:35172** 35Q72 (73B05, 73K05, 73M25)

— (*with* Reynier, Marie) Error on the constitutive relation in the nonlinear formulation of elastic beams: the plane case. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 299–314. (Summary) **99d:73051** 73K05 (73C50, 73V20)

Nedoma, Jiří On a coupled Stefan-like problem in thermoviscoplastic rheology. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 1, 45–80. (Summary) **99f:73016** 73B30 (35K05, 35R35, 73E60, 73N20, 76A99, 80A22)

Nedoma, Josef[1] Inaccurate linear equation system with a restricted-rank error matrix. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 29–44. (Summary) **99e:65074** 65F30 (15A03, 15A06, 65G10)

Nedorezov, Lev V. Mathematical models of population outbreaks development. (English summary) *Siberian J. Differential Equations* **1** (1997), *no.* 3, 249–267. (John G. Milton) **99e:92035** 92D40 (34C99, 34D99, 92D25)

Nedov, V. N. (*with* Bekker, I. Kh.) On groups with isomorphic holomorphs. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 343–350; *translation in Math. Notes* **62** (1997), *no.* 3-4, 288–295 (1998). (Peter V. Danchev) **99b:20086** 20K15 (20K10)

Neeb, Karl-Hermann (*with* Hilgert, Joachim) Poisson Lie groups and non-linear convexity theorems. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 395–410, *World Sci. Publishing, River Edge, NJ*, 1994. (Charles-Michel Marle) **99d:58063** 58F05 (22E60, 58F06)

— A Duistermaat-Heckman formula for admissible coadjoint orbits. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 15–35, *World Sci. Publishing, River Edge, NJ*, 1996. (Stephanie F. Singer) **99i:58063** 58F05 (22E45)

— Square integrable highest weight representations. *Glasgow Math. J.* **39** (1997), *no.* 3, 295–321. (Joachim Hilgert) **99a:22021** 22E45

— On some classes of multiplicity free representations. *Manuscripta Math.* **92** (1997), *no.* 3, 389–407. (V. V. Mukhin) **99e:22010** 22A25 (43A65)

— (*with* Krötz, Bernhard; Ólafsson, Gestur) Spherical representations and mixed symmetric spaces. (English summary) *Represent. Theory* **1** (1997), 424–461 (*electronic*). (Jacques Faraut) **99a:22031** 22E47 (22E15, 53C35)

— (*with* Hilgert, Joachim) Invariant cones in real representations. *Positivity in Lie theory: open problems*, 99–119, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Aleksy Tralle) **99i:22015** 22E45 (22E47)

— On the complex and convex geometry of Ol'shanskiĭ semigroups. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 1, 149–203. (K. H. Hofmann) **99e:22013** 22E10 (32E10, 32M05)

— (*with* Ørsted, Bent) Unitary highest weight representations in Hilbert spaces of holomorphic functions on infinite-dimensional domains. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 263–300. (Vladimir Pestov) **99m:22022** 22E65 (17B65, 46E50, 46G20, 47D03)

— Holomorphic highest weight representations of infinite-dimensional complex classical groups. *J. Reine Angew. Math.* **497** (1998), 171–222. (Vladimir Pestov) **99h:22027** 22E65 (17B65, 47D03)

— (*with* Hilgert, Joachim) Poisson Lie groups and non-linear convexity theorems. (English summary) *Math. Nachr.* **191** (1998), 153–187. (Charles-Michel Marle) **99k:58070** 58F05 (22E60, 58F06)

— *see also* **Problems: Positivity in Lie theory**, **99f:22001**

Needham, D. J. (*with* King, Andrew C.; Scott, N. H.) The effects of weak hyperbolicity on the diffusion of heat. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1659–1679. (Mark A. Peletier) **99j:35013** 35B30 (35B25, 35K10, 35L10)

— (*with* Chamberlain, P. G.) Global similarity solutions to a class of semilinear parabolic equations: existence, bifurcations and asymptotics. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1933–1959. (Qi Xiao Ye) **99j:35108** 35K57 (34C23, 34E05, 35B32)

— (*with* McAllister, S.) Centre families in two-dimensional complex holomorphic dynamical systems. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2267–2278. (Summary) **99d:34010** 34A20 (34C05, 58F25)

— (*with* Barnes, A. N.) Reaction-diffusion and phase waves occurring in a class of scalar reaction-diffusion equations. (English summary) *Nonlinearity* **12** (1999), *no.* 1, 41–58. (Summary) **99k:35093** 35K57 (34B15, 34E05, 35C20, 80A30)

— (*with* McCabe, P. M.; Leach, J. A.) The evolution of travelling waves in fractional order autocatalysis with decay. I. Permanent form travelling waves. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 870–899 (*electronic*). (Hong Ming Yin) **99k:35092** 35K57 (35Q99, 80A32)

Needham, Paul Macroscopic processes. (English summary) *Philos. Sci.* **66** (1999), *no.* 2, 310–331. 80A10 (00A79, 03B30)

de Neef, M. J. (*with* Molenaar, Johannes) Analysis of DNAPL infiltration in a medium with a low-permeable lens. (English summary) *Comput. Geosci.* **1** (1997), *no.* 2, 191–214. 76S05 (65M06, 76M25)

Neelon, Tejinder S. On separate ultradifferentiability of functions. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 489–494. (Solomon Marcus) **99m:26021** 26B05 (26E05, 26E10)

— Ultradifferentiable functions on lines in $\mathbf{R}^n$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2099–2104. (Summary) **99j:46044** 46F05 (26E05, 30D60)

Neeman, Amnon *K*-theory for triangulated categories. I(A). Homological functors. *Asian J. Math.* **1** (1997), *no.* 2, 330–417. (Jeremy Rickard) **99m:18008a** 18F25 (18E30, 19D99)

— *K*-theory for triangulated categories. I(B). Homological functors. *Asian J. Math.* **1** (1997), *no.* 3, 435–529. (Jeremy Rickard) **99m:18008b** 18F25 (18E30, 19D99)

— Brown representability for the dual. (English summary) *Invent. Math.* **133** (1998), *no.* 1, 97–105. (Richard John Steiner) **99b:55021** 55P65 (55P42, 55U35)

— (*with* Chai, Ching-Li) The naturality in Kirwan's decomposition. (English summary) *Manuscripta Math.* **97** (1998), *no.* 4, 429–434. (Michel Brion) **99k:57077** 57S15 (14L30, 55T25)

— Non-compactly generated categories. *Topology* **37** (1998), *no.* 5, 981–987. (P. S. Green) **99k:18015** 18E35 (18E30, 55U35)

Ne'eman, Yuval (*with* Šijački, Djordje) World spinors—construction and some applications. (English summary) *Found. Phys.* **27** (1997), *no.* 8, 1105–1122. (Bertfried Fauser) **99b:83057** 83C60 (81R25)

— A superconnection for Riemannian gravity as spontaneously broken SL(4, **R**) gauge theory. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 19–25. (Yu. N. Obukhov) **99i:83081** 83D05 (53C80)

— The impact of Emmy Noether's theorems on XXIst century physics. *The heritage of Emmy Noether* (*Ramat-Gan*, 1996), 83–101, *Israel Math. Conf. Proc.*, 12, *Bar-Ilan Univ., Ramat Gan*, 1999. (Hans P. Künzle) **99m:81005** 81–03 (01A60, 01A67)

Neerchal, Nagaraj K. (*with* Bose, Arup) Estimation of autoregressive parameters with systematic but incomplete sampling. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 41–51, *Narosa, New Delhi*, 1998. (From the introduction) **99j:62125** 62M10

— (*with* Morel, Jorge G.) Large cluster results for two parametric multinomial extra variation models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1078–1087. (Summary) **99e:62082** 62G10 (62F03)

van Neerven, J. M. A. M. Elementary operator-theoretic proof of Wiener's Tauberian theorem. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 281–286 (1997). (A. G. Baskakov) **99a:47058** 47D03 (43A20)

— (*with* Kérchy, László) Polynomially bounded operators whose spectrum on the unit circle has measure zero. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 551–562. (Srdjan Petrović) **99a:47007** 47A10 (47A11, 47A65, 47D03)

— (*with* Huang, Sen Zhong) On small solutions of delay equations in infinite dimensions. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 2, 178–185. (Shin-ichi Nakagiri) **99c:34181** 34K30 (47D06, 47N20)

— Nonsymmetric Ornstein-Uhlenbeck semigroups in Banach spaces. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 495–535. (C. J. K. Batty) **99h:60083** 60G15 (46E22, 46N30, 47D03, 60G30)

— (*with* Fischer, Andreas[2]) Robust stability of C_0-semigroups and an application to stability of delay equations. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 82–100. (Summary) **99g:47092** 47D06 (34K20, 34K30, 47A10, 47N20)

Nefedov, E. I. (*with* Radtsig, Yu. Yu.; Èminov, S. I.) The phenomenon of fast convergence of the Galerkin method in diffraction theory. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 621–624; *translation in Dokl. Phys.* **43** (1998), *no.* 4, 225–228. 65M70 (78–08, 78A45)

Nefëdov, N. N. The method of differential inequalities for nonlinear singularly perturbed problems with contrast structures of step type in the critical case. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1529–1537, 1582; *translation in Differential Equations* **32** (1996), *no.* 11, 1526–1534 (1997). (Jolanta Przybycin) **99b:35006** 35B25 (35J65)

— (*with* Butuzov, V. F.; Vasil'eva, A. B.) Asymptotic theory of contrast structures (a survey). (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 4–32; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1068–1091. (Daniel Ševčovič) **99k:34121** 34E15 (34C99, 34E05, 35B25, 93C20)

— On moving spike type internal layers in nonlinear singularly perturbed problems. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 1–12. (Lumin Jiang) **99c:35017** 35B25 (35C20, 35K55)

— (*with* Butuzov, V. F.) A singularly perturbed boundary value problem for a second-order equation in the case of change of stability. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 354–362; *translation in Math. Notes* **63** (1998), *no.* 3-4, 311–318. (Summary) **99d:34104** 34E15 (34B15)

— (*with* Butuzov, V. F.; Schneider, Klaus R.) Singularly perturbed boundary value problems in case of exchange of stabilities. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 543–562. (Hideo Ikeda) **99k:34041** 34B15 (34E15)

Negami, Seiya (*with* Tsukamoto, Tatsuya) Note on spatial graphs with good drawings. *KNOTS '96* (*Tokyo*), 91–98, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99k:57004** 57M15

— Ramsey-type theorem for spatial graphs. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 75–80. (Ivan Pashov) **99j:05144** 05C55

— Diagonal flips in triangulations on closed surfaces, estimating upper bounds. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 2, 113–124. (Bradley W. Jackson) **99k:05068** 05C10

Neggers, J. (*with* Jun, Young Bae; Kim, Hee Sik) On *L*-fuzzy ideals in semirings. I. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 669–675. (Udo Hebisch) **99k:16095** 16Y60

— (*with* Jun, Young Bae; Kim, Hee Sik) Extensions of *L*-fuzzy ideals in semirings. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 131–135. 16Y60 (04A72)

Negi, Darwan Singh (*with* Rawat, K. S.) Integral inequalities in Kaehlerian manifold. *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 290–296. 53B35

— (*with* Rawat, K. S.) Affine motion in almost Tachibana recurrent spaces. *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 235–238. 53C15

— (*with* Rawat, K. S.) Theorems on Kaehlerian spaces with recurrent and symmetric Bochner curvature tensor. *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 239–242. 53B35

— (*with* Rawat, K. S.) Projective motion in a Kaehlerian recurrent space. *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 251–254. 53B35

— (*with* Rawat, K. S.) Some investigations in Kaehlerian space. *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 255–258. 53B35

— (*with* Rawat, K. S.) The study of decomposition in a Kaehlerian space. *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 307–311. 53B35

— (*with* Rawat, K. S.) A note on decomposition in a Kaehlerian recurrent space. *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 123–126. 53B35

Negi, Ganesh Singh (*with* Upreti, Jaya) Conformal infinitesimal transformation in generalised almost contact metric structure manifold. (English summary) *Ultra Sci. Phys. Sci.* **11** (1999), *no.* 1, 88–91. 53C15

Negoro, Akira (*with* Kikuchi, Koji) On Markov process generated by pseudodifferential operator of variable order. *Osaka J. Math.* **34** (1997), *no.* 2, 319–335. (Niels Jacob) **99a:60078** 60J35 (35S05, 47D07)

Negrão, M. R. (*with* Cougo-Pinto, M. V.; Farina de Souza, Carlos; Tort, A. C.) Bosonic Casimir effect in external magnetic field. (English summary) *J. Phys. A* **32** (1999), *no.* 24, 4457–4462. 81T20

Negreiros, Caio J. C. Some remarks on equivariant harmonic and non-holomorphic maps in Riemannian manifolds. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 201–211, *de Gruyter, Berlin*, 1997. (G. Tóth) **99e:58052** 58E20

del-castillo-Negrete, D. *see* **del-Castillo-Negrete, D.**

de Negri, Emanuela *see* **De Negri, Emanuela**

Negri, Sara (*with* Valentini, Silvio) Tychonoff's theorem in the framework of formal topologies. *J. Symbolic Logic* **62** (1997), *no.* 4, 1315–1332. (Vinodkumar) **99d:54005** 54B10 (03E25, 03F65, 54A99)

— (*with* von Plato, Jan) From Kripke models to algebraic counter-valuations. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 247–261, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B20)

— (*with* Edalat, Abbas) The generalized Riemann integral on locally compact spaces. (English summary) Domain theory. *Topology Appl.* **89** (1998), *no.* 1-2, 121–150. (R. G. Bartle) **99k:28005** 28A25 (06B35, 68Q99)

Negrin, Emilio R. (*with* González Rodríguez, Benito) Some analytic features concerning the Neumann second series of Bessel functions. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 185–190. (Summary) **99b:33006** 33C10

— (*with* González Rodríguez, Benito) Gradient estimates versus Liouville theorems. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 392–396, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99e:58205** 58G30 (53C21)

— Wick products of the CAR algebra. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3639–3645. (Władysław Adam Majewski) **99e:81133** 81T05 (46L60, 81S05)

— (*with* González Rodríguez, Benito) Gradient estimates for positive solutions of the Laplacian with drift. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 619–625. (Ming Liao) **99c:58150** 58G11 (58G32)

Negrini, Piero (*with* Bolotin, Sergei V.) A variational criterion for nonintegrability. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 415–436 (1998). (Gabriel P. Paternain) **99c:58055** 58F05 (70H05, 70H35)

Negro, Javier (*with* Fernández C., David J.; del Olmo, Mariano A.) Group approach to the factorization of the radial oscillator equation. (English summary) *Ann. Physics* **252** (1996), *no.* 2, 386–412. (Raj Wilson) **99a:81024** 81Q05 (81R05)

— (*with* Herranz, Francisco J.; Ballesteros, Angel) On a class of nonstandard quantum algebras and their representations. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1259–1266. (Pavel Štovíček) **99c:81096** 81R50 (17B37)

— (*with* del Olmo, Mariano A.; Rodríguez-Marco, A.) Nonrelativistic conformal groups. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3786–3809. (Michael S. Marinov) **99a:81056** 81R05 (22E70)

— (*with* del Olmo, Mariano A.; Rodríguez-Marco, A.) Nonrelativistic conformal groups. II. Further developments and physical applications. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3810–3831. (Michael S. Marinov) **99a:81057** 81R05 (22E70)

— (*with* Ballesteros, Angel; Herranz, Francisco J.) Boson representations, non-standard quantum algebras and contractions. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6797–6809. (Jamal Zerouaoui) **99c:81083** 81R50 (81R10)

— (*with* Márquez, I. F.; Nieto, Luis Miguel) Factorization method and singular Hamiltonians. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4115–4125. (M. Znojil) **99f:81064** 81Q60 (34L40, 81Q05)

Negrón-Marrero, Pablo V. An analysis of the linearized equations for axisymmetric deformations of hyperelastic cylinders. (English summary) *Math. Mech. Solids* **4** (1999), *no.* 1, 109–133. (Summary) **99j:73031** 73C50

Negrón Segura, Carlos (*with* Nápoles Valdés, Juan E.) On the behaviour of solutions of second order linear differential equations. (English summary) *Rev. Integr. Temas Mat.* **14** (1996), *no.* 2, 49–56 (1997). (Josef Kalas) **99d:34057** 34C11 (34B20, 34D05)

Negru, I. (*with* Bizdadea, C.; Saliu, S. O.) Irreducible Hamiltonian BRST analysis of Stueckelberg coupled *p*-form gauge theories. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 225–243. (Mohamed Kachkachi) **99k:81320** 81T70 (81T13)

Negulescu, R. (*with* Brzozowski, J. A.; Lou, J. J.) A characterization of finite ternary algebras. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 6, 713–721. (Wiesław A. Dudek) **99d:06014** 06D30

Nehaniv, Chrystopher L. A direct, simple proof of the Krohn-Rhodes theorem. (English summary) *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 29–33, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M20

— (*with* Dömösi, Pál; Ito, Masami[1]; Katsura, Masashi) A new pumping property of context-free languages. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 187–193, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Editors) **99g:68110** 68Q45

— (*with* Rhodes, John L.) Krohn-Rhodes theory, hierarchies and evolution. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 29–42, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Juraj Hromkovič) **99c:92027** 92D15 (03D15, 20M20, 68Q70, 92B05)

— (*with* Dömösi, Pál) Algebraic theory of finite automata networks. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 481–509. (Alexandra Kireeva) **99m:68130** 68Q70

— *see also* **Mathematical and computational biology, 99k:92002**

Neher, Erhard Polynomial identities and nonidentities of split Jordan pairs. (English summary) *J. Algebra* **211** (1999), *no.* 1, 206–224. (Alain D'Amour) **99i:17035** 17C05 (17C55)

Nehrbass, John W. (*with* Jevtić, Jovan O.; Lee, Robert) Reducing the phase error for finite-difference methods without increasing the order. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 8, 1194–1201. (Summary) **99d:78004** 78–08

Nehring, Klaus Foundations for the theory of rational choice with vague priors. (English summary) *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 231–242, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A08 (90A46)

— (*with* Bonanno, Giacomo) On R. Stalnaker's notion of strong rationalizability and Nash equilibrium in perfect information games: "On the evaluation of solution concepts" [Theory and Decision **37** (1994), no. 1, 49–73; MR 95b:90190]. (English summary) *Theory and Decision* **45** (1998), *no.* 3, 291–295. 90D35 (90A05)

— Preference for flexibility in a Savage framework. (English summary) *Econometrica* **67** (1999), *no.* 1, 101–119. (Summary) **99j:90003** 90A05 (90A06)

— (*with* Puppe, Clemens) On the multi-preference approach to evaluating opportunities. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 41–63. (Yew-Kwang Ng) **99m:90014** 90A06

— *see also* **Stalnaker, Robert**

Nehring, Thomas Hypersurfaces of prescribed Gauss curvature and boundary in Riemannian manifolds. *J. Reine Angew. Math.* **501** (1998), 143–170. (Anna Maria Candela) **99i:53041** 53C21 (35J60)

Neidhardt, Hagen (*with* Zagrebnov, V. A.) On the right Hamiltonian for singular perturbations: general theory. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 5, 609–633. (Alexei V. Rybkin) **99a:47020** 47A55 (47B25, 47N50, 81Q10, 81Q15)

— (*with* Zagrebnov, V. A.) On semibounded restrictions of self-adjoint operators. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 489–512. (E. R. Tsekanovs'kiĭ) **99k:47055** 47B25 (47N50, 81Q10)

— (*with* Albeverio, Sergio; Brasche, Johannes) On inverse spectral theory for self-adjoint extensions: mixed types of spectra. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 130–173. (Vladimir Derkach) **99h:47029** 47B25 (47A10, 47E05, 47F05, 81U40)

— (*with* Zagrebnov, V. A.) On error estimates for the Trotter-Kato product formula. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 3, 169–186. (J. A. Van Casteren) **99g:47099** 47D06 (47B25)

— (*with* Zagrebnov, V. A.) Does each symmetric operator have a stability domain? (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 6, 829–850. (Vladimir Georgescu) **99k:47056** 47B25 (47A55, 47E05, 47N50, 81Q10, 81Q15)

Neill, James W. (*with* Miller, Forrest R.; Sherfey, Brian W.) Maximin clusters for near-replicate regression lack of fit tests. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1411–1433. (Goetz Trenkler) **99i:62149** 62J05 (62F03)

Neĭmark, Yu. I. (*with* Kogan, Mark M.) Does a system need to be completely identified? (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 136–146. (*see* **99b:93002**) 93B30

— *D*-partition and robust stability. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 160–166. (*see* **99b:93002**) 93D09

— (*with* Malykin, G. B.) Nonholonomy of the relation between the state of an electromagnetic field in a unimode light guide with linear birefringence and its torsion angle. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 9, 1125–1136. (Summary) **99k:78030** 78A60

Neĭshtadt, A. I. (*with* Sidorenko, V. V.) Delay of loss of stability in Ziegler's system. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 18–29; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 15–25. (Vassili G. Gelfreich) **99f:70027** 70K20 (34D10, 70H35)

— (*with* Vainshtein, D. L.; Vasil'ev, A. A.) Chaotic advection in a cubic Stokes flow. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 227–242. (Vered Rom-Kedar) **99g:76070** 76F20 (34C23, 58F13, 58F40)

— (*with* Vasil'ev, A. A.; Itin, A. P.) On dynamics of four globally phase-coupled oscillators with close frequencies. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 9–18. (Peter Ashwin) **99k:34078** 34C15 (34C29, 58F21)

Neisse, Olaf (*with* Sehgal, Sudarshan K.) Units in integral group rings over Solomon fields. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 3985–3991. (Michael Dokuchaev) **99j:16022** 16U60 (16S34, 20C05)

— (*with* Sehgal, Sudarshan K.) Gauss units in integral group rings. *J. Algebra* **204** (1998), *no.* 2, 588–596. (Antonio Giambruno) **99e:16040** 16U60 (16S34)

Neittaanmäki, Pekka (*with* Heikkola, Erkki; Kuznetsov, Yuriĭ Alekseevich[1]; Toivanen, Jari) Fictitious domain methods for the numerical solution of two-dimensional scattering problems. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 89–109. (Summary) **99d:65347** 65N55

— (*with* Arnăutu, Viorel) Discretization estimates for an elliptic control problem. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 431–464. (Fredi Tröltzsch) **99f:49050** 49M25 (65K10, 93C20)

— (*with* Korotov, Sergey; Křížek, Michal) On the existence of strongly regular families of triangulations for domains with a piecewise smooth boundary. (English summary) *Appl. Math.* **44** (1999), *no.* 1, 33–42. (P. Rochus) **99m:65213** 65N30 (65N50, 65Y25)

Neitzel, G. P. (*with* Riley, R. J.) Instability of thermocapillary-buoyancy convection in shallow layers. I. Characterization of steady and oscillatory instabilities. (English summary) *J. Fluid Mech.* **359** (1998), 143–164. (Summary) **99a:76053a** 76E15 (76R05)

— (*with* Benz, Simon; Hintz, P.; Riley, R. J.) Instability of thermocapillary-buoyancy convection in shallow layers. II. Suppression of hydrothermal waves. (English summary) *J. Fluid Mech.* **359** (1998), 165–180. (Summary) **99a:76053b** 76E15 (76R05)

arian-Nejad, M. *see* **Arian-Nejad, M.**

Nejjari, F. (*with* Roux, Gilles; Dahhou, B.; Benhammou, A.) Estimation and optimal control design of a biological wastewater treatment process. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 269–280. 49N55 (93E10)

Nekhoroshev, N. N. (*with* Bambusi, Dario) A property of exponential stability in nonlinear wave equations near the fundamental linear mode. (English summary) *Phys. D* **122** (1998), *no.* 1-4, 73–104. (Summary) **99h:35137** 35L70 (35B35, 58F39)

Nekoui, M. A. (*with* Wilson, D. A.; Halikias, George D.) An LQR weight selection approach to the discrete generalized H_2 control problem. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 93–101. (Summary) **99f:93054** 93B36 (93C55)

Nekrashevych, V. V. On the limit behavior of iterations of a logarithm. (Russian) *Mathematics today* '95, *No.* 10 (*Russian*), 70–74, *Nauchn. Izdat. "TViMS", Kiev*, 1995. (*see* **99a:00017**) 33B10

— Quasi-isometry groups. (English and Russian summaries) *Mat. Stud.* **8** (1997), *no.* 2, 227–232, 238. (Summary) **99m:54017** 54E35 (54H15)

Nekrasov, A. A. (*with* Ibragimov, A. I.) An analogue of Schwartz's method for the construction of the Green function of the Zaremba problem and its application in underground hydrodynamics. *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 31–41, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 65N99 (35Q35, 76S05)

Nekrasov, Nikita (*with* Lawrence, Albion) Instanton sums and five-dimensional gauge theories. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 239–265. (Marcos Mariño) **99e:81201** 81T30 (32J81, 81T60, 83E30)

— (*with* Losev, Andrei; Moore, Gregory W.; Shatashvili, Samson L.) Central extensions of gauge groups revisited. (English summary) *Selecta Math. (N.S.)* **4** (1998), *no.* 1, 117–123. (C. J. Atkin) **99k:22031** 22E65 (58B25, 81R10)

Nekrasov, S. A. Integral equations for the Stefan problem. I. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1114–1121, 1151; *translation in Differential Equations* **32** (1996), *no.* 8, 1118–1125 (1997). (Galina I. Bizhanova) **99b:35221** 35R35 (45G05, 80A22)

— Integral equations for the Stefan problem. II. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1254–1258, 1295; *translation in Differential Equations* **32** (1996), *no.* 9, 1254–1258 (1997). (Galina I. Bizhanova) **99b:35222** 35R35 (45G05, 45L05, 65R20, 80A22)

Nekrutkin, V. (*with* Tur, N.) Processes for the solution of the Boltzmann equation. *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 227–234, *Gordon and Breach, Amsterdam*, 1996. (Carlo Cercignani) **99j:82064** 82C40 (76P05)

Nekvinda, Aleš (*with* Lang, Jan) A difference between continuous and absolutely continuous norms in Banach function spaces. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 2, 221–232. (Summary) **99a:46051** 46E30

Nel, D. G. (*with* Pienaar, I.) The decomposition of the Behrens-Fisher statistic in q-dimensional common principal component submodels. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 2, 241–252. (Summary) **99i:62137** 62H25

Nel, Louis Daniel[1] (*with* Lee, Seok Jong) Foundational isomorphisms in continuous differentiation theory. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 127–135. (Andreas Kriegl) **99d:58027** 58C20 (46G05, 46M15)

Nelander, K. (*with* Häggström, Olle) Exact sampling from anti-monotone systems. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 3, 360–380. (Summary) **99i:62233** 62M99

Nelkin, Mark (*with* Chen, Shiyi) The scaling of pressure in isotropic turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2119–2121. 76F05

Nelli, Barbara An example of an immersed complete genus one minimal surface in $\mathbf{R}^3$ with two convex ends. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 2, 298–305. (Vladimir G. Tkachev) **99d:53009** 53A10

Nelsen, Roger B. (*with* Fredricks, Gregory A.) Diagonal copulas. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 121–128, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:60011** 60E05 (62H05)

— (*with* Fredricks, Gregory A.) Copulas constructed from diagonal sections. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 129–136, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99c:60021** 60E05 (62H05)

— Concordance and Gini's measure of association. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 3, 227–238. (Summary) **99g:62082** 62H20

— ★ An introduction to copulas. (English summary) Lecture Notes in Statistics, 139. *Springer-Verlag, New York*, 1999. *xii*+216 *pp. ISBN* 0-387-98623-5 (Moshe Shaked) **99i:60028** 60E05 (60E15, 62H05)

Nelson, Amy (*with* Boyd, Sheri J.; Gould, Matthew) Interassociativity of semigroups. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 33–51, *World Sci. Publishing, River Edge, NJ*, 1997. (M. Yamada) **99c:20083** 20M10

Nelson, Charles A. (*with* Jing, Sicong) Eigenstates of paraparticle creation operators. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 401–409. (Constantin Brif) **99m:81108** 81S05 (81R30)

Nelson, Charles R. (*with* Zivot, Eric; Startz, Richard) Valid confidence intervals and inference in the presence of weak instruments. (English summary) Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 1119–1144. (Summary) **99i:62256** 62P20 (62J05)

Nelson, David R. (*with* Shnerb, Nadav M.) Non-Hermitian localization and population biology. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1383–1403. (Summary) **99g:92029** 92D25 (82C31)

Nelson, Ingrid (*with* Li, Chi-Kwong) Perfect codes on the Towers of Hanoi graph. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 367–376. (Josep Rifà) **99f:94018** 94B25 (05C12)

Nelson, J. E. Quantisation of $2+1$ gravity for $g \geq 1$. *11th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 271–280, *World Sci. Publishing, River Edge, NJ*, 1996. (Michael O. Katanaev) **99i:83042** 83C45 (81T40)

— (*with* Moncrief, V.) Constants of motion and the conformal anti-de Sitter algebra in $(2+1)$-dimensional gravity. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 5, 545–562. (Viqar Husain) **99b:83027** 83C40 (83C57)

Nelson, Patrick W. (*with* Perelson, Alan S.) Mathematical analysis of HIV-1 dynamics in vivo. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 3–44 (*electronic*). 92C50

Nelson, Roger (*with* Emert, John W.) Volume and surface area for polyhedra and polytopes. *Math. Mag.* **70** (1997), *no.* 5, 365–371. (Daniel Hug) **99a:52007** 52A38 (51M20)

Nematy Hoseanabady, A. (*with* Jodayree Akbarfam, Aliasghar) Representation of asymptotic solutions of second order differential equation with two turning points in explicit form. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 405–412, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 34E20 (34E05)

Němčíková, Jana (*with* Mikeš, Josef; Pokorná, Olga) On the theory of the 4-quasiplanar mappings of almost quaternionic spaces. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 75–81. (Andrew Bucki) **99m:53060** 53C15 (53C10)

Nemec, Bojan (*with* Lenarčič, Jadran) Steepest descent optimisation in the secondary space of redundant manipulators. (English summary) *Informatica* (*Ljubl.*) **21** (1997), *no.* 4, 651–655. 70B15 (70Q05)

Nemenman, I. (*with* Naud, J.; Van Raamsdonk, Mark; Periwal, Vipul) Minimal subtraction and the Callan-Symanzik equation. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 1-2, 533–539. (Summary) **99m:81154** 81T17 (81V10)

Nemenzo, Fidel Ronquillo All congruent numbers less than 40000. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 1, 29–31. (Joe P. Buhler) **99e:11070** 11G05 (11D25, 11Y40, 11Y50)

Nemeschansky, D. (*with* Minahan, Joseph A.; Warner, N. P.) Partition functions for BPS states of the non-critical E_8 string. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 167–183. (Summary) **99c:81201** 81T30 (11F11, 11Z05, 14N10)

— (*with* Minahan, Joseph A.; Warner, N. P.) Investigating the BPS spectrum of non-critical E_n strings. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 64–106. (Summary) **99i:81197** 81T30 (32G81)

— (*with* Minahan, Joseph A.; Vafa, Cumrun; Warner, N. P.) E-strings and $N = 4$ topological Yang-Mills theories. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 581–623. (Bruce Hunt) **99j:81152** 81T30 (32J81, 58D27, 81T60)

— (*with* Minahan, Joseph A.; Warner, N. P.) Instanton expansions for mass deformed $N = 4$ super Yang-Mills theories. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 109–132. (Summary) **99m:81258** 81T60 (11F11, 14H45, 81T13, 81T50)

— *see also* **Strings '95, 99h:81008**

Németh, S. Z. Scalar derivatives and conformity. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 99–105 (1998). (Clifford E. Weil) **99j:26014** 26B05

Németh, Z. *see* **Németh, Zoltán[2]**

Németh, Zoltán[1] (*with* Móricz, Ferenc) On the order of magnitude of Fourier coefficients with respect to uniformly bounded orthonormal systems. (Russian summary) *Anal. Math.* **22** (1996), *no.* 3, 187–198. (Mursaleen) **99h:42005** 42A16 (42C05)

— (*with* Móricz, Ferenc) A new characterization of regular summability $(C, 1, 1)$ of double series. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 471–485. (D. C. Russell) **99d:40004** 40G05 (40B05)

Németh, Zoltán[2] Remarks on the solutions of the Maxwell-Chern-Simons theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 067703, 3 *pp.* 81T13

Némethi, András On the spectrum of curve singularities. *Singularities* (*Oberwolfach*, 1996), 93–102, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Mihai Tibăr) **99k:32066** 32S35 (14H20)

— Dedekind sums and the signature of $f(x, y) + z^N$. *Selecta Math. (N.S.)* **4** (1998), *no.* 2, 361–376. (Jan Stevens) **99m:32050** 32S55 (11F20, 32S25)

Németi, István (*with* Andréka, Hajnal; Givant, Steven; Simon, András) Persistent properties and an application to algebras of logic. *Algebra Universalis* **38** (1997), *no.* 2, 141–149. (Ivo Düntsch) **99g:03065** 03G15

— (*with* Andréka, Hajnal; Givant, Steven; Mikulás, Szabolcs; Simon, András) Notions of density that imply representability in algebraic logic. (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 2-3, 93–190. (Ivo Düntsch) **99f:03089** 03G15 (03C05, 06E25, 08B05)

— (*with* Andréka, Hajnal; Goldblatt, Robert) Relativised quantification: some canonical varieties of sequence-set algebras. *J. Symbolic Logic* **63** (1998), *no.* 1, 163–184. (Ivo Düntsch) **99j:03054** 03G25

Nemhauser, George L. (*with* Cao, Dasong) Polyhedral characterizations and perfection of line graphs. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 141–154. (Dieter Kratsch) **99h:05099** 05C75

— (*with* Gu, Zonghao; Savelsbergh, Martin W. P.) Lifted cover inequalities for $0-1$ integer programs: computation. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 4, 427–437. 90C09 (90-04)

— (*with* Barnhart, Cynthia; Johnson, Ellis L.; Savelsbergh, Martin W. P.; Vance, Pamela H.) Branch-and-price: column generation for solving huge integer programs. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 316–329. (Summary) **99g:90074** 90C10 (90-04)

— (*with* Klabjan, D.; Tovey, Craig A.) The complexity of cover inequality separation. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 35–40. (Anton Volgenant) **99k:90200** 90C60 (90C10)

Nemirovskaya, N. A. The Frucht theorem for inverse semigroups. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 2, 246–251; *translation in Math. Notes* **61** (1997), *no.* 1-2, 201–205. (Summary) **99b:20097** 20M18 (20B25)

Nemirovskiĭ, Arkadiĭ (*with* Goldenshluger, Alexander) On spatially adaptive estimation of nonparametric regression. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 2, 135–170. (Sidney J. Yakowitz) **99c:62091** 62G05 (62C20)

— (*with* Nesterov, Yu. E.) Multi-parameter surfaces of analytic centers and long-step surface-following interior point methods. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 1–38. (Tamás Terlaky) **99a:90192** 90C30 (65K05, 90C05)

— (*with* Ben-Tal, Aharon) Robust convex optimization. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 769–805. (J. Frédéric Bonnans) **99j:90088** 90C31 (65K05, 90C25, 90C60)

Nemirovskiĭ, Yu. V. (*with* Yankovskiĭ, A. P.) On some properties of solutions of plane thermoelastic problems of rational reinforcement of composite constructions. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 312–321; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 301–309. (Summary) **99c:73054** 73K20 (73B30, 80A20)

Nemirovsky, Jonathan (*with* Ben-Artzi, Matania) Resolvent estimates for Schrödinger-type and Maxwell equations with applications. *Spectral and scattering theory (Newark, DE, 1997)*, 19–31, *Plenum, New York*, 1998. (L. V. Kritskov) **99e:35160** 35P05 (35J10, 35Q60, 47A40, 47N50, 81Q10)

Nemoga, Karol (*with* Grošek, Otokar; Satko, Ladislav) Remarks to short RSA public exponents. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 65–74. (Summary) **99m:94031** 94A60 (68P25)

— (*with* Schwarz, Štefan) An explicit description of the set of all normal bases generators of a finite field. *Czechoslovak Math. J.* **49(124)** (1999), *no.* 1, 81–96. (Igor E. Shparlinski) **99m:12003** 12E20

Nemoto, Kae (*with* Imagire, T.; Saito, Takesi; Arimitsu, Toshihico) A comment on the Shibata-Hashitsume Langevin equation: is it of the Stratonovich type or of the Itô type? (English summary) *Phys. A* **256** (1998), *no.* 1-2, 129–148. (Kalyanapuram R. Parthasarathy) **99j:82059** 82C31 (81S25, 82C10)

Nemov, V. V. The second adiabatic invariant and neoclassical transport in stellarators. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 122–129. (Summary) **99i:76153** 76X05 (78A35)

Nenakhov, E. I. (*with* Primak, M. E.) A modified fixed point iteration method for solving exchange models. (English summary) *Optimization* **39** (1997), *no.* 1, 43–52. (Lorenzo Peccati) **99a:90055** 90A12 (90-04)

Nenashev, A. Yu. K_1 by generators and relations. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 195–212. (Sue Geller) **99g:19001** 19B28 (18E10, 18F25)

— Double short exact sequences and K_1 of an exact category. (English summary) *K-Theory* **14** (1998), *no.* 1, 23–41. (Stanisław Betley) **99e:19001** 19B99 (18E10, 18F25)

Nenciu, A. (*with* Nenciu, G.) The existence of generalised Wannier functions for one-dimensional systems. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 541–548. (Nariyuki Minami) **99b:81045** 81Q10 (47N50)

Nenciu, G. Adiabatic theory: stability of systems with increasing gaps. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 4, 411–424. (Alain Joye) **99f:81050** 81Q10 (47N50)

— (*with* Nenciu, A.) The existence of generalised Wannier functions for one-dimensional systems. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 541–548. (Nariyuki Minami) **99b:81045** 81Q10 (47N50)

— (*with* Cornean, H. D.) On eigenfunction decay for two-dimensional magnetic Schrödinger operators. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 671–685. (Hiroshi Isozaki) **99e:81045** 81Q10 (35J10, 47F05, 47N50)

Nenov, Svetoslav I. Impulsive controllability and optimization problems. Lagrange's method and applications. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 501–512. (V. Kolmanovskiĭ) **99e:49024** 49K15 (34A37, 34H05, 92D25)

Neogy, Dilip (*with* Acharya, Krishna) On dual nuclear locally convex spaces. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 108–110. 46A11 (46A20)

Neogy, S. K. (*with* Mohan, Srinivasa Raghavan; Parthasarathy, T.) On linear complementarity and a discounted polystochastic game. (English summary) *Stochastic and differential games*, 377–380, *Ann. Internat. Soc. Dynam. Games*, 4, *Birkhäuser Boston, Boston, MA*, 1999. (*see* **99m:90005**) 90C33 (90D15)

Nepa, Paolo (*with* Pelosi, Giuseppe; Manara, Giuliano) A UTD solution for the scattering by a wedge with anisotropic impedance faces: skew incidence case. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 4, 579–588. (Summary) **99a:78028** 78A50 (78A45)

Nepeĭvoda, N. N. On a modification of semantic tableaux. (Russian) *Logical investigations, No.* 4 (*Russian*), 173–179, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03B10

Nepomechie, Rafael I. (*with* Mezincescu, Luca) Fractional-spin integrals of motion for the boundary sine-Gordon model at the free fermion point. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 16, 2747–2764. (Konstantin G. Selivanov) **99j:81115** 81T10

— (*with* Doikou, Anastasia; Mezincescu, Luca) Boundary S-matrix for the XXZ chain. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 53–59. (Konstantin G. Selivanov) **99h:82012** 82B20 (33D05, 82B23)

— (*with* Doikou, Anastasia) Discrete symmetries and S-matrix of the XXZ chain. (English summary) *J. Phys. A* **31** (1998), *no.* 37, L621–L627. (Katherine A. Seaton) **99i:82009** 82B20

— (*with* Doikou, Anastasia) Bulk and boundary S-matrices for the SU($\mathcal{N}$) chain. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 3, 547–572. (Gunter Schütz) **99e:82025** 82B23 (82B20)

— (*with* Doikou, Anastasia) Duality and quantum-algebra symmetry of the $A^{(1)}_{\mathcal{N}-1}$ open spin chain with diagonal boundary fields. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 641–664. (Andrey V. Tsiganov) **99j:82013** 82B20 (82B23)

Nepomniaschy, V. A. *see* **Nepomnyashchiĭ, V. A.**

Nepomnyashchikh, S. V. *see* **Nepomnyashchikh, Sergeĭ V.**

Nepomnyashchiĭ, V. A. Symbolic verification method for definite iteration over data structures. *Inform. Process. Lett.* **69** (1999), *no.* 4, 207–213. 68Q60

Nepomnyashchikh, Sergeĭ V. (*with* Haase, G.) Explicit extension operators on hierarchical grids. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 4, 231–248. (Jan Mandel) **99e:65172** 65N55

Nepomnyashchy, A. (*with* Thess, A.; Zikanov, O.) Finite-time singularity in the vortex dynamics of a string. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part B*, 3637–3640. (Summary) **99k:73075** 73K03 (76C05)

Nepomuceno Fernández, Ángel (*with* Salguero Lamillar, Francisco J.) Word meaning, logic and the informative entailment relation. *Mathematical and computational analysis of natural language (Tarragona, 1996)*, 159–169, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (03B65)

Neppach, Charles (*with* Napolitano, Marcello R.; Casdorph, Van; Naylor, Steve; Innocenti, Mario; Silvestri, Giovanni) Online learning neural architectures and cross-correlation analysis for actuator failure detection and identification. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 433–455. 93E12 (93E03)

Neralić, Luka In memoriam: Ivan Franić (1950–1998). (Serbo-Croatian) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 133–135. (Editors) **99m:01083** 01A70

— Sensitivity analysis in models of data envelopment analysis. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 41–59. (Jürgen Guddat) **99g:90141** 90C31 (90C08)

Nerantzaki, M. S. (*with* Katsikadelis, J. T.) Solving inverse problems by use of the AEM. (English summary) *Inverse problems in engineering mechanics (Nagano, 1998)*, 593–602, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 65N38

Néraud, J. *see* **WORDS, 99k:68015**

Neretin, Yurii A. On the correspondence between the boson Fock space and the space L^2 with respect to Poisson measure. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 11, 19–50; *translation in Sb. Math.* **188** (1997), *no.* 11, 1587–1616. (Alexander Isaakovich Shtern) **99j:28012** 28C20 (22E65, 46N50, 47N50, 58B25)

— Hinges and the Study-Semple-Satake-Furstenberg-De Concini-Procesi-Oshima boundary. (English summary) *Kirillov's seminar on representation theory*, 165–230, *Amer. Math. Soc. Transl. Ser. 2*, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Vladimir Pestov) **99g:32060** 32M15 (22E15, 31C35, 53C35)

— Boundary values of holomorphic functions and some spectral problems for unitary representations. *Positivity in Lie theory: open problems*, 221–248, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Karl-Hermann Neeb) **99i:32009** 32A40 (22E46, 46E15)

— Overcomplete bases in the space of symmetric functions. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 12–28, 96; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 10–22. (Summary) **99c:05197** 05E05

— Restriction of functions holomorphic in a domain to curves lying on the boundary of the domain, and discrete $SL_2(\mathbf{R})$-spectra. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 3, 67–86; *translation in Izv. Math.* **62** (1998), *no.* 3, 493–513. (A. G. Baskakov) **99h:43016** 43A75 (32A10)

Nergiz, Serdar (*with* Saçlıoğlu, Cihan) Seiberg-Witten monopole equations and Riemann surfaces. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 675–687. (Steven B. Bradlow) **99c:53019** 53C07 (57R57, 58D27, 58E15)

Nerman, Olle (*with* Jagers, Peter) The asymptotic composition of supercritical multi-type branching populations. (English summary) *Séminaire de Probabilités, XXX*, 40–54, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (John Charles D'Souza) **99b:60144** 60J80

— Stochastic monotonicity and conditioning in the limit. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 569–572. (Summary) **99e:60067** 60F05

Nerode, Anil (*with* Marek, V. Wiktor; Remmel, Jeffrey B.) Nonmonotonic rule systems with recursive sets of restraints. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 339–384. (Giovanni Criscuolo) **99a:03032** 03B60 (03F50, 68T27)

— (*with* Marek, V. Wiktor; Remmel, Jeffrey B.) Complexity of recursive normal default logic. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 139–147. (M. I. Dekhtyar) **99j:68134** 68T27 (03B70)

— (*with* Ishihara, Hajime; Khusainov, B. M.) Decidable Kripke models of intuitionistic theories. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 115–123. (Leo Esakia) **99m:03075** 03C90 (03B20, 03C57)

— (*with* Ishihara, Hajime; Khusainov, B. M.) Computable Kripke models and intermediate logics. (English summary) *Inform. and Comput.* **143** (1998), *no.* 2, 205–230. (A. Yu. Muravitsky) **99m:03089** 03D45 (03B55, 03C57)

— *see also* **Logic programming and nonmonotonic reasoning, 99a:68011**; **Hybrid control systems, 99a:93006**; **Handbook: Recursive mathematics, 99k:03003** *and* **99k:03004**

Néron, André L'arithmétique sur les variétés algébriques (d'après A. Weil). [Arithmetic on algebraic varieties (after A. Weil)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 66, 167–173, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 14G99

— Le lemme d'Enriques-Severi (d'après O. Zariski). [The Enriques-Severi lemma (after O. Zariski)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 94, 399–407, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 14C20

— Variétés abéliennes (d'après A. Weil). [Abelian varieties (after A. Weil)] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 104, 35–41, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 14K05

— Modèles p-minimaux des variétés abéliennes. [p-minimal models of abelian varieties] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 227, 65–80, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 14K05

Neronov, A. Yu. Quasiclassical solutions of the Klein-Gordon equation in a space-time with closed time-like curves. *J. Experiment. Theoret. Phys.* **86** (1998), *no.* 1, 1–5; *translated from Zh. Èksper. Teoret. Fiz.* **113** (1998), *no.* 1, 3–11 (*Russian*). (Robert J. Low) **99a:83051** 83C75 (83C47)

— Quasiclassical mass spectrum of the black hole model with a self-gravitating dust shell. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044023, 16 *pp.* 83C57

Nerses, A. (*with* Kunhardt, E. E.) Solitary excitations of a two-dimensional electron gas. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6392–6402. (A. K. Rajagopal) **99j:82069** 82D10 (76X05)

Nersessian, A. P. *see* **Nersesyan, A. P.**

Nersesyan, A. B. Integral equations associated with the singular Sturm-Liouville problem with a point source. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk*

Armenii Mat. **29** (1994), *no.* 6, 7–30 (1997); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 6, 2–21. (M. M. Malamud) **99k:45030** 45P05 (34B24, 34L05, 42A38)

— (*with* Oganesyan, N. V.) High-accuracy algorithms for integral equations with difference kernels. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 6, 82–96 (1997); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 6, 67–79. (Summary) **99f:65205** 65R20 (45L05)

— (*with* Atiya, G. M.) Solution of integral equations of potential theory. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 2, 67–71. 65R20 (45L05)

— Mkhitar M. Djrbashian [1918–1994]. *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 4, 411–414. 01A70

Nersesyan, A. P. (*with* Ter-Antonyan, V. M.) Anyons, monopoles, and Coulomb problem. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1756–1761. (Summary) **99j:81084** 81S10 (81V70)

Nersesyan, Aleksandr Artëmovich (*with* Gogolin, Alexander O.; Tsvelik, Alexei M.; Yu, Lu) Zero-modes and thermodynamics of disordered spin-$\frac{1}{2}$ ladders. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 705–730. (Summary) **99j:82048** 82B44

Nerurkar, Ajay (*with* Cai, Jin-Yi) Approximating the SVP to within a factor $(1 + 1/\dim^{\varepsilon})$ is NP-hard under randomized reductions. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 46–55, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68044** 68Q15

Nerurkar, Mahesh Positive exponents for a dense set of continuous SL(2, **R**) valued cocycles which arise as solutions to strongly accessible linear differential systems. *Topological dynamics and applications (Minneapolis, MN, 1995)*, 265–278, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Rafael Obaya García) **99c:34087** 34C35 (34D05, 34D08, 58F11, 93B29)

— (*with* Johnson, Russell A.) Controllability, stabilization and the regulator problem for random differential systems. (English summary) *Mem. Amer. Math. Soc.* **136** (1998), *no.* 646, *viii*+48 *pp.* (G. N. Mil′shteĭn) **99d:93005** 93B05 (34F05, 34H05, 93D15, 93E03)

Nesenenko, G. A. (*with* Kravchenko, V. F.) Application of the method of boundary integral equations for determining the boundary-layer asymptotics of the solution of a nonlinear singularly perturbed boundary value problem of heat conduction. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1174–1180, 1293; *translation in Differential Equations* **33** (1997), *no.* 9, 1178–1183 (1998). (Summary) **99d:35069** 35K05 (35B25, 35C20)

Nešetřil, Jaroslav (*with* Matoušek, Jiří) ★ Invitation to discrete mathematics. (English summary) *The Clarendon Press, Oxford University Press, New York*, 1998. *xvi*+410 *pp. ISBN* 0-19-850208-7; 0-19-850207-9 05-01

— (*with* Borodin, O. V.; Kostochka, A. V.; Raspaud, A.; Sopena, E.) On universal graphs for planar oriented graphs of a given girth. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 73–85. (Pavol Hell) **99e:05046** 05C15 (05C20)

— (*with* Kostochka, A. V.) Coloring relatives of intervals on the plane. I. Chromatic number versus girth. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 103–110. (K. S. Sarkaria) **99a:05048** 05C15

Neshchadim, M. V. On the uniqueness of a solution of an integral equation of the first kind over real finite-dimensional algebras with division. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 306–308. (From the text) **99k:45002** 45A05

Neshveev, S. V. (*with* Golodets, Valentin Ya.) Non-Bernoullian quantum K-systems. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 213–232. (Matthew J. Donald) **99j:46081** 46L55 (46N50, 82B10)

— Quantum Markov K-systems. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 87–94. (Jan Hamhalter) **99e:46083** 46L40 (46L89)

Nesi, V. Fine properties of solutions to conductivity equations with applications to composites. (English summary) *Mathematics of multiscale materials (Minneapolis, MN, 1995–1996)*, 179–208, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (Summary) **99e:73012** 73B27 (73V25, 73V35, 78A30)

Nešić, D. (*with* Mareels, Iven M. Y.) Dead-beat control of simple Hammerstein models. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1184–1188. 93C55 (93B05)

— (*with* Mareels, Iven M. Y.) Controllability of structured polynomial systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 761–764. (Summary) **99m:93009** 93B05 (93B25)

— (*with* Skafidas, E.; Mareels, Iven M. Y.; Evans, Robin J.) Minimum phase properties for input nonaffine nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 868–872. (Summary) **99m:93048** 93C10 (93B17, 93D15)

Nešić, Slobodan Č. On fixed point theorems in convex metric spaces. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 5–8. 54H25

— Generalizations of Khan fixed point theorems. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 6, 469–472. 54H25

— Results on fixed points of asymptotically regular mappings. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 5, 491–494. 54H25

Nesin, Ali (*with* Altinel, Tuna; Cherlin, Gregory; Corredor, Luis-Jaime) A Hall theorem for ω-stable groups. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 385–397. (O. V. Belegradek) **99f:20057** 20F16 (03C60, 20A15, 20F17, 20F50)

Neskorodev, N. M. (*with* Kosmodamianskiĭ, Aleksandr Sergeevich) A relation between the equations of the two-dimensional theory of elasticity for anisotropic and isotropic bodies. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 344–346; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 319–321. (Summary) **99m:73014** 73C02 (73B40, 73V35)

Nesliturk, A. (*with* Franca, Leopoldo P.; Stynes, Martin) On the stability of residual-free bubbles for convection-diffusion problems and their approximation by a two-level finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 35–49. (Andrei I. Tolstykh) **99k:65107** 65N30 (65M60, 76M10, 76Rxx)

Nespoli, Gabriele On the existence of weak solutions of the exterior non-stationary problem for an incompressible non-homogeneous viscous fluid in non-cylindrical domains. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 183–203 (1997). (Vladimir V. Shelukhin) **99c:35186** 35Q30 (35D05, 76D05)

van Ness, John W. *see* **Van Ness, John W.**

Nessel, Jochen (*with* Lange, Steffen; Wiehagen, Rolf) Learning recursive languages from good examples. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 27–52. (Sanjay Jain) **99k:68159** 68T05 (68Q99)

Nessel, R. J. (*with* Nacken, M.; Röpsch, C.) On the approximation of Riemann integrable functions by Fejér means. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 41–51. (Michael Felten) **99k:42004** 42A10 (41A40, 42A45)

— (*with* Röpsch, C.) On the comparison of trigonometric convolution operators with their discrete analogues for Riemann integrable functions. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 4, 297–306. (Dinh Dung) **99m:42006** 42A10 (41A17)

— (*with* Görlich, E.; Krieg, Aloys; Stens, R. L.) Paul L. Butzer—five years as Professor Emeritus. Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 20–31. (Editors) **99m:01069b** 01A70 (47D06)

Nessibi, M. M. (*with* Sifi, Mohamed) Laguerre hypergroup and limit theorem. (English summary) *Lie groups and Lie algebras*, 133–145, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Michael Voit) **99g:60008** 60B10 (33C45, 43A62, 60B15, 60F05)

— (*with* Rachdi, L. T.; Trimèche, Khélifa) The local central limit theorem on the product of the Chébli-Trimèche hypergroup and the Euclidean hypergroup $\mathbf{R}^n$. (English summary) *J. Math. Sci. (Calcutta)* **9** (1998), *no.* 2, 109–123. (Michael Voit) **99m:60017** 60B15 (43A62, 60F05)

Nest, Ryszard (*with* Tsygan, Boris) The Fukaya type categories for associative algebras. *Deformation theory and symplectic geometry (Ascona, 1996)*, 285–300, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (J. Stasheff) **99b:16011** 16E40 (18G50, 18G60, 55U35, 58B30)

— (*with* Bressler, Paul; Tsygan, Boris) A Riemann-Roch type formula for the microlocal Euler class. *Internat. Math. Res. Notices* **1997**, *no.* 20, 1033–1044. (Markus J. Pflaum) **99g:58118** 58G12 (14C40, 32L10, 58F06)

— (*with* Schrohe, Elmar) Dixmier's trace for boundary value problems. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 203–218. (Éric Leichtnam) **99f:58201** 58G15 (47G30, 58B30)

— (*with* Tsygan, Boris) On the cohomology ring of an algebra. (English summary) *Advances in geometry*, 337–370, *Progr. Math.*, 172, *Birkhäuser Boston, Boston, MA*, 1999. (Kevin P. Knudson) **99k:16018** 16E40 (16S80)

Nester, James M. (*with* Ho, J. K.; Chern, De-Ching) Some spherically symmetric exact solutions of the metric-affine gravity theory. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 6, *part* 1, 640–650. (Summary) **99a:83055** 83D05

— (*with* Chen, Hsin; Yo, Hwei-Jang) Acausal PGT modes and the nonlinear constraint effect. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 961–970. (Summary) **99k:83105** 83D05 (83C99)

Nester, Marks R. Sequential arrays. (English summary) *Util. Math.* **51** (1997), 97–117. (G. H. J. Van Rees) **99b:05024** 05B15 (05B30)

Nesterenko, A. N. A criterion for weak continuity of vector functions. (Russian) *Mathematics today '97, No.* 11 (*Russian*), 80–86, *Nauchn. Izdat. "TViMS", Kiev*, 1997. (V. V. Mykhaylyuk) **99h:46024** 46B25

Nesterenko, V. V. (*with* Pirozhenko, I. G.) Justification of the zeta function renormalization in rigid string model. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6265–6280. (Summary) **99j:81123** 81T16 (11Z05, 58G26, 81T30)

— (*with* Pirozhenko, I. G.) Open rigid string with Gauss-Bonnet term in the action. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2513–2522. (Summary) **99g:81179** 81T30 (83E30)

Nesterenko, Yu. V. On the measure of algebraic independence of values of Ramanujan functions. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 299–334. (Yao Chen Zhu) **99h:11081** 11J85 (11J91)

— (*with* Fel′dman, N. I.) Transcendental numbers. *Number theory, IV*, 1–345, *Encyclopaedia Math. Sci.*, 44, *Springer, Berlin*, 1998. (Michel Waldschmidt) **99a:11088b** 11J81 (11–02, 11J25, 11J68, 11J82, 11J85, 11J86)

— Algebraic independence of π and e^{π}. *Number theory and its applications (Ankara, 1996)*, 121–149, *Lecture Notes in Pure and Appl. Math.*, 204, *Dekker, New York*, 1999. (Yao Chen Zhu) **99k:11113** 11J85 (11J91)

Nesterov, A. I. Quasigroups, asymptotic symmetries, and conservation laws in general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, R7498–R7502. (Simonetta Frittelli) **99a:83029** 83C40 (83C30)

— On vortex dynamics in the self-dual Chern-Simons-Higgs system. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 203–216. (Yisong Yang) **99h:58049** 58E50 (81T13)

— (*with* Flores Pérez, M.) Vortex dynamics in the Chern-Simons-Higgs system near critical coupling. (Spanish. English and Spanish summaries) *Rev. Mexicana Fis.* **45** (1999), *no.* 1, 9–13. 81T13

Nesterov, S. V. (*with* Akulenko, L. D.) Determination of natural frequencies of internal waves in an essentially inhomogeneous fluid. *Fluid Dynam.* **32** (1997), *no.* 6, 850–856 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 6, 112–119 (*Russian. Russian summary*). (Summary) **99b:76020** 76C10 (76V05)

— (*with* Akulenko, L. D.) An effective method for studying the oscillations of essentially inhomogeneous distributed systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 466–478; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 451–461. (Summary) **99c:73023** 73D30 (34A45, 73K03, 73K12)

— (*with* Akulenko, L. D.) Determination of the frequencies and forms of oscillations of nonhomogeneous distributed systems with boundary conditions of the third kind. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 547–555; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 531–538. (Summary) **99d:73057** 73K12 (34C10)

Nesterov, Yu. E. (*with* Nemirovskii, Arkadii) Multi-parameter surfaces of analytic centers and long-step surface-following interior point methods. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 1–38. (Tamás Terlaky) **99a:90192** 90C30 (65K05, 90C05)

— Semidefinite relaxation and nonconvex quadratic optimization. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 141–160. (Summary) **99a:90144** 90C20 (90C26)

— (*with* Todd, Michael J.) Primal-dual interior-point methods for self-scaled cones. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 324–364 (*electronic*). (Michael L. Dowling) **99f:90056** 90C05 (65Y20, 90C25)

Nesterovich, T. V. (*with* Mel'nikov, O. V.) Some properties of the semigroup of formations as a topological semigroup. (Russian. English summary) *Problems in algebra, No. 11 (Russian)*, 68–75, *Gomel. Gos. Univ., Gomel'*, 1997. (Summary) **99h:20029** 20D10 (22A15)

Nesteruk, A. V. (*with* Gunzig, Edgard; Maartens, Roy) Inflationary cosmology and thermodynamics. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 923–932. (Summary) **99a:83073** 83F05

Nesti, Fabrizio (*with* Dąbrowski, Ludwik; Siniscalco, Pasquale) A finite quantum symmetry of $M(3, \mathbf{C})$. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4147–4161. (Tomasz Brzeziński) **99i:81093** 81R50 (16W30, 17B37, 58B30)

— (*with* Bonelli, Giulio; Bonora, Loriano) Matrix string theory, 2D SYM instantons and affine Toda systems. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 303–311. (Summary) **99i:81173** 81T30 (81T60)

— (*with* Bonelli, Giulio; Bonora, Loriano) String interactions from Matrix string theory. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 100–116. (Summary) **99i:81174** 81T30

Nestler, Britta (*with* Garcke, Harald; Stoth, Barbara) On anisotropic order parameter models for multi-phase systems and their sharp interface limits. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 87–108. (Jing Xue Yin) **99g:82023** 82B24 (35K99, 58E50)

Nestmann, Uwe On the expressive power of joint input. (English summary) *Fifth International Workshop on Expressiveness in Concurrency (EXPRESS '98) (Nice)*, 8 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68Q10 (68Q55, 68Q60)

— *see also* **Workshop: High-level Concurrent Languages, 99g:68009**

Nestoridis, V. (*with* Melas, A.; Papadoperakis, I.) Growth of coefficients of universal Taylor series and comparison of two classes of functions. *J. Anal. Math.* **73** (1997), 187–202. (Elgin H. Johnston) **99i:30003** 30B10

lins Neto, A. *see* **Lins Neto, A.**

trofino-Neto, Alexandre *see* **Trofino-Neto, Alexandre**

kirjner-Neto, C. *see* **Kirjner-Neto, C.**

xavier de mendonça Neto, Candido Ferreira *see* **Xavier de Mendonça Neto, Candido Ferreira**

de souza Neto, E. A. *see* **de Souza Neto, E. A.**

de rey Neto, E. C. *see* **de Rey Neto, E. C.**

cribari-Neto, Francisco *see* **Cribari-Neto, Francisco**

oliveira-Neto, G. *see* **Oliveira-Neto, G.**

barcelos-Neto, J. *see* **Barcelos-Neto, J.**

de miranda-Neto, J. A. *see* **de Miranda-Neto, J. A.**

fonseca-Neto, J. B. *see* **Fonseca-Neto, J. B.**

da cruz Neto, João Xavier *see* **Da Cruz Neto, João Xavier**

Neto, Jorge Ananias (*with* Oliveira, Wilson) The non-abelian BFFT formalism for the collective coordinates quantization of the SU(2) Skyrme model. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 611–626. (Summary) **99h:81220** 81T70

helayël-Neto, José A. *see* **Helayël-Neto, José A.**

pinto-Neto, N. *see* **Pinto-Neto, N.**

Netravali, Arun N. (*with* Bajaj, Chanderjit L.; Chen, Jindong; Holt, Robert J.) Energy formulations of A-splines. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 1, 39–59. (Summary) **99f:65024** 65D17 (65D07)

Netrusov, Yu. (*with* Edmunds, David E.) Entropy numbers of embeddings of Sobolev spaces in Zygmund spaces. (English summary) *Studia Math.* **128** (1998), *no.* 1, 71–102. (Petr Gurka) **99d:46047** 46E35 (35P20, 41A46)

Netuka, Ivan In memoriam Prof. Vojtěch Jarník (22.12.1897–22.9.1970). *Math. Bohem.* **123** (1998), *no.* 2, 219–221. 01A70

Neu, John A. *see* **Bibliography: History of science and its cultural influences, 99m:00003**

Neubauer, Andreas (*with* Scherzer, Otmar) Regularization for curve representations: uniform convergence for discontinuous solutions of ill-posed problems. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1891–1900 (*electronic*). (Summary) **99d:65376** 65R30 (65J10)

Neuberger, Herbert Explicitly real form of the Wilson-Dirac matrix for SU(2). (English summary) *Phys. Lett. B* **434** (1998), *no.* 1-2, 99–102. (Summary) **99d:81102** 81T25

— Witten's SU(2) anomaly on the lattice. (English summary) *Phys. Lett. B* **437** (1998), *no.* 1-2, 117–122. (Summary) **99f:81189** 81T50 (81T25)

Neuberger, J. W. ★ Sobolev gradients and differential equations. Lecture Notes in Mathematics, 1670. *Springer-Verlag, Berlin*, 1997. *viii+150 pp. ISBN* 3-540-63537-8 (Peter E. Zhidkov) **99g:35003** 35–02 (35A35, 46N20, 46N40, 65–02, 90C30)

— (*with* Castro, Alfonso) An inverse function theorem. (English summary) *Applied analysis (Baton Rouge, LA, 1996)*, 127–132, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Markus Poppenberg) **99k:46071** 46G05 (34B15, 47H15, 58C15, 65J15)

— (*with* Renka, Robert J.) Sobolev gradients and the Ginzburg-Landau functional. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 582–590 (*electronic*). (Summary) **99d:35051** 35J60 (35Q55)

Neuberger, John M. (*with* Castro, Alfonso; Cossio, Jorge) A sign-changing solution for a superlinear Dirichlet problem. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1041–1053. (Monica Lazzo) **99f:35056** 35J65 (35B05, 58E05)

— A sign-changing solution for a superlinear Dirichlet problem with a reaction term nonzero at zero. *Nonlinear Anal.* **33** (1998), *no.* 5, 427–441. (Thomas Bartsch) **99e:35068** 35J65

Neubert, B. (*with* Pleimling, M.; Siems, R.) Low-temperature phase diagram and critical behaviour of the four-state chiral clock model. (English summary) *J. Phys. A* **31** (1998), *no.* 21, 4871–4883. (Summary) **99a:82041** 82B26 (82B20, 82B27)

Neubert, R. Approximation of solution curves of underdetermined systems of nonlinear equations. (English summary) *Computing* **59** (1997), *no.* 4, 285–306. (T. Y. Li) **99a:65073** 65H17 (34A45, 65D10)

— (*with* Zheng, Qing Hua) Computation of periodic solutions of differential-algebraic equations in the neighborhood of Hopf bifurcation points. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 12, 2773–2787. (Summary) **99d:65245** 65L99 (34A09, 34C25, 58F14)

Neubrunn, Tibor (*with* Riečan, Beloslav) ★ Integral, measure, and ordering. (English summary) Appendix A by Ferdinand Chovanec and František Kôpka. Appendix B by Hana Kirchheimová and Zdenka Riečanová. Mathematics and its Applications, 411. *Kluwer Academic Publishers, Dordrecht; Ister Science, Bratislava*, 1997. xiv+378 *pp. ISBN* 0-7923-4566-5; 80-88683-18-1 (Endre Pap) **99e:28001** 28–01 (03E72, 06F15, 28A60, 28B15, 28E10, 46N50, 81P10)

Neuchl, Martin (*with* Schauenburg, Peter) Reconstruction in braided categories and a notion of commutative bialgebra. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 241–259. (R. H. Street) **99b:18012** 18D10 (16B50, 16W30)

Neudecker, Heinz (*with* Satorra, Albert) Compact matrix expressions for generalized Wald tests of equality of moment vectors. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 259–276. (Tõnu Kollo) **99e:62097** 62H10 (62H15)

— (*with* Kollo, Tõnu) The derivative of an orthogonal matrix of eigenvectors of a symmetric matrix. (English summary) *Linear Algebra Appl.* **264** (1997), 489–493. (Summary) **99g:62070** 62H05 (62H10)

— (*with* Liu, Shuang Zhe) Kantorovich inequalities and efficiency comparisons for several classes of estimators in linear models. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 345–355. (Song Gui Wang) **99b:62106** 62J05 (15A42)

— (*with* Heijmans, Risto) Estimation of the SURE model. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 423–430. (Summary) **99h:62088** 62J05

Neuendorf, R. (*with* Wygnanski, I.) On a turbulent wall jet flowing over a circular cylinder. (English summary) *J. Fluid Mech.* **381** (1999), 1–25. 76–05 (76D25, 76F99)

Neuenschwander, Daniel (*with* Schott, René) The Bernstein and Skitovič-Darmois characterization theorems for Gaussian distributions on groups, symmetric spaces, and quantum groups. (English summary) *Exposition. Math.* **15** (1997), *no.* 4, 289–314. (Gennadiy M. Fel'dman) **99c:60010** 60B15 (17B37, 22E30)

— A limit theorem for truncated measures in generalized convolution algebras. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part III (Kazan', 1995). *J. Math. Sci. (New York)* **84** (1997), *no.* 3, 1138–1144. (Summary) **99f:60028** 60E07 (60F05)

— (*with* Schott, René) A note on domains of attraction for q-transformed random variables. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 387–394 (19*N*). (Summary) **99k:60036** 60E07 (60B10, 60B15)

— (*with* Franz, Uwe[1]; Schott, René) Gauss laws in the sense of Bernstein and uniqueness of embedding into convolution semigroups on quantum groups and braided groups. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 1, 101–127. (Gyula Pap) **99d:60007** 60B99 (16W30)

— The Marcinkiewicz-Zygmund law of large numbers on the group of Euclidean motions and the diamond group. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci. (New York)* **89** (1998), *no.* 5, 1535–1540. (R. J. Tomkins) **99j:60043** 60F15 (60B15, 60G50)

— The Prokhorov-Loève law of large numbers on countable subgroups of simply connected step 2-nilpotent Lie groups. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci. (New York)* **92** (1998), *no.* 4, 4058–4061. (Uwe Franz) **99k:60088** 60F15 (60B10, 60B15)

— Law of the iterated logarithm for Lévy's area process composed with Brownian motion. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 4, 371–377. (Yaozhong Hu) **99j:60072** 60H05 (60F15, 60J65)

Neuenschwander, E. Documenting Riemann's impact on the theory of complex functions. *Math. Intelligencer* **20** (1998), *no.* 3, 19–26. 01A55 (30–03)

Neufeld, Eric (*with* Goodwin, Scott) The 6-49 lottery paradox. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 273–286. (Summary) **99d:03018** 03B48 (03B60)

Neufeld, Eugene T. Orienting cycle elements in orientable rotation systems. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 255–265. (Adrian Riskin) **99b:05042** 05C10

Neufeld, Stewart W. (*with* Nowakowski, Richard J.) A game of cops and robbers played on products of graphs. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 253–268. (P. A. Biryukov) **99k:90233** 90D43 (05C99)

— (*with* Shen, Jian[2]) Some results on generalized exponents. (English summary) *J. Graph Theory* **28** (1998), *no.* 4, 215–225. (Qiao Li) **99f:05077** 05C50 (05C20)

— (*with* Shen, Jian[2]) On a problem of Lewin. (English summary) *Linear Algebra Appl.* **274** (1998), 411–426. (Matúš Harminc) **99a:05058** 05C20

— The concept of diameter in exponents of symmetric primitive graphs. (English summary) *Ars Combin.* **51** (1999), 129–142. (Ke Min Zhang) **99m:15022** 15A48 (05C50)

Neugebauer, C. J. (*with* Cruz-Uribe, David; Olesen, V.) Weighted norm inequalities for a family of one-sided minimal operators. *Illinois J. Math.* **41** (1997), *no.* 1, 77–92. (B. Muckenhoupt) **99b:42021** 42B25 (42A85)

— (*with* Cruz-Uribe, David; Olesen, V.) Norm inequalities for the minimal and maximal operator, and differentiation of the integral. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 577–604. (Vladimir D. Stepanov) **99b:42022** 42B25

— (*with* Cruz-Uribe, David) Weighted norm inequalities for the geometric maximal operator. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 239–263. (Maria J. Carro) **99e:42029** 42B25

specovius-Neugebauer, Maria *see* **Specovius-Neugebauer, Maria**

Neuhaus, Georg (*with* Zhu, Li-Xing) Permutation tests for reflected symmetry. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 129–153. (S. Rao Jammalamadaka) **99j:62068** 62G10

— (*with* Anděl, Jiří) Extrapolation in fractional autoregressive models. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 3, 309–316. (P. A. Morettin) **99j:62121** 62M10 (62M20)

Neuhaus, John M. Estimation efficiency with omitted covariates in generalized linear models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1124–1129. 62J12

Neuhaus, Rolf Computation of real radicals of polynomial ideals. II. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 261–280. (Ralf Fröberg) **99c:13054** 13P10 (12D15, 13A10)

Neuhauser, Claudia (*with* Kang, Hyun-Chung; Krone, Stephen M.) Stepping-stone models with extinction and recolonization. (English summary) *Ann. Appl. Probab.* **5** (1995), *no.* 4, 1025–1060. (Summary) **99a:92016** 92D10 (60K35, 92D40)

— (*with* Krone, Stephen M.; Kang, Hyun-Chung) A note on the stepping stone model with extinction and recolonization. *Progress in population genetics and human evolution (Minneapolis, MN, 1994)*, 299–307, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D25 (60J99)

— (*with* Bramson, Maury) Coexistence for a catalytic surface reaction model. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 565–614. (T. M. Liggett) **99a:60113** 60K35 (92E20)

Neuhoff, David L. (*with* Gray, Robert M.) Quantization. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2325–2383. (Summary) **99i:94029** 94A29 (94A34)

Neukirch, Sébastien (*with* Giacomini, Hector) On the number of limit cycles of the Liénard equations. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 93–102, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:34078** 34C05

— (*with* Giacomini, Hector) Algebraic approximations to bifurcation curves of limit cycles for the Liénard equation. (English summary) *Phys. Lett. A* **244** (1998), *no.* 1-3, 53–58. (Summary) **99c:34050** 34C05 (34C23)

— *see also* **Llibre, Jaume et al., 99h:34048**

Neumaier, Arnold Solving ill-conditioned and singular linear systems: a tutorial on regularization. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 636–666 (*electronic*). (Andreas Rieder) **99f:65066** 65F30

Neumaier, M. (*with* Lauster, M.; Lippig, V.; Waibel, R.; Straub, Dieter) The Duhem-Hadamard hypothesis in thermofluiddynamics. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 993–1012. (Summary) **99b:76004** 76A02 (76–05, 80A20)

Neuman, František Global transformations of linear differential equations. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 178–183. (Summary) **99d:34019** 34A30 (34A25, 34K05)

— Solutions of Abel's equation in relation to the asymptotic behaviour of linear differential equations. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 122–128. (Summary) **99a:39056** 39B22 (34A30, 34C10, 34C11)

— *see also* **Došlý, Ondřej, 99m:01052**

Neumann, Anni Nilpotent injectors in finite groups. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 5, 337–340. (Ma. Jesús Iranzo) **99g:20034** 20D10 (20D15)

Neumann, B. H. Hardy—some reminiscences. (English summary) *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 3, 138–141. 01A70

Neumann, C. D. D. Perturbative BPS algebras in superstring theory. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 3, 596–620. (I. Dolgachev) **99i:81071** 81R10 (14J32, 17B67, 81T30)

— The elliptic genus of Calabi-Yau 3- and 4-folds, product formulae and generalized Kac-Moody algebras. (English summary) *J. Geom. Phys.* **29** (1999), *no.* 1-2, 5–12. (Bruce Hunt) **99m:32037** 32J17 (11F55, 14J32, 17B67, 32J18)

von Neumann, John ★ Continuous geometry. (English summary) With a foreword by Israel Halperin. Reprint of the 1960 original. Princeton Landmarks in Mathematics. Princeton Paperbacks. *Princeton University Press, Princeton, NJ*, 1998. *xiv*+299 *pp. ISBN* 0-691-05893-8 (R. J. Bumcrot) **99k:51001** 51–02 (01A75, 06–02, 06B35)

— *see also* **Gastaldi, Carlota et al., 99f:90211** *and* **Baumgärtel, Hellmut, (99k:01080)**

Neumann, Klaus (*with* Zimmermann, Jürgen) Heuristic procedures for parallel-machine scheduling problems with stochastic precedence constraints. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 115–136. (Summary) **99k:90091** 90B35 (68M20)

Neumann, Konrad Every finitely generated regular field extension has a stable transcendence base. (English summary) *Israel J. Math.* **104** (1998), 221–260. (Jaime-Luis Garcia-Roig) **99d:12002** 12F20

Neumann, Michael (*with* Climent, Joan-Josep; Sidi, Avram) A semi-iterative method for real spectrum singular linear systems with an arbitrary index. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 21–38. (Cs. J. Hegedűs) **99c:65052** 65F10 (65F20)

— (*with* Kirkland, Stephen J.; Shader, Bryan L.) Bounds on the subdominant eigenvalue involving group inverses with applications to graphs. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 1–20. (Thomas H. Foregger) **99b:15010** 15A18

— (*with* Kirkland, Stephen J.; Shader, Bryan L.) On a bound on algebraic connectivity: the case of equality. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 65–76. (E. Seneta) **99c:15034** 15A45 (15A51, 60J10)

— (*with* Chien, Mao-Ting) Positive definiteness of tridiagonal matrices via the numerical range. (English summary) *Electron. J. Linear Algebra* **3** (1998), 93–102 (*electronic*). (Jor-Ting Chan) **99f:15038** 15A60 (15A57)

— (*with* Elsner, Ludwig; Han, Lu; Koltracht, Israel; Zippin, M.) On a polygon equality problem. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 67–75. (Michael Felten) **99d:41024** 41A17 (46C99)

— (*with* Kirkland, Stephen J.; Shader, Bryan L.) Applications of Paz's inequality to perturbation bounds for Markov chains. (English summary) *Linear Algebra Appl.* **268** (1998), 183–196. (E. Seneta) **99a:15007** 15A51 (15A12, 60J10)

— A conjecture concerning the Hadamard product of inverses of M-matrices. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 277–290. (Thomas L. Markham) **99h:15008** 15A09 (15A57)

— (*with* McDonald, Judith J.; Nabben, Reinhard; Schneider, Hans; Tsatsomeros, Michael J.) Inverse tridiagonal Z-matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 75–97. (Summary) **99i:15037** 15A57 (15A09)

— (*with* Hadjidimos, Apostolos) Euclidean norm minimization of the SOR operators. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 191–204 (*electronic*). (S. Galanis) **99c:65056** 65F10

— (*with* Kirkland, Stephen J.) The M-matrix group generalized inverse problem for weighted trees. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 226–234 (*electronic*). (Summary) **99d:05062** 05C50 (15A09, 15A57)

Neumann, Michael H. Optimal change-point estimation in inverse problems. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 503–521. (Yanhong Wu) **99c:62109** 62G05 (62G20)

— (*with* Kreiss, Jens-Peter) Regression-type inference in nonparametric autoregression. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1570–1613. (B. L. S. Prakasa Rao) **99m:62062** 62G07 (62G05, 62M02)

— (*with* Polzehl, Jörg) Simultaneous bootstrap confidence bands in nonparametric regression. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 4, 307–333. (Summary) **99e:62066** 62G07 (62G15)

Neumann, Michael M. (*with* Velasco, Maria Victoria) Network analysis. *Minimax theory and applications* (*Erice*, 1996), 167–189, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Edward J. Anderson) **99e:90032** 90B10 (46N10, 47N10)

— Growth conditions and Bishop's property (β). (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 287–295. (Jörg Eschmeier) **99g:47009** 47A11 (47B40)

Neumann, Peter M. (*with* Bhattacharjee, Meenaxi; Macpherson, Dugald; Möller, Rögnvaldur G.) ★ Notes on infinite permutation groups. (English summary) Texts and Readings in Mathematics, 12. *Hindustan Book Agency, New Delhi*, 1997. *xii*+202 *pp. ISBN* 81-85931-13-5 (Cheryl E. Praeger) **99e:20003** 20B07

Neumann, Walter D. (*with* Norbury, Paul) Nontrivial rational polynomials in two variables have reducible fibres. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 501–503. (Ludwik M. Drużkowski) **99j:14013** 14E09

Neumann-Lara, Víctor (*with* Galeana-Sánchez, Hortensia) New classes of critical kernel-imperfect digraphs. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 85–89. (Matúš Harminc) **99g:05087** 05C20

— (*with* Galeana-Sánchez, Hortensia) On the dichromatic number in kernel theory. (English summary) *Math. Slovaca* **48** (1998), *no.* 3, 213–219. (Matúš Harminc) **99k:05080** 05C20 (05C15)

— (*with* Wilson, Richard Gordon) Compact compatible topologies for posets and graphs. (English summary) *Order* **15** (1998), *no.* 1, 35–50. (T. Thrivikraman) **99j:05128** 05C40 (06A06, 54D05, 54F05)

— (*with* Ábrego Lerma, Bernardo Manuel; Arocha Pérez, Jorge Luis; Fernández-Merchant, S.) Tightness problems in the plane. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 1–11. (Daniel Turzík) **99k:05121** 05C65

— (*with* Larrión, Francisco) Clique divergent graphs with unbounded sequence of diameters. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (199?), 491–501. (Summary) **99i:05179** 05C75

— The acyclic disconnection of a digraph. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 617–632. (Summary) **99i:05093** 05C20

— (*with* Rivera-Campo, Eduardo; Urrutia, Jorge) A note on covering the edges of a graph with bonds. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 633–636. (Summary) **99i:05170** 05C70

Neunhoeffer, Tilman (*with* Griebel, Michael; Dornseifer, Thomas) ★ Numerical simulation in fluid dynamics. A practical introduction. Translated from the German by Oliver Ernst. SIAM Monographs on Mathematical Modeling and Computation. *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1998. xvi+217 *pp. ISBN* 0-89871-398-6 (Tomás Chacón Rebollo) **99a:76078** 76Mxx (65–02)

Neurath, Otto *see* **Logical empiricism at its peak, 99a:00006a**

Neuschäfer, Uta (*with* Balke, Ludwig; Kaess, Alexandra; Rothenhäusler, Frank; Scheidt, Stefan) Polyhedral fundamental domains for discrete subgroups of PSL(2, **R**). (English summary) *Topology* **37** (1998), *no.* 6, 1247–1264. (I. Dolgachev) **99j:22017** 22E40 (14B05, 30F35, 32S25, 51M20, 57S30)

Neusel, Mara D. (*with* Smith, Larry) Polynomial invariants of groups associated to configurations of hyperplanes over finite fields. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 87–105. (Haruhisa Nakajima) **99c:13009** 13A50 (20G40, 52B30)

— (*with* Smith, Larry) The Lasker-Noether theorem for $\mathcal{P}^\infty$-invariant ideals. (English summary) *Forum Math.* **10** (1998), *no.* 1, 1–18. (P. S. Landweber) **99c:13007** 13A35 (13A02, 55S05)

Neuss, Nicolas V-cycle convergence with unsymmetric smoothers and application to an anisotropic model problem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1201–1212 (*electronic*). (S. F. McCormick) **99d:65109** 65F10 (65N55)

Neuwirth, Stefan Metric unconditionality and Fourier analysis. (English summary) *Studia Math.* **131** (1998), *no.* 1, 19–62. (Françoise Lust-Piquard) **99f:42017** 42A55 (43A46, 46E99, 60G99)

Nevado, Gregorio (*with* Mateos, Alfonso; Ríos-Insua, Sixto) Solving discrete multiobjective optimization problems based on approximation. (English summary) *Opsearch* **35** (1998), *no.* 2, 93–105. 90C29 (90C27)

Nevalainen, Olli (*with* Johnsson, Mika; Magyar, Gábor) On the Euclidean 3-matching problem. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 143–171. (Winfried Hochstättler) **99f:90163** 90C35 (90C27)

Nevanlinna, Olavi (*with* Miekkala, Ulla) Iterative solution of systems of linear differential equations. *Acta numerica*, 1996, 259–307, *Acta Numer.*, 5, *Cambridge Univ. Press, Cambridge*, 1996. (Alexander Ostermann) **99f:65104** 65L05 (34A09, 34A45)

— After the celebrations. (Finnish. English summary) *Arkhimedes* **1998**, *no.* 3, 12–19. (Summary) **99d:65169** 65J05 (47A10)

Nevard, J. (*with* Keller, Joseph B.) Homogenization of rough boundaries and interfaces. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1660–1686. (Patrizia Donato) **99d:35018** 35B27 (35J15, 35Q60, 76D30, 76D33)

Neveu, A. Simplified Feynman rules for quantum gravity inspired by the string model. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 294–297, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C45 (83E30)

Nevin, J. M. On geodesic motion of small bodies and test particles. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 79–91. (W. B. Bonnor) **99m:83026** 83C10

Nevo, Amos (*with* Fujiwara, Koji) Maximal and pointwise ergodic theorems for word-hyperbolic groups. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 843–858. (Dmitry Y. Kleinbock) **99j:22006** 22D40 (28D15)

— Spectral transfer and pointwise ergodic theorems for semi-simple Kazhdan groups. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 3, 305–325. (Alain Valette) **99e:28030** 28D15 (22E30, 22E40, 43A05)

Nevol'ko, A. I. (*with* Prokof'ev, V. P.; Chinyaev, Yu. P.) Synthesis of an adaptive noise-compensation system with parallel-sequential input signal processing. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 66–69, 150. 93E35 (93C40)

Nevzorov, V. B. (*with* Nagaraja, H. N.) On characterizations based on record values and order statistics. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 271–284. (Gwo Dong Lin) **99c:62031** 62E10 (62G30)

— (*with* Haiman, George; Mayeur, Nelly; Puri, Madan L.) Records and 2-block records of 1-dependent stationary sequences under local dependence. (English and French

summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 4, 481–503. (Patrik Albin) **99i:60069** 60F15 (60G70)

— *see also* **Székely, Gábor, 99c:62032**

New, Kimberly C. B. (*with* Watt, Keith; Misner, Charles W.; Centrella, Joan M.) Stable 3-level leapfrog integration in numerical relativity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064022, 14 *pp.* 83–04 (83–08)

Newborn, Monty Outsearching Kasparov. *Mathematical aspects of artificial intelligence* (*Orlando, FL*, 1996), 175–205, *Proc. Sympos. Appl. Math.*, *55*, *Amer. Math. Soc.*, *Providence, RI*, 1998. (*see* **99g:68162**) 68T20 (90D99)

Newell, Alan C. (*with* Bowman, Chris; Passot, Thierry; Assenheimer, Michel) A wavelet based algorithm for pattern analysis. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 250–282. (Summary) **99f:76096** 76M25 (76E15)

Newell, Allen *see* **Simon, Herbert A., 99m:01089**

Newell, Jonathan C. (*with* Cheney, Margaret; Isaacson, David) Electrical impedance tomography. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 85–101 (*electronic*). (From the introduction) **99k:78017** 78A30 (35J25, 35R30, 44A12, 92C55)

Newell, Martin L. On right-Engel elements of length three. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 17–24. (Gunnar Traustason) **99h:20063** 20F45 (20F12, 20F18, 20F19)

Newey, Malcolm *see* **Theorem proving in higher order logics, 99k:68014**

Newhart, Donald W. (*with* Hernquist, E.; Stong, Richard A.) Finding short and light codewords in BCH codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 255–260. (Summary) **99k:94054** 94B15

Newlin, Matthew P. (*with* Smith, Roy S.) A generalization of the structured singular value and its application to model validation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 901–907. (Summary) **99e:93076** 93E10 (93A30)

Newman, Charles M. ★ Topics in disordered systems. (English summary) Lectures in Mathematics ETH Zürich. *Birkhäuser Verlag, Basel*, 1997. viii+88 *pp. ISBN* 3-7643-5777-0 (Massimo Campanino) **99e:82052** 82B44 (60–02, 60K35, 82–02, 82D30)

— (*with* Wu, C. Chris) Percolation and contact processes with low-dimensional inhomogeneity. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1832–1845. (Neal Madras) **99b:60170** 60K35 (82B43)

— (*with* Stein, Daniel L.) Thermodynamic chaos and the structure of short-range spin glasses. (English summary) *Mathematical aspects of spin glasses and neural networks*, 243–287, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Barbara Gentz) **99b:82056** 82B44 (60K35, 82D30)

— (*with* Stein, Daniel L.) Simplicity of state and overlap structure in finite-volume realistic spin glasses. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1356–1366. (Domingos H. U. Marchetti) **99b:82057** 82B44 (60K35, 82D30)

Newman, Elsa (*with* Cook, L. Pamela) A generalized Monge-Ampère equation arising in compressible flow. *Monge Ampère equation: applications to geometry and optimization* (*Deerfield Beach, FL*, 1997), 149–156, *Contemp. Math.*, 226, *Amer. Math. Soc.*, *Providence, RI*, 1999. (Summary) **99k:76123** 76N10 (35Q35, 76H05, 76J20)

Newman, Ezra T. (*with* Rovelli, Carlo) Hamilton-Jacobi theory for constrained systems and gauge invariant degrees of freedom in general relativity and Yang-Mills theory. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 401–425, *World Sci. Publishing, River Edge, NJ*, 1994. (Riccardo Capovilla) **99a:58073** 58F05 (58Z05, 81T13, 83C05)

— (*with* Frittelli, Simonetta; Kozameh, Carlos N.) Describing GR by characteristic surfaces. (English summary) *Quantum gravity* (*Erice*, 1995), 213–227, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Jörg Frauendiener) **99j:83009** 83C05

— (*with* Frittelli, Simonetta; Kozameh, Carlos N.) An unorthodox view of GR via characteristic surfaces. *The geometric universe* (*Oxford*, 1996), 317–323, *Oxford Univ. Press, Oxford*, 1998. (Jörg Frauendiener) **99j:83056** 83C99

— (*with* Frittelli, Simonetta; Silva-Ortigoza, Gilberto) Conjugate points along null geodesics of asymptotically flat spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 689–703. (Jörg Frauendiener) **99d:83007** 83C10 (83C20)

— (*with* Frittelli, Simonetta; Kozameh, Carlos N.) Erratum: "On the dynamics of characteristic surfaces" [J. Math. Phys. **36** (1995), no. 11, 6397–6416; MR 96m:53072d]. *J. Math. Phys.* **40** (1999), *no.* 2, 1113. 53C50 (53C80, 83C60)

— (*with* Frittelli, Simonetta; Kozameh, Carlos N.) Erratum: "Lorentzian metrics from characteristic surfaces" [J. Math. Phys. **36** (1995), no. 9, 4975–4983; MR 96m:53072a]. *J. Math. Phys.* **40** (1999), *no.* 2, 1114. 53C50 (53C80, 83C60)

— (*with* Frittelli, Simonetta; Kozameh, Carlos N.) Erratum: "GR via characteristic surfaces" [J. Math. Phys. **36** (1995), no. 9, 4984–5004; MR 96m:53072b]. *J. Math. Phys.* **40** (1999), *no.* 2, 1115. 53C50 (53C80, 83C60)

— (*with* Frittelli, Simonetta; Kozameh, Carlos N.) Erratum: "Linearized Einstein theory via null surfaces" [J. Math. Phys. **36** (1995), no. 9, 5005–5022; MR 96m:53072c]. *J. Math. Phys.* **40** (1999), *no.* 2, 1116. 53C50 (53C80, 83C60)

Newman, Francis (*with* Lodwick, Weldon A.; McCourt, Steve; Humphries, Stephen M.) Optimization methods for radiation therapy plans. (English summary) *Computational radiology and imaging* (*Minneapolis, MN*, 1997), 229–249, *IMA Vol. Math. Appl.*, 110, *Springer, New York*, 1999. (*see* **99m:92012**) 92C50

Newman, J. N. Radiation and diffraction analysis of the McIver toroid. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 135–147. (*see* **99k:76006**) 76B15 (86A05)

— *see also* **Ocean mechanics, 99k:76006**

Newman, Kerri P. (*with* Claudel, Clarissa M.) The Cauchy problem for quasi-linear hyperbolic evolution problems with a singularity in the time. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1073–1107. (Alan D. Rendall) **99g:34126** 34G20 (35L60, 47D06, 83C05)

Newman, M. E. J. (*with* Binney, J. J.; Dowrick, N. J.; Fisher, A. J.) ★ Zjawiska krytyczne. (Polish. Polish summary) [Critical phenomena] Wstęp do teorii grupy renormalizacji. [An introduction to the renormalization group] Translated from the 1992 English original by Grzegorz Musiał and Piotr Pawlicki. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 488 *pp. ISBN* 83-01-12454-7 (Paweł H. Węgrzyn) **99h:82030** 82B27 (81T17, 82–01, 82B26, 82B28)

Newman, M. F. (*with* Nickel, Werner; Niemeyer, Alice C.) Descriptions of groups of prime-power order. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 5, 665–682. (Michael C. Slattery) **99f:20054** 20F05 (68Q40)

— (*with* O'Brien, E. A.) Classifying 2-groups by coclass. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 131–169. (Avinoam Mann) **99c:20020** 20D15 (20–04)

Newmann, M. M. (*with* Parkes, N. E.; Roberts, A. P.) A variational approach to the polynomial optimization of multivariable control with coloured noise at the controller output. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1037–1048. (Summary) **99d:93031** 93B52 (49M30, 93E20)

Newsam, G. N. (*with* Beatson, R. K.) Fast evaluation of radial basis functions: moment-based methods. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1428–1449 (*electronic*). (Ming Gen Cui) **99d:65059** 65D20 (41A30)

Newstead, Peter E. (*with* Brambila Paz, Leticia) Subvarieties of moduli space. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 43–53, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Francisco J. Plaza Martín) **99g:14014** 14D20 (14H60)

— (*with* Balaji, V.; Brambila Paz, Leticia) Stability of the Poincaré bundle. (English summary) *Math. Nachr.* **188** (1997), 5–15. (Jean-Marc Drezet) **99a:14013** 14D20 (14H60)

— (*with* King, A. D.) On the cohomology ring of the moduli space of rank 2 vector bundles on a curve. (English summary) *Topology* **37** (1998), *no.* 2, 407–418. (Nyshadham Raghavendra) **99a:14019** 14D20 (14F25, 14H60)

— *see also* **Algebraic geometry, 99f:14001**

Newton, Isaac *see* **Pourciau, Bruce, 99d:01017; Dobson, Geoffrey J., 99e:01010; Densmore, Dana, 99h:01021; Weinstock, Robert, 99h:01025; Bonilla Rius, Elisa, 99k:01081; Dobson, Geoffrey J., 99m:01011** *and* **Guicciardini, Niccolò, 99m:01012**

Newton, Michael A. (*with* Quintana, Fernando A.; Zhang, Yunlei) Nonparametric Bayes methods using predictive updating. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 45–61, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62065** 62G05 (62F15)

— (*with* Zhang, Yunlei) A recursive algorithm for nonparametric analysis with missing data. (English summary) *Biometrika* **86** (1999), *no.* 1, 15–26. (Summary) **99m:62048** 62G05

Newton, Paul K. (*with* Shashikanth, B. N.) Vortex motion and the geometric phase. I. Basic configurations and asymptotics. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 2, 183–214. (Joaquín Delgado Fernández) **99d:76020** 76C05 (58F40)

— (*with* Kidambi, Rangachari) Motion of three point vortices on a sphere. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 143–175. (Summary) **99b:76017** 76C05 (58F40, 70H05)

Ney, Peter E. (*with* Meda, A.) A conditioned law of large numbers for Markov additive chains. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 305–316. (R. J. Tomkins) **99k:60076** 60F10 (60F05, 60K15)

Neyer, Gabriele (*with* Widmayer, Peter) Singularities make spatial join scheduling hard. (English summary) *Algorithms and computation* (*Singapore*, 1997), 293–302, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68046** 68P15

Neyer, Jürgen (*with* Brucker, Peter) Tabu-search for the multi-mode job-shop problem. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 1, 21–28. (Summary) **99a:90107** 90B35 (90C27)

de Neyer, M. *see* **De Neyer, M.**

Neyman, Abraham (*with* Sorin, Sylvain) Equilibria in repeated games of incomplete information: the general symmetric case. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 201–210. (Françoise Forges) **99j:90131** 90D20 (90D05, 90D10)

de Neymet, Sylvia Covering actions. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 227–230, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 57M10

jahani-Nezhad, R. *see* **Jahani-Nezhad, R.**

Neznamov, V. P. Comments on: "The Dirac equation in the Foldy-Wouthuysen representation that describes the interaction between spin $\frac{1}{2}$ relativistic particles and an electromagnetic field" [Teoret. Mat. Fiz. **105** (1995), no. 1, 46–54] by A. Ya. Silenko. (Russian) *Teoret. Mat. Fiz.* **110** (1997), *no.* 3, 493–496. 81R20 (81Q05)

Nézondet, Francis (*with* Charretton, Christine) Les va-ou-vient: une généralisation des va-et-vient de Fraïssé. (English and French summaries) [Back-or-forth: a generalization of Fraïssé's back-and-forth] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 137–140. (Summary) **99d:03030** 03C07

Ng, Che Tat An application of a uniqueness theorem to a functional equation arising from measuring utility. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 66–72. (Summary) **99k:39066** 39B22

Ng, Chi-Keung Morphisms of multiplicative unitaries. (English summary) *J. Operator Theory* **38** (1997), *no.* 2, 203–224. (Yoshikazu Katayama) **99i:46044** 46L05 (22D25)

— A remark on Mansfield's imprimitivity theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3767–3768. (Yoshikazu Katayama) **99h:46111** 46L05

Ng, Chiu-On (*with* Mei, Chiang C.) Homogenization theory applied to soil vapor extraction in aggregated soils. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2298–2306. 76R50

Ng, K. F. *see* **Ng, Kung Fu**

Ng, Ka Yi Essential tori in link complements. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 2, 205–216. (Summary) **99j:57021** 57N10 (57M25)

— Groups of ribbon knots. (English summary) *Topology* **37** (1998), *no.* 2, 441–458. (Olivier Collin) **99e:57017** 57M25

Ng, Kim Chwee (*with* Li, Yun; Murray-Smith, David J.; Gray, Gary J.; Sharman, Ken C.) Genetic algorithm automated approach to the design of sliding mode control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 721–739. 93B12 (90C90)

Ng, Kung Fu (*with* Huang, Liren) On lower bounds of the second-order directional derivatives of Ben-Tal, Zowe, and Chaney. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 747–753. (Summary) **99f:49019** 49J52 (26B05)

— (*with* Chou, Chin Ch'êng; Pang, Jong-Shi) Minimizing and stationary sequences of constrained optimization problems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1908–1936 (*electronic*). (Bernard Lemaire) **99f:90118** 90C30 (65K05)

Ng, Lenhard L. Hamiltonian decomposition of complete regular multipartite digraphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 279–285. (Jean-Claude Bermond) **99a:05091** 05C45 (05C20)

— (*with* Kedlaya, Kiran S.) The rook on the half-chessboard, or How not to diagonalize a matrix. *Amer. Math. Monthly* **105** (1998), *no.* 9, 819–824. (Wasin So) **99i:15014** 15A18

— Hamiltonian decomposition of lexicographic products of digraphs. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 119–129. (Jean-Claude Bermond) **99e:05086** 05C45 (05C20)

Ng, Michael K. (*with* Chan, Raymond H.) Scientific applications of iterative Toeplitz solvers. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 249–267 (1998). (Summary) **99c:65061** 65F10

— (*with* Chan, Raymond H.) Preconditioning Toeplitz systems with circulant preconditioners. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 243–270, *Springer, Singapore*, 1997. (*see* **99g:65001**) 65F35

— Circulant preconditioners for convolution-like integral equations with higher-order quadrature rules. (English summary) *Electron. Trans. Numer. Anal.* **5** (1997), *Mar.*, 18–28 (*electronic*). (Nassar H. S. Haidar) **99g:65126** 65R20 (45E10, 45L05, 65J10)

Ng, Peh H. (*with* Rardin, Ronald L.) Commodity family extended formulations of uncapacitated fixed charge network flow problems. (English summary) *Networks* **30** (1997), *no.* 1, 57–71. (Summary) **99i:90111** 90C35 (90B10)

Ng, Pin (*with* He, Xuming; Portnoy, Stephen L.) Bivariate quantile smoothing splines. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 537–550. (Girdhar G. Agarwal) **99h:62036** 62G05

Ng, Serena (*with* Perron, Pierre) An autoregressive spectral density estimator at frequency zero for nonstationarity tests. (English summary) *Econometric Theory* **14** (1998), *no.* 5, 560–603. (Summary) **99e:62167** 62M15 (62M10)

Ng, Siu-Ah (*with* Baratella, Stefano) Fixed points in the nonstandard hull of a Banach space. *Nonlinear Anal.* **34** (1998), *no.* 2, 299–306. (Nader Vakil) **99f:47075** 47H10 (03H05, 46B20, 46S20, 47S20)

Ng, Siu-Hung On the projectivity of module coalgebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3191–3198. (Richard K. Molnar) **99a:16035** 16W30

Ng, Sze Kui Dissipative Schroedinger equation for QED and phase transitions. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 233–248, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99c:81271** 81V10 (81T17)

— New gauge model of QED and unification of statistical and quantum physics. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 262–276, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81V10

Ng, Wan-Lung (*with* Li, Duan; Chan, Tsz-Fung) Safety-first dynamic portfolio selection. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 585–600. (*see* **99g:49003**) 90A09 (90A16)

Ng, Wing-fai (*with* Chan, Raymond H.; Sun, Hai-Wei) Circulant preconditioners for ill-conditioned boundary integral equations from potential equations. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 8, 1505–1521. (Summary) **99h:65188** 65N30 (65R20)

— (*with* Chan, Raymond H.; Lin, Fu-rong) Fast dense matrix method for the solution of integral equations of the second kind. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 1, 105–120. 65R20 (45L05)

Ngai, Sze-Man Multifractal decomposition for a family of overlapping self-similar measures. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 151–161, *World Sci. Publishing, River Edge, NJ*, 1997. (Manuel Morán) **99f:28014** 28A80

— (*with* Lau, Ka-Sing) L^q-spectrum of the Bernoulli convolution associated with the golden ratio. (English summary) *Studia Math.* **131** (1998), *no.* 3, 225–251. (Lars Olsen) **99f:28008** 28A75 (28A80)

Ngan, Shing-Chung (*with* Truskinovsky, Lev) Thermal trapping and kinetics of martensitic phase boundaries. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 1, 141–172. (Summary) **99j:73013** 73B30 (80A22)

Ngatchou Wandji, Joseph A nonparametric goodness-of-fit test for a class of parametric autoregressive models. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 57–74. (Summary) **99i:62213** 62M10 (62G10)

nguyen hoi Nghia *see* **Nguyen Hoi Nghia**

Ngo, Liem (*with* Haddawy, Peter; Helwig, James) A theoretical framework for context-sensitive temporal probability model construction with application to plan projection. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 419–426, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T27 (03B70)

— Probabilistic disjunctive logic programming. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 397–404, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68N17

ha tien Ngoan *see* **Ha Tien Ngoan**

phạm Ngọc Ánh *see* **Phạm Ngọc Ánh**

tran-Ngoc-Bich, Pascal *see* **Tran-Ngoc-Bich, Pascal**

tran-Ngoc Danh *see* **Tran-Ngoc Danh**

do Ngoc Diep *see* **Do Ngoc Diep**

pham Ngoc Dinh, A. *see* **Pham Ngoc Dinh, A.**

hoang Ngoc Minh, V. *see* **Hoang Ngoc Minh, V.**

dinh Ngoc Thanh *see* **Dinh Ngoc Thanh**

Ngom, Alioune (*with* Reischer, Corina; Simovici, Dan A.; Stojmenović, Ivan) Learning with permutably homogeneous multiple-valued multiple-threshold perceptrons. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 161–166, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 68T05

— (*with* Stojmenović, Ivan; Obradović, Zoran) Minimization of multivalued multithreshold perceptrons using genetic algorithms. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 209–214, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 68T05

Ngô Việt Trung (*with* Conca, Aldo; Herzog, Jürgen; Valla, Giuseppe) Diagonal subalgebras of bigraded algebras and embeddings of blow-ups of projective spaces. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 859–901. (Aron Simis) **99d:13001** 13A30 (13C40, 13D45, 13H10)

— (*with* Bruns, Winfried; Gubeladze, Joseph) Normal polytopes, triangulations, and Koszul algebras. *J. Reine Angew. Math.* **485** (1997), 123–160. (G. Ewald) **99c:52016** 52B20 (13F99, 13P10, 14M25, 16S36)

— (*with* Simis, Aron; Valla, Giuseppe) The diagonal subalgebra of a blow-up algebra. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 305–328. (Claudia Polini) **99b:13004** 13A30 (13D40, 14E05)

— (*with* Lê Tuân Hoa) On the Castelnuovo-Mumford regularity and the arithmetic degree of monomial ideals. (English summary) *Math. Z.* **229** (1998), *no.* 3, 519–537. (Vincenzo Di Gennaro) **99k:13034** 13H15 (13D45, 13P10)

Nguen, K. V. *see* **Nguyen Khac Viet**

Nguen Man' Khung *see* **Nguyễn Mạnh Hùng**

Nguen Min' Chi *see* **Nguyễn Minh Trí**

Nguen Suan Tkhao (*with* Kakichev, V. A.) A method for constructing generalized integral convolutions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 1, 31–40; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 1, 29–38. (S. I. Grozdev) **99a:47045** 47B38 (44A35, 45E10, 65R20)

— (*with* Kakichev, V. A.) Errata: "A method for constructing generalized integral convolutions" [Izv. Vyssh. Uchebn. Zaved. Mat. **1998**, no. 1, 31–40; MR 99a:47045]. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. 47B38 (44A35, 45E10, 65R20)

Nguen Zoan Tuan On the class of three-webs of $W(4, 4, 2)$ type with constant components of the fundamental tensor. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 66–69. (Vladislav Goldberg) **99m:53029** 53A60

N'Guerekata, Gaston M. Notes on the equation $Bx'(t) = Ax(t)$ in Banach spaces. (English summary) *Libertas Math.* **18** (1998), 193–197. (Summary) **99g:34125** 34G10

Nguyen, Dinh Thuc Some applications of tomography and Radon's transform. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 166–172. (Summary) **99m:92011** 92C55 (44A12, 78A70)

Nguyen, H. V. (*with* Bui, T. D.; Li, Zi Cai) Numerical simulation of liquid redistribution in permeable media involving hysteresis. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 81–103. (Summary) **99j:76081** 76M20 (76S05)

Nguyen, Ha H. On the distribution of order statistics from a p-wild distribution. (English summary) *The practice of data analysis* (*Princeton, NJ*, 1995), 279–285, *Princeton Univ. Press, Princeton, NJ*, 1997. (*see* **99b:62003**) 62G30 (62E15)

Nguyen, Hung Son (*with* Bazan, Jan G.; Nguyen, Tuan Trung; Skowron, Andrzej; Stepaniuk, Jaroslaw) Synthesis of decision rules for object classification. (English summary) *Incomplete information: rough set analysis*, 23–57, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T10 (04A72)

— (*with* Nguyen, Sinh Hoa) Pattern extraction from data. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 129–144. (Summary) **99g:68204** 68T99

— From optimal hyperplanes to optimal decision trees. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 145–174. (Summary) **99g:68176** 68T05

Nguyen, Hung T. (*with* Bosq, Denis) ★ A course in stochastic processes. (English summary) Stochastic models and statistical inference. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 34. *Kluwer Academic Publishers Group, Dordrecht*, 1996. x+351 *pp. ISBN* 0-7923-4087-6 (John P. Lehoczky) **99i:60001** 60-01 (62M99)

— (*with* Bouchon-Meunier, Bernadette; Kosheleva, Olga M.; Kreinovich, Vladik) Fuzzy numbers are the only fuzzy sets that keep invertible operations invertible. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 155–163. (Summary) **99a:04006** 04A72

— (*with* Kreinovich, Vladik; Zuo, Qiang) Interval-valued degrees of belief: applications of interval computations to expert systems and intelligent control. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 317–358. (Summary) **99f:68189** 68T27 (03B48, 03B70, 68T35)

— (*with* Kreinovich, Vladik; Wojciechowski, Piotr) Strict Archimedean t-norms and t-conorms as universal approximators. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 239–249. (Summary) **99h:03014** 03B52

— (*with* Popov, Antony T.; Reznik, Leonid K.) An application of fuzzy mathematical morphology to interval-valued knowledge representation: a remark. (English summary) *Reliab. Comput.* **4** (1998), *no.* 3, 283–290. (Summary) **99d:68225** 68T30

— (*with* Gabaldon, Alfredo) Exclusive OR operation that leads to the narrowest intervals. *Reliab. Comput.* **4** (1998), *no.* 3, 303–306. 68T27

— *see also* **Sugeno, Michio**

Nguyen, K. D. (*with* Guillou, S.) An improved technique for solving two-dimensional shallow water problems. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 4, 465–483. (Summary) **99j:76089** 76M25 (86-08, 86A05)

Nguyen, Khac Viet *see* **Nguyen Khac Viet**

Nguyen, Phong (*with* Stern, Jacques) Merkle-Hellman revisited: a cryptanalysis of the Qu-Vanstone cryptosystem based on group factorizations. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 198–212, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99e:94037** 94A60

— (*with* Stern, Jacques) Cryptanalysis of the Ajtai-Dwork cryptosystem. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 223–242, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99i:94053** 94A60

Nguyen, Q. S. *see* **Nguyen Quoc Son**

Nguyen, Quoc (*with* Rustem, Berç) An algorithm for the inequality-constrained discrete min-max problem. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 265–283 (*electronic*). (G. M. Ostrovsky) **99d:90094** 90C27 (65K05)

Nguyễn, Quốc Thắng *see* **Nguyễn Quốc Thắng**

Nguyen, Sang (*with* Pretolani, D.; Markenzon, L.) On some path problems on oriented hypergraphs. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 1-3, 1–20. (Summary) **99h:68138** 68R10

Nguyen, Sinh Hoa (*with* Skowron, Andrzej; Synak, Piotr) Discovery of data patterns with applications to decomposition and classification problems. *Rough sets in knowledge discovery*, 2, 55–97, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68Q25 (68P99, 68T99)

— (*with* Nguyen, Hung Son) Pattern extraction from data. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 129–144. (Summary) **99g:68204** 68T99

Nguyen, T. *see* **Nguyen, Thanh**

Nguyen, T. C. (*with* Yeung, R. W.) Waves generated by a moving source in a two-layer ocean of finite depth. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999),

no. 1-2, 85–107. (Summary) **99m:76026** 76B15 (76C10, 76V05, 86A05)

Nguyen, Thanh (*with* Köse, İ. Emre; Jabbari, Faryar) A new characterization for positive real and ∗-norm controllers. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 215–230. (Kang-Zhi Liu) **99g:93033** 93B50 (93B40, 93B51)

— (*with* Jabbari, Faryar) Disturbance attenuation for systems with input saturation: an LMI approach. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 852–857. 93D15 (93C05)

Nguyen, Thanh Van *see* **Nguyen Thanh Van**

Nguyen, Thong (*with* Mei, Fei; Man, Zhihong; Yu, Xing-Huo) A robust tracking control scheme for a class of nonlinear systems with fuzzy nominal model. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 145–158. (*see* **99a:93003**) 93C10 (93B99)

Nguyen, Tien Zung *see* **Nguyen Tien Zung**

Nguyen, Truc T. (*with* Gupta, Arjun K.; Zeng, Wei-Bin) Characterization of multivariate distributions through a functional equation of their characteristic functions. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 187–201. (P. Laurie Davies) **99f:62070** 62H05 (60E10, 62E10)

— (*with* Dinh, Khoan T.) Characterizations of normal distributions supporting goodness-of-fit tests based on sample skewness and sample kurtosis. (English summary) *Metrika* **48** (1998), *no.* 1, 21–30. (Ludwig Baringhaus) **99m:62018** 62E10

Nguyen, Tuan Trung (*with* Bazan, Jan G.; Nguyen, Hung Son; Skowron, Andrzej; Stepaniuk, Jaroslaw) Synthesis of decision rules for object classification. (English summary) *Incomplete information: rough set analysis*, 23–57, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T10 (04A72)

Nguyen, Van Hien (*with* Alexandre, P.; Tossings, P.) The perturbed generalized proximal point algorithm. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 223–253. (De Ren Wang) **99e:65095** 65J15 (47H17, 49M99, 65K10)

Nguyen, Van Nhan (*with* Dinh Ngoc Thanh) Determination of mass density inhomogeneity from gravity gradient measurements. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 119–122. (*see* **99i:00026**) 86A20 (45A05)

— (*with* Tran Thi Le; Dinh Ngoc Thanh; Dang Duc Trong) A moment approach to some problems in heat conduction. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 148–153. (*see* **99i:00026**) 35R30 (35K05)

Nguyễn Bu'ò'ng Nonlinear monotone ill-posed problems in Banach spaces. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 3–12. (M. Z. Nashed) **99m:47079** 47H17

Nguyen Cong Tam (*with* Đặng Đình Áng; Nguyen Hoi Nghia) Regularized solutions of a Cauchy problem for the Laplace equation in an irregular layer: a three-dimensional model. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 65–74. (Serge Lvin) **99d:35175** 35R25 (35J25)

Nguyễn Đình Công (*with* Oseledets, V. I.) Topological invariants of linear cocycles of an ergodic map. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 243–256. (Oliver Knill) **99j:58129** 58F11

Nguyễn Đình Trí (*with* Đặng Đình Áng; Dang Duc Trong) Global solution of a two phase free boundary problem. *Acta Math. Vietnam.* **22** (1997), *no.* 2, 467–491. (Lisa Santos) **99e:35246** 35R35 (35K99)

Nguyễn Đông Yên Stability of the solution set of perturbed nonsmooth inequality systems and application. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 199–225. (Summary) **99a:90204** 90C31 (49J52)

— (*with* Lee, Gue Myung; Kim, Do Sang; Lee, Byung Soo) Vector variational inequality as a tool for studying vector optimization problems. *Nonlinear Anal.* **34** (1998), *no.* 5, 745–765. (Tetsuzo Tanino) **99h:90091** 90C29 (49J40)

— (*with* Lee, Gue Myung; Kim, Do Sang; Lee, Byung Soo) On a strongly monotone vector variational inequality. *Nonlinear Anal. Forum* **3** (1998), 151–176. (Xie Ping Ding) **99i:49014** 49J40 (47H19, 90C33)

Nguyen Dong Anh (*with* Schiehlen, W.) An extension to the mean square criterion of Gaussian equivalent linearization. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 2, 115–123. (Summary) **99m:34123** 34F05 (60H99, 70L05)

Nguyen Duc Dat On Grätzer's problem. *Acta Math. Vietnam.* **23** (1998), *no.* 1, 151–160. (Judita Lihová) **99m:06014** 06B05

Nguyen Duc Nghia (*with* Nguyen Trong Toan) On a non-convex optimization problem in the inventory control system. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 3, 203–209. (Summary) **99k:90068** 90B05 (90C26)

Nguyen Duy Binh (*with* Dao Trong Thi) On an expansion of the special Lagrangian form. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 527–540. (Knut Smoczyk) **99f:53062** 53C42 (53C40)

Nguyen Duy Tien (*with* Chasco Ugarte, Ma. Jesús; Tarieladze, V. I.) Some remarks on random series in Banach spaces. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 129–141. (Xia Chen) **99f:60010** 60B11 (46B15, 60G50)

Nguyen Hoi Nghia (*with* Đặng Đình Áng; Nguyen Cong Tam) Regularized solutions of a Cauchy problem for the Laplace equation in an irregular layer: a three-dimensional model. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 65–74. (Serge Lvin) **99d:35175** 35R25 (35J25)

Nguyen-Huu-Bong Lucas numbers and the ménage problem. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 647–661. (Timothy Y. Chow) **99j:05007** 05A15 (05A10, 11B39)

Nguyen Huu Cong (*with* Eichler-Liebenow, C.; Weiner, Rüdiger; Strehmel, K.) Linearly implicit splitting methods for higher space-dimensional parabolic differential equations. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 259–274. (Summary) **99f:65135** 65M20

— RKN-type parallel block PC methods with Lagrange-type predictors. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 45–57. (Summary) **99a:65090** 65L06

— (*with* Podhaisky, H.; Weiner, Rüdiger) Numerical experiments with some explicit pseudo two-step RK methods on a shared memory computer. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 107–116. (Summary) **99d:65218** 65L06 (65L20)

— Continuous variable stepsize explicit pseudo two-step RK methods. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 105–116. (Yun Kang Liu) **99j:65123** 65L06

Nguyễn Hữ'u Du' (*with* Phan Le Na) Relation between the spectrum of operators and Lyapunov exponents. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 95–106. (Xue Rong Mao) **99h:60129** 60H25

— On the comparison of the stability and control problem of differential systems. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 533–551. (Catherine Doss-Bachelet) **99f:93105** 93D05 (93E20)

Nguyễn Hữ'u Việt Hu'ng (*with* Peterson, Franklin P.) Spherical classes and the Dickson algebra. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 253–264. (Guillermo Moreno) **99i:55021** 55Q10 (55Q45, 55T15)

Nguyen Khac Viet On the classification of elliptic fibrations with a small number of singular fibers over a base of genus 1. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 175–176; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1316–1317. (From the text) **99b:14035** 14J27

— On families of curves over $\mathbf{P}^1$ with small number of singular fibres. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 459–463. (Jean D'Almeida) **99j:14044** 14J99

— Semistable elliptic fibrations with a small number of singular fibers over a base of genus 0 and 1. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 66–68; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 47–49. (M. Kh. Gizatullin) **99d:14028** 14J27

Nguyễn Khoa So'n (*with* Hinrichsen, Diederich) Stability radii of positive discrete-time systems. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995)*, 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:93073** 93D05 (93B60, 93C55)

— Approximate controllability with positive controls. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 589–620. (Wojciech Kryszewski) **99g:93012** 93B05 (34K35, 39B12, 93C55)

— (*with* Hinrichsen, Diederich) μ-analysis and robust stability of positive linear systems. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 253–268. (Abdelmoula El Bouhtouri) **99f:93109** 93D09 (34H05, 93C15)

— (*with* Hinrichsen, Diederich) Stability radii of positive discrete-time systems under affine parameter perturbations. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 13, 1169–1188. (Guang Xiong Wang) **99m:93071** 93D05 (93C55)

Nguyễn Mạnh Hùng On the absence of positive solutions of second-order nonlinear elliptic equations in conical domains. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 533–539, 574; *translation in Differential Equations* **34** (1998), *no.* 4, 532–539. (Summary) **99j:35053** 35J60 (35B05)

— On the smoothness of the solution of the Dirichlet problem for hyperbolic systems in domains with a nonsmooth boundary. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 157–158; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 387–389. 35L25 (35B65)

Nguyễn Minh Chu'o'ng (*with* Nguyễn Minh Trí; Lê Quang Trung) ★ Lý thuyết phu'o'ng trình đạo hàm riêng. (Vietnamese) [Theory of partial differential equations] With a preface in English. *Science and Technology Publishing House (Nhà Xuất B'an Khoa Học Và Kỹ Thuật), Hanoi*, 1995. 288 *pp.* (Nguyễn Hồng Thái) **99c:35001** 35–01

— (*with* Nguyen Van Co) Multidimensional p-adic Green function. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 685–694. (Daniel Barsky) **99i:11109** 11S40 (11M41, 81Q99)

Nguyen Minh Hang (*with* Do Cong Khanh) Explicit cascade decompositions of unitary systems. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 2, 157–169. (Summary) **99m:93014** 93B11 (47A48, 47N70, 93B28)

Nguyễn Minh Trí (*with* Nguyễn Minh Chu'o'ng; Lê Quang Trung) ★ Lý thuyết phu'o'ng trình đạo hàm riêng. (Vietnamese) [Theory of partial differential equations] With a preface in English. *Science and Technology Publishing House (Nhà Xuất B'an Khoa Học Và Kỹ Thuật), Hanoi*, 1995. 288 *pp.* (Nguyễn Hồng Thái) **99c:35001** 35–01

— Critical Sobolev exponent for degenerate elliptic operators. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 83–94. (Luca Capogna) **99e:35082** 35J70 (35B99, 35J65)

— On the Grushin equation. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 95–105; *translation in Math. Notes* **63** (1998), *no.* 1-2, 84–93. (Xue Bo Luo) **99e:35069** 35J65

Nguyen Minh Tuan (*with* Nguyen Van Mau) Algebraic properties of generalized right invertible operators. *Demonstratio Math.* **30** (1997), *no.* 3, 495–508. (Zbigniew Binderman) **99c:47003** 47A05 (34G99, 45A05)

Nguyen Phuong Các Periodic solutions of a second order nonlinear system. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 219–232. (Michal Fečkan) **99g:34095** 34C25

Nguyen Quang Do, Thong (*with* Kolster, Manfred) Syntomic regulators and special values of p-adic L-functions. (English summary) *Invent. Math.* **133** (1998), *no.* 2, 417–447. (Cornelius Greither) **99f:11151** 11R70 (11R34, 11R42, 19F27)

Nguyen Quoc Son ★ Stabilité des structures élastiques. (French. French summary) [Stability of elastic structures] With a preface by Paul Germain. Mathématiques & Applications [Mathematics & Applications], 18. *Springer-Verlag, Paris*, 1995. *xiv*+148 *pp.* *ISBN* 3-540-58927-9 (Claude Do) **99e:73063** 73H05 (34C23, 47H15, 73H10, 73Kxx, 73V25, 73V99)

— *see also* **Variations of domain and free-boundary problems in solid mechanics**, **99k:73004**

Nguyễn Quốc Thắng Weak approximation, R-equivalence and Whitehead groups. (English summary) *Algebraic K-theory (Toronto, ON, 1996)*, 345–354, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99c:20068** 20G30 (11E57, 19B99, 19F99, 20G10)

— Corestriction principle in nonabelian Galois cohomology. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 4, 63–67. (Masakazu Yamagishi) **99e:11048** 11E72 (12G05)

Nguyen Thai Son (*with* Nguyen Van Dong) Fréchet-valued analytic functions and linear topological invariants. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 101–112. (Summary) **99a:46084** 46G20 (32K15)

Nguyen Thanh Lan (*with* Nickel, Gregor) Time-dependent operator matrices and inhomogeneous Cauchy problems. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 5–24. (Eugenio Sinestrari) **99f:34087** 34G10 (47D06, 47N20)

Nguyen Thanh Long (*with* Ortiz, E. L.; Pham Ngoc Dinh, A.) On the existence of a solution of a boundary value problem for a non-linear Bessel equation on an unbounded interval. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 237–247. (Summary) **99h:34036** 34B15 (34B30, 65L10)

Nguyen Thanh Quang p-adic hyperbolicity of the complement of hyperplanes in $\mathbf{P}^n(\mathbf{C}_p)$. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 143–149. (Min Ru) **99e:32060** 32P05 (32H25)

Nguyen Thanh Van Note on doubly systems [doubly orthogonal systems] of Bergman. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 157–159. (J. Siciak) **99f:32007** 32A37 (46E20)

— Separate analyticity and related subjects. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 2, 81–90. (J. Siciak) **99m:32002** 32A10 (32D15)

Nguyen Thi Tinh (*with* Vũ Kim Tuấn) Expressions of Legendre polynomials through Euler polynomials. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 295–302. (Summary) **99i:33014** 33C45

Nguyen Tien Zung A note on focus-focus singularities. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 2, 123–130. (Jair Koiller) **99b:58121** 58F07 (34C05, 58F05, 70H05)

Nguyen To Nhu The finite-dimensional approximation property and the AR-property in needle point spaces. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 584–594. (Summary) **99k:46007** 46A16 (54C55)

— (*with* Sisson, Paul) A rigid space homeomorphic to Hilbert space. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 85–95. (Summary) **99k:54028** 54F65 (46C05, 54G15)

Nguyen Trong Toan (*with* Nguyen Duc Nghia) On a non-convex optimization problem in the inventory control system. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 3, 203–209. (Summary) **99k:90068** 90B05 (90C26)

Nguyen Van Co (*with* Nguyễn Minh Chu'o'ng) Multidimensional p-adic Green function. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 685–694. (Daniel Barsky) **99i:11109** 11S40 (11M41, 81Q99)

Nguyen Van Dong Fréchet-valued meromorphic functions on compact sets in $\mathbf{C}^n$. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 2, 303–316. (Summary) **99h:46060** 46E40 (32K99, 46E10)

— (*with* Nguyen Thai Son) Fréchet-valued analytic functions and linear topological invariants. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 101–112. (Summary) **99a:46084** 46G20 (32K15)

Nguyen Van Hao (*with* Bui Dac Tac) Weakly holomorphic extensions and the condition (L). (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 2, 317–323. (Jorge Mujica) **99j:46051** 46G20

Nguyen Van Ho Locally most powerful rank tests for testing randomness and symmetry. (English summary) *Appl. Math.* **43** (1998), *no.* 2, 93–102. (James N. Adichie) **99h:62060** 62G10

Nguyễn Văn Khuê (*with* Phan Thien Danh) Structure of spaces of germs of holomorphic functions. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 467–480. (Richard M. Aron) **99c:46036** 46E50 (46A04, 46A11, 46A13, 46G20)

Nguyen Van Mau (*with* Nguyen Minh Tuan) Algebraic properties of generalized right invertible operators. *Demonstratio Math.* **30** (1997), *no.* 3, 495–508. (Zbigniew Binderman) **99c:47003** 47A05 (34G99, 45A05)

Nguyễn Văn Minh (*with* Aulbach, Bernd; Zabreĭko, Petr Petrovich) Structural stability of linear difference equations in Hilbert space. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 71–76. (Ulrich Krause) **99m:39003** 39A10 (47A50, 47B39)

— (*with* Räbiger, Frank; Schnaubelt, Roland) Exponential stability, exponential expansiveness, and exponential dichotomy of evolution equations on the half-line. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 332–353. (Wei Nian Zhang) **99j:34083** 34G10 (34D05, 47D06)

— (*with* Aulbach, Bernd) Semigroups and differential equations with almost periodic coefficients. *Nonlinear Anal.* **32** (1998), *no.* 2, 287–297. (From the introduction) **99b:34103** 34G20 (34C27, 47H20)

— (*with* Naito, Toshiki) Spectral criteria for almost periodicity of solutions of periodic evolution equations. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 49–51. (*see* **99f:00019**) 34G10 (34C27, 47D06)

— (*with* Naito, Toshiki; Shin, Jong Son) On a spectral criterion for almost periodicity of solutions of periodic evolution equations. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1999**, *No.* 1, 28 *pp.* (*electronic*). (C. J. K. Batty) **99m:34130** 34G10 (34C27, 47D06, 47N20)

— (*with* Naito, Toshiki) Evolution semigroups and spectral criteria for almost periodic solutions of periodic evolution equations. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 358–376. (C. J. K. Batty) **99m:34131** 34G10 (34C27, 47D06, 47N20)

— On the proof of characterizations of the exponential dichotomy. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 779–782. (Summary) **99f:34088** 34G10 (34D99, 47D06)

Nguyen Van Thoai Global optimization techniques for solving the general quadratic integer programming problem. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 2, 149–163. (Summary) **99a:90137** 90C10

— On Tikhonov's reciprocity principle and optimality conditions in d.c. optimization. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 673–678. (Harold P. Benson) **99f:90084** 90C26 (90C30)

— *see also* **Workshop: Global Optimization, 99k:90005**

Nguyễn Việt Dũng[2] Indecomposable decompositions of pure-injective modules. *Comm. Algebra* **26** (1998), *no.* 11, 3709–3725. (J. L. Gómez Pardo) **99k:16009** 16D70 (16D50, 16E50)

— (*with* Facchini, Alberto) Direct summands of serial modules. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 93–106. (Mamoru Kutami) **99k:16010** 16D70

Nguyễn Xuân Ký Moduli of mean smoothness and approximation with A_p-weights. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 37–48 (1998). (From the introduction) **99d:42002** 42A10 (41A50)

Nguyễn Xuân Tấn (*with* Schneider, Klaus R.) Some results on reduction principles, bifurcation and Hopf bifurcation of equations concerning Lipschitz continuous mappings. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 427–465. (N. Chafee) **99d:47065** 47H15 (34C23, 34G20, 58E07)

— (*with* Phan Nhat Tinh) On the existence of equilibrium points of vector functions. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 141–156. (Mihai Turinici) **99c:90110** 90C29 (90C48, 90D10)

marcolino Nhany, José Luis *see* **Marcolino Nhany, José Luis**

phan Nhat Tinh *see* **Phan Nhat Tinh**

Nhieu, Duy-Minh (*with* Danielli, Donatella; Garofalo, Nicola) Isoperimetric and trace inequalities with respect to Carnot-Carathéodory metrics. *Geometry Seminars, 1996–1997 (Italian) (Bologna)*, 51–62, *Univ. Stud. Bologna, Bologna*, 1998. (Luca Capogna) **99f:58223** 58G99 (53C20)

nguyen to Nhu *see* **Nguyen To Nhu**

Nhu, Pham T. *see* **Pham Tran Nhu**

tran van Nhung *see* **Tran Van Nhung**

Ni, Guangjiong (*with* Kong, De Xing) Exceptional quasilinear hyperbolic systems of conservation laws. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 2, 245–248. (Summary) **99c:35146** 35L65 (35B99)

— (*with* Lu, Baoqun; He, Yong[3]) A method for obtaining Darboux transformations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 140–148. (Xian Guo Geng) **99d:35144** 35Q53 (35A30, 58F37)

Ni, Lei Nonexistence of some quasi-conformal harmonic diffeomorphisms. *Michigan Math. J.* **45** (1998), *no.* 3, 489–495. (Andreas Gastel) **99i:58040** 58E20 (30C75, 30F45)

Ni, Qin Global convergence of QPFTH method for large-scale nonlinear sparse constrained optimization. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 271–283. (E. G. Gol'shteĭn) **99g:90130** 90C30 (65K05)

— A subspace projected conjugate gradient algorithm for large bound constrained quadratic programming. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 1, 51–60. 90C20 (65K05)

Ni, Ren Xing A conjecture of Simon Fitzpatrick. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 417–421. (Hong Kun Xu) **99m:46039** 46B20 (41A65)

— Uniqueness of simultaneous farthest points in normed linear spaces. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 357–363. (Summary) **99h:46018** 46B20 (41A65)

— (*with* Li, Chong[1]) Differentiability of farthest functions and existence of farthest points. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 55–60. (Summary) **99c:41068** 41A65 (46B20)

Ni, Tao Yang (*with* Wang, Shou Song) The permanent of a subset of the variables of a differential equation. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 4, 308–311. (Jian Hong Wu) **99a:34145** 34D05

Ni, Wei-Ming (*with* Lou, Yuan; Wu, Yaping) On the global existence of a cross-diffusion system. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 193–203. (Alexander L. Gladkov) **99f:35089** 35K57 (92D25)

— (*with* Takagi, Izumi; Wei, Juncheng) On the location and profile of spike-layer solutions to a singularly perturbed semilinear Dirichlet problem: intermediate solutions. *Duke Math. J.* **94** (1998), *no.* 3, 597–618. (Dietrich Göhde) **99h:35011** 35B25 (35J65)

— Diffusion, cross-diffusion, and their spike-layer steady states. *Notices Amer. Math. Soc.* **45** (1998), *no.* 1, 9–18. (Siegfried Carl) **99a:35132** 35K57 (35B25, 35J70, 35Q80)

— (*with* Kabeya, Yoshitsugu) Stationary Keller-Segel model with the linear sensitivity. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 44–65. (Joseph So) **99j:35219** 35Q80 (35J65, 92D25, 92D50)

Nian, Xiao Hong Robust stability for Lur'e control systems with several stationary components. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 4, 562–565. 93D09

Niane, Mary Teuw (*with* Sene, Abdou) Contrôlabilité exacte frontière et limite asymptotique des corps élastiques minces. (English and French summaries) [Exact boundary controllability and asymptotic analysis of thin elastic bodies] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 65–70. (Summary) **99f:73062** 73K50 (73K10, 93C20)

Niango, Donatien N. (*with* Abalo, Koffi E.) Residual division, primary decompostion and filtrations. Application to Dedekind domains. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 811–820. (L. J. Ratliff, Jr.) **99m:13002** 13A15 (13F05)

groot Nibbelink, S. *see* **Groot Nibbelink, S.**

Niblo, Graham A. (*with* Wise, Daniel T.) The engulfing property for 3-manifolds. (English summary) *The Epstein birthday schrift*, 413–418 (*electronic*), *Geom. Topol. Monogr.*, 1, *Geom. Topol., Coventry*, 1998. (Darren D. Long) **99k:57041** 57N10 (57M50)

— (*with* Reeves, L. D.) The geometry of cube complexes and the complexity of their fundamental groups. (English summary) *Topology* **37** (1998), *no.* 3, 621–633. (Darryl McCullough) **99a:20037** 20F32 (20F55, 57M50)

Nica, Alexandru (*with* Speicher, Roland) Commutators of free random variables. *Duke Math. J.* **92** (1998), *no.* 3, 553–592. (Dimitri Y. Shlyakhtenko) **99d:46084** 46L50

— (*with* Mingo, James A.) On the distribution of the area enclosed by a random walk on $\mathbf{Z}^2$. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 1, 55–86. (Alain Valette) **99j:60107** 60J15 (60F05, 60J65)

Nicaise, Serge (*with* El Bouzid, Hassan) Refined nonconforming finite element methods in polygonal domains. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 935–962. (Roger Pierre) **99c:65201** 65N30

— (*with* Bourlard, Maryse) Abstract Green formula and applications to boundary integral equations. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 667–689. (A. P. Soldatov) **99b:47071** 47G10 (35J25, 45P05, 73K10)

— (*with* Bourlard, Maryse) A refined boundary element method for the heat equation. *Analysis, numerics and applications of differential and integral equations (Stuttgart*, 1996), 36–40, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (Erwin Schechter) **99d:65335** 65N38 (35K05, 65N50)

— (*with* Ali Mehmeti, Felix) Banach algebras of functions on nonsmooth domains. (English summary) *Differential and integral operators (Regensburg*, 1995), 11–20, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Luigi Rodino) **99f:46074** 46J15 (35K35, 46E35)

— (*with* Mercier, Denis) Existence results for general systems of differential equations on one-dimensional networks and prewavelets approximation. (English summary) *Discrete*

Contin. Dynam. Systems **4** (1998), *no.* 2, 273–300. (Peter R. Massopust) **99b:35021** 35G20 (34B05, 65M60)
— (*with* Apel, Thomas) The finite element method with anisotropic mesh grading for elliptic problems in domains with corners and edges. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 6, 519–549. (Chuan Miao Chen) **99f:65160** 65N30
— (*with* Bourgeois, Christian) Prewavelet approximations for a system of boundary integral equations for plates with free edges on polygons. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 13, 1233–1267. (Summary) **99f:65182** 65N38 (45L05, 65R20, 73K10, 73V20)
— (*with* Ali Mehmeti, Felix) Non-autonomous evolution equations on nonsmooth domains. (English summary) *Math. Nachr.* **192** (1998), 37–70. (Russell M. Brown) **99j:35124** 35L10 (34G10, 47N20)
Nicasio, Carlos O. (*with* Gleiser, Reinaldo J.; Price, Richard H.; Pullin, Jorge) Evolving the Bowen-York initial data for spinning black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3401–3407. (Summary) **99m:83112** 83C57
Nicely, Thomas R. New maximal prime gaps and first occurrences. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1311–1315. (Marc Deléglise) **99i:11004** 11A41 (11Y11)
Nichitiu, Codrin (*with* Parekh, Rajesh; Honavar, Vasant) A polynomial time incremental algorithm for learning DFA. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 37–49, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (Summary) **99j:68119** 68T05 (68Q45)
Nicholas, Brent (*with* Chen, Guanrong; Lu, Jialiang; Ranganathan, Swatiprakash M.) Bifurcation dynamics in discrete-time delayed-feedback control systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **9** (1999), *no.* 1, 287–293. 93C10 (58F14)
Nicholas, Joel D. (*with* Fisher, Brian) The exponential integral and the convolution. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 139–148. (R. N. Kalia) **99h:33003** 33B10
— (*with* Kılıçman, Adem; Fisher, Brian) The commutative neutrix product of $B^{(r)}(x, n)$ and $\delta^{(s)}(x)$. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 397–403. (Summary) **99d:46056** 46F10 (33B15)
— (*with* Fisher, Brian) On the commutative neutrix product of $x_+^{r-1/2}$ and $x_+^{-r-1/2}$. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 12, 1235–1244. (Summary) **99k:46066** 46F10
— (*with* Fisher, Brian; Kılıçman, Adem) On the beta function and the neutrix product of distributions. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 35–42. 46F10
— (*with* Fisher, Brian) Some results on the commutative neutrix product of distributions. (English summary) *J. Anal.* **6** (1998), 33–41. (Summary) **99j:46045** 46F10
Nicholás, José A. *see* **Nicolás, José A.**
Nicholas of Cusa *see* **Roth, Ulli, 99k:01010**
Nicholls, David P. Traveling water waves: spectral continuation methods with parallel implementation. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 224–240. (Summary) **99a:76014** 76B15 (76M25)
Nichols, N. K. (*with* Littleboy, Darren M.) Modal coupling in linear control systems using robust eigenstructure assignment. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 359–379. (Srinivasu Maka) **99k:93053** 93B55 (93B51)
Nichols, Warren D. (*with* Richmond, M. Bettina) The Grothendieck algebra of a Hopf algebra. I. *Comm. Algebra* **26** (1998), *no.* 4, 1081–1095. (Horia Pop) **99m:16064** 16W30
Nicholson, D. W. (*with* Lin, Baojiu) On the tangent modulus tensor in hyperelasticity. (English summary) *Acta Mech.* **131** (1998), *no.* 1-2, 121–132. (Summary) **99f:73031** 73C50 (73G05)
— (*with* Lin, Baojiu) Tangent modulus tensor in plasticity under finite strain. (English summary) *Acta Mech.* **134** (1999), *no.* 3-4, 199–215. (Summary) **99k:73074** 73G20 (73E05, 73V05)
Nicholson, W. K. (*with* Yousif, Mohamed F.) Annihilators and the CS-condition. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 213–222. (John Clark) **99f:16003a** 16D50 (16L30, 16L60)
— (*with* Yousif, Mohamed F.) Corrigendum: "Annihilators and the CS-condition". *Glasgow Math. J.* **40** (1998), *no.* 3, 475–476. (John Clark) **99f:16003b** 16D50 (16L30, 16L60)
Ni Chuiv, Nora (*with* Li, Dayong) On the efficiency of ranked set sampling strategies in parametric estimation. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 23–42. (Summary) **99b:62028** 62F10 (62F07)
— On improved estimators of e^p. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 106–118, *Narosa, New Delhi*, 1998. (Introduction) **99i:62043** 62F10
Nickel, Gregor Evolution semigroups for nonautonomous Cauchy problems. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 73–95. (Valentina Ivanivna Gorbachuk) **99c:47056** 47D06 (34G10, 47A55)
— (*with* Nguyen Thanh Lan) Time-dependent operator matrices and inhomogeneous Cauchy problems. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 5–24. (Eugenio Sinestrari) **99f:34087** 34G10 (47D06, 47N20)
Nickel, Stefan (*with* Wiecek, Malgorzata M.) A flexible approach to piecewise linear multiple objective programming. (English and German summaries) *Operations Research Proceedings* 1996 (*Braunschweig*), 14–19, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C29
— (*with* Ehrgott, Matthias) Reducing the number of criteria in quasi-convex multicriteria optimization. (English and German summaries) *Operations Research Proceedings* 1996 (*Braunschweig*), 319–324, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C29
— (*with* Hamacher, Horst W.; Labbé, Martine) Pareto locations on networks. *Operations Research Proceedings* 1997 (*Jena*), 132–137, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90B80
— (*with* Hamacher, Horst W.; Labbé, Martine) Multicriteria network location problems with sum objectives. (English summary) *Networks* **33** (1999), *no.* 2, 79–92. (S.-C. Fang) **99k:90072** 90B10 (90C29, 90C35)
Nickel, Werner (*with* Newman, M. F.; Niemeyer, Alice C.) Descriptions of groups of prime-power order. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 5, 665–682. (Michael C. Slattery) **99f:20054** 20F05 (68Q40)
— (*with* Latour, Vera; Müller, Jürgen[4]) Stationary subdivision for general scaling matrices. *Math. Z.* **227** (1998), *no.* 4, 645–661. (A. Bultheel) **99c:65027** 65D15
Nickels, T. B. (*with* Macfarlane, I.; Joubert, P. N.) Secondary flows and developing, turbulent boundary layers in a rotating duct. (English summary) *J. Fluid Mech.* **373** (1998), 1–32. 76F99 (76-05, 76D10)
Nickelsen, Arfst Deciding verbose languages with linear advice. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 438–447, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99h:68057** 68Q15
Nicklas, Christopher T. (*with* Montgomery, Michael T.; Möller, J. Dominique) Linear and nonlinear vortex motion in an asymmetric balance shallow water model. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 5, 749–768. (Summary) **99k:76038** 76C20 (86A10)
Nickolas, Peter (*with* Hofmann, Karl H.; Morris, Sidney A.; Pestov, Vladimir G.) Small large subgroups of a topological group. (English summary) *Note Mat.* **14** (1994), *no.* 2, 161–165 (1997). (Michael Tkačenko) **99a:22005** 22A05 (54H11)
— (*with* Megrelishvili, Michael G.; Pestov, Vladimir G.) Uniformities and uniformly continuous functions on locally connected groups. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 279–283. (Summary) **99e:22005** 22A10
Nicodemus, Rolf (*with* Grossmann, Siegfried; Holthaus, Martin) The background flow method. I. Constructive approach to bounds on energy dissipation. (English summary) *J. Fluid Mech.* **363** (1998), 281–300. (Summary) **99f:76071a** 76F10 (76M10, 76M25)
— (*with* Grossmann, Siegfried; Holthaus, Martin) The background flow method. II. Asymptotic theory of dissipation bounds. (English summary) *J. Fluid Mech.* **363** (1998), 301–323. (Summary) **99f:76071b** 76F10 (76M10, 76M25)
Nicol, Matthew (*with* Ashwin, Peter; Aston, Philip J.) On the unfolding of a blowout bifurcation. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 81–95. (Michael Dellnitz) **99c:58115** 58F14 (58E40)
— (*with* Lamb, Jeroen S. W.) On symmetric attractors in reversible dynamical systems. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 281–297. (Ian Melbourne) **99a:58111** 58F12 (34C35, 58E40)
gómez Nicola, A. *see* **Gómez Nicola, A.**
de Nicola, Rocco *see* **De Nicola, Rocco**
de Nicola, S. *see* **De Nicola, S.**
Nicolaenko, Basil (*with* Babin, A. V.; Mahalov, Alex) Long-time averaged Euler and Navier-Stokes equations for rotating fluids. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 145–157, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 35Q30 (76C05, 76D05, 76U05)
— (*with* Babin, A. V.; Mahalov, Alex) Regularity and integrability of 3D Euler and Navier-Stokes equations for rotating fluids. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 2, 103–150. (Esteban G. Tabak) **99b:76092** 76U05 (35Q30, 76B15, 76C99, 76D05)
— (*with* Qian, Weijie) Inertial manifolds for nonlinear viscoelasticity equations. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1075–1093. (Igor D. Chueshov) **99d:35164** 35Q72 (34G20, 47H20, 58F39)
— (*with* Mahalov, Alex; Zhou, Ye) Energy spectra of strongly stratified and rotating turbulence. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 6187–6190. (Summary) **99c:76055** 76F99 (76U05, 76V05)
Nicolaevsky, V. (*with* Belitskiĭ, G. R.) Linear functional-differential equations on the line. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2585–2593. (Frederick R. Marotto) **99c:34156** 34K15 (47B38)
Nicolai, Hermann (*with* Korotkin, D. A.; Samtleben, H.) Integrable classical and quantum gravity. *Quantum fields and quantum space time* (*Cargèse*, 1996), 203–243, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Guillermo A. Mena Marugán) **99b:83038** 83C45 (58F07, 83E50)
— (*with* Bärwald, Oliver; Gebert, Reinhold W.) On the imaginary simple roots of the Borcherds algebra $\mathfrak{gl}_{\infty|1}$. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 721–738. (Duncan J. Melville) **99b:17030** 17B67 (17B10, 81R10)
— (*with* Samtleben, H.) Integrability and canonical structure of $d = 2$, $N = 16$ supergravity. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 210–242. (Piet Termonia) **99m:83205** 83E50 (81R10, 81T30, 81T60)
— (*with* Krauth, Werner; Staudacher, Matthias) Monte Carlo approach to M-theory. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 31–41. (Summary) **99c:81257** 81T80 (81T60)
Nicolaides, R. A. (*with* Du, Qiang; Wu, Xiaonan) Analysis and convergence of a covolume approximation of the Ginzburg-Landau model of superconductivity. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1049–1072 (*electronic*). (Hans-Peter Helfrich) **99e:65178** 65N99 (82D55)
Nicolaidis, A. (*with* de Vega, H. J.) String in curved spacetimes: the null string approach. (English summary) *String theory in curved space times* (*Paris*, 1996), 168–174, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30)
— (*with* Paschalis, J. E.; Porfyriadis, P. I.) String tension and the generation of the conformal anomaly. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 047901, 3 *pp.* 81T50 (81T30)
Nicolaisen, Nils (*with* Werner, Bodo) Discretization of circle maps. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 869–895. (Henk P. Bruin) **99j:58067** 58F03 (58F11)
de Nicolao, G. *see* **De Nicolao, G.**
Nicolás, A. *see* **Congress: Mexican Mathematical Society, 99f:00013**
Nicolas, Alain (*with* Yao Bi, J. L.; Nicolas, Laurent) A 3D symmetric vector Engquist-Majda A.B.C. coupled with H(curl) mixed elements. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 123–132, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08
Nicolas, Jacques[2] (*with* Coste, François) How considering incompatible state mergings may reduce the DFA induction search tree. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 199–210, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99b:68006**) 68T05 (68Q45)
Nicolas, Jean-Louis (*with* Sárközy, András) On two partition problems. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 95–121. (Wolfgang Schwarz) **99a:11117** 11P82
— (*with* Levitt, Gilbert) On the maximum order of torsion elements in GL(n, **Z**) and Aut(F_n). (English summary) *J. Algebra* **208** (1998), *no.* 2, 630–642. (Bruno Zimmermann) **99m:20111** 20G30 (20F28)

— (*with* Erdős, Paul[1]; Sárközy, András) On large values of the divisor function. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 225–245. (D. R. Heath-Brown) **99h:11108** 11N56 (11N37)
— *see also* **Ramanujan, Srinivasa Aiyangar, 99b:11112**
Nicolas, Jean-Philippe (*with* Mason, Lionel J.) Résultats globaux pour les équations de Rarita-Schwinger en espace-temps d'Einstein asymptotiquement plats. (English and French summaries) [Global results for the Rarita-Schwinger equations on asymptotically flat vacuum space-times] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 743–748. (Jörg Frauendiener) **99i:83071** 83C60 (58G40, 83C05)
Nicolás, José A. (*with* Martel, Carlos; Vega, José M.) Surface-wave damping in a brimful circular cylinder. (English summary) *J. Fluid Mech.* **360** (1998), 213–228. (Summary) **99a:76044** 76D33 (76B15)
— (*with* Martel, Carlos; Vega, José M.) Corrigendum: "Surface wave damping in a brimful circular cylinder" [J. Fluid Mech. **360** (1998), 213–228; MR 99a:76044]. *J. Fluid Mech.* **373** (1998), 379. 76D33 (76B15)
Nicolas, Laurent (*with* Yao Bi, J. L.; Nicolas, Alain) A 3D symmetric vector Engquist-Majda A.B.C. coupled with $H(\mathrm{curl})$ mixed elements. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 123–132, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08
Nicolas Baracatt, C. (*with* Heskovits N., J.) A quasi-Newton algorithm with consistent approximations for semi-infinite programming. (Spanish. Spanish summary) *Proyecciones* **16** (1997), *no.* 2, 99–124. (Summary) **99e:90104** 90C34 (90C30)
Nicolau, Artur (*with* Xiao, Jie[1]) Bounded functions in Möbius invariant Dirichlet spaces. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 383–425. (Dragan Vukotić) **99b:46028** 46E15 (30D50, 30H05)
— (*with* González, María J.) Quasiconformal mappings preserving interpolating sequences. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 283–290. (J. G. Krzyż) **99g:30023** 30C62
— (*with* Fernández-Pérez, José L.) Boundary behaviour of inner functions and holomorphic mappings. (English summary) *Math. Ann.* **310** (1998), *no.* 3, 423–445. (Kenneth Stephenson) **99c:30062** 30D40 (30C99)
Nicolescu, Liviu (*with* Pripoae, Gabriel Teodor) Estimates for the mean functions associated to a symmetric (0, 2)-tensor on a Riemannian manifold. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 805–812. (Andrew Bucki) **99k:53071** 53C20 (53A07)
Nicolet, Martial (*with* Akesbi, Samir) Nouveaux algorithmes performants en théorie du transport. (English and French summaries) [New performing algorithms in transport theory] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 3, 341–358. (Summary) **99c:82063** 82C70 (65M70, 82–08)
Nicoletti, Giorgio (*with* Barnabei, Marilena; Pezzoli, Luigi) Matroids on partially ordered sets. *Adv. in Appl. Math.* **21** (1998), *no.* 1, 78–112. (Neil L. White) **99c:05042** 05B35 (06A07)
Nicolis, C. (*with* Theunissen, M.; Nicolis, Grégoire) Recurrence times in quasi-periodic motion: statistical properties, role of cell size, parameter dependence. (English summary) *J. Statist. Phys.* **94** (1999), *no.* 3-4, 437–467. (Summary) **99m:58165** 58F27
Nicolis, Grégoire (*with* Daems, D.) Probabilistic and thermodynamic aspects of dynamical systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 311–320. (Dieter H. Mayer) **99i:82026** 82C05 (58F11, 58F19)
— (*with* Kürten, Karl E.) Moment equations and closure schemes in chaotic dynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7331–7340. (Summary) **99f:82042** 82C05 (58F13)
— (*with* Losson, Jérôme; Vannitsem, Stéphane) Aperiodic mean-field evolutions in coupled map lattices. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 4921–4932. (Summary) **99b:58154** 58F12 (58F13)
— (*with* Theunissen, M.; Nicolis, C.) Recurrence times in quasi-periodic motion: statistical properties, role of cell size, parameter dependence. (English summary) *J. Statist. Phys.* **94** (1999), *no.* 3-4, 437–467. (Summary) **99m:58165** 58F27
— *see also* **Chaos and irreversibility, 99d:58003**
Nicolis, S. (*with* Floratos, E. G.) An SU(2) analogue of the Azbel-Hofstadter Hamiltonian. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 3961–3975. (Rodolfo Cuerno) **99e:82015** 82B20 (81R50)
gori Nicolò-Amati, Laura *see* **Gori Nicolò-Amati, Laura**
Nicolodi, Lorenzo (*with* Musso, Emilio) On the equation defining isothermic surfaces in Laguerre geometry. *New developments in differential geometry, Budapest* 1996, 285–294, *Kluwer Acad. Publ., Dordrecht*, 1999. (Thomas Ivey) **99m:53027** 53A40 (53A05)
Nicolosi, Francesco (*with* Skrypnik, Igor V.) Nirenberg-Gagliardo interpolation inequality and regularity of solutions of nonlinear higher order equations. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 327–347. (Xi Ping Zhu) **99a:35071** 35J60 (35B65, 35J70, 46N20)
— (*with* Skrypnik, Igor V.) Bounded solutions of higher-order degenerate quasilinear parabolic equations. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 17–21. (Si Ning Zheng) **99b:35108** 35K65 (35B35, 35K55)
Nicoloso, S. (*with* Sarrafzadeh, Majid; Song, Xiaoyu) On the sum coloring problem on interval graphs. (English summary) *Algorithmica* **23** (1999), *no.* 2, 109–126. (Summary) **99j:68110** 68R10 (05C15, 05C85, 68Q25)
Nicoloyannis, N. (*with* Terrenoire, M.; Tounissoux, D.) Pertinence for a classification. (English summary) *Advances in data science and classification (Rome*, 1998), 177–184, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30
Nicotera, Chiara On groups with a permutational property on commutators of weight 4. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 4, 257–261. (G. E. Wall) **99b:20058** 20F12
— A note on rewritability of commutators in nilpotent groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2967–2970. (Summary) **99d:20053** 20F18 (20F12)
Nicoud, F. (*with* Gamet, L.; Ducros, F.; Poinsot, T.) Compact finite difference schemes on non-uniform meshes. Application to direct numerical simulations of compressible flows. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 2, 159–191. (Summary) **99i:76097** 76M20 (76N10)
Niculescu, Constantin P. Chaos and fine observables. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 1–8 (1998). 54H20 (58F13)
— Birkhoff recurrence theorem and combinatorial properties of abelian semigroups. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 675–686. (J. K. Luedeman) **99i:20082** 20M14 (22C05)
Niculescu, Silviu-Iulian (*with* Verriest, Erik I.; Dugard, Luc; Dion, Jean-Michel) Stability and robust stability of time-delay systems: a guided tour. (English summary) *Stability and control of time-delay systems*, 1–71, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93-02 (34K20, 34K35, 93C30, 93D09)
— (*with* Verriest, Erik I.) Delay-independent stability of linear neutral systems: a Riccati equation approach. (English summary) *Stability and control of time-delay systems*, 92–100, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 34K20 (34K40, 93D09)
— (*with* Fu, Minyue; Li, Huaizhong) Robust stability and stabilization of time-delay systems via integral quadratic constraint approach. (English summary) *Stability and control of time-delay systems*, 101–116, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D09 (34K35, 93D15)
— (*with* Li, Huaizhong; Dugard, Luc; Dion, Jean-Michel) Robust guaranteed cost control for uncertain linear time-delay systems. (English summary) *Stability and control of time-delay systems*, 283–301, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93C30 (93B35)
— $\mathscr{H}_\infty$ memoryless control with an α-stability constraint for time-delay systems: an LMI approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 739–743. (Ian Petersen) **99e:93027** 93B36 (93C30)
— (*with* de Souza, Carlos E.; Dugard, Luc; Dion, Jean-Michel) Robust exponential stability of uncertain systems with time-varying delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 743–748. (Tetsushi Sasagawa) **99h:93078** 93D09 (34K35)
— (*with* Li, Huaizhong; Dugard, Luc; Dion, Jean-Michel) Robust guaranteed cost control of uncertain linear time-delay systems using dynamic output feedback. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 349–358. (*see* **99a:93005**) 93B35 (93C41)
Nie, Cai Yun (*with* Zhong, Hai Ping) Fuzzy mathematical appraisal of the quality of academic journals. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 4, 68–71. 00A99 (04A72)
Nie, Hong (*with* Chen, Ren Zhao) A penalty shifting method for calculation of optimal initial controls for a class of parabolic systems. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 102–109. 49M30 (35K99, 49J15)
Nie, Qing (*with* Baker, Gregory R.) Application of adaptive quadrature to axi-symmetric vortex sheet motion. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 49–69. (Thomas Y. Hou) **99e:76093** 76M25 (76C05)
— (*with* Constantin, Peter; Schörghofer, Norbert) Nonsingular surface quasi-geostrophic flow. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 168–172. (Summary) **99a:76031** 76C15 (86A10)
Nie, Zan Kan (*with* Zhang, Wen Xiu; Gao, Yong) Optional (predictable) projections of measurable set-valued stochastic processes in reflexive Banach spaces. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 99–104. (Summary) **99b:60060** 60G44 (60B99)
Niebergall, Ross (*with* Ryan, Patrick J.) Semi-parallel and semi-symmetric real hypersurfaces in complex space forms. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 227–234. (Jürgen Berndt) **99d:53058** 53C40
Niederdrenk-Felgner, Cornelia Frauen—imaginäre Größen in der Mathematik? [Women—imaginary quantities in mathematics?] *Mitt. Math. Ges. Hamburg* **16** (1997), 73–86. (Michael Otte) **99h:01044** 01A80
Niederhausen, Heinrich (*with* Krattenthaler, Christian) Lattice paths with weighted left turns above a parallel to the diagonal. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 73–80. (Ira Gessel) **99e:05008** 05A15
— Planar random walks inside a rectangle. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 125–144. (Summary) **99j:05008** 05A15
— Lattice paths between diagonal boundaries. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 30, 37 *pp.* (*electronic*). (Christian Krattenthaler) **99d:05004** 05A15
Niederle, Jiří Discrete symmetries and supersymmetries—powerful tools for studying quantum mechanical systems. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 495–498, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 81R05
— (*with* Nikitin, Anatolii) Non-Lie and discrete symmetries of the Dirac equation. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 436–444. (Violeta V. Tretynyk) **99a:81058** 81R05 (22E70, 35A30, 35Q40, 81Q05)
— (*with* Nikitin, Anatolii) Involutive symmetries, supersymmetries and reductions of the Dirac equation. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 999–1010. (Stanislav V. Spichak) **99b:81066** 81Q60 (81R05)
Niedermaier, Max R. Form factors, thermal states and modular structures. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 517–550. (Stephen J. Summers) **99h:81126** 81T05 (46L60, 81T10)
— Varying the Unruh temperature in integrable quantum field theories. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 621–649. (Summary) **99i:81157** 81T20 (81T10)
Niederman, Laurent Nonlinear stability around an elliptic equilibrium point in a Hamiltonian system. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1465–1479. (Dario Bambusi) **99j:58116** 58F10 (34D10, 58F05, 58F30, 70H05, 70K20)
Niederreiter, Harald (*with* Xing, Chaoping) Drinfeld modules of rank 1 and algebraic curves with many rational points. II. *Acta Arith.* **81** (1997), *no.* 1, 81–100. (Gabriel D. Villa-Salvador) **99d:11064** 11G09 (11G20, 11R58, 14G05)

— (*with* Xing, Chaoping) Global function fields with many rational places over the quinary field. *Demonstratio Math.* **30** (1997), *no.* 4, 919–930. (Gabriel D. Villa-Salvador) **99a:11133** 11R58

— (*with* Vielhaber, Michael) Linear complexity profiles: Hausdorff dimensions for almost perfect profiles and measures for general profiles. (English summary) *J. Complexity* **13** (1997), *no.* 3, 353–383. (Zhao Zhi Zhang) **99f:94012** 94A60 (28A78)

— (*with* Xing, Chaoping) The algebraic-geometry approach to low-discrepancy sequences. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 139–160, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:11081** 11K38 (65C10)

— (*with* Xing, Chaoping) Nets, (t, s)-sequences, and algebraic geometry. *Random and quasi-random point sets*, 267–302, *Lecture Notes in Statist.*, 138, *Springer, New York*, 1998. (Gabriel D. Villa-Salvador) **99k:11121** 11K38 (11K31, 11R58, 14Q05)

— (*with* Xing, Chaoping) Global function fields with many rational places over the quinary field. II. *Acta Arith.* **86** (1998), *no.* 3, 277–288. (Gabriel D. Villa-Salvador) **99i:11105** 11R58 (11R37)

— (*with* Vielhaber, Michael) Simultaneous shifted continued fraction expansions in quadratic time. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 2, 125–138. (Bernard J. M. Smeets) **99k:11195** 11Y65

— Nets, (t, s)-sequences, and algebraic curves over finite fields with many rational points. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 377–386 (*electronic*). (Chao Ping Xing) **99k:11090** 11G20 (14G15, 94B27, 94B65)

— (*with* Eichenauer-Herrmann, Jürgen) Lower bounds for the discrepancy of triples of inversive congruential pseudorandom numbers with power of two modulus. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 211–217. (Peter J. Hellekalek) **99m:11086** 11K45 (11K38, 65C10)

— (*with* Xing, Chaoping) Global function fields with many rational places and their applications. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 87–111, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Arnaldo L. P. García) **99m:11137** 11R58 (11G09, 14H05)

— *see also* **Monte Carlo and quasi-Monte Carlo methods, 1996, 99d:65005**

Niehren, Joachim (*with* Müller, Martin[2]) Ordering constraints over feature trees expressed in second-order monadic logic. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 196–210, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99f:03010** 03B25 (68Q25, 68S05)

— (*with* Müller, Martin[2]; Treinen, Ralf) The first-order theory of ordering constraints over feature trees. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 432–443, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68101** 68S05 (03B70, 03D15, 03D35, 68T30)

Niel, Blanca (*with* Fernández, Ariel) Folding pathways as brachistochrones. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahía Blanca*, 1997), 179–186, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (Summary) **99b:92031** 92D20 (92C40)

Nielsen, A. H. (*with* He, Xinyu; Rasmussen, Jens Juul; Bohr, Tomas) Vortex merging and spectral cascade in two-dimensional flows. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2263–2265. 76F99 (76C05, 76M25)

— (*with* Schmidt, M. R.; Beckers, Marcel; Rasmussen, Jens Juul; van Heijst, GertJan F.) On the interaction between two oppositely signed, shielded, monopolar vortices. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3099–3110. (Summary) **99g:76022** 76C05 (76–05, 76D05, 76M25)

— (*with* van de Konijnenberg, J. A.; Rasmussen, Jens Juul; Stenum, B.) Shear-flow instability in a rotating fluid. (English summary) *J. Fluid Mech.* **387** (1999), 177–204. 76E99 (76U05)

Nielsen, Anne Kirstine (*with* Nielsen, Erik Bjerrum) Quasi-bosons approximate bosons. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 63–69. (H. Araki) **99c:81104** 81S05 (46L60)

Nielsen, Bent (*with* Harbo, Ingrid; Johansen, Søren; Rahbek, Anders) Asymptotic inference on cointegrating rank in partial systems. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 388–399. (Summary) **99e:62178** 62P20 (62M10)

Nielsen, Bjørn Fredrik (*with* Cai, Xing; Langtangen, Hans Petter; Tveito, Aslak) A finite element method for fully nonlinear water waves. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 544–568. (Summary) **99b:76049** 76M10 (76B15)

Nielsen, Erik Bjerrum (*with* Nielsen, Anne Kirstine) Quasi-bosons approximate bosons. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 63–69. (H. Araki) **99c:81104** 81S05 (46L60)

— (*with* Jensen, Ole Rask; Słowikowski, W.) On exponentials of quadratic expressions of field operators in connection with representation of infinite-dimensional Lie groups and algebras. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 273–275. (Władysław Adam Majewski) **99g:81106** 81S05 (46N50)

Nielsen, Franck (*with* Yvinec, Mariette) An output-sensitive convex hull algorithm for planar objects. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 1, 39–65. (Luiz Henrique de Figueiredo) **99a:68173** 68U05 (52B55, 68Q25)

Nielsen, H. B. *see* **Nielsen, Holger Bech**

Nielsen, Hans Bruun (*with* Madsen, Kaj; Pinar, Mustafa Çelebi) A finite continuation algorithm for bound constrained quadratic programming. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 62–83 (*electronic*). (Wu Li) **99k:90113** 90C20 (90C25)

Nielsen, Holger Bech (*with* Brevik, I.; Bytsenko, Andrei A.) Thermodynamic properties of the piecewise uniform string. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3383–3395. (Summary) **99h:81158** 81T30 (81T16, 82B05)

Nielsen, Jakob L. (*with* Ambjørn, Jan; Rolf, Juri; Savvidy, George) Spikes in quantum Regge calculus. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3225–3241. (Annalisa Marzuoli) **99f:83023** 83C27 (83C45)

— (*with* Ambjørn, Jan; Rolf, Juri; Boulatov, Dimitri V.; Watabiki, Yoshiyuki) The spectral dimension of 2D quantum gravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 10, 8 *pp.* (*electronic*). (Summary) **99c:83026** 83C45

Nielsen, Jens Perch (*with* Linton, Oliver B.; Bickel, Peter J.) On a semiparametric survival model with flexible covariate effect. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 215–241. (Thomas A. Severini) **99c:62110** 62G05 (62M09)

— (*with* Linton, Oliver B.) An optimization interpretation of integration and back-fitting estimators for separable nonparametric models. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 217–222. (Summary) **99a:62054** 62G05

— Marker dependent kernel hazard estimation from local linear estimation. (English summary) *Scand. Actuar. J.* **1998**, *no.* 2, 113–124. (Summary) **99i:62073** 62G05 (62P05)

— Multiplicative bias correction in kernel hazard estimation. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 541–553. (Margaret P. Gessaman) **99j:62049** 62G05

— Super-efficient hazard estimation based on high-quality marker information. (English summary) *Biometrika* **86** (1999), *no.* 1, 227–232. (Summary) **99m:62129** 62M09 (62G05)

Nielsen, M. A. (*with* Caves, Carlton M.; Schumacher, Benjamin; Barnum, Howard) Information-theoretic approach to quantum error correction and reversible measurement. (English summary) Quantum coherence and decoherence (Santa Barbara, CA, 1996). *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1969, 277–304. (Frank Antonsen) **99m:81039** 81P99 (82B03, 94A15)

Nielsen, Mogens (*with* Winskel, Glynn) Categories in concurrency. *Semantics and logics of computation* (*Cambridge*, 1995), 299–354, *Publ. Newton Inst.*, 14, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **99h:68111**) 68Q55 (03B70, 68N15, 68Q10)

— Reasoning about the past. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 117–128, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q10 (68Q60)

— (*with* Hune, Thomas) Timed bisimulation and open maps. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 378–387, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q10 (68Q55, 68Q60)

Nielsen, N. J. (*with* Gordon, Yehoram; Junge, Marius) The relations between volume ratios and new concepts of GL constants. (English summary) *Positivity* **1** (1997), *no.* 4, 359–379. (Mikhail Ostrovskiĭ) **99m:46019** 46B07 (47B10, 52A21)

barndorff-Nielsen, Ole E. *see* **Barndorff-Nielsen, Ole E.**

Nielson, Flemming (*with* Bodei, Chiara; Degano, Pierpaolo; Nielson, Hanne Riis) Control flow analysis for the π-calculus. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 84–98, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q55, 68Q60)

— (*with* Nielson, Hanne Riis) Flow logic for imperative objects. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 220–228, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68N15 (68Q55, 68Q60)

— (*with* Solberg Gasser, Kirsten Lackner; Nielson, Hanne Riis) Strictness and totality analysis. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 113–145. (Summary) **99c:68035** 68N15 (68Q55)

Nielson, Hanne Riis (*with* Bodei, Chiara; Degano, Pierpaolo; Nielson, Flemming) Control flow analysis for the π-calculus. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 84–98, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q55, 68Q60)

— (*with* Nielson, Flemming) Flow logic for imperative objects. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 220–228, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68N15 (68Q55, 68Q60)

— (*with* Solberg Gasser, Kirsten Lackner; Nielson, Flemming) Strictness and totality analysis. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 113–145. (Summary) **99c:68035** 68N15 (68Q55)

— *see also* **Symposium: Programming, 99c:68006**

Niemann, Gundula (*with* Otto, Friedrich) The Church-Rosser languages are the deterministic variants of the growing context-sensitive languages. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 243–257, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (Summary) **99g:68104** 68Q42 (03D05, 68Q45)

Niemann, Hans Henrik (*with* Stoustrup, Jakob) Multiobjective control for multivariable systems with mixed-sensitivity specifications. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 225–243. 93C60 (90C29)

— An application of LTR design in fault detection. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 4, 215–225. 93E11 (93C95)

Niemenmaa, Markku On connected transversals to subgroups whose order is a product of two primes. (English summary) *European J. Combin.* **18** (1997), *no.* 8, 915–919. (N. T. Vorob′ev) **99b:20043** 20D60

Niemeyer, Alice C. (*with* Newman, M. F.; Nickel, Werner) Descriptions of groups of prime-power order. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 5, 665–682. (Michael C. Slattery) **99f:20054** 20F05 (68Q40)

— (*with* Praeger, Cheryl E.) A recognition algorithm for classical groups over finite fields. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 1, 117–169. (Peter M. Neumann) **99k:20002** 20–04 (20G40)

Niemeyer, Bernd (*with* Kerner, Richard) Covariant q-differential calculus and its deformations at $q^N = 1$. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 161–176. (Władysław Marcinek) **99f:58017** 58B30 (16E99, 16W50)

Niemi, Antti J. (*with* Kalkkinen, J.) Supersymmetric structures in non-perturbative Yang-Mills theory. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 213–221, *PWN, Warsaw*, 1997. (Summary) **99c:81244** 81T60 (81T13)

— (*with* Faddeev, Lyudvig Dmitrievich) Partial duality in SU(N) Yang-Mills theory. (English summary) *Phys. Lett. B* **449** (1999), *no.* 3-4, 214–218. (Summary) **99m:81141** 81T13

— (*with* Faddeev, Lyudvig Dmitrievich) Partially dual variables in SU(2) Yang-Mills theory. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 8, 1624–1627. (Summary) **99m:81142** 81T13

Niemi, Hannu *see* **New trends in probability and statistics, 99g:62004**

Niemi, Valtteri Cryptology: language-theoretic aspects. *Handbook of formal languages, Vol.* 2, 507–524, *Springer, Berlin*, 1997. (Do Long Van) **99b:94039** 94A60 (03D05, 68P25, 68Q45, 68Q68)

— (*with* Renvall, Ari) Secure multiparty computations without computers. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 173–183. (A. Pethő) **99g:94016** 94A60 (68P25)

Niemiro, W. (*with* Furmańczyk, K.) Sufficiency in Bayesian models. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 1, 113–120. (Dieter Mussmann) **99d:62002** 62B05 (62F15)

Nien, Chia-Hsing The dynamics of planar quadratic maps with nonempty bounded critical set. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 95–105. (Summary) **99i:58107** 58F13 (58F23)

— (*with* Wicklin, Frederick J.) An algorithm for the computation of preimages in noninvertible mappings. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 415–422. (Summary) **99i:58019** 58C27

Nienhuis, Bernard (*with* Blöte, Henk W. J.; Batchelor, Murray T.) Fully packed loop models. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 49–56, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— (*with* Grimm, Uwe) Scaling properties of the Ising model in a field. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 384–393, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— (*with* de Gier, Jan) Bethe ansatz solution of a decagonal rectangle-triangle random tiling. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2141–2154. (Richard Kenyon) **99g:82036** 82B44 (82B23)

— (*with* Knops, Yolanda M. M.; Blöte, Henk W. J.) The O(n) model on the triangular lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2941–2966. (Domingos H. U. Marchetti) **99e:82036** 82B26 (82–04, 82B20, 82B27)

— (*with* Martins, Márcio José) Applications of Temperley-Lieb algebras to Lorentz lattice gases. (English summary) *J. Phys. A* **31** (1998), *no.* 43, *L*723–*L*729. (Summary) **99m:82009** 82B20 (82B23, 82B44)

— (*with* Pearce, Paul A.) Scaling limit of RSOS lattice models and TBA equations. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 579–596. (Summary) **99a:82022** 82B20 (81T27)

— Critical correlation functions of the Potts model. (English summary) *Phys. A* **251** (1998), *no.* 1-2, 104–114. (Miroslav Kolesik) **99c:82015** 82B20

— Exact solution of random tiling models. (English summary) Fundamental problems in statistical mechanics (Altenberg, 1997). *Phys. Rep.* **301** (1998), *no.* 1-3, 271–292. (Richard Kenyon) **99g:82041** 82B44 (82D25)

— (*with* Martins, Márcio José; Rietman, R.) Intersecting loop model as a solvable super spin chain. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 3, 504–507. (Summary) **99c:82027** 82B23 (82B20)

Nienhuys-Cheng, Shan-Hwei Distance between Herbrand interpretations: a measure for approximations to a target concept. (English summary) *Inductive logic programming* (*Prague*, 1997), 213–226, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (Summary) **99d:68044** 68N17 (68T05)

Nier, Francis (*with* Nataf, Frédéric) Convergence of domain decomposition methods via semi-classical calculus. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 1007–1059. (Zheng Hui Xie) **99e:65176** 65N55 (35J05, 76M25)

— (*with* Gérard, Christian) The Mourre theory for analytically fibered operators. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 202–219. (Vladimir Georgescu) **99b:47030** 47B25 (47A40, 47N50, 81Q10, 81U05)

— Mourre theory for analytically fibered operators. Spectral-scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1047 (1998), 121–125. (From the text) **99i:47044** 47B25 (35P99, 47A40, 47N50, 81Q10, 81U05)

Nies, André (*with* Calude, Cristian S.) Chaitin Ω numbers and strong reducibilities. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1162–1166 (*electronic*). (Summary) **99i:03049** 03D30 (68Q30)

— (*with* Khusainov, B. M.; Shore, Richard A.) Computable models of theories with few models. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 165–178. (Alexandre Ivanov) **99c:03049** 03C15 (03C35, 03C57)

— (*with* Harrington, Leo) Coding in the partial order of enumerable sets. (English summary) *Adv. Math.* **133** (1998), *no.* 1, 133–162. (Marat M. Arslanov) **99c:03063** 03D25 (03D15)

— (*with* Shore, Richard A.; Slaman, Theodore A.) Interpretability and definability in the recursively enumerable degrees. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 241–291. (C. G. Jockusch, Jr.) **99m:03083** 03D25 (03D30, 03D35)

Niessen, Thomas (*with* Randerath, Bert) Regular factors of simple regular graphs and factor-spectra. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 89–103. (Summary) **99a:05115** 05C70

— A characterization of graphs having all (g, f)-factors. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 152–156. (W. T. Tutte) **99b:05116** 05C70

— (*with* Kind, Jaakob; Mathar, Rudolf) Theory of maximum packing and related channel assignment strategies for cellular radio networks. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 1–16. (Imma J. Curiel) **99g:90046** 90B12 (90C27)

Niestegge, Gerd Statistische und deterministische Vorhersagbarkeit bei der quantenphysikalischen Messung. (English summary) [Statistical and deterministic predictability in quantum measurements] *Helv. Phys. Acta* **71** (1998), *no.* 2, 163–183. (M. J. Mączyński) **99a:81017** 81P15

— Quantum algebras, observables, and random variables. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 4, 426–444. (S. Gudder) **99e:46071** 46L05 (81P99)

Niethammer, Wilhelm A note on the extended convergence of SOR for two-periodic Markov chains. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 315–322. (M. Iosifescu) **99k:60174** 60J10 (65U05)

Nieto, Eduardo (*with* Cabello Piñar, Juan Carlos; Oja, Eve) On ideals of compact operators satisfying the $M(r,s)$-inequality. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 334–348. (Jesús M. F. Castillo) **99f:46018** 46B20 (46B28, 47B10, 47D50)

— (*with* Cabello Piñar, Juan Carlos) On properties of M-ideals. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 61–93. (Ehrhard Behrends) **99h:46011** 46B20

— (*with* Cabello Piñar, Juan Carlos) An ideal characterization of when a subspace of certain Banach spaces has the metric compact approximation property. (English summary) *Studia Math.* **129** (1998), *no.* 2, 185–196. (R. W. Cross) **99b:46012** 46B20

Nieto, J. *see* **Nieto, Juan J.**

Nieto, J. A. Matroid theory and supergravity. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 4, 358–361. (Summary) **99d:83105** 83E50 (05B35)

Nieto, Juan J. Periodic boundary value problems for second order impulsive integrodifferential equations with general kernel in Banach spaces. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 283–294. (Snezhana Khristova) **99e:45009** 45J05 (34A37, 34K10, 34K30)

— (*with* Cabada, Alberto; Heikkilä, Seppo) Rapid convergence of approximate solutions for second order nonlinear boundary value problems. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 295–299, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34B15 (34A45)

— (*with* Liz, Eduardo) The method of upper and lower solutions for a periodic boundary value problem of second order integro-differential equations. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 426–430, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 45J05 (34K10)

— (*with* Franco Leis, Daniel) A new maximum principle for first-order impulsive differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 261–266, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Eduardo Liz) **99e:34014** 34A37 (34B15)

— Fuzzy differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 333–337, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34A99

— (*with* Pita da Veiga, Rafael) Convergence of the monotonic method in elliptic problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 525–530, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35J25 (35A35)

— (*with* Liz, Eduardo) Positive solutions of linear impulsive differential equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 565–571. (Snezhana Khristova) **99g:34034** 34A37 (15A48, 34B05)

— (*with* Liz, Eduardo) An abstract monotone iterative method and applications. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 365–375. (Seppo Heikkilä) **99f:47067** 47H07 (34B15, 34K10, 45J05, 47H17)

— (*with* Cabada, Alberto; Heikkilä, Seppo) Rapid convergence of approximate solutions for first order nonlinear boundary value problems. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 499–505. (Summary) **99a:34049** 34B15 (34A45)

— (*with* Franco Leis, Daniel) A new maximum principle for impulsive first-order problems. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1607–1616. (O. S. Chernikova) **99i:34019** 34A37 (34B05)

hervella-Nieto, L. *see* **Hervella-Nieto, L.**

Nieto, Luis Miguel (*with* Santander, Mariano; Cordero, Nicolás A.) A curvature-based derivation of the Schwarzschild metric. (English summary) *Amer. J. Phys.* **65** (1997), *no.* 12, 1200–1209. (Patrick Dolan) **99d:83016** 83C15

— (*with* Atakishiev, N. M.; Chumakov, Sergey M.; Wolf, Kurt Bernardo) Wigner distribution function for Euclidean systems. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3875–3895. (Summary) **99c:81118** 81S30

— (*with* Márquez, I. F.; Negro, Javier) Factorization method and singular Hamiltonians. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4115–4125. (M. Znojil) **99f:81064** 81Q60 (34L40, 81Q05)

— (*with* Fernández C., David J.; Glasser, M. Lawrence) New isospectral oscillator potentials. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 15–20. (Jiu Qing Liang) **99b:81065** 81Q60 (34L99, 81Q10)

Nieto, Michael Martin (*with* Truax, D. Rodney; Fernández, Francisco M.) Reply to: "Generating functions for Hermite polynomials of arbitrary order" [Phys. Lett. A **237** (1998), no. 3, 189–191; MR 99h:33036] by F. M. Fernández. (English summary) *Phys. Lett. A* **237** (1998), *no.* 3, 192–193. (A. M. Gavrilik) **99h:33037** 33C45 (81R30)

Nieuwenhuis, J. W. When to call a linear system nonnegative. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 43–58. (Maria Letizia Corradini) **99h:93063** 93C55 (93C05)

Nieuwenhuis, Robert (*with* Comon, Hubert; Narendran, Paliath; Rusinowitch, Michael) Decision problems in ordered rewriting. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 276–286, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68070** 68Q42

— Decidability and complexity analysis by basic paramodulation. (English summary) *Inform. and Comput.* **147** (1998), *no.* 1, 1–21. (M. I. Dekhtyar) **99m:03018** 03B25 (03B35, 68Q25, 68T15)

van Nieuwenhuizen, Peter (*with* de Boer, Jan; Peeters, Bas; Skenderis, Kostas) The equivalence between the operator approach and the path integral approach for quantum mechanical non-linear sigma models. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 47–62, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81051** 81Q60 (81S40, 81T27)

— Path integrals for quantum mechanics in curved space (or anomalies from nonlinear sigma models). (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 291–389, *World Sci. Publishing, River Edge, NJ*, 1996. (Alfredo Macías) **99i:81158** 81T20 (81S40)

— (*with* Ruiz Ruiz, F.) BRS symmetry versus supersymmetry in Yang-Mills–Chern-Simons theory. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 443–465. (Summary) **99b:81152** 81T15 (81T13)

— (*with* Hatzinikitas, Agapitos; Schalm, Koenraad) Trace and chiral anomalies in string and ordinary field theory from Feynman diagrams for non-linear sigma models. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 424–454. (Summary) **99b:81223** 81T50 (81T18, 81T30)

— (*with* Bastianelli, Fiorenzo; Schalm, Koenraad) Mode regularization, time slicing, Weyl ordering, and phase space path integrals for quantum-mechanical nonlinear sigma models. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044002, 9 *pp.* (Summary) **99k:81173** 81T10 (81S40)

— (*with* Nastase, Horatiu; Stephanov, Misha; Rebhan, Anton) Topological boundary conditions, the BPS bound, and elimination of ambiguities in the quantum mass of solitons. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 471–514. (Summary) **99m:81150** 81T15 (81T10)

Nieuwenhuizen, Th. M. The marriage problem and the fate of bachelors. (English summary) *Phys. A* **252** (1998), *no.* 1-2, 178–198. (Summary) **99c:92004** 92B05 (90D80)

— Thermodynamics of black holes: an analogy with glasses. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 11, 2201–2204. (Summary) **99d:83065** 83C57

van Nieuwstadt, Michiel J. (*with* Murray, Richard M.) Real-time trajectory generation for differentially flat systems. (English summary) Twenty years of feedback linearization of nonlinear systems. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 11, 995–1020. (*see* **99f:93004**) 93C95 (93C10)
— (*with* Rathinam, M.; Murray, Richard M.) Differential flatness and absolute equivalence of nonlinear control systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1225–1239 (*electronic*). (Henk Nijmeijer) **99f:93034** 93B29 (58A15, 58A17, 93C10)
Nieva, Susana (*with* Gavilanes-Franco, Antonio; Leach Albert, Javier) Free variable tableaux for a many sorted logic with preorders. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 102–116, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Ralph W. Wilkerson) **99a:03013** 03B35
— (*with* Leach Albert, Javier; Rodríguez-Artalejo, Mario) Constraint logic programming with hereditary Harrop formulas. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 307–321, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68021** 68N17 (03B70)
Nievergelt, Yves Fitting helices to data by total least squares. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 8, 707–718. (Summary) **99i:65016** 65D17 (41A63)
— (*with* Keeler, Stephen P.) Computing geodetic coordinates. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 300–309 (*electronic*). (Introduction) **99g:86003** 86A30 (65D99, 86–08)
Niezgoda, Marek On Schur-Ostrowski type theorems for group majorizations. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 81–105. (Ion Raşa) **99j:26013** 26A48 (26A51, 51F15)
— Group majorization and Schur type inequalities. (English summary) *Linear Algebra Appl.* **268** (1998), 9–30. (A. G. M. Steerneman) **99f:15027** 15A42 (60E15)
— An analytical characterization of effective and of irreducible groups inducing cone orderings. (English summary) *Linear Algebra Appl.* **269** (1998), 105–114. (Richard D. Hill) **99d:15019** 15A48 (15A39, 15A63)
Niĕzov, I. È. The Cauchy problem for systems in the theory of elasticity in the plane. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 44–51. (D. G. Natroshvili) **99f:73025** 73C02 (35Q72)
— (*with* Ishankulov, T. I.) Regularization of the solution of the Cauchy problem for a system of Navier-Stokes equations. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 35–42. 35Q30 (76D05)
— (*with* Makhmudov, O. I.) Regularization of the solution of the Cauchy problem for a system of equations in the theory of elasticity in displacements. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 369–376, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 323–330. (Anna-Margarete Sändig) **99e:73032** 73C02 (35Q72)
Nigam, S. D. (*with* Amaranath, T.) On compatible systems of first-order equations. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 835–836. 35F20
Niggl, Karl-Heinz Non-definability of the Ackermann function with type 1 partial primitive recursion. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 1, 1–13. (Summary) **99a:03047** 03D65
Nigiyan, S. A. Functional conception of programming languages. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 3, 131–137 (1994). (From the text) **99i:68014** 68N15
— Logical conception of programming languages. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 1, 26–29. 68N15
— (*with* Khachoyan, L. O.) Interpretation and transformation of logic programs. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 2-4, 32–37 (1997). 68N17
— (*with* Khachoyan, L. O.) On transformations of logic programs. (Russian. Russian summary) *Programmirovanie* **1997**, *no.* 6, 17–28; *translation in Program. Comput. Software* **23** (1997), *no.* 6, 302–309. (Summary) **99g:68039** 68N17 (68Q60)
— The resolution method for first-order predicate logic with interpreted predicates. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 2, 168–170. 03B35 (68T15)
Niglio, Louis Classes isotropes et classes de Maslov. (English and French summaries) [Isotropy classes and Maslov classes] *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, 633–654. (Liviu I. Nicolaescu) **99d:58066** 58F05 (57R20)
Nigm, E. M. On moments of order statistics for sample range and sample midrange from uniform population. (English summary) *Egyptian Statist. J.* **41** (1997), *no.* 1, 28–42. 62G30 (62E15)
Nigmatulin, R. I. (*with* Akhatov, I. Sh.; Vakhitova, N. K.; Galeeva, G. Ya.; Khismatullin, D. B.) On weak oscillations of a gas bubble in a spherical volume of a compressible fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 952–962; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 921–930 (1998). (Summary) **99c:76090** 76N10
Nigro, Abdelmalek Stable progressive smoothing. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 311–318, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D10
Nihtilä, Markku T. (*with* Tervo, Jouko) Stability for linearized control system related to a fixed-bed bioreactor. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 24 *pp.* (*electronic*). (Summary) **99h:93088** 93D15 (92B05)
Nii, Shunsaku An approach to eigenvalue problems associated with stability of travelling waves. *Differential equations and applications* (*Hangzhou*, 1996), 249–257, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 35K60 (34C27)
— Stability and bifurcations of travelling waves of reaction diffusion equations. (English summary) *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 11 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Alexandre N. Carvalho) **99k:35094** 35K57 (35B32, 58F39)
— Travelling waves and linearised eigenvalue problem associated with them. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 113–122, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57
Niiniluoto, Ilkka Inductive logic, atomism, and observational error. (English summary) *Knowledge and inquiry: essays on Jaakko Hintikka's epistemology and philosophy of science*, 117–131, *Poznań Stud. Philos. Sci. Humanities*, 51, *Rodopi, Amsterdam*, 1997. (Philip L. Quinn) **99b:03036** 03B48
— Theoretical reference and truthlikeness. *Logical investigations, No.* 4 (*Russian*), 257–260, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03A05
— Verisimilitude: the third period. (English summary) *British J. Philos. Sci.* **49** (1998), *no.* 1, 1–29. (James Franklin) **99m:03009** 03A05 (03B30)
Niinimaa, A. Bivariate generalizations of the median. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 163–180, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62G99 (62F35, 62H99)
Niinomi, Toshihiko (*with* Cury, José E. R.; Krogh, Bruce H.) Synthesis of supervisory controllers for hybrid systems based on approximating automata. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 564–568. (*see* **99a:93006**) 93B50 (93C30)
Niitsuma, Hiroshi (*with* Furuya, Mamoru) On the differential submodules of modules. *Math. J. Okayama Univ.* **38** (1996), 13–24 (1998). (Andrzej Nowicki) **99h:13008** 13B10 (13N05)
Niitsuma, Hirotaka (*with* Shirayanagi, Kiyoshi) A stable method to compute Smith normal form of polynomial matrices using floating-point computation. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1006–1017. 65F30 (15A21)
Niizeki, Masatoshi (*with* Yamaguchi, Fujio; Yamada, Atsushi; Yoshida, Norimasa; Matsumura, Kiyoshi) Totally homogeneous paradigm for geometric processing based on the principle of duality. (English summary) *Math. Student* **65** (1996), *no.* 1-4, 81–109. (Luiz Henrique de Figueiredo) **99f:68203** 68U05
Niizeki, Syōzō (*with* Araki, Makoto) On a convergence theorem in L^p-space and some of its applications. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 45–55. (Raghu R. Gompa) **99c:28011** 28A20 (46E30)
— (*with* Sasaki, Masato; Srivastava, Hari M.) Further remarks on the integral of $\exp(-x^2)$ over **R**. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 97–102. (Summary) **99d:33001** 33B10 (33B15, 33C60)
Nijhawan, R. R. (*with* Rathore, M. S.) Fixed point theorem on two metric space. (English summary) *Vikram Math. J.* **14** (1994), 45–50. 54H25 (54E40)
Nijhoff, Frank (*with* Kuznetsov, Vadim B.; Sklyanin, E. K.) Separation of variables for the Ruijsenaars system. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 855–877. (V. A. Golubeva) **99a:58092** 58F07 (33C80, 33C90, 70F10, 81U40, 81V70)
— (*with* Hietarinta, Jarmo) The eight tetrahedron equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3603–3615. (Summary) **99a:82033** 82B23 (18D10, 81R50)
Nijholt, A. *see* **AMiLP '95, 99a:68003**
Nijhuis, Jos A. G. (*with* ter Brugge, Mark H.; Spaanenburg, Lambert) Transformational DT-CNN design from morphological specifications. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 879–888. 68U10 (68Q80, 68T05)
Nijmeijer, Henk (*with* Kotta, Ülle) Immersion of discrete-time nonlinear system by regular dynamic state feedback into a linear system. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 361–376. 93C55 (93C10)
— (*with* Loria, Antonio; Panteley, Elena) Control of the chaotic Duffing equation with uncertainty in all parameters. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 12, 1252–1255. (Summary) **99i:93027** 93C10 (34H05, 70K50)
— (*with* Pogromsky, Alexander) Observer-based robust synchronization of dynamical systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2243–2254. (Summary) **99m:93095** 93D21
— (*with* Mazenc, F.) Forwarding in discrete-time nonlinear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 823–835. (David L. Elliott) **99j:93081** 93D15 (93B55, 93C10)
— (*with* Jiang, Zhong-Ping) A recursive technique for tracking control of nonholonomic systems in chained form. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 265–279. (Summary) **99k:93068** 93C85 (70F25, 70Q05)
— (*with* Huijberts, H. J. C.; Lilge, Torsten) Control perspective on synchronization and the Takens-Aeyels-Sauer reconstruction theorem. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 4691–4698. 93D15 (93C10)
— *see also* **Twenty years of feedback linearization of nonlinear systems, 99f:93004**
Nikbakht-Tehrani, Mahmoud A note on (0, 2) models on Calabi-Yau complete intersections. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 571–580. (Harald Skarke) **99h:81179** 81T30 (14J32, 14M25, 32J81)
Nikčević, Stana Ž. (*with* Kowalski, Oldřich) Contact homogeneity and envelopes of Riemannian metrics. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 155–167. (Eric Boeckx) **99a:53033** 53C20 (53C25, 53C30)
Nikfar, M. (*with* Soltani, A. Reza) On regularity of certain stable processes. (English and Persian summaries) *Bull. Iranian Math. Soc.* **23** (1997), *no.* 1, 13–22. (Randall James Swift) **99h:60088** 60G25 (60E07)
Nikhil, Rishiyur S. (*with* Arvind[2]; Maessen, Jan-Willem; Stoy, Joseph E.) A lambda calculus with letrecs and barriers. *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 19–36, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (From the introduction) **99a:68023** 68N15 (03B40)
— (*with* Arvind[2]; Maessen, Jan-Willem; Stoy, Joseph E.) λ_S: an implicitly parallel λ-calculus with recursive bindings, synchronization and side effects. (English summary) *HLCL '98 3rd International Workshop on High-level Concurrent Languages* (*Nice*), 26 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 3, *Elsevier, Amsterdam*, 1998. (*see* **99g:68009**) 68N15 (03B40)
Niki, Hiroshi (*with* Kotakemori, Hisashi; Okamoto, Naotaka) A generalization of the adaptive Gauss-Seidel method for Z-matrices. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 317–326. (Summary) **99g:65041** 65F10
— (*with* Sasanabe, Morito; Sawami, Hideo) A new method for deciding whether a matrix is generalized superdiagonal. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 172–179. (*see* **99i:00028**) 65F30 (15A57)
— *see also* **Industrial and applied mathematics, 99h:65005**
Niki, Naoto (*with* Nakagawa, Shigekazu; Hashiguchi, Hiroki) Computer algebra application to the distribution of sample correlation coefficient. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 23–32. (Summary) **99a:62080** 62H20
— (*with* Yadohisa, Hiroshi) Vector field representation of asymmetric proximity data. (English summary) *Comm. Statist. Theory Methods* **28** (1999), *no.* 1, 35–48. 62H25
Nikias, Chrysostomos (*with* Shen, Jun) General $\mathcal{L}^{(p,q)}$-metric estimator of arbitrary complex impulsive interference in linear systems. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 598–608. (Ewaryst Rafajłowicz) **99k:93087** 93E10

Nikić, Jovanka Linear connections compatible with the $F(3,1)$-structure on the Lagrangian space. (English summary) 11th Yugoslav Geometrical Seminar (Divčibare, 1996). *Mat. Vesnik* **49** (1997), *no.* 1, 45–50. (L. Tamássy) **99b:53031** 53B40

— Submanifolds of the manifold with an $f(3,\varepsilon)$-structure. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 111–116. (Lovejoy S. K. Das) **99k:53057** 53C15 (53C40)

— Distribution's parallelism and geodesics in the $F(3,\varepsilon)$-structure Lagrangian manifold. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 2, 117–125. (Lovejoy S. K. Das) **99k:53058** 53C15 (53C22)

Nikiforov, A. F. (*with* Benattar, R.; Zakharov, S. V.; Novikov, V. G.; Gasilov, V. A.; Krukovskii, A. Yu.; Zakharov, V. S.) Influence of magnetohydrodynamic Rayleigh-Taylor instability on radiation of imploded heavy ion plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 175–187. 76X05

Nikiforov, Vladimir O. Adaptive servomechanism controller with an implicit reference model. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 277–286. 93C40 (93C85)

— A nonlinear control system with compensation of external deterministic perturbations. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 69–73. 93D15 (93C85)

Nikiforovskiĭ, V. A. Andreĭ Andreevich Markov, mathematician and citizen. (Russian) *Vestnik Ross. Akad. Nauk* **68** (1998), *no.* 4, 338–340. 01A70

Nikishin, N. A. (*with* Skriganov, M. M.) On the distribution of algebraic numbers in parallelotopes. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 1, 68–87; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 53–68. (W. Narkiewicz) **99g:11120** 11P21 (11H06, 11R04)

Nikishin, V. V. (*with* Lebo, I. G.; Rozanov, V. B.; Tishkin, V. F.; Popov, I. V.; Favorskiĭ, A. P.) Numerical simulation of Richtmyer-Meshkov instability. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 346–356, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99 (76M25)

Nikishov, A. I. (*with* Ritus, V. I.) Rindler solutions and particle sources. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 522–526, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81159** 81T20 (83C47)

Nikitenko, O. V. Irregular dynamics. Barnsley's iterated systems of functions, fractal filling-up. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 108–122, 157. (Summary) **99f:58070** 58F03 (58F40)

Nikitin, A. G. *see* **Nikitin, Andreĭ G.**

Nikitin, Anatolii On extended supersymmetries and parasupersymmetries. *Problems of quantum field theory (Alushta, 1996)*, 392–395, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81Q60

— Scientific heritage of W. Fushchych. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2 (Kyiv, 1997)*, 11–20, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Editors) **99c:01024** 01A70

— (*with* Andrushkiw, Roman) Higher symmetries of the wave equation with scalar and vector potentials. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2 (Kyiv, 1997)*, 321–327, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35L05 (35A30)

— (*with* Beckers, Jules; Debergh, Nathalie) Reducibility of supersymmetric quantum mechanics. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 9, 1991–2003. (Summary) **99g:81057** 81Q60

— (*with* Niederle, Jiří) Non-Lie and discrete symmetries of the Dirac equation. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 436–444. (Violeta V. Tretynyk) **99a:81058** 81R05 (22E70, 35A30, 35Q40, 81Q05)

— (*with* Niederle, Jiří) Involutive symmetries, supersymmetries and reductions of the Dirac equation. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 999–1010. (Stanislav V. Spichak) **99b:81066** 81Q60 (81R05)

— On exact Foldy-Wouthuysen transformation. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3297–3300. (Stanislav V. Spichak) **99e:81044** 81Q05 (35Q40)

— (*with* Moshinsky, Marcos; Sharma, Anju; Smirnov, Yu. F.) Supermultiplets and relativistic problems. II. The Bhabha equation of arbitrary spin and its properties. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6045–6055. (Violeta V. Tretynyk) **99g:81038** 81Q05 (81R20)

— (*with* Moshinsky, Marcos; Sharma, Anju; Smirnov, Yu. F.) Analysis of relativistic particles of arbitrary spin through different chains of groups. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fis.* **44** (1998), *suppl.* 2, 1–10. (Summary) **99m:81078** 81R05

— (*with* Sharma, Anju; Smirnov, Yu. F.) Mass and spin content of a free relativistic particle of arbitrary spin and the group reduction $\mathrm{Sp}(4) \supset \mathrm{U}(1) \otimes \mathrm{SU}(2)$. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fis.* **44** (1998), *suppl.* 2, 23–25. (Summary) **99i:81074** 81R20 (81R05)

— *see also* **Symmetry in nonlinear mathematical physics, 99b:00027**

Nikitin, Andreĭ G. (*with* Vasil'eva, A. B.) On the stability of periodic contrast structures in the spatially two-dimensional case. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1355–1361, 1438; *translation in Differential Equations* **32** (1996), *no.* 10, 1351–1357 (1997). (Jolanta Przybycin) **99a:35014** 35B25 (35J65)

Nikitin, B. S. (*with* Bilyalov, R. F.) Spinors in arbitrary frames. The covariant derivative and the Lie derivative of spinors. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 9–18; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 6, 7–15. (J. S. Joel) **99m:53028** 53A50

Nikitin, E. S. (*with* Zubov, Leonid M.) Conservation laws and conjugate solutions in the elasticity of simple materials and materials with couple stress. (English summary) *J. Elasticity* **51** (1998), *no.* 1, 1–22. (Summary) **99h:73003** 73B25

Nikitin, I. N. Classical and quantum aspects of low-dimensional relativistic string theory. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 355–359, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T30

Nikitin, S. V. The sensitivity of state identifiers and ε-observability. *J. Comput. Systems Sci. Internat.* **32** (1994), *no.* 4, 89–101; *translated from Izv. Ross. Akad. Nauk Tekhn. Kibernet.* **1993**, *no.* 2, 72–84 (*Russian. Russian summary*). (Andrzej W. Olbrot) **99b:93024** 93B35 (93B30)

— (*with* Krener, Arthur J.) Generalized isoperimetric problem. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 3, 15 *pp.* (*electronic*). (Vera Zeidan) **99k:49047** 49K15 (49K05, 58E30, 70F25)

Nikitina, N. V. (*with* Martynyuk, A. A.) On an estimate for the boundary of the domain of aperiodic motions. (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 12, 89–95; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 12, 1008–1013 (1998). (Introduction) **99j:34052** 34C15 (34D45, 70K40, 70K50)

Niknam, A. Infinitesimal generators of C^*-algebras. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 283–290, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (John Quigg) **99j:46083** 46L57 (22D25, 46L05)

— (*with* Assadi, Amanollah) On semigroups of linear operators. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 413–416, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 46L57 (47D03)

— (*with* Hejazian, S.) A remark on discontinuous homomorphisms. (English summary) *J. Anal.* **5** (1997), 29–31. 46L05 (46H05)

— (*with* Talebi, S.) Jordan C^*-dynamical systems. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 589–597. (P. J. Stacey) **99f:46100** 46L70 (46L55, 46L57)

— (*with* Mirmostafaee, A. K.) A remark on uniquely remotal sets. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 849–854. (Horst Behncke) **99i:46010** 46B20 (46H70)

— (*with* Ghazanfari, A.) A remark on amenability of A^*-algebras. (English summary) *J. Anal.* **6** (1998), 163–166. (Summary) **99j:46061** 46K05 (46L05)

Nikodem, Kazimierz (*with* Merentes, N.; Rivas, S.) Continuity of the superposition of set-valued functions. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 43–48. (Isaac V. Shragin) **99a:47114** 47H30 (54C05, 54C60)

— (*with* Páles, Zsolt) A characterization of midpoint-quasiaffine functions. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 575–595. (Marek Cezary Zdun) **99g:39034** 39B72 (26A51)

Nikolaev, E. V. (*with* Shnol', È. È.) Bifurcations of cycles in systems of differential equations with a finite symmetry group. I, II. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 3, 315–341, 343–363. (Douglas S. Shafer) **99e:34046** 34C23 (58F14)

Nikolaev, I. G. (*with* Berg, I. D.) On a distance between directions in an Aleksandrov space of curvature $\leq K$. *Michigan Math. J.* **45** (1998), *no.* 2, 257–289. (Igor Belegradek) **99e:53060** 53C23

Nikolaev, I. V. Graphs and flows on surfaces. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 207–220. (P. Mendes) **99c:58089** 58F09 (05C75)

— (*with* Aranson, S. Kh.; Bronshteĭn, I. U.; Zhuzhoma, E. V.) Qualitative theory of foliations on closed surfaces. Dynamical systems, 5. *J. Math. Sci. (New York)* **90** (1998), *no.* 3, 2111–2149. (Athanase Papadopoulos) **99m:58148** 58F18 (57R30, 58F09, 58F10)

— (*with* Bronshteĭn, I. U.) Structurally stable fields of line elements on surfaces. *Nonlinear Anal.* **34** (1998), *no.* 3, 461–477. (Ronaldo Alves Garcia) **99j:58113** 58F10 (34A26, 34C05, 34D30)

— Finite groups and flows on 2-manifolds. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 213–231. (Evgenii Zhuzhoma) **99g:58108** 58F25 (20F05, 57R30)

Nikolaev, V. G. (*with* Lykov, V. A.) A direct method for solving radiative transfer equations in the P_1-approximation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1907–1918; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1830–1841. (Summary) **99j:85002** 85A25 (65M06, 82C70)

Nikolaevskiĭ, V. N. (*with* Dinariev, O. Yu.) Constitutive relations for a viscoelastic medium with microrotations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 1023–1030; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 987–994 (1998). (Summary) **99c:73030** 73F05 (73Q05, 73S10)

Nikolaevskiĭ, Yu. A. Totally umbilical submanifolds in $G(2,n)$. IV. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 95–113. (Zbigniew Olszak) **99e:53080** 53C40

Nikolayev, Dmitry I. (*with* Schaeben, Helmut) The central limit theorem in texture component fit methods. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 1, 59–87. (Summary) **99e:60071** 60F05 (60B15, 60J15)

Nikolić, B. (*with* Milošević, I.; Damnjanović, M.; Krčmar, M.) Irreducible representations of diperiodic groups. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3625–3648. (Jochen Gruber) **99d:20012** 20C15 (20C35, 82D25)

Nikolopoulos, Dimitris (*with* Tsamparlis, Michael; Apostolopoulos, Pantelis S.) Computation of the conformal algebra of $1+3$ decomposable spacetimes. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2909–2921. (Sunil D. Maharaj) **99k:83036** 83C40

Nikolos, Dimitris Optimal self-testing embedded parity checkers. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 3, 313–321. (Summary) **99c:94076** 94C12 (68M07)

kujumdzieva-Nikoloska, M. *see* **Kujumdzieva-Nikoloska, M.**

Nikolov, Geno P. (*with* Förster, K.-J.; Köhler, P.) Monotonicity and stopping rules for compound Gauss-type quadrature formulae. (English summary) *East J. Approx.* **4** (1998), *no.* 1, 55–74. (Summary) **99a:41044** 41A55 (65D32)

— (*with* Hunter, D. B.) Gaussian quadrature of Chebyshev polynomials. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 2, 123–131. (A. J. Rodrigues) **99g:65028** 65D32 (33C55, 41A55)

Nikolov, S. G. (*with* Petrov, Valko Georguiev; Edissonov, I.) Reconstruction of polynomial right-hand side of one-dimensional dynamical system on given integral curve. (English and Russian summaries) *J. Theoret. Appl. Mech.* **27** (1997), *no.* 3, 4, 30–38. (Summary) **99k:34027** 34A55 (34A05)

— (*with* Petrov, Valko Georguiev; Edissonov, I.) Reconstruction of polynomial right-hand sides of two-dimensional dynamical system on given integral curve. (English and Russian summaries) *J. Theoret. Appl. Mech.* **27** (1997), *no.* 4, 5, 45–54. (Summary) **99k:34028** 34A55

Nikolova, Lyudmila I. (*with* Kutzarova, Denka; Prus, Stanisław) Infinite-dimensional geometric properties of real interpolation spaces. (English summary) *Math. Nachr.* **191** (1998), 215–228. (Yu. I. Petunin) **99e:46100** 46M35 (46B20, 46B70)

Nikolova, Mariana (*with* Axelsson, Owe) Uniform in ϵ convergence of finite element method for convection-diffusion equations using a priori chosen meshes. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 253–276. (Eun-Jae Park) **99f:65157** 65N12 (65N30, 76M10, 76Rxx)

— (*with* Sgurev, Vassil) Capacity and maximal value of the network flow with multiplicative constraints. (English summary) *Yugosl. J. Oper. Res.* **7** (1997), *no.* 2, 231–239. (Maretsugu Yamasaki) **99a:90092** 90B10 (90C35)
— (*with* Axelsson, Owe) Avoiding slave points in an adaptive refinement procedure for convection-diffusion problems in 2D. (English summary) *Computing* **61** (1998), *no.* 4, 331–357. (Shuzi Zhou) **99m:65196** 65N06 (65N50, 76M20, 76Rxx)
Nikolova, Mila (*with* Idier, Jérôme; Mohammad-Djafari, Ali) Inversion of large-support ill-posed linear operators using a piecewise Gaussian MRF. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 4, 571–585. (Summary) **99j:94012** 94A12
Nikolozi, F. *see* **Nicolosi, Francesco**
Nikolski, N. K. *see* **Nikol'skiĭ, Nikolai K.**
Nikolski, Nikolai *see* **Nikol'skiĭ, Nikolai K.**
Nikol'skiĭ, M. S. Some topical problems in the theory of differential games. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1557–1558, 1583; *translation in Differential Equations* **33** (1997), *no.* 11, 1563–1565 (1998). 90D25
— On the estimation of the attainability set from below for a nonlinear controlled plant. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 14–17, 52. (M. Krastanov) **99j:49040** 49K15 (93B03)
Nikol'skiĭ, Nikolai K. (*with* Vasyunin, V. I.) Elements of spectral theory in terms of the free function model. I. Basic constructions. (English summary) *Holomorphic spaces (Berkeley, CA, 1995)*, 211–302, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99e:47001** 47–02 (47A10, 47A15, 47A45)
— Contrôlabilité à une renormalisation près et petits opérateurs de contrôle. (English summary) [Controllability up to renormalization and small control operators] *J. Math. Pures Appl.* (9) **77** (1998), *no.* 5, 439–479. (Marie-Françoise Bidaut-Véron) **99f:93014** 93B05 (47D06, 47N70, 93B28)
— *see also* **Commutative harmonic analysis, 99h:43002**
Nikol'skiĭ, S. M. (*with* Bakhalov, N. S.; Besov, O. V.; Potapov, M. K.) Petr Lavrent'evich Ul'yanov (on the occasion of his seventieth birthday). (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 211–220; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 645–655. (Editors) **99m:01039** 01A70
Nikonorov, Yu. G. The scalar curvature functional and homogeneous Einstein metrics on Lie groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 583–589, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 504–509. (Włodzimierz Jelonek) **99h:53061** 53C25 (53C30)
Nikonov, E. G. Fast algorithm for matrix-vector multiplication of discrete biharmonic Poincaré-Steklov operator. (English summary) *Advances in difference equations (Veszprém, 1995)*, 459–466, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:65159** 65N30 (39A70, 65N22)
Nikonov, O. I. Financial decisions via methods of guaranteed control theory. (English summary) Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems (Sozopol, 1997). *Pliska Stud. Math. Bulgar.* **12** (1998), 133–140. (*see* **99k:49002**) 90A09 (93C95)
Nikoukhah, Ramine (*with* Taylor, Darrin; Levy, Bernard C.; Willsky, Alan S.) Graph structure and recursive estimation of noisy linear relations. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 4, 37 *pp.* (*electronic*). (Summary) **99g:93080** 93E11 (93E10)
— (*with* von Wissel, D.; Campbell, Stephen L.; Delebecque, F.) The effects of computational delay in descriptor-based trajectory tracking control. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 251–273. 93C41 (93D15)
— (*with* Campbell, Stephen L.; Delebecque, F.) Observer design for general linear time-invariant systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 575–583. (Summary) **99c:93015** 93B07 (93B40)
Nikoulina, Valentina *see* **Nikulina, V. N.**
Nikova, Svetla Iordanova ★ Bounds for designs in infinite polynomial metric spaces. Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1998. *Eindhoven University of Technology, Eindhoven*, 1998. *iv*+103 *pp.* (S. G. Hoggar) **99j:51010** 51E30 (05B30, 05D99, 33C45)
— (*with* Boyvalenkov, Peter G.) Improvements of the lower bounds on the size of some spherical designs. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 1-2, 151–160. (Summary) **99j:05045** 05B30 (90C08)
— (*with* Boyvalenkov, Peter G.; Danev, Danyo) Nonexistence of certain spherical designs of odd strengths and cardinalities. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 143–156. (Giuseppe Pellegrino) **99k:05025** 05B05
Nikovits, T. (*with* Benczúr, András A.; Quang, C. K.) Some constraints assuring serializability in multidatabases. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 9–21. (Summary) **99d:68061** 68P15
Nikshych, D. A. K_0-rings and twisting of finite-dimensional semisimple Hopf algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 1, 321–342. (Lindsay N. Childs) **99d:16045a** 16W30 (19A49)
— Erratum: "K_0-rings and twisting of finite-dimensional semisimple Hopf algebras". *Comm. Algebra* **26** (1998), *no.* 4, 1347. (Lindsay N. Childs) **99d:16045b** 16W30 (19A49)
— Corrigendum: "K_0-rings and twisting of finite-dimensional semisimple Hopf algebras". *Comm. Algebra* **26** (1998), *no.* 6, 2019. (Lindsay N. Childs) **99d:16045c** 16W30 (19A49)
Niksirat, M. A. (*with* Mehri, B.) On the existence of periodic oscillations for vector non-linear second order system. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 417–424, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (J. Angel Rodríguez) **99f:34066** 34C25 (34C15)
Nikulichev, Yu. V. (*with* Aul'chenko, S. M.; Latypov, A. F.) A method for the numerical integration of systems of ordinary differential equations using Hermite interpolation polynomials. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1665–1670; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1595–1601. (Summary) **99f:65098** 65L05
— (*with* Aul'chenko, S. M.; Latypov, A. F.) Construction of curves by means of parametric polynomials. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 1967–1972; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1888–1893. (Summary) **99h:65023** 65D17 (65Y25)
Nikulin, Mikhail S. (*with* Voinov, V. G.) Corrigendum: "Generating functions, problems of additive number theory, and some statistical applications" [Rev. Roumaine Math. Pures Appl. **40** (1995), no. 2, 107–147; MR 97e:11030]. *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 713. 11B68 (05A15, 11P81, 62E15)
— (*with* Bordes, Laurent; Voinov, V. G.) Unbiased estimation for a multivariate exponential whose components have a common shift. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 199–221. (Truc Nguyen) **99c:62157** 62H12 (62H15)
— (*with* Voinov, V. G.) On some statistical and probability problems related to unipartite and multipartite partitions. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 163–180. (A. N. Philippou) **99k:11161** 11P81 (60C05, 62E15)
— (*with* Bagdonavičius, Vilijandas) ★ Additive and multiplicative semiparametric models in accelerated life testing and survival analysis. Queen's Papers in Pure and Applied Mathematics, 108. *Queen's University, Kingston, ON*, 1998. *iii*+109 *pp. ISBN* 0-88911-802-7 (Jack Cuzick) **99g:62146** 62N05
— (*with* Bagdonavičius, Vilijandas) Estimation in generalized proportional hazards model. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1415–1420. (Summary) **99i:62035** 62F10
— (*with* Bagdonavičius, Vilijandas) On semiparametric estimation of reliability from accelerated life data. (English summary) *Statistical and probabilistic models in reliability (Bucharest*, 1997), 75–89, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 62N05
— (*with* Solev, V. N.) Chi-squared goodness of fit test for doubly censored data with applications in survival analysis and reliability. (English summary) *Statistical and probabilistic models in reliability (Bucharest*, 1997), 101–111, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 62N05
Nikulin, Vyacheslav Valentinovich (*with* Gritsenko, V. A.) Automorphic forms and Lorentzian Kac-Moody algebras. I. (English summary) *Internat. J. Math.* **9** (1998), *no.* 2, 153–199. (I. Dolgachev) **99b:11040** 11F22 (11F46, 11F55, 14J28, 17B67, 81R10)
— (*with* Gritsenko, V. A.) Automorphic forms and Lorentzian Kac-Moody algebras. II. (English summary) *Internat. J. Math.* **9** (1998), *no.* 2, 201–275. (I. Dolgachev) **99b:11041** 11F22 (11F46, 11F55, 14J28, 17B67, 81R10)
Nikulina, V. N. (*with* Bagdonavičius, Vilijandas) A goodness-of-fit test for Sedyakin's model. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 5–14. (A. M. Abouammoh) **99k:62185** 62N05
— (*with* Gerville-Reache, Leo) Analysis of reliability characteristics estimators in accelerated life testing. (English summary) *Statistical and probabilistic models in reliability (Bucharest*, 1997), 91–99, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 62N05
Nilakantan, Nandini (*with* Guruprasad, Krishnamurthi) Mutually dual presentations of the surface group and symplectic structure on the parabolic moduli space. (English summary) *J. Ramanujan Math. Soc.* **13** (1998), *no.* 1, 73–83. (William Goldman) **99c:58027** 58D29 (14D20, 57M50)
Nill, Florian (*with* Barata, João C. A.) Dyonic sectors and intertwiner connections in (2 + 1)-dimensional lattice Z_N-Higgs models. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 409–466. (Stephen J. Summers) **99a:81120** 81T25 (46L60, 81T05, 82B20)
Nilles, H. P. (*with* Olechowski, M.; Yamaguchi, Masahiro) Supersymmetry breakdown at a hidden wall. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 43–72. (Summary) **99g:81180** 81T30 (81R40)
Nilsen, May Duality for full crossed products of C^*-algebras by non-amenable groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2969–2978. (John Quigg) **99a:46120** 46L55
Nilsson, Andreas Multipliers from H^1 to L^p. *Ark. Mat.* **36** (1998), *no.* 2, 379–383. (Nikolai Bozhinov) **99k:42047** 42B30 (42B15, 47B38)
Nilsson, Bengt E. W. (*with* Adawi, Tom; Cederwall, Martin; Gran, Ulf; Holm, Magnus) Superembeddings, nonlinear supersymmetry and five-branes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4691–4715. (Sergey Nikolaevich Roshchupkin) **99j:81129** 81T30
— (*with* Cederwall, Martin; Sundell, Per) An action for the super-5-brane in $D = 11$ supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 7, 9 *pp.* (*electronic*). (Jihad Mourad) **99d:83091** 83E30 (81T30, 83E50)
— (*with* Adawi, Tom; Cederwall, Martin; Gran, Ulf; Razaznejad, Behrooz) Goldstone tensor modes. (English summary) *J. High Energy Phys.* **1999**, *no.* 2, *Paper* 1, 21 *pp.* (*electronic*). (Summary) **99k:81210** 81T30 (83E50)
Nilsson, Bengt J. (*with* Krznaric, Drago; Levcopoulos, Christos) Minimum spanning trees in d dimensions. (English summary) *Algorithms—ESA '97 (Graz)*, 341–349, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68U05 (68Q25)
Nilsson, Börje Scattering of stable and unstable waves in a flow duct. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 599–632. (Summary) **99h:76083** 76Q05
Nilsson, Stefan (*with* Andersson, Arne; Hagerup, Torben; Raman, Rajeev) Sorting in linear time? (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 74–93. (Friedhelm Meyer auf der Heide) **99k:68034** 68P10 (68Q25)
Nilsson, Ulf S. (*with* Uggla, Claes) Rigidly rotating stationary cylindrically symmetric perfect fluid models. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2931–2945. (Summary) **99c:83015** 83C15 (83C20)
— (*with* Goliath, Martin; Uggla, Claes) Spatially self-similar spherically symmetric perfect-fluid models. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 167–186. (Nora Bretón Báez) **99b:83018** 83C20 (83C15)
— (*with* Uggla, Claes; Marklund, Mattias) Static perfect fluid cylinders. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3336–3346. (Maciej Przanowski) **99c:83033** 83C55 (83C20)
Nimalendran, M. (*with* Maddala, G. S.) Errors-in-variables problems in financial models. *Statistical methods in finance*, 507–528, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62143** 62P20 (90A09)
Nimbhorkar, Sanjay (*with* Ganguly, Ashok) Fixed point theorem on probabilistic metric spaces for metrically inward mappings and other results. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 199–202. 54E70 (54H25)
— (*with* Ganguly, Ashok) A fixed point theorem for nearly densifying maps in probabilistic analysis. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 73–75. 54H25
Nimershiem, Barbara E. All flat three-manifolds appear as cusps of hyperbolic four-manifolds. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 109–133. (Bruno

Zimmermann) **99i:57029** 57M50 (57N10, 57N13, 57N15, 57S30)

Nimmo, J. J. C. Darboux transformations and the discrete KP equation. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8693–8704. (Kazuhiro Hikami) **99e:39074** 39A12 (58F07, 58F37)

— (*with* Willox, Ralph) Darboux transformations for the two-dimensional Toda system. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2497–2525. (Iskander A. Taimanov) **99b:58122** 58F07 (58F35)

Ning, Fei (*with* Huang, Guang Yuan; Zhu, Yue Qiu; Lu, Kun) Speech signal processing by inversion of equations of mathematical physics. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 44–51. 94A12 (35Q80, 35R30, 92C05)

Ning, Hai Chun (*with* Zhao, Song; Lang, Li; Sun, Tai Yi) A linearization method for a nonlinear system with disturbances. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 50–53. 93B18 (93C41)

Ning, Rong-jian (*with* Zhu, Gong-qin) The construction of a kind of rational splines. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 134–138. (Crăciun Iancu) **99g:65016** 65D07 (41A15)

Ninness, Brett A stochastic approach to linear estimation in H_∞. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 405–414. (Summary) **99c:93110** 93E12 (93B30)

— Estimation of $1/f$ noise. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 32–46. (Summary) **99a:94006** 94A12 (62M05)

— (*with* Hjalmarsson, Håkan; Gustafsson, Fredrik) Generalized Fourier and Toeplitz results for rational orthonormal bases. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 429–460 (*electronic*). (Sergey V. Lototsky) **99i:42052** 42C15 (47B35, 60G35, 93E12, 93E24)

Niño, L. (*with* Lizana Peña, Marcos) Homoclinic bifurcation in a predator-prey model. *Acta Math. Hungar.* **77** (1997), *no.* 3, 177–191. (Xiao Qiang Zhao) **99b:92045** 92D25 (34C23, 34C37)

Ninomiya, Haruki On uniqueness in the Cauchy problem for first-order linear partial differential equations. (English summary) *Mem. Osaka Inst. Tech. Ser. A* **42** (1997), *no.* 1, 21–26. (You-Shi Lou) **99e:35022** 35F10 (35A20)

— On a property of Nirenberg type operator. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 539–550. (Sabir Umarov) **99m:35283** 35S99 (35B65)

Ninomiya, Hirokazu (*with* Iida, Masato) Nonlinear boundary value problems related to some chemical reactions on the interface. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 52–59, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35K60 (80A32)

— Separatrices of competition-diffusion equations. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 118–125, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:35092** 35K55 (92D25)

— (*with* Kabeya, Yoshitsugu) Imperfect bifurcation phenomena for elliptic boundary value problems. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 235–237, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35J65 (35B32)

— (*with* Mizoguchi, Noriko; Yanagida, Eiji) Critical exponent for the bipolar blowup in a semilinear parabolic equation. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 495–518. (Nobuyuki Kenmochi) **99c:35122** 35K60 (35B40)

— (*with* Iida, Masato; Muramatsu, Tatsuya; Yanagida, Eiji) Diffusion-induced extinction of a superior species in a competition system. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 233–252. (Hal Leslie Smith) **99i:92021** 92D25 (34C99, 34D05, 35Q80)

Ninomiya, Kohtaroh Husserl's philosophy of mathematics. I. Non-existence of the notion "semantic completeness". (Japanese. English summary) *Mem. Muroran Inst. Technol. No.* 48 (1998), 107–116. 00A30 (01A60)

Ninomiya, Syoiti Constructing low-discrepancy sequences by using β-adic transformations. (English summary) Pseudorandom numbers and chaos (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1011 (1997), 64–76. (Summary) **99d:11082** 11K38

— On the discrepancy of the β-adic van der Corput sequence. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 2, 345–366. (Henri Faure) **99h:11087** 11K38 (11K36)

— (*with* Tajima, Akira; Tezuka, Shu) Analysis of the anomaly of ran1() generator in Monte Carlo pricing of financial derivatives. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 387–397. (Summary) **99g:65012** 65C05 (65C10, 90A09)

— Constructing a new class of low-discrepancy sequences by using the β-adic transformation. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 403–418. (Joseph Kreimer) **99i:65009** 65C05

— On the discrepancy of the β-adic van der Corput sequence. (English summary) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 129–141. (Robert F. Tichy) **99i:11061** 11K31 (11K16)

Niño-Mora, José (*with* Glazebrook, Kevin D.) Scheduling multiclass queueing networks on parallel servers: approximate and heavy-traffic optimality of Klimov's priority rule. (English summary) *Algorithms—ESA '97* (*Graz*), 232–245, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 60K25 (90B15)

Nip, M. L. A. (*with* Dixon, J. M.; Tuszyński, J. A.) Calculations of one-electron energies of multi-electron atoms through nonlinear field theory methods. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 29–38, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:81280** 81V45

Nipkow, Tobias (*with* Baader, Franz) ★ Term rewriting and all that. (English summary) *Cambridge University Press, Cambridge*, 1998. *xii*+301 *pp. ISBN* 0-521-45520-0 (Klaus Madlener) **99k:68088** 68Q42 (03B35, 08A70, 68–02, 68Q40)

— Verified lexical analysis. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 1–15, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68N20 (68T15)

— *see also* **Rewriting techniques and applications, 99d:68012**

grosfeld-Nir, Abraham *see* **Grosfeld-Nir, Abraham**

Nir, Yosef (*with* Dine, Michael; Shadmi, Yael) Enhanced symmetries and the ground state of string theory. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2, 61–68. (Summary) **99g:81157** 81T30

Nirei, Makoto Self-organized criticality in a random network model. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 1, 21–27. (Summary) **99a:90067** 90A16

Nirel, Ronit (*with* Mugglestone, Moira A.; Barnett, Vic) Outlier-robust spectral estimation for spatial lattice processes. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 3095–3111. (Summary) **99i:62224** 62M15

Nirenberg, Louis (*with* Brezis, Haïm) Removable singularities for nonlinear elliptic equations. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 201–219. (Nicolai N. Tarkhanov) **99a:35082** 35J65 (35A20)

— (*with* Li, Yan Yan) The Dirichlet problem for singularly perturbed elliptic equations. *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1445–1490. (Juncheng Wei) **99g:35014** 35B25 (35J65)

— *see also* **Differential equations: La Pietra, 99g:35004**

Niri, K. (*with* Arino, Ovide) Subdominant behavior in positive semigroups: the case of a class of delay differential equations. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 99–111. (Ti Jun Xiao) **99h:34098** 34K15 (34K20, 47D06)

Nirov, Khazret S. (*with* Plyushchay, Mikhail S.) *P, T*-invariant system of Chern-Simons fields: pseudoclassical model and hidden symmetries. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 295–319. (Summary) **99e:81150** 81T13 (81T99)

Nisan, Noam (*with* Wigderson, Avi) Lower bounds on arithmetic circuits via partial derivatives (preliminary version). (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 16–25, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15

— (*with* Wigderson, Avi) Lower bounds on arithmetic circuits via partial derivatives. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 217–234. (Frederic Green) **99f:68107** 68Q25 (68Q40)

— (*with* Miltersen, Peter Bro; Safra, Shmuel; Wigderson, Avi) On data structures and asymmetric communication complexity. (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 37–49. (Ricardo Baeza-Yates) **99i:68064** 68Q25 (68P05)

— (*with* Even, Guy; Goldreich, Oded; Luby, Michael G.; Veličković, Boban) Efficient approximation of product distributions. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 1, 1–16. (Gheorghe Barbu) **99g:68077** 68Q20 (68Q25)

— (*with* Karger, David R.; Parnas, Michal) Fast connected components algorithms for the EREW PRAM. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1021–1034 (*electronic*). (Summary) **99m:68070** 68Q22 (05C40, 05C85, 68R10)

— (*with* Rudich, Steven; Saks, Michael E.) Products and help bits in decision trees. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1035–1050 (*electronic*). (Summary) **99m:68089** 68Q25 (68Q05, 68Q99)

Nisbet, Roger M. (*with* Briggs, Cheryl J.; Murdoch, William W.) Delayed feedback and multiple attractors in a host-parasitoid system. (English summary) *J. Math. Biol.* **38** (1999), *no.* 4, 317–345. 92D25

Nishi, Akihiro (*with* Terai, Naoki) Second and third Betti numbers of Stanley-Reisner rings of Boolean lattices. *Proceedings of the* 20*th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 48–52, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 13D02 (06A06)

Nishi, Haruko SU(n)-Chern-Simons invariants of Seifert fibered 3-manifolds. (English summary) *Internat. J. Math.* **9** (1998), *no.* 3, 295–330. (Danny C. Calegari) **99i:57053** 57R57 (57M50, 57N10, 58D29, 58F06)

— (*with* Kojima, Sadayoshi; Yamashita, Yasushi) Configuration spaces of points on the circle and hyperbolic Dehn fillings. (English summary) *Topology* **38** (1999), *no.* 3, 497–516. (Daniel Matignon) **99m:57013** 57M50 (55R99)

Nishi, Tsuyoshi (*with* Takagi, Hideaki) Correlation of interdeparture times in $M/G/1$ and $M/G/1/K$ queues. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 142–151. (Summary) **99b:60162** 60K25 (90B12)

Nishibata, Shinya (*with* Kawashima, Shuichi) Weak solutions with a shock to a model system of the radiating gas. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 119–130. (Summary) **99d:76087** 76N15 (35D99, 35Q35, 76L05)

— (*with* Kawashima, Shuichi) Cauchy problem for a model system of the radiating gas: weak solutions with a jump and classical solutions. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 69–91. (Pavel Dubovskiĭ) **99m:35151** 35L65 (35Q35, 76N15)

— (*with* Kawashima, Shuichi) Shock waves for a model system of the radiating gas. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 95–117 (*electronic*). (Ming Mei) **99h:35133** 35L67 (35Q35, 76L05, 76N15)

Nishida, Goro (*with* Morimoto, Shuma) Elliptic cohomology of classifying spaces of cyclic groups and higher level modular forms. *J. Math. Kyoto Univ.* **37** (1997), *no.* 4, 701–715. (Andrew J. Baker) **99f:11055** 11F11 (55N15, 55N22, 55R35, 57R99)

Nishida, Kenji (*with* Hijikata, Hiroaki) When is $\Lambda_1 \otimes \Lambda_2$ hereditary? *Osaka J. Math.* **35** (1998), *no.* 3, 493–500. (Juliusz Brzeziński) **99j:16009** 16H05

Nishida, T. *see* **Nishida, Takaaki**

Nishida, Taishin Y. (*with* Salomaa, Arto) Slender 0L languages. (English summary) *Theoret. Comput. Sci.* **158** (1996), *no.* 1-2, 161–176. (Juhani Karhumäki) **99k:68100** 68Q45

Nishida, Takaaki (*with* Aye, P.) Heat convection of compressible fluid. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 107–115, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:76038** 76E15 (76N10, 76R10)

— *see also* **Recent developments in domain decomposition methods and flow problems, 99g:00054**

Nishigaki, Shinsuke M. Microscopic universality in random matrix models of QCD. *New developments in quantum field theory* (*Zakopane*, 1997), 287–295, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Alexei Khorunzhy) **99j:81199** 81V05 (81T99)

— (*with* Damgaard, Poul Henrik) Universal spectral correlators and massive Dirac operators. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 495–512. (Summary) **99a:81193** 81V05 (81T13)

— (*with* Akemann, G.; Damgaard, Poul Henrik; Magnea, U.) Multicritical microscopic spectral correlators of Hermitian and complex matrices. (English summary) *Nuclear*

Phys. B **519** (1998), *no.* 3, 682–714. (Summary) **99b:82044** 82B44
— Level spacing distribution of critical random matrix ensembles. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, R6915–R6918. (Summary) **99i:82019** 82B41 (82B44)
Nishihara, Kenji (*with* Rajopadhye, Shubha V.) Asymptotic behaviour of solutions to the Korteweg-de Vries-Burgers equation. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 85–93. (Vladislav G. Dubrovsky) **99c:35212** 35Q53 (35B40, 76D33)
— (*with* Liu, Tai-Ping; Matsumura, Akitaka) Behaviors of solutions for the Burgers equation with boundary corresponding to rarefaction waves. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 293–308 (*electronic*). (Summary) **99a:35184** 35L70 (35Q53, 76L05)
Nishihara, Masaru (*with* Honda, Tatsuhiro; Miyagi, Mitsuhiro; Yoshida, Mamoru) On the extension of polynomials of weak type. (English summary) *Fukuoka Univ. Sci. Rep.* **27** (1997), *no.* 1, 9–16. (Luiza Amália de Moraes) **99a:46083** 46G20 (46A32)
Nishihara, Seiichi (*with* Mizuno, Kazunori; Kanoh, Hitoshi) Solving constraint satisfaction problems by an adaptive stochastic search method. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 8, 2413–2420. 68T20
Nishihira, Naofumi (*with* Yasuda, Kazunori) A stability condition for linear time-delay systems. (Japanese) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 3, 199–201. 34K20
Nishihira, Yuji Sufficiency and transitions in statistical sequential decision theory. (Japanese) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 35–50. (*see* **99a:62005**) 62B05 (62C05, 62L10)
Nishikawa, Kinjiro (*with* Maitani, Fumio) Moduli of ring domains obtained by a conformal welding. (English summary) *Kodai Math. J.* **20** (1997), *no.* 3, 161–171. (S. R. Nasyrov) **99b:30028** 30C70 (30F99)
Nishikawa, Masataka On the stability of viscous shock fronts for certain conservation laws in two-dimensional space. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1181–1195. (Alan Jeffrey) **99c:35156** 35L67 (76L05)
— Convergence rate to the traveling wave for viscous conservation laws. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 107–132. (Hermano Frid) **99e:35140** 35L65 (35B35)
Nishimori, Hidetoshi (*with* Inoue, Jun-ichi; Kabashima, Yoshiyuki) On-line learning of non-monotonic rules by simple perceptron. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3795–3816. (Ladislav Andrey) **99c:68212** 68T05 (82C32, 92B20)
— (*with* Inoue, Jun-ichi) Convergence of simulated annealing using the generalized transition probability. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5661–5672. (Summary) **99c:82052** 82C31
Nishimori, Hiraku (*with* Tao, Tomomi; Tainaka, Kei-ichi) Contact percolation process: contact process on a destructed lattice. (English summary) *J. Phys. Soc. Japan* **68** (1999), *no.* 2, 326–329. 82B43
Nishimoto, Katsuyuki Kummer's twenty-four functions in N-fractional calculus. (English summary) *J. Fract. Calc.* **10** (1996), 9–23. (B. P. Parashar) **99a:26005** 26A33 (33C05)
— N-fractional calculus operator N^{ν} method to nonhomogeneous Gauss equation. (English summary) *J. Fract. Calc.* **10** (1996), 33–39. (B. P. Parashar) **99a:26006** 26A33 (33C05)
— Super-general solution obtained by N-fractional calculus operator N^{ν} method to the homogeneous Gauss equation. (English summary) *J. Fract. Calc.* **12** (1997), 9–22. (E. R. Love) **99e:33019** 33C99 (26A33)
— Modern form solutions obtained by operator N^{ν} method to a nonhomogeneous constant coefficients ordinary differential equation (illustrative examples). (English summary) *J. Fract. Calc.* **13** (1998), 1–11. (Summary) **99b:34010** 34A20 (26A33, 34A25)
— N-method to constant coefficients linear $n(\in \mathbf{Z}^+ \geq 2)$th order ordinary differential equations. (English summary) *J. Fract. Calc.* **13** (1998), 13–19. (Summary) **99b:34011** 34A20 (26A33, 34A25)
— N-method to Weber equations. (English summary) *J. Fract. Calc.* **14** (1998), 1–8. 26A33
— N-method to generalized Laguerre equations. (English summary) *J. Fract. Calc.* **14** (1998), 9–21. 26A33 (33C45)
— (*with* Matera, Josefina) N-fractional calculus of some elementary functions. II. (English summary) *J. Fract. Calc.* **14** (1998), 23–31. 26A33
— N-method to fractional differintegral equations $\varphi_{1/n} + \varphi \cdot a = f$ $(n \in \mathbf{Z} - \{0\})$. (English summary) *J. Fract. Calc.* **14** (1998), 33–39. 26A33 (34K05)
— N-method to fractional differintegral equations $\varphi_{\pm m/n} + \varphi \cdot a = f$ $(a \neq 0,\ m < n.\ m, n \in \mathbf{Z}^+)$. (English summary) *J. Fract. Calc.* **14** (1998), 41–44. 26A33 (34K05)
— (*with* Wu, Tsu-Chen) N-fractional calculus of some trigonometric functions. (English summary) *J. Fract. Calc.* **14** (1998), 83–94. 26A33
— (*with* Lin, Shy-Der) N-method to a generalized associated Legendre equation. (English summary) *J. Fract. Calc.* **14** (1998), 95–111. (K. C. Gupta) **99k:33029** 33C45 (26A33)
— N-method to fractional differintegral equations $\varphi_{\pm 2/3} + \varphi \cdot a = f$ $(a \neq 0)$. (English summary) *J. Fract. Calc.* **15** (1999), 1–6. 26A33
— (*with* Miyakoda, Tsuyako) N-method to fractional differintegral equations $\varphi_{\pm 3/4} + \varphi \cdot a = f$ $(a \neq 0)$. (English summary) *J. Fract. Calc.* **15** (1999), 7–12. 26A33
Nishimoto, Tetsu (*with* Hunton, John Robert; Mimura, Mamoru; Schuster, Björn) Higher v_n torsion in Lie groups. (English summary) *J. Math. Soc. Japan* **50** (1998), *no.* 4, 801–818. (Vidhyanath K. Rao) **99i:55005** 55N22 (55T25, 57T10)
— Group completion for multi-H-maps. *Kyushu J. Math.* **53** (1999), *no.* 1, 189–207. (Donald M. Davis) **99m:55013** 55P45
Nishimura, Hirokazu Nonlinear connections in synthetic differential geometry. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 49–77. (Patrice Sawyer) **99i:53011** 53B15 (58A05)
Nishimura, Jun On existence of nontrivial fixed points in large N gauge theory in more than four dimensions. (English summary) *Perspectives of strong coupling gauge theories* (*Nagoya*, 1996), 200–207, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99a:81003**) 81T80 (81T17)
— (*with* Maru, Nobuhito) Lattice formulation of supersymmetric Yang-Mills theories without fine tuning. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 16, 2841–2855. (Summary) **99c:81154** 81T25 (81T13, 81T60)
— (*with* Kitsunezaki, Naofumi) Unitary IIB Matrix model and the dynamical generation of the space-time. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 351–377. (Summary) **99h:81168** 81T30 (83E30)
— *see also* **Perspectives of strong coupling gauge theories, 99a:81003**
Nishimura, Kazuo (*with* Yano, Makoto) Non-linear dynamics and chaos in optimal growth. Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 22–68. (Hans-Walter Lorenz) **99i:90029** 90A16 (58F13, 58F40, 90A17, 93C10)
— (*with* Shigoka, Tadashi; Yano, Makoto; Iwai, Keiichiro) Topological optimal chaos. Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 84–106. (Joan Carles Tatjer) **99g:90034** 90A16 (58F13, 58F40)
Nishimura, Naomi (*with* Gupta, Arvind) Finding largest subtrees and smallest supertrees. (English summary) *Algorithmica* **21** (1998), *no.* 2, 183–210. (Summary) **99c:68193** 68R10 (05C05, 05C85)
Nishimura, Susumu Static typing for dynamic messages. (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 126–141. (*see* **99d:68014**) 68N15
Nishimura, Takashi Isomorphism of smooth map germs with isomorphic local algebras. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 94–106, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Leslie Charles Wilson) **99b:58033** 58C27
Nishimura, Tsuyoshi[1] (*with* Iida, Tadashi) Neighborhood conditions and k-factors. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 2, 411–418. (Sheshayya A. Choudum) **99a:05113** 05C70
Nishimura, Yasuichiro Another Green function for some birational maps of $\mathbf{P}^2$. Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 192–206. (Marco Abate) **99c:32036** 32H50
Nishimura, Yasuzo (*with* Yosimura, Zen-ichi) The quasi KO_*-types of weighted mod 4 lens spaces. *Osaka J. Math.* **35** (1998), *no.* 4, 895–914. (Björn Schuster) **99m:55010** 55P42 (55N15)
Nishimura, Yoshiyuki (*with* Onogi, Katsuaki; Hashizume, Susumu) Developments in the theory of discrete event systems based on partial languages. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 421–427. (*see* **99g:93006**) 93C83
Nishinari, Katsuhiro Dynamics of a one-dimensional elastic body and solitons. Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 172–182. (*see* **99a:00032**) 73D35 (35Q51, 35Q72)
— (*with* Yajima, Tetsu) Numerical calculations and exact solutions for general initial value problems of the Davey-Stewartson equations. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 211–219. (*see* **99a:00032**) 65M99 (35Q55)
— (*with* Yoshida, Naoki; Satsuma, Junkichi; Abe, Kanji) Dromion can be remote-controlled. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3325–3336. (Summary) **99a:35245** 35Q55 (76M25, 76X05)
Nishino, Akinori (*with* Ujino, Hideaki; Wadati, Miki) Fock spaces for the Calogero models with distinguishable particles. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 8, 2658–2665. (Summary) **99g:81249** 81V70
— (*with* Ujino, Hideaki; Wadati, Miki) New nonsymmetric orthogonal basis for the Calogero model with distinguishable particles. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 459–464. (Kazuhiro Hikami) **99k:81351** 81V70 (33D80, 58F07)
Nishino, Hitoshi Supersymmetric Yang-Mills theories in $D \geq 12$. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 450–464. (Summary) **99i:81250** 81T60 (81T13, 81T30)
— Lagrangian and covariant field equations for supersymmetric Yang-Mills theory in 12D. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 64–72. (Summary) **99c:81248** 81T60 (81T13, 81T30)
— $N = 2$ chiral supergravity in $(10 + 2)$-dimensions as consistent background for super $(2 + 2)$-brane. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 303–314. (C. Gauthier) **99i:83104** 83E50 (83E30)
Nishino, Tomotoshi (*with* Hikihara, Tomotoshi; Okunishi, K.; Hieida, Y.) Density matrix renormalization group: introduction from a variational point of view. (English summary) *Internat. J. Modern Phys. B* **13** (1999), *no.* 1, 1–24. (Summary) **99m:82019** 82B28 (82–08)
Nishioka, Keiji The first equation of Painlevé—differential algebraic aspects. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol.* 2 (*Plovdiv*, 1994), 123–129, *Sci. Cult. Technol. Publ., Singapore*, 1995. (K. Kiyek) **99j:12004** 12H05 (34A34)
— Lie extensions. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 5, 82–85. (G. Eisenreich) **99b:12006** 12H05 (34A30)
— (*with* Duverney, Daniel; Nishioka, Kumiko; Shiokawa, Iekata) Transcendence of Jacobi's theta series and related results. (English summary) *Number theory* (*Eger*, 1996), 157–168, *de Gruyter, Berlin*, 1998. (P. Bundschuh) **99h:11078** 11J85 (11B39, 11J81, 11J91)
Nishioka, Kumiko ★ Mahler functions and transcendental numbers. (Japanese) Seminar on Mathematical Sciences, 21. *Keio University, Department of Mathematics, Yokohama*, 1994. vi+107 *pp.* (Editors) **99c:11091** 11J81
— (*with* Duverney, Daniel; Nishioka, Keiji; Shiokawa, Iekata) Transcendence of Jacobi's theta series and related results. (English summary) *Number theory* (*Eger*, 1996), 157–168, *de Gruyter, Berlin*, 1998. (P. Bundschuh) **99h:11078** 11J85 (11B39, 11J81, 11J91)
Nishioka, Kunio The first hitting time and place of a half-line by a biharmonic pseudo process. *Japan. J. Math.* (*N.S.*) **23** (1997), *no.* 2, 235–280. (Andrzej Mądrecki) **99f:60080** 60G18 (35K20, 60G20, 60J30)
Nishishiraho, Toshihiko Converse results for the best approximation in Banach spaces. (English summary) *Ryukyu Math. J.* **10** (1997), 75–88. (W. J. Kotzé) **99c:41069** 41A65 (41A50)
— A de La Vallée Poussin type theorem in Banach spaces. Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 65–78. (P. L. Butzer) **99a:41053** 41A65 (41A50)
— Korovkin sets and mean ergodic theorems. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 147–151. (Francesco Altomare) **99j:41040** 41A35 (41A65, 47A35)

— Estimates for the degree of best approximation in Banach spaces. (English summary) *Ryukyu Math. J.* **11** (1998), 75–86. (Walter Trebels) **99m:41054b** 41A65 (41A27)
— Zygmund type results for the best approximation in Banach spaces. Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 58–67. (Walter Trebels) **99m:41054a** 41A65 (41A27)
Nishitani, Hirokazu (*with* Akatsuka, Takeaki) Modeling and simulation of discrete events in chemical plants. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 447–453. (*see* **99g:93006**) 93C95 (93C83)
Nishitani, Ikuo A generalized principal ideal theorem for modules over a commutative ring. *Comm. Algebra* **26** (1998), *no.* 6, 1999–2005. (Luigi Salce) **99d:13022** 13E05 (13E15)
Nishitani, Tatsuo Strongly hyperbolic systems of maximal rank. *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 5, 765–773. (Maria Povoas) **99b:35123** 35L40 (35A30)
— Hyperbolicity of two by two systems with two independent variables. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1998), *Exp. No. X*, 12 *pp.*, *Univ. Nantes, Nantes*, 1998. (Maria Povoas) **99j:35125** 35L40
— (*with* Takayama, Masahiro) Characteristic initial-boundary value problems for symmetric hyperbolic systems. *Osaka J. Math.* **35** (1998), *no.* 3, 629–657. (Vladimir Tulovsky) **99k:35114** 35L50
Nishitani, Yasuaki (*with* Kurumazaki, Hironobu; Kawa, Minako; Igarashi, Yoshihide) Some modifications of lockout-free mutual exclusion algorithms. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 19–26. (*see* **99i:65003**) 68Q10
Nishiura, Togo (*with* Goffman, Casper; Waterman, Daniel) ★ Homeomorphisms in analysis. (English summary) Mathematical Surveys and Monographs, 54. *American Mathematical Society, Providence, RI*, 1997. xiv+216 *pp. ISBN* 0-8218-0614-9 (Krzysztof Ciesielski) **99b:26002** 26–02 (28–02, 42–02)
Nishiura, Yasumasa Turing patterns · stability · scaling law. *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 126–133, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35K55 (35B25, 92C15)
— (*with* Kokubu, Hiroshi; Mischaikow, Konstantin; Oka, Hiroe; Takaishi, Takeshi) Connecting orbit structure of monotone solutions in the shadow system. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 309–364. (Anibal Rodriguez-Bernal) **99e:35107** 35K57 (34C99, 35B99, 58F39)
— (*with* Ueyama, Daishin) A hidden bifurcational structure for self-replicating dynamics. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 123–138, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99c:92012** 92C15 (35K57, 35Q80, 92E99)
— (*with* Imai, Hitoshi; Shinohara, Yoshitane; Konno, T.; Natori, Makoto; Zhou, Weidong; Ohnishi, Isamu) Numerical computations of free boundary problems in quadruple precision arithmetic using an explicit method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 193–207, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 65L06 (65G05)
— (*with* Ohnishi, Isamu) Spectral comparison between the second and the fourth order equations of conservative type with non-local terms. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 253–262. (P. W. Bates) **99j:35151** 35P05 (35B05, 35K10, 35Q99, 47H12, 47N20)
— *see also* **Proceedings: Conference on Asymptotics in Nonlinear Diffusive Systems—Towards the Understanding of Singularities in Dissipative Structures, 99a:35004** *and* **Symposium: Reaction-Diffusion Equations and Their Applications and Computational Aspects, 99f:00026**
Nishiwada, Kimimasa Algorithm of the arithmetic-geometric mean and its complex limits. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 3, 541–564. (D. C. Russell) **99c:11065** 11F99 (11F06, 33E05, 40A05)
Nishiwaki, Shinji (*with* Frecker, Mary I.; Min, Seungjae; Kikuchi, Noboru) Topology optimization of compliant mechanisms using the homogenization method. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 535–559. (Summary) **99a:73011** 73B27 (73K40)
Nishiyama, K. *see* **Nishiyama, Kyo**
Nishiyama, Ken-ichi A remark on Jacobian fibrations on $K3$ surfaces. *Saitama Math. J.* **15** (1997), 67–71. (Shigeyuki Kondo) **99a:14053** 14J28 (14J27)
Nishiyama, Kyo (*with* Gyoja, Akihiko; Shimura, Hiroyuki) Invariants for representations of Weyl groups and two-sided cells. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 1–34. (Jian Yi Shi) **99m:20006** 20C15 (20F55)
Nishiyama, Seiya Exact canonically conjugate momenta approach to an $SU(N)$ quantum system. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 32, 5535–5556. 81T99
Nishiyama, Takahiro On the initial value problems for the vortex filament equations. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 963–975. (Jan Cieśliński) **99f:35170** 35Q35 (76C05)
Nishizaki, Ichiro (*with* Sakawa, Masatoshi) n-person cooperative games with multiple scenarios. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 347–355, *Springer, Berlin*, 1997. (Summary) **99d:90151** 90D12 (90D06)
— (*with* Sakawa, Masatoshi; Uemura, Yoshiki) Interactive fuzzy programming for multilevel linear programming problems. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 71–86. 90C70 (90C08)
— (*with* Sakawa, Masatoshi) A computational method for solutions to multiobjective linear production programming games. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 230–236. (*see* **99h:90006**) 90C90 (90D80)
— (*with* Sakawa, Masatoshi) A fuzzy programming method for a 2-level linear programming problem. (Japanese) *Systems Control Inform.* **43** (1999), *no.* 5, 236–243. 90C70 (90D65)
Nishizaki, Shin-ya (*with* Yamamoto, Mitsuharu; Takahashi, Koichi; Hagiya, Masami; Tamai, Tetsuo) Formalization of graph search algorithms and its applications. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 479–496, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68T15 (68T20)
Nishizawa, Kiyoko Complex dynamical systems: algebraic curves in the moduli space of the cubic maps. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 130–139, *Sci. Cult. Technol. Publ., Singapore*, 1995. (Xavier Buff) **99i:58129** 58F23 (30D05)
— (*with* Fujimura, Masayo) Bifurcations of Nusse-Yorke's family in the quadratic rational functions. Problems concerning complex dynamical systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 959 (1996), 90–102. (Introduction) **99g:58088** 58F14 (58F03)
— Non-monotone bifurcations for quadratic rational functions $\{mf(x)\}_m$. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1497–1504. (Helena E. Nusse) **99i:58113** 58F14 (58F03, 58F13)
— (*with* Fujimura, Masayo) Bifurcations and algebraic curves for quadratic rational functions $\{mf(x)\}_m$. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 31–45. (Summary) **99a:58131** 58F23
— Both ways pitch-fork bifurcation diagrams of families of one-dimensional maps. (Japanese) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 126–137. (*see* **99f:00024**) 58F14
— (*with* Fujimura, Masayo) Branch locus of polynomial maps. (English summary) Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 32–38. (Peter Petek) **99m:30009** 30C10 (58F23)
— A one-parameter 1-dimensional family of functions that have an antimonotone bifurcation process. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 87–93. (*see* **99i:00018**) 58F23
— *see also* **Komori, Yohei, (98b:58005)**
Nishizawa, Michitomo (*with* Ueno, Kimio) Quantum groups and zeta-functions. (English summary) *Quantum groups* (*Karpacz*, 1994), 115–126, *PWN, Warsaw*, 1995. (Rinat M. Kashaev) **99k:11136** 11M35 (11B65, 17B37)
— (*with* Ueno, Kimio) Multiple gamma functions and multiple q-gamma functions. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 5, 813–838. (Bruce C. Berndt) **99b:33003** 33B15 (33D05)
Nishizeki, Takao (*with* Kusakari, Yoshiyuki) An algorithm for finding a region with the minimum total L_1 from prescribed terminals. (English summary) *Algorithms and computation* (*Singapore*, 1997), 324–333, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99g:68210** 68U05
— (*with* Rahman, Md. Saidur; Nakano, Shin-ichi) A linear algorithm for optimal orthogonal drawings of triconnected cubic plane graphs. (English summary) *Graph drawing* (*Rome*, 1997), 99–110, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)
— (*with* Mizuki, Takaaki; Shizuya, Hiroki) Eulerian secret key exchange (extended abstract). (English summary) *Computing and combinatorics* (*Taipei*, 1998), 349–360, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 94A60
— (*with* Rahman, Md. Saidur; Nakano, Shin-ichi) Rectangular grid drawings of plane graphs. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 203–220. (Vladimir P. Korzhik) **99c:05055** 05C10 (05C85, 68U05)
Nishnianidze, D. N. (*with* Andrianov, A. A.; Ioffe, M. V.) Polynomial supersymmetry and dynamic symmetries in quantum mechanics. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 463–478; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1129–1140 (1996). (Stanislav V. Spichak) **99c:81049** 81Q60
Nisio, Makiko On infinite-dimensional stochastic differential games. *Osaka J. Math.* **35** (1998), *no.* 1, 15–33. (Andrzej Swiech) **99e:49034** 49L25 (35R15, 35R60, 90D15, 90D25)
Nisipasu, Ecaterina (*with* Florens-Landais, Danielle; Gautherat, Emmanuelle) Asymptotic expansions and large deviations in estimation of an Ornstein-Uhlenbeck model. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 205–210. (Summary) **99h:62108** 62M09 (62E20)
Nison, Laurence La catégorie de Zariski des anneaux rationnels. (English and French summaries) [The Zariski category of rational rings] *Ann. Sci. Math. Québec* **21** (1997), *no.* 2, 147–166. (Ana Jeremías López) **99c:14001** 14A99 (13A99)
Niss, Mogens Aspects of the nature and state of research in mathematics education. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 767–776 (*electronic*). (Dennis F. Almeida) **99h:00009** 00A35
Nissimov, E. (*with* Aratyn, Henrik; Pacheva, S.) Method of squared eigenfunction potentials in integrable hierarchies of KP type. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 493–525. (Alexander V. Shapovalov) **99e:58090** 58F07 (35Q53)
— (*with* Aratyn, Henrik; Pacheva, S.) A new "dual" symmetry structure of the KP hierarchy. (English summary) *Phys. Lett. A* **244** (1998), *no.* 4, 245–255. (Youjin Zhang) **99e:58091** 58F07 (35Q53)
Nistor, Victor (*with* Melrose, Richard B.) K-theory of C^*-algebras of b-pseudodifferential operators. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 1, 88–122. (Jonathan M. Rosenberg) **99i:58145** 58G12 (19K35, 19K56, 46L80, 47G30, 58G15, 58G20)
— *see also* **Advances in geometry, 99h:00015**
Nistri, Paolo (*with* Obukhovskiĭ, V. V.; Zecca, Pietro) Viability for feedback control systems in Banach spaces via Caratheodory closed-loop controls. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 367–378. (Summary) **99h:49008** 49J27 (49N35, 93B52)
— (*with* Johnson, Russell A.; Kamenskii, Mikhail) On the existence of periodic solutions of an hyperbolic equation in a thin domain. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 3, 189–195. (Summary) **99m:35164** 35L70 (35B10)
— (*with* Johnson, Russell A.) On the dynamical behavior of the approximate equivalent control in sliding manifold systems. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 2, 119–138. (T. Zolezzi) **99m:93016** 93B12 (34C99, 34H05)
— (*with* Johnson, Russell A.; Kamenskii, Mikhail) Existence of periodic solutions of an autonomous damped wave equation in thin domains. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 409–424. (Pavel Krejčí) **99i:35101** 35L70 (35B10, 47H11, 47N20)

— (*with* Allegretto, Walter) On a class of nonlocal problems with applications to mathematical biology. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 1–14, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (C. A. Swanson) **99k:35176** 35Q80 (35B05, 35J65)

— (*with* Allegretto, Walter) Existence and optimal control for periodic parabolic equations with nonlocal terms. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 43–58. (Marie-Françoise Bidaut-Véron) **99m:49004** 49J20 (35B37, 35K60)

Nitaj, Abderrahmane Aspects expérimentaux de la conjecture *abc*. [Experimental aspects of the *abc* conjecture] *Number theory (Paris, 1993–1994)*, 145–156, *London Math. Soc. Lecture Note Ser.*, 235, *Cambridge Univ. Press, Cambridge*, 1996. (J. Browkin) **99f:11041** 11D41 (11Y50)

— Détermination de courbes elliptiques pour la conjecture de Szpiro. [Determination of elliptic curves for the Szpiro conjecture] *Acta Arith.* **85** (1998), *no.* 4, 351–376. (Teresa de Diego) **99i:11041** 11G05 (11Y50)

Nitecki, Z. (*with* Denker, Manfred; Mauldin, R. Daniel; Urbański, Mariusz) Conformal measures for rational functions revisited. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 161–173. (Sanju L. Velani) **99j:58122** 58F11 (28D99, 30D05, 58F23)

Niţescu, Cătălina Transformations of the semi-symmetric metric connections. II. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 29–35. (Gabriel-Teodor Pripoae) **99e:53016** 53B05 (53B15)

— Concircular transformations and invariants. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 101–104. (Chuan Yu Ma) **99a:53013** 53B20 (53B21)

— On concircular mappings in Riemannian manifolds with recurrent conditions. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 105–108. (Chuan Yu Ma) **99a:53014** 53B20 (53B21)

Nithiarasu, Perumal (*with* Ravindran, Kanagaraj) A new semi-implicit time stepping procedure for buoyancy driven flow in a fluid saturated porous medium. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 147–154. (Summary) **99h:76059** 76M10 (65M55, 76S05)

Nitsche, Johannes C. C. Mathematik in Berlin. Born konkreter Geometrie über die Jahrhunderte. [Mathematics in Berlin. Well-spring of concrete geometry throughout the centuries] *Mathematik aus Berlin*, 106–164, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 01A05 (01A72)

— Removable singularities of the differential equation $rt - s^2 = 1$. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 4, 311–314. (Fei-Tsen Liang) **99h:35052** 35J60 (35A20, 35C99)

Nitsche, Ludwig C. *see* **Zenit, R.**

ultes-Nitsche, Ulrich *see* **Ultes-Nitsche, Ulrich**

Nitta, K. (*with* Bryant, C. F.; Emson, C. R. I.; Simkin, J.; Trowbridge, C. W.) A comparison of Lorentz and Coulomb gauges in the solution of Maxwell's equations. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 301–312, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78002** 78–08 (78A25)

Niu, Chi-Sheng (*with* Griffiths, Robert B.) Optimal copying of one quantum bit. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 6, 4377–4393. (Summary) **99k:81047** 81P99

Niu, Peng Cheng (*with* Luo, Xue Bo) The spectrum of the sub-Laplacian operator on a two-step nilpotent Lie group. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 659–664. (T.-S. Wu) **99e:22018** 22E30 (22E25, 35H05, 47F05)

— (*with* Luo, Xue Bo) Eigenvalue problems for operators that are sums of squares of vector fields. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 101–104. (Summary) **99c:35175** 35P05 (35H05)

— (*with* Shang, Ya Dong) Explicit exact solutions for the RLW equation and the SRLW equation in two space dimensions. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 1–5. 35Q53

— (*with* Zhang, Ji Hui[1]) Existence results for the positive solutions of semilinear equations on the Heisenberg group. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 181–189. (J. V. A. Gonçalves) **99d:35062** 35J65 (35B05)

— (*with* Zhang, Ji Hui[1]) Estimates for eigenvalues of the bi-sub-Laplacian on the Heisenberg group. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 17–22. (Summary) **99e:35026** 35H05 (35P15)

— (*with* Shang, Ya Dong) Exact solitary wave solutions for some nonlinear evolution equations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 74–79, 35. 35Q51 (35C05, 35Q58)

— (*with* Yu, Yuan Hong) Eigenvalue problems of second order differential equations with indefinite weight. (English summary) *Ann. Differential Equations* **15** (1999), *no.* 1, 33–37. 35J25 (34L15)

Niu, Shun-Chen (*with* Cooper, Robert B.; Srinivasan, Mandyam M.) Some reflections on the renewal-theory paradox in queueing theory. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 355–368. 60K25 (60K30, 90B22)

Niu, Si Li (*with* Liang, Han Ying) p-type spaces and convergence rates of tail probabilities for sums of B-valued random elements. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 92–102. (Summary) **99e:60020** 60B12

— (*with* Liang, Han Ying; Xue, Zhan Ao) Complete convergence and laws of large numbers for arrays of B-valued random elements. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 89–96. (Summary) **99e:60021** 60B12

Niu, Steve S. (*with* Fisher, D. Grant) Recursive information forgetting with augmented UD identification. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 623–637. 93B30 (93E12)

Niu, Xiao Qi (*with* Zhao, Zun Yu) A complete system of invariants for the line of intersection of a quadratic surface with a plane. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 2, 24–28. 51N20

Niukkanen, A. W. Transformation theory of multiple hypergeometric series and computer aided symbolic calculations. (English summary) *Computational modelling and computing in physics (Dubna, 1996)*, 219–223, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65D20 (33C70)

bar Niv, Moshe *see* **Bar Niv, Moshe**

Nivas, Ram (*with* Srivastava, Sudhir Kumar) On integrability conditions of a manifold admitting $f_2(2k, 2)$-structure. *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 13–17. (Lovejoy S. K. Das) **99k:53059** 53C15

Nivat, Maurice *see* **Foundations of software science and computation structures, 99c:68005**

Niven, W. D. *see* **Maxwell, James Clerk, 99k:01087a**

Niwa, Norio (*with* Jimbo, Toshiya; Owa, Shigeyoshi) Hardy class of functions defined by the Salagean operator. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 25–30. (R. K. Raina) **99d:30018** 30C45

Niwiński, Damian (*with* Stolboushkin, A. P.) $y = 2x$ vs. $y = 3x$. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 661–672. (Howard Straubing) **99a:68077** 68Q15 (03C40)

— (*with* Walukiewicz, Igor) Relating hierarchies of word and tree automata. (English summary) *STACS 98 (Paris, 1998)*, 320–331, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68122** 68Q45 (03D05, 68Q60, 68Q68)

— (*with* Charatonik, Witold; McAllester, David; Podelski, Andreas; Walukiewicz, Igor) The Horn mu-calculus. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 58–69, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68079** 68Q60 (03B70, 68N17)

— *see also* **Logic, algebra, and computer science, 99m:03004**

Niyianni, N. T. (*with* Kordonis, I.-G. E.; Philos, Ch. G.) On the behavior of the solutions of scalar first order linear autonomous neutral delay differential equations. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 6, 454–464. (Elena Litsyn) **99i:34099** 34K15 (34K20, 34K40)

Niyogi, Partha (*with* Berwick, Robert C.) A dynamical systems model for language change. (English summary) *Complex Systems* **11** (1997), *no.* 3, 161–204. 68T05 (92J40)

Nizhnik, L. P. On point interaction in quantum mechanics. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1557–1560; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1752–1755 (1998). 35J10 (47N50, 81Q05)

Nizhnik, P. P. (*with* Ayukaev, R. I.) Anamorphism of the Cartesian nomogram in composite nomograms. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 41–46. 26B99

Njamkepo, Serge Global existence and long-time behavior for a partially dissipative system modelling a polymerization-crystallization reaction. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 219–249. (Sergei A. Vakulenko) **99c:35241** 35Q72 (47H20, 58F39, 73B99, 76N10, 80A22)

Njåstad, Olav (*with* Bultheel, Adhemar; González-Vera, Pablo; Hendriksen, Erik) A rational moment problem on the unit circle. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 283–310. (Jia Rong Yu) **99b:30056** 30E05 (42C10, 44A60, 47A57)

— (*with* Bultheel, Adhemar; González-Vera, Pablo; Hendriksen, Erik) Interpolation of Nevanlinna functions by rationals with poles on the real line. (English summary) *Orthogonal functions, moment theory, and continued fractions (Campinas, 1996)*, 101–110, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Summary) **99h:41020** 41A20 (30E05)

— (*with* Bultheel, Adhemar; González-Vera, Pablo; Hendriksen, Erik) Orthogonal rational functions and interpolatory product rules on the unit circle. I. Recurrence and interpolation. (English summary) *Analysis (Munich)* **18** (1998), *no.* 2, 167–183. (A. G. Law) **99i:30053** 30E05 (33C45, 41A20)

— (*with* Bultheel, Adhemar; González-Vera, Pablo; Hendriksen, Erik) Orthogonal rational functions and interpolatory product rules on the unit circle. II. Quadrature and convergence. (English summary) *Analysis (Munich)* **18** (1998), *no.* 2, 185–200. (A. G. Law) **99i:30054** 30E05 (33C45, 33E05, 41A20)

Njifenjou, Abdou Dual mixed hybrid finite element method: the theory and the practice on a model problem. Application. (English and French summaries) *IMHOTEP J. Afr. Math. Pures Appl.* **1** (1997), *no.* 1, 1–30. (Summary) **99b:65146** 65N30 (76M10, 76S05)

Njoku, Franic Ikechukwu Solvability of a three-point boundary value problem below the first eigenvalue. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 55–61 (1998). (Joseph E. Paullet) **99k:34039** 34B10 (34B15)

— A note on the existence of infinitely many radially symmetric solutions of a quasilinear elliptic problem. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 227–239. (Summary) **99a:35093** 35J65 (34B15)

N'Kanza, M. Sur les p-corps. (English and French summaries) [On p-fields] *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2587–2590. (Adrian R. Wadsworth) **99m:11037** 11E04

Nkashama, M. N. (*with* Grossinho, Maria do Rosário) Periodic solutions of parabolic and telegraph equations with asymmetric nonlinearities. *Nonlinear Anal.* **33** (1998), *no.* 2, 187–210. (Norman Dancer) **99g:35054** 35K55 (35B10, 35L70, 47H15, 47N20)

Nkiet, G. M. (*with* Dauxois, Jacques) Canonical analysis of two Euclidean subspaces and its applications. (English summary) *Linear Algebra Appl.* **264** (1997), 355–388. (Yasunori Fujikoshi) **99a:62079** 62H20

Nkwanta, Asamoah Lattice paths and RNA secondary structures. (English summary) *African Americans in mathematics (Piscataway, NJ, 1996)*, 137–147, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (Walter M. Böhm) **99c:05013** 05A15 (92D20)

No, Jong-Seon (*with* Chung, Habong; Yun, Min-Seon) Binary pseudorandom sequences of period $2^m - 1$ with ideal autocorrelation generated by the polynomial $z^d + (z + 1)^d$. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1278–1282. (Summary) **99c:94021** 94A55

Noaghi, Sorin The equations of minimal curves in a time-normalized space-time manifold. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 235–246. (Paolo Piccione) **99m:53126** 53C50 (53C22, 53C60)

Noailles, Joseph (*with* Le, Cong Thanh) Contrôle en temps minimal et transfert orbital à très faibles poussées. (French summary) [Control in minimal time and orbital transfer with very weak thrusts] *Équations aux dérivées partielles et applications*, 705–723, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Pierre Bernhard) **99h:49051** 49N55 (70M20, 70Q05)

Noakes, J. Lyle Riemannian quadratics. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 319–328, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Bert Jüttler) **99j:65026** 65D17 (53A04)

— Nonlinear corner-cutting. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 3, 165–177. (Marshall Walker) **99i:65011** 65D10 (53B21)

— (*with* Kaya, C. Yalçin) A global control algorithm in the plane. (English summary) *Dynam. Control* **8** (1998), *no.* 4, 377–385. (Summary) **99f:93059** 93B40 (57R27, 93B50)
— A global algorithm for geodesics. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 37–50. (Anders Linnér) **99m:58055** 58E10 (34B15, 53C22, 65K10)
— Accelerations of Riemannian quadratics. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1827–1836. (Yu Yu Feng) **99i:53013** 53B20 (41A55, 65D17)
Nöbauer, Christof (*with* Boykett, Timothy H. H.) A class of groups which cannot be the additive groups of near-rings with identity. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 89–99, *Heyn, Klagenfurt*, 1998. (Howard E. Bell) **99i:16078** 16Y30 (20F99)
Nobel, Andrew B. (*with* Adams, Terrence M.) On density estimation from ergodic processes. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 794–804. (G. Roussas) **99m:62038** 62G05 (60G10)
Nobile, Augusto On the trees associated to plane curve singularities and ideals. (Italian summary) *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 437–452. (Lê Văn Thành) **99d:14018** 14H20
— (*with* Villamayor U., Orlando E.) Zariski factorization theory for sheaves of ideals on arithmetic three-folds. *Comm. Algebra* **26** (1998), *no.* 8, 2669–2688. (Yukari Ito) **99j:14027** 14G40 (13H05)
— A minimality property of Rees valuations. *Comm. Algebra* **27** (1999), *no.* 1, 149–161. (Digen Zhang) **99k:13002** 13A18
Nobili, Paolo (*with* Sassano, Antonio) $(0, \pm 1)$ ideal matrices. (English summary) *Math. Programming* **80** (1998), *no.* 3, *Ser. A*, 265–281. (Winfried Hochstättler) **99c:90096** 90C27 (15A36)
Noble, John M. The direct polymer in a random environment. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 4, 585–612. (Aernout C. D. van Enter) **99f:82035** 82B44 (60K35, 82D60)
Noble, S. D. Evaluating the Tutte polynomial for graphs of bounded tree-width. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 307–321. (Hans L. Bodlaender) **99k:05152** 05C85 (05C05)
Nobusada, Yuji (*with* Maeda, Hiroshi[1]) A study on the parallel computability of multi-fold approximate reasoning. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 129–144. (Summary) **99e:68151** 68T27 (03B35, 03B52, 03B70)
Nobuyama, Eitaku (*with* Shin, Seiichi) Deadbeat control of MIMO continuous-time systems. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 9, 521–528. 93B52 (93C05)
Nocedal, Jorge Large scale unconstrained optimization. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 311–338, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99b:90003** 90–02 (65K05, 90C06, 90C30)
— (*with* Zhu, Ciyou; Byrd, Richard H.; Lu, Peihuang) Algorithm 778: L-BFGS-B: Fortran subroutines for large-scale bound-constrained optimization. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 550–560. 65Y15
— (*with* Yuan, Ya Xiang) Combining trust region and line search techniques. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 153–175, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Christian Zillober) **99g:90131** 90C30 (65K05)
— (*with* Byrd, Richard H.; Liu, Guang Hui) On the local behaviour of an interior point method for nonlinear programming. (English summary) *Numerical analysis* 1997 (*Dundee*), 37–56, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Tamás Terlaky) **99g:90116** 90C30 (65K05)
— (*with* Byrd, Richard H.) Active set and interior methods for nonlinear optimization. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 667–676 (*electronic*). (Shinji Mizuno) **99h:90094** 90C30 (65K05)
— (*with* Lalee, Marucha; Plantenga, Todd) On the implementation of an algorithm for large-scale equality constrained optimization. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 682–706 (*electronic*). (Riho Lepp) **99e:65102** 65K05 (90C30)
Nochefranca, L. (*with* Shum, Kar Ping) Pseudo-symmetric ideals of semigroup and their radicals. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 727–735. (C. Sri Hari Nagore) **99m:20141** 20M12
Nochetto, Ricardo H. (*with* Schmidt, Alfred; Verdi, Claudio) Adapting meshes and time-steps for phase change problems. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 4, 273–292. (E. G. D'yakonov) **99h:65170** 65M60 (65M15, 73B30)
— (*with* Savaré, Giuseppe; Verdi, Claudio) Error control of nonlinear evolution equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1437–1442. (Summary) **99e:65126** 65M15 (34G20, 65J15)
— (*with* Jiang, Xun) A P^1-P^1 finite element method for a phase relaxation model. I. Quasi-uniform mesh. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1176–1190 (*electronic*). (Summary) **99a:65150** 65N30 (65N15)
— (*with* Schmidt, Alfred; Verdi, Claudio) Error control for phase change problems. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 53–61, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 65M12 (80–08, 80A10)
Nocilla, Silvio Foreword [in memoriam Carlo Ferrari, 1903–1996]. Topics in fluid mechanics (Turin, 1998). *Meccanica* **33** (1998), *no.* 5, 429–432. (*see* **99h:76005**) 01A70
— *see also* **Topics in fluid mechanics, 99h:76005**
Nock, Richard (*with* Jappy, Pascal) PAC learning conceptual graphs. (English summary) *Conceptual structures: theory, tools and applications* (*Montpellier*, 1998), 303–315, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (*see* **99h:68003**) 68T05 (68T30)
— (*with* Jappy, Pascal) Function-free Horn clauses are hard to approximate. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 195–204, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (Summary) **99m:68034** 68N17 (03B70, 68Q25, 68T05)
Nöcker, Michael (*with* von zur Gathen, Joachim) Exponentiation in finite fields: theory and practice. *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 88–113, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Introduction) **99c:68123** 68Q25 (68P25, 94A60)
Noda, Hideki (*with* Wakiyama, Masahiro; Nozaki, Koichi; Kawaguchi, Eiji) Computation algorithm of semantic difference measure in the SD-form semantics model. (English summary) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1065–1079. 68S05
Noda, Kazuo (*with* Wu, Qi Guang) Admissibility and Γ-minimaxity of loss estimators in multivariate linear model. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 69–81. (Goetz Trenkler) **99c:62022** 62C15 (62H12)
Noda, Matu-Tarow (*with* Kai, Hiroshi; Saito, Tomokatsu) A relation between approximate-GCD and error of hybrid rational function approximation. (Japanese. English summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 139–145. (*see* **99h:00034**) 65D15 (41A20)
— (*with* Shiraishi, Kei-ichi; Kai, Hiroshi; Saito, Tomokatsu) An algebraic solution method for certain types of nonlinear programming problems. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 146–153. (*see* **99h:00034**) 90C30 (65K05)
Noda, Tatsuo (*with* Ishii, Hiroaki[1]) A general Newton method for systems of nonlinear equations. II. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 447–452. (Summary) **99j:65095** 65H10
álvarez-Nodarse, Renato *see* **Álvarez-Nodarse, Renato**
Nodera, Takashi (*with* Noguchi, Yuuichirou; Tani, Atusi) Stable patterns in nonlinear diffusion equations on discrete lattices. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 188–195. (*see* **99i:00028**) 39A12 (35K55, 65M99)
— (*with* Noguchi, Yuuichirou; Tani, Atusi) Pattern formation in the spatially discrete Cahn-Hilliard equation. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2049–2059. (Summary) **99e:92011** 92C15
— (*with* Tsuno, Naoto) The speedup of the GMRES(m) method using the early restarting procedure. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 4, 1760–1773. 65F30
Noël, Alfred G. Nilpotent orbits and theta-stable parabolic subalgebras. (English summary) *Represent. Theory* **2** (1998), 1–32 (*electronic*). (Anthony Joseph) **99g:17023** 17B35
Noël, Benjamin (*with* Baltensperger, Richard; Berrut, Jean-Paul) Exponential convergence of a linear rational interpolant between transformed Chebyshev points. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1109–1120. (D. J. Leeming) **99k:41016** 41A20 (65D05)
Noether, Emmy *see* **Heritage of Emmy Noether, 99g:01001**; **Byers, Nina, 99m:58001**; **Ne'eman, Yuval, 99m:81005** *and* **Teicher, Mina, (99g:01001)**
Noga, John (*with* Chrobak, Marek) Bibliography on competitive algorithms. *Online algorithms* (*Schloss Dagstuhl*, 1996), 395–436, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68–00 (00A15, 68Q20)
— (*with* Chrobak, Marek) LRU is better than FIFO. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 78–81, *ACM, New York*, 1998. (*see* **99d:68011**) 68N25
— (*with* Chrobak, Marek) Competitive algorithms for multilevel caching and relaxed list update (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 87–96, *ACM, New York*, 1998. (*see* **99d:68011**) 68N25
— (*with* Chrobak, Marek) LRU is better than FIFO. (English summary) *Algorithmica* **23** (1999), *no.* 2, 180–185. (Summary) **99i:68022** 68N25
Nogin, D. Yu. (*with* Karpov, B. V.) Three-block exceptional sets on del Pezzo surfaces. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 3, 3–38; *translation in Izv. Math.* **62** (1998), *no.* 3, 429–463. (Jarosław A. Wiśniewski) **99k:14069** 14J60 (14F05)
Nogin, V. A. (*with* Abramyan, Anna V.) Complex powers of second-order hypoelliptic operators with constant coefficients in L_p-spaces. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1134–1135, 1152; *translation in Differential Equations* **33** (1997), *no.* 8, 1141–1143 (1998). (Summary) **99d:35026** 35H05 (47F05)
— (*with* Sukhinin, E. V.) Fractional powers of the Schrödinger operator in L_p-spaces. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 5, 608–610. 35J10 (47F05)
— (*with* Karapetyants, A. N.) Characterization of functions in anisotropic spaces of complex order. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 24–30; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 5, 22–28. (L. Ĭ. Nikolova) **99j:46037** 46E35 (41A35)
Noguchi, Junjiro Recent topics in the theory of holomorphic curves. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 317–331. (Summary) **99a:32034** 32H30 (11J99, 32H20)
— Value distribution theory of holomorphic mappings. *Complex geometric analysis in Pohang* (1997), 109–129, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (William A. Cherry) **99k:32042** 32H30 (11J99, 32H20)
Noguchi, Masakazu (*with* Grigor'yan, Alexander) The heat kernel on hyperbolic space. *Bull. London Math. Soc.* **30** (1998), *no.* 6, 643–650. (Józef Dodziuk) **99h:58183** 58G11 (35K05)
Noguchi, Mitsunori Economies with a continuum of agents with the commodity-price pairing (l_∞, l_1). (English summary) *J. Math. Econom.* **28** (1997), *no.* 3, 265–287. (Axel Ernest Grorud) **99a:90060** 90A14 (90A15)
Noguchi, Yuuichirou (*with* Tani, Atusi; Nodera, Takashi) Stable patterns in nonlinear diffusion equations on discrete lattices. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 188–195. (*see* **99i:00028**) 39A12 (35K55, 65M99)
— (*with* Tani, Atusi; Nodera, Takashi) Pattern formation in the spatially discrete Cahn-Hilliard equation. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2049–2059. (Summary) **99e:92011** 92C15
Nogueira, A. *see* **Nogueira, Arnaldo C. R.**
Nogueira, A. C. *see* **Nogueira, Antonio Carlos**
Nogueira, A. L. M. A. (*with* Lemes, V. E. R.; Helayël-Neto, José A.) Supersymmetric generalization of the tensor matter fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3145–3156. (Ilya Shapiro) **99f:81202** 81T60
— (*with* Christiansen, H. R.; Cunha, M. S.; Helayël-Neto, José A.; Manssur, L. R. U.) $N = 2$ Maxwell-Chern-Simons model with anomalous magnetic moment coupling via

dimensional reduction. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 1, 147–159. 81T60 (81T50)

— (*with* Christiansen, H. R.; Cunha, M. S.; Helayël-Neto, José A.; Manssur, L. R. U.) Self-dual vortices in a Maxwell-Chern-Simons model with nonminimal coupling. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 11, 1721–1735. 81T13

Nogueira, Antonio Carlos (*with* Bruce, J. W.) Surfaces in $\mathbf{R}^4$ and duality. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 196, 433–443. (Maria Aparecida Soares Ruas) **99j:53002** 53A05 (58C27)

Nogueira, Arnaldo C. R. (*with* Rudolph, Daniel J.) Topological weak-mixing of interval exchange maps. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1183–1209. (Pierre Arnoux) **99a:58126** 58F19 (54H20, 58F11)

Nogueira, Monica (*with* Nandigam, Amarendra) Why intervals? Because if we allow other sets, tractable problems become intractable. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 389–394. (M. A. Wolfe) **99i:65053** 65G10 (68Q25)

cassou-Noguès, Pierrette *see* **Cassou-Noguès, Pierrette**

Nogura, Tsugunori (*with* Shakhmatov, Dmitriĭ B.) Spaces which have finitely many continuous selections. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 723–729. (Stoyan Nedev) **99a:54011** 54C65 (05A99, 54B20, 54D99)

— (*with* Shakhmatov, Dmitriĭ B.) Characterizations of intervals via continuous selections. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 2, 317–328. (J. J. Charatonik) **99d:54012** 54C65 (54B20, 54D05, 54F15)

— (*with* Frič, Roman) Rings of maps: sequential convergence and completion and strictness. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 137–143. (J. R. Isbell) **99i:54019** 54C35 (54A20, 54D35)

— (*with* Arkhangel′skiĭ, A. V.) Relative sequentiality. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 49–58. (J. R. Isbell) **99c:54038** 54D55 (54A20)

— (*with* Fujii, S.) Characterizations of compact ordinal spaces via continuous selections. (English summary) *Topology Appl.* **91** (1999), *no.* 1, 65–69. (A. H. Stone) **99k:54011** 54C65 (54B20, 54D30, 54F05, 54F65)

Noh, Hyun Gon (*with* Park, Sung Hyun) A study on the influence of a missing cell in a class of central composite designs. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 133–152. 62K05

Noha, Hiroshi (*with* Maehara, Hiroshi) On the graph represented by a family of solid balls on a table. (English summary) *Ryukyu Math. J.* **10** (1997), 51–64. (Graham Brightwell) **99c:05165** 05C75 (05C10)

Nohel, John A. *see* **Levinson, Norman**, **99d:01039a** *and* **99d:01039b**

Noiri, Takashi (*with* Yoshimura, M.; Miwa, Takuo) A generalization of regular closed and g-closed functions. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 353–358. (Summary) **99k:54006** 54C10 (54D10)

— (*with* Hatır, Eşref; Yüksel, Ş.) Semi θ-continuous functions. (English and Turkish summaries) *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B* **20** (1997), *no.* 1-2, 231–239. 54C08

— (*with* Popa, Valeriu) On almost β-continuous functions. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 4, 329–339. (Summary) **99b:54019** 54C08

— (*with* Jafari, Saeid) On almost weakly continuous functions. (English summary) *Demonstratio Math.* **31** (1998), *no.* 2, 437–443. 54C08

— (*with* Jafari, Saeid) On rarely β-continuous multifunctions. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 283–289. 54C60 (54C08)

— (*with* Jafari, Saeid) Some remarks on weak α-continuity. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 619–625. 54C08

— (*with* Dontchev, Julian) A note on: M. Saleh's paper: "Almost continuity implies closure continuity" [Glasgow Math. J. **40** (1998), no. 2, 263–264; MR 99c:54016]. *Glasgow Math. J.* **40** (1998), *no.* 3, 473. (From the text) **99j:54016** 54C08

— (*with* Jafari, Saeid) On strongly θ-semi-continuous functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1195–1201. 54C08

— (*with* Popa, Valeriu) Almost quasi continuous multifunctions. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 81–90. (*see* **99f:00022**) 54C08 (54C60)

— (*with* Popa, Valeriu) On upper and lower almost β-continuous multifunctions. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 57–73. (Summary) **99i:54021** 54C60 (54C08)

— (*with* Dontchev, Julian; Ganster, Maximilian) Unified operation approach of generalized closed sets via topological ideals. (English summary) *Math. Japon.* **49** (1999), *no.* 3, 395–401. 54H05 (54C08, 54D10)

Noja, Diego (*with* Posilicano, Andrea) The wave equation with one point interaction and the (linearized) classical electrodynamics of a point particle. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 3, 351–377. (Summary) **99b:78006** 78A25 (35Q60, 78A35)

Nojima, Kôichirô The Grassmann representation of Ising model. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 20, 1995–2003. (Yvan Velenik) **99g:82013** 82B20 (82B23)

Nojiri, Shin'ichi (*with* Bytsenko, Andrei A.; Gonçalves, Antonio E.; Odintsov, Sergei D.) Vacuum energy for the supersymmetric twisted D-brane in a constant electromagnetic field. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1103–1110. (Sergey Nikolaevich Roshchupkin) **99d:81111a** 81T30 (81T60)

— (*with* Bytsenko, Andrei A.; Gonçalves, Antonio E.; Odintsov, Sergei D.) Corrigendum: "Vacuum energy for the supersymmetric twisted D-brane in a constant electromagnetic field". *Classical Quantum Gravity* **15** (1998), *no.* 7, 2039. (Sergey Nikolaevich Roshchupkin) **99d:81111b** 81T30 (81T60)

— (*with* Odintsov, Sergei D.) Effective potential for D-brane in constant electromagnetic field. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2165–2178. (Summary) **99b:81202** 81T30

— (*with* Odintsov, Sergei D.) Errata: "Effective potential for D-brane in constant electromagnetic field" [Internat. J. Modern Phys. A **13** (1998), no. 13, 2165–2178; MR 99b:81202]. *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4777. 81T30

— (*with* Endo, Rika; Kuriki, Rie; Sugamoto, Akio) A rule of thumb derivation of Born-Infeld action for D-branes. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1309–1317. (Summary) **99c:81179** 81T30

— (*with* Kadoyoshi, Tomoko; Sugamoto, Akio; Odintsov, Sergei D.) Vacuum polarization of supersymmetric D-brane in the constant electromagnetic field. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1531–1537. (Editors) **99c:81191** 81T30

— (*with* Odintsov, Sergei D.) Can quantum-corrected BTZ black hole anti-evaporate? (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 33, 2695–2704. 83C57

— (*with* Kato, Yuriko; Sugamoto, Akio) D0-brane description of the charged black hole. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3145–3150. (Summary) **99j:83046** 83C57 (83E30)

— (*with* Kadoyoshi, Tomoko; Odintsov, Sergei D.) Four-dimensional cosmology from dilaton coupled quantum matter in two dimensions. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 255–264. (Summary) **99b:83037** 83C45

— (*with* Odintsov, Sergei D.) Conformal anomaly for dilaton coupled electromagnetic field. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 29–35. (Summary) **99c:81224** 81T50 (81T20, 83C50, 83E15)

— (*with* Bytsenko, Andrei A.; Odintsov, Sergei D.) Quantum generation of Schwarzschild-de Sitter (Nariai) black holes in effective dilaton-Maxwell gravity. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 121–126. (Summary) **99h:83034** 83C57 (83E30)

— (*with* Odintsov, Sergei D.) Conformal anomaly for dilaton coupled theories from AdS/CFT correspondence. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 92–97. (Summary) **99h:81200** 81T50 (81T30, 83E30, 83E50)

— (*with* Gates, S. James, Jr.; Kadoyoshi, Tomoko; Odintsov, Sergei D.) Quantum cosmology in the models of 2D and 4D dilatonic supergravity with WZ matter. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084026, 17 *pp.* (Summary) **99m:83201** 83E50 (83C45)

— (*with* Odintsov, Sergei D.) Two-boundaries AdS/CFT correspondence in dilatonic gravity. (English summary) *Phys. Lett. B* **449** (1999), *no.* 1-2, 39–47. (Summary) **99k:83123** 83E30 (81T40, 83E50)

— (*with* Odintsov, Sergei D.) Quantum (in)stability of 2D charged dilaton black holes and 3D rotating black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044003, 11 *pp.* 83C57

— (*with* Odintsov, Sergei D.) Quantum evolution of Schwarzschild-de Sitter (Nariai) black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044026, 10 *pp.* (Summary) **99m:83085** 83C47 (83C57)

— (*with* Elizalde, Emilio; Odintsov, Sergei D.) Possible quantum instability of primordial black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 061501, 3 *pp.* 83C57

Nojri, A. *see* **Komori, Yohei**, **(98b:58005)**

Nolan, Brien C. The Goldberg-Kerr approach to Lorentz covariant gravity. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 31–59. (Summary) **99j:83027** 83C30 (83C50)

— (*with* Guilfoyle, Brendan S.) Yang's gravitational theory. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 473–495. (Alberto Saa Vazquez) **99a:83054** 83D05

— A point mass in an isotropic universe: existence, uniqueness, and basic properties. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064006, 10 *pp.* (Summary) **99m:83033** 83C15

Nolan, Jennifer M. (*with* Sivaraman, Vijay; Savage, Carla D.; Tiwari, Pranav K.) Graphical basis partitions. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 241–261. (C. C. Rousseau) **99j:05014** 05A17 (05C99, 11Y55)

Nolan, John P. Parameterizations and modes of stable distributions. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 187–195. (Wolfgang Gawronski) **99i:60035** 60E07 (60E10)

Nolan, Lawrence Descartes' theory of universals. *Philos. Stud.* **89** (1998), *no.* 2-3, 161–180. (William R. Shea) **99e:01012** 01A45 (00A30)

Nolasco, Margherita (*with* Montecchiari, Piero; Terracini, Susanna) Multiplicity of homoclinics for a class of time recurrent second order Hamiltonian systems. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 6, 523–555. (Vittorio Coti Zelati) **99b:58052** 58E05 (34C37, 58F05, 58F15, 70H05)

— (*with* Caldiroli, Paolo) Multiple homoclinic solutions for a class of autonomous singular systems in $\mathbf{R}^2$. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 1, 113–125. (Ugo C. Bessi) **99b:58049** 58E05 (34C37, 58F05)

— (*with* Montecchiari, Piero; Terracini, Susanna) A global condition for periodic Duffing-like equations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3713–3724. (Boris Buffoni) **99m:34107** 34C37 (58E05, 58F15)

Nolde, E. V. (*with* Kaplunov, Yu. D.; Kossovich, L. Yu.) ★ Dynamics of thin walled elastic bodies. (English summary) *Academic Press, Inc., San Diego, CA*, 1998. x+226 *pp. ISBN* 0-12-397590-5 (Juan M. Viaño Rey) **99a:73084** 73K10 (73K12)

Noldus, E. (*with* Loccufier, M.) Global convergence properties of discrete time neural networks. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 2, 163–175. 93C30 (93D05)

Noll, A. (*with* Demuth, Michael; McGillivray, Ivor) Capacity and spectral theory. *Spectral theory, microlocal analysis, singular manifolds*, 12–77, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Zhong Xin Zhao) **99f:31007** 31A35 (35J99, 47D07, 47F05, 60J45)

Noll, Dominikus Consistency of a nonlinear deconvolution method with applications to image restoration. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 789–808. (J. Borwein and Pierre Maréchal) **99d:94009** 94A12 (65K10, 90C90, 94A17)

Noll, Landon Curt *see* **Rathbun, Randall L.**

Noll, Thomas (*with* Albayrak, Can Adam) The WHILE hierarchy of program schemes is infinite. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 35–47, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (Summary) **99d:68035** 68N15

Nollau, Volker "At best a half-truth". Comment on: "Life in and after the GDR. Interviews with Horst Sachs and Gustav Burosch" [Mitt. Dtsch. Math.-Ver. **1997**, no. 3, 23–33; MR 99b:01023] by V. A. Schmidt and M. Aigner. (German) *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 4, 42. (Editors) **99b:01024c** 01A70

— (*with* Luderer, Bernd; Vetters, Klaus) ★ Mathematische Formeln für Wirtschaftswissenschaftler. (German. German summary) [Mathematical formulas for economists] *B. G. Teubner, Stuttgart*, 1998. 140 *pp. ISBN* 3-8154-2131-4 (From the preface) **99k:00009** 00A22 (00A06)

Nölle, Michael (*with* Andreae, Thomas; Hintz, Martin; Schreiber, Gerald; Schuster, Gerald W.; Seng, Hajo) Cartesian products of graphs as subgraphs of de Bruijn graphs of dimension at least three. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 3–34. (Jean-Claude Bermond) **99a:05116** 05C75

Nollert, Hans-Peter (*with* Price, Richard H.) Quantifying excitations of quasinormal mode systems. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 980–1010. (Summary) **99k:83034** 83C35 (83C57)

Nollet, Scott The Hilbert schemes of degree three curves. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 3, 367–384. (Pedro Gurrola) **99a:14003** 14C05 (14H50)

— (*with* Martin, Heath M.; Migliore, Juan C.) Degrees of generators of ideals defining curves in projective space. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1209–1231. (Giorgio Bolondi) **99b:14051** 14M06 (13C40, 13H10)

Nolte, Andreas (*with* Schrader, Rainer) Coloring in sublinear time. (English summary) *Algorithms—ESA '97 (Graz)*, 388–401, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68R10 (05C15, 05C85)

— (*with* Schrader, Rainer) A note on the finite time behaviour of simulated annealing. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 175–180, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C27 (60J10)

— (*with* Kannan, Ravindran) A fast random greedy algorithm for the component commonality problem. (English summary) *Algorithms—ESA '98 (Venice)*, 223–234, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 90C15 (68Q20)

Noltemeier, Hartmut (*with* Krumke, Sven O.; Marathe, Madhav V.; Ravi, R.; Ravi, S. S.) Network improvement problems. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 247–268, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:90147** 90C35 (05C90, 68M10)

— (*with* Krumke, Sven O.; Marathe, Madhav V.; Ravi, R.; Ravi, S. S.) Approximation algorithms for certain network improvement problems. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 257–288. (András Faragó) **99k:90188** 90C35 (05C90, 90B10)

— (*with* Drangmeister, Kay U.; Krumke, Sven O.; Marathe, Madhav V.; Ravi, S. S.) Modifying edges of a network to obtain short subgraphs. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 91–121. (Summary) **99d:68189** 68R10 (05C85, 68Q25)

— *see also* **Workshop: Computational Geometry**, **99k:00039**

Nomiyama, Akira (*with* Watanabe, Keigo; Sato, Kazuya) Stability analysis of fuzzy systems as periodically time-varying systems. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 4, 419–434 (1998). 93C42 (93D05)

Nomizu, Katsumi Quelques résultats en géométrie différentielle des espaces homogènes. [Some results in the differential geometry of homogeneous spaces] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 98, 433–440, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 53C30 (22E30, 53C05)

Nomura, Kazumasa (*with* Jaeger, François; Matsumoto, Makoto) Bose-Mesner algebras related to type II matrices and spin models. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 1, 39–72. (Andrew Woldar) **99f:05125** 05E30 (05B20, 82B23)

Nomura, Keiko K. (*with* Post, Gary K.) The structure and dynamics of vorticity and rate of strain in incompressible homogeneous turbulence. (English summary) *J. Fluid Mech.* **377** (1998), 65–97. (Summary) **99i:76075** 76F99 (76C05, 76M25)

Nomura, Kiyohide (*with* Kitazawa, Atsuhiro) $SU(2)/Z_2$ symmetry of the BKT transition and twisted boundary condition. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7341–7362. (Summary) **99e:82037** 82B26

Nomura, T. (*with* Yoshino, Kohzo; Pakdaman, K.; Sato, Shunsuke) Synthetic analysis of periodically stimulated excitable and oscillatory membrane models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 956–969. (Summary) **99h:92005** 92C05 (92C20)

Nomura, Takaaki (*with* Fujita, Etsuro) Berezin transforms on the 2×2 matrix space related to the $U(2) \times U(2)$-action. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 2, 152–179. (Miroslav Engliš) **99k:43008** 43A80 (32M15, 33C45, 47A10, 47B38)

Nongxa, Loyiso G. (*with* Vinsonhaler, C.) Balanced and cobalanced representations of posets. *Comm. Algebra* **25** (1997), *no.* 12, 3735–3749. (David M. Arnold) **99a:16010** 16G20 (20K15)

Nonnenmacher, S. Crystal properties of eigenstates for quantum cat maps. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1569–1598. (Christian Grosche) **99a:81038** 81Q20 (58F19, 81Q50, 81S30)

Nonnenmacher, Theo F. (*with* Metzler, Ralf) Fractional diffusion, waiting-time distributions, and Cattaneo-type equations. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6409–6414. (Summary) **99b:82076** 82C31

Nonobe, Koji (*with* Ibaraki, Toshihide) The tabu search approach: a widely used algorithm for CSPs (constraint satisfaction problems). (Japanese. English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 124–136. (*see* **99b:90009**) 90C27 (90C10)

Noo, Frédéric (*with* Clackdoyle, Rolf; Defrise, Michel) Early results on general vertex sets and truncated projections in cone-beam tomography. (English summary) *Computational radiology and imaging* (*Minneapolis, MN*, 1997), 113–135, *IMA Vol. Math. Appl.*, 110, *Springer, New York*, 1999. (*see* **99m:92012**) 92C55

Noonan, John New upper bounds for the connective constants of self-avoiding walks. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 871–888. (Stuart G. Whittington) **99g:82030** 82B41 (60J15)

Noor, Khalida Inayat Some classes of analytic functions preserved under a certain integral operator. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 247–254. (Summary) **99i:30023** 30C45

— (*with* Noor, Muhammad Aslam; Rassias, Themistocles M.) Set-valued resolvent equations and mixed variational inequalities. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 741–759. (Vyacheslav N. Pavlenko) **99i:58046** 58E35 (47H19, 49J40, 65J15)

— On an integral operator. (English summary) *J. Natur. Geom.* **13** (1998), *no.* 2, 127–132. (Summary) **99a:30018** 30C45

— On functions with bounded boundary rotation. (English summary) *J. Natur. Geom.* **14** (1998), *no.* 1, 63–68. (Summary) **99c:30020** 30C45

— (*with* Al-Naggar, Ibtesam M. A.) On the Hankel determinant problem. (English summary) *J. Natur. Geom.* **14** (1998), *no.* 2, 133–140. (Summary) **99c:30021** 30C45

— (*with* Hendi, Awatif A.) On some subclasses of close-to-convex functions of order α type δ. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 17–28. (Wolfram Koepf) **99e:30007** 30C45

— On a generalization of close-to-convexity of complex order. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 73–87. (Jan Stankiewicz) **99h:30013** 30C45 (30C75)

Noor, Muhammad Aslam Multivalued variational inequalities. *Inner product spaces and applications*, 183–207, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (Vyacheslav N. Pavlenko) **99j:47101** 47H19 (47H04, 47H17, 49J40)

— Some recent advances in variational inequalities. II. Other concepts. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 2, 229–255. (Xie Ping Ding) **99a:49019** 49J40 (47H17, 47H19, 49M25)

— Generalized mixed variational inequalities and resolvent equations. (English summary) *Positivity* **1** (1997), *no.* 2, 145–154. 49J40 (47H19)

— An implicit method for mixed variational inequalities. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 109–113. (Summary) **99c:47113** 47H19 (47H17, 49J40)

— Variational inequalities for fuzzy mappings. II. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 101–107. (Milan Mareš) **99d:90141** 90C70 (04A72, 47H19, 47S40, 49J40)

— (*with* Al-Said, Eisa A.; Rassias, Themistocles M.) Numerical solutions of third-order obstacle problems. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 75–84. 49J40 (65K10)

— On a class of multivalued variational inequalities. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 79–93. (Summary) **99b:47095** 47H19 (49J40, 90C33)

— General variational inequalities for fuzzy mappings. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 277–289. (Summary) **99c:49012** 49J40 (47H19, 47S40, 90C70)

— (*with* Al-Said, Eisa A.) Multivalued quasi variational inequalities for fuzzy operators. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 659–672. (Summary) **99d:49025** 49J40 (90C70)

— (*with* Noor, Khalida Inayat; Rassias, Themistocles M.) Set-valued resolvent equations and mixed variational inequalities. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 741–759. (Vyacheslav N. Pavlenko) **99i:58046** 58E35 (47H19, 49J40, 65J15)

— Generalized set-valued variational inclusions and resolvent equations. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 206–220. (Summary) **99g:47150** 47H19 (47H04, 47H10, 49J40)

— Well-posed variational-like inequalities. (English summary) *J. Natur. Geom.* **13** (1998), *no.* 2, 133–138. (Daniel Goeleven) **99a:49020** 49J40 (47H19)

— Resolvent equations and variational inclusions. (English summary) *J. Natur. Geom.* **14** (1998), *no.* 2, 141–148. 49J40 (47H19, 90C33)

— (*with* Al-Said, Eisa A.) Algorithms for nonlinear mixed variational inequalities. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 271–286. (Summary) **99b:47096** 47H19 (47H17, 49J40, 49M99, 90C20)

— (*with* Al-Said, Eisa A.) Generalized mildly nonlinear complementarity problems for fuzzy mappings. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 569–578. (J. J. Buckley) **99g:90142** 90C33 (90C70)

— (*with* Al-Said, Eisa A.; Al-Shejari, A. A.) Numerical solutions for system of second order boundary value problems. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 659–667. 65L06 (65D07)

— An extragradient method for general monotone variational inequalities. (English summary) *Adv. Nonlinear Var. Inequal.* **2** (1999), *no.* 1, 25–31. 49J40 (47H19)

— (*with* Al-Said, Eisa A.) Monotone nonlinear variational inequalities. (English summary) *Adv. Nonlinear Var. Inequal.* **2** (1999), *no.* 1, 43–54. 49J40 (47H19)

— (*with* Al-Said, Eisa A.) An iterative technique for generalized strongly nonlinear complementarity problems. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 75–79. 90C33 (65K05)

— Algorithms for general monotone mixed variational inequalities. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 330–343. (Summary) **99k:47172** 47H19 (47H17, 49J40)

— Sensitivity analysis framework for mixed variational inequalities. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 119–130. 49J40 (90C31)

— (*with* Al-Said, Eisa A.) Change of variable method for generalized complementarity problems. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 389–395. (Summary) **99k:90177** 90C33 (47N10, 49J40)

— Iterative algorithms for generalized monotone variational inequalities. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 89–98. (Summary) **99j:49017** 49J40 (47H17, 47H19)

Noorani, Mohd. Salmi Md. Lifting ergodic properties to homogeneous extensions of measure-preserving transformations. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 526–530, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 28D05

Noorbaloochi, S. (*with* Asgharian, M.) Note on a fundamental relationship between admissible and Bayesian decision rules. (English summary) *Statistics* **31** (1998), *no.* 1, 21–34. (Summary) **99a:62010** 62C10 (62C15)

van Noort, M. (*with* Broer, Hendrik W.; Hoveijn, I.) A reversible bifurcation analysis of the inverted pendulum. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 50–63. (Mikhail B. Sevryuk) **99b:58168** 58F14 (34C20, 58F36, 70H05, 70H33, 70K40)

Noot, Marc Johannes ★ Numerical analysis of turbine blade cooling ducts. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1997. *Eindhoven University of Technology, Eindhoven*, 1997. viii+117 *pp. ISBN* 90-386-0581-1 (H. Rasmussen) **99m:76081** 76M10 (65M60, 76D05)

van Nooyen, R. R. P. (*with* Vuik, C.; Wesseling, Pieter) Parallelism in ILU-preconditioned GMRES. (English summary) *Parallel Comput.* **24** (1998), *no.* 14, 1927–1946. 65F10 (65M99, 65Y05)

Norberg, Tommy (*with* Vervaat, Wim) Capacities on non-Hausdorff spaces. (English summary) *Probability and lattices*, 133–150, *CWI Tract*, 110, *Math. Centrum, Centrum*

Wisk. Inform., Amsterdam, 1997. (Z. Lipecki) **99f:28004** 28A12 (06B35, 28C15, 54D10, 54D45)

Norburn, Sean (*with* Silvester, David J.) Stabilised vs. stable mixed methods for incompressible flow. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 131–141. (Summary) **99i:76090** 76M10

Norbury, John (*with* Perumpanani, Abbey J.; Sherratt, Jonathan A.) Mathematical modelling of capsule formation and multinodularity in benign tumour growth. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1599–1614. (Summary) **99g:92015** 92C50

— (*with* van Vuuren, Jan H.) Permanence and asymptotic stability in diagonally convex reaction-diffusion systems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 147–172. (Elias Tuma) **99b:35199** 35Q80 (35K57, 92D40)

— (*with* Mays, Laurence) A note on solitary and periodic waves of a new kind. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1831–1834. (Summary) **99g:35110** 35Q51 (47G30, 76B25)

Norbury, John W. From Newton's laws to the Wheeler-DeWitt equation. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 143–150. (Summary) **99b:83039** 83C45 (83F05)

— Some connections between quantum tunneling and inflation. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 263–268. (Seth A. Major) **99g:83042** 83C45 (83F05)

Norbury, Paul (*with* Neumann, Walter D.) Nontrivial rational polynomials in two variables have reducible fibres. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 501–503. (Ludwik M. Drużkowski) **99j:14013** 14E09

— (*with* Jarvis, Stuart) Degenerating metrics and instantons on the four-sphere. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 1-2, 79–98. (Antony Maciocia) **99j:53023** 53C07 (58E15)

Nord, Gail (*with* Jabon, David; Nord, John) The global positioning system and the implicit function theorem. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 692–696 (*electronic*). (Summary) **99e:86010** 86A30 (86–01)

Nord, John (*with* Nord, Gail; Jabon, David) The global positioning system and the implicit function theorem. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 692–696 (*electronic*). (Summary) **99e:86010** 86A30 (86–01)

Nordenholz, Thomas R. (*with* O'Reilly, Oliver M.) On steady motions of isotropic, elastic Cosserat points. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 1, 55–72. (Summary) **99a:73040** 73C50 (73B99)

— (*with* O'Reilly, Oliver M.) On the existence of a stretch for a prescribed stress in isotropic, incompressible elastic materials. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 169–181. (C. F. M. Creasy) **99d:73029** 73C50 (73G05)

Nordin, Margareta (*with* Özkaya, Nihat) ★ Fundamentals of biomechanics. (English summary) Equilibrium, motion, and deformation. Second edition. With a preface by Nordin and Dawn L. Leger. With forewords by Victor H. Frankel and Richard Skalak. *Springer-Verlag, New York*, 1999. *xxii+393 pp. ISBN* 0-387-98283-3 73P20 (70Kxx, 92C10)

Nordin, Peter (*with* Banzhaf, Wolfgang) Real time control of a Khepera robot using genetic programming. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 533–561. (*see* **99b:90008**) 93C85 (90C30)

Nordmark, Henrik O. Efficient and highly accurate computation of a class of radially symmetric solutions of the Navier-Stokes equation and the heat equation in two dimensions. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 428–444. (Summary) **99a:76117** 76M25

Nordo, Giorgio A basic approach to the perfect extensions of spaces. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 303–313 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54D35

— A basic approach to the perfect extensions of spaces. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 571–580. (Summary) **99a:54018** 54D35

Nordsjö, Anders E. Cramér-Rao bounds for a class of systems described by Wiener and Hammerstein models. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1067–1083. 93E12

Nordström, Jan (*with* Carpenter, Mark H.; Gottlieb, David) A stable and conservative interface treatment of arbitrary spatial accuracy. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 341–365. (Summary) **99i:76093** 76M20

— (*with* Carpenter, Mark H.) Boundary and interface conditions for high-order finite-difference methods applied to the Euler and Navier-Stokes equations. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 621–645. (Summary) **99i:76099** 76M20

Noren, Richard D. (*with* Kaneko, Hideaki; Padilla, Peter A.) Singularity preserving Galerkin method for Hammerstein equations with logarithmic kernel. (English summary) *Adv. Comput. Math.* **9** (1998), *no.* 3-4, 363–376. (Summary) **99i:65148** 65R20 (45G05, 45L05)

Norfolk, Timothy S. On the zeros of the partial sums to ${}_1F_1(1;b;z)$. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 421–438. (N. K. Thakare) **99e:30003** 30C15 (30E15, 33C15)

Norguet, François Problème de Levi et plongement des variétés analytiques réelles (d'après Hans Grauert). [The Levi problem and embeddings of real-analytic manifolds (after Hans Grauert)] *Séminaire Bourbaki, Vol. 5, Exp. No.* 173, 61–81, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 32C05

— Théorèmes de finitude pour la cohomologie des espaces complexes (d'après Aldo Andreotti et Hans Grauert). [Finiteness theorems for the cohomology of complex spaces (after Aldo Andreotti and Hans Grauert)] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 234, 191–205, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 32C35

Nori, Madhav V. (*with* Kumar, Shrawan) Positivity of the cup product in cohomology of flag varieties associated to Kac-Moody groups. *Internat. Math. Res. Notices* **1998**, *no.* 14, 757–763. (Niels Lauritzen) **99i:14061** 14M17 (14C17)

Noriega, J. M. (*with* Rodríguez, Miguel Angel[1]; Pesquera, Luis) Propagation of trigger waves in a disordered medium. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 12 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 82D30 (35Q99)

Norin, N. V. (*with* Smolyanov, Oleg G.) Logarithmic derivatives of measures, and Gibbs distributions. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 4, 456–460. (A. V. Uglanov) **99d:46067** 46G12 (28C20, 82B05, 82B21)

Norkin, Vladimir I. Global optimization of probabilities by the stochastic branch and bound method. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 186–201, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Riho Lepp) **99j:90054** 90C15 (90C10)

— (*with* Pflug, Georg Ch.; Ruszczyński, Andrzej) A branch and bound method for stochastic global optimization. (English summary) *Math. Programming* **83** (1998), *no.* 3, *Ser. A*, 425–450. (C. Bergthaller) **99j:90055** 90C15

Norlander, T. (*with* Mäkilä, Pertti M.; Partington, Jonathan R.) Bounded power signal spaces for robust control and modeling. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 92–117 (*electronic*). (Long Wang) **99f:93047** 93B36 (43A15, 93C80, 93D15)

Normak, Peeter Cogenerator acts. (English summary) *Semigroups (Luino*, 1992), 191–198, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M30

Norman, Bryan A. (*with* Bean, James C.) A genetic algorithm methodology for complex scheduling problems. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 199–211. 90C35 (90C90)

Norman, G. J. (*with* Kwiatkowska, M. Z.) A testing equivalence for reactive probabilistic processes. (English summary) *Fifth International Workshop on Expressiveness in Concurrency (EXPRESS '98) (Nice)*, 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68Q10 (68Q60)

— (*with* Kwiatkowska, M. Z.) A fully abstract metric-space denotational semantics for reactive probabilistic processes. (English summary) *Third Workshop on Computation and Approximation (Comprox III) (Birmingham*, 1997), 33 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 13, *Elsevier, Amsterdam*, 1998. (Summary) **99m:68114** 68Q55

Norman, John M. (*with* Clarke, Stephen R.) Dynamic programming in cricket: protecting the weaker batsman. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 93–108. (Jacek B. Krawczyk) **99g:90164** 90C90 (90D80)

Norman, Michael G. (*with* Moscato, Pablo) On the performance of heuristics on finite and infinite fractal instances of the Euclidean traveling salesman problem. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 121–132. (Anna Rycerz) **99g:90098** 90C27

Normand, Jean-Marie (*with* Mehta, Madan Lal) On some definite multiple integrals. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8671–8684. (E. R. Love) **99g:33059** 33E30

— (*with* Mahoux, Gilbert; Mehta, Madan Lal) Matrices coupled in a chain. II. Spacing functions. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4457–4464. (Alexei Khorunzhy) **99g:82029** 82B41 (15A52)

Normand, Nicolas (*with* Guédon, Jean-Pierre) La transformée Mojette: une représentation redondante pour l'image. (English and French summaries) [The Mojette transform: a redundant image representation] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 123–126. (Summary) **99g:68215** 68U10

Normand-Cyrot, D. (*with* Monaco, Salvatore) A unified representation for nonlinear discrete-time and sampled dynamics. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 27 *pp.* (*electronic*). (Summary) **99e:93046** 93C55 (93C10)

— (*with* Barbot, J.-P.; Monaco, Salvatore) Quadratic forms and approximate feedback linearization in discrete time. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 567–586. 93C55 (93B11)

— (*with* Califano, C.; Monaco, Salvatore) On the discrete-time normal form. *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1654–1658. (Sauro Longhi) **99j:93049** 93C10 (93B10, 93C55)

Normann, Dag Closing the gap between the continuous functionals and recursion in ${}^3E$. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 269–287. (John P. Helm) **99k:03037** 03D65 (68Q55)

Noronha, M. A. M. (*with* Dumont, N. A.) A simple, accurate scheme for the numerical evaluation of integrals with complex singularity poles. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 42–49. 65D30

Noronha, Maria Helena (*with* Asperti, A. C.; de Castro, H. P.) Compact homogeneous Einstein manifolds in codimension two. (English summary) *Note Mat.* **16** (1996), *no.* 1, 9–19 (1998). (Andrea Spiro) **99j:53060** 53C25 (53C30)

— (*with* Mercuri, Francesco) Conformal flatness, cohomogeneity one and hypersurfaces of revolution. (English summary) *Differential Geom. Appl.* **9** (1998), *no.* 3, 243–249. (Fabio Podestà) **99j:53077** 53C40 (53C42)

Norris, A. N. (*with* Rebinsky, D. A.; Wickham, G. R.) On wave interaction and diffraction from the junction of two curved plates under unilateral fluid loading. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1741, 1421–1467. (Summary) **99f:73064** 73K70 (76Q05)

— (*with* Osipov, A. V.) The Malyuzhinets theory for scattering from wedge boundaries: a review. (English summary) *Wave Motion* **29** (1999), *no.* 4, 313–340. (Summary) **99m:76101** 76Q05 (73D25, 78A45)

Norris, J. Adam (*with* Kassoy, David R.) The effect of finite-rate heat release on the solidification of an undercooled pure liquid. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1977, 2347–2370. (Summary) **99f:80005** 80A22

Norris, James R. Heat kernel asymptotics and the distance function in Lipschitz Riemannian manifolds. *Acta Math.* **179** (1997), *no.* 1, 79–103. (Alberto G. Setti) **99d:58167** 58G11 (35K99, 58G18)

— ★ Markov chains. (English summary) Reprint of 1997 original. Cambridge Series in Statistical and Probabilistic Mathematics. *Cambridge University Press, Cambridge*, 1998. xvi+237 *pp. ISBN* 0-521-48181-3 (M. G. Shur) **99c:60144** 60J10 (60–01, 60J27)

— Ornstein-Uhlenbeck processes indexed by the circle. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 465–478. (Zhongmin Qian) **99g:60077** 60G15 (58G32, 60J60)

North, Gerald R. (*with* Li, Ta-Hsin) Aliasing effects and sampling theorems of spherical random fields when sampled on a finite grid. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 341–354. (Roch Roy) **99c:62276** 62M40 (62M15)

North, J. D. Olaf Pedersen (1920–1997). *J. Hist. Astronom.* **29** (1998), *no.* 2, 211–214. 01A70

Northshield, Sam A note on the zeta function of a graph. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 408–410. (Summary) **99g:05106** 05C30 (05C05)

— Positive solutions of Schrödinger's equation on trees. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 1, 59–66. (Summary) **99d:31003** 31C05 (39A10, 47B39)

Norton, J. P. (*with* Maksarov, D. G.) State bounding with ellipsoidal set description of the uncertainty. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 847–866. 93C41 (93D09)

Norton, Karl K. A character-sum estimate and applications. *Acta Arith.* **85** (1998), *no.* 1, 51–78. (S. W. Graham) **99j:11096** 11L40 (11N25, 11N56, 11N64)

Norton, Keith (*with* Jaroszkiewicz, George) Principles of discrete time mechanics. III. Quantum field theory. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 977–1000. (Summary) **99m:81275a** 81T99 (70G50, 70H99)

— (*with* Jaroszkiewicz, George) Principles of discrete time mechanics. IV. The Dirac equation, particles and oscillons. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1001–1023. (Summary) **99m:81275b** 81T99 (70G50, 70H99)

Norton, S. P. Anatomy of the Monster. I. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 198–214, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Mohammad-Reza Daraísheh) **99i:20021** 20D08

— (*with* Dong, Chongying; Li, Hai Sheng; Mason, Geoffrey) Associative subalgebras of the Griess algebra and related topics. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 27–42, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Chang Heon Kim) **99k:17048** 17B69 (20D08)

— Netting the Monster. (English summary) *The Monster and Lie algebras* (*Columbus, OH*, 1996), 111–125, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Jamshid Moori) **99i:20022** 20D08 (20F36)

Norvaiša, R. (*with* Csörgő, Miklós) Empirical and partial sum processes with sample paths in Banach function spaces. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 143–158, *TEV, Vilnius*, 1994. (Summary) **99e:60090** 60F17 (60F15, 60G17)

— (*with* Mikosch, Thomas) Uniform convergence of the empirical spectral distribution function. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 1, 85–114. (Miguel A. Arcones) **99b:62146** 62M15 (60F17, 60G10)

— Strassen's law for weighted sup-norms. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 783–795. (M. Csörgő) **99m:60055** 60F15 (60F17, 60G50, 60J65)

— (*with* Csörgő, Miklós) Standardized sequential empirical processes. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 51–69. (Erich Haeusler) **99h:60104** 60G70 (60F05, 62G30)

Nosal, Ed Financial distress and underemployment. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 4, 817–845. (Summary) **99h:90021** 90A09 (90A50)

Noschese, Silvia Asymptotics for the greatest zeros of Szegő's generalization of the Hermite polynomials. *Acta Math. Hungar.* **75** (1997), *no.* 1-2, 31–42. (Introduction) **99f:33014** 33C45 (42C05)

— (*with* Germano, Bruna; Ricci, Paolo Emilio) General sets of relativistic Laguerre polynomials. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 109–116. (Summary) **99h:33038** 33C45

— (*with* Natalini, Pierpaolo) The relativistic Bessel polynomials. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 117–126. (Summary) **99h:33045** 33C45

— (*with* Natalini, Pierpaolo) Some properties of the relativistic Laguerre polynomials. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 303–314. (J. P. Singhal) **99k:33030** 33C45

— (*with* Natalini, Pierpaolo) Asymptotics for the relativistic Hermite polynomials zeros. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 75–86. (Summary) **99g:33030** 33C45

Noshadi, Valod (*with* Schneider, Wilhelm) Natural convection flow far from a horizontal plate. (English summary) *J. Fluid Mech.* **387** (1999), 227–254. 76R10 (76M10)

Noskov, G. A. The Bieri-Strebel invariant and homological finiteness conditions for metabelian groups. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 2, 194–218, 241; *translation in Algebra and Logic* **36** (1997), *no.* 2, 117–132. (V. N. Remeslennikov) **99d:20080** 20J05 (20F16)

— (*with* Gupta, Chander Kanta) Splitting epimorphisms of free metabelian groups. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 6, 697–711. (Martin Edjvet) **99d:20068** 20F99 (20E05, 57M40)

Noskov, V. N. Transformation of schemes consisting of functional elements into a form that is suitable for control. (Russian. Russian summary) *Discrete analysis* (*Russian*), 142–165, 180–181, *Trudy Inst. Mat.*, 27, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Summary) **99b:94067** 94C10

Nosov, A. P. (*with* Babloyantz, A.; Krishchenko, A. P.) Analysis and stabilization of nonlinear chaotic systems. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 355–368. (R. N. Mukherjee) **99c:93084** 93D15 (34C05, 34D05, 34H05, 58F13, 58F40)

— (*with* Fursov, A. S.) Using asymptotic invariance methods for output stabilization of a class of uncertain systems with stable zero dynamics. Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 80–93. (Éva Gyurkovics) **99e:93068** 93D15 (93D09, 93D20, 93D25)

Nosov, K. V. (*with* Litvin, O. N.) Numerical realization of the optimal finite element method (rectangular elements) for a biharmonic equation with boundary conditions of the second kind. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 12, 29–35. 65N30

Nosov, V. A. (*with* Gizunov, S. A.) Complexity of recognition of Schaefer classes. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 7–12, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 6–9. (Summary) **99f:68096** 68Q25

Nosov, V. R. On the stability of some nonstationary equations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 9, 31–42; *translation in Automat. Remote Control* **58** (1997), *no.* 9, *part* 1, 1427–1436 (1998). (Denis Khusainov) **99a:34150** 34D20 (34D05)

— (*with* Arino, Ovide) On stability of a class of neutral type functional-differential equations. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 299–307. (Michael I. Gil') **99d:34146** 34K20 (45J05)

Nossum, Rolf (*with* Gabbay, Dov M.; Thielscher, Michael) Agents in proactive environments. (English summary) *J. Logic Comput.* **9** (1999), *no.* 1, 25–45. (Summary) **99j:68132** 68T27 (03B70)

Notarantonio, Lino Extremal properties of the first eigenvalue of Schrödinger-type operators. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 2, 333–346. (Alimdjan R. Khalmukhamedov) **99g:35094** 35P15 (31C25, 35J10, 47F05)

— (*with* Dal Maso, Gianni; De Cicco, V.; Tchou, N. A.) Limits of variational problems for Dirichlet forms in varying domains. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 1, 89–116. (Paolo Acquistapace) **99e:35039** 35J25 (31C15, 49J45)

Notaris, Sotirios E. New interpolatory quadrature formulae with Chebyshev abscissae. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 2, 199–214. (Summary) **99d:65083** 65D32

Notash, Leila Uncertainty configurations of parallel manipulators. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 1-2, 123–138. (Summary) **99f:70012** 70B15

Notay, Y. Using approximate inverses in algebraic multilevel methods. (English summary) *Numer. Math.* **80** (1998), *no.* 3, 397–417. (Stefan A. Funken) **99i:65033** 65F10

Notbohm, Dietrich Topological realization of a family of pseudoreflection groups. (English summary) *Fund. Math.* **155** (1998), *no.* 1, 1–31. (J. Aguadé) **99a:55005** 55P15 (55R35)

— (*with* Ishiguro, Kenshi; Møller, Jesper M.) Rational self-equivalences of spaces in the genus of a product of quaternionic projective spaces. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 45–61. (Jean-Claude Thomas) **99j:55004** 55P10 (55R35)

Notohara, Morihiro The number of segregating sites in a sample of DNA sequences from a geographically structured population. (English summary) *J. Math. Biol.* **36** (1997), *no.* 2, 188–200. (R. G. Stanton) **99d:92018** 92D15

Nott, David J. (*with* Wilson, Richard J.) Size distributions for excursion sets. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 175–196, *World Sci. Publishing, River Edge, NJ*, 1997. (Volker Schmidt) **99m:60024** 60D05 (60G60)

Nott, Prabhu R. (*with* Alam, Meheboob) Stability of plane Couette flow of a granular material. (English summary) *J. Fluid Mech.* **377** (1998), 99–136. (Summary) **99i:76062** 76E99 (73Q05, 76A99)

Notte Cuello, E. A. (*with* Rojas Medar, Marko A.) Stationary solutions for generalized Boussinesq models in exterior domains. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 22, 9 *pp.* (*electronic*). (Grzegorz Karch) **99h:35178** 35Q35 (35D05, 35J55, 76D99)

— (*with* de Oliveira, E. Capelas) Klein-Gordon and Dirac equations in de Sitter space-time. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 585–598. (Summary) **99k:81200** 81T20 (83C47)

Notz, W. I. (*with* Chang, Jane Y.) Model robust designs. *Design and analysis of experiments*, 1055–1098, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K99 (62K05)

— (*with* Gerami, A.; Lewis, Susan Margaret; Majumdar, Dibyen) Efficient block designs for comparing dual with single treatments. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 247–263. (Summary) **99j:62111** 62K10

dargahi-Noubary, G. R. *see* **Dargahi-Noubary, G. R.**

Noubir, Guevara (*with* Choueiry, Berthe Y.) On the computation of local interchangeability in discrete constraint satisfaction problems. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 326–333, *MIT Press, Cambridge, MA*, 1998. (Summary) **99h:68153** 68T20

Nouh, A. A. (*with* Gähler, Werner; Bayoumi, Fatma; Kandil, Ali) The theory of global fuzzy neighborhood structures. I. The general case. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 225–254. (From the summary) **99h:54005** 54A40

— (*with* Gähler, Werner; Bayoumi, Fatma; Kandil, Ali) The theory of global fuzzy neighborhood structures. II. Fuzzy topogenous orders. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 153–173. 54A40

— (*with* Gähler, Werner; Bayoumi, Fatma; Kandil, Ali) The theory of global fuzzy neighborhood structures. III. Fuzzy uniform structures. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 175–199. 54A40

— (*with* Kandil, Ali; Bayoumi, Fatma) On strong notions in fuzzy topological spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 751–773. 54A40

— (*with* Kandil, Ali; El-Sheikh, S. A.) Strong and ultra-separation axioms on fuzzy bitopological spaces. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 459–467. 54A40 (54E55)

— (*with* Kandil, Ali; Abd-Allah, A. S.) Operations and its applications on L-fuzzy bitopological spaces. I. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 255–274. 54A40 (54E55)

Noumi, Masatoshi (*with* Umeda, Tōru; Wakayama, Masato) Dual pairs, spherical harmonics and a Capelli identity in quantum group theory. (English summary) *Compositio Math.* **104** (1996), *no.* 3, 227–277. (Anthony Joseph) **99c:17020** 17B35 (17B37, 33D80)

— (*with* Okamoto, Kazuo) Irreducibility of the second and the fourth Painlevé equations. *Funkcial. Ekvac.* **40** (1997), *no.* 1, 139–163. (Alexander Vladimirovich Kitaev) **99d:34011** 34A20

— Ladder operators for Macdonald symmetric polynomials. (Japanese) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 103–118. (Hiro-Fumi Yamada) **99j:05191** 05E05

— (*with* Mimachi, Katsuhisa) An integral representation of eigenfunctions for Macdonald's q-difference operators. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 517–525. (Mayumi Ohmiya) **99e:39077** 39A70 (33D80)

— Affine Hecke algebras and Macdonald polynomials. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 365–377, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Yasmine B. Sanderson) **99k:20032** 20C99 (05E05, 33D80)

— (*with* Kirillov, Anatol N.) Affine Hecke algebras and raising operators for Macdonald polynomials. *Duke Math. J.* **93** (1998), *no.* 1, 1–39. (Mark D. Haiman) **99j:05189a** 05E05 (33C80, 33D80)

— (*with* Yamada, Yasuhiko) Umemura polynomials for the Painlevé V equation. (English summary) *Phys. Lett. A* **247** (1998), *no.* 1-2, 65–69. (Summary) **99g:34044** 34A99 (33C45, 39A12)

Nour, Karim A conjecture on numeral systems. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 270–275. (Hirofumi Yokouchi) **99i:03014** 03B40 (03D20)

— (*with* Farkh, Samir) Résultats de complétude pour des classes de types du système $\mathscr{SF}2$. (English and French summaries) [Completeness results for some classes of types of the system $\mathscr{SF}2$] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 6, 513–537. (Ugo de'Liguoro) **99d:68037** 68N15 (03B40, 03B70)

— Une réponse négative à la conjecture de E. Tronci pour les systèmes numériques typés. (English and French summaries) [A negative answer to E. Tronci's conjecture concerning typed numeral systems] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 6, 539–558. (Ugo de'Liguoro) **99m:03027** 03B40 (68N15)

— (*with* Farkh, Samir) Un résultat de complétude pour les types $\forall^+$ du système $\mathscr{F}$. (English and French summaries) [A completeness result for the $\forall^+$ types of system $\mathscr{F}$] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 275–279. (Summary) **99d:03014** 03B40 (03F35, 03F55)

— *S*-storage operators. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 99–108. (Gianfranco Mascari) **99g:03014** 03B40 (68Q60)

Nourani, Yaghout (*with* Andresen, Bjarne) Exploration of NP-hard enumeration problems by simulated annealing—the spectrum values of permanents. (English summary) *Theoret. Comput. Sci.* **215** (1999), *no.* 1-2, 51–68. (Summary) **99m:68090** 68Q25 (65C05)

Nouri, A. Kinetic and fluid aspects of gas discharges. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 1, 147–155. (Brigitte Lucquin) **99m:76130** 76X05 (35Q35, 76P05, 82D10)

— (*with* Arkeryd, Leif) A condensation-evaporation problem in kinetic theory. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 30–47 (*electronic*). (Ester Gabetta) **99c:82056** 82C40 (35Q99, 45K05, 76P05)

Nourine, Lhouari (*with* Habib, Michel; Steiner, George) Gray codes for the ideals of interval orders. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 52–66. (Wolfgang Knapp) **99a:06003** 06A07 (05C45, 06B10)

Nouri-Zonoz, M. (*with* Lynden-Bell, D.) Classical monopoles: Newton, NUT space, gravomagnetic lensing, and atomic spectra. (English summary) *Rev. Modern Phys.* **70** (1998), *no.* 2, 427–445. (Summary) **99c:83072** 83C99 (70G50, 78A35)

Nourrigat, J. (*with* Brummelhuis, Raymond) Scattering amplitude for Dirac operators. *Comm. Partial Differential Equations* **24** (1999), *no.* 1-2, 377–394. (Frédéric Klopp) **99m:81277** 81U05 (35P25, 35Q40, 47G30, 81Q20, 81R30)

Noussair, Ezzat S. (*with* Wei, Juncheng) On the effect of domain geometry on the existence of nodal solutions in singular perturbations problems. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1255–1271. (Kanishka S. Perera) **99e:35011** 35B25 (35J60)

— (*with* Cao, Daomin; Yan, Shusen) Existence and uniqueness results on single-peaked solutions of a semilinear problem. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 1, 73–111. (Dian K. Palagachev) **99d:35053** 35J65 (35B99, 35J20)

— (*with* Wei, Juncheng) On the location of spikes and profile of nodal solutions for a singularly perturbed Neumann problem. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 793–816. (Kanishka S. Perera) **99h:35013** 35B25 (35J65)

— (*with* Cao, Daomin) Multiplicity results for an inhomogeneous nonlinear elliptic problem. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 47–59. (Summary) **99a:35072** 35J60 (35B05)

Noutsos, D. (*with* Hadjidimos, Apostolos; Tzoumas, M.) Towards the determination of the optimal *p*-cyclic SSOR. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 1–14. (Summary) **99c:65055** 65F10

— (*with* Galanis, S.; Hadjidimos, Apostolos) A Young-Edison's type algorithm for complex *p*-cyclic SOR spectra. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 87–106. (T. Y. Li) **99j:65044** 65F10

van den Nouweland, Anne (*with* Voorneveld, Mark) A new axiomatization of the core of games with transferable utility. (English summary) *Econom. Lett.* **60** (1998), *no.* 2, 151–155. (Summary) **99i:90132** 90D12

— (*with* Dutta, Bhaskar; Tijs, Stef) Link formation in cooperative situations. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 245–256. (Summary) **99j:90121** 90D12

Nouzoe, Mitsushi (*with* Iwama, Kazuo; Yajima, Shuzo) Optimizing OBDDs is still intractable for monotone functions. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 625–635, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25

Novaes, S. F. *see* **School: Particles and Fields, 99f:81003** *and* **Particles and fields, 99i:81004**

Novaga, Matteo (*with* Bellettini, Giovanni) Comparison results between minimal barriers and viscosity solutions for geometric evolutions. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 1, 97–131. (Ben Andrews) **99i:35081** 35K65 (35B05, 35D10, 49L25, 58E12)

— (*with* Bellettini, Giovanni; Paolini, Maurizio) An example of three-dimensional fattening for linked space curves evolving by curvature. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1475–1492. (Giandomenico Orlandi) **99j:58048** 58E12 (53A05)

Novák, Andreas J. (*with* Pötscher, Benedikt M.) The distribution of estimators after model selection: large and small sample results. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 1, 19–56. (Summary) **99c:62034** 62E15 (62B10, 62E20)

Novak, Erich (*with* Sloan, Ian H.; Woźniakowski, Henryk) Tractability of tensor product linear operators. (English summary) *J. Complexity* **13** (1997), *no.* 4, 387–418. (Arthur G. Werschulz) **99c:65257** 65Y20 (46M05, 47A80, 47N40, 65J10, 68Q25)

Novak, Jérôme Spherical neutron star collapse toward a black hole in a tensor-scalar theory of gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4789–4801. 83D05 (83C57)

Novák, Josef Double convergence and products of Fréchet spaces. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 207–227. (Plamen Dzhakov) **99m:54003** 54A20

Novak, Ladislav A. On fuzzy independence set systems. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 365–374. (Summary) **99a:04011** 04A72

Novak, M. M. *see* **Fractal frontiers, 99b:00014** *and* **Fractal 97, 99f:00017**

Novak, Peter Logic and the classical theory of mind. (English summary) *J. Philos. Logic* **27** (1998), *no.* 4, 389–434. 03A05

Novak, S. Yu. Extreme values in stationary sequences. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 3, 68–80. (Summary) **99g:60092** 60G70 (60F05, 60G10)

— Statistical estimation of the maximum eigenvalue of a matrix. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 5, 49–52; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 5, 46–49. (W. Govaerts) **99b:65050** 65F15

— On the distribution of the maximum of Erdős-Rényi partial sums. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 274–293; *translation in Theory Probab. Appl.* **42** (1997), *no.* 2, 254–270 (1998). (Sergei Utev) **99b:60045** 60F15 (60G50)

— (*with* Weissman, Ishay) On the joint limiting distribution of the first and the second maxima. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 311–318. (Toshio Mori) **99f:60096** 60G70 (60F05)

— (*with* Weissman, Ishay) On blocks and runs estimators of the extremal index. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 281–288. (Edgar Kaufmann) **99h:62015** 62E20 (60G70)

— On the limiting distribution of extrema. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 2, 70–95. (Toshio Mori) **99k:60123** 60G55 (60F05, 60G10, 60G70)

Novák, Vilém Open theories, consistency and related results in fuzzy logic. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 191–200. (Summary) **99h:03015** 03B52

Novák, Vítězslav Some cardinal characteristics of ordered sets. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 135–144. (Aleksander Rutkowski) **99j:06002** 06A07

Nováková, Eva (*with* Beran, Ladislav) On an inequality of Atanassov. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 5, 234–235. 26D15

Novati, G. (*with* Frangi, A.) On the numerical stability of time-domain elastodynamic analyses by BEM. (English summary) *Comput. Methods Appl. Mech. Engrg.* **173** (1999), *no.* 3-4, 403–417. (Summary) **99m:73073** 73V10

Novelli, Jean-Christophe (*with* Pak, I. M.; Stoyanovskiĭ, A. V.) A direct bijective proof of the hook-length formula. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 53–67. (Christian Krattenthaler) **99h:05123** 05E10 (05A15, 05A19)

Novello, M. (*with* De Lorenci, V. A.; Elbaz, Edgard) Some aspects of geometrical confinement. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4539–4552. (Summary) **99e:81151** 81T13 (83C57)

Novick, Beth (*with* Key, J. D.; Sullivan, Frances E.) Binary codes of structures dual to unitals. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 119–124. (Summary) **99d:94043** 94B60

— (*with* Gao, Shu Hong; Qiu, Ke) From Hall's matching theorem to optimal routing on hypercubes. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 291–301. (Qiao Li) **99j:68106** 68R10 (05A05, 68M10)

Novick-Cohen, Amy A Stefan/Mullins-Sekerka type problem with memory. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 2, 113–141. (Maurizio Grasselli) **99f:45015** 45K05 (34K30, 35R30, 47N20, 80A22)

— The Cahn-Hilliard equation: mathematical and modeling perspectives. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 965–985. (Summary) **99h:35190** 35Q53 (35K60)

— (*with* Colli, Pierluigi; Gilardi, Gianni; Laurençot, Philippe) Uniqueness and long-time behavior for the conserved phase-field system with memory. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 375–390. (Nobuyuki Kenmochi) **99k:73020** 73B30 (35Q72, 45K05, 80A22)

— (*with* Grinfeld, Michael) The viscous Cahn-Hilliard equation: Morse decomposition and structure of the global attractor. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2375–2406. (Achilles Tertikas) **99m:35224** 35Q55 (35B40, 58F39)

Novikov, A. A. *see* **Novikov, An. A.**

Novikov, A. N. (*with* Zgurovskiĭ, M. Z.) Modeling of unilateral physical processes of diffusion and of heat and mass exchange. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 60–68, 296. (Summary) **99d:80004** 80A20 (80–08)

Novikov, An. A. (*with* Novikov, V. V.) Sequential procedures for multihypotheses testing. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 363–378, *World Sci. Publishing, River Edge, NJ*, 1996. (Mayer Alvo) **99e:62136** 62L10 (62G10)

— (*with* Volodin, I. N.) Asymptotics of the necessary sample size in testing parametric hypotheses: *d*-posterior approach. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 111–121. (J. A. Melamed) **99m:62025** 62F03 (62F05, 62F15)

— Hedging of options with a given probability. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **43** (1998), *no.* 1, 152–161. 90A09 (60K30)

Novikov, Boris V. Semigroups of cohomological dimension one. *J. Algebra* **204** (1998), *no.* 2, 386–393. (J. K. Luedeman) **99g:20119** 20M50

Novikov, D. P. Algebro-geometric solutions of the H. Dym equation. (Russian) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 179, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (*see* **99a:00019**) 35Q53

Novikov, Dmitriĭ Aleksandrovich (*with* Burkov, Vladimir N.; Petrakov, Sergei N.) Mechanism design in economies with private goods: truthtelling and feasible message sets. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 71–78. 90A53

Novikov, Evgeniĭ Aleksandrovich ★ Явные методы для жестких систем. (Russian. Russian summary) [Explicit methods for stiff systems] *"Nauka" Sibirskoe Predpriyatie RAN, Novosibirsk*, 1997. 195 *pp. ISBN* 5-02-031245-2 (From the introduction) **99i:65064** 65Lxx

Novikov, Igor D. Wormholes and time machines. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 298–301, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C75

— ★ The river of time. (English summary) Translated from the Russian by Vitaly Kisin. *Cambridge University Press, Cambridge*, 1998. *xxii*+275 *pp. ISBN* 0-521-46177-4; 0-521-46737-3 (Lawrence Sklar) **99i:83001** 83–01 (81–01)

— (*with* Frolov, Valery P.) ★ Black hole physics. (English summary) Basic concepts and new developments. Chapter 4 and Section 9.9 written jointly with N. Andersson. Fundamental Theories of Physics, 96. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxii*+770 *pp. ISBN* 0-7923-5145-2 (Asghar Qadir) **99m:83110** 83C57 (83–01)

— (*with* Dolgov, A. D.) Superluminal propagation of light in gravitational field and non-causal signals. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 82–89. (Summary) **99h:83041** 83C99

Novikov, P. V. (*with* Zubov, A. G.; Petrov, A. I.) On the problem of estimating periodic perturbations. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 21–28. 93E10 (93E12)

Novikov, Roman G. On inverse scattering for the N-body Schrödinger equation. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 492–536. (P. A. Mishnayevskiy) **99m:35181** 35P25 (35J10, 47F05, 47N50, 81U40)

Novikov, S. I. Exact values of widths for some classes of periodic functions. (English summary) *East J. Approx.* **4** (1998), *no.* 1, 35–54. (Summary) **99b:41017** 41A46 (46E35)

Novikov, S. P. On the projectivity of principal factors of multirings. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 70–75, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D30

— On Ω-pre-Frattini subalgebras of multirings. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 7–12, 102, "*Universitet-skoe*", *Minsk*, 1993. (*see* **99g:20002**) 08A30

— On Ω-pre-Frattini subalgebras of Lie algebras of finite length. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 131–136, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20D10 (17B99)

Novikov, S. Ya. Singularities of the embedding operator for symmetric function spaces on [0, 1]. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 549–563; *translation in Math. Notes* **62** (1997), *no.* 3-4, 457–468 (1998). (Summary) **99b:46037** 46E30

Novikov, Sergeĭ Petrovich Rôle of integrable models in the development of mathematics [see MR 94j:00018]. (English summary) *Fields Medallists' lectures*, 202–217, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A60 (01A70, 57–03, 58–02, 58F07)

— Algebraic properties of two-dimensional difference operators. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 1(313), 225–226; *translation in Russian Math. Surveys* **52** (1997), *no.* 1, 226–227. (V. G. Kurbatov) **99e:39078** 39A70 (39A12, 47B39, 81Q10)

— (*with* Dynnikov, I. A.) Discrete spectral symmetries of small-dimensional differential operators and difference operators on regular lattices and two-dimensional manifolds. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 5(317), 175–234; *translation in Russian Math. Surveys* **52** (1997), *no.* 5, 1057–1116. (Alexei Zhedanov) **99e:35029** 35J05 (35J10, 39A70, 47B39)

— (*with* Bobylev, N. A.; Gorin, E. A.; Ishlinskiĭ, A. Yu.; Tikhomirov, Vladimir) Mark Aleksandrovich Krasnosel'skiĭ. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 199–201; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 195–198. (Editors) **99m:01042** 01A70

— *see also* **Atiyah, Michael F.**, (**99b:00010**)

Novikov, V. G. (*with* Benattar, R.; Zakharov, S. V.; Nikiforov, A. F.; Gasilov, V. A.; Krukovskii, A. Yu.; Zakharov, V. S.) Influence of magnetohydrodynamic Rayleigh-Taylor instability on radiation of imploded heavy ion plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 175–187. 76X05

Novikov, V. V. (*with* Denisov, G. G.) On the deformation of a membrane by a moving load. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 647–653; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 627–632. (Summary) **99c:73042** 73K10 (73K12)

Novikov, V. V. (*with* Novikov, An. A.) Sequential procedures for multihypotheses testing. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 363–378, *World Sci. Publishing, River Edge, NJ*, 1996. (Mayer Alvo) **99e:62136** 62L10 (62G10)

Novikova, L. V. The method of Poincaré normal forms in the study of dynamical systems. (Russian) *Applications of mathematics in engineering* (*Sozopol*, 1997), 67–70, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 34C20

Novikova, N. M. (*with* Malashenko, Yu. E.) Superconcurrent distribution of flows in multicommodity networks. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **4** (1997), *no.* 2, 34–54, 64 (1998). (Mechthild Opperud) **99j:90026** 90B10 (90C35)

— (*with* Vorobeĭchikova, O. A.) Parametrization of the value of the vector minimax with related constraints. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1467–1477; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1422–1432. (Christiane Tammer) **99d:90108** 90C29 (49J35, 90C31)

— (*with* Malashenko, Yu. E.) Analysis of multi-user network systems taking into account uncertainty. I. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 134–144. 90B10 (90C35)

— (*with* Davidson, M. R.; Malashenko, Yu. E.) Analysis of multi-user network systems taking into account uncertainty, II. Properties of superconcurrent distribution of flows. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 3, 105–118. 90B10 (90C35)

— (*with* Vorobeĭchikova, O. A.) The convolution method in the problem of the search for a vector maximin. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 1, 24–26, 52; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 1, 28–32. (Summary) **99c:90112** 90C29 (49K35)

— (*with* Davidson, M. R.) The constraint aggregation method in a game-theoretic problem of stochastic programming. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 26–29, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 39–43. (Summary) **99k:90110** 90C15 (90D80)

Novković, Momčilo On Laplace autoregressive time series models. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 53–56. 62M10

Novo, Julia (*with* García-Archilla, Bosco; Titi, Edriss S.) An efficient form of the nonlinear Galerkin method. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 13 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M60

— (*with* de Frutos, Javier; García-Archilla, Bosco) Postprocessing of spectral methods for the discretization of dissipative partial differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 743–748, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M70

— (*with* García-Archilla, Bosco; Titi, Edriss S.) Postprocessing the Galerkin method: a novel approach to approximate inertial manifolds. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 941–972 (*electronic*). (Summary) **99b:65115** 65M60 (34G20, 47H20)

— (*with* García-Archilla, Bosco; Titi, Edriss S.) An approximate inertial manifolds approach to postprocessing the Galerkin method for the Navier-Stokes equations. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 893–911. (Tsorng-Whay Pan) **99i:65104** 65M60 (34G20, 35Q30, 47H20, 76D05)

ramil Novo, L. A. *see* **Ramil Novo, L. A.**

Novo, Sylvia (*with* Obaya García, Rafael) An ergodic and topological approach to almost periodic bidimensional linear systems. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 299–322, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Mahesh Nerurkar) **99g:58076** 58F11 (28D10, 34C35, 54H20)

— (*with* Obaya García, Rafael) On the dynamical behaviour of an almost periodic linear system with an ergodic 2-sheet studied by R. Johnson. (English summary) *Israel J. Math.* **105** (1998), 235–249. (Sergei G. Zhuravlev) **99g:58077** 58F11 (28D10, 34A30, 34C35)

— (*with* Nuñez Jimenez, Carmen; Obaya García, Rafael) Ergodic properties and rotation number for linear Hamiltonian systems. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 148–185. (Mahesh Nerurkar) **99m:58095** 58F05 (34C35, 34L05, 58F11)

villanueva Novoa, E. *see* **Villanueva Novoa, E.**

fernández Novoa, J. *see* **Fernández Novoa, J.**

Novodvorskiĭ, A. E. (*with* Smirnov, A. V.) A shell for generic interactive proof search. (English summary) *J. Appl. Non-Classical Logics* **8** (1998), *no.* 1-2, 123–140. 68T15 (03B35)

Novo-Sanjurjo, Vicente (*with* Rodríguez-Marín, Luis) Conditions for optimality in nondifferentiable multiobjective programming. (Spanish. English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 3–9. 90C29 (49J52)

Novosel, S. J. (*with* Allen, Edward J.; Zhang, Zhimin) Finite element and difference approximation of some linear stochastic partial differential equations. (English summary) *Stochastics Stochastics Rep.* **64** (1998), *no.* 1-2, 117–142. (Summary) **99d:60067** 60H15 (65U05)

Novotný, Antonín (*with* Sequeira, Adélia; Videman, Juha H.) Existence of three-dimensional flows of second-grade fluids past an obstacle. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3051–3058. (Leonid K. Antanovskiĭ) **99a:76006** 76A05 (35Q35)

— (*with* Penel', P.; Solonnikov, Vsevolod A.) Investigation of the problem of viscous compressible fluid flow around a bounded body in Hölder spaces. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 247–269, 287. (Vladimir V. Shelukhin) **99d:76086** 76N10 (35Q30)

— Compactness of steady compressible isentropic Navier-Stokes equations via the decomposition method (the whole 3-D space). (English summary) *Theory of the Navier-Stokes equations*, 106–120, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99h:35169** 35Q30 (76N10)

— (*with* Pileckas, Konstantin) Steady compressible Navier-Stokes equations with large potential forces via a method of decomposition. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 665–684. (Zhi Min Chen) **99c:35187** 35Q30 (76N10)

Novotný, Jiří[1] Groupoids and cyclic monounary algebras. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 61–73. (Manfred Armbrust) **99g:08003** 08A60 (20N02)

Novotný, Miroslav Dependence spaces of information systems. (English summary) *Incomplete information: rough set analysis*, 193–246, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T30 (04A72, 06A12)

— Applications of dependence spaces. (English summary) *Incomplete information: rough set analysis*, 247–289, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T30

— Reduction of pregrammars. (English summary) *Fund. Inform.* **33** (1998), *no.* 3, 295–307. (Summary) **99i:68078** 68Q50 (68Q45)

Novotnyĭ, S. V. Stationary torsion waves in a cylinder with a boundedly pliable boundary. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 77–85, 112. (Summary) **99d:73034** 73D15 (73D30)

Novozhilova, L. S. (*with* Urazhdin, S. V.) Analytic computation of the energy characteristics of slip-line fields in problems of plane plastic deformation. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 322–329; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 311–318. (Summary) **99d:73045** 73E05 (73V20)

Novruzov, È. B. (*with* Soltanov, K. N.) On the solvability of equations of unstable filtration type in noncylindrical domains. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 159–167. (Alexander L. Gladkov) **99k:35102** 35K60 (35K65)

Novy, Lubos Le Journal tchèque des mathématiques et de la physique. [The Czech Journal of Mathematics and Physics] *Messengers of mathematics: European mathematical journals* (1800–1946), 219–233, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

Nowack, Dieter (*with* Guddat, Jürgen; Guerra, Francisco) New embeddings for nonlinear multiobjective optimization problems. I. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, 45–73. (Summary) **99a:90170** 90C29 (90C31)

Nowacki, Horst (*with* Jin, Feng[1]; Ye, Xiuzi) A synthesis process for fair free-form surfaces. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 32–51, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65026** 65D17

— *see also* **Creating fair and shape-preserving curves and surfaces**, **99g:65003**

Nowak, Andrzej S. Normal fields of functionals and optimal measurable sections. (English summary) *J. Optim. Theory Appl.* **91** (1996), *no.* 1, 23–33. (From the introduction) **99e:49054** 49Q20 (28B20, 49K40)

— A generalization of Ueno's inequality for n-step transition probabilities. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 3, 295–299. (Jean B. Lasserre) **99g:60111** 60J05 (60J35, 93E20)

— (*with* Kucia, Anna) Optimal measurable selections via Marczewski function. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 261–267. (Summary) **99g:28025** 28B20 (54C65)

Nowak, Christine Uniqueness and nonuniqueness results for ordinary differential equations. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol.* 2 (*Plovdiv*, 1994), 140–147, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 34A12

Nowak, David (*with* Beauvais, Jean-René; Talpin, Jean-Pierre) Co-inductive axiomatization of a synchronous language. (English summary) *Theorem proving in higher order*

logics (*Canberra*, 1998), 387–399, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68Q60 (68T15)

Nowak, Emmanuel Distance en variation totale entre une mesure de Gibbs et sa translatée. (English and French summaries) [Distance in total variation between a Gibbs measure and its translate] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 239–242. (Timo Seppäläinen) **99h:60102** 60G60 (60K35)

gudowska-Nowak, Ewa *see* **Gudowska-Nowak, Ewa**

Nowak, Jerzy B. L_2-characteristic classes of Maslov-Trofimov of Hamiltonian systems on the Lie algebra of the upper-triangular matrices. (English summary) *Fund. Math.* **156** (1998), *no.* 2, 99–110. (Wiesław J. Olędzki) **99d:58067** 58F05 (58F07)

Nowak, Krzysztof Certain function spaces related to the metaplectic representation. *Colloq. Math.* **76** (1998), *no.* 1, 143–152. (Jonathan Arazy) **99b:47044** 47B38 (22E30, 46E35, 47B10)

Nowak, Krzysztof Jan On the intersection multiplicity of images under an etale morphism. (English summary) *Colloq. Math.* **75** (1998), *no.* 2, 167–174. (Editors) **99d:13030** 13H15 (14C17)

Nowak, M. *see* **Nowak, Maria**

Nowak, Maciej A. (*with* Janik, Romuald A.; Papp, Gábor; Zahed, Ismail) New developments in non-Hermitian random matrix models. *New developments in quantum field theory* (*Zakopane*, 1997), 297–314, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Summary) **99j:82044** 82B41

Nowak, Marek A note on the logic CAR of da Costa and Béziau. (English summary) *Bull. Sect. Logic Univ. Łódź* **28** (1999), *no.* 1, 43–49. 03B53

Nowak, Maria Bloch space on the unit ball of $\mathbf{C}^n$. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 461–473. (Alec Matheson) **99h:32006** 32A37 (46E15)

— Coefficient multipliers of spaces of analytic functions. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 107–119. (Oscar Blasco) **99m:46068** 46E15 (30H05, 42A45)

— (*with* Aulaskari, Rauno; Zhao, Ruhan) The nth derivative characterisation of Möbius invariant Dirichlet space. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 43–56. (David Bekolle) **99i:30051** 30D45 (30D50)

— Compact Hankel operators with conjugate analytic symbols. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 363–374. (Miroslav Engliš) **99k:47060** 47B35 (46E22, 47B07)

Nowak, Marian Duality theory of vector-valued function spaces. I. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 195–215. (Barry Turett) **99h:46061** 46E40 (46A20)

— Duality theory of vector-valued function spaces. II. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 217–230. (Barry Turett) **99h:46062** 46E40 (46A20)

— Weak sequential compactness in non-locally convex Orlicz spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 225–231. (Summary) **99g:46034** 46E30

— A note on generalized Young's inequality for Orlicz functions. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 227–231. (Summary) **99k:46045** 46E30 (26D15)

— On the strongest locally convex Lebesgue topology on Orlicz spaces. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 134–138. (Bor-Luh Lin) **99a:46053** 46E30

Nowak, Robert D. Penalized least squares estimation of Volterra filters and higher order statistics. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 2, 419–428. (Summary) **99k:94013** 94A12

— (*with* Crouse, Matthew S.; Baraniuk, Richard G.) Wavelet-based statistical signal processing using hidden Markov models. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 886–902. 94A12 (42C15)

— (*with* Timmermann, Klaus E.) Multiscale modeling and estimation of Poisson processes with application to photon-limited imaging. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 846–862. (Summary) **99m:94016** 94A12 (62F15)

Nowak, Werner Georg (*with* Kühleitner, Manfred; Schoissengeier, J.; Wooley, Trevor D.) On sums of two cubes: an Ω_+-estimate for the error term. *Acta Arith.* **85** (1998), *no.* 2, 179–195. (D. R. Heath-Brown) **99g:11119** 11P21

— On differences of two kth powers of integers. (English summary) *Ramanujan J.* **2** (1998), *no.* 4, 421–440. (Wolfgang Müller) **99j:11118** 11P21 (11L07, 11N37)

Nowakowska, W. (*with* Werbowski, Jarosław) Sufficient conditions for the oscillation of solutions of difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 467–471, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39066** 39A11 (39A10)

Nowakowski, Andrzej Limit process for a sequence of analytic extremal functions satisfying certain differential-functional equation. I, II. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **21** (1996), 5–10, 11–23. (Summary) **99h:30025** 30C70 (34K99)

— An extremum in the full class of monotone functions. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **21** (1996), 25–33. (Summary) **99h:30026** 30C70

— (*with* Łędzewicz-Kowalewska, Urszula) Optimality conditions for control problems governed by abstract semilinear differential equations in complex Banach spaces. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 67–91. (Tzanko D. Donchev) **99m:49039** 49K27 (35R20, 49K20)

Nowakowski, Marek² The electromagnetic coupling in Kemmer-Duffin-Petiau theory. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 329–337. (Summary) **99d:81050** 81R20

Nowakowski, Richard J. (*with* Neufeld, Stewart W.) A game of cops and robbers played on products of graphs. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 253–268. (P. A. Biryukov) **99k:90233** 90D43 (05C99)

glazman Nowalski, Mary *see* **Glazman Nowalski, Mary**

Nowicka, Joanna (*with* Weron, Aleksander) Measures of dependence for ARMA models with stable innovations. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 133–144. (Piotr Kokoszka) **99a:60038** 60G10 (62M10)

Nowicki, Anatol (*with* Lukierski, Jerzy; Tolstoĭ, V. N.) Twisted Poincaré algebras. (English summary) *Quantum groups* (*Karpacz*, 1994), 379–388, *PWN, Warsaw*, 1995. (Adriana M. Criscuolo) **99m:81098** 81R50 (17B37)

— κ-deformed space-time uncertainty relations. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 43–49, *PWN, Warsaw*, 1997. (Andrzej Sitarz) **99e:81099** 81R50 (16W30, 81S05)

— (*with* Amelino-Camelia, Giovanni; Lukierski, Jerzy) On the uncertainty relations of κ-deformed quantum phase space. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1099–1112. (Summary) **99k:81105** 81R50 (81P05)

— (*with* Amelino-Camelia, Giovanni; Lukierski, Jerzy) κ-deformed covariant phase space and quantum-gravity uncertainty relations. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1811–1815. (Summary) **99j:83030** 83C45 (81R50)

Nowicki, Krzysztof (*with* Klass, Michael J.) Order of magnitude bounds for expectations of Δ_2-functions of generalized random bilinear forms. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 4, 457–492. (Miguel A. Arcones) **99k:60042** 60E15

Nowicki, Tomasz Wiesław Szlenk (1935–1995). (Polish) *Wiadom. Mat.* **33** (1997), 204–209. (Editors) **99m:01084** 01A70

— Different types of nonuniform hyperbolicity for interval maps are equivalent. (English summary) *European Congress of Mathematics, Vol. II* (*Budapest*, 1996), 116–123, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (Yun Ping Jiang) **99h:58059** 58F03

— (*with* Sands, Duncan) Quasisymmetric invariance of the Collet-Eckmann condition. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 703–715. (Thomas Bogenschütz) **99f:58071** 58F03 (58F15)

— (*with* Przytycki, Feliks) Topological invariance of the Collet-Eckmann property for S-unimodal maps. (English summary) *Fund. Math.* **155** (1998), *no.* 1, 33–43. (Yun Ping Jiang) **99a:58058** 58F03 (58F15)

— (*with* Sands, Duncan) Non-uniform hyperbolicity and universal bounds for S-unimodal maps. (English summary) *Invent. Math.* **132** (1998), *no.* 3, 633–680. (Grzegorz Świątek) **99c:58122** 58F15 (58F03)

Nowik, Andrzej (*with* Scheepers, Marion; Weiss, Tomasz) The algebraic sum of sets of real numbers with strong measure zero sets. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 301–324. (D. H. Fremlin) **99c:54049** 54H05 (03E20, 28A12)

Nowik, Tahl Intersection of surfaces in 3-manifolds. (English summary) *Topology Appl.* **92** (1999), *no.* 1, 15–61. (Marc Lackenby) **99k:57042** 57N10

Nowotka, Dirk (*with* Benini, Marco; Kalvala, Sara) Program abstraction in a higher-order logic framework. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 33–48, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (Summary) **99k:68171** 68T15 (68Q60)

Nowotny, Thomas (*with* Requardt, Manfred) Dimension theory of graphs and networks. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2447–2463. (Francois Vanderseypen) **99f:58022** 58B30 (05C90)

bar-Noy, Amotz *see* **Bar-Noy, Amotz**

Noy, M. (*with* García, Alfredo; Hernando, C.; Hurtado, Ferran; Tejel, F. Javier) Packing trees into planar graphs. (English summary) *Graph drawing* (*Rome*, 1997), 383–390, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99g:05060** 05C10 (68R10)

Noye, John (*with* von Trojan, A.) An explicit three-level fifth-order finite-difference method for advection. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 603–610, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M20

Noz, Marilyn E. (*with* Han, Daesoo; Kim, Young Suh) Jones-matrix formalism as a representation of the Lorentz group. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 9, 2290–2298. (Summary) **99m:22012** 22E43 (78A10)

Nozaki, Akihiro (*with* Lashkia, Vaktang) A finite basis of the set of all monotone partial functions defined over a finite poset. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 380–382, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 06A06

Nozaki, Koichi (*with* Wakiyama, Masahiro; Noda, Hideki; Kawaguchi, Eiji) Computation algorithm of semantic difference measure in the SD-form semantics model. (English summary) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1065–1079. 68S05

Nozawa, Ryōhei Gale's feasibility theorem and max-flow problems in a continuous network. Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 29–41. (Maretsugu Yamasaki) **99m:90152** 90C35 (90B10)

Nozoe, Mitsushi *see* **Nouzoe, Mitsushi**

Ntafos, Simeon (*with* Gewali, Laxmi P.) Watchman routes in the presence of a pair of convex polygons. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 123–149. (Summary) **99c:68247** 68U05 (52B55)

Ntouyas, S. K. (*with* Tsamatos, P. Ch.) Global existence for second order functional semilinear equations. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 3, 223–228. (Ioan I. Vrabie) **99b:34113** 34K05 (34K30)

— (*with* Tsamatos, P. Ch.) On the solvability of a boundary value problem for a second order differential equation with deviating arguments. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 525–538. (Summary) **99d:34122** 34K10

— Global existence for neutral functional integrodifferential equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2133–2142. (Elena Litsyn) **99b:34132** 34K40 (45J05)

— (*with* Tsamatos, P. Ch.) Global existence for functional semilinear Volterra integrodifferential equations in Banach spaces. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 67–82. (C. Corduneanu) **99d:34156** 34K30 (35R10, 45K05)

— Global existence for functional semilinear integrodifferential equations. (English summary) *Arch. Math.* (*Brno*) **34** (1998), *no.* 2, 239–256. (Ludwik Byszewski) **99m:35254** 35R10 (34K30, 47D06)

— Initial and boundary value problems for functional-differential equations via the topological transversality method: a survey. (English summary) *Bull. Greek Math. Soc.* **40** (1998), 3–41. (Wiesław Z. Krawcewicz) **99k:34147** 34K10 (35R10, 47H11, 47H15, 47N20)

— Global existence results for certain second order delay integrodifferential equations with nonlocal conditions. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 415–425. (Ludwik Byszewski) **99h:45013** 45J05 (34K30, 35R10, 47D09)

— (*with* Tsamatos, P. Ch.) Existence results for boundary value problems for differential equations with deviating arguments. (English summary) *Fasc. Math. No.* 28 (1998), 127–133. (William K. C. Yin) **99h:34096** 34K10

— Global existence for Volterra functional integrodifferential equations. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 37–43. (Oleg M. Odarich) **99i:34090** 34K05 (45J05)

— (*with* Tsamatos, P. Ch.) Nagumo type conditions for second order differential equations with deviating arguments. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 29–41. (Lidia Skóra) **99m:34149** 34K05 (34K10)

Nualart, David (*with* Caballero, María Emilia; Fernández, Begoña) Composition of skeletons and support theorems. (English summary) *Stochastic differential and difference equations* (*Győr*, 1996), 21–33, *Progr. Systems Control Theory*, **23**, *Birkhäuser Boston, Boston, MA*, 1997. (V. Mackevičius) **99f:60107** 60H10 (28C20, 60B05)

— (*with* Barlow, Martin T.) ★ Lectures on probability theory and statistics. Lectures from the 25th Saint-Flour Summer School held July 10–26, 1995. Edited by P. Bernard. Lecture Notes in Mathematics, 1690. *Springer-Verlag, Berlin*, 1998. *viii*+227 *pp. ISBN* 3-540-64620-5 (Editors) **99h:60003** 60–06

— Analysis on Wiener space and anticipating stochastic calculus. *Lectures on probability theory and statistics* (*Saint-Flour*, 1995), 123–227, *Lecture Notes in Math.*, 1690, *Springer, Berlin*, 1998. (Jorge A. León) **99k:60144** 60H07 (46G12, 46N30, 60–02)

— Stochastic anticipating calculus. *Probability towards* 2000 (*New York*, 1995), 249–262, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Daniel Ocone) **99h:60110** 60H05 (60H07)

— (*with* León, Jorge A.) Stochastic evolution equations with random generators. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 149–186. (Catherine Donati-Martin) **99b:60093** 60H15 (60H07, 60H10)

— (*with* Tindel, Samy) On two-parameter non-degenerate Brownian martingales. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 4, 317–335. (Rainer Buckdahn) **99h:60114** 60H07 (60H15)

— (*with* Chaleyat-Maurel, Mireille) Points of positive density for smooth functionals. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 1, 8 *pp.* (*electronic*). (Shi Zan Fang) **99b:60072** 60H07

— (*with* Alòs, Elisa) An extension of Itô's formula for anticipating processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 493–514. (Daniel Ocone) **99k:60137** 60H05 (60H07)

— (*with* Caballero, María Emilia; Fernández, Begoña) Estimation of densities and applications. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 831–851. (Shi Zan Fang) **99f:60103** 60H07 (60H15, 60J60)

— (*with* Hu, Yao Zhong) Continuity of some anticipating integral processes. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 2, 203–211. (Marco Ferrante) **99i:60111** 60H07 (60H05)

Nuan, Su-Tzu (*with* Chang, Gerard J.; Chen, Fu-Loong; Huang, Lingling; Hwang, Frank K.; Rothblum, Uriel G.; Sun, I-Fan; Wang, Jan-Wen; Yeh, Hong-Gwa) Sortabilities of partition properties. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 413–427. (Summary) **99k:90129** 90C27 (90C10)

Nucinkis, Brita E. A. Complete cohomology for arbitrary rings using injectives. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 3, 297–318. (Jon F. Carlson) **99h:16012** 16E30 (16E10, 16E40, 20J05)

Nudelman, A. A. (*with* Kreĭn, Mark Grigor'evich) An interpolation problem in the class of Stieltjes functions and its connection with other problems. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 251–278. (Aad Dijksma) **99c:47015** 47A57 (30E05, 34L05, 44A60)

Nudelman, Aleksey (*with* Guendelman, E. I.) On some local properties of Yang-Mills vacuum. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 12, 1995–2000. (Summary) **99a:81102** 81T13 (81T16)

— Bound states and brane annihilation in 11D supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 106001, 6 *pp.* 83E50 (83E30)

Nugmanova, G. N. (*with* Myrzakulov, R.; Syzdykova, R. N.) Gauge equivalence between $(2+1)$-dimensional continuous Heisenberg ferromagnetic models and nonlinear Schrödinger-type equations. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9535–9545. (Nicolae Angelescu) **99j:82022** 82B21 (35Q55)

Nuiro, Silvère Paul (*with* Marti, Jean-André) Génération d'algèbres différentielles et applications. (French summary) [Generation of differentiable algebras, and applications] *Proceedings of the* 3*rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 139–150, *Univ. Lleida, Lleida*, 199?. (Yu. V. Egorov) **99c:46037** 46F05 (35D05, 35J65)

— (*with* Marti, Jean-André; Valmorin, Vincent) Algèbres différentielles et problème de Goursat non linéaire à données irrégulières. (English and French summaries) [Differential algebras and nonlinear Goursat problem with irregular data] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 1, 135–159. (Vyacheslav V. Chistyakov) **99k:35012** 35A30 (35D05, 35L20, 46F10)

— (*with* Marti, Jean-André; Valmorin, Vincent) A nonlinear Goursat problem with irregular data. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 229–246. (Summary) **99d:35025** 35G20 (46F10)

Nulton, James D. (*with* Pathria, Raj K.; Salamon, Peter) Optimal operation of finite-time tricycles with heat conduction losses. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3171–3183. (Summary) **99a:80002** 80A10 (49N55)

Numazawa, Masanobu (*with* Kurihara, Masahito[1]; Ohuchi, Azuma) Meta-computation in a conditional term rewriting system-based language. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 3035–3043. 68N15 (68Q42)

Nummi, Tapio Estimation and prediction in growth curve models with applications. (English summary) *Acta Univ. Tamper. Ser. A* **436** (1995), 120 *pp.* (Summary) **99d:62063** 62H12

Nunes, Ana Maria (*with* Casasayas, J.; Martínez Alfaro, J.) Knots and links in integrable Hamiltonian systems. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 2, 123–153. (Robert Ghrist) **99f:58111** 58F09 (57M25, 58F05)

— (*with* Mimoso, José P.) General relativity as a cosmological attractor of scalar-tensor gravity theories. (English summary) *Phys. Lett. A* **248** (1998), *no.* 5-6, 325–331. (Summary) **99h:83045** 83D05 (83C99)

Nunes, João P. (*with* Schnitzer, Howard J.) Field strength correlators for two-dimensional Yang-Mills theories over Riemann surfaces. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 26, 4743–4768. (Summary) **99a:81184** 81T70 (58D29, 81S40, 81T40)

Nunes, Wagner Vieira Leite (*with* Iório, Rafael José, Jr.) On equations of K.P-type. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 725–743. (Xian Guo Geng) **99j:35189** 35Q53

Nunes da Costa, J. M. Compatible Jacobi manifolds: geometry and reduction. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1025–1033. (Manuel de León) **99d:58068** 58F05 (53C15, 70H05)

Núñez, C. *see* **Nuñez Jimenez, Carmen**

Núñez, Carlos Fermionic current algebra in three dimensions. (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 436–438, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99f:81127** 81T10 (81R10)

— (*with* Fosco, C. D.; Schaposnik, Fidel A.) Loop corrections and bosonization formulae. (English summary) *Ann. Physics* **271** (1999), *no.* 1, 31–45. (Summary) **99i:81152** 81T15

Núñez, Carmen *see* **Nuñez Jimenez, Carmen**

Núñez, Carmen A. (*with* Hussain, Faheem; Iengo, Roberto; Scrucca, Claudio A.) Interactions and dynamics of D-branes. (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 413–424, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99g:81166** 81T30

— (*with* Hussain, Faheem; Iengo, Roberto; Scrucca, Claudio A.) Closed string radiation from moving D-branes. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 92–124. (Summary) **99a:81141** 81T30

— (*with* Minces, Pablo; Namazie, M. A.) Fusion rules in $N = 1$ superconformal minimal models. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 117–125. (Isabel P. Ennes) **99h:81194** 81T40

casale Núñez, Concepción Alida *see* **Casale Núñez, Concepción Alida**

Núñez, Darío (*with* Quevedo, Hernando; Sánchez, Alberto) Einstein's equations as functional geodesics. (English and Spanish summaries) *Rev. Mexicana Fis.* **44** (1998), *no.* 5, 440–448. (Maciej Przanowski) **99k:83007** 83C05 (83C15, 83C20)

Núñez, J. *see* **Núñez Valdés, J.**

fernández-Núñez, José *see* **Fernández-Núñez, José**

Núñez, L. A. (*with* Bertolotti, R.; Contreras, Gerardo; Percoco, U.) Algebraic computing and Ricci collineations. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 337–342, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83–04 (83C20)

— (*with* Hernández, Héctor Froilan; Percoco, U.) Non-local equation of state in general relativistic radiating spheres. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 3, 871–896. (Summary) **99k:83030** 83C30 (83C55)

gandarias-Núñez, M. L. *see* **Gandarias-Núñez, M. L.**

Núñez, Manuel *see* **Núñez García, Manuel**

Nunez, Manuel A. (*with* Freund, Robert M.) Condition measures and properties of the central trajectory of a linear program. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 1–28. (Summary) **99g:90067** 90C05 (90C31)

angulo-Núñez, María Isabel *see* **Angulo-Núñez, María Isabel**

Nuñez, Olivier Propriétés asymptotiques d'un estimateur dans un modèle non linéaire à effets mixtes. (English and French summaries) [Asymptotic properties of an estimator in a nonlinear mixed effects model] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 381–384. (Theo Gasser) **99k:62051** 62F12 (62J05)

Núñez, Víctor Universal links for $S^2 \tilde{\times} S^1$. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 55–68. (Chichen M. Tsau) **99b:57018** 57M25 (57M12, 57N10)

Núñez García, Manuel (*with* de Frutos-Escrig, David; Llana-Díaz, Luis) An invitation to friendly testing. Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 531–545. (Summary) **99k:68062** 68Q10 (68Q55)

Nuñez Jimenez, Carmen Extension of a Moser-Pöschel theorem for the Schrödinger equation with ergodic potential. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Rafael Obaya Garcia) **99j:58130** 58F11 (34C35, 34F05, 34L40, 58F30)

— Time averages for continuous functions on distal flows. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 445–452. (Summary) **99i:54054** 54H20 (28D99)

— (*with* Novo, Sylvia; Obaya García, Rafael) Ergodic properties and rotation number for linear Hamiltonian systems. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 148–185. (Mahesh Nerurkar) **99m:58095** 58F05 (34C35, 34L05, 58F11)

— (*with* Obaya García, Rafael) Nontangential limit of the Weyl m-functions for the ergodic Schrödinger equation. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 2, 209–257. (Nariyuki Minami) **99g:58078** 58F11 (28D05, 34B20, 34L40)

— (*with* Hong, Jialin) The almost periodic type difference equations. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 21–31. (P. Talpalaru) **99m:39007** 39A10

Núñez Jiménez, Manuel Energy decay and steady states in externally driven magnetohydrodynamic systems. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 3-4, 309–319. (Summary) **99j:76141** 76W05 (35Q35)

— Asymptotic behaviour of the magnetic field in a perfectly conducting chaotic flow. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2057–2064. (Iuliana Oprea) **99h:76093** 76W05

— (*with* Galindo Soto, Félix) Spectral analysis in magnetohydrodynamic equilibria. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9997–10003. (Alexander Lifschitz) **99j:76142** 76W05 (76E25)

Núñez-Queija, R. (*with* Boxma, O. J.) Analysis of a multi-server queueing model of ABR. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 339–354. (Summary) **99e:60206** 60K25 (90B22)

Núñez Valdés, J. (*with* Echarte Reula, Francisco Javier; Gómez Martín, José Ramón) Les algèbres de Lie filiformes complexes dérivées d'autres algèbres de Lie. [Complex filiform Lie algebras derived from other Lie algebras] *Lois d'algèbres et variétés algébriques* (*Colmar*, 1991), 45–55, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (José María Ancochea Bermúdez) **99a:17013** 17B30

— (*with* Gómez Martín, José Ramón; Jiménez-Merchán, A.) An algorithm to obtain laws of families of filiform Lie algebras. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 1–12. (Dietrich Burde) **99e:17012** 17B30

Nunnari, G. (*with* Muscato, G.; Fortuna, L.) Singular perturbation approximation of bounded real balanced and stochastically balanced transfer matrices. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 253–269. 93C70 (93B36)

Nuno Ballesteros, Juan J. (*with* Romero Fuster, M. Carmen) Separation properties of circles immersed in 2-spheres. *Math. Student* **64** (1995), *no.* 1-4, 57–66 (1996). (Patricia J. M. Grasse) **99e:57044** 57R42

— (*with* Saia, Marcelo José) Multiplicity of Boardman strata and deformations of map germs. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 1, 21–32. (Leslie Charles Wilson) **99a:58016** 58C27 (32S05, 58C28)

— (*with* Fukui, Toshizumi; Saia, Marcelo José) On the number of singularities in generic deformations of map germs. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 141–152. (Kevin Houston) **99m:32046** 32S30 (58C27)

Nunokawa, Mamoru (*with* Ikeda, Akira[2]; Koike, Naoya; Ota, Yoshiaki) Sufficient condition for multivalently starlikeness. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 66–69. (*see* **99a:00033**) 30C45

— (*with* Kim, Yong Chan; Ikeda, Akira[2]; Koike, Naoya; Ota, Yoshiaki) On angular estimate of analytic functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 70–73. (*see* **99a:00033**) 30C45

— (*with* Koike, Naoya; Ikeda, Akira[2]; Ota, Yoshiaki) On meromorphic convex and starlike functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 74–77. (*see* **99a:00033**) 30C45

— (*with* Yamakawa, Rikuo; Ikeda, Akira[2]; Koike, Naoya; Ota, Yoshiaki) Sufficient conditions for starlikeness of meromorphic functions. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 78–81. (*see* **99a:00033**) 30C45

— (*with* Aouf, M. K.; Darwish, H. E.) On α-convex functions of order β of Ruscheweyh type. II. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 82–91. (*see* **99a:00033**) 30C45

— (*with* Cho, Nak Eun; Kim, In Hwa; Owa, Shigeyoshi) Angular estimations of certain analytic functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 321–331. (Khalida Inayat Noor) **99k:30015** 30C45 (30C50)

Nuray, Fatih θ-almost summable sequences. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 741–744. (Summary) **99c:40004** 40C05

— Lacunary statistical convergence of sequences of fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 353–355. (Summary) **99e:04003** 04A72 (40A05)

Nurekenov, T. K. (*with* Nurekenova, A. T.) On a local and nonlocal existence theorem for a quasilinear heat equation of a certain class. I. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 60–73. (Lubomira G. Softova) **99h:35112** 35K60

Nurekenova, A. T. (*with* Nurekenov, T. K.) On a local and nonlocal existence theorem for a quasilinear heat equation of a certain class. I. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 60–73. (Lubomira G. Softova) **99h:35112** 35K60

Nurges, Ülo On the robust controller design via Schur invariant transforms. (English and Estonian summaries) *Proc. Est. Acad. Sci. Eng.* **3** (1997), *no.* 4, 293–301. 93B51 (93D21)

— The discrete Kharitonov theorem revisited. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 2, 90–99. (Summary) **99h:93079** 93D09 (93C55)

Nurmagambetov, Aleksei (*with* Bandos, Igor A.) Generalized action principle and extrinsic geometry for $N = 1$ superparticles. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1597–1621. (Summary) **99d:81150** 81T60

— Duality-symmetric three-brane and its coupling to type IIB supergravity. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 289–297. (Gagik T. Ter-Kazarian) **99i:83093** 83E30 (81T30, 83E50)

Nurmela, Kari J. ★ Stochastic optimization methods in sphere packing and covering problems in discrete geometry and coding theory. Dissertation, Helsinki University of Technology, Espoo, 1997. *Helsinki University of Technology, Espoo*, 1997. *viii*+17 *pp. ISBN* 952-90-9461-2 (Béla Uhrin) **99h:52021** 52C15 (52C17, 94B60)

— (*with* Graham, Ronald L.; Lubachevsky, B. D.; Östergård, Patric R. J.) Dense packings of congruent circles in a circle. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 139–154. (A. Florian) **99b:52040** 52C15 (05B40)

— (*with* Östergård, Patric R. J.) A circle packing problem—or: how to fit the bottles in the basket. (Swedish. English summary) *Normat* **46** (1998), *no.* 2, 64–70, 96. (Summary) **99g:52033** 52C15

— (*with* Östergård, Patric R. J.) New coverings of t-sets with $(t + 1)$-sets. (English summary) *J. Combin. Des.* **7** (1999), *no.* 3, 217–226. (Summary) **99m:05047** 05B40

Nurmi, Hannu On power indices and minimal winning coalitions. *Control Cybernet.* **26** (1997), *no.* 4, 609–611. 90A12

— (*with* Kacprzyk, Janusz) Group decision making under fuzziness. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 103–136, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90A05 (04A72)

— Voting paradoxes and referenda. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 333–350. (Summary) **99b:90037** 90A28

Nurminskiĭ, E. A. Separating plane algorithms for equality constrained convex optimization. (English summary) *Dal'nevost. Mat. Sb. No.* 2 (1996), 139–145, 200. (Claudia A. Sagastizábal) **99h:90078** 90C25

Nürnberger, Günther Optimal partitions in bivariate segment approximation. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 271–278, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Mariano Gasca) **99m:41014** 41A15 (41A63)

— (*with* Davydov, O. V.; Zeilfelder, F.) Approximation order of bivariate spline interpolation for arbitrary smoothness. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 117–134. (Summary) **99c:41062** 41A63 (65D07)

Nurowski, Paweł On a certain formulation of the Einstein equations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5477–5480. (Peter R. Law) **99h:83005a** 83C05 (53C80, 83C60)

— Elliptic fibrations associated with the Einstein space-times. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5481–5490. (Peter R. Law) **99h:83005b** 83C05 (53C80, 83C60)

Nursultanov, E. D. On a lower bound for a multiplier of the Fourier transform from $M(L_p \to L_q)$. (Russian) *Mat. Zametki* **62** (1997), *no.* 6, 945–949; *translation in Math. Notes* **62** (1997), *no.* 5-6, 792–796 (1998). (Elijah Liflyand) **99g:42013** 42B15 (42B25)

— Interpolation properties of some anisotropic spaces and Hardy-Littlewood type inequalities. (English summary) Dedicated to P. L. Ul'yanov. *East J. Approx.* **4** (1998), *no.* 2, 243–275. (Javier Soria) **99g:42009** 42B05 (41A17)

— Network spaces and inequalities of Hardy-Littlewood type. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 3, 83–102; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 399–419. (F. Móricz) **99d:42015** 42B05 (26D15)

— On multipliers of Fourier series in a trigonometric system. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 235–247; *translation in Math. Notes* **63** (1998), *no.* 1-2, 205–214. (S. Baron) **99g:42014** 42B15 (42A05)

Nursultanov, E. D. (*with* Kostyuchenko, A. G.) Theory of the control of "catastrophes". (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 199–200; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 628–629. (From the text) **99h:42026** 42B20

Nurubloev, M. A mixed problem for a second-order multidimensional system of composite type. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 6, 342–345 (1992). 35M20 (35J99, 35Q99, 78A25)

Nurzia, Laura The Periodico di Matematica (1886–1946). *Messengers of mathematics: European mathematical journals* (1800–1946), 203–218, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

Nuss, Philippe Noncommutative descent and non-abelian cohomology. (English summary) *K-Theory* **12** (1997), *no.* 1, 23–74. (Hans-Jürgen Schneider) **99d:16001** 16D10 (16E40, 16W30, 18G50, 46L80)

Nussbaum, Michael (*with* Grama, Ion) Asymptotic equivalence for nonparametric generalized linear models. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 2, 167–214. (M. P. Moklyachuk) **99m:62059** 62G07 (62G20)

— (*with* Mil'shteĭn, G. N.) Diffusion approximation for nonparametric autoregression. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 4, 535–543. (Paulo E. Oliveira) **99k:62172** 62M10 (60H10, 62G07)

Nussbaum, Miguel (*with* Dombrovskaia, Lioubov; Rodríguez, Patricio) Knowledge-based language for modeling linear programming problems. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 379–388. 90C05 (90C90)

— (*with* Rodríguez, Patricio; Baeza, Rodrigo; León, Gerardo; Sepúlveda, Marcos; Cobián, Agustín) Using global search heuristics for the capacity vehicle routing problem. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 407–417. 90C35 (90B06)

Nussbaum, Roger D. (*with* Mallet-Paret, John) Boundary layer phenomena for differential-delay equations with state dependent time lags. II. *J. Reine Angew. Math.* **477** (1996), 129–197. (From the text) **99c:34162** 34K15 (34E15)

— (*with* Verduyn Lunel, S. M.) Generalizations of the Perron-Frobenius theorem for nonlinear maps. (English summary) *Mem. Amer. Math. Soc.* **138** (1999), *no.* 659, *viii*+98 *pp.* (Makoto Mori) **99i:58125** 58F20 (47H99)

Nusse, Helena E. (*with* Yorke, James A.) ★ Dynamics: numerical explorations. (English summary) Second edition. Accompanying computer program Dynamics 2 coauthored by Brian R. Hunt and Eric J. Kostelich. With 1 IBM-PC floppy disk (3.5 inch; HD). Applied Mathematical Sciences, 101. *Springer-Verlag, New York*, 1998. *xvi*+608 *pp. ISBN* 0-387-98264-7 (Timothy Sauer) **99f:58001** 58–04 (58F13, 65–04, 65L99)

— (*with* Yorke, James A.) ★ Dynamika. (Polish. Polish summary) [Dynamics] Badania numeryczne. [Numerical explorations] Translated from the English by Stanisław Jankowski. With 1 IBM-PC floppy disk (3.5 inch; HD). *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 558 *pp. ISBN* 83-01-12614-0 (Editors) **99k:58002** 58–04 (58F13, 65–04, 65L99)

Nussenzveig Lopes, H. J. (*with* Lopes Filho, M. C.) An extension of Marchioro's bound on the growth of a vortex patch to flows with L^p vorticity. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 596–599 (*electronic*). (From the text) **99a:76027** 76C05 (35Q35)

— (*with* Lopes Filho, M. C.; Zheng, Yuxi) Convergence of the vanishing viscosity approximation for superpositions of confined eddies. (English summary) *Comm. Math. Phys.* **201** (1999), *no.* 2, 291–304. (Raphaël Danchin) **99m:76045** 76D05 (35D05, 35Q30)

Nüßler, K. J. Universality and powerdomains. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Peter Johnstone) **99a:06013** 06B35 (18B15, 54B20, 68Q55)

Nutku, Y. (*with* Aliev, A. N.; Kalayci, J.) General minimal surface solution for gravitational instantons. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1332–1333. (Summary) **99d:83041** 83C45 (53A10, 53C80)

Nutov, Zeev (*with* Penn, Michal) Faster approximation algorithms for weighted triconnectivity augmentation problems. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 219–223. (Summary) **99a:05136** 05C85

— (*with* Cheriyan, Joseph; Jordán, Tibor) Approximating k-outconnected subgraph problems. (English summary) *Approximation algorithms for combinatorial optimization* (*Aalborg*, 1998), 77–88, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (Summary) **99k:68132** 68R10 (05C85, 90C35)

Nutt, Werner (*with* Donini, Francesco M.; Lenzerini, Maurizio; Nardi, Daniele) The complexity of concept languages. (English summary) *Inform. and Comput.* **134** (1997), *no.* 1, 1–58. (Lei Qian) **99c:68236** 68T30 (68Q25)

— (*with* Buchheit, M.; Donini, Francesco M.; Schaerf, Andrea) A refined architecture for terminological systems: terminology=schema+views. (English summary) *Artificial Intelligence* **99** (1998), *no.* 2, 209–260. (Summary) **99a:68161** 68T30 (68Q15)

Nuyts, Jean (*with* Devchand, Chandrashekar) Supersymmetric Lorentz-covariant hyperspaces and self-duality equations in dimensions greater than (4|4). (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 627–656. (Krzysztof Galicki) **99f:81195** 81T60 (53C80)

— (*with* Brihaye, Yves) The hidden symmetry algebras of a class of quasi-exactly solvable multi-dimensional operators. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 2, 445–459. (Allina A. Suzko) **99i:58158** 58G35 (81Q05, 81R05)

— (*with* Devchand, Chandrashekar) Lorentz covariant spin two superspaces. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 479–498. (Sergey Nikolaevich Roshchupkin) **99h:81205** 81T60 (17B81, 81R05)

Nwabueze, K. K. Certain applications of the Burnside rings and ghost rings in the representation theory of finite groups. I. *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 101–114. (Ernesto Vallejo) **99c:20007** 20C15 (19A22)

Nwokah, Osita D. I. (*with* Piedmonte, Michael D.; Meckl, Peter H.; Franchek, Matthew A.) Multivariable vibration control of a coupled flexible structure using QFT. (English summary) *Internat. J. Control* **69** (1998), *no.* 4, 475–498. 93C85 (73K50)

Nyarko, Yaw Bayesian learning and convergence to Nash equilibria without common priors. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 643–655. (Vivek S. Borkar) **99g:90171** 90D20 (92J40, 93E35)

Nyberg, Kaisa Generalized Feistel networks. (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 91–104, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99h:94051** 94A60

Nyberg, Svein Olav The discrete Einstein relation. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 5, 547–557. (Jörg-Uwe Löbus) **99a:94069** 94C05 (60J15, 82B05)

Nyblom, Michael (*with* Eberhard, Andrew; Ralph, Daniel) Applying generalised convexity notions to jets. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 111–157, *Nonconvex Optim. Appl.*, **27**, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alberto Seeger) **99i:49019** 49J52 (90C31)

— A note on the set of almost-isosceles right-angled triangles. *Fibonacci Quart.* **36** (1998), *no.* 4, 319–322. 11D09

— (*with* Eberhard, Andrew) Jets, generalised convexity, proximal normality and differences of functions. *Nonlinear Anal.* **34** (1998), *no.* 3, 319–360. (S. Rolewicz) **99h:49023** 49J52 (52A01, 90C26)

— On a generalization of the binomial theorem. *Fibonacci Quart.* **37** (1999), *no.* 1, 3–13. (Y. H. Harris Kwong) **99m:11017** 11B65 (05A10, 11B73)

Nyffeler, Andreas (*with* Appelquist, Thomas; Selipsky, Stephen B.) Analyzing chiral symmetry breaking in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 300–308. (Summary) **99b:81229** 81T60 (81R40, 81T13, 81V05)

Nygreen, Bjørn (*with* Christiansen, Marielle) A method for solving ship routing problems with inventory constraints. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 357–378. (*see* **99b:90006**) 90C27 (90B05)

— (*with* Baricelli, Paola; Mitra, Gautam) Modelling of augmented makespan assignment problems (AMAPs): computational experience of applying integer presolve at the modelling stage. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 269–288. (*see* **99e:90003**) 90C27 (90C90)

— (*with* Christiansen, Marielle) Modelling path flows for a combined ship routing and inventory management problem. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 391–412. (*see* **99e:90003**) 90B05

Nylen, Peter Null space structure of tree-patterned matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 153–161. (K. Chandrasekhara Rao) **99h:15030** 15A99

Nyman, P.-O. A simplified frequency-domain approach to super-optimization. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1453–1469. 93B36 (93C80)

okola Nyongesa, H. *see* **Okola Nyongesa, H.**

Nyström, Sven-Olof (*with* Jonsson, Bengt) A fully abstract semantics for concurrent constraint programming. (English summary) *Inform. and Comput.* **146** (1998), *no.* 2, 138–180. (Neculai Curteanu) **99j:68078** 68Q55 (68Q10)

ango Nze, Patrick *see* **Ango Nze, Patrick**

N'Zi, Modeste Strassen theorem in Hölder norm for some Brownian functionals. (English summary) *Ann. Math. Blaise Pascal* **4** (1997), *no.* 2, 49–59. (Paolo Baldi) **99e:60093** 60F17 (60F10)

— Multivalued backward stochastic differential equations with local Lipschitz drift. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 2, 163–172. (Summary) **99g:60104** 60H10

— (*with* Bouchen, A.; El Arni, A.; Ouknine, Youssef) Intégration stochastique multivoque et inclusions différentielles stochastiques rétrogrades. (English summary) [Multivalued stochastic integration and backward stochastic differential inclusions] *Acta Math. Vietnam.* **23** (1998), *no.* 2, 325–345. (V. Mackevičius) **99j:60081** 60H10 (34A60, 34F05, 60H20)

–O–

Oaku, Toshinori Some algorithmic aspects of the D-module theory. (English summary) *New trends in microlocal analysis* (*Tokyo*, 1995), 205–223, *Springer, Tokyo*, 1997. (Andrea D'Agnolo) **99g:32019** 32C38

– Algorithms for the b-function and D-modules associated with a polynomial. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 495–518. (Summary) **99c:13047** 13N10 (13P10)

– Algorithms for b-functions, restrictions, and algebraic local cohomology groups of D-modules. Algebraic analysis methods in microlocal analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 983 (1997), 86–105. (Nobuyuki Tose) **99a:32011** 32C38 (14F10, 58G07)

– (*with* Yamazaki, Susumu) Higher-codimensional boundary value problems and F-mild microfunctions—local and microlocal uniqueness. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 5, 383–437. (P. Schapira) **99k:58169** 58G07 (32C38, 35A27, 35G15, 46F15)

– The theory of D-modules from a computational perspective. (Japanese) *Sūgaku* **50** (1998), *no.* 2, 203–211. (Nobuki Takayama) **99i:13036** 13P10 (13N10, 14Q20, 35A27)

– (*with* Takayama, Nobuki) Integrals of modules and their applications. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 163–169. (*see* **99h:00034**) 14F10

Oară, Cristian (*with* Ionescu, Vlad) The class of suboptimal and optimal solutions to the discrete Nehari problem: characterization and computation. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 483–509. 93B30 (93B28)

– (*with* Ionescu, Vlad) The extended generalized distance problem in discrete time. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 6, 523–534. (Summary) **99c:93027** 93B25 (93C55)

Obada, A.-S. F. (*with* Abd Al-Kader, G. M.) Squeezed states and nondiagonal P-representation. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2207–2232. (Günter Braunss) **99k:81148** 81S30 (81R30)

– (*with* Abd Al-Kader, G. M.) Linear amplifier and quasiprobability distribution functions for the squeezed displaced Fock states. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2233–2260. (Günter Braunss) **99k:81149** 81S30 (81R30)

Obădeanu, Virgil Systèmes dynamiques nonautonomes et des champs associés. (French summary) [Nonautonomous dynamical systems and associated fields] *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 63–74. (David Martín de Diego) **99c:58059** 58F05 (34A26, 70G50)

– (*with* Vernic, C.) Systèmes dynamiques sur des espaces de Riemann. [Dynamical systems on Riemannian spaces] First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 73–82. (Frans Cantrijn) **99b:58099** 58F05 (34A26, 53C80, 70G05, 70H35)

Obata, Nobuaki Integral kernel operators on Fock space—generalizations and applications to quantum dynamics. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 1, 49–77. (Kalyanapuram R. Parthasarathy) **99c:81112** 81S25 (46F25, 47N50, 60H99)

– Generalization of integral kernel operators. Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 137–149. (Yuh-Jia Lee) **99h:46074** 46F25 (47N50, 60G20, 81S25)

– (*with* Accardi, Luigi; Hashimoto, Yukihiro) Singleton independence. (English summary) *Quantum probability* (*Gdańsk*, 1997), 9–24, *Banach Center Publ.*, **43**, *Polish Acad. Sci., Warsaw*, 1998. (S. Gudder) **99k:46111** 46L50 (46K99, 46N50, 81S25)

– (*with* Accardi, Luigi; Hashimoto, Yukihiro) Notions of independence related to the free group. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 2, 201–220. (Dietmar H. Bisch) **99g:46087** 46L50 (60F99, 81S25)

– (*with* Chung, Dong Myung; Ji, Un Cig) Higher powers of quantum white noises in terms of integral kernel operators. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 4, 533–559. (John E. Gough) **99m:81113** 81S25 (46N50)

– (*with* Accardi, Luigi; Hashimoto, Yukihiro) A role of singletons in quantum central limit theorems. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 675–690. (John E. Gough) **99m:81110** 81S25 (46N50, 60F99)

– (*with* Chung, Dong Myung; Ji, Un Cig) Transformations on white noise functions associated with second order differential operators of diagonal type. (English summary) *Nagoya Math. J.* **149** (1998), 173–192. (Isamu Dōku) **99c:60134** 60H99 (46F25, 47B38, 60G20)

Obata, Tsuneshi (*with* Shiraishi, Shunsuke; Daigo, Motomasa) Properties of a positive reciprocal matrix and their application to AHP. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 404–414. (Summary) **99f:15032** 15A48 (15A18, 65F99, 90B30)

– (*with* Shiraishi, Shunsuke; Daigo, Motomasa; Nakajima, Nobuyuki) Properties of a positive reciprocal matrix and their application to estimating priority weights for incomplete comparison matrices. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 135–142. (*see* **99h:90006**) 93A13 (65F30)

Obaya García, Rafael (*with* Novo, Sylvia) An ergodic and topological approach to almost periodic bidimensional linear systems. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 299–322, *Contemp. Math.*, **215**, *Amer. Math. Soc., Providence, RI*, 1998. (Mahesh Nerurkar) **99g:58076** 58F11 (28D10, 34C35, 54H20)

– (*with* Novo, Sylvia) On the dynamical behaviour of an almost periodic linear system with an ergodic 2-sheet studied by R. Johnson. (English summary) *Israel J. Math.* **105** (1998), 235–249. (Sergei G. Zhuravlev) **99g:58077** 58F11 (28D10, 34A30, 34C35)

– (*with* Novo, Sylvia; Nuñez Jimenez, Carmen) Ergodic properties and rotation number for linear Hamiltonian systems. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 148–185. (Mahesh Nerurkar) **99m:58095** 58F05 (34C35, 34L05, 58F11)

– (*with* Nuñez Jimenez, Carmen) Nontangential limit of the Weyl m-functions for the ergodic Schrödinger equation. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 2, 209–257. (Nariyuki Minami) **99g:58078** 58F11 (28D05, 34B20, 34L40)

– (*with* Hong, Jialin; Sanz, Ana M.) Exponential trichotomy and a class of ergodic solutions of differential equations with ergodic perturbations. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 7–13. (Wei Nian Zhang) **99k:34102** 34D05 (34C11, 58F11)

– (*with* de la Llave, R.) Regularity of the composition operator in spaces of Hölder functions. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 157–184. (P. P. Zabreĭko) **99m:47085** 47H30 (46G05)

Obeid, Nadim Three valued logic and nonmonotonic reasoning. (English summary) *Comput. Artificial Intelligence* **15** (1996), *no.* 6, 509–530. (From the summary) **99h:03011** 03B50 (68T27)

Obeid, S. E. (*with* Moghrabi, Issam A. R.) A new minimum curvature multi-step method for unconstrained optimization. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 319–326, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 90C30 (65K05)

– (*with* Moghrabi, Issam A. R.) A new family of multi-step quasi-Newton algorithms for unconstrained optimization. (English summary) *Int. J. Appl. Math.* **1** (1999), *no.* 1, 67–74. 90C30 (65K05)

Ober, Raimund J. (*with* Gheondea, Aurelian) Spectral minimality of J-positive linear systems of finite order. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 70–80, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Daniel Alpay) **99f:93026** 93B25 (47B50, 47N70, 93B30)

– (*with* Hanzon, Bernard) Overlapping block-balanced canonical forms for various classes of linear systems. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 171–225. (Valeriu Prepeliţă) **99i:93012** 93B10 (93C05)

– Asymptotic stabilization of infinite-dimensional systems which cannot be exponentially stabilized. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 61–63. (Han Sheng Wu) **99f:93119** 93D15 (47N70, 93D20)

– (*with* Gheondea, Aurelian) A trace formula for Hankel operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2007–2012. (V. S. Pilidi) **99j:47035** 47B35 (47B10)

Oberai, Assad A. (*with* Malhotra, Manish[2]; Pinsky, Peter M.) On the implementation of the Dirichlet-to-Neumann radiation condition for iterative solution of the Helmholtz equation. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 443–464. (Summary) **99e:65179** 65N99 (78–08)

– (*with* Pinsky, Peter M.) A multiscale finite element method for the Helmholtz equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **154** (1998), *no.* 3-4, 281–297. (Summary) **99a:76088** 76M10 (65N30, 76Q05)

Oberguggenberger, Michael (*with* Russo, Francesco) Nonlinear SPDEs: Colombeau solutions and pathwise limits. *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 319–332, *Progr. Probab.*, **42**, *Birkhäuser Boston, Boston, MA*, 1998. (From the introduction) **99i:35185** 35R60 (35D05, 46F10, 60G20, 60H15)

– (*with* Russo, Francesco) Nonlinear stochastic wave equations. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 71–83. (Summary) **99d:60071** 60H15 (35L99, 35R60, 46F10)

– (*with* Todorov, Todor Dimitrov[1]) An embedding of Schwartz distributions in the algebra of asymptotic functions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 417–428. (From the introduction) **99m:46097** 46F05 (03H05)

– (*with* Wang, Ya Guang) Regularized conservation laws and nonlinear geometric optics. (English summary) *Monatsh. Math.* **127** (1999), *no.* 1, 55–66. (Summary) **99i:35094** 35L65 (35D05, 46F10)

Oberknapp, Bernd (*with* Polthier, Konrad) An algorithm for discrete constant mean curvature surfaces. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 141–161, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53A10

Oberlack, Martin Similarity in non-rotating and rotating turbulent pipe flows. (English summary) *J. Fluid Mech.* **379** (1999), 1–22. (Summary) **99k:76081** 76F99 (76U05)

Oberle, H. J. (*with* Taubert, K.) Existence and multiple solutions of the minimum-fuel orbit transfer problem. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 243–262. (Michael E. Fisher) **99a:49008** 49J15 (49N55, 70M20, 70Q05)

– (*with* Opfer, Gerhard) Nonnegative splines, in particular of degree five. (English summary) *Numer. Math.* **79** (1998), *no.* 3, 427–450. (Crăciun Iancu) **99d:41018** 41A15 (65D07)

Oberlin, Daniel M. Convolution with measures on curves in $\mathbf{R}^3$. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 478–480. (Daniele Struppa) **99k:42026** 42B15 (42B20)

– (*with* Smith, Hart F.; Sogge, Christopher D.) Averages over curves with torsion. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 535–539. (Walter Trebels) **99j:42021** 42B20 (42B25)

Obernikhina, N. N. (*with* Tishchenko, V. N.) Failure of bridges in thin plates. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2455–2458. (Summary) **99f:73067** 73M25

Obers, Niels A. (*with* Halpern, M. B.) Semiclassical blocks and correlators in rational and irrational conformal field theory. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 27, 4837–4896. (Jürgen Schulze) **99b:81217** 81T40 (81R10)

– (*with* Halpern, M. B.) New semiclassical non-abelian vertex operators for chiral and nonchiral WZW theory. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 24, 4317–4355. (Isabel P. Ennes) **99c:81067** 81R10 (81T40)

– (*with* Kiritsis, Elias) Heterotic/type-I duality in $D < 10$ dimensions, threshold corrections and D-instantons. (English summary) *J. High Energy Phys.* **1997**, *no.* 10, *Paper* 4, 70 *pp.* (*electronic*). (Daniel N. Kabat) **99m:81200** 81T30 (11F11, 83E30)

– (*with* Pioline, Boris; Rabinovici, Eliezer) M-theory and U-duality on T^d with gauge backgrounds. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 163–181. (Summary) **99c:81202** 81T30

Oberschelp, W. *see* **Charlemagne and his heritage. 1200 years of civilization and science in Europe**, **99i:00015**

Oberst, Ulrich (*with* Fröhler, Stefan) Continuous time-varying linear systems. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 97–110. (Summary) **99h:93006** 93A10 (34A09, 34H05)

Obilade, Titl Solo service distribution in a batch acceptance and batch service queueing system. (English and Serbian summaries) *Zb. Rad.* (*Kragujevac*) *No.* 20 (1998), 7–16. (John P. Lehoczky) **99j:60145** 60K25 (90B22)

ponsati-Obiols, Clara *see* **Ponsati-Obiols, Clara**

Obloza, Marta Connections between Hyers and Lyapunov stability of the ordinary differential equations. (English summary) *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14

(1997), 141–146. (Alexander O. Ignat'ev) **99a:34151** 34D20

Obnosov, Yu. V. Seepage refraction by a semicircular lens located at the boundary of two porous massifs. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 810–824; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 749–762 (1999). (Summary) **99m:76110** 76S05

Obokata, Koji (*with* Iwasaki, Yukihiro; Kajiwara, Yuka; Igarashi, Yoshihide) Independent spanning trees of chordal rings. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 155–160. (Summary) **99k:68138** 68R10 (68M15)

Obolashvili, E. Generalized holomorphic functions and Clifford analysis. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 184–191. (Guo Chun Wen) **99e:30037** 30G35 (30E25)

— Some partial differential equations in Clifford analysis. *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 275–289, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Klaus Gürlebeck) **99e:30038** 30G35 (30E25, 35J99, 35Q60)

— Generalized analytic functions in mechanics. *Generalized analytic functions* (*Graz*, 1997), 289–297, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 30G20 (73K15)

Obradovic, Dragan (*with* Lenz, Henning) Stabilizing higher periodic orbits of chaotic discrete-time maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **9** (1999), *no.* 1, 251–266. 58F13

Obradović, Milutin Simple sufficient conditions for univalence. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 241–244. (Summary) **99a:30019** 30C45

— (*with* Joshi, Santosh B.; Jovanović, Ivan) On certain sufficient conditions for starlikeness and convexity. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 271–275. (Gerald Schmieder) **99e:30008** 30C45

— (*with* Joshi, Santosh B.) On certain classes of strongly starlike functions. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 297–302. (Wolfram Koepf) **99f:30025** 30C45

Obradović, Ratko (*with* Cvetićanin, Dragan) A CAGD method for elliptic cross sections of circular parabolic quadrics. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 55–63. 68U05

Obradović, Zoran (*with* Ngom, Alioune; Stojmenović, Ivan) Minimization of multivalued multithreshold perceptrons using genetic algorithms. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 209–214, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 68T05

Obraztsov, V. N. Simple torsion-free groups in which the intersection of any two non-trivial subgroups is non-trivial. *J. Algebra* **199** (1998), *no.* 1, 337–343. (Patrizia Longobardi) **99h:20067** 20F99

— On a question of Deaconescu about automorphisms. III. *Rend. Sem. Mat. Univ. Padova* **99** (1998), 45–82. (Patrizia Longobardi) **99j:20042** 20F28

Obrechkoff, Nikola *see* **Obreschkoff, Nikola**

Obregón, O. Conserved current and the possibility of a positive definite probability density in quantum cosmology. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 480–487, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83C45

— (*with* Ryan, M. P., Jr.) Quantum Planck size black hole states without a horizon. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 40, 3251–3258. (Orfeu Bertolami) **99m:83079** 83C45 (83C57)

— (*with* García-Compeán, Hugo; Plebański, Jerzy F.; Ramírez Romero, Cupatitzio) Towards a gravitational analogue to S duality in non-abelian gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7501–7506. (Summary) **99k:81306** 81T60 (81T13)

— (*with* García-Compeán, Hugo; Ramírez Romero, Cupatitzio) Gravitational duality in MacDowell-Mansouri gauge theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104012, 3 *pp.* (Summary) **99m:83168** 83D05 (81T60)

Obreschkoff, Nikola *see* **Transform methods & special functions**, **99i:00031**; **Dimovski, I. H.**, **99m:01024**; **Rusev, Pet'r K.**, (**99i:00031**) *and* (**99i:00031**)

O'Brien, David L. (*with* Pearce, Paul A.; Behrend, Roger E.) Surface free energies and surface critical behaviour of the ABF models with fixed boundaries. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 285–295, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B27 (82B20)

O'Brien, E. A. (*with* An, Jianbei) A local strategy to decide the Alperin and Dade conjectures. (English summary) *J. Algebra* **206** (1998), *no.* 1, 183–207. (J. L. Alperin) **99d:20015** 20C20 (20C15, 20D08)

— (*with* Eick, Bettina) The groups of order 512. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 379–380, *Springer, Berlin*, 1999. (Summary) **99m:20034** 20D15

— (*with* Johnson, David Lawrence; Kim, Ann Chi) Certain cyclically presented groups are isomorphic. (English summary) *Comm. Algebra* **27** (1999), *no.* 7, 3531–3536. 20F05

— (*with* Newman, M. F.) Classifying 2-groups by coclass. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 131–169. (Avinoam Mann) **99c:20020** 20D15 (20–04)

O'Brien, George L. (*with* Watson, W. Stephen) Relative compactness for capacities, measures, upper semicontinuous functions and closed sets. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 577–588. (Summary) **99m:28008** 28A12 (31C15, 60B05)

O'Brien, M. R. (*with* Zaitsev, F. S.; Longinov, V. V.; Tanner, Robert) Difference schemes for the time evolution of three-dimensional kinetic equations. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 239–264. (Summary) **99j:82003** 82–08 (76M20, 76P05, 82C80)

O'Brien, Richard T., Jr. (*with* Iglesias, Pablo A.) Pole/zero cancellations in time-varying systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 103–130. (Srinivasu Maka) **99k:93054** 93B60 (93B55, 93C05)

— (*with* Iglesias, Pablo A.) Closed loop cancellations in $\mathscr{H}_\infty$ control of time-varying systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 163–189. (Michel Malabre) **99f:93048** 93B36 (93B55, 93B60)

Obtułowicz, Adam Remark on visual presentation of deductions in Jaskowski's method of suppositions. *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 3, 144–147. 03B10 (03F03)

Obuchowska, W. T. (*with* Isac, George) Functions without exceptional family of elements and complementarity problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 147–163. (Siegfried Schaible) **99i:90098** 90C33

Obukhov, Yu. N. On the gravitational moments of a Dirac particle. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1131–1138. (Summary) **99m:83171** 83D05

— Analogue of black strings in Yang-Mills gauge theory. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1455–1467. (Gheorghe Zet) **99e:81152** 81T13 (83C57, 83E30)

Obukhovskiĭ, V. V. (*with* Kamenskii, Mikhail; Zecca, Pietro) Method of the solution sets for a quasilinear functional-differential inclusion in a Banach space. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 339–350. (Giovanni Colombo) **99h:34118** 34K30 (34A60, 47H04, 47H10, 47N20)

— (*with* Nistri, Paolo; Zecca, Pietro) Viability for feedback control systems in Banach spaces via Caratheodory closed-loop controls. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 367–378. (Summary) **99h:49008** 49J27 (49N35, 93B52)

— (*with* Kamenskii, Mikhail; Zecca, Pietro) On the translation multioperator along the solutions of semilinear differential inclusions in Banach spaces. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 2, 139–155. (Teresa Winiarska) **99m:34137** 34G20 (34A60, 47H15, 47N20)

montes de Oca, Francisco *see* **Montes de Oca, Francisco**

montes-de-Oca, Raúl *see* **Montes-de-Oca, Raúl**

Ocali, Ogan (*with* Wei, Runyi; Sezer, M. Erol) Robust adaptive stabilization of a class of systems under structured nonlinear perturbations with application to interconnected systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 183–194. 93D21

O'Carroll, Michael L. (*with* Faria da Veiga, Paulo A.; Schor, Ricardo) A classical large N hierarchical vector model in three dimensions: a nonzero fixed point and canonical decay of correlation functions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1501–1516. (Christof Külske) **99a:82044** 82B28 (82B20)

— (*with* Faria da Veiga, Paulo A.; Schor, Ricardo) On the large-distance behavior of correlations for a hierarchical N-component classical vector model in three dimensions. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 47–55. (Summary) **99h:82031** 82B28 (82B05)

— (*with* Braga, Gastão A.; Lima, Paulo C.) Exponential decay of truncated correlation functions via the generating function: a direct method. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 4, 429–438. (Gustavo R. Guerberoff) **99e:82013** 82B20

— (*with* Balaban, Tadeusz) Low temperature properties for correlation functions in classical N-vector spin models. (English summary) *Comm. Math. Phys.* **199** (1999), *no.* 3, 493–520. (Roman Gielerak) **99m:82018** 82B28 (82B05)

Occhetta, Gianluca (*with* Lanteri, Antonio) Double covers of some Fano manifolds as hyperplane sections. (English summary) *Math. Nachr.* **193** (1998), 93–110. (Jarosław A. Wiśniewski) **99f:14055** 14J45 (14C20)

Occhiogrosso, Neill (*with* Kao, Ming-Yang; Teng, Shang-Hua) Simple and efficient graph compression schemes for dense and complement graphs. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 351–359. (Summary) **99k:05150** 05C85

Occhiuto, M. Eugenia (*with* Bellia, Marco) Lazy linear combinatorial unification. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 2, 185–206. (Summary) **99k:68087** 68Q40 (68T15)

Occorsio, Donatella Bernstein polynomials of matrices. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 73–82. (G. Maess) **99e:65017** 65D15 (15A15, 41A10, 65F30)

— (*with* Kocić, Ljubiša M.; Simoncelli, Alba Chiara) Comparison between two generalizations of Bézier curves. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 217–232. (Summary) **99f:65027** 65D17

— (*with* Mastronardi, N.) Product integration rules on the semiaxis. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 605–618. (Summary) **99f:41034** 41A55 (65D30)

Occorsio, Mario Rosario (*with* Amato, Umberto; Vuza, Dan Tudor) Fully adaptive wavelet regularization for smoothing data. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 207–222. (*see* **99d:00027**) 42C40 (62G05)

caridad Ocerin, J. M. *see* **Caridad Ocerin, J. M.**

ruiz Ochando, José *see* **Ruiz Ochando, José**

Ochi, Márcia M. (*with* Kageyama, Akira; Sato, Tetsuya) Dipole and octapole field reversals in a rotating spherical shell: magnetohydrodynamic dynamo simulation. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 777–787. 76W05

Ochi, Yoshimichi Analysis of categorical data with extra-multinomial variation. (Japanese. Japanese summary) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 1, 205–225. 62H17

Ochiai, Hiroyuki Commuting differential operators of rank two. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 243–255. (Mayumi Ohmiya) **99d:35160** 35Q58 (35A99, 39B32)

Ochirova, V. L. (*with* Karapetyants, Nikolai K.) Necessary conditions for the convergence of averages for large values of the parameter. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 165–167. (B. S. Rubin) **99f:42014** 42A32 (47G10)

Ochoa, James P. (*with* Lewis, Paul W.) The range of a representing measure. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 365–369. (C. W. Swartz) **99e:46049** 46E40 (46G10, 47B38)

carrasco-Ochoa, Jesús Ariel *see* **Carrasco-Ochoa, Jesús Ariel**

Ochoa, José (*with* Torres, Carlos R.; Castillo, José E.; Hanazaki, Hideshi) Numerical simulation of flow past a sphere in vertical motion within a stratified fluid. (English

summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 67–76. (*see* **99k:65002**) 76M25 (76V05)

Ochs, Gunter (*with* Friedland, Shmuel) Hausdorff dimension, strong hyperbolicity and complex dynamics. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 405–430. (Run Sheng Yang) **99g:58091** 58F15 (28A78, 58F11, 58F12, 58F23)

— Examples of random dynamical systems without random fixed points. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 133–141. (Björn Schmalfuss) **99j:60099** 60H25 (34C35, 47H10, 47H40)

Ochs, Peter ★ Peirce, pragmatism and the logic of scripture. (English summary) *Cambridge University Press, Cambridge*, 1998. *x*+361 *pp. ISBN* 0-521-57041-7 (Jaime Nubiola) **99f:01019** 01A55 (03–03, 03A05)

Ochs, R. L., Jr. (*with* Kristensson, Gerhard) Using local differential operators to model dispersion in dielectric media. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 8, 2208–2215. (Summary) **99c:78011** 78A25

Ochs, Stefan (*with* Heinz, Ulrich) Wigner functions in covariant and single-time formulations. (English summary) *Ann. Physics* **266** (1998), *no.* 2, 351–416. (Julio Espinoza Ortiz) **99h:81113** 81S30

Ochsenius, Maria H. (*with* Schikhof, Wilhelmus H.) Norm Hilbert spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 233–247. (M. S. Rangachari) **99k:46132** 46S10 (46C05, 47S10)

Ochsenius A., Herminia (*with* Keller, Hans Arwed) An algebra of self-adjoint operators on a non-Archimedean orthomodular space. *p-adic functional analysis (Nijmegen, 1996)*, 253–264, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (From the introduction) **99j:47108** 47S10 (47D30)

— (*with* Keller, Hans Arwed) Residual spaces and operators on orthomodular spaces. (English summary) *p-adic functional analysis (Nijmegen, 1996)*, 265–274, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Summary) **99j:47109** 47S10 (47A10)

— (*with* Keller, Hans Arwed) On the geometry of orthomodular spaces over fields of power series. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 85–92. (Bertin Diarra) **99f:47095** 47S10 (12J25, 46S10)

Ocken, Stanley Convergence criteria for attracting cycles of Newton's method. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 235–244 (*electronic*). (Kiyoko Nishizawa) **99f:30011** 30C15 (30D05, 58F23, 65H99)

Ockendon, H. (*with* Ockendon, J. R.) Alan Breach Tayler. *Bull. London Math. Soc.* **30** (1998), *no.* 4, 429–431. (Editors) **99k:01071** 01A70

— (*with* Robinson, F. N. H.) A pure sine-wave oscillator with a fast settling time. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 2, 95–104. (Summary) **99c:34070** 34C15 (70K10)

Ockendon, J. R. (*with* Ockendon, H.) Alan Breach Tayler. *Bull. London Math. Soc.* **30** (1998), *no.* 4, 429–431. (Editors) **99k:01071** 01A70

— (*with* Lacey, Andrew A.; Sabina, José C.) Multidimensional reaction diffusion equations with nonlinear boundary conditions. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1622–1647 (*electronic*). (Si Ning Zheng) **99g:35066** 35K57 (35C20, 41A60)

Ockham, William *see* **Reuter, Mark**, **99e:03006** *and* **Santos, Ernesto Perini F. da Mota**

O'Connell, Neil Branching and inference in population genetics. (English summary) *Progress in population genetics and human evolution (Minneapolis, MN, 1994)*, 97–106, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D15

— From laws of large numbers to large deviation principles. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 589–596. (Summary) **99c:60057** 60F10 (05C80)

— (*with* Ganesh, Ayalvadi) The linear geodesic property is not generally preserved by a FIFO queue. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 98–111. (John P. Lehoczky) **99g:60169** 60K25 (60F10, 68M20, 90B22)

— Some large deviation results for sparse random graphs. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 3, 277–285. (Andrzej Ruciński) **99e:05109** 05C80 (60F10)

— (*with* Ganesh, Ayalvadi; Green, Peter J.; Pitts, Susan M.) Bayesian network management. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 267–282. (Hanspeter Schmidli) **99c:90045** 90B12 (60F10, 62C10)

O'Connell, R. F. (*with* Hu, G. Y.; Ryu, Jai Yon) Analytical solution of the generalized discrete Poisson equation. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9279–9282. (Summary) **99h:65077** 65F30 (65N30)

— (*with* Ford, G. W.) Comment on: "Dissipative quantum dynamics with a Lindblad functional" [Phys. Rev. Lett. **79** (1997), no. 17, 3101–3104; MR 99c:82043] by S. Gao. *Phys. Rev. Lett.* **82** (1999), *no.* 16, 3376. 82C10

— *see also* **Gao, Shiwu**

O'Connor, J. E. R. (*with* Jerie, M.; Prince, G. E.) Computer algebra determination of symmetries in general relativity. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 363–380. (Sergey I. Tertychniy) **99j:83002** 83–04 (83C20, 83C40)

— (*with* Prince, G. E.) Finding collineations of Kimura metrics. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 1, 69–82. (Patrick Dolan) **99d:83014** 83C15 (83–04)

Octavio, Alfredo (*with* Petrovic, Srdjan) Joint spectrum and nonisometric functional calculus. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 197–201, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Summary) **99e:47011** 47A13 (47A45, 47A60)

Oda, Fumihito On defect groups of the Mackey algebras for finite groups. (English summary) *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 453–459, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Jacques Thévenaz) **99b:20019** 20C20 (19A22)

— Primitive idempotents of the Grothendieck ring of Mackey functors. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 383–392. (Robert Boltje) **99g:20022** 20C15 (19A22)

Oda, Hodaka (*with* Tomizawa, Shigemitsu; Sakai, Norisuke; Sakai, Tadakatsu) M theory and the "integrating in" method with an antisymmetric tensor. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066002, 7 *pp.* (Summary) **99k:81266** 81T30 (81T13, 81T60)

Oda, Ichiro Space-time uncertainty principle from breakdown of topological symmetry. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 203–209. (Summary) **99c:81203** 81T30 (81T99)

— Supersymmetric IIB matrix models from space-time uncertainty principle and topological symmetry. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 160–174. (Summary) **99b:81203** 81T30

— Background independent matrix models. (English summary) *Phys. Lett. B* **427** (1998), *no.* 3-4, 267–273. (Summary) **99b:81253** 81T70 (81T30)

— Path integral equivalence between super D-string and IIB superstring. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 242–247. (Summary) **99c:81204** 81T30

— Super D-string action on $AdS_5 \times S^5$. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 127–135. (Summary) **99i:81198** 81T30 (83E30)

Oda, Nobuyuki (*with* Shimizu, Toshiyuki[1]) Smash product with Γ-Whitehead product and its dual. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 707–726. (Summary) **99h:55015** 55P91 (55Q15)

— (*with* Shimizu, Toshiyuki[1]) Transformation between pairings. (English summary) *Fukuoka Univ. Sci. Rep.* **28** (1998), *no.* 2, 53–64. (Donald M. Davis) **99i:55014** 55P45

Oda, Satsuki (*with* Tsuda, Noritsugu; Yukawa, Tetsuyuki) Grand-canonical simulation of two-dimensional simplicial gravity. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 875–884. (Summary) **99d:83033** 83C27 (83–08)

Oda, Susumu (*with* Yoshida, Ken-ichi[1]) Anti-integral elements and coefficients of their minimal polynomials. *Math. J. Okayama Univ.* **38** (1996), 83–91 (1998). (Marcelo José Saia) **99j:13005** 13B02 (13B21)

— (*with* Yoshida, Ken-ichi[1]) On comparisons of subrings of type $R[a\alpha] \cap R[(a\alpha)^{-1}]$. *Math. J. Toyama Univ.* **20** (1997), 49–56. (L. J. Ratliff, Jr.) **99b:13006** 13B02

— (*with* Yoshida, Ken-ichi[1]) A linear generator of an ultra-primitive extension $R[\alpha]$. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 65–74. (Jean-Daniel Thérond) **99c:13010** 13B02

— (*with* Yoshida, Ken-ichi[1]) On two-generators of simple algebraic extensions of Noetherian domains. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 247–255. (Gabriel Picavet) **99h:13007** 13B02 (13B21, 13E05)

— On reductions of finitely generated ideals in integral domains. *Math. J. Ibaraki Univ.* **30** (1998), 21–32. (Gennady Lyubeznik) **99h:13001** 13A15 (13F20)

Oda, Takayuki (*with* Kobayashi, Toshiyuki) A vanishing theorem for modular symbols on locally symmetric spaces. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 1, 45–70. (O. V. Shvartsman) **99b:11052** 11F67 (22E40)

— Geometric automorphic forms and spherical functions. I. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 180–194. (Takao Watanabe) **99i:11032a** 11F55 (11F70, 22E45)

— (*with* Miyazaki, Takuya) Principal series Whittaker functions on Sp(2; **R**). II. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 2, 243–260. (Paolo Casati) **99d:22027** 22E46 (33C80)

Oda, Yoshiaki (*with* Enomoto, Hikoe; Ota, Katsuhiro) Pyramidal tours with step-backs and the asymmetric traveling salesman problem. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 57–65. (Summary) **99g:90095** 90C27 (68Q25)

Oda, Yukihiro (*with* Murakami, Masaki) Multi-action π-calculus. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 111–124. (Summary) **99b:68072** 68Q10 (68Q55)

Odake, Satoru (*with* Awata, Hidetoshi; Kubo, Harunobu; Shiraishi, Jun'ichi) Virasoro-type symmetries in solvable models. (English summary) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 37–71. (Naihuan Jing) **99g:17048** 17B68 (58F07)

Odani, Kenzi The integration of polynomial Liénard systems by elementary functions. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 347–354. (Henryk Żołądek) **99j:34039** 34C05 (34A05)

Odegard, Jan E. (*with* Burrus, Charles S.) Coiflet systems and zero moments. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 761–766. (Summary) **99h:42055** 42C15

Odeh, O. H. (*with* Olesky, D. Dale; van den Driessche, P.) Bruhat decomposition and numerical stability. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 89–98 (*electronic*). (Guo Rong Wang) **99d:65093** 65F05 (15A23)

O'Dell, D. H. J. (*with* Berry, M. V.) Diffraction by volume gratings with imaginary potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2093–2101. (Summary) **99d:78027** 78A45

Odell, E. (*with* Schlumprecht, Thomas) A problem on spreading models. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 249–261. (G. J. O. Jameson) **99c:46006** 46B15

Odell, P. L. (*with* Piziak, R.; Hahn, Rebekah D.) Constructing projections on sums and intersections. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 67–74. (Summary) **99i:65047** 65F25

Oden, J. Tinsley (*with* Patra, Abani; Feng, Yusheng) Parallel domain decomposition solver for adaptive *hp* finite element methods. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2090–2118. (Summary) **99d:65352** 65N55 (65N30, 65Y05)

— (*with* Prudhomme, Serge) A technique for a posteriori error estimation of *h-p* approximations of the Stokes equations. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 43–63, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99d:65264** 65M15 (73V05, 76M10)

— (*with* Moës, Nicolas; Vemaganti, Kumar) A two-scale strategy and a posteriori error estimation for modeling heterogeneous structures. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 115–133, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N15 (65N30)

— (*with* Duarte, C. A. M.; Zienkiewicz, O. C.) A new cloud-based *hp* finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 1-2, 117–126. (Michael Fröhner) **99c:73081** 73V05 (65N30)

— (*with* Moës, Nicolas; Zohdi, Tarek I.) Investigation of the interactions between the numerical and the modeling errors in the homogenized Dirichlet projection method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 1-2, 79–101. (Summary) **99e:73096** 73V05 (73B27, 73K20)

— (*with* Zohdi, Tarek I.) Erratum to: "Analysis and adaptive modeling of highly heterogeneous elastic structures" [Comput. Methods Appl. Mech. Engrg. **148** (1997), no.

3, 367–391; MR 98e:73011]. *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 395–396. 73B27 (73K20, 73V20)
— (*with* Feng, Yusheng; Prudhomme, Serge) Local and pollution error estimation for Stokesian flows. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 33–39. (Stephen W. Brady) **99c:76071** 76M10 (65M06, 76D07)
— (*with* Babuška, Ivo M.; Baumann, Carlos Erik) A discontinuous *hp* finite element method for diffusion problems. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 491–519. (Gert Lube) **99m:65173** 65M12 (65M60, 76M10)
— *see also* **Advances in adaptive computational methods in mechanics, 99d:73001**
Oden, Kevin (*with* Cheng, Shiu-Yuen) Isoperimetric inequalities and the gap between the first and second eigenvalues of an Euclidean domain. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 2, 217–239. (Norbert Weck) **99j:35155** 35P15 (35J05, 58G25)
— (*with* Berkane, Maia; Bentler, Peter M.) Geodesic estimation in elliptical distributions. *J. Multivariate Anal.* **63** (1997), *no.* 1, 35–46. (P. E. Jupp) **99k:62112** 62H12
— (*with* Sung, Chiung-Jue Anna; Wang, Jiaping) Spectral gap estimates on compact manifolds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3533–3548. (Daniel Pollack) **99m:58197** 58G25
Odenthal, Charles J. (*with* Hindman, Peter; Klingler, Lee) On the Krull-Schmidt-Azumaya theorem for integral group rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3743–3758. (Jeremy Haefner) **99i:16012** 16D70 (20C05, 20C10)
Odenthal, Thomas (*with* Mutzel, Petra; Scharbrodt, Mark) The thickness of graphs: a survey. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 59–73. (Joan Hutchinson) **99g:05065** 05C10 (68R10)
Odesskiĭ, A. V. (*with* Feĭgin, B. L.) Elliptic deformations of current algebras and their representations by difference operators. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 3, 57–70, 96; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 3, 193–203 (1998). (V. Leksin) **99k:17033** 17B37 (17B67, 17B68)
— (*with* Feĭgin, B. L.; Jimbo, Michio; Miwa, Tetsuji; Pugai, Yaroslav) Algebra of screening operators for the deformed W_n algebra. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 501–541. (Jun'ichi Shiraishi) **99b:81075** 81R10 (17B68, 81T40)
Odinokov, A. V. On spaces of transfinite dimension. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 4, 54–59, 112; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 51–55. (Yuri V. Lubenets) **99f:54043** 54F45 (54C05)
— Dugundji spaces with noncoinciding dimensions. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 4, 51–52; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 4, 37–38. (From the text) **99h:54051** 54F45
Odintsov, S. P. (*with* Belyakin, N. V.) Infinite arithmetical formulas and the reflection principle. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 3, 245–258, 357; *translation in Algebra and Logic* **36** (1997), *no.* 3, 147–154. (A. Yu. Muravitsky) **99e:03039** 03F30
Odintsov, Sergei D. (*with* Bytsenko, Andrei A.; Zerbini, Sergio) The effective action in gauged supergravity and cosmological constant problem. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics (Trieste*, 1994), 381–387, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83071** 83E50
— (*with* Bytsenko, Andrei A.; Gonçalves, Antonio E.; Nojiri, Shin'ichi) Vacuum energy for the supersymmetric twisted D-brane in a constant electromagnetic field. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1103–1110. (Sergey Nikolaevich Roshchupkin) **99d:81111a** 81T30 (81T60)
— (*with* Bytsenko, Andrei A.; Gonçalves, Antonio E.; Nojiri, Shin'ichi) Corrigendum: "Vacuum energy for the supersymmetric twisted D-brane in a constant electromagnetic field". *Classical Quantum Gravity* **15** (1998), *no.* 7, 2039. (Sergey Nikolaevich Roshchupkin) **99d:81111b** 81T30 (81T60)
— (*with* Nojiri, Shin'ichi) Effective potential for D-brane in constant electromagnetic field. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2165–2178. (Summary) **99b:81202** 81T30
— (*with* Nojiri, Shin'ichi) Errata: "Effective potential for D-brane in constant electromagnetic field" [Internat. J. Modern Phys. A **13** (1998), no. 13, 2165–2178; MR 99b:81202]. *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4777. 81T30
— (*with* Kadoyoshi, Tomoko; Sugamoto, Akio; Nojiri, Shin'ichi) Vacuum polarization of supersymmetric D-brane in the constant electromagnetic field. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1531–1537. (Editors) **99c:81191** 81T30
— (*with* Nojiri, Shin'ichi) Can quantum-corrected BTZ black hole anti-evaporate? (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 33, 2695–2704. 83C57
— (*with* Kadoyoshi, Tomoko; Nojiri, Shin'ichi) Four-dimensional cosmology from dilaton coupled quantum matter in two dimensions. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 255–264. (Summary) **99b:83037** 83C45
— (*with* Nojiri, Shin'ichi) Conformal anomaly for dilaton coupled electromagnetic field. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 29–35. (Summary) **99c:81224** 81T50 (81T20, 83C50, 83E15)
— (*with* Bytsenko, Andrei A.; Nojiri, Shin'ichi) Quantum generation of Schwarzschild-de Sitter (Nariai) black holes in effective dilaton-Maxwell gravity. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 121–126. (Summary) **99h:83034** 83C57 (83E30)
— (*with* Nojiri, Shin'ichi) Conformal anomaly for dilaton coupled theories from AdS/CFT correspondence. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 92–97. (Summary) **99h:81200** 81T50 (81T30, 83E30, 83E50)
— (*with* Gates, S. James, Jr.; Kadoyoshi, Tomoko; Nojiri, Shin'ichi) Quantum cosmology in the models of 2D and 4D dilatonic supergravity with WZ matter. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084026, 17 *pp.* (Summary) **99m:83201** 83E50 (83C45)
— (*with* Inagaki, Tomohiro; Shil'nov, Yu. I.) Dynamical symmetry breaking in the external gravitational and constant magnetic fields. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 481–503. 81R40 (81T20)
— (*with* Nojiri, Shin'ichi) Two-boundaries AdS/CFT correspondence in dilatonic gravity. (English summary) *Phys. Lett. B* **449** (1999), *no.* 1-2, 39–47. (Summary) **99k:83123** 83E30 (81T40, 83E50)
— (*with* Nojiri, Shin'ichi) Quantum (in)stability of 2D charged dilaton black holes and 3D rotating black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044003, 11 *pp.* 83C57
— (*with* Nojiri, Shin'ichi) Quantum evolution of Schwarzschild-de Sitter (Nariai) black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044026, 10 *pp.* (Summary) **99m:83085** 83C47 (83C57)
— (*with* Elizalde, Emilio; Nojiri, Shin'ichi) Possible quantum instability of primordial black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 061501, 3 *pp.* 83C57
Odisehlidze, Nana (*with* Criado, Francisco; Meladze, Gamlet) An optimal control problem for Helmholtz equation with non-local boundary conditions and quadratic functional. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat. (Esp.)* **91** (1997), *no.* 1, 65–69. (Sabine Pickenhain) **99j:49047** 49K20
Odishariya, V. Sh. On a boundary value problem for the one-dimensional Reissner system. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 1, 51–56. 73C02
Odlyzko, Andrew M. (*with* Grigor'ev, D. Yu.; Karpinski, Marek) Short proofs for nondivisibility of sparse polynomials under the extended Riemann hypothesis. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 297–301. (Joos Heintz) **99a:68087** 68Q25 (68Q40)
— (*with* Forrester, P. J.) A nonlinear equation and its application to nearest neighbor spacings for zeros of the zeta function and eigenvalues of random matrices. *Organic mathematics (Burnaby, BC*, 1995), 239–251, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Andrzej Mądrecki) **99c:11107** 11M26 (82B41)
— (*with* Chen, Robert W.; Zame, Alan; Shepp, Lawrence A.) An optimal acceptance policy for an urn scheme. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 183–195 (*electronic*). (Vladimir Mazalov) **99e:60110** 60G40 (60K99)
— *see also* **Emerging applications of number theory, 99m:11003**
Odoni, R. W. K. (*with* Mason, A. W.) Ideal class groups of Dedekind domains contained in function fields. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 155–162. (Abdeslam Mimouni) **99h:13011** 13C20
O'Donnell, Michael J. Introduction: logic and logic programming languages. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 1–67, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99c:68045** 68N17 (03B70, 68Q55)
— Equational logic programming. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 69–161, *Oxford Univ. Press, New York*, 1998. (Ralph W. Wilkerson) **99d:68045** 68N17 (03B70, 03C05, 68Q42)
O'Dowd, Geoffrey (*with* Feireisl, Eduard) Stabilisation d'un système hybride par un feedback non linéaire, non monotone. (English and French summaries) [Stabilization of a hybrid system with a nonlinear nonmonotone feedback] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 323–327. (Summary) **99f:93117** 93D15 (35L05, 73K50, 93C20)
Odyniec, Włodzimierz (*with* Powołocki, Abram; Laskowska, Anna) ★ Konstruowanie funkcji elementarnych. (Polish. Polish summary) [Construction of elementary functions] Translated and revised from the 1995 Russian original. *Wyższa Szkoła Pedagogiczna im. Tadeusza Kotarbińskiego (WSP), Zielona Góra*, 1998. 125 *pp. ISBN* 83-86832-50-9 26–01
— On mathematicians of Leningrad (St. Petersburg) and more—10 years later. (Polish) *Wiadom. Mat.* **34** (1998), 147–158. 01A80 (01A72)
Odzijewicz, Anatol Quantum algebras and q-special functions related to coherent states maps of the disc. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 183–215. (Ivailo M. Mladenov) **99b:81094** 81R30 (33D20, 81R50)
— *see also* **Coherent states, differential and quantum geometry, 99k:81004**
Ōeda, Kazuo (*with* Matsuda, Nami) Initial value problems for the heat convection equations in exterior domains. *Tokyo J. Math.* **21** (1998), *no.* 2, 359–375. (Alexander L. Gladkov) **99m:35109** 35K55 (35D05, 35Q30)
Oehmke, Robert H. On the torsion theory of semigroups. (English summary) *Semigroups (Luino*, 1992), 199–200, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 22A15
— The direct product of right congruences. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 475–480. (Eckehart Hotzel) **99i:20088** 20M99
Oellermann, Ortrud R. (*with* Harary, Frank) The irregularity cost of a graph. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 59–63. (Michael Jacobson) **99a:05127** 05C78
— (*with* Henning, Michael A.) Bipartite Ramsey theorems for multiple copies of $K_{2,2}$. (English summary) *Util. Math.* **54** (1998), 13–23. (Summary) **99g:05134** 05C55
— (*with* Day, D. P.; Swart, Henda C.) Bounds on the size of graphs of given order and l-connectivity. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 217–223. (Summary) **99i:05107** 05C35 (05C40)
Oellers, P. (*with* Binz, E.) Einstein equation and geometric quantization. (English summary) *Lie theory and its applications in physics (Clausthal*, 1995), 239–246, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99e:58183** 58G16 (58F06, 81S10, 83C05)
Oerding, K. (*with* Janssen, H. K.; Kutbay, Ü.) Equation of state for directed percolation. (English summary) *J. Phys. A* **32** (1999), *no.* 10, 1809–1817. 82B43 (82B28)
Oertel, Frank Local properties of accessible injective operator ideals. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 119–133. (Summary) **99d:47040** 47D50 (46B28, 46M05)
Oertel, Ulrich (*with* Mosher, Lee) Spaces which are not negatively curved. *Comm. Anal. Geom.* **6** (1998), *no.* 1, 67–140. (Athanase Papadopoulos) **99b:57006** 57M20 (53C23)
— Affine laminations and their stretch factors. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 303–328. (Mark Brittenham) **99i:57037** 57N10 (57M10, 57M25)
Oesterdiekhoff, B. (*with* Kutyłowski, Mirosław; Loryś, Krzysztof) Periodic merging networks. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 551–578. (Summary) **99d:68054** 68P10 (68M10)
Oesterlé, Joseph (*with* Pharamond dit d'Costa, Layla) Fermetures intégrales des $\overline{\mathbf{Z}}$-algèbres. (English summary) [Integral closures of $\overline{\mathbf{Z}}$-algebras] *J. Ramanujan Math. Soc.* **12** (1997), *no.* 2, 147–159. (Marco Fontana) **99b:13009** 13B15 (11R04, 13B21)
Oettli, Michael H. A robust, parallel homotopy algorithm for the symmetric tridiagonal eigenproblem. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1016–1032 (*electronic*). (Raffaella Pavani) **99m:65072** 65F15 (65Y05)
Oettli, Werner (*with* Maugeri, Antonino; Schläger, Dirk) A flexible form of Wardrop's principle for traffic equilibria with side constraints. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 185–193. (J. Černý) **99d:90043** 90B06

— (*with* Schläger, Dirk) Generalized vectorial equilibria and generalized monotonicity. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 145–154, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Anton S. Mureşan) **99b:47106** 47N10 (47H19, 49J40, 90C48)

— (*with* Daniele, Patrizia; Maugeri, Antonino) Variational inequalities and time-dependent traffic equilibria. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1059–1062. (Summary) **99g:90041** 90B06 (49J40, 90C35)

— (*with* Meinardus, G.) On a certain duality of segmented minmax problems. (English summary) *Computing* **61** (1998), *no.* 2, 91–101. (Manfred Sommer) **99h:41015** 41A15 (41A50, 49K35, 49N15)

— (*with* Schläger, Dirk) Existence of equilibria for monotone multivalued mappings. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 219–228. (Gérard Lebourg) **99k:47173** 47H19 (47H04, 47N10, 49J52, 90C29)

— (*with* Adly, Samir) Solvability of generalized nonlinear symmetric variational inequalities. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 289–300. (Muhammad Aslam Noor) **99m:49011** 49J40 (47H19)

Oevermann, M. (*with* Meister, Andreas[2]) An implicit finite volume approach of the k-ε turbulence model on unstructured grids. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 743–757. (Tomás Chacón Rebollo) **99k:76080** 76F99 (76M25)

O'Farrell, Anthony G. (*with* Dowling, Thomas) Sobolev space analytic capacities. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 87–99. (Summary) **99g:46042** 46E35 (30C85, 31A15)

— (*with* Allan, Graham R.; Kakiko, Grayson; Watson, R. O.) Algebras of smooth functions. (English summary) *Banach algebras '97* (*Blaubeuren*), 43–53, *de Gruyter, Berlin*, 1998. (W. J. Kotzé) **99k:46090** 46J30 (41A10, 46E25, 46J15)

— (*with* Allan, Graham R.; Kakiko, Grayson; Watson, R. O.) Finitely-generated algebras of smooth functions, in one dimension. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 458–474. (S. J. Sidney) **99m:46127** 46J15 (46E10, 46E25)

figueroa-O'Farrill, José M. *see* **Figueroa-O'Farrill, José M.**

Ofenbakh, I. V. (*with* Il'ev, Victor P.) Optimization models and algorithms of constructing reliable networks. *Systems modelling and optimization* (*Detroit, MI*, 1997), 237–244, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90B10 (90C90)

Ofer, D. (*with* Alon, U.; Shvarts, Dov) Rayleigh-Taylor instability under a time dependent driving acceleration. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 1–7, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99

— (*with* Alon, U.; Shvarts, Dov) Scaling laws of nonlinear Rayleigh-Taylor and Richtmyer-Meshkov instabilities. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 8–13, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99

Ofman, Salomon Solutions of differential equations systems in integral geometry. (French summary) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 155–167, *Univ. Stud. Bologna, Bologna*, 1998. (Michael G. Eastwood) **99e:53109** 53C65 (32L25, 35A22)

Oga, Akira (*with* Fujimoto, Kenji; Sugie, Toshiharu) Nonlinear controller design for linear systems via the parametrization of nonlinear stabilizing controllers. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 11, 623–629. 93D15 (93B51)

Ogaki, Masao On the Granger representation theorem: a counter-example? (English summary) *Econom. Lett.* **60** (1998), *no.* 1, 19–21. 62M10

Oganesyan, A. O. Huygens' principle, the Painlevé property, and linear differential equations. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 5, 270–273 (1994). 35L10 (35A25, 35C99)

Oganesyan, L. (*with* Chelkak, S.; Koshelev, Aleksandr Ivanovich) Regular solutions of the Navier-Stokes system. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 33–41. (Summary) **99d:35122** 35Q30 (35B65, 76D05)

Oganesyan, N. V. (*with* Nersesyan, A. B.) High-accuracy algorithms for integral equations with difference kernels. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 6, 82–96 (1997); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 6, 67–79. (Summary) **99f:65205** 65R20 (45L05)

Oganian, V. K. *see* **Oganyan, V. K.**

Oganyan, G. G. One-dimensional waves in a gas-liquid mixture. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **47** (1994), *no.* 3-4, 54–65. 76N15

— Quasi-adiabatic regime of wave propagation in a gas-liquid mixture. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 1, 24–33. 76N15

Oganyan, V. K. (*with* Ambartsumyan, R. V.) Finite-additive functionals in the space of planes. I. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 4, 7–63 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 4, 3–51. (Ilya S. Molchanov) **99i:52006** 52A22 (28C10, 51M30, 60D05)

— (*with* Ambartsumyan, R. V.) Parametric versions of Hilbert's fourth problem. (English summary) *Israel J. Math.* **103** (1998), 41–65. (Daniel Hug) **99e:53106** 53C65 (52A20, 53C60)

Ogasa, Eiji The intersection of three spheres in a sphere and a new application of the Sato-Levine invariant. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3109–3116. (J. P. Levine) **99a:57022** 57Q45 (57M25)

Ogata, H. (*with* Rodríguez, Elsa Liliana; Yano, Y.) TVOO: a temporal versioned object-oriented data model. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 281–300. 68P15

Ogata, Hidenori (*with* Okano, Dai; Amano, Kaname; Inoue, Tetsuo) A method of approximating real functions using the charge simulation method. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3337–3340. 65D15 (41A30)

Ogata, Shoetsu (*with* Saitō, Masa-Hiko) Signature defects and eta functions of degenerations of abelian varieties. *Japan. J. Math.* (*N.S.*) **23** (1997), *no.* 2, 319–364. (V. Kumar Murty) **99c:14059** 14K10 (11M41, 14D05, 58G10)

Ogata, Wakaha (*with* Kurosawa, Kaoru) Some basic properties of general nonperfect secret sharing schemes. (English summary) *J.UCS* **4** (1998), *no.* 8, 690–704 (*electronic*). (Summary) **99h:94052** 94A60

Ogawa, Mizuhito (*with* Khasidashvili, Zurab) Perpetuality and uniform normalization. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 240–255, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68Q42 (03B40)

Ogawa, Namiko (*with* Kasahara, Yuji) A note on the local time of fractional Brownian motion. (English summary) *J. Theoret. Probab.* **12** (1999), *no.* 1, 207–216. (Angelos Dassios) **99k:60197** 60J55 (60J60)

Ogawa, Shigeyoshi On a robustness of the random particle method. (English summary) Pseudorandom numbers and chaos (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1011 (1997), 28–41. (Summary) **99d:65015** 65C05

— Recent topics concerning numerical solution methods for nonlinear SDEs. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 46–61. (*see* **99f:65007**) 65U05 (60H10)

Ogawa, T. *see* **Ogawa, Takanobu**

Ogawa, Takahide (*with* Imaoka, Teruo) Some remarks on representations of generalized inverse $*$-semigroups. (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **30** (1997), 23–35. (Gracinda M. S. Gomes) **99a:20068** 20M30 (20M18)

Ogawa, Takanobu (*with* Sugimoto, Nobumasa) Acoustic analysis of the pressure field in a tunnel, generated by entry of a train. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2083–2112. (From the summary) **99e:76111** 76Q05 (76N99)

Ogawa, Takayoshi Well-posedness of dispersive system on water waves interaction. *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 14 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (John Albert) **99h:35201** 35Q55 (76B15)

— (*with* Bekiranov, Daniella; Ponce, Gustavo) Interaction equations for short and long dispersive waves. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 357–388. (Anatoly M. Kamchatnov) **99i:35143** 35Q55 (35Q35)

— (*with* Kato, Keiichi) Single point singularity and analyticity for the Korteweg-de Vries equation. Regularity, blowup and related properties of solutions to nonlinear evolution equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1045 (1998), 45–52. (*see* **99h:35003**) 35Q53

— (*with* Suzuki, Takashi[1]) Two-dimensional elliptic equation with critical nonlinear growth. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4897–4918. (Gianni Arioli) **99j:35066** 35J65

Ogawa, Tomoyuki Waves that appear in perturbative systems of KdV equations that are centered around the fluid film flow model. (English summary) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 140–151. (Summary) **99g:76045** 76D33 (35Q53)

Ogawa, Toshiyuki Wave patterns in nearly-integrable systems. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 139–148, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35Q53

Ogawa, Tsukane The beginnings of enri—the calculation of pi by Katahiro Takebe. (Japanese) Study of the history of mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1019 (1997), 77–97. (*see* **99d:01002**) 01A45

Ogden, R. R. (*with* Fearn, D. R.; Lamb, C. J.; McLean, D. R.) The influence of differential rotation on magnetic instability, and nonlinear magnetic instability in the magnetostrophic limit. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 173–200. (Summary) **99j:76045** 76E25 (76U05, 76W05, 86A25)

Ogden, R. W. (*with* Sotiropoulos, D. A.) The effect of pre-stress on the propagation and reflection of plane waves in incompressible elastic solids. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 1, 95–121. (Summary) **99a:73049** 73D15 (73C50, 73D20, 73D25, 73G05)

— (*with* Sotiropoulos, D. A.) Reflection of plane waves from the boundary of a pre-stressed compressible elastic half-space. (English summary) *IMA J. Appl. Math.* **61** (1998), *no.* 1, 61–90. (Ivan Andronov) **99j:73044** 73D25 (73C50, 73D30)

Oger, Francis Elementary equivalence for finitely generated nilpotent groups and multilinear maps. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 479–493. (Francesco de Giovanni) **99k:20067** 20F18 (03C60)

Oger, L. (*with* Richard, P.; Troadec, J. P.; Gervois, A.) Tessellation of binary assemblies of spheres. (English summary) *Phys. A* **259** (1998), *no.* 1-2, 205–221. (Summary) **99e:82095** 82D20

Ogi, Hidekazu (*with* Inoue, Atsushi[2]) Regular weights on algebras of unbounded operators. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 227–252. (Klaus-Detlef Kürsten) **99b:47062** 47D40 (46K10, 47D45, 81S05)

Ogievetskiĭ, O. V. (*with* Hadjiivanov, L. K.; Isaev, A. P.; Pyatov, P. N.; Todorov, Ivan T.) Hecke algebraic properties of dynamical R-matrices. Application to related quantum matrix algebras. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 427–448. (Andrei G. Bytsko) **99k:81114** 81R50 (17B37)

Ogihara, Mitsunori Sparse P-hard sets yield space-efficient algorithms. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 354–361, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15

— (*with* Li, Lide; Regan, Kenneth W.) On information from #P functions. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 280–295 (*electronic*). (*see* **99f:68006**) 68Q15

— (*with* Cai, Jin-Yi) Sparse sets versus complexity classes. (English summary) *Complexity theory retrospective, II*, 53–80, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15)

— (*with* Hemaspaandra, Lane A.) Universally serializable computation. (English summary) *J. Comput. System Sci.* **55** (1997), *no.* 3, 547–560. (William R. Nico) **99f:68071** 68Q15 (68Q05)

— (*with* Goldsmith, Judy; Rothe, Jörg) Tally NP sets and easy census functions. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 483–492, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q15

— (*with* Ray, Animesh) The minimum DNA computation model and its computational power. (English summary) *Unconventional models of computation* (*Auckland*, 1998),

309–322, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Satoru Miyano) **99m:68052** 68Q05 (92D20)

— (*with* Macarie, Ioan I.) Properties of probabilistic pushdown automata. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 117–130. (Summary) **99j:68031** 68Q05 (68Q15, 68Q75)

— (*with* Ray, Animesh) DNA-based parallel computation by "counting". (English summary) *DNA based computers III (Philadelphia, PA, 1997)*, 255–264, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05 (68Q25)

Ogoma, Tetsushi On a problem of Nagata related to Zariski's problem. *Osaka J. Math.* **35** (1998), *no.* 2, 487–491. (Marco Fontana) **99k:13010** 13B22 (13A15, 13B30, 14A05)

O'Gorman, Larry (*with* Bruckstein, Alfred M.; Orlitsky, Alon) Design of shapes for precise image registration. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3156–3162. 94A12 (68U10)

Ogorodnikov, V. A. (*with* Gubina, N. I.) Some problems of the statistical simulation of conditional processes and fields. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 5, 345–358. (Summary) **99i:86013** 86A10 (60G10, 65U05, 86A32)

O'Grady, Kieran G. Moduli of vector-bundles on surfaces. *Algebraic geometry—Santa Cruz* 1995, 101–126, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Jun Li) **99h:14009** 14D20 (14J60)

Ogreid, Odd Magne (*with* Osland, Per) Summing one- and two-dimensional series related to the Euler series. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 245–271. (Boris Petrovich Osilenker) **99m:40003** 40A30 (33E20, 81T18)

Ogryczak, Włodzimierz Preemptive reference point method. (English summary) *Multicriteria analysis (Coimbra*, 1994), 156–167, *Springer, Berlin*, 1997. (Summary) **99d:90103** 90C29

Oguiso, Keiji Calabi-Yau threefolds of quasi-product type. (English summary) *Doc. Math.* **1** (1996), *No.* 18, 417–447 (*electronic*). (Dimitrios I. Dais) **99a:14057** 14J32 (14E30, 14J30)

— (*with* Peternell, Thomas) Calabi-Yau threefolds with positive second Chern class. (English summary) *Comm. Anal. Geom.* **6** (1998), *no.* 1, 153–172. (Mark Gross) **99c:14052** 14J32

— (*with* Machida, Natsumi) On $K3$ surfaces admitting finite non-symplectic group actions. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 2, 273–297. (Shigeyuki Kondo) **99f:14048** 14J28 (14J50)

— (*with* Zhang, De-Qi) On extremal log Enriques surfaces. II. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 3, 419–436. (Shigeyuki Kondo) **99f:14049** 14J28 (14J17, 14J26)

Oguntuase, James Adedayo A note on Gronwall-Bellman integral inequality. (English and Serbian summaries) *Zb. Rad. (Kragujevac) No.* 20 (1998), 77–81. (Summary) **99g:26045** 26D15

Ogunyemi, Theophilus O. (*with* Rao, M. Bhaskara) A note on E-optimal minimal block designs under mixed effects model. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 2-3, 163–168. (Summary) **99h:62098** 62K05 (62K10)

— (*with* Rao, M. Bhaskara) On s- and (m, s)-optimality of minimal incomplete block designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 189–195. (Summary) **99g:62111** 62K05 (62K10)

Ogura, Hirohumi Logarithmic series of positive definite real symmetric matrices. (English summary) *XXVIII National Congress of the Mexican Mathematical Society (Spanish) (Colima*, 1995), 235–242, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Summary) **99i:15030** 15A48

— SU(3) coherent states. (English summary) *XXIX National Congress of the Mexican Mathematical Society (Spanish) (San Luis Potosí*, 1996), 157–167, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Summary) **99j:81062** 81R30 (22E46)

Ogura, Nobuhiko (*with* Yamada, Isao; Yamashita, Yukihiko; Sakaniwa, Kohichi) Quadratic optimization of fixed points of nonexpansive mappings in Hilbert space. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 165–190. (Gérard Lebourg) **99b:90087** 90C20 (47H09, 47N10)

Ogura, Waichi (*with* Kubo, Reijiro; Saito, Takesi; Yasui, Yukinori) The Gauss-Knörrer map for the Rosochatius dynamical system. (English summary) *Phys. Lett. A* **251** (1999), *no.* 1, 6–12. (Jair Koiller) **99m:58111** 58F07 (58F05, 70H05, 70H15)

Ogura, Yukio (*with* Li, Shoumei) Convergence of set valued sub- and supermartingales in the Kuratowski-Mosco sense. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1384–1402. (Christian Hess) **99i:60021** 60D05 (28D99, 60B11)

— (*with* Li, Shoumei) Convergence theorems for set valued and fuzzy valued martingales and smartingales. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 765–782. (Dominique Lépingle) **99k:60024** 60D05 (28B20, 28E10, 60G42, 60G48)

— (*with* Li, Shoumei) Convergence of set-valued and fuzzy-valued martingales. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 453–461. (Summary) **99k:60025** 60D05 (60B12, 60G48)

Oguro, Takashi (*with* Sekigawa, Kouei) Goldberg's conjecture and the related topics. *Proceedings of the 5th International Colloquium on Differential Equations, Vol.* 2 (*Plovdiv*, 1994), 148–154, *Sci. Cult. Technol. Publ., Singapore*, 1995. (David Blair) **99h:53062** 53C25 (53C55, 53C56)

— (*with* Sekigawa, Kouei) Four-dimensional almost Kähler Einstein and $*$-Einstein manifolds. (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 91–112. (Manuel de León) **99b:53069** 53C25

Oh, Choo-Hiap (*with* Kwek, L. C.) Solving higher simplex equations using computer algebra. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin*, 1995), 410–415, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23 (16S99, 81R50)

— (*with* Kwek, L. C.) The general q-oscillator algebra and its coherent states. (English summary) Quantum groups and integrable systems (Prague, 1998). *Czechoslovak J. Phys.* **48** (1998), *no.* 11, 1423–1428. (Shao-Ming Fei) **99m:81097** 81R50 (81R30)

— (*with* Wang, Xiang-bin; Kwek, L. C.) General approach to functional forms for the exponential quadratic operators in coordinate-momentum space. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4329–4336. (Summary) **99c:81080** 81R30

Oh, Dukhwan (*with* Kim, Taenam; Lim, Eunki) A new parallel algorithm for rooting a tree. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 385–390. (Summary) **99c:68109** 68Q22 (68Q25)

Oh, Hae Soo (*with* Lim, J. K.) Modified h-method with directional error estimate for finite element stress analysis. (English summary) *Comput. & Structures* **65** (1997), *no.* 2, 191–204. (Summary) **99g:73106** 73V05

— (*with* Kim, June Gi; Yum, Sang Sup) The weighted finite element method for elasticity equations on unbounded domains. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 259–280. (Michael Fröhner) **99d:73092** 73V05 (65N30)

Oh, Hee Discrete subgroups generated by lattices in opposite horospherical subgroups. *J. Algebra* **203** (1998), *no.* 2, 621–676. (Scot Adams) **99b:22021** 22E40

Oh, Heung-Geun (*with* Kawamura, Katsuyuki; Ishiwata, Shingo; Watanabe, Shinsuke) Higher-order approximations of the Burgers equation. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 35–45. (*see* **99a:00032**) 35Q53

Oh, Heung-Joon (*with* Anderson, David F.; Park, Jeanam; Kim, Gi-Ik) Splitting multiplicative sets and elasticity. *Comm. Algebra* **26** (1998), *no.* 4, 1257–1276. (William W. Smith) **99c:13002** 13A05 (13B30, 13F15)

Oh, Hyung-Seok (*with* Batra, R. C.) Application of Zienkiewicz-Zhu's error estimate with superconvergent patch recovery to hierarchical p-refinement. (English summary) *Finite Elem. Anal. Des.* **31** (1999), *no.* 4, 273–280. (Summary) **99k:73115** 73V05

Oh, Jong-Hoon (*with* Yoon, Hyoungsoo) Learning of higher-order perceptrons with tunable complexities. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7771–7784. 82C32 (68T05, 92B20)

Oh, Kyungho (*with* Arapura, Donu) On the Abel-Jacobi map for non-compact varieties. *Osaka J. Math.* **34** (1997), *no.* 4, 769–781. (Jan Nagel) **99g:14008** 14C30 (14C34, 14K30)

— (*with* Ahn, Changhyun; Tătar, Radu) Orbifolds of $AdS_7 \times S^4$ and six-dimensional (0, 1) SCFT. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 109–116. (Summary) **99i:83085** 83E30 (81T30, 81T40)

— (*with* Ahn, Changhyun; Tătar, Radu) $Sp(N_c)$ gauge theories and the M theory fivebrane. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 086002, 12 *pp.* (Summary) **99k:81289** 81T60 (81T13, 81T30)

— (*with* Ahn, Changhyun; Tătar, Radu) Comments on SO/Sp gauge theories from brane configurations with an O6 plane. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046001, 8 *pp.* (Summary) **99m:81233** 81T60 (81T13, 81T30)

Oh, Man-Suk A Bayes test for simple versus one-sided hypothesis on the mean vector of a multivariate normal distribution. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2371–2389. (Summary) **99f:62075** 62H15 (62F15)

— Estimation of posterior density functions from a posterior sample. (English summary) *Comput. Statist. Data Anal.* **29** (1999), *no.* 4, 411–427. 62F15

Oh, Myongsik Tests for and against a positive dependence restriction in two-way ordered contingency tables. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 2, 205–220. (Summary) **99i:62133** 62H17

Oh, Myoungho (*with* Han, Changhee; Sinitsyn, I. N.; Shin, Vladimir Ignat'evich) Recurrent filtering in discrete nonlinear systems with unknown parameters. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 44–53; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 36–43. (V. N. Fomin) **99d:93069** 93E11 (60G35)

Oh, Phillial (*with* Kim, Myung Ho) Non-commutative integrable spin system and path integral quantization. (English summary) *Topics in theoretical physics (Sorak Mountain Resort*, 1995), 169–174, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:82027** 82B23 (81S40)

— (*with* Rim, Chaiho) The q-deformed oscillator representations and their coherent states of the su(1, 1) algebra. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 285–293. (Constantin Brif) **99b:81108** 81R50 (81R30)

— Bogomol'nyi solitons and Hermitian symmetric spaces. (English summary) *Proceedings of International Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories (Seoul*, 1998), 69–78, *Lecture Notes Ser.*, 42, *Seoul Nat. Univ., Seoul*, 1998. (Summary) **99d:58054** 58E50 (81T13)

— Integrable extension of nonlinear sigma model. (English summary) *J. Phys. A* **31** (1998), *no.* 17, *L*325–*L*330. (Summary) **99b:58075** 58E50 (53C80, 58Z05, 81T10)

Oh, Sei-Qwon (*with* Park, Chun-Gil) Primitive ideals in the coordinate ring of quantum Euclidean space. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 57–73. (Edward S. Letzter) **99m:16065** 16W30 (81R50)

— (*with* Cho, Eun Hee) Primitive spectrum of quantum (2×2)-matrices and associated Poisson structure. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 251–259. (Rita Fioresi) **99i:16066** 16W30

— (*with* Boo, Deok-Hoon; Park, Chun-Gil) The spherical non-commutative tori. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 331–340. (Summary) **99c:46081** 46L87 (46L05, 46L80, 55R15)

Oh, Yong-Geun (*with* Fukaya, Kenji) Zero-loop open strings in the cotangent bundle and Morse homotopy. *Asian J. Math.* **1** (1997), *no.* 1, 96–180. (Joa Weber) **99e:58038** 58E05 (58D29, 58F09)

— Symplectic topology as the geometry of action functional. I. Relative Floer theory on the cotangent bundle. *J. Differential Geom.* **46** (1997), *no.* 3, 499–577. (Joa Weber) **99a:58032** 58E05 (57R70, 58D15, 58F05)

— On the structure of pseudo-holomorphic discs with totally real boundary conditions. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 2, 305–327. (Karl Friedrich Siburg) **99g:58017** 58D10 (58F05)

— (*with* Milinković, Darko) Generating functions versus action functional. Stable Morse theory versus Floer theory. *Geometry, topology, and dynamics (Montreal, PQ*, 1995), 107–125, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (David E. Hurtubise) **99e:58040** 58E05 (58F05)

Oh, Young Sun (*with* An, Jeong Hyang) On $\varphi(t)$-stability for the comparison differential system. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 161–166. (L. Hatvani) **99c:34108** 34D20

— (*with* Lee, Jae Don; An, Jeong Hyang) On asymptotic stability for perturbed differential equation. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 167–173. (L. Hatvani) **99c:34109** 34D20

O'Hair, Greg Logical consequence and model-theoretic consequence. *Logique et Anal. (N.S.)* **35** (1992), *no.* 139-140, 239–249. (Jill M. Dieterle) **99b:03010** 03A05 (03B99, 03C99)

Ohara, Atsumi Information geometric analysis of a interior-point method for semidefinite programming. Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 71–89. (Romesh Saigal) **99g:90085** 90C25 (90C60)

— (*with* Masubuchi, Izumi; Suda, Nobuhide) LMI-based controller synthesis: a unified formulation and solution. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 669–686. (Summary) **99e:93031** 93B40 (93B51)

— Information geometric analysis of semidefinite programming problems. (Japanese. English and Japanese summaries) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 2, 317–334. 90C30 (90C08)

O'Hara, Jun *see* **Imai, Jun²**

Oházríz, Y. (*with* Riera, J. J.; Fuentes, M. E.; Valdés-Sosa, Pedro A.) EEG-distributed inverse solutions for a spherical head model. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 1009–1019. 78A55

Oharu, Shinnosuke (*with* Okamoto, Kuniya) Nonlinear evolution operators associated with nonlinear degenerate parabolic equations. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 581–629. (Summary) **99h:35093** 35K55 (47H20)

Ôhashi, Yukio Early history of the astrolabe in India. (English summary) *Indian J. Hist. Sci.* **32** (1997), *no.* 3, 199–295. (Summary) **99d:01013** 01A32

— The cylindrical sundial in India. (English summary) *Indian J. Hist. Sci.* **33** (1998), *no.* 4, *S*147–*S*205. 01A32

Ohba, Ichiro (*with* Kanenaga, Masahiko; Kirillov, A. I.; Mamakin, V. Yu.; Namiki, Mikio; Polyachenko, E. V.; Zav'yalov, O. I.) On evaluation of path integrals for bottomless systems. (English summary) *Path integrals: Dubna '96*, 181–186, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

— (*with* Tanaka, Satoshi[1]; Namiki, Mikio; Mizutani, Masashi; Komoike, Nobuyuki; Kanenaga, Masahiko) Stochastic quantization of bottomless systems based on kerneled Langevin equation. (English summary) *Comm. Theoret. Phys. (Allahabad)* **5** (1996), *no.* 2, 105–124 (1997). (Summary) **99b:82078** 82C31

— (*with* Imafuku, Kentaro) Extension of Nelson's flow quantum mechanics to a dispersive system and the influence on tunneling time. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 41–50. (*see* **99b:00018**) 81P20

Ohba, Kiyoshi (*with* Hashimoto, Yoshitake) The moduli space of once punctured elliptic curves with Lagrangian sublattices. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 22–46. (Vasily A. Chernecky) **99k:14043** 14H15 (14H52, 30F10, 30F30, 30F60)

— (*with* Hashimoto, Yoshitake) Construction of Riemann surfaces by parallel transformations. Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 43–52. (V. V. Chueshev) **99h:14035** 14H55 (30F30, 32G15)

— (*with* Hashimoto, Yoshitake) Abelian differentials and polygons of Riemannian surfaces. (Japanese) Research on local and global singularity theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1050 (1998), 85–92. (*see* **99j:58003**) 30F30

Ohbuchi, Akira On some numerical relations of d-gonal linear systems. (English summary) *J. Math. Tokushima Univ.* **31** (1997), 7–10. (Montserrat Teixidor i Bigas) **99b:14005** 14C20 (14H40)

— On the difference of 4-gonal linear systems on some curves. (English summary) *Serdica Math. J.* **23** (1997), *no.* 1, 59–68. (Letterio Gatto) **99d:14020** 14H45 (14C20, 14H20)

— On the composition of pentagonal curves. (Japanese) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 58–70. (*see* **99e:30001**) 14H45

— (*with* Kato, Takao; Keem, Changho) Variety of special linear systems on k-sheeted coverings. (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 53–65. (Thomas Bauer) **99a:14009** 14C20 (14H45)

— (*with* Ballico, Edoardo; Keem, Changho; Martens, Gerriet) On curves of genus eight. *Math. Z.* **227** (1998), *no.* 3, 543–554. (Montserrat Teixidor i Bigas) **99b:14027** 14H40 (14C20)

Ohe, Takashi (*with* Ohnaka, Kohzaburo) The application of window Fourier transforms to logarithmic potential inverse problems for a point source model. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 78–83. (*see* **99i:00028**) 65R10 (65T20)

Ohji, Kiyotsugu (*with* Kubo, Shiro; Takahashi, Tomokazu) Characterization of the Tikhonov regularization for numerical analysis of inverse boundary value problems by using the singular value decomposition. (English summary) *Inverse problems in engineering mechanics (Nagano, 1998)*, 337–344, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 65J15 (65N30)

Ohkawa, Tetsusuke A remark on homology localization. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 1, 1–5. (Georg Peschke) **99b:55018** 55P60 (55P10)

Ohkitani, Koji (*with* Yamada, Michio) Asymptotic formulas for the Lyapunov spectrum of fully developed shell model turbulence. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, *R*6257–*R*6260. (Summary) **99a:76069** 76F20

— The stretching process for passive vectors and vortices in turbulence. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 70–80. (*see* **99k:76004**) 76F99

Ohkuwa, Yoshiaki Third quantization of Kaluza-Klein cosmology and compactification. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4091–4100. (Summary) **99d:83048** 83C45 (83E15)

Ohl, Claus-Dieter (*with* Kurz, Thomas; Geisler, Reinhard; Lindau, Olgert; Lauterborn, Werner) Bubble dynamics, shock waves and sonoluminescence. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 269–294. (*see* **99k:76002**) 76D99 (76L05, 76Q05, 78A99)

Ohlbach, Hans Jürgen Elimination of self-resolving clauses. (English summary) *J. Automat. Reason.* **20** (1998), *no.* 3, 317–336. (Ji Gui Sun) **99b:68164** 68T15 (03B35, 68N17)

Ohlebusch, Enno Conditional term graph rewriting. (English summary) *Algebraic and logic programming (Southampton, 1997)*, 144–158, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (Summary) **99d:68137** 68Q42

— Church-Rosser theorems for abstract reduction modulo an equivalence relation. (English summary) *Rewriting techniques and applications (Tsukuba, 1998)*, 17–31, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68138** 68Q42

— Modularity of termination for disjoint term graph rewrite systems: a simple proof. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 171–177. 68Q42 (68R10)

Ohm, Mi-Ray Error estimates of optimal orders for one-dimensional Stefan problems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 341–346, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65N30 (35R35, 80A22)

— (*with* Lee, Hyun Young; Shin, J. Y.) A finite difference approximation of a singular boundary value problem. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 473–484. (Summary) **99h:65137** 65L12 (65L20)

Ohmaki, Kazuhito (*with* Isobe, Yoshinao; Nakada, Hidemoto; Sato, Yutaka) Stepwise synthesis of partial specifications preserving strong (Ω_1, Ω_2)-equivalence. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 39–53. (Summary) **99c:68172** 68Q60 (68Q10)

Ohmori, Hiromitsu (*with* Yamanaka, Osamu; Sano, Akira) Design method of exact model matching control for finite Volterra series systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 107–124. 93B30 (93B51)

— (*with* Miyasato, Yoshihiko) Trends in adaptive control theory. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 6, 287–299. 93–02 (93C40)

Ohmori, Hiroyuki (*with* Miyamoto, Takashi[1]) Construction of weighing matrices $W(17, 9)$ having the intersection number 8. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 259–269. (Jennifer Seberry) **99i:05048** 05B20

Ohmori, Katsushi A numerical study for two-fluid flows using finite element method. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 217–226, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:76060** 76M10 (76D99, 76V05)

— Numerical solution of two-fluid flows using finite element method. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 125–133. (Summary) **99b:76051** 76M10 (65M60, 76D05)

Ohmoto, Toru (*with* Ernström, Lars; Yokura, Shoji) On topological Radon transformations. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 3, 235–254. (Gary P. Kennedy) **99a:14011** 14C40 (32S60)

— (*with* Suwa, Tatsuo; Yokura, Shoji) A remark on the Chern classes of local complete intersections. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 5, 93–95. (Gary P. Kennedy) **99b:32053** 32S20 (14M10)

— Vassiliev type invariants of order one of generic mappings from a surface to the plane. (English summary) Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 55–68. (*see* **99a:00050**) 57M25 (58C27)

Ohnaka, Kohzaburo (*with* Yamatani, Katsu) A reliable estimation method of a dipole for three-dimensional Poisson equation. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 139–151. 35J05 (65D99)

— (*with* Ohe, Takashi) The application of window Fourier transforms to logarithmic potential inverse problems for a point source model. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 78–83. (*see* **99i:00028**) 65R10 (65T20)

Ohnimus, S. (*with* Stein, Erwin; Barthold, F. J.; Schmidt, Matthias) Adaptive finite elements in elastoplasticity with mechanical error indicators and Neumann-type estimators. (English summary) *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 81–99, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73E99)

Ohnishi, Isamu Wavelength of global minimizer of variational problem with non-local effect. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 247–251, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99b:49011** 49J45 (73B30)

— (*with* Imai, Hitoshi; Shinohara, Yoshitane; Konno, T.; Natori, Makoto; Zhou, Weidong; Nishiura, Yasumasa) Numerical computations of free boundary problems in quadruple precision arithmetic using an explicit method. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 193–207, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 65L06 (65G05)

— (*with* Nishiura, Yasumasa) Spectral comparison between the second and the fourth order equations of conservative type with non-local terms. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 253–262. (P. W. Bates) **99j:35151** 35P05 (35B05, 35K10, 35Q99, 47H12, 47N20)

Ohnishi, Masamitsu (*with* Kijima, Masaaki) Comparative statics in relation to equilibrium price systems in certain perfect securities markets. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 75–87. (*see* **99b:90009**) 90A14 (90A60)

— (*with* Segawa, Yoshiyuki) Optimality of monotone repair limit replacement policies for repair and replacement problems that take age into account. (Japanese. Japanese summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 76–82. (*see* **99h:90006**) 90B25 (90B05)

— Optimal stopping problems for geometric Brownian motion with Poisson jumps. (Japanese) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 66–71. (*see* **99i:90002**) 60G40

Ohnita, Yoshihiro Gauge-theoretic equations for symmetric spaces and complex Lagrangian submanifolds in a hyper-Kähler moduli space. (Japanese) Geometry of homogeneous spaces and submanifolds (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1044 (1998), 76–85. (Hiroo Naitoh) **99m:53046** 53C07 (53C25, 58D27)

Ohno, Katsuhisa (*with* Nakade, Koichi) Stochastic properties of fork/join multi-stage production systems with general blocking. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 341–355. (John P. Lehoczky) **99d:60105** 60K25 (90B30)

Ohno, Masahiro On odd-dimensional projective manifolds with smallest secant varieties. *Math. Z.* **226** (1997), *no.* 3, 483–498. (Fyodor L. Zak) **99a:14059** 14J40 (14J45, 14N05)

— On projective manifolds with degenerate secant varieties. Algebra Meeting (Rio de Janeiro, 1996). *Mat. Contemp.* **14** (1998), 115–127. (Tomasz Szemberg) **99m:14102**

14N05 (14M07)

Ohno, Mayumi (*with* Shirota, Taira) On the initial-boundary-value problem for the linearized equations of magnetohydrodynamics. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 3, 259–299. (Shu-Xing Chen) **99i:76150** 76W05 (35Q35)

— (*with* Shirota, Taira) On the initial-boundary value problem for the linearized MHD equations. Regularity, blowup and related properties of solutions to nonlinear evolution equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1045 (1998), 26–44. (Paolo Secchi) **99m:76127** 76W05 (35Q35)

Ohno, Shyuichi (*with* Sakai, Hideaki) Theory of cyclostationary processes and its applications. *Statistical methods in control and signal processing*, 327–354, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 94A12

Ohno, Toshiaki On the deformations of Witt groups to twisted tori. *Bull. Fac. Sci. Engrg. Chuo Univ. Ser. I Math.* **40** (1997), 13–19 (1998). (Abdallah Badra) **99d:14048** 14L15 (13K05)

Ohno, Yasuo A generalization of the duality and sum formulas on the multiple zeta values. (English summary) *J. Number Theory* **74** (1999), *no.* 1, 39–43. (L. Skula) **99k:11138** 11M41

Ohno, Yoshio (*with* Fujimoto, Tadahiro) Wrinkly surfaces: generating parametric surfaces by procedural interpolation. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2168–2179. (Summary) **99e:65019** 65D17 (65D10)

Ohnuma, Masaki Some remarks on singular degenerate parabolic equations including the p-Laplace diffusion equation. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 54–65, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Katsuyuki Ishii) **99f:35109** 35K65 (35B05)

Ohori, Atsushi (*with* Hashimoto, Masatomo) A typed context calculus. (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 76–91. (Summary) **99g:68028** 68N15 (03B40, 68Q55)

Öhring, Sabine R. (*with* Bao, Feng; Igarashi, Yoshihide) Reliable broadcasting in product networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 3–20. (Summary) **99c:68009** 68M10 (05C90, 68M15)

Ohsawa, Takeo Two or three observations concerning pseudoconvex domains, especially domains in $\mathbf{P}^n$. (Japanese) CR geometry and isolated singularities (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1037 (1998), 1–10. (*see* **99f:32001**) 32F15

— (*with* Diederich, Klas) On pseudoconvex domains in $\mathbf{P}^n$. *Tokyo J. Math.* **21** (1998), *no.* 2, 353–358. (Francine A. Meylan) **99k:32024** 32F15 (32E10)

Ohseto, Shinji Strategy-proof allocation mechanisms for economies with an indivisible good. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 121–136. (Jan Węglarz) **99k:90065** 90A80

Ohshika, Ken'ichi Parabolization of elements of Kleinian groups. *Topology and Teichmüller spaces* (*Katinkulta*, 1995), 221–236, *World Sci. Publishing, River Edge, NJ*, 1996. (Shigeyasu Kamiya) **99k:30074** 30F40 (57M50)

— Théorèmes de convergence pour les groupes kleiniens décomposables. [Convergence theorems for decomposable Kleinian groups] Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 93–96. (*see* **99e:30001**) 57S30 (30F40, 57M07)

— Divergent sequences of Kleinian groups. (English summary) *The Epstein birthday schrift*, 419–450 (*electronic*), *Geom. Topol. Monogr.*, 1, *Geom. Topol., Coventry*, 1998. (James W. Anderson) **99k:57035** 57M50 (30F40, 57S30)

— (*with* Potyagaĭlo, L. D.) Self-embeddings of Kleinian groups. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 3, 329–343. (Darryl McCullough) **99d:57009** 57M60 (20H10, 30F40, 57M07, 57S30)

— Geometrically finite Kleinian groups and parabolic elements. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 141–159. (Makoto Masumoto) **99a:30042** 30F40 (30F60, 57M50, 57S30)

Ohshima, Takayuki (*with* Yamamura, Kiyotaka) Finding all solutions of piecewise-linear resistive circuits using linear programming. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 434–445. (Summary) **99d:94046** 94C05 (90C05)

Ohsuga, Setsuo (*with* Zhong, Ning[2]; Dong, Ju-Zhen) Data mining: a probabilistic rough set approach. (English summary) *Rough sets in knowledge discovery*, 2, 127–144, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68T99

Ohsugi, H. (*with* Hibi, Takayuki) A normal $(0, 1)$-polytope none of whose regular triangulations is unimodular. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 201–204. (Ivan V. Arzhantsev) **99k:52023** 52B20 (13P10, 14M25, 52B11)

Ohsugi, Yasuo (*with* Funakoshi, Mitsuaki) Generation of shallow water waves by localized topographical variations. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 201–213. (*see* **99f:76003**) 76B15

Ohsumi, Akira Recent topics in stochastic control theory. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 7, 363–370. 93E20 (49K45)

Ohsumi, N. *see* **Data science, classification, and related methods, 99b:62002**

Ohta, Haruto (*with* Gruenhage, Gary; Hattori, Yasunao) Dugundji extenders and retracts on generalized ordered spaces. (English summary) *Fund. Math.* **158** (1998), *no.* 2, 147–164. (Richard A. Alò) **99i:54016** 54C20 (46E25, 54B10, 54F05)

— (*with* Yamada, Kohzo) Simple examples showing that various topological properties are not finitely additive in the sense of V. V. Tkachuk. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 93–95. (Gary Gruenhage) **99c:54010** 54B10 (54D20, 54D60, 54E35)

— (*with* Yamada, Kohzo) On spaces with linearly homeomorphic function spaces in the compact open topology. *Tsukuba J. Math.* **22** (1998), *no.* 1, 39–48. (Robert A. McCoy) **99f:54020** 54C35 (54D30)

Ohta, Kazuo (*with* Okamoto, Tatsuaki) On concrete security treatment of signatures derived from identification. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 354–369, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (*see* **99i:94059**) 94A60

Ohta, Kazutoshi (*with* Nakatsu, Toshio; Yokono, Takashi; Yoshida, Yuhsuke) Higgs branch of $N = 2$ SQCD and M-theory branes. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 159–179. (Daniel N. Kabat) **99g:81214** 81T60 (81T13)

— (*with* Nakatsu, Toshio; Yokono, Takashi) Baryonic branch root of $N = 2$ M-theory fivebrane description of QCD. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026003, 10 *pp.* (Summary) **99k:81265** 81T30 (81T60, 81V25)

Ohta, Koji (*with* Fukumi, Toshio; Nagao, Hidemi; Kamada, Kenji; Matsueda, Hideaki) Quantum calculations connected with path integrals. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 203–206. (*see* **99b:00018**) 81S40

Ohta, Masahito Remarks on blowup of solutions for nonlinear evolution equations of second order. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 901–910. (Nickolai A. Lar'kin) **99m:35167** 35L70 (34G20)

— (*with* Takamura, Hiroyuki) Remarks on the blow-up boundaries and rates for nonlinear wave equations. *Nonlinear Anal.* **33** (1998), *no.* 7, 693–698. (Varga Kalantarov) **99e:35153** 35L70 (35B05)

Ohta, Nobuyoshi (*with* Zhou, Jian-Ge) Thermalization of Poincaré vacuum state and fermion emission from AdS_3 black holes in bulk-boundary correspondence. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 23, 12 *pp.* (*electronic*). (Summary) **99i:83068** 83C57 (81T30, 83E30)

— (*with* Zhou, Jian-Ge) Euclidean path integral, D0-branes and Schwarzschild black holes in Matrix theory. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 125–136. (Summary) **99d:81144** 81T40 (83C57, 83E30)

— (*with* Kitao, Takuhiro; Zhou, Jian-Ge) Fermionic zero mode and string creation between D4-branes at angles. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 68–74. (Summary) **99c:81195** 81T30

— (*with* Mizoguchi, Shun'ya) More on the similarity between $D = 5$ simple supergravity and M theory. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 123–132. (Summary) **99j:83070** 83E30 (81T30, 83E50)

— (*with* Müller-Kirsten, H. J. W.; Zhou, Jian-Ge) AdS_3/CFT correspondence, Poincaré vacuum state and greybody factors in BTZ black holes. (English summary) *Phys. Lett. B* **445** (1999), *no.* 3-4, 287–295. (Summary) **99m:83129** 83C57 (81T20, 81T40, 83E30)

Ohta, Takao (*with* Mimura, Masayasu; Nagayama, Masaharu) Non-annihilation of travelling pulses in reaction-diffusion systems. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 239–245, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57

Ohta, Yasuhiro (*with* Kajiwara, Kenji; Satsuma, Junkichi) Bilinear structure and exact solutions of the discrete Painlevé I equation. *Symmetries and integrability of difference equations* (*Estérel, PQ*, 1994), 265–268, *CRM Proc. Lecture Notes*, 9, *Amer. Math. Soc., Providence, RI*, 1996. (From the text) **99a:39048** 39A12

— (*with* Takahashi, Daisuke; Tokihiro, Tetsuji; Grammaticos, B.; Ramani, A.) Constructing solutions to the ultradiscrete Painlevé equations. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7953–7966. (Summary) **99a:39049** 39A12 (82C20)

— (*with* Ramani, A.; Satsuma, Junkichi; Grammaticos, B.) Self-duality and Schlesinger chains for the asymmetric d-P_{II} and q-P_{III} equations. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 67–76. (I. P. Stavroulakis) **99f:39029** 39A12

— (*with* Kajiwara, Kenji) Determinant structure of the rational solutions for the Painlevé IV equation. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2431–2446. (Andrei A. Kapaev) **99g:34004** 34A05 (33E30, 34A34)

— (*with* Grammaticos, B.; Ramani, A.; Sakai, Hidetaka) Degeneration through coalescence of the q-Painlevé VI equation. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3545–3558. (Kuppuswamy Porsezian) **99g:39007** 39A10 (39A12, 58F07)

— (*with* Sasa, Narimasa; Matsukidaira, Junta) Bilinear form approach to the self-dual Yang-Mills equations and integrable systems in $(2 + 1)$-dimension. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 1, 83–86. (Ian A. B. Strachan) **99f:58105** 58F07 (58E15, 81T13)

— (*with* Ramani, A.; Takahashi, Daisuke; Grammaticos, B.) The ultimate discretisation of the Painlevé equations. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 185–196. (Kuppuswamy Porsezian) **99g:39013** 39A10 (39A12, 58F37)

— (*with* Willox, Ralph; Gilson, Claire R.; Tokihiro, Tetsuji; Satsuma, Junkichi) Quadrilateral lattices and eigenfunction potentials for N-component KP hierarchies. (English summary) *Phys. Lett. A* **252** (1999), *no.* 3-4, 163–172. (Reda A. Zait) **99m:58118** 58F07 (35Q53)

— (*with* Ablowitz, Mark J.; Trubatch, A. David) On discretizations of the vector nonlinear Schrödinger equation. (English summary) *Phys. Lett. A* **253** (1999), *no.* 5-6, 287–304. (Summary) **99m:35215** 35Q55 (35A35, 65M06)

Ohta, Yoshikatsu (*with* Gomi, Hiroshi; Oyamaguchi, Michio) On the Church-Rosser property of root-E-overlapping and strongly depth-preserving term rewriting systems. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 992–1005. (Summary) **99b:68108** 68Q42

Ohta, Yūji Topological field theories associated with three-dimensional Seiberg-Witten monopoles. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 925–955. (Marcos Mariño) **99e:58034** 58D29 (57R57, 81T70)

— (*with* Kanno, Hiroaki) Picard-Fuchs equation and prepotential of five-dimensional SUSY gauge theory compactified on a circle. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 73–98. (Summary) **99i:81241** 81T60 (14D05, 81T13)

Ohta, Yuzo (*with* Wada, Teruyo; Ikeda, Masao; Šiljak, Dragoslav D.) Parametric absolute stability of Lur'e systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1649–1653. (Summary) **99h:93091** 93D20 (34D99, 34H05)

Ohtagaki, Hirokazu (*with* Iwasaki, Akinori; Nakagawa, Yuji; Teraoka, Yoshinobu; Narihisa, Hiroyuki) Approximate method for separable nonconvex programs. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 115–122. (Summary) **99j:90061** 90C26 (90C30)

Ohtani, Hiroshi (*with* Yamashita, Hideaki; Suzuki, Shigemichi) An exact aggregation for inventory distribution in an automatic warehousing system. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 492–508. 90B05 (90B30)

Ohtani, Kazuhiro (*with* Wan, Alan T. K.) On the sampling performance of an improved Stein inequality restricted estimator. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 181–187. (Summary) **99c:62188** 62J05 (62C15, 62F10)

— The exact risk of a weighted average estimator of the OLS and Stein-rule estimators in regression under balanced loss. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 35–45. (D. E. A. Giles) **99i:62150** 62J05 (62C15)

— (*with* Kurumai, Hiroko) The exact distribution and density functions of a pre-test estimator of the error variance in a linear regression model with proxy variables. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 163–177. (Summary) **99b:62104** 62J05 (62E15)

— An MSE comparison of the restricted Stein-rule and minimum mean squared error estimators in regression. (English summary) *Test* **7** (1998), *no.* 2, 361–376. 62J05

— Risk performance of a pre-test estimator for normal variance with the Stein-variance estimator under the LINEX loss function. (English summary) *Statist. Papers* **40** (1999), *no.* 1, 75–87. 62C15

— MSE performance of a heterogeneous pre-test estimator. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 65–71. (Summary) **99i:62151** 62J05

Ohtani, Takashi (*with* Ichihashi, Hidetomo; Miyoshi, Tetsuya; Nagasaka, Kazunori) Orthogonal and successive projection methods for the learning of neurofuzzy GMDH. (English summary) *Inform. Sci.* **110** (1998), *no.* 1-2, 5–24. 68T05

Ohtomo, T. (*with* Kawarada, Hideo; Périaux, Jacques; Suito, H.) Multi-start fuzzy optimization method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 338–345, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 90C70

Ohtsubo, H. *see* **Physics in the 21st century**, **99a:81004**

Ohtsubo, Yoshio Pareto optima in a multi-person cooperative stopping problem. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 184–191. (*see* **99h:90006**) 60G40 (90D12)

Ohtsuka, Makoto (*with* Jin, Naondo) On continuity of extremal distance in case islands exist. Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 42–57. (Makoto Masumoto) **99f:31010** 31B15 (31A15)

Ohtsuki, Makoto (*with* Katayama, Koji) On the multiple gamma-functions. *Tokyo J. Math.* **21** (1998), *no.* 1, 159–182. (Bruce C. Berndt) **99f:11115** 11M99 (11M41)

Ohtsuki, Tomotada (*with* Garoufalidis, Stavros) On finite type 3-manifold invariants. V. Rational homology 3-spheres. (English summary) *Geometry and physics* (*Aarhus*, 1995), 445–457, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (Mark R. Woodard) **99b:57039** 57N10 (57M25)

— A filtration of the set of integral homology 3-spheres. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 473–482 (*electronic*). (Thang T. Q. Le) **99h:57038** 57N10 (57M25)

— (*with* Garoufalidis, Stavros) On finite type 3-manifold invariants. III. Manifold weight systems. (English summary) *Topology* **37** (1998), *no.* 2, 227–243. (Mark R. Woodard) **99b:57037** 57N10 (57M25)

— (*with* Le Tu Quoc Thang; Murakami, Jun) On a universal perturbative invariant of 3-manifolds. *Topology* **37** (1998), *no.* 3, 539–574. (Zhenghan Wang) **99d:57004** 57M25

Ohuchi, Azuma (*with* Numazawa, Masanobu; Kurihara, Masahito[1]) Meta-computation in a conditional term rewriting system-based language. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 3035–3043. 68N15 (68Q42)

Ohura, Yoko (*with* Kobayashi, Kinko; Onishi, Kazuei) A variational solution of the Cauchy problem in elastostatics. (English summary) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 106–113. (Summary) **99j:73022** 73C02 (65K10, 73V25)

Ohwada, Taku (*with* Sone, Yoshio; Golse, François; Doi, Toshiyuki) Analytical study of transonic flows of a gas condensing onto its plane condensed phase on the basis of kinetic theory. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 3, 277–306. (Summary) **99f:76116** 76P05 (76H05, 82C40)

Ohwada, Tomoyoshi (*with* Ji, Guoxing; Saito, Kichi-Suke) Triangular forms of subdiagonal algebras. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 545–552. (Edward Azoff) **99m:47053** 47D25 (46L10)

— (*with* Ji, Guoxing; Saito, Kichi-Suke) Certain structure of subdiagonal algebras. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 309–317. (Summary) **99b:46093** 46L10 (47D25)

Ohwaki, Shin-ichi (*with* Matsuda, Koh-ichi) On a formula for correlation coefficients between normally scattered functions. *Kumamoto J. Math.* **12** (1999), 73–79. 65U05

Ohya, Masanori (*with* Matsuoka, Takashi[2]) Information acquisition in duopolistic markets and mutual entropy. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 28–40. (*see* **99b:00018**) 90A99

— (*with* Accardi, Luigi; Watanabe, Noboru) Dynamical entropy of quantum systems. (English summary) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 76–84. (*see* **99b:00018**) 82C10 (46L50, 46L55, 46L60)

— (*with* Inoue, Kei; Suyari, Hiroki) A quantum information-theoretic approach to a quantum teleportation process. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 194–202. (*see* **99b:00018**) 94A05

— (*with* Suyari, Hiroki; Furuichi, Shigeru) An analysis of the quantum amplification process based on quantum mutual entropy. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 225–235. (*see* **99b:00018**) 94A05 (81P99)

— Foundation of entropy, complexity and fractals in quantum systems. (English summary) *Probability towards* 2000 (*New York*, 1995), 263–286, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Fumio Hiai) **99h:82006** 82B10 (28D20, 46L89, 94A17)

— Complexities and their applications to characterization of chaos. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 495–505. (Fumio Hiai) **99h:81056** 81Q50 (46N50, 58F13)

— (*with* Watanabe, Noboru) Optical Fredkin-Toffoli-Milburn gates. Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 145–154. (*see* **99f:00023**) 81P99

Ohyama, Yoshiyuki (*with* Tsukamoto, Tatsuya) On Habiro's C_n-moves and Vassiliev invariants of order n. (English summary) *J. Knot Theory Ramifications* **8** (1999), *no.* 1, 15–26. (Leonid Plachta) **99m:57010** 57M25

Ohyama, Yousuke Differential equations of theta constants of genus two. Algebraic analysis of singular perturbations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 968 (1996), 96–103. (José M. Muñoz Porras) **99e:11054** 11F27

Oide, Shin-ichi (*with* Hosokawa, Iwao; Yamamoto, Kiyoshi) Similar variables for passive scalar and joint multifractals. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 137–145. (*see* **99k:76004**) 76F99 (28A80)

Oie, Yuji (*with* Ishizaki, Fumio; Takine, Tetsuya) Dynamic behavior of TCP-like window control and throughput performance. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 538–559. (Sudhangshu B. Karmakar) **99j:90029** 90B12 (90B22)

Oikawa, Masayuki (*with* Maruno, Ken-ichi; Kajiwara, Kenji) Casorati determinant solution for the discrete-time relativistic Toda lattice equation. (English summary) *Phys. Lett. A* **241** (1998), *no.* 6, 335–343. (Spyridon Kamvissis) **99e:58105** 58F07 (58F37)

— (*with* Tsuji, Hidekazu) Generation of long waves due to topography in two-layer fluids with one very deep layer. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 180–190. (*see* **99f:76003**) 76V05 (76C99)

Øines, Eivor (*with* Ekeland, Kersti; Owren, Brynjulf) Stiffness detection and estimation of dominant spectra with explicit Runge-Kutta methods. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 4, 368–382. (Summary) **99j:65122** 65L06

Oishi, Shin'ichi (*with* Nakaya, Yusuke) Finding all solutions of nonlinear systems of equations using linear programming with guaranteed accuracy. (English summary) SCAN-97 (Lyon). *J.UCS* **4** (1998), *no.* 2, 171–177 (*electronic*). (Summary) **99i:65058** 65H10 (65G10, 90C08)

— Numerical verification method of existence of connecting orbits for continuous dynamical systems. (English summary) SCAN-97 (Lyon). *J.UCS* **4** (1998), *no.* 2, 193–201 (*electronic*). (Summary) **99i:65083** 65L99 (34A45, 34B15, 34C37)

Ōishi, Takeshi (*with* Tsutsumi, Masayoshi) Identifiability of spatially-varying coefficients in the (generalized) Korteweg-de Vries equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 333–341. (Vladislav G. Dubrovsky) **99e:35245** 35R30 (35Q53)

Oishi, Yasuaki Computation-oriented expression of a non-conservative condition for robust stability of sampled-data systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1085–1104. 93D09 (93C57)

Oisi, Kh. (*with* Han, Te Sun) Strong inversion for source coding with an accuracy criterion. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 1, 82–90; *translation in Problems Inform. Transmission* **32** (1996), *no.* 1, 69–77. (Summary) **99a:94014** 94A29

Oja, Eve (*with* Ausekle, E. A.) Pitt's theorem for Lorentz and Orlicz sequence spaces. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 18–25; *translation in Math. Notes* **61** (1997), *no.* 1-2, 16–21. (Summary) **99a:46028** 46B28 (46B45, 47D15)

— (*with* Ausekle, Jelena) Compactness of operators acting from a Lorentz sequence space to an Orlicz sequence space. (English summary) *Ark. Mat.* **36** (1998), *no.* 2, 233–239. (Hans-Olav Tylli) **99k:47061** 47B37 (46B45, 46E30, 47B07)

— (*with* Cabello Piñar, Juan Carlos; Nieto, Eduardo) On ideals of compact operators satisfying the $M(r,s)$-inequality. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 334–348. (Jesús M. F. Castillo) **99f:46018** 46B20 (46B28, 47B10, 47D50)

Oja, Hannu (*with* Hettmansperger, Thomas P.; Möttönen, Jyrki) Affine-invariant multivariate one-sample signed-rank tests. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1591–1600. (Georg Neuhaus) **99c:62133** 62G10

— (*with* Möttönen, Jyrki; Hettmansperger, Thomas P.; Tienari, J.) On the efficiency of affine invariant multivariate rank tests. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 118–132. (Margaret P. Gessaman) **99j:62067** 62G10 (62H15)

— (*with* Chakraborty, Biman; Chaudhuri, Probal) Operating transformation retransformation on spatial median and angle test. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 767–784. (Summary) **99f:62072** 62H11 (62H15)

— (*with* Hettmansperger, Thomas P.; Möttönen, Jyrki) Affine invariant multivariate rank tests for several samples. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 785–800. (Summary) **99i:62105** 62G10

Oja, Peeter Rational spline interpolation to monotonic data. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **48** (1999), *no.* 1, 22–30. (Ying Guang Shi) **99m:41021** 41A20 (41A15)

Ojanguren, M. (*with* Ischebeck, F.) Vector bundles on real affine varieties. (Italian summary) Text in English, German and French. *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 397–413. (Claus Scheiderer) **99d:14043** 14J60 (14P05)

Ojeda, Mario Miguel (*with* Bouza Herrera, Carlos N.) Superpopulation models and some applications in sampling and in experimental design. (Spanish. English and Spanish summaries) *Investigación Oper.* **16** (1995), *no.* 3, 107–124. 62D05

Ojeda Aciego, M. (*with* Aguilera, Gabriel; de Guzmán, I. P.) A reduction-based theorem prover for 3-valued logic. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 2, 99–127. (Henry Africk) **99h:03008** 03B50 (03B35, 68T15)

Ojha, Akshay Kumar (*with* Das, Gokulananda; Ray, Braja Kishore) Degree of approximation of functions associated with Hardy-Littlewood series in the Hölder metric by Borel means. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 279–293. (Summary) **99j:42032** 42B30 (41A25)

— (*with* Das, Gokulananda; Ray, Braja Kishore) Degree of approximation of functions associated with Hardy-Littlewood series in the generalized Hölder metric. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 109–120. (M. W. Müller) **99h:42009** 42A24 (40C05, 41A25)

Ojha, B. K. (*with* Kumar, Anil[1]; Rout, R. N.) Duality in nondifferentiable programming involving pseudoinvexity. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 3, 175–177. 90C29 (49N15)

Ojha, P. K. (*with* Singh, I. N.) A discussion on two methods for finding the value of "the Riemann zeta function" $\zeta(s)$ where $s = 2$. (English summary) *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 24–28. 11Y60 (11M06)

Ojha, V. P. (*with* Pandey, Himanshu) Generalised biostatistical birth model for couple fertility. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 167–177. 62P10

Ojima, Izumi (*with* Buchholz, Detlev) Spontaneous collapse of supersymmetry. (Japanese. Japanese summary) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 117–130. (*see* **99b:00018**) 81R40 (46N50, 81T05, 81T60)

— *see also* **Gustafson, Karl**, **99b:00008**

Ojima, Yoshikazu General formulae for expectations, variances and covariances of the mean squares for staggered nested designs. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 6, 785–799. 62J10

Ojo, M. O. Some relationships between the generalized logistic and other distributions. (English and Italian summaries) *Statistica (Bologna)* **57** (1997), *no.* 4, 573–579 (1998). (Summary) **99i:62026** 62E15

Ok, Efe A. (*with* Mitra, Tapan) The measurement of income mobility: a partial ordering approach. (English summary) *Econom. Theory* **12** (1998), *no.* 1, 77–102. (Summary) **99i:90036** 90A40 (90A53)

— Inequality averse collective choice. (English summary) *J. Math. Econom.* **30** (1998), *no.* 3, 301–321. (Maurice Salles) **99m:90017** 90A08

— (*with* Kranich, Laurence) The measurement of opportunity inequality: a cardinality-based approach. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 263–287. (Fouad T. Aleskerov) **99e:90009** 90A08

Oka, Hiroe (*with* Kokubu, Hiroshi; Mischaikow, Konstantin; Nishiura, Yasumasa; Takaishi, Takeshi) Connecting orbit structure of monotone solutions in the shadow system. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 309–364. (Anibal Rodriguez-Bernal) **99e:35107** 35K57 (34C99, 35B99, 58F39)

Oka, Hirokazu Abstract quasilinear integrodifferential equations of hyperbolic type. Joint work with Naoki Tanaka. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 41–60. (Eugenio Sinestrari) **99a:45020** 45K05 (34K30, 45N05, 47D06, 47H20)

Oka, Masatoshi (*with* Sumi, Naoya) Morse-Smale diffeomorphisms and the standard family. *Tokyo J. Math.* **21** (1998), *no.* 2, 471–476. (Ketty A. de Rezende) **99k:58107** 58F09

— (*with* Aoki, Nobuo; Moriyasu, Kazumine) Differentiable maps having hyperbolic sets. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 15–48. (Romeo F. Thomas) **99d:58130** 58F15 (58F10)

Oka, Takeshi *see* **Tomonaga, Sin-itiro**, **99d:81002**

Okabe, Akira (*with* Sato, Iwao[2]; Matsuda, Ryūki) Note on multiplicative ideal theory of semigroups. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields (Mito, 1996)*, 39–42, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M12

Okada, Koji (*with* Kurosawa, Kaoru; Saido, Hajime; Stinson, Douglas R.) New combinatorial bounds for authentication codes and key predistribution schemes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 87–100. (Andrea Sgarro) **99m:94032** 94A60 (05B05, 05B15)

Okada, Mitsuhiro (*with* Hamano, Masahiro) A direct independence proof of Buchholz's Hydra game on finite labeled trees. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 2, 67–89. (Anthony M. Ungar) **99m:03115** 03F03 (03F35)

— (*with* Terui, Kazushige) Completeness proofs for linear logic based on the proof search method (preliminary report). (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 57–75. (*see* **99d:68014**) 03F50

Okada, S. *see* **Okada, Susumu**

Okada, Soichi (*with* Krattenthaler, Christian) The number of rhombus tilings of a "punctured" hexagon and the minor summation formula. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 381–404. (Maurice J. Ginocchio) **99j:05009** 05A15 (05A19)

— Applications of minor summation formulas to rectangular-shaped representations of classical groups. *J. Algebra* **205** (1998), *no.* 2, 337–367. (Christian Krattenthaler) **99g:20081** 20G05 (05E05, 05E15)

Okada, Susumu (*with* Ricker, Werner J.) Representation of complete Boolean algebras of projections as ranges of spectral measures. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 209–227. (T. V. Panchapagesan) **99e:47038a** 47B40 (47A60)

— (*with* Ricker, Werner J.) Corrections to: "Representation of complete Boolean algebras of projections as ranges of spectral measures". (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 689–693. (T. V. Panchapagesan) **99e:47038b** 47B40 (47A60)

— (*with* Ricker, Werner J.) Boolean algebras of projections and ranges of spectral measures. *Dissertationes Math. (Rozprawy Mat.)* **365** (1997), 33 *pp.* (Ian Raymond Doust) **99c:47042** 47B40 (47A60, 47B15, 47D30)

— Symm's log kernel integral operators. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 2, 143–164. (V. S. Pilidi) **99c:47076** 47G10 (45E05, 45P05)

Okada, Tatsuya (*with* Sekiguchi, Takeshi; Shiota, Yasunobu) Multifractal spectrum of multinomial measures. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 7, 123–125. (Lars Olsen) **99c:28027** 28A80 (30B50, 42A75)

Okada, Yasunori (*with* Tose, Nobuyuki) A dependence domain for a class of micro-differential equations with involutive double characteristics. Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 61–65. (Jean-Marc Delort) **99d:58170** 58G17 (35A27, 58G07)

— (*with* Liess, Otto; Tose, Nobuyuki) A remark on 2-microhyperbolicity. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 3, 39–42. (P. Schapira) **99c:58147** 58G07

— Convolution equations in the complex domain. (Japanese. Japanese summary) Partial differential equations in the complex domain (Japanese)(Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1028 (1998), 25–41. (*see* **99e:35002**) 46Fxx

Okado, Masato (*with* Kuniba, Atsuo; Misra, Kailash C.; Takagi, Taichiro; Uchiyama, Jun) Crystals for Demazure modules of classical affine Lie algebras. (English summary) *J. Algebra* **208** (1998), *no.* 1, 185–215. (Ben Lewis Cox) **99h:17008** 17B10 (17B67)

— (*with* Foda, Omar; Misra, Kailash C.) Demazure modules and vertex models: the sl(2) case. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1601–1622. (Christoph Schweigert) **99e:17036** 17B67 (17B10, 81R10)

— (*with* Foda, Omar; Leclerc, Bernard; Thibon, Jean-Yves; Welsh, Trevor A.) RSOS models and Jantzen-Seitz representations of Hecke algebras at roots of unity. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 31–42. (Summary) **99a:20007** 20C30 (17B10)

— (*with* Kuniba, Atsuo; Misra, Kailash C.; Takagi, Taichiro; Uchiyama, Jun) Characters of Demazure modules and solvable lattice models. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 555–576. (Yasmine B. Sanderson) **99m:17019** 17B37 (81R50, 82B23)

Okai, Takayuki PSL(2, **C**) and its Cayley transforms. Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 97–99. (*see* **99e:30001**) 30F40

Ōkaji, Takashi Symmetric structure and the propagation of singularities of solutions to partial differential equations. (Japanese) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1056 (1998), 75–95. (*see* **99m:35003**) 35A20 (58G17)

Okamoto, Eiji (*with* Sakazaki, Hisao; Mambo, Masahiro) ID-based key distribution system over an elliptic curve. (English summary) *Finite fields: theory, applications, and algorithms (Waterloo, ON, 1997)*, 215–224, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99k:94041** 94A60 (11G20)

Okamoto, H. *see* **Okamoto, Hisashi**

Okamoto, Hisao (*with* Iwayama, Takahiro; Fujisaka, Hirokazu) Theoretical determination of the scaling exponent ξ in 2-dimensional decaying turbulence. (Japanese. Japanese summary) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 152–163. (*see* **99e:76056**) 76F99

— (*with* Watanabe, Takeshi; Iwayama, Takahiro; Fujisaka, Hirokazu) Formation of the order structure and dynamical scaling rules in 2-dimensional turbulent systems. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 10–19. (*see* **99k:76004**) 76F99

Okamoto, Hisashi A numerical solution method for potential problems. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 58–67. (*see* **99a:00036**) 65C20 (65N99)

— (*with* Fujita, Hiroshi[1]; Morimoto, Hiroko) Stability of some Navier-Stokes flows in doubly connected domains. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 116–125, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99g:76063** 76E99 (35Q30, 76D05)

— (*with* Sakajo, Takashi) The application of PVM to the computation of vortex sheet motion. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 160–170, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 76M25 (76C05)

— (*with* Shōji, Mayumi) Boundary layer in unsteady two-dimensional Navier-Stokes equations. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 171–180, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99i:76036** 76D05 (76D10, 76M20, 76M25)

— A study of bifurcation of Kołmogorov flows with an emphasis on the singular limit. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 513–522 (*electronic*). (Summary) **99g:76038** 76D05 (35Q35, 76E99, 76M25)

Okamoto, Kazuo On the holonomic deformation of linear ordinary differential equations on an elliptic curve. *Kyushu J. Math.* **49** (1995), *no.* 2, 281–308. (Alexander Vladimirovich Kitaev) **99d:34012** 34A20 (32G34)

— (*with* Noumi, Masatoshi) Irreducibility of the second and the fourth Painlevé equations. *Funkcial. Ekvac.* **40** (1997), *no.* 1, 139–163. (Alexander Vladimirovich Kitaev) **99d:34011** 34A20

Okamoto, Keishi (*with* Wakai, Kentaro) Partially locally atomic models. *Tsukuba J. Math.* **22** (1998), *no.* 1, 235–240. (Alexandre Ivanov) **99f:03042** 03C45

Okamoto, Kuniya (*with* Oharu, Shinnosuke) Nonlinear evolution operators associated with nonlinear degenerate parabolic equations. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 581–629. (Summary) **99h:35093** 35K55 (47H20)

— (*with* Ali, Zulfikar; Shinohara, Yoshitane; Imai, Hitoshi; Sakaguchi, Hideo) Existence and uniqueness of quasiperiodic solutions to perturbed nonlinear oscillators. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 279–293. (Jialin Hong) **99c:34085** 34C27

Okamoto, Masashi (*with* Taniguchi, Ruriko) Contributions of variates and items in canonical discriminant analysis of type-mixed data. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 151–158. (Summary) **99i:62140** 62H30

Okamoto, Miyuki (*with* Miyazawa, Haruko A.) Quantum SU(3) invariants derived from the linear skein theory. *KNOTS '96 (Tokyo)*, 299–308, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99k:57039** 57N10 (17B37, 57M25)

— Vassiliev invariants of type 4 for algebraically split links. *Kobe J. Math.* **14** (1997), *no.* 2, 145–196. (Justin D. Roberts) **99b:57019** 57M25

— On Vassiliev invariants for algebraically split links. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 6, 807–835. (Torsten Asselmeyer) **99h:57017** 57M25

— (*with* Sato, Chifumi) Turaev-Viro-Ocneanu invariants seen from the TQFT standpoint and examples of their computation. (Japanese) Research on the theory of topological quantum fields induced by 6j-symbols (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1053 (1998), 63–85. (*see* **99k:00036**) 57M25 (57N10)

Okamoto, Naotaka (*with* Kotakemori, Hisashi; Niki, Hiroshi) A generalization of the adaptive Gauss-Seidel method for Z-matrices. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 317–326. (Summary) **99g:65041** 65F10

Okamoto, Tatsuaki (*with* Fujisaki, Eiichiro) Statistical zero knowledge protocols to prove modular polynomial relations. (English summary) *Advances in cryptology—CRYPTO '97 (Santa Barbara, CA, 1997)*, 16–30, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99i:94043** 94A60

— (*with* Di Crescenzo, Giovanni; Yung, Moti) Keeping the SZK-verifier honest unconditionally. (English summary) *Advances in cryptology—CRYPTO '97 (Santa Barbara, CA, 1997)*, 31–45, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99e:94034** 94A60

— (*with* Ohta, Kazuo) On concrete security treatment of signatures derived from identification. (English summary) *Advances in cryptology—CRYPTO '98 (Santa Barbara, CA, 1998)*, 354–369, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (*see* **99i:94059**) 94A60

Okamura, Hiroyuki (*with* Dohi, Tadashi; Osaki, Shunji) Optimal order-limit policies for an (r, Q) inventory system. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 2, 127–145. (Summary) **99k:90067** 90B05

Okamura, Makoto Wave forms of large-amplitude standing waves. (Japanese. Japanese summary) Mathematics of nonlinear phenomena of wave motion and its applications

(Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 134–143. (*see* **99a:00032**) 76B15
— Short-crested waves of large amplitude (3-dimensional progressive waves). (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 173–179. (*see* **99f:76003**) 76B15
Okano, Dai (*with* Ogata, Hidenori; Amano, Kaname; Inoue, Tetsuo) A method of approximating real functions using the charge simulation method. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3337–3340. 65D15 (41A30)
— (*with* Amano, Kaname) On the numerical conformal mapping of multiply-connected domains. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 17–25. (*see* **99h:65005**) 65E05 (65D15)
Okano, Hiroyuki (*with* Hidaka, Kazuyoshi) Practical approach to a facility location problem for large-scale logistics. (English summary) *Algorithms and computation* (*Singapore*, 1997), 12–21, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 90B80 (90C27)
Okano, Takeshi On the rational approximations to $\sqrt{k}\tanh 1/\sqrt{k}$. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 63–68. (W. W. Adams) **99e:11091a** 11J04
— On the rational approximations to $\sqrt{k}\tanh 1/\sqrt{k}$. *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 151–156. (W. W. Adams) **99e:11091b** 11J04
— A lower bound for rational approximations to $e^{1/k}$. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 2, 53–55. (Andrew M. Rockett) **99e:11092** 11J04 (11J70)
Okasaki, Chris Even higher-order functions for parsing or Why would anyone ever want to use a sixth-order function? (English summary) *J. Funct. Programming* **8** (1998), *no.* 2, 195–199. 68N15
Okatani, Takayuki (*with* Deguchi, Koichiro) Determination of the sign of the Gaussian curvature of a surface from photometric data. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 6, 1965–1972. (Summary) **99d:68243** 68U10 (65Y25)
Okawa, Yuji (*with* Yoneya, Tamiaki) Multi-body interactions of D-particles in supergravity and Matrix theory. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 67–99. (Summary) **99i:83094** 83E30 (81T30, 83E50)
— (*with* Yoneya, Tamiaki) Equations of motion and Galilei invariance in D-particle dynamics. (English summary) *Nuclear Phys. B* **541** (1999), *no.* 1-2, 163–178. (Summary) **99k:81267** 81T30
Okazaki, Ryotaro On a Shintani decomposition for a cubic field defined by $X^3 + kX - 1 = 0$. *Number theory* (*Eger*, 1996), 445–451, *de Gruyter, Berlin*, 1998. (Stéphane Louboutin) **99f:11144** 11R27 (11R16)
— (*with* Louboutin, Stéphane) The class number one problem for some non-abelian normal CM-fields of 2-power degrees. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 523–548. (Michel Olivier) **99c:11138** 11R29 (11R21, 11R42, 11Y40)
Okazaki, Tokio (*with* Zhang, Lan; Inoue, Katsushi; Ito, Akira; Wang, Yue^2) A note on two-dimensional probabilistic finite automata. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 303–314. (Summary) **99h:68122** 68Q68 (68Q45, 68Q75)
— (*with* Inoue, Katsushi; Ito, Akira; Wang, Yue^2) A note on two-dimensional probabilistic Turing machines. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 127–134. (*see* **99i:65003**) 68Q05 (03D10)
— (*with* Inoue, Katsushi; Ito, Akira; Wang, Yue^2) A note on two-dimensional probabilistic Turing machines. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 205–220. (Summary) **99k:68055** 68Q05
— (*with* Inoue, Katsushi; Ito, Akira; Wang, Yue^2) Closure properties of the classes of sets recognized by space-bounded two-dimensional probabilistic Turing machines. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 61–81. (Summary) **99k:68056** 68Q05 (03D10, 68Q68)
Okazaki, Yoshiaki (*with* Honda, Aoi) The equivalence of the Rademacher translations of an infinite product measure. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 44 (1997), 33–44. (Andrej A. Dorogovtsev) **99c:60087** 60G30 (28A35)
— (*with* Honda, Aoi; Takahashi, Yasuji) Generalizations of the Hlawka's inequality. *Bull. Kyushu Inst. Technol. Pure Appl. Math. No.* 45 (1998), 9–15. (Zsolt Páles) **99j:46043** 46E99 (26D15, 46B20)
— (*with* Honda, Aoi; Takahashi, Yasuji) An extension of the Hlawka inequality. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 12–19. (*see* **99i:00029**) 26D15
Okazawa, Noboru (*with* Borisov, V. V.) Holomorphic families of linear operators in Banach spaces. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 189–205. (Horst Behncke) **99b:47051** 47B44 (34L05, 47D03, 47E05)
— Remarks on linear evolution equations of hyperbolic type in Hilbert space. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 399–423. (Atsushi Yagi) **99e:34081** 34G10 (47B44, 47D06)
Okb El-Bab, A. S. (*with* Darwish, Ashraf A.) Exponentially convex functions on foundation topological semigroups. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 315–323 (1998). (Summary) **99d:43007** 43A35
Oke, Thimothy Some results on specification search and pre-testing in an ARMA(1, 1) process. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 6, 709–722. (Summary) **99i:62214** 62M10
O'Keefe, Christine M. (*with* Bader, Laura) Arcs and ovals in infinite K-clan geometry. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 127–139. (Summary) **99d:51011** 51E21 (51E12)
— (*with* Blokhuis, Aart; Payne, Stanley E.; Storme, Leo; Wilbrink, Henny) Covers of PG$(3, q)$ and of finite generalized quadrangles. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 141–157. (W. M. Kantor) **99d:51004** 51E12 (51E14, 51E21, 51E23)
— (*with* Blokhuis, Aart) On deriving unitals. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 137–141. (Summary) **99m:51010** 51E21 (05B25)
O'Keeffe, D. The tangent stars of a set, and extensions of functions in Lipschitz classes. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 5–13. (Enrique Outerelo Domínguez) **99h:58015** 58C05 (46E15)
— (*with* Tchrakian, D. H.; Yang, Yisong) Sigma models coupled with abelian gauge fields. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5824–5831. (Jesús Muciño-Raymundo) **99j:81120** 81T13 (81T10)
— An SO(3) gauged Skryme model on $\mathbf{R}^3$. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 177–183. (Bernd J. Schroers) **99f:58060** 58E50 (81T13)
O'Keeffe, M. Sphere packings and space filling by congruent simple polyhedra. (English summary) *Acta Cryst. Sect. A* **54** (1998), *no.* 3, 320–329. (Summary) **99a:52032** 52C17 (82D25)
Okikiolu, K. *see* **Laptev, A. et al., 99g:58126**
Okkels, Fridolin (*with* Kockelkoren, Julien; Jensen, Mogens H.) Chaotic behavior in shell models and shell maps. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 833–842. (Summary) **99i:76067** 76F20
Okniński, A. (*with* Rynio, R.) Symmetry breaking and fractal dependence on initial conditions in dynamical systems: ordinary differential equations of thermal convection. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1723–1732. 76E15 (34D45)
Okniński, Jan Linear semigroups with identities. (English summary) *Semigroups* (*Luino*, 1992), 201–211, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M20
— (*with* Kelarev, Andrei V.) A combinatorial property and growth for semigroups of matrices. *Comm. Algebra* **26** (1998), *no.* 9, 2789–2805. (I. S. Ponizovskiĭ) **99g:20114** 20M20 (16P90)
— (*with* Jespers, Eric) Binomial semigroups. (English summary) *J. Algebra* **202** (1998), *no.* 1, 250–275. (Edward S. Letzter) **99k:20119** 20M25 (16S36)
Okoh, Frank (*with* Dean, Andrew P.) Extensionless modules of infinite rank. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 121–124, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Steffen König) **99i:16011** 16D70 (16G20)
— (*with* Fixman, Uri; Rao, G. K. R.) An eigenvalue problem for the numerical range of a bounded linear operator. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 421–435. (Kiran Chandra Das) **99k:47010** 47A12
— (*with* Zorzitto, F.) A family of commutative endomorphism algebras. (English summary) *J. Algebra* **201** (1998), *no.* 2, 501–527. (John D. O'Neill) **99d:16034** 16S50 (13A99)
Okola Nyongesa, H. (*with* Linkens, Derek A.) A hierarchical multivariable fuzzy controller for learning with genetic algorithms. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 865–883. 93C42
Okolewski, Andrzej (*with* Gajek, Lesław) Steffensen-type inequalities for order and record statistics. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 41–59. (H. L. Harter) **99b:62089** 62G30 (60G70)
Okonek, Ch. (*with* Schmitt, Alexander; Teleman, Andrei Dumitru) Master spaces for stable pairs. *Topology* **38** (1999), *no.* 1, 117–139. (Jean-Marc Drezet) **99h:14010** 14D20
Okong'o, Nora (*with* Knight, Doyle D.) Implicit unstructured Navier-Stokes simulation of leading edge separation over a pitching airfoil. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 269–308. 76M20
— (*with* Kergaravat, Y.; Jacon, F.; Knight, Doyle D.) A fully-implicit 2-D Navier-Stokes algorithm for unstructured grids. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 2, 179–196. 76M20
Okonkwo, Zephyrinus C. Approximation procedures for an abstract LQ-optimal control problem. (English summary) *Libertas Math.* **18** (1998), 159–172. 49M25 (49N10)
Okouchi, Ikuo (*with* Gotoh, Yoshinori) Super five-branes in $D = 10$, $N = 1$ super-Yang-Mills theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 22, 1819–1826. (From the introduction) **99e:81235** 81T60 (81T13, 81T30)
— (*with* Aoyama, Hideaki; Kikuchi, Hisashi; Sato, Masatoshi; Wada, Shinya) Valleys in quantum mechanics. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 93–100. (Summary) **99b:81067** 81Q99 (81–08)
Okounkov, A. *see* **Okun'kov, Andrei**
Okounkov, Andrei *see* **Okun'kov, Andrei**
Okropiridze, M. On the symmetrically continuity of two variables functions. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 1, 21–23. 26B05
— On the symmetric differentiability of functions of two variables. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 2, 181–182. 26B05
— Symmetric differentiability of functions of two variables. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **117** (1998), 131–132. 26B05
Okrut, S. I. Crossed product in Kählerian geometry. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 145–188. (Yi Bing Shen) **99d:53075** 53C55 (53C12, 53C56)
— Conformal submersions of Kählerian manifolds. I. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 3-4, 228–249. (Andrew Bucki) **99m:53129** 53C55
— Kählerian analogue of the crossed product in the large. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 112–120, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 99–105. (Valery Marenich) **99d:53076** 53C55
Okša, G. (*with* Evans, David John[1]) Systolic computation of QZ matrix decomposition. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 1–27. 65F30 (65Y20)
Øksendal, Bernt (*with* Zhang, Tu Sheng) The general linear stochastic Volterra equation with anticipating coefficients. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 343–366, *World Sci. Publishing, River Edge, NJ*, 1996. (David Nualart) **99c:60131** 60H20 (60E15, 60G20)
— ★ Stochastic differential equations. (English summary) An introduction with applications. Fifth edition. Universitext. *Springer-Verlag, Berlin*, 1998. xx+324 *pp. ISBN* 3-540-63720-6 (From the preface) **99c:60119** 60H10 (60G44, 60J60)
— (*with* Mundaca, Gabriela) Optimal stochastic intervention control with application to the exchange rate. (English summary) *J. Math. Econom.* **29** (1998), *no.* 2, 225–243. (Fausto Gozzi) **99f:90017** 90A09 (93E20)
— (*with* Reikvam, Kristin) Viscosity solutions of optimal stopping problems. (English summary) *Stochastics Stochastics Rep.* **62** (1998), *no.* 3-4, 285–301. (Summary) **99a:60044** 60G40 (49L25)
— *see also* **Stochastic analysis and related topics, 99c:60006**
Oksimets, N. (*with* Asratyan, A. S.) Graphs with Hamiltonian balls. (English summary) *Australas. J. Combin.* **17** (1998), 185–198. (Martin Sonntag) **99d:05055** 05C45
Okstad, Knut Morten (*with* Kvamsdal, Trond) Error estimation based on superconvergent patch recovery using statically admissible stress fields. (English summary) *Internat. J.*

Numer. Methods Engrg. **42** (1998), *no.* 3, 443–472. (Summary) **99a:73124** 73V05

Oktaba, Wiktor Characterization of the multivariate Gauss-Markoff model with singular covariance matrix and missing values. (English summary) *Appl. Math.* **43** (1998), *no.* 2, 119–131. (I. S. Alalouf) **99d:62069** 62J05 (62H05)

Ökten, Giray Error estimation for quasi-Monte Carlo methods. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 353–368, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65016** 65C05

Okubo, Kazuyoshi (*with* Nakazi, Takahiko) ρ-contraction and 2×2 matrix. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 165–169. (Summary) **99i:47016** 47A45 (15A60)

— Generalized numerical radius and ρ-dilation. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 68–74. (Takayuki Furuta) **99i:47009** 47A12 (47A20)

Okubo, Susumu (*with* Kamiya, Noriaki) A construction of Jordan superalgebras from triple systems. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 15–19, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 17C70

— (*with* Kamiya, Noriaki) Jordan-Lie superalgebra and Jordan-Lie triple system. (English summary) *J. Algebra* **198** (1997), *no.* 2, 388–411. (Alain D'Amour) **99a:17031** 17C70 (17B60, 17C50, 17C55)

— (*with* Kamiya, Noriaki) A construction of Jordan superalgebras from triple systems. *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 243–246, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 17C70 (17A40)

— (*with* Kamiya, Noriaki) A construction of Jordan superalgebras from triple systems. *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 2-3, 89–92. 17C70 (17A40)

— Lorentz-invariant Hamiltonian and Riemann hypothesis. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1049–1057. (Jens Marklof) **99e:11116** 11M26 (11Z05, 81Q10)

— Gauge theory based upon solvable Lie algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7603–7609. (S. Timothy Swift) **99k:53139** 53C80 (17B81, 81T13)

Okubo, Yoshiaki (*with* Haraguchi, Makoto) Constructing predicate mappings for goal-dependent abstraction. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 169–197. (Summary) **99j:68125** 68T15

Okuhara, Koji (*with* Osaki, Shunji) Stochastic density of strategies in game dynamics. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 237–240. (*see* **99h:90006**) 92D15 (90D40)

Okui, Satoshi Simultaneous critical pairs and Church-Rosser property. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 2–16, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99h:68098** 68Q42

Okulov, N. A. (*with* Bakanov, K. G.; Kozhevnikova, T. V.) On a variant of the weighted residual method. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 31–36, 197. 65M60 (65M70)

Okulov, V. A. A multidimensional analogue of a theorem of Zygmund. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 717–727; *translation in Math. Notes* **61** (1997), *no.* 5-6, 600–608. (J. Marshall Ash) **99d:42016** 42B05 (42A50, 42B20)

— Some structural properties of conjugate functions in the space $L(T^N)$. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 87–114; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 727–756. (L. Gogoladze) **99j:42022** 42B20

Okulov, V. L. (*with* Alekseenko, S. V.; Kuibin, P. A.; Shtork, S. I.) Helical vortices in swirl flow. (English summary) *J. Fluid Mech.* **382** (1999), 195–243. (Summary) **99m:76034** 76C05 (76–05, 76D99)

Okuma, Tomohiro (*with* Watanabe, Kimio) The second pluri-genus of surface singularities. Theory of singularities for differentiable mappings: topology and applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 952 (1996), 19–26. (*see* **97m:58001**) 14J17 (32S25)

— The pluri-genera of surface singularities. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 1, 119–132. (Tohsuke Urabe) **99h:32039** 32S25 (14J17, 32S05)

Okumura, Hirozo Cardinal B splines and circular data. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 473–480, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:62053** 62G05

Okumura, Ko A reformulation of simple liquids theory—renormalization by one-, two-, and three-particle densities. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2077–2102. (Hiroshi Kuratsuji) **99d:82073** 82D15 (82B28)

Okumura, Masafumi (*with* Djorić, Mirjana) CR submanifolds of maximal CR dimension of complex projective space. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 2, 148–158. (Sorin Dragomir) **99h:53073** 53C40

Okumura, Y. *see* **Okumura, Yoshitaka**

Okumura, Yoshihide Global real analytic angle parameters for Teichmüller spaces. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 213–229. (Yoichi Imayoshi) **99a:32021** 32G15 (30F35, 30F45, 30F60)

— Coordinates of Teichmüller spaces, lifting problems and characteristics of closed curves. (Japanese) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 20–26. (*see* **99e:30001**) 32G15 (30F60)

Okumura, Yoshitaka Left-right symmetric gauge model in a noncommutative geometry on $M_4 \times Z_4$. (English summary) *Nuovo Cimento Soc. Ital. Fis. A* (12) **110** (1997), *no.* 3, 267–294. (Kamran Kaviani) **99b:81275** 81V22 (58B30, 81T13)

— Two Higgs doublet model in a noncommutative geometry on the discrete space $M_4 \times Z_4$. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 491–506. (Summary) **99c:81137** 81T13 (58B30, 81R40)

— Note on the $N = 2$ super Yang-Mills gauge theory in a noncommutative differential geometry. (English summary) *Eur. Phys. J. C Part. Fields* **1** (1998), *no.* 3-4, 735–738. (Summary) **99e:81243** 81T60 (58B30, 81T13)

Okun, L. B. Note on the meaning and terminology of special relativity. (English summary) *European J. Phys.* **19** (1998), *no.* 4, 403–406. (Mary L. Boas) **99d:83003** 83A05

Okunbor, Daniel I. (*with* Hardy, David J.; Skeel, Robert D.) Symplectic variable step size integration for N-body problems. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 19–30. (Werner M. Seiler) **99j:70005** 70–08 (65L99, 70F10)

Okunishi, K. (*with* Nishino, Tomotoshi; Hikihara, Tomotoshi; Hieida, Y.) Density matrix renormalization group: introduction from a variational point of view. (English summary) *Internat. J. Modern Phys. B* **13** (1999), *no.* 1, 1–24. (Summary) **99m:82019** 82B28 (82–08)

Okun'kov, Andreĭ Brunn-Minkowski inequality for multiplicities. *Invent. Math.* **125** (1996), *no.* 3, 405–411. (From the introduction) **99a:58074** 58F05 (14L30, 52B11, 58F06)

— (*with* Vershik, Anatoliĭ Moiseevich) A new approach to representation theory of symmetric groups. *Selecta Math.* (*N.S.*) **2** (1996), *no.* 4, 581–605. (From the introduction) **99g:20024** 20C30 (05E10)

— Log-concavity of multiplicities with application to characters of $U(\infty)$. (English summary) *Adv. Math.* **127** (1997), *no.* 2, 258–282. (David K. Maslen) **99a:22028** 22E46 (05A20, 05E15, 22E65)

— (*with* Olshanskiĭ, Grigoriĭ) Shifted Schur functions. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 2, 73–146; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 2, 239–300. (Witold Kraśkiewicz) **99f:05118** 05E05 (05E10, 17B35, 20G05)

— Proof of a conjecture of Goulden and Jackson. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 883–886. (From the text) **99f:05117** 05E05

— A remark on the Hilbert polynomial of a spherical manifold. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 2, 82–85; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 2, 138–140. (V. L. Popov) **99a:14074** 14L30 (14M99)

— Binomial formula for Macdonald polynomials and applications. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 4, 533–553. (Peter J. Forrester) **99a:33014** 33D80 (39A70)

— Multiplicities and Newton polytopes. *Kirillov's seminar on representation theory*, 231–244, *Amer. Math. Soc. Transl. Ser.* 2, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Andy R. Magid) **99e:20058** 20G05 (14M15)

— (*with* Olshanskiĭ, Grigoriĭ) Shifted Schur functions. II. The binomial formula for characters of classical groups and its applications. (English summary) *Kirillov's seminar on representation theory*, 245–271, *Amer. Math. Soc. Transl. Ser.* 2, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Witold Kraśkiewicz) **99k:17023** 17B35 (05E05, 20G05)

— On Newton interpolation of symmetric functions: a characterization of interpolation Macdonald polynomials. *Adv. in Appl. Math.* **20** (1998), *no.* 4, 395–428. (Yasmine B. Sanderson) **99h:05119** 05E05 (33D80)

— (Shifted) Macdonald polynomials: q-integral representation and combinatorial formula. (English summary) *Compositio Math.* **112** (1998), *no.* 2, 147–182. (Angèle M. Hamel) **99h:05120** 05E05

— (*with* Kerov, Sergei; Olshanskiĭ, Grigoriĭ) The boundary of the Young graph with Jack edge multiplicities. *Internat. Math. Res. Notices* **1998**, *no.* 4, 173–199. (Tim H. Baker) **99f:05120** 05E10 (20C30, 31C35, 33C80)

— BC-type interpolation Macdonald polynomials and binomial formula for Koornwinder polynomials. (English summary) *Transform. Groups* **3** (1998), *no.* 2, 181–207. (Yasmine B. Sanderson) **99h:33061** 33D80 (05E05)

Okuno, Hideki (*with* Kase, Wataru; Mutoh, Yasuhiko) Design of exact model matching for multivariable systems with measurement or input noise and its application to MRACS. (English summary) *Systems Sci.* **24** (1998), *no.* 1, 33–49. (Summary) **99f:93036** 93B30 (93B51)

Ôkura, Hiroyuki A new approach to the skew product of symmetric Markov processes. (English summary) *Mem. Fac. Engrg. Design Kyoto Inst. Tech. Ser. Sci. Tech.* **46** (1997), 1–12. (Yoichi Ôshima) **99h:60148** 60J45 (31C25, 60J57)

Okuyama, A. (*with* Watson, W. Stephen) Note on hereditary normality of product spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 369–375. (Eliza Wajch) **99b:54010** 54B10 (54D15)

Okuyama, Kazumi (*with* Matsuo, Yutaka) BPS condition of string junction from M theory. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 294–296. (David S. Berman) **99f:81173** 81T30

— (*with* Kawano, Teruhiko) String network and 1/4 BPS states in $\mathcal{N} = 4$ SU(N) supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 338–342. (Summary) **99c:81245** 81T60 (81T13, 81T30)

— (*with* Kawano, Teruhiko) Matrix theory on noncommutative torus. (English summary) *Phys. Lett. B* **433** (1998), *no.* 1-2, 29–34. (Summary) **99j:81145** 81T30 (58B30)

Okuyama, Takashi On almost-dense extension groups of torsion-free groups. (English summary) *J. Algebra* **202** (1998), *no.* 1, 202–228. (Ulrich Albrecht) **99f:20091** 20K20

Okuyama, Tetsuro (*with* Waki, Katsushi) Decomposition numbers of Sp(4, q). *J. Algebra* **199** (1998), *no.* 2, 544–555. (Gerhard Hiss) **99b:20025** 20C33 (20C20, 20G05, 20G40)

Okuyama, Yasuo (*with* Miyamoto, Ikuko) On the generalized Nörlund summability of Fourier series and its conjugate series. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 561–574. (Niranjan Singh) **99k:42008** 42A24 (40G05)

Okuyama, Yoshifumi (*with* Takemori, Fumiaki) Robust stability evaluation of sampled-data control systems with a sector nonlinearity in a gain-phase plane. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 1, 15–32. (Dieter Franke) **99k:93071** 93D09 (93C57)

Ólafsson, Gestur (*with* Ørsted, Bent) Generalizations of the Bargmann transform. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 3–14, *World Sci. Publishing, River Edge, NJ*, 1996. (Brian C. Hall) **99e:22032** 22E46 (22E30, 81S30)

— (*with* Krötz, Bernhard; Neeb, Karl-Hermann) Spherical representations and mixed symmetric spaces. (English summary) *Represent. Theory* **1** (1997), 424–461 (*electronic*). (Jacques Faraut) **99a:22031** 22E47 (22E15, 53C35)

— Open problems in harmonic analysis on causal symmetric spaces. *Positivity in Lie theory: open problems*, 249–270, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Sergei S. Platonov) **99h:43021** 43A85 (32M15, 43A90)

— (*with* Jorgensen, Palle E. T.) Unitary representations of Lie groups with reflection symmetry. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 26–88. (A. L. Onishchik) **99m:22013** 22E45

— (*with* Branson, Thomas) Asymptotics of the d'Alembertian with potential on a pseudo-Riemannian manifold. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1339–1345. (Sergei S. Platonov) **99h:58189** 58G16 (35A08, 35C20)

— (*with* Ørsted, Bent) Causal compactification and Hardy spaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3771–3792. (Joachim Hilgert) **99m:22005** 22E30 (32M15, 43A85)

Oláh-Gál, Róbert On a surface with negative constant curvature in E^4. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 31–38. 53A05

Olami, Zeev (*with* Davidovitch, Benny; Hentschel, H. George E.; Procaccia, Itamar; Sander, Leonard M.; Somfai, Ellak) Diffusion limited aggregation and iterated conformal maps. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1368–1378. (Summary) **99m:82048** 82D99 (58F40)

Olariu, Stephan (*with* Hayashi, Tatsuya; Nakano, Koji) Weighted and unweighted selection algorithms for k sorted sequences. (English summary) *Algorithms and computation (Singapore, 1997)*, 52–61, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99g:68045** 68P10 (68Q22)

— (*with* Babel, Luitpold) On the separable-homogeneous decomposition of graphs (extended abstract). (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 25–37, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (05C70, 05C85)

— (*with* Corneil, Derek G.; Stewart, Lorna) The ultimate interval graph recognition algorithm? (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 175–180, *ACM, New York*, 1998. (*see* **99d:68011**) 05C85 (68R10)

— (*with* Babel, Luitpold) On the structure of graphs with few P_4s. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 1–13. (William L. Kocay) **99g:05151** 05C75 (05C38)

— (*with* Hayashi, Tatsuya; Nakano, Koji) Efficient list ranking on the reconfigurable mesh, with applications. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 593–611. (Summary) **99e:68059** 68Q22 (68M10, 68Q25)

Olasagasti, I. (*with* Ibáñez, Jesus) On the evolution of a large class of inhomogeneous scalar-field cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1937–1950. (Victor G. LeBlanc) **99j:83021** 83C20

Olavo, L. S. F. Foundations of quantum mechanics: non-relativistic theory. (English summary) *Phys. A* **262** (1999), *no.* 1-2, 197–214. (Summary) **99m:81012** 81P05

de Olazábal, Juan Manuel ★ Procedimientos simbólicos en álgebra lineal. (Spanish. Spanish summary) [Symbolic procedures in linear algebra] With a prologue by Juan Miguel Gracia Melero. *Universidad de Cantabria, Servicio de Publicaciones, Santander*, 1998. *xviii+287 pp. ISBN* 84-8102-195-4 (José Mas) **99g:15001** 15–04 (65–04, 65Fxx, 68Q40)

Olazabal, Marina (*with* Godlewski, Edwige; Raviart, Pierre-Arnaud) On the linearization of hyperbolic systems of conservation laws. Application to stability. (English summary) *Équations aux dérivées partielles et applications*, 549–570, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Christophe Cheverry) **99h:35125** 35L65

Olberding, Bruce Composition series of modules over Prüfer domains. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1917–1921. (David E. Dobbs) **99j:13014** 13F05 (13C11)

Olbrich, Eckehard (*with* Hegger, Rainer; Kantz, Holger) Analysing local observations of weakly coupled maps. (English summary) *Phys. Lett. A* **244** (1998), *no.* 6, 538–544. (Summary) **99c:58112** 58F13

Olbrich, Martin (*with* Bunke, Ulrich) Cohomological properties of the canonical globalizations of Harish-Chandra modules. Consequences of theorems of Kashiwara-Schmid, Casselman, and Schneider-Stuhler. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 5, 401–418. (William M. McGovern) **99b:22025** 22E46 (22E41, 22E50)

— (*with* Bunke, Ulrich) Resolutions of distribution globalizations of Harish-Chandra modules and cohomology. *J. Reine Angew. Math.* **497** (1998), 47–81. (Gestur Ólafsson) **99j:11056** 11F75 (11M36, 22E46)

Olbrot, Andrzej W. *see* **Systems modelling and optimization, 99k:93007**

Olde Daalhuis, A. B. Hyperterminants. II. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 87–95. (Summary) **99c:34116** 34E05 (33C15, 41A58)

— Hyperasymptotic solutions of higher order linear differential equations with a singularity of rank one. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 1–29. (Donald A. Lutz) **99g:34116** 34E05

— (*with* Olver, F. W. J.) On the asymptotic and numerical solution of linear ordinary differential equations. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 463–495 (*electronic*). (W. Balser) **99g:34117** 34E05 (34A30, 65L99)

häring-Oldenburg, Reinhard *see* **Häring-Oldenburg, Reinhard**

Olderog, Ernst-Rüdiger (*with* Schenke, Michael) Transformational design of real-time systems. I. From requirements to program specifications. (English summary) *Acta Inform.* **36** (1999), *no.* 1, 1–65. 68Q60

O'Leary, Dianne P. (*with* Stewart, G. W.) On the convergence of a new Rayleigh quotient method with applications to large eigenproblems. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 182–189 (*electronic*). (Summary) **99i:65037** 65F15

— (*with* Kolda, Tamara G.; Nazareth, J. L.) BFGS with update skipping and varying memory. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1060–1083 (*electronic*). (Summary) **99e:90092** 90C30 (65K05)

— *see also* **Symposium: Fast Algorithms for Control, Signals and Image Processing, 99f:00025**

O'Leary, Mike Pressure conditions for the local regularity of solutions of the Navier-Stokes equations. (English summary) *Electron. J. Differential Equations* **1998**, *Paper No.* 12, 9 *pp.* (*electronic*). (Vladimir V. Shelukhin) **99c:35188** 35Q30 (76D05)

Olech, Czesław On the Ważewski equation. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 55–64. (Gary H. Meisters) **99k:34002** 34A05 (26B10, 34D05)

Olechowski, M. (*with* Nilles, H. P.; Yamaguchi, Masahiro) Supersymmetry breakdown at a hidden wall. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 43–72. (Summary) **99g:81180** 81T30 (81R40)

Oleĭnik, E. Yu. (*with* Kucherov, A. B.) Direct methods for solving large sparse systems of equations based on a block two-by-two decomposition of a matrix. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 2, 66–81. 65F50 (65F30)

Oleinik, I. M. On the essential self-adjointness of the general second order elliptic operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 889–900. (Michael A. Perel'muter) **99f:35039** 35J25 (35P05, 47F05)

Oleĭnik, Ol'ga Arsen'evna (*with* Samokhin, V. N.) ★ Математические методы в теории пограничного слоя. (Russian. Russian summary) [Mathematical methods in boundary-layer theory] *Fizmatlit "Nauka", Moscow*, 1997. 512 *pp. ISBN* 5-02-015202-1 (P. C. Fife) **99j:76033** 76D10 (35Q35)

— (*with* Lobo-Hidalgo, Miguel; Pérez, Eugenia; Shaposhnikova, T. A.) On homogenization of solutions of boundary value problems in domains, perforated along manifolds. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 611–629 (1998). (Alain Brillard) **99k:35018** 35B27 (35J25)

— Addition to the G. Fichera paper: "A boundary value problem connected with response of semi-space to a short laser pulse" [Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) Mat. Appl. **8** (1997), no. 3, 197–227; MR 99c:35139]. *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 3, 229. (Ya. A. Roĭtberg) **99c:35140** 35L35 (35B40, 35E15, 35Q72)

— (*with* Egorov, Yuriĭ Vladimirovich; Kondrat'ev, Vladimir) Asymptotic behavior of solutions of nonlinear elliptic and parabolic systems in cylindrical domains. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 3, 45–68; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 359–382. (Varga Kalantarov) **99e:35115** 35K60 (35B40, 35J65)

— *see also* **Petrovskiĭ, Ivan Georgievich, 99m:01106a** *and* **99m:01106b**

Oleĭnik, V. L. (*with* Mironov, A. L.) On the limits of applicability of the tight binding approximation method for a complex-valued potential. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 448–466; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1157–1171 (1998). (Evgeni L. Korotyaev) **99g:35029** 35J10 (34L40, 35P05, 81Q10)

Olejár, Daniel (*with* Toman, Eduard) On the order and the number of cliques in a random graph. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 499–510. (Lyuben R. Mutafchiev) **99f:05103** 05C80 (60C05)

— (*with* Stanek, Martin) On cryptographic properties of random Boolean functions. (English summary) *J.UCS* **4** (1998), *no.* 8, 705–717 (*electronic*). (Summary) **99h:94053** 94A60

Olejník, Š. (*with* Del Debbio, L.; Faber, M.; Greensite, J.) Center dominance, center vortices, and confinement. *New developments in quantum field theory (Zakopane, 1997)*, 47–64, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (*see* **99e:81002**) 81V05

Olek, S. Solution of the nonlinear porous media equation for isothermal gas flows by eigenfunctions expansions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 9–13. 76S05 (35Q35)

Olekhnik, Slav Nikolaevich *see* **Vinogradova, I. A. et al.**

Olemskoĭ, I. V. (*with* Edamenko, N. S.) Efficient integration of a dynamical system of a special form. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes (Russian)*, 63–66, 244, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 65L05

Olenev, N. N. (*with* Petrov, Aleksandr A.; Pospelov, I. G.) Control of the ecological consequences of economic growth. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 8, 17–32. 92D40 (90A30)

Olesen, V. (*with* Cruz-Uribe, David; Neugebauer, C. J.) Weighted norm inequalities for a family of one-sided minimal operators. *Illinois J. Math.* **41** (1997), *no.* 1, 77–92. (B. Muckenhoupt) **99b:42021** 42B25 (42A85)

— (*with* Cruz-Uribe, David; Neugebauer, C. J.) Norm inequalities for the minimal and maximal operator, and differentiation of the integral. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 577–604. (Vladimir D. Stepanov) **99b:42022** 42B25

Olesky, D. Dale (*with* McDonald, Judith J.; Schneider, Hans; Tsatsomeros, Michael J.; van den Driessche, P.) Z-pencils. (English summary) *Electron. J. Linear Algebra* **4** (1998), 32–38 (*electronic*). (Ronald L. Smith) **99h:15013** 15A22 (05C50, 15A48)

— (*with* Odeh, O. H.; van den Driessche, P.) Bruhat decomposition and numerical stability. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 89–98 (*electronic*). (Guo Rong Wang) **99d:65093** 65F05 (15A23)

— *see also* **Special Issue: Celebrating the 60th birthday of Ludwig Elsner**

Olevskiĭ, A. (*with* Kostyukovsky, S.) Note on decreasing rearrangement of Fourier series. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 137–142. (L. Leindler) **99d:42064** 42C15 (42C20)

Olevskiĭ, V. I. (*with* Andrianov, Igor V.; Tokarzewski, Stanisław) A modified Adomian decomposition method. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 334–339; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 309–314. (Summary) **99m:34017** 34A45 (73K10, 73V99)

Olgun, Ş. (*with* Günaltılı, İ.) On some configurational propositions connected with the minor forms of Desargues. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 153–163 (1998). (Summary) **99d:51002** 51A30 (51A20)

Olhoff, Niels (*with* Krog, Lars A.) Topology and reinforcement layout optimization of disk, plate, and shell structures. (English summary) *Topology optimization in structural mechanics*, 237–322, *CISM Courses and Lectures*, 374, *Springer, Vienna*, 1997. (Bernard Rousselet) **99d:73066** 73K40 (73B27, 73K20)

— (*with* Christensen, Søren T.) Shape optimization of a loudspeaker diaphragm with respect to sound directivity properties. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 177–198. (*see* **99k:73003**) 73K40 (49Q10, 73K99, 76Q05)

martí-Oliet, Narciso *see* **Martí-Oliet, Narciso**

Oliĭnyk, A. S. On free semigroups of automaton transformations. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 248–259; *translation in Math. Notes* **63** (1998), *no.* 1-2, 215–224. (Attila Nagy) **99f:20107** 20M35

Oliker, Vladimir I. (*with* Kochengin, S. A.; von Tempski, Oliver) On the design of reflectors with prespecified distribution of virtual sources and intensities. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 661–678. (I. Kay) **99g:78011** 78A05 (78A40)

— (*with* Kochengin, S. A.) Determination of reflector surfaces from near-field scattering data. II. Numerical solution. (English summary) *Numer. Math.* **79** (1998), *no.* 4, 553–568. (Summary) **99f:78013** 78A45 (65D99, 78A05)

— (*with* Caffarelli, Luis A.; Kochengin, S. A.) On the numerical solution of the problem of reflector design with given far-field scattering data. (English summary) *Monge Ampère equation: applications to geometry and optimization (Deerfield Beach, FL, 1997)*, 13–32,

Contemp. Math., 226, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:65098** 65M30 (78–08, 78A45)

Oliskevich, M. O. Growth of solutions of a nonlocal problem for a hyperbolic system with discontinuous coefficients. (Ukrainian. English and Russian summaries) *Mat. Stud.* **9** (1998), *no.* 1, 42–52, 110. 35L40 (35B05)

Oliva, Paulo (*with* Myers, Eugene W.; Guimarães, Katia) Reporting exact and approximate regular expression matches. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 91–103, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 68Q20 (68U15)

Oliva, Sérgio Muniz (*with* Pereira, Antônio Luiz) Attractors for parabolic problems with nonlinear boundary conditions in fractional power spaces. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 453–457, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35K55 (34G20, 35B40, 47H20, 58F39)

Oliva, Waldyr Muniz (*with* Táboas, Plácido) Existence of periodic orbits, set of global solutions and behavior near equilibrium for Volterra equations of retarded type. (English summary) *Portugal. Math.* **54** (1997), *no.* 2, 165–186. (Summary) **99c:34163** 34K15 (45J05)

— (*with* Fusco, Giorgio) Asymptotic behaviour of a system of repelling particles: asymptotic velocities, phases, scattering operators and integrability. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 69–81, *World Sci. Publishing, River Edge, NJ*, 1998. (Lev Lerman) **99j:34066** 34C99 (70F10)

— (*with* Fernandes, Rui Loja) Hamiltonian dynamics of the Lotka-Volterra equations. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 327–334, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C35 (34D45, 58F05, 92D25)

— (*with* Duarte, Pedro; Fernandes, Rui Loja) Dynamics of the attractor in the Lotka-Volterra equations. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 143–189. (Bernhard Lani-Wayda) **99h:34075** 34D45 (34C35, 58F12, 92D25)

garcía-Olivares, Antonio *see* **García-Olivares, Antonio**

Olivé, Carme (*with* Benseny, Antoni) Algebraic manipulation of variational equations in the computation of local invariant manifolds of hyperbolic periodic orbits. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C25 (34C30)

— (*with* Benseny, Antoni) Algebraic manipulation of the invariance condition in the computation of local invariant curves of hyperbolic fixed points. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 29–39, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Tere M. Seara) **99f:58153** 58F15 (65H99, 65L99)

— *see also* **Proceedings: Catalan Days of Applied Mathematics, 99a:00038**

Olive, David I. Introduction to electromagnetic duality. Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 43–55. (Claus Montonen) **99f:81204** 81T60 (81T13)

— (*with* Pais, Abraham; Jacob, Maurice; Atiyah, Michael F.) ★ Paul Dirac. The man and his work. Edited by Peter Goddard. *Cambridge University Press, Cambridge*, 1998. *xvi*+124 *pp. ISBN* 0-521-58382-9 (Arne Schirrmacher) **99d:01033** 01A70 (01A60, 81–03)

— The monopole. *Paul Dirac*, 88–107, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99d:01033**) 81T13 (81–03)

Olive, David J. (*with* Hawkins, Douglas M.) Improved feasible solution algorithms for high breakdown estimation. (English summary) *Comput. Statist. Data Anal.* **30** (1999), *no.* 1, 1–11. 62F35 (62H99)

Olive, Frédéric (*with* Grandjean, Étienne) Monadic logical definability of nondeterministic linear time. (English summary) *Comput. Complexity* **7** (1998), *no.* 1, 54–97. (Christine Charretton) **99d:68081** 68Q15 (03C13, 03D15)

Olive, Gloria (*with* Scurr, Raymond) Stirling numbers revisited. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 209–219. (F. T. Howard) **99d:11019** 11B73

Olive, Keith A. (*with* Kaloper, Nemanja; Kogan, Ian I.) Cosmological solutions in M and string theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7340–7353. (Summary) **99j:83067** 83E30 (81T30)

martínez Olivé, Víctor *see* **Martínez Olivé, Víctor**

Oliveira, Ana Maria Abreu Mendes Products of idempotent endomorphisms of an order-independence algebra of finite rank. (English summary) *Semigroup Forum* **55** (1997), *no.* 3, 309–324. (Summary) **99h:08004** 08A35

de Oliveira, Antonio Marmo (*with* Murcia, Sônia Regina Dal-Ri) One-dimensional exact discretization methodology and application to boundary value problems. (Portuguese. Portuguese summary) *Rev. Mat. Estatíst.* **15** (1997), 179–193. 65D07 (65M70)

Oliveira, Arlindo L. (*with* Carloni, Luca P.; Villa, Tiziano; Sangiovanni-Vincentelli, Alberto L.) Exact minimization of binary decision diagrams using implicit techniques. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1282–1296. (Summary) **99h:68083** 68Q25 (94C10)

de Oliveira, Bruno (*with* Bogomolov, Fedor A.) Stein small deformations of strictly pseudoconvex surfaces. (English summary) *Birational algebraic geometry* (*Baltimore, MD*, 1996), 25–41, *Contemp. Math.*, 207, *Amer. Math. Soc., Providence, RI*, 1997. (S. Dimiev) **99a:32015** 32G05 (14C25, 32F30)

de Oliveira, C. R. E. (*with* Xu, Xiao; Pain, C. C.; Goddard, A. J. H.) An automatic adaptive meshing technique for Delaunay triangulations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 297–303. 65N55

de Oliveira, César R. A proof of the dynamical version of the Bombieri-Taylor conjecture. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4335–4342. (M. Combescure) **99g:81042** 81Q10

— (*with* de Toledo, Maria C.) Equivalence of some quantum stability concepts. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 2, 145–153. (Vladimir Georgescu) **99h:81121** 81S99 (81Q50, 81U99)

de Oliveira, E. Capelas (*with* Notte Cuello, E. A.) Klein-Gordon and Dirac equations in de Sitter space-time. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 585–598. (Summary) **99k:81200** 81T20 (83C47)

de Oliveira, Jairo R. (*with* de Moura, Marco A.) Analytical solution for the modified nonlinear Schrödinger equation describing optical shock formation. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4751–4756. (Summary) **99a:78034** 78A60 (35Q55, 35Q60)

Oliveira, Joseph (*with* Bailey, Colin) An axiomization for cubic algebras. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 305–334, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (S. Comer) **99d:06008** 06A12 (03C05, 06B05)

de Oliveira, Luiz Augusto F. On reaction-diffusion systems. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 24, 10 *pp.* (*electronic*). (Siegfried Carl) **99i:35070** 35K57 (35P05, 47D06, 47N20)

werneck de Oliveira, M. *see* **Werneck de Oliveira, M.**

de Oliveira, M. W. *see* **Werneck de Oliveira, M.**

de Oliveira, Mário J. (*with* de Mendonça, J. Ricardo G.) Stationary coverage of a stochastic adsorption-desorption process with diffusional relaxation. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 651–658. (M. Yu. Rasulova) **99j:82060** 82C31 (82C70)

de Oliveira, Maurício C. (*with* Geromel, José C.; Hsu, Liu) LMI characterization of structural and robust stability. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 69–80. (B. T. Polyak) **99m:93074** 93D09 (15A45)

Oliveira, P. E. (*with* Suquet, Ch.) Weak convergence in $L^p(0,1)$ of the uniform empirical process under dependence. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 363–370. (Miguel A. Arcones) **99h:60013** 60B12 (60F17, 60F25)

Oliveira, P. R. (*with* Ferreira, O. P.) Subgradient algorithm on Riemannian manifolds. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 93–104. (Doug Ward) **99f:90180** 90C48 (49M30, 58E25)

Oliveira, Paulo J. (*with* Pinho, Fernando T.) Analytical solution for fully developed channel and pipe flow of Phan-Thien–Tanner fluids. (English summary) *J. Fluid Mech.* **387** (1999), 271–280. 76A05

Oliveira, S. *see* **Oliveira, Suely**

Oliveira, Samuel R. (*with* Letelier, P. S.) Superposition of Weyl solutions: the equilibrium forces. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 421–433. (János Kánnár) **99a:83016** 83C15 (83C20)

— (*with* Araújo, M. E.; Letelier, P. S.) Two Kerr black holes with axisymmetric spins: head-on collision and gravitational radiation. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3051–3060. (Summary) **99g:83048** 83C57 (83C30)

— (*with* Letelier, P. S.) Double Kerr-NUT spacetimes: spinning strings and spinning rods. (English summary) *Phys. Lett. A* **238** (1998), *no.* 2-3, 101–106. (Nora Bretón Báez) **99a:83017** 83C15 (83C57)

Oliveira, Suely A convergence proof of an iterative subspace method for eigenvalues problems. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 316–325, *Springer, Berlin*, 1997. (Summary) **99h:65070** 65F15

— Analysis of a multigrid method for a transport equation by numerical Fourier analysis. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 7–12. (Summary) **99b:82004** 82–08 (65N55, 82C70)

— (*with* Borges, Leonardo) A parallel Davidson-type algorithm for several eigenvalues. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 727–748. (Raffaella Pavani) **99g:65045** 65F15

Oliveira, Wilson (*with* Neto, Jorge Ananias) The non-abelian BFFT formalism for the collective coordinates quantization of the SU(2) Skyrme model. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 611–626. (Summary) **99h:81220** 81T70

de Oliveira, Wilson R. Continuity Σ-algebras (extended abstract). (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 63–74, *Springer, Berlin*, 1997. (*see* **99g:00039**) 68Q65 (68N15)

Oliveira e Silva, Jorge-Nuno (*with* de Souza, Paulo Ney) ★ Berkeley problems in mathematics. (English summary) Problem Books in Mathematics. *Springer-Verlag, New York*, 1998. *xiv*+443 *pp. ISBN* 0-387-94934-8 (From the preface) **99g:00012** 00A07

Oliveira-Neto, G. Quantum mechanics of the Schwarzschild-de Sitter black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024010, 7 *pp.* (Summary) **99k:83081** 83C57 (83C47)

Oliver, Bob *see* **Oliver, Robert**

Oliver, Dean S. Calculation of the inverse of the covariance. (English summary) *Math. Geol.* **30** (1998), *no.* 7, 911–933. (Summary) **99e:86013** 86A32

hughes-Oliver, Jacqueline M. *see* **Hughes-Oliver, Jacqueline M.**

Oliver, Javier (*with* Cante, Juan Carlos; Oller, Sergio) Numerical simulation of powder compaction processes. I. Constitutive model, contact and friction. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 1, 67–99. (Summary) **99d:73047a** 73E60 (73G20, 73V20)

— (*with* Cante, Juan Carlos; Oller, Sergio) Numerical simulation of powder compaction processes. II. Numerical assessment and industrial application. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 1, 101–116. (Summary) **99d:73047b** 73E60 (73G20, 73V20)

Oliver, John S. Computation with DNA: matrix multiplication. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 113–122, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (15A99, 92D20)

Oliver, Marcel Classical solutions for a generalized Euler equation in two dimensions. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 471–484. (José Luiz Boldrini) **99b:35177** 35Q35 (76C05)

— (*with* Titi, Edriss S.) Analyticity of the attractor and the number of determining nodes for a weakly damped driven nonlinear Schrödinger equation. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 49–73. (Igor D. Chueshov) **99g:35121** 35Q55 (34G20, 35B40, 47H20, 58F39)

cardell-Oliver, Rachel *see* **Cardell-Oliver, Rachel**

Oliver, Robert Vector bundles over classifying spaces. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 483–492 (*electronic*). (Erik K. Pedersen) **99j:55015** 55R10

Oliveri, Gianluigi Criticism and growth of mathematical knowledge. (English summary) *Philos. Math.* (3) **5** (1997), *no.* 3, 228–249. (Otávio Bueno) **99a:00005** 00A30 (01A55, 01A60, 03A05, 03B15)

— Mathematics. A science of patterns? (English summary) *Synthese* **112** (1997), *no.* 3, 379–402. (Paul Ernest) **99g:00023** 00A30 (03A05)

Oliverio, P. A. (*with* Cragnolini, Paolo) Lines on del Pezzo surfaces with $K_S^2 = 1$ in characteristic $\neq 2$. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1197–1206. (M.

Kh. Gizatullin) **99m:14066** 14J26

Olivetti, Nicola (*with* Giordano, Laura) Combining negation as failure and embedded implications in logic programs. (English summary) *J. Logic Programming* **36** (1998), *no.* 2, 91–147. (M. I. Dekhtyar) **99g:68034** 68N17 (03B70, 68Q55)

— (*with* Mundici, Daniele) Resolution and model building in the infinite-valued calculus of Łukasiewicz. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 335–366. (Henry Africk) **99m:03017** 03B25 (03B35, 03B50, 03D15, 03F20, 03G20, 68Q25)

Olivi, Martine (*with* Baratchart, L.) Critical points and error rank in best H_2 matrix rational approximation of fixed McMillan degree. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 273–300. (I. Gavrea) **99g:15025** 15A54 (30E10, 41A20)

— (*with* Fulcheri, Pascale) Matrix rational H_2 approximation: a gradient algorithm based on Schur analysis. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2103–2127 (*electronic*). (Ulrich Tautenhahn) **99e:93024** 93B30 (41A20, 47N70)

Olivier, Eric Analyse multifractale de fonctions continues. (English and French summaries) [Multifractal analysis of continuous functions] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1171–1174. (Jean-René Chazottes) **99h:58109** 58F11 (28A80, 58F03, 60F10)

Olivier, Michel (*with* Cohen, Henri; Diaz y Diaz, F.) Tables of octic fields with a quartic subfield. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1701–1716. (Ken Yamamura) **99m:11132** 11R37 (11R21, 11Y40)

Olivieri, E. (*with* De Masi, Anna; Presutti, E.) Spectral properties of integral operators in problems of interface dynamics and metastability. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 1, 27–112. (Maria E. Vares) **99j:60153** 60K35 (82C24)

jiménez Olivo, Pedro José *see* **Jiménez Olivo, Pedro José**

Olkiewicz, Robert (*with* Gielerak, R.; Jakóbczyk, L.) Stochastically positive structures on Weyl algebras. The case of quasi-free states. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6291–6328. (Shigeaki Nagamachi) **99m:81124** 81T05 (46N50, 81T20, 82B31)

— (*with* Majewski, Adam W.; Zegarlinski, Boguslaw) Dissipative dynamics for quantum spin systems on a lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2045–2056. (Bruno Nachtergaele) **99k:82053** 82C10 (46L55, 46L60, 82C20)

Olkin, Ingram (*with* Viana, Marlos) Correlation analysis of ordered observations from a block-equicorrelated multivariate normal distribution. (English summary) *Advances in statistical decision theory and applications*, 305–322, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Yutaka Kano) **99e:62099** 62H10 (62H12)

— (*with* Marshall, Albert W.) A new method for adding a parameter to a family of distributions with application to the exponential and Weibull families. (English summary) *Biometrika* **84** (1997), *no.* 3, 641–652. (Barry C. Arnold) **99h:62125** 62N05 (60E05, 62E15)

— (*with* Sampson, Allan R.) Comparison of meta-analysis versus analysis of variance of individual patient data. (English and French summaries) *Biometrics* **54** (1998), *no.* 1, 317–322. (Summary) **99d:62094** 62P10

— The density of the inverse and pseudo-inverse of a random matrix. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 131–135. (Summary) **99i:62120** 62H10

Olko, Jolanta Selections of an iteration semigroup of linear set-valued functions. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 157–168. (O. Costinescu) **99f:28017** 28B20 (39B12, 54C65)

Olla, Stefano (*with* Fritz, József; Liverani, Carlangelo) Reversibility in infinite Hamiltonian systems with conservative noise. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 481–496. (T. M. Liggett) **99c:60215** 60K35 (82C21)

— (*with* Landim, C.; Volchan, S. B.) Driven tracer particle and Einstein relation in one-dimensional symmetric simple exclusion process. (English summary) *Resenhas* **3** (1997), *no.* 2, 173–209. (Ellen Saada) **99h:60167** 60K35 (82C22)

— (*with* Landim, C.; Volchan, S. B.) Driven tracer particle in one-dimensional symmetric simple exclusion. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 287–307. (T. M. Liggett) **99b:60169** 60K35 (82C22)

— (*with* Landim, C.; Yau, Horng-Tzer) Convection-diffusion equation with space-time ergodic random flow. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 2, 203–220. (Timo Seppäläinen) **99j:35084** 35K10 (35R60, 60H15, 73B27, 76M35, 76R50)

moulin-Ollagnier, Jean *see* **Moulin-Ollagnier, Jean**

Ollé, Mercé (*with* Pacha, Juan R.) Motion near the transition to complex instability: some examples. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 339–344, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70H05 (58F05, 70F15)

Oller, J. M. (*with* Reverter, F.) A modified Taylor series method for solving initial-value problems in ordinary differential equations. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 231–246. (Summary) **99m:65131** 65L05 (34A45)

Oller, Sergio (*with* Cante, Juan Carlos; Oliver, Javier) Numerical simulation of powder compaction processes. I. Constitutive model, contact and friction. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 1, 67–99. (Summary) **99d:73047a** 73E60 (73G20, 73V20)

— (*with* Cante, Juan Carlos; Oliver, Javier) Numerical simulation of powder compaction processes. II. Numerical assessment and industrial application. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 1, 101–116. (Summary) **99d:73047b** 73E60 (73G20, 73V20)

Ollerenshaw, Kathleen (*with* Brée, David S.) Pandiagonal magic squares from mixed auxiliary squares. (English summary) *Math. Today (Southend-on-Sea)* **34** (1998), *no.* 4, 105–111. (Summary) **99g:05033** 05B15

— (*with* Brée, David S.) Most-perfect pandiagonal magic squares. (English summary) *Math. Today (Southend-on-Sea)* **34** (1998), *no.* 5, 139–143. (Rong Si Chen) **99j:05038** 05B15

Ollerton, Richard L. (*with* Whitaker, Richard N.) Some more first-order recurrence relations and their inverses. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 1, 21–25. (Sui Sun Cheng) **99e:39080** 39B12

— (*with* Shannon, Anthony G.) Some properties of generalized Pascal squares and triangles. *Fibonacci Quart.* **36** (1998), *no.* 2, 98–109. (A. N. Philippou) **99d:11012** 11B37 (05A10)

müller-Olm, Markus *see* **Müller-Olm, Markus**

del Olmo, Mariano A. (*with* Ballesteros, Angel; Celeghini, Enrico; Herranz, Francisco J.; Santander, Mariano) Non-quasitriangular Hopf algebras and quantum (1 + 1) affine orthogonal groups. (English summary) *Quantum groups (Karpacz, 1994)*, 319–324, *PWN, Warsaw*, 1995. (Michèle Irac-Astaud) **99f:81088** 81R50 (16W60, 17B37)

— (*with* Ballesteros, Angel; Herranz, Francisco J.; Gromov, N. A.; Santander, Mariano) Quantum algebras for non-semisimple quasi-orthogonal groups. (English summary) *Quantum groups (Karpacz, 1994)*, 325–335, *PWN, Warsaw*, 1995. (Summary) **99h:81082** 81R50 (17B37)

— (*with* Fernández C., David J.; Negro, Javier) Group approach to the factorization of the radial oscillator equation. (English summary) *Ann. Physics* **252** (1996), *no.* 2, 386–412. (Raj Wilson) **99a:81024** 81Q05 (81R05)

— (*with* Arratia, Oscar; Martín, Miguel Ángel) Moyal quantization and group theory. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 191–201. (Günter Braunss) **99h:58071** 58F06 (81S10)

— (*with* Santander, Mariano; Ballesteros, Angel; Herranz, Francisco J.) The "null-plane" quantum Poincaré algebra. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 79–91, *PWN, Warsaw*, 1997. (Mathias Pillin) **99e:81104** 81R50 (17B81)

— (*with* Negro, Javier; Rodríguez-Marco, A.) Nonrelativistic conformal groups. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3786–3809. (Michael S. Marinov) **99a:81056** 81R05 (22E70)

— (*with* Negro, Javier; Rodríguez-Marco, A.) Nonrelativistic conformal groups. II. Further developments and physical applications. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3810–3831. (Michael S. Marinov) **99a:81057** 81R05 (22E70)

— (*with* Arratia, Oscar) Moyal quantization on the cylinder. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 149–157. (Akira Yoshioka) **99f:81104** 81S10 (58F06)

— (*with* Arratia, Oscar; Herranz, Francisco J.) Bicrossproduct structure of the null-plane quantum Poincaré algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 1, *L1–L7*. (Anatol Nowicki) **99c:81082** 81R50 (17B37)

Olmos, Carlos (*with* Console, Sergio) Clifford systems, algebraically constant second fundamental form and isoparametric hypersurfaces. (English summary) *Manuscripta Math.* **97** (1998), *no.* 3, 335–342. (Mehmet Erdoğan) **99j:53072** 53C40 (53C42)

Olmos Gómez, Miguel Angel Comparison of three numerical schemes for the solution of a Fisher-type equation. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society (Spanish) (Colima, 1995)*, 105–117, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 65M06 (65M70)

Olofsson, Peter The $x \log x$ condition for general branching processes. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 3, 537–544. (P. R. Parthasarathy) **99k:60214** 60J80

— (*with* Kimmel, Marek) Stochastic models of telomere shortening. (English summary) *Math. Biosci.* **158** (1999), *no.* 1, 75–92. 92C30 (92D10)

Oloomi, H. (*with* Shafai, Bahram) Constrained stabilization problem and transient mismatch phenomenon in singularly perturbed systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 435–454. 93D15 (93C70)

Olóriz Urriza, Esteban (*with* Candeal-Haro, Juan Carlos; Induráin Eraso, Esteban) Bivariate maps that represent ordered semigroups. (Spanish. English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat. (Esp.)* **90** (1996), *no.* 3, 157–170. (Summary) **99f:06017** 06F05

— (*with* Candeal-Haro, Juan Carlos; De Miguel, Juan Ramón; Induráin Eraso, Esteban) Associativity equation revisited. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 133–144. (K. D. Magill, Jr.) **99a:90019** 90A06 (39B52, 54F05)

— (*with* Candeal-Haro, Juan Carlos; Induráin Eraso, Esteban) Representability of interval orders. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 219–227. (Summary) **99f:90011** 90A06

— (*with* Candeal-Haro, Juan Carlos; Induráin Eraso, Esteban) Weak extensive measurement without translation-invariance axioms. (English summary) *J. Math. Psych.* **42** (1998), *no.* 1, 48–62. (Jean-Paul Doignon) **99i:92035** 92G05

O'Loughlin, M. (*with* Acharya, Bobby S.; Figueroa-O'Farrill, José M.; Spence, Bill) Euclidean D-branes and higher-dimensional gauge theory. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 583–602. (Héctor H. García-Compeán) **99j:58033** 58D27 (57R57, 58D29, 81T60)

Olpp, Dieter A lower bound for the Ramsey multiplicity of K_4. (English summary) *Ars Combin.* **49** (1998), 289–295. (Summary) **99c:05141** 05C55

Olsder, Geert Jan (*with* Başar, Tamer) ★ Dynamic noncooperative game theory. (English summary) Reprint of the second (1995) edition. Classics in Applied Mathematics, 23. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1999. *xvi+519 pp. ISBN* 0-89871-429-X (From the preface) **99g:90007** 90-02 (90D10, 90D25)

Olsen, C. L. (*with* Natsume, Toshikazu) Toeplitz operators on noncommutative spheres and an index theorem. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1055–1112. (Éric Leichtnam) **99h:58184** 58G12 (19K56, 46L87, 47B35)

Olsen, James (*with* Jones, Roger L.; Lin, Michael) Weighted ergodic theorems along subsequences of density zero. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June 9–13, 1997*, 89–98 (*electronic*). (Alberto de la Torre) **99d:47008** 47A35 (28D10)

Olsen, L. *see* **Olsen, Lars Ole Rønnow**

Olsen, Lars F. (*with* Kendall, Bruce E.; Schaffer, W. M.; Tidd, C. W.) The impact of chaos on biology: promising directions for research. (English summary) *The impact of chaos on science and society (Tokyo, 1991)*, 190–218, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92B05 (58F13)

Olsen, Lars Ole Rønnow Self-affine multifractal Sierpinski sponges in $\mathbf{R}^d$. (English summary) *Pacific J. Math.* **183** (1998), *no.* 1, 143–199. (Hermann Haase) **99c:28028** 28A80

Olsen, Peder A. (*with* Conlon, Joseph G.) Estimates on the solution of an elliptic equation related to Brownian motion with drift. II. *Rev. Mat. Iberoamericana* **13** (1997), *no.* 3, 567–711. (Jörg-Uwe Löbus) **99e:35009** 35B25 (35B45, 60J35, 60J65)

Olsen, Tava Lennon (*with* Duenyas, Izak; Gupta, Diwakar) Control of a single-server tandem queueing system with setups. (English summary) *Oper. Res.* **46** (1998), *no.* 2, 218–230. (Carl M. Harris) **99j:90033** 90B22 (60K30, 90C40)

Ol′shanetskiĭ, M. A. (*with* Rogov, V.-B. K.) q-integral representations of modified Bessel q-functions and Macdonald q-functions. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 8, 125–148; *translation in Sb. Math.* **188** (1997), *no.* 8, 1235–1258. (Alexei Zhedanov) **99b:33034** 33D15

Olshanski, Grigori *see* **Olshanskiĭ, Grigoriĭ**

Ol′shanskiĭ, A. Yu. On the distortion of subgroups of finitely presented groups. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 11, 51–98; *translation in Sb. Math.* **188** (1997), *no.* 11, 1617–1664. (Ilya Kapovich) **99a:20038** 20F32 (20F05)

Olshanskiĭ, Grigoriĭ (*with* Okun′kov, Andreĭ) Shifted Schur functions. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 2, 73–146; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 2, 239–300. (Witold Kraśkiewicz) **99f:05118** 05E05 (05E10, 17B35, 20G05)

— (*with* Okun′kov, Andreĭ) Shifted Schur functions. II. The binomial formula for characters of classical groups and its applications. (English summary) *Kirillov's seminar on representation theory*, 245–271, *Amer. Math. Soc. Transl. Ser.* **2**, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Witold Kraśkiewicz) **99k:17023** 17B35 (05E05, 20G05)

— (*with* Kerov, Sergei; Okun′kov, Andreĭ) The boundary of the Young graph with Jack edge multiplicities. *Internat. Math. Res. Notices* **1998**, *no.* 4, 173–199. (Tim H. Baker) **99f:05120** 05E10 (20C30, 31C35, 33C80)

Ol′shanskiĭ, M. A. On the Stokes problem with model boundary conditions. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 4, 127–144; *translation in Sb. Math.* **188** (1997), *no.* 4, 603–620. (Summary) **99g:76039** 76D07 (35Q30, 76M25)

Olshevsky, Vadim Eigenvector computation for almost unitary Hessenberg matrices and inversion of Szegő-Vandermonde matrices via discrete transmission lines. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 37–67. (E. Kreyszig) **99k:65035** 65F15

Olson, D. M. (*with* Ward, V. K.) A note on multiplicative hyperrings. (English summary) *Ital. J. Pure Appl. Math. No.* 1 (1997), 77–84 (1998). 16Y99 (20N20)

Olson, Tamara Bounding the effective yield behavior of mixtures. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 213–221, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (Summary) **99c:73004** 73B27 (73E05)

Olsson, Erik J. Making beliefs coherent. The subtraction and addition strategies. (English summary) *J. Logic Lang. Inform.* **7** (1998), *no.* 2, 143–163. (Zoran Ognjanović) **99k:03024** 03B60 (03B70, 68T27)

Olsson, H. *see* **Olsson, Henrik**

Olsson, Hans (*with* Dessmark, Anders; Lingas, Andrzej; Yamamoto, Hiroaki) Optimal broadcasting in almost trees and partial k-trees. (English summary) *STACS 98* (*Paris*, 1998), 432–443, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68M10 (68R10)

— (*with* Söderlind, Gustaf) Stage value predictors and efficient Newton iterations in implicit Runge-Kutta methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 185–202 (*electronic*). (Yun Kang Liu) **99f:65118** 65L06

Olsson, Henrik *see* **Canudas de Wit, Carlos**

Olsson, J. B. (*with* Bessenrodt, Christine) Branching of modular representations of the alternating groups. (English summary) *J. Algebra* **209** (1998), *no.* 1, 143–174. (Alexander Kleshchev) **99j:20015** 20C20 (05E10, 20C30)

— (*with* Bessenrodt, Christine) Residue symbols and Jantzen-Seitz partitions. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 201–230. (Dennis A. Eichhorn) **99c:05014** 05A17 (05E10)

Olsson, Peter (*with* Enelund, Mikael) Damping described by fading memory—analysis and application to fractional derivative models. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 7, 939–970. (Summary) **99h:73038** 73F15

Olsson, Ronald A. (*with* Zhang, Cui[2]; Levitt, Karl N.) Formal verification of a programming logic for a distributed programming language. (English summary) *Theoret. Comput. Sci.* **216** (1999), *no.* 1-2, 213–235. (Summary) **99k:68111** 68Q60 (03B70)

Olszak, Zbigniew On three-dimensional conformally flat quasi-Sasakian manifolds. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 2, 105–113. (Domingo Chinea) **99a:53061** 53C25 (53C15)

Olszewski, S. (*with* Roliński, T.) First adiabatic invariant of a charged particle modified in a time-dependent magnetic field. (English summary) *Phys. Plasmas* **6** (1999), *no.* 2, 425–434. (Summary) **99k:78018** 78A35 (76X05)

Olszewski, Wojciech Perfect folk theorems. Does public randomization matter? (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 147–156. (Summary) **99c:90160** 90D05 (90D10)

Olszowy, Leszek The modulus of near smoothness of the l^p product of a sequence of Banach spaces. *Glasgow Math. J.* **39** (1997), *no.* 2, 153–165. (Dirk Werner) **99c:46014** 46B20

— (*with* Banaś, Józef) Moduli of non-compact convexity and smoothness of some Banach sequence spaces. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 69–82. (Carlos Benítez) **99j:46017** 46B20

— Local and uniform near smoothness of some Banach spaces. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 253–263. (Tomás Domínguez Benavides) **99b:46018** 46B20 (46B25, 46B45)

Olteanu, Octav Uniform approximation of certain continuous functions. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 5, 533–541. 41A30

— Two sandwich theorems for linear operators and the moment problem. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 75–85. (Jean-Pierre Gabardo) **99b:47021** 47A57 (44A60, 46A22)

— Applications of the solution of the abstract moment problem to the classical moment problem. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 93–102. (Mihail Voicu) **99m:44012** 44A60

— Applications of the Mazur-Orlicz theorem. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 5-6, 345–353. (I. Namioka) **99m:46008** 46A40 (46E30, 47B65)

— *see also* **Gal, Sorin G.**

Olum, Ken D. Superluminal travel requires negative energies. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 17, 3567–3570. (Summary) **99f:83006** 83A05

Olver, F. W. J. Asymptotic solutions of linear ordinary differential equations at an irregular singularity of rank unity. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 4, 375–403. (A. D. Wood) **99c:34117** 34E05 (34A20)

— Advances in the asymptotic and numerical solution of linear ordinary differential equations. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 3–14, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (From the introduction) **99c:34118** 34E05 (65L06)

— (*with* Olde Daalhuis, A. B.) On the asymptotic and numerical solution of linear ordinary differential equations. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 463–495 (*electronic*). (W. Balser) **99g:34117** 34E05 (34A30, 65L99)

Olver, Peter J. (*with* González-López, Artemio; Kamran, Niky) Quasi-exact solvability in the real domain. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 58–70, *Univ. Montréal, Montreal, QC*, 1997. (Anjan Kundu) **99b:17029** 17B66 (15A21, 31A99, 35A30)

— (*with* Fels, Mark) On relative invariants. *Math. Ann.* **308** (1997), *no.* 4, 701–732. (Samuel Evens) **99k:58029** 58D19 (22E45, 53C20, 57S99)

— (*with* Fels, Mark) Moving coframes. I. A practical algorithm. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 2, 161–213. (Kazushige Ueno) **99c:53012** 53A55 (58D19, 58H05, 68U10)

— (*with* Sokolov, Vladimir V.) Integrable evolution equations on associative algebras. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 245–268. (Satyanad Kichenassamy) **99c:58077** 58F07 (35Q51)

— (*with* Li, Yi A.) Convergence of solitary-wave solutions in a perturbed bi-Hamiltonian dynamical system. II. Complex analytic behavior and convergence to non-analytic solutions. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 1, 159–191. (F. Pempinelli) **99a:35218** 35Q51 (34A20, 35B65, 76B25)

— (*with* Sokolov, Vladimir V.) Non-abelian integrable systems of the derivative nonlinear Schrödinger type. (English summary) *Inverse Problems* **14** (1998), *no.* 6, *L5–L8*. 35Q55 (58F37)

Olvovsky, Elena (*with* Yavneh, Irad) Multigrid smoothing for symmetric nine-point stencils. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 229–246. (Summary) **99a:65181** 65N55

Olwell, David H. (*with* Hawkins, Douglas M.) ★ Cumulative sum charts and charting for quality improvement. (English summary) Statistics for Engineering and Physical Science. *Springer-Verlag, New York*, 1998. xvi+247 *pp. ISBN* 0-387-98365-1 (Publisher's description) **99a:62142** 62N10

Olyslager, Frank (*with* Lindell, Ismo V.) Generalized decomposition of electromagnetic fields in bi-anisotropic media. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 10, 1584–1585. (Summary) **99e:78017** 78A25

— (*with* Lindell, Ismo V.) Closed-form Green's dyadics for a class of media with axial bi-anisotropy. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 12, 1888–1890. (Summary) **99i:78018** 78A40

O'Malley, R. J. (*with* Buczolich, Zoltán; Darji, Udayan B.) Irrational rotations and differentiability. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 305–313. (Michael Evans) **99b:26005** 26A24

O'Malley, Robert E., Jr. (*with* Laforgue, Jacques G. L.; Ward, Michael J.) Metastable travelling-wave solutions of singularly-perturbed reaction-diffusion equations. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 4, 397–416. (Matthias Wilhelm Winter) **99h:80011** 80A22 (35K57, 80–08)

Oman, Mary E. (*with* Vogel, Curtis R.) Fast, robust total variation-based reconstruction of noisy, blurred images. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 813–824. 94A12

Oman, Paul John (*with* Henderson, Robin) Effect of frailty on marginal regression estimates in survival analysis. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 367–379. 62N05

Oman, Samuel D. Calibration with random slopes. (English summary) *Biometrika* **85** (1998), *no.* 2, 439–449. (Summary) **99e:62117** 62J05

Omana, Rebecca Walo Principe variationnel dual et problèmes non bornés. [Dual variational principle and unbounded problems] *Problèmes variationnels en mathématiques appliquées* (*Kinshasa*, 1995), 61–67, *Ann. Fac. Sci. Univ. Kinshasa, Num. Spécial* 3, *Presses Univ. Kinshasa, Kinshasa*, 1997. (Jean Mawhin) **99a:58033** 58E05 (34B15, 49K35)

— On the existence of solutions for functional-differential equations. *Problèmes variationnels en mathématiques appliquées* (*Kinshasa*, 1995), 303–310, *Ann. Fac. Sci. Univ. Kinshasa, Num. Spécial* 3, *Presses Univ. Kinshasa, Kinshasa*, 1997. (John W. Lee) **99k:34148** 34K10 (47H15, 47N20)

Omanadze, R. Sh. Complexity properties of recursively enumerable sets, and sQ-completeness. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 425–429; *translation in Math. Notes* **62** (1997), *no.* 3-4, 356–359 (1998). (Marat M. Arslanov) **99m:03078** 03D15 (03D25)

Omari, Pierpaolo (*with* Grossinho, Maria do Rosário) A Hammerstein-type result for a semilinear parabolic problem. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 403–408, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35K55

Omarov, T. (*with* Chechin, L.) On the dynamics of two oscillating cosmic strings. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 4, 443–459. 83C10 (83F05)

Omarov, T. B. (*with* Omarova, G. T.) The inverse problem of dynamics for systems with non-stationary Lagrangian. (English summary) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 4, 347–355. (Summary) **99e:70028** 70F05 (70F15, 70P05)

Omarova, G. T. (*with* Omarov, T. B.) The inverse problem of dynamics for systems with non-stationary Lagrangian. (English summary) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 4, 347–355. (Summary) **99e:70028** 70F05 (70F15, 70P05)

O'Meara, K. C. (*with* Ara, Pere; Goodearl, K. R.; Pardo, E.) Separative cancellation for projective modules over exchange rings. (English summary) *Israel J. Math.* **105** (1998), 105–137. (Hua-Ping Yu) **99g:16006** 16D70 (16E50)

Omel′chenko, Aleksandr Vladimirovich (*with* Uskov, V. N.) Decay of a centered Prandtl-Meyer compression wave in a steady gas flow. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 3, 59–68. 76L05 (76N15)

— (*with* Malozëmov, V. N.; Rydalevskaya, M. A.) On entropy maximization under linear constraints. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1509–1513. (Summary) **99k:82030** 82B30 (90C90)

Omelyan, I. P. (*with* Kobryn, A. E.; Tokarchuk, M. V.) The modified group expansions for construction of solutions to the BBGKY hierarchy. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 973–994. (R. L. Ingraham) **99j:82053** 82C05 (82C40)

Omel′yanov, G. A. (*with* Danilov, V. G.; Radkevich, E. V.) Tanh-type asymptotic solution of the conserved phase field system. (English summary) *Adv. Math. Sci. Appl.* **8** (1998),

no. 2, 663–689. (Song Mu Zheng) **99j:73014** 73B30 (35Q72, 80A22)
— (*with* Danilov, V. G.; Radkevich, E. V.) Asymptotic solution of the conserved phase field system in the fast relaxation case. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 1, 1–21. (Matthias Wilhelm Winter) **99c:80005** 80A22 (35Q99)
— (*with* Danilov, V. G.; Radkevich, E. V.) Weak solutions to the phase field system. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 27–35. (Summary) **99d:35181** 35R35 (35D99, 35Q99, 80A22)
— (*with* Trushkov, V. V.) Geometric correction in the problem of the motion of a free boundary. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 151–153; *translation in Math. Notes* **63** (1998), *no.* 1-2, 137–139. (From the text) **99c:35264** 35R35 (35K10)
Omey, E. (*with* Colpaert, J.) A note on two inventory models. *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 3, 403–410. (R. Subramanian) **99b:90041** 90B05 (60K30)
— Optimal checking in reliability theory. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 347–354, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 90B25
— (*with* Baltrūnas, A.) The rate of convergence for subexponential distributions. (English and Lithuanian summaries) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 1–18; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 1, 1–14. (Noël Veraverbeke) **99j:60046** 60F99 (60E07, 60J15, 60K05)
Omholt, Stig W. (*with* Plahte, Erik; Mestl, Thomas) A methodological basis for description and analysis of systems with complex switch-like interactions. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 321–348. (Joseph So) **99j:92003** 92C20 (34C23, 34D20, 92B05, 92B20)
Omiadze, Z. II-categories. Adjunction and equivalence. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 9–13. 18A40 (18D05)
Omirov, B. A. (*with* Ayupov, Shavkat A.) On Leibniz algebras. *Algebra and operator theory (Tashkent, 1997)*, 1–12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Sebastian Walcher) **99i:17001** 17A30 (17B99)
Omladič, Matjaž (*with* Šemrl, Peter) Preserving diagonalisability. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 165–179. (H. K. Farahat) **99i:15020** 15A21 (15A22)
van Ommering, R. C. (*with* Feijs, L. M. G.) Relation partition algebra—mathematical aspects of uses and part-of relations. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 2, 163–212. (D. Rosenblatt) **99m:68025** 68N05 (03G15, 04A05)
Omnès, Roland Theory of the decoherence effect. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 771–777. (Summary) **99k:81048** 81P99 (81P15)
Ōmori, Hideki Berezin representation of a quantized version of the group of volume-preserving transformations. (Japanese) Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 76–90. (Naoya Miyazaki) **99i:58017** 58B30 (17B15, 22E65, 58F06)
— (*with* Maeda, Yoshiaki; Miyazaki, Naoya; Yoshioka, Akira) Deformation quantizations of the Poisson algebra of Laurent polynomials. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 2, 171–180. (Summary) **99k:58078** 58F06 (58H15)
— The noncommutative world: a geometric description. (Japanese) *Sūgaku* **50** (1998), *no.* 1, 12–28. (Akira Yoshioka) **99i:58018** 58B30 (58F06)
Ó Murchadha, Niall (*with* Guven, Jemal) Geometric bounds in spherically symmetric general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7650–7657. (Edward Malec) **99e:83040a** 83C75 (83C05)
— (*with* Guven, Jemal) Sufficient conditions for apparent horizons in spherically symmetric initial data. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7658–7665. (Edward Malec) **99e:83040b** 83C75 (83C05)
— (*with* Guven, Jemal) Necessary conditions for apparent horizons and singularities in spherically symmetric initial data. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7666–7673. (Edward Malec) **99e:83040c** 83C75 (83C05)
— (*with* Malec, Edward; Chmaj, Tadeusz) Spherical scalar waves and gravity—redshift and backscattering. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1653–1668. (Summary) **99c:83073** 83C99 (83F05)
— (*with* Beig, R.) Late time behavior of the maximal slicing of the Schwarzschild black hole. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4728–4737. (Summary) **99k:83054** 83C57
Ó Murchú, P. (*with* Burns, John M.; Ellis, Graham J.; MacHale, Desmond; Sheehy, R.; Wiegold, James) Lower central series of groups with small upper central factors. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 113–122. (O. Yu. Dashkova) **99g:20061** 20F14
bar-On, Ilan *see* **Bar-On, Ilan**
Onah, S. E. (*with* Ugbebor, O. O.) Solution of a two-dimensional stochastic investment problem. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 1, 75–82. (Summary) **99j:90015** 90A09 (93E20)
Önal, S. (*with* Djakov, P. B.; Terzioğlu, T.; Yurdakul, M.) Strictly singular operators and isomorphisms of Cartesian products of power series spaces. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 1, 57–65. (M. S. Ramanujan) **99a:46012** 46A45 (47A05)
Onat, Leyla (*with* Sabuncuoğlu, Arif) Infinitesimal rigidity of small spheres of ellipsoid. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 39–49. 53C40
Oñate, Eugenio (*with* García Espinosa, Julio; Idelsohn, S.) An alpha-adaptive approach for stabilized finite element solution of advective-diffusive problems with sharp gradients. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 309–323, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65M60 (76M10)
— (*with* García Espinosa, Julio; Idelsohn, S.) Stabilization of the numerical solution of the convective transport problem using finite elements. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 53–61, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M10 (65M12)
— (*with* Löhner, Rainald) An advancing front point generation technique. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 12, 1097–1108. 65N55
— (*with* Idelsohn, S.) A mesh-free finite point method for advective-diffusive transport and fluid flow problems. (English summary) *Comput. Mech.* **21** (1998), *no.* 4-5, 283–292. (Summary) **99b:76066** 76M25
— Derivation of stabilized equations for numerical solution of advective-diffusive transport and fluid flow problems. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 233–265. (Summary) **99d:76062** 76M10 (65M99, 76M20)
— (*with* Taylor, Robert Leroy; Zienkiewicz, O. C.) A hierarchical finite element method based on the partition of unity. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 73–84. (Summary) **99a:73128** 73V05
Oncina, Jose (*with* Carrasco, Rafael C.; Calera-Rubio, Jorge) Stochastic inference of regular tree languages. (English summary) *Grammatical inference (Ames, IA, 1998)*, 187–198, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68T05 (68Q45)
Onck, Patrick (*with* van der Giessen, Erik) Growth of an initially sharp crack by grain boundary cavitation. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 1, 99–139. 73M25 (73V05)
O'Neil, Peter V. ★ Beginning partial differential equations. (English summary) A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xii+500 pp. ISBN* 0-471-23887-2 (From the preface) **99k:35001** 35-01
O'Neil, Thomas E. (*with* Flannery, K. E.; Dai, H. K.) Lower bounds for t-reflecting sequences: a computational approach. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 178–193 (*electronic*). (*see* **99f:68006**) 68R10
— A complement-based algorithm for 3CNF satisfiability. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 170–184 (*electronic*). (*see* **99g:68005**) 68Q25 (03B05, 03B35, 03D15)
O'Neil, Toby C. The multifractal spectrum of quasi-self-similar measures. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 233–257. (Steen Pedersen) **99c:28026** 28A80 (28A75, 28A78)
O'Neill, E. J. (*with* Ghandehari, Mostafa) Self-circumference of rotors. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 179–190. (B. Klotzek) **99c:52009** 52A38 (51M25)
O'Neill, John Francis Practical reason and mathematical argument. (English summary) *Stud. Hist. Philos. Sci.* **29** (1998), *no.* 2, 195–205. (Paul Ernest) **99g:00022** 00A30
O'Neill, Philip (*with* Clancy, Damian) Approximation of epidemics by inhomogeneous birth-and-death processes. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 2, 233–245. (Summary) **99b:92055** 92D30 (60K99)
guerra Ones, Valia *see* **Guerra Ones, Valia**
Oneto, A. *see* **Oneto, Anna**
Oneto, Angel V. Purity and direct summands. (English and Spanish summaries) *Divulg. Mat.* **4** (1996), *no.* 1-2, 49–53 (1998). 16D10
Oneto, Anna (*with* Zatini, E.) On the value set of modules. *Comm. Algebra* **26** (1998), *no.* 11, 3853–3870. (L. J. Ratliff, Jr.) **99i:13013** 13B22 (13C99, 13H10)
Oneto R., Ángel V. *see* **Oneto, Angel V.**
Ong, B. H. (*with* Wong, Heng Cheang) A C^1 positivity preserving scattered data interpolation scheme. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 259–274, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A29 (41A63)
— (*with* Goodman, Tim N. T.) Shape preserving interpolation by G^2 curves in three dimensions. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 151–158, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99k:41026** 41A29 (65D17)
— (*with* Goodman, Tim N. T.) Shape preserving interpolation by space curves. (English summary) *Comput. Aided Geom. Design* **15** (1997), *no.* 1, 1–17. (Manfred Tasche) **99c:65032** 65D17 (68U05)
Ong, Eng Hong (*with* Lee, Kwok-Hong) A reduction principle for singular perturbation problems. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 1, 45–62. (Summary) **99j:34079** 34E15 (34A45)
Ong, H. L. (*with* Tang, L. C.; Goh, T. N.; Sun, Y. S.) Planning accelerated life tests for censored two-parameter exponential distributions. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 169–186. (Summary) **99i:62239** 62N05
Ong, S.-C. (*with* Fleming, Richard J.; Grossman, George W.; Lenker, Terry; Narayan, Sivaram K.) On Schur D-stable matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 39–50. (Pauline van den Driessche) **99i:15012** 15A18
Ong, Yao Lin (*with* Chan, Heng Huat) On Eisenstein series and $\sum_{m,n=-\infty}^{\infty} q^{m^2+mn+2n^2}$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1735–1744. (Bruce C. Berndt) **99i:11029** 11F27 (33D10)
Ongay-Larios, Fausto Cubic polynomials in the interval [0, 1]. (Spanish) *Miscelánea Mat. No.* 21 (1994), 17–19. 26C05
— On the Heisenberg group. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro, 1994)*, 437–454, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99f:22033** 22E60 (22E70)
— (*with* Felipe, Raúl) On a supersymmetric integrable system. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society (Spanish) (San Luis Potosí, 1996)*, 33–38, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Summary) **99j:58090** 58F07 (35Q58)
— (*with* Felipe, Raúl) N-extended superelliptic integrable systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3730–3737. (Iskander A. Taimanov) **99i:58073** 58F07 (14M30)
— *see also* **Congress: Mexican Mathematical Society, 99f:00013**
Ongenae, Veerle (*with* Dekimpe, Karel) Filiform left-symmetric algebras. (English summary) *Geom. Dedicata* **74** (1999), *no.* 2, 165–199. (Dietrich Burde) **99m:17002** 17A30 (17B30)
Oniani, G. *see* **Oniani, G. T.**
Oniani, G. G. Some statements connected with the theory of differentiation of integrals. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 1, 49–53 (1996). 26B05
— On the differentiability of integrals with respect to the bases $B_2(\theta)$. (English summary) *East J. Approx.* **3** (1997), *no.* 3, 275–301. (Luděk Zajíček) **99h:26019** 26B05 (28A15)

Oniani, G. T. (*with* Lepsveridze, G. L.) On the differentiability of integrals with respect to differential bases formed of rectangles. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 347–349. 42B20 (26B05)
— On possible meanings of upper and lower derivatives. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 46–47. 26B05
— On the differentiability of integrals with respect to bases $B(\theta)$. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 3, 333–335. 28A15
— On the integrability of maximal functions $M_{B_2(\theta)}(f)$. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 1, 5–6. 42B25
— On the differentiability of integrals along different frames. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 3, 366–368. 28A15
— On R-sets. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 2, 181–182. 26B05
— On upper and lower derivatives of Lebesgue integral. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 3, 357–358. 26B05
— On the integrability of strong maximal functions. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 1, 24–26. 42B15

Onisawa, Takehisa (*with* Kerre, Etienne E.; Cappelle, Bart; Gazdik, Igor) Reliability. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 391–420, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90B25 (04A72)

Onishchenko, A. M. (*with* Onishchenko, Yu. A.) Increasing the reliability of control and pattern recognition. II. Systematization of patterns by standard descriptions of normal two-dimensional sets. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 67–77; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 1, 1118–1126 (1997). (Summary) **99a:68149** 68T10
— Increasing the reliability of control and pattern recognition. III. Choice of informative signals and algorithms for processing them. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 9, 51–65; *translation in Automat. Remote Control* **57** (1996), *no.* 9, *part* 1, 1262–1273 (1997). (Summary) **99a:68150** 68T10

Onishchenko, S. M. Modal approach to the synthesis of nonlinear stabilization systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 5–19, 155. 93D15 (93B50)
— A generalized modal approach to problems of the synthesis of nonlinear stabilization systems. (Russian. English and Ukrainian summaries) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1997**, *no.* 1, 56 *pp.* (Alexander M. Kovalev) **99c:93093** 93D15 (34H05, 93D30)
— (*with* Mitropol'skiĭ, Yuriĭ Alekseevich; Samoĭlenko, Anatoliĭ Mikhaĭlovich; Kalinovich, V. N.; Polishchuk, A. N.) On the work of V. N. Koshlyakov in mechanics and its applications. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1444–1453; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1622–1631 (1998). 70E15 (01A70)

Onishchenko, Yu. A. (*with* Onishchenko, A. M.) Increasing the reliability of control and pattern recognition. II. Systematization of patterns by standard descriptions of normal two-dimensional sets. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 67–77; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 1, 1118–1126 (1997). (Summary) **99a:68149** 68T10

Onishchik, A. L. (*with* Gorbatsevich, V. V.; Vinberg, Ernest B.) ★ Foundations of Lie theory and Lie transformation groups. Translated from the Russian by A. Kozlowski. Reprint of the 1993 translation [*Lie groups and Lie algebras. I*, Encyclopaedia Math. Sci., 20, Springer, Berlin, 1993; MR 95f:22001]. *Springer-Verlag, Berlin*, 1997. *vi*+235 *pp. ISBN* 3-540-61222-X (Editors) **99c:22009** 22Exx (22–01, 57Sxx)
— A moduli problem related to complex supermanifolds. (English summary) *Algebra and operator theory* (*Tashkent*, 1997), 13–24, *Kluwer Acad. Publ., Dordrecht*, 1998. (Daniel Hernández Ruipérez) **99g:32010** 32C11 (32G13, 58A50)
— A construction of non-split supermanifolds. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 4, 309–333. (Daniel Hernández Ruipérez) **99e:32009** 32C11 (58A50, 58C50)
— About derivations and vector-valued differential forms. (English summary) Algebraic geometry, 6. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 4, 2274–2286. (Janusz Grabowski) **99j:32032** 32L10 (17B70, 58A50)

Onishi, Kazuei (*with* Shigeta, Takemi) A numerical method for a magnetostatic inverse problem using the edge element. (English summary) *Inverse problems in engineering mechanics* (*Nagano*, 1998), 509–518, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 78–08 (78A30)
— (*with* Shirota, Kenji; Nakamura, Gen[1]) Numerical calculation of electrocardiogram inverse problems connected with impedance identification. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 70–77. (*see* **99i:00028**) 92C55 (92C50)
— (*with* Kobayashi, Kinko; Ohura, Yoko) A variational solution of the Cauchy problem in elastostatics. (English summary) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 106–113. (Summary) **99j:73022** 73C02 (65K10, 73V25)

Onishkevich, G. M. Lyapunov stability of an equation of plate-oscillation type with degeneration. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 2, 153–162. 35Q72 (35B35, 73D30)

Onn, Shmuel Strongly signable and partitionable posets. (English summary) *European J. Combin.* **18** (1997), *no.* 8, 921–938. (Hideaki Morita) **99d:06007** 06A07
— (*with* Bárány, Imre) Colourful linear programming and its relatives. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 550–567. (Summary) **99g:90069** 90C08 (68Q25)
— (*with* Hwang, Frank K.; Rothblum, Uriel G.) Representations and characterizations of vertices of bounded-shape partition polytopes. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 263–284. (Jesús A. de Loera) **99f:52014** 52B12 (05A18, 90C27)

Onneweer, C. W. Hörmander-type multipliers on locally compact Vilenkin groups: the $L^1(G)$-case. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 3, 213–220. (Da Chun Yang) **99e:43005** 43A22 (42B15, 43A70)
— (*with* Quek, T. S.) L^p-multipliers of mixed-norm type on locally compact Vilenkin groups. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 3, 370–387. (Toshiyuki Kitada) **99m:43007** 43A70 (43A22)

Ono, Harumi Two-step explicit Runge-Kutta type embedded formulas using derivatives. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 53–60. (*see* **99i:00028**) 65L06

Ono, Ken (*with* Soundararajan, K.) Ramanujan's ternary quadratic form. *Invent. Math.* **130** (1997), *no.* 3, 415–454. (Rainer Schulze-Pillot) **99b:11036** 11E45 (11E20, 11F37, 11F67)
— (*with* Gordon, Basil) Divisibility of certain partition functions by powers of primes. (English summary) *Ramanujan J.* **1** (1997), *no.* 1, 25–34. (Richard P. Lewis) **99c:11128** 11P82 (11F11)
— (*with* Skinner, Christopher) Fourier coefficients of half-integral weight modular forms modulo l. *Ann. of Math.* (2) **147** (1998), *no.* 2, 453–470. (B. Ramakrishnan) **99f:11059a** 11F33 (11F30, 11F37, 11G40)
— (*with* Skinner, Christopher) Corrigendum: "Fourier coefficients of half-integral weight modular forms modulo l". *Ann. of Math.* (2) **148** (1998), *no.* 1, 361. (B. Ramakrishnan) **99f:11059b** 11F33 (11F30, 11F37, 11G40)
— Gordon's ε-conjecture on the lacunarity of modular forms. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 4, 103–107. (Marvin I. Knopp) **99m:11055** 11F30 (11F11, 11F27)
— Partitions into distinct parts and elliptic curves. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 193–201. (M. Ram Murty) **99f:11139** 11P83 (11G40, 11P82)
— (*with* Haglund, James; Sze, Lawrence) Rook theory and t-cores. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 1, 9–37. (Summary) **99i:05015** 05A17
— A note on a question of J. Nekovář and the Birch and Swinnerton-Dyer conjecture. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2849–2853. (Eric Liverance) **99a:11081** 11G40 (11F32, 11G05)
— The residue of $p(N)$ modulo small primes. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 47–54. (Richard P. Lewis) **99h:11117** 11P83 (11F11)
— *see also* **Topics in number theory**, **99m:11004**

Ono, Kinya (*with* Hayes, Michael G.; Kaper, Tasso J.; Kopell, Nancy) On the application of geometric singular perturbation theory to some classical two-point boundary value problems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 189–209. (Summary) **99c:34119** 34E15 (34B05, 34B15)

Ono, Koich (*with* Inagaki, Hironobu; Uozumi, Takashi) The agents' characteristics which generate cooperative behavior in an iterated game with variable payoff. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1056–1064. 90D12 (68T99)

Ono, Kosuke On global solutions and blow-up solutions of nonlinear Kirchhoff strings with nonlinear dissipation. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 321–342. (Herbert Koch) **99e:35219** 35Q72 (35B35, 35L70, 73D35)
— Asymptotic behavior of solutions for semilinear telegraph equations. (English summary) *J. Math. Tokushima Univ.* **31** (1997), 11–22. (Andrej T. Il'ichev) **99c:35166** 35L70 (35B40)
— A note on degenerate Kirchhoff equations with nonlinear damping. (English summary) *J. Math. Tokushima Univ.* **31** (1997), 23–27. (Sophia Demoulini) **99i:35104** 35L70 (35B40, 35L80, 45K05)
— Sharp decay estimates of solutions for mildly degenerate dissipative Kirchhoff equations. *Kyushu J. Math.* **51** (1997), *no.* 2, 439–451. (From the introduction) **99d:35170** 35Q99 (34G20, 35B05, 35L99, 73D35)
— On global existence and asymptotic stability of solutions of mildly degenerate dissipative nonlinear wave equations of Kirchhoff type. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 299–314. (Herbert Koch) **99b:35148** 35L70 (35B60, 35L80)
— Asymptotic behavior of solutions for damped Kirchhoff equations in unbounded domain. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 101–114. (Andrej T. Il'ichev) **99m:35168** 35L70 (45K05, 73D35)

Ono, Takao (*with* Asano, Takao; Hori, Kuniaki; Hirata, Tomio) A theoretical framework of hybrid approaches to MAX SAT. (English summary) *Algorithms and computation* (*Singapore*, 1997), 153–162, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q25
— (*with* Asano, Takao; Hori, Kuniaki; Hirata, Tomio) Approximation algorithms for MAX SAT: semidefinite programming and network flows approach. (English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 90–108. (Gerald Hammer) **99d:90089** 90C27 (68Q25)

Ono, Takashi A note on Shafarevich-Tate sets for finite groups. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 5, 77–79. (Tamás Szamuely) **99g:11132** 11R34 (11R37)
— "Hasse principle" for $\mathrm{PSL}_2(\mathbf{Z})$ and $\mathrm{PSL}_2(\mathbf{F}_p)$. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 8, 130–131. (Tamás Szamuely) **99i:20072** 20J06 (20G40)

Ono, Takayori On solutions of quasi-linear partial differential equations $-\mathrm{div}\mathscr{A}(x, \nabla u) + \mathscr{B}(x, u) = 0$. Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 146–165. (Tero Kilpeläinen) **99i:35038** 35J60 (31C45, 35J70)

Ono, Toshihiko The motion of a perfect fluid as a non-holonomic classical spin system. (Japanese. Japanese summary) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 255–268. (*see* **98e:76004**) 76B99 (58F05, 70F25, 70H05)
— Embedding Hamiltonian systems into geodesic systems on Lie groups. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 9, 3021–3025. (David Martín de Diego) **99k:58075** 58F05 (53C22)

Ono, Toshiro (*with* Osuka, Koichi; Kinugasa, Tetsuya) Motion control of legged robot Emu via nonlinear gain scheduling control. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 341–355. 93C85 (93C95)

Onoda, Masaru (*with* Takano, Hiroshi; Ichinose, Ikuo; Matsui, Tetsuo) Finite-temperature renormalization-group study of a dissipative gauge theory with fermions. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 3, 581–620. 81T17

Onoda, Nobuharu A theorem on subrings of affine rings and its application. *Math. J. Toyama Univ.* **20** (1997), 99–106. (David F. Anderson) **99c:13039** 13E15 (13B22)
— Remarks on kernels of derivations defined on $R[X]/I$. *Math. J. Toyama Univ.* **20** (1997), 141–148. 13B10
— (*with* Sugatani, Takasi; Yoshida, Ken-ichi[1]) Simple algebraic extensions of rings and kernels of universal derivations. (English summary) *Comm. Algebra* **26** (1998), *no.* 7,

2033–2040. (L. J. Ratliff, Jr.) **99e:13023** 13E05 (13N05)

Onogi, Hiroshi (*with* Kidachi, Hideyuki) Note on the stability of the nonlinear Mathieu equation. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 4, 755–773. (Summary) **99a:34110** 34C15 (34D20, 70K20)

Onogi, Katsuaki (*with* Nishimura, Yoshiyuki; Hashizume, Susumu) Developments in the theory of discrete event systems based on partial languages. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 421–427. (*see* **99g:93006**) 93C83

Onorato, M. (*with* Osborne, A. R.; Serio, M.; Bergamasco, L.) Soliton creation and destruction, resonant interactions, and inelastic collisions in shallow water waves. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 17, 3559–3562. (Summary) **99h:76011** 76B25 (76B15)

Onose, Hiroshi Oscillations of first order functional-differential equations and parabolic equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1555–1560. (Xiao Qiang Zhao) **99a:35265** 35R10 (34K15, 35B05)

— Oscillatory properties on nonlinear parabolic differential equations. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 783–788. 35R10 (35B05, 35K55)

Onsager, Lars Solutions of the Mathieu equation of period 4π and certain related functions. Dissertation, Yale University, New Haven, CT, 1935. With an introduction by R. Askey. *The collected works of Lars Onsager*, 921–987, *World Sci. Ser. 20th Century Phys.*, 17, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98b:01042**) 33E10 (01A75)

Önsiper, Hurşit (*with* Sertöz, A. Sinan) On degenerations of fiber spaces of curves of genus ≥ 2. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 4, 350–352. (Wolfgang K. Seiler) **99b:14008** 14D05 (14J29)

— A note on degenerations of fibered surfaces. *Indag. Math.* (*N.S.*) **8** (1997), *no.* 1, 115–118. (Xiao Tao Sun) **99e:14049** 14J99

Ontaneda, P. (*with* Farrell, F. T.; Jones, Lowell Edwin) Examples of non-homeomorphic harmonic maps between negatively curved manifolds. *Bull. London Math. Soc.* **30** (1998), *no.* 3, 295–296. (Martin Scharlemann) **99h:58042** 58E20

Onufriĭchuk, S. P. (*with* Prilipko, A. I.) Higher order symmetry operators for the Schrödinger equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 328–330, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 81Q05 (35J10)

min-Oo, Maung *see* **Min-Oo, Maung**

Ooba, Tatsushi (*with* Funahashi, Yasuyuki) On a common quadratic Lyapunov function for widely distant systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1697–1699. (Summary) **99i:93044** 93D05 (34D20, 34H05)

Ooguri, Hirosi Loop amplitudes of $N = 2$ string. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 400–413, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81199** 81T30 (32G81)

— (*with* Yin, Zheng) Lectures on perturbative string theories. (English summary) *Fields, strings and duality* (*Boulder, CO*, 1996), 5–81, *World Sci. Publishing, River Edge, NJ*, 1997. (Isabel P. Ennes) **99c:81205** 81T30 (83E30)

— (*with* Douglas, Michael R.; Kato, Akishi) D-brane actions on Kähler manifolds. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 237–258. (David S. Berman) **99b:81187** 81T30 (32C81, 32J81, 81T60, 83E30)

— (*with* de Boer, Jan; Hori, Kentaro; Oz, Yaron) Mirror symmetry in three-dimensional gauge theories, quivers and D-branes. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 101–147. (Summary) **99c:81230** 81T60 (58D27, 81T13, 81T30)

— (*with* de Boer, Jan; Hori, Kentaro; Oz, Yaron; Yin, Zheng) Mirror symmetry in three-dimensional gauge theories, SL(2, Z) and D-brane moduli spaces. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 148–176. (Summary) **99c:81231** 81T60 (14J32, 81R10, 81T13, 81T30)

— (*with* Hori, Kentaro; Vafa, Cumrun) Non-abelian conifold transitions and $N = 4$ dualities in three dimensions. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 147–174. (Angel Maria Uranga) **99a:81140** 81T30 (32G81, 32S45, 81T60, 83E30)

— (*with* Hori, Kentaro; Vafa, Cumrun) Non-abelian conifold transitions and $N = 4$ dualities in three dimensions. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 205–238, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Douglas J. Smith) **99m:81192** 81T30 (14J32, 32J81, 81T60)

— (*with* Skenderis, Kostas) On the field theory limit of D-instantons. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 13, 8 *pp.* (*electronic*). (Ion V. Vancea) **99k:81268** 81T30

— (*with* de Boer, Jan; Hori, Kentaro; Oz, Yaron) Kähler potential and higher derivative terms from M-theory fivebrane. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 173–211. (Sergey A. Cherkis) **99d:81109** 81T30 (81T60, 83E30)

— (*with* de Boer, Jan; Hori, Kentaro; Oz, Yaron) Branes and dynamical supersymmetry breaking. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 20–68. (Angel Maria Uranga) **99e:81232** 81T60 (81R40, 81T30)

— (*with* de Boer, Jan; Hori, Kentaro) Membrane scattering in curved space with M-momentum transfer. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 257–283. (Summary) **99g:81151** 81T30 (83E30)

— Gauge theories on branes. String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 172–179. (Introduction) **99d:81161** 81T60 (81T13, 81T30)

— M theory fivebrane and SQCD. Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 84–91. (Introduction) **99h:81214** 81T60 (81T13, 81T30, 81V05)

— (*with* Douglas, Michael R.) Why matrix theory is hard. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 71–76. (Richard A. Corrado) **99k:81233** 81T30

— (*with* Robins, Harlan; Tannenhauser, Jonathan) Glueballs and their Kaluza-Klein cousins. (English summary) *Phys. Lett. B* **437** (1998), *no.* 1-2, 77–81. (Summary) **99g:83080** 83E30 (81T13, 83E15)

— (*with* Horowitz, Gary T.) Spectrum of large N gauge theory from supergravity. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 19, 4116–4118. (Summary) **99c:81242** 81T60 (81T13, 81T30, 83E30, 83E50)

— (*with* Csáki, Csaba; Oz, Yaron; Terning, John) Glueball mass spectrum from supergravity. (English summary) *J. High Energy Phys.* **1999**, *no.* 1, *Paper* 17, 21 *pp.* (*electronic*). (Summary) **99m:83200** 83E50 (81T13, 81T30, 83E30)

Oohama, Yasutada Gaussian multiterminal source coding. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1912–1923. (Andrea Sgarro) **99a:94012** 94A24 (94A29, 94A34)

— (*with* Kohda, Tohru) Constructions of piecewise linear maps generating Markov sources. Pseudorandom numbers and chaos (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1011 (1997), 16–24. (*see* **99a:00044**) 65C10 (58F13)

— The rate-distortion function for the quadratic Gaussian CEO problem. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1057–1070. (Summary) **99d:94015** 94A34

Ooi, Andrew (*with* Martín Yague, Jesús; Chong, M. S.; Soria, Julio) Dynamics of the velocity gradient tensor invariants in isotropic turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2336–2346. 76F99

Ooi, James M. (*with* Wornell, Gregory W.) Fast iterative coding techniques for feedback channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2960–2976. 94A40

Oommen, B. J. (*with* Loke, R. K. S.) The noisy subsequence tree recognition problem. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 169–180, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68T10

Oommen, John (*with* Dong, Juan) Generalized swap-with-parent schemes for self-organizing sequential linear lists. (English summary) *Algorithms and computation* (*Singapore*, 1997), 414–423, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68P05

Ooms, Alfons I. Maximal subfields in the quotient division ring of an enveloping algebra. *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 193–200, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (*see* **99a:16001**) 16S30

Ooms, G. (*with* Aarts, A. C. T.) Net flow of compressible viscous liquids induced by travelling waves in porous media. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 4, 435–450. (Summary) **99i:76138** 76S05 (76N99, 76Q05)

Oono, Yoshitsugu Randomness revisited. Pseudorandom numbers and chaos (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1011 (1997), 42–57. (Remo Badii) **99k:58120** 58F13 (03D15, 68Q30)

van Oorschot, Paul C. (*with* Menezes, Alfred J.; Vanstone, Scott A.) ★ Handbook of applied cryptography. With a foreword by Ronald L. Rivest. CRC Press Series on Discrete Mathematics and its Applications. *CRC Press, Boca Raton, FL*, 1997. xxviii+780 *pp. ISBN* 0-8493-8523-7 (Yvo Desmedt) **99g:94015** 94A60 (00A20, 00A69, 11T71, 68P25, 94-00, 94-01)

— (*with* Preneel, Bart) On the security of iterated message authentication codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 188–199. (Summary) **99k:94040** 94A60

— (*with* Wiener, Michael J.) Parallel collision search with cryptanalytic applications. (English summary) *J. Cryptology* **12** (1999), *no.* 1, 1–28. (Summary) **99i:94054** 94A60

Oort, Frans (*with* Zarkhin, Yu. G.) Complex tori. *Indag. Math.* (*N.S.*) **7** (1996), *no.* 4, 473–487. (Elham Izadi) **99d:14044** 14K10 (14K05, 14K22)

— The algebraic fundamental group. *Geometric Galois actions*, 1, 67–83, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Helmut Völklein) **99c:14024** 14E20 (14A15)

— (*with* de Jong, Aise Johan) On extending families of curves. *J. Algebraic Geom.* **6** (1997), *no.* 3, 545–562. (A. Prabhakar Rao) **99f:14028** 14H10 (14K10)

— (*with* Li, Ke-Zheng) ★ Moduli of supersingular abelian varieties. Lecture Notes in Mathematics, 1680. *Springer-Verlag, Berlin*, 1998. iv+116 *pp. ISBN* 3-540-63923-3 (Ben Moonen) **99e:14052** 14K10 (11G10, 14L05)

— Alterations can remove singularities. *Bull. Amer. Math. Soc.* (*N.S.*) **35** (1998), *no.* 4, 319–331. (Marko Roczen) **99i:14021** 14E15 (14B05, 14H10)

Ooshida, Takeshi Can't long wave expansions describe the finite amplitude waves of film flows? (Japanese. Japanese summary) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 150–160. (*see* **99a:00032**) 76D33

— Structures that produce highly supercritical laminar fluid flow. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 222–237. (*see* **99f:76003**) 76E05

Oosten, Maarten (*with* Crama, Yves) The polytope of block diagonal matrices and complete bipartite partitionings. (English summary) *Networks* **30** (1997), *no.* 4, 263–282. (Stanislav Jendrol') **99b:05137** 05C90 (52B12)

— (*with* Balas, Egon) On the dimension of projected polyhedra. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 1–9. (Summary) **99g:90094** 90C27 (65Y25, 90C08)

Oosterlee, C. W. (*with* Washio, Takumi) Krylov subspace acceleration for nonlinear multigrid schemes. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 271–290 (*electronic*). (Summary) **99a:65180** 65N55 (65F35)

— (*with* Washio, Takumi) An evaluation of parallel multigrid as a solver and a preconditioner for singularly perturbed problems. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 87–110 (*electronic*). (Pieter W. Hemker) **99g:65119** 65N55 (65F10, 65N22, 65Y05)

— (*with* Washio, Takumi) Flexible multiple semicoarsening for three-dimensional singularly perturbed problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1646–1666 (*electronic*). (Summary) **99c:65236** 65N55 (65F10, 65Y05)

Oosthuizen, G. Deon (*with* Kourie, Derrick G.) Lattices in machine learning: complexity issues. (English summary) *Acta Inform.* **35** (1998), *no.* 4, 269–292. (Summary) **99a:68143** 68T05 (06A15, 06B05)

Oostra V., Arnold Connectives in the topos of directed graphs. (Spanish. English and Spanish summaries) *Bol. Mat.* (*N.S.*) **3** (1996), *no.* 2, 55–62. (Summary) **99d:03062** 03G30

— Weak notions of complement. (Spanish. Spanish summary) *Rev. Integr. Temas Mat.* **14** (1996), *no.* 2, 57–68 (1997). (Yehuda Rav) **99m:06010** 06A12 (06D15)

van Oostrom, Vincent (*with* Bezem, Marc; Klop, Jan Willem) Diagram techniques for confluence. (English summary) *Inform. and Comput.* **141** (1998), *no.* 2, 172–204. (Klaus Madlener) **99e:68080** 68Q42 (03F50)

Oosugi, Yoshitaka (*with* Uehara, Kuniaki) Constructing a minimal instance-base by storing prototypical instances. (Japanese. English and Japanese summaries) *Trans.*

Inform. Process. Soc. Japan **39** (1998), *no.* 11, 2949–2959. 68T05

Oota, Takeshi q-deformed Coxeter element in non-simply laced affine Toda field theories. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 3, 738–752. (Konstantin G. Selivanov) **99d:81078** 81T10 (81R10, 81T40, 81U20, 81U40)

— (*with* Korepin, Vladimir E.) A determinant representation for a correlation function of the scaling Lee-Yang model. (English summary) *J. Phys. A* **31** (1998), *no.* 19, *L*371–*L*380. (Summary) **99b:82010** 82B05

— Two-point correlation functions in perturbed minimal models. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7611–7625. (Mathias Pillin) **99k:81285** 81T40

Ootsuka, Takayoshi (*with* Hashimoto, Yoshitake; Yasui, Yukinori; Miyagi, Sayuri) Applications of the Ashtekar gravity to four-dimensional hyper-Kähler geometry and Yang-Mills instantons. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5833–5839. (Andrew Swann) **99b:53067** 53C25 (53C07, 83C05)

Opanasovich, V. K. Meromorphic functions in the solution of the two-dimensional problem of elasticity. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 2, 1950–1955. (Summary) **99i:73020** 73C02 (30D30, 73V35)

Opanowicz, Anna Lie bi-algebra structures for centrally extended two-dimensional Galilei algebra and their Lie-Poisson counterparts. (English summary) *J. Phys. A* **31** (1998), *no.* 41, 8387–8396. (Anatol Nowicki) **99m:81079** 81R05

Opatrny, J. (*with* Bouabdallah, A.; Heydemann, Marie-Claude; Sotteau, Dominique) Embedding complete binary trees into star and pancake graphs. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 279–305. (Michael O. Albertson) **99d:68188** 68R10 (05C85, 68M99)

— (*with* Narayanan, Lata) Compact routing on chordal rings of degree 4. (English summary) *Algorithmica* **23** (1999), *no.* 1, 72–96. (Summary) **99i:68012** 68M10

Opdam, E. M. (*with* Heckman, G. J.) Yang's system of particles and Hecke algebras. (English summary) *Ann. of Math.* (2) **145** (1997), *no.* 1, 139–173. (Summary) **99g:33052a** 33D80 (20C99, 39A70)

— (*with* Heckman, G. J.) Erratum: "Yang's system of particles and Hecke algebras". *Ann. of Math.* (2) **146** (1997), *no.* 3, 749–750. (From the text) **99g:33052b** 33D80 (20C99, 39A70)

Opfer, Gerhard (*with* Ripken, Wolfgang) Complex version of Catalan's problem. (English summary) *Mitt. Math. Ges. Hamburg* **17** (1998), 101–112. (Maurice Mignotte) **99h:11033** 11D41

— (*with* Oberle, H. J.) Nonnegative splines, in particular of degree five. (English summary) *Numer. Math.* **79** (1998), *no.* 3, 427–450. (Crăciun Iancu) **99d:41018** 41A15 (65D07)

Opgenorth, J. (*with* Plesken, Wilhelm; Schulz, T.) Crystallographic algorithms and tables. (English summary) *Acta Cryst. Sect. A* **54** (1998), *no.* 5, 517–531. (Karel Dekimpe) **99h:20082** 20H15 (20–04, 82D25)

van Ophuysen, Gerrit Non-locality and aperiodicity of d-dimensional tilings. (English summary) *Quasicrystals and discrete geometry (Toronto, ON, 1995)*, 277–288, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Kenyon) **99g:52039** 52C22

Opic, Bohumír (*with* Gurka, Petr) Global limiting embeddings of logarithmic Bessel potential spaces. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 565–584. (Lanzhe Liu) **99h:46052** 46E35 (26D15)

Opolka, Hans A note on rationality of representations of profinite groups. (English summary) *J. Algebra* **204** (1998), *no.* 2, 675–683. (Norberto Gavioli) **99h:20013** 20C25 (11R37, 20E18)

Oporowski, Bogdan (*with* Ding, Guoli; Sanders, Daniel P.; Vertigan, Dirk) Partitioning graphs of bounded tree-width. (English summary) *Combinatorica* **18** (1998), *no.* 1, 1–12. (Peter Mihók) **99i:05162** 05C70 (90C35)

— Minor-equivalence for infinite graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 203–227. (Robert C. Brigham) **99k:05141** 05C75

Opozda, Barbara How to recognize cylinders, cones and tangential developables. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 317–323. (Chuan Yu Ma) **99i:53002** 53A05

— On locally homogeneous G-structures. (English summary) *Geom. Dedicata* **73** (1998), *no.* 2, 215–223. (O. Kowalski) **99k:53042** 53C10 (53C30)

Oppenheim, G. (*with* Bel, Liliane; Robbiano, Luc; Viano, M. C.) Distribution processes with stationary fractional increments. (English and French summaries) *Systèmes différentiels fractionnaires (Paris, 1998)*, 43–54, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (V. V. Anh) **99m:60080** 60H05

— (*with* Bel, Liliane; Robbiano, Luc; Viano, M. C.) Linear distribution processes. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 43–58. (Summary) **99c:60083** 60G20 (60G10, 60G17)

Oppenheim, J. (*with* Aharonov, Y.; Popescu, Sandu; Reznik, B.; Unruh, W. G.) Measurement of time of arrival in quantum mechanics. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 6, 4130–4139. (Michael B. Mensky) **99h:81019** 81P15

Oppenheimer, Seth F. (*with* Dang Dinh Hai) Singular boundary value problems for p-Laplacian-like equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 975–981. (Juan J. Nieto) **99a:35087** 35J65 (34B15)

— (*with* Ames, Karen A.; Clark, Gordon W.; Epperson, James F.) A comparison of regularizations for an ill-posed problem. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1451–1471. (Summary) **99b:65111** 65M30

Oppenländer, Jörg (*with* Wegelin, Michael; Tomes, Jörg; Güttinger, Werner; Dangelmayr, Gerhard) Synchronized patterns in hierarchical networks of neuronal oscillators with $\mathbf{D}_3 \times \mathbf{D}_3$ symmetry. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 213–232. (Summary) **99f:92004** 92C15 (34C23)

Opper, Manfred (*with* Haussler, David) Metric entropy and minimax risk in classification. (English summary) *Structures in logic and computer science*, 212–235, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99d:68217** 68T10 (62G99, 62H30)

— (*with* Haussler, David) Mutual information, metric entropy and cumulative relative entropy risk. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2451–2492. (J. A. Melamed) **99b:62006** 62B10 (62G05)

— Regression with Gaussian processes: average case performance. (English summary) *Theoretical aspects of neural computation (Hong Kong, 1997)*, 17–23, *Springer, Singapore*, 1998. (*see* **99f:00027**) 62G05 (68T05)

— (*with* Dietrich, Rainer) Statistical mechanics of learning in the presence of outliers. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9131–9147. (Summary) **99g:82063** 82C32 (68T05)

Oppezzi, Pirro (*with* Rossi, Anna Maria) Renormalized solutions for divergence problems with L^1 data. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 889–914. (Anna Mercaldo) **99k:35072** 35J85 (35D05)

Oprea, John *see* **Homotopy and geometry, 99k:57001**

Opriş, Dumitru (*with* Albu, I. D.) Geometrical objects associated to special cotangent transformations. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **57/58** (1995/96), *no.* 1-4, 29–42. (Juan Carlos Marrero Gonzalez) **99c:53021** 53C15 (53C05, 58F05)

— (*with* Crăciun, Dumitru) The Helmholtz conditions for the difference equations systems. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 21–30. (L. A. V. Carvalho) **99e:39069** 39A12 (34A45, 39A10, 70–08, 70H05)

— (*with* Albu, I. D.) Mathematical model for diamond-type crystals with impurities or defects. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 73–88. (Summary) **99j:70024** 70H35 (70H33, 73B99, 82D25)

— (*with* Albu, I. D.) Geometrical aspects of the covariant dynamics of higher order. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 395–412. (Jaime Muñoz Masqué) **99e:58004** 58A20 (53B15, 70H35, 73B99)

Oprişan, Gheorghe On the failure rate. (English summary) *Statistical and probabilistic models in reliability (Bucharest, 1997)*, 235–242, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 60K05 (60K15)

Oproiu, Vasile Professor Emeritus Gheorghe Gheorghiev at age 90. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **43** (1997), *no.* 1, 3–6 (1998). 01A70

— (*with* Matzeu, Paola) The Bochner type curvature tensor of pseudo-convex CR-structures on real hypersurfaces in complex space forms. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 134–146. (Sorin Dragomir) **99i:53028** 53C15 (53C40)

Opsomer, Jean D. (*with* Ruppert, David) A fully automated bandwidth selection method for fitting additive models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 605–619. (Summary) **99b:62066** 62G05

O'Quigley, John (*with* Reiner, Ethan) A stopping rule for the continual reassessment method. (English summary) *Biometrika* **85** (1998), *no.* 3, 741–748. (Summary) **99i:62186** 62L15

cohen-Or, Daniel *see* **Cohen-Or, Daniel**

ben-Or, Michael *see* **Ben-Or, Michael**

hel-Or, Yacov *see* **Hel-Or, Yacov**

O'Raifeartaigh, Lochlainn (*with* Flume, R.; Magro, M.; Sachs, Ivo; Schnetz, O.) Uniqueness of the Seiberg-Witten effective Lagrangian. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 331–345. (Michael A. I. Flohr) **99b:81234** 81T60 (81T13)

— On some puzzles in $N = 2$ supersymmetric gauge theory. (English summary) *Supersymmetry and quantum field theory (Kharkov, 1997)*, 150–156, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81317** 81T60 (81T13)

— (*with* Sreedhar, V. V.) Conformally invariant path integral formulation of the Wess-Zumino-Witten→ Liouville reduction. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 513–532. (Isabel P. Ennes) **99j:81170** 81T40 (81S40)

— (*with* Sreedhar, V. V.) Path integral formulation of the conformal Wess-Zumino-Witten → Toda reductions. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 547–566. (Kazuto Oshima) **99j:81171** 81T40 (81S40, 81T10, 81T70)

— Group theory of Seiberg-Witten model. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1696–1701. (Summary) **99i:81251** 81T60 (81T13)

— (*with* Sreedhar, V. V.) Path integral formulation of the conformal Wess-Zumino-Witten → Liouville reduction. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 291–299. (Kazuto Oshima) **99e:81226** 81T40 (81S40, 81T10, 81T70)

— *see also* **Dawning of gauge theory, 99b:81148**

Oral, Muhittin (*with* Kettani, Ossama; Siskos, Yannis) A multiple criteria analysis model for real estate evaluation. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 197–214. (*see* **99a:90011**) 90C29

Oral Erbas, Semra (*with* Bayrak, Hülya) Different patterns with zero partial association for five variables in contingency tables. (English summary) *Far East J. Theor. Stat.* **2** (1998), *no.* 1, 95–103. (Summary) **99j:62082** 62H17

Oram, J. A. Best approximation by periodic smooth functions. (English summary) With an appendix by O. V. Davydov. Revised by A. L. Brown. *J. Approx. Theory* **92** (1998), *no.* 1, 128–166. (Grzegorz Lewicki) **99k:41031** 41A30 (41A15)

Oramov, Zh. A boundary value problem for a hyperbolic equation that strongly degenerates inside the domain. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 51–56. 35L80

Oravecz, Ferenc (*with* Petz, Dénes) On the eigenvalue distribution of some symmetric random matrices. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 383–395. (Zhi-Dong Bai) **99a:60020** 60F05 (15A52, 60H25)

Orchard, Michael T. (*with* Ramchandran, Kannan) An investigation of wavelet-based image coding using an entropy-constrained quantization framework. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 2, 342–353. (Summary) **99k:94003** 94A11 (94A12)

Ord, G. N. Classical embeddings of Schrödinger's equation and non-locality. (English summary) *Causality and locality in modern physics (Toronto, ON, 1997)*, 365–372, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05

Orda, Ariel (*with* Naor, Joseph; Rom, Raphael) Scheduled hot-potato routing. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no* 4, 20 *pp.* (*electronic*). (Summary) **99c:68021** 68M10

Ordóñez, Adolfo R. Rigged Hilbert spaces associated with Misra-Prigogine-Courbage theory of irreversibility. (English summary) *Phys. A* **252** (1998), *no.* 3-4, 362–376. (Robert Alicki) **99g:82045** 82C03 (47N55)

martín Ordóñez, Pablo *see* **Martín Ordóñez, Pablo**

Ordoukhani, N. A recursive estimate with censored observations. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 57–63. (Summary) **99e:62148** 62M09 (62G05)

— (*with* Singh, Jagbir[1]; Thavaneswaran, A.) A note on optimal smoothers for semimartingales. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 350–353, *Narosa, New Delhi*, 1998. (Miguel A. Arcones) **99j:62051** 62G05 (60G48, 62M99)

O'Regan, Donal Solvability of some second-order boundary value problems using eigenvalues of Sturm-Liouville problems. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 153–172. (Philip Korman) **99h:34037** 34B15 (47N20)
— Carathéodory theory of nonresonant second order boundary value problems. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 57–77. (William K. C. Yin) **99k:34049** 34B15
— Solutions in Orlicz spaces to Uryson integral equations. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 67–78. (Da Jun Guo) **99h:45010** 45G10
— Singular nonlinear differential equations on the half line. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 137–159. (Jun Yu Wang) **99a:34061** 34B15
— Abstract operator inclusions. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 143–154 (1998). (Wojciech Kryszewski) **99f:47085** 47H15 (34A60, 47H04, 47H10, 47N20, 54C60, 54H25)
— A note on solutions in $L^1[0,1]$ to Hammerstein integral equations. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 2, 165–178. (Nguyễn Hồng Thái) **99k:45016** 45G10 (47H30, 47N20)
— Random fixed point theory with applications. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3295–3299. (Ramendra Krishna Bose) **99a:47083** 47H10 (47H40)
— A topological approach to integral inclusions. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 101–111. (V. V. Obukhovskiĭ) **99f:45007** 45G10 (45N05, 47H04, 47H09, 47H30)
— A note on fixed point theorems in shells of Banach spaces for weakly condensing operators. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 851–856. (Józef Banaś) **99b:47085** 47H10 (47H09)
— (*with* Meehan, Maria) ★ Existence theory for nonlinear integral and integrodifferential equations. (English summary) Mathematics and its Applications, 445. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii+218 pp. ISBN* 0-7923-5089-8 (Maria Patrizia Pera) **99i:45008** 45Gxx (45J05, 47H15, 47N20)
— Operator equations in Banach spaces relative to the weak topology. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 123–136. (Józef Banaś) **99f:47086** 47H15 (34A12, 45G10)
— Fixed point theory for closed multifunctions. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 191–197. (Maria Patrizia Pera) **99e:47078** 47H10 (47H04)
— Fixed point theory for compact perturbations of pseudocontractive maps. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 3, 401–415. (Józef Banaś) **99j:47092** 47H10
— Multivalued integral equations in finite and infinite dimensions. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 487–496. (Alexsander Ivan Bulgakov) **99m:47087** 47H30 (45G10, 45N05, 47H15)
— Singular differential equations with linear and nonlinear boundary conditions. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 3, 81–97. (Jun Yu Wang) **99b:34049** 34B15
— New fixed-points results for 1-set contractive set valued maps. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 27–34. (Naseer Shahzad) **99b:47086** 47H10 (47H40)
— Approximation of solutions of nonlinear operator equation on the half line. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 65–77. (S. N. Askhabov) **99g:47143** 47H15 (45G10, 45L05, 47H10, 65J15, 65R20)
— (*with* Meehan, Maria) Existence principles for nonresonant operator and integral equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 79–87. (S. N. Askhabov) **99h:47076** 47H15 (45G10, 47H10, 47N20)
— (*with* Agarwal, Ravi P.) Discrete systems on infinite intervals. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 97–105. (B. G. Pachpatte) **99g:39018** 39A12 (47H15)
— (*with* Meehan, Maria) Existence principles for nonlinear resonant operator and integral equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 41–52. (Da Jun Guo) **99k:47159** 47H15 (45G10)
— (*with* Agarwal, Ravi P.) A fixed-point approach for nonlinear discrete boundary value problems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 115–121. (P. W. Eloe) **99k:39003** 39A10 (47H10)
— Singular Dirichlet boundary value problems. II. Resonance case. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 269–290. (Maria Patrizia Pera) **99e:34027** 34B15 (34L30)
— Periodic solutions for operator equations in $\mathbf{R}^n$. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 519–528. (L. Górniewicz) **99m:34090** 34C25 (34A60, 47H04)
— A continuation theory for weakly inward maps. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 3, 311–321. (Wojciech Kryszewski) **99i:47107** 47H10 (47H04, 47H40)
— Volterra and Urysohn integral equations in Banach spaces. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 449–464. (P. P. Zabreĭko) **99k:45017** 45G10 (34B15, 45N05, 47H15)
— (*with* Agarwal, Ravi P.) Difference equations in abstract spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 277–284. (Olusola Akinyele) **99d:39002** 39A10
— (*with* Agarwal, Ravi P.) Positive solutions to superlinear singular boundary value problems. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 129–147. (Ben Dong Lou) **99a:34045** 34B15
— (*with* Agarwal, Ravi P.) Positive solutions for $(p, n-p)$ conjugate boundary value problems. (English summary) *J. Differential Equations* **150** (1998), *no.* 2, 462–473. (Alexander Haščák) **99k:34040** 34B15
— Coincidences for admissible and Φ^* maps and minimax inequalities. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 322–333. (Carlo Bardaro) **99i:47108** 47H10 (47N10, 49J35, 54H25)
— (*with* Agarwal, Ravi P.) Second-order boundary value problems of singular type. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 414–430. (Johnny Henderson) **99g:34046** 34B15
— Fixed-point theory for weakly sequentially continuous mappings. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 5, 1–14. (Bogdan Przeradzki) **99c:47092** 47H10 (34B15, 45G10, 47N20)
— Fixed points for set-valued mappings in locally convex linear topological spaces. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 45–55. (V. V. Obukhovskiĭ) **99h:47069** 47H10 (45G10, 47H04, 47H09, 47H30)
— (*with* Agarwal, Ravi P.) Positive solutions to singular initial value problems with sign changing nonlinearities. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 31–39. (Johnny Henderson) **99f:34002** 34A12
— Fixed-point theory for multivalued mappings in completely regular topological vector spaces. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 7–15. (Maria Patrizia Pera) **99j:47093** 47H10 (47H04)
— Nonlinear operator approximation theory. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 587–592. (Summary) **99e:47086** 47H15 (41A65, 47H17)
— A continuation type result for random operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1963–1971. (Dimitrios Kravvaritis) **99b:47104** 47H40 (47H10)
— Fixed points and random fixed points for weakly inward approximable maps. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3045–3053. (L. Górniewicz) **99a:47084** 47H10 (47H40)
— Fixed point theory for weakly contractive maps with applications to operator inclusions in Banach spaces relative to the weak topology. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 281–296. (S. N. Askhabov) **99h:47070** 47H10 (47H04, 47N20)
— Weak solutions of ordinary differential equations in Banach spaces. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 101–105. (Radu Precup) **99k:34137** 34G20 (47H15)
— A note on the existence of weak solutions to operator equations in Banach spaces. (English summary) *Dynam. Systems Appl.* **8** (1999), *no.* 1, 113–118. (Józef Banaś) **99k:47160** 47H15 (45G10, 47H30)
— (*with* Agarwal, Ravi P.) Second-order initial value problems of singular type. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 441–451. (L. E. Bobisud) **99j:34002** 34A12
— (*with* Meehan, Maria) Existence theory for nonlinear Fredholm and Volterra integral equations on half-open intervals. *Nonlinear Anal.* **35** (1999), *no.* 3, *Ser. A: Theory Methods*, 355–387. (S. N. Askhabov) **99h:45009** 45G10 (47H10, 47H30)
O'Reilly, F. J. (*with* Rueda, R.) A note on the fit for the Levy distribution. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1811–1821. 62G10
O'Reilly, John (*with* Fadlalmoula, Z.; Robertson, S. S.; Leithead, W. E.) Individual channel analysis of the turbogenerator with a power system stabilizer. (English summary) *Internat. J. Control* **69** (1998), *no.* 2, 175–202. 93C95
O'Reilly, Oliver M. (*with* Turcotte, Jeffrey S.) Elastic rods with moderate rotation. (English summary) *J. Elasticity* **48** (1997), *no.* 3, 193–216. (Stan Chiriţă) **99d:73052** 73K05
— (*with* Nordenholz, Thomas R.) On steady motions of isotropic, elastic Cosserat points. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 1, 55–72. (Summary) **99a:73040** 73C50 (73B99)
— (*with* Nordenholz, Thomas R.) On the existence of a stretch for a prescribed stress in isotropic, incompressible elastic materials. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 169–181. (C. F. M. Creasy) **99d:73029** 73C50 (73G05)
— (*with* Varadi, Peter C.) A unified treatment of constraints in the theory of a Cosserat point. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 205–223. (Summary) **99c:73040** 73K05 (73K12)
Orejas, Fernando (*with* Ehrig, Hartmut; Kreowski, Hans-Jörg) Correctness of horizontal and vertical composition for implementation concepts based on constructors and abstractors. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 365–387. (Eric G. Wagner) **99k:68112** 68Q65
Orekhov, V. I. Dual parametrization of the bifurcation set of a mechanical system with quadratic integrals. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 377–384; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 363–369. (Igor Gashenenko) **99h:70025** 70H05 (58F05, 58F14, 70E99)
Orël, O. E. On the nonconjugacy of the Euler case in the dynamics of a rigid body and on the Jacobi problem of geodesics on an ellipsoid. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 2, 252–258; *translation in Math. Notes* **61** (1997), *no.* 1-2, 206–211. (O. Christov) **99b:70006** 70E15 (58F07, 70H05)
— Algebro-geometric Poisson brackets in the problem of exact integration. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 90–97. (Iskander A. Taimanov) **99j:58080** 58F05 (58F40, 70E15, 70H05)
Orellana, Oscar (*with* Papageorgiou, Demetrios T.) Study of cylindrical jet breakup using one-dimensional approximations of the Euler equations. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 286–317 (*electronic*). (Summary) **99g:76011** 76B10 (35Q35, 73E99, 76B45, 76M25)
Orenga, Pierre (*with* Chatelon, François Joseph) Some smoothness and uniqueness results for a shallow-water problem. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 155–176. (Alan Shapiro) **99b:35172** 35Q35 (35M10, 76M30, 76N10)
— (*with* di Martino, Bernard) Résolution des équations de shallow water par la méthode de Galerkin non linéaire. (English and French summaries) [Solution of the shallow water equations by the nonlinear Galerkin method] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 4, 451–477. (Summary) **99e:76090** 76M25 (65M60, 76C99, 76U05, 86–08, 86A05)
Oresme, Nicole *see* **Taschow, Ulrich**
Orevkov, S. Yu. Acyclic algebraic surfaces bounded by Seifert spheres. *Osaka J. Math.* **34** (1997), *no.* 2, 457–480. (A. R. Shastri) **99b:14033** 14J25 (14J29, 57N10)
— Realizability of a braid monodromy by an algebraic function in a disk. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 867–871. (Mihai Tibăr) **99m:32048** 32S40 (20F29, 20F36, 57M25)
— A new affine M-sextic. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 91–94; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 141–143. (Eugenii Shustin) **99j:14053** 14P25 (14H20)
Orhan, C. Translativity of absolute weighted mean summability. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 755–761. (Sarjoo Prasad Yadav) **99m:40009** 40F05 (40A05, 40G05)
Orhant, P. (*with* Brogliato, Bernard) Contact stability analysis of a one degree-of-freedom robot. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 37–53. (Krzysztof Tchoń) **99a:70043** 70Q05 (70B15, 93C85)

Orhon, Mehmet (*with* Hadwin, Donald W.) Reflexive representations and Banach C^*-modules. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 443–447. (J. D. Maitland Wright) **99h:46109** 46L05 (46H25, 47D30)

Ori, Amos Perturbative approach to the inner structure of a rotating black hole. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 7, 881–929. (Summary) **99b:83051** 83C57

— Null weak singularities in plane-symmetric space-times. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4745–4753. (Summary) **99k:83096** 83C75 (83C20)

— (*with* Burko, Lior M.) Analytic study of the null singularity inside spherical charged black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, *R*7084–*R*7088. 83C57 (83C75)

— Evolution of scalar-field perturbations inside a Kerr black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084016, 11 *pp.* (Summary) **99m:83131** 83C57

Ori, R. G. (*with* Baboolal, D.) On uniform connectedness in nearness frames. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 163–170. (From the introduction) **99j:54028** 54E15

Oriolo, Giuseppe (*with* De Luca, Alessandro; Mattone, Raffaella) Control of redundant robots under end-effector commands: a case study in underactuated systems. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 225–251. (Summary) **99d:70005** 70B15 (70Q05, 93C85)

— (*with* De Luca, Alessandro; Samson, C.) Feedback control of a nonholonomic car-like robot. *Robot motion planning and control*, 171–253, *Lecture Notes in Control and Inform. Sci.*, 229, *Springer, London*, 1998. (From the introduction) **99a:70044** 70Q05 (70B15, 70F25, 93B52, 93C85)

O'Riordan, Eugene (*with* Miller, John J. H.) The necessity of fitted operators and Shishkin meshes for resolving thin layer phenomena. International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 207–213. (*see* **99a:65009**) 65M50

— (*with* Hegarty, Alan F.; Miller, John J. H.; Shishkin, G. I.) Numerical solution of elliptic convection-diffusion problems on fitted meshes. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 239–251. (*see* **99a:65009**) 65N50 (76M20, 76Rxx)

— (*with* Stynes, Martin) A uniformly convergent Galerkin method on a Shishkin mesh for a convection-diffusion problem. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 36–54. (K. Najzar) **99f:65177** 65N30 (65N12)

— (*with* Miller, John J. H.; Shishkin, G. I.) Fitted numerical methods for four simple convection-diffusion problems. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 444–448, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65N06 (65N30)

Oristaglio, Michael L. (*with* Wang, Tsili) An inverse algorithm for velocity reconstruction. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1345–1351. (Summary) **99g:76137** 76Q05 (73D50, 86A15, 86A22)

Orland, Peter (*with* Kudinov, Maxime; Moreno, Enrique Francisco) Potential topography and mass generation. *New developments in quantum field theory* (*Zakopane*, 1997), 315–327, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Summary) **99g:81229** 81V05 (81T99)

Orlandi, Enza (*with* Carlen, Eric Anders; Carvalho, Maria Conceiçaõ Vieira) Free energy inequalities and the rate of relaxation to instantons for interface profiles in Glauber dynamics. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 205–218. (Rossana Marra) **99j:82057** 82C24 (82C21)

Orlandi, Giandomenico (*with* Baldo, Sisto) A note on the Hodge theory for functionals with linear growth. (English summary) *Manuscripta Math.* **97** (1998), *no.* 4, 453–467. (Giovanni Alberti) **99j:58009** 58A14 (31C12, 49J45)

Orlandi, P. (*with* Egermann, P.; Hopfinger, E. J.) Vortex rings descending in a stratified fluid. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2819–2827. (Summary) **99h:76015** 76C05 (76–05, 76V05)

Orlandini, Enzo Monte Carlo study of polymer systems by multiple Markov chain method. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 33–57, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (Summary) **99g:82043** 82B80 (60J20, 65C05, 82D60)

— (*with* Janse van Rensburg, E. J.; Tesi, Maria Carla; Whittington, Stuart G.) Entropic exponents of knotted lattice polygons. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 9–21, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Summary) **99f:82065** 82D60 (57M25)

— (*with* Uberti, R.; Janse van Rensburg, E. J.; Tesi, Maria Carla; Whittington, Stuart G.) Minimal links in the cubic lattice. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 89–100, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Yuanan Diao) **99h:57020** 57M25

— (*with* Tesi, Maria Carla; Janse van Rensburg, E. J.; Whittington, Stuart G.) Topological entanglement complexity of polymer chains in confined geometries. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 135–157, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Summary) **99f:82066** 82D60 (57M25)

— (*with* Tesi, Maria Carla; Janse van Rensburg, E. J.; Whittington, Stuart G.) Asymptotics of knotted lattice polygons. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5953–5967. (Summary) **99g:82031** 82B41 (82B80, 82D60)

— (*with* Tesi, Maria Carla) Knotted polygons with curvature in Z^3. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9441–9454. (Timo Seppäläinen) **99k:82035** 82B41 (82D60, 92D20)

— (*with* Tesi, Maria Carla; Whittington, Stuart G.) A self-avoiding walk model of random copolymer adsorption. (English summary) *J. Phys. A* **32** (1999), *no.* 3, 469–477. (E. J. Janse van Rensburg) **99m:82028** 82B41 (82D60)

— (*with* Guitter, E.) Monte Carlo results for projected self-avoiding polygons: a two-dimensional model for knotted polymers. (English summary) *J. Phys. A* **32** (1999), *no.* 8, 1359–1385. (Summary) **99k:82081** 82D60 (82B41, 82B80)

Orlando, Giuseppe (*with* Corradini, M. Letizia) Variable structure control of discretized continuous-time systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1329–1334. 93B12 (93C60)

Orlin, James B. A polynomial time primal network simplex algorithm for minimum cost flows. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 109–129. (Prabir Das) **99c:90149** 90C35 (68Q25)

— (*with* Aggarwal, Charu C.; Tai, Ray P.) Optimized crossover for the independent set problem. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 226–234. (Summary) **99d:90088** 90C27

— (*with* Aggarwal, Charu C.; Ahuja, Ravindra K.; Hao, Jianxiu) Diagnosing infeasibilities in network flow problems. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 263–280. (Summary) **99b:90043** 90B10 (90C35)

Orlin, Peter A. (*with* Perkins, A. Louise; Heburn, George) A frequency accurate spatial derivative finite difference approximation. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 5, 549–560. (Stanisław Burys) **99b:65127** 65N06

Orlitsky, Alon (*with* Körner, János) Zero-error information theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2207–2229. (Summary) **99h:94034** 94A29 (94A15, 94A40)

— (*with* Bruckstein, Alfred M.; O'Gorman, Larry) Design of shapes for precise image registration. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3156–3162. 94A12 (68U10)

Orloff, D. (*with* Bloom, Frederick; Hojjatie, B.) Modelling and analysis of the heat transfer problem in an impulse drying press roll. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 5, 59–88. (Summary) **99m:80008** 80A20

Orlov, A. I. Interval statistics: maximum likelihood method and method of moments. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 833–839. (*see* **99b:62004**) 62F10

Orlov, A. Yu. (*with* Winternitz, Pavel) P_∞ algebra of KP, free fermions and 2-cocycle in the Lie algebra of pseudodifferential operators. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3159–3193. (Piotr G. Grinevich) **99b:58123** 58F07 (81R10)

— (*with* Winternitz, Pavel) P_∞-algebra of symmetries of the Kadomtsev-Petviashvili equations, free fermions and 2-cocycles in the Lie algebra of pseudodifferential operators. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 2, 231–260; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 2, 1393–1417 (1998). (Piotr G. Grinevich) **99c:58084** 58F07 (17B68, 58F35)

— Remarks about the Calogero-Moser system and the KP equation. (English summary) *The bispectral problem* (*Montreal, PQ*, 1997), 227–234, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:35213** 35Q53 (58F07)

Orlov, D. O. Equivalences of derived categories and $K3$ surfaces. (English summary) Algebraic geometry, 7. *J. Math. Sci.* (*New York*) **84** (1997), *no.* 5, 1361–1381. (Jong Hae Keum) **99a:14054** 14J28 (14F05, 18E30)

Orlov, I. B. Academician P. P. Maslov: a sentence to oblivion. (Russian. Russian summary) *Vestnik Ross. Akad. Nauk* **68** (1998), *no.* 4, 340–348. (Summary) **99j:01022** 01A70

Orlov, M. V. (*with* van den Berg, Hugo A.; Kiselëv, Yu. N.; Kooijman, S. A. L. M.) Optimal allocation between nutrient uptake and growth in a microbial trichome. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 28–48. (Summary) **99f:92006** 92C40 (49N55, 92D25)

— (*with* Kiselëv, Yu. N.) Optimal control problems with singular regimes for a model in microbiology. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 23–26, 52. (Summary) **99g:49036** 49N55 (92C40)

Orlov, Yu. V. (*with* Utkin, Vadim I.) Unit sliding mode control in infinite-dimensional systems. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 7–20. (T. Zolezzi) **99e:93014** 93B12 (93B25)

Orlov, Yuri F. Origins of quantum Hilbert space and indeterminism. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 302–311, *World Sci. Publishing, River Edge, NJ*, 1997. (S. Gudder) **99k:81021** 81P05 (81P10)

— Origin of quantum indeterminism and irreversibility of measurements. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 2, 243–246. (Summary) **99h:81022** 81P15

Orlovskiĭ, S. A. (*with* Grabisch, Michel; Yager, Ronald R.) Fuzzy aggregation of numerical preferences. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 31–68, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C29 (04A72, 90A07, 90A08, 90C70)

— (*with* Fodor, János C.; Perny, Patrice; Roubens, Marc) The use of fuzzy preference models in multiple criteria choice, ranking and sorting. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 69–101, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C29 (04A72, 90A06, 90C70)

Orłowska, Ewa (*with* Green, John Stephen; Horne, Neil; Siemens, Paul) A rough set model of information retrieval. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 273–296. (Summary) **99c:68237** 68T30 (68P20)

— (*with* Chakraborty, Mihir K.) Substitutivity principles in some theories of uncertainty. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 107–120. (Radim Bělohlávek) **99g:03029** 03B60 (03B50)

— Introduction: what you always wanted to know about rough sets. (English summary) *Incomplete information: rough set analysis*, 1–20, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 04A72

— (*with* Buszkowski, Wojciech) Indiscernibility-based formalization of dependencies in information systems. (English summary) *Incomplete information: rough set analysis*, 293–315, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T30 (03B70)

— (*with* Demri, Stéphane) Logical analysis of indiscernibility. (English summary) *Incomplete information: rough set analysis*, 347–380, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03B60 (03B70)

— (*with* Demri, Stéphane) Complementarity relations: reduction of decision rules and informational representability. *Rough sets in knowledge discovery*, 1, 99–106, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 68T99

— (*with* Buszkowski, Wojciech) Relational logics for formalization of database dependencies. *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 3, 138–143. 03B70

— (*with* Bartol, Wiktor; Skowron, Andrzej) Helena Rasiowa, 1917–1994. Reprinted from Modern Logic **5** (1995), no. 3, 231–247 [MR 96d:01029]. *Logic, algebra, and computer science* (*Warsaw*, 1996), 8–21, *Banach Center Publ.*, 46, *Polish Acad. Sci., Warsaw*, 1999. (*see* **99m:03004**) 01A70 (03–03)

— *see also* **Incomplete information: rough set analysis, 99d:04012**

Orłowski, M. (*with* Koczkodaj, W. W.) Computing a consistent approximation to a generalized pairwise comparisons matrix. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 79–85. 65F30

Orman, Gabriel V. Stochastic methods for generative systems analysis. (English summary) *Advances in data science and classification* (*Rome*, 1998), 205–210, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 68Q45

Orme, Michelle E. (*with* Chaplain, Mark A. J.) Travelling waves arising in mathematical models of tumour angiogenesis and tumour invasion. (English summary) *Forma* **10** (1995), *no.* 3, 147–170. (Juan J. Nieto) **99a:92010** 92C50 (35Q80, 92C30)

Ormerod, Elizabeth A. Some p-groups of Weilandt [Wielandt] length three. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 121–136. (Eamonn A. O'Brien) **99j:20029** 20D35 (20D15)

— A note on the Wielandt subgroup of a metabelian p-group. *Comm. Algebra* **27** (1999), *no.* 2, 621–627. (F. Levin) **99m:20036** 20D15 (20D30, 20D35)

Ormes, Nicholas S. Strong orbit realization for minimal homeomorphisms. (English summary) *J. Anal. Math.* **71** (1997), 103–133. (V. S. Prasad) **99c:28053** 28D05 (22D40)

Ormiston, Michael B. Deterministic transformations: some comparative statistics results. (English summary) *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 43–51, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A46

Ormotsadze, R. On isomorphness of homology groups of a space and its extensions. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 197–201 (1996). 55N05

Ormsby, Barbara (*with* Lopez, Esperanza) Duality for SU × SO and SU × Sp via branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 20, 16 *pp.* (*electronic*). (Douglas J. Smith) **99m:81256** 81T60 (81T13, 81T30)

Ornaghi, Mario (*with* Lau, Kung-Kiu; Tärnlund, Sten-Åke) Steadfast logic programs. (English summary) *J. Logic Programming* **38** (1999), *no.* 3, 259–294. (Summary) **99j:68014** 68N17

Ornea, Liviu (*with* Piccinni, Paolo) The structure of compact quaternion Hermitian-Weyl manifolds. Proceedings of the Second International Workshop on Differential Geometry and its Applications (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **3** (1995), *no.* 2, 91–96. (From the text) **99a:53062** 53C25

— (*with* Piccinni, Paolo) A class of quaternionic manifolds admitting a compatible complex structure. (Italian. English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 4, 293–298. (Andrew Swann) **99k:53096** 53C25 (53C15, 53C56)

— (*with* Dragomir, Sorin) ★ Locally conformal Kähler geometry. (English summary) Progress in Mathematics, 155. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xiv+327 *pp. ISBN* 0-8176-4020-7 (Juan Carlos Marrero Gonzalez) **99a:53081** 53C55 (53C25, 53C40, 53C42)

— (*with* Piccinni, Paolo) Weyl structures on quaternionic manifolds. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 231–236 (*electronic*), *Int. Sch. Adv. Stud. (SISSA), Trieste*, 1998. (Andrew Swann) **99k:53098** 53C25

— (*with* Piccinni, Paolo) Compact hyper-Hermitian-Weyl and quaternion Hermitian-Weyl manifolds. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 4, 383–398. (Andrew Swann) **99k:53097** 53C25 (53C15, 53C56)

— (*with* Piccinni, Paolo) Induced Hopf bundles and Einstein metrics. (English summary) *New developments in differential geometry, Budapest* 1996, 295–305, *Kluwer Acad. Publ., Dordrecht*, 1999. (Andrew Bucki) **99k:53099** 53C25 (53C15)

Ornelas, António (*with* Goncharov, Vladimir V.) Surfaces changing continuously with affine boundary data and having gradients on a prescribed set. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 386–391, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 49Q05 (65D17)

— Existence of scalar minimizers for nonconvex simple integrals of sum type. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 559–573. (Giovanni Colombo) **99d:49004** 49J05

— (*with* Fusco, Nicola; Marcellini, Paolo) Existence of minimizers for some non-convex one-dimensional integrals. (English summary) *Portugal. Math.* **55** (1998), *no.* 2, 167–185. (Jean-Pierre Raymond) **99e:49002** 49J05

Ornstein, Donald (*with* Weiss, Benjamin) On the Bernoulli nature of systems with some hyperbolic structure. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 441–456. (Jérôme Buzzi) **99c:58096** 58F11 (58F15)

Orobitg, Joan (*with* Verdera, Joan) Choquet integrals, Hausdorff content and the Hardy-Littlewood maximal operator. *Bull. London Math. Soc.* **30** (1998), *no.* 2, 145–150. (Takahide Kurokawa) **99d:42035** 42B25

O'Rourke, Joseph ★ Computational geometry in C. (English summary) Second edition. *Cambridge University Press, Cambridge*, 1998. *xiv*+376 *pp. ISBN* 0-521-64010-5; 0-521-64976-5 (Hans-Dietrich Hecker) **99k:68198** 68U05 (52–02, 52B55, 68–01)

— (*with* Streinu, Ileana) The vertex-edge visibility graph of a polygon. (English summary) *Comput. Geom.* **10** (1998), *no.* 2, 105–120. (Stelian S. Dumitrascu) **99c:52014** 52B05

— (*with* Agarwal, Pankaj K.) Computational geometry column 34. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 637–642. (Summary) **99f:52018** 52B55 (68U05)

— Open problems in the combinatorics of visibility and illumination. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 237–243, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52025** 52B99 (52B55, 52C99)

— (*with* Agarwal, Pankaj K.) Open problems presented at SCG'98. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 449–453. 68U05

O'Rourke, P. J. (*with* Sahota, M. S.) A variable explicit/implicit numerical method for calculating advection on unstructured meshes. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 312–345. (Summary) **99b:76058** 76M20

Orozco Gómez, María M. (*with* Álvarez Díaz, Lilliam; Morales Acosta, J. Josué) The method of lines and its application to some partial differential equation problems. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 1, 83–92. 65M20

Orponen, Pekka A survey of continuous-time computation theory. (English summary) *Advances in algorithms, languages, and complexity*, 209–224, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:68058** 68Q05 (68T05)

Orr, John Lindsay (*with* Davidson, Kenneth R.) Principal bimodules of nest algebras. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 488–533. (Stephen Power) **99k:47106** 47D25

Orr, Lynne H. (*with* Bisset, Mike; Kong, Otto C. W.; Macesanu, Cosmin) A simple phenomenological parametrization of supersymmetry without R-parity. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 274–280. (Summary) **99c:81273** 81V22 (81T60)

Orriols, G. (*with* Farjas, J.; Herrero, R.; Pi, F.) Experimental analysis of codimension-2 bifurcations in a periodically-forced opto-thermal oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1413–1435. (Summary) **99g:58087** 58F14 (34C23)

Orro, Patrice Quelques propriétés de la distance géodésique. (French summary) [Some properties of the geodesic distance] *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 107–113, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Massimo Ferrarotti) **99e:58007** 58A35 (32B20)

Orsatti, Adalberto *see* **Abelian groups, module theory, and topology, 99f:00028; Salce, Luigi, 99j:01024** *and* **Bibliography: Orsatti, Adalberto, (99f:00028)**

Orsina, Luigi (*with* Boccardo, Lucio) Existence and regularity of minima for integral functionals noncoercive in the energy space. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 95–130 (1998). (Erich Miersemann) **99k:49003** 49J10 (49N60)

— (*with* Boccardo, Lucio; Gallouët, Thierry) Existence and nonexistence of solutions for some nonlinear elliptic equations. *J. Anal. Math.* **73** (1997), 203–223. (Philip W. Schaefer) **99c:35067** 35J65 (35D05)

— (*with* Boccardo, Lucio; Dall'Aglio, Andrea) Existence and regularity results for some elliptic equations with degenerate coercivity. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 51–81. (Gary M. Lieberman) **99j:35077** 35J70 (35B65, 35J65)

— (*with* Boccardo, Lucio; Ferone, Vincenzo; Fusco, Nicola) Regularity of minimizing sequences for functionals of the calculus of variations via the Ekeland principle. *Differential Integral Equations* **12** (1999), *no.* 1, 119–135. (Giuseppe Mingione) **99j:49079** 49N60 (49J10)

Orsingher, Enzo Distributions of processes governed by hyperbolic equations when also boundary conditions are assumed. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 605–611, *TEV, Vilnius*, 1994. (Summary) **99e:60160** 60J25

— (*with* Glushak, A. V.) General solution of a hyperbolic equation that arises in the study of motion with random acceleration. (Russian. Russian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 50–54; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 49–53 (1998). (Vyacheslav V. Chistyakov) **99f:35235** 35R60 (35L99, 60J99)

— (*with* Conti, P. L.) Limiting distributions of randomly accelerated motions. (English and Lithuanian summaries) *Liet. Mat. Rink.* **37** (1997), *no.* 3, 295–308; *reprinted in Lithuanian Math. J.* **37** (1997), *no.* 3, 219–229 (1998). (Shengrong Xie) **99c:60040** 60F05 (60G17, 60K35)

Ørsted, Bent (*with* Ólafsson, Gestur) Generalizations of the Bargmann transform. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 3–14, *World Sci. Publishing, River Edge, NJ*, 1996. (Brian C. Hall) **99e:22032** 22E46 (22E30, 81S30)

— (*with* Zhang, Genkai) L^2-versions of the Howe correspondence. I. (English summary) *Math. Scand.* **80** (1997), *no.* 1, 125–160. (From the introduction) **99c:22017** 22E45

— (*with* Kobayashi, Toshiyuki) Conformal geometry and branching laws for unitary representations attached to minimal nilpotent orbits. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 925–930. (Tuong Ton That) **99i:22016** 22E45 (22E46)

— (*with* Neeb, Karl-Hermann) Unitary highest weight representations in Hilbert spaces of holomorphic functions on infinite-dimensional domains. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 263–300. (Vladimir Pestov) **99m:22022** 22E65 (17B65, 46E50, 46G20, 47D03)

— (*with* Ólafsson, Gestur) Causal compactification and Hardy spaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3771–3792. (Joachim Hilgert) **99m:22005** 22E30 (32M15, 43A85)

Orsucci, Franco *see* **Complex matters of the mind, 99e:92041**

Orszag, Steven A. (*with* Tomboulides, Ananias G.) A quasi-two-dimensional benchmark problem for low Mach number compressible codes. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 691–706. (Summary) **99i:76130** 76M25 (76N10, 80A32)

— (*with* Borue, Vadim) Local energy flux and subgrid-scale statistics in three-dimensional turbulence. (English summary) *J. Fluid Mech.* **366** (1998), 1–31. (Summary) **99e:76067** 76F99

— (*with* Konstantinov, A. B.; Staroselsky, Ilya; Yakhot, Victor) Renormalization group-based transport modeling of premixed turbulent combustion. I. Incompressible deflagration model. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 229–252. (From the text) **99k:80009** 80A25 (76F99, 76M25, 76N99, 80–08)

— (*with* Konstantinov, A. B.; Staroselsky, Ilya; Yakhot, Victor) Renormalization group-based transport modeling of premixed turbulent combustion. II. Finite density gradient and direct heat release. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 369–404. (Summary) **99k:80010** 80A25 (76F99, 76M25, 76N99, 80–08)

— (*with* Zhang, Yansi) Two-equation RNG transport modeling of high Reynolds number pipe flow. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 471–483. (Summary) **99k:76084** 76F99

Ortaçgil, Ercüment Classical differential geometry with Christoffel symbols of Ehresmann c-connections. (English summary) *Arch. Math.* (*Brno*) **34** (1998), *no.* 2, 229–237. (Jan Slovák) **99i:53009** 53A55 (53C05)

lópez Ortega, A. *see* **López Ortega, A.**

cobo Ortega, Ángel *see* **Cobo Ortega, Ángel**

Ortega, J. *see* **Ortega, Julio**

Ortega, J. M. *see* **Ortega, Joaquín Ma.**

Ortega, Joaquín (*with* Berzin, Corinne; León, José R.) Increments and crossings for the Brownian bridge: weak convergence. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 587–592. (Kun Soo Chang) **99h:60153** 60J65

— (*with* Berzin, Corinne; León, José R.) Study of the asymptotic behaviour of non-linear functionals for the empirical bridge via strong approximations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 671–676. (Lajos Horváth) **99g:60043** 60F05 (60F17)

— (*with* Berzin, Corinne; León, José R.) Level crossings and local time for regularized Gaussian processes. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 39–81 (19*N*). (Patrik Albin) **99i:60087** 60G15 (60F17, 60F25, 60J55)

Ortega, Joaquín Ma. (*with* Fàbrega, Joan) Holomorphic Triebel-Lizorkin spaces. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 177–212. (H. Triebel) **99a:46061** 46E35 (32A35, 46M35)

— (*with* Bruna, Joaquim) Interpolation along manifolds in Hardy-Sobolev spaces. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 17–45. (H. Triebel) **99j:32003** 32A35 (32E30, 42B30, 46E35)

Ortega, Julio (*with* Rojas, I.; Pelayo, F. J.; Prieto Espinosa, Alberto) Statistical analysis of the main parameters in the fuzzy inference process. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 157–173. 93C42 (03B52)

Ortega, Luis A. (*with* Leung, Anthony W.) Existence and monotone scheme for time-periodic nonquasimonotone reaction-diffusion systems: application to autocatalytic chemistry. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 712–733. (Arnaldo do Nascimento) **99d:35086** 35K57 (35B10)

Ortega, Miguel (*with* Pérez, Juan de Dios) Totally real sectional curvature of a real hypersurface in a quaternionic space form. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 227–233. (Jürgen Berndt) **99e:53081** 53C40

Ortega, Rafael Nonlinear resonance and invariant curves. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 63–68, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C25

— The number of stable periodic solutions of time-dependent Hamiltonian systems with one degree of freedom. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 1007–1018. (Jean Mawhin) **99h:58155** 58F22 (34C25, 58F05, 70H05)

— (*with* Alonso, José Miguel) Roots of unity and unbounded motions of an asymmetric oscillator. *J. Differential Equations* **143** (1998), *no.* 1, 201–220. (Jochen Denzler) **99a:34102** 34C11 (34C15, 34C35, 34D05)

— (*with* Robles-Pérez, Aureliano M.) A maximum principle for periodic solutions of the telegraph equation. *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 625–651. (Eduard Feireisl) **99c:35137** 35L20 (35B50)

Ortega-Cerdà, Joaquim (*with* Bruna, Joaquim) On L^p-solutions of the Laplace equation and zeros of holomorphic functions. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 571–591. (Steven George Krantz) **99c:31011** 31B10 (31A10, 35J05)

— Zero sets of holomorphic functions in the bidisk. (English summary) *Ark. Mat.* **36** (1998), *no.* 1, 103–117. (Daniel H. Luecking) **99g:32007** 32A37 (30C15, 32A30)

Ortega Salvador, Pedro (*with* Martín-Reyes, F. J.; Sarrión Gavilán, María Dolores) Boundedness of operators of Hardy type in Λ^{pq} spaces and weighted mixed inequalities for singular integral operators. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 1, 157–170. (B. Muckenhoupt) **99d:42025** 42B20 (26D15, 46E30, 47B38, 47G10)

— Weighted inequalities for one-sided maximal functions in Orlicz spaces. (English summary) *Studia Math.* **131** (1998), *no.* 2, 101–114. (Donald Krug) **99g:42022** 42B25 (46E30)

Ortegón Gallego, Francisco (*with* Gómez Mármol, Macarena) The Stokes and Navier-Stokes equations coupled to two nonlinear parabolic equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 459–464, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35Q30

— (*with* Gómez Mármol, Macarena) Some results on the Kolmogorov equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 465–470, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76F99 (35Q35)

— (*with* Chacón Rebollo, Tómas; Franco Coronil, Daniel; Sánchez Muñoz, Isabel) Modelling of compressible flows with highly oscillating initial data by homogenization. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 4, 435–464. (Roland Schiestel) **99a:76066** 76F10 (35B27, 35Q35, 76M25, 76N10)

quintana Ortí, Enrique S. *see* **Quintana Ortí, Enrique S.**

quintana-Ortí, Gregorio *see* **Quintana-Ortí, Gregorio**

silva-Ortigoza, Gilberto *see* **Silva-Ortigoza, Gilberto**

ortuno-Ortin, Ignacio *see* **Ortuno-Ortin, Ignacio**

Ortín, Tomás (*with* Bergshoeff, E. A.; Kallosh, Renata; Papadopoulos, George J.) κ-symmetry, supersymmetry and intersecting branes. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 149–169. (Javier Borlaf González) **99a:81127** 81T30 (83E30)

— (*with* Álvarez, Enrique; Meessen, Patrick) Transformation of black-hole hair under duality and supersymmetry. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 181–218. (Summary) **99i:83054** 83C57 (81T60, 83E30)

— (*with* Bergshoeff, E. A.; Lozano, Yolanda) Massive branes. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 363–423. (Summary) **99f:81148** 81T30 (83E30, 83E50)

— Extremality versus supersymmetry in stringy black holes. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 93–100. (Summary) **99a:83048** 83C57 (81T30, 83E30)

Ortis Bobadil'ya, L. *see* **Ortiz-Bobadilla, Laura**

lópez-Ortiz, Alejandro *see* **López-Ortiz, Alejandro**

trejo Ortiz, Alejandro A. R. *see* **Trejo Ortiz, Alejandro A. R.**

Ortiz, E. L. (*with* Nguyen Thanh Long; Pham Ngoc Dinh, A.) On the existence of a solution of a boundary value problem for a non-linear Bessel equation on an unbounded interval. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 237–247. (Summary) **99h:34036** 34B15 (34B30, 65L10)

— (*with* El-Daou, M. K.) A recursive formulation of Galerkin's method in terms of the tau method: bounded and unbounded domains. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 83–94. (Summary) **99e:65155** 65N30 (65L60)

— (*with* El-Daou, M. K.) The tau method as an analytic tool in the discussion of equivalence results across numerical methods. (English summary) *Computing* **60** (1998), *no.* 4, 365–376. (T. E. Simos) **99h:65144** 65L99

Ortiz, Isabel (*with* Rodríguez Torreblanca, C.) D-optimal designs for weighted polynomial regression without any initial terms. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 67–74, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62091** 62K05

— (*with* Rodríguez Torreblanca, C.) Optimal designs with respect to Elfving's partial minimax criterion for heteroscedastic polynomial regression. (English summary) *Test* **7** (1998), *no.* 2, 347–360. (Summary) **99j:62107** 62K05

rosas-Ortiz, J. Oscar *see* **Rosas-Ortiz, J. Oscar**

aguilar-Ortiz, Jaime *see* **Aguilar-Ortiz, Jaime**

betancor Ortiz, Juan D. *see* **Betancor Ortiz, Juan D.**

Ortiz, Michael (*with* Radovitzky, R.) Lagrangian finite element analysis of Newtonian fluid flows. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 4, 607–619. 76M10

— (*with* Miller, Ron; Phillips, Rob; Beltz, Glen) A non-local formulation of the Peierls dislocation model. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1845–1867. (*see* **99g:73003**) 73S10

— (*with* Bhattacharya, Kaushik; Ravichandran, G.) Energy-based model of compressive splitting in heterogeneous brittle solids. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 2171–2181. (Summary) **99h:73062** 73M25 (73S10)

— (*with* Stainier, L.) The variational formulation of viscoplastic constitutive updates. (English summary) *Comput. Methods Appl. Mech. Engrg.* **171** (1999), *no.* 3-4, 419–444. (Summary) **99m:73036** 73E60 (73E05, 73V20)

— (*with* Radovitzky, R.) Error estimation and adaptive meshing in strongly nonlinear dynamic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **172** (1999), *no.* 1-4, 203–240. (Summary) **99m:76083** 76M10 (73V05)

— (*with* Repetto, E. A.) Nonconvex energy minimization and dislocation structures in ductile single crystals. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 397–462. (Summary) **99k:73068** 73E99 (73S10, 73V25)

— (*with* Shenoy, V. B.; Miller, Ron; Tadmor, E. B.; Rodney, D.; Phillips, Rob) An adaptive finite element approach to atomic-scale mechanics—the quasicontinuum method. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 3, 611–642. (Summary) **99k:73116** 73V05 (73B99, 73S10)

— (*with* Repetto, E. A.; Si, Helen) A continuum model of kinetic roughening and coarsening in thin films. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 697–730. (Summary) **99k:82078** 82D55

Ortiz, Miguel E. (*with* Carroll, Sean M.; Taylor, Washington, IV) Boundary fields and renormalization group flow in the two-matrix model. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046006, 15 *pp.* 82B28 (81T17, 82B41)

— (*with* Bañados, Máximo; Bautier, Karin; Coussaert, Olivier; Henneaux, Marc) Anti-de Sitter-CFT correspondence in three-dimensional supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085020, 6 *pp.* (Summary) **99k:83131** 83E50 (81T40)

— (*with* Bañados, Máximo; Brotz, Thorsten) Quantum three-dimensional de Sitter space. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046002, 5 *pp.* (Summary) **99m:83063** 83C45 (81T20)

Ortíz-Bobadilla, Laura Topological equivalence of linear autonomous equations in $\mathbf{C}^m$ with Jordan blocks. (Russian) *Tr. Mosk. Mat. Obs.* **57** (1996), 75–101; *translation in Trans. Moscow Math. Soc.* **1996**, 67–91 (1997). (Natalia Borisovna Medvedeva) **99a:58127** 58F19 (34A30, 34A34, 34C20, 58F25)

— (*with* Shcherbakov, A. A.; Rosales Gonsales, Èrnesto) Countable set of limit cycles for the equation $dw/dz = P_n(z,w)/Q_n(z,w)$. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 4, 539–581. (Sergeĭ Yu. Yakovenko) **99m:58150** 58F21 (34C05)

Ortiz Z., Carmen (*with* Maculan, Nelson; Szwarcfiter, Jayme L.) Characterizing and edge-colouring split-indifference graphs. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 209–217. (Mirko Horňák) **99b:05061** 05C15 (05C75)

Ortmann, K. Michael Conservation of energy in value theory. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 3, 423–449. (A. Rapoport) **99h:90119** 90D06 (90D12)

meyer-Ortmanns, Hildegard *see* **Meyer-Ortmanns, Hildegard**

rivera Ortún, María José *see* **Rivera Ortún, María José**

Ortuno-Ortin, Ignacio (*with* Gerber, Anke) Political compromise and endogenous formation of coalitions. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 445–454. (Summary) **99d:92058** 92K10 (90A28)

Ortynski, A. (*with* Zhang, Yanjun) Efficiency of randomized parallel backtrack search. (English summary) *Algorithmica* **24** (1999), *no.* 1, 14–28. (Summary) **99k:68178** 68T20

Oru, F. (*with* Cohen, Albert; Meyer, Yves) Improved Sobolev embedding theorem. *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XVI*, 16 *pp.*, *École Polytech., Palaiseau*, 1998. (J. Musielak) **99k:46053** 46E35 (26D20, 42C15)

Oruç, A. Yavuz (*with* Gündüzhan, Emre) Structure and density of sparse crossbar concentrators. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 169–180, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:94068** 94C15 (05C90)

Oruçoğlu, Kamil (*with* Akhiev, S. S.) The Riemann function for the third-order one-dimensional pseudoparabolic equation. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 3, 353–370. (Dao Qing Dai) **99m:35136** 35K70 (35C15)

Oryszczyszyn, Henryk (*with* Prażmowski, Krzysztof) On projections in projective spaces. *Demonstratio Math.* **31** (1998), *no.* 1, 193–202. (Introduction) **99c:51012** 51E15

dwornik-Orzechowska, Teresa *see* **Dwornik-Orzechowska, Teresa**

Orzechowski, M. E. A lower bound on the box-counting dimension of crossings in fractal percolation. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 53–65. (Rahul Roy) **99d:60110** 60K35 (82B43)

Osada, Hirofumi An invariance principle for Markov processes and Brownian particles with singular interaction. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 2, 217–248. (Wan Ding Ding) **99c:60073** 60F17 (60J25, 60J65, 60K35)

— Interacting Brownian motions with measurable potentials. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 1, 10–12. (Zhi Ming Ma) **99g:60191** 60K35 (31C25, 60J45, 60J65)

Osada, Naoki Improving the order of convergence of iteration functions. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 311–315. (Summary) **99f:65076** 65H05

Osada, Takuya (*with* Iwasaki, Yoshimitsu) A fractal set having any box-counting dimension. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 91–94. (Summary) **99j:28008** 28A80

Osadchii, Yu. M. Digital filtration of hydroacoustical signals in shallow water. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2497–2500. (*see* **99e:00033**) 76Q05

Osadchuk, V. A. (*with* Prokopovich, I. B.; Kravchishin, O. Z.) The linearized equations of propagation of elastic perturbations in a body with free strains. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 2, 1972–1977. (Summary) **99f:73033** 73D15

Osahan, Sukhminder S. Overlapping clusters of tuberculosis contacts: an improved sampling strategy. (English summary) *Biometrical J.* **39** (1997), *no.* 6, 689–697. (Summary) **99b:62158** 62P10 (62D05)

— (*with* Tracy, Derrick S.) On the efficiency of determinant sampling. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 3, 385–394. (S. Gabler) **99b:62009** 62D05

Osaka, Hiroyuki Introduction to the classification of purely infinite simple C^*-algebras—an introduction to the work of Kirchberg. Recent developments in the theory of operator algebras (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 977 (1997), 23–51. (Jonathan M. Rosenberg) **99g:46076** 46L05 (46L80)

— (*with* Jeong, Ja A) Extremally rich C^*-crossed products and the cancellation property. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 285–301. (Yoshikazu Katayama) **99k:46097** 46L05

— Extremal richness of C^*-algebras. Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 18–31. (Gustavo Corach) **99h:46112** 46L05

— SP-property for a pair of C^*-algebras. (English summary) Exact C^*-algebras and related topics (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1046 (1998), 45–52. (Summary) **99k:46101** 46L05

Osaki, Shunji (*with* Dohi, Tadashi; Kaio, Naoto) Revised optimal checkpointing strategies in database availability modeling and their comparison. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 59–66. (*see* **99h:90006**) 90B22 (90B25)

— (*with* Okuhara, Koji) Stochastic density of strategies in game dynamics. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 237–240. (*see* **99h:90006**) 92D15 (90D40)

— (*with* Dohi, Tadashi; Takeita, Kentaro) Graphical methods for determining/estimating optimal repair-limit replacement policies. (English summary) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 37–52. (*see* **99i:90002**) 90B05 (90B25)

— (*with* Dohi, Tadashi; Okamura, Hiroyuki) Optimal order-limit policies for an (r, Q) inventory system. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 2, 127–145. (Summary) **99k:90067** 90B05

Osano, Minetada (*with* Tanimoto, Mitsumori; Yaoita, Akira; Nakajima, Kazuo) Evaluation of the efficiency of the partially solving method (PSM) in comparison with the Gaussian elimination method. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 443–459. (A. Barraud) **99m:65055** 65F05 (65F50, 65Y20)

Ōsawa, Hideo (*with* Doi, Makoto; Chen, Yow-Mow) A queueing model in which arrival times are scheduled. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 249–252. (Summary) **99b:90054** 90B22

— (*with* Takahashi, Misa; Fujisawa, Takehisa) A stochastic assembly system with resume levels. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 2, 127–146. (Summary) **99i:90045** 90B05 (60K25, 90B22)

Osbaldestin, Andrew H. (*with* Mestel, B. D.) Feigenbaum theory for unimodal maps with asymmetric critical point: rigorous results. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 1, 211–228. (Mikhail Zaks) **99i:58100** 58F12 (39B32)

— (*with* Mestel, B. D.) Feigenbaum theory for unimodal maps with asymmetric critical point. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3287–3296. (Eleonora Catsigeras) **99f:58143** 58F13

— (*with* Abenda, Simonetta; Moussa, Pierre) Multifractal dimensions and thermodynamical description of nearly-circular Julia sets. (English summary) *Nonlinearity* **12** (1999), *no.* 1, 19–40. (Lars Olsen) **99m:58126** 58F11 (30D05, 58F12, 58F23)

Osborn, Hugh (*with* Erdmenger, Johanna) Conformally covariant differential operators: symmetric tensor fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 273–280. (R. Schimming) **99b:58238** 58G30

— (*with* Freedman, D. Z.) Constructing a c-function for SUSY gauge theories. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 353–360. (Summary) **99c:81147** 81T17 (81T60)

Osborn, J. Marshall (*with* Zhao, Kaiming) A characterization of the Block Lie algebra and its q-forms in characteristic 0. (English summary) *J. Algebra* **207** (1998), *no.* 2, 367–408. (Aleksandr A. Mikhalev) **99i:17034** 17B70

— (*with* Zhao, Kaiming) Infinite-dimensional Lie algebras of generalized Block type. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1641–1650. (Zhi Xue Zhang) **99i:17024** 17B65 (17B40)

Osborne, A. R. (*with* Serio, M.; Bergamasco, L.; Cavaleri, L.) Solitons, cnoidal waves and nonlinear interactions in shallow-water ocean surface waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 64–81. (Summary) **99i:76021** 76B25 (35Q53, 86A05)

— (*with* Onorato, M.; Serio, M.; Bergamasco, L.) Soliton creation and destruction, resonant interactions, and inelastic collisions in shallow water waves. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 17, 3559–3562. (Summary) **99h:76011** 76B25 (76B15)

Osborne, Anthony D. ★ Complex variables and their applications. (English summary) International Mathematics Series. *Addison Wesley Longman Limited, Harlow*, 1999. $x+454$ *pp. ISBN* 0-201-34290-1 30–01

Osborne, G. E. (*with* Frankel, J. I.) A new time treatment for solving partial integro-differential equations of radiative transport. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 91–103. (Summary) **99j:65236** 65R20

Osborne, Michael R. (*with* Childs, Bart) Fitting solutions of ordinary differential equations to observed data. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 193–198, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65L06

— (*with* Dun, C. R.; Hegland, Markus) Parallel stable solution methods for tridiagonal linear systems of equations. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 267–274, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65F10 (65Y05)

— (*with* Hegland, Markus) Wrap-around partitioning for block bidiagonal linear systems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 373–383. (Summary) **99c:65049** 65F05

Ose, David T. Deformations for function fields. (English summary) *J. Number Theory* **70** (1998), *no.* 1, 37–61. (Nigel Boston) **99i:11106** 11R58 (11G09)

Ó Searcóid, Micheál Perturbation of linear operators by idempotents. *Irish Math. Soc. Bull. No.* 39 (1997), 10–13. (John Maroulas) **99a:15002** 15A04 (47A05)

— On a comment of Douglas concerning Widom's theorem. *Irish Math. Soc. Bull. No.* 40 (1998), 31–34. (Introduction) **99d:47026** 47B35 (46E99)

Osejo, Edgar (*with* Soto, Fernando; Caballero, Rafael) Peirce's enumeration of the rationals. (Spanish. English and Spanish summaries) *Bol. Mat.* (*N.S.*) **3** (1996), *no.* 2, 83–96. (Summary) **99d:04001** 04A05

Oseledets, V. I. (*with* Bezhaeva, Z. I.) On a stochastic dynamical system. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 803–809; *translation in Math. Notes* **61** (1997), *no.* 5-6, 675–680. (N. N. Ganikhodzhaev) **99h:28030** 28D05

— (*with* Nguyễn Đình Công) Topological invariants of linear cocycles of an ergodic map. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 243–256. (Oliver Knill) **99j:58129** 58F11

Osetinskiĭ, N. I. Complexes of modules and the theory of realization of linear systems. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1495–1498, 1581; *translation in Differential Equations* **32** (1996), *no.* 11, 1492–1495 (1997). (Zbigniew Bartosiewicz) **99a:93016** 93B15 (13D25, 93B25, 93C05, 93C55)

— Methods of invariant analysis for linear control systems. Optimization and control, 1. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 5, 587–657. (Allen Tannenbaum) **99f:93029** 93B25 (14D25, 93C05)

— (*with* Vainstein, F. S.) Classification of systems under state and output transformations. Optimization and control, 1. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 5, 659–674. (Allen Tannenbaum) **99f:93031** 93B25 (14D25, 93B10)

Osgood, Brad Old and new on the Schwarzian derivative. *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 275–308, *Springer, New York*, 1998. (Stephen M. Zemyan) **99d:30022** 30C55

— (*with* Chuaqui, M.; Pommerenke, Ch.) On the coefficients of small univalent functions. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 79–86. (Summary) **99c:30035** 30C50

O'Shea, Donal (*with* Cox, David A.; Little, John B.) ★ Using algebraic geometry. (English summary) Graduate Texts in Mathematics, 185. *Springer-Verlag, New York*, 1998. *xii*+499 *pp. ISBN* 0-387-98487-9 (P. Schenzel) **99h:13033** 13Pxx (13-01, 14-01, 14Qxx)

— *see also* **Anosov, D. V. et al., 99h:58053**

Osher, Stanley (*with* Fedkiw, Ronald P.; Merriman, Barry) Numerical methods for a one-dimensional interface separating compressible and incompressible flows. (English summary) *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 155–194, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:76067** 76M20 (65M99, 76M25, 76N10)

— (*with* Fedkiw, Ronald P.; Merriman, Barry) Efficient characteristic projection in upwind difference schemes for hyperbolic systems. The complementary projection method. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 1, 22–36. (Summary) **99a:76096** 76M20 (65M06)

— (*with* Liu, Xu-Dong) Convex ENO high order multi-dimensional schemes without field by field decomposition or staggered grids. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 304–330. (Summary) **99b:76056** 76M20 (65M12)

— (*with* Zhao, Hong-Kai; Merriman, Barry; Wang, Lihe) Capturing the behavior of bubbles and drops using the variational level set approach. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 495–518. (Summary) **99c:76089** 76M25 (76D99)

— (*with* Harabetian, Eduard) Regularization of ill-posed problems via the level set approach. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1689–1706 (*electronic*). (Summary) **99d:65268** 65M30

— (*with* Jiang, Guang-Shan; Levy, Doron; Lin, Chi-Tien; Tadmor, Eitan) High-resolution nonoscillatory central schemes with nonstaggered grids for hyperbolic conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2147–2168 (*electronic*). (Rémi Vaillancourt) **99j:65145** 65M12 (35L65, 65M06)

Osherov, Vladimir I. (*with* Nakamura, Hiroki) Analytic solution of two-state time-independent coupled Schrödinger equations in an exponential model. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 3, 2486–2489. (Summary) **99m:81047** 81Q05

Osherson, Daniel (*with* Martin, Eric) Scientific discovery based on belief revision. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1352–1370. (David Makinson) **99i:03029** 03B60

Oshikawa, Masaki (*with* Affleck, Ian; Saleur, Hubert) Boundary critical phenomena in the three-state Potts model. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5827–5842. (Summary) **99d:82026** 82B27 (82B20, 82B28)

Ōshima, Hideaki (*with* Tsukiyama, Kouzou) Bundle map theory in the category of weak Hausdorff k-spaces. (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **31** (1998), 27–55. (Summary) **99b:55028** 55R05 (55R10)

— (*with* Mimura, Mamoru) Self homotopy groups of Hopf spaces with at most three cells. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 71–92. (A. H. Copeland, Jr.) **99j:55007** 55P45 (55M30, 55P60)

Oshima, Kazuto de Rham cohomology of $SO(n)$ and some related manifolds by supersymmetric quantum mechanics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3120–3130. (Ashok Kumar Mishra) **99d:81044** 81Q60 (58A12)

Oshima, Kunio (*with* Furuichi, Shigeru) Quantum control on quantum amplifier processes by means of squeezed state. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 113–123. (*see* **99h:65005**) 81P99

— (*with* Furuichi, Shigeru) Application of matrices generated by rank one matrices in mathematical science. (English summary) Industrial and applied mathematics

(Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 131–140. (Shao Kuan Li) **99k:15040** 15A57 (15A18)

Oshima, M. (*with* Hughes, Thomas J. R.; Jansen, Kenneth E.) Consistent finite element calculations of boundary and internal fluxes. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 227–235. (*see* **99f:76004**) 76M10

Oshima, Toshio Asymptotic behavior of Flensted-Jensen's spherical trace functions with respect to spectral parameters. *Algebraic analysis, geometry, and number theory (Baltimore, MD, 1988)*, 313–323, *Johns Hopkins Univ. Press, Baltimore, MD*, 1989. (Gestur Ólafsson) **99b:43007** 43A85 (22E46, 43A90)

Oshima, Yōichi Families of time-dependent Dirichlet forms and corresponding Markov processes. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 112–116. (*see* **99a:00036**) 31C25 (60J45)

— On the recurrence of some time inhomogeneous Markov processes. (English summary) *Forum Math.* **10** (1998), *no.* 1, 119–134. (Wilhelm Stannat) **99a:60079** 60J45 (31C25, 60J35)

Oshiro, Hideaki Traveling wave solutions for some quasilinear diffusion equations. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 761–777. (Summary) **99h:35094** 35K55 (34B15, 35B40)

Osička, J. (*with* Bartušek, Miroslav) Asymptotic behaviour of solutions of a third-order nonlinear differential equation. *Nonlinear Anal.* **34** (1998), *no.* 5, 653–664. (Mauro Marini) **99f:34041** 34C10 (34B15, 34C11)

Osiewalski, Jacek (*with* Fernández Llana, Carmen; Steel, Mark F. J.) Classical and Bayesian inference robustness in multivariate regression models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1434–1444. (I. Guttman) **99b:62100** 62J05 (62F15, 62F35, 62H05)

Osilenker, Boris P. An analogue of the trace formula for discrete Sturm-Liouville operators with asymptotically N-periodic coefficients. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 72–75; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 283–285 (1998). (Vjacheslav A. Yurko) **99c:47040** 47B39 (39A70)

— (*with* Marcellán, Francisco) Estimates for Legendre-Sobolev polynomials that are orthogonal with respect to the scalar product. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 871–880; *translation in Math. Notes* **62** (1997), *no.* 5-6, 731–738 (1998). (Leonid B. Golinskiĭ) **99e:42036** 42C05 (33C45)

— The representation of the reproducing kernel in orthogonal polynomials on several intervals. (English summary) *Lie groups and Lie algebras*, 147–162, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (A. Schwartz) **99k:42052** 42C05 (33C45, 43A62, 46E22)

— An analog of the trace formula for orthogonal polynomials with asymptotically N-periodic recurrence coefficients ($N = 2$). (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 4, 293–310. (Kazuhiro Hikami) **99j:42036** 42C05

— Trace formula for orthogonal polynomials with asymptotically 2-periodic recurrence coefficients. *J. Approx. Theory* **92** (1998), *no.* 3, 442–462. (Franz Peherstorfer) **99f:42052** 42C05 (33C45)

Osilike, M. O. Iterative approximation of fixed points of asymptotically demicontractive mappings. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 12, 1291–1300. (Charles Ejike Chidume) **99m:47066** 47H10 (47H09, 47H17)

— Stability of the Mann and Ishikawa iteration procedures for φ-strong pseudocontractions and nonlinear equations of the φ-strongly accretive type. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 319–334. (Summary) **99h:47071** 47H10 (47H15, 47H17)

— (*with* Chidume, C. E.) Nonlinear accretive and pseudo-contractive operator equations in Banach spaces. *Nonlinear Anal.* **31** (1998), *no.* 7, 779–789. (Ramendra Krishna Bose) **99b:47082** 47H10

— Iterative construction of fixed points of multi-valued operators of the accretive type. II. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 141–146. (Summary) **99e:47079** 47H10 (47H04, 47H06, 47H17)

Osinga, H. M. (*with* Broer, Hendrik W.; Vegter, Gert) Algorithms for computing normally hyperbolic invariant manifolds. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 3, 480–524. (Joan Carles Tatjer) **99a:58119** 58F15 (34C30, 58F30, 65H99)

— (*with* Broer, Hendrik W.; Vegter, Gert) Computing a normally attracting invariant manifold of a Poincaré map. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 541–549, *Brepols, Turnhout*, 1998. (Summary) **99k:58132** 58F15 (58F12)

Osinga, Hinke (*with* Krauskopf, Bernd) Globalizing two-dimensional unstable manifolds of maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 483–503. (Michael Hurley) **99f:58155** 58F15 (58F10)

— (*with* Krauskopf, Bernd) Growing 1D and quasi-2D unstable manifolds of maps. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 404–419. (Joan Carles Tatjer) **99m:58122** 58F08 (58F13, 58F15)

Osinov, V. A. On the formation of discontinuities of wave fronts in a saturated granular body. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 5, 253–268. (Summary) **99f:73036** 73D40 (73E70, 73Q05)

Osipchuk, M. M. Diffusion with nonregular drift. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 122–128; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 127–134. (Summary) **99e:60177** 60J60 (60G60)

Osipenko, A. S. (*with* Dubinskiĭ, Yu. A.) On the "orthogonal" decomposition of Sobolev spaces into a sum of analytic and coanalytic subspaces. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 6, 735–738. (Introduction) **99j:46035** 46E35 (30E25, 35A20)

Osipenko, G. S. (*with* Campbell, Stephen R.) Applied symbolic dynamics: attractors and filtrations. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 43–60. (Michael Hurley) **99j:58135** 58F12 (58F03)

Osipenko, K. Yu. On exact values of n-widths on classes defined by operators that do not increase oscillations. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 9, 113–126; *translation in Sb. Math.* **188** (1997), *no.* 9, 1371–1383. (Yuly Makovoz) **99h:41034** 41A46 (41A35)

Osipov, A. V. Dissipativity and degeneration conditions in the ecological HHW-model. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 658–663, 718; *translation in Differential Equations* **33** (1997), *no.* 5, 661–666 (1998). (Summary) **99d:92047** 92D40 (34C99)

— On the diffraction of sound waves by the angular joint of thin elastic plates. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 230–247; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 223–238. (Sergeĭ Grudskiĭ) **99g:76136** 76Q05 (73D25, 73K70)

— (*with* Norris, A. N.) The Malyuzhinets theory for scattering from wedge boundaries: a review. (English summary) *Wave Motion* **29** (1999), *no.* 4, 313–340. (Summary) **99m:76101** 76Q05 (73D25, 78A45)

Osipov, E. P. (*with* Tolkachev, G. V.) Sugawara construction for the birepresentation of the Moufang loop. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 93–102. (Edgar G. Goodaire) **99c:17043** 17D10 (22A30)

Osipov, G. V. (*with* Glatz, L.; Troger, H.) Suppressing chaos in the Duffing oscillator by impulsive actions. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 307–321. (Introduction) **99b:58163** 58F13 (34D45, 70K50, 93C15)

— (*with* Shulgin, Boris V.; Collins, James J.) Controlled movement and suppression of spiral waves in excitable media. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 6955–6958. 35Q80

Osipov, I. O. Reflection and refraction of plane longitudinal waves on the boundary between a fluid and an anomalous anisotropic medium. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 210–221; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 203–213. (Summary) **99c:73022** 73D25 (73B40, 73K70)

Osipov, V. F. ★ Структура пространства-времени: векторная алгебра и анализ. Часть 1. (Russian. Russian summary) [Space-time structure: vector algebra and analysis. Part 1] *Izdatel'stvo Sankt-Peterburgskogo Universiteta, St. Petersburg*, 1995. 327 *pp. ISBN* 5-288-01363-2 (Ě. S. Kryachko) **99e:53015** 53A45 (15–01, 22E70, 53–01, 58–01, 83–01)

Osipov, V. V. (*with* Ponizovskaya, E. V.) The nature of bursting noises, stochastic resonance and deterministic chaos in excitable neurons. (English summary) *Phys. Lett. A* **238** (1998), *no.* 6, 369–374. (Summary) **99c:92014** 92C20 (58F13, 58F40)

Oskolkov, Konstantin I. Ridge approximation, Fourier-Chebyshev analysis, and optimal quadrature formulas. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 269–285. (Alexander Alipkanovich Zhensykbaev) **99j:41036** 41A30 (41A46, 42C10)

— Schrödinger equation and oscillatory Hilbert transforms of second degree. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 341–356. (Saburou Saitoh) **99j:42004** 42A16 (11L05, 11M06, 35J10, 44A15)

Oskolkov, V. A. (*with* Sevast'yanov, E. A.) On the Hardy-Littlewood problem. (Russian. Russian summary) *Applications of mathematics in engineering (Sozopol*, 1997), 71–72, *Heron Press, Sofia*, 1998. (N. G. Moshchevitin) **99k:11116** 11K06 (11A55, 11K31)

Osland, Per (*with* Ogreid, Odd Magne) Summing one- and two-dimensional series related to the Euler series. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 245–271. (Boris Petrovich Osilenker) **99m:40003** 40A30 (33E20, 81T18)

Osman, M. A. (*with* El-Amawy, A.) A distributed fault-tolerant routing algorithm for generalized de Bruijn networks. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 951–970 (*electronic*). (*see* **99f:68006**) 68M10

Osman, Nael F. (*with* Prince, Jerry L.) 3D vector tomography on bounded domains. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 185–196. (Fritz Keinert) **99a:44002** 44A12 (92C55)

Osmolovski, V. *see* **Osmolovskiĭ, V. G.**

Osmolovskii, Nikolai P. Quadratic conditions for nonsingular extremals in optimal control (examples). (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 3, 373–388 (1998). (Heinz Schättler) **99j:49041** 49K15

— (*with* Milyutin, Alekseĭ A.) ★ Calculus of variations and optimal control. (English summary) Translated from the Russian manuscript by Dimitrii Chibisov. Translations of Mathematical Monographs, 180. *American Mathematical Society, Providence, RI*, 1998. *xii*+372 *pp. ISBN* 0-8218-0753-6 (Alexander D. Ioffe) **99g:49002** 49–02 (49K15, 49L05, 93–02)

Osmolovskiĭ, V. G. Bifurcation of a free surface in phase transition problems in continuum mechanics. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 169–200, 341. (Jürgen Socolowsky) **99e:73019** 73B30 (49J10, 73V25)

— (*with* Fuchs, Martin[2]) Variational integrals on Orlicz-Sobolev spaces. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 393–415. (Erich Miersemann) **99f:49060** 49N60 (46E35, 49J52)

Osokina, Olga P. (*with* Kuzutin, Denis V.; Romanenko, Irene A.) On the consistency of optimal behavior in extensive games. *Game theory and applications, III*, 65–76, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:90008**) 90D06

— (*with* Kuzutin, Denis V.; Romanenko, Irene A.) On the consistency of optimal behavior in extensive games. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 139–150. (H. Abou-Kandil) **99f:90196** 90D10 (90D12)

Osorio, M. A. R. (*with* Laucelli Meana, Marco; Puente Peñalba, Jesús) Finite temperature Matrix theory. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 613–640. (Summary) **99g:81176** 81T30 (83C57)

Osorio, Mauricio (*with* Jayaraman, Bharat) Aggregation and well-founded semantics$^+$. (English summary) *Non-monotonic extensions of logic programming (Bad Honnef*, 1996), 71–90, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (Summary) **99a:68046** 68P15 (68N17)

Ospanov, K. N. On a degenerate system of Beltrami-type equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 41–46. (Guo Chun Wen) **99i:35034** 35J55 (30G20, 35J70)

Ossa, Erich A simple proof of the Tietze-Urysohn extension theorem. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 4, 331–332. (Bruce Wenner) **99h:54023** 54C20 (54D15)

Osse, A. (*with* Jeanneret, A.) The K-theory of p-compact groups. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 556–581. (David Benson) **99d:55007** 55R35 (55N15, 55P35, 55R50)

Osses, Axel Une nouvelle famille de multiplicateurs et applications à la contrôlabilité exacte de l'équation d'ondes. (English and French summaries) [A new family of multipliers and applications to the exact controllability of the wave equation] *C. R. Acad.*

Sci. Paris Sér. I Math. **326** (1998), *no.* 9, 1099–1104. (Summary) **99g:93013** 93B05 (35L05, 93C20)

— (*with* Puel, Jean-Pierre) Boundary controllability of a stationary Stokes system with linear convection observed on an interior curve. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 201–234. (Vera Winitzky de Spinadel) **99i:93007** 93B05 (76D07, 76M30, 93C20)

— (*with* Conca, Carlos; Planchard, Jacques) Asymptotic analysis relating spectral models in fluid-solid vibrations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1020–1048 (*electronic*). (Summary) **99a:73101** 73K70 (35P10, 35P20, 35Q72, 47A75, 47F05)

Ossiander, Mina (*with* Waymire, Edward C.; Zhang, Qing) Some width function asymptotics for weighted trees. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 972–995. (Robert P. Dobrow) **99b:60146** 60J80 (60J85)

Ossowski, Andrzej On the dynamics of a closed-loop system with hysteresis. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 183–196. (Summary) **99h:93087** 93D15 (34H05, 34K35)

Ossowski, Piotr A counterexample to a conjecture of Bass, Connell and Wright. *Collog. Math.* **77** (1998), *no.* 2, 315–320. (Gary H. Meisters) **99h:14013** 14E09 (05C05, 13B10, 13B25)

Ostapenko, N. A. (*with* Yakunina, G. E.) Dynamics of thin bodies in dense media under conditions of a local interaction model. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 1008–1022; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 973–985 (1998). (Summary) **99c:73020** 73D05

Ostapenko, V. V. Asymptotic expansion of a difference solution on the front of a shock wave. (Russian. Russian summary) *Mat. Model.* **5** (1993), *no.* 2, 94–103. 76M20 (76L05)

— A criterion for weak finite-difference approximation of the operator of the sum of partial derivatives of nonlinear functions. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 2, 160–163. (Zeng Fu Qin) **99a:65102** 65M06 (65D25)

— (*with* Finin, G. S.; Polivoda, O. V.) Optimal distribution of resources for consumers with equal expenditure. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1998**, *no.* 6, 106–109. 90C08 (90C90)

— (*with* Finin, G. S.) Optimization of a system of consumption intervals in a resource allocation problem. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 120–127, 154. 90C90 (90A40)

— On the monotonicity of difference schemes. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1111–1126, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 959–972. (Reinhard Redlinger) **99j:65140** 65M06

— On the strong monotonicity of nonlinear difference schemes. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1170–1185; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1119–1133. (Summary) **99d:65252** 65M06

hoffmann-Ostenhof, M. *see* **Hoffmann-Ostenhof, M.**

hoffmann-Ostenhof, T. *see* **Hoffmann-Ostenhof, T.**

Oster, Oliver (*with* Giannakopoulos, Fotios) Bifurcation properties of a planar system modelling neural activity. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 229–242. (Summary) **99m:92003** 92C05 (34C23, 58F14, 92C20)

Östergård, Patric R. J. (*with* Gulliver, T. Aaron) Improved bounds for quaternary linear codes of dimension 6. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 2, 153–159. (Summary) **99h:94060** 94B05 (94B15)

— (*with* Graham, Ronald L.; Lubachevsky, B. D.; Nurmela, Kari J.) Dense packings of congruent circles in a circle. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 139–154. (A. Florian) **99b:52040** 52C15 (05B40)

— (*with* Brouwer, Andries E.; Hämäläinen, Heikki O.; Sloane, Neil J. A.) Bounds on mixed binary/ternary codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 140–161. (Summary) **99b:94057** 94B65

— (*with* Etzion, Tuvi) Greedy and heuristic algorithms for codes and colorings. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 382–388. (Summary) **99a:94066** 94B65 (05C15)

— (*with* Nurmela, Kari J.) A circle packing problem—or: how to fit the bottles in the basket. (Swedish. English summary) *Normat* **46** (1998), *no.* 2, 64–70, 96. (Summary) **99g:52033** 52C15

— (*with* Nurmela, Kari J.) New coverings of t-sets with $(t+1)$-sets. (English summary) *J. Combin. Des.* **7** (1999), *no.* 3, 217–226. (Summary) **99m:05047** 05B40

Östermark, Ralf A recursive partitioning algorithm for matrix inversion on parallel computers. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 467, 496–510. 65–04 (15A09, 65F20)

Osterwalder, Konrad Role and influence of Stefano Franscini in the educational system of Switzerland. *Conference on Statistical Science Honouring the Bicentennial of Stefano Franscini's Birth* (*Ascona*, 1996), 21–30, *Monte Verità, Birkhäuser, Basel*, 1997. (*see* **99e:62002**) 01A70

Ostfeld, Zvi (*with* Afek, Yehuda; Mansour, Yishay) Convergence complexity of optimistic rate-based flow-control algorithms. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 106–143. (Jian-Min Li) **99i:90049** 90B12 (68M20, 68Q25, 90C35, 90C60)

Østgaard, E. (*with* Stuchlík, Zdeněk; Bao, Gang[4]; Hledík, S.) Kerr-Newman-de Sitter black holes with a restricted repulsive barrier of equatorial photon motion. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084003, 8 *pp.* 83C57

Ostianu, N. M. The Cartan-Laptev method in the study of G-structures on manifolds. Geometry, 3. *J. Math. Sci.* (*New York*) **89** (1998), *no.* 3, 1181–1252. (Sorin Dragomir) **99d:53025** 53C10 (53A55)

— *see also* **Geometry, 99a:53001**

Ostojic, Mile Recursive control of robotic motion. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 775–787. 93C85 (70B15, 70Q05)

Ostov, Yu. Ya. Synthesis of a control for the motion of the center of mass of an aircraft based on a simplified model. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 150–159, 252, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 70Q05

Ostrik, V. V. Decomposition of the adjoint representation of the small quantum sl_2. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 2, 253–264. (From the introduction) **99c:17031** 17B37 (17B10)

Ostrogorski, Tatjana Regular variation in $\mathbf{R}^n_+$. *Mathematica* **39(62)** (1997), *no.* 2, 265–276. (Vojislav Marić) **99g:26002** 26A12

— Weighted norm inequalities and homogeneous cones. *Colloq. Math.* **77** (1998), *no.* 2, 251–264. (Seng-Kee Chua) **99g:26046** 26D15

— The Laplace transform on homogeneous cones. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 265–276. (Summary) **99g:43010** 43A85 (44A10)

— Homogeneous cones and Abelian theorems. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 643–652. (Ji Sheng Na) **99m:43012** 43A85 (44A10)

— Regular variation and the Banach-Steinhaus theorem. *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 27–36. (Jaap Geluk) **99h:26004** 26A12

Ostromsky, Tz. (*with* Hansen, Per Christian; Zlatev, Z.) A coarse-grained parallel QR-factorization algorithm for sparse least squares problems. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 937–964. (Summary) **99d:65380** 65Y05 (65F50)

Ostromukhov, L. A. Nonlinear programming on networks with discrete-continuous variables. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 299–310, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C35 (90C27, 90C30)

Ostroumov, S. A. (*with* Borisenko, A. A.) The structure of parabolic Kähler submanifolds in Kähler manifolds. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 60–77. (Oleg K. Mushkarov) **99b:53090** 53C55 (53C40)

Ostrovetskiĭ, L. A. (*with* Maĭboroda, I. N.) A two-sided method for solving nonlinear equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 53–59; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 4, 51–57. (V. V. Vasin) **99e:47089** 47H17

Ostrovska, Sofia A scale of degrees of independence of random variables. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 461–471. (Giorgio Dall'Aglio) **99i:60029** 60E05 (62H20)

Ostrovskiĭ, E. I. (*with* Bagdasarov, D. R.) Exponential confidence intervals with nonparametric density estimation. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 813–818. (Sh. A. Khashimov) **99d:62054** 62G15 (62G05)

— (*with* Egishyants, S. A.) Error estimation for the method of dependent tests for multiple parametric integrals with infinite variance. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 627–634; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 604–610. (Sergei A. Nemnyugin) **99f:65012** 65C05 (65U05)

Ostrovskiĭ, I. V. Analytic and asymptotic properties of multivariate Linnik's distribution. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 436–455. (Gwo Dong Lin) **99b:60020** 60E05

— On preservation of symmetry of distribution under multiplication of random variables. (English summary) *Advances in the theory and practice of statistics*, 493–498, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (S. G. Maloshevskiĭ) **99b:60021** 60E05 (60E10)

— (*with* Peresyolkova, I. N.) Nonasymptotic results on distribution of zeros of the function $E_\rho(z,\mu)$. (Russian summary) *Anal. Math.* **23** (1997), *no.* 4, 283–296. (Vladimir Logvinenko) **99g:30037** 30D20 (30E20)

— (*with* Zheltukhina, N. A.) Parametric representation of a class of multiply positive sequences. *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 457–469. 30D99

— (*with* Erdoğan, Mehmet Burak) On mixture representation of the Linnik density. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 317–326. (Tomasz J. Kozubowski) **99f:60029** 60E10 (60E05)

— (*with* Zheltukhina, N. A.) On power series having sections with multiply positive coefficients and a theorem of Pólya. *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 97–110. (R. Wallisser) **99k:30047** 30D15 (30B10, 30C45, 30D10, 30E05)

— (*with* Erdoğan, Mehmet Burak) Analytic and asymptotic properties of generalized Linnik probability densities. *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 555–578. (Barry C. Arnold) **99b:60018** 60E05 (62E10)

Ostrovskiĭ, L. A. (*with* Naugolnykh, K.) ★ Nonlinear wave processes in acoustics. (English summary) Translated from the Russian. Cambridge Texts in Applied Mathematics. *Cambridge University Press, Cambridge*, 1998. $x+298$ *pp. ISBN* 0-521-39080-X (F. Ursell) **99f:76120** 76Q05 (35Q35, 73D99, 76L05)

— (*with* Grimshaw, R. H. J.; He, Jianming) Terminal damping of a solitary wave due to radiation in rotational systems. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 2, 197–210. (Summary) **99d:76015** 76B25 (35Q53, 76B15, 76U05)

Ostrovskii, M. I. Projections in normed linear spaces and sufficient enlargements. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 4, 315–324. (Wolfgang Lusky) **99h:46019** 46B20 (46B07, 52A20, 52A21)

— On prequojections and their duals. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 59–77. (Paweł Domański) **99k:46005** 46A04 (46A13)

Ostrovs'kiĭ, V. L. (*with* Samoĭlenko, Yuriĭ S.) Pairs of bounded selfadjoint operators connected by a quadratic relation. (Ukrainian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 98–114, "*Vishcha Shkola*", *Kiev*, 1993. (Yu. M. Arlins'kiĭ) **99f:47030** 47B25

Ostrovsky, L. *see* **Ostrovskiĭ, L. A.**

Ostrovsky, L. A. *see* **Ostrovskiĭ, L. A.**

Ostrovsky, Rafail (*with* Canetti, Ran; Dwork, Cynthia; Naor, Moni) Deniable encryption. (English summary) *Advances in cryptology—CRYPTO* '97 (*Santa Barbara, CA*, 1997), 90–104, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94025** 94A60

— (*with* Naor, Moni; Venkatesan, Ramarathnam; Yung, Moti) Perfect zero-knowledge arguments for NP using any one-way permutation. (English summary) *J. Cryptology* **11** (1998), *no.* 2, 87–108. (Juraj Hromkovič) **99j:94057** 94A60 (68Q15, 68Q25)

— (*with* Goldreich, Oded; Petrank, Erez) Computational complexity and knowledge complexity. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1116–1141 (*electronic*). (Johan Håstad) **99f:68097** 68Q25 (68Q15)

— (*with* Kushilevitz, Eyal; Rosén, Adi) Log-space polynomial end-to-end communication. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1531–1549 (*electronic*). (Summary) **99c:68018** 68M10 (68Q22, 68Q25)

Ostrowski, Alexander *see* **Gautschi, Walter**

Ostrowski, Jim P. (*with* Burdick, Joel W.) Controllability for mechanical systems with symmetries and constraints. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 305–331. (Summary) **99d:70042** 70Q05 (70B15, 70F25, 93C85)

Ostroy, Joseph M. (*with* Makowski, Louis) Arbitrage and the flattening effect of large numbers. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 1–31. (Summary) **99a:90079** 90A53 (90A56)

Østvær, Paul Arne (*with* Crainic, Marius) On two-primary algebraic K-theory of quadratic number rings with focus on K_2. *Acta Arith.* **87** (1999), *no.* 3, 223–243. (J. Browkin) **99j:11138** 11R70 (11R65, 19C99, 19D50)

Osuka, Koichi (*with* Kinugasa, Tetsuya; Ono, Toshiro) Motion control of legged robot Emu via nonlinear gain scheduling control. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 341–355. 93C85 (93C95)

O'Sullivan, Finbarr (*with* Maitra, Ranjan) Variability assessment in positron emission tomography and related generalized deconvolution models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1340–1355. (Summary) **99i:62229** 62M30

O'Sullivan, Joseph A. (*with* Blahut, Richard E.; Snyder, Donald L.) Information-theoretic image formation. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2094–2123. (Summary) **99i:94012** 94A12 (68U10, 94A15)

Osuna-Gómez, R. (*with* Rufián-Lizana, A.; Ruíz-Canales, P.) Invex functions and generalized convexity in multiobjective programming. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 651–661. (Summary) **99f:90112** 90C29

Oswald, Peter (*with* Ko, Jeonghwan; Kurdila, Andrew J.) Scaling function and wavelet preconditioners for second order elliptic problems. (English summary) *Multiscale wavelet methods for partial differential equations*, 413–438, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Robert Beauwens) **99d:65304** 65N22 (42C15, 65N30, 65N55)

— (*with* Lorentz, Rudolph Alexander) Nonexistence of compactly supported box spline prewavelets in Sobolev spaces. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 235–244, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65225** 65T10 (65J99)

— Multilevel norms for $H^{-1/2}$. (English summary) *Computing* **61** (1998), *no.* 3, 235–255. (Klaus Ulrich) **99m:65080** 65F25 (65N12)

— An optimal multilevel preconditioner for solenoidal approximations of the two-dimensional Stokes problem. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 207–228. (Nikolay P. Moshkin) **99c:65210** 65N30 (76D07, 76M10)

— On the robustness of the BPX-preconditioner with respect to jumps in the coefficients. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 633–650. (G. Albinus) **99i:65143** 65N55 (65F10)

Ota, Katsuhiro (*with* Nakamoto, Atsuhiro) Diagonal transformations of graphs and Dehn twists of surfaces. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 292–300. (M. L. Marx) **99a:05036** 05C10 (57M15)

— (*with* Enomoto, Hikoe; Oda, Yoshiaki) Pyramidal tours with step-backs and the asymmetric traveling salesman problem. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 57–65. (Summary) **99g:90095** 90C27 (68Q25)

— (*with* Egawa, Yoshimi) Vertex-disjoint claws in graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 225–246. (Summary) **99i:05108** 05C35

— (*with* Enomoto, Hikoe) Connected subgraphs with small degree sums in 3-connected planar graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 191–203. (M. E. Watkins) **99k:05089** 05C35 (05C40)

Ôta, S. (*with* Karwowski, Witold; Koshmanenko, V.) Schrödinger operator perturbed by operators related to null sets. (English summary) *Positivity* **2** (1998), *no.* 1, 77–99. (Philippe Briet) **99k:47114** 47F05 (35J10, 47A55, 47B25)

Ota, Yoshiaki (*with* Nunokawa, Mamoru; Ikeda, Akira[2]; Koike, Naoya) Sufficient condition for multivalently starlikeness. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 66–69. (*see* **99a:00033**) 30C45

— (*with* Nunokawa, Mamoru; Kim, Yong Chan; Ikeda, Akira[2]; Koike, Naoya) On angular estimate of analytic functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 70–73. (*see* **99a:00033**) 30C45

— (*with* Nunokawa, Mamoru; Koike, Naoya; Ikeda, Akira[2]) On meromorphic convex and starlike functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 74–77. (*see* **99a:00033**) 30C45

— (*with* Nunokawa, Mamoru; Yamakawa, Rikuo; Ikeda, Akira[2]; Koike, Naoya) Sufficient conditions for starlikeness of meromorphic functions. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 78–81. (*see* **99a:00033**) 30C45

Otake, Akihiro (*with* Kikuchi, Hiroaki; Nakanishi, Shohachiro) Functional completeness of hierarchical fuzzy modeling. (English summary) *Inform. Sci.* **110** (1998), *no.* 1-2, 51–60. 68T05 (04A72)

Otal, Javier (*with* Kurdachenko, Leonid A.) Some Noetherian modules and non-monolithic just non-CC-groups. *J. Group Theory* **2** (1999), *no.* 1, 53–64. (D. J. S. Robinson) **99k:20072** 20F24

Otal, Jean-Pierre Sur les fonctions propres du laplacien du disque hyperbolique. (English and French summaries) [About eigenfunctions of the Laplacian on the hyperbolic disc] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 161–166. (Summary) **99e:35161** 35P05 (35J25)

Ôtani, Mitsuharu (*with* Agapito, Julius Caesar C.; Paredes, Lorna I.; Rey, Reynaldo M.; Sy, Polly Wee) Approximation of some elliptic equations in Banach spaces. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 9–13, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35J60 (35A35, 47H17)

— A semigroup approach for the Zakharov equations. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 222–228, *Springer, Singapore*, 1997. (Summary) **99h:35179** 35Q40 (47D06, 76X05)

— (*with* Chan, E. B.; Hashimoto, Satoshi; Sy, Polly Wee) Approximation for the first eigenvalues of some nonlinear elliptic operators in Banach spaces. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 273–283. (Summary) **99a:35060** 35J60 (35P15, 47H12)

— (*with* Hashimoto, Satoshi) Elliptic equations with singularity on the boundary. (English summary) *Differential Integral Equations* **12** (1999), *no.* 3, 339–349. (Summary) **99k:35063** 35J65

— *see also* **Gustafson, Karl**, **99b:00008**

Otchik, V. S. (*with* Bogush, A. A.; Kurochkin, Yu. A.) Algebra of conserved operators for the Kepler-Coulomb problem in spaces of constant curvature. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1778–1781. (Summary) **99i:81027** 81Q05 (70F05)

Otelbaev, M. O. A mathematical result on the law of conservation of momentum. II. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 20–33. (Jan Novotný) **99i:83005** 83A05 (70F05, 70H40)

— (*with* Boleeva, M. K.; Utemaganbetov, Z. S.) On an approximate solution of a class of nonlinear equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 33–38. (Summary) **99e:65098** 65J15 (47H17)

— (*with* Utemaganbetov, Z. S.) On a numerical method for solving boundary value problems for second-order differential equations. (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1998**, *no.* 1, 40–44. 65L10

Otero, J. A. *see* **Otero Hernández, José A.**

Otero, Jesús A uniqueness theorem for a Robin boundary value problem of physical geodesy. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 245–257. (Summary) **99b:35043** 35J25 (86A30)

Otero, Mario H. (*with* Dhombres, Jean) Les Annales de Mathématiques Pures et Appliquées: le journal d'un homme seul au profit d'une communauté enseignante. [The Annales de Mathématiques Pures et Appliquées: the journal of one man for the benefit of a teaching community] *Messengers of mathematics: European mathematical journals* (1800–1946), 3–70, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

Otero Hernández, José A. (*with* Bravo Castillero, Julián; Ramos, R. R.; Diaz, R. G.) The overall properties of piezocomposite materials with cylindrical fibres. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (David J. Bergman) **99j:73006** 73B27 (73R05, 73V35)

Othman, Mohamed Ibrahim Ahmed Nonlinear electrohydrodynamic Kelvin-Helmholtz instability conditions of a cylindrical interface under the influence of an axial electric field. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 759–773. (Summary) **99h:76041** 76E25

Othmer, Hans G. (*with* Stevens, Angela) Aggregation, blowup, and collapse: the ABCs of taxis in reinforced random walks. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 1044–1081. (István Ratkó) **99b:92001** 92B05 (60J15)

Otlăcan, Eufrosina La différentielle Fréchet-Marinescu dans la modélisation des systèmes dynamiques. (French and Romanian summaries) [The Fréchet-Marinescu differential in the modelling of dynamical systems] *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 93–100, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (Summary) **99k:93011** 93A30 (34K30, 93C25)

Ots, I. (*with* Loide, R.-K.; Saar, Rein) De Sitter group and relativistic wave equations. (English summary) *Hadronic J.* **20** (1997), *no.* 5, 503–521. (Jorge Goncalves Cardoso) **99m:81086** 81R20

Otsu, Hideharu (*with* Ikemori, Hitoshi; Kitakado, Shinsaku; Nakatani, Hajime; Sato, Toshiro[2]) Quantum mechanics on S^n and meron solution. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 1, 15–21. (Bernd J. Schroers) **99h:81101** 81S10 (81T10)

Otsubo, Akifumi (*with* Hayashi, Kenichiro; Murakami, Shuta; Maeda, Mikio) Realization of nonlinear and linear PID controls using simplified indirect fuzzy inference method. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 409–414. 93C99 (93A99)

Otsuka, Naohisa (*with* Inaba, Hiroshi) A note on robust disturbance-rejection problems for infinite-dimensional systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 33–41. (Summary) **99a:93090** 93D21

— (*with* Inaba, Hiroshi) Parameter insensitive disturbance-rejection problems with direct control and with known disturbances for infinite-dimensional systems. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 701–710. 93C25 (93D15)

Otsuki, Tominosuke A nonlinear partial differential equation related with certain spaces with general connections. III. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 163–181. (A. Morimoto) **99c:53031** 53C21 (34A12, 35Q99)

Ott, Edward (*with* Namenson, Arthur; Antonsen, Thomas M., Jr.) Power law wave number spectra of fractal particle distributions advected by flowing fluids. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2426–2434. 76F99

— (*with* Antonsen, Thomas M., Jr.) Fractal patterns of scalars advected by temporally irregular fluid flows: the random map approach. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 43–51, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:76064** 76F20

— (*with* Antonsen, Thomas M., Jr.; Jacobs, Joeri) Fractal patterns of tracers advected by smooth temporally irregular fluid flows and their analysis by use of random maps. (English summary) Fractal 97 (Estes Park, CO). *Fractals* **5** (1997), *suppl.*, 119–128. (*see* **99f:00017**) 76F20 (76R99)

— (*with* Kostelich, Eric J.; Kan, Ittai; Grebogi, Celso; Yorke, James A.) Unstable dimension variability: a source of nonhyperbolicity in chaotic systems. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 81–90. (Remo Badii) **99a:58110** 58F12 (58F13, 58F15)

— (*with* Jacobs, Joeri; Antonsen, Thomas M., Jr.; Yorke, James A.) Modeling fractal entrainment sets of tracers advected by chaotic temporally irregular fluid flows using random maps. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 1–17. (Summary) **99k:76072** 76F20 (58F40, 76M35)

— Lagrangian chaos and the fast kinematic dynamo problem. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 263–274, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Summary) **99d:76100** 76W05 (58F13, 58F40, 76F20)

— (*with* Yuan, Guohui; Banerjee, Soumitro; Yorke, James A.) Border-collision bifurcations in the buck converter. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 707–716. (Summary) **99c:94071** 94C05

— (*with* Nam, Keeyeol; Gabbay, Michael; Guzdar, Parvez N.) Spiral wave dynamics in the complex Ginzburg-Landau equation with broken chiral symmetry. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 69–83. (Summary) **99c:35226** 35Q55

— (*with* Gabbay, Michael; Guzdar, Parvez N.) The dynamics of scroll wave filaments in the complex Ginzburg-Landau equation. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 371–395. (Yoram Schiffmann) **99h:92006** 92C15 (35Q55, 76E30)

— Chaotic flows and kinematic magnetic dynamos: a tutorial review. (English summary) 39th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Pittsburgh, PA, 1997). *Phys. Plasmas* **5** (1998), *no.* 5, *part* 2, 1636–1646. (Summary) **99d:76101** 76W05 (58F40, 76F20)

— (*with* Jacobs, Joeri; Hunt, Brian R.) Calculating topological entropy for transient chaos with an application to communicating with chaos. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6577–6588. (Summary) **99b:58161** 58F13 (58F11)

— (*with* Nam, Keeyeol; Guzdar, Parvez N.; Gabbay, Michael) Stability of spiral wave vortex filaments with phase twists. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2580–2585. 35Q35 (76E30)

— (*with* Robert, Carl; Alligood, Kathleen T.; Yorke, James A.) Outer tangency bifurcations of chaotic sets. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 22, 4867–4870. (Summary) **99b:58165** 58F13

— (*with* Rosa, Epaminondas, Jr.) Mixed basin boundary structures of chaotic systems. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part A*, 343–352. 58F13

Ott, Matthias (*with* Stephan, Frank) The complexity of learning branches and strategies from queries. (English summary) *Algorithms and computation* (*Singapore*, 1997), 283–292, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68T05 (03D15, 68Q99, 68T20)

— (*with* Case, John; Sharma, Arun; Stephan, Frank) Learning to win process-control games watching game-masters. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 31–45, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T20 (68T05)

Ott, U. Local weight enumerators for binary self-dual codes. Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 131–135. (*see* **99c:00012**) 94B05

Ottaviani, Giorgio Real and complex 't Hooft instanton bundles over $\mathbf{P}^{2n+1}(\mathbf{C})$. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 169–199 (1998). (Jean-Marc Drezet) **99k:14070** 14J60

Ottaviani, Marco (*with* Moscarini, Giuseppe; Smith, Lones) Social learning in a changing world. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 657–665. (Summary) **99e:92040** 92H10 (92K10)

Ottaviani, P. L. (*with* Dattoli, G.; Torre, Amalia; Vázquez, Luis) Evolution operator equations: integration with algebraic and finite-difference methods. Applications to physical problems in classical and quantum mechanics and quantum field theory. *Riv. Nuovo Cimento Soc. Ital. Fis.* (4) **20** (1997), *no.* 2, 133 *pp.* (Oleg Yu. Shvedov) **99a:81006** 81–08 (33C80, 34G20, 47N20, 65M06, 81Q05)

Otten, Gert-Jan (*with* Borm, Peter; Peleg, Bezalel; Tijs, Stef) The MC-value for monotonic NTU-games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 37–47. (Summary) **99b:90173** 90D12

Otten, Gertjan D. (*with* Albers, Willem; Kallenberg, Wilbert C. M.) Accurate test limits under nonnormal measurement error. (English summary) *Metrika* **47** (1998), *no.* 1, 1–33. (Kailash C. Kapur) **99g:62147** 62N10 (62G10)

Otten, Werner (*with* Luther, Wolfram) Approximation error and error accumulation for the Landen transform. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 249–258. (Summary) **99a:65186** 65R10 (65G10)

Ottewill, Adrian C. (*with* Nakamura, Takashi; Takagi, Shin) The bounce method in the theory of quantum decay. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 9–26. (Christian Grosche) **99b:81130** 81S40 (81Q05, 81Q20)

— (*with* Brady, Patrick R.) Quantum corrections to critical phenomena in gravitational collapse. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024006, 6 *pp.* 83C47 (83C57)

Ottmann, Thomas (*with* Friedrich, R.; Schuierer, Sven) Two-dimensional string matching for non-rectangular patterns. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 247–262 (*electronic*). (*see* **99f:68006**) 68Q20

— (*with* Hanke, Sabine; Schuierer, Sven) The edge-flipping distance of triangulations. (English summary) *J.UCS* **2** (1996), *no.* 8, 570–579 (*electronic*). (Summary) **99d:68230** 68U05

Otto, Felix (*with* Jordan, Richard; Kinderlehrer, David) The route to stability through Fokker-Planck dynamics. *Differential equations and applications* (*Hangzhou*, 1996), 108–126, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 82C35 (82C03)

— (*with* Jordan, Richard; Kinderlehrer, David) Free energy and the Fokker-Planck equation. (English summary) Landscape paradigms in physics and biology (Los Alamos, NM, 1996). *Phys. D* **107** (1997), *no.* 2-4, 265–271. (Yurii Raikher) **99a:82068** 82C31

— Lubrication approximation with prescribed nonzero contact angle. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 11-12, 2077–2164. (Bruno Scheurer) **99m:35276** 35R35 (35D05, 35K65, 35Q35, 76D08, 76S05)

— A regularizing effect of nonlinear transport equations. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 355–375. (Summary) **99a:35171** 35L65 (35F25, 35Q35, 76S05, 82C70)

Otto, Frank-Christian (*with* Lube, Gert) Non-overlapping domain decomposition applied to incompressible flow problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 507–514, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76127** 76M25 (65N55)

— (*with* Lube, Gert; Müller, H.) A non-overlapping domain decomposition method for parabolic initial-boundary value problems. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 359–369. (*see* **99e:65002**) 65M55

— (*with* Lube, Gert) A nonoverlapping domain decomposition method for the Oseen equations. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1091–1117. (Andrei I. Tolstykh) **99i:65102** 65M55 (65M12, 76M10)

Otto, Friedrich (*with* Kobayashi, Yuji; Katsura, Masashi) On cross-sections of finitely presented monoids. *Proceedings of the* 20*th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 12–14, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M05

— Some decision problems related to the regularity of monoids. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 211–224, *World Sci. Publishing, River Edge, NJ*, 1996. (Michael Anshel) **99c:20079** 20M05 (03D40, 68Q25, 68Q42)

— (*with* Sattler-Klein, Andrea) FDT is undecidable for finitely presented monoids with solvable word problems. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 388–399, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **99b:68109** 68Q42 (03D35, 03D40)

— (*with* Kobayashi, Yuji) Repetitiveness of D0L-languages is decidable in polynomial time. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 337–346, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68094** 68Q45 (68Q42, 68R15)

— (*with* Katsura, Masashi; Kobayashi, Yuji) Cross-sections for finitely presented monoids with decidable word problems. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 53–67, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Dragan Blagojević) **99d:68139** 68Q42 (20M35)

— (*with* Niemann, Gundula) The Church-Rosser languages are the deterministic variants of the growing context-sensitive languages. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 243–257, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (Summary) **99g:68104** 68Q42 (03D05, 68Q45)

— (*with* Sattler-Klein, Andrea; Madlener, Klaus) Automatic monoids versus monoids with finite convergent presentations. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 32–46, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68140** 68Q42 (20M05)

— (*with* Buntrock, Gerhard) Growing context-sensitive languages and Church-Rosser languages. (English summary) *Inform. and Comput.* **141** (1998), *no.* 1, 1–36. (Peter R. J. Asveld) **99b:68112** 68Q45 (03D05, 68Q42, 68Q68)

— (*with* Katsura, Masashi; Kobayashi, Yuji) Infinite convergent string-rewriting systems and cross-sections for finitely presented monoids. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 5, 621–648. (Yves Metivier) **99h:20093** 20M05 (68Q42)

— (*with* Narendran, Paliath; Dougherty, Daniel J.) Equational unification, word unification, and 2nd-order equational unification. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 1–47. (Klaus Madlener) **99e:68084** 68Q42 (03B25, 03D05, 03D35)

— Some undecidability results concerning the property of preserving regularity. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 43–72. (Klaus Madlener) **99k:68089** 68Q42 (03D05, 68Q45)

Otto, Hans-Jörg (*with* Dorn, Harald) $Q\bar{Q}$ potential from AdS-CFT relation at $T \geq 0$: dependence on orientation in internal space and higher curvature corrections. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 21, 13 *pp.* (*electronic*). (Summary) **99f:81157** 81T30 (81T15, 83E30)

Otto, S. R. (*with* Owen, D. J.; Seddougui, S. O.) The nonlinear evolution of centrifugal instabilities in curved, compressible mixing layers. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2080–2090. (Summary) **99d:76040** 76E30 (76D10)

Ottosen, N. S. (*with* Ristinmaa, M.) Viscoplasticity based on an additive split of the conjugated forces. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 2, 207–235. (Mircea Sofonea) **99d:73046** 73E10

Ottusch, John J. (*with* Canino, Lawrence F.; Stalzer, Mark A.; Visher, John L.; Wandzura, Stephen M.) Numerical solution of the Helmholtz equation in 2D and 3D using a high-order Nyström discretization. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 627–663. 65M60 (78–08)

Oturanç, Galip (*with* Taşçı, Dursun) The lower bounds for the zeros of a polynomial with real or complex coefficients. (English and Turkish summaries) *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B* **20** (1997), *no.* 1-2, 211–220. 30C15

— (*with* Guseinov, G. Sh.) On the theory of a certain class of quadratic pencils of matrices and its applications. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 409–422. (Vyacheslav N. Pivovarchik) **99c:15002** 15A03 (15A22, 34B05, 34L10, 47A56)

Ou, Chun Hua (*with* Tang, Heng Sheng; Luo, Wei[1]) Oscillation properties of the difference equation $x_{n+1} = F(x_n)$. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 70–73. (Summary) **99e:39043** 39A10

— (*with* Tang, Heng Sheng; Luo, Wei[1]) Boundedness, persistence and asymptotic stability on the delay difference equation $x_{n+1} = f(x_n, x_{n-1}, \cdots, x_{n-k})$. (English summary) *Ann. Differential Equations* **15** (1999), *no.* 1, 38–47. 39A11 (39A10)

Ou, Jihong (*with* Teo, Chung-Piaw; Tan, Kok-Choon) Multi-item inventory staggering problems: heuristics and bounds. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 584–593, *ACM, New York*, 1998. (*see* **99d:68011**) 90B05 (90C90)

Ou, Wen (*with* Wang, Wen Zheng; Han, Chong Zhao) Linear system parameter estimation using an improved convex polyhedral description method. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 10, 5–8. 93E10

Ou, Yuh-Roung Design of feedback compensators for viscous flow. *Optimal control of viscous flow*, 151–180, *SIAM, Philadelphia, PA*, 1998. (Mircea Lupu) **99f:93079** 93C20 (35Q53, 76D99, 93B05)

Ou, Zhiying (*with* Wang, Baiyan; Yan, Keming; Zhang, Shengchang) Weakly augmented Lagrange-function projected gradient methods for nonlinear programming. (English summary) *J. Gansu Univ. Technol.* (*Engl. Ed.*) **2** (1998), *no.* 1, 85–87. 90C30 (65K05)

Ouarab, A. (*with* El Kinani, E. H.) Moyal quantization of sdiff$(T^{2k/N})$, q-deformation, and q-Moyal bracket. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 1011–1017. (Akira Yoshioka) **99f:58085** 58F06 (81S10)

— (*with* El Kinani, E. H.; Zakkari, M.) Supermulticonformal field theory. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 4, 1231–1242. (Summary) **99g:81204** 81T40 (81R10)

Ouariri, Hassan (*with* Duvaut, Georges; Trad, Ahmed) Nouvelle méthode de calcul de la diffraction en haute fréquence. (English and French summaries) [New method for calculating the diffraction field at high frequency] *Équations aux dérivées partielles et applications*, 481–496, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99g:76133** 76Q05 (76M25)

Ouarzazi, M. N. (*with* Lamarque, C.-H.; Malasoma, J.-M.) Chaos in the convective flow of a fluid mixture in a porous medium. (English summary) *Nonlinear Dynam.* **15** (1998),

no. 1, 83–102. (Summary) **99a:76068** 76F20 (58F13, 58F40, 76S05)

el Ouatouati, A. *see* **El Ouatouati, A.**

Oubbi, L. Pseudo-Banach structure in locally convex algebras. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 390–394. (Maria Fragoulopoulou) **99e:46057** 46H20 (46E25, 46J10)

— (*with* El Kinani, A.; Oudadess, M.) Spectral and boundedness radii in locally convex algebras. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 233–241. (Peter Dixon) **99c:46053** 46H05 (46H30)

O'uchi, Moto C^*-bundles associated with generalized Bratteli diagrams. (English summary) *Internat. J. Math.* **9** (1998), *no.* 1, 95–105. (G. A. Noskov) **99h:46113** 46L05

Ōuchi, Sunao Growth order and asymptotic behaviour of singular solutions of linear partial differential equations in the complex domain. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 229–234, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35A20 (35B40)

— Singular solutions with asymptotic expansion of linear partial differential equations in the complex domain. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 4, 291–311. (Summary) **99g:35008** 35A20 (35C20)

— Growth properties and asymptotic expansions of singular solutions of linear partial differential equations in the complex domain. (Japanese) Partial differential equations in the complex domain (Japanese)(Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1028 (1998), 21–24. (*see* **99e:35002**) 35A20

Oudadess, M. (*with* Beddaa, A.) Short proofs of some structure theorems on m-convex algebras. (English summary) *Bull. Greek Math. Soc.* **37** (1995), 25–27. (Summary) **99a:46086** 46H05

— Functional boundedness of some M-complete m-convex algebras. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 17–20. (M. Abel) **99h:46086** 46H05 (46J05)

— (*with* El Kinani, A.) Involution généralisée et structure de C^*-algèbre. (English summary) [Generalized involution and structure of C^*-algebras] *Rev. Acad. Cienc. Zaragoza* (2) **52** (1997), 15–16. (Summary) **99b:46079** 46K05 (46L05)

— (*with* El Kinani, A.) Unified inequality and commutativity in Banach algebras with or without involution. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 49–55, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (From the introduction) **99a:46090** 46H05 (46K05)

— (*with* El Kinani, A.; Oubbi, L.) Spectral and boundedness radii in locally convex algebras. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 233–241. (Peter Dixon) **99c:46053** 46H05 (46H30)

Oudin, Fabienne (*with* Achchab, Boujemaa; Agouzal, Abdellatif; Baranger, Jacques) Estimations d'erreurs en lois de comportement. (English and French summaries) [Error estimators using constitutive laws] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1007–1010. (Summary) **99h:65183** 65N15

Ouerdiane, H. Algèbres nucléaires de fonctions entières et équations aux derivées partielles stochastiques. [Nuclear algebras of entire functions and stochastic partial differential equations] *Nagoya Math. J.* **151** (1998), 107–127. (Zhiyuan Huang) **99k:60165** 60H15 (35R60, 46A13, 46F25, 46J10)

Ouezdou, F. B. (*with* Bruneau, O.; Guinot, J. C.) Dynamic analysis tool for legged robots. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 4, 369–391. (Summary) **99h:70006** 70B15 (70E99)

Oughton, Sean (*with* Matthaeus, William H.; Ghosh, Sanjoy) Scaling of spectral anisotropy with magnetic field strength in decaying magnetohydrodynamic turbulence. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4235–4242. (Summary) **99g:76150** 76W05 (76F99)

Ouhabaz, El Maati (*with* Stollmann, Peter) Stability of the essential spectrum of second-order complex elliptic operators. (English summary) *J. Reine Angew. Math.* **500** (1998), 113–126. (Vladimir Tulovsky) **99f:35142** 35P05 (35J15, 47F05)

— On the spectral function of some higher order elliptic or degenerate-elliptic operators. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 305–314. (Summary) **99f:35143** 35P05 (35J40, 35J70, 47F05)

— L^p contraction semigroups for vector valued functions. (English summary) *Positivity* 3 (1999), *no.* 1, 83–93. (Wilhelm Stannat) **99k:47097** 47D06 (46E40, 47D07)

Ouhbi, B. (*with* Limnios, N.) Estimation of kernel, availability and reliability of semi-Markov systems. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 113–124, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (Summary) **99i:62190** 62M05 (62G05, 62N05)

Oukhaba, Hassan Groups of elliptic units and torsion points of Drinfeld modules. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 298–310, *World Sci. Publishing, River Edge, NJ*, 1997. (Laurent Denis) **99d:11066** 11G16 (11G09)

Ouknine, Youssef (*with* Erraoui, M.; Sbi, A.) Backward stochastic differential equations with distribution as terminal condition. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 4, 349–356. (Xue Rong Mao) **99a:60057** 60H10

— (*with* Bahlali, Khaled; Mezerdi, Brahim) Pathwise uniqueness and approximation of solutions of stochastic differential equations. (English summary) *Séminaire de Probabilités, XXXII*, 166–187, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Tomás Caraballo) **99j:60078** 60H10

— (*with* Bouchen, A.; El Arni, A.; N'Zi, Modeste) Intégration stochastique multivoque et inclusions différentielles stochastiques rétrogrades. (English summary) [Multivalued stochastic integration and backward stochastic differential inclusions] *Acta Math. Vietnam.* **23** (1998), *no.* 2, 325–345. (V. Mackevičius) **99j:60081** 60H10 (34A60, 34F05, 60H20)

— (*with* Erraoui, M.; Sbi, A.) Reflected solutions of backward stochastic differential equations with distribution as terminal condition. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 1–16. (Summary) **99e:60132** 60H10

— Approximation en norme Besov-Orlicz de la solution d'une équation différentielle stochastique anticipative. (English and French summaries) [Approximation in Besov-Orlicz norm of the solution of an anticipative stochastic differential equation] *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 179–193. (Summary) **99f:60112** 60H10

Oulaiba, Mohamed Sur une équation intégro-différentielle avec retard. (English and French summaries) [On an integrodifferential equation with delay] *Ann. Sci. Math. Québec* **22** (1998), *no.* 1, 63–86. (J. A. Nohel) **99j:45008** 45K05 (35K10, 35R10)

Ounaies, Myriam Estimations du type Nevanlinna pour les applications non dégénérées de $\mathbf{C}^n$ dans $\mathbf{C}^n$. [Nevanlinna estimates of nondegenerate mappings from $\mathbf{C}^n$ into $\mathbf{C}^n$] *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 737–748. (William A. Cherry) **99k:32043** 32H30

Oura, Manabu (*with* Harada, Masaaki) On the Hamming weight enumerators of self-dual codes over Z_k. (English summary) *Finite Fields Appl.* **5** (1999), *no.* 1, 26–34. (Jay A. Wood) **99m:94045** 94B05

Ourimi, Nabil Applications holomorphes propres entre certains domaines bornés de $\mathbf{C}^n$. (English and French summaries) [Proper holomorphic mappings between certain domains in $\mathbf{C}^n$] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1063–1068. (Elisabetta Barletta) **99k:32044** 32H35 (32H02, 32H40)

Oustaloup, Alain (*with* Sabatier, Jocelyn; Lanusse, Patrick) From fractal robustness to the CRONE control. (English summary) *Fract. Calc. Appl. Anal.* **2** (1999), *no.* 1, 1–30. 93D09 (26A33)

Oustry, François Vertical developments of a convex function. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 153–170. (Claudia A. Sagastizábal) **99h:49024** 49J52 (26B25, 65F15)

— (*with* El Ghaoui, Laurent; Lebret, Hervé) Robust solutions to uncertain semidefinite programs. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 33–52 (*electronic*). (J. Frédéric Bonnans) **99j:90091** 90C31 (90C25)

Outbib, Rachid (*with* Sallet, Gauthier) A reduction principle for global stabilization of nonlinear systems. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 5, 595–607. (Daoyi Xu) **99j:93085** 93D15 (93C10)

— (*with* Iggidr, A.; Jghima, H.) Global stabilization of planar homogeneous polynomial systems. *Nonlinear Anal.* **34** (1998), *no.* 7, 1097–1109. (Matthias Kawski) **99m:93084** 93D15 (34D20, 34H05)

— (*with* Vivalda, J. C.) On feedback stabilization of smooth nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 200–202. (Summary) **99j:93086** 93D15

Outerelo Domínguez, Enrique (*with* Margalef-Roig, J.; Padrón, Edith) Connections on infinite-dimensional manifolds with corners. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 21–55. (Liliana Maxim-Răileanu) **99b:58021** 58B20

— (*with* Ruiz, Jesús M.) ★ Topología diferencial. (Spanish. Spanish summary) [Differential topology] Variedades con borde. Transversalidad. Aproximación [Manifolds with boundary. Transversality. Approximation]. *Addison-Wesley Iberoamericana España S.A., Madrid*, 1998. $x+162$ *pp. ISBN* 0-201-65330-3 (Luis Ugarte) **99h:57001** 57–01 (57Rxx, 58–01)

Outrata, J. V. (*with* Kočvara, Michal) On exterior penalties in equilibrium problems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 37–42, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C30 (90A14)

— (*with* Kočvara, Michal; Zowe, Jochem) ★ Nonsmooth approach to optimization problems with equilibrium constraints. (English summary) Theory, applications and numerical results. Nonconvex Optimization and its Applications, 28. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxii*+273 *pp. ISBN* 0-7923-5170-3 (Stephan Dempe) **99h:90002** 90–02 (49J40, 49J52, 90C31, 90D65)

Ouvry, S. Landau levels and Aharonov-Bohm fluxes. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 527–530, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81V70

Ouwehand, P. (*with* Rose, Henry) Small congruence distributive varieties: retracts, injectives, equational compactness and amalgamation. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 3, 207–228. (Keith A. Kearnes) **99i:08003** 08B10 (08A45)

Ouyang, Baiyu The equivalent conditions for positive semidefinite for partitioned matrices with undetermined submatrices. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 3, 19–24. 15A48

Ouyang, Cai Heng (*with* Wu, Gui Rong) The function class N^+. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 4, 15–18. (Lo Yang) **99k:30063** 30D50

— (*with* Liang, You Ming) A remark on the Folland-Stein theorem for the Heisenberg group. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 3, 342–347. (Summary) **99m:35011** 35A20 (22E25, 46F10)

— (*with* Yang, Weisheng; Zhao, Ruhan) Möbius invariant Q_p spaces associated with the Green's function on the unit ball of $\mathbf{C}^n$. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 69–99. (Manfred Stoll) **99h:46037** 46E15 (32A37, 47B35)

Ouyang, Chong Zhen (*with* Li, Zhen Qi) Two differential operators acting on abelian forms with values in vector bundles and their applications. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 83–92; *translation in Chinese J. Contemp. Math.* **19** (1998), *no.* 1, 43–54. (Fangyang Zheng) **99i:53062** 53C42

— (*with* Qu, Cheng Qin) The spectrum of the Laplacian on minimal hypersurfaces. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 2, 150–154. (De Tang Zhou) **99j:58216** 58G25 (53C42)

Ouyang, Dan Tong (*with* Jiang, Yun Fei) Kernel consistency-based diagnosis and kernel abductive diagnosis. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 540–545. 68T99

— (*with* Jiang, Yun Fei) Consistency-based minimal normal diagnosis and its applications. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 560–565. 68T99

Ouyang, Jun (*with* Yang, De Quan) Qualitative analysis of a predator-prey system with functional response function $\sqrt{x}$. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 329–333. 92D25 (34C05)

Ouyang, Liang-Yuh (*with* Chuang, Bor-Ren) (Q, R, L) inventory model involving defective items with a sub-lot inspection policy. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 3, 45–58. 90B05

— (*with* Wu, Jong-Wuu) An identity for the conditional expectations of functions of adjacent order statistics. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 2-3, 149–159. (Summary) **99k:62105** 62G30

— (*with* Chang, Hung-Chi) The newsboy problem with defective items and random demand. (English summary) *Tamsui Oxf. J. Math. Sci.* **14** (1998), 55–66. 90B05

Ouyang, Ming How good are branching rules in DPLL? (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 281–286. (Summary) **99k:68174** 68T15 (68Q25)

Ouyang, Shou Cheng (*with* Wang, Yong Zhong; Wu, Yong; Li, Chao) The "rebel travelling" of general nonlinear evolutional equation and discussion on related problems. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 2, 179–189; *translated from Appl. Math.*

Mech. **19** (1998), *no.* 2, 165–173 (*Chinese. English and Chinese summaries*). (Sergey L. Gavrilyuk) **99e:35228** 35Q99 (34A05, 34C99, 35B40)

Ouyang, Shui Wu (*with* Xie, Zhong Qiang) An implicit finite volume method for three-dimensional Navier-Stokes computations. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 6, 641–647. 76M25

Ouyang, Tiancheng (*with* Shi, Junping) Exact multiplicity of solutions and global bifurcation of $\Delta u + \lambda f(u) = 0$. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 356–363, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99c:35077** 35J65 (35B32, 58E07)

— (*with* Shi, Junping) Exact multiplicity of positive solutions for a class of semilinear problems. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 121–156. (Yi Hong Du) **99f:35061** 35J65 (34B15, 35B05, 35P30, 58E05)

Ouyang, Zi Gen Properties of ω Asplund spaces. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 71–74. 46B20

— (*with* Luo, Li Ping) Rough norms on Banach spaces. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 129–131, 139. (Summary) **99h:46020** 46B20

Ouyang, Zi Sheng Consistency of weight function estimates in the fixed design case. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 2, 1–7. (Summary) **99e:62054** 62G05

Ouyang, Zi-xiang (*with* Wu, Xin Yuan) On a quadrature formula with first derivative and its degree of accuracy. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 147–153. (Summary) **99a:65035** 65D32

— (*with* Wang, Zheng Yu) A class of algorithms for solving nonlinear complementarity problems based on generalized gradients. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 370–377. 90C33 (65K05)

— (*with* Wu, Xin Yuan) Applications of ODE methods. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 483–489, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 90C30 (65H10)

Ovakimyan, N. V. (*with* Melikyan, A. A.; Arutyunyan, L. L.) Games of simple pursuit and approach on a two-dimensional cone. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 515–543. (A. M. Tarasyev) **99m:90177** 90D25

— (*with* Bernhard, Pierre) Nonlinear robust control and minimax team problems. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 4, 239–257. (Summary) **99m:93025** 93B35 (93C10)

Ovando, G. *see* **Ovando Zúñiga, Gerardo**

guzmán Ovando, Maria E. *see* **Guzmán Ovando, Maria E.**

Ovando Zúñiga, Gerardo (*with* Gaftoi N., Violeta; Morales, Jesús; Peña, J. J.) Lanczos spintensor for the Robinson-Trautman metrics of the vacuum and Einstein-Maxwell fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1297–1308. (Brian Edgar) **99k:83017** 83C20 (83C22, 83C60)

Ovaskainen, O. (*with* Pitkäranta, J.) An energy method approach to the problem of elastic strip. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 999–1021 (*electronic*). (Cornelius O. Horgan) **99d:73024** 73C10 (73V25)

Ovcharenko, I. E. On orthogonal systems generated by the Schrödinger equation. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 16–18. (Victor S. Rykhlov) **99c:34200** 34L40 (42C05, 81Q05)

Ovcharova, A. S. A method for computing steady flows of a viscous fluid with a free boundary in the vorticity-stream function variables. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 59–68. (Summary) **99h:76075** 76M25 (76D05)

Ovchinnikov, E. È. (*with* Xanthis, Leonidas S.) The discrete Korn's type inequality in subspaces and iterative methods for thin elastic structures. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 1-2, 23–37. (Summary) **99d:73033** 73C99 (73K15, 73K99, 73V05)

— (*with* Xanthis, Leonidas S.) Iterative subspace correction methods for thin elastic structures and Korn's type inequality in subspaces. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2023–2039. (Summary) **99f:73087** 73V20 (73C99, 73Kxx)

Ovchinnikov, P. G. How one can define the set of all Π_A by means of $\leq$. *Measures on projections and orthomodular posets*, 84–86, *Kazan Tracts Math.*, 4, *Kazan Math. Soc., Kazan'*, 1998. (M. J. Mączyński) **99m:81019** 81P10 (46C05)

— Measures on finite concrete logics. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1957–1966. (D. J. Foulis) **99j:06008** 06C15 (03G25, 06A15, 81P10)

Ovchinnikov, Sergei On robust aggregation procedures. (English summary) *Aggregation and fusion of imperfect information*, 3–10, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 92G05 (54C35)

Ovchinnikov, V. I. Coherently nuclear operators in couples of Hilbert spaces. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 6, 866–872. (Nahum Zobin) **99m:46172** 46M35 (46B28, 46C99, 47B10, 47D15)

Ovchinnikov, Yu. N. (*with* Sigal, Israel Michael) On the Ginzburg-Landau and related equations. (English summary) *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XXI*, 13 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35Q55 (35B99, 58E50)

— (*with* Sigal, Israel Michael) The Ginzburg-Landau equation. III. Vortex dynamics. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1277–1294. (Yisong Yang) **99k:35167** 35Q55

— (*with* Sigal, Israel Michael) Long-time behaviour of Ginzburg-Landau vortices. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1295–1309. (Yisong Yang) **99k:35168** 35Q55

— Weak collapse in the nonlinear Schrödinger equation. *JETP Lett.* **69** (1999), *no.* 5, 418–422; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **69** (1999), *no.* 5, 387–390 (*Russian*). 35Q55

Ovcin, Zoran (*with* Hadžić, Olga) A coincidence point theorem for multivalued mappings in 2-Menger spaces. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 29–39. (S. L. Singh) **99k:47140** 47H10 (47S50, 54C60, 54H25)

Overbeck, Ludger Estimation for continuous branching processes. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 111–126. (Sharaschandra R. Adke) **99c:62235** 62M05 (60H10)

Overbeek, Ross (*with* Lusk, Ewing) Wos and automated deduction at ANL: the ethos. *Automated reasoning and its applications*, 1–12, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 01A65 (01A70, 68T15)

Overdijk, D. A. (*with* van Berkum, E. E. M.; Linssen, H. N.) "Sampling the reference set" revisited. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 167–186. (E.-A. Weiss, Jr.) **99i:62008** 62A30 (62A15)

Overfelt, P. L. (*with* White, D. J.) Comment: "Analytic expression for Fresnel diffraction" [J. Opt. Soc. Amer. A **15** (1998), no. 3, 684–688] by P. Wang, Y. Xu, W. Wang and Z. Wang. (English summary) *J. Opt. Soc. Amer. A* **16** (1999), *no.* 3, 613–615. 78A45 (78A10)

van Overloop, Jeroen *see* **Van Overloop, Jeroen**

Overmars, Mark H. (*with* Asberg, B.; Blanco Viejo, Gregoria; Bose, Prosenjit; García López de Lacalle, Jesús; Toussaint, G.; Wilfong, Gordon; Zhu, Binhai) Feasibility of design in stereolithography. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 61–83. (Joos Heintz) **99c:65260** 65Y25 (65D17, 68U05, 68U07)

— (*with* de Berg, Mark; Halperin, Dan; van Kreveld, Marc) Sparse arrangements and the number of views of polyhedral scenes. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 3, 175–195. (Rephael Wenger) **99a:52014** 52B30 (52B55, 68U05)

— (*with* de Berg, Mark; Katz, Matthew J.; van der Stappen, A. Frank; Vleugels, Jules) Models and motion planning. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 83–94, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05

— (*with* Berretty, Robert-Paul; Goldberg, Ken; van der Stappen, A. Frank) Computing fence designs for orienting parts. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 249–262. (Summary) **99g:68206** 68U05

— (*with* Halperin, Dan) Spheres, molecules, and hidden surface removal. (English summary) *Comput. Geom.* **11** (1998), *no.* 2, 83–102. (H. W. Guggenheimer) **99m:68211** 68U05 (52B55)

— (*with* van der Stappen, A. Frank; de Berg, Mark; Vleugels, Jules) Motion planning in environments with low obstacle density. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 561–587. (Summary) **99h:68170** 68U05

— (*with* de Berg, Mark; Meijer, Henk; Wilfong, Gordon) Computing the angularity tolerance. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 467–482. (Summary) **99f:68208** 68U30 (68U05)

Oversteegen, Lex G. (*with* Blokh, A. M.; Mayer, John C.) Recurrent critical points and typical limit sets of rational maps. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1215–1220. (Walter Bergweiler) **99f:58169** 58F23 (28D99, 30D05)

— (*with* Grispolakis, Joachim; Mayer, John C.) Building blocks for quadratic Julia sets. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1171–1201. (Summary) **99g:30030** 30D05 (30C35, 58F23)

Overton, C. (*with* Milgram, R. James) The stable splitting of $B_{M_{12}}$ and related groups. *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 213–228, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (David J. Green) **99m:55021** 55R35 (20D08, 55P42, 55R40)

Overton, Michael L. (*with* Lewis, Adrian S.) Eigenvalue optimization. (English summary) *Acta numerica*, 1996, 149–190, *Acta Numer.*, 5, *Cambridge Univ. Press, Cambridge*, 1996. (N. Gass) **99e:90072** 90C26 (65F15, 65K05, 73K40)

— (*with* Gay, David M.; Wright, Margaret H.) A primal-dual interior method for nonconvex nonlinear programming. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 31–56, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Florian Jarre) **99h:90096** 90C30 (90C26)

— (*with* Dreyer, Derek R.) Two heuristics for the Euclidean Steiner tree problem. (English summary) *J. Global Optim.* **13** (1998), *no.* 1, 95–106. (Summary) **99b:90102** 90C27 (05C05, 90C35)

— (*with* Andersen, Knud D.; Christiansen, Edmund) Computing limit loads by minimizing a sum of norms. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 1046–1062 (*electronic*). (Summary) **99a:73059** 73E20 (65K10, 65N30, 73V05)

Ovesea, Horiana A generalization of Lewandowski's univalence criterion. (English summary) *Mathematica* **37(60)** (1995), *no.* 1-2, 189–198. (Pavel Todorov) **99a:30023** 30C55

— A generalization of the integral operators of Kim and Merkes and of Pfaltzgraff. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 327–331. 30C55

— A new generalization of Pfaltzgraff's integral operator. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 65–67. 30C45

— Univalence of certain integral operators. (English summary) *Libertas Math.* **17** (1997), 55–60. (E. P. Merkes) **99a:30024** 30C55

— A generalization of the integral operators of Kim and Merkes and of Pfaltzgraff. I. *Mathematica* **39(62)** (1997), *no.* 1, 77–81. (E. P. Merkes) **99c:30022** 30C45

— On the univalence of an integral operator. *Mathematica* **39(62)** (1997), *no.* 2, 277–285. (David Calvis) **99g:30021** 30C55

— An extension of Becker's univalence condition and of Nehari's univalence condition. *Mathematica* **39(62)** (1997), *no.* 2, 287–291. (David Calvis) **99g:30022** 30C55

— An extension of the univalence criteria of Becker, of Nehari and of Lewandowski. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 217–223. (Jan Stankiewicz) **99k:30030** 30C55

Ovezgel'dyev, A. O. (*with* Petrov, K. È.) Formation of multifactor estimates with interval specification of factor preference. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 5, 85–92, 188–189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 680–685 (1998). 62H25 (90A05)

Ovrut, Burt A. (*with* Hindawi, Ahmed; Waldram, Daniel) Higher-derivative supergravitation and soft supersymmetry breaking. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 304–312, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 83E50

— Higher derivative gravitation in superstrings. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 414–416, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 83E30 (81T30)

— (*with* Hindawi, Ahmed; Waldram, Daniel) Soft supersymmetry breaking induced by higher-derivative supergravitation. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 435–444, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:83103** 83E50 (83D05)

— (*with* Hindawi, Ahmed; Waldram, Daniel) The vector-tensor multiplet in $N = 2$ superspace. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 164–169. (Summary) **99c:81241** 81T60 (83E50)

— (*with* Lalak, Zygmunt; Lukas, André) Soliton solutions of M-theory on an orbifold. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 59–70. (Summary) **99b:81197** 81T30 (83E30)

— (*with* Lukas, André) U-duality covariant M-theory cosmology. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 291–302. (Marco Spaans) **99h:83058** 83E30 (81T30)

— (*with* Lukas, André; Waldram, Daniel) Gaugino condensation in M theory on S^1/Z_2. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7529–7538. (Summary) **99k:81258** 81T30

Ovseevich, A. I. The Laplace operator in an orthant (algebraic geometry approach). (English summary) *Markov Process. Related Fields* **1** (1995), *no.* 1, 79–90. (Summary) **99c:39022** 39A70 (14F99, 35C15, 60J10)

— (*with* Shmatkov, A. M.) On the comparison of probabilistic and guaranteed approaches to the prediction of the phase state of dynamical systems. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997,** *no.* 4, 11–16. 93E12 (93C41)

— On equations of ellipsoids approximating attainable sets. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 659–676. (B. I. Anan′ev) **99a:93092** 93E03 (49J15)

— *see also* **Congress: Mathematicians, 99h:00039**

Ovsepyan, R. I. (*with* Galstyan, S. Sh.) Trigonometric series with rapidly decreasing coefficients. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 11, 3–26; *translation in Sb. Math.* **187** (1996), *no.* 11, 1577–1600. (Elijah Liflyand) **99d:42005** 42A16 (42A63)

Ovsienko, S. (*with* Dräxler, Peter; Golovashchuk, N. S.; de la Peña, José Antonio) Coordinates of maximal roots of weakly non-negative unit forms. *Colloq. Math.* **78** (1998), *no.* 2, 163–193. (Daniel Simson) **99m:16017** 16G20 (11E12, 15A63, 16G60)

Ovsienko, Valentin (*with* Duval, C.) Space of second-order linear differential operators as a module over the Lie algebra of vector fields. (English summary) *Adv. Math.* **132** (1997), *no.* 2, 316–333. (Janusz Grabowski) **99b:17028** 17B66 (58G99)

— (*with* Roger, Claude) Deforming the Lie algebra of vector fields on S^1 inside the Poisson algebra on $\tilde{T}^*S^1$. (English summary) *Comm. Math. Phys.* **198** (1998), *no.* 1, 97–110. (Janusz Grabowski) **99k:58202** 58H15 (17B66)

— (*with* Bouarroudj, S.) Three cocycles on $\mathrm{Diff}(S^1)$ generalizing the Schwarzian derivative. *Internat. Math. Res. Notices* **1998,** *no.* 1, 25–39. (Janusz Grabowski) **99c:58020** 58D05 (34L99, 58B25)

Ovsyannikov, A. D. On numerical solving of the direct regulator problem. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 224–228, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 93B40 (65F30)

Ovsyannikov, A. Ya. (*with* Shevrin, L. N.) ★ Semigroups and their subsemigroup lattices. (English summary) Translated and revised from the 1990/1991 Russian originals by the authors. Mathematics and its Applications, 379. *Kluwer Academic Publishers Group, Dordrecht*, 1996. xii+378 *pp. ISBN* 0-7923-4221-6 (S. M. Goberstein) **99c:20084** 20M10 (20–02)

Ovsyannikov, D. A. (*with* Drivotin, O. I.) On the theory of self-consistent distributions of charged particles in a longitudinal magnetic field. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 47–56, 242–243, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 78A35

Ovsyannikov, L. V. (*with* Chupakhin, A. P.) Regular partially invariant submodels of equations of gas dynamics. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 990–999; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 969–978. (From the text) **99b:76073** 76N15 (35Q35)

Ovsyannikov, V. P. (*with* Zhidkov, E. P.; Polyakova, R. V.; Yudin, I. P.) Numerical modeling of some magnetic systems of solenoidal type. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 314–320, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 78–08 (78A30)

Ovtchinnikov, Evgueni E. *see* **Ovchinnikov, E. È.**

Owa, Shigeyoshi (*with* Aouf, M. K.) Some applications of fractional calculus operators to some classes of univalent functions with negative coefficients. (English summary) *Integral Transform. Spec. Funct.* **3** (1995), *no.* 3, 211–220. (H. M. Srivastava) **99c:30023** 30C45 (26A33)

— (*with* Shen, Chung Y.) An application of certain operators to the generalized hypergeometric functions. *Mathematica* **37(60)** (1995), *no.* 1-2, 199–203. (M. E. Muldoon) **99c:30024** 30C45 (33C45)

— (*with* Kwon, Oh Sang; Kim, J. A.; Cho, Nak Eun) Certain subclasses of meromorphically multivalent functions. (English summary) *J. Bihar Math. Soc.* **17** (1996), 1–8. (Summary) **99j:30010** 30C45

— (*with* Kim, Tong Chan; Choi, Jae Ho) Starlikeness and convexity of certain linear operators. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 4, 447–452. (Georgi Dimkov) **99m:30019** 30C45

— (*with* Suzuki, Norihiko; Fukui, Seiichi) An application of Ruscheweyh derivatives for multivalent functions. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 121–125. (Summary) **99c:30034** 30C45

— (*with* Kiryakova, Virginia S.; Saigo, Megumi) Distortion and characterization theorems for starlike and convex functions related to generalized fractional calculus. New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 25–46. (H. M. Srivastava) **99f:30023** 30C45 (26A33)

— (*with* Kim, J. A.; Cho, Nak Eun) Some properties for convolutions of generalized hypergeometric functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 92–109. (T. N. Shanmugam) **99h:30014** 30C45 (33C20)

— (*with* Salagean, Grigore Stefan) On an open problem of S. Owa. New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 110–114. (*see* **99a:00033**) 30C45

— (*with* Hossen, H. M.; Aouf, M. K.) A class of functions defined by using Hadamard product. II. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 115–139. (T. H. MacGregor) **99i:30024** 30C45

— (*with* Pascu, N. N.) On Schwarz lemma for the half plane. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 140–142. (*see* **99a:00033**) 30C80

— (*with* Sekine, Tadayuki) New problems of coefficient inequalities. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 164–177. (Summary) **99c:30036** 30C50

— (*with* Huang, Xin Zhong) On Bloch functions and the contraction of Teichmüller metrics. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 198–204. (Summary) **99b:30053** 30D45

— Applications of fractional calculus operators to univalent functions. (English summary) *Transform methods & special functions, Varna* '96, 345–349, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 30C45 (26A33)

— (*with* Niwa, Norio; Jimbo, Toshiya) Hardy class of functions defined by the Salagean operator. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 25–30. (R. K. Raina) **99d:30018** 30C45

— (*with* Lin, Li Jian) Properties of the Salagean operator. (English summary) *Georgian Math. J.* **5** (1998), *no.* 4, 361–366. (R. McLaughlin) **99g:30025** 30C75 (30C45)

— (*with* Shen, Chung Y.) An application of certain fractional operator. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 221–226. (H. M. Srivastava) **99c:30025** 30C45 (26A33, 33C45)

— (*with* Cho, Nak Eun; Kim, In Hwa; Nunokawa, Mamoru) Angular estimations of certain analytic functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 321–331. (Khalida Inayat Noor) **99k:30015** 30C45 (30C50)

— Generalization properties for certain analytic functions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 707–712. (Dov Aharonov) **99i:30025** 30C45

— Some properties of Ruscheweyh derivatives. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 99–104. (Adam Lecko) **99g:30015** 30C45

— (*with* Srivastava, Hari M.) Distortion inequalities for Ruscheweyh derivatives. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 239–246. (Shusen Ding) **99c:30026** 30C45 (33C05)

— On uniformly convex functions. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 377–384. (William Ma) **99k:30024** 30C45

Owczarek, Aleksander L. (*with* Bennett-Wood, D.; Enting, I. G.; Gaunt, D. S.; Guttmann, Anthony J.; Leask, J. L.; Whittington, Stuart G.) Exact enumeration study of free energies of interacting polygons and walks in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4725–4741. (Summary) **99c:82031** 82B41 (82D60)

— (*with* Guttmann, Anthony J.; Viennot, Xavier G.) Vicious walkers and Young tableaux. I. Without walls. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8123–8135. (E. J. Janse van Rensburg) **99j:82042** 82B41 (05E10, 82B23)

— (*with* Brak, R.; Essam, J. W.) New results for directed vesicles and chains near an attractive wall. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 155–192. (Summary) **99g:82027** 82B41 (82D60)

Owe, Olaf A specification formalism for interacting objects. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 3, 198–215. (Summary) **99d:68160** 68Q60 (68N15, 68Q10)

Owen, A. B. (*with* Koehler, J. R.) Computer experiments. *Design and analysis of experiments*, 261–308, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K99 (62A99, 62M99)

Owen, D. J. (*with* Seddougui, S. O.; Otto, S. R.) The nonlinear evolution of centrifugal instabilities in curved, compressible mixing layers. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2080–2090. (Summary) **99d:76040** 76E30 (76D10)

Owen, D. R. *see* **Owen, David Ross**

Owen, D. R. J. (*with* Perić, D.; Dutko, Martin) Aspects of adaptive strategies for large deformation problems at finite inelastic strains. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 349–363, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73G05)

— (*with* de Souza Neto, E. A.; Perić, D.) Continuum modelling and numerical simulation of material damage at finite strains. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 4, 311–384. (Summary) **99j:73063** 73G05 (73C50, 73M25, 73S10, 73V20)

— (*with* Perić, D.) Finite-element applications to the nonlinear mechanics of solids. (English summary) *Rep. Progr. Phys.* **61** (1998), *no.* 11, 1495–1574. (Summary) **99g:73107** 73V05 (73E60, 73G20)

Owen, David Ross (*with* Pedregal, Pablo) An elementary proof of the fundamental property of a perfect gas. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 3, 281–292. (Renuka Datta) **99i:80004** 80A10 (76N10)

— (*with* Greenberg, James M.) Antiplane shear flows in viscoplastic solids exhibiting isotropic and kinematic hardening. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1996–2023 (*electronic*). (Anne Nouri) **99h:73033** 73E60 (35Q72)

Owen, Jonathan H. (*with* Chopra, Sunil) A note on formulations for the A-partition problem on hypergraphs. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 115–133. (Summary) **99m:68149** 68R10 (05C65, 68Q35)

Owens, David H. Adaptive stabilization using a variable sampling rate. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 107–119. 93D21

— (*with* Rocha, Paula; Rogers, Eric) Stability of discrete non-unit memory linear repetitive processes—a two-dimensional systems interpretation. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 457–482. 93D05 (93C30)

— (*with* Amann, Notker; Rogers, Eric) Iterative learning control using optimal feedback and feedforward actions. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 277–293. 93E35 (93C40)

— (*with* Rogers, Eric; Gałkowski, Krzysztof) Control systems theory for linear repetitive processes—recent progress and open research problems. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 737–774. (Summary) **99c:93003** 93A30 (93B50, 93C30)

— (*with* Gałkowski, Krzysztof; Rogers, Eric) Matrix rank based conditions for reachability/controllability of discrete line repetitive processes. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 201–224. (Summary) **99c:93006** 93B05 (93C55)

— (*with* Wood, Jeffrey James; Rogers, Eric) A formal theory of matrix primeness. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 1, 40–78. (François Ollivier) **99j:93059** 93C35 (13C15, 13H10, 93C20)

— (*with* Wood, Jeffrey James; Rogers, Eric) Minimum lag descriptions and minimal Gröbner bases. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 289–293. (Summary) **99c:93028** 93B25 (93E03)

Owens, Peter John Self-dual non-Hamiltonian polyhedra with only two types of faces. (English summary) *Math. Slovaca* **48** (1998), *no.* 2, 137–148. (Summary) **99f:52011** 52B10 (05C45)

Owens, Reuben (*with* Lirkov, I. D.; Margenov, Svetozar D.; Paprzycki, Marcin) A shared memory parallel implementation of block-circulant preconditioners. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 319–327, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F10 (65N30)

Owens, Robert G. A posteriori error estimates for spectral element solutions to viscoelastic flow problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 3-4, 375–395. (Vitoriano Ruas) **99m:76082** 76M10 (76A10)

— Spectral approximations on the triangle. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 857–872. (Victor S. Rykhlov) **99i:33028** 33E30 (34B24, 35C10, 42C30, 65D20)

Owens, Robert Michael (*with* Borah, Manjit; Irwin, Mary Jane) A fast and simple Steiner routing heuristic. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 51–67. (Summary) **99k:68129** 68R10 (05C85, 68Q35)

Owenson, Gerald (*with* Amos, Martyn; Wilson, Steve D.; Hodgson, David A.; Gibbons, Alan) Practical implementation of DNA computations. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 1–18, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05

Owren, Brynjulf (*with* Ekeland, Kersti; Øines, Eivor) Stiffness detection and estimation of dominant spectra with explicit Runge-Kutta methods. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 4, 368–382. (Summary) **99j:65122** 65L06

— (*with* Jackiewicz, Z.; Welfert, B.) Pseudospectra of waveform relaxation operators. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 67–85. (Summary) **99g:65086** 65L60

Oxbury, William (*with* Pauly, Christian) Heisenberg invariant quartics and $\mathcal{SU}_C(2)$ for a curve of genus four. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 295–319. (Emma Previato) **99k:14022** 14D20 (14H45, 14H60, 14K05)

— Spin Verlinde spaces and Prym theta functions. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 52–76. (Emma Previato) **99m:14029** 14D20 (14H42, 14K05, 22E46)

Oxenham, Martin (*with* Casse, Louis Reynolds Antoine) On the resolvability of Hall triple systems. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 639–649. (Barbu C. Kestenband) **99i:05034** 05B07

Oxley, James Matroids. (English summary) *Graph connections*, 100–115, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 05B35 (05C38)

— (*with* Geelen, James F.; Vertigan, Dirk; Whittle, Geoff) Weak maps and stabilizers of classes of matroids. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 305–341. (Dragan M. Acketa) **99f:05023** 05B35

— On packing 3-connected restrictions into 3-connected matroids. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 181–198. (Summary) **99m:05046** 05B35

— (*with* Lemos, Manoel) On packing minors into connected matroids. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 283–289. (Summary) **99c:05044** 05B35

— (*with* Whittle, Geoff) On weak maps of ternary matroids. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 377–389. (Joseph Kung) **99f:05024** 05B35 (06C10)

— (*with* Vertigan, Dirk; Whittle, Geoff) On maximum-sized near-regular and $\sqrt[4]{1}$-matroids. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 163–179. (Joseph Kung) **99i:05058** 05B35 (06C10, 15A15)

— (*with* Lemos, Manoel) On removable circuits in graphs and matroids. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 51–66. (Winfried Hochstättler) **99m:05094** 05C40 (05B35, 05C38)

Oxley, Mark E. (*with* Lair, Alan V.) A necessary and sufficient condition for global existence for a degenerate parabolic boundary value problem. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 338–348. (Summary) **99a:35143** 35K60

Oxman, L. E. (*with* Barci, D. G.) Asymptotic states in nonlocal field theories. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 7, 493–500. (Kurt Haller) **99a:81095** 81T10 (81T40)

Oya, È. F. *see* **Oja, Eve**

Oya, Masahiro Adaptive control methods to achieve any transient response. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 6, 327–332. 93C40 (93E35)

Oyamaguchi, Michio (*with* Gomi, Hiroshi; Ohta, Yoshikatsu) On the Church-Rosser property of root-E-overlapping and strongly depth-preserving term rewriting systems. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 992–1005. (Summary) **99b:68108** 68Q42

van Oyen, Mark P. *see* **Van Oyen, Mark P.**

Oyibo, Gabriel A. Mathematical modelling for fluid and gas dynamic turbulence. (English summary) *Nova J. Math. Game Theory Algebra* **6** (1997), *no.* 4, 223–274. (A. D. Khon′kin) **99c:76097** 76P05 (76F99, 82C40)

Øyma, Knut The closed convex hull of the interpolating Blaschke products. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 659–669. (Fernando Daniel Suárez) **99a:46098** 46J15 (30D50)

Oyono-Oyono, Hervé La conjecture de Baum-Connes pour les groupes agissant sur les arbres. (English and French summaries) [The Baum-Connes conjecture for groups acting on trees] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 799–804. (Alain Valette) **99j:19006** 19K35 (20E08, 46L80, 57M50)

O'Young, Siu D. (*with* Raisch, Jörg) Discrete approximation and supervisory control of continuous systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 569–573. (*see* **99a:93006**) 93C40 (49M25)

van Oystaeyen, Freddy *see* **Van Oystaeyen, Freddy**

Öz, Hayrani (*with* Yen, Gary) Direct optimal control: a hybrid approach. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 193–212. 49N35 (93B52)

Oz, Yaron (*with* de Boer, Jan; Hori, Kentaro; Ooguri, Hirosi) Mirror symmetry in three-dimensional gauge theories, quivers and D-branes. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 101–147. (Summary) **99c:81230** 81T60 (58D27, 81T13, 81T30)

— (*with* de Boer, Jan; Hori, Kentaro; Ooguri, Hirosi; Yin, Zheng) Mirror symmetry in three-dimensional gauge theories, SL(2, **Z**) and D-brane moduli spaces. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 148–176. (Summary) **99c:81231** 81T60 (14J32, 81R10, 81T13, 81T30)

— (*with* de Boer, Jan; Hori, Kentaro) Dynamics of $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 163–191. (Nobuhito Maru) **99a:81167** 81T60 (81T13, 81T30)

— (*with* de Boer, Jan; Hori, Kentaro; Yin, Zheng) Branes and mirror symmetry in $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 107–124. (Summary) **99j:81179** 81T60 (81T13, 81T30)

— (*with* de Boer, Jan) Monopole condensation and confining phase of $N = 1$ gauge theories via M-theory fivebrane. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 155–196. (Hitoshi Nishino) **99e:81231** 81T60 (81T13, 81T30)

— (*with* de Boer, Jan; Hori, Kentaro; Ooguri, Hirosi) Kähler potential and higher derivative terms from M-theory fivebrane. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 173–211. (Sergey A. Cherkis) **99d:81109** 81T30 (81T60, 83E30)

— (*with* de Boer, Jan; Hori, Kentaro; Ooguri, Hirosi) Branes and dynamical supersymmetry breaking. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 20–68. (Angel Maria Uranga) **99e:81232** 81T60 (81R40, 81T30)

— (*with* Aharony, Ofer; Yin, Zheng) M theory on $\mathrm{AdS}_p \times S^{11-p}$ and superconformal field theories. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 87–93. (Summary) **99c:81157** 81T30 (81T40, 83E30)

— (*with* Csáki, Csaba; Ooguri, Hirosi; Terning, John) Glueball mass spectrum from supergravity. (English summary) *J. High Energy Phys.* **1999**, *no.* 1, *Paper* 17, 21 *pp.* (*electronic*). (Summary) **99m:83200** 83E50 (81T13, 81T30, 83E30)

— (*with* Csáki, Csaba; Russo, Jorge G.; Terning, John) Large N QCD from rotating branes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065012, 12 *pp.* (Summary) **99k:81229** 81T30 (83E50)

Ozaki, Manabu (*with* Taya, Hisao) On the Iwasawa λ_2-invariants of certain families of real quadratic fields. *Manuscripta Math.* **94** (1997), *no.* 4, 437–444. (Manfred Kolster) **99a:11122** 11R23 (11R11)

— (*with* Taya, Hisao) A note on the Iwasawa λ-invariants of real abelian number fields. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 2, 109–116. (Cornelius Greither) **99j:11129** 11R23

— Greenberg's conjecture. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 20–27. (*see* **99d:11001**) 11R23

Ozaki, Tohru (*with* Shoji, Isao) A statistical method of estimation and simulation for systems of stochastic differential equations. (English summary) *Biometrika* **85** (1998), *no.* 1, 240–243. (Summary) **99b:60083** 60H10 (62F10, 62M05)

Ozaki, Tomonobu (*with* Furukawa, Koichi; Murakami, Tomoko; Ueno, Ken; Shimazu, Keiko) On a sufficient condition for the existence of most specific hypothesis in Progol. (English summary) *Inductive logic programming* (*Prague*, 1997), 157–164, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)

Özalp, Nuri (*with* Taşdelen, Fatma) Some extensions of Gallop's formulas. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 85–95 (1997). (Themistocles M. Rassias) **99d:39014** 39A10 (35C99, 35L99)

Ozan, Yıldıray Quotients of real algebraic sets via finite groups. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 493–499. (Dmitrii A. Timashëv) **99c:14065** 14L30 (14D25, 14P05, 20G20, 57S17)

Ozawa, Kazufumi A four-stage implicit Runge-Kutta-Nyström method with variable coefficients for solving periodic initial value problems. (English summary) *Japan J. Indust. Appl. Math.* **16** (1999), *no.* 1, 25–46. (Jose Cuminato) **99m:65134** 65L06

Ozawa, Makoto Uniqueness of essential free tangle decompositions of knots and links. (English summary) *KNOTS '96* (*Tokyo*), 231–238, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57022** 57M25

Ozawa, Masanao An operational approach to quantum state reduction. (English summary) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 170–186. (S. Gudder) **99d:81019** 81P15 (81P05)

Ozawa, Narutaka An introduction to operator spaces. (Japanese) Exact C^*-algebras and related topics (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1046 (1998), 1–8. (*see* **99i:46001**) 46L05

Ozawa, Tohru Nonlinear Schrödinger equations in fractional order Sobolev spaces. (English summary) Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 121–131. (*see* **99a:35003**) 35Q55

— (*with* Nakamura, Makoto[2]) Nonlinear Schrödinger equations in the Sobolev space of critical order. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 364–380. (Summary) **99c:35225** 35Q55 (35J60)

— (*with* Hayashi, Nakao; Naumkin, Pavel I.) Scattering theory for the Hartree equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1256–1267 (*electronic*). (Summary) **99c:35222** 35Q55 (35B45, 35P25)

— (*with* Nakamura, Makoto[2]) The Cauchy problem for nonlinear wave equations in the Sobolev space of critical order. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 215–231. (Jean-Marc Delort) **99k:35128** 35L70

— (*with* Tsutaya, Kimitoshi; Tsutsumi, Yoshio) Well-posedness in energy space for the Cauchy problem of the Klein-Gordon-Zakharov equations with different propagation speeds in three space dimensions. *Math. Ann.* **313** (1999), *no.* 1, 127–140. (Jean-Marc Delort) **99m:35169** 35L70

— *see also* **Tsutsumi, Masayoshi** *and* **Namikawa, Yukihiko**

Ozawa, Toshihisa (*with* Asaka, Takuya) Analysis of a dynamic assignment queueing model with Poisson cluster arrival processes. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 2, 196–213. (Nicole Bäuerle) **99e:90037** 90B12 (60K25, 90B22)

Özaydin, Murad (*with* Przebinda, Tomasz) Platonic orthonormal wavelets. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 4, 351–365. (G. C. Bohnké) **99c:42071** 42C15 (20C15)

Özbay, Hitay (*with* Eldem, Vasfi; Selbuz, Hasan; Özçaldiran, Kadri) Partial disturbance rejection with internal stability and H_∞ norm bound. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 180–192 (*electronic*). (Summary) **99a:93085** 93D15 (93B36)

— (*with* Zeren, Murat) On the synthesis of stable $\mathscr{H}^\infty$ controllers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 431–435. 93D21 (93B36)

Ozbay, Kaan (*with* Sherali, Hanif D.; Subramanian, Shivaram) The time-dependent shortest pair of disjoint paths problem: complexity, models, and algorithms. (English summary) *Networks* **31** (1998), *no.* 4, 259–272. (Summary) **99b:90149** 90C35 (90B10)

Özbudak, Ferruh (*with* Thomas, Michael[2]) A note on towers of function fields over finite fields. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3737–3741. (Summary) **99f:11150** 11R58

— (*with* Glukhov, M.) Codes on superelliptic curves. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 223–234. (Simon N. Litsyn) **99j:11071** 11G20 (11T71, 94B27)

Özbulur, V. (*with* Derdiyok, A.; İnanç, N.; Bilgiç, M. O.) Improving performance of switched reluctance motor by fuzzy logic controller. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 5, 307–317. 93C42 (93C95)

Özçağ, Emin On the neutrix convolution product of $x_-^r \ln x_-$ and x_+^{-s}. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 41–49. (Arpad Takači) **99h:46071** 46F10

— The non-commutative neutrix product of the distributions $F(x_+, -r) \ln x_+$ and $\delta^{(s)}(x)$. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 2, 175–181. 46F10

Özçaldiran, Kadri (*with* Eldem, Vasfi; Özbay, Hitay; Selbuz, Hasan) Partial disturbance rejection with internal stability and H_∞ norm bound. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 180–192 (*electronic*). (Summary) **99a:93085** 93D15 (93B36)

Ozcelik, Selahattin (*with* Kaufman, Howard) Design of robust direct adaptive controllers for SISO systems: time and frequency domain design conditions. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 517–530. (Summary) **99m:93059** 93C40 (93D21)

Özdeğer, Abdülkadir (*with* Canfes, Elif Özkara) Some applications of prolonged covariant differentiation in Weyl spaces. (English summary) *J. Geom.* **60** (1997), *no.* 1-2, 7–16. (Henrik Pedersen) **99a:53015** 53B25 (53C40)

Özdemir, Halim (*with* Khaniev, Tahir A.; Maden, Selahattin) Calculating the probability characteristics of a boundary functional of a semi-continuous random process with reflecting and delaying screens. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 2, 117–123. (Paul Embrechts) **99m:60137** 60K05 (90B05)

Özdemir, Murat (*with* Akbulut, Sezgin) On the subsheaves of the sheaf of the homology groups. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 99–107. (Summary) **99b:55006** 55N30

Özdemir, N. (*with* Aliev, A. N.) Semiclassical corrections to the metric of multiple cosmic strings. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3937–3940. (Summary) **99h:83028** 83C47 (83E30)

— (*with* Enginer, Y.; Hortascu, M.; Kaya, Rüstem; Ülker, K.; Yapiskan, B.) Quantum fluctuations of some gravitational waves. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1029–1048. 83C35 (83C47)

Özdeş, A. (*with* Kutluay, S.; Bahadir, A. R.) Numerical solution of one-dimensional Burgers equation: explicit and exact-explicit finite difference methods. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 251–261. (Summary) **99k:65075** 65M06

Ozeki, Ikuzo (*with* Yano, Tamaki) The b-function of a prehomogeneous vector space $(SL(5) \times GL(4), \Lambda_2 \otimes \Lambda_1)$. Microlocal structure of the regular prehomogeneous vector space associated with $SL(5) \times GL(4)$. II. (Japanese summary) Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 92–115. (*see* **99a:11006**) 20G20 (11E57, 20G05, 22E30)

Ozeki, Yukiyasu The method of gauge transformation in random spin systems. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 277–284, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B44

Özekici, Süleyman (*with* Altınel, İ. Kuban) Reliability testing and semi-infinite linear programming. (English summary) *Semi-infinite programming*, 297–322, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99b:90141**) 90B25 (90C05, 90C34)

Özen, F. (*with* Uysal, S. Aynur) Extended Darboux functions relative to the congruence (λ) in a Weyl hypersurface. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 3, 5–8. (V. Oproiu) **99d:53018** 53B25

Özer, H. T. Vertex operator extension of Casimir WA_N algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 33, 2645–2652. (Matthias Dörrzapf) **99k:81092** 81R10 (17B68, 81T40)

Özer, Mehmet Naci (*with* Fordy, A. P.) A new integrable reduction of the matrix NLS equation. (English summary) *Hadronic J.* **21** (1998), *no.* 4, 387–404. (Summary) **99k:35163** 35Q55 (35Q53, 58F07)

— (*with* Eser, Dursun) Derivation of separable amplitude equations by multiple scales method. (English summary) *Turkish J. Math.* **22** (1998), *no.* 3, 309–317. (Summary) **99m:35236** 35Q55 (35L70, 58F07)

— A new integrable reduction of the coupled NLS equation. (English summary) *Turkish J. Math.* **22** (1998), *no.* 3, 319–333. (Summary) **99m:35237** 35Q55 (35Q53, 58F07)

— Derivation of the recursion operator for the NLS equation. (English summary) *Hadronic J.* **22** (1999), *no.* 1, 93–103. 35Q55

Özeren, S. F. (*with* Tırnaklı, U.; Büyükkılıç, Fevzi; Demirhan, Doğan) Landau diamagnetism within Tsallis thermostatistics and quantum groups. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **2** (1998), *no.* 1, 101–106. (Summary) **99e:82010** 82B05

Ozery, Michal (*with* Fraenkel, Aviezri S.) Adjoining to Wythoff's game its P-positions as moves. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 283–296. (P. A. Biryukov) **99m:90185** 90D46

Özgün, S. A. (*with* Zafer, A.; Kaymakçalan, B.) Gronwall and Bihari type inequalities on time scales. (English summary) *Advances in difference equations (Veszprém, 1995)*, 481–490, *Gordon and Breach, Amsterdam*, 1997. (Kazimierz Nikodem) **99g:34100** 34C35 (26D10, 34A40)

— (*with* Zafer, A.; Kaymakçalan, B.) Asymptotic behavior of higher-order nonlinear equations on time scales. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 299–306. (Summary) **99h:39014** 39A10 (34A99)

Özgüner, Füsun (*with* Izadi, Baback A.) Optimal subcube allocation in a circuit-switched faulty hypercube. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 1, 77–81. (Summary) **99c:68015** 68M10 (68M15)

Özgüner, Ümit (*with* Chan, H.) Closed-loop control of systems over a communications network with queues. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 493–510. (Summary) **99a:90093** 90B12 (93C83)

— (*with* İftar, Altuğ) Overlapping decompositions, expansions, contractions, and stability of hybrid systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1040–1055. (Keigo Watanabe) **99f:93066** 93B51 (93C30, 93D05)

— (*with* Haskara, İbrahim; Utkin, Vadim I.) On sliding mode observers via equivalent control approach. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1051–1067. (Summary) **99h:93025** 93B12 (93B07)

Özgür, C. (*with* Arslan, Kadri; Çelik, Yunus; Deszcz, Ryszard) Submanifolds all of whose normal sections are W-curves. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 537–544. (V. Oproiu) **99e:53018** 53B25 (53C40)

Ozgur, Demet (*with* Barbarosoglu, Gulay) A tabu search algorithm for the vehicle routing problem. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 3, 255–270. 90C35 (90C90)

Ozhigov, Yu. I. Cellular automata and continuous functions: negative results. (English summary) *Complex Systems* **10** (1996), *no.* 5, 383–389. (Summary) **99c:68181** 68Q80

Oziewicz, Zbigniew Clifford algebra for Hecke braid. (English summary) *Clifford algebras and spinor structures*, 397–411, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Vasily A. Chernecky) **99d:81063** 81S05 (15A66, 15A78, 18D10, 20F36, 81R50)

— Clifford algebra of multivectors. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 467–486. (Summary) **99j:15037** 15A66 (16S80, 81R25)

— Clifford Hopf-gebra and bi-universal Hopf-gebra. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1267–1274. (*see* **99b:81005**) 16W30

Özkan, Engin (*with* Dikici, Ramazan) General recurrences in modular groups. (English and Turkish summaries) *Ege Univ. J. Fac. Sci.* **21** (1998), *no.* 2, 93–101. 20F05

Özkaya, Nihat (*with* Nordin, Margareta) ★ Fundamentals of biomechanics. (English summary) Equilibrium, motion, and deformation. Second edition. With a preface by Nordin and Dawn L. Leger. With forewords by Victor H. Frankel and Richard Skalak. *Springer-Verlag, New York*, 1999. *xxii*+393 *pp. ISBN* 0-387-98283-3 73P20 (70Kxx, 92C10)

Özkın, İ. Kaya (*with* Şerbetçi, Ayhan) Restrictive semigroups of holomorphic endomorphisms on Riemann surfaces. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 77–81 (1998). (G. M. Lyan) **99h:30048** 30F99

— (*with* Ekincioğlu, İsmail) On high order Riesz transformations generated by a generalized shift operator. (English and Turkish summaries) Meeting in Honor of Cahit Arf (Istanbul, 1995). *Turkish J. Math.* **21** (1997), *Special Issue*, 51–60. (N. K. Karapetyants) **99a:47044** 47B38 (44A05)

Ozorio de Almeida, Alfredo M. (*with* Zheng, Wei-Mou) Bifurcations in the periodic orbit sum: multiple windings. (English summary) *J. Phys. A* **31** (1998), *no.* 23, *L*441–*L*444. (Summary) **99c:81046** 81Q50 (81Q20)

— (*with* Lewenkopf, Caio H.; Mucciolo, Eduardo R.) Semiclassical limit of universal parametric density correlations. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5693–5703. (Summary) **99g:81050** 81Q20 (81Q50)

Ozsváth, István (*with* Schücking, Engelbert L.) The world viewed from outside. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 4, 303–333. (Victor Patrangenaru) **99a:53066** 53C30 (53–03, 53C42)

Öztürk, Fikri (*with* Atakan, Cemal) The optimal classification rule for gamma populations. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 131–140. (Summary) **99i:62139** 62H30

— (*with* Atakan, Cemal) Comparisons of some smoothed error rate estimators in discriminant analysis. (English summary) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **27** (1998), 51–64. 62H30

— (*with* Aydoğdu, Halil) Estimation of the variance function in renewal processes. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 4, 191–202. 62M05 (62F10, 62G05)

— (*with* Aydoğdu, Halil) Some monotonicity properties of the variance function in renewal processes. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 31–37. (Paul Embrechts) **99k:62184** 62N05 (60K05)

Ozturk, Ilhan (*with* Ceran, Şahin) On α-derivation of prime rings. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 15–20. (Miguel Ferrero) **99c:16031** 16W25 (16N60)

— (*with* Shkhanukov, M. Kh.) Difference method for the differential equation with fractional derivative. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 5, 517–523. 65L06

Öztürk, M. A. (*with* Sapanci, Mehmet) Orthogonal symmetric bi-derivation on semi-prime gamma rings. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 31–46. (Stefan Veldsman) **99e:16063** 16Y99 (16W25)

Öztürk, Ömer (*with* Hettmansperger, Thomas P.) Almost fully efficient and robust simultaneous estimation of location and scale parameters: a minimum distance approach. (English summary) *Statist. Probab. Lett.* **29** (1996), *no.* 3, 233–244. (Andrzej S. Kozek) **99b:62034** 62F12 (62F35)

— A robust and almost fully efficient M-estimator. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 415–424. (Summary) **99j:62037** 62F35

— (*with* Hettmansperger, Thomas P.) Simultaneous robust estimation of location and scale parameters: a minimum-distance approach. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 217–229. (Summary) **99f:62046** 62F35

Özyıldırım, Süheyla (*with* Alemdar, Nedim M.) A genetic game of trade, growth and externalities. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 6, 811–832. 90A15 (90D40)

–P–

Paal, Eugen (*with* Lõhmus, Jaak; Sorgsepp, Leo) About nonassociativity in mathematics and physics. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 3–31. (K. Strambach) **99d:17001** 17–02 (17D05, 17D10, 20N05, 81R99)

— (*with* Kuusk, P.) Some applications of geodesic loops and nonlinear geometric algebra in the theory of gravity. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 67–76. (Vladislav Goldberg) **99a:83053** 83C99 (20N05, 22A20, 53C22)

— Continuous Moufang transformations. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 77–91. (Summary) **99i:20089** 20N05

— Coassociativity, cohomology and Gerstenhaber algebras. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 1, 85–93. 16S10 (16W25)

maier-Paape, Stanislaus *see* **Maier-Paape, Stanislaus**

Paar, Christof (*with* Guajardo, Jorge) Efficient algorithms for elliptic curve cryptosystems. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 342–356, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94033** 94A60

Paasonen, V. I. Compact schemes for systems of second-order equations without mixed derivatives. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 4, 335–344. (Summary) **99d:65300** 65N06

Paatashvili, V. A. (*with* Khuskivadze, G. A.) On the inclusion of the Cauchy type integrals into the Smirnov's classes. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **114** (1997), 71–79. (D. M. Israfilov) **99j:30042** 30E20

— (*with* Khuskivadze, G. A.) On conformal mapping of simply connected domains with a piecewise smooth boundary. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **114** (1997), 81–88. (Anthony D. Thomas) **99f:30013** 30C35 (30C20)

— (*with* Khuskivadze, G. A.) On the continuity of the Cauchy operator from the space $L_p(\Gamma)$ to $L_q(\Gamma)$ for $p > q \geq 1$. *Proc. A. Razmadze Math. Inst.* **114** (1997), 124–125. 47G10 (45E05, 47B38)

— (*with* Khuskivadze, G. A.) On the conformal mapping of a circle onto a domain with an arbitrary piecewise smooth boundary. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **116** (1998), 123–132. (O. P. Ahuja) **99m:30011** 30C20 (30C35)

de Pablo, Arturo *see* **De Pablo, Arturo**

Pabst, Gudrun ★ Homogene Kähler-Mannigfaltigkeiten nicht-positiver Krümmung. (German) [Homogeneous Kähler manifolds with nonpositive curvature] Dissertation, Rheinische Freidrich-Wilhelms-Universität Bonn, Bonn, 1995. Bonner Mathematische Schriften [Bonn Mathematical Publications], 291. *Universität Bonn, Mathematisches Institut, Bonn*, 1996. *iv* + 57 *pp.* (J. Dorfmeister) **99f:32053** 32M10 (32C17, 32M15)

Pabst, Simone (*with* Goldsmith, Brendan) Describing ideals of endomorphism rings. *Irish Math. Soc. Bull. No.* 39 (1997), 14–25. (Luigi Salce) **99c:13017** 13C10 (13F30, 16S50)

— (*with* Göbel, Rüdiger) Endomorphism algebras over large domains. (English summary) *Fund. Math.* **156** (1998), *no.* 3, 211–240. (Manfred Dugas) **99b:16046** 16S50 (13C13, 20K30)

— (*with* Goldsmith, Brendan; Scott, Audrey) Unit sum numbers of rings and modules. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 331–344. (Michael Dokuchaev) **99i:16060** 16U99 (16S50, 20K30)

Pacard, Frank Le problème de Yamabe sur des sous domaines de S^n. [The Yamabe problem for subdomains of S^n] *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* IX, 16 *pp.*, *École Polytech., Palaiseau*, 1997. (Robert McOwen) **99a:53045** 53C21 (35J60, 58G30)

Pacati, Claudio (*with* Pavešić, Petar; Piccinini, Renzo A.) On the classification of $\mathcal{F}$-fibrations. (English summary) *Topology Appl.* **87** (1998), *no.* 3, 213–227. (Frank Neumann) **99d:55008** 55R35 (18B30, 55R65)

Pacchiarotti, B. (*with* Costantini, Cristina; Sartoretto, Flavio) Numerical approximation for functionals of reflecting diffusion processes. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 73–102 (*electronic*). (Summary) **99a:60034** 60F17 (60H30, 60J60, 65C05)

Pacciarelli, Dario (*with* Arbib, Claudio; Smriglio, Stefano) A three-dimensional matching model for perishable production scheduling. (English summary) *Discrete Appl. Math.* **92** (1999), *no.* 1, 1–15. (Summary) **99m:90082** 90B30 (90B35)

Pace, J. A. (*with* Zeeman, M. L.) A bridge between the Bendixson-Dulac criterion in $\mathbf{R}^2$ and Liapunov functions in $\mathbf{R}^n$. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 3, 189–193. (Pauline van den Driessche) **99m:34091** 34C25 (58F22)

Pace, R. Kelley (*with* Barry, Ronald Paul) Monte Carlo estimates of the log determinant of large sparse matrices. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 41–54. (*see* **99i:00019**) 65C05 (15A15)

Pacella, Filomena (*with* Adimurthi; Yadava, S. L.) On the number of positive solutions of some semilinear Dirichlet problems in a ball. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1157–1170. (C. A. Swanson) **99b:35061** 35J65 (34B15, 34C23, 35B32, 35P30)

— (*with* Damascelli, Lucio) Monotonicity and symmetry of solutions of p-Laplace equations, $1 < p < 2$, via the moving plane method. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 689–707. (P. Lindqvist) **99h:35061** 35J65 (35B50, 35J70)

— (*with* Damascelli, Lucio) Monotonicity and symmetry of solutions of p-Laplace equations, $1 < p < 2$, via the moving plane method. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **9** (1998), *no.* 2, 95–100. (Summary) **99k:35057** 35J65 (35B99)

Pacelli, Patricia L. Uniform bounds for stably integral points on elliptic curves. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2535–2546. (Joseph H. Silverman) **99m:11065** 11G05 (14G05, 14H25)

Pach, János Geometric graphs and hypergraphs. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 39–43. (*see* **99i:05002**) 05C35 (05C65)

— (*with* Thiele, Torsten; Tóth, Géza) Three-dimensional grid drawings of graphs. (English summary) *Graph drawing* (*Rome*, 1997), 47–51, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99e:68129** 68R10 (68U05)

— (*with* Tóth, Géza) Graphs drawn with few crossings per edge. (English summary) *Combinatorica* **17** (1997), *no.* 3, 427–439. (J. Lauri) **99b:05043** 05C10

— (*with* Erdős, Paul[1]; Hajnal, András) On a metric generalization of Ramsey's theorem. (English summary) *Israel J. Math.* **102** (1997), 283–295. (Péter Komjáth) **99c:04004** 04A20 (05D10)

— (*with* Sharir, Micha) On the number of incidences between points and curves. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 121–127. (Ren Ding) **99b:52037** 52C10

— A Tverberg-type result on multicolored simplices. (English summary) *Comput. Geom.* **10** (1998), *no.* 2, 71–76. (Summary) **99a:52006** 52A37

— (*with* Solymosi, József) Canonical theorems for convex sets. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 427–435. (Summary) **99a:52025** 52C10 (52A10)

— (*with* Tóth, Géza) A generalization of the Erdős-Szekeres theorem to disjoint convex sets. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 437–445. (Summary) **99b:52038** 52C10

— (*with* Dey, Tamal K.) Extremal problems for geometric hypergraphs. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 473–484. (Jaroslav Ivančo) **99c:05144** 05C65 (05C35, 52A37, 52B55)

— (*with* Károlyi, Gyula; Tóth, Géza; Valtr, Pavel) Ramsey-type results for geometric graphs. II. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 375–388. (András Gyárfás) **99i:05145** 05C55 (52C10)

— (*with* Solymosi, József) Halving lines and perfect cross-matchings. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 245–249, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:52020** 52C10

— (*with* Thiele, Torsten; Tóth, Géza) Three-dimensional grid drawings of graphs. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 251–255, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52031** 52C10

Pacha, Juan R. (*with* Ollé, Mercè) Motion near the transition to complex instability: some examples. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 339–344, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70H05 (58F05, 70F15)

Pacharoni, Ines Properties of Kloosterman sums on number fields of class number one. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 103–112. (Roland Matthes) **99i:11065** 11L05 (11R21)

— Kloosterman sums on number fields. *Comm. Algebra* **26** (1998), *no.* 8, 2653–2667. (Roland Matthes) **99i:11066** 11L05 (11R21)

Pacheco, Amílcar On the equation $Y^n = f(X)$ over function fields of positive characteristic. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 89–94. (Eugene M. Matveev) **99k:11046** 11D41

— Integral points on elliptic curves over function fields of positive characteristic. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 353–357. (Joseph H. Silverman) **99j:11064** 11G05 (11R58)

— *see also* **Meeting: Algebra**

Pacheco, António (*with* Cabral Morais, Manuel) Two stochastic properties of one-sided exponentially weighted moving average control charts. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 937–952. 62N10

cruz-Pacheco, G. *see* **Cruz-Pacheco, G.**

Pacheco Castelao, José Miguel (*with* García-Cortí, J. L.; Almeida Rodriguez, Angel Jose) Morphogenesis in reaction-diffusion systems with catalytic-dependent diffusion coefficients. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*) (*Vic*, 1995), 23 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35K57 (35Q80)

Pacheva, S. (*with* Aratyn, Henrik; Nissimov, E.) Method of squared eigenfunction potentials in integrable hierarchies of KP type. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 493–525. (Alexander V. Shapovalov) **99e:58090** 58F07 (35Q53)

— (*with* Aratyn, Henrik; Nissimov, E.) A new "dual" symmetry structure of the KP hierarchy. (English summary) *Phys. Lett. A* **244** (1998), *no.* 4, 245–255. (Youjin Zhang) **99e:58091** 58F07 (35Q53)

Pacholski, Leszek (*with* Mielniczuk, Pawel) Tarskian set constraints are in NEXPTIME. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 589–596, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25 (03D15, 68N15, 68Q15)

— (*with* Kościelski, Antoni) Makanin's algorithm is not primitive recursive. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 145–156. (John P. Helm) **99c:03065** 03D40 (03D15, 03D80, 20F10, 68Q40)

— (*with* Krysta, Piotr) The STO problem is NP-complete. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 2, 207–219. (Summary) **99m:68098** 68Q40 (68Q25)

gonzález-Pachón, Jacinto *see* **González-Pachón, Jacinto**

Pachos, Jiannis (*with* Mansfield, Paul; Sampaio, Marcos) Short distance properties from large distance behavior. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4101–4122. (Summary) **99e:81157** 81T15

— (1 + 1)-dimensional SU(N) static sources in E and A representations. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125016, 5 *pp.* (Summary) **99k:81185** 81T13

Pachpatte, B. G. Inequalities of Opial type that involve higher order derivatives. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 2, 367–371 (1998). (Hassan El-Owaidy) **99g:26040** 26D10

— On some inequalities suggested by a certain inequality used in the theory of differential equations. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 3-4, 19–29. (E. Thandapani) **99b:26029** 26D10 (34A40, 45J05)

— On a nonlinear integral inequality arising in the theory of differential equations. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 173–183. (Roland Lemmert) **99b:26030** 26D10 (34A40, 35A99)

— (*with* Pachpatte, Deepak B.) On certain nonlinear higher order integrodifferential equations. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 69–78.

(Da Jun Guo) **99h:45014** 45J05

— ★ Inequalities for differential and integral equations. Mathematics in Science and Engineering, 197. *Academic Press, Inc., San Diego, CA*, 1998. x+611 *pp.* *ISBN* 0-12-543430-8 (A. A. Martynyuk) **99b:00001** 00A05 (26D15, 34A40, 35B45, 35R45, 45A05, 45G10)

— Estimates on the solutions of certain higher order finite difference equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 4, 583–590. (Summary) **99k:39031** 39A10

— Discrete inequalities in three independent variables. *Demonstratio Math.* **31** (1998), *no.* 4, 849–854. (P. S. Bullen) **99m:26031** 26D15

— Inequalities applicable in the theory of finite difference equations. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 438–459. (Vladimir Sh. Burd) **99f:39008** 39A10 (39A11)

— On some new inequalities similar to Hilbert's inequality. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 166–179. (Darko Veljan) **99i:26026** 26D15

— On multivariate generalizations of Hardy's inequality. (English summary) *Libertas Math.* **18** (1998), 23–47. (Ling Yau Chan) **99m:26032** 26D15

— Inequalities related to a certain inequality used in the theory of differential equations. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 1–11. (P. W. Eloe) **99e:39035** 39A10 (26D10, 34A40)

— A note on Hilbert type inequality. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 293–298. (Alberto Fiorenza) **99i:26027** 26D15

Pachpatte, Deepak B. (*with* Pachpatte, B. G.) On certain nonlinear higher order integrodifferential equations. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 69–78. (Da Jun Guo) **99h:45014** 45J05

Pachter, Lior Combinatorial approaches and conjectures for 2-divisibility problems concerning domino tilings of polyominoes. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 29, 10 *pp.* (*electronic*). (Dean R. Hickerson) **99a:05027** 05B45 (52C20)

— (*with* Kleitman, Daniel J.) Finding convex sets among points in the plane. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 405–410. (Summary) **99e:52021** 52C10

— (*with* Kim, Peter S.) Forcing matchings on square grids. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 287–294. (Summary) **99c:05156** 05C70

— (*with* Batzoglou, Serafim; Berger, Bonnie; Kleitman, Daniel J.; Lander, Eric S.) Recent developments in computational gene recognition. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 649–658 (*electronic*). (Summary) **99g:92022** 92D20 (92D10)

Pachter, Meir (*with* Kobylarz, T.; Houpis, C. H.) Literal Nyquist stability criterion for MIMO control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 55–65. (Summary) **99f:93106** 93D05 (93B60)

— (*with* D'Azzo, J. J.; Veth, M.) Proportional and integral control of nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 679–692. 93B51 (93C10)

perone Pacífico, M. *see* **Perone Pacífico, M.**

Pacífico, Maria José (*with* Rovella, A.; Viana, Marcelo) Infinite-modal maps with global chaotic behavior. (English summary) *Ann. of Math.* (2) **148** (1998), *no.* 2, 441–484. (Grzegorz Świątek) **99k:58060** 58F03 (58F13)

— (*with* Morales, Carlos Arnoldo; Pujals, Enrique Ramiro) On C^1 robust singular transitive sets for three-dimensional flows. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 81–86. (Michael Hurley) **99j:58183** 58F25 (34C35)

— (*with* Rovella, A.; Viana, Marcelo) Corrigendum: "Infinite-modal maps with global chaotic behavior" [Ann. of Math. (2) **148** (1998), no. 2, 441–484; MR 99k:58060]. *Ann. of Math.* (2) **149** (1999), *no.* 2, 705. 58F03 (58F13)

Pacitto, G. (*with* Flament, C.; Bacri, J.-C.; Drikis, I.; Tsebers, A. O.) Viscous fingering in a magnetic fluid. I. Radial Hele-Shaw flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2464–2472. (Summary) **99g:76149** 76W05 (76E25, 76S05)

britto-Pacumio, Ruth A. *see* **Britto-Pacumio, Ruth A.**

Padaliya, S. (*with* Pant, R. P.; Lohani, A. B.) A common fixed point theorem. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 13–20. 54H25

— (*with* Pant, R. P.; Lohani, A. B.; Pandey, N. K.) On common fixed points of generalized contractions. *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 207–210. 54H25

Padawitz, Peter Towards the one-tiered design of data types and transition systems. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 365–380, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q60 (68Q65)

Padberg, Julia Classification of Petri nets using adjoint functors. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 85–91. 68Q90

Padberg, M. (*with* Wilczak, M. J.) Optimal project selection when borrowing and lending rates differ. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 3, 63–78. (Summary) **99k:90043** 90A11 (90C90)

Paden, Brad (*with* Chen, Degang) Stable inversion of nonlinear non-minimum phase systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 81–97. 93B17 (93C10)

— (*with* Devasia, Santosh; Rossi, Carlo) Exact-output tracking theory for systems with parameter jumps. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 117–131. 93D15 (93C30)

Padet, Colette (*with* Ramer, Arthur; Hiller, John; Diamond, Phil) Total uncertainty revisited. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 3, 223–237. (Summary) **99m:68198** 68T30 (90A05, 94A17)

Padgett, W. J. (*with* Lund, Robert; Seymour, Lynne) A control chart for a general Gaussian process. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 19–34. 62N10

Padhi, Seshadev (*with* Parhi, N.) On asymptotic behavior of delay-differential equations of third order. *Nonlinear Anal.* **34** (1998), *no.* 3, 391–403. (Luiz Fichmann) **99g:34146** 34K15 (34K20, 34K40)

Padhy, S. (*with* Doss, L. Jones Tarcius; Pani, Amiya K.) Galerkin method for a Stefan-type problem in one space dimension. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 393–416. (Muthusamy Vanninathan) **99a:65121** 65M60 (35R35, 65M15, 65M30)

Padial, J. F. A comparison principle for weak solutions to some nonlinear parabolic systems. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 531–536, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Summary) **99e:35100** 35K55 (35B05, 35D05)

— (*with* Díaz Díaz, Jesús Ildefonso; Rakotoson, Jean Michel) Mathematical treatment of the magnetic confinement in a current carrying stellarator. *Nonlinear Anal.* **34** (1998), *no.* 6, 857–887. (Jacqueline Mossino) **99i:35182** 35R35 (35Q35, 76X05)

— (*with* Díaz Díaz, Jesús Ildefonso; Galiano, G.) On the uniqueness of solutions of a nonlinear elliptic problem arising in the confinement of a plasma in a stellarator device. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 1, 61–73. (Ya Zhe Chen) **99k:35060** 35J65 (76W05)

Padilla, Pablo (*with* Tonegawa, Yoshihiro) On the convergence of stable phase transitions. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 6, 551–579. (Muthusamy Vanninathan) **99b:58054** 58E15 (35B25, 49Q20, 82B26)

Padilla, Peter A. (*with* Kaneko, Hideaki; Noren, Richard D.) Singularity preserving Galerkin method for Hammerstein equations with logarithmic kernel. (English summary) *Adv. Comput. Math.* **9** (1998), *no.* 3-4, 363–376. (Summary) **99i:65148** 65R20 (45G05, 45L05)

Padilla Gálvez, Jesús Was trägt Wittgenstein zu der carnapschen Metalogik bei? [What does Wittgenstein contribute to the metalogic of Carnap?] *Wittgenstein and the Vienna Circle* (*Spanish*) (*Toledo*, 1994), 25–36, *Estudios*, 49, *Ed. Univ. Castilla-La Mancha, Cuenca*, 1998. (S. Awodey) **99j:03003** 03A05 (03–03)

— The advances in topology achieved by Antonio I. Flores in the Mathematisches Kolloquium. (Spanish) *Wittgenstein and the Vienna Circle* (*Spanish*) (*Toledo*, 1994), 261–284, *Estudios*, 49, *Ed. Univ. Castilla-La Mancha, Cuenca*, 1998. (J. R. Isbell) **99f:54002** 54–03 (01A60, 55–03)

— *see also* **Wittgenstein and the Vienna Circle, 99b:00022**

Padiy, Alexander On a robust multilevel method applied for solving large-scale linear elasticity problems. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 3, 153–165. (Summary) **99m:73070** 73V05 (65F10, 65N30)

— (*with* Axelsson, Owe) On a robust and scalable linear elasticity solver based on a saddle point formulation. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 6, 801–818. (From the summary) **99i:73066** 73V05

Padmanabham, P. A. Some hypergeometric transformations. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1137–1141. (Harold Exton) **99k:33045** 33C70

Padmanabhan, K. S. On certain subclasses of Bazilevič functions. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 241–260. (Paul Eenigenburg) **99g:30016** 30C45

— On certain subclasses of multivalently meromorphic close-to-convex maps. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 3, 251–263. (Albert E. Livingston) **99j:30012** 30C45

Padmanabhan, T. Aspects of quantum field theory. *Geometry, fields and cosmology* (*Pune*, 1989), 351–446, *Fund. Theories Phys.*, 88, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:83002**) 81–02 (81Txx)

Padmanabhuni, Srinivas (*with* Ghose, Aditya K.) Inductive constraint logic programming: an overview. (English summary) *Learning and reasoning with complex representations* (*Cairns*, 1996), 1–8, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68N17 (68T05)

— (*with* Goebel, Randy; Furukawa, Koichi) Curried least general generalization: a framework for higher order concept learning. (English summary) *Learning and reasoning with complex representations* (*Cairns*, 1996), 45–60, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68N17 (68T05)

— (*with* Ghose, Aditya K.; Goebel, Randy) The role of default representations in incremental learning. *Learning and reasoning with complex representations* (*Cairns*, 1996), 92–105, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68T05 (68N17, 68T27)

Padmavathamm, M. (*with* Subrahmanyasastri, V. V.) Distributive and quasi-distributive properties of arithmetic functions relative to s-regular and strong regular convolutions. (English summary) *Proc. Math. Soc.* **12** (1996), 139–144 (1997). (Summary) **99f:11008** 11A25

— (*with* Subrahmanyasastri, V. V.) On certain distributive and quasi-distributive properties of arithmetic functions. *Ranchi Univ. Math. J.* **28** (1997), 51–56. 11A25

Padmavathi, B. S. (*with* Raja Sekhar, G. P.; Amaranath, T.) A note on complete general solutions of Stokes equations. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 383–388. (Paolo Maremonti) **99g:76040** 76D07 (35Q30, 76D05)

— Stokes flow past a permeable circular cylinder. *Mech. Res. Comm.* **26** (1999), *no.* 1, 107–113. 76D07

Padmini, M. (*with* Subbiah, M.) On the stability of inviscid compressible shear flows. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 811–817. (Summary) **99e:76101** 76N15 (76E05, 76J20)

— (*with* Subbiah, M.) Bounds on the phase speed and growth rate of barotropic-baroclinic instability problem. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 1, 1–6. (Summary) **99k:76059** 76E20 (76U05, 76V05, 86A10)

Padmini, M. V. (*with* Madan, B. B.; Jain, B. N.) Reordering for parallelism. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 373–390. (Summary) **99k:15028** 15A23 (05C99)

— (*with* Madan, B. B.; Jain, B. N.) A linear array for large sparse matrix operations. I. Cholesky factorization. (English summary) *Parallel Algorithms Appl.* **13** (1999), *no.* 3, 187–215. (Summary) **99m:65095** 65F50 (65Y05)

— (*with* Madan, B. B.; Jain, B. N.) A linear array for large sparse matrix operations. II. Triangular system solvers and matrix multiplication. (English summary) *Parallel Algorithms Appl.* **13** (1999), *no.* 3, 217–237. (Summary) **99m:65096** 65F50 (65Y05)

Padovan, Joe (*with* Sawicki, Jerzy T.) Nonlinear vibrations of fractionally damped systems. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 4, 321–336. 70K99

Padovani, Cristina (*with* Lucchesi, M.; Pasquinelli, G.; Zani, N.) The maximum modulus eccentricities surface for masonry vaults and limit analysis. (English summary) *Math. Mech. Solids* **4** (1999), *no.* 1, 71–87. (Summary) **99j:73080** 73K99

Padró, Carles (*with* Gómez Martí, José; Pérennes, Stéphane) Large generalized cycles. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 107–123. (Joseph B. Klerlein) **99j:05121** 05C38 (05C20)

— Robust vector space secret sharing schemes. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 107–111. 94A60 (68P25)

— (*with* Ferrero, D.) Disjoint paths of bounded length in large generalized cycles. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 285–298. (Summary) **99i:05120** 05C38

Padrón, Edith (*with* Margalef-Roig, J.; Outerelo Domínguez, Enrique) Connections on infinite-dimensional manifolds with corners. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 21–55. (Liliana Maxim-Răileanu) **99b:58021** 58B20

— (*with* Marrero, Juan Carlos) New examples of compact cosymplectic solvmanifolds. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 3, 337–345. (Manuel de León) **99k:53055** 53C15 (53C55)

— (*with* Ibáñez, Raúl; de León, Manuel; Marrero, Juan Carlos) Nambu-Jacobi and generalized Jacobi manifolds. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1267–1286. (Frans Cantrijn) **99f:53030** 53C15 (58F05)

— (*with* de León, Manuel; Marrero, Juan Carlos) A generalization for Jacobi manifolds of the Lichnerowicz-Poisson cohomology. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fís. Natur. Madrid* **32** (1998), 131–150. (Raúl Ibáñez) **99j:58076** 58F05 (58A14, 58F06)

Padrón, Miguel A. (*with* Plaza, Angel) Some tetrahedral mesh refinement algorithms based on bisection. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 853–858, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M50 (65N50)

Padrón, Victor Sobolev regularization of a nonlinear ill-posed parabolic problem as a model for aggregating populations. *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 457–486. (Dang Dinh Ang) **99k:35185** 35R25 (35K60, 92D25)

— (*with* Lizana Peña, Marcos) A spatially discrete model for aggregating populations. (English summary) *J. Math. Biol.* **38** (1999), *no.* 1, 79–102. (Summary) **99m:92034** 92D25 (34A34, 34D99)

Padrón-Fernández, E. *see* **Padrón, Edith**

Pádua, João Carlos (*with* Carrião, Paulo C.; Miyagaki, Olimpio H.) Radial solutions of elliptic equations with critical exponents in $\mathbf{R}^N$. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 61–68. (Yong Qing Li) **99b:35051** 35J60 (35B05)

Paduano, James D. (*with* Krstić, Miroslav; Fontaine, Dan; Kokotović, Petar V.) Useful nonlinearities and global stabilization of bifurcations in a model of jet engine surge and stall. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1739–1745. 93D15 (93C95)

Paduchikh, D. V. (*with* Makhnëv, A. A.) On the structure of connected locally GQ(3, 9)-graphs. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser. 1* **5** (1998), *no.* 2, 61–77, 100. (Dmitrii V. Pasechnik) **99m:05138** 05C75 (51E12, 51E24)

— (*with* Makhnëv, A. A.) Locally Shrikhande graphs and their automorphisms. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1085–1097, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 936–946. (Roman Nedela) **99i:05181** 05C75 (05C25, 05E20)

Padula, Mariarosaria Steady flows of barotropic viscous fluids. *Classical problems in mechanics*, 253–345, *Quad. Mat.*, 1, *Aracne, Rome*, 1997. (R. M. Gundersen) **99g:76122** 76N10 (35Q35)

— (*with* Pileckas, Konstantin) On the existence and asymptotical behaviour of a steady flow of a viscous barotropic gas in a pipe. *Ann. Mat. Pura Appl.* (4) **172** (1997), 191–218. (Raphaël Danchin) **99e:35187** 35Q35 (35B40, 76N10)

— (*with* Sequeira, Adélia) A note on a vector transport equation with applications to non-Newtonian fluids. (English summary) *Theory of the Navier-Stokes equations*, 121–126, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99e:35188** 35Q35 (76A05)

Paeng, Seong-Hun A sphere theorem under a curvature perturbation. II. *Kyushu J. Math.* **52** (1998), *no.* 2, 439–454. (Zhongmin Shen) **99k:53081** 53C21 (53C23)

Pagan, A. R. (*with* Hall, A. D.; Martin, Vance L.) Modeling the term structure. *Statistical methods in finance*, 91–118, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62145** 62P20 (90A09)

Paganini, Fernando Frequency domain conditions for robust $\mathscr{H}_2$ performance. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 38–49. (Sophie Tarbouriech) **99m:93031** 93B36 (93C80)

— Convex methods for robust $\mathscr{H}_2$ analysis of continuous-time systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 239–252. (Peng Shi) **99m:93032** 93B36 (90C90)

Pagano, Bruno (*with* Hardin, Thérèse; Maranget, Luc) Functional runtime systems within the lambda-sigma calculus. (English summary) *J. Funct. Programming* **8** (1998), *no.* 2, 131–176. (Summary) **99c:68034** 68N15 (03B40)

Pagano, S. (*with* Alart, Pierre; Maisonneuve, O.) Solid-solid phase transition modelling. Local and global minimizations of non-convex and relaxed potentials. Isothermal case for shape memory alloys. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 10, 1143–1172. (Summary) **99f:73017** 73B30 (49J20, 73V20, 73V25)

Paganoni, A. M. (*with* Barchielli, Alberto; Zucca, Fabio) On stochastic differential equations and semigroups of probability operators in quantum probability. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 69–86. (Summary) **99k:81138** 81S20 (47D06, 47N50, 60H10, 81P15)

Paganoni, Luigi (*with* Forti, Gian Luigi) A distributionally chaotic triangular map with zero sequence topological entropy. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 147–152. (Krzysztof Ciesielski) **99f:58139** 58F13 (54H20)

— (*with* Forti, Gian Luigi; Smítal, Jaroslav) Dynamics of homeomorphisms on minimal sets generated by triangular mappings. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 1–20. (Henk P. Bruin) **99m:54029** 54H20 (58F08, 58F12)

Page, C. David, Jr. *see* **Inductive logic programming, 99k:68010**

Page, Connie (*with* Hardwick, Janis; Stout, Quentin F.) Sequentially deciding between two experiments for estimating a common success probability. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1502–1511. (Summary) **99i:62182** 62L10

Page, David *see* **Page, C. David, Jr.**

Page, Don N. Maximal acceleration is non-rotating. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1669–1719. (Volker Perlick) **99f:83017** 83C20

— Gravitational capture and scattering of straight test strings with large impact parameters. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105026, 13 *pp.* 83C57

Page, Frank H., Jr. Existence of optimal auctions in general environments. (English summary) *J. Math. Econom.* **29** (1998), *no.* 4, 389–418. (Dave Furth) **99h:90033** 90A60 (90A36, 90D80)

— (*with* Monteiro, Paulo K.) Optimal selling mechanisms for multiproduct monopolists: incentive compatibility in the presence of budget constraints. (English summary) *J. Math. Econom.* **30** (1998), *no.* 4, 473–502. (Summary) **99g:90031** 90A12 (90A53)

Page, Stanley S. (*with* Zhou, Yiqiang) Generalizations of principally injective rings. (English summary) *J. Algebra* **206** (1998), *no.* 2, 706–721. (W. K. Nicholson) **99f:16004** 16D50

Pagès, Gilles (*with* Bouton, Catherine) About the multidimensional competitive learning vector quantization algorithm with constant gain. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 679–710. (Min Ping Qian) **99a:60075** 60J20 (60F99, 60J05, 68T05, 92B20)

— (*with* Fort, Jean-Claude) Correction: "Convergence of stochastic algorithms: from the Kushner-Clark theorem to the Lyapounov functional method" [Adv. in Appl. Probab. **28** (1996), no. 4, 1072–1094; MR 98b:62147]. *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 270. (Editors) **99b:62124** 62L20 (60F05)

— (*with* Alaya, Mohamed Ben) Rate of convergence for computing expectations of stopping functionals of an α-mixing process. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 425–448. (Jean-Claude Massé) **99h:60039** 60F05 (60F15, 60F17, 60G10, 60J10)

— A space quantization method for numerical integration. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 1–38. (Pierre Hillion) **99d:65074** 65D30 (65C05, 94A34)

Pagin, Peter (*with* Glüer, Kathrin) Rules of meaning and practical reasoning. (English summary) *Synthese* **117** (1998/99), *no.* 2, 207–227. 03B65

Pagli, Linda (*with* Luccio, Fabrizio) Normal matrices, pseudo-cubes and pseudo-products. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 33–56. (Summary) **99i:15036** 15A57

— (*with* De Prisco, Roberto; Monti, Angelo) Testing and reconfiguration of VLSI linear arrays. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 171–188. (Summary) **99b:68104** 68Q35 (94C12)

— (*with* Luccio, Fabrizio) Computing with time-varying data: sequential complexity and parallel speed-up. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 5–26. (Behrooz Parhami) **99c:68111** 68Q22 (68Q15, 68Q20, 68Q25)

Pagli, Paolo Reflections on the algebra of logic. (Italian) *Epistemology of mathematics.* 1992–1993 *Seminars (Italian)* (*Siena/Bologna/Pavia*), 31–37, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 03–03 (01A50, 01A60, 03Gxx)

Pagliani, Piero Rough set theory and logic-algebraic structures. (English summary) *Incomplete information: rough set analysis*, 109–190, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 04A72 (03G25)

— A practical introduction to the modal-relational approach to approximation spaces. (English summary) *Rough sets in knowledge discovery*, 1, 209–232, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 04A72 (03B45)

Pagon, Dušan (*with* Zeitler, Herbert) Polar lines and tangents. (English summary) *Mitt. Math. Ges. Hamburg* **17** (1998), 127–141. (Summary) **99i:51021** 51N10 (51M04)

de Pagter, B. (*with* Dodds, P. G.; Semenov, E. M.; Sukochev, F. A.) Symmetric functionals and singular traces. (English summary) *Positivity* **2** (1998), *no.* 1, 47–75. (Christian Le Merdy) **99m:46072** 46E30 (46L50)

Pagurova, V. I. On the asymptotic power of a test for detecting outliers. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 482–495; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 433–443 (1998). (I. N. Volodin) **99e:62022** 62F05

Pahk, Dae Hyeon (*with* Kim, June Gi) Non-existence of positive solutions of the equation $-\Delta u = \lambda u + u|u|^{2^*-2}$. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 753–757. (Summary) **99k:35064** 35J65 (35B05)

— (*with* Sohn, Byung Keun; Im, Sun Woo) Multipliers in the Fourier transform of distributions of rapid growth. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 59–67. (Richard D. Carmichael) **99j:46046** 46F10 (42B15, 44A35)

— (*with* Park, Sang Don; Bae, Soo Hyun) On the multiple positive solutions to a quasilinear equation. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 221–236. (Summary) **99g:35012** 35B05 (35B32, 35J65)

— (*with* Jang, Soon Yeun) Nodal solutions of nonlinear elliptic equations in annular domains. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 387–398. (Summary) **99a:35069** 35J60 (35B05)

Pai, Devidas (*with* Laurent, Pierre-Jean) On simultaneous approximation. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 1045–1064. (Joseph M. Lambert) **99h:41027** 41A29 (41A65)

Pai, Jeffrey S. (*with* Ravishanker, Nalini) Bayesian analysis of autoregressive fractionally integrated moving-average processes. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 99–112. (Summary) **99a:62134** 62M10

Pai, Pin-I (*with* Karayiannis, Nicolaos B.; Zervos, Nicholas) Image compression based on fuzzy algorithms for learning vector quantization and wavelet image decomposition. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 8, 1223–1230. 94A12

Paige, Christopher C. (*with* Chang, Xiao-Wen) Perturbation analyses for the Cholesky downdating problem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 429–443 (*electronic*). (Guo Rong Wang) **99e:65077** 65F35 (15A23)

Paik, Myunghee Cho (*with* Tsai, Wei Yann) On using the Cox proportional hazards model with missing covariates. (English summary) *Biometrika* **84** (1997), *no.* 3, 579–593. (Summary) **99c:62280** 62N05 (62J12)

Paĭmushin, V. N. (*with* Sidorov, I. N.) Construction of an integral representation of the solution of equilibrium equations in a theory of Timoshenko type for shells with a complex geometry. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 854–862; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 825–832 (1998). (Summary) **99c:73051** 73K15

Pain, C. C. (*with* Xu, Xiao; Goddard, A. J. H.; de Oliveira, C. R. E.) An automatic adaptive meshing technique for Delaunay triangulations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 297–303. 65N55

Paintandre, Stéphan (*with* Mazet, Pierre-Alain; Rahmouni, Adib) Interprétation dispersive du milieu PML de Bérenger. (English and French summaries) [Dispersive interpretation

of Bérenger's PML medium] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 59–64. (Summary) **99f:78015** 78A45

Pais, Abraham (*with* Jacob, Maurice; Olive, David I.; Atiyah, Michael F.) ★ Paul Dirac. The man and his work. Edited by Peter Goddard. *Cambridge University Press, Cambridge*, 1998. *xvi*+124 *pp. ISBN* 0-521-58382-9 (Arne Schirrmacher) **99d:01033** 01A70 (01A60, 81–03)

— Paul Dirac: aspects of his life and work. *Paul Dirac*, 1–45, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99d:01033**) 01A70 (81–03)

Païson, O. B. Varieties of associative rings, all critical rings of which are arithmetic. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 1, 42–55; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 1, 40–52. (Yu. N. Mal'tsev) **99a:16018** 16R10

Pait, Felipe M. A tuner that accelerates parameters. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 65–68. 93E12 (93C40)

Paiva, F. M. (*with* Rebouças, M. J.; Hall, G. S.; MacCallum, Malcolm A. H.) Limits of the energy-momentum tensor in general relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1031–1041. (Emil Zakhary) **99f:83028** 83C40

álvarez Paiva, J. C. *see* **Álvarez Paiva, J. C.**

de Paiva, V. C. V. (*with* Ghani, Neil; Ritter, Eike) Explicit substitutions for constructive necessity. *Automata, languages and programming (Aalborg*, 1998), 743–754, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 03B40 (03B70, 68N15)

— (*with* Benton, P. N.; Bierman, G. M.) Computational types from a logical perspective. (English summary) *J. Funct. Programming* **8** (1998), *no.* 2, 177–193. (Chantal Berline) **99h:68026** 68N15 (03B45, 03B70, 03F05, 68Q55)

Päivärinta, Lassi (*with* Kirsch, Andreas) On recovering obstacles inside inhomogeneities. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 7, 619–651. (P. A. Mishnayevskiy) **99b:35214** 35R30 (35J05, 35P25)

— (*with* Serov, V. S.) Recovery of singularities of a multidimensional scattering potential. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 697–711 (*electronic*). (Xue-Ping Wang) **99c:35261** 35R30 (35J99, 35P25)

Pająk, Grzegorz (*with* Galicki, Mirosław; Pająk, Iwona) Time-optimal control of redundant manipulators. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 333–341. (*see* **99b:70004**) 93C85 (49J99, 70B15)

Pająk, Iwona (*with* Galicki, Mirosław; Pająk, Grzegorz) Time-optimal control of redundant manipulators. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 333–341. (*see* **99b:70004**) 93C85 (49J99, 70B15)

Pajitnov, A. V. *see* **Pazhitnov, A. V.**

Pajor, A. (*with* König, Hermann H.; Meyer, Mathieu) The isotropy constants of the Schatten classes are bounded. *Math. Ann.* **312** (1998), *no.* 4, 773–783. (Keith Ball) **99j:52003** 52A20 (46B28, 47B10, 52A38)

— (*with* Litvak, A. E.; Milman, Vitali D.) The covering numbers and "low M^*-estimate" for quasi-convex bodies. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1499–1507. (Wolfgang Lusky) **99h:52022** 52C17 (46B07, 52A21, 52A30)

Pajot, Hervé (*with* Bourdon, Marc) Poincaré inequalities and quasiconformal structure on the boundary of some hyperbolic buildings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2315–2324. (M. Yu. Vasil'chik) **99j:30024** 30C65 (51E24)

Pak, G. K. (*with* Vostokov, S. V.) Construction of a normal basis for the ring of integers in an extension without higher ramification of an n-dimensional local field. (Russian. Russian summary) *Algebras, groups and varieties (Russian)*, 14–26, 81, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 11S15

— *see also* **Algebras, groups and varieties, 99k:00020**

Pak, Hong Kyung Foliated conformal transformations of Riemannian foliations. (English summary) *Proceedings of the Second International Workshop on Differential Geometry (Taegu*, 1997), 99–107, *Kyungpook Natl. Univ., Taegu*, 1998. (James J. Hebda) **99e:53030** 53C12 (57R30)

— (*with* Kitahara, Haruo) Notes on vanishing theorems on Riemannian manifolds with boundary. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 831–841. (De Tang Zhou) **99m:58190** 58G20

— Foliated conformal transformations on complete Riemannian manifolds. (English summary) *Math. J. Toyama Univ.* **21** (1998), 23–33. (Man Chun Leung) **99m:53068** 53C20 (53C12)

— (*with* Shin, Yang Jae) L^2 transversal conformal and projective fields of Riemannian foliations on complete Riemannian manifolds. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 1, 19–29. (James J. Hebda) **99d:53027** 53C12

Pak, I. M. (*with* Novelli, Jean-Christophe; Stoyanovskiĭ, A. V.) A direct bijective proof of the hook-length formula. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 53–67. (Christian Krattenthaler) **99h:05123** 05E10 (05A15, 05A19)

Pak, Jin Suk (*with* Shin, Yang Jae; Jeong, Jang Chun) Contact metric manifolds with vanishing contact conformal curvature tensor fields. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 747–751. (Themis Koufogiorgos) **99m:53063** 53C15 (53C25)

— (*with* Kang, Tae Ho; Ki, U-Hang) On the spectral geometry for the Jacobi operators of harmonic maps into product manifolds. (English summary) *Proceedings of the First International Workshop on Differential Geometry (Taegu*, 1996), 13–30, *Kyungpook Natl. Univ., Taegu*, 1997. (Summary) **99e:58049** 58E20 (58G25)

— (*with* Jung, Seoung Dal) Some vanishing theorems on complete Kähler foliations. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 15–28. (Introduction) **99b:53042** 53C12 (53C55, 58G10)

— (*with* Kang, Tae Ho; Ki, U-Hang) On the spectral geometry for the Jacobi operators of harmonic maps into product manifolds. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 483–500. (Summary) **99b:58232** 58G25 (58E20)

— (*with* Kwon, Jung-Hwan) CR-submanifolds of $(n-1)$ CR-dimension in a complex projective space. (English summary) *Saitama Math. J.* **15** (1997), 55–65. (Sorin Dragomir) **99d:53057** 53C40 (53C15)

Pak, N. K. (*with* Fainberg, V. Ya.) A new path-integral representation for the many-particle Green function of the relativistic particles. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 328–338; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 595–602. (George K. Savvidy) **99b:81129** 81S40 (81T13, 81V70)

— (*with* Faizullaev, B. A.; Musakhanov, M. M.) On the higher-loop contributions to the axial anomaly. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 192–197, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81T50

— (*with* Fainberg, V. Ya.; Shikakhwa, M. S.) Non-relativistic fermions interacting through the Chern-Simons field and the Aharonov-Bohm scattering amplitude. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3531–3543. (Summary) **99a:81108** 81T15

Pakdaman, K. (*with* Yoshino, Kohzo; Nomura, T.; Sato, Shunsuke) Synthetic analysis of periodically stimulated excitable and oscillatory membrane models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 956–969. (Summary) **99h:92005** 92C05 (92C20)

Pakdemirli, Mehmet (*with* Yürüsoy, Muhammet) Group classification of a non-Newtonian fluid model using classical approach and equivalence transformations. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 341–346. (Summary) **99i:76005** 76A05 (35Q35, 76D10, 76M99)

Pakes, Anthony G. The laws of some random series of independent summands. (English summary) *Advances in the theory and practice of statistics*, 499–516, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (D. N. Shanbhag) **99g:60027** 60E05 (62E10)

— On the recognition and structure of probability generating functions. (English summary) *Classical and modern branching processes (Minneapolis, MN*, 1994), 263–284, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (E. Omey) **99b:60025** 60E10 (60J80, 60K99)

— (*with* Steutel, Fred W.) On the number of records near the maximum. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 2, 179–192. (John A. Bunge) **99b:60034** 60F05 (60G70, 62G30)

— Characterization by invariance under length-biasing and random scaling. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 285–310. (D. N. Shanbhag) **99i:62021** 62E10 (60E10)

— A limit theorem for the maxima of the para-critical simple branching process. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 740–756. (Boualem Djehiche) **99k:60215** 60J80 (33C10, 33C15, 60F17)

— (*with* Li, Yun) On the number of near-records after the maximum observation in a continuous sample. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 673–686. (Shengrong Xie) **99d:60056** 60G70 (60F05, 62G30)

— Extreme order statistics on Galton-Watson trees. (English summary) *Metrika* **47** (1998), *no.* 2, 95–117. (Barry C. Arnold) **99f:60050** 60F05 (60G70, 60J80)

— Mixture representations for symmetric generalized Linnik laws. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 213–221. (Barry C. Arnold) **99h:60027** 60E10 (60E07, 62E10)

Pakovitch, Fedor Combinatoire des arbres planaires et arithmétique des courbes hyperelliptiques. [Combinatorics of planar trees and arithmetic of hyperelliptic curves] *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 2, 323–351. (Jean-Marc Couveignes) **99h:11055** 11G05 (11R09, 14H30)

Pakter, R. (*with* Corso, G.; Caldas, I. L.; Rizzato, F. B.) Bifurcation-reconnection sequences in nonpendular resonance. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 377–392. (Summary) **99a:70030** 70K20 (70H05, 78A35)

Pakulyak, S. Z. (*with* Golod, P. I.) The dressing techniques for intermediate hierarchies. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 422–436; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 668–680. (Introduction) **99d:58080** 58F07 (35Q53)

— On the bosonization of L-operators for quantum affine algebra $U_q(\mathfrak{sl}_2)$. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 64–77; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 810–822 (1996). (Rinat Kedem) **99c:81097** 81R50 (17B37, 81R10)

— (*with* Khoroshkin, Sergei; Lebedev, D. R.) Elliptic algebra $\mathcal{A}_{q,p}(\widehat{\mathfrak{sl}}_2)$ in the scaling limit. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 597–627. (Naihuan Jing) **99e:17026** 17B37 (81R10, 81R50)

Pal, A. K. *see* **Pal, Ashis Kumar**

Pal, Arpad (*with* Anisiu, Mira-Cristiana) Two-dimensional inverse problem of dynamics for families in parametric form. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 135–140. (George Bozis) **99m:70001** 70D05 (34A99, 70F20)

Pal, Ashis Kumar (*with* Mandal, Birendra Nath) Order level inventory system with ramp type demand rate for deteriorating items. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 1, 49–66. (Summary) **99e:90027** 90B05 (90B25)

Pal, Biswajit (*with* Misra, J. C.; Gupta, A. S.) Hydromagnetic flow of a second-grade fluid in a channel—some applications to physiological systems. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1323–1342. (Summary) **99h:76092** 76W05 (76Z05, 92C05, 92C30)

— (*with* Misra, J. C.) A mathematical model for the study of the pulsatile flow of blood under an externally imposed body acceleration. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 1, 89–106. 76Z05 (92C35)

Pal, Debashis Does Cournot competition yield spatial agglomeration? (English summary) *Econom. Lett.* **60** (1998), *no.* 1, 49–53. (Summary) **99d:90067** 90B80 (90A25)

Pál, L. G. (*with* Joó, István) Lacunary $(0; 0, 1)$ interpolation on the roots of Jacobi polynomials and their derivatives, respectively. I. Existence, explicit formulae, unicity. (Russian summary) *Anal. Math.* **22** (1996), *no.* 4, 289–298. (Kewal Krishna Mathur) **99h:41003** 41A05 (41A10)

Pal, Madhumangal A parallel algorithm to generate all maximal independent sets on permutation graphs. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 261–274. (Summary) **99m:68071** 68Q22 (65Y05, 68Q10)

Pal, Mukul (*with* Pal, Mukunda Chandra) On a rational expression for an operator and a fixed point theorem. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 6, 461–464. 54H25 (47H10)

Pal, Mukunda Chandra (*with* Pal, Mukul) On a rational expression for an operator and a fixed point theorem. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 6, 461–464. 54H25 (47H10)

Pal, Nabendu (*with* Lin, Jyh-Jiuan) Estimators which are uniformly better than the James-Stein estimator. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 187-188, 167–179. (Summary) **99j:62029** 62F10 (62C15, 62H12)

— (*with* Lin, Jyh-Jiuan; Chang, Ching Hui) Applications of improved variance estimators in a multivariate normal mean vector estimation. (English summary) *Statistics* **30** (1997), *no.* 2, 99–125. (Summary) **99c:62054** 62F10 (62J07)

— (*with* Ling, Chiahua; Lin, Jyh-Jiuan) Estimation of a normal variance—a critical review. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 389–404. (Summary) **99e:62010** 62C15 (62F10)

Pal, Nikhil Ranjan Soft computing for feature analysis. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 2, 201–221. 68T10

Pal, Pranabes Kanti (*with* Acharya, D.) Effects of inhomogeneity on surface waves in anisotropic media. (English summary) *Sādhanā* **23** (1998), *no.* 3, 247–258. (Summary) **99g:73041** 73D20 (73B40)

Pal, R. B. On metric quarter-symmetric connections. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 381–386. 53B15

— Submanifolds of almost Grayan manifolds. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 393–398. 53B25

— Submanifolds of hyperbolic contact metric manifold. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 399–404. (José A. Oubiña) **99h:53037** 53C15 (53C40)

Pal, Raktim (*with* Altinkemer, Kemal; Bose, Indranil) Average waiting time of customers in an $M/D/k$ queue with nonpreemptive priorities. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 4, 317–328. (Summary) **99g:60166** 60K25 (90B22)

Pal, S. C. (*with* Pramanik, R. K.; Ghosh, M. L.) Transient response due to a pair of antiplane point impact loading on the faces of a finite Griffith crack at the bimaterial interface of anisotropic solids. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 11, 1197–1213. 73D25 (73D05, 73M25)

Pal, Samarendranath (*with* Pal, Satyabrata) Some results on balanced designs. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 276–280, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62K10

Pal, Sankar K. (*with* Mandal, Deba Prasad; Murthy, C. A.) Determining the shape of a pattern class: extension to $\mathbf{R}^N$. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 4, 297–324. (Summary) **99g:68179** 68T10

— (*with* Basak, Jayanta; De, Rajat K.) Fuzzy feature evaluation index and connectionist realization. II. Theoretical analysis. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 1–17. (Summary) **99h:68148** 68T10 (68T30)

Pal, Satyabrata (*with* Pal, Samarendranath) Some results on balanced designs. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 276–280, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62K10

— (*with* Kageyama, Sanpei; Majumder, Anurup) Some constructions of variance-balanced designs. (English summary) *Bull. Fac. Sch. Educ. Hiroshima Univ. Part II* **20** (1998), 17–21. (Summary) **99a:62111** 62K10

Pal, Sudebkumar Prasant (*with* Biswas, Supriya; Prasad, D. Chithra) Recognizing weakly convex visible polygons. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 171–186. (Summary) **99a:68169** 68U05 (52B55)

— (*with* Prasad, D. Chithra; Dey, Tamal K.) Visibility with multiple diffuse reflections. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 187–196. (Rade Živaljević) **99c:52023** 52B55 (68U05)

— (*with* Aronov, Boris; Davis, A. R.; Dey, Tamal K.; Prasad, D. Chithra) Visibility with one reflection. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 553–574. (Rade Živaljević) **99c:52019** 52B55 (68U05)

— (*with* Aronov, Boris; Davis, A. R.; Dey, Tamal K.; Prasad, D. Chithra) Visibility with multiple reflections. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 61–78. (Jesús A. de Loera) **99d:68227** 68U05 (52B55, 68Q25)

Pal, Swapan Kr. (*with* Roy Chowdhury, Asesh) N-fold Bäcklund transformation for deformed nonlinear Schrödinger equation. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 4, 1021–1031. (Chris Athorne) **99b:58216** 58F37 (35Q55)

Pal, T. K. (*with* Hossain, Md. T.) An alternative algorithm for LPP. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 41–49. 90C05

Palacián, J. (*with* Ferrer, S.; Lara, Martín; San Juan, J. F.; Viartola, A.; Yanguas, P.) The Hénon and Heiles problem in three dimensions. I. Periodic orbits near the origin. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1199–1213. (Summary) **99k:58155a** 58F22 (58F05, 70F15, 70H05, 70K99)

— (*with* Ferrer, S.; Lara, Martín; San Juan, J. F.; Viartola, A.; Yanguas, P.) The Hénon and Heiles problem in three dimensions. II. Relative equilibria and bifurcations in the reduced system. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1215–1229. (Summary) **99k:58155b** 58F14 (58F05, 70F15, 70H05, 70K99)

— (*with* Abad, A.; Elipe Sánchez, Antonio C.; San Juan, J. F.) ATESAT: a symbolic processor for artificial satellite theory. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 497–510. (Summary) **99a:70003** 70–08 (70–04, 70F15)

Palacios, Alejandro Rodríguez (*with* Poznyak, A. S.) Robust boundary control for linear time-varying infinite-dimensional systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 392–403. (Mary Ann Horn) **99m:93064** 93C73 (93C05, 93C20, 93C50, 93D21)

rodríguez-Palacios, Ángel *see* **Rodríguez-Palacios, Ángel**

Palacios, Angel Rodríguez *see* **Rodríguez-Palacios, Ángel**

Palacios, Isidro (*with* Fernández García-Hierro, Manuel) Continuity of the uniform rotundity modulus relative to linear subspaces. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 273–277. (Summary) **99a:46021** 46B20

Palacios, José Luis (*with* Renom, José Miguel) Random walks on edge transitive graphs. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 29–34. (Summary) **99a:60072** 60J15

Palacios, Manuel (*with* Melendo, Begoña) Multirevolution algorithms for the long-term integration of quasiperiodic problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 847–852, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70–08 (70F15)

— (*with* Barrio, Roberto; Elipe Sánchez, Antonio C.) Chebyshev collocation methods for fast orbit determination. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 195–207. 65L60 (65L06)

tabanera y Palacios, René *see* **Tabanera y Palacios, René**

Paladin, Giovanni (*with* Bohr, Tomas; Jensen, Mogens H.; Vulpiani, Angelo) ★ Dynamical systems approach to turbulence. (English summary) Cambridge Nonlinear Science Series, 8. *Cambridge University Press, Cambridge*, 1998. *xx*+350 *pp. ISBN* 0-521-47514-7 (Philip J. Holmes) **99i:76066** 76F20 (58F40)

— (*with* Boffetta, G.; Giuliani, P.; Vulpiani, Angelo) An extension of the Lyapunov analysis for the predictability problem. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 23, 3409–3416. (Summary) **99h:76046** 76F20 (34D08, 34D45, 86A10)

Palagachev, Dian K. (*with* Maugeri, Antonino) Boundary value problem with an oblique derivative for uniformly elliptic operators with discontinuous coefficients. (English summary) *Forum Math.* **10** (1998), *no.* 4, 393–405. (Philip W. Schaefer) **99f:35037** 35J25 (35B45)

Palagi, Laura (*with* Lucidi, Stefano) Solution of the trust region problem via a smooth unconstrained reformulation. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 237–250, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Joachim Käschel) **99f:90130** 90C30

— (*with* Lucidi, Stefano; Roma, Massimo) On some properties of quadratic programs with a convex quadratic constraint. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 105–122 (*electronic*). (Dorel Duca) **99f:90074** 90C20 (65K05, 90C25)

Palamidessi, Catuscia *see* **Workshop: Expressiveness in Concurrency, 99f:68013**

Palamodov, V. P. Special functions of several variables. Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 120–137. (Aleksandr G. Aleksandrov) **99m:32045** 32S25 (14D05, 33E20, 35N10, 58A17)

— Reconstruction from line integrals in spaces of constant curvature. (English summary) *Math. Nachr.* **196** (1998), 167–188. (B. S. Rubin) **99m:53137** 53C65 (44A12, 92C55)

Palaniswami, S. C. (*with* Ramasami, E. K.) Nonoscillation of generalized nonautonomous logistic equation with multiple delays. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 379–385. (Summary) **99g:34145** 34K15

Palanques Mestre, August (*with* Albà Soler, Gerard) Chaotic mixing in the vicinity of a bubble. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 518–524, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 76F20 (58F40)

— (*with* Albà Soler, Gerard) Transport in an open chaotic flow. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 345–350, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76F20 (58F40)

— (*with* Vidal Villalón, J. F.) Bénard convection in cylindrical containers. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 543–548, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76E15 (35Q35)

Palansuriya, Charaka J. (*with* Lai, Choi-Hong; Ierotheou, Constantinos S.; Pericleous, Koulis A.) A domain decomposition based algorithm for non-linear 2D inverse heat conduction problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 515–522, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 80–08 (65M55)

Palatnik, Dmitriy Born-Infeld theory of gravitation: static, spherically symmetric solutions. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 287–292. (Summary) **99d:83085** 83D05

Palazoglu, Ahmet (*with* Yousefpor, M.; Gündeş, A. N.) A test for stabilizability by constant output-feedback. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1239–1246. 93D15

— (*with* Hanczyc, Eric M.) Use of symmetry groups in sliding mode control of nonlinear distributed parameter systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1149–1166. 93B12 (93C20)

Palazzo, Reginaldo, Jr. (*with* Rodrigues Costa, Sueli I.; Gerônimo, João Roberto; Interlando, J. Carmelo; Alves, Marcelo Muniz Silva) The symmetry group of $\mathbf{Z}_q^n$ in the Lee space and the $\mathbf{Z}_{q^s}$-linear codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 66–77, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94035** 94B05

— (*with* de Andrade, Antonio Aparecido) Construction and decoding of BCH codes over finite commutative rings. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 69–85. (Margreet Kuijper) **99j:94070** 94B15 (94B35)

Palbom, John *see* **Proceedings: Conference on Computing and Information, 99d:68010**

Pal'chik, È. M. On (Z, J)-factorization of p-local groups. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 68–77, 104, "*Universitet-skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D15

— (*with* Garist, Yu. È.) On finite groups that admit automorphisms of prime order. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 75–82, *Gomel. Gos. Univ., Gomel'*, 1996. (From the summary) **99h:20031** 20D10 (20D45)

— (*with* Garist, Yu. È.) On finite groups that admit a coprime automorphism. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 20–26, *Gomel. Gos. Univ., Gomel'*, 1997. (Summary) **99h:20045** 20D45

— (*with* Garist, V. È.) On Fukushima's theorem. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 3–8, *Gomel. Gos. Univ., Gomel'*, 1998. (Summary) **99h:20044** 20D45

Palchik, M. Ya. (*with* Fradkin, E. S.) New developments in D-dimensional conformal quantum field theory. (English summary) *Phys. Rep.* **300** (1998), *no.* 1-2, 111 *pp.* (R. Delbourgo) **99b:81141** 81T10 (81T40)

Pal Choudhury, Pabitra (*with* Khan, A. Raouf; Dihidar, K.; Verma, R.) Text compression using two-dimensional cellular automata. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 6, 115–127. 68Q80

jung-Palczewska, Elżbieta *see* **Jung-Palczewska, Elżbieta**

Palczewski, Andrzej (*with* Schneider, Jacques; Bobylëv, A. V.) A consistency result for a discrete-velocity model of the Boltzmann equation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1865–1883. (Giuseppe Toscani) **99d:82068** 82C80 (11Z05, 65C20, 76P05, 82C40)

— (*with* Schneider, Jacques) Existence, stability, and convergence of solutions of discrete velocity models to the Boltzmann equation. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 307–326. (Luisa Arlotti) **99g:82072** 82C40

Paldor, Nathan (*with* Rom-Kedar, Vered; Dvorkin, Yona) Chaotic Hamiltonian dynamics of particle's horizontal motion in the atmosphere. (English summary) *Phys. D* **106** (1997), *no.* 3-4, 389–431. (Summary) **99f:86005** 86A10 (58F13, 58F40, 70H05, 70K50)

— (*with* Dvorkin, Yona) Analytical considerations of Lagrangian cross-equatorial flow. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 9, 1229–1237. (Summary) **99m:76113** 76U05 (86A10)

Palej, Marian A simple proof for the theorems of Pascal and Pappus. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 1, 1–3. (Pavel Burda) **99c:51030** 51N15 (51A30)

Palencia, C. *see* **Palencia de Lara, C.**
Palencia, César *see* **Palencia de Lara, C.**
sanchez-Palencia, Évariste *see* **Sanchez-Palencia, Évariste**
Palencia de Lara, C. (*with* González, Cesáreo Jesús) Stability of Runge-Kutta methods for quasilinear parabolic problems in Banach spaces. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65L06 (65J15)
— (*with* Alonso Mallo, Isaías) Runge-Kutta methods for partial differential equations and fractional orders of convergence. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 551–556, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L06 (65M99)
— (*with* González, Cesáreo Jesús) Stability of time-stepping methods for abstract time-dependent parabolic problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 973–989 (*electronic*). (Summary) **99b:65072** 65J10 (34G10, 47D06, 65M12)
— (*with* González, Cesáreo Jesús) Stability of Runge-Kutta methods for abstract time-dependent parabolic problems: the Hölder case. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 73–89. (W. C. Rheinboldt) **99c:65108** 65J10 (65M12, 65M15)
Palenichka, R. M. (*with* Gritsyk, V. V.; Gurevich, I. B.; Kitsmeĭ, T. P.) Adaptive binary segmentation of images. (Russian. Russian summary) *Pattern recognition. Classification. Prediction* (*Russian*), 145–181, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68U10
Páles, Zsolt (*with* Zeidan, Vera) On the representation of certain bilinear forms on $C(T)$ and $L^\infty(T)$. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 497–511. (Anna Salvadori) **99g:49016** 49J52 (28A99, 46E99)
— Generalized stability of the Cauchy functional equation. (English summary) *Aequationes Math.* **56** (1998), *no.* 3, 222–232. (Zygfryd Kominek) **99k:39076** 39B72
— (*with* Nikodem, Kazimierz) A characterization of midpoint-quasiaffine functions. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 575–595. (Marek Cezary Zdun) **99g:39034** 39B72 (26A51)
— (*with* Zeidan, Vera) Optimum problems with certain lower semicontinuous set-valued constraints. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 707–727 (*electronic*). (Jean B. Lasserre) **99d:49047** 49K27 (47N10, 58C06, 90C48)
— (*with* Kassay, Gábor) A localized version of Ky Fan's minimax inequality. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 505–515. (George Isac) **99j:49012** 49J35 (47H10, 47H19, 49J40)
Palese, Lidia (*with* Georgescu, Adelina) Stability spectrum estimates for confined fluids. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 37–51. (Mariarosaria Padula) **99i:76064** 76E99 (35Q30, 76D05)
— (*with* Georgescu, Adelina; Gavrilesu, Mihai) Neutral thermal hydrodynamic and hydromagnetic stability hypersurfaces for a micropolar fluid layer. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 575–582. (Nicolay A. Britov) **99f:76056** 76E25 (76A05)
— (*with* Strumia, Alberto) Supplementary balance laws and convexity conditions in the presence of massive Yang-Mills fields. I. Convex energy density of the free YM fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 225–232. (Summary) **99d:81085a** 81T13 (53C80)
— (*with* Strumia, Alberto) Supplementary balance laws and convexity conditions in the presence of massive Yang-Mills fields. II. YM magneto-hydrodynamics. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 233–241. (Summary) **99d:81085b** 81T13 (53C80)
Palev, Tchavdar D. A q-deformation of the parastatistics and an alternative to the Chevalley description of $U_q[\mathrm{osp}(2n+1/2m)]$. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 2, 429–443. (Saïd Benayadi) **99h:17021** 17B37
— (*with* Stoilova, N. I.) Highest weight irreducible representations of the quantum algebra $U_h(A_\infty)$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5832–5849. (Fabio Gavarini) **99m:17020** 17B37 (81R50)
— A Holstein-Primakoff and a Dyson realization for the quantum algebra $U_q[\mathrm{sl}(n+1)]$. (English summary) *J. Phys. A* **31** (1998), *no.* 22, 5145–5148. (Summary) **99e:81100** 81R50 (17B37)
Palfrey, Thomas C. Density theorems for reciprocity equivalences. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 161–172. (K. Szymiczek) **99m:11051** 11E81 (11E12, 11R45)
Pálfy, P. P. (*with* Pyber, László) Small groups of automorphisms. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 4, 386–390. (Stefan Heiss) **99g:20040** 20D45 (20B25)
— (*with* Kiss, Emil W.) A lattice of normal subgroups that is not embeddable into the subgroup lattice of an abelian group. *Math. Scand.* **83** (1998), *no.* 2, 169–176. (Giovanni Zacher) **99m:20059** 20E15
— The number of conjugacy classes in some quotients of the Nottingham group. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 369–384. (Andreas Caranti) **99f:20030** 20D15 (20E18)
Palienko, L. I. (*with* Lyashko, S. I.; Klyushin, D. A.) Modeling and generalized optimization in pseudo-hyperbolic systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 78–87, 155. 49K20 (93C20)
Palis, Jacob *see* **Mañé, Ricardo**
Palka, Bruce (*with* MacManus, Paul; Näkki, Raimo) Quasiconformally homogeneous compacta in the complex plane. *Michigan Math. J.* **45** (1998), *no.* 2, 227–241. (D. Drasin) **99k:30031** 30C62 (28A78)
— (*with* MacManus, Paul; Näkki, Raimo) Quasiconformally bi-homogeneous compacta in the complex plane. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 215–240. (Matti Vuorinen) **99j:30020** 30C62
Palka, Zbigniew The strong edge colorings of a sparse random graph. (English summary) *Australas. J. Combin.* **18** (1998), 219–226. (Summary) **99g:05160** 05C80 (05C15)
Palla, László (*with* Balog, J.; Fehér, László) Coadjoint orbits of the Virasoro algebra and the global Liouville equation. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 2, 315–362. (Kazuto Oshima) **99b:81073** 81R10 (17B68, 81T40)
— (*with* Balázs, L. K.; Balog, J.; Forgács, P.; Mohammedi, N.; Schnittger, J.) Quantum equivalence of σ models related by non-abelian duality transformations. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3585–3594. (Summary) **99k:81191** 81T15
— *see also* **Conformal field theories and integrable models, 99b:81001**
Palladino, B. E. (*with* Leal Ferreira, P.) Discretizing the deformation parameter in the $su_q(2)$ quantum algebra. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 1, 73–77. (Summary) **99a:81077** 81R50
Palladino, Dario The principle of induction and formalized arithmetic. (Italian) *Epistemology of mathematics*. 1992–1993 *Seminars* (*Italian*) (*Siena/Bologna/Pavia*), 157–188, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 03F30
Palladino, Franco (*with* Ferrarese, Giorgio) The collection of mathematical models of the departments of mathematics of the University of Turin and Turin Polytechnic. (Italian. English summary) *Nuncius Ann. Storia Sci.* **13** (1998), *no.* 1, 169–185. (Summary) **99e:01014** 01A55
Pallara, Diego Regularity of minimizers of the Mumford-Shah functional. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 326–345, *Springer, Berlin*, 1997. (Elvira Mascolo) **99k:49084** 49N60 (49J10)
— (*with* Campiti, M.; Metafune, G.) Degenerate self-adjoint evolution equations on the unit interval. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 1–36. (Paolo Acquistapace) **99e:35119** 35K65 (34D05, 47D06)
Pallaschke, Diethard (*with* Lausch, Hans; Rolewicz, Stefan) Universal derivations in spaces of functions with values in non-commutative Banach algebras. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 115–120. (K. B. Laursen) **99b:46074** 46H99 (16W25, 46E40)
— (*with* Urbański, Ryszard) Decompositions of compact convex sets. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 333–342. (Stefan Scholtes) **99f:52007** 52A20 (49J52, 52A10, 90C48)
— (*with* Rolewicz, Stefan) Penalty and augmented Lagrangian in general optimization problems. (English summary) *Charlemagne and his heritage*. 1200 *years of civilization and science in Europe, Vol.* 2 (*Aachen*, 1995), 423–437, *Brepols, Turnhout*, 1998. (V. F. Dem'yanov) **99m:90134** 90C30
— (*with* Urbański, Ryszard) Critical points and point derivations for Lipschitz functions. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 165–172. (S. Rolewicz) **99k:49037** 49J52 (26A16, 52A41)
Pallini, Andrea Bootstrap and permutation tests of some multivariate hypotheses. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 139–154 (1998). 62G10 (62G09)
Pallo, Jean (*with* Vajnovszki, Vincent) Parallel algorithms for listing well-formed parentheses strings. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 1, 19–28. (Summary) **99c:68113** 68Q22 (68R05)
Pallu de la Barrière, Robert L'existence de sous-espaces stables, d'après Wermer. [Existence of stable subspaces, after Wermer] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 85, 327–334, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 47A15 (47D03)
Palm, Enok (*with* Grue, John) On the wave field due to a moving body performing oscillations in the vicinity of the critical frequency. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 219–232. (Summary) **99m:76023** 76B15 (86A05)
Palm, F. C. GARCH models of volatility. *Statistical methods in finance*, 209–240, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62139** 62P20 (62M10, 90A09)
Palma, F. J. *see* **Palma Molina, Francisco José**
Palma, Wilfredo (*with* Chan, Ngai Hang) State space modeling of long-memory processes. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 719–740. (Peter M. Robinson) **99g:62132** 62M10
Palma Molina, Francisco José (*with* Choï, Daniel; Sanchez-Palencia, Évariste; Vilariño, M. A.) Membrane locking in the finite element computation of very thin elastic shells. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 131–152. (Summary) **99c:73048** 73K15 (73V05)
Palmeira, Carlos Frederico (*with* Eschenazi, Cesar) Local topology of elementary waves for systems of two conservation laws. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 127–144. (Pavel Dubovskiĭ) **99j:35130** 35L65 (58E05)
Palmer, Bennett (*with* Alías, Luis J.) Deformations of stationary surfaces. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2107–2111. (Udo Hertrich-Jeromin) **99b:53086** 53C50 (53C42)
— (*with* Alías, Luis J.) Curvature properties of zero mean curvature surfaces in four-dimensional Lorentzian space forms. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 315–327. (Francisco J. M. Estudillo) **99f:53061** 53C42 (53C50)
— Stability of the Wulff shape. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3661–3667. (João Lucas Marques Barbosa) **99b:58055** 58E15 (53C40)
— Calibrations and Lagrangian submanifolds in the six sphere. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 2, 303–315. (Knut Smoczyk) **99f:53064** 53C42 (53C40)
— (*with* Alías, Luis J.; López, Rafael) Stable constant mean curvature surfaces with circular boundary. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1195–1200. (Fei-Tsen Liang) **99f:53006** 53A10
Palmer, E. M. (*with* Spencer, J. J.) Hitting time for k edge-disjoint spanning trees in a random graph. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 3, 235–240. (Petrus Potgieter) **99f:05104** 05C80
— The hidden algorithm of Ore's theorem on Hamiltonian cycles. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 113–119. (Linda Lesniak) **99a:05092** 05C45 (05C85)
Palmer, Kenneth J. (*with* Coomes, Brian A.; Koçak, Hüseyin) Long periodic shadowing. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 55–78. (Introduction) **99f:34061** 34C25 (34A45, 34C35, 58F22, 65L07)
Palmer, Leonard (*with* Ahuja, Mangho; Tikoo, Mohan) Finding Pythagorean triple preserving matrices. *Missouri J. Math. Sci.* **10** (1998), *no.* 2, 99–105. (Morris Newman) **99b:11021** 11C20 (11D09)
Palmeri, M. C. Homographic approximation applied to nonlinear elliptic unilateral problems. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 387–402. (Marco Degiovanni) **99b:35079** 35J85 (49J40)
Palmgren, Erik (*with* Stoltenberg-Hansen, Viggo) A logical presentation of the continuous functionals. *J. Symbolic Logic* **62** (1997), *no.* 3, 1021–1034. (John P. Helm) **99j:03033**

03D65 (03C57)
— (*with* Moerdijk, Ieke) Minimal models of Heyting arithmetic. *J. Symbolic Logic* **62** (1997), *no.* 4, 1448–1460. (Roman Murawski) **99i:03074** 03F30 (03C62, 03F55)
Palmieri, J. H. (*with* Nakano, Daniel K.) Support varieties for the Steenrod algebra. *Math. Z.* **227** (1998), *no.* 4, 663–684. (Saïd Zarati) **99d:55011** 55S10
Palmieri, Paolo Re-examining Galileo's theory of tides. *Arch. Hist. Exact Sci.* **53** (1998), *no.* 3-4, 223–375. (Wilfried Schröder) **99k:01016** 01A45 (70–03)
Palmon, Omri (*with* Kamath, Anil; Plotkin, Serge) Routing and admission control in general topology networks with Poisson arrivals. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 236–258. (Summary) **99c:68016** 68M10 (60K25, 90B12)
Palmor, Zalman J. (*with* Mirkin, Leonid) A new representation of the parameters of lifted systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 833–840. 93C57 (93B51)
Palmore, Julian Halley's method and Schwarzian derivatives. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 111–114. (Summary) **99a:65068** 65H05 (30C15)
— Shadowing by computable orbits of continued fraction convergents for algebraic numbers. II. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 4, 363–372. (Hartje Kriete) **99d:58096** 58F08 (11A55, 30B70, 30D05, 58F23)
— A relation between successive approximations and continued fractions for quadratic irrationals: rates of convergence. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 1, 37–43. 30D05 (30B70)
Palmov, V. ★ Vibrations of elasto-plastic bodies. (English summary) Translated from the 1976 Russian original by A. Belyaev and revised by the author. Foundations of Engineering Mechanics. *Springer-Verlag, Berlin*, 1998. 311 *pp. ISBN* 3-540-63724-9 (V. K. Arya) **99k:73059** 73D30 (73D35, 73E50, 73K12, 73K35)
Palmowski, Zbigniew (*with* Rolski, Tomasz) The superposition of alternating on-off flows and a fluid model. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 524–540. (Muhammad El-Taha) **99h:60162** 60K25 (68M20, 90B22)
marušić-Paloka, Eduard *see* **Marušić-Paloka, Eduard**
pérez-Palomares, Ana *see* **Pérez-Palomares, Ana**
garcía-Palomares, Ubaldo M. *see* **García-Palomares, Ubaldo M.**
lópez-Palomo, M. J. *see* **López-Palomo, M. J.**
Palopoli, Luigi (*with* Cadoli, Marco; Lenzerini, Maurizio) Datalog and description logics: expressive power. (English summary) *Database programming languages (Estes Park, CO*, 1997), 281–298, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15
— (*with* Cadoli, Marco) Circumscribing DATALOG: expressive power and complexity. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 215–244. (Minoru Ito) **99d:68062** 68P15 (68N17, 68T25)
Palta, M. (*with* Qu, R. P.) Testing lack of fit in mixed effect models for longitudinal data. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 93–106, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62P10 (62J99)
Pălt ănea, Radu The preservation of the property of the quasiconvexity of higher order by Bernstein's operators. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 195–201. (Weixing Zheng) **99a:41012** 41A17 (26A51, 41A29)
Păltineanu, Gavril On a denseness theorem for a set of continuous functions taking values in the interval $I = [0, 1]$. (Romanian. French and Romanian summaries) *Stud. Cerc. Mat.* **46** (1994), *no.* 5, 543–548. 41A65 (46E15)
— (*with* Vuza, Dan Tudor) A generalisation of the Bishop approximation theorem for locally convex lattices of (AM)-type. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 687–694. (Ion Badea) **99h:41040** 41A65 (46E99)
Palting, Pancracio (*with* Lai, Shan Tao; Chiu, Ying Nan; Letelier, Jorge Ricardo) Harmonic oscillator tensors. III. Efficient algorithms for evaluating matrix elements of vibrational operators. (English summary) *J. Math. Chem.* **21** (1997), *no.* 1, 31–49. (Summary) **99i:81064** 81R05
— (*with* Lai, Shan Tao; Chiu, Ying Nan; Silverstone, Harris J.) On the summations involving Wigner rotation matrix elements. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 123–132. (Summary) **99g:81062** 81R05 (81V35)
Pal'tsev, B. V. (*with* Chechel', I. I.) Algorithms for numerical realizations that are based on bilinear finite elements of iterative methods with splitting of boundary conditions for a Stokes-type system in a strip under the periodicity condition. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 7, 799–815; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 7, 775–791. (Andrei I. Tolstykh) **99a:65155** 65N30 (76D07, 76M10)
— (*with* Chechel', I. I.) On some methods for increasing the rate of convergence at higher harmonics of bilinear finite-element realizations of iterative methods with splitting of boundary conditions for a Stokes-type system. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 956–970; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 916–929. (Summary) **99g:76083** 76M10 (65M60, 76D07)
pietruska-Pałuba, Katarzyna *see* **Pietruska-Pałuba, Katarzyna**
Palubeckis, Gintaras The use of special graphs for obtaining lower bounds in the geometric quadratic assignment problem. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 3, 377–400. (Xue Liang Li) **99d:90092** 90C27 (05C90, 90C35)
Palumbíny, Oleg On the existence of monotone solutions of a certain class of nth order nonlinear differential equations. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 527–537. (Irena Rachůnková) **99f:34044** 34C10 (34D05)
— On existence of Kneser solutions of a certain class of nth order nonlinear differential equations. (English summary) *Math. Bohem.* **123** (1998), *no.* 1, 49–65. (Jarosław Morchało) **99b:34063** 34C10
Palumbo, Biagio (*with* Giordano, Carla; Pečarić, Josip) Remarks on the Hankel determinantal inequalities. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 2, 279–286. (J. Matkowski) **99d:26016** 26A48 (26A51, 26D07)
— A generalization of some inequalities for the gamma function. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 255–268. (P. Anandani) **99c:33003** 33B15
Paluszny, Marco (*with* Bühler, Katja) Canal surfaces and inversive geometry. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer*, 1997), 367–374, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:65196** 65Y25 (51N35)
— (*with* Patterson, Richard R.) Algebraic splines: their flexibility. (English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 106–110. (Summary) **99h:65031** 65D17 (41A15, 65D07)
— (*with* Patterson, Richard R.) Geometric control of G^2-cubic A-splines. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 3, 261–287. (Juan José Torrens) **99d:65052** 65D17 (41A15, 65D05)
— (*with* Boehm, Wolfgang) General cyclides. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 7, 699–710. (Summary) **99c:65262** 65Y25 (51N20, 65D10, 65D17)
— (*with* Tovar, Francisco; Patterson, Richard R.) G^2 composite cubic Bézier curves. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 49–71. (Bert Jüttler) **99m:65036** 65D17 (14H45, 53A04, 65Y25)
Paluszyński, M. (*with* Bui, Huy-Qui; Taibleson, M.) Characterization of the Besov-Lipschitz and Triebel-Lizorkin spaces. The case $q < 1$. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 837–846. (Lanzhe Liu) **99d:46045** 46E35 (42B25)
Pambuccian, Victor On the simplicity of an axiom system for plane Euclidean geometry. *Demonstratio Math.* **30** (1997), *no.* 3, 509–512. (From the text) **99g:03011** 03B30
— Zur Existenz gleichseitiger Dreiecke in H-Ebenen. (English summary) [On the existence of equilateral triangles in H-planes] *J. Geom.* **63** (1998), *no.* 1-2, 147–153. (Summary) **99j:51011** 51F05 (51M15)
Pambuccian, Victoria (*with* Bedford, Eric) Dynamics of shift-like polynomial diffeomorphisms of $\mathbf{C}^N$. (English summary) *Conform. Geom. Dyn.* **2** (1998), 45–55 (*electronic*). (Marco Abate) **99e:32042** 32H50
Pan, Cheng Dong *see* **Wang, Yuan[1], 99m:01096**
Pan, De Hui (*with* Zheng, Li Hui; Feng, Shan) A time domain approach to worst case H_∞ identification. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 154–159. 93B30 (93B36)
— (*with* Yang, Bin) Absolute stability of a class of nonlinear time-varying control systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 859–864. 93D20
— (*with* Yang, Bin) Robust absolute stability of interval Lur'e control systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 2, 174–176. 93D09
— (*with* Yang, Bin) Delay-dependent stability criteria for uncertain time-delay systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 355–357. 34K20 (34K35)
Pan, Feixia (*with* Beatty, Millard F.) Remarks on the instability of an incompressible and isotropic hyperelastic, thick-walled cylindrical tube. (English summary) *J. Elasticity* **48** (1997), *no.* 3, 217–239. (Summary) **99e:73038** 73C50 (73G05)
— (*with* Beatty, Millard F.) Instability of an internally constrained hyperelastic material. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 169–177. (Summary) **99g:73032** 73C50 (73D15, 73D35)
Pan, Feng (*with* Dai, Lian-rong) General deformed oscillators. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 1, 5–8. (Summary) **99e:81101** 81R50
— (*with* Dong, Shi-Hai; Draayer, J. P.) A new Young diagrammatic method for Kronecker products of O(n) and Sp($2m$). (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8279–8287. (Fabio Gavarini) **99c:20060** 20G05
— (*with* Draayer, J. P.) Complementary group resolution of the SU(n) outer multiplicity problem. I. The Littlewood rules and a complementary $\mathfrak{U}(2n-2)$ group structure. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5631–5641. (Patrick J. Moylan) **99k:81081** 81R05 (22E70)
— (*with* Draayer, J. P.) Complementary group resolution of the SU(n) outer multiplicity problem. II. Recoupling approach for SU(3) $\supset$ U(2) reduced Wigner coefficients. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5642–5662. (Patrick J. Moylan) **99k:81082** 81R05 (22E70)
— (*with* Draayer, J. P.) Exact solution for N-coupled symmetric rotors. (English summary) *J. Phys. A* **31** (1998), *no.* 32, 6855–6860. (Summary) **99d:81184** 81V55 (81V35)
— (*with* Dong, Shi-Hai; Draayer, J. P.) The induced representations of Brauer algebras and the Clebsch-Gordan coefficients of SO(n). (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8247–8266. (T. Tuong Truong) **99k:81083** 81R05 (20G20, 20G45)
— (*with* Draayer, J. P.) Exact solutions for some nuclear many-body problems. (English summary) *Ann. Physics* **271** (1999), *no.* 1, 120–140. (Summary) **99i:81270** 81V35 (81V70)
— (*with* Draayer, J. P.) Exact solution of the orbit-dependent pairing Hamiltonian. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 1065–1072. 81V35
Pan, Guohua (*with* Santner, Thomas J.) Selection and screening procedures to determine optimal product designs. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 311–330. (S. Panchapakesan) **99h:62097** 62K05 (62F07)
Pan, Guolin (*with* Bar-Shalom, Yaakov) Stabilization of jump linear Gaussian systems without mode observations. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 631–661. 93E15 (93D15)
Pan, Hai Tian (*with* Yu, Li[1]) Robust passive control of linear systems with time-varying uncertain parameters. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 368–372. 93D21
Pan, Hui-yun (*with* Zhao, Zu Sen; Li, Hai-yan) Bose-Einstein condensation of a quon gas in D dimensions. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 119–121. (Summary) **99f:82005** 82B05 (81R50)
Pan, Jian Min (*with* Lu, Chuan Rong) An extension of Esseen's inequality for NA variables. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 11, 1144–1148. 60G50
Pan, Jian-Wei (*with* Bouwmeester, Dik; Daniell, Matthew; Weinfurter, Harald; Zeilinger, Anton) Observation of three-photon Greenberger-Horne-Zeilinger entanglement. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 7, 1345–1349. 81P15
Pan, Jian-Xin (*with* Fang, Kai-Tai; von Rosen, Dietrich) Local influence assessment in the growth curve model with unstructured covariance. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 263–278. (C. R. Rao) **99a:62078** 62H12 (62J12)

— (*with* Fang, Kai-Tai; von Rosen, Dietrich) On the posterior distribution of the covariance matrix of the growth curve model. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 33–39. (Jack C. Lee) **99k:62114** 62H12

Pan, Jian Zhong (*with* Zhou, Jianyi; Zou, Jian Cheng) The basic invariants of long curve and closed curve perestroikas. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 527–548. (Juan Margalef-Roig) **99g:57032** 57R45 (57R42)

— (*with* Shen, Xinyao; Woo, Moo Ha) The G-sequence of a map and its exactness. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 281–294. (Donald W. Kahn) **99e:55024** 55Q70 (55P45)

Pan, Jiaofeng (*with* Yan, Gui Ying; Wang, Jianfang; Wong, Chak Kuen) Orthogonal (g, f)-factorizations of bipartite graph. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 475–483. (Martin Bača) **99i:05172** 05C70

— (*with* Yan, Gui Ying) Existence of subgraph with orthogonal (g, f)-factorization. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 1, 48–54. (Akira Saito) **99e:05101** 05C70

Pan, Jiaqi (*with* Kato, Junji) Stability domain of a chemostat system with delay. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 307–315, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99k:92033** 92D25 (34K20)

Pan, Jun (*with* Liu, Hailiang) On stability of travelling waves of Burgers-Fisher equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 37–47. (Vitaly A. Volpert) **99f:35178** 35Q53 (35B35)

Pan, K. C. (*with* He, Matthew X.; Ricci, Paolo Emilio) Asymptotics of the zeros of relativistic Hermite polynomials. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1248–1257. (Gradimir V. Milovanović) **99b:33017** 33C45 (31A15, 42C05)

— (*with* Arvesú, J.; Álvarez-Nodarse, Renato; Marcellán, Francisco) Jacobi-Sobolev-type orthogonal polynomials: second-order differential equation and zeros. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 135–156. (Summary) **99h:33029** 33C45

— On Sobolev orthogonal polynomials with coherent pairs: the Laguerre case, type 1. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 319–333. (Pascal Maroni) **99e:42038** 42C05 (33C45)

Pan, Li Ping (*with* Teo, Kok Lay) Near-optimal solutions of a generalized time optimal control problem. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 601–612. (Han Sheng Wu) **99k:49008** 49J15 (49M30)

— (*with* Li, Xunjing) Minimum period control problem for infinite-dimensional system. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 142. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 113–128. (Ovidiu Cărjă) **99d:49048** 49K27 (34K35, 49K30)

Pan, Lin Qiang (*with* Zhang, Ke Min[1]) A sufficient condition for 2-connected Hamilton graphs. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 171–179. (Summary) **99c:05127** 05C45

— (*with* Zhang, Ke Min[1]) Some local conditions for Hamilton-connected graphs. (English summary) *Soochow J. Math.* **24** (1998), *no.* 3, 177–182. (Summary) **99f:05074** 05C45

Pan, P.-Q. A basis-deficiency-allowing variation of the simplex method for linear programming. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 33–53. (Summary) **99c:90074** 90C05

Pan, Ronghua Global smooth solutions and the asymptotic behavior of the motion of a viscous, heat-conductive, one-dimensional real gas. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 3, 273–288. (Hermano Frid) **99i:35095** 35L65 (35B40, 35Q35, 76N10)

Pan, Shing-Tai (*with* Hsiao, Feng-Hsiag; Hsiau, Lin-Goei) Composite feedback control of discrete multiparameter singularly perturbed systems. (English summary) *Internat. J. Control* **69** (1998), *no.* 4, 577–597. 93C70 (93B55)

— (*with* Hsiao, Feng-Hsiag; Teng, Ching-Cheng) An efficient algorithm for finding the D-stability bound of discrete singularly perturbed systems with multiple time delays. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 1–17. (Lian Wang) **99k:93078** 93D15 (93C30, 93C70)

Pan, Tao (*with* Lin, Longwei) The global solution of the scalar nonconvex conservation law with boundary condition. (Continuation). (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 1–8. (Christophe Cheverry) **99c:35148** 35L65

Pan, Tsorng-Whay (*with* Glowinski, Roland; Hesla, Todd I.; Joseph, Daniel D.; Périaux, Jacques) A fictitious domain method with distributed Lagrange multipliers for the numerical simulation of particulate flow. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 121–137, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99i:76112** 76M25 (65M60, 76T05)

— (*with* Dean, E. J.; Glowinski, Roland) A wave equation approach to the numerical simulation of incompressible viscous fluid flow modelled by the Navier-Stokes equations. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 65–74, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 76D05 (65M06, 76M25)

— (*with* Glowinski, Roland; Périaux, Jacques) Domain embedding methods for incompressible viscous flow around moving rigid bodies. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 34–51, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99i:76113** 76M25 (65M55, 76D05)

— (*with* Glowinski, Roland; Périaux, Jacques) Distributed Lagrange multiplier methods for incompressible viscous flow around moving rigid bodies. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 181–194. (Summary) **99d:76075** 76M25

— Error bounds for a fictitious domain method with Lagrange multiplier treatment on the boundary for a Dirichlet problem. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 1, 75–85. (Anna-Margarete Sändig) **99c:65225** 65N38 (65N12, 65N15)

Pan, Victor (*with* He, Matthew X.) Distribution of the zeros of Jacobi polynomials associated with varying weights. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 191–201, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (M. K. Jain) **99m:33005** 33C45 (34E20)

Pan, Victor Y. (*with* Emiris, Ioannis Z.) Techniques for exploiting structure in matrix formulae of the sparse resultant. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 353–369 (1998). (A. Sinan Sertöz) **99g:65059** 65F50 (13P10, 65D99, 65Y99)

— (*with* Mourrain, Bernard) Solving special polynomial systems by using structured matrices and algebraic residues. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 287–304, *Springer, Berlin*, 1997. (E. Spedicato) **99k:65048** 65H10 (14F10, 15A06, 65F99)

— Solving a polynomial equation: some history and recent progress. (English summary) *SIAM Rev.* **39** (1997), *no.* 2, 187–220. (T. L. Freeman) **99b:65066** 65H05 (01A99, 65–03)

— Computational complexity of solving large sparse and large special linear systems of equations. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 1–24, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (D. Bini) **99h:65237** 65Y20 (65F05, 65F10)

— Approximate polynomial gcds, Padé approximation, polynomial zeros and bipartite graphs. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 68–77, *ACM, New York*, 1998. (Thomas Garrity) **99g:12009** 12Y05 (41A21, 68Q40)

— (*with* Tabanjeh, M. Abu; Chen, Zhao Qin; Providence, S.; Sadikou, A.) Transformations of Cauchy matrices, Trummer's problem and a Cauchy-like linear solver. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 274–284, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F30 (65Y25)

— Single precision computation of the sign of algebraic predicates. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 49–50. (Summary) **99e:65083** 65G05 (65H05)

— (*with* Tabanjeh, M. Abu; Chen, Zhao Qin; Landowne, E. I.; Sadikou, A.) New transformations of Cauchy matrices and Trummer's problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 1–5. (Summary) **99c:65078** 65F30

— (*with* Huang, Xiao Han) Fast rectangular matrix multiplication and applications. (English summary) *J. Complexity* **14** (1998), *no.* 2, 257–299. (Israel Koltracht) **99i:15002** 15–04 (68Q25)

— (*with* Shallcross, D. F.; Lin-Kriz, Y.) Planar integer linear programming is NC equivalent to Euclidean GCD. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 960–971 (*electronic*). (Evangelos Kranakis) **99c:68100** 68Q15 (68Q22)

— (*with* Bini, Dario Andrea) Computing matrix eigenvalues and polynomial zeros where the output is real. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1099–1115 (*electronic*). (Alkiviadis G. Akritas) **99i:68068** 68Q40 (65F15, 68Q25)

— (*with* Brönnimann, Hervé; Emiris, Ioannis Z.; Pion, Sylvain) Sign determination in residue number systems. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 1, 173–197. (Summary) **99h:68094** 68Q40 (68U05)

Pan, W. *see* **Pan, Weidong**

Pan, Wei[2] (*with* Chappell, Rick; Kosorok, Michael R.) On consistency of the monotone MLE of survival for left truncated and interval-censored data. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 49–57. (Summary) **99b:62086** 62G20 (62G05, 62N05)

Pan, Weidong (*with* Haug, E. J.) Optimal inertia lumping from modal mass matrices for structural dynamics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 171–191. (Summary) **99h:73045** 73K12 (73K40, 73V05)

Pan, X. *see* **Pan, Xing Bin**

Pan, Xiao Ping Oscillations of bounded solutions of second-order neutral differential-difference equations. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 6, 9–14. (Summary) **99h:34107** 34K15 (34K40)

Pan, Xiaochuan (*with* Metz, Charles E.) "Proper" binormal ROC curves: theory and maximum-likelihood estimation. (English summary) *J. Math. Psych.* **43** (1999), *no.* 1, 1–33. 62P10

Pan, Xing Bin (*with* Lu, Kening) The first eigenvalue of Ginzburg-Landau operator. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 215–226, *Internat. Press, Cambridge, MA*, 199?. (B. M. Herbst) **99j:35205** 35Q55 (35J10)

— (*with* Yi, Yingfei) A variational problem of liquid crystals. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 1–31. (Ralph Saxton) **99f:76016** 76A15 (49J10, 76M30, 82D30)

— (*with* Wang, Xuefeng) Semilinear Neumann problem in exterior domains. *Nonlinear Anal.* **31** (1998), *no.* 7, 791–821. (Yong Qing Li) **99b:35069** 35J65 (35B25, 35B40)

— *see also* **Differential equations and applications, 99b:00013**

Pan, Xing-Chen (*with* Zheng, Quan[1]) Global optimum shape design. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 151–162. (*see* **99i:90003**) 90C90 (65C10, 73K40, 90C15)

Pan, Xue Jun (*with* Zhang, Cheng Jin; Chai, Tian You) A new pole-placement adaptive control scheme for time-varying systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 473–476. 93B55 (93C40)

Pan, Yang Lian (*with* Zhao, Di) Liouville-type theorems for harmonic maps. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 3, 255–258. (Yuan-Jen Chiang) **99g:58038** 58E20

— Harmonic maps on simply connected manifolds with nonpositive curvature. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 307–312. (Yuan-Jen Chiang) **99c:58047** 58E20

Pan, Yaodong (*with* Hara, Masaaki; Furuta, Katsuhisa; Hoshino, Tasuku) Evaluation of discrete-time VSC on an inverted pendulum apparatus with additional dynamics. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 159–181. (*see* **99a:93003**) 93C95

— (*with* Furuta, Katsuhisa) Variable structure control for sampled-data systems. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 164–183, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C57 (93B12)

Pan, Yi (*with* Li, Keqin; Zheng, Si-Qing) Fast nearest neighbor algorithms on a linear array with a reconfigurable pipelined bus system. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 1, 1–25. (Summary) **99g:68211** 68U05 (68Q22)

Pan, Yi Biao L^p-improving properties for some measures supported on curves. *Math. Scand.* **78** (1996), *no.* 1, 121–132. (Tomás F. Godoy) **99f:42036** 42B20

— (*with* Fan, Da Shan) Singular integral operators with rough kernels supported by subvarieties. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 799–839. (Shan Zhen Lu) **99c:42029** 42B20 (47G10)

— (*with* Fan, Da Shan) L^2-boundedness of a singular integral operator. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 317–333. (Javier Duoandikoetxea) **99d:42022** 42B20 (42B30, 47G10)

— (*with* Fan, Da Shan; Lu, Shan Zhen) A class of discrete singular integral operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 229–234. (Wei Wang) **99k:42030** 42B20

— (*with* Sampson, Gary) The complete (L^p, L^p) mapping properties for a class of oscillatory integrals. *J. Fourier Anal. Appl.* **4** (1998), *no.* 1, 93–103. (Steen Pedersen) **99i:42011** 42A50 (42B20, 47G10)

— (*with* Guo, Kanghui) L^p properties of the solutions of differential equations with constant coefficients. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 559–565. (Michael Langenbruch) **99j:35017** 35E20 (35B05)

— (*with* Fan, Da Shan; Guo, Kanghui) Singular integrals along submanifolds of finite type. *Michigan Math. J.* **45** (1998), *no.* 1, 135–142. (Javier Duoandikoetxea) **99g:42016** 42B20

— (*with* Fan, Da Shan; Guo, Kanghui) Singular integrals with rough kernels along real-analytic submanifolds in $\mathbf{R}^n$. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 1, 8–19. (Gerald B. Folland) **99k:42031** 42B20 (42B15, 42B25)

— (*with* Fan, Da Shan; Guo, Kanghui) A note of a rough singular integral operator. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 73–81. (Marta Urciuolo) **99k:42032** 42B20 (42B25)

Pan, Yimin (*with* Liu, Huowang; Cheng, Ximing) Rate of wavelet approximation of stochastic processes. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 325–338. (Albert Benassi) **99h:60078** 60G12 (42C15)

Pan, Zhi Geng (*with* Ma, Xiao Hu; Shi, Jiao Ying) A polyhedral model simplification method based on a triangle removal criterion. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 492–498. 68U05 (65Y25)

— (*with* Zhou, Kun[2]; Shi, Jiao Ying) A mesh simplification algorithm based on triangle collapse. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 506–513. 68U05 (65D15)

Pan, Zhidong Triangular extension spectrum of weighted shifts. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3293–3298. (Warren R. Wogen) **99a:47040** 47B37 (47A10)

Pan, Zhuang Yuan (*with* Wang, Ping; Wang, Shu Zhong) The King-Werner iterative method for solving equations with nondifferentiable terms. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 16–20. 65H10 (47H17)

Pan, Zigang (*with* Başar, Tamer) Adaptive controller design for tracking and disturbance attenuation in parametric strict-feedback nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1066–1083. (Jan Bialasiewicz) **99f:93088** 93C40 (93C10)

Pan, Zu-Liang (*with* Yang, Qingjian; Zheng, Ke-Jie) Lie algebra and Hamiltonian structures for nonlinear diffusion equation and Thompson equation. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 348–353, *World Sci. Publishing*, *River Edge*, *NJ*, 1994. (Irina Yehorchenko) **99e:35101** 35K55 (35A30, 35Q53, 58G37)

— (*with* Zheng, Ke-Jie; Zhao, Shen-Qi) An algebraic method for solving the KdV equation. I. Two-parameter solution family. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1733–1737. 35Q53

— (*with* Zhao, Shen-Qi; Zheng, Ke-Jie) An algebraic method for solving the KdV equation. II. Three-parameter and four-parameter solution family. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1739–1745. 35Q53

Panafidin, S. A. (*with* Alekseev, Anton Yu.) On Poisson actions of quasi-triangular Poisson-Lie groups. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 271–276, *PWN*, *Warsaw*, 1997. (Alberto Medina) **99k:58079** 58F07

Panagiotopoulos, Panagiotis D. (*with* Panagouli, O. K.) Fractal geometry in contact mechanics and numerical applications. (English summary) *Fractals and fractional calculus in continuum mechanics* (*Udine*, 1996), 109–171, *CISM Courses and Lectures*, 378, *Springer*, *Vienna*, 1997. (Summary) **99a:73113** 73T05 (28A80, 73M25, 73V99)

— (*with* Dinca, George; Pop, Gabriela) An existence result on noncoercive hemivariational inequalities. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 609–632. (Daniel Goeleven) **99d:47069** 47H19 (49J40)

— (*with* Goeleven, D.; Motreanu, Dumitru) Semicoercive variational-hemivariational inequalities. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 119–134. (Summary) **99j:49014** 49J40 (47H19)

— (*with* Naniewicz, Z.) On some regularity results for hemivariational inequalities. (English summary) *Generalized analytic functions* (*Graz*, 1997), 197–214, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ.*, *Dordrecht*, 1998. (Summary) **99e:47094** 47H19 (49J40, 73V25)

— (*with* Theocaris, Pericles S.; Panagouli, O. K.; Mistakidis, E. S.) On debonding and delamination effects in adhesively bonded cracks on fractal type. (English summary) *J. Elasticity* **51** (1998), *no.* 3, 177–201. (Summary) **99j:73086** 73M25 (73K20, 73V25)

— (*with* Rădulescu, Vicenţiu D.) Perturbations of hemivariational inequalities with constraints and applications. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 285–297. (Stanisław Migórski) **99c:35083** 35J85 (47H19, 49J40, 58E05)

— (*with* Miettinen, Markku) Hysteresis and hemivariational inequalities: semilinear case. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 269–298. (Daniel Goeleven) **99i:49017** 49J40 (47H19, 47H30)

— (*with* Mistakidis, E. S.) The search for substationarity points in the unilateral contact problems with nonmonotone friction. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 341–358. (Summary) **99f:73077** 73T05 (73V20, 73V25)

— (*with* Goeleven, D.; Motreanu, Dumitru) Eigenvalue problems for variational-hemivariational inequalities at resonance. *Nonlinear Anal.* **33** (1998), *no.* 2, 161–180. (Benedetta Pellacci) **99b:47094** 47H19 (47H12, 49J40)

— (*with* Glocker, Ch.) Analytical mechanics. Addendum I: inequality constraints with elastic impacts. The convex case. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 4, 219–229. (Manuel D. P. Monteiro Marques) **99d:70022** 70F99 (70F35, 70H30, 73D05, 73V25)

— (*with* Miettinen, Markku) On parabolic hemivariational inequalities and applications. *Nonlinear Anal.* **35** (1999), *no.* 7, *Ser. A: Theory Methods*, 885–915. (Daniel Goeleven) **99k:47171** 47H19 (34G20, 35K85, 49J40)

— *see also* **Ballmann, Josef et al.**

Panagopoulos, Hélène (*with* Åström, K. J.; Hägglund, T.) Design of PI controllers based on non-convex optimization. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 585–601. (Dieter Franke) **99f:93064** 93B51 (90C90, 93C85)

— (*with* Bernhardsson, Bo) Comments on: "Mixed L^∞/H_∞ suboptimal controllers for SISO continuous time systems" [IEEE Trans. Automat. Control **40** (1995), no. 11, 1831–1840; MR 96g:93024] by M. Sznaier and F. Blanchini. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1285. 93B36 (93C60)

— *see also* **Errata: "Comments on: 'Mixed L^∞/H_∞ suboptimal controllers for SISO continuous time systems'"**

Panagouli, O. K. (*with* Panagiotopoulos, Panagiotis D.) Fractal geometry in contact mechanics and numerical applications. (English summary) *Fractals and fractional calculus in continuum mechanics* (*Udine*, 1996), 109–171, *CISM Courses and Lectures*, 378, *Springer*, *Vienna*, 1997. (Summary) **99a:73113** 73T05 (28A80, 73M25, 73V99)

— (*with* Theocaris, Pericles S.; Panagiotopoulos, Panagiotis D.; Mistakidis, E. S.) On debonding and delamination effects in adhesively bonded cracks on fractal type. (English summary) *J. Elasticity* **51** (1998), *no.* 3, 177–201. (Summary) **99j:73086** 73M25 (73K20, 73V25)

Panahi, M. *see* **Panahi, Mehrdad**

Panahi, Mehdi (*with* Mohseni Moghadam, Mahmoud) Application of iterates of maps on the unit interval concerning equicontinuity and its various equivalent forms. (English and Persian summaries) *Bull. Iranian Math. Soc.* **23** (1997), *no.* 1, 37–47. (R. S. Booth) **99j:26003** 26A18 (39B12, 54H25)

Panahi, Mehrdad (*with* Mehrafarin, M.) Comments on the unification of electromagnetism and gravitation through: "Generalized Einstein manifolds" [J. Geom. Phys. **17** (1995), no. 4, 342–380; MR 99m:53130] by H. Akbar-Zadeh. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 3-4, 346–348. (Summary) **99m:53131** 53C60 (53C25, 83C22)

Panaia, Oreste (*with* Longstaff, W. E.) On complementary subspaces of Hilbert space. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3019–3026. (Elias Katsoulis) **99a:47070** 47D25 (46B20, 46C05, 47A99)

Panaite, Florin (*with* Ştefan, Dragoş) When is the category of comodules a braided tensor category? *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 107–119. (Sorin Dăscălescu) **99i:18013** 18D10 (16W30)

— A Maschke-type theorem for quasi-Hopf algebras. *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 201–207, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker*, *New York*, 1998. (Shenglin Zhu) **99k:16085** 16W30

Panaite, Petrişor (*with* Pelc, Andrzej) Exploring unknown undirected graphs. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco*, *CA*, 1998), 316–322, *ACM*, *New York*, 1998. (*see* **99d:68011**) 68R10 (68T99)

— (*with* Barth, Dominique) Undirected graphs rearrangeable by 2-length walks. (English summary) *Networks* **31** (1998), *no.* 4, 239–247. (Summary) **99c:05159** 05C75

Panangaden, Prakash (*with* Hildebrandt, Thomas T.; Winskel, Glynn) A relational model of non-deterministic dataflow. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 613–628, *Lecture Notes in Comput. Sci.*, 1466, *Springer*, *Berlin*, 1998. (*see* **99k:68006**) 68Q10 (18C10, 68Q55)

— (*with* Desharnais, Josée; Edalat, Abbas) A logical characterization of bisimulation for labeled Markov processes. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis*, *IN*, 1998), 478–487, *IEEE Computer Soc.*, *Los Alamitos*, *CA*, 1998. (*see* **99h:68008**) 68Q60 (68Q10)

Panario, Daniel (*with* Gao, Shu Hong) Tests and constructions of irreducible polynomials over finite fields. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 346–361, *Springer*, *Berlin*, 1997. (Joachim von zur Gathen) **99m:11141** 11T06 (11Y16, 68Q40, 94A60)

— (*with* Viola, Alfredo) Analysis of Rabin's polynomial irreducibility test. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 1–10, *Lecture Notes in Comput. Sci.*, 1380, *Springer*, *Berlin*, 1998. (Summary) **99d:68119** 68Q25 (11T06, 11Y16)

— (*with* Richmond, L. Bruce) Analysis of Ben-Or's polynomial irreducibility test. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 439–456. (Igor E. Shparlinski) **99j:11141** 11T06 (11Y16, 12E05, 68Q25, 94A60)

— (*with* Gao, Shu Hong; Howell, Jason) Irreducible polynomials of given forms. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo*, *ON*, 1997), 43–54, *Contemp. Math.*, 225, *Amer. Math. Soc.*, *Providence*, *RI*, 1999. (Igor E. Shparlinski) **99g:11143** 11T06 (11Y16)

Panasenko, E. S. Embedding theorems for anisotropic classes of differentiable functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1999**, *no.* 1, 80–82. 46E35

Panasenko, G. P. (*with* Chiheb, Raddouane; Cioranescu, Doina; El Janati, Abdessalam) Structures réticulées renforcées en élasticité. (English and French summaries) [Reinforced lattice structures in elasticity] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 897–902. (Ma. Eugenia Pérez Martinez) **99k:73011** 73B27 (35B27, 73K20)

— (*with* Chiheb, Raddouane) Optimization of finite rod structures and L-convergence. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 2, 273–304. (Alexander G. Kolpakov) **99f:49059** 49N55 (49Q10, 73K40)

— (*with* Badea, A.; Carasso, Claude) A model of a homogenized cavity corresponding to a multinozzle droplet generator for continuous ink-jet printers. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 6, 821–842. (Summary) **99i:76043** 76D30 (73B27)

— (*with* Bakhvalov, N. S.; Štaras, Arūnas) The averaging method for partial differential equations (homogenization) and its applications [MR 91k:35061]. *Partial differential equations, V*, 211–239, 241–247, *Encyclopaedia Math. Sci.*, 34, *Springer*, *Berlin*, 1999. (*see* **99i:35002**) 35G20 (35B40, 73B27)

Panayappan, S. Binormal composition operators. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 178–182 (1996). (Summary) **99b:47045** 47B38 (47B20)

Panayiotou, Christos G. (*with* Cassandras, Christos G.; Dai, Liyi) Ordinal optimization for a class of deterministic and stochastic discrete resource allocation problems. (English

summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 881–900. (Summary) **99e:93050** 93C83 (90C90, 93E03)

Panayotaros, Panayotis Diagrams in classical and semiclassical perturbation theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1997–2003. (Dario Bambusi) **99b:81056** 81Q20 (70H05, 70H15)

Panayotounakos, D. E. (*with* Andriotaki-Panayotounakou, P.; Papandonopoulos, G.) Ad hoc exact solutions for the stress and velocity fields in rigid perfectly plastic materials under plane-stress conditions. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 71–84. (From the summary) **99g:73058** 73E99

andriotaki-Panayotounakou, P. *see* **Andriotaki-Panayotounakou, P.**

Pancaldo, Lea (*with* Alfonsi, Giancarlo; Passoni, Giuseppe; Zampaglione, Domenico) A spectral-finite difference solution of the Navier-Stokes equations in three dimensions. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 129–142. (Summary) **99d:76065** 76M20 (76M25)

Pance, M. A method for optimal configuration of gathering pipeline networks. (English summary) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **38** (1998), 73–82. 90B06 (90C15, 90C39)

Panchak, Olena Symmetry of Burgers-type equations with an additional condition. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 467–469, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53

Panchal, D. K. (*with* Saxena, Rajendra Kumar; Parihar, C. L.) The generalized Hankel transform of generalized functions and analyticity theorem. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 239–251. (Gopi Ahuja) **99k:44009** 44A15 (33C60)

— (*with* Saxena, Rajendra Kumar; Parihar, C. L.) A convolution transformation and its inversion. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 33–47. (S. I. Grozdev) **99j:44014** 44A35 (44A15)

Panchal, S. K. (*with* More, S. V.) Alternative proof for the inversion of Marchi-Zgrablich transform of distributions. (English summary) *Ganita* **48** (1997), *no.* 1, 21–26. (Summary) **99b:44004** 44A12 (46F12)

Panchanadam, Venkat (*with* Murphy, Frederic H.) Understanding linear programming modeling through an examination of the early papers on model formulation. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 341–356. (Summary) **99d:90002** 90–03 (01A60, 90C05)

Panchapagesan, T. V. Applications of a theorem of Grothendieck to vector measures. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 89–101. (Brian Jefferies) **99h:28022** 28B05 (46G10)

— Baire and σ-Borel characterizations of weakly compact sets in $M(T)$. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4839–4847. (A. Sapounakis) **99h:28008** 28A33 (28C15, 46E27)

— Characterizations of weakly compact operators on $C_0(T)$. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4849–4867. (Georg D. Schlüchtermann) **99b:47046** 47B38 (46G10, 47B07)

Panchapakesan, Natarajan Seeing beauty in the simple and the complex: Chandrasekhar and general relativity. (English summary) *Classical and quantum aspects of gravitation and cosmology* (*Madras*, 1996), 1–10, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (Summary) **99c:83002** 83–03

Panchapakesan, S. (*with* Gupta, Shanti S.) Design of experiments with selection and ranking goals. *Design and analysis of experiments*, 555–585, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62F07

Panchenko, D. A. (*with* Borisov, I. S.) On consistency of maximum spacing estimators. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 3, 1–7. (Jan Beirlant) **99d:62056** 62G30

— (*with* Borisov, I. S.; Skilyagina, G. I.) On minimal smoothness conditions for asymptotic expansions of moments in the CLT. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 1, 80–95. (Lothar Heinrich) **99k:60052** 60F05 (60E10, 60F25, 60G50)

Panchenko, S. L. (*with* Kalitkin, N. N.) Optimal two-stage schemes for stiff systems. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 3, 307–310. 65L06

Panchev, S. (*with* Spassova, T. S.) The Lorenz chaotic system with modified X, Y-equations. (English summary) *Bull. Calcutta Math. Soc.* **91** (1999), *no.* 1, 17–28. 58F13

Panchvidze, K. M. A fuzzy approach to decision-making problems. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 2, 237–241 (1995). 90C70 (90A05)

Panconesi, Alessandro (*with* Hańćkowiak, Michał; Karoński, Michał) On the distributed complexity of computing maximal matchings. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 219–225, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C70, 05C85, 68Q10, 68R10)

— (*with* Grable, David A.) Fast distributed algorithms for Brooks-Vizing colourings. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 473–480, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (05C15, 05C85, 68Q10, 68Q25)

— (*with* Dubhashi, Devdatt; Grable, David A.) Near-optimal, distributed edge colouring via the nibble method. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 225–251. (Summary) **99f:68154** 68R10 (05C15, 05C85, 68Q10)

— (*with* Malesińska, Ewa) On the hardness of allocating frequencies for hybrid networks. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 347–363. (Summary) **99h:68136** 68R10 (05C85, 68Q25, 90B12)

Panda, G. K. (*with* Behera, A.) A variant of Browder's theorem. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 139–147. (Daniel Goeleven) **99a:47102** 47H19 (49J40)

— (*with* Dash, N.) Variational like-inequalities in Banach spaces. (English summary) *Opsearch* **35** (1998), *no.* 2, 106–114. 49J40 (47H19)

Panda, Pournamasi (*with* Sahoo, L. N.) Predictive estimation of finite population mean using a product estimator for two-stage sampling. (English summary) *Biom. J.* **41** (1999), *no.* 1, 93–97. 62D05

Panda, S. *see* **Panda, Sudhakar**

Panda, S. N. (*with* Sastry, K. P. R.) On the arithmetical functions $\sigma_k^*(n)$ and $\varphi_k^*(n)$. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 497–502. (Jean-Marie De Koninck) **99e:11008** 11A25

Panda, Sudhakar (*with* de Roo, Mees; van der Schaar, Jan Pieter) Intersecting branes in matrix theory. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 50–56. (Summary) **99b:81209** 81T30

Pande, H. D. (*with* Tiwari, Shiv Kumar; Srivastava, Ravindra Kumar) Existence of affine motion in a R-$\oplus$ recurrent Finsler space. *J. Nat. Acad. Math. India* **10** (1992/96), 126–135 (1997). (László Kozma) **99a:53019** 53B40

Pandey, B. N. Testimator of the scale parameter of the exponential distribution using linex loss function. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2191–2202. (Summary) **99c:62023** 62C15 (62F10)

Pandey, Himanshu (*with* Ojha, V. P.) Generalised biostatistical birth model for couple fertility. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 167–177. 62P10

Pandey, Kanti (*with* Chaturvedi, R.) Certain aspects of compression pulses in steady non-equilibrium flow over a concave wall. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 139–150. (Corneliu Berbente) **99i:76084** 76L05 (76N15, 80A32)

Pandey, Lakshmi N. (*with* Yeon, Kyu Hwang; Walls, Dan F.; Um, Chung In; George, Thomas F.) Quantum correspondence for linear canonical transformations on general Hamiltonian systems. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1765–1774. (Summary) **99e:81123** 81S30 (81S40)

Pandey, N. K. (*with* Pant, R. P.) Fixed points of sequences of mappings. (English summary) *Vikram Math. J.* **14** (1994), 11–15. 54H25

— (*with* Pant, R. P.; Lohani, A. B.; Padaliya, S.) On common fixed points of generalized contractions. *Math. Ed.* (*Siwan*) **32** (1998), *no.* 4, 207–210. 54H25

Pandey, Neelam Some bilateral generating relations involving hypergeometric function of two and three variables. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 215–222. (Summary) **99g:33041** 33C70

Pandey, Pramod Kumar (*with* Mohanty, R. K.) Families of accurate discretizations of order two and four for 3-D mildly nonlinear biharmonic problems of second kind. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 363–380. 65L10 (65L06)

Pandey, S. B. (*with* Tripathi, L. M.; Tripathi, V. N.) On the degree of approximation to a function by triangular matrix of its Legendre series. (English summary) *Bull. Calcutta Math. Soc.* **90** (1998), *no.* 3, 205–210. 41A25

Pandey, S. K. *see* **Pandey, Sunil Kumar**

Pandey, Sheel Sindhu Multipliers for the intersection of weighted Banach spaces. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 55–68. (Oscar Blasco) **99h:46045** 46E30 (46B20)

Pandey, Sunil Kumar (*with* Chaturvedi, Ajit; Misra, Sheela) A class of asymptotically efficient and consistent sequential procedures to construct fixed-size confidence regions. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **48** (1996), *no.* 3, 346–355, v. (Nitis Mukhopadhyay) **99d:62075** 62L10 (62H12)

Pandey, T. N. (*with* Prasad, Baij Nath; Singh, C. S.) Recurrent Finsler connection in a Finsler space with (α, β) metric. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 829–833. (Sándor Bácsó) **99m:53036** 53B40

Pandey, V. P. (*with* Rajput, Balwant Singh) Dyon-dyon bound states in non-relativistic and relativistic frameworks. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 30, 5245–5256. (Summary) **99i:81266** 81V10 (81Q99)

Pandhare, D. M. (*with* Waghmode, B. B.) Fixed point theorem for single and pair of mapping in Hilbert spaces. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 39–44. (B. E. Rhoades) **99h:47072** 47H10 (54H25)

— (*with* Waghmode, B. B.) Fixed point theorems for mappings with rational expression. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 305–313. (From the text) **99f:47081** 47H10

— (*with* Waghmode, B. B.) A common fixed point theorem in Hilbert space. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 107–110. 47H10

— (*with* Waghmode, B. B.) Generalized contraction and fixed point theorems in Hilbert spaces. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 145–150. 47H10

— (*with* Waghmode, B. B.) On sequence of mappings in Hilbert space. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 61–63. 47H10

Pandharipande, Rahul (*with* Harris, Joseph Daniel; Mazur, Barry) Hypersurfaces of low degree. *Duke Math. J.* **95** (1998), *no.* 1, 125–160. (Fyodor L. Zak) **99j:14043** 14J70 (14M20, 14N05)

— The Chow ring of the nonlinear Grassmannian. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 1, 123–140. (Gary P. Kennedy) **99f:14005** 14C15 (14D22, 14M15)

— (*with* Göttsche, Lothar) The quantum cohomology of blow-ups of $\mathbf{P}^2$ and enumerative geometry. *J. Differential Geom.* **48** (1998), *no.* 1, 61–90. (Andreas Gathmann) **99d:14057** 14N10 (14D20)

— Equivariant Chow rings of O(k), SO($2k+1$), and SO(4). (English summary) *J. Reine Angew. Math.* **496** (1998), 131–148. (Dan Edidin) **99e:14001** 14C15 (14L30)

— Intersections of Q-divisors on Kontsevich's moduli space $\overline{M}_{0,n}(\mathbf{P}^r, d)$ and enumerative geometry. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1481–1505. (Paolo Aluffi) **99f:14068** 14N10 (14D20, 14H10)

Pandian, P. (*with* Kanniappan, P.) On generalized convex functions in optimization theory—a survey. (English summary) *Opsearch* **33** (1996), *no.* 3, 174–185. (Summary) **99a:90158** 90C26

Pandian, Subbiah (*with* Agarwal, Ravi P.; Thandapani, E.) Oscillatory property for second-order nonlinear difference equations via Lyapunov's second method. *Advances in nonlinear dynamics*, 11–21, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Binggen Zhang) **99a:39001** 39A10

— (*with* Thandapani, E.) Asymptotic and oscillatory behavior of solutions of general nonlinear difference equations of second order. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 413–421. (Vladimir Sh. Burd) **99k:39038** 39A10

Pandit, M. D. Mathematicians in ancient India. *Gaṇita-Bhāratī* **19** (1997), *no.* 1-4, 69–85. (S. L. Singh) **99f:01007** 01A32

Pandit, Sagar A. (*with* Gangal, Anil D.) On generalized Nambu mechanics. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2899–2912. (Paola Morando) **99d:70023** 70H05 (58F05, 70E15, 76C99, 76M99)

Pandit, Sudhakar G. Monotone methods for systems of nonlinear hyperbolic problems in two independent variables. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2735–2742. (Hideo Yamagata) **99a:35186** 35L70 (35A35, 35B45)

— Variation of parameters formulas and maximum principles for linear hyperbolic problems in two independent variables. (English summary) *Dynam. Contin. Discrete Impuls.*

Systems **4** (1998), *no.* 2, 295–312. (Akira Tsutsumi) **99e:35127** 35L10 (35B50, 35C99)

Pandiyan, P. (*with* Sivasamy, R.) A two commodity inventory model under (s_k, S_k) policy. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 3, 19–34. (P. R. Parthasarathy) **99m:90059** 90B05

Pandolfi, Anna (*with* Carini, Angelo) Some extremum properties of finite-step solutions in elastoplasticity. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 2, 185–218. (Summary) **99j:73052** 73E05 (73V20, 73V25)

Pandolfi, Luciano (*with* Bucci, Francesca) The value function of the singular quadratic regulator problem with distributed control action. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 115–136 (*electronic*). (Dan Tiba) **99f:49004** 49J20 (49K40, 49N10)

— Dissipativity and the Lur'e problem for parabolic boundary control systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2061–2081 (*electronic*). (Uldis Ē. Raitums) **99f:93080** 93C20 (49K20, 93D05)

Pando Zayas, Leopoldo A. Modified Kantowski-Sachs cosmologies from coset models. (English summary) *Phys. Lett. B* **407** (1997), *no.* 2, 121–123. (Summary) **99b:83020** 83C20 (81T40)

— (*with* Iofa, Mikhail Z.) Statistical entropy of magnetic black holes from near-horizon geometry. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 264–268. (Summary) **99d:83060** 83C57 (83E50)

— (*with* Iofa, Mikhail Z.) Statistical entropy of Calabi-Yau black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064023, 6 *pp.* (Summary) **99m:83114** 83C57 (83E30)

Pandres, Dave, Jr. Gravitational and electroweak interactions. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 827–839. (Summary) **99b:83009** 83C05

Pandu Rangan, C. (*with* Graf, Thorsten; Kamakoti, V.; Janaki Latha, N. S.) The colored sector search tree: a dynamic data structure for efficient high-dimensional nearest-foreign-neighbor queries. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 35–44, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68P05 (68U05)

— (*with* Parthasarathy, Koduvayur Ramaiyer; Prakash, V.) On the g-centroidal problem in special classes of perfect graphs. (English summary) *Ars Combin.* **50** (1998), 267–278. (Summary) **99h:05034** 05C12 (05C85)

— (*with* Kirkpatrick, D. G.; Madhukar Reddy, K.; Srinivasan, Anand) Partial and perfect path covers of cographs. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 143–153. (Michael E. Raines) **99m:05127** 05C70

— (*with* Prakash, V.; Parthasarathy, Koduvayur Ramaiyer) The Duchet conjecture. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 447–459. (A. Vijayakumar) **99h:05035** 05C12 (05C35)

— (*with* Chang, Maw-Shang; Nagavamsi, P.) Weighted irredundance of interval graphs. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 65–70. (Summary) **99a:05132** 05C85 (68Q25, 68R10)

— (*with* Guruswami, Venkatesan) A natural family of optimization problems with arbitrarily small approximation thresholds. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 5, 241–248. (Summary) **99h:68076** 68Q25 (90C60)

— (*with* Arvind, A.) Symmetric min-max heap: a simpler data structure for double-ended priority queue. *Inform. Process. Lett.* **69** (1999), *no.* 4, 197–199. 68P05

Pandzhikidze, L. K. About multiply analogies of one result by S. B. Stechkin. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 1, 29–30. 41A58

Pandžić, Pavle (*with* Miličić, Dragan) On degeneration of the spectral sequence for the composition of Zuckerman functors. *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 179–199. (Jeffrey Adams) **99d:22026** 22E46

Paneah, Boris Support-dependent weighted norm estimates for Fourier transforms. II. *Duke Math. J.* **92** (1998), *no.* 2, 335–353. (Hans P. Heinig) **99e:42011** 42A38 (46E99)

Panferov, V. S. (*with* Leont'eva, T. A.; Serov, V. S.) ★ Задачи по теории функций действительного переменного. (Russian. Russian summary) [Problems in the theory of functions of a real variable] *Izdatel'stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1997. 208 *pp. ISBN* 5-211-04054-6 (Publisher's description) **99e:00003** 00A07 (28–01, 46–01)

Panfilov, M. B. Upscaling two-phase flow in double porosity media: nonuniform homogenization. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 195–215, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 76S05 (73B27, 76T05)

— (*with* Panfilova, I. V.) Averaged model with capillary nonequilibrium effects for two-phase flow through a highly heterogeneous porous medium. *Fluid Dynam.* **33** (1998), *no.* 3, 373–381; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 3, 93–103 (*Russian. Russian summary*). 76S05 (76A99, 76D45, 76T05)

Panfilova, I. V. (*with* Panfilov, M. B.) Averaged model with capillary nonequilibrium effects for two-phase flow through a highly heterogeneous porous medium. *Fluid Dynam.* **33** (1998), *no.* 3, 373–381; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 3, 93–103 (*Russian. Russian summary*). 76S05 (76A99, 76D45, 76T05)

Pang, Chin-tzong (*with* Shih, Mau-Hsiang; Lur, Yung-yih) An inequality for the spectral radius of an interval matrix. (English summary) *Linear Algebra Appl.* **274** (1998), 27–36. (Zdeněk Dostál) **99c:15035** 15A45

Pang, Hou Rong (*with* Fa, Wei; Ping, Jia Lun) Algebraic expressions for irreducible representations of the point-group D_{6h}. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 3, 41–47. 20C35 (81R05)

Pang, Jong-Shi (*with* Luo, Zhi-Quan; Ralph, Daniel) Piecewise sequential quadratic programming for mathematical programs with nonlinear complementarity constraints. (English summary) *Multilevel optimization: algorithms and applications*, 209–229, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99b:90139** 90C33 (90C20)

— (*with* Fukushima, Masao; Luo, Zhi-Quan) A globally convergent sequential quadratic programming algorithm for mathematical programs with linear complementarity constraints. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 1, 5–34. (S. R. Mohan) **99e:90088** 90C30 (90C33)

— (*with* Christensen, P. W.; Klarbring, Anders; Strömberg, N.) Formulation and comparison of algorithms for frictional contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 1, 145–173. (David E. Stewart) **99c:73070** 73T05 (73V20)

— (*with* Chou, Chin Ch'êng; Ng, Kung Fu) Minimizing and stationary sequences of constrained optimization problems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1908–1936 (*electronic*). (Bernard Lemaire) **99f:90118** 90C30 (65K05)

— (*with* Klarbring, Anders) Existence of solutions to discrete semicoercive frictional contact problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 414–442 (*electronic*). (Meir Shillor) **99f:73076** 73T05 (49J40, 73V25)

— (*with* Fukushima, Masao) Some feasibility issues in mathematical programs with equilibrium constraints. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 673–681 (*electronic*). (Summary) **99c:90119** 90C30

Pang, Peter Y. H. (*with* Agarwal, Ravi P.) Discrete polar coordinates and a new discrete inequality. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **2** (1996), *no.* 2, 181–191. (Editors) **99b:39022** 39A12

— (*with* Yan, Guo Zheng) Inverse obstacle scattering with two scatterers. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 35–43. 35R30 (35J25, 76Q05)

— (*with* Yan, Guo Zheng) The uniqueness of the inverse obstacle scattering problem with transmission boundary conditions. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 63–69. (Yongzhi Xu) **99e:76112** 76Q05 (35J05)

— (*with* Yan, Guo Zheng) Uniqueness of the inverse conductive scattering problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 53–57. 35R30 (35J05, 76Q05)

— (*with* Agarwal, Ravi P.) Stability of a general class of difference systems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 423–429. (Allan C. Peterson) **99k:39057** 39A11

Pang, Shanqi (*with* Zhang, Yingshan; Jiao, Zheng Ming; Zhao, Wen Zheng) Group partition and systems of orthogonal idempotents. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 249–262. (Harald E. Ellers) **99f:20009** 20C05

Pang, Shi You (*with* Miao, Lian Ying; Chen, Dong Ling) A simple proof of a conjecture on path chromatic numbers of graphs. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 89–91. 05C15

Pang, Tao ★ An introduction to computational physics. (English summary) *Cambridge University Press, Cambridge*, 1997. *xviii*+374 *pp. ISBN* 0-521-48592-4 (G. W. Hedstrom) **99d:65001** 65–01 (76Mxx, 82B80, 82C80)

Pang, Ying Wu Global asymptotic stability of a periodic predator-prey system with undercrowding effect. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 409–411. 92D25 (34D99)

Pang, Yun Jie (*with* Wang, Zheng Xuan; Li, Wen Hui) An algorithm for complete Euclidean distance transformation based on contour tracing. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 217–222. 68U05

— (*with* Wang, Zheng Xuan; Li, Wen Hui) Contour tracing and computing the Euler number of binary images represented by linear quadtrees. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 223–228. 68U05

— (*with* Wang, Zheng Xuan; Li, Wen Hui) A weighting algorithm for decomposing a simple polygon into convex polygons. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 229–233. 68U05

Panholzer, Alois (*with* Prodinger, Helmut) Descendants and ascendants in binary trees. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 247–266. (Summary) **99d:68053** 68P05 (05C05)

— (*with* Martínez, Conrado; Prodinger, Helmut) On the number of descendants and ascendants in random search trees. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 20, 36 *pp.* (*electronic*). (Peter Kirschenhofer) **99b:05003** 05A15 (68P05, 68P10)

— (*with* Prodinger, Helmut) A generating functions approach for the analysis of grand averages for multiple QUICKSELECT. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 189–209. (Ranjan Chaudhuri) **99k:68038** 68P10

Pani, Amiya K. (*with* Sengadir, T.) Weak solutions of integro-differential and functional-differential equations. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 411–422. (Marlène Frigon) **99h:34097** 34K10 (45J05, 47H15, 47N20)

— (*with* Doss, L. Jones Tarcius; Padhy, S.) Galerkin method for a Stefan-type problem in one space dimension. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 393–416. (Muthusamy Vanninathan) **99a:65121** 65M60 (35R35, 65M15, 65M30)

— (*with* Doss, L. Jones Tarcius) A qualocation method for a semilinear second-order two-point boundary value problem. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 128–144, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Martin Hermann) **99j:65126** 65L10 (65L60)

— (*with* Mohamed Ali, M. A.) Mixed finite element methods for compressible miscible displacement problems in reservoir studies. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 332–352, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Gert Lube) **99b:65119** 65M60 (76M10, 76S05)

— (*with* Manickam, A. V.; Moudgalya, K. M.) Second-order splitting combined with orthogonal cubic spline collocation method for the Kuramoto-Sivashinsky equation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 5–25. (Mu Sheng Wei) **99c:65187** 65M70

— (*with* Manickam, S. Arul Veda; Chung, Sang Kwon) A second-order splitting combined with orthogonal cubic spline collocation method for the Rosenau equation. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 6, 695–716. (Bruce A. Finlayson) **99k:65097** 65M70 (65N35)

— An H^1-Galerkin mixed finite element method for parabolic partial differential equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 712–727 (*electronic*). (Manfred Dobrowolski) **99g:65098** 65M60 (65M12, 65M15)

Pani, Ashis K. (*with* Bhattacharjee, G. P.; Mohapatra, R. N.) Event scheduling using Allen's algebra. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 87–97. (Summary) **99i:68115** 68T30 (68T27)

Panigrahi, Prasanta K. (*with* Gurappa, N.; Srinivasan, Venkatraman) Degeneracy structure of the Calogero-Sutherland model: an algebraic approach. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 339–346. (Summary) **99d:81186** 81V70

Panigrahy, Rina (*with* Vishwanathan, Sundar) An $O(\log^* n)$ approximation algorithm for the asymmetric p-center problem. 7th Annual ACM-SIAM Symposium on Discrete

Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 259–268. (Summary) **99d:68120** 68Q25 (05A99, 90C27)

Panin, I. A. (*with* Suslin, A. A.) On a conjecture of Grothendieck concerning Azumaya algebras. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 215–223; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 851–858. (Vyacheslav I. Yanchevskiĭ) **99b:16029** 16H05 (19E08)

— Splitting principle and K-theory of simply connected semisimple algebraic groups. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 1, 88–131; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 69–101. (B. Sury) **99e:19008** 19E08 (13A20, 16K20, 20G15)

— (*with* Merkur'ev, A. S.; Wadsworth, A. R.) Index reduction formulas for twisted flag varieties. II. (English summary) *K-Theory* **14** (1998), *no.* 2, 101–196. (Jean-Pierre Tignol) **99k:16037** 16K20 (14L30, 19E08, 20G05)

Panin, M. P. (*with* Borisov, N. M.) Adjoint Monte Carlo calculations of pulse-height-spectrum. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 3, 273–284. 65C05

Panizza, S. (*with* Cesa-Bianchi, Nicolò; Helmbold, D. P.) On Bayes methods for on-line Boolean prediction. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 112–137. (M. Iosifescu) **99g:68170** 68T05 (68Q99)

Panizzi, Stefano On semilinear perturbations of the Kirchhoff string equation. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 217–227. (Summary) **99a:35187** 35L70 (35B20, 45K05)

— Global regular solutions of the wave equation with critical and non-coercive nonlinearity. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 9–16. (Summary) **99k:35129** 35L70 (35B65)

Panjer, Harry H. (*with* Klugman, Stuart A.; Willmot, Gordon E.) ★ Loss models. (English summary) From data to decisions. With the assistance of Gary G. Venter. Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xvi+644 *pp. ISBN* 0-471-23884-8 (Jan Beirlant) **99b:62155** 62P05

Panjikidze, L. *see* **Pandzhikidze, L. K.**

Pankov, A. A. Almost periodic functions, Bohr compactification, and differential equations. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 149–158 (1998). (C. Corduneanu) **99i:42014** 42A75 (35J15, 43A60, 47F05)

— ★ G-convergence and homogenization of nonlinear partial differential operators. (English summary) Mathematics and its Applications, 422. *Kluwer Academic Publishers, Dordrecht*, 1997. xiv+249 *pp. ISBN* 0-7923-4720-X (I. Aganović) **99a:35017** 35B27 (35A35, 35J60, 35K55, 47H40, 49J45, 73B27)

Pankov, A. R. (*with* Bosov, A. V.) Control algorithms for discrete systems of random structure. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 10, 113–125; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 2, 1647–1657 (1998). (Summary) **99i:93070** 93E20 (49K45)

Pankov, Alexander *see* **Pankov, A. A.**

Pankov, M. A. (*with* Polulyakh, E. A.) Critical points of arbitrary mappings from $\mathbf{R}^n$ into $\mathbf{R}^m$. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 3, 82–85; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 3, 214–216 (1998). (V. D. Sedykh) **99a:58017** 58C27 (58C25)

— Projections of k-dimensional subsets of $\mathbf{R}^n$ onto k-dimensional planes. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 114–124. (Maria Moszyńska) **99g:28011** 28A75 (28A80, 51M25, 54C99, 54F45)

Pankova, D. V. (*with* Beletskiĭ, V. V.) Connected bodies in the orbit as dynamic billiard. (English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 87–103. (Summary) **99f:70034** 70M20 (70F05, 70K99)

Pankowski, Tadeusz Powerdomain of paths for representing object structures. (English summary) *Fund. Inform.* **33** (1998), *no.* 2, 121–148. (Summary) **99h:68039** 68P15 (05C85, 68N15)

Pankrat'ev, E. V. *see* **Suetin, P. K., 99m:30001**

Pankratov, L. Homogenization of semilinear parabolic equations with asymptotically degenerating coefficients. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 3-4, 250–273. (Summary) **99k:35019** 35B27 (35K60)

Pankratova, I. N. On limit sets of a multidimensional analogue of a nonlinear logistic difference equation. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 995–997, 1007; *translation in Differential Equations* **32** (1996), *no.* 7, 1006–1008 (1997). (P. Talpalaru) **99a:39023** 39A10

Panorska, Anna K. (*with* Kozubowski, Tomasz J.) Weak limits for multivariate random sums. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 398–413. (Jerry Alan Veeh) **99j:60025** 60E07 (60E05, 62G30, 62H05)

Panov, D. A. Shrinkable curves and the Möbius theorem on three inflection points. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 29–39, 96; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 23–31. (Dušan Repovš) **99c:57062** 57R45 (57M25)

Panov, T. E. Classification up to cobordism of manifolds that carry a simple action. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 260–268; *translation in Math. Notes* **63** (1998), *no.* 1-2, 225–232. (Krzysztof Pawałowski) **99g:57037** 57S17 (57R20, 57R85, 57S25)

— (*with* Bukhshtaber, V. M.) Algebraic topology of manifolds defined by simple polyhedra. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 195–196; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 623–625. (Alexander I. Barvinok) **99m:14098** 14M25 (52B20, 52B70, 57N65)

Panov, Yu. A. (*with* Vinogradov, Yu. A.; Zubkov, A. I.) Supersonic flow around two sequential obstacles. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 4, 103–106. 76J20

Pansu, Pierre Volume, courbure et entropie (d'après G. Besson, G. Courtois et S. Gallot). (French summary) [Volume, curvature and entropy (after G. Besson, G. Courtois and S. Gallot)] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 823, 3, 83–103. (Boris Hasselblatt) **99g:58099** 58F17 (53C35)

— Sur la régularité du profil isopérimétrique des surfaces riemanniennes compactes. (English and French summaries) [Regularity of the isoperimetric profile of compact Riemannian surfaces] *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 1, 247–264. (Eberhard Teufel) **99i:53035** 53C20 (49Q20, 53C42)

Pant, P. (*with* Wu, F. Y.) Link invariant of the Izergin-Korepin model. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7775–7782. (E. J. Janse van Rensburg) **99b:57020** 57M25 (82B20)

Pant, R. P. (*with* Pandey, N. K.) Fixed points of sequences of mappings. (English summary) *Vikram Math. J.* **14** (1994), 11–15. 54H25

— (*with* Lohani, A. B.; Padaliya, S.) A common fixed point theorem. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 13–20. 54H25

— R-weak commutativity and common fixed points of noncompatible maps. (English summary) *Ganita* **49** (1998), *no.* 1, 19–27. 54H25

— Common fixed point theorems for contractive maps. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 251–258. (S. P. Singh) **99h:54063** 54H25

— (*with* Lohani, A. B.; Pandey, N. K.; Padaliya, S.) On common fixed points of generalized contractions. *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 207–210. 54H25

— A common fixed point theorem under a new condition. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 2, 147–152. 54H25

— R-weak commutativity and common fixed points. (English summary) *Soochow J. Math.* **25** (1999), *no.* 1, 37–42. 54H25

Pantalienko, L. A. (*with* Garashchenko, F. G.) Analysis and estimation of parametric systems based on practical stability methods. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996,** *no.* 1-2, 145–161, 298–299. 93D10 (34D20)

Pantano, Ornella (*with* Bruni, Marco; Matarrese, Sabino) Dynamics of silent universes with and without Λ. *11th Italian Conference on General Relativity and Gravitational Physics (Trieste*, 1994), 443–451, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83F05

Panteleev, D. (*with* Slavova, Angela) Nonlinear singularly perturbed systems of differential equations and applications. (English summary) *Ital. J. Pure Appl. Math. No.* 1 (1997), 137–158 (1998). (Summary) **99i:34077** 34E15 (34C29, 34D15, 34E05)

Panteleev, V. I. Polynomial expansions of k-valued functions in differentiation operators, and normalizations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998,** *no.* 1, 82–85; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 1, 81–84. (Radim Bělohlávek) **99k:03017** 03B50 (06E30, 94C10)

Panteley, Elena (*with* Loria, Antonio; Nijmeijer, Henk) Control of the chaotic Duffing equation with uncertainty in all parameters. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 12, 1252–1255. (Summary) **99i:93027** 93C10 (34H05, 70K50)

Panteleyev, A. D. (*with* Gogaev, K. A.) Mathematical simulation and identification of the material forming process under extrusion. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 8, 70–77. (Introduction) **99k:73069** 73E99 (76A99)

Pantelides, C. C. (*with* Tanyi, B. A.; Darlington, J.; Rustem, Berç) Robust optimisation of nonlinear systems under parametric uncertainty. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 43–48, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C15 (90C30)

— (*with* Smith, E. M. B.) Symbolic methods for global optimisation. *Symbolic methods in control system analysis and design*, 321–338, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 90C30 (65K05)

Panteliou, S. D. (*with* Vyridis, D. G.; Katz, I. Norman) An inverse convergence approach for arguments of Jacobian elliptic functions. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 21–26. 65D20 (33E05)

Pantelis, Gary Derivation of macroscale equations for a class of physical applications. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 1, 59–73. (Summary) **99g:76077** 76F99 (35Q35, 76M99)

Pantev, Tony G. (*with* Bershadsky, Michael; Johansen, Andrei; Sadov, Vladimir; Vafa, Cumrun) F-theory, geometric engineering and $N = 1$ dualities. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 153–164. (Gonzalo Violero) **99b:81178** 81T30 (14J32, 14J60, 32J18, 32J81)

— (*with* Bershadsky, Michael; Johansen, Andrei; Sadov, Vladimir) On four-dimensional compactifications of F-theory. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 165–201. (Gonzalo Violero) **99d:81107** 81T30 (14J32, 14J60, 32J18, 32J81)

— (*with* Borcherds, Richard Ewen; Katzarkov, Ludmil; Shepherd-Barron, N. I.) Families of $K3$ surfaces. *J. Algebraic Geom.* **7** (1998), *no.* 1, 183–193. (Mark Gross) **99d:14029** 14J28 (11F55, 14J05)

Pantin, Isabelle New philosophy and old prejudices: aspects of the reception of Copernicanism in a divided Europe. *Stud. Hist. Philos. Sci.* **30** (1999), *no.* 2, 237–262. 01A40 (01A45)

Pantoja, José (*with* Kutzko, Philip C.) Character formulas for supercuspidal representations of the groups GL_2, SL_2. *Comm. Algebra* **26** (1998), *no.* 6, 1679–1697. (Ajay Kumar) **99h:22023** 22E50 (22E35)

Pantoja, N. R. *see* **Pasti, Paolo et al., 99a:81104**

Panton, Ronald L. *see* **Self-sustaining mechanisms of wall turbulence, 99d:76046**

Pantović, J. (*with* Tošić, R.; Vojvodić, G.) The cardinality of functionally complete algebras on a three element set. (English summary) *Algebra Universalis* **38** (1997), *no.* 2, 136–140. (Ágnes Szendrei) **99i:08002** 08A40 (03B50)

Pantsulaya, G. R. (*with* Kirtadze, A. P.) On uniquely definable extensions of invariant measures in the space $\mathbf{R}^N$. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 189–192 (1995). 28A12 (28D99)

— Density points and invariant extensions of the Lebesgue measure. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 216–219 (1996). 28A12

Pantula, Sastry G. (*with* Rawlings, John O.; Dickey, David A.) ★ Applied regression analysis. (English summary) A research tool. Second edition. Springer Texts in Statistics. *Springer-Verlag, New York*, 1998. *xviii+657 pp. ISBN* 0-387-98454-2 (Publisher's description) **99d:62070** 62J05 (62–01)

— (*with* Sun, Hongguang) Testing for trends in correlated data. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 87–95. 62J05

Pantziou, Grammati E. (*with* Pentaris, George P.; Spirakis, Paul G.) Competitive call control in mobile networks. (English summary) *Algorithms and computation (Singapore*, 1997), 404–413, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68R10 (68Q10, 90B10)

— (*with* Fotakis, Dimitris; Pentaris, George P.; Spirakis, Paul G.) Frequency assignment in mobile and radio networks. (English summary) *Networks in distributed computing* (*Piscataway, NJ*, 1997), 73–90, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 45, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:68004** 68M10 (05C85, 68Q25, 68R10, 90B12)

Panyushev, D. I. On deformation method in invariant theory. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 4, 985–1012. (Frank D. Grosshans) **99a:13001** 13A50 (14L30)

— (*with* Vinberg, Ernest B.) An infinitesimal characterization of the complexity of homogeneous spaces. (English summary) *Transform. Groups* **4** (1999), *no.* 1, 97–101. (Stefan Kebekus) **99m:14097** 14M17 (20G15)

Panza, G. F. *see* **Morozov, Igor B., 99b:86002**

Panza, Marco Gonseth et les mathématiques. [Gonseth and mathematics] *Les philosophes et les mathématiques*, 264–283, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

Pan′zhenskiĭ, V. I. Invariant characteristics of some classes of almost Hermitian structures. (Russian. English and Russian summaries) *Tr. Geom. Semin. No.* 23 (1997), 77–83. (Zbigniew Olszak) **99k:53060** 53C15 (53C55, 53C60)

Panzone, Rafael (*with* Benedek, Agnes) On complex bases for number systems with the digit set {0, 1}. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahía Blanca*, 1997), 17–32, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (Summary) **99b:11007** 11A67

— (*with* Benedek, Agnes) On the tame dragon. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 125–141. (V. Drobot) **99c:11010** 11A67 (11K55, 52C20)

Pao, C. V. Blowing-up and asymptotic behaviour of solutions for a finite difference system. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 29–38. (Summary) **99a:39045** 39A11 (39A10)

— Monotone methods for a finite difference system of reaction diffusion equation with time delay. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 37–47. (P. K. Mahanti) **99m:65163** 65M06 (39A10)

— Asymptotic behavior of solutions of reaction-diffusion equations with nonlocal boundary conditions. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 225–238. (Arnaldo do Nascimento) **99a:35133** 35K57 (35B40)

— Dynamics of a finite difference system of reaction diffusion equations with time delay. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 1, 1–11. (Summary) **99e:39036** 39A10 (39A12)

— Accelerated monotone iterative methods for finite difference equations of reaction-diffusion. (English summary) *Numer. Math.* **79** (1998), *no.* 2, 261–281. (Meng Zhao Qin) **99b:65100** 65M06 (35K57, 65F10, 65M12)

— Monotone iterations for numerical solutions of reaction-diffusion-convection equations with time delay. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 3, 339–351. (Jennifer Zhao) **99d:65253** 65M06 (65N06)

— Numerical analysis of coupled systems of nonlinear parabolic equations. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 393–416 (*electronic*). (Manfred Dobrowolski) **99m:65164** 65M06 (65M12)

Pao, Karen (*with* Colella, Phillip) A projection method for low speed flows. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 245–269. (Summary) **99k:76098** 76M20

Paolantoni, Victoria Subaveraging estimates for CR functions on a hypersurface of $\mathbf{C}^n$. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 4, 361–377. (Summary) **99j:32021** 32F25 (32D15)

Paolella, Marc S. (*with* Mittnik, Stefan; Rachev, Svetlozar T.) Stable Paretian modeling in finance: some empirical and theoretical aspects. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 79–110, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 90A09

Paoletti, Roberto On Halphen's speciality theorem. *Higher-dimensional complex varieties* (*Trento*, 1994), 341–355, *de Gruyter, Berlin*, 1996. (Angelo Lopez) **99k:14051** 14H50 (14J25, 14J30)

— The Kähler cone in families of quasi-Fano threefolds. *Math. Z.* **227** (1998), *no.* 1, 45–68. (Jarosław A. Wiśniewski) **99b:14040** 14J45 (14J10, 14J32, 32G05)

de Paoli, A. L. *see* **De Paoli, A. L.**

Paoli, Laetitia (*with* Schatzman, Michelle) Resonance in impact problems. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 385–406. (David E. Stewart) **99g:73074; EA 99m** 73K12 (34A60, 73D05)

— (*with* Mikelić, Andro) Homogenization of the inviscid incompressible fluid flow through a 2D porous medium. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2019–2028. (Summary) **99j:76125** 76S05 (35B27, 35Q35, 73B27)

Paolini, Emanuele Regularity for minimal boundaries in $\mathbf{R}^n$ with mean curvature in L^n. (English summary) *Manuscripta Math.* **97** (1998), *no.* 1, 15–35. (Martin Fuchs) **99f:49069** 49Q15

Paolini, Maurizio (*with* Bellettini, Giovanni; Colli Franzone, Piero) Convergence of front propagation for anisotropic bistable reaction-diffusion equations. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 3-4, 325–358. (Yuzo Hosono) **99b:35090** 35K57 (35B25, 35Q80, 92C30, 92C50)

— Fattening in two dimensions obtained with a nonsymmetric anisotropy: numerical simulations. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 43–55. (*see* **99f:00021**) 65N55 (65N12)

— (*with* Bellettini, Giovanni; Novaga, Matteo) An example of three-dimensional fattening for linked space curves evolving by curvature. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1475–1492. (Giandomenico Orlandi) **99j:58048** 58E12 (53A05)

— (*with* Fierro, Francesca; Goglione, Roberta) Numerical simulations of mean curvature flow in the presence of a nonconvex anisotropy. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 4, 573–601. (Maura Ughi) **99k:58040** 58E12 (53A10, 65C20)

Paolone, A. (*with* Luongo, A.) Multiple scale analysis for divergence-Hopf bifurcation of imperfect symmetric systems. (English summary) *J. Sound Vibration* **218** (1998), *no.* 5, 527–539. (Summary) **99g:70032** 70L05 (70K50)

Paolucci, Anna Braided tensor C^*-categories, Hecke symmetries and actions on extended Cuntz algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2249–2258. (Aldo J. Lazar) **99j:46090** 46L89 (46M15)

Paoluzzi, Luisa On a class of cyclic branched coverings of $(S^2 \times S^1) - B^3$. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 443–456. (Summary) **99j:57001** 57M12

— PSL$(2, q)$ quotients of some hyperbolic tetrahedral and Coxeter groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 759–778. (Ruth Kellerhals) **99a:20047** 20G40 (20F55, 57M05, 57N10)

Pap, Endre (*with* Wu, Jun De; Li, Rong Lu; Qu, Wen Bo) Swartz's Orlicz-Pettis theorem for operators. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 37–43. (Andreas Defant) **99h:46028** 46B28 (46A03, 46B15)

— (*with* Mesiar, Radko) On additivity and pseudo-additivity of a pseudo-additive measure based integral. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 351–364. (Constantin Drossos) **99b:28025** 28E10 (04A72)

— (*with* Swartz, Charles) Sequential continuity and boundedness for the adjoint operators. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 37–43. (P. P. Narayanaswami) **99i:47004** 47A05 (46A32)

— The continuity of the null-additive fuzzy measures. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 2, 37–47. (Beloslav Riečan) **99m:28009** 28A12 (28E10)

— Nikodým type theorems. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 147–157. (Anatolij Dvurečenskij) **99b:28026** 28E10 (28A99)

— (*with* Klement, Erich Peter; Mesiar, Radko) On some geometric transformation of t-norms. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 57–67. (Summary) **99c:04007** 04A72

— (*with* Ralević, Nebojša M.) Pseudo-Laplace transform. *Nonlinear Anal.* **33** (1998), *no.* 5, 533–550. (From the introduction) **99m:44001** 44A10

— The Lebesgue decomposition theorem for generalized measures. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 99–106. (Beloslav Riečan) **99m:28029** 28B15 (28E10)

— (*with* Mesiar, Radko) Idempotent integral as limit of g-integrals. (English summary) Fuzzy measures and integrals. *Fuzzy Sets and Systems* **102** (1999), *no.* 3, 385–392. (Summary) **99m:28046** 28E99

— *see also* **Fuzzy measures and integrals, 99k:00021**

Pap, G. Central limit theorems on stratified Lie groups. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 613–627, *TEV, Vilnius*, 1994. (Summary) **99f:60015** 60B15 (60F05)

— (*with* Kormos, J.) Nearly unstable multidimensional AR processes. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 1–7. (M. Arató) **99g:62139** 62M10 (60G15)

— (*with* van Zuijlen, M. C. A.) Asymptotic properties of nearly unstable multivariate AR processes. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 11–19. (Summary) **99i:62215** 62M10

Pap, Margit Properties of certain integral operators. *Mathematica* **39(62)** (1997), *no.* 1, 83–94. (Milutin Č. Obradović) **99c:30027** 30C45

— Some criteria for starlikeness and convexity of a given order. *Mathematica* **39(62)** (1997), *no.* 2, 299–303. (Grigore Ştefan Sălăgean) **99d:30019** 30C45

Papa, Andrés R. R. On one-parameter-dependent generalizations of Boltzmann-Gibbs statistical mechanics. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5271–5276. (Summary) **99c:82006** 82B05

Papadakis, Manos (*with* Aldroubi, Akram) Characterization and parameterization of multiwavelet bases. (English summary) *Wavelets, multiwavelets, and their applications* (*San Diego, CA*, 1997), 97–116, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:42010** 42A38 (42C15, 47B37)

— (*with* Stavropoulos, Theodoros) On the multiresolution analyses of abstract Hilbert spaces. (English summary) *Bull. Greek Math. Soc.* **40** (1998), 79–92. (W. R. Wade) **99k:42068** 42C15

— Unitary mappings between multiresolution analyses of $L^2(\mathbf{R})$ and a parametrization of low-pass filters. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 199–214. (Alexey L. Lukashov) **99i:42009** 42A38 (41A30, 42C15, 47D25)

Papadatos, Nickos Exact bounds for the expectations of order statistics from non-negative populations. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 727–736. (Summary) **99a:62075** 62G30

— (*with* Papathanasiou, V.) Total variation distance and generalized covariance kernels. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 2, 230–244. (Vydas Čekanavičius) **99j:62009** 62E10

Papadias, D. (*with* Karacapilidis, N. I.; Pappis, C. P.) Modeling negotiations in group decision support systems. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 163–176, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A05 (90A07)

Papadima, Ştefan Campbell-Hausdorff invariants of links. (English summary) *Proc. London Math. Soc.* (3) **75** (1997), *no.* 3, 641–670. (Summary) **99e:57018** 57M25 (17B01, 20F36)

— A rational homotopy analogue of the Poincaré conjecture. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 121–132. (Summary) **99h:57023** 57M40 (55P62)

— (*with* Jambu, Michel Yves) A generalization of fiber-type arrangements and a new deformation method. (English summary) *Topology* **37** (1998), *no.* 6, 1135–1164. (P. Orlik) **99g:52019** 52B30 (55R10)

Papadimitrakis, M. (*with* Katsoprinakis, E. S.) Extensions of a theorem of Marcinkiewicz-Zygmund and of Rogosinski's formula and an application to universal Taylor series. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2083–2090. (L. Leindler) **99j:40013** 40G05 (42A28)

Papadimitriou, Christos H. (*with* Grigni, Michelangelo; Koutsoupias, Elias) An approximation scheme for planar graph TSP. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 640–645, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25

— (*with* Deng, Xiao Tie) Decision-making by hierarchies of discordant agents. (English summary) *Algorithms and computation* (*Singapore*, 1997), 183–192, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:90008** 90A05 (90C08)

— (*with* Steiglitz, Kenneth) ★ Combinatorial optimization: algorithms and complexity. (English summary) Corrected reprint of the 1982 original. *Dover Publications, Inc., Mineola, NY*, 1998. *xvi*+496 *pp. ISBN* 0-486-40258-4 90-01 (68Q25, 90C05, 90C27, 90C35)
— (*with* Deng, Xiao Tie; Kameda, Tsunehiko) How to learn an unknown environment. I. The rectilinear case. (English summary) *J. ACM* **45** (1998), *no.* 2, 215–245. (Luiz Henrique de Figueiredo) **99c:68120** 68Q25 (68U05)
— (*with* Gogic, Goran; Sideri, Martha) Incremental recompilation of knowledge. (English summary) *J. Artificial Intelligence Res.* **8** (1998), 23–37 (*electronic*). (Summary) **99e:68149** 68T27 (68T30)
— (*with* Chen, Zhi-Zhong; Grigni, Michelangelo) Planar topological inference. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 1–8. (*see* **99i:65003**) 68R10 (05C10, 05C85)

Papadoperakis, I. (*with* Melas, A.; Nestoridis, V.) Growth of coefficients of universal Taylor series and comparison of two classes of functions. *J. Anal. Math.* **73** (1997), 187–202. (Elgin H. Johnston) **99i:30003** 30B10

Papadopoulo, Théodore (*with* Faugeras, Olivier) Grassmann-Cayley algebra for modelling systems of cameras and the algebraic equations of the manifold of trifocal tensors. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1123–1152. (H. K. Farahat) **99c:15049** 15A75 (14M15)

Papadopoulos, Apostolos (*with* Manolopoulos, Yannis) Performance of nearest neighbor queries in R-trees. (English summary) *Database theory—ICDT'97 (Delphi)*, 394–408, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Papadopoulos, Athanase (*with* Coornaert, Michel) Spherical functions and conformal densities on spherically symmetric CAT(−1)-spaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2745–2762. (Paul M. Albuquerque) **99j:53056** 53C23 (43A90, 58F11)

Papadopoulos, B. K. (*with* Georgiou, D. N.) Boundedness and fuzzy sets. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 941–955. 54A40
— (*with* Georgiou, D. N.) Convergences in fuzzy topological spaces. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 495–504. 54A40 (54A20)
— (*with* Georgiou, D. N.) On fuzzy compactness. (English summary) *J. Math. Anal. Appl.* **233** (1999), *no.* 1, 86–101. 54A40 (54D30)

Papadopoulos, C. A new technique for MTTF estimation in highly reliable Markovian systems. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 2, 95–111. (Salvatore Ingrassia) **99j:65010** 65C20 (60J10)

Papadopoulos, D. B. (*with* Giannakis, Ioannis; Kleidis, K.; Kuiroukidis, A.) Anisotropic null string cosmologies. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3169–3177. (Summary) **99i:83090** 83E30
— (*with* Kuiroukidis, A.) String-driven anisotropy damping in Kasner spacetime. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 131–137. (Summary) **99h:83066** 83F05 (83C15, 83E30)

Papadopoulos, George J. (*with* Bergshoeff, E. A.; Kallosh, Renata; Ortín, Tomás) κ-symmetry, supersymmetry and intersecting branes. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 149–169. (Javier Borlaf González) **99a:81127** 81T30 (83E30)
— (*with* Gibbons, Gary W.; Stelle, K. S.) HKT and OKT geometries on soliton black hole moduli spaces. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 623–658. (Summary) **99c:83053** 83C57 (53C25, 53C80, 83E30)
— (*with* Teschendorff, A.) Instantons at angles. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 115–122. (Krzysztof Galicki) **99g:53032** 53C07 (53C80, 81T13, 81T30)
— (*with* Bergshoeff, E. A.; van der Schaar, Jan Pieter) Domain walls on the brane. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 63–70. (Summary) **99c:81163** 81T30
— (*with* Gutowski, J.) The moduli spaces of worldvolume brane solitons. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 97–102. (Summary) **99c:81184** 81T30 (53C25, 53C80)
— T-duality and the worldvolume solitons of five-branes and KK-monopoles. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 277–284. (Marco Spaans) **99f:81176** 81T30 (83E30)
— (*with* Teschendorff, A.) Multi-angle five-brane intersections. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 159–166. (Summary) **99h:81180** 81T30

Papadopoulos, H. T. Analysis of production lines with Coxian service times and no intermediate buffers. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 7, 669–685. 90B30 (90B50)

Papadopoulos, Panagiotis Some amalgams of type $2A_6$ in a field of characteristic 3. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 63–83. (Alberto Delgado) **99h:20018** 20D05
— Two amalgams related to the alternating group on six letters. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 65–81. (Alberto Delgado) **99m:20025** 20D08

Papadopoulos, Panayiotis (*with* Solberg, Jerome M.) A finite element method for contact/impact. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 4, 297–311. (Summary) **99f:73078** 73T05 (73V05)
— (*with* Lu, Jia) Representations of Kronecker powers of orthogonal tensors with applications to material symmetry. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 30, 3935–3944. (Maurizio Vianello) **99h:73015** 73B99 (15A69, 73B10)

Papadopoulos, Philippos (*with* Font, José A.) Relativistic hydrodynamics around black holes and horizon adapted coordinate systems. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024005, 10 *pp.* (Summary) **99m:83132** 83C57 (83–08, 83C55)
— (*with* Seidel, Edward; Wild, Lee) Adaptive computation of gravitational waves from black hole interactions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084002, 15 *pp.* 83C35 (83–08, 83C57)
— (*with* Bishop, Nigel T.; Gómez, Roberto; Holvorcem, Paulo R.; Matzner, Richard A.; Winicour, Jeffrey) Erratum: "Cauchy-characteristic evolution and waveforms" [J. Comput. Phys. **136** (1997), no. 1, 140–167; MR 98e:76084]. *J. Comput. Phys.* **148** (1999), *no.* 1, 299–301. 76M25 (76Q05)

Papadopoulos, S. F. Minima of trigonometric polynomials. *Bull. London Math. Soc.* **30** (1998), *no.* 3, 291–294. (Sergeĭ V. Konyagin) **99b:42003** 42A05

Papageorgiou, Demetrios T. (*with* Smyrlis, Y. S.) The effects of generalized dispersion on dissipative dynamical systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 93–99. (Summary) **99f:35180** 35Q53 (35B40, 76B15, 76E30)
— (*with* Orellana, Oscar) Study of cylindrical jet breakup using one-dimensional approximations of the Euler equations. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 286–317 (*electronic*). (Summary) **99g:76011** 76B10 (35Q35, 73E99, 76B45, 76M25)

Papageorgiou, George (*with* Tsitouras, Ch.) Continuous extensions to high order Runge-Kutta methods. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 273–291. (Summary) **99m:65135** 65L06
— (*with* Famelis, I. Th.; Tsitouras, Ch.) A P-stable singly diagonally implicit Runge-Kutta-Nyström method. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 345–353. 65L06

Papageorgiou, Markos (*with* Marinaki, Magdalene) A non-linear optimal control approach to central sewer network flow control. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 418–429. 49N55 (93C95)

Papageorgiou, Nikolaos S. (*with* Shahzad, Naseer) Extremal solutions for semilinear obstacle problems. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 37–47. (Summary) **99a:34169** 34G20 (34A60, 35K55, 49J40)
— (*with* Halidias, Nikolaos) On a class of discontinuous nonlinear elliptic equations. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 143–154 (1998). (D. Pascali) **99j:35050** 35J60
— (*with* Kourogenis, Nikolaos C.) Periodic solutions for quasilinear vector differential equations with maximal monotone terms. (English summary) *Discuss. Math. Differential Incl.* **17** (1997), *no.* 1-2, 67–81. (Veli-Matti Hokkanen) **99e:34049** 34C25 (34A40, 47H15)
— (*with* Kourogenis, Nikolaos C.) On nonlinear elliptic problems with discontinuities. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 323–334. (Ya Zhe Chen) **99d:35049** 35J60 (35J20)
— Transition vector measures and multimeasures and parametric set-valued integrals. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 877–888. (R. Anantharaman) **99a:46081** 46G10 (28B20)
— (*with* Halidias, Nikolaos) Second order multivalued boundary value problems. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 2, 267–284. (Salvatore A. Marano) **99g:34040** 34A60 (34B15, 34C25)
— (*with* Fiacca, Antonella; Papalini, Francesca) A class of nonlinear boundary value problems and second order vector differential equations. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 149–164. (Summary) **99a:34054** 34B15 (47H15, 47N20)
— (*with* Fiacca, Antonella; Papalini, Francesca) On the existence of optimal controls for nonlinear infinite-dimensional systems. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 291–312. (Angelo Favini) **99g:49005** 49J27 (34G20, 47N20)
— (*with* Shahzad, Naseer) On periodic solutions of functional-differential inclusions in $\mathbf{R}^N$ (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 313–320. (Summary) **99a:34036** 34A60 (34K15)
— (*with* Halidias, Nikolaos) Existence and relaxation results for nonlinear second-order multivalued boundary value problems in $\mathbf{R}^N$. (English summary) *J. Differential Equations* **147** (1998), *no.* 1, 123–154. (Oleg P. Filatov) **99f:34015** 34A60 (34B15, 49J45)
— (*with* Cardinali, Tiziana; Fiacca, Antonella) An existence theorem for evolution inclusions involving opposite monotonicities. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 1–14. (Markus Kunze) **99d:34109** 34G20 (34A60, 49J24)
— (*with* Kourogenis, Nikolaos C.) On a class of quasilinear differential equations: the Neumann problem. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 3, 273–282. (Tetsutaro Shibata) **99m:34037** 34B15 (47H05, 47H15, 47N20)
— (*with* Kandilakis, Dimitrios A.) Nonlinear periodic parabolic problems with nonmonotone discontinuities. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 117–132. (Atsushi Yagi) **99a:35120** 35K55 (35R05, 47H05, 47N20)
— (*with* Kandilakis, Dimitrios A.) Maximum and minimum solutions for nonlinear parabolic problems with discontinuities. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 179–187. (Jianzhong Su) **99m:35104** 35K55 (35B99)
— (*with* Avgerinos, E. P.) Solutions and periodic solutions for nonlinear evolution equations with non-monotone perturbations. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 859–875. (Teresa Winiarska) **99m:34133** 34G20 (34A12, 34B15)
— (*with* Avgerinos, E. P.) Existence and relaxation theorems for nonlinear multivalued boundary value problems. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 2, 257–279. (G. Anichini) **99j:34017** 34A60 (34B15, 47H05, 47N20, 49J24)
— (*with* Hu, Shouchuan; Kandilakis, Dimitrios A.) Periodic solutions for nonconvex differential inclusions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 89–94. (Marian Mureşan) **99b:34034** 34A60 (34C25, 47H11, 47N20)
— (*with* Cardinali, Tiziana) Hammerstein integral inclusions in reflexive Banach spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 95–103. (Summary) **99b:47101** 47H30 (45G10, 47H04)
— *see also* **Wang, Xiaomin², 99h:47081**

Papageorgiou, Yannis Y. SL_2, the cubic and the quartic. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 1, 29–71. (James E. Humphreys) **99f:20071** 20G05 (11E16, 13A50, 14L35)

capatina-Papaghiuc, Daniela *see* **Capatina-Papaghiuc, Daniela**

Papaghiuc, Neculai Another Kaehler structure on the tangent bundle of a space form. (English summary) *Demonstratio Math.* **31** (1998), *no.* 4, 855–866. (Andrew Bucki) **99k:53129** 53C55

Papaioannou, Takis (*with* Kateri, Maria; Ahmad, Rashid) New features in the class of association models. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 2, 125–136. 62H17

Papakostas, Achilleas (*with* Tollis, Ioannis G.) Interactive orthogonal graph drawing. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1297–1309. 68R10 (65Y10, 68U05)

Papakostas, Taxiarchis A generalization of the Wahlquist solution. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 6, 927–941. (Nora Bretón Báez) **99m:83046** 83C20 (83C15)

Papakyriazis, Artemis (*with* Papakyriazis, Panagiotis) Optimal environmental policy under imperfect information. (English summary) *Kybernetes* **27** (1998), *no.* 2, 116, 137–154. 49N55 (90C90)

Papakyriazis, Panagiotis (*with* Papakyriazis, Artemis) Optimal environmental policy under imperfect information. (English summary) *Kybernetes* **27** (1998), *no.* 2, 116, 137–154. 49N55 (90C90)

Papalini, Francesca (*with* Cardinali, Tiziana) Existence theorems for nonlinear evolution inclusions. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 1–11. (Stanisław Migórski) **99e:34085** 34G20 (34A60)

— (*with* Renzacci, F.) Existence of optimal controls for a minimax problem. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 1, 13–27. (Summary) **99a:49013** 49J24 (49J35)

— (*with* Fiacca, Antonella; Papageorgiou, Nikolaos S.) A class of nonlinear boundary value problems and second order vector differential equations. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 149–164. (Summary) **99a:34054** 34B15 (47H15, 47N20)

— (*with* Fiacca, Antonella; Papageorgiou, Nikolaos S.) On the existence of optimal controls for nonlinear infinite-dimensional systems. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 291–312. (Angelo Favini) **99g:49005** 49J27 (34G20, 47N20)

Papaloucas, L. C. (*with* Rembieliński, Jakub; Smoliński, K. A.) Quantum mechanics on a circle and its possible q-deformations. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 179–188, *PWN, Warsaw*, 1997. (Roberto Casalbuoni) **99e:81102** 81R50 (81S99)

Papamarcou, Adrian (*with* Leu, Jenn-Sen) Asymptotic optimality of likelihood ratio threshold tests in decentralized detection. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 572–585. (Summary) **99j:94015** 94A13

Papamichael, N. (*with* Pritsker, I. E.; Saff, Edward B.) Asymptotic zero distribution of Laurent-type rational functions. (English summary) *J. Approx. Theory* **89** (1997), *no.* 1, 58–88. (H.-J. Runckel) **99a:30007** 30C15 (30C85)

— (*with* Stylianopoulos, N. S.) The asymptotic behavior of conformal modules of quadrilaterals with applications to the estimation of resistance values. (English summary) *Constr. Approx.* **15** (1999), *no.* 1, 109–134. (Lai Yi Zhu) **99i:41029** 41A60 (30C20)

Papandonatos, George D. (*with* Geisser, Seymour) Laplace approximations for censored linear regression models. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 3, 337–358. (Richard A. Johnson) **99b:62019** 62E17 (62F11, 62F15, 62N05)

Papandonopoulos, G. (*with* Panayotounakos, D. E.; Andriotaki-Panayotounakou, P.) Ad hoc exact solutions for the stress and velocity fields in rigid perfectly plastic materials under plane-stress conditions. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 71–84. (From the summary) **99g:73058** 73E99

Papangelou, F. Tracing the path of a Wright-Fisher process with one-way mutation in the case of a large deviation. (English summary) *Stochastic processes and related topics*, 315–330, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Fima Klebaner) **99j:60040** 60F10 (60J20, 92D10)

— Elliptic and other functions in the large deviations behavior of the Wright-Fisher process. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 182–192. (Fima Klebaner) **99f:60063** 60F10 (60J10)

Papanicolaou, George C. (*with* Ryzhik, Leonid; Keller, Joseph B.) Transport equations for waves in a half space. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1869–1910. (Vadim D. Kryakvin) **99e:35229** 35Q99 (35A25, 76Q05)

— (*with* Fannjiang, Albert) Convection-enhanced diffusion for random flows. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1033–1076. (Gershon Wolansky) **99b:76069** 76M35 (76R50, 82C31, 82C43)

— (*with* Fouque, Jean-Pierre; Sircar, K. Ronnie) Asymptotics of a two-scale stochastic volatility model. (English summary) *Équations aux dérivées partielles et applications*, 517–525, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 90A09 (60H10)

— (*with* Fannjiang, Albert; Ryzhik, Leonid) Evolution of trajectory correlations in steady random flows. (English summary) *Recent advances in partial differential equations, Venice* 1996, 105–130, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (W. A. Woyczyński) **99e:76058** 76F05 (60F05, 76M35)

— (*with* Mallat, Stéphane; Zhang, Zhifeng) Adaptive covariance estimation of locally stationary processes. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 1–47. (Albert Benassi) **99f:62116** 62M15 (60G12)

— Mathematical problems in geophysical wave propagation. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 403–427 (*electronic*). (K. S. Harinath) **99j:86015** 86A15 (86–02)

— (*with* Borcea, Liliana) Network approximation for transport properties of high contrast materials. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 501–539 (*electronic*). (David J. Bergman) **99f:73003** 73B27 (35Q60, 78A99, 94C05)

— (*with* Fouque, Jean-Pierre; Samuelides, Y.) Forward and Markov approximation: the strong-intensity-fluctuations regime revisited. (English summary) *Waves Random Media* **8** (1998), *no.* 3, 303–314. (Summary) **99d:35192** 35R60 (35J10, 35Q99)

— (*with* Ryzhik, Leonid) Waves and transport. *Hyperbolic equations and frequency interactions (Park City, UT*, 1995), 305–382, *IAS/Park City Math. Ser.*, 5, *Amer. Math. Soc., Providence, RI*, 1999. (Jean-François Clouet) **99k:73063** 73D70 (35Q72, 76Q05, 78A40, 86A15)

Papanicolaou, N. (*with* Komineas, S.) Vortex dynamics in two-dimensional antiferromagnets. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 265–290. (Summary) **99b:82068** 82C20 (82D40)

— (*with* Spathis, P. N.) Semitopological solitons in planar ferromagnets. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 285–302. (Summary) **99k:82076** 82D40

Papanicolaou, Vassilis G. (*with* Kokolakis, George E.; Boneh, Shahar) Asymptotics for the random coupon collector problem. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 2, 95–105. 90C05

Papantoni-Kazakos, P. (*with* Burrell, Anthony; Kogiantis, Achilles G.) Detecting changes in acting stochastic models and model implementation via stochastic binary neural networks. *Statistical methods in control and signal processing*, 481–497, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 92B20

Papantonopoulos, E. (*with* Diamandis, G. A.; Georgalas, B. C.; Mavromatos, Nick E.; Ellis, Jonathan Richard; Nanopoulos, Dimitri V.) Irreversible time flow in a two-dimensional dilaton black hole with matter. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4265–4279. (Summary) **99d:83046** 83C45

Papaodysseus, C. (*with* Koukoutsis, E.; Halkias, C. C.; Roussopoulos, G.) A parallelizable recursive least squares algorithm for adaptive filtering, with very good tracking properties. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 275–292. (Summary) **99k:94014** 94A12

Paparella, Francesco (*with* Spiegel, Edward A.) Sheared salt fingers: instability in a truncated system. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1161–1168. 76E15

Paparoni, E. (*with* Lorenzi, A.) Identification problems for pseudohyperbolic integrodifferential operator equations. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 6, 523–548 (1998). (Jaan Janno) **99e:45011** 45K05 (34K30, 35L99, 35R30)

Papaschinopoulos, Garyfalos (*with* Elaydi, Saber N.; Schinas, John) Asymptotic theory for noninvertible systems. (English summary) *Advances in difference equations (Veszprém*, 1995), 155–164, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39016** 39A10

— (*with* Schinas, Christos) Invariants for systems of two difference equations of rational form with periodic coefficients. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 155–163 (1998). (Allan C. Peterson) **99b:39010** 39A10

— (*with* Schinas, Christos) On the behavior of the solutions of a system of two nonlinear difference equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 2, 47–59. (Vladimir Sh. Burd) **99b:39011** 39A10

— (*with* Schinas, Christos) Existence of two nonlinear projections for a nonlinear differential equation with piecewise constant argument. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 277–289. (Wei Nian Zhang) **99e:34100** 34K15

— (*with* Schinas, Christos) Persistence, oscillatory behavior, and periodicity of the solutions of a system of two nonlinear difference equations. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 4, 315–323. (Summary) **99g:39011** 39A10

— (*with* Schinas, Christos) On a system of two nonlinear difference equations. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 415–426. (Summary) **99a:39024** 39A10

— (*with* Schinas, Christos) On the difference equation $x_{n+1} = \frac{bx_nx_{n-1}+ax_n+b-b^2}{x_n(x_nx_{n-1}-b)}$. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 2, 1–6. (Summary) **99c:39006** 39A10 (39A12)

Papastavrou, Jason D. (*with* Kleywegt, Anton J.) The dynamic and stochastic knapsack problem. (English summary) *Oper. Res.* **46** (1998), *no.* 1, 17–35. (Guntram Scheithauer) **99k:90134** 90C27 (90C15)

Papathanasiou, V. (*with* Cacoullos, T.) Characterizations of distributions by generalizations of variance bounds and simple proofs of the CLT. *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 157–171. (M. Sreehari) **99c:60030** 60E15 (60F05, 62E10)

— (*with* Papadatos, Nickos) Total variation distance and generalized covariance kernels. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 2, 230–244. (Vydas Čekanavičius) **99j:62009** 62E10

Papatriantafillou, Maria H. Partitions of unity on A-manifolds. *Internat. J. Math.* **9** (1998), *no.* 7, 877–883. (Vadim V. Shurygin) **99i:58006** 58A05

— Connections on A-bundles. *New developments in differential geometry, Budapest* 1996, 307–316, *Kluwer Acad. Publ., Dordrecht*, 1999. (Vadim V. Shurygin) **99m:58015** 58B20 (53C05)

Papayannakis, L. (*with* Mavrotas, G.; Diakoulaki, D.) An energy planning approach based on mixed 0-1 multiple objective linear programming. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 2, 231–244. 90C90 (90C11, 90C29)

le Pape, Claude *see* **Le Pape, Claude**

Papi, G. (*with* Dall'Aglio, Andrea; Mascolo, E.) Local boundedness for minima of functionals with nonstandard growth conditions. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 305–326. (Giuseppe Mingione) **99i:49045** 49N60 (49J20, 49J45)

Papi, Paolo (*with* Cellini, Paola) The structure of total reflection orders in affine root systems. (English summary) *J. Algebra* **205** (1998), *no.* 1, 207–226. (Jorge A. Vargas) **99g:17047** 17B67 (17B20)

Papick, Ira J. (*with* Heinzer, William J.; Huckaba, James A.) m-canonical ideals in integral domains. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 3021–3043. (Muhammad Zafrullah) **99h:13024** 13F05 (13A15)

Papin, A. A. (*with* Mazhirin, A. P.) An example of an exact solution to the problem of the distribution of an ionized dopant in the surface region of a semiconductor. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 4, 17–24; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 4, 493–500 (1999). (Summary) **99g:78025** 78A55 (34A12, 82D99)

Papini, Alessandra (*with* Dieci, Luca; Morini, Benedetta; Pasquali, Aldo) On real logarithms of nearby matrices and structured matrix interpolation. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 145–165. (Summary) **99h:65021** 65D15 (65D05, 65F30)

Papini, G. (*with* Feoli, A.; Wood, W. R.) A dynamical symmetry breaking model in Weyl space. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3322–3331. (Alberto Saa Vazquez) **99c:83012** 83C15 (83D05)

— (*with* Lambiase, G.) Exact gravitational gauge structures and the Dirac equation. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 8, 1047–1052. (Péter Pál Lévay) **99m:81161** 81T20 (83C47)

Papini, Odile (*with* Wolfmann, Jacques) ★ Algèbre discrète et codes correcteurs. (French. French summary) [Discrete algebra and error correcting codes] Mathématiques & Applications [Mathematics & Applications], 20. *Springer-Verlag, Berlin*, 1995. *xiv+259 pp. ISBN* 3-540-60226-7 (Patrick Fitzpatrick) **99e:94039** 94Bxx (13-01, 20-01, 94-01)

Papini, Pier Luigi On weakly uniformly convex spaces according to Calder. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 173–178. (John R. Giles) **99d:46016** 46B20

— (*with* Baronti, Marco; Casini, Emanuele) Centroids, centers, medians: what is the difference? (English summary) *Geom. Dedicata* **68** (1997), *no.* 2, 157–168. (G. D. Chakerian) **99b:52002** 52A05 (46B20, 52A40, 90B85)

— (*with* Baronti, Marco; Casini, Emanuele) On the average distance property and the size of the unit sphere. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 427–446. (George Androulakis) **99m:46028** 46B20

Papistas, Athanassios I. Automorphisms of metabelian groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 98–104. (Francesco de Giovanni) **99d:20058** 20F28

Paplinski, A. P. (*with* Man, Zhihong; Wu, Hong Ren) A robust neural controller for a class of second-order nonlinear systems. (English summary) *Complex. Int.* **2** (1995), 11 *HTML documents* (*electronic*). 93B36 (93C30)

Papoyan, K. V. (*with* Khachatryan, A. Kh.) On an integral convolution equation in the kinetic theory of gases. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 84–92; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 77–85. (Introduction) **99f:45005** 45E10 (76P05, 82C40)

Papoyan, V. V. (*with* Pervushin, V. N.; Smirichinskii, V. I.) Conformal quantum cosmology: integrable models and Friedmann observables. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1908–1913. (Summary) **99i:83043** 83C45

— (*with* Pawlowski, M.; Pervushin, V. N.; Smirichinskii, V. I.) Conformal unification of general relativity and standard model. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 293–298. (Summary) **99m:81287** 81V22 (81V17, 83C99)

Papp, Cristian Disjunction as alternative choices. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform. (N.S.)* **5/6** (1996/97), 5–28 (1998). (Summary) **99f:68190** 68T27 (03B60, 03B70)

— RAA-coherent logics which are not RAA-extended are non-monotonic. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform. (N.S.)* **5/6** (1996/97), 29–33 (1998). (Jean-Yves Béziau) **99d:03010** 03B22 (03B60, 68N17)

Papp, E. (*with* Micu, C.) Non-polynomial solutions to the q-difference form of the Harper equation. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2881–2887. (Dharma P. Gupta) **99g:39021** 39A12 (33D90)

Papp, Gábor (*with* Janik, Romuald A.; Nowak, Maciej A.; Zahed, Ismail) New developments in non-Hermitian random matrix models. *New developments in quantum field theory* (*Zakopane*, 1997), 297–314, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Summary) **99j:82044** 82B41

— (*with* Gudowska-Nowak, Ewa; Brickmann, J.) Characteristics of quantum open systems: free random variables approach. (English summary) Marian Smoluchowski Symposium on Statistical Physics (Zakopane, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 6, 1803–1814. (Summary) **99g:82053** 82C10

Papp, K. F. Lebesgue integrability theorems for multiple trigonometric series. *Approximation theory and function series* (*Budapest*, 1995), 215–225, *Bolyai Soc. Math. Stud.*, 5, *János Bolyai Math. Soc., Budapest*, 1996. (Naza Tanović-Miller) **99d:42017** 42B05 (42A16)

Papp, Zsoltan (*with* Lévai, G.; Kónya, B.) Unified treatment of the Coulomb and harmonic oscillator potentials in D dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5811–5823. (Peter N. Zhevandrov) **99h:81034** 81Q05

Pappalardi, Francesco (*with* Mans, Bernard; Shparlinski, Igor E.) On the Ádám conjecture on circulant graphs. *Computing and combinatorics* (*Taipei*, 1998), 251–260, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 05C60 (68R10)

Pappalardo, Massimo Stationarity in vector optimization. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 195–200. (Summary) **99c:90111** 90C29

— (*with* Castellani, Marco) Characterizations of ρ-convex functions. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 219–233, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Bernard Lemaire) **99i:90073** 90C26 (90C48)

— (*with* Mastroeni, Giandomenico) Separation and regularity in the image space. (English summary) *New trends in mathematical programming*, 181–190, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (C. Bergthaller) **99j:90084** 90C30 (49N15)

— Symmetric and asymmetric duality. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 125–131. (Reinhard Deumlich) **99d:49062** 49N15 (90C30)

— (*with* Bigi, G.) Regularity conditions for the linear separation of sets. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 533–540. (Summary) **99f:90078** 90C25 (90C08)

— (*with* Castellani, Marco) A unifying approach for higher-order necessary optimality conditions. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 15–28. (Doug Ward) **99j:49025** 49J52 (90C30, 90C31)

Pappas, G. *see* **Pappas, Georgios**

Pappas, George *see* **Pappas, Georgios**

Pappas, George J. (*with* Lygeros, John; Tilbury, Dawn; Sastry, S. Shankar) Exterior differential systems in control and robotics. *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 271–372, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Irl Bivens) **99j:58012** 58A15 (58A17, 70B15, 70Q05, 93C85)

— (*with* Tomlin, Claire; Sastry, S. Shankar) Conflict resolution for air traffic management: a study in multiagent hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 509–521. (*see* **99a:93006**) 93C95 (90D26)

— (*with* Sastry, S. Shankar) Straightening out rectangular differential inclusions. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 79–85. (Marc Quincampoix) **99i:93030** 93C15 (34A60, 34H05)

Pappas, Georgios (*with* Chinburg, Ted; Kolster, Manfred; Snaith, Victor P.) Quaternionic exercises in K-theory Galois module structure. (English summary) *Algebraic K-theory* (*Toronto, ON*, 1996), 1–29, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Kenneth Kramer) **99b:11130** 11R70 (11R33, 19F27)

— Galois modules and the theorem of the cube. *Invent. Math.* **133** (1998), *no.* 1, 193–225. (Nigel Byott) **99d:11122** 11R33 (14C40, 14L30)

— (*with* Chinburg, Ted; Kolster, Manfred; Snaith, Victor P.) Galois structure of K-groups of rings of integers. (English summary) *K-Theory* **14** (1998), *no.* 4, 319–369. (Cornelius Greither) **99g:11140** 11R70 (11R34, 11S23, 19A31, 19F27)

— (*with* Chinburg, Ted; Erez, Boas; Taylor, Martin J.) On the ε-constants of arithmetic schemes. *Math. Ann.* **311** (1998), *no.* 2, 377–395. (Nigel Byott) **99d:11121** 11R33 (14G40)

— (*with* Chinburg, Ted; Erez, Boas; Taylor, Martin J.) Localizations of Grothendieck groups and Galois structure. (English summary) *Recent progress in algebra* (*Taejon/Seoul*, 1997), 47–63, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Cornelius Greither) **99i:20012** 20C10 (11R33, 14H25, 19E20, 20C15)

Pappis, C. P. (*with* Karacapilidis, N. I.; Papadias, D.) Modeling negotiations in group decision support systems. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 163–176, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A05 (90A07)

Paprocki, Ewald (*with* Dziok, Jacek) Classes of functions with two fixed points, involving the Carlson-Shaffer operator. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 5–18. (Georgi Dimkov) **99i:30016** 30C45

— Algebraic and topologic structure of the space of Jordan curves. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 125–131. (Kiyoko Nishizawa) **99f:30014** 30C35 (30C62)

Paprzycki, Marcin (*with* Cyphers, C.) Level 3 BLAS based library for block tridiagonal matrices. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 491–498, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 65F30

— (*with* Hope, Harry; Petrova, Svetozara) Parallel performance of a direct elliptic solver. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 310–318, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65N06 (65Y05)

— (*with* Lirkov, I. D.; Margenov, Svetozar D.; Owens, Reuben) A shared memory parallel implementation of block-circulant preconditioners. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 319–327, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F10 (65N30)

— (*with* Yalamov, Plamen Y.) A new stable solver and block elimination for bordered systems. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 347–356, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F05 (65F30, 65G05)

— (*with* Bar-On, Ilan) High performance solution of the complex symmetric eigenproblem. (English summary) *Numer. Algorithms* **18** (1998), *no.* 2, 195–208. (J. Segethová) **99m:65067** 65F15 (65Y05)

— *see also* **High performance algorithms for structured matrix problems, 99k:65004**

Papuc, Dan I. A new geometry of a Lorentzian manifold. *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 145–158. (Paul E. Ehrlich) **99e:53099** 53C50

Paques, Antonio (*with* Ferrero, Miguel A.) A note on the structure of distributive rings. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 2, 111–117. (Stuart A. Steinberg) **99a:16003** 16D15 (16L30, 16N60, 16U20)

Paquette, Glenn C. *see* **Mori, Hazime, 99h:58126**

Paracelli, C. (*with* Bozzini, M.) Approximating a function with noise by a spline agreeing with the graph of the function. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 43–62 (1997). (Kairat T. Mynbaev) **99d:41013** 41A15

Paradís, Jaume (*with* Viader, Pelegrí; Bibiloni, Lluís) Approximation of quadratic irrationals and their Pierce expansions. *Fibonacci Quart.* **36** (1998), *no.* 2, 146–153. (Michael E. Mays) **99e:11011** 11A67 (11J70, 11J83)

Paramá, José R. (*with* Brisaboa, Nieves R.; González-Tuchmann, Agustin; Hernández, Héctor J.) Chasing programs in Datalog. (English summary) *Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming* (*DDLP'98*) (*Manchester*, 1998), 13–23, *GMD Rep.*, 22, *GMD—Forschungszentrum Informationstech., St. Augustin*, 1998. (*see* **99g:68052**) 68P15 (68N17)

Parameswaran, A. J. (*with* Lakshmibai, Venkatramani; Mehta, V. B.) Frobenius splittings and blow-ups. *J. Algebra* **208** (1998), *no.* 1, 101–128. (Harry Tamvakis) **99i:14059** 14M15 (20G10)

Parameswaran, Mangalam R. Two characterizations of coercive Hausdorff matrices. (English summary) *J. Nat. Acad. Math. India* **10** (1992/96), 70–74 (1997). (Enno Kolk) **99f:40008** 40G05 (40C05, 40D20)

Paramhans, S. A. Vedāṅg identity of mathematics in India. *Gurukula Kangri Vijñāna Patrikā Āryabhaṭa* **1** (1998), 25–28. 01A32

Paramonov, P. V. (*with* Boivin, André) Approximation by meromorphic and entire solutions of elliptic equations in Banach spaces of distributions. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 4, 3–24; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 481–502. (Ognyan Kounchev) **99i:41019** 41A30 (30E10, 35J30, 46E15, 46F10)

— (*with* Boivin, André) On radial limit functions for entire solutions of second order elliptic equations in $\mathbf{R}^2$. (English summary) *Publ. Mat.* **42** (1998), *no.* 2, 509–519. (Summary) **99m:35043** 35J15 (35B05)

Paranjape, M. B. (*with* Gisiger, T.) Recent mathematical developments in the Skyrme model. (English summary) *Phys. Rep.* **306** (1998), *no.* 3, 109–211. (Summary) **99h:81129** 81T10 (58E50, 81V35)

Paraños, J. (*with* Alsedà, Lluís; Rodríguez, José Angel) The full periodicity kernel for a class of graph maps. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 313–320. (José Miguel Moreno) **99d:58133** 58F20 (54H20, 58F03)

Paras, Agnes T. (*with* Göbel, Rüdiger) Automorphisms of metabelian groups with trivial center. *Illinois J. Math.* **42** (1998), *no.* 2, 333–346. (Martin R. Pettet) **99d:20057** 20F28

Paraschivoiu, Marius (*with* Peraire, Jaime; Patera, Anthony T.) A posteriori finite element bounds for linear-functional outputs of elliptic partial differential equations. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 289–312. (Jacques Rappaz) **99a:65156** 65N30 (76M10)

— (*with* Peraire, Jaime; Maday, Yvon; Patera, Anthony T.) Fast bounds for outputs of partial differential equations. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 323–360, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:65160** 65N30 (65N15, 76M10)

— (*with* Patera, Anthony T.) A hierarchical duality approach to bounds for the outputs of partial differential equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 389–407. (Summary) **99c:65211** 65N30 (76M10)

Parashar, D. (*with* Pati, K. C.) Iwasawa decomposition of affine Kac-Moody algebras using Satake diagrams. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 5015–5023. (Hai Sheng Li) **99j:17037** 17B67 (17B40)

— (*with* Pati, K. C.) Satake superdiagrams, real forms and Iwasawa decomposition of classical Lie superalgebras. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 767–778. (Anargyros Fellouris) **99d:17006** 17B05 (17B40)

— (*with* Pati, K. C.; Kaushal, R. S.) Involutive automorphisms and Iwasawa decomposition of some hyperbolic Kac-Moody algebras. (English summary) *J. Math. Phys.* **40**

(1999), *no.* 1, 501–510. (Duncan J. Melville) **99j:17038** 17B67

Parashar, Preeti (*with* Ballesteros, Angel; Herranz, Francisco J.) A Jordanian quantum two-photon/Schrödinger algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8587–8597. (Joris Van der Jeugt) **99c:81084** 81R50 (17B37)

— Jordanian $U_{h,r}\mathrm{gl}(2)$ and its coloured realization. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 105–112. (Mohammad Khorrami) **99g:81097** 81R50 (17B37)

— (*with* Ballesteros, Angel; Herranz, Francisco J.) Quantum two-photon algebra from non-standard $U_z(\mathrm{sl}(2,\mathbf{R}))$ and a discrete time Schrödinger equation. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1241–1252. (Robert Rałowski) **99j:81069** 81R50 (82B30)

— (*with* Dobrev, Vladimir K.) Addendum: "Duality for multiparametric quantum $\mathrm{GL}(n)$" [J. Phys. A. **26** (1993), no. 23, 6991–7002; MR 95d:81053]. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 443–444. (Summary) **99m:81094** 81R50 (17B37)

Paraskevopoulos, P. N. (*with* Tsirikos, A. S.) Disturbance rejection with simultaneous linear exact model matching for a class of nonlinear systems. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1299–1325. (Summary) **99f:93122** 93D15 (93C10)

Parasurama, S. A. (*with* Shahruz, S. M.) Suppression of vibration in the axially moving Kirchhoff string by boundary control. *J. Sound Vibration* **214** (1998), *no.* 3, 567–575. 93D15 (73K12, 73K50)

Parasyuk, I. N. (*with* Zalozhenkova, I. A.) An integrated system for testing hypotheses: algorithmic software. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 5, 50–58, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 652–658 (1998). 68T35 (68T27, 68T30)

Părău, E. (*with* Radu, Viorel) Some remarks on Tardiff's fixed point theorem on Menger spaces. *Portugal. Math.* **54** (1997), *no.* 4, 431–440. (From the introduction) **99k:47186** 47S50 (47H10, 54H25)

Parchmann, Rainer (*with* Duske, Jürgen) Non-synchronized pattern languages are IO-macro languages. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 3, 143–149. (Summary) **99a:68107** 68Q45

Pardalos, Panos M. (*with* Ramana, Motakuri V.) Semidefinite programming. (English summary) *Interior point methods of mathematical programming*, 369–398, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C30 (65K05)

— (*with* Resende, Mauricio G. C.) Interior point methods for global optimization. (English summary) *Interior point methods of mathematical programming*, 467–500, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C30 (65K05)

— (*with* Du, Ding Zhu) Global minimax approaches for solving discrete problems. (English summary) *Recent advances in optimization* (*Trier*, 1996), 34–48, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Nikolay N. Ivanov) **99a:90142** 90C20 (90B80, 90C20, 90C35)

— (*with* Pitsoulis, Leonidas S.; Resende, Mauricio G. C.) Algorithm 769: Fortran subroutines for approximate solution of sparse quadratic assignment problems using GRASP. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 196–208. 65Y15

— (*with* Mitchell, John E.; Resende, Mauricio G. C.) Interior point methods for combinatorial optimization. *Handbook of combinatorial optimization, Vol.* 1, 189–297, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C10)

— (*with* Burkard, Rainer E.; Çela, Eranda; Pitsoulis, Leonidas S.) The quadratic assignment problem. *Handbook of combinatorial optimization, Vol.* 3, 241–237, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (90–02, 90C10)

— (*with* Mavridou, Thelma; Xue, Jue) The graph coloring problem: a bibliographic survey. *Handbook of combinatorial optimization, Vol.* 2, 331–395, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90–00 (05C15, 90C35)

— (*with* Wan, Peng Jun; Du, Ding Zhu) An algorithm for the multi-access channel problem. (English summary) *Minimax theory and applications* (*Erice*, 1996), 261–270, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99c:49007**) 90B12 (68M10, 94A40)

— (*with* Kim, Dongsoo S.; Du, Ding Zhu) On conflict-free channel set assignments for optical cluster-based hypercube networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 109–116, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99h:90043** 90B12 (05C90, 68M10, 94A05)

— (*with* Murphey, R. A.; Pitsoulis, Leonidas S.) A greedy randomized adaptive search procedure for the multitarget multisensor tracking problem. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 277–301, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:90112** 90B40

— (*with* Liu, Xin[3]) A tabu based pattern search method for the distance geometry problem. (English summary) *New trends in mathematical programming*, 223–234, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 92C55 (90C30, 92D20)

— (*with* Floudas, Christodoulos A.; Klepeis, J. L.) Global optimization approaches in protein folding and peptide docking. (English summary) *Mathematical support for molecular biology*, 141–171, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92020** 92D20 (90C90, 92C40)

— (*with* Martins, Simone L.; Resende, Mauricio G. C.; Ribeiro, Celso C.) Greedy randomized adaptive search procedures for the Steiner problem in graphs. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 133–145, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:90109** 90C35 (68R10)

— (*with* Xue, Guo Liang) Algorithms for a class of isotonic regression problems. (English summary) *Algorithmica* **23** (1999), *no.* 3, 211–222. (A. D. Booth) **99j:65252** 65U05 (68U10)

— (*with* Qian, Tianbing; Resende, Mauricio G. C.) A greedy randomized adaptive search procedure for the feedback vertex set problem. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 399–412. 90C27 (90C15)

— (*with* Kim, Dukwon) A solution approach to the fixed charge network flow problem using a dynamic slope scaling procedure. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 4, 195–203. 90C35 (90B10)

— *see also* **Semidefinite programming and interior-point approaches for combinatorial optimization problems, 99a:90012; Optimal control, 99d:49002; Randomization methods in algorithm design, 99f:68007; Multichannel optical networks: theory and practice, 99g:68004; Handbook: Combinatorial optimization, 99g:90001; 99g:90002** *and* **99g:90003**

Pardhanani, Anand L. (*with* Spotz, William F.; Carey, Graham F.) A stable multigrid strategy for convection-diffusion using high order compact discretization. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 211–223 (*electronic*). (Summary) **99a:76101** 76M20 (65N55, 76Rxx)

Pardi, Seshadev (*with* Parhi, N.) On oscillation and asymptotic property of a class of third order differential equations. (English summary) *Czechoslovak Math. J.* **49(124)** (1999), *no.* 1, 21–33. (Antonio Granata) **99m:34074** 34C10

Pardini, Rita On the period map for abelian covers of projective varieties. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 719–735. (Jan Nagel) **99g:14010** 14D07 (14C34)

— (*with* Mendes Lopes, Margarida) Irregular canonical double surfaces. (English summary) *Nagoya Math. J.* **152** (1998), 203–230. (Caryn Werner) **99k:14061** 14J29

Pardo, Alberto Monadic corecursion—definition, fusion laws, and applications. (English summary) *First Workshop on Coalgebraic Methods in Computer Science* (*CMCS '98*) (*Lisbon*), 35 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (*see* **99e:68002**) 68N15 (68Q65)

Pardo, David (*with* Conti, Monica; Crotti, Stefano) On the existence of positive solutions for a class of singular elliptic equations. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 111–132. (Summary) **99a:35061** 35J60 (35B05)

Pardo, E. On the representation of simple Riesz groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 1, 155–170. (Michael Darnel) **99h:06008** 06F20 (20K99, 46L99)

— (*with* Ara, Pere; Goodearl, K. R.; O'Meara, K. C.) Separative cancellation for projective modules over exchange rings. (English summary) *Israel J. Math.* **105** (1998), 105–137. (Hua-Ping Yu) **99g:16006** 16D70 (16E50)

Pardo, Enrique (*with* Desimone, Hernan; Urquiza, Santiago; Arrieta, Hernan) Solution of Stokes equations by moving least squares. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 907–920. 65N55 (76M25)

lorente-Pardo, Jerónimo *see* **Lorente-Pardo, Jerónimo**

gómez Pardo, José L. *see* **Gómez Pardo, José L.**

Pardo, Leandro (*with* Morales, Domingo; Vajda, Igor) Some new statistics for testing hypotheses in parametric models. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 1, 137–168. (Adnan M. Awad) **99a:62019** 62F05 (62B10)

— (*with* Menéndez, M. L.; Morales, Domingo; Vajda, Igor) Two approaches to grouping of data and related disparity statistics. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 609–633. (K. K. Ferentinos) **99g:62009** 62B10 (62F03)

— (*with* Frank, O.; Menéndez, M. L.) Asymptotic distributions of weighted divergence between discrete distributions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 867–885. (Summary) **99c:62038** 62E20 (62B10)

— (*with* Menéndez, M. L.; Morales, Domingo; Vajda, Igor) Asymptotic distributions of φ-divergences of hypothetical and observed frequencies on refined partitions. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 1, 71–89. (Jan Beirlant) **99f:62065** 62G10

— (*with* Menéndez, M. L.; Morales, Domingo; Zografos, K.) Statistical inference for finite Markov chains based on divergences. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 9–17. (Summary) **99j:62119** 62M05

Pardo, Luis Miguel How lower and upper complexity bounds meet in elimination theory. *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 33–69, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (From the introduction) **99a:68097** 68Q40 (68Q25)

— (*with* Giusti, M.; Heintz, Joos; Hägele, K.; Morais, J. E.; Montaña, José Luis) Lower bounds for Diophantine approximations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 277–317. (Summary) **99d:68106** 68Q25 (14Q15)

— (*with* Aldaz, Mikel; Heintz, Joos; Matera, Guillermo; Montaña, José Luis) Combinatorial hardness proofs for polynomial evaluation (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 167–175, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q40 (68Q25)

— (*with* Aldaz, Mikel; Heintz, Joos; Matera, Guillermo; Montaña, José Luis) Time-space tradeoffs for polynomial evaluation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 10, 907–912. (Summary) **99j:68047** 68Q25 (68Q40)

— (*with* Montaña, José Luis) On Kolmogorov complexity in the real Turing machine setting. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 81–86. (Summary) **99c:68134** 68Q30 (03D10, 68Q05)

— (*with* Giusti, M.; Heintz, Joos; Morais, J. E.; Morgenstern, Jacques) Straight-line programs in geometric elimination theory. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 101–146. (Jean Moulin Ollagnier) **99d:68128** 68Q40 (14Q99, 68Q25)

Pardo, María del Carmen Asymptotic behaviour of an estimator based on Rao's divergence. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 5, 489–504. (K. K. Ferentinos) **99c:62008** 62B10 (62F12)

— Improving the accuracy of goodness-of-fit tests based on Rao's divergence with small sample size. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 4, 339–351. 62G10

alonso Pardo, Miguel Á. *see* **Alonso Pardo, Miguel Á.**

Pardo San Gil, Rosa (*with* López-Gómez, Julián) Invertibility of linear non-cooperative elliptic systems with applications to the predator-prey model. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3695–3705. (R. C. MacCamy) **99b:34047** 34B15 (35J45, 35Q80, 92D25)

— (*with* López-Gómez, Julián) Invertibility of linear noncooperative elliptic systems. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 687–699. (R. C. MacCamy) **99b:34046** 34B15 (35J45, 35Q80, 92D25)

Pardoux, Étienne (*with* El Karoui, N.; Quenez, M. C.) Reflected backward SDEs and American options. *Numerical methods in finance*, 215–231, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (A. F. Gualtierotti) **99b:60078** 60H10 (60G40, 90A09)

— (*with* Lapeyre, Bernard; Sentis, Rémi) ★ Méthodes de Monte-Carlo pour les équations de transport et de diffusion. (French. French summary) [Monte Carlo methods for transport and diffusion equations] Mathématiques & Applications [Mathematics

& Applications], 29. *Springer-Verlag, Berlin*, 1998. *x*+176 *pp. ISBN* 3-540-63393-6 (Mohammad Asadzadeh) **99e:65006** 65C05 (60J70, 76M35, 76P05, 82C70, 82C80)

— Backward stochastic differential equations and viscosity solutions of systems of semilinear parabolic and elliptic PDEs of second order. *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 79–127, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Rainer Buckdahn) **99m:35279** 35R60 (35D05, 35J99, 35K99, 60H15)

— (*with* Bally, Vlad) Malliavin calculus for white noise driven parabolic SPDEs. (English summary) *Potential Anal.* **9** (1998), *no.* 1, 27–64. (Ana Bela Cruzeiro) **99g:60095** 60H07 (35K99, 35R60, 60H15)

— (*with* Zhang, Shuguang) Generalized BSDEs and nonlinear Neumann boundary value problems. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 4, 535–558. (Fabio Antonelli) **99f:60113** 60H10

— (*with* Răşcanu, Aurel) Backward stochastic differential equations with subdifferential operator and related variational inequalities. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 2, 191–215. (Rainer Buckdahn) **99k:60156** 60H10 (35R60, 49J40)

Pardubská, Dana (*with* Hromkovič, Juraj; Klasing, Ralf; Waczulík, Juraj; Wagener, Hubert) Effective systolic algorithms for gossiping in cycles. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 197–205. (A. T. Amin) **99i:68011** 68M10 (68Q22)

Paré, Danie (*with* Angers, Jean-François; MacGibbon, K. Brenda) Simultaneous estimation of independent means of a Poisson random vector. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 159–176 (1998). (Summary) **99b:62029** 62F10 (62C12)

Paré, Robert (*with* Román, Leopoldo) Dinatural numbers. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 1, 33–92. (R. H. Street) **99f:18003** 18A23 (18D20)

Paredaens, Jan Spatial databases, the final frontier. *Database theory—ICDT '95* (*Prague*), 14–32, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— (*with* Kuijpers, Bart; Van den Bussche, Jan) On topological elementary equivalence of spatial databases. (English summary) *Database theory—ICDT '97* (*Delphi*), 432–446, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99a:68044** 68P15 (03B70)

— (*with* Suciu, Dan) The complexity of the evaluation of complex algebra expressions. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 322–343. (Marc Gyssens) **99e:68032** 68P15 (03D15, 68Q15)

— (*with* Van den Bussche, Jan; Van Gucht, Dirk) First-order queries on finite structures over the reals. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1747–1763 (*electronic*). (Marc Gyssens) **99g:68050** 68P15 (03B70, 03C07, 03C10, 03C13)

— (*with* Gemis, M.; Peelman, P.; Van den Bussche, Jan) Expressiveness and complexity of generic graph machines. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 231–249. (Marc Gyssens) **99m:68051** 68Q05 (68P15, 68R10)

Paredes, Lorna I. (*with* Agapito, Julius Caesar C.; Ôtani, Mitsuharu; Rey, Reynaldo M.; Sy, Polly Wee) Approximation of some elliptic equations in Banach spaces. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 9–13, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35J60 (35A35, 47H17)

— (*with* Agapito, Julius Caesar C.; Rey, Reynaldo M.; Sy, Polly Wee) On the asymptotic behavior of solutions to $-\Delta_p u = \lambda |u|^{p-2}u$. (English summary) *Matimyás Mat.* **20** (1997), *no.* 1, 1–7. (Summary) **99m:35071** 35J65 (34B15, 35B40)

Pareek, C. M. Spaces in which disjoint open sets have disjoint closures. (English summary) *Questions Answers Gen. Topology* **17** (1999), *no.* 1, 113–115. (Summary) **99m:54026** 54G20

Pareek, R. S. An unified integral involving a general class of multivariable polynomials and multivariable H-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 347–350. (Summary) **99g:33040** 33C60

Pareigis, Bodo On Lie algebras in braided categories. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 139–158, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Walter R. Ferrer Santos) **99a:16036** 16W30 (16B50, 16W30, 17B99)

— Skew-primitive elements of quantum groups and braided Lie algebras. *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 219–238, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Ian M. Musson) **99f:16044** 16W30 (17B99)

— On Lie algebras in the category of Yetter-Drinfeld modules. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 151–175. (Valentin V. Lychagin) **99d:17021** 17B37 (16W30)

Parekh, Rajesh (*with* Nichitiu, Codrin; Honavar, Vasant) A polynomial time incremental algorithm for learning DFA. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 37–49, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (Summary) **99j:68119** 68T05 (68Q45)

Parent, Marie-Noelle (*with* Sankoff, David; Marchand, Isabelle; Ferretti, Vincent) On the Nadeau-Taylor theory of conserved chromosome segments. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 262–274, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99b:92025** 92D10 (92D20)

Parent, Pierre Bornes effectives pour la torsion des courbes elliptiques sur les corps de nombres. (French summary) [Effective bounds for the torsion of elliptic curves over number fields] *J. Reine Angew. Math.* **506** (1999), 85–116. (Andrea Mori) **99k:11080** 11G05

Parente, Domenico (*with* La Torre, Salvatore; Napoli, Margherita) Synchronization of a line of identical processors at a given time. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 103–128. (Summary) **99h:68125** 68Q80

Parente, M. (*with* Auletta, V.; Monti, Angelo; Persiano, Pino) A linear-time algorithm for the feasibility of pebble motion on trees. (English summary) *Algorithmica* **23** (1999), *no.* 3, 223–245. (Summary) **99k:68069** 68Q20 (68R10, 68U05)

Parenti, Cesare (*with* Parmeggiani, Alberto) Some remarks on almost-positivity of ψdo's. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 187–215. (Luigi Rodino) **99d:35194** 35S05 (47G30)

Parés, Carlos (*with* Castro-Díaz, M. J.; Macías, Jorge) A multi-layer shallow-water model. Applications to the Strait of Gibraltar and the Alboran Sea. *The mathematics of models for climatology and environment* (*Puerto de la Cruz*, 1995), 367–394, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (*see* **99d:86001**) 86A05 (76B15, 76D99)

— (*with* Valle, Antonio; Macías, Jorge; Castro-Díaz, M. J.) Numerical resolution of a shallow water system using a duality method. Application to the Alboran Sea. (English summary) *Équations aux dérivées partielles et applications*, 759–786, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Meng Zhao Qin) **99m:65193** 65M60 (65M12, 76M10)

— (*with* Castro-Díaz, M. J.; Macías, Jorge) Numerical solution of the shallow-water equations using a duality method with automatic choice of parameters. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 69–77, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25 (65M99, 76B15)

Pareschi, Lorenzo Regularity results for the non-cutoff Kac equation. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII* (*N.S.*) **42** (1996), 31–50 (1998). (Summary) **99d:35171** 35Q99 (35B65, 45K05, 76P05, 82C40)

— (*with* Gabetta, E.; Toscani, Giuseppe) Relaxation schemes for nonlinear kinetic equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2168–2194. (Hans Babovsky) **99c:76096** 76P05 (65C20, 82C40)

— (*with* Jin, Shi; Toscani, Giuseppe) Diffusive relaxation schemes for multiscale discrete-velocity kinetic equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2405–2439 (*electronic*). (Anne Nouri) **99k:76100** 76M20 (76P05, 82C40)

Paret, J. (*with* Tabeling, P.; Hansen, A. E.) Forced and decaying 2D turbulence: experimental study. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 145–169, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 76-05 (76F99, 76M35)

mallet-Paret, John *see* **Mallet-Paret, John**

Parfënov, O. G. Estimates for the spectrum of some differential operators. (Russian) *Mat. Zametki* **61** (1997), *no.* 4, 634–636; *translation in Math. Notes* **61** (1997), *no.* 3-4, 528–530. (Victor S. Rykhlov) **99b:46046** 46E35 (34L15)

Parfenov, P. G. Tensor products with a finite number of orbits. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 193–194; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 635–636. 14L30 (20G05)

Parfenov, Yu. M. (*with* Ryabinin, I. A.) Boolean differences for monotone truth functions. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 10, 193–204; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 2, 1712–1721 (1998). (S. Rudeanu) **99h:06007** 06E30 (94C10)

Parfenova, Irina B. (*with* Il'ev, Victor P.) On the games over matroids. *Operations Research Proceedings* 1997 (*Jena*), 270–275, *Springer, Berlin*, 1998. (Daniel Elliott Loeb) **99m:90186** 90D46

Parfionov, G. N. (*with* Zapatrine, R. R.) A linear programming method for finding orthocomplements in finite lattices. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 211–213. (M. J. Mączyński) **99e:81019** 81P10 (06C15)

Parhami, Behrooz (*with* Yeh, Chi-Hsiang) VLSI layouts of complete graphs and star graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 39–45. (Summary) **99h:68093** 68Q35 (68R10)

— (*with* Kwai, Ding-Ming) Pruned three-dimensional toroidal networks. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 4, 179–183. 68M10

Parhi, N. (*with* Das, Pitambar) Oscillatory and asymptotic behaviour of a class of nonlinear differential equations of third order. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 1, 95–106. (Ondřej Došlý) **99c:34064** 34C10

— Oscillatory behaviour of solutions of coupled Klein-Gordon equations. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 185–193. (Summary) **99j:35143** 35L70 (35B05, 35Q53)

— (*with* Praharaj, P.) Oscillation of linear second order matrix differential equations. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 287–305. (E. Müller-Pfeiffer) **99f:34045** 34C10

— (*with* Padhi, Seshadev) On asymptotic behavior of delay-differential equations of third order. *Nonlinear Anal.* **34** (1998), *no.* 3, 391–403. (Luiz Fichmann) **99g:34146** 34K15 (34K20, 34K40)

— (*with* Tripathy, A. K.) Oscillatory behavior of second order difference equations. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 79–100. (Vladimir Sh. Burd) **99k:39032** 39A10

— (*with* Pardi, Seshadev) On oscillation and asymptotic property of a class of third order differential equations. (English summary) *Czechoslovak Math. J.* **49(124)** (1999), *no.* 1, 21–33. (Antonio Granata) **99m:34074** 34C10

Parietti, C. (*with* Rappaz, J.) A quasi-static two-dimensional induction heating problem. I. modelling and analysis. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1003–1021. (P. Rochus) **99i:80009** 80A20 (78A25)

Parihar, C. L. (*with* Harne, Sanjay K.) Generalized Fibonacci numbers use in determinants. (English summary) *Ganita Sandesh* **10** (1996), *no.* 1, 55–56. 11B39

— (*with* Harne, Sanjay K.) On a new class of polynomials. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 31–35. (Summary) **99g:33031** 33C45

— (*with* Panchal, D. K.; Saxena, Rajendra Kumar) The generalized Hankel transform of generalized functions and analyticity theorem. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 239–251. (Gopi Ahuja) **99k:44009** 44A15 (33C60)

— (*with* Panchal, D. K.; Saxena, Rajendra Kumar) A convolution transformation and its inversion. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 33–47. (S. I. Grozdev) **99j:44014** 44A35 (44A15)

Parikh, Maulik K. (*with* Wilczek, Frank) An action for black hole membranes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064011, 12 *pp.* (Summary) **99m:83133** 83C57

Parikh, Rohit *see* **Festschrift: Parikh, Rohit J., 99i:03003**

Parimala, R. (*with* Bayer-Fluckiger, Eva) Classical groups and the Hasse principle. *Ann. of Math.* (2) **147** (1998), *no.* 3, 651–693. (Adrian R. Wadsworth) **99g:11055** 11E72 (11E57, 20G10)

— (*with* Sridharan, Ramaiyengar; Thakur, Maneesh L.) A classification theorem for Albert algebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1277–1284. (B. N. Allison) **99b:17041** 17C40

molina-París, Carmen *see* **Molina-París, Carmen**

París, F. (*with* Blázquez, A.; Mantič, V.) BEM solution of two-dimensional contact problems by weak application of contact conditions with non-conforming discretizations. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 24, 3259–3278. (From the summary) **99d:73080** 73T05 (73V10)

Paris, Jeffrey B. (*with* Booth, R.) A note on the rational closure of knowledge bases with both positive and negative knowledge. (English summary) *J. Logic Lang. Inform.* **7** (1998), *no.* 2, 165–190. (David Makinson) **99b:68181** 68T30 (03B60, 03B70, 68T27)
— (*with* Vencovská, A.) Proof systems for probabilistic uncertain reasoning. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 3, 1007–1039. (Zoran Ognjanović) **99g:03019** 03B45 (03B60, 03B70, 68T27)
Paris, Jordi (*with* Roca, Jaume) A remark on the effective description of topological defects. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 377–390. (Summary) **99c:81258** 81T99
Paris, R. B. (*with* Kaminski, D.) Asymptotics via iterated Mellin-Barnes integrals: application to the generalised Faxén integral. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 311–325. (Anatoly Kilbas) **99a:41048** 41A60 (30E15, 33E15)
— (*with* Cang, S.) An exponentially-smoothed Gram-type formula for the Riemann zeta function. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 326–338. (Douglas Hensley) **99b:11142** 11Y35 (11M06)
— (*with* Cang, S.) An asymptotic representation for $\zeta(\frac{1}{2}+it)$. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 4, 449–470. (Matti Jutila) **99b:11097** 11M06 (11Y35)
— The asymptotic expansion of Gordeyev's integral. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 322–338. (Summary) **99c:41061** 41A60 (30E15, 78A40)
Parisi, Giorgio (*with* Dean, David S.) Statistical mechanics of a two-dimensional system with long-range interactions. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 3949–3960. (Summary) **99a:82015** 82B20 (82B80)
— (*with* Coluzzi, Barbara) On the approach to the equilibrium and the equilibrium properties of a glass-forming model. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4349–4368. (Summary) **99b:82087** 82D30
Parisi, Jürgen (*with* Kittel, A.; Peinke, J.; Baier, Gerold; Klein, Michael; Rössler, Otto E.) Unifying iteration rule for fractal objects. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1887–1896. (Summary) **99a:39052** 39B12 (28A80)
— (*with* Rössler, Otto E.; Kuypers, Heinrich) Gravitational slowing down of clocks implies proportional size increase. (English summary) *A perspective look at nonlinear media*, 370–372, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99d:83080** 83C99 (83A05, 83C57)
— *see also* **Perspective look at nonlinear media, 99d:00025**
Parisini, T. (*with* Alessandri, A.; Zoppoli, R.) Neural approximators for nonlinear finite-memory state estimation. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 275–301. 93E10 (93C85)
— (*with* Sanguineti, M.; Zoppoli, R.) Nonlinear stabilization by receding-horizon neural regulators. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 341–362. (Summary) **99a:93087** 93D15
Parisi-Presicce, Francesco (*with* Große-Rhode, Martin; Simeoni, Marta) Spatial and temporal refinement of typed graph transformation systems. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 553–561, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q10, 68Q50)
— *see also* **Recent trends in algebraic development techniques, 99f:68009**
Parisses, Costantinos E. (*with* Fessas, Procopis S.) Numerical computation of the local feedback stabilizing matrix via linear programming. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1175–1179. 93D15 (93B40)
Park, B. H. (*with* Kuc, Tae-Yong; Lee, Jin S.) Adaptive learning control of uncertain robotic systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 725–744. 93E35 (70Q05)
Park, Byeong U. (*with* Kim, D. W.; Ryu, W.; Jun, K. P.; Bae, H. D.) Waiting times in polling systems with Markov-modulated Poisson process arrival. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 355–363. (Summary) **99c:60204** 60K25
— (*with* Hall, Peter Gavin; Turlach, Berwin A.) A note on design transformation and binning in nonparametric curve estimation. (English summary) *Biometrika* **85** (1998), *no.* 2, 469–476. 62G05
— (*with* Kneip, Alois; Simar, Léopold) A note on the convergence of nonparametric DEA estimators for production efficiency scores. (English summary) *Econometric Theory* **14** (1998), *no.* 6, 783–793. (Summary) **99i:62069** 62G05 (62P20)
— (*with* Kim, Woo Chul; Huh, J.; Jeon, J. W.) Estimation of density via local polynomial regression. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 91–100. (Summary) **99e:62055** 62G05
— (*with* Hall, Peter Gavin; Stern, Steven E.) On polynomial estimators of frontiers and boundaries. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 71–98. (Summary) **99h:62035** 62G05
Park, Byung-Gun (*with* Lee, Jae-Won[1]; Kwon, Wook Hyun) Robust one-step receding horizon control for constrained systems. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 7, 381–395. 93B35 (93C55)
Park, Byung-Oh Weak type inequality for maximal operators on spaces of homogeneous type. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 281–286. (Michael T. Lacey) **99m:42033** 42B25
Park, C. J. *see* **Park, Chung Joo**
Park, Chan-Young (*with* Bae, Yongju; Lee, Hye-Sook) Polynomial invariants of 1-trivial dichromatic links. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 345–354. (Summary) **99g:57005** 57M25
— (*with* Lee, Sang Youl) On the modified Goeritz matrices of 2-periodic links. *Osaka J. Math.* **35** (1998), *no.* 3, 529–537. (Lorenzo Traldi) **99k:57020** 57M25
Park, Changsoon (*with* Song, Moon Sup; Lee, Jaeheon) A generalization of the discrete feedback adjustment by rational subgrouping. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 2, 237–249. (Summary) **99k:62198** 62N10
— (*with* Song, Moon Sup; Nam, Ho Soo) An efficient Mallows-type one-step GM-estimator in linear models. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 3, 369–383. (Summary) **99i:62152** 62J05
Park, Changsu (*with* Jin, Jaehyun; Tahk, Min-Jea) Time-delayed state and unknown input observation. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 733–745. 93C25 (93B07)
Park, Chanyong (*with* Sin, Sang-Jin) Notes on D-instanton correction to $AdS_5 \times S^5$ geometry. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 156–162. (Summary) **99i:81200** 81T30 (83E30)
Park, Cheolyong The chi-squared test of independence for a multi-way contingency table with all margins fixed. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 2, 197–203. (Summary) **99i:62134** 62H17
Park, Chin-Hong Some remarks on the structure of free automata. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 217–225. (Wit Foryś) **99m:68133** 68Q70 (20M35)
Park, Choonsik (*with* Sung, Soo Hak; Chee, Seongtaek) Global avalanche characteristics and propagation criterion of balanced Boolean functions. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 21–24. (Summary) **99k:94043** 94A60
Park, Chul Geun Performance analysis of a multiplexer with the threshold based overload control in ATM networks. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 553–568. (Carl M. Harris) **99g:60175** 60K25 (68M10, 90B22)
Park, Chul Gyu (*with* Lee, Chu-In Charles; Robertson, Tim) Goodness-of-fit test for uniform stochastic ordering among several distributions. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 69–81. (Subhash C. Kochar) **99g:62062** 62G10
— Least squares estimation of two functions under order restriction in isotonicity. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 97–100. (Summary) **99a:62035** 62F30
Park, Chull (*with* Huffman, Timothy; Skoug, David) Convolution and Fourier-Feynman transforms. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 827–841. (Kun Soo Chang) **99c:28039** 28C20
— (*with* Skoug, David) Integration by parts formulas involving analytic Feynman integrals. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 1–11. (Summary) **99i:46031** 46G12 (28C20, 60J65)
— (*with* Skoug, David; Storvick, David) Fourier-Feynman transforms and the first variation. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 277–292. (Kun Soo Chang) **99d:28022** 28C20 (58D30)
Park, Chun-Gil Homogeneous C^*-algebras over a sphere. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 859–869. (Summary) **99i:46056** 46L85 (46L87, 55R15)
— (*with* Oh, Sei-Qwon) Primitive ideals in the coordinate ring of quantum Euclidean space. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 57–73. (Edward S. Letzter) **99m:16065** 16W30 (81R50)
— (*with* Boo, Deok-Hoon; Oh, Sei-Qwon) The spherical non-commutative tori. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 331–340. (Summary) **99c:46081** 46L87 (46L05, 46L80, 55R15)
Park, Chung Joo (*with* Yoon, Yongsung) Conformal couplings in induced gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 765–772. (Summary) **99a:83059** 83D05
Park, D. G. *see* **Park, Dong Gun**
Park, D. K. *see* **Park, DaeKil**
Park, D. Y. (*with* Kim, Yangkon; So, K. H.; Seo, G. S.; Choi, Seul Hee) Some remarks on four kinds of points associated to Lie algebras. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 31–43. (Jörg Feldvoss) **99m:17025** 17B50 (17B20, 17B55)
Park, Dae Heui (*with* Suh, Dong Youp) Semialgebraic G CW complex structure of semialgebraic G spaces. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 371–386. (Aviva Szpirglas) **99d:14061** 14P10 (22E10, 57Q15, 57Q91)
Park, DaeKil (*with* Lee, Hyung Won; Myung, Yun Soo; Kim, Jin Young) Unstable propagation of black strings. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 9, 701–713. (Summary) **99c:83097** 83E30 (83C57)
Park, Dahl (*with* Kiem, Youngjai; Lee, Chang-Yeong) Exactly solvable charged dilaton gravity theories in two dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 2973–2979. (Michael O. Katanaev) **99k:83102** 83C99 (81V25, 83C57)
— (*with* Kiem, Youngjai; Lee, Chang-Yeong) Thermodynamics of the doubly charged CGHS model and D1-D5-KK black holes of type IIB supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125002, 9 *pp.* (Summary) **99m:83204** 83E50 (81T30, 83C57, 83E30)
— (*with* Kiem, Youngjai) BTZ black holes from the five-dimensional general relativity with a negative cosmological constant. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 41–47. (Summary) **99m:83119** 83C57 (83E30)
Park, Dong Gun (*with* Balachandran, Krishnan; Kwun, Young-Chel) Nonlinear integrodifferential equations of Sobolev type with nonlocal conditions in Banach spaces. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 223–231. (P. P. Zabreĭko) **99k:45021** 45J05 (34K30, 47N20)
Park, Dong Ho (*with* Guess, Frank; Nam, Kyung H.) Failure rate and mean residual life with trend changes. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 2, 239–244. 60K10 (90B25)
— (*with* Lim, Jae-Hak) A family of tests for trend change in mean residual life. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1163–1179. (Summary) **99a:62139** 62N05
— (*with* Kim, Dae Kyung; Ahn, Mi Kyung) Bootstrap confidence interval for mean time between failures of a repairable system. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 53–64. 62G09
Park, Dongryeon (*with* Faraway, Julian J.) Sequential design for response curve estimation. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 155–164. (Summary) **99d:62074** 62L05 (62G05)
Park, Eun Hee (*with* Jung, Jong Soo; Park, Jong Seo) Convergence of approximating fixed points for nonexpansive nonself-mappings in Banach spaces. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 275–285. (Charles Ejike Chidume) **99i:47104** 47H10
Park, Eun-Jae (*with* Kim, Mi Young[1]) Characteristic finite element methods for diffusion epidemic models with age-structured populations. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 1, 55–70. (Summary) **99e:65123** 65M12 (92D30)
— (*with* Anița, Sebastian[2]; Iannelli, Mimmo; Kim, Mi-Young[2]) Optimal harvesting for periodic age-dependent population dynamics. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1648–1666 (*electronic*). (George Karakostas) **99k:92021** 92D25 (35Q80, 45K05, 49K20, 90A30)
— (*with* Iannelli, Mimmo; Kim, Mi-Young[2]) Asymptotic behavior for an SIS epidemic model and its approximation. *Nonlinear Anal.* **35** (1999), *no.* 7, *Ser. A: Theory Methods*, 797–814. (V. N. Razzhevaikin) **99k:92042** 92D30 (35Q80)

Park, Eun Kyung (*with* Kwon, Pyung Seong) Negative energy and unusual compactification in $M_4 \times T^D$ Kaluza-Klein theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124004, 6 *pp.* (Summary) **99m:83178** 83E15

Park, Eun Suk (*with* Lee, Seok Jong; Lee, Eun Pyo) A generalization of a lattice fuzzy topology. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 113–126. 54A40 (18B99)

Park, Eunsoon A note on weakly path-connected orthomodular lattices. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 513–519. (M. J. Mączyński) **99f:06015** 06C15 (81P10)

Park, F. C. (*with* Kim, Jewan) A singularity classification for closed chains. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 483–492, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Park, H. M. *see* **Park, Hung Mok**

Park, Ha-Yong (*with* Park, Hong-Suh; Kim, Byung-Doo) On the Berwald connection of a Finsler space with a special (α, β)-metric. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 355–364. (Tadashi Aikou) **99f:53021** 53B40

— (*with* Park, Hong-Suh) The induced and intrinsic connections of Berwald type in a Finslerian hypersurface. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 383–391. (Tadashi Aikou) **99i:53019** 53B40

— (*with* Park, Hong-Suh) On Finsler metrics compatible with $\varphi(4,2)$-structure. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 67–70. (László Kozma) **99b:53032** 53B40

Park, Hae Dong (*with* Lee, Won Kyoung) Second-order approximation for chaotic responses of a harmonically excited spring-pendulum system. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 4, 749–757. 70K50 (70K40, 73K12)

Park, Haesun (*with* Rosen, J. B.; Glick, John) Structured total least norm for nonlinear problems. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 14–30 (*electronic*). (Hongyuan Zha) **99g:65056** 65F30 (65M99)

— *see also* **Symposium: Fast Algorithms for Control, Signals and Image Processing, 99f:00025**

Park, Heungsun (*with* Stefanski, L. A.) Relative-error prediction. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 227–236. 62J99

Park, Hong Bae (*with* Jeung, Eun Tae; Kim, Jong Hae) H^∞-output feedback controller design for linear systems with time-varying delayed state. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 971–974. (Summary) **99e:93029** 93B36 (93B50)

Park, Hong-Suh (*with* Park, Ha-Yong; Kim, Byung-Doo) On the Berwald connection of a Finsler space with a special (α, β)-metric. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 355–364. (Tadashi Aikou) **99f:53021** 53B40

— (*with* Park, Ha-Yong) The induced and intrinsic connections of Berwald type in a Finslerian hypersurface. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 383–391. (Tadashi Aikou) **99i:53019** 53B40

— (*with* Matsumoto, Makoto) Equations of geodesics in two-dimensional Finsler spaces with (α, β)-metric. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 787–793. (László Kozma) **99k:53028** 53B40 (53C22)

— (*with* Park, Ha-Yong) On Finsler metrics compatible with $\varphi(4,2)$-structure. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 67–70. (László Kozma) **99b:53032** 53B40

Park, Hong-Sun (*with* Hwang, Suk-Geun; Lee, Jae Don) Permanents of doubly stochastic kite matrices. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 423–432. (Thomas H. Foregger) **99c:15008** 15A15 (15A51)

Park, Hung Mok (*with* Lee, Min Woo; Jang, Y. D.) An efficient computational method of boundary optimal control problems for the Burgers equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 3-4, 289–308. (Summary) **99j:49072** 49M30 (65M60)

Park, Hwasin (*with* Kim, Daeyeoul) A remark on the Dedekind $\eta(\tau)$-function and θ_3-series. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 611–622. (Marvin I. Knopp) **99c:11046** 11F20 (11F27, 33E05)

— Relations among Shafarevich-Tate groups. Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 117–125. (Odile Sauzet) **99f:11071** 11G05 (11R34)

Park, Hye Jeong (*with* Kim, In-Bae; Kim, Byung Hak) The rigidity for K-contact real hypersurfaces in a complex projective space. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 611–617. (Themis Koufogiorgos) **99m:53117** 53C42 (53C15)

Park, Hyun Joo (*with* Choi, Jin Young) Neural iterative learning control for unknown nonlinear systems. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 4, 501–512. 93E35

Park, In-Uck A revealed-preference implication of weighted utility decisions under uncertainty. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 413–426. (Andrzej Wieczorek) **99e:90017** 90A10 (90A06, 90A43)

Park, Inyong (*with* Gonzalez-Rey, Francisco; Schalm, Koenraad) A note on four-point functions of conformal operators in $N = 4$ super-Yang Mills. (English summary) *Phys. Lett. B* **448** (1999), *no.* 1-2, 37–40. (Summary) **99k:81309** 81T60 (81T13, 81T15)

Park, J.-H. (*with* Jerome, Joseph W.) Qualitative properties of steady-state Poisson-Nernst-Planck systems: mathematical study. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 609–630. (John G. Milton) **99e:92007** 92C05 (34B15, 35Q80, 92C45)

Park, J. Y. *see* **Park, Jong Yeoul**

Park, Jae Keol (*with* Birkenmeier, Gary F.; Kim, Jin Yong) A characterization of minimal prime ideals. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 223–236. (Yasuyuki Hirano) **99g:16002** 16D30 (16N40)

Park, Jae-Suk (*with* Hofman, Christiaan) Monads, strings, and M-theory. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 229–260. (Marco Spaans) **99k:81244** 81T30 (58D27)

Park, Jaemo Black hole solutions of Kaluza-Klein supergravity theories and string theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 775–785. (Summary) **99b:83072** 83E30 (83C57, 83E15)

— (*with* Rey, Soo-Jong) Dual D-brane actions on $AdS_5 \times S^5$. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 8, 8 *pp.* (*electronic*). (Summary) **99i:81201** 81T30 (83E30)

Park, Jeanam (*with* Anderson, David F.; Kim, Gi-Ik; Oh, Heung-Joon) Splitting multiplicative sets and elasticity. *Comm. Algebra* **26** (1998), *no.* 4, 1257–1276. (William W. Smith) **99c:13002** 13A05 (13B30, 13F15)

Park, Jeong Hyeong A note on the eigenfunctions of the Laplacian for twisted products. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 759–762. (Haruo Kitahara) **99m:58198** 58G25

— (*with* Gilkey, Peter B.) A note on the eigenfunctions of the Laplacian for a twisted holomorphic product. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 325–332. (Bernd Ammann) **99k:58187** 58G25

— (*with* Gilkey, Peter B.; Leahy, John V.) The spectral geometry of Riemannian submersions. (English summary) 11th Yugoslav Geometrical Seminar (Divčibare, 1996). *Zb. Rad. Mat. Inst. Beograd.* (*N.S.*) **6(14)** (1997), 36–54. (Summary) **99j:58214** 58G25

— (*with* Gilkey, Peter B.; Leahy, John V.) ★ Spinors, spectral geometry, and Riemannian submersions. (English summary) Lecture Notes Series, 40. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1998. *iv*+142 *pp.* (Uwe Semmelmann) **99a:58158** 58G25 (53A50, 53C21, 58G30)

— (*with* Gilkey, Peter B.; Leahy, John V.) Eigenforms of the spin Laplacian and projectable spinors for principal bundles. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 740–752. (Hans-Bert Rademacher) **99b:58231** 58G25

— Continuous variation of eigenvalues and Gärding's inequality. (English summary) *Differential Geom. Appl.* **10** (1999), *no.* 2, 187–189. (Józef Dodziuk) **99m:58199** 58G25

Park, Jeong-Hyuck $N = 1$ superconformal symmetry in four dimensions. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1743–1772. (Sergey Nikolaevich Roshchupkin) **99f:81205** 81T60

Park, Jin Han (*with* Lee, Bu Young) Fuzzy pairwise extremally disconnected spaces. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 201–206. 54A40 (54E55, 54G05)

Park, Jong Seo (*with* Jung, Jong Soo; Park, Eun Hee) Convergence of approximating fixed points for nonexpansive nonself-mappings in Banach spaces. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 275–285. (Charles Ejike Chidume) **99i:47104** 47H10

Park, Jong Suh (*with* Choi, Sung Kyu; Lee, Keon-Hee) The C^r closing lemma for chain recurrence in compact surfaces. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 559–562. (Romeo F. Thomas) **99j:58114** 58F10

Park, Jong Yeoul An iterative process for nonexpansive mappings in Banach spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 13–20. (Summary) **99g:47134** 47H10 (47H09, 47H17)

— (*with* Jeong, Jae Ug) Ishikawa and Mann iteration methods for strongly accretive operators. (English summary) *Nonlinear Anal. Forum* **2** (1996), 39–48. (B. E. Rhoades) **99k:47147** 47H10 (47H17)

— (*with* Han, Hyo-Keun) Controllability for some second order differential equations. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 411–419. (Vũ Ngoc Phát) **99d:93006** 93B05 (93C55)

— (*with* Jeong, Jin-Mun; Kim, Dong-Hwa) Optimal initial functions for functional-differential system with delays. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 461–473. (Negash G. Medhin) **99d:49045** 49K25 (34K05)

— (*with* Ha, Jun-Hong; Han, Hyo-Keun) Identification problem for damping parameters in linear damped second order systems. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 895–909. (N. U. Ahmed) **99a:49010** 49J20 (34G10, 93C20)

— (*with* Jeong, Jae Ug) Generalized strongly quasivariational inequalities for fuzzy mappings. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 115–120. (Summary) **99e:90113** 90C70 (49J40)

— (*with* Jeong, Jin-Mun; Kwun, Young-Chel) Regularity and controllability for semilinear control system. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 239–252. (Angelo Favini) **99e:34114** 34K30 (34K35, 93B05)

— (*with* Han, Hyo-Keun) Asymptotic behaviour of solutions to a functional integrodifferential equations. *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 917–927. (Shu Chun Gao) **99k:45023** 45J05 (34K30)

— (*with* Han, Hyo-Keun; Kwun, Young-Chel) Approximate controllability of second order integrodifferential systems. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 941–950. (Vasile Drăgan) **99k:93025** 93B05 (34K35, 93C25)

— (*with* Jeong, Jin-Mun; Kwun, Young-Chel) Optimal problem of regular cost function for retarded system. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 115–126. (Florin Iacob) **99a:49032** 49K25 (34K35)

— (*with* Bae, Jeong Ja) On existence of solutions of degenerate wave equations with nonlinear damping terms. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 465–490. (P. Szeptycki) **99h:35144a** 35L70 (35B40)

— (*with* Bae, Jeong Ja) On existence of solutions of nondegenerate wave equations with nonlinear damping terms. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 27–46. (P. Szeptycki) **99h:35144b** 35L70 (35B40)

— (*with* Lee, Mi Jin) Duality in the optimal control problems for hyperbolic distributed parameter systems with damping terms. (English summary) *Nonlinear Anal. Forum* **3** (1998), 25–40. (Stanisław Migórski) **99g:49022** 49K20 (49N15)

— (*with* Jeong, Jae Ug) Generalized strongly nonlinear quasi-variational inequalities. (English summary) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 168–181. (Igor' V. Konnov) **99k:47174** 47H19 (49J40)

— (*with* Balachandran, Krishnan; Anthoni, S. Marshal) Controllability of second order semilinear Volterra integrodifferential systems in Banach spaces. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 1–13. (Stanisław Walczak) **99m:93004** 93B05 (93C25)

— (*with* Han, Hyo-Keun) Boundary controllability of differential equations with nonlocal condition. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 242–250. (Jerzy Klamka) **99k:93021** 93B05 (34H05, 47N70, 93C25)

Park, Jongil Seiberg-Witten invariants of generalised rational blow-downs. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 363–384. (Farhad Ardalan) **99b:57067** 57R57 (57N13)

Park, Joon Y. (*with* Choi, In; Yu, Byungchul) Canonical cointegrating regression and testing for cointegration in the presence of $I(1)$ and $I(2)$ variables. (English summary)

Econometric Theory **13** (1997), *no.* 6, 850–876. (Luis Firinguetti) **99c:62245** 62M10 (62P20)

Park, Joong Soo A note on the valuation. *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **1** (1994), *no.* 1, 7–11. 13A18

— (*with* Kim, Daeyeoul) q-expansion of the modular discriminant. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 637–650. (Marvin I. Knopp) **99i:11028** 11F20 (33E05)

— (*with* Kim, Daeyeoul) A study of Ramanujan $\tau(n)$ number and Dedekind eta-function. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 57–65. 11F20

Park, Joseph C. (*with* Abusalah, Salahalddin T.) Symmetrization of information-theoretic error-measures applied to artificial neural network training. (English summary) *Complex Systems* **11** (1997), *no.* 2, 125–140. 68T05

Park, Ju.-H. (*with* Won, Sangchul) A note on stability of neutral delay-differential systems. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 3, 543–548. (Summary) **99m:34176** 34K20 (34K40)

Park, Jun-Seok (*with* Chung, Sang Cho) E-depths and T-codepths of modules. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 363–374. (Anna Guerrieri) **99e:13018** 13D05

Park, K. C. (*with* Felippa, C. A.) A variational framework for solution method developments in structural mechanics. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 1, 242–249. (Summary) **99a:73087** 73K12 (73V25)

Park, K. K. *see* **Park, Kyewon Koh**

Park, K. S. *see* **Park, Kwang Sung**

Park, Keun (*with* Jang, Changrim) Surfaces of 1-type Gauss map with flat normal connection. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 189–200. (Ivko Dimitric) **99m:53014** 53A07 (53C40)

Park, Kong-Rae (*with* Nam, Ill-Hyeon) Nonexistence of global solutions for the semilinear parabolic system. *Honam Math. J.* **20** (1998), *no.* 1, 67–78. (Andrzej Swiech) **99j:35090** 35K50 (35K60)

Park, Kunsoo (*with* Kim, Dong Kyue; Kim, Yoo Ah) Constructing suffix arrays for multi-dimensional matrices. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 126–139, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99k:68070** 68Q20 (68P05)

— Analysis of two-dimensional approximate pattern matching algorithms. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 263–273. (Summary) **99b:68099** 68Q25

— (*with* Kim, Dong Kyue; Lee, Jee-Soo; Cho, Yookun) Efficient algorithms for approximate string matching with swaps. (English summary) *J. Complexity* **15** (1999), *no.* 1, 128–147. (Summary) **99k:68081** 68Q25

Park, Kwang Sung (*with* Jo, Young Soo; Kang, Young Yug) Isomorphisms of Alg $\mathscr{L}_{2n+1(k)}$. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 235–250. (Allan P. Donsig) **99j:47061** 47D25

— (*with* Kang, Joo Ho; Jo, Young Soo) Isomorphisms of $\mathscr{B}_{2n}^{(n)}$. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 7–20. (Allan P. Donsig) **99k:47107** 47D25

— (*with* Cho, Sunggoo; Madore, J.) Non-commutative geometry of the h-deformed quantum plane. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2639–2654. (Jihad Mourad) **99c:58011** 58B30 (81R50)

Park, Kyeongsu Invariant open sets under cocompact affine actions. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 203–207. (Summary) **99m:57035** 57S30

Park, Kyewon Koh Discrete proof of even Kakutani equivalence via α- and β-equivalence. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 61–72. (N. N. Ganikhodzhaev) **99e:28027** 28D05 (28D15)

— α-equivalence. (English summary) *Studia Math.* **130** (1998), *no.* 1, 9–21. (Damien J.-P. Gaboriau) **99h:28037** 28D05

— (*with* Kamiński, Brunon) On the directional entropy for $\mathbf{Z}^2$-actions on a Lebesgue space. (English summary) *Studia Math.* **133** (1999), *no.* 1, 39–51. (Meir Smorodinsky) **99k:28024** 28D20 (28D15)

Park, Kyihwan (*with* Kim, Soo-Hyun; Kwak, Yoon Keun) Adaptive control for time optimal tracking systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 951–964. 93C40 (49N35)

Park, M. H. *see* **Park, Mi Hee**

Park, Mi Ai On some nonlinear dispersive equations. (English summary) *Applied analysis* (*Baton Rouge, LA*, 1996), 211–216, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (From the text) **99h:35191** 35Q53

Park, Mi Hee (*with* Anderson, D. D.; Kang, Byung Gyun) Anti-Archimedean rings and power series rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3223–3238. (Valentina Barucci) **99h:13023** 13F05 (13F25)

Park, Mignon (*with* Park, Minkee; Ji, Seunghwan; Kim, Euntai) A new approach to the identification of a fuzzy model. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 169–181. 93C41 (93A30)

Park, Minkee (*with* Ji, Seunghwan; Kim, Euntai; Park, Mignon) A new approach to the identification of a fuzzy model. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 169–181. 93C41 (93A30)

Park, Mu-In (*with* Park, Young-Jai) Non-abelian Proca model based on the improved BFT formalism. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2179–2199. (Ion V. Vancea) **99d:81079** 81T10

— Statistical entropy of three-dimensional Kerr-de Sitter space. (English summary) *Phys. Lett. B* **440** (1998), *no.* 3-4, 275–282. (Jeremy Michelson) **99m:83134** 83C57

— (*with* Park, Young-Jai) New gauge-invariant formulation of the Chern-Simons gauge theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 101702, 5 *pp.* (Summary) **99k:81186** 81T13

Park, Mu Yeol The cut locus on surfaces. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 599–611. (Oguz C. Durumeric) **99m:53069** 53C20

Park, Myun-Joo (*with* Nam, Sangwook) Efficient calculation of the Green's function for multilayered planar periodic structures. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 10, 1582–1583. 78–08

Park, Pil Seong Inter-conversion between the power and Arnoldi's methods. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 145–155. (E. G. D'yakonov) **99h:65071** 65F15 (65F10)

— Use of cyclicity for solving some matrix problems. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 481–493. (Frank Uhlig) **99j:65080** 65F99 (15A24, 20C30)

Park, PooGyeon (*with* Kailath, Thomas) Square-root RTS smoothing algorithms. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1049–1060. 93E14 (93E25)

— (*with* Kailath, Thomas) Guaranteed level-γ $\mathscr{H}_\infty$ control in uncertain linear systems via linear matrix inequalities. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 913–924. 93B36

— (*with* Kailath, Thomas) $\mathscr{H}_\infty$ filtering via convex optimization. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 15–22. (Summary) **99j:93036** 93B36 (90C25)

— (*with* Kailath, Thomas) Dual $\mathscr{J}$-spectral factorization. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 287–296. 93B25 (93D05)

— A revisited Popov criterion for nonlinear Lur'e systems with sector-restrictions. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 461–469. 93D10

— A delay-dependent stability criterion for systems with uncertain time-invariant delays. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 876–877. (Summary) **99m:34186** 34K35 (34K20, 93D09)

Park, Q-Han (*with* Shin, Hyun-Jong) Nonabelian sine-Gordon theory and its application to nonlinear optics. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 531–535, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T10 (81V80)

— Massive integrable soliton theories of sine-Gordon type. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 154–163, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:81128** 81T10

— (*with* Shin, Hyun-Jong) Painlevé test for extended nonlinear Schrödinger equation. (English summary) *Proceedings of International Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories* (*Seoul*, 1998), 63–68, *Lecture Notes Ser.*, 42, *Seoul Nat. Univ., Seoul*, 1998. (*see* **99d:58005**) 35Q55

— (*with* Kim, Jongbae; Shin, Hyun-Jong) Conservation laws in higher-order nonlinear Schrödinger equations. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part B*, 6746–6751. (Summary) **99j:35203** 35Q55 (35L65)

— (*with* Shin, Hyun-Jong) Painlevé analysis of the coupled nonlinear Schrödinger equation for polarized optical waves in an isotropic medium. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part B*, 2373–2379. (Summary) **99j:35208** 35Q55 (78A60)

Park, S. *see* **Park, Seungjoon**

Park, S. B. (*with* Kwon, Kil Hyun) Two-point masses perturbation of regular moment functionals. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 79–93. (Pascal Maroni) **99d:42044** 42C05

— (*with* Kwon, Kil Hyun; Lee, Dong Won[1]) New characterizations of discrete classical orthogonal polynomials. (English summary) *J. Approx. Theory* **89** (1997), *no.* 2, 156–171. (Summary) **99c:42045** 42C05

— (*with* Kim, Deok H.; Kwon, Kil Hyun; Marcellán, Francisco) Sobolev-type orthogonal polynomials and their zeros. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 423–444. (Antonio J. Durán) **99h:33042** 33C45

— (*with* Kwon, Kil Hyun; Lee, Dong Won[1]; Yoo, B. H.) Discrete classical orthogonal polynomials. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 2, 145–162. (Summary) **99g:33027** 33C45 (39A10, 39A12)

Park, Sang Don (*with* Bae, Soo Hyun; Pahk, Dae Hyeon) On the multiple positive solutions to a quasilinear equation. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 221–236. (Summary) **99g:35012** 35B05 (35B32, 35J65)

— (*with* Lee, Young Seop) Convergence of nonlinear semigroups in a hyperbolic space. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 171–179. (Tadeusz Kuczumow) **99b:47099** 47H20 (47H09)

Park, Sang Ho Pretopological convergence quotient maps. *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **3** (1996), *no.* 1, 33–40. 54A05 (54A20)

Park, Sang-Hoon (*with* Yi, Yeong-Moo; Youn, Sung-Kie) Asymptotic homogenization of viscoelastic composites with periodic microstructures. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 17, 2039–2055. (Summary) **99a:73014** 73B27 (73F15, 73K20)

Park, Sang Ro Nonexistence of global solutions of some quasilinear parabolic equations. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 53–63. (Song Mu Zheng) **99a:35124** 35K55

— (*with* Levine, Howard A.; Serrin, James) Global existence and nonexistence theorems for quasilinear evolution equations of formally parabolic type. *J. Differential Equations* **142** (1998), *no.* 1, 212–229. (Nicolae H. Pavel) **99b:35089** 35K55 (34G20)

— (*with* Levine, Howard A.; Serrin, James) Global existence and global nonexistence of solutions of the Cauchy problem for a nonlinearly damped wave equation. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 181–205. (Huicheng Yin) **99k:35124** 35L70 (35B60, 35D05)

— Remarks on quasilinear hyperbolic equations with dynamic boundary conditions. (English summary) *Math. Nachr.* **198** (1999), 169–178. (Hideo Yamagata) **99m:35173** 35L75

Park, Sangkun (*with* Lee, Kunwoo) Automatic multiblock decomposition using hypercube ++ for grid generation. (English summary) *Comput. & Fluids* **27** (1998), *no.* 4, 509–528. (Summary) **99a:65119** 65M55 (65N35, 76M25)

Park, Sangwoo (*with* Cho, Sinsup; Hwang, Sun Young) The asymptotic variance of the Studentized residual autocorrelations for a generalized random coefficient autoregressive processes. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 531–541. (Summary) **99c:62259** 62M10

— (*with* Lee, Sangyeol; Hwang, Sun Young) Testing the randomness of the coefficients in first order autoregressive processes. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 2, 189–195. (Summary) **99j:62132** 62M10

Park, Sehie Remarks on admissible multifunctions and the Leray-Schauder principles. (English summary) *Nonlinear Anal. Forum* **1** (1995), 1–12. (Summary) **99f:47072** 47H09 (47H04, 47H10, 54C60, 54H25)

— Five episodes related to the Fan-Browder fixed point theorem. (English summary) *Nonlinear Anal. Forum* **2** (1996), 11–24. (Ljubomir Ćirić) **99h:54064** 54H25 (47H10)

— Generalized Leray-Schauder principles for condensing admissible multifunctions. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 65–85. (Ada Bottaro Aruffo) **99j:47094** 47H10 (47H04, 47H09, 54C60, 54H25)

— Fixed points in homeomorphically convex sets. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 213–218. (Summary) **99k:47148** 47H10 (54C60, 54H25)

— Coincidence theorems for the better admissible multimaps and their applications. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4183–4191. (Ada Bottaro Aruffo) **99b:47079** 47H04 (47H09, 47H10, 54H25)

— Fixed point theorems for new classes of multimaps. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 155–161. (Summary) **99g:47135** 47H10 (47H04)

— Remarks on a social equilibrium existence theorem of G. Debreu. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 51–54. (Summary) **99m:90018** 90A08

— (*with* Lee, Jong-Jin) Best approximations of 1-set-contractions in Banach spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 87–100. (Carlo Bardaro) **99g:47133** 47H10 (47H09)

— (*with* Kim, Hoonjoo) Generalizations of the KKM type theorems on generalized convex spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 2, 121–132. (Summary) **99b:54028** 54C60 (47H04, 47H10, 54H25)

— (*with* Lee, Byung Soo; Lee, Gue Myung) A general vector-valued variational inequality and its fuzzy extension. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 637–642. (Summary) **99g:47151** 47H19 (47S40, 49J40, 90C29)

— (*with* Kum, Sangho) An application of a Browder-type fixed point theorem to generalized variational inequalities. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 519–526. (George Isac) **99a:47106** 47H19 (49J40)

— (*with* Lin, Tzu-Chu) Approximation and fixed-point theorems for condensing composites of multifunctions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 1–8. (Summary) **99c:47086** 47H09 (47H10)

— (*with* Lin, Lai-Jiu) On some generalized quasi-equilibrium problems. *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 167–181. (Igor′ V. Konnov) **99f:90182** 90C48 (47H10, 47H19, 47N10, 54C60, 54H25, 90A14)

— Remarks on fixed points of lower semicontinuous maps. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 3, 21–26. (Summary) **99a:47085** 47H10 (47H04, 54C60, 54H25)

— Fixed points of σ-selectionable multimaps. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 5, 23–28. (Summary) **99b:47087** 47H10 (54C60, 54H25)

— Fixed points of multimaps on ordered spaces. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 9, 9–14. 54H25 (54C60, 54F05)

— Remarks on some coincidence theorems. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 10, 13–17. (Ramendra Krishna Bose) **99m:47067** 47H10 (54C60, 54H25)

— The Schauder type and other fixed point theorems in hyperconvex spaces. (English summary) *Nonlinear Anal. Forum* **3** (1998), 1–12. (Summary) **99e:54036** 54H25

Park, Seong-Hee (*with* Kim, Dong-Soo) Totally umbilic hypersurfaces of a space form. *Honam Math. J.* **20** (1998), *no.* 1, 161–165. (Bang-yen Chen) **99e:53077** 53C40

Park, Seungjoon (*with* Dill, D. L.) Verification of cache coherence protocols by aggregation of distributed transactions. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 355–376. (Summary) **99b:68073** 68Q10 (68Q60)

Park, Sung Hyun (*with* Kwon, Hyo T.) Slope-rotatable designs with equal maximum directional variance for second order response surface models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2837–2851. (Summary) **99j:62108** 62K05

— (*with* Noh, Hyun Gon) A study on the influence of a missing cell in a class of central composite designs. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 133–152. 62K05

Park, Sung Ki Generalizations of limit theorems by A. V. Skorokhod. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 127–133. (Summary) **99e:60015** 60B10 (60F17)

Park, Taehoon Central expansion wave in nonequilibrium flow. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 783–793. (Summary) **99k:76090** 76K05

Park, Won-Sun The units and idempotents in the group ring of a finite cyclic group. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 855–864. (Victor Bovdi) **99g:20017** 20C05 (16U60)

Park, Yong Moon (*with* Shin, Hyun Hye) Dynamical entropy of generalized quantum Markov chains over infinite-dimensional algebras. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6287–6303. (Fumio Hiai) **99a:82011** 82B10 (28D20, 46L55)

Park, Young Ho (*with* Kwon, Soun-Hi) Determination of all non-quadratic imaginary cyclic number fields of 2-power degree with relative class number ≤ 20. *Acta Arith.* **83** (1998), *no.* 3, 211–223. (Stéphane Louboutin) **99a:11125** 11R29

— (*with* Lee, June Bok) Permutation polynomials with exponents in an arithmetic progression. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 243–252. (S. D. Cohen) **99b:11134** 11T06

Park, Young J. *see* **Park, Young Jin**

Park, Young-Jai (*with* Ho, Jeongwon; Kim, Won Tae) Duality of quasilocal black-hole thermodynamics. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1437–1448. (Marco Cavaglià) **99f:83048** 83C57 (83E30)

— (*with* Park, Mu-In) Non-abelian Proca model based on the improved BFT formalism. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2179–2199. (Ion V. Vancea) **99d:81079** 81T10

— (*with* Kim, Yong-Wan) Quantization of spontaneously broken gauge theory based on the BFT-BFV formalism. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 15, 1201–1212. (Summary) **99c:81256** 81T70 (81T13)

— (*with* Kim, Yong-Wan; Kim, Seung-Kook) Lagrangian approach of the first-class constrained systems. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 33, 2653–2663. (Summary) **99h:81218** 81T70

— (*with* Park, Mu-In) New gauge-invariant formulation of the Chern-Simons gauge theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 101702, 5 *pp.* (Summary) **99k:81186** 81T13

Park, Young Jin (*with* Lee, Young Ha) Maximum penalized likelihood estimate in a Sobolev space. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 23–30. (Alexander G. Kukush) **99a:62055** 62G05 (62H12)

Park, Young Soo (*with* Kim, Hae Sik; Kim, Eun Sup; Lee, Dong-Soo[1]) Some structures of seminear-rings. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 817–829. (David John) **99i:16080** 16Y30 (16Y99)

— (*with* Kim, Eun Sup; Kim, Yun Jae) Children ideals and children rings. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 151–155. (H. H. Brungs) **99i:16006** 16D25 (16E50)

Parker, Cameron (*with* Levy, Joshua David; Van Wyk, Leonard) Finite presentations of subgroups of graph groups. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 2, 70–82. (Vladimir I. Trofimov) **99d:20044** 20F05 (05C25)

Parker, Christopher W. (*with* Lempken, Wolfgang; Rowley, Peter J.) Minimal parabolic systems for the symmetric and alternating groups. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 149–162, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Hiroyoshi Yamaki) **99h:20020** 20D06 (20B30, 20E42)

— (*with* Rowley, Peter J.) Extremal subgroups in twisted Lie type groups. (English summary) *J. Reine Angew. Math.* **498** (1998), 135–152. (N. K. Dickson) **99g:20028** 20D06

Parker, D. F. *see* **Parker, David F.**

Parker, D. Stott Schur complements obey Lambek's categorial grammar: another view of Gaussian elimination and LU decomposition. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 63–84. (From the summary) **99j:03030** 03D05 (15A23)

Parker, David F. (*with* Porubov, A. V.) Some general periodic solutions to coupled nonlinear Schrödinger equations. (English summary) *Wave Motion* **29** (1999), *no.* 2, 97–109. (From the text) **99j:35210** 35Q55 (78A60)

Parker, I. B. (*with* Braithwaite, M.; Lynch, P. M.; Jones, A. F.; Wilson, Simon David Redfern) Compressional heating of isolated gas bubbles in reactive media. (English summary) *Math. Engrg. Indust.* **7** (1999), *no.* 3, 361–387. (Summary) **99j:80009** 80A32 (76N99)

Parker, John R. Uniform discreteness and Heisenberg translations. *Math. Z.* **225** (1997), *no.* 3, 485–505. (S. G. Dani) **99f:32041** 32H20 (22E40)

— On the volumes of cusped, complex hyperbolic manifolds and orbifolds. *Duke Math. J.* **94** (1998), *no.* 3, 433–464. (Darryl McCullough) **99i:32030** 32H20 (20H10, 57M50)

Parker, Leonard (*with* Raval, Alpan) Relation between Einstein and quantum field equations. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7327–7339. (Summary) **99k:81201** 81T20 (83C47)

Parker, M. *see* **Parker, Monique**

Parker, Matthew W. Did Poincaré really discover chaos? Essay review of *Celestial encounters* [Princeton Univ. Press, Princeton, 1996; MR 98e:70006] by F. Diacu and P. Holmes. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 4, 575–588. 70F15 (00A69, 01A05, 58–03, 70–03, 70F10, 70K20, 70K50)

Parker, Monique (*with* Buekenhout, Francis) The number of nets of the regular convex polytopes in dimension ≤ 4. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 69–94. (P. McMullen) **99f:52015** 52B15

Parker, R. G. *see* **Parker, Robert G.**

Parker, Richard A. An integral meataxe. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 215–228, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Sarah E. Rees) **99k:20003** 20–04

— (*with* Linton, Stephen; Walsh, Peter; Wilson, Robert A.) Computer construction of the Monster. *J. Group Theory* **1** (1998), *no.* 4, 307–337. (Jamshid Moori) **99k:20030** 20C34 (20C40, 20D08)

Parker, Robert G. (*with* Mote, C. D., Jr.) Exact boundary condition perturbation for eigensolutions of the wave equation. (English summary) 1996 India-U.S.A. Symposium on Emerging Trends in Vibration and Noise Engineering (Delhi). *J. Sound Vibration* **211** (1998), *no.* 3, 389–407. (Summary) **99d:73060** 73K12

Parker, Thomas H. (*with* Groisser, David) Sharp decay estimates for Yang-Mills fields. *Comm. Anal. Geom.* **5** (1997), *no.* 3, 439–474. (Antony Maciocia) **99b:53035** 53C07 (58D27, 58E15)

Parkes, Andrew J. (*with* Ginsberg, Matthew L.; Roy, Amitabha) Supermodels and robustness. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 334–339, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20

Parkes, E. J. (*with* Vakhnenko, V. O.) The two loop soliton solution of the Vakhnenko equation. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1457–1464. (Summary) **99h:35181** 35Q51

Parkes, N. E. (*with* Roberts, A. P.; Newmann, M. M.) A variational approach to the polynomial optimization of multivariable control with coloured noise at the controller output. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1037–1048. (Summary) **99d:93031** 93B52 (49M30, 93E20)

Parkhomenko, P. P. On the system diagnosis of vertex and edge hypercube structures of multiprocessor systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 165–174; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 2, 1668–1675 (1997). (Summary) **99b:68019** 68M10

Parkhomenko, S. E. Poisson-Lie T-duality and $N = 2$ superconformal WZNW models on compact groups. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 39, 3091–3103. (Javier Borlaf González) **99h:81196** 81T40

— Mirror symmetry as a Poisson-Lie T-duality. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 1041–1054. (Yolanda Lozano) **99j:81172** 81T40 (81R10, 81T30)

— Poisson-Lie T-duality and complex geometry in $N = 2$ superconformal WZNW models. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 623–639. (Javier Borlaf González) **99e:81227** 81T40 (81T30, 81T60)

Parkhouse, J. G. (*with* Kelly, A.) The regular packing of fibres in three dimensions. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1889–1909. (Summary) **99d:73065** 73K20 (52C17)

Parkin, I. A. Linear systems of tan-screws for finite displacement of a rigid body with symmetries. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 317–326, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70011** 70B15

— (*with* Baker, J. Eddie) On compounding three successive finite displacement screws. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 337–342, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Parkins, Keith (*with* Hemaspaandra, Lane A.; Nasipak, Christopher) A note on linear-nondeterminism, linear-sized, Karp-Lipton advice for the P-selective sets. (English summary) *J.UCS* **4** (1998), *no.* 8, 670–677 (*electronic*). (Summary) **99f:68072** 68Q15

Parks, George K. (*with* Lee, Nam C.) Envelope equation for nonlinear transverse waves in a warm two-fluid plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3853–3867. (Summary) **99f:76136** 76X05

Parks, Harold R. (*with* Pitts, Jon T.) Computing least area hypersurfaces spanning arbitrary boundaries. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 886–917. (J. E. Brothers) **99a:65026** 65D17 (49Q05, 65Y25)

Parks, P. C. (*with* Tsypkin, Yakov Zalmanovich; Vishnyakov, A. N.; Warwick, Kevin) Stability of solutions of linear difference equations with periodic coefficients. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 959–966. 93D05 (39A11)

Parks, Thomas W. (*with* Liang, Jie) Image coding using translation invariant wavelet transforms with symmetric extensions. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 5, 762–769. 94A12 (68U10)

Parlamento, Franco (*with* Marcone, Alberto; Policriti, Alberto) Finite families with few symmetric differences. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 835–845. (Péter Komjáth) **99f:04001** 04A03 (05D05)

Parlar, M. (*with* Çetinkaya, S.) Nonlinear programming analysis to estimate implicit inventory backorder costs. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 71–92. (Summary) **99a:90086** 90B05 (90C30)

Parlett, Beresford N. (*with* Dhillon, Inderjit S.) Fernando's solution to Wilkinson's problem: an application of double factorization. (English summary) *Linear Algebra Appl.* **267** (1997), 247–279. (Summary) **99f:15018** 15A23

— ★ The symmetric eigenvalue problem. (English summary) Corrected reprint of the 1980 original. Classics in Applied Mathematics, 20. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. xxiv+398 *pp. ISBN* 0-89871-402-8 (F. Szidarovszky) **99c:65072** 65F15 (15A18)

— Spectral sensitivity of products of bidiagonals. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 417–431. (Yao Zhang) **99e:65063** 65F15 (15A18)

Parlitz, Ulrich (*with* Kocarev, Ljupčo; Hu, Bambi) Lie deriatives and dynamical systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1359–1366. (Timothy Sauer) **99k:58119** 58F13 (58F40, 93B07)

Parmeggiani, Alberto Subunit balls for symbols of pseudodifferential operators. (English summary) *Adv. Math.* **131** (1997), *no.* 2, 357–452. (Vladimir B. Vasilyev) **99c:35270** 35S05 (47G30)

— (*with* Xu, Chao-Jiang) The Dirichlet problem for sub-elliptic second order equations. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 233–243. (Luca Capogna) **99e:35027** 35H05

— $\overline{\partial}_b$-operators on Cauchy-Riemann manifolds and almost-positivity of pseudodifferential operators. (English summary) *Geometry Seminars, 1996–1997 (Italian) (Bologna)*, 170–185, *Univ. Stud. Bologna, Bologna*, 1998. (Hervé Gaussier) **99k:32028** 32F40 (35N15, 35S99)

— (*with* Parenti, Cesare) Some remarks on almost-positivity of ψdo's. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 187–215. (Luigi Rodino) **99d:35194** 35S05 (47G30)

— Necessary and sufficient conditions for the almost-positivity of certain 4th-order pseudodifferential operators. A generalization. (English summary) *Forum Math.* **10** (1998), *no.* 3, 277–301. (Vladimir B. Vasilyev) **99g:47120** 47G30 (35S05)

Parmeggiani, Gemma (*with* Stellmacher, Bernd) p-groups of small breadth. *J. Algebra* **213** (1999), *no.* 1, 52–68. (Norberto Gavioli) **99m:20037** 20D15

Parmenter, M. M. (*with* Spiegel, Eugene; Stewart, P. N.) The periodic radical of group rings and incidence algebras. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 481–487. (Howard E. Bell) **99m:16044** 16S34 (16N80)

— (*with* Spiegel, Eugene) Algebraic properties of necklace rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1625–1632. (Ramdorai Sujatha) **99m:05014** 05A40 (13K05)

— A remark on k-systems in groups. *Czechoslovak Math. J.* **49(124)** (1999), *no.* 2, 347–349. 20N99

Parmentier, Marc Leibniz et les mathématiques. [Leibniz and mathematics] *Les philosophes et les mathématiques*, 89–105, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

Parmigiani, Giovanni Optimal scheduling of fallible inspections. (English summary) *Oper. Res.* **44** (1996), *no.* 2, 360–367. (Summary) **99k:90069** 90B05 (90B25)

— Timing medical examinations via intensity functions. (English summary) *Biometrika* **84** (1997), *no.* 4, 803–816. (Summary) **99a:62153** 62P10

— (*with* Clyde, Merlise; Vidakovic, Brani) Multiple shrinkage and subset selection in wavelets. (English summary) *Biometrika* **85** (1998), *no.* 2, 391–401. 62G05

— (*with* Carota, Cinzia) A Dirichlet process elaboration diagnostic for binomial goodness of fit. (English summary) *Test* **7** (1998), *no.* 1, 133–145. 62G10

Parmuzin, E. I. (*with* Shutyaev, V. P.) Numerical algorithms for solving a problem of data assimilation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 7, 816–827; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 7, 792–803. (V. D. Glushenkov) **99d:49056** 49M25 (49J27, 65M12)

Pärna, K. (*with* Lember, J.) On some properties of k-variance. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 267–278, *VSP, Utrecht*, 1995. (Summary) **99h:62074** 62H12

Parnas, Michal (*with* Mansour, Yishay) Learning conjunctions with noise under product distributions. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 4, 189–196. (Summary) **99h:68145** 68T05

— (*with* Karger, David R.; Nisan, Noam) Fast connected components algorithms for the EREW PRAM. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1021–1034 (*electronic*). (Summary) **99m:68070** 68Q22 (05C40, 05C85, 68R10)

Parner, Erik Asymptotic theory for the correlated gamma-frailty model. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 183–214. (Per Kragh Andersen) **99d:62080** 62M09 (62P10)

Parnovskiĭ, L. B. (*with* Davies, E. B.) Trapped modes in acoustic waveguides. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 477–492. (I. Kay) **99g:76132** 76Q05 (35J05, 35P05)

Parodi, P. (*with* Lancewicki, R.; Vijh, A.; Tsotsos, J. K.) Empirically-derived estimates of the complexity of labeling line drawings of polyhedral scenes. (English summary) *Artificial Intelligence* **105** (1998), *no.* 1-2, 47–75. (Evangelos Kranakis) **99i:68065** 68Q25 (68T99)

Paronetto, F. (*with* Serra Cassano, Francesco) On the convergence of a class of degenerate parabolic equations. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 9, 851–878. (Stepan D. Ivasyshen) **99m:35135** 35K65 (35B27, 35J70)

Paroush, Jacob (*with* Berg, Sven) Collective decision making in hierarchies. (English summary) *Math. Social Sci.* **35** (1998), *no.* 3, 233–244. (From the introduction) **99a:90013** 90A05

— (*with* Berend, Daniel) When is Condorcet's jury theorem valid? (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 481–488. (Summary) **99e:90005** 90A08

Parra, Andreas Triangulating multitolerance graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 183–197. (Hans L. Bodlaender) **99g:05166** 05C85 (05C78, 68R10)

Parra, Josep M. Teaching Clifford algebra as physical mathematics. *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 291–304, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00022**) 15A66

arenas Parra, M. Mar *see* **Arenas Parra, M. Mar**

bravo de la Parra, Rafael *see* **Bravo de la Parra, Rafael**

Parra, Y. (*with* Khoudeir, A.) Duality in the Born-Infeld theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025010, 4 *pp.* (Summary) **99m:81143** 81T13

Parrain, Anne (*with* Devienne, Philippe; Taillibert, Patrick; Varennes, Serge) Source-to-source Prolog program compression. (English summary) *Logic programming (Manchester, 1998)*, 205–219, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17

Parra-Vega, Vicente (*with* Liu, Yun-Hui; Arimoto, Suguru; Kitagaki, Kosei) Decentralized adaptive control of multiple manipulators in co-operations. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 649–673. 93A14 (93C40)

Parreau, F. (*with* Lemańczyk, Mariusz) On the disjointness problem for Gaussian automorphisms. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2073–2081. (Dominique Schneider) **99j:28016** 28D05

Parrilo, Pablo A. (*with* Sánchez Peña, Ricardo S.; Sznaier, Mario) A parametric extension of mixed time/frequency robust identification. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 364–369. 93B30 (93B36)

Parrott, A. K. (*with* LeHyaric, A.; Monk, P. B.; Jennings, N.; Murphy, John Andrew; Rowse, D.) Parallelisation of a 3-D electromagnetic scattering code. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 329–340, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65N30)

Parrott, K. *see* **Approximations and numerical methods for the solution of Maxwell's equations, 99a:00020**

Parrott, Mary E. (*with* Fitzgibbon, William E.; Morgan, J. J.; Webb, G. F.) An age dependent regularization of Martin's problem. *Reaction diffusion systems (Trieste, 1995)*, 131–139, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Hal Leslie Smith) **99f:92032** 92D30 (34C99, 35Q80, 47H05)

— (*with* Fitzgibbon, William E.; Morgan, J. J.) Periodicity in diffusive age-structured SEIR models. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 2, 195–216. (K. Gopalsamy) **99m:92047** 92D30 (35B10, 35Q80)

Parrow, Joachim (*with* Victor, Björn) The tau-laws of fusion. (English summary) *CONCUR'98: concurrency theory (Nice)*, 99–114, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

Parry, Charles J. (*with* McCall, Thomas M.; Ranalli, Ramona R.) The 2-rank of the class group of imaginary bicyclic biquadratic fields. (English summary) *Canad. J. Math.* **49** (1997), *no.* 2, 283–300. (Bart de Smit) **99d:11116** 11R16 (11R29)

Parry, W. *see* **Parry, William**

Parry, Walter R. (*with* Cannon, James W.; Floyd, William J.; Kenyon, Richard) Hyperbolic geometry. *Flavors of geometry*, 59–115, *Math. Sci. Res. Inst. Publ.*, 31, *Cambridge Univ. Press, Cambridge*, 1997. (Lee Mosher) **99c:57036** 57M50 (57N10)

Parry, William Cohomology of permutative cellular automata. (English summary) *Israel J. Math.* **99** (1997), 315–333. (Dieter H. Mayer) **99a:58099** 58F08 (58F11, 68Q80)

— Skew products of shifts with a compact Lie group. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 395–404. (Viorel Nițică) **99d:58108** 58F11

— (*with* Pollicott, Mark) The Livšic cocycle equation for compact Lie group extensions of hyperbolic systems. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 405–416. (Viorel Nițică) **99d:58109** 58F11

— (*with* Pollicott, Mark) Stability of mixing for toral extensions of hyperbolic systems. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 354–363. (Luis M. Barreira) **99g:58094** 58F15

— (*with* Coelho, Zaqueu; Williams, Robert F.) A note on Livšic's periodic point theorem. (English summary) *Topological dynamics and applications (Minneapolis, MN, 1995)*, 223–230, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:58180** 58F15 (58F11, 58F20)

— (*with* Coelho, Zaqueu) Shift endomorphisms and compact Lie extensions. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 1, 163–179. (G. R. Goodson) **99d:28027** 28D05 (58F11)

Parshall, Brian (*with* Cline, Edward; Scott, Leonard L.) Graded and non-graded Kazhdan-Lusztig theories. (English summary) *Algebraic groups and Lie groups*, 105–125, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Dieter Happel) **99h:16015** 16E40 (20G05)

— Some finite-dimensional algebras arising in group theory. (English summary) *Algebras and modules, I (Trondheim, 1996)*, 107–156, *CMS Conf. Proc.*, 23, *Amer. Math. Soc., Providence, RI*, 1998. (Daniel K. Nakano) **99h:20071** 20G05 (17B37)

— (*with* Du, Jie; Scott, Leonard L.) Quantum Weyl reciprocity and tilting modules. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 321–352. (Karin Erdmann) **99k:17026** 17B37 (16S80, 20G05)

— (*with* Du, Jie; Scott, Leonard L.) Stratifying endomorphism algebras associated to Hecke algebras. (English summary) *J. Algebra* **203** (1998), *no.* 1, 169–210. (Andrew P. Mathas) **99e:20006** 20C05 (16G10, 20F55)

— (*with* Du, Jie; Scott, Leonard L.) Cells and q-Schur algebras. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 33–49. (Jian Yi Shi) **99a:20041; EA 99m** 20G05 (20B30)

Parshall, Karen V. Hunger ★ James Joseph Sylvester. (English summary) Life and work in letters. *The Clarendon Press, Oxford University Press, New York*, 1998. *xviii*+321 *pp. ISBN* 0-19-850391-1 (R. L. Cooke) **99k:01072** 01A70 (01A55, 01A75)

— To belong: the role of community in the life and work of J. J. Sylvester. *Math. Intelligencer* **20** (1998), *no.* 3, 35–39. 01A70 (01A55)

Parshin, A. N. *see* **Number theory, 99a:11088a**

Parsian, A. (*with* Sanjari Farsipour, N.) Estimation of the Pareto parameter under entropy loss. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 187-188, 153–166. (Summary) **99j:62030** 62F10 (62C15)

Parsons, Charles Hao Wang as philosopher and interpreter of Gödel. (English summary) *Philos. Math.* (3) **6** (1998), *no.* 1, 3–24. (John W. Dawson, Jr.) **99d:01026** 01A60 (00A30, 01A70, 03A05)

— (*with* Grossi, Marie; Link, Montgomery; Makkai, Katalin) A bibliography of Hao Wang. (English summary) *Philos. Math.* (3) **6** (1998), *no.* 1, 25–38. (John W. Dawson, Jr.) **99d:01030** 01A70

Parsons, I. D. (*with* Coutinho, A. L. G. A.) Finite element multigrid methods for two-phase immiscible flow in heterogeneous media. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 1, 1–7. 76M10 (65M55, 76S05)

Parsons, Louise (*with* Sharp, P. W.) The efficiency of extended explicit Pouzet Volterra Runge-Kutta pairs. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 97–111. (Neide Bertoldi Franco) **99h:65221** 65R20

Parsons, Simon (*with* Sierra, Carles; Jennings, Nick) Agents that reason and negotiate by arguing. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 261–292. (Summary) **99d:68222** 68T27 (03B70)

Parsons, Terence D. (*with* Woodruff, Peter W.) Indeterminacy of identity of objects and sets. *Mind, causation, and world*, 1997, 321–348, *Philos. Perspect.*, 11, *Blackwell, Cambridge, MA*, 1997. (*see* **99f:00011**) 03A05

Parter, Seymour V. (*with* Cai, Zhi Qiang; Manteuffel, Thomas A.; McCormick, Stephen F.) First-order system least squares (FOSLS) for planar linear elasticity: pure traction problem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 320–335 (*electronic*). (Summary) **99a:73119** 73V05 (73C02)

Parthasarathy, G. (*with* Ananth Raj, P.) A recurrent neural network approach for ill-posed problems in computer vision. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 149–158. (*see* **99g:00043**) 68U10 (68T05)

Parthasarathy, K. R. *see* **Parthasarathy, Koduvayur Ramaiyer**

Parthasarathy, Kalyanapuram Rangachari Comparison of completely positive maps on a C^*-algebra and a Lebesgue decomposition theorem. *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 34–54, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (S. Gudder) **99b:46100** 46L50 (46L05)

— Classical Markov processes from a quantum probabilistic point of view. *Math. Student* **65** (1996), *no.* 1-4, 143–154. (Timothy M. W. Eyre) **99b:81121** 81S25 (60J99)

— (*with* Cohen, Paula Beazley; Hudson, Robin L.; Pulmannová, Sylvia) Hall's transformation via quantum stochastic calculus. (English summary) *Quantum probability* (*Gdańsk*, 1997), 147–155, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Timothy M. W. Eyre) **99h:81105** 81S25 (17B35)

— Some new examples of Lie super-algebra representations arising from quantum stochastic calculus. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 33–42. (Introduction) **99c:81113** 81S25 (17B81)

— On some Markov processes arising from the Eyre-Hudson super Lie algebra representations. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 485–498. (Andreas Boukas) **99g:81115** 81S25 (60G44, 60J25)

— (*with* Hudson, Robin L.; Lindsay, J. Martin) Flows of quantum noise. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 2, 143–160. (John E. Gough) **99k:81143** 81S25 (60H99)

— (*with* Lindsay, J. Martin) On the generators of quantum stochastic flows. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 521–549. (B. V. Rajarama Bhat) **99k:81145** 81S25 (46L57, 46L60, 47N50)

Parthasarathy, Koduvayur Ramaiyer (*with* Pandu Rangan, C.; Prakash, V.) On the g-centroidal problem in special classes of perfect graphs. (English summary) *Ars Combin.* **50** (1998), 267–278. (Summary) **99h:05034** 05C12 (05C85)

— (*with* Prakash, V.; Pandu Rangan, C.) The Duchet conjecture. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 447–459. (A. Vijayakumar) **99h:05035** 05C12 (05C35)

Parthasarathy, P. R. Orthogonal polynomials, birth and death processes, and continued fractions. *Special functions and differential equations* (*Madras*, 1997), 367–373, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 42C10 (60J80)

— (*with* Vijayalakshmi, V.) On quadrature approximation for the busy period density function of an $M/M/1$ queueing system. (English summary) *Amer. J. Math. Management Sci.* **18** (1998), *no.* 3-4, 277–289. (Summary) **99k:90078** 90B22 (60K25)

— (*with* Lenin, R. B.) On the exact transient availability in discrete time of parallel redundant repairable systems with quadratic rates. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 2-3, 89–101. (Summary) **99g:60160** 60K10 (62N05)

— (*with* Lenin, R. B.) On the numerical solution of transient probabilities of quadratic birth and death processes. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 4, 365–379. (Summary) **99g:60155** 60J80 (60J27)

— (*with* Lenin, R. B.; Schoutens, Wim; Van Assche, Walter) A birth and death process related to the Rogers–Ramanujan continued fraction. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 297–315. (Erik A. van Doorn) **99g:60156** 60J80 (30B70, 40A15, 60K25)

Parthasarathy, Ragavachariar (*with* Mann, Ady) $SU_q(2)$ and q-Wigner functions. (English summary) *Special functions and differential equations* (*Madras*, 1997), 218–223, *Allied Publ., New Delhi*, 1998. (Summary) **99j:33024** 33D80 (17B37)

— (*with* Viswanathan, K. S.) Self-dual Chern-Simons equations and Nambu-Goto action. (English summary) *J. Phys. A* **31** (1998), *no.* 50, 10155–10161. (Kumar S. Gupta) **99m:81145** 81T13

Parthasarathy, T. (*with* Murthy, G. S. R.) Fully copositive matrices. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 401–411. (Bruce D. Craven) **99j:90099** 90C33 (15A48)

— (*with* Murthy, G. S. R.; Sriparna, B.) Some recent results on the linear complementarity problem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 898–905 (*electronic*). (Michael M. Kostreva) **99f:90150** 90C33

— (*with* Mohan, Srinivasa Raghavan; Neogy, S. K.) On linear complementarity and a discounted polystochastic game. (English summary) *Stochastic and differential games*, 377–380, *Ann. Internat. Soc. Dynam. Games*, 4, *Birkhäuser Boston, Boston, MA*, 1999. (*see* **99m:90005**) 90C33 (90D15)

— *see also* **Stochastic and differential games, 99m:90005**

Parthasarthy, R. (*with* Subba Rao, S.) Theorems on defects of meromorphic functions. *Math. Ed.* (*Siwan*) **32** (1998), *no.* 1, 42–48. (Lo Yang) **99e:30022** 30D35

Partheymüller, P. (*with* Kuhn, Günther) Analysis of 3D elastoplastic notch and crack problems using boundary element method. *Boundary element topics* (*Stuttgart*, 1995), 99–119, *Springer, Berlin*, 1997. (Xiaoguang Allan Zhong) **99j:73107** 73V10 (65N38, 73E05, 73M25)

guzmán-Partida, Martha *see* **Guzmán-Partida, Martha**

Partington, Jonathan R. (*with* Dudley Ward, Nicholas F.) Robust identification in the disc algebra using rational wavelets and orthonormal basis functions. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 409–423. 93B30 (93B35)

— ★ Interpolation, identification, and sampling. London Mathematical Society Monographs. New Series, 17. *The Clarendon Press, Oxford University Press, New York*, 1997. xii+267 *pp. ISBN* 0-19-850024-6 (From the preface) **99m:41001** 41–02 (41A65, 46J10, 46N40, 47N70, 93B30)

— (*with* Bonnet, C.) Robust stabilization in the BIBO gap topology. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 5, 429–447. (Summary) **99c:93095** 93D21

— (*with* Harrison, K. J.; Ward, Jo) Complexity of identification of linear systems with rational transfer functions. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 4, 265–288. (Jan Bialasiewicz) **99k:93040** 93B30 (65Y20, 93B40)

— (*with* Dudley Ward, Nicholas F.) A construction of rational wavelets and frames in Hardy-Sobolev spaces with applications to system modeling. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 654–679 (*electronic*). (Richard Rochberg) **99i:42061** 42C30 (93A30)

— (*with* Mäkilä, Pertti M.; Norlander, T.) Bounded power signal spaces for robust control and modeling. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 92–117 (*electronic*). (Long Wang) **99f:93047** 93B36 (43A15, 93C80, 93D15)

Partouche, H. (*with* Kehagias, Alexandros A.) D-instanton corrections as (p, q)-string effects and nonrenormalization theorems. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 29, 5075–5092. (Summary) **99k:81250** 81T30 (81T15)

— (*with* Antoniadis, Ignatios; Taylor, T. R.) Lectures on heterotic-type I duality. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 58–71. (Summary) **99a:81123** 81T30 (83E30)

— (*with* Antoniadis, Ignatios; Taylor, T. R.) Lectures on heterotic-type I duality. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 3–16. (Summary) **99b:81171** 81T30 (83E30)

— (*with* Kehagias, Alexandros A.) The exact quartic effective action for the type IIB superstring. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 109–116. (Summary) **99a:81144** 81T30

— (*with* Ferrara, Sergio; Kehagias, Alexandros A.; Zaffaroni, Alberto[1]) Membranes and fivebranes with lower supersymmetry and their AdS supergravity duals. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 42–48. (Summary) **99f:81159** 81T30 (83E30, 83E50)

— (*with* Ferrara, Sergio; Kehagias, Alexandros A.; Zaffaroni, Alberto[1]) AdS_6 interpretation of 5D superconformal field theories. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 57–62. (Summary) **99c:83098** 83E50 (81T30, 83E30)

Partovi, Fariborz Y. (*with* Foulds, Leslie R.) Integrating the analytic hierarchy process and graph theory to model facilities layout. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 435–451. (*see* **99e:90003**) 90B80 (90C35)

Partovi, M. Hossein Reduced tangent dynamics and Lyapunov spectrum for Hamiltonian systems. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 17, 3424–3427. (Summary) **99m:58096** 58F05

Partsch, L. (*with* Szeidl, L.; Zolotarev, Vladimir M.) On the rate of convergence in a limit theorem for random symmetric polynomials. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 2975–2983. (Lajos Horváth) **99m:60036** 60F05

Partsvaniya, N. L. (*with* Koplatadze, R.) On the oscillation of solutions of two-dimensional linear differential systems with deviated arguments. *Mem. Differential Equations Math. Phys.* **13** (1998), 148–149. 34K15

Partyka, Agnieszka Roughness of solid surfaces in terms of invariant distances. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **24** (1997), 59–68. (Peter M. Makienko) **99h:30045** 30F60

Partyka, Dariusz (*with* Krzyż, J. G.) Harmonic extensions of quasisymmetric mappings. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 159–176. (Summary) **99a:30022** 30C55 (30C62, 30C75, 31A05)

— Eigenvalues of quasisymmetric automorphisms determined by VMO functions. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 121–135. (J. G. Krzyż) **99m:30040** 30C62 (42B30)

Parulekar, Minothi (*with* Makowski, Armand M.) Tail probabilities for $M/G/\infty$ input processes. I. Preliminary asymptotics. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 271–296 (1998). (Summary) **99a:60108** 60K25 (90B22)

Parusiński, Adam Blow-analytic retraction onto the central fibre. (English summary) *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 43–61, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Zbigniew Szafraniec) **99b:32058** 32S55 (32S25)

— (*with* Szafraniec, Zbigniew) On the Euler characteristic of fibres of real polynomial maps. (English summary) *Singularities Symposium—Łojasiewicz* 70 (*Kraków*, 1996;

Warsaw, 1996), 175–182, *Banach Center Publ.*, **44**, *Polish Acad. Sci., Warsaw*, 1998. (Eugenii Shustin) **99m:14107** 14P05 (14P25)

— (*with* Gwoździewicz, Janusz; Kurdyka, Krzysztof) On the number of solutions of an algebraic equation on the curve $y = e^x + \sin x$, $x > 0$, and a consequence for o-minimal structures. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1057–1064. (Detlef Laugwitz) **99f:03046** 03C62 (14P15, 26E05)

Parusnikov, N. A. (*with* Golovan, A. A.) On a relationship between the concept of stochastic measure of estimability and singular decompositions of matrices. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 45–49; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 190–193. (Summary) **99j:93096** 93E10

Parusnikov, V. I. (*with* Bruno, Alexander D.) Comparison of various generalizations of continued fractions. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 339–348; *translation in Math. Notes* **61** (1997), *no.* 3-4, 278–286. (Aleksander Grytczuk) **99d:11005** 11A55

— Klein polyhedra for complete decomposable forms. *Number theory (Eger*, 1996), 453–463, *de Gruyter, Berlin*, 1998. (Leonid Vulakh) **99f:11083** 11H46 (11J70)

Parvaix, Bruno Propriétés d'invariance des mots sturmiens. (English and French summaries) [Invariance properties of Sturmian words] *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 351–369. (Patrice Séébold) **99d:68208** 68R15 (11B85)

Parvanov, P. E. A characterization of best multivariate algebraic approximations from below and from above in terms of K-functionals. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 1-2, 37–49. (Walter Trebels) **99g:41027** 41A29 (26A15, 41A50, 46E35, 46M35)

Parvatham, Rajagopalan (*with* Ponnusamy, S.) Nonautonomous differential inequalities in the complex plane. *Mathematica* **37(60)** (1995), *no.* 1-2, 205–213. (T. N. Shanmugam) **99c:30028** 30C45

— (*with* Premabai, Millicent) On neighbourhoods of strongly starlike functions with respect to symmetric points. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 44–49, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 30C45

Parvathi, M. (*with* Kamaraj, M.) Signed Brauer's algebras. *Comm. Algebra* **26** (1998), *no.* 3, 839–855. (Fabio Gavarini) **99c:16028** 16S99 (16K20)

Parvathy, Karakattu S. (*with* Vijayakumar, Ambat) $(k, 2)$-convex graphs: minimal path convexity. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 15–17. (*see* **99h:05003**) 05C38

Parvizi, Shahrokh (*with* Ghezelbash, Amir M.; Kaviani, Kamran; Fatollahi, Amir H.) Interacting spinors-scalars and AdS/CFT correspondence. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 291–298. (From the text) **99m:81187** 81T30 (81T40, 83E30)

— (*with* Kavianib, Kamran; Fatollahi, Amir H.) Interaction of branes at angles in M(atrix) model. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 271–276. (Summary) **99g:81171** 81T30

Pârvu, V. (*with* Stanomir, D.) Using the discrete signal theory for analysing two families of polynomials on the unit circle. (English and Romanian summaries) *Politeh. Univ. Buchar. Sci. Bull. Ser. C Electr. Eng.* **59** (1997), *no.* 1-4, 61–70. 42C05 (94A12)

van Parys, Filip *see* **Van Parys, Filip**

Parzen, Emanuel *see* **Akaike, Hirotugu**, **99h:01040**

ten Pas, P. (*with* Ehrenfeucht, Andrzej; Harju, Tero; Rozenberg, Grzegorz) Permutations, parenthesis words, and Schröder numbers. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 259–264. (Summary) **99d:05003** 05A15

Paşa, G. (*with* Carasso, Claude) A control problem depending on coefficients, arising from an industrial process. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 343–353 (1998). 49N55 (93C95)

— (*with* Carasso, Claude) An optimal viscosity profile in the secondary oil recovery. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 211–221. (Summary) **99a:76145** 76S05 (76E99)

Pasadas, M. (*with* Torrens, J. J.; López de Silanes, M. C.) Approximation of offset curves and surfaces by discrete smoothing D^m-splines with tangent conditions. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc*, 1996), 329–336, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D10 (65D07, 65Y25)

— (*with* Kouibia, A.; Torrens, J. J.) Fairness approximation by modified discrete smoothing D^m-splines. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer*, 1997), 295–302, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65047** 65D17 (65D07, 65D10)

Pasanen, Pirjo Symmetries and observables for *BF* theories in superspace. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8123–8131. (From the introduction) **99a:81185** 81T70 (81T60)

Pascal, Blaise *see* **Descotes, Dominique**, **99g:01016** *and* **Cléro, Jean-Pierre**, (**99g:01038**)

Pascal, M. (*with* Beji, L.) The kinematics and the full minimal dynamic model of a 6-DOF parallel robot manipulator. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 4, 339–356. 70B15

de Pascale, E. *see* **De Pascale, E.**

Pascali, Eduardo Some results on generalized minimizing movements. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 49–66. (Ada Bottaro Aruffo) **99b:49028** 49M10 (49J45, 49K27)

— (*with* Sempi, Carlo) Joint entropy and Gaussian functions. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 45–54 (1998). (Guy Jumarie) **99j:94020** 94A17

— (*with* Sempi, Carlo) Two Lévy-type metrics for distribution functions. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 49–60. (S. Ghosh) **99g:60028** 60E05

Pascau, A. (*with* Gaspar, F. J.) A new multigrid method for higher-order discretizations in convection-diffusion problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 929–934, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N55

Pascazio, G. (*with* Napolitano, Michele; Quartapelle, L.) A review of vorticity conditions in the numerical solution of the ζ-ψ equations. (English summary) *Comput. & Fluids* **28** (1999), *no.* 2, 139–185. (Summary) **99j:76096** 76M25 (76M10, 76M20)

Pascazio, Saverio (*with* Namiki, Mikio; Nakazato, Hiromichi) ★ Decoherence and quantum measurements. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. x+228 *pp. ISBN* 981-02-3077-X (R. L. Ingraham) **99g:81022** 81P15 (81P05)

— (*with* Namiki, Mikio; Nakazato, Hiromichi) Time symmetry and quantum dephasing. (English summary) *Symmetries in science, X (Bregenz*, 1997), 315–323, *Plenum, New York*, 1998. (*see* **99f:81004**) 81Q15 (81P99)

Paschalidis, Ioannis Ch. (*with* Bertsimas, Dimitris; Tsitsiklis, John N.) On the large deviations behavior of acyclic networks of $G/G/1$ queues. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 1027–1069. (Anatolii A. Pukhal'skiĭ) **99j:60139** 60K25 (60F10)

— (*with* Bertsimas, Dimitris; Tsitsiklis, John N.) Asymptotic buffer overflow probabilities in multiclass multiplexers: an optimal control approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 315–335. (Summary) **99a:93108** 93E20 (90B25)

Paschalis, J. E. (*with* Nicolaidis, A.; Porfyriadis, P. I.) String tension and the generation of the conformal anomaly. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 047901, 3 *pp.* 81T50 (81T30)

Paschen, Ina *see* **Rudin, Walter**, **99g:01035**

Paschke, Mario (*with* Sitarz, Andrzej) Discrete spectral triples and their symmetries. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6191–6205. (Raimar Wulkenhaar) **99k:58017** 58B30 (46L87)

Paschos, Vangelis Th. (*with* Fernandez de la Vega, Wenceslao; Stafylopatis, Andreas N.) Average-case complexity for the execution of recursive definitions on relational databases. (English summary) *Acta Inform.* **35** (1998), *no.* 3, 211–243. (Lawrence V. Saxton) **99a:68040** 68P15

— (*with* Demange, Marc; Grisoni, Pascal) Differential approximation algorithms for some combinatorial optimization problems. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 107–122. (Summary) **99g:90154** 90C35 (05C85, 68Q25, 90C27)

Pasciak, Joseph E. (*with* Ewing, Richard E.; Lazarov, Raïcho D.; Vassilev, A. T.) Mathematical modeling, numerical techniques, and computer simulation of flows and transport in porous media. *Computational techniques and applications: CTAC95 (Melbourne*, 1995), 13–30, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76S05 (76M25)

— (*with* Bramble, James H.; Lazarov, Raïcho D.) Least-squares for second-order elliptic problems. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 195–210. (Pekka Neittaanmäki) **99a:65145** 65N30

Pascoa, Mario Rui Nash equilibrium and the law of large numbers. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 83–92. (Summary) **99e:90121** 90D13 (90D10)

Pascovici, Dana On the forced unilateral orientation number of a graph. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 171–183. (Zhibo Chen) **99c:05083** 05C20

Pascu, N. N. (*with* Owa, Shigeyoshi) On Schwarz lemma for the half plane. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 140–142. (*see* **99a:00033**) 30C80

Pascual, Felino G. On periodic perturbations of uniform motion of Maxwell's planetary ring. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 1, 47–72. (Donald G. Saari) **99c:70018** 70F10 (70F15)

Pascual de Sans, Pedro (*with* Latorre, José I.; Tarrach, Rolf) Minimal optimal generalized quantum measurements. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 7, 1351–1354. (Summary) **99d:81017** 81P15

Pasechnik, Gennady *see* **Eidelman, Samuil D.**, **99h:35080**

Paseka, Jan Simple quantales. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 314–328 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99b:06008** 06B10 (06F05, 54A05)

Pasenchenko, O. Yu. Conditions for a radial function in $\mathbf{R}^3$ to be a characteristic function. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 151–153; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 161–163 (1998). (Anatoly V. Swishchuk) **99e:60050** 60E10 (60G60)

Pashaev, A. B. On the derivative of multi-valued functions. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 425–428, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 26E25 (26A24, 46N10)

Pashaev, O. K. (*with* Martina, L.; Soliani, Giulio) Chern-Simons-Witten topological field theory and integrable models. *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 396–401, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81T70

— (*with* Lee, Jyh-Hao) Moving frames hierarchy and *BF* theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 102–123. (Luigi Martina) **99g:81132** 81T13 (35Q55, 58F07)

— (*with* Martina, L.; Soliani, Giulio) Bright solitons as black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084025, 13 *pp.* (Summary) **99m:83127** 83C57 (83C47)

Pashayev, A. B. *see* **Pashaev, A. B.**

Pashko, A. A. (*with* Savchenko, V. S.) Projection operation for multidimensional geometric modeling with real functions. (English summary) *Geometric modeling: theory and practice (Blaubeuren*, 1996), 197–205, *Focus Comput. Graph., Springer, Berlin*, 1997. (*see* **99d:65003**) 65Y25 (65D17)

Pashkov, A. G. (*with* Zemskov, K. A.) Construction of optimal positional strategies in a differential pursuit-evasion game with one pursuer and two evaders. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 403–412; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 391–399. (Anatoliĭ F. Kleimenov) **99g:90175** 90D25 (49J15)

Pashkova, Yuliya S. (*with* Kopachevskiĭ, Nikolai D.) Small oscillations of a viscous fluid in a vessel bounded by an elastic membrane. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 459–472 (1998). (Vyacheslav N. Pivovarchik) **99a:73104** 73K70 (35Q35, 35Q72, 76D99)

Pasic, H. Multipoint boundary-value solution of two-point boundary-value problems. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 397–416. (Elsayed Mohamed E. Zayed) **99m:65141** 65L10 (34A45, 34B10)

Pasichnik, T. V. (*with* Syavavko, M. S.) The transformation of parameter formal decomposition for solutions of linear differential equations in convergence continued Ritz-fractions. *Comm. Anal. Theory Contin. Fractions* **6** (1997), 36–40. (Narahari Parhi) **99b:47019** 47A50 (35C99, 40A15, 45B05, 45L05)

— Application of the fractional-rational method to problems in linear three-dimensional tomography. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2427–2430. (Summary) **99e:44001** 44A12 (92C55)

Pasik, Michael F. (*with* Seidel, David B.; Lemke, Raymond W.) A modified perfectly matched layer implementation for use in electromagnetic PIC codes. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 125–132. 78–08

Pasik-Duncan, Bożenna Limit theorems of probability theory in linear controlled evolution systems with quadratic cost. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 21 *pp.* (*electronic*). (Andrew James Heunis) **99k:60063** 60F05 (60F10, 60H30, 93E20)

— (*with* Duncan, T. E.; Maslowski, Bohdan) Ergodic distributed control for parameter dependent stochastic semilinear systems. (English summary) *Stochastic differential and difference equations* (*Győr*, 1996), 43–58, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Ł. Stettner) **99f:93142** 93E20 (60H15)

— (*with* Duncan, T. E.; Stettner, Łukasz) Adaptive control of a partially observed discrete time Markov process. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 3, 269–293. (Andrew James Heunis) **99b:93054** 93E35 (60J05, 90C40)

— (*with* Duncan, T. E.; Stettner, Łukasz) Discretized maximum likelihood and almost optimal adaptive control of ergodic Markov models. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 422–446 (*electronic*). (Michael A. Kouritzin) **99g:93087** 93E20 (60J05, 62M05)

— (*with* Duncan, T. E.; Maslowski, Bohdan) Ergodic boundary/point control of stochastic semilinear systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1020–1047 (*electronic*). (Ł. Stettner) **99e:49020** 49J55 (60H15, 93C20, 93E20)

Pasini, Antonio (*with* Meixner, Thomas) On flat extended grids. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 207–226. (Johannes Siemons) **99a:05020** 05B25

— (*with* Huybrechts, Cécile) A characterization of the Hall-Janko group J_2 by a $c.L^*$-geometry. (English summary) *Groups and geometries* (*Siena*, 1996), 91–106, *Trends Math., Birkhäuser, Basel*, 1998. (Alberto Delgado) **99i:51011** 51E24 (20D08, 20E32)

— (*with* Huybrechts, Cécile) Flag-transitive extensions of dual projective spaces. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 341–352. (M. J. Kallaher) **99h:51015** 51E24

— Parallelism and cubes in $C_2.c$-geometries. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 183–213. (Hendrik Van Maldeghem) **99a:51010** 51E24

— Errata: "Parallelism and cubes in $C_2.c$-geometries" [European J. Combin. **19** (1998), no. 2, 183–213; MR 99a:51010] by Pasini and "On $C_2.L$-geometries" [Geom. Dedicata **71** (1998), no. 1, 33–59; MR 99k:51014a] by B. Baumeister and Pasini. *European J. Combin.* **19** (1998), *no.* 8, 967. (Francis Buekenhout) **99k:51014b** 51E24 (05B25, 20B25)

— (*with* Baumeister, Barbara) On $C_2.L$-geometries. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 33–59. (Francis Buekenhout) **99k:51014a** 51E24 (05B25, 20B25)

— *see also* **Groups and geometries**, **99c:51004**

Pask, David (*with* Kumjian, Alex; Raeburn, Iain) Cuntz-Krieger algebras of directed graphs. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 161–174. (Berndt Brenken) **99i:46049** 46L35 (05C20, 22A22)

Pask, Gordon *see* **Rocha, Luis Mateus**

Pasko, A. *see* **Pashko, A. A.**

Pasnicu, Cornel On the range of traces on the set of projections of some simple C^*-algebras with real rank zero. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 5-6, 453–457. (Summary) **99k:46102** 46L05

— *AH* algebras with the ideal property. (English summary) *Operator algebras and operator theory* (*Shanghai*, 1997), 277–288, *Contemp. Math.*, 228, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99m:46141** 46L05

Pasour, Virginia B. (*with* Muller, Keith E.) Bias in linear model power and sample size due to estimating variance. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 839–851. (Summary) **99a:62095a** 62J05

— (*with* Muller, Keith E.) Erratum: "Bias in linear model power and sample size due to estimating variance". *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1811. (Summary) **99a:62095b** 62J05

Pasquali, Aldo (*with* Dieci, Luca; Morini, Benedetta; Papini, Alessandra) On real logarithms of nearby matrices and structured matrix interpolation. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 145–165. (Summary) **99h:65021** 65D15 (65D05, 65F30)

Pasquali-Coluzzi, Dario (*with* Dicuonzo, Vincenzo) Orthogonality in finite inversive spaces and polarity in projective spaces over a GF(q), q odd. (English summary) *Mitt. Math. Sem. Giessen No.* 235 (1998), 25–31. (Summary) **99i:51012** 51E25

Pasqualone, Giulio (*with* Frigioni, Daniele; Miller, Tobias; Nanni, Umberto; Schaefer, Guido; Zaroliagis, Christos D.) An experimental study of dynamic algorithms for directed graphs. *Algorithms—ESA '98* (*Venice*), 368–380, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q25 (68R10)

Pasqualucci, D. (*with* Costantini, Cristina) Monotonicity of Bayes sequential tests for multidimensional and censored observations. (English summary) *J. Statist. Plann. Inference* **75** (1998), *no.* 1, 117–131. (Summary) **99k:62143** 62L10 (62F15)

Pasquetti, R. (*with* Borchers, W.; Forestier, M. Y.; Kräutle, S.; Peyret, R.; Rautmann, R.; Ross, Nicole; Sabbah, Cyril) A parallel hybrid highly accurate elliptic solver for viscous flow problems. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 3–24, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76104** 76M25 (65N55)

Pasquier, V. (*with* Haldane, F. D. M.) A dipole interpretation of the $\nu = 1/2$ state. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 719–726. (Summary) **99a:81210** 81V70

Pasquinelli, G. (*with* Lucchesi, M.; Padovani, Cristina; Zani, N.) The maximum modulus eccentricities surface for masonry vaults and limit analysis. (English summary) *Math. Mech. Solids* **4** (1999), *no.* 1, 71–87. (Summary) **99j:73080** 73K99

Pasquini, M. (*with* Baviera, R.; Serva, Maurizio) A variational approach to Ising spin glasses in finite dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4127–4140. (Summary) **99b:82086** 82D30 (82B20)

Pasquinucci, Andrea (*with* Petrini, Michela) On the evaluation of Compton scattering amplitudes in string theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4717–4757. (Summary) **99h:81181** 81T30

— (*with* Barbón, J. L. F.) A note on softly broken MQCD. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1453–1462. (Summary) **99b:81230** 81T60 (81T13, 81T30)

— (*with* Barbón, J. L. F.) D0-branes, constrained instantons and $D = 4$ super Yang-Mills theories. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 125–141. (Daniel N. Kabat) **99h:81203** 81T60 (81T13)

bechmann-Pasquinucci, H. *see* **Bechmann-Pasquinucci, H.**

Passare, Mikael (*with* Tsikh, A. K.; Cheshel′, A. A.) Multiple Mellin-Barnes integrals as periods on Calabi-Yau manifolds with several moduli. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 3, 381–394; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 3, 1544–1555 (1997). (V. V. Chueshev) **99d:32026** 32G20 (14J15, 14J32, 32A27, 32G05, 33E20)

— (*with* Henkin, Gennadi) Abelian differentials on singular varieties and variations on a theorem of Lie-Griffiths. (English summary) *Invent. Math.* **135** (1999), *no.* 2, 297–328. (Reinhold Hübl) **99m:32038** 32J25 (14F10, 32A27, 32C30)

Passarella, Francesca (*with* Bartilomo, Valeria) Some theorems in the theory of heat conduction with dissipative boundaries. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **42** (1996), 99–109 (1998). (Aleksey D. Drozdov) **99c:73008** 73B30 (35K20, 35Q72, 45K05, 80A20)

— (*with* Cattani, Carlo) Nonsimple porous materials with thermal relaxation. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 337–355 (1997). (D. Ieşan) **99d:73003** 73B05 (73B18, 73B30, 73C15)

Passarelli Di Napoli, Antonia A local version of Rubio de Francia's extrapolation theorem. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 291–301 (1996). (Mario Milman) **99f:46039** 46E30 (46M35, 47B47)

Passaseo, Donato Multiplicity of nodal solutions for elliptic equations with supercritical exponent in contractible domains. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 245–262 (1997). (Marco Degiovanni) **99b:35070** 35J65 (35B32, 35B40)

— Multiplicity of critical points for some functionals related to the minimal surfaces problem. *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 2, 105–121. (Monica Lazzo) **99h:58040** 58E12 (49Q05, 58E05)

— (*with* Musso, Monica) Multibump solutions for a class of nonlinear elliptic problems. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 1, 53–86. (Gianni Arioli) **99e:35067** 35J65

— Nontrivial solutions of elliptic equations with supercritical exponent in contractible domains. *Duke Math. J.* **92** (1998), *no.* 2, 429–457. (Yi Hong Du) **99f:35062** 35J65

— Relative category and multiplicity of positive solutions for the equation $\Delta u + u^{2^*-1} = 0$. *Nonlinear Anal.* **33** (1998), *no.* 5, 509–517. (Andrzej Szulkin) **99i:35050** 35J65 (35B05, 58E05)

Passchier, O. (*with* Hordijk, Arie; Spieksma, F. M.) On the existence of the Puiseux expansion of the discounted rewards: a counterexample. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 2, 229–235. (Summary) **99m:90158** 90C40

Passerini, Arianna (*with* Patria, M. Cristina; Thäter, Gudrun) Steady flow of a viscous incompressible fluid in an unbounded "funnel-shaped" domain. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 43–62. (Benoît P. Desjardins) **99f:35171** 35Q35 (76D05)

Passi, I. B. S. (*with* Chadha, Gurmeet K.) Bass conjecture and the group trace property. *Comm. Algebra* **26** (1998), *no.* 2, 627–639. (Zbigniew Marciniak) **99g:16032** 16S34 (16U60)

— (*with* Arora, Satya R.; Hales, A. W.) The multiplicative Jordan decomposition in group rings. *J. Algebra* **209** (1998), *no.* 2, 533–542. (M. M. Parmenter) **99j:16015** 16S34 (20C05)

— *see also* **Algebra**, **99m:20001**

Passino, Kevin M. (*with* Porter, La Moyne L., II) Genetic adaptive and supervisory control. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 1, 1–41. 93C40 (93C83)

— (*with* Burgess, Kevin) Path-clearing policies for flexible manufacturing systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 573–578. 93E20 (90B60)

Passman, Donald S. Semiprimitivity of group algebras: past results and recent progress. (English summary) *Trends in ring theory* (*Miskolc*, 1996), 127–157, *CMS Conf. Proc.*, 22, *Amer. Math. Soc., Providence, RI*, 1998. (Martha K. Smith) **99a:16020** 16S34 (16N20, 20C07)

— Simple Lie algebras of Witt type. (English summary) *J. Algebra* **206** (1998), *no.* 2, 682–692. (Dragomir Ž. Djoković) **99j:17012** 17B20 (17B40)

— Simple Lie color algebras of Witt type. (English summary) *J. Algebra* **208** (1998), *no.* 2, 698–721. (Aleksandr A. Mikhalev) **99m:17035** 17B70 (17B20, 17B40)

— (*with* Liu, Chia-Hsin) Group algebras with units satisfying a group identity. II. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 337–341. (Adalbert Bovdi) **99f:16029** 16S34 (16R10, 16U60)

— (*with* Wauters, Paul) Semi-invariants and weights of group algebras of finite groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1323–1329. (M. M. Parmenter) **99h:16041** 16S34 (20C05)

Passman, Stephen L. (*with* Drew, Donald A.) ★ Theory of multicomponent fluids. (English summary) Applied Mathematical Sciences, 135. *Springer-Verlag, New York*, 1999. $x+308$ *pp. ISBN* 0-387-98380-5 (Sergey L. Gavrilyuk) **99k:76143** 76T05 (35Q35, 73B99, 76A99)

dal Passo, Roberta *see* **Dal Passo, Roberta**

Passoni, Giuseppe (*with* Alfonsi, Giancarlo; Pancaldo, Lea; Zampaglione, Domenico) A spectral-finite difference solution of the Navier-Stokes equations in three dimensions. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 129–142. (Summary) **99d:76065** 76M20 (76M25)

— (*with* Alfonsi, Giancarlo; Tula, Giovanni; Cardu, Umberto) A wavenumber parallel computational code for the numerical integration of the Navier-Stokes equations. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 593–611. 65M06 (65Y05)

Passot, Thierry (*with* Bowman, Chris; Assenheimer, Michel; Newell, Alan C.) A wavelet based algorithm for pattern analysis. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 250–282. (Summary) **99f:76096** 76M25 (76E15)

Passow, Eli On the solutions of $n! = m!r!$. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 337–344. (Nikos Tzanakis) **99i:11025** 11D99 (11Y50)

Paštéka, Milan Submeasures and uniform distribution on Dedekind domains. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 357–372. (Štefan Porubský) **99c:11098** 11K36 (13F05, 28C10)

Pasti, Paolo (*with* Sorokin, D. P.; Tonin, Mario) Comment on: "Covariant duality symmetric actions" [Phys. Rev. D (3) **53** (1996), no. 10, 5974–5977; MR 97a:81167] by A. Khoudeir and N. R. Pantoja. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2473–2474. (Summary) **99a:81104** 81T13

— (*with* Bandos, Igor A.; Sorokin, D. P.; Tonin, Mario) Superbrane actions and geometrical approach. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 79–91, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81217** 81T30

— (*with* Sorokin, D. P.; Tonin, Mario) On gauge-field superbrane actions in AdS superbackgrounds. (English summary) *Phys. Lett. B* **447** (1999), *no.* 3-4, 251–256. (Summary) **99m:83193** 83E30 (81T30)

Pastijn, F. (*with* Trotter, P. G.) Complete congruences on lattices of varieties and of pseudovarieties. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 2, 171–201. (Ivan Chajda) **99m:08021** 08B15 (08A30, 20M07)

martínez-Pastor, A. *see* **Martínez-Pastor, A.**

galindo Pastor, Carlos *see* **Galindo Pastor, Carlos**

Pastor, Gerardo (*with* Romera, Miguel; Álvarez, Gonzalo; Montoya, Fausto V.) Ordering of the Mandelbrot-like set of the exponential map. (English summary) *Chaos* **8** (1998), *no.* 4, 739–740. (Summary) **99h:58160** 58F23

Pastor, Guillermo Cubic and quartic equations: the tulip theorem. (Spanish) *Miscelánea Mat. No.* 21 (1994), 21–28. 12E12

— (*with* Díaz, Andrés) The game of snakes and ladders. (Spanish) *Miscelánea Mat. No.* 24 (1996), 15–22. 90D15

Pastor, Javier (*with* Martínez Carracedo, Celso; Sanz Alix, Miguel A.) Fractional powers of multivalued linear operators. Generation of analytic semigroups. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 507–512, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 47D06 (34G10)

Pastor, José A. (*with* Alías, Luis J.) Constant mean curvature spacelike hypersurfaces with spherical boundary in the Lorentz-Minkowski space. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 85–93. (Rafael López) **99h:53081** 53C42 (53A10, 53C50)

— (*with* Alías, Luis J.; López, Rafael) Compact spacelike surfaces with constant mean curvature in the Lorentz-Minkowski 3-space. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 491–501. (Mehmet Erdoğan) **99k:53122** 53C50 (53C42)

Pastor, M. (*with* Zienkiewicz, O. C.; Rojek, J.; Taylor, Robert Leroy) Triangles and tetrahedra in explicit dynamic codes for solids. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 3, 565–583. (Summary) **99f:73085** 73V05

— (*with* Zienkiewicz, O. C.; Li, Tongchun; Liu, Xiaoqing; Huang, Maosong) Stabilized finite elements with equal order of interpolation for soil dynamics problems. (English summary) *Arch. Comput. Methods Engrg.* **6** (1999), *no.* 1, 3–33. 73V05 (65M60, 73Q05)

— (*with* Li, Tongchun; Liu, Xiaoqing; Zienkiewicz, O. C.) Stabilized low-order finite elements for failure and localization problems in undrained soils and foundations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 1-2, 219–234. 73Q05 (73V05)

hernández-Pastora, J. L. *see* **Hernández-Pastora, J. L.**

Pastore, Anna Maria Classification of locally symmetric contact metric manifolds. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 89–96. (Zbigniew Olszak) **99k:53061** 53C15 (53C35)

— (*with* Ianuş, Stere) Harmonic maps and f-structures with parallelizable kernel. *New developments in differential geometry, Budapest* 1996, 143–154, *Kluwer Acad. Publ., Dordrecht*, 1999. (Cornelia-Livia Bejan) **99m:58064** 58E20 (53C15)

Pastor-Satorras, R. (*with* Wagensberg, J.) The maximum entropy principle and the nature of fractals. (English summary) *Phys. A* **251** (1998), *no.* 3-4, 291–302. (Summary) **99a:82004** 82B03 (28A80)

Pastrana Ramírez, L. (*with* Galeana-Sánchez, Hortensia) Kernels in edge coloured line digraph. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 91–98. (Matúš Harminc) **99g:05088** 05C20

Pastravanu, O. (*with* Jagannathan, Sarargapani; Lewis, Frank L.) Discrete-time model reference adaptive control of nonlinear dynamical systems using neural networks. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 217–239. 93C40 (93C55)

Pastukhov, V. P. (*with* Il′gisonis, V. I.) Hidden symmetry and conservation laws in magnetohydrodynamic systems with nested magnetic surfaces. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 38–40. 76W05 (35Q35)

Pastukhova, S. E. On the character of the damping of displacements in an elastic periodically perforated body with given deformation of the outer boundary under elastic constraints on the boundary of the cavities. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1401–1409, 1439; *translation in Differential Equations* **32** (1996), *no.* 10, 1398–1406 (1997). (Alexander G. Kolpakov) **99a:73012** 73B27 (35B27, 35Q72, 73D99)

Pastur, Leonid Andreevich (*with* Shcherbina, Maria) Distribution of the eigenvalues of a class of random matrices in the limit of their infinite dimension. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 131–138. (Alexei Khorunzhy) **99f:82036** 82B44 (15A52, 60F99)

— *see also* **Gurarīĭ, V. P.** *and* **Reminiscences about Il′ya Mikhaĭlovich Lifshits**

Pasynkov, Boris A. On the geometry of continuous mappings of finite-dimensional metrizable compacta. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 147–172. (Vesko Valov) **99g:54032** 54F45 (54C99, 54D30)

— On the finite-dimensionality of topological products. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 377–386. (Richard P. Millspaugh) **99b:54055** 54F45 (54B10)

— (*with* Buhagiar, David; Miwa, Takuo) Superparacompact type properties. (English summary) *Yokohama Math. J.* **46** (1998), *no.* 1, 71–86. (Summary) **99k:54013** 54D20 (54C10)

Paszkiewicz, Adam (*with* Hensz-Chądzyńska, Ewa; Jajte, Ryszard) Almost sure convergence of projections in L_p-spaces. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 67–84. (Richard D. Duncan) **99c:28046** 28D05 (47A35, 47B38)

— (*with* Ignaczak, Ewa) Perturbation of normal operators, vanishing on a given subspace. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 851–858. (Alexei V. Rybkin) **99f:47027** 47B15 (47A55)

— (*with* Hensz-Chądzyńska, Ewa; Jajte, Ryszard) Dilation theorems for completely positive maps and map-valued measures. (English summary) *Quantum probability* (*Gdańsk*, 1997), 231–239, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (B. V. Rajarama Bhat) **99k:46114** 46L50 (28B05, 46L10)

— (*with* Ignaczak, Ewa) Extensions of convex functionals on convex cones. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 3, 381–386. (S. Simons) **99j:46005** 46A22 (46N10, 90A12, 90C25)

— (*with* Jajte, Ryszard) Almost sure approximation of unbounded operators in $L_2(X, \mathscr{A}, \mu)$. (English summary) *Studia Math.* **128** (1998), *no.* 2, 103–120. (Fumio Hiai) **99c:47016** 47A58 (46E30, 47B15, 47B25)

Pata, Roberto Generalized Navier-Stokes equations in two dimensions. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 255–266 (1997). (José Luiz Boldrini) **99h:35170** 35Q30 (35B40, 76D05)

Pata, Vittorino (*with* Lindsay, J. Martin) Some weak laws of large numbers in noncommutative probability. *Math. Z.* **226** (1997), *no.* 4, 533–543. (Stanisław Goldstein) **99c:46077** 46L50 (60B99)

— (*with* Grasselli, Maurizio) Longtime behavior of a homogenized model in viscoelastodynamics. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 339–358. (Jaime E. Muñoz Rivera) **99e:73060** 73F15 (35B27, 35Q72, 45K05, 73B27)

— (*with* Giorgi, Claudio; Marzocchi, Alfredo) Asymptotic behavior of a semilinear problem in heat conduction with memory. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 333–354. (Sergei A. Vakulenko) **99h:35081** 35K20 (35B40, 45K05)

Pataki, Gábor On the rank of extreme matrices in semidefinite programs and the multiplicity of optimal eigenvalues. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 339–358. (Alexander Shapiro) **99e:90094** 90C30 (65F15)

Patarin, Jacques Asymmetric cryptography with a hidden monomial and a candidate algorithm for $\simeq 64$ bits asymmetric signatures. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 45–60, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (Summary) **99b:94040** 94A60

Patashnik, Oren (*with* Graham, Ronald L.; Knuth, Donald E.) ★ Matematyka konkretna. (Polish. Polish summary) [Concrete mathematics] Translated from the 1994 English original by P. Chrząstowski [Piotr Chrząstowski-Wachtel], A. Czumaj, L. Gąsieniec and M. Raczunas. *Wydawnictwo Naukowe PWN, Warsaw*, 1996. 719 *pp. ISBN* 83-01-12124-6 (Editors) **99c:68001** 68–01 (00–01, 00A05, 05–01, 68Rxx)

— (*with* Graham, Ronald L.; Knuth, Donald E.) ★ Matematyka konkretna. (Polish. Polish summary) [Concrete mathematics] Translated from the second English (1994) edition by P. Chrząstowski, A. Czumaj, L. Gąsieniec and M. Raczunas. Second edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 719 *pp. ISBN* 83-01-12124-6 (Editors) **99m:68002** 68–01 (00–01, 00A05, 68Rxx)

Pataut, Fabrice Eine antirealistische Sicht von Sprache, Denken, Logik und der Geschichte der analytischen Philosophie. Ein Gespräch mit Michael Dummett. (English and German summaries) [An antirealist interpretation of language, thought, logic and of the history of analytic philosophy. A talk with Michael Dummett] *Conceptus* **30** (1997), *no.* 76, 1–36. 03A05

Patch, S. K. (*with* Grünbaum, F. Alberto) How many parameters can one solve for in diffuse tomography? (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 219–235, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Alexander S. Denisjuk) **99a:65188** 65R20 (44A12, 92C55)

kouémou-Patcheu, Solange *see* **Kouémou-Patcheu, Solange**

Patchkoria, A. Crossed semimodules and Schreier internal categories in the category of monoids. (English summary) *Georgian Math. J.* **5** (1998), *no.* 6, 575–581. (Summary) **99g:18002** 18B40 (20M50)

Pate, Thomas H. Row appending maps, Ψ-functions, and immanant inequalities for Hermitian positive semi-definite matrices. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 2, 307–358. (Y. Kuo (Zbl 907.15011)) **99m:15004** 15A15 (15A45, 15A48)

Patel, A. B. (*with* Bhatt, S. J.) On seminorms with multiplicativity factors on involutive algebras. (English summary) *Math. Today* (*Ahmedabad*) **16** (1998), 17–24. (Volker Runde) **99k:46091** 46K05

kumar Patel, Anil *see* **Kumar Patel, Anil**

Patel, Anil Kumar *see* **Kumar Patel, Anil**

Patel, B. N. (*with* Dube, K. K.) Semi-separation concerning with finite sets. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 297–299. 54D10 (54D15)

Patel, H. I. Clinical trials in drug development: some statistical issues. *Design and analysis of experiments*, 31–62, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62P10

Patel, Hemendra K. (*with* Hulsurkar, Suresh G.) On the graph on a Weyl group being an interval graph. (English summary) *Rev. Colombiana Mat.* **32** (1998), *no.* 1, 1–12. (Kimmo Eriksson) **99m:05166** 05E15 (05C25, 20F55)

Patel, L. K. (*with* Dadhich, Naresh; Tikekar, Ramesh) A duality relation for fluid spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, *L27–L29*. (Summary) **99a:83040** 83C50

— *see also* **Barnes, Alan**, **99d:83021**

Patel, M. D. (*with* Patel, R. M.) Metric of axially symmetric null dust distribution. (English summary) *Math. Today* (*Ahmedabad*) **16** (1998), 57–64. 83C55 (83C15)

Patel, N. V. (*with* Tripathi, Sanjay) On absolute Cesàro summability of infinite series. *Math. Ed.* (*Siwan*) **31** (1997), *no.* 1, 55–60. (J. Németh) **99c:40010** 40G05 (40F05)

Patel, Nital S. (*with* Baras, John S.) Robust control of set-valued discrete-time dynamical systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 61–75. (Zbigniew Banaszak) **99a:93089** 93D21 (90D25, 93C55)

Patel, R. B. Duality in multiobjective nonlinear fractional programs using augmented Lagrangian functions. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 2-3, 101–114. (Summary) **99i:90084** 90C29 (49N15, 90C32)

— Duality and sufficiency for fractional control problems with invexity. *Nonlinear Anal.* **35** (1999), *no.* 5, *Ser. A: Theory Methods*, 541–548. (Juan-Enrique Martínez-Legaz) **99j:49042** 49K15 (26B25, 49N15)

Patel, R. M. (*with* Patel, M. D.) Metric of axially symmetric null dust distribution. (English summary) *Math. Today* (*Ahmedabad*) **16** (1998), 57–64. 83C55 (83C15)

Patel, Rajnikant V. (*with* Misra, Pradeep; Gu, Guoxiang) Computation of simple and group factors of multivariate polynomials. (English summary) *Circuits Systems Signal*

Process. **16** (1997), *no.* 4, 455–473. (Summary) **99f:93061** 93B40 (65H05, 93C80)

— (*with* Yazdanpanah, M. J.; Khorasani, K.) Uncertainty compensation for a flexible-link manipulator using nonlinear H_∞ control. (English summary) *Internat. J. Control* **69** (1998), *no.* 6, 753–771. 93B36 (73K50, 93C85)

— (*with* Moallem, M.; Khorasani, K.) Inversion-based sliding control of a flexible-link manipulator. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 477–490. 93C85 (70B15, 70Q05)

Patel, Rupa A. (*with* Walton, Andrew G.) On the neutral stability of spanwise-periodic boundary-layer and triple-deck flows. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 311–328. (Summary) **99b:76025** 76D10

Patel, S. M. On intertwining p-hyponormal operators. (English summary) *Indian J. Math.* **38** (1996), *no.* 3, 287–290. (Hong W. Kim) **99g:47043** 47B20

Patel, S. R. (*with* Shankhapal, R. M.; Thakur, L. B.; Harihar, Ajay K.) On modified algorithm for primal-dual linear programming. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 7–18. (Summary) **99a:90126** 90C05

Patel, Sarvar (*with* Sundaram, Ganapathy S.) An efficient discrete log pseudo-random generator. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 304–317, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (*see* **99i:94059**) 94A60 (65C10)

Patel-Schneider, Peter F. (*with* Horrocks, Ian) Optimising propositional modal satisfiability for description logic subsumption. (English summary) *Artificial intelligence and symbolic computation* (*Plattsburgh, NY*, 1998), 234–246, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 03B45

Patera, Anthony T. (*with* Paraschivoiu, Marius; Peraire, Jaime) A posteriori finite element bounds for linear-functional outputs of elliptic partial differential equations. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 289–312. (Jacques Rappaz) **99a:65156** 65N30 (76M10)

— (*with* Peraire, Jaime) Bounds for linear-functional outputs of coercive partial differential equations: local indicators and adaptive refinement. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 199–216, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Ricardo G. Durán) **99j:65211** 65N30

— (*with* Paraschivoiu, Marius; Peraire, Jaime; Maday, Yvon) Fast bounds for outputs of partial differential equations. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 323–360, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:65160** 65N30 (65N15, 76M10)

— (*with* Paraschivoiu, Marius) A hierarchical duality approach to bounds for the outputs of partial differential equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 389–407. (Summary) **99c:65211** 65N30 (76M10)

— (*with* Kambourides, Miltos E.; Yeşilyurt, Serhat) Non-parametric-validated computer-simulation surrogates: a Pareto formulation. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 971–1003. (Summary) **99e:90115** 90C90 (90C29)

— (*with* Peraire, Jaime) Asymptotic a posteriori finite element bounds for the outputs of noncoercive problems: the Helmholtz and Burgers equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **171** (1999), *no.* 1-2, 77–86. (Summary) **99m:65218** 65N30

Patera, Jiří (*with* Grimm, Stefan; de Montigny, M.) The signatures of finite-dimensional representations of the de Sitter groups SO(4, 1) and SO(3, 2). (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7463–7471. (J. F. Cornwell) **99a:22022** 22E46 (22E70, 81R05)

— (*with* Chen, Liang[5]; Moody, Robert V.) Non-crystallographic root systems. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 135–178, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Kenyon) **99h:52025** 52C22 (17B20)

— (*with* Gazeau, Jean Pierre; Pelantová, Edita) Tau-wavelets in the plane. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4201–4212. 42C15

— (*with* Masáková, Zuzana; Pelantová, Edita) Inflation centres of the cut and project quasicrystals. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1443–1453. (Summary) **99i:52028** 52C22 (82D25)

— (*with* Masáková, Zuzana; Pelantová, Edita) Minimal distances in quasicrystals. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1539–1552. (Summary) **99i:82038** 82D25 (52C22)

— (*with* Masáková, Zuzana; Pelantová, Edita) Self-similar Delone sets and quasicrystals. (English summary) *J. Phys. A* **31** (1998), *no.* 21, 4927–4946. (Summary) **99k:52033** 52C22 (82D25)

— (*with* Havlíček, Miloslav; Pelantová, Edita) On Lie gradings. II. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 97–125. (Vesselin Drensky) **99d:17032** 17B70 (17B40)

— (*with* Pelantová, Edita; Twarock, Reidun) Quasicrystal Lie algebras. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 209–213. (Summary) **99d:17029** 17B68

— *see also* **Quasicrystals and discrete geometry**, **99d:52001**

Paternain, Gabriel P. Hyperbolic dynamics of Euler-Lagrange flows on prescribed energy levels. (English summary) *Séminaire de Théorie Spectrale et Géométrie, No. 15, Année 1996–1997*, 127–151, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Boris Hasselblatt) **99c:58060** 58F05 (58F15)

— (*with* Paternain, Miguel) Topological entropy and magnetic fields. (Spanish) *Chaos in Uruguay* (*Spanish*) (*Piriápolis*, 1996), 47–53, *Univ. Repúb., Montevideo*, 1997. (*see* **99m:58004**) 58F17 (58F11, 78A25)

— (*with* Contreras-Barandiarán, Gonzalo; Iturriaga, R.; Paternain, Miguel) Lagrangian graphs, minimizing measures and Mañé's critical values. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 5, 788–809. (Héctor Sánchez-Morgado) **99f:58075** 58F05 (58F17, 58F27)

Paternain, Miguel (*with* Paternain, Gabriel P.) Topological entropy and magnetic fields. (Spanish) *Chaos in Uruguay* (*Spanish*) (*Piriápolis*, 1996), 47–53, *Univ. Repúb., Montevideo*, 1997. (*see* **99m:58004**) 58F17 (58F11, 78A25)

— (*with* Contreras-Barandiarán, Gonzalo; Iturriaga, R.; Paternain, Gabriel P.) Lagrangian graphs, minimizing measures and Mañé's critical values. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 5, 788–809. (Héctor Sánchez-Morgado) **99f:58075** 58F05 (58F17, 58F27)

Paternoga, Robert (*with* Graham, Robert) Chern-Simons state for the nondiagonal Bianchi type IX model. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 083501, 22 *pp.* (Summary) **99k:83044** 83C45

Paternoster, Beatrice Composite symplectic Runge-Kutta(-Nyström) methods. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 231–241. (Masaharu Nakashima) **99g:65083** 65L06 (65L07, 70-08, 70H05)

— Runge-Kutta(-Nyström) methods for ODEs with periodic solutions based on trigonometric polynomials. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 401–412. (Summary) **99f:65119** 65L06

— (*with* Sessa, Maria I.) A workload characterization by clustering technique. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 4, 365–382. 68M20

Paterson, Kenneth G. (*with* Lothian, Paul J. G.) Bounds on partial correlations of sequences. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1164–1175. (Summary) **99c:94022** 94A55

— (*with* Mitchell, Chris J.) Perfect factors from cyclic codes and interleaving. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 241–264 (*electronic*). (Wende Chen) **99i:94069** 94B15 (68R10)

Paterson, Michael S. (*with* Khanna, Sanjeev; Muthukrishnan, S.) On approximating rectangle tiling and packing. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 384–393, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05B45, 52B55, 68R05)

— (*with* Maruoka, Akira; Koizumi, Hirotaka) Consistency of natural relations on sets. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 281–293. (A. N. Philippou) **99m:05015** 05A99

— (*with* Fischer, Michael J.) Optimal layout of edge-weighted forests. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 135–159. (Summary) **99j:68103** 68R10 (05C85, 68Q35)

Pathak, Birendra Kumar (*with* Prasad, R. N.) Diophantine equations of the Tarry-Escott type. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 4, 233–235. 11D72

Pathak, H. K. (*with* Cho, Yeol Je; Jung, Jong Soo) Applications of coincidence theorems to best approximation theory. (English summary) *Nonlinear Anal. Forum* **1** (1995), 73–83. (Mihai Turinici) **99i:47100** 47H10 (41A50, 54H25)

— (*with* Kang, Shin Min; Cho, Yeol Je) Coincidence and fixed point theorems for nonlinear hybrid generalized contractions. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 341–357. (Summary) **99b:54076** 54H25 (47H10, 54C60)

— (*with* Cho, Yeol Je; Kang, Shin Min; Madharia, B.) Compatible mappings of type (C) and common fixed point theorems of Greguš type. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 499–518. 54H25 (54E45)

— (*with* Cho, Yeol Je; Kang, Shin Min) An application of fixed point theorems in best approximation theory. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 467–470. (Hideaki Kaneko) **99d:47055** 47H10 (41A65)

— (*with* Cho, Yeol Je; Kang, Shin Min) Common fixed points of biased maps of type (A) and applications. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 681–693. (Summary) **99f:54058** 54H25 (45G10)

— (*with* Popa, Valeriu) On unique common fixed points in semi-Hausdorff spaces. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 69–75. 54H25

— (*with* Khan, Mohammad S.) Coincidence points of fuzzy mappings under Chang-Peng type condition. *Panamer. Math. J.* **9** (1999), *no.* 1, 75–86. 54A40 (54H25)

Pathak, M. P. Certain fractional operators and quasi-hypergeometric functions. *Ganita Sandesh* **10** (1996), *no.* 1, 5–16. (K. C. Gupta) **99k:33013** 33C20 (26A33)

— (*with* Singh, V. N.) Generalized quasi-hypergeometric functions. (English summary) *Ganita* **48** (1997), *no.* 1, 41–49. (A. N. Srivastava) **99h:33024** 33C20 (33D15, 33E30)

— Certain q-fractional operators and q-quasi-hypergeometric functions. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **67** (1997), *no.* 4, 375–388. (Mizan Rahman) **99b:33041** 33D60 (33D15)

Pathak, P. K. (*with* Rao, Calyampudi Radhakrishna; Koltchinskii, Vladimir I.) Bootstrap by sequential resampling. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 257–281. (Alfredas Račkauskas) **99j:62059** 62G09 (62D05, 62L10)

Pathak, Ram Shankar ★ Integral transforms of generalized functions and their applications. (English summary) *Gordon and Breach Science Publishers, Amsterdam*, 1997. *xvi*+415 *pp. ISBN* 90-5699-554-5 (Richard D. Carmichael) **99f:44001** 44A05 (44–02, 46F12)

— (*with* Upadhyay, Satyanshu K.) Convolution in $(W^p_{M,a})'$-space. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 57–65. (Stevan Pilipović) **99a:46074** 46F10 (46F12)

— Continuity and inversion of the wavelet transform. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 85–93. (*see* **99d:00009**) 42C15

Pathan, M. A. (*with* Kamarujjama, M.) Generating functions for general hypergeometric function of $(n + 2)$ variables. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 243–252. (Summary) **99d:33021** 33C70

— (*with* Khan, Mumtaz Ahmad) On polynomials associated with Humbert's polynomials. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **62(76)** (1997), 53–62. (E. R. Love) **99d:33015** 33C55 (33E20)

— (*with* Srivastava, Hari M.; Kamarujjama, M.) Some unified presentations of the generalized Voigt functions. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 49–64. (Summary) **99e:33026** 33E20 (85A25)

— (*with* Kamarujjama, M.) On certain mixed generating functions. (English summary) *J. Anal.* **6** (1998), 1–6. (Summary) **99k:33031** 33C45 (33C65)

Pathria, Anu (*with* Hochbaum, Dorit S.) Analysis of the greedy approach in problems of maximum k-coverage. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 615–627. (Summary) **99f:90161** 90C35

Pathria, Raj K. (*with* Salamon, Peter; Nulton, James D.) Optimal operation of finite-time tricycles with heat conduction losses. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3171–3183. (Summary) **99a:80002** 80A10 (49N55)

Pati, Arun Kumar Adiabatic Berry phase and Hannay angle for open paths. (English summary) *Ann. Physics* **270** (1998), *no.* 1, 178–197. (Péter Pál Lévay) **99m:81060** 81Q20 (81R30, 81S99)

— Testing Bell's inequality using the Aharonov-Casher effect. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 1, *R1–R3*. (Summary) **99c:81008** 81P05

Pati, Jogesh C. (*with* Faraggi, Alon E.) A family-universal anomalous U(1) in string models as the origin of supersymmetry breaking and squark degeneracy. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 21–52. (Summary) **99f:81221** 81V22 (81R40, 81T30)

Pati, K. C. (*with* Parashar, D.) Iwasawa decomposition of affine Kac-Moody algebras using Satake diagrams. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 5015–5023. (Hai Sheng Li) **99j:17037** 17B67 (17B40)

— (*with* Parashar, D.) Satake superdiagrams, real forms and Iwasawa decomposition of classical Lie superalgebras. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 767–778. (Anargyros Fellouris) **99d:17006** 17B05 (17B40)

— (*with* Parashar, D.; Kaushal, R. S.) Involutive automorphisms and Iwasawa decomposition of some hyperbolic Kac-Moody algebras. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 501–510. (Duncan J. Melville) **99j:17038** 17B67

Pati, Sukanta (*with* Bapat, Ravindra) Algebraic connectivity and the characteristic set of a graph. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 247–273. (Summary) **99h:05082** 05C50 (15A18)

Patidar, Prakash C. (*with* Sharma, Sushil) Common fixed point theorem in Hilbert space. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 23–26. 47H10

— (*with* Sharma, Sushil) On common fixed point theorems in Banach space. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 2, 275–277. (B. E. Rhoades) **99k:47150** 47H10

Patil, D. P. (*with* Molinelli, S.; Tamone, G.) On the Cohen-Macaulayness of the associated graded ring of certain monomial curves. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 433–446. (Santiago Zarzuela Armengou) **99g:13003** 13A30 (13H10, 14H20)

Patil, P. M. (*with* Chaudhary, M. S.) A note on bounds for relative defects of homogeneous differential polynomials. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 49–60. (Anand Prakash Singh) **99f:30047** 30D35

Patil, Rajendra B. (*with* Baker, Mark R.) Universal approximation theorem for interval neural networks. (English summary) *Reliab. Comput.* **4** (1998), *no.* 3, 235–239. (Summary) **99g:92004** 92B20 (65G10)

Patil, S. T. (*with* Dhage, B. C.) On existence of extremal solutions of nonlinear discontinuous boundary value problems. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 4, 17–29. (Alberto Cabada) **99d:34033** 34B15 (34A45)

muriel Patino, M. Concepción *see* **Muriel Patino, M. Concepción**

Patlanzhoglu, O. M. (*with* Chikrii, Arkadii A.) On a class of quasilinear differential pursuit games. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 786–794, 862; *translation in Differential Equations* **33** (1997), *no.* 6, 789–797 (1998). (Anatoliĭ F. Kleimenov) **99f:90206** 90D25

Patlashenko, Igor (*with* Givoli, Dan) Optimal local non-reflecting boundary conditions. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 367–384. (Summary) **99f:65154** 65N12

— (*with* Givoli, Dan; Keller, Joseph B.) Discrete Dirichlet-to-Neumann maps for unbounded domains. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 173–185. (Summary) **99i:65125** 65N30 (65N55)

— (*with* Harari, Isaac; Givoli, Dan) Dirichlet-to-Neumann maps for unbounded wave guides. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 200–223. (Summary) **99a:76137** 76Q05

— (*with* Givoli, Dan) Finite-element solution of nonlinear time-dependent exterior wave problems. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 241–258. (Summary) **99d:65283** 65M60 (76M10)

— (*with* Givoli, Dan) A numerical method for problems in infinite strips with irregularities extending to infinity. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 2, 233–249. (Josef Dalík) **99a:65157** 65N30 (65N12)

Patnaik, Sushant (*with* Immerman, Neil) Dyn-FO: a parallel, dynamic complexity class. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 199–209. (Summary) **99d:68086** 68Q15 (68P15)

Patni, Rinku (*with* Chaurasia, V. B. L.) Free oscillations of water in a circular lake and the H-function of several complex variables with a general class of polynomials. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 45–50. 76B15 (33C60)

— (*with* Chaurasia, V. B. L.) Integrals and Fourier series for the product of general polynomials, Fox's H-function and the multivariable H-function. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 179–184. 33C60

Patoine, Alain (*with* Côté, Jean; Gravel, Sylvie; Roch, Michel; Méthot, André; Caveen, James; Valin, Michel; Thomas, Steve; Staniforth, Andrew) Forecasting with a variable-resolution global model. (English summary) *Numerical methods in fluid mechanics*, 23–32, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 86–08 (86A10)

Paton, Ray C. (*with* Butler, Mark H.; Leng, Paul H.) Unconventional approaches for biologically inspired computing. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 118–130, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05

Patoor, E. (*with* Berveiller, M.) Micromechanical modelling of the thermomechanical behavior of shape memory alloys. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 17–24, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73S10 (73B30)

Patra, Abani (*with* Oden, J. Tinsley; Feng, Yusheng) Parallel domain decomposition solver for adaptive *hp* finite element methods. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2090–2118. (Summary) **99d:65352** 65N55 (65N30, 65Y05)

Patra, Amit (*with* Unbehauen, Heinz) Identification of a class of nonlinear continuous-time systems using Hartley modulating functions. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1431–1451. 93B35 (93C60)

Patra, Baidyanath (*with* Das, Subir; Debnath, Lokenath) Diffraction of SH-waves by a Griffith crack in an infinite transversely orthotropic medium. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 57–61. 73D25

— (*with* Das, Subir; Debnath, Lokenath) Stress intensity factors for a moving interfacial Griffith crack in composite media. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 4, 453–475. (Summary) **99i:73057** 73M25 (73B40, 73K20)

Patra, M. K. On the structure of nonsemisimple Hopf algebras. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 159–166. (E. J. Taft) **99m:17021** 17B37 (16W30)

Pătrângenaru, Victor Geometry, statistics and decision making in gene therapy. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 83–100. (Summary) **99a:62083** 62H99 (62J10, 62P10)

— Constant gravitational fields and redshift of light. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 227–246. (Peter Bueken) **99d:53073** 53C50 (53C30, 53C80, 83C05)

Patrascioiu, Adrian (*with* Seiler, Erhard) Super-instantons, perfect actions, finite-size scaling, and the continuum limit. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 5-6, 947–961. (Summary) **99h:81146** 81T27 (81T25)

— (*with* Seiler, Erhard) Nonlinear σ-model, form factors and universality. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 160–164. 81T80 (81T27)

Pătrăşcoiu, Constantin Field of cones on (k, r)-covelocities vector bundle on a manifold. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 97–102. (V. Oproiu) **99k:58009** 58A20 (57R22)

Patre, B. M. (*with* Bandyopadhyay, B.; Unbehauen, Heinz) A new algorithm for compensator design for higher-order system via reduced model. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 917–920. 93B51 (93B11)

Patria, M. Cristina (*with* Passerini, Arianna; Thäter, Gudrun) Steady flow of a viscous incompressible fluid in an unbounded "funnel-shaped" domain. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 43–62. (Benoît P. Desjardins) **99f:35171** 35Q35 (76D05)

Patrício da Silva, Pedro (*with* Adda-Bedia, M.; Ben Amar, Martine) An elastica problem: instabilities of an elastic arch. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 285–295. (Summary) **99h:73042** 73K05 (73Hxx)

— (*with* Ben Amar, Martine) Can one hear the shape of a smectic drum? (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2757–2765. (Summary) **99f:76013** 76A15 (58G40, 76D45)

Patrick, A. E. The influence of boundary conditions on solid-on-solid models. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 389–433. (Summary) **99a:82039** 82B24 (82B20)

Patrikalakis, Nicholas M. (*with* Maekawa, Takashi; Sakkalis, Takis; Yu, Guoxin) Analysis and applications of pipe surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 437–458. (Summary) **99c:68254** 68U07 (65D17, 68U05)

— *see also* **Geometric modelling techniques, 99i:65004**

Patriksson, Michael (*with* Lundgren, Jan T.) The combined distribution and stochastic assignment problem. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 309–329. (*see* **99e:90003**) 90C15 (90B30, 90C08)

— Decomposition methods for differentiable optimization problems over Cartesian product sets. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 1, 5–42. (Anita Kripfganz) **99b:90092** 90C25 (65K05, 65Y05)

— (*with* Larsson, Torbjörn; Strömberg, A.-B.) Ergodic convergence in subgradient optimization. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 93–120. (Summary) **99c:90123** 90C30 (49J52, 65K05)

— Cost approximation: a unified framework of descent algorithms for nonlinear programs. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 561–582 (*electronic*). (Luís N. Vicente) **99d:90118** 90C30 (65K05)

— ★ Nonlinear programming and variational inequality problems. (English summary) A unified approach. Applied Optimization, 23. *Kluwer Academic Publishers, Dordrecht*, 1999. *xiv*+334 *pp. ISBN* 0-7923-5455-9 (Igor' V. Konnov) **99m:90002** 90–02 (47H19, 49J40, 65K05, 90C30)

Patrizio, Giorgio (*with* Abate, Marco) Isometries of the Teichmüller metric. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 437–452. (James J. Faran, V) **99k:32036** 32G15 (32H15)

— (*with* Abate, Marco) Convex-like properties of the Teichmüller metric. (English summary) *Complex geometric analysis in Pohang* (1997), 149–159, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (James J. Faran, V) **99k:32035** 32G15 (32H15)

Patrone, Fioravante (*with* Pieri, Graziano; Tijs, Stef; Torre, Anna) On consistent solutions for strategic games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 191–200. (Milan Mareš) **99k:90211** 90D10 (90A14)

Patrou, B. (*with* Le Saëc, B.; Litovsky, I.) On stack languages. (English and French summaries) *Semigroups* (*Luino*, 1992), 177–182, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 68Q45 (20M35)

Patschull, A. (*with* Elmahi, I.; Benkhaldoun, F.; Vilsmeier, R.; Gloth, O.; Hänel, D.) Finite volume simulation of a droplet flame ignition on unstructured meshes. (English summary) Applied and computational topics in partial differential equations (Granada, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 187–205. (Summary) **99k:80003** 80–08 (80A25)

Patsko, V. S. (*with* Kumkov, S. S.) Parallel algorithm for construction of singular surfaces in linear differential games. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 275–284, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 90D26

— (*with* Turova-Botkina, V. L.) Numerical study of the homicidal chauffeur game. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 363–371, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 90D25 (49J15)

Patsourakos, Alexandros Triple cohomology of Lie algebras. Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 109–113. (Darin R. Stephenson) **99c:17035** 17B56

— Tensor calculus in the free Lie algebra. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 269–276. (Alberto Elduque) **99f:17003** 17B01

Pattanaik, Prasanta K. (*with* Xu, Yongsheng) On preference and freedom. (English summary) *Theory and Decision* **44** (1998), *no.* 2, 173–198. (Summary) **99a:90024** 90A06 (90A05)

Pattavina, Achille (*with* Busi, Italo) Non-blocking multistage interconnection networks with limited depth. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 119–146, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:94063** 94C10 (05C90, 68M10, 90B12)

Pattekar, Amol (*with* Krishnan, Shankar; Lin, Ming C.; Manocha, Dinesh) Spherical shell: a higher order bounding volume for fast proximity queries. (English summary) *Robotics: the algorithmic perspective* (*Houston, TX*, 1998), 177–190, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 68U05 (68P10, 68T20)

Patten, William N. (*with* White, Luther W.) A sliding horizon feedback control problem with feedforward and disturbance. *J. Math. Systems Estim. Control* **7** (1997), *no.* 2, 33 *pp.* (*electronic*). (Michael E. Fisher) **99h:93055** 93C15 (49N10)

Patterson, Anna Bisimulation and propositional intuitionistic logic. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 347–360, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Wim Ruitenburg) **99c:03011** 03B20 (68Q60)

Patterson, Richard R. (*with* Paluszny, Marco) Algebraic splines: their flexibility. (English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 106–110. (Summary) **99h:65031** 65D17 (41A15, 65D07)

— (*with* Paluszny, Marco) Geometric control of G^2-cubic A-splines. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 3, 261–287. (Juan José Torrens) **99d:65052** 65D17 (41A15, 65D05)

— (*with* Paluszny, Marco; Tovar, Francisco) G^2 composite cubic Bézier curves. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 49–71. (Bert Jüttler) **99m:65036** 65D17 (14H45, 53A04, 65Y25)

Patterson, S. J. The level structure of exceptional metaplectic representations. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 85–100. (Volker J. Heiermann) **99c:11060** 11F70 (11F27, 22E50, 22E55)

Patterson, T. N. L. Lanczos, Gauss and the problem of moments. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 49–59. (Takemitsu Hasegawa) **99j:65073** 65F30 (65D05, 65D15, 65D32)

Patton, C. A. (*with* Milner, Fabio A.) A new approach to mathematical modeling of host-parasite systems. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 93–110. (Summary) **99m:92036** 92D25

Patton, Ron J. (*with* Chen, Jie[1]; Zhang, Hong-Yue) Design of unknown input observers and robust fault detection filters. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 85–105. 93E12 (93B50)

— (*with* Duan, Guang-Ren) Eigenstructure assignment in descriptor systems via proportional plus derivative state feedback. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1147–1162. 93B55

— (*with* Duan, Guang-Ren) A note on Hurwitz stability of matrices. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 509–511. (Summary) **99a:93071** 93D05 (15A18)

— (*with* Liu, Guo Ping) Robust eigenstructure assignment combining time- and frequency-domain performance specifications. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 1, 61–78. (Summary) **99j:93047** 93B55 (93D21)

— *see also* **Kim, Dohyeon**

Patula, W. T. (*with* Darwen, C.) Properties of a certain Lyness equation. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 458–478. (Sui Sun Cheng) **99e:39012** 39A10

Patuleanu, P. (*with* Bohm, Arno; Loewe, Mark; Maxson, S.; Püntmann, C.; Gadella, M.) Gamow-Jordan vectors and non-reducible density operators from higher-order S-matrix poles. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6072–6100. (Summary) **99b:81261** 81U20

Paturi, Ramamohan (*with* Zane, Francis) Dimension of projections in Boolean functions. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 624–632 (*electronic*). (Wen Li Chen) **99j:05187** 05D10 (68Q15, 68R05)

Patwardhan, G. A. Obituary: Professor M. N. Vartak. *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 85–86. 01A70

Paty, Michel Predicate of existence and predictability for a theoretical object in physics. *Realism and quantum physics*, 97–130, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 81P05 (00A30, 00A79, 03A05, 03B30)

Pätzold, Carsten (*with* Baacke, Jürgen; Heitmann, Katrin) Choice of initial states in nonequilibrium dynamics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6398–6405. 81T20

Patzschke, Norbert Self-conformal multifractal measures. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 4, 486–513. (Lars Olsen) **99c:28020** 28A78 (58F11)

Pauca, V. Paul (*with* Nagy, James G.; Plemmons, Robert J.; Torgersen, Todd C.) Degradation reduction in optics imagery using Toeplitz structure. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 269–288 (1998). (Summary) **99e:78008** 78–08 (65Y20, 68U10, 94A12)

Pauk, V. I. (*with* Woźniak, Cz.) Plane contact problem for a half-space with boundary imperfections. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 24, 3569–3579. (Summary) **99m:73062** 73T05

Paukshto, M. V. (*with* Markenscoff, Xanthippi; Liu, Wensen) Application of the Cosserat spectrum theory to viscoelasticity. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1969–1980. (Summary) **99j:73061** 73F15

— (*with* Markenscoff, Xanthippi) The wedge paradox and a correspondence principle. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 147–154. (Summary) **99e:73043** 73C99 (73B50)

— (*with* Markenscoff, Xanthippi) The Cosserat spectrum in the theory of elasticity and applications. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 631–643. (Summary) **99d:73022** 73C02 (35Q72, 73B30)

Paul, B. C. (*with* Mukherjee, Sailaja Nanda; Beesham, Aroonkumar) Higher derivative theory with viscosity. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 499–507. 83D05

— (*with* Mukherjee, Sailaja Nanda; Beesham, Aroonkumar) Viscous cosmological models in (1 + 1) dimensions. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 567–579. 83C99

Paul, Christophe (*with* Habib, Michel; Viennot, Laurent) A synthesis on partition refinement: a useful routine for strings, graphs, Boolean matrices and automata. (English summary) *STACS* 98 (*Paris*, 1998), 25–38, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q20 (68P05, 68Q25)

Paul, Harry Interference and "which way" information. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 511–518. (*see* **99e:81004**) 81P15

Paul, K. (*with* Das, Kiran Chandra; Das Gupta, Madhumita) Structure of the antieigenvectors of a strictly accretive operator. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 761–766. (K. Gustafson) **99h:47040** 47B44 (47A63)

Paúl, Pedro J. (*with* Fernández López, Antonio[2]; Mayoral, Fernando; Naranjo, Francisco) Weakly sequentially complete Fréchet spaces of integrable functions. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 223–228. (Summary) **99e:46031** 46E10 (46A04, 46A30, 46E40)

Paul, S. K. *see* **Paul, Sudhir**

Paul, S. R. (*with* Islam, A. S.) Addendum: "Joint estimation of the mean and dispersion parameters in the analysis of proportions: a comparison of efficiency and bias" [Canad. J. Statist. **26** (1998), no. 1, 83–94]. *Canad. J. Statist.* **26** (1998), *no.* 3, 515. 62F10 (62F12)

— (*with* Banerjee, Tathagata) Analysis of two-way layout of count data involving multiple counts in each cell. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1419–1429. (Summary) **99j:62084** 62H17

Paul, Sudhir (*with* Roy Chowdhury, Asesh) On the analytical approach to the N-fold Bäcklund transformation of Davey-Stewartson equation. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 4, 349–356. (Summary) **99h:35202** 35Q55 (58F37)

Paul, Swapan K. (*with* Roy Chowdhury, Asesh) On the n-fold Backlund transformation for the Davey-Stewartson equation. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1913–1920. (Xian Guo Geng) **99m:58174** 58F37 (35Q55)

Paul, Thierry (*with* Uribe, Alejandro) Weighted trace formula near a hyperbolic trajectory and complex orbits. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4009–4015. (Philippe Briet) **99g:58127** 58G25 (35J10, 35P25)

— (*with* Uribe, Alejandro) Weighted Weyl estimates near an elliptic trajectory. (English summary) *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 145–165. (G. V. Rozenblyum) **99g:58122** 58G18 (35J10, 35P20, 58G25, 81Q20)

Paulauskas, Vygantas (*with* Bloznelis, M.) Central limit theorem in Skorohod spaces and asymptotic strength distribution of fiber bundles. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 75–87, *TEV, Vilnius*, 1994. (Summary) **99f:60038** 60F05 (60B10)

— (*with* Rachev, Svetlozar T.) Cointegrated processes with infinite variance innovations. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 775–792. (Jia Gang Wang) **99g:60049** 60F05 (62M10, 90A20)

Paule, Peter (*with* Abramov, Sergei A.; Petkovšek, Marko) q-hypergeometric solutions of q-difference equations. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 3–22. (Alexei Zhedanov) **99f:39001** 39A10 (05A30, 33D15)

Pauler, Donna K. The Schwarz criterion and related methods for normal linear models. (English summary) *Biometrika* **85** (1998), *no.* 1, 13–27. (Ryuei Nishii) **99h:62092** 62J05

Pauletto, Giorgio (*with* Gilli, Manfred H.) Krylov methods for solving models with forward-looking variables. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1275–1289. (Summary) **99c:90038** 90A58 (62P20, 65F05)

Paulhus, Marc M. (*with* Soteros, C. E.) A Monte Carlo algorithm for studying the collapse transition in lattice animals. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 121–139, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82B80 (65C05, 82B41, 82D60)

— An algorithm for packing squares. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 147–157. (Béla Uhrin) **99e:52028** 52C20 (05B45)

Pauli, Hans-Christian (*with* Brodsky, Stanley J.; Pinsky, Stephen S.) Quantum chromodynamics and other field theories on the light cone. (English summary) *Phys. Rep.* **301** (1998), *no.* 4-6, 299–486. (Summary) **99d:81176** 81V05 (81T15)

— (*with* Antonuccio, F.; Lunin, O.; Pinsky, Stephen S.; Tsujimaru, S.) DLCQ spectrum of $\mathcal{N} = (8, 8)$ super Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105024, 11 *pp.* (Summary) **99m:81234** 81T60 (81T13)

— (*with* Antonuccio, F.; Pinsky, Stephen S.; Tsujimaru, S.) DLCQ bound states of $\mathcal{N} = (2, 2)$ super-Yang-Mills theory at finite and large N. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125006, 9 *pp.* (Summary) **99m:81235** 81T60 (81T13)

Pauli, W. *see* **Duck, Ian, 99f:81103**

Paulin, J. Saint Jean *see* **Saint Jean Paulin, Jeannine**

saint jean Paulin, Jeannine *see* **Saint Jean Paulin, Jeannine**

Paulino, Glaucio H. (*with* Gray, L. J.) Crack tip interpolation, revisited. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 428–455 (*electronic*). (Paul Andrew Martin) **99d:73071** 73M25 (73V10)

Paullet, Joseph E. (*with* Polignone Warne, Debra; Warne, Paul G.) Existence and uniqueness of azimuthal shear solutions in compressible isotropic nonlinear elasticity. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 1, 53–69. (Reza Malek-Madani) **99j:73032** 73C50 (34B15, 73G05)

Paulos, John Allen ★ Once upon a number. (English summary) The hidden mathematical logic of stories. *Basic Books, New York*, 1998. *viii*+214 *pp. ISBN* 0-465-05158-8 00A08 (00A69)

Paulraja, P. (*with* Balakrishnan, Rangaswami) Hamilton cycles in tensor product of graphs. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 1–13. (Pranava K. Jha) **99c:05122** 05C45 (05C70)

Paulsen, Jostein (*with* Gjessing, Håkon K.) Ruin theory with stochastic return on investments. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 4, 965–985. (J. A. M. van der Weide) **99h:90022** 90A09 (60H10)

— (*with* Gjessing, Håkon K.) Present value distributions with applications to ruin theory and stochastic equations. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 123–144. (Aleksandras Baltrūnas) **99b:60068** 60H05 (60J30, 62P05)

— Ruin theory with compounding assets—a survey. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 3–16. (Summary) **99b:90023** 90A09

Paulsen, Marit J. (*with* Egeland, Olav; Fossen, Thor I.) A passive output feedback controller with wave filter for marine vehicles. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 15, 1239–1253. 93B52 (93C95)

Paulsen, Vern I. Relative Yoneda cohomology for operator spaces. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 358–393. (G. V. Rozenblyum) **99j:46067** 46L05 (18G60, 19K56, 46L85, 46M20)

Paulson, Lawrence C. Generic automatic proof tools. *Automated reasoning and its applications*, 23–47, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 68T15 (03B35)
— Tool support for logics of programs. (English summary) *Mathematical methods in program development* (*Marktoberdorf*, 1996), 461–498, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 158, *Springer, Berlin*, 1997. (Summary) **99a:68151** 68T15 (03B35)
— (*with* Ballarin, Clemens) Reasoning about coding theory: the benefits we get from computer algebra. (English summary) *Artificial intelligence and symbolic computation* (*Plattsburgh, NY*, 1998), 55–66, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 68Q40 (94B99)
Paulus, Sachar (*with* Rück, Hans-Georg) Real and imaginary quadratic representations of hyperelliptic function fields. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1233–1241. (Martha Rzedowski-Calderón) **99i:11107** 11R58
Pauly, Christian Fibrés paraboliques de rang 2 et fonctions thêta généralisées. [Parabolic bundles of rank 2 and generalized theta functions] *Math. Z.* **228** (1998), *no.* 1, 31–50. (Nitin Nitsure) **99m:14030** 14D20 (14H40, 14H42, 14J05)
— (*with* Oxbury, William) Heisenberg invariant quartics and $\mathcal{SU}_C(2)$ for a curve of genus four. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 295–319. (Emma Previato) **99k:14022** 14D20 (14H45, 14H60, 14K05)
Pauly, Marc Monopole moduli spaces for compact 3-manifolds. *Math. Ann.* **311** (1998), *no.* 1, 125–146. (Roger Bielawski) **99h:58026** 58D27 (53C07)
Paumier, Jean-Claude ★ Bifurcations et méthodes numériques. (French. French summary) [Bifurcations and numerical methods] Applications aux problèmes elliptiques semi-linéaires. [Applications to semilinear elliptic problems] Recherches en Mathématiques Appliquées. [Research in Applied Mathematics] *Masson, Paris*, 1997. viii+245 *pp. ISBN* 2-225-83036-3 (Klaus Ulrich) **99k:00003** 00A05 (34B15, 35B32, 47–01, 47H15, 58E07, 65–01, 65L99)
Păun, Andrei Controlled H systems of small radius. (English summary) *Fund. Inform.* **31** (1997), *no.* 2, 185–193. (Peter R. J. Asveld) **99d:68151** 68Q45 (92D20)
Păun, Gheorghe (*with* Dassow, Jürgen; Mitrana, Victor) Szilard languages associated to cooperating distributed grammar systems. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 403–413. 68Q50 (68Q45)
— New variants of Lindenmayer systems with biological motivation. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 129–136, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (92B05)
— (*with* Freund, Rudolf J.; Procopiuc, Cecilia-Magdalena; Procopiuc, Octavian) Parallel communicating grammar systems with context-sensitive components. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 166–174, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (68Q50)
— (*with* Csuhaj-Varjú, Erzsébet; Salomaa, Arto) Conditional tabled eco-grammar systems. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 227–239, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (92B05, 92D40)
— (*with* Polkowski, Lech T.; Skowron, Andrzej) Parallel communicating grammar systems with negotiation. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 315–330. (Summary) **99c:68163** 68Q50
— (*with* Vicolov-Dumitrescu, Sorina; Salomaa, Arto) Languages associated to finite and infinite sets of patterns. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 607–625. (Rani Siromoney) **99g:68122** 68Q45
— (*with* Dassow, Jürgen; Rozenberg, Grzegorz) Grammar systems. *Handbook of formal languages, Vol.* 2, 155–213, *Springer, Berlin*, 1997. (Jetty Kleijn) **99a:68114** 68Q50 (03D05, 68Q10)
— (*with* Martín-Vide, Carlos; Miquel-Vergés, Joan) Two-level contextual grammars: the internal case. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 388–397, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q50 (68Q45)
— DNA computing: distributed splicing systems. (English summary) *Structures in logic and computer science*, 353–370, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99d:68152** 68Q45
— (*with* Polkowski, Lech T.; Skowron, Andrzej) Rough set approximations of languages. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 149–162. (Summary) **99c:68157** 68Q45 (03D05)
— (*with* Martín-Vide, Carlos; Miquel-Vergés, Joan; Salomaa, Arto) Attempting to define the ambiguity of internal contextual languages. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 59–81, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (Summary) **99i:68100** 68S05 (68Q45)
— Distributed architectures in DNA computing based on splicing: limiting the size of components. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 323–335, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99f:68056** 68Q05 (68Q45)
— (*with* Rozenberg, Grzegorz; Salomaa, Arto) Complementarity versus universality: keynotes of DNA computing. (English summary) *Complexity* **4** (1998), *no.* 1, 14–19. (Robert M. Baer) **99k:68057** 68Q05 (68Q75)
— (*with* Martín-Vide, Carlos) PM-colonies. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 6, 553–582. (Summary) **99j:68073** 68Q50 (68T99)
— (*with* Mateescu, Alexandru; Rozenberg, Grzegorz; Salomaa, Arto) Simple splicing systems. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 145–163. (Summary) **99d:68150** 68Q45 (92D20)
— (*with* Bottoni, Paolo; Levialdi, Stefano) Successful visual human-computer interaction is undecidable. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 13–19. (Summary) **99c:68264** 68U99 (68Q99)
— (*with* Dassow, Jürgen; Marcus, Solomon) Convex and anti-convex languages. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 1–16. (Summary) **99e:68088** 68Q45
— (*with* Bottoni, Paolo; Labella, Anna; Mussio, Piero) Pattern control on derivations in context-free rewriting. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 1, 3–28. (Summary) **99h:68108** 68Q50 (68Q45)
— (*with* Rozenberg, Grzegorz) Sticker systems. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 183–203. (Summary) **99d:68153** 68Q45
— (*with* Ehrenfeucht, Andrzej; Rozenberg, Grzegorz) On representing recursively enumerable languages by internal contextual languages. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 61–83. (Summary) **99g:68111** 68Q45 (03D05)
— (*with* Martín-Vide, Carlos; Salomaa, Arto) Characterizations of recursively enumerable languages by means of insertion grammars. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 195–205. (Summary) **99d:68149** 68Q45 (03D05)
— Universal DNA computing models based on the splicing operation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 59–75, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68118** 68Q45 (68Q05, 92D20)
— (*with* Freund, Rudolf J.; Kari, Lila) DNA computing based on splicing: the existence of universal computers. (English summary) *Theory Comput. Syst.* **32** (1999), *no.* 1, 69–112. (Rani Siromoney) **99j:68029** 68Q05 (03D10)
— *see also* **Artificial life: grammatical models, 99d:68155**
Paun, Mihai Sur les variétés kählériennes compactes à classe de Ricci numériquement effective. [On compact Kähler manifolds with numerically effective Ricci class] *Bull. Sci. Math.* **122** (1998), *no.* 2, 83–92. (Antonella Nannicini) **99d:32037** 32L07 (53C55)
— Sur l'effectivité numérique des images inverses de fibrés en droites. [Numerical effectiveness of inverse images of line bundles] *Math. Ann.* **310** (1998), *no.* 3, 411–421. (Thierry Bouche) **99c:32042** 32L15 (32J25, 32J27)
Pauna, N. (*with* Vancea, Ion V.) On local constraints of $D = 4$ Euclidean supergravity in terms of Dirac eigenvalues. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 38, 3091–3097. (Summary) **99i:83105** 83E50
Paunescu, L. (*with* Dimca, Alexandru) Real singularities and dihedral representations. (English summary) Workshop on Real and Complex Singularities (São Carlos, 1996). *Mat. Contemp.* **12** (1997), 67–82. (Laurenţiu Păunescu) **99g:14070** 14P25 (32S55)
Paunković, Nikola (*with* Božin, Vladimir; Hruška, Marina; Herbut, Fedor) On statistical and deterministic quantum teleportation. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4403–4435. (S. Gudder) **99e:81022** 81P15
Paunov, R. (*with* Belich, H.; Cuba, G.) Vertex operator representation of the soliton tau functions in the $A_n^{(1)}$ Toda models by dressing transformations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5337–5363. (Henrik Aratyn) **99f:58090** 58F07 (17B67)
Pauri, Massimo The quantum, space-time and observability. *Realism and quantum physics*, 175–195, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 81P05
— (*with* Lucenti, A.; Lusanna, Luca) Dirac observables and spin bases for N relativistic particles. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1633–1656. (Ivailo M. Mladenov) **99e:81067** 81R05 (81V70)
Pause, T. (*with* Heinzl, T.) The configuration space of low-dimensional Yang-Mills theories. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 695–741. (Gagik T. Ter-Kazarian) **99i:58023** 58D19 (81T13)
de Pauw, Thierry *see* **De Pauw, Thierry**
Pauzner, Ady (*with* Burdzy, Krzysztof; Frankel, David M.) On the time and direction of stochastic bifurcation. *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 483–500, *North-Holland, Amsterdam*, 1998. (Lorenzo Peccati) **99k:60148** 60H10
— (*with* Sandholm, William H.) Evolution, population growth, and history dependence. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 1, 84–120. (Summary) **99a:92019** 92D15 (90D10)
Păvăloiu, Ion (*with* Cătinaş, Emil) On the Chebyshev method for approximating the eigenvalues of linear operators. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 43–56. (Alan L. Andrew) **99d:65172** 65J10 (47A75, 65F15)
— (*with* Cătinaş, Emil) On a Chebyshev-type method for approximating the solutions of polynomial operator equations of degree 2. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 219–226, *Transilvania, Cluj-Napoca*, 1997. (Xiaojun Chen) **99f:65084** 65J15
— Optimal efficiency indexes for iterative methods of interpolatory type. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 1, 20–43. (Ljubiša M. Kocić) **99j:65089** 65H05 (65D05)
— On the efficiency of the computations for approximating the solutions of equations. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 1, 59–64. 65Y20 (65H10)
Pavaman Murthy, M. *see* **Murthy, M. Pavaman**
Pavan, A. (*with* Wan, Peng Jun) A scalable TWDM lightwave network based on generalized de Bruijn digraph. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 397–414, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:90151** 90C35 (05C20, 68M10)
Pavarino, Luca F. Domain decomposition algorithms for saddle point problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 138–157, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99g:65120** 65N55 (65F10, 65N35)
— (*with* Klawonn, Axel) Overlapping Schwarz methods for mixed linear elasticity and Stokes problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 233–245. (Summary) **99h:65193** 65N30 (73V05)
— Preconditioned mixed spectral element methods for elasticity and Stokes problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1941–1957 (*electronic*). (Timothy Nigel Phillips) **99h:65201** 65N35 (65F10, 73V05)
— Domain decomposition algorithms for first-order system least squares methods. (English summary) *Electron. Trans. Numer. Anal.* **8** (1999), 1–14 (*electronic*). (Zheng Hui Xie) **99m:65217** 65N30 (65N55)
Pavčević, Mario-Osvin (*with* Spence, Edward) Some new symmetric designs with $\lambda = 10$ having an automorphism of order 5. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 257–266. (Summary) **99h:05011** 05B05
Pavel, H.-P. (*with* Gogilidze, S. A.; Khvedelidze, A. M.; Mladenov, D. M.) Hamiltonian reduction of SU(2) Dirac-Yang-Mills mechanics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7488–7500. (Summary) **99k:81132** 81S10 (58F05, 81T13)
Pavel, Liliana On a generalization of the Mackey induction procedure. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 433–448. (T. Sund) **99k:22011** 22D30 (22D10, 22D12)
— On quasi-positive definite functions and representations of hypergroups in QP_n spaces. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 889–902. (Margit Rösler) **99d:43013** 43A62 (22A30, 43A35, 43A65)
Pavel, N. H. (*with* Gao, S. C.; Schirrmeister, N.) Optimal control of a functional equation associated with closed range operators. (English summary) *Commun. Appl. Anal.* **2**

(1998), *no.* 3, 383–392. (Gabriel Dimitriu) **99c:49024** 49K27 (47N10)
— (*with* Kim, Jong Kyu) Existence and regularity of weak periodic solutions of the 2D wave equation. *Nonlinear Anal.* **32** (1998), *no.* 7, 861–870. (Eduard Feireisl) **99c:35131** 35L05 (35B10)
— (*with* Kim, Jong Kyu) L^∞-optimal control of the periodic 1-D wave equation with x-dependent coefficients. *Nonlinear Anal.* **33** (1998), *no.* 1, 25–39. (Enrique Zuazua) **99d:49013** 49J20 (35B10, 35L05, 49K20)
— (*with* Kim, Jong Kyu) Optimal control problem for the periodic one-dimensional wave equation. *Nonlinear Anal. Forum* **3** (1998), 89–110. (Shin-ichi Nakagiri) **99h:49032** 49K20 (35L05)
— (*with* An, Gang) Periodic solutions to nonlinear one-dimensional wave equation with Neumann-Dirichlet boundary conditions. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 1–18. (Pavel Krejčí) **99a:35178** 35L70 (35B10)
— (*with* Gao, S. C.) Optimal control of a functional equation associated with closed range selfadjoint operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2979–2986. (Vladimir I. Sumin) **99a:49014** 49J27 (47N10, 49J20, 49K20)
Pavešić, Petar Groups of self-homotopy equivalences. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 55–58. 55P10
— (*with* Pacati, Claudio; Piccinini, Renzo A.) On the classification of $\mathcal{F}$-fibrations. (English summary) *Topology Appl.* **87** (1998), *no.* 3, 213–227. (Frank Neumann) **99d:55008** 55R35 (18B30, 55R65)
Pavičević, Žarko (*with* Meštrović, Romeo) The logarithmic analogue of Szegő's theorem. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 97–102. (Manfred Stoll) **99f:46033** 46E15 (30H05, 46J15)
— (*with* Šušić, Jela) Boundary behavior of subharmonic functions on the unit disk. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 83–87. (Vladimir Eiderman) **99m:31005** 31A20 (30D45, 31A05)
Pavičić, Mladen (*with* Megill, Norman D.) Quantum and classical implication algebras with primitive implications. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2091–2098. (Marjan Matvejchuk) **99k:03048** 03G10 (03G12, 06C15, 81P10)
— Identity rule for classical and quantum theories. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2099–2103. (Marjan Matvejchuk) **99k:03049** 03G12 (06C15, 81P10)
Pavlenko, A. N. (*with* Klimov, V. S.) Nontrivial solutions of boundary value problems with strong nonlinearities. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1676–1682, 1727; *translation in Differential Equations* **33** (1997), *no.* 12, 1679–1685 (1998). (Summary) **99j:35023** 35G30
Pavlenko, V. N. (*with* Ul′yanova, O. V.) The method of upper and lower solutions for elliptic-type equations with discontinuous nonlinearities. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 69–76. (Siegfried Carl) **99m:35079** 35J65 (35B05, 35R05)
Pavlenko, Vladimir P. (*with* Revenchuk, Sergei M.) Global drift modes in rotating tokamak plasmas. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3311–3318. (Summary) **99f:76137** 76X05 (76U05)
Pavlenko, Yu. G. (*with* Naumov, N. D.; Toropova, A. I.) An integrable Hamiltonian system: a relativistic particle in the field of a traveling inhomogeneous wave. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 42–46, 80. (Summary) **99e:78021** 78A35 (70H05, 70H20, 78A25)
Pavlica, Vladimir (*with* Petrovački, Dušan) About simple fuzzy control and fuzzy control based on fuzzy relational equations. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 41–47. 93C42
Pavlos, Georgios (*with* Argyris, John; Andreadis, Ioannis; Athanasiou, Michalis) On the influence of noise on the largest Lyapunov exponent and on the geometric structure of attractors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 947–958. (Summary) **99h:58115** 58F12 (34C35, 34D08, 34D45, 34F05)
Pavlotskiĭ, I. P. (*with* Strianese, M.; Toscano, Raffaele) Continuation of the solution of differential equations to a singular set. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 313–319, 428–429; *translation in Differential Equations* **34** (1998), *no.* 3, 312–319. (Summary) **99i:34005** 34A12 (34C99, 70H35)
Pavlou, S. (*with* Lenas, P.; Thomopoulos, N. A.; Vayenas, D. V.) Oscillations of two competing microbial populations in configurations of two interconnected chemostats. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 43–63. (Summary) **99b:92044** 92D25
— (*with* Thomopoulos, N. A.; Vayenas, D. V.) On the coexistence of three microbial populations competing for two complementary substrates in configurations of interconnected chemostats. (English summary) *Math. Biosci.* **154** (1998), *no.* 2, 87–102. (Summary) **99j:92021** 92D25
Pavlov, A. E. The mixmaster cosmological model as a pseudo-Euclidean generalized Toda chain. (English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 111–119. (Dmitri Korotkin) **99h:83013** 83C20 (58F40)
— (*with* Simakov, N. N.) Spatial chaos of the Swift-Hohenberg model. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 104–110. 35Q99 (35K55, 58F13)
— (*with* Borisov, Adriyan V.) Dynamics and statics of vortices on a plane and a sphere. I. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 28–38. (Summary) **99h:76013** 76C05 (58F05, 70H05)
Pavlov, A. I. On two classes of permutations with number-theoretic constraints on cycle lengths. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 881–891; *translation in Math. Notes* **62** (1997), *no.* 5-6, 739–746 (1998). (Wolfgang Schwarz) **99i:05013** 05A16 (11N45)
— Meromorphic continuation of Dirichlet series connected with the distribution of numbers modulo 1. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 343–353. (Antanas Laurinčikas) **99f:11114** 11M41 (11K06)
Pavlov, A. N. (*with* Chaïka, A. S.; Chetverushkin, B. N.) Difference schemes with kinetically consistent artificial viscosity for the solution of Navier-Stokes equations on curvilinear orthogonal grids. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 4, 57–75. 76M20 (76D05)
Pavlov, Boris S. (*with* Antoniou, Ioannis; Yafyasov, Adil) Quantum electronic devices based on metal-dielectric transition in low-dimensional quantum structures. *Combinatorics, complexity, & logic* (*Auckland*, 1996), 90–104, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 81P99 (68Q05)
— (*with* Kuperin, Yu. A.; Levin, S. B.; Mel′nikov, Yu. B.[1]) Quantum Lorentz gas: effective equations and spectral analysis. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 599–612. (András Krámli) **99b:82065** 82C10 (81Q10, 82C40)
— (*with* MacCormick, J. P.) A geometrical approach to calculating determinants of Wiener-Hopf operators. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 333–342, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (V. V. Peller) **99j:47039** 47B35
— (*with* Roach, G. F.; Yafyasov, Adil) Resonance scattering and design of quantum gates. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 336–351, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99h:68045** 68Q05 (81P99)
— (*with* Geĭler, V. A.; Popov, I. Yu.) One-particle spectral problem for superlattice with a constant magnetic field. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 79–124. (Mihai Pascu) **99e:81046** 81Q10 (47B25, 47N50)
Pavlov, D. Yu. Neural network approach to the solution of the inverse problem of plasma boundary determination. Computing mathematics and cybernetics, 2. *J. Math. Sci. (New York)* **89** (1998), *no.* 4, 1391–1405. (Magdi M. Shoucri) **99c:76120** 76X05 (76M25)
Pavlov, E. V. (*with* Khopteriev, Khristo) A CH-invariant curvature tensor field for a manifold with an almost-product structure. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 85–99. 53C15
Pavlov, I. V. (*with* Markov, E. P.) A finiteness criterion for the mixed norm of multiplicative martingales composed of Rademacher functions. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 4, 10–15, 101. (Dominique Lépingle) **99g:60085** 60G42
— Haar systems and some results on bases in a martingale space with a mixed norm. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 623–626; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 528–531 (1998). (I. Ya. Novikov) **99d:42052** 42C10 (60G46)
Pavlov, M. V. (*with* Svinolupov, S. I.; Sharipov, R. A.) An invariance criterion for the integrability of systems of equations of hydrodynamic type. (Russian. English and Russian summaries) *Integrability in dynamical systems* (*Russian*), 27–48, 93, *Ross. Akad. Nauk, Inst. Mat. Vychisl. Tsentrom, Ufa*, 1994. (Iskander A. Taimanov) **99e:58106** 58F07 (35Q35)
— (*with* Dai, Hui-Hui) Transformations for the Camassa-Holm equation, its high-frequency limit and the Sinh-Gordon equation. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 11, 3655–3657. 35Q53
— Relationships between differential substitutions and Hamiltonian structures of the Korteweg-de Vries equation. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 295–300. (Marco Pedroni) **99c:35214** 35Q53 (35A30, 58F07)
— (*with* Grimshaw, R. H. J.) Exact periodic steady solutions for nonlinear wave equations: a new approach. (English summary) *Phys. Lett. A* **251** (1999), *no.* 1, 25–30. 35Q35 (35B10, 76B25)
Pavlov, S. A. Extensional and intensional aspects of axiomatic denotation theory. (Russian. English summary) *Logical investigations, No.* 4 (*Russian*), 261–270, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03A05 (03B60)
— (*with* Sadov, V. S.) An adaptive method for the compression of fixed images. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 127–130, 144. 68U10 (94A29)
Pavlov, V. *see* **Pavlov, Vadim Ivanovich**
Pavlov, V. A. (*with* Moskvin, D. B.) Gas-dynamic boundary conditions for evaporation processes. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 11, 112–122. 82C40 (76N15, 76P05)
Pavlov, V. I. *see* **Pavlov, Vadim Ivanovich**
Pavlov, V. V. *see* **Pavlov, Vadim Vladimirovich**
Pavlov, Vadim Ivanovich (*with* Goncharov, V. P.) Some remarks on the physical foundation of the Hamiltonian description of fluid motions. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 4, 509–555. (Summary) **99a:76002** 76A02 (58F05, 58F40, 76M30)
— (*with* Goncharov, V. P.) Two-dimensional vortex motions of fluid in harbor-like basins at large Reynolds numbers. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2384–2395. (Summary) **99c:76018** 76C05
Pavlov, Vadim Vladimirovich (*with* Volkovich, V. V.) Collective behavior of robots. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 118–123, 157. 93C85 (70B15)
Pavlov, Velisar (*with* Yalamov, Plamen Y.) Stabilization by perturbation of ill-conditioned cyclic reduction. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 273–283. (Summary) **99m:65064** 65F10 (65Y05)
— (*with* Yalamov, Plamen Y.) On the stability of a partitioning algorithm for tridiagonal systems. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 159–181 (*electronic*). (Guo Liang Chen) **99h:65095** 65G05 (65F05, 65Y05)
Pavlov, Yu. L. On random trees. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 47–53. 60C05 (05C80)
— Random forests. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 11–18, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 05C80 (60-03, 60C05, 60F05)
— *see also* **Probabilistic methods in discrete mathematics, 99f:60004**
Pavlova, M. F. (*with* Lyashko, A. D.; Maĭorova, M. E.) On the solvability of a variational inequality in the theory of nonlinear nonstationary filtration. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 958–965, 1006; *translation in Differential Equations* **32** (1996), *no.* 7, 965–973 (1997). (Angela Pawell) **99a:76149** 76S05 (49J40, 76M30)
Pavlova, N. G. On the radius of starlikeness in classes of conformal mappings associated with linearly invariant families. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 119–131. (Grigore Ştefan Sălăgean) **99i:30026** 30C45
Pavlova, V. V. (*with* Kudin, V. I.) Procedures for analyzing linear programming models at pre-optimization and post-optimization stages. (Russian. English, Russian and

Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 43–50, 152. 90C05 (90C08)

Pavlović, Branka Discontinuous maps from Lipschitz algebras. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 436–454. (Volker Runde) **99d:46073** 46J40 (46H40, 46J10)

— Defining metric spaces via operators from unital C^*-algebras. (English summary) *Pacific J. Math.* **186** (1998), *no.* 2, 285–313. (P. J. Stacey) **99m:46162** 46L87 (46L30)

Pavlović, Duško (*with* Abramsky, Samson) Specifying interaction categories. (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 147–158, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q10 (68Q60)

— Guarded induction on final coalgebras. (English summary) *First Workshop on Coalgebraic Methods in Computer Science* (*CMCS* '98) (*Lisbon*), 18 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (Summary) **99k:18009** 18B99 (03D20, 16W30, 68Q55)

— (*with* Escardó, M. H.) Calculus in coinductive form. *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 408–417, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q40

Pavlović, Ljiljana (*with* Gutman, Ivan M.; Popović, Ljiljana) Elementary edge-cuts in the theory of benzenoid hydrocarbons—an application. (English summary) *Match No.* 36 (1997), 217–229. (Summary) **99a:92040** 92E10 (05C90)

Pavlović, Miroslav Mean growth and L^p integrability of the derivatives of a polyharmonic function in the unit disc. (English summary) *Filomat No.* 11 (1997), 55–60. (Manfred Stoll) **99f:31006** 31A30

— Decompositions of L^p and Hardy spaces of polyharmonic functions. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 499–509. (Manfred Stoll) **99b:46029** 46E15 (31B30)

— (*with* Jevtić, Miroljub) Coefficient multipliers on spaces of analytic functions. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 531–545. (Oscar Blasco) **99m:46067** 46E15 (30H05, 42A45)

— (*with* Dostanić, Milutin R.) On the inclusion $H^2(U^n) \subset H^{2n}(B_n)$ and the isoperimetric inequality. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 143–149. (Summary) **99h:46038** 46E15 (32A35)

Pavluš, M. ★ A particular inverse problem for Schrödinger discrete equation in two and higher dimensions under a priori information of wave functions. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E11-97-301. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1997. 13 *pp.* (I. P. Stavroulakis) **99f:39028** 39A12 (81Q05)

Pavlyuchik, P. B. (*with* Gorbuzov, V. N.) On the stability of the equilibrium state of a multidimensional differential equation. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 37–39, 76. 34D99

Pavon, Michele On the kinematics of stochastic mechanics. *Stochastic differential and difference equations* (*Győr*, 1996), 253–266, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Constantin Syros) **99i:81022** 81P20 (35R60, 49K20, 60H15, 60H30)

Pavone, Marco On the hyperbolic limit points of groups acting on hyperbolic spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 49–70. (Michel Coornaert) **99f:20063** 20F32 (20E08, 57M07)

Pavšič, Matej The unconstrained Stueckelberg-like membrane's action as a reduced Dirac-Nambu-Goto action. (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 187–192. (Summary) **99b:81204** 81T30 (83E30)

— Pseudo Euclidean-signature harmonic oscillator, quantum field theory and vanishing cosmological constant. (English summary) *Phys. Lett. A* **254** (1999), *no.* 3-4, 119–125. (Summary) **99m:81130** 81T10 (81Q99)

Pawałowski, Krzysztof (*with* Laitinen, Erkki) Smith equivalence of representations for finite perfect groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 297–307. (Karl Heinz Dovermann) **99b:57070** 57S17 (55M35, 57S25)

Pawelczyk, Jacek String picture of gauge fields. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 363–371, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (From the text) **99k:81187** 81T13 (14E22, 58D29, 81T30, 81T40)

— From Seiberg-Witten invariants to topological Green-Schwarz string. (English summary) *Phys. Lett. B* **415** (1997), *no.* 4, 358–362. (Kotik K. Lee) **99b:81246** 81T60 (57R57, 58D29, 81T30)

— (*with* Theisen, Stefan) $AdS_5 \times S^5$ black hole metric at $O(\alpha^3)$. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 10, 6 *pp.* (*electronic*). (Summary) **99k:83124** 83E30 (81T30, 83C57)

Pawelzik, K. (*with* Ernst, U.; Geisel, T.) Delay-induced multistable synchronization of biological oscillators. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part B*, 2150–2162. (Boris G. Zaslavskiĭ) **99b:92008** 92C05

Pawlak, Geno Ronald (*with* Armi, L.) Vortex dynamics in a spatially accelerating shear layer. (English summary) *J. Fluid Mech.* **376** (1998), 1–35. 76C05 (76-05, 76V05)

Pawlak, Helena (*with* Pawlak, Ryszard Jerzy) On s-quasi-continuity and some properties of sections of a function. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 47–55. (Zbigniew Grande) **99i:26014** 26B05 (06B35, 54C40)

Pawlak, Miroslaw (*with* Hasiewicz, Zygmunt) Nonlinear system identification by the Haar multiresolution analysis. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 945–961. (Jan Bialasiewicz) **99k:93042** 93B30 (42C15, 65T20)

Pawlak, Ryszard Jerzy (*with* Doliwa, Dariusz) On the almost continuity of the diagonal of functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 459–469. (Oleksandr V. Sobchuk) **99h:26006** 26A15 (54C08)

— (*with* Pawlak, Helena) On s-quasi-continuity and some properties of sections of a function. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 47–55. (Zbigniew Grande) **99i:26014** 26B05 (06B35, 54C40)

— (*with* Świątek, Bożena) On arcs, stationary sets and retracts in the space $\Delta_{\mathcal{G}^*}$. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 91–108. (Oleksandr V. Sobchuk) **99j:54018** 54C25 (54C08)

Pawlak, Zdzisław Vagueness—a rough set view. (English summary) *Structures in logic and computer science*, 106–117, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (*see* **99b:68008**) 04A72 (68T30)

— Rough set elements. *Rough sets in knowledge discovery*, 1, 10–30, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 04A72

— An inquiry into anatomy of conflicts. (English summary) *Inform. Sci.* **109** (1998), *no.* 1-4, 65–78. (Summary) **99c:90162** 90D10 (90A56)

Pawlas, Piotr (*with* Szynal, Dominik) Relations for single and product moments of k-th record values from exponential and Gumbel distributions. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 1, 53–61. (W. Dziubdziela) **99h:62067** 62G30 (60G70)

Pawlicki, Piotr *see* **Binney, J. J. et al., 99h:82030**

Pawlikowska-Brożek, Zofia The Second Congress of Mathematicians in Paris in 1900. (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 13–17, *Polsk. Akad. Nauk, Warsaw*, 1997. (*see* **99b:01001**) 01A74 (01A60)

Pawlikowski, Janusz Strongly meager sets and subsets of the plane. (English summary) *Fund. Math.* **156** (1998), *no.* 3, 279–287. (From the summary) **99c:04002** 04A15

— (*with* Matet, P.) Ideals over ω and cardinal invariants of the continuum. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 3, 1040–1054. (Miroslav Repický) **99m:03094** 03E05 (03E50)

— The fundamental group of a compact metric space. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3083–3087. (Klaas Pieter Hart) **99a:55009** 55Q05 (04A20, 55Q52)

Pawlitschko, Jörg A comparison of survival function estimators in the Koziol-Green model. (English summary) *Statistics* **32** (1999), *no.* 3, 277–291. (Summary) **99k:62193** 62N05

Pawlow, I. (*with* Alt, Hans Wilhelm) Thermodynamical models of phase transitions with multicomponent order parameter. *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 87–98, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (From the text) **99b:80008** 80A22

Pawlowski, J. M. (*with* Ford, Christopher; Mitreuter, U. G.; Tok, T.; Wipf, A.) Monopoles, Polyakov loops, and gauge fixing on the torus. (English summary) *Ann. Physics* **269** (1998), *no.* 1, 26–50. (Massimo Di Pierro) **99j:81119** 81T13 (53C80)

— (*with* Mitreuter, U. G.; Wipf, A.) Polyakov loops and fermionic zero-modes in QCD_2 on the torus. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 381–398. (Edwin Langmann) **99c:81136** 81T13 (81T10)

— Exact flow equations and the U(1) problem. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045011, 12 *pp.* 81T17 (81T15, 81V05)

Pawlowski, M. (*with* Gyngazov, L. N.; Pervushin, V. N.; Smirichinskii, V. I.) Proper time dynamics in general relativity and conformal unified theory. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1749–1773. (Alexander N. Petrov) **99j:83010** 83C05 (83C22, 83D05)

— (*with* Papoyan, V. V.; Pervushin, V. N.; Smirichinskii, V. I.) Conformal unification of general relativity and standard model. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 293–298. (Summary) **99m:81287** 81V22 (81V17, 83C99)

Pawlowski, Piotr On the zeros of a polynomial and its derivatives. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4461–4472. (Yuri A. Farkov) **99a:30008** 30C15

— The location of the zeros of the higher order derivatives of a polynomial. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1493–1497. (Vanja Hadzijski) **99h:30006** 30C15 (65E05, 65H05)

Pawłowski, Wiesław (*with* Mossakowski, Till; Tarlecki, Andrzej) Combining and representing logical systems using model-theoretic parchments. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 349–364, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 03G30 (03C52, 18B99, 68Q60, 68Q65)

— Context parchments. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 381–401, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 03G30 (03C95, 18B99, 68Q60, 68Q65)

Pawłucki, Wiesław Examples of functions $\mathcal{E}^k$-extendable for each k finite, but not $\mathcal{E}^\infty$-extendable. (English summary) *Singularities Symposium—Łojasiewicz 70* (*Kraków*, 1996; *Warsaw*, 1996), 183–187, *Banach Center Publ.*, 44, *Polish Acad. Sci., Warsaw*, 1998. (Z. Denkowska) **99m:32008** 32B20

— *see also* **Singularities Symposium—Łojasiewicz 70, 99i:00035**

Pawluszewicz, Ewa (*with* Bartosiewicz, Zbigniew) External dynamic feedback equivalence of observable discrete-time control systems. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 73–89, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Gianna Stefani) **99j:93045** 93B52 (93C55)

Paxson, Vern (*with* Willinger, Walter) Where mathematics meets the internet. *Notices Amer. Math. Soc.* **45** (1998), *no.* 8, 961–970. 00A99 (00A69)

Payá-Albert, Rafael Norm attaining operators versus bilinear forms. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 179–183. (G. M. Ustinov) **99b:46019** 46B20 (46B28, 47A99)

— (*with* López, Ginés; Martín Suarez, Miguel) Real Banach spaces with numerical index 1. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 2, 207–212. (Summary) **99k:46024** 46B22 (47A12)

Payan, Charles (*with* Gravier, Sylvain; Mollard, Michel) On the non-existence of 3-dimensional tiling in the Lee metric. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 567–572. (Oded Schramm) **99e:52030** 52C22 (05B45)

Paycha, Sylvie (*with* Albeverio, Sergio; Jost, Jürgen; Scarlatti, Sergio) ★ A mathematical introduction to string theory. (English summary) Variational problems, geometric and probabilistic methods. London Mathematical Society Lecture Note Series, 225. *Cambridge University Press, Cambridge*, 1997. viii+135 *pp. ISBN* 0-521-55610-4 (Steven Rosenberg) **99d:58178** 58G26 (14C40, 32G15, 58D30, 81T30)

— (*with* Arnaudon, Marc) Regularisable and minimal orbits for group actions in infinite dimensions. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 641–662. (Steven Rosenberg) **99b:58040** 58D19 (22E65, 58G26)

Payne, Fred R. Exact numeric solution of non-linear DE systems. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 39–51. (*see* **99m:34001**) 65L20 (34A45)

Payne, Kevin R. Solvability theorems for linear equations of Tricomi type. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 262–273. (Andreas Müller-Rettkowski) **99b:35157** 35M10

Payne, Lawrence E. (*with* Song, Jong Chul) Spatial decay estimates for the Brinkman and Darcy flows in a semi-infinite cylinder. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 3, 175–190. (From the introduction) **99e:76121** 76S05 (35B45, 35K99, 35Q35)

— (*with* Song, Jong Chul) Continuous dependence on initial-time and spatial geometry in generalized heat conduction. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 173–190. (Ulrich Tautenhahn) **99i:35055** 35K05 (35B30, 35R30, 80A20)

— (*with* Straughan, Brian) Analysis of the boundary condition at the interface between a viscous fluid and a porous medium and related modelling questions. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 4, 317–354. (Jürgen Socolowsky) **99c:35200** 35Q35 (76D07, 76S05)

— (*with* Ames, Karen A.) Asymptotic behavior for two regularizations of the Cauchy problem for the backward heat equation. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 187–202. (Galina I. Bizhanova) **99c:35085** 35K05 (35B25, 35B40)

— (*with* Straughan, Brian) Structural stability for the Darcy equations of flow in porous media. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1691–1698. (Summary) **99d:76093** 76S05 (76E15)

— (*with* Schaefer, Philip W.; Song, Jong Chul) Growth and decay results in heat conduction problems with nonlinear boundary conditions. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 269–286. (I. Łojczyk-Królikiewicz) **99h:35113** 35K60 (35B05)

— *see also* **Horgan, Cornelius O., 99k:01061**

Payne, Stanley E. (*with* Blokhuis, Aart; O'Keefe, Christine M.; Storme, Leo; Wilbrink, Henny) Covers of PG$(3,q)$ and of finite generalized quadrangles. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 141–157. (W. M. Kantor) **99d:51004** 51E12 (51E14, 51E21, 51E23)

— (*with* Bader, Laura) On infinite K-clan geometry. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 1–16. (Hendrik Van Maldeghem) **99k:51004** 51E12 (51E20)

— A problem on generalized quadrangles. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 197–204. (J. C. Fisher) **99j:51004** 51E12

— (*with* Miller, M. A.) Collineations and characterizations of generalized quadrangles of order $(q+1, q-1)$. (English summary) Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 137–166. (T. G. Ostrom) **99j:51005** 51E12 (51E21)

Payne, Tracy L. Closures of totally geodesic immersions into locally symmetric spaces of noncompact type. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 829–833. (Raul Quiroga) **99f:53050** 53C30 (53C35, 53C42)

Payrovi, Sh. (*with* Bijan-Zadeh, M. H.) A generalization of Cohen-Macaulay modules by torsion theory. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 1–14. (Santiago Zarzuela Armengou) **99g:13015** 13C14 (13C12, 13D45)

la Paz, Claudio *see* **La Paz, Claudio**

brambila-Paz, Fernando *see* **Brambila-Paz, Fernando**

Paz, Juan Pablo (*with* Zurek, Wojciech Hubert) Continuous error correction. (English summary) Quantum coherence and decoherence (Santa Barbara, CA, 1996). *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1969, 355–364. (Kotik K. Lee) **99m:94066** 94B60

brambila Paz, Leticia *see* **Brambila Paz, Leticia**

Paz, Robert (*with* Elaydi, Hatem) Optimal ripple-free deadbeat controllers. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1087–1104. (Summary) **99h:93050** 93B51 (93C57)

Pazgal, Amit Satisficing leads to cooperation in mutual interests games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 439–453. (Summary) **99a:90253** 90D12

Pazhitnov, A. V. Rationality of boundary operators in the Novikov complex in general position. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 5, 92–139; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 5, 969–1006. (A. A. Ranicki) **99d:57024** 57R70 (58E05)

— On the asymptotics of Morse numbers of finite covers of manifolds. (English summary) *Topology* **38** (1999), *no.* 3, 529–541. (Darko Milinković) **99m:57031** 57R70 (58E05)

Pazizin, S. V. Detection and reception of a sequence of signals distorted by random noise and independent noise. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 1, 46–55; *translation in Problems Inform. Transmission* **34** (1998), *no.* 1, 39–47. (Summary) **99h:94020** 94A12

Pázman, Andrej (*with* Pronzato, Luc) Approximate densities of two bias-corrected nonlinear LS estimators. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 145–152, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99j:62092** 62J02

— (*with* Müller, Werner G.) A new interpretation of design measures. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 239–246, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99g:62112** 62K05

— (*with* Müller, Christine H.) Applications of necessary and sufficient conditions for maximin efficient designs. (English summary) *Metrika* **48** (1998), *no.* 1, 1–19. (Weng Kee Wong) **99m:62111** 62K05

Pazsit, Imre *see* **Proceedings: Conference on Transport Theory, 99b:82003** *and* **99d:82004**

Peacock, Kent A. Superluminal transformations in spacetimes of definite metric. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 227–234, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 83A05

— On the edge of a paradigm shift: quantum nonlocality and the breakdown of peaceful coexistence. (English summary) *Internat. Stud. Philos. Sci.* **12** (1998), *no.* 2, 129–150. (Lawrence Sklar) **99f:81016** 81P05

Peake, N. (*with* Taylor, Mark J.) The long-time impulse response of compressible swept-wing boundary layers. (English summary) *J. Fluid Mech.* **379** (1999), 333–350. (Summary) **99k:76126** 76N20 (76E99)

Pearce, C. E. M. (*with* Dragomir, Sever Silvestru) On Jensen's inequality for a class of functions of Godunova and Levin. *Period. Math. Hungar.* **33** (1996), *no.* 2, 93–100. (Iosif Pinelis) **99b:60027** 60E15 (26D15)

— (*with* Dragomir, Sever Silvestru; Mond, B.; Pečarić, Josip) Interpolations to Jensen's inequality with application to refinements of the triangle inequality for normed linear spaces. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 17–31. (Maria J. Carro) **99f:26028** 26D15 (46B20)

— (*with* Pečarić, Josip) On some applications of integral power means. (English summary) *Octogon Math. Mag.* **5** (1997), *no.* 2, 3–7. (J. Sándor) **99h:26025** 26D15

— (*with* Pečarić, Josip) On convexity-like inequalities. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 133–138. (Summary) **99f:26041** 26D20 (26B25)

— (*with* Guljaš, Boris; Pečarić, Josip) Some inequalities related to Hölder's inequality. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 273–279. (Summary) **99f:26029** 26D15

— (*with* Dragomir, Sever Silvestru) Quasi-convex functions and Hadamard's inequality. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 377–385. (Lars Erik Persson) **99k:26011** 26A51 (26D15)

— (*with* Latouche, G.; Taylor, Peter G.) Invariant measures for quasi-birth-and-death processes. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 443–460. (Erik A. van Doorn) **99b:60102** 60J10 (60J80)

— (*with* Guljaš, Boris; Pečarić, Josip) An inequality for probability density functions arising from a distinguishability problem. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 350–354. (Iosif Pinelis) **99d:60016** 60E15

— (*with* Pečarić, Josip; Šimić, V.) Stolarsky means and Hadamard's inequality. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 99–109. (B. Crstici) **99b:26040** 26D15

— (*with* Shin, Yang Woo) An algorithmic approach to the Markov chain with transition probability matrix of upper block-Hessenberg form. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 361–384. (Srinivas Chakravarthy) **99g:60176** 60K25 (60J10, 68M20)

— (*with* Dragomir, Sever Silvestru; Šunde, J.) Abel-type inequalities, complex numbers and Gauss-Pólya type integral inequalities. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 95–101. (J. Sándor) **99h:26024** 26D15

— (*with* Pečarić, Josip; Šunde, J.) A generalization of Pólya's inequality to Stolarsky and Gini means. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 211–222. (Zsolt Páles) **99a:26014** 26D15

— (*with* Matić, M.; Pečarić, Josip) Improvements of some bounds on entropy measures in information theory. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 295–304. (Wolfgang Sander) **99j:94019** 94A17 (26D15)

Pearce, David Stable inference as intuitionistic validity. (English summary) *J. Logic Programming* **38** (1999), *no.* 1, 79–91. (Summary) **99g:68040** 68N17 (03B55, 03B70, 68Q55)

Pearce, David G. (*with* Stacchetti, Ennio) The interaction of implicit and explicit contracts in repeated agency. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 75–96. (Summary) **99a:90258** 90D20 (90A05)

Pearce, Kent (*with* Barnard, Roger W.; Cima, Joseph) Cesàro sum approximation of outer functions. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 1–7. (D. R. Wilken) **99m:30018** 30C45 (30C15)

— (*with* Barnard, Roger W.; Dahlquist, Germund; Reichel, L.; Richards, K. C.) Gram polynomials and the Kummer function. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 128–143. (Olav Njåstad) **99g:42030** 42C05 (33C15, 41A10)

Pearce, Paul A. (*with* O'Brien, David L.; Behrend, Roger E.) Surface free energies and surface critical behaviour of the ABF models with fixed boundaries. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 285–295, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B27 (82B20)

— (*with* Baker, T. H.; Forrester, P. J.) Random matrix ensembles with an effective extensive external charge. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6087–6101. (Summary) **99h:82035** 82B41

— (*with* Nienhuis, Bernard) Scaling limit of RSOS lattice models and TBA equations. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 579–596. (Summary) **99a:82022** 82B20 (81T27)

— (*with* Berkovich, Alexander; McCoy, Barry M.) The perturbations $\varphi_{2,1}$ and $\varphi_{1,5}$ of the minimal models $M(p, p')$ and the trinomial analogue of Bailey's lemma. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 597–625. (Anne Schilling) **99g:81195** 81T40 (11P82)

— (*with* Behrend, Roger E.; Petkova, Valentina B.; Zuber, Jean-Bernard) On the classification of bulk and boundary conformal field theories. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 163–166. (Isabel P. Ennes) **99m:81214** 81T40 (81R10)

Pearcy, Carl M. (*with* Ionascu, Eugen J.; Larson, David R.) On the unitary systems affiliated with orthonormal wavelet theory in n-dimensions. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 413–431. (Steen Pedersen) **99g:47086** 47B99 (42C15, 47A99)

— (*with* Ionascu, Eugen J.) On subwavelet sets. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3549–3552. (Eugenio Hernández) **99b:42040** 42C15

— *see also* **Nonselfadjoint operator algebras, operator theory, and related topics, 99b:47001**

Pearl, Judea (*with* Balke, Alexander) Counterfactuals and policy analysis in structural models. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 11–18, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68170** 68T27 (03B70)

— (*with* Galles, David) Testing identifiability of causal effects. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 185–195, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68188** 68T30 (68T27)

— On the testability of causal models with latent and instrumental variables. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 435–443, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68190** 68T30

— (*with* Robins, James M.) Probabilistic evaluation of sequential plans from causal models with hidden variables. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 444–453, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T30 (68T20)

— (*with* Dechter, Rina) Identifying independencies in causal graphs with feedback. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 420–426, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99a:68165** 68T30

— (*with* Galles, David) Axioms of causal relevance. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 9–43. (Summary) **99c:68230** 68T27 (03B48, 68T30)

Pearle, Philip True collapse and false collapse. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 69–86, *Internat. Press, Cambridge, MA*, 1997. (S. Gudder) **99a:81013** 81P05 (81P15)

— Relativistic collapse model with tachyonic features. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 1, 80–101. (Summary) **99j:81025** 81P99

Pearn, W. L. (*with* Chou, J. B.) Improved solutions for the Chinese postman problem on mixed networks. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 8, 819–827. (Summary) **99m:90117** 90C27 (90C35)

Pearson, J. M. *see* **Pearson, Jane Margaret**

Pearson, J. R. A. Length scales, asymptotics and non-linear singularities. *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 1–12, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D99 (73M25)

— *see also* **IUTAM Symposium: Non-linear Singularities in Deformation and Flow**, **99h:76002**

Pearson, Jane Margaret (*with* Lloyd, N. G.; Christopher, C. J.; Devlin, J.; Yasmin, N.) Quadratic-like cubic systems. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 329–345. (Henryk Żołądek) **99k:34061** 34C05 (58F21)

— (*with* Devlin, J.; Lloyd, N. G.) Cubic systems and Abel equations. (English summary) *J. Differential Equations* **147** (1998), *no.* 2, 435–454. (Natalia Borisovna Medvedeva) **99f:34037** 34C05 (34C25)

— (*with* Lloyd, N. G.) Bifurcation of limit cycles and integrability of planar dynamical systems in complex form. (English summary) *J. Phys. A* **32** (1999), *no.* 10, 1973–1984. (Henryk Żołądek) **99m:34068** 34C05 (34–04, 34C23, 58F21)

Pearson, John *see* **Pearson, John Frederick**

Pearson, John E. (*with* Reynolds, William N.; Ponce Dawson, Silvina) Self-replicating spots in reaction-diffusion systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 185–198. (Yoram Schiffmann) **99b:92012** 92C15 (35K57, 35Q80, 92E20)

— (*with* Brydon, David; Marder, Michael) Solving stiff differential equations with the method of patches. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 280–298. (Summary) **99d:65203** 65L05

Pearson, John Frederick (*with* Archdeacon, Dan; Bonnington, C. Paul; Širáň, Jozef) The Hadwiger number for the product of two cycles. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 113–120, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:05071** 05C35

Pearson, Justin (*with* Bryans, Jeremy) Combining communicating sequential processes and temporal logic. (English and Estonian summaries) *Proc. Est. Acad. Sci. Eng.* **4** (1998), *no.* 2, 130–137. (Summary) **99h:68114** 68Q60

Pearson, Kimberly Algebraic K-theory of two-dimensional crystallographic groups. (English summary) *K-Theory* **14** (1998), *no.* 3, 265–280. (Charles Weibel) **99c:19002** 19D35 (19A31, 19B28, 20H15)

Pearson, T. L. (*with* Agronsky, S. J.; Ceder, J. G.) Some characterizations of Darboux Baire 1 functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 421–430. (Władysław Wilczyński) **99h:26008** 26A21 (26A15)

Pébay, Philippe P. (*with* Frey, Pascal J.) Delaunay-admissibilité des triangulations de surfaces. (English and French summaries) [Delaunay-conformity of surface triangulations] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 313–318. (Summary) **99g:65139** 65Y25 (65D17, 65M50, 65N50)

Pečarić, Josip (*with* Dragomir, Sever Silvestru; Mond, B.; Pearce, C. E. M.) Interpolations to Jensen's inequality with application to refinements of the triangle inequality for normed linear spaces. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 17–31. (Maria J. Carro) **99f:26028** 26D15 (46B20)

— (*with* Toader, Gh.) On the dual cone of a cone of sequences. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 79–83. (Ion Raşa) **99g:26028** 26A51 (26D20)

— (*with* Brnetić, Ilko) Note on generalization of Godunova-Levin-Opial inequality. *Demonstratio Math.* **30** (1997), *no.* 3, 545–549. (B. G. Pachpatte) **99b:26031** 26D10

— (*with* Jardas, Cvetan; Roki, Rajko; Sarapa, Nikola) On an inequality of Hardy-Littlewood-Pólya and some applications to entropies. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 201–206. (Lars Erik Persson) **99c:26017** 26D15 (94A17)

— (*with* Mond, B.) On Schwarz's inequality in Hilbert space. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 269–274. (Takayuki Furuta) **99j:47022** 47A63

— (*with* Pearce, C. E. M.) On some applications of integral power means. (English summary) *Octogon Math. Mag.* **5** (1997), *no.* 2, 3–7. (J. Sándor) **99h:26025** 26D15

— (*with* Giordano, Carla; Palumbo, Biagio) Remarks on the Hankel determinantal inequalities. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 2, 279–286. (J. Matkowski) **99d:26016** 26A48 (26A51, 26D07)

— (*with* Pearce, C. E. M.) On convexity-like inequalities. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 133–138. (Summary) **99f:26041** 26D20 (26B25)

— (*with* Guljaš, Boris; Pearce, C. E. M.) Some inequalities related to Hölder's inequality. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 273–279. (Summary) **99f:26029** 26D15

— (*with* Abramovich, Shoshana) On new majorization theorems. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 903–911. (Lars Erik Persson) **99b:26041** 26D15

— A weighted, discrete version of Zagier's inequality. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 4, 431–433. 26D15

— (*with* Čižmešija, Aleksandra; Žubrinić, Darko) On Levin's generalization of Carleman's inequalities. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 473–481. (Feng Qi) **99k:26023** 26D15

— (*with* Agarwal, Ravi P.; Čuljak, Vera) On discrete and continuous Wirtinger inequalities. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 195–204. 26D10

— (*with* Elezović, N.) Stefenssen's inequality and estimates of error in trapezoidal rule. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 63–69. 65D32

— (*with* Mond, B.) Hadamard products and generalized inverses. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 194–197. (From the introduction) **99k:15006** 15A09

— (*with* Volenec, Vladimir; Veljan, Darko) Inequalities for volumes of simplices in terms of their faces. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 57–62. (Summary) **99f:51032** 51M16 (51M25)

— (*with* Guljaš, Boris; Pearce, C. E. M.) An inequality for probability density functions arising from a distinguishability problem. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 350–354. (Iosif Pinelis) **99d:60016** 60E15

— (*with* Giordano, Carla; Laforgia, Andrea) Unified treatment of Gautschi-Kershaw type inequalities for the gamma function. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 167–175. (P. Anandani) **99k:33004** 33B15

— (*with* Barza, Sorina; Persson, Lars-Erik) Carlson type inequalities. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 121–135. (J. Sándor) **99m:26027** 26D15

— (*with* Pearce, C. E. M.; Šimić, V.) Stolarsky means and Hadamard's inequality. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 99–109. (B. Crstici) **99b:26040** 26D15

— (*with* Svrtan, Dragutin) New refinements of the Jensen inequalities based on samples with repetitions. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 365–373. (Peter Boyadjiev) **99f:26020** 26D07 (26A51)

— (*with* Elezović, N.) On Alzer's inequality. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 366–369. (Summary) **99b:26033** 26D15

— (*with* Qi, Feng; Šimić, V.; Xu, Sen Lin) Refinements and extensions of an inequality. III. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 439–448. (Zsolt Páles) **99i:26029** 26D15

— (*with* Agarwal, Ravi P.; Čuljak, Vera) Some integral inequalities involving bounded higher order derivatives. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 51–57. (Summary) **99f:26021** 26D10

— (*with* Pearce, C. E. M.; Šunde, J.) A generalization of Pólya's inequality to Stolarsky and Gini means. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 211–222. (Zsolt Páles) **99a:26014** 26D15

— (*with* Elezović, N.; Giordano, Carla) A geometric mean inequality and some monotonicity results for the q-gamma function. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 253–258. (Andrea Laforgia) **99c:33027** 33D05

— (*with* Matić, M.; Pearce, C. E. M.) Improvements of some bounds on entropy measures in information theory. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 295–304. (Wolfgang Sander) **99j:94019** 94A17 (26D15)

— (*with* Abramovich, Shoshana; Varošanec, S.) New generalization of Gauss-Pólya's inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 331–342. (Zsolt Páles) **99f:26025** 26D15

— (*with* Brnetić, Ilko) Some new Opial-type inequalities. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 385–390. (Lucio Renato Berrone) **99i:26018** 26D10 (26D15)

— (*with* Cheung, Wing-Sum) Multi-dimensional integral inequalities of the Wirtinger-type. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 481–489. (Franck Barthe) **99k:26019** 26D10 (26D15, 39B72)

— (*with* Čižmešija, Aleksandra) Mixed means and Hardy's inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 491–506. (Petr Gurka) **99k:26020** 26D10 (26D15)

— (*with* Alić, M.; Bullen, P. S.; Volenec, Vladimir) Gerber's inequality and some related inequalities. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 507–516. (L. Losonczi) **99i:26020** 26D15

— (*with* Jardas, Cvetan; Sarapa, Nikola) On summability of pairs of convolution sequences of probability measures on locally compact semigroups. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 481–492. (Uwe Franz) **99m:60011** 60B10 (43A05, 60B05)

Peccati, Lorenzo (*with* Daboni, Luciano) Actuarial mathematics and the mathematics of finance. (Italian) *Italian mathematics after Unity* (*Italian*), 649–669, *Mat. Ital. Unità*, 1, *Marcos y Marcos, Milan*, 1998. (*see* **99i:01001**) 01A60

Pecelli, G. Prey-predator systems with delay: Hopf bifurcation and stable oscillations. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 10, 77–98. (Yang Kuang) **99d:34134** 34K15 (34–04, 34K20, 92D25)

Pech, Pavel A generalization of the Cauchy-Schwartz inequality. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 293–299. (Summary) **99k:52017** 52A40

Pechenik, Leonid (*with* Levine, Herbert) Refraction of waves in excitable media. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 2910–2917. 35K55

Pechentsov, A. S. (*with* Popov, A. Yu.) Asymptotic behavior of the spectral function of a family of operators. (Russian) *Mat. Zametki* **61** (1997), *no.* 5, 793–796; *translation in Math. Notes* **61** (1997), *no.* 5-6, 664–668. (Boris Skachek) **99c:34194** 34L20

— (*with* Popov, A. Yu.) Asymptotic behavior of spectral functions of the differential operators $-y'' - \varepsilon x^2 y$. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 302–306; *translation in Math. Notes* **63** (1998), *no.* 1-2, 264–268. (Vjacheslav A. Yurko) **99d:34166** 34L40 (34B24, 47E05)

Pecherskiĭ, E. A. (*with* Dobrushin, R. L.) Large deviations for random processes with independent increments on infinite intervals. *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 41–74, *Gordon and Breach, Amsterdam*, 1996. (Boualem Djehiche) **99m:60042** 60F10 (60J30, 60K25)

— (*with* Karpelevich, F. I.; Sukhov, Yu. M.) A phase transition for hyperbolic branching processes. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 627–642. (Luis G. Gorostiza) **99i:60159** 60J80 (60K35)

Pechinkin, A. V. The system $M_i/G/1/n$ with the LIFO discipline and a constraint on the total number of customers. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 106–116; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 545–553. (Summary) **99j:60146** 60K25 (90B22)

Pechtl, Andreas A note on the derivative of the normal distribution's logarithm. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 1, 83–88. (Serguey N. Smirnov) **99f:90019** 90A09

Peck, Bill (*with* Sigurdson, Lorenz) On the kinematics at a free surface. (English summary) *IMA J. Appl. Math.* **61** (1998), *no.* 1, 1–13. (Summary) **99i:76002** 76A02 (73B99)

Pecker, Daniel Sur le théorème local de Harnack. (English and French summaries) [On Harnack's local theorem] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 573–576. (Summary) **99f:14071** 14P05

Peckham, Bruce B. Real perturbation of complex analytic families: points to regions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 73–93. (Fuyao Ren) **99f:58173** 58F23

Pecora, Louis M. Synchronization conditions and desynchronizing patterns in coupled limit-cycle and chaotic systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 347–360. (Summary) **99c:34069** 34C15 (34D45, 58F13)

Pedas, Arvet On the superconvergence of the spline collocation method for solving nonlinear two-dimensional weakly singular integral equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1260–1267, 1295; *translation in Differential Equations* **33** (1997), *no.* 9, 1268–1276 (1998). (Andreas Rathsfeld) **99g:65127** 65R20 (45L05)

— (*with* Vainikko, Gennadi) Superconvergence of piecewise polynomial collocations for nonlinear weakly singular integral equations. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 4, 379–406. (Javad Abdalkhani) **99d:65370** 65R20 (45L05)

Peddada, Shyamal D. (*with* Smith, Todd) Analysis of fixed effects linear models under heteroscedastic errors. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 399–408. (Summary) **99a:62096** 62J05

Pedersen, Christian N. S. (*with* Lyngsø, Rune; Hein, Jotun) Comparison of coding DNA. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 153–173, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99m:92022** 92D20 (68Q20)

Pedersen, Erik Kjær (*with* Carlsson, Gunnar) Čech homology and the Novikov conjectures for K- and L-theory. *Math. Scand.* **82** (1998), *no.* 1, 5–47. (A. A. Ranicki) **99e:55004** 55N05 (18F25, 19G24, 55N40)

Pedersen, Geir (*with* Langtangen, Hans Petter) Computational models for weakly dispersive nonlinear water waves. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 337–358. 76M25 (76B15)

Pedersen, Gert K. Factorization in C^*-algebras. *Exposition. Math.* **16** (1998), *no.* 2, 145–156. (C. J. K. Batty) **99f:46086** 46L05 (46H25)

— (*with* Eilers, Søren; Loring, Terry A.) Stability of anticommutation relations: an application of noncommutative CW complexes. (English summary) *J. Reine Angew. Math.* **499** (1998), 101–143. (Vladimir Manuilov) **99e:46067** 46L05 (46L80, 46L85)

— (*with* Eilers, Søren; Loring, Terry A.) Quasidiagonal extensions and AF algebras. *Math. Ann.* **311** (1998), *no.* 2, 233–249. (Vladimir Manuilov) **99e:46068** 46L05 (46L80)

— (*with* Loring, Terry A.) Projectivity, transitivity and AF-telescopes. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4313–4339. (Vladimir Manuilov) **99c:46065** 46L05

Pedersen, Henrik (*with* Poon, Yat Sun; Swann, Andrew) Hypercomplex structures associated to quaternionic manifolds. (English summary) *Differential Geom. Appl.* **9** (1998), *no.* 3, 273–292. (María Laura Barberis) **99k:53062** 53C15 (53C56)

— (*with* Poon, Yat Sun) Deformations of hypercomplex structures. (English summary) *J. Reine Angew. Math.* **499** (1998), 81–99. (Andrew Swann) **99h:32009** 32C25 (32G07, 32L25)

Pedersen, Henrik L. (*with* Koosis, Paul) Lower bounds on the values of an entire function of exponential type at certain integers, in terms of a least superharmonic majorant. (English summary) *Algebra i Analiz* **10** (1998), *no.* 3, 31–44. (Summary) **99g:30034** 30D15

— Entire functions having small logarithmic sums over certain discrete subsets. (English summary) *Ark. Mat.* **36** (1998), *no.* 1, 119–130. (Lev Sergeevich Maergoiz) **99b:30034** 30D20

— On Krein's theorem for indeterminacy of the classical moment problem. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 90–100. (Tiberiu Constantinescu) **99j:44017** 44A60

Pedersen, J. L. (*with* Peškir, Goran) Computing the expectation of the Azéma-Yor stopping times. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 2, 265–276. (Jia Gang Wang) **99c:60172** 60J60 (60G40)

Pedersen, J. P. (*with* Moreno, Oscar; Polemi, D.) An improved Serre bound for elementary abelian extensions of $F_q(x)$ and the generalized Hamming weights of duals of BCH codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1291–1293. (Summary) **99e:94051** 94B65

Pedersen, Jean (*with* Hilton, Peter) A fresh look at old favourites: the Fibonacci and Lucas sequences revisited. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 3, 146–160. (Neville Robbins) **99e:11020** 11B39

— (*with* Hilton, Peter) On the quasi-order theorem. *Panamer. Math. J.* **8** (1998), *no.* 4, 97–105. (Samuel S. Wagstaff, Jr.) **99k:11006** 11A05 (11A07)

Pedersen, Olaf *see* **North, J. D.**

Pedersen, Paul S. Basis for power series solutions to systems of linear, constant coefficient partial differential equations. (English summary) *Adv. Math.* **141** (1999), *no.* 1, 155–166. (Nicolai N. Tarkhanov) **99k:35022** 35C10 (35E20, 46F10)

Pedersen, Pauli (*with* Tortorelli, Daniel A.) Constitutive parameters and their evolution. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 295–310. (Summary) **99k:73096** 73K99 (73B99)

Pedersen, Steen (*with* Jorgensen, Palle E. T.) Local harmonic analysis for domains in $\mathbf{R}^n$ of finite measure. (English summary) *Analysis and topology*, 377–410, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99k:46039** 46E22 (42Bxx, 46N20)

— (*with* Jorgensen, Palle E. T.) Orthogonal harmonic analysis and scaling of fractal measures. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 301–306. (Paul Jolissaint) **99h:28019** 28A80 (42B10, 46E30)

— (*with* Jorgensen, Palle E. T.) Orthogonal harmonic analysis of fractal measures. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 35–42 (*electronic*). (Peter R. Massopust) **99b:28008** 28A75 (28A80, 42B10, 42C05, 47B38)

— Anticommuting derivations. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1103–1108. (Geoffrey Price) **99f:46098** 46L57

— (*with* Barraa, Mohamed) On the product of two generalized derivations. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2679–2683. (Martin Mathieu) **99m:47041** 47B47 (46L57)

Pedersen, Thomas Vils Closed ideals and the Bennett-Gilbert conjecture in Banach algebras of analytic functions. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 5, 391–398. (Summary) **99b:46076** 46J15 (46J20)

— Endomorphisms of the algebra of absolutely continuous functions and of algebras of analytic functions. (English summary) *Math. Scand.* **82** (1998), *no.* 1, 89–100. (A. A. Borichev) **99g:46071** 46J10 (43A22, 46J15, 47B38)

Pedersen, Torben (*with* Cramer, Ronald; Damgård, Ivan B.) Efficient and provable security amplifications. (English summary) *Security protocols* (*Cambridge*, 1996), 101–109, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Joan Boyar) **99a:94028** 94A60 (68P25)

— (*with* Brandt, Jørgen[1]; Damgård, Ivan B.; Landrock, Peter) Zero-knowledge authentication scheme with secret key exchange. (English summary) *J. Cryptology* **11** (1998), *no.* 3, 147–159. (Summary) **99c:94026** 94A60

Pederson, R. N. (*with* Mazouzi, S.) Explicit representation of the solution to some boundary value problem. (English summary) *Math. Scand.* **82** (1998), *no.* 1, 101–112. (Maria A. Ragusa) **99f:34017** 34B05 (31B10, 34B27, 45P05)

Pederzoli, Giorgio (*with* Mathai, A. M.) Random points with reference to a circle, revisited. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 235–258. (P. N. Rathie) **99a:60006** 60D05 (60E05)

— (*with* Mathai, A. M.) A Whittaker function of matrix argument. (English summary) *Linear Algebra Appl.* **269** (1998), 91–103. (Gary R. Miller) **99c:33009** 33C15

Pedicchio, Maria Cristina Some remarks on internal pregroupoids in varieties. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1737–1744. (E. Fried) **99m:08018** 08B10 (18B99)

— (*with* Borceux, Francis) Left exact presheaves on a small pretopos. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 1, 9–22. (Summary) **99j:18012** 18F20 (18B25, 18C10)

Pedit, Franz (*with* Hertrich-Jeromin, Udo) Remarks on the Darboux transform of isothermic surfaces. (English summary) *Doc. Math.* **2** (1997), 313–333 (*electronic*). (Summary) **99k:53006** 53A10 (53A05)

— (*with* Kamberov, Georgi I.; Pinkall, Ulrich) Bonnet pairs and isothermic surfaces. *Duke Math. J.* **92** (1998), *no.* 3, 637–644. (Luis J. Alías) **99h:53009** 53A10 (53A05)

Pedley, T. J. (*with* Metcalfe, A. M.) Bacterial bioconvection: weakly nonlinear theory for pattern selection. (English summary) *J. Fluid Mech.* **370** (1998), 249–270. (Summary) **99g:76164** 76Z10 (76E15, 92C15)

— (*with* Waters, S. L.) Oscillatory flow in a tube of time-dependent curvature. I. Perturbation to flow in a stationary curved tube. (English summary) *J. Fluid Mech.* **383** (1999), 327–352. (Summary) **99m:76131** 76Z05 (76D99)

— *see also* **Obituary: Lighthill, Michael James**

Pedoe, Daniel In love with geometry. *College Math. J.* **29** (1998), *no.* 3, 170–188. (Editors) **99e:01026** 01A70

Pedon, Emmanuel Analyse harmonique des formes différentielles sur l'espace hyperbolique réel. I. Transformation de Poisson et fonctions sphériques. (English and French summaries) [Harmonic analysis for differential forms on real hyperbolic spaces. I. Poisson transforms and spherical functions] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 671–676. (Summary) **99h:43022** 43A90 (22E30)

— Analyse harmonique des formes différentielles sur l'espace hyperbolique réel. II. Transformation de Fourier sphérique et applications. (English and French summaries) [Harmonic analysis for differential forms on real hyperbolic spaces. II. Spherical Fourier transform and applications] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 781–786. (Summary) **99h:43010** 43A30 (22E30)

Pedraza-Aguilera, M. C. (*with* Ballester-Bolinches, A.; Pérez-Ramos, M. D.) σ-permutably embedded subgroups of finite soluble groups. (English summary) *Problems in algebra, No.* 9 (*Russian*), 38–41, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20005**) 20D10

— (*with* Ballester-Bolinches, A.; Pérez-Ramos, M. D.) Characterizations of Schunck classes of finite soluble groups. *J. Algebra* **202** (1998), *no.* 1, 243–249. (T. O. Hawkes) **99j:20024** 20D10 (20D35)

— (*with* Ballester-Bolinches, A.) Sufficient conditions for supersolubility of finite groups. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 113–118. (Ji Ping Zhang) **99d:20048** 20F16

— (*with* Ballester-Bolinches, A.; Pérez-Ramos, M. D.) Mutually permutable products of finite groups. *J. Algebra* **213** (1999), *no.* 1, 369–377. (Silvana Franciosi) **99k:20046** 20D40 (20F16)

Pedregal, Pablo (*with* Muñoz, Julio) On one-dimensional degenerate convex variational problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1117–1122, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 49K05

— (*with* Owen, David Ross) An elementary proof of the fundamental property of a perfect gas. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 3, 281–292. (Renuka Datta) **99i:80004** 80A10 (76N10)

— (*with* Šverák, Vladimír) A note on quasiconvexity and rank-one convexity for 2×2 matrices. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 107–117. (Bernard Brighi) **99i:49005** 49J10 (49K10)

— Equilibrium conditions for Young measures. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 797–813 (*electronic*). (Georg K. Dolzmann) **99d:49030** 49J45 (35J99, 49K27, 49Q20)

— (*with* Fonseca, Irene; Müller, Stefan C.) Analysis of concentration and oscillation effects generated by gradients. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 736–756 (*electronic*). (Georg K. Dolzmann) **99e:49013** 49J45 (35B99)

Pedreschi, Dino (*with* Ruggieri, Salvatore) Weakest preconditions for pure Prolog programs. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 145–150. (Summary) **99c:68046** 68N17 (68Q60)

— (*with* Giannotti, Fosca) Datalog with non-deterministic choice computes NDB-PTIME. (English summary) *J. Logic Programming* **35** (1998), *no.* 1, 79–101. (Summary) **99b:68029** 68N17 (68P15)

— (*with* Ruggieri, Salvatore) Verification of logic programs. (English summary) *J. Logic Programming* **39** (1999), *no.* 1-3, 125–176. (Summary) **99k:68110** 68Q60 (68N17)

Pedrini, Claudio (*with* Ciliberto, Ciro) Real abelian varieties and real algebraic curves. *Lectures in real geometry* (*Madrid*, 1994), 167–256, *de Gruyter Exp. Math.*, 23, *de Gruyter, Berlin*, 1996. (From the introduction) **99a:14080** 14P05 (14K05)

Pedrizzetti, Gianni Fluid flow in a tube with an elastic membrane insertion. (English summary) *J. Fluid Mech.* **375** (1998), 39–64. (Summary) **99h:76099** 76Z05 (73F15, 73K70, 76B99)

— (*with* Péntek, Áron; Kadtke, James B.) Dynamical control for capturing vortices near bluff bodies. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1883–1898.

76C05

Pedro, Ana M. (*with* Ferreira, José M.) Oscillations of delay difference systems. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 364–383. (Saber Elaydi) **99e:39017** 39A10

Pedroni, Marco (*with* Magri, Franco; Zubelli, Jorge P.) On the geometry of Darboux transformations for the KP hierarchy and its connection with the discrete KP hierarchy. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 305–325. (Naruyoshi Asano) **99b:35185** 35Q53 (58F07, 58F37)

— (*with* Casati, Paolo; Falqui, Gregorio; Magri, Franco) A note on fractional KdV hierarchies. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4606–4628. (Summary) **99d:58076** 58F07

— (*with* Falqui, Gregorio; Magri, Franco) Bi-Hamiltonian geometry, Darboux coverings, and linearization of the KP hierarchy. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 303–324. (Alexander V. Shapovalov) **99h:58084** 58F07 (35Q53)

— (*with* Casati, Paolo; Falqui, Gregorio; Magri, Franco) Bi-Hamiltonian reductions and $\mathcal{W}_n$-algebras. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 291–310. (Carlo Morosi) **99f:58095** 58F07 (17B68)

— (*with* Casati, Paolo; Falqui, Gregorio; Magri, Franco; Zubelli, Jorge P.) Darboux transformations and Darboux coverings: some applications to the KP hierarchy. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 45–65. (C. Rogers) **99m:58173** 58F37 (35A30, 35Q53, 58F07)

Pedrycz, Witold ★ Fuzzy sets engineering. With a foreword by Lotfi A. Zadeh. *CRC Press, Boca Raton, FL*, 1995. *xvi*+332 *pp. ISBN* 0-8493-9402-3 93–02 (04A72, 68T05, 93C42, 93C95)

— (*with* Gomide, Fernando Antonio) ★ An introduction to fuzzy sets. (English summary) Analysis and design. With a foreword by Lotfi A. Zadeh. Complex Adaptive Systems. A Bradford Book. *MIT Press, Cambridge, MA*, 1998. *xxiv*+465 *pp. ISBN* 0-262-16171-0 (Claudi Alsina) **99h:03033** 03E72 (03B52)

— (*with* Ekel, P. Ya.; Schinzinger, Roland) A general approach to solving a wide class of fuzzy optimization problems. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 49–66. (Summary) **99a:90236** 90C70

— Optimization schemes for decomposition of fuzzy relations. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 301–325. (Summary) **99h:04006** 04A72

— Obituary: Ernest Czogala. *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 139–140. 01A70

— *see also* **Using fuzzy algebraic structures in intelligent systems, 99d:68015**

Peduto, D. (*with* Berger, C. S.) Robust digital control using multi-rate input sampling. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 813–824. 93C57 (93B35)

Peel, David (*with* McLachlan, Geoffrey J.) Robust cluster analysis via mixtures of multivariate t-distributions. (English summary) *Advances in pattern recognition (Sydney*, 1998), 658–666, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62H30

Peelman, P. (*with* Gemis, M.; Paredaens, Jan; Van den Bussche, Jan) Expressiveness and complexity of generic graph machines. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 231–249. (Marc Gyssens) **99m:68051** 68Q05 (68P15, 68R10)

Peet, Amanda W. The Bekenstein formula and string theory (N-brane theory). (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3291–3338. (Marco Cavaglià) **99m:83135** 83C57 (81–02, 81T30, 83E30)

Peeters, Bas (*with* de Boer, Jan; Skenderis, Kostas; van Nieuwenhuizen, Peter) The equivalence between the operator approach and the path integral approach for quantum mechanical non-linear sigma models. (English summary) *Strings '95 (Los Angeles, CA*, 1995), 47–62, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81051** 81Q60 (81S40, 81T27)

Peeters, Kasper (*with* de Wit, Bernard; Plefka, Jan C.) Superspace geometry for supermembrane backgrounds. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 99–123. (Paulo Moniz) **99m:83209** 83E50 (81T30, 83E30)

— (*with* de Wit, Bernard; Plefka, Jan C.) The supermembrane with winding. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 405–411. (Summary) **99c:81215** 81T30

— (*with* de Wit, Bernard; Plefka, Jan C.) Open and closed supermembranes with winding. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 206–215. (Summary) **99e:81213** 81T30 (81Q60)

— (*with* de Wit, Bernard; Plefka, Jan C.; Sevrin, Alexander) The M-theory two-brane in $AdS_4 \times S^7$ and $AdS_7 \times S^4$. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 153–158. (Summary) **99j:83073** 83E30 (81T30)

Peeters, Tim W. J. (*with* Verweij, Robbert L.; Twerda, Aris) Parallel computing for reacting flows using adaptive grid refinement. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 538–546, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99g:76118** 76M25 (65Y05, 80–08, 80A25)

Peeters, Werner (*with* Lowen, Robert) Distances between fuzzy sets representing grey level images. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 135–149. (Summary) **99f:68206** 68U10 (04A72, 54A40, 68T10)

— Subspaces of smooth fuzzy topologies and initial smooth fuzzy structures. (English summary) Categorical methods and techniques in fuzzy mathematics. *Fuzzy Sets and Systems* **104** (1999), *no.* 3, 423–433. (*see* **99m:03114**) 54A40

Peetre, Jaak (*with* Lindqvist, Peter) On a number-theoretic sum considered by Meissel—a historical observation. (English summary) *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 3, 175–179. (Andrew Granville) **99b:11141** 11Y35 (11–33)

— (*with* Cobos, Fernando; Persson, Lars-Erik) On the connection between real and complex interpolation of quasi-Banach spaces. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 1, 17–37. (Mieczysław Mastyło) **99g:46108** 46M35 (46A03)

— (*with* Engliš, Miroslav) Green's functions for powers of the invariant Laplacian. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 40–73. (Peter A. McCoy) **99c:58146** 58G03 (32M15, 33E30, 35C15, 35J40)

Peev, M. (*with* Kasperkovitz, P.) Dynamical self-interference in nonlinear integrable systems. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 320–328, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81V80 (81S99)

— (*with* Kasperkovitz, P.) Semiclassical mechanics of periodic motion. I. General scheme. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2197–2225. (Piotr Kosiński) **99g:81048** 81Q20 (81S30)

— (*with* Kasperkovitz, P.) Semiclassical mechanics in one dimension. II. Approximate matrix elements. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2227–2239. (Piotr Kosiński) **99g:81049** 81Q20 (81R30, 81S30)

Peeva, Irena V. (*with* Avramov, Luchezar L.; Gasharov, Vesselin N.) Complete intersection dimension. (English summary) *Inst. Hautes Études Sci. Publ. Math. No.* 86 (1997), 67–114 (1998). (Paul Roberts) **99c:13033** 13D05 (13D25)

— (*with* Reiner, Victor; Sturmfels, Bernd) How to shell a monoid. *Math. Ann.* **310** (1998), *no.* 2, 379–393. (Aron Simis) **99d:13020** 13D40 (06A08, 13A02, 13P10)

— (*with* Bayer, Dave; Sturmfels, Bernd) Monomial resolutions. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 31–46. (Ralf Fröberg) **99c:13029** 13D02 (13P10)

— (*with* Sturmfels, Bernd) Syzygies of codimension 2 lattice ideals. *Math. Z.* **229** (1998), *no.* 1, 163–194. (Ralf Fröberg) **99g:13020** 13D02 (14M25)

— (*with* Gasharov, Vesselin N.) Binomial free resolutions for normal toric surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1583–1588. (Mark R. Johnson) **99i:13022** 13D02 (14M25)

Peffley, Nicholas L. (*with* Hogrefe, J. Errett; Goodridge, Christopher L.; Shi, William T.; Hentschel, H. George E.; Lathrop, Daniel P.) Power-law singularities in gravity-capillary waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 183–205. (*see* **99h:00031**) 76D33 (76–05, 76D45)

Pegg, D. T. Complement of the Hamiltonian. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 6, 4307–4313. (Summary) **99k:81049** 81P99

Pego, Robert L. (*with* Weinstein, Michael I.) Convective linear stability of solitary waves for Boussinesq equations. (English summary) *Stud. Appl. Math.* **99** (1997), *no.* 4, 311–375. (Peter L. Christiansen) **99a:35219** 35Q51 (35B35, 35Q35, 76B15, 76D33, 76E15)

— (*with* Hărăguş-Courcelle, Mariana) Travelling waves of the KP equations with transverse modulations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 227–232. (Summary) **99j:35186** 35Q53 (35B32)

Pegoraro, F. (*with* Kuvshinov, B. N.; Rem, J.; Schep, T. J.) Drift-Alfvén vortices with finite ion gyroradius and electron inertia effects. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 713–728. (Summary) **99k:76163** 76X05

— (*with* Attico, N.) Periodic equilibria of the Vlasov-Maxwell system. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 767–770. (Summary) **99k:76158** 76X05

— (*with* Bulanov, S. V.; Echkina, E. Yn.; Inovenkov, I. N.; Pichushkin, V. V.) On the structural stability of magnetic configurations with two null lines. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 802–815. (Summary) **99k:76151** 76W05

Peherstorfer, Franz Minimal polynomials on several intervals with respect to the maximum norm—a survey. (English summary) *Complex methods in approximation theory (Almería*, 1995), 137–159, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Summary) **99c:41011** 41A10 (41–02)

— (*with* Schiefermayr, Klaus) Explicit generalized Zolotarev polynomials with complex coefficients. II. (English summary) *East J. Approx.* **3** (1997), *no.* 4, 473–483. (Andrei Martínez Finkelshtein) **99a:41025** 41A29 (33C45)

— (*with* Steinbauer, Robert) Transformation of polynomials orthogonal on the unit circle. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 1, 55–80. (Leonid B. Golinskiĭ) **99e:42039** 42C05

— (*with* Foulquié Moreno, Ana; Marcellán, Francisco; Steinbauer, Robert) Strong asymptotics on the support of the measure of orthogonality for polynomials orthogonal with respect to a discrete Sobolev inner product on the unit circle. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 411–425. (Summary) **99i:42036** 42C05

— (*with* Schiefermayr, Klaus) Description of extremal polynomials on several intervals and their computation. I, II. (English summary) *Acta Math. Hungar.* **83** (1999), *no.* 1-2, 27–58, 59–83. (Allan Pinkus) **99m:41010** 41A10 (65D99)

Pehlivan, Serpil (*with* Fisher, Brian) Non-commutative neutrix convolution products of functions and distributions. (English summary) *J. Natur. Sci. Math.* **34** (1994), *no.* 1, 69–75. (Summary) **99b:46058** 46F10

Pei, Daowu On the irredundant forms of fuzzy switching functions. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 42–45. (Summary) **99c:94073** 94C10 (03E72, 03G05)

Pei, Ding Yi (*with* Wang, Xueli) How to decrease the levels of modular integrals. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 491–497. (Marvin I. Knopp) **99m:11058** 11F67

— (*with* Feng, Dengguo; Xiao, Guo Zhen[1]) Maximum correlation analysis of nonlinear combining functions. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 1, 31–36. (Summary) **99e:94054** 94C10 (06E30)

— (*with* Li, Yu Qiang) Information-theoretic lower bounds for multi-receiver authentication codes and their combinatorial characterization. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 91–98. 94A60

Pei, Hailong (*with* Li, Qingxiang; Hu, Yueming; Zhou, Qi Jie) Robust output tracking for mobile robot. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 515–524. 93C83 (70B15, 93B12)

Pei, Huisheng Some α-semigroups inducing certain lattices. *Semigroup Forum* **57** (1998), *no.* 1, 48–59. (Inessa Levi) **99c:20091** 20M20

Pei, Li Wen (*with* Wang, Zun Quan) w-ideals and w-soft algebras. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 633–637. (R. Balbes) **99a:06017** 06D30

— (*with* Zhu, Yi Quan) W-fuzzy lattices and W-ideals. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 91–96. 06D30

— (*with* Zhu, Yi Quan) Prime ideals and congruence relations of fuzzy lattices. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 411–416. (Venkat Murali) **99g:04003** 04A72 (06B10)

Pei, Ming He Existence and uniqueness of solutions of nonlinear two-point boundary value problems for third-order nonlinear differential equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 261–266. (Haiyan Wang) **99m:34041** 34B15

Pei, Shou Yong (*with* Zhao, Zheng; Liu, Liao) The Planck black body spectrum implies that the transitivity of clock rate synchronization is equivalent to the zeroth law of thermodynamics. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **34** (1998), *no.* 3, 356–359. 82B03

Peichl, G. H. (*with* Ring, Wolfgang) Optimization of the shape of an electromagnet: regularity results. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 997–1014. (Pekka Neittaanmäki) **99j:78012** 78A30 (35Q60, 49Q10)

— (*with* Kunisch, Karl) Shape optimization for mixed boundary value problems based on an embedding domain method. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 439–478. (Pekka Neittaanmäki) **99f:49068** 49Q10 (35J99)

Péics, Hajnalka Generalized characteristic equation of linear delay difference equation. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 499–505, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39037** 39A10

— Applications of generalized characteristic equation of linear delay difference equations. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 31–36. (Summary) **99i:39012** 39A10

Peierls, Rudolf ★ Selected scientific papers of Sir Rudolf Peierls. With commentary. Edited and with a preface by R. H. Dalitz. World Scientific Series in 20th Century Physics, 19. *World Scientific Publishing Co., Inc., River Edge, NJ; Imperial College Press, London*, 1997. *xxiv*+805 *pp. ISBN* 981-02-2692-6 (H. S. Green) **99e:01035** 01A75 (81–03, 82–03)

Peiffer, Jeanne Faire des mathématiques par lettres. [Epistolary mathematics] *Rev. Histoire Math.* **4** (1998), *no.* 1, 143–157. 01A99

Peigin, S. V. (*with* Borodin, Aleksandr Ivanovich) Three-dimensional flow around blunt bodies in the framework of the parabolized viscous shock layer model. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 1, 16–25. 76K05 (76N15)

Peigné, Marc (*with* Babillot, Martine) Closed geodesics in homology classes on hyperbolic manifolds with cusps. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 901–906. (Thomas A. Schmidt) **99a:58121** 58F17 (57S30)

— (*with* Dal'bo, Françoise) Some negatively curved manifolds with cusps, mixing and counting. (English summary) *J. Reine Angew. Math.* **497** (1998), 141–169. (Sanju L. Velani) **99c:58124** 58F17 (53C22, 58F11)

Peinado, Marcus (*with* Eğecioğlu, Ömer) Algorithms for almost-uniform generation with an unbiased binary source. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 117–126, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q20 (65C10)

— (*with* Juels, Ari) Hiding cliques for cryptographic security. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 678–684, *ACM, New York*, 1998. (*see* **99d:68011**) 94A60 (05C80, 68R10)

martín-Peinador, E. *see* **Martín-Peinador, E.**

Peinke, J. (*with* Kittel, A.; Parisi, Jürgen; Baier, Gerold; Klein, Michael; Rössler, Otto E.) Unifying iteration rule for fractal objects. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1887–1896. (Summary) **99a:39052** 39B12 (28A80)

— (*with* Friedrich, Rudolf; Galla, Th.; Naert, A.; Schimmel, Th.) Disordered structures analyzed by the theory of Markov processes. (English summary) *A perspective look at nonlinear media*, 313–326, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99g:76069** 76F20 (28A80, 60J20, 73B99, 76M35)

— (*with* Siegert, S.; Friedrich, Rudolf) Analysis of data sets of stochastic systems. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 275–280. (Summary) **99b:82077** 82C31

Peipman, Tõnu (*with* Engelbrecht, Jüri; Salupere, Andrus; Maugin, Gérard A.) Spectral analysis of soliton formation. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 216–222, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 65M70 (35Q53)

Peirano, P. P. (*with* Menotti, Pietro) Functional integration for Regge gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 82–90. (From the introduction) **99g:83024** 83C27 (83C45)

Peirce, Benjamin *see* **Grattan-Guinness, Ivor**, **99d:01018**

Peirce, Charles Sanders ★ The essential Peirce. Vol. 2 (1893–1913). (English summary) Selected philosophical writings. With an introduction by Nathan Houser. Edited by the Peirce Edition Project. *Indiana University Press, Bloomington, IN*, 1998. *xl*+584 *pp. ISBN* 0-253-33397-0; 0-253-21190-5 (Hourya Sinaceur) **99h:01043** 01A75 (00A30, 01A55, 01A60, 03–03)

— *see also* **Shin, Sun-Joo**, **99d:03007** *and* **Ochs, Peter**, **99f:01019**

Peirce Edition Project *see* **Peirce, Charles Sanders**, **99h:01043**

Peiris, Joseph Jude (*with* Matsumoto, Toshitaka) Quasilinear reaction-diffusion systems in L^∞ spaces. *Nihonkai Math. J.* **9** (1998), *no.* 2, 171–186. (Jesús Hernández) **99m:35121** 35K57 (34G20, 47H06, 47H20)

Peiris, M. Shelton (*with* Singh, Naunihal) Predictors for seasonal and nonseasonal fractionally integrated ARIMA models. (English summary) *Biometrical J.* **38** (1996), *no.* 6, 741–752. (Summary) **99c:62260** 62M10

— (*with* Thavaneswaran, A.) Hypothesis testing for some time-series models: a power comparison. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 151–156. (Summary) **99e:62166** 62M10

Peisach, E. Analytical kinematics of overconstrained 20-link 24R mechanism: branches with one, two and three degrees of freedom. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 297–306, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99i:70006** 70B15

Peitgen, Heinz-Otto (*with* Lange, Ehler; Skordev, Gencho S.) Fractal patterns in Gaussian and Stirling number tables. (English summary) *Ars Combin.* **48** (1998), 3–26. (Jean-Paul Allouche) **99f:11023** 11B65 (11B85, 28A80, 58F08)

— (*with* Rodenhausen, Anna; Skordev, Gencho S.) Self-similar functions generated by cellular automata. (English summary) *Fractals* **6** (1998), *no.* 4, 371–394. (François Blanchard) **99j:58111** 58F08 (68Q80)

Peixoto, Julio L. (*with* Díaz, Joaquín) On the construction of hierarchical polynomial regression models. (English summary) *Estadística* **48** (1996), *no.* 150-151, 175–210 (1998). (Summary) **99e:62118** 62J05

veloso Peixoto, Marcos *see* **Veloso Peixoto, Marcos**

Peixoto, Mauricio M. Focal decomposition in geometry, arithmetic and physics. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 213–231, *de Gruyter, Berlin*, 1997. (Edoh Amiran) **99b:34050** 34B15 (11D09, 34C99, 58F40, 81S40)

Peiyong, Zhu *see* **Zhu, Pei Yong**

Pekarskiĭ, A. A. (*with* Stahl, Herbert) Bernstein-type inequalities for derivatives of rational functions in L_p spaces, $p < 1$. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 119–130; *translation in Sb. Math.* **186** (1995), *no.* 1, 121–131. (Alexey L. Lukashov) **99f:41014** 41A17 (26D10)

— Inequalities for the derivatives of rational functions in Lorentz spaces. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 14–16, 138. (Summary) **99f:46040** 46E30 (26D07, 26D10, 30A10)

Pekarsky, Sergey (*with* Marsden, Jerrold E.) Point vortices on a sphere: stability of relative equilibria. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5894–5907. (Summary) **99h:58067** 58F05 (58F40, 70H05, 70K20, 76C05)

Pekeč, Aleksandar (*with* Mahadev, N. V. R.; Roberts, Fred S.) On the meaningfulness of optimal solutions to scheduling problems: can an optimal solution be nonoptimal? (English summary) *Oper. Res.* **46** (1998), *no.* 3, *suppl.*, *S*120–*S*134. (Summary) **99f:90048** 90B35 (90C27)

Pekel, Ü. (*with* Mittra, Raj; Veihl, J.) A theoretical and numerical study of Berenger's perfectly matched layer (PML) concept for mesh truncation in time and frequency domains. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 1–19, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78027** 78A40 (78–08)

yazici-Pekergin, Nihal *see* **Yazici-Pekergin, Nihal**

Pekmen, Ümran An extension, bisector of the angle problem for a plane triangle, in E^3 line space. (English and Turkish summaries) *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B* **20** (1997), *no.* 1-2, 11–18. 51M04

Pekmestzi, Kiamal Z. Multiplexer-based array multipliers. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 1, 15–23. 68M07 (68Q35)

Pelant, Jan (*with* Dikranjan, Dikran N.) Categories of topological spaces with sufficiently many sequentially closed spaces. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 4, 277–300. (S. J. R. Vorster) **99c:18002** 18B30 (54B30, 54D35, 54D55)

— (*with* Holá, Ľubica; Levi, S.) Normality and paracompactness of the Fell topology. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2193–2197. (Hidenori Tanaka) **99j:54014** 54B20 (54D15, 54D20, 54D45)

Pelantová, Edita (*with* Gazeau, Jean Pierre; Patera, Jiří) Tau-wavelets in the plane. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4201–4212. 42C15

— (*with* Masáková, Zuzana; Patera, Jiří) Inflation centres of the cut and project quasicrystals. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1443–1453. (Summary) **99i:52028** 52C22 (82D25)

— (*with* Masáková, Zuzana; Patera, Jiří) Minimal distances in quasicrystals. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1539–1552. (Summary) **99i:82038** 82D25 (52C22)

— (*with* Masáková, Zuzana; Patera, Jiří) Self-similar Delone sets and quasicrystals. (English summary) *J. Phys. A* **31** (1998), *no.* 21, 4927–4946. (Summary) **99k:52033** 52C22 (82D25)

— (*with* Havlícek, Miloslav; Patera, Jiří) On Lie gradings. II. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 97–125. (Vesselin Drensky) **99d:17032** 17B70 (17B40)

— (*with* Patera, Jiří; Twarock, Reidun) Quasicrystal Lie algebras. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 209–213. (Summary) **99d:17029** 17B68

Pelavas, Nicos (*with* Santosuosso, Kevin; Pollney, Denis; Musgrave, Peter; Lake, Kayll) Invariants of the Riemann tensor for class B warped product space-times. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 381–394. (Emil Zakhary) **99k:83021** 83C20 (83–04)

Pelayo, F. J. (*with* Rojas, I.; Ortega, Julio; Prieto Espinosa, Alberto) Statistical analysis of the main parameters in the fuzzy inference process. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 157–173. 93C42 (03B52)

Pelc, Andrzej (*with* Chlebus, Bogdan S.; Diks, Krzysztof) Transition-optimal token distribution. (English summary) *Fund. Inform.* **32** (1997), *no.* 3-4, 313–328. (Summary) **99g:68014** 68M10 (68M20)

— (*with* Panaite, Petrişor) Exploring unknown undirected graphs. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 316–322, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68T99)

— (*with* Upfal, Eli) Reliable fault diagnosis with few tests. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 323–333. (Summary) **99m:68020** 68M15

— (*with* Farley, Arthur M.; Proskurowski, Andrzej) Minimum-time multidrop broadcast. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 61–77. (Summary) **99b:90049** 90B12 (05C90, 68M10)

— (*with* Gąsieniec, Leszek) Broadcasting with linearly bounded transmission faults. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 121–133. (Summary) **99c:90046** 90B12 (05C90, 68M10)

— (*with* Diks, Krzysztof; Kranakis, Evangelos) Perfect broadcasting in unlabeled networks. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 33–47. (Summary) **99g:68015** 68M10

— (*with* Diks, Krzysztof; Dobrev, Stefan; Kranakis, Evangelos; Ružička, Peter) Broadcasting in unlabeled hypercubes with a linear number of messages. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 181–186. (Summary) **99b:68013** 68M10

— (*with* Diks, Krzysztof; Kranakis, Evangelos) Broadcasting in unlabeled tori. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 177–188. (Summary) **99f:68014** 68M10

— (*with* Czumaj, Artur; Gąsieniec, Leszek) Time and cost trade-offs in gossiping. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 400–413 (*electronic*). (Ralf Klasing) **99j:68003** 68M10 (05C85, 68Q22, 68R10, 90B12)

— (*with* Kranakis, Evangelos; Krizanc, Danny; Peleg, David) Approximate maxima finding of continuous functions under restricted budget. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 151–162. (Summary) **99h:68079** 68Q25 (05C35, 90C35)

— (*with* Diks, Krzysztof) System diagnosis with smallest risk of error. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 163–173. (Summary) **99e:68010** 68M15

Pelc, Oskar (*with* Giveon, Amit; Rabinovici, Eliezer) The Coulomb phase in $N = 1$ gauge theories with an LG-type superpotential. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 100–124. (Gustavo Dotti) **99c:81239** 81T60 (81T13)

— (*with* Giveon, Amit) M theory, type IIA string and 4D $N = 1$ SUSY $SU(N_L) \otimes SU(N_R)$ gauge theory. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 103–147. (Douglas J. Smith) **99e:81191** 81T30 (81T13, 81T60)

Pelczar, Andrzej General dynamical systems and semi-systems: some problems and recent results. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv, 1994)*, 155–164, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 54H20 (34C35, 58F25)

— Introductory speech [biography of T. Ważewski]. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 11–14. (*see* **99f:58002**) 01A70

Pelczar, M. (*with* Rainsbury, J.) The indexical character of names. (English summary) *Synthese* **114** (1998), *no.* 2, 293–317. 03B65 (03A05)

Pelczewski, Jerzy Legendre polynomials method in time-optimal control of linear single-input systems. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 105–117. (Summary) **99e:49036** 49M05 (49J15, 49M30)

Pełczyński, A. (*with* Delbaen, Freddy; Jarchow, Hans) Subspaces of L_p isometric to subspaces of l_p. (English summary) *Positivity* **2** (1998), *no.* 4, 339–367. (Summary) **99m:46071** 46E30 (46B04)

Peldán, Peter (*with* Holst, Sören) Black holes and causal structure in anti-de Sitter isometric spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3433–3452. (Valter Moretti) **99a:83047** 83C57 (83C55)

— (*with* Åminneborg, Stefan; Bengtsson, Ingemar; Brill, Dieter; Holst, Sören) Black holes and wormholes in $2+1$ dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 627–644. (Kirill V. Krasnov) **99c:83043** 83C57 (83C75)

Peled, Doron On projective and separable properties. (English summary) *Theoret. Comput. Sci.* **186** (1997), *no.* 1-2, 135–156. (Do Long Van) **99c:68158** 68Q45 (03D05, 68Q60)

— (*with* Alur, Rajeev; McMillan, Ken) Deciding global partial-order properties. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 41–52, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (03B45)

— (*with* Muscholl, Anca; Su, Zhendong) Deciding properties for message sequence charts. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 226–242, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (Summary) **99d:68158** 68Q60 (68Q10)

— (*with* Wilke, Thomas; Wolper, Pierre) An algorithmic approach for checking closure properties of temporal logic specifications and ω-regular languages. (English summary) Concurrency theory (Pisa, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 2, 183–203. (Siegmar Gerber) **99i:68081** 68Q60 (03B70, 03D05, 68Q10, 68Q45)

har-Peled, Sariel *see* **Har-Peled, Sariel**

Peled, Uri N. (*with* Arikati, Srinivasa R.) The realization graph of a degree sequence with majorization gap 1 is Hamiltonian. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 213–235. (A. A. Chernyak) **99m:05097** 05C45 (68R10)

Peleg, Bezalel Almost all equilibria in dominant strategies are coalition-proof. (English summary) *Econom. Lett.* **60** (1998), *no.* 2, 157–162. (Summary) **99i:90129** 90D12

— (*with* Otten, Gert-Jan; Borm, Peter; Tijs, Stef) The MC-value for monotonic NTU-games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 37–47. (Summary) **99b:90173** 90D12

— Effectivity functions, game forms, games, and rights. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 1, 67–80. (Roy Gardner) **99b:90018** 90A08 (90D40)

— (*with* Sudhölter, Peter) Nucleoli as maximizers of collective satisfaction functions. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 383–411. (Tadeusz Radzik) **99h:90122** 90D06 (90D12)

Peleg, David (*with* Reshef, Eilon) Deterministic polylog approximation for minimum communication spanning trees (extended abstract). (English summary) *Automata, languages and programming (Aalborg, 1998)*, 670–681, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68R10 (68Q25, 90B12)

— (*with* Kutten, Shay) Fast distributed construction of small k-dominating sets and applications. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 40–66. (Summary) **99b:68151** 68R10 (68Q25)

— (*with* Garay, Juan A.; Kutten, Shay) A sublinear time distributed algorithm for minimum-weight spanning trees. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 302–316 (*electronic*). (Summary) **99b:68148** 68R10 (05C05, 05C85, 68Q22, 68Q25)

— (*with* Kortsarz, Guy) Generating low-degree 2-spanners. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1438–1456 (*electronic*). (Ding Zhu Du) **99f:90167** 90C35 (68Q25, 68R10, 90B12)

— (*with* Kranakis, Evangelos; Krizanc, Danny; Pelc, Andrzej) Approximate maxima finding of continuous functions under restricted budget. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 151–162. (Summary) **99h:68079** 68Q25 (05C35, 90C35)

— (*with* Kutten, Shay) Fault-local distributed mending. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 144–165. 68M10 (90C35)

— (*with* Awerbuch, Baruch; Berger, Bonnie; Cowen, Lenore J.) Near-linear time construction of sparse neighborhood covers. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 263–277 (*electronic*). (Peter Eades) **99d:68182** 68R10 (05C85, 68Q25)

— (*with* Awerbuch, Baruch; Cidon, Israel; Kutten, Shay; Mansour, Yishay) Optimal broadcast with partial knowledge. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 512–525 (*electronic*). (Summary) **99d:90048** 90B12 (68Q22, 94A05)

Pelegrín Pelegrín, Blas (*with* Fernández, Pascual) On the sum-max bicriterion path problem. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 12, 1043–1054. (Summary) **99f:90170** 90C35 (90C29)

— (*with* Marín Pérez, A.) Applying Lagrangian relaxation to the resolution of two-stage location problems. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 179–198. (*see* **99k:90002**) 90B80 (90C27)

Pelekh, Ya. N. Numerical methods of solving nonlinear integral equations of Volterra type. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2431–2435. (Summary) **99d:65371** 65R20

Peletier, L. A. (*with* Hilhorst, D.; van der Hout, R.) Diffusion in the presence of fast reaction: the case of a general monotone reaction term. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 469–517. (Siegfried Carl) **99a:35131** 35K57 (35B40)

— Self-similar solutions of the second kind. *Nonlinear analysis and continuum mechanics (Ferrara, 1992)*, 95–105, *Springer, New York*, 1998. (Roman O. Popovich) **99a:35134** 35K57 (35A30, 35C05)

— (*with* Mizel, V. J.; Troy, William C.) Periodic phases in second order materials, and higher order model equations. *Progress in partial differential equations, Vol. 2 (Pont-à-Mousson, 1997)*, 32–43, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Naoyuki Ishimura) **99g:73031** 73C50 (35Q72, 49J10, 73B05, 73V25)

— (*with* Rotariu-Bruma, A. I.; Troy, William C.) A generalisation of the extended Fisher-Kolmogorov equation with an application to pulse propagation along optical fibers. *Progress in partial differential equations, Vol. 2 (Pont-à-Mousson, 1997)*, 66–76, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (*see* **99d:35004**) 35K55 (35Q51, 78A60)

— (*with* Mizel, V. J.; Troy, William C.) Periodic phases in second-order materials. *Arch. Ration. Mech. Anal.* **145** (1998), *no.* 4, 343–382. (Matthias Wilhelm Winter) **99j:73011** 73B30 (34B15, 34C25, 49J45, 73V25, 80A22)

— (*with* Franchi, Bruno) Ground states for Gaussian curvature type equations. *Asymptot. Anal.* **17** (1998), *no.* 1, 53–70. (John Urbas) **99f:35049** 35J60 (34B15)

— (*with* Hastings, Stuart P.) On self-similar solutions of the thin film equation when $n = 3$. *Differential Integral Equations* **11** (1998), *no.* 1, 1–22. (Peter L. Christiansen) **99b:35201** 35Q99 (34B15, 34E05, 76D99)

— (*with* Rotariu-Bruma, A. I.) Pulse-like spatial patterns described by higher-order model equations. *J. Differential Equations* **150** (1998), *no.* 1, 124–187. (Grzegorz Karch) **99j:35098** 35K55 (34A12, 34C11, 35B10)

— (*with* Troy, William C.) Multibump periodic travelling waves in suspension bridges. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 631–659. (Alan R. Champneys) **99h:34038** 34B15 (34C25, 35Q72, 73D35, 73K05)

Peletier, Mark A. (*with* Lachand-Robert, Thomas) Minimisation de fonctionnelles dans un ensemble de fonctions convexes. (English and French summaries) [Minimizing functionals on a set of convex functions] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 851–855. (W. W. Breckner) **99a:49004** 49J10 (49Q20)

— (*with* Lachand-Robert, Thomas) Extremal points of a functional on the set of convex functions. (English and French summaries) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1723–1727. (Bianca Stroffolini) **99i:49004** 49J10 (49J30, 49K10)

Pelfer, P. G. *see* **Irresistible rise of the standard model, 99b:81002**

Peligrad, Magda (*with* Merlevède, Florence; Utev, Sergei) Sharp conditions for the CLT of linear processes in a Hilbert space. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 681–693. (Alexander V. Bulinskiĭ) **99e:60022** 60B12

— On the blockwise bootstrap for empirical processes for stationary sequences. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 877–901. (Miguel A. Arcones) **99g:62051** 62G09 (60G10, 62M99)

Pelikh, V. O. Spinors associated with the V_4^3 distribution and the generalized Sen-Witten equation. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2436–2441. (Jörg Frauendiener) **99j:58224** 58G30 (53A50)

Pelinovskiĭ, E. N. (*with* Agnon, Yehuda; Sheremet, Alexandru) Disintegration of cnoidal waves over smooth topography. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 1, 49–71. (Summary) **99b:76016** 76B25

— (*with* Razin, Andrey V.; Sasorova, Elena V.) Berkhoff approximation in a problem on surface gravity wave propagation in a basin with bottom irregularities. (English summary) *Waves Random Media* **8** (1998), *no.* 2, 255–268. (Summary) **99a:76015** 76B15

Pelinovsky, Dmitry E. (*with* Springael, Johan; Lambert, Francois; Loris, Ignace) On modified NLS, Kaup and NLBq equations: differential transformations and bilinearization. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8705–8717. (Summary) **99a:35242** 35Q55 (58F07)

— (*with* Voronovich, Vyacheslav V.; Shrira, V. I.) On internal wave-shear flow resonance in shallow water. (English summary) *J. Fluid Mech.* **354** (1998), 209–237. (Summary) **99j:76025** 76C10 (86A05)

— Rational solutions of the KP hierarchy and the dynamics of their poles. II. Construction of the degenerate polynomial solutions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5377–5395. (A. K. Prykarpat-skiĭ) **99i:58081** 58F07 (35Q53)

— (*with* Kivshar, Yu. S.; Afanasjev, Vsevolod V.) Internal modes of envelope solitons. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 121–142. (Summary) **99a:35243** 35Q55 (35Q51)

— Radiative effects to the adiabatic dynamics of envelope-wave solitons. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 301–313. (Summary) **99d:35158** 35Q55

— (*with* Barashenkov, I. V.) Exact vortex solutions of the complex sine-Gordon theory on the plane. (English summary) *Phys. Lett. B* **436** (1998), *no.* 1-2, 117–124. (Summary) **99e:81136** 81T10

— (*with* Alexeeva, N. V.; Barashenkov, I. V.) Dynamics of the parametrically driven NLS solitons beyond the onset of the oscillatory instability. (English summary) *Nonlinearity* **12** (1999), *no.* 1, 103–140. (Summary) **99j:35197** 35Q55 (78A60)

Pelinovsky, Efim *see* **Pelinovskiĭ, E. N.**

Pelissetto, Andrea (*with* Vicari, Ettore) Low-temperature effective potential of the Ising model. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 639–653. (Summary) **99j:82033** 82B27 (82B20)

Pelka, Jennifer L. (*with* Kurtz, David C.) Classification of self-complementary degree sequences. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 117–120. (Summary) **99j:05184** 05C99

Pellacci, Benedetta Critical points for non-differentiable functionals. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 733–749. (Nguyễn Hồng Thái) **99d:49033** 49J52 (35J65, 58E07)

Pelle, J.-P. (*with* Coorevits, P.; Dumeau, J.-P.) Error estimator and adaptivity for three-dimensional finite element analyses. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 443–457, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05

Pellegrini, Letizia On the industrial and mechanical applications of dual variables in linear programming. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 4, 425–435. 90C05 (90C90)

Pellegrini, Marco Electrostatic fields without singularities: theory, algorithms and error analysis. (English summary) *J. ACM* **45** (1998), *no.* 6, 924–964. (Summary) **99m:78008** 78A30 (65N38, 68Q25, 78–08)

— (*with* Finocchiaro, Daniele; Bientinesi, Paolo) On numerical approximation of electrostatic energy in 3D. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 707–725. (Summary) **99h:78003** 78–08 (78A30)

Pellegrino, Consolato *see* **Conference: Speranza, Francesco, 99g:00052**

Pellegrino, Giuseppe On complete caps, not ovaloids, in the space PG($3q$) with q odd. (Italian. English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 141–168. (Summary) **99d:51013** 51E21

Pellegrinotti, A. (*with* Boldrighini, C.; Minlos, R. A.) Almost-sure central limit theorem for directed polymers and random corrections. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 533–557. (Aernout C. D. van Enter) **99d:60107** 60K35 (60F15, 82B44, 82D60)

Pellenkoft, Arjan (*with* Galindo-Legaria, César A.; Kersten, Martin L.) Uniformly-distributed random generation of join orders. (English summary) *Database theory—ICDT '95* (*Prague*), 280–293, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68072** 68P15

Peller, Vladimir V. An excursion into the theory of Hankel operators. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 65–120, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99e:47033** 47B35 (47–02)

— Hereditary properties of solutions of the four block problem. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 177–197. (Joseph A. Ball) **99g:47029** 47A57 (47N70, 93B36)

— Factorization and approximation problems for matrix functions. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 4, 751–770. (Joseph A. Ball) **99b:47036** 47B35 (15A23, 30E10, 47A68)

Pellerey, Franco (*with* Di Crescenzo, Antonio) On lifetimes in random environments. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 4, 365–375. (Summary) **99c:90057** 90B25

Pelletier, Dominique (*with* Borggaard, Jeff) Observations in adaptive refinement strategies for optimal design. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 59–76, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 49Q10 (90C90)

— (*with* Hétu, Jean-François; Ilinca, Florin) Process modeling and optimization: issues and challenges. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 249–263, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 93A30 (90C90)

Pelletier, Fernand (*with* Mormul, Piotr) Contrôlabilité complète par courbes anormales par morceaux d'une distribution de rang 3 générique sur des variétés connexes de dimension 5 et 6. (English summary) [Complete controllability by piecewise abnormal curves of a generic rank-3 distribution on connected manifolds of dimension 5 and 6] *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 399–418. (L. E. Faybusovich) **99b:58068** 58E25 (49K15, 58A30, 93B05)

Pelletier, Francis Jeffry Automated natural deduction in THINKER. Natural deduction. *Studia Logica* **60** (1998), *no.* 1, 3–43. (J. A. Kalman) **99m:03024** 03B35 (68T15)

Pelletier, M. *see* **Pelletier, Michèle**

Pelletier, Mariane Weak convergence rates for stochastic approximation with application to multiple targets and simulated annealing. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 10–44. (Han Fu Chen) **99f:62101** 62L20 (60F05, 60H10)

Pelletier, Michèle Éclatements quasi homogènes. (English and French summaries) [Quasihomogeneous blowups] *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 4, 879–937. (Enrique Outerelo Domínguez) **99c:58019** 58C27

— (*with* Bonnard, B.) Time minimal synthesis for planar systems in the neighborhood of a terminal manifold of codimension one. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 3, 22 *pp.* (*electronic*). (Summary) **99e:49050** 49N35 (93B50)

Pellikaan, Ruud (*with* Høholdt, Tom; van Lint, Jacobus Hendricus) Order functions and evaluation codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 138–150, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (N. L. Manev) **99m:94055** 94B27 (94B15)

— (*with* Høholdt, Tom; van Lint, Jacobus Hendricus) An elementary approach to algebraic geometry codes. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 25–35. (Introduction) **99m:94056** 94B27 (94–01)

— (*with* Stichtenoth, Henning; Torres, Fernando) Weierstrass semigroups in an asymptotically good tower of function fields. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 381–392. (Martha Rzedowski-Calderón) **99g:11139** 11R58 (11G20)

— (*with* Heijnen, Petra) Generalized Hamming weights of q-ary Reed-Muller codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 181–196. (Summary) **99a:94068** 94B65

Pelloni, B. (*with* Fokas, A. S.) The solution of certain initial boundary-value problems for the linearized Korteweg-de Vries equation. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 645–657. (Summary) **99e:35197** 35Q53 (35C15)

Pelosi, Giuseppe (*with* Manara, Giuliano; Nepa, Paolo) A UTD solution for the scattering by a wedge with anisotropic impedance faces: skew incidence case. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 4, 579–588. (Summary) **99a:78028** 78A50 (78A45)

Peloso, Marco M. (*with* Fontana, Luigi; Krantz, Steven G.) Hodge theory in the Sobolev topology for the de Rham complex. (English summary) *Mem. Amer. Math. Soc.* **131** (1998), *no.* 622, viii+100 *pp.* (Jürgen Eichhorn) **99a:58155** 58G20 (35J25, 35N15, 35S05, 47F05, 58A14, 58G05)

Pelster, Axel (*with* Kleinert, Hagen) Transformation properties of classical and quantum laws under some nonholonomic spacetime transformations. (English summary) *Path integrals: Dubna '96*, 187–191, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:81095** 81S99 (70G99)

— (*with* Kleinert, Hagen) Novel geometric gauge invariance of autoparallels. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1015–1023. (Summary) **99m:83170** 83D05

— (*with* Kleinert, Hagen; Kürzinger, Werner) Smearing formula for higher-order effective classical potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 41, 8307–8321. 81Q15 (82C10)

Peltier, Nicolas Tree automata and automated model building. (English summary) *Fund. Inform.* **30** (1997), *no.* 1, 59–81. (Neculai Curteanu) **99a:03014** 03B35 (03C13, 03C30, 68T15)

Peltier, W. R. (*with* Afanas'ev, Ya. D.) Three-dimensional instability of anticyclonic swirling flow in rotating fluid: laboratory experiments and related theoretical predictions. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3194–3202. 76–05 (76C05, 76E20, 86A05, 86A10)

— (*with* Stuhne, G. R.) New icosahedral grid-point discretizations of the shallow water equations on the sphere. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 23–58. (Yuri N. Skiba) **99k:76118** 76M25 (76C05, 86–08, 86A05)

Peluso, Roberto I. (*with* Diele, F.; Lopez, Luciano) The Cayley transform in the numerical solution of unitary differential systems. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 4, 317–334. (Lucas Jódar) **99f:65123** 65L99

Pelyukh, G. P. Representation of solutions of difference equations with a continuous argument. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 2, 256–264, 288; *translation in Differential Equations* **32** (1996), *no.* 2, 260–268. (Summary) **99e:39038** 39A10

— (*with* Blashchak, N. Ĭ.) On the existence and uniqueness of periodic solutions of systems of nonlinear functional-differential equations with a linearly transformed argument. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 10–13. (Vladimir Sh. Burd) **99k:34150** 34K15

Pelz, Elisabeth (*with* Best, Eike; Frączak, Wojciech; Hopkins, Richard P.; Klaudel, Hanna) M-nets: an algebra of high-level Petri nets, with an application to the semantics of concurrent programming languages. (English summary) *Acta Inform.* **35** (1998), *no.* 10, 813–857. (Summary) **99i:68085** 68Q90 (68Q10, 68Q55)

Pelz, Richard B. (*with* Boratav, Oluş N.) Coupling between anomalous velocity and passive scalar increments in turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2122–2124. 76F05

Pelzl, Paul J. (*with* Feldmann, D. Matthew; King, Frederick W.) Resolution of some mathematical problems arising in the relativistic treatment of the S states of three-electron systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6262–6275. (A. Ventura) **99m:81290** 81V45

Pemantle, Robin Sharpness of second moment criteria for branching and tree-indexed processes. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 257–262, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Steven N. Evans) **99c:60194** 60J80 (60J45)

— (*with* Chayes, L.; Peres, Yuval) No directed fractal percolation in zero area. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1353–1362. (Mathew D. Penrose) **99d:82029** 82B43 (60K35)

— (*with* Adelman, Omer; Burdzy, Krzysztof) Sets avoided by Brownian motion. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 429–464. (Mathew D. Penrose) **99i:60152** 60J65

— (*with* Benjamini, Itai; Peres, Yuval) Unpredictable paths and percolation. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1198–1211. (Wei-Shih Yang) **99g:60183** 60K35 (60J10)

— (*with* Volkov, Stanislav) Markov chains in a field of traps. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 561–569. (Jörg-Uwe Löbus) **99d:60111** 60K35 (60J10)

Pemmaraju, Sriram V. (*with* Heath, Lenwood S.) Stack and queue layouts of posets. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 599–625. (Ulrich Faigle) **99a:68132** 68R05 (06A07, 90C27, 94C15)

Pempera, Jarosław (*with* Grabowski, Józef; Smutnicki, Czesław) Scheduling in production of concrete wares. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 192–196, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35

Pempinelli, F. (*with* Boiti, M.; Leon, Jérôme Jp.) Solution of the boundary value problem for the integrable discrete SRS system on the semi-line. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 927–943. (Summary) **99j:78017** 78A45 (35Q53, 35Q55)

Pen, Ue-Li A high-resolution adaptive moving mesh hydrodynamic algorithm. (English summary) *Numerical methods in fluid mechanics*, 179–199, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 76M25 (65M50, 65M55, 76N10, 85–08)

Peña, Ana A note on the embedding of subspaces of L_p into l_r^N, $0 < r < 1$, $r \le p < 2$. (English summary) *Math. Nachr.* **189** (1998), 195–207. (Ting Fu Wang) **99a:46054** 46E30 (46B25)

Peña, Carlos C. A survey on a certain unsymmetric fractional operator. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahía Blanca*, 1997), 85–97, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (Summary) **99f:26011** 26A33

— On fractional deviation operators. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 25–39 (1998). (Vanna Zanelli) **99f:26012** 26A33

Peña, Daniel (*with* Gómez, Víctor; Maravall, Agustín) Missing observations in ARIMA models: skipping approach versus additive outlier approach. (English summary) *J. Econometrics* **88** (1999), *no.* 2, 341–363. (Summary) **99i:62204** 62M10 (62P20)

gutiérrez-Peña, E. *see* **Gutiérrez-Peña, E.**

Peña, Edsel A. Smooth goodness-of-fit tests for the baseline hazard in Cox's proportional hazards model. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 673–692. (H. K. Hsieh) **99e:62083** 62G10 (62N05)

— (*with* Aban, Inmaculada B.) Ancillarity properties of generalized residuals with applications in failure time models. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 31–49. (Ramesh C. Gupta) **99j:62100** 62J12 (62N05)

Peña, J. *see* **Peña Miralles, Juan**

Peña, J. J. (*with* Gaftoi N., Violeta; Morales, Jesús; Ovando Zúñiga, Gerardo) Lanczos spintensor for the Robinson-Trautman metrics of the vacuum and Einstein-Maxwell fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1297–1308. (Brian Edgar) **99k:83017** 83C20 (83C22, 83C60)

Peña, J. M. (*with* Carnicer, J. M.; García-Esnaola, M.) Bases with convexity preserving properties. (English summary) *Advanced topics in multivariate approximation* (*Monte-catini Terme*, 1995), 17–31, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41023** 41A29 (41A63)

— (*with* García-Esnaola, M.) Optimal convexity preserving bases. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 119–126,

Vanderbilt Univ. Press, Nashville, TN, 1997. (Summary) **99i:65012** 65D15 (15A48, 41A29, 65Y99)

— (*with* Alonso, P.; Gasca, Mariano) Scaled pivoting and error bounds for totally positive linear systems. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc, 1996)*, 9–16, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 65F05

— (*with* Carnicer, J. M.) Conditions for interpolation or approximation of convex surfaces. (English summary) *Creating fair and shape-preserving curves and surfaces (Kleinmachnow, 1997)*, 241–249, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (41A29)

— (*with* Mainar, E.) Evaluation and subdivision algorithms for totally positive systems. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 327–334, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65049** 65D17

— (*with* Floater, Michael S.) Tensor-product monotonicity preservation. (English summary) *Adv. Comput. Math.* **9** (1998), *no.* 3-4, 353–362. (Crăciun Iancu) **99k:65017** 65D07 (41A29)

— (*with* Martínez, José-Javier) Fast algorithms of Björck-Pereyra type for solving Cauchy-Vandermonde linear systems. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 3, 343–352. (J. Segethová) **99c:65060** 65F10

— (*with* Carnicer, J. M.; Zalik, Richard A.) Strictly totally positive systems. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 411–441. (Manfred Sommer) **99c:41054** 41A50

— (*with* Martínez, José-Javier) Factorizations of Cauchy-Vandermonde matrices. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 229–237. (Summary) **99g:65055** 65F30 (15A23)

— (*with* Carnicer, J. M.) Characterizations of the optimal Descartes' rules of signs. (English summary) *Math. Nachr.* **189** (1998), 33–48. (N. K. Govil) **99d:26019** 26C10 (12D10, 41A30)

de la Peña, José Antonio (*with* Lenzing, Helmut) Wild canonical algebras. *Math. Z.* **224** (1997), *no.* 3, 403–425. (Otto Kerner) **99a:16012** 16G60 (16G20, 16G70)

— Algebras whose derived category is tame. *Trends in the representation theory of finite-dimensional algebras (Seattle, WA, 1997)*, 117–127, *Contemp. Math.*, 229, *Amer. Math. Soc., Providence, RI*, 1998. (Sheila Brenner) **99m:16027** 16G60 (16G10, 16G20)

— (*with* von Höhne, Hans-Joachim) Edge reduction for weakly non-negative quadratic forms. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 4, 270–277. (Héctor A. Merklen) **99b:11031** 11E12 (16G60)

— (*with* Dräxler, Peter; Golovashchuk, N. S.; Ovsienko, S.) Coordinates of maximal roots of weakly non-negative unit forms. *Colloq. Math.* **78** (1998), *no.* 2, 163–193. (Daniel Simson) **99m:16017** 16G20 (11E12, 15A63, 16G60)

— (*with* von Höhne, Hans-Joachim) Isotropic vectors of non-negative integral quadratic forms. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 621–638. (Hans Arwed Keller) **99j:11035** 11E12 (15A36, 15A63)

— (*with* Araujo, O.) The connectivity index of a weighted graph. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 171–177. (N. Trinajstić) **99k:05102** 05C40 (05C50)

— (*with* Bolaños E., Gilda) Algebras with vanishing $\mathrm{Ext}^2(X, X)$ for indecomposable modules. *Math. Scand.* **83** (1998), *no.* 2, 177–191. (Sverre O. Smalø) **99m:16025** 16G60 (16E30, 16G70)

— (*with* Gastaminza, S.; Platzeck, María Inés; Redondo, María Julia; Trepode, S.) Finite-dimensional algebras with vanishing Hochschild cohomology. *J. Algebra* **212** (1999), *no.* 1, 1–16. (Thierry Lambre) **99m:16009** 16E40 (16G20)

— (*with* Barot, M.) Derived tubular strongly simply connected algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 647–655. (Andrzej Skowroński) **99f:16015** 16G20 (15A63, 16G60, 18E30)

— (*with* Takane, Martha) On the number of terms in the middle of almost split sequences over tame algebras. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3857–3868. (Ibrahim Assem) **99m:16030** 16G70 (16G60)

cánovas Peña, José Salvador *see* **Cánovas Peña, José Salvador**

Peña, Leda (*with* Zamorano, Nelson) Note on the quasinormal modes with a large imaginary component. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 063002, 6 *pp.* 83C57

Peña, Lorenzo (*with* Ausín, Francisco José Díez) Quantificational entitlements and relevantoid deontic logic. (English summary) *Logique et Anal. (N.S.)* **38** (1995), *no.* 150-152, 209–238. (Summary) **99c:03026** 03B45 (03B46)

lizana Peña, Marcos *see* **Lizana Peña, Marcos**

sánchez Peña, Ricardo S. *see* **Sánchez Peña, Ricardo S.**

de la Peña, Víctor H. From dependence to complete independence: the decoupling approach. (English summary) *Fourth Symposium on Probability Theory and Stochastic Processes (Spanish) (Guanajuato, 1996)*, 37–48, *Aportaciones Mat. Notas Investigación*, 12, *Soc. Mat. Mexicana, México*, 1996. (Pawel Hitczenko) **99h:60035** 60E15 (60G15)

— On Wald's equation and first exit times for randomly stopped processes with independent increments. (English summary) *High dimensional probability (Oberwolfach, 1996)*, 277–286, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Summary) **99k:60043** 60E15 (60G40, 60J30)

— Decoupling inequalities: a second generation of martingale inequalities. (English summary) *Probability towards 2000 (New York, 1995)*, 151–164, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Pawel Hitczenko) **99f:60034** 60E15 (60G42)

— (*with* Giné, Evarist) ★ Decoupling. (English summary) From dependence to independence. Randomly stopped processes. *U*-statistics and processes. Martingales and beyond. Probability and its Applications. *Springer-Verlag, New York*, 1999. *xvi*+392 *pp. ISBN* 0-387-98616-2 (Miguel A. Arcones) **99k:60044** 60E15 (60B12, 60F05, 60F15, 60F17, 60G40)

ardila de la Peña, Victor Manuel *see* **Ardila de la Peña, Victor Manuel**

flores Peñafiel, Alfinio *see* **Flores Peñafiel, Alfinio**

puente Peñalba, Jesús *see* **Puente Peñalba, Jesús**

pérez-Peñalver, M. J. *see* **Pérez-Peñalver, M. J.**

Peña Miralles, Juan (*with* Ginestar, D.; Vidal, V.; Verdú Martín, Gumersindo; Muñoz-Cobo González, José Luis) Modal nodal method for the integration of the neutron diffusion equation. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 15 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70 (82–08, 82C70)

— (*with* Navarro-Esbrí, J.; Verdú Martín, Gumersindo; Ginestar, D.; Bovea, M. D.; Jiménez Olivo, Pedro José; Muñoz-Cobo González, José Luis) Complex Lyapunov exponents of a system with Hopf bifurcation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 977–982, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C23

Peña P., Alirio J. On the Matlis-Papp invariants. (Spanish. English and Spanish summaries) *Divulg. Mat.* **4** (1996), *no.* 1-2, 21–31 (1998). (Alberto Facchini) **99e:16006** 16D50 (16D70)

de las Peñas Cabrera, Inmaculada *see* **De Las Peñas Cabrera, Inmaculada**

Penati, Silvia (*with* Santambrogio, A.; Zanon, Daniela) Gravitational dressing of sigma-model beta-functions. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 552–557, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C45

— (*with* Refolli, Andrea; Sevrin, Alexander; Zanon, Daniela) Geometry and beta functions for $N = 2$ matter models in two dimensions. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 593–610. (Summary) **99g:81141** 81T17 (81T60)

Pence, Thomas J. (*with* Qiu, Geoffrey Yue) Remarks on the behavior of simple directionally reinforced incompressible nonlinearly elastic solids. (English summary) *J. Elasticity* **49** (1997), *no.* 1, 1–30. (Cesare Davini) **99a:73041** 73C50 (73B05, 73B40, 73K20)

— (*with* Qiu, Geoffrey Yue) Loss of ellipticity in plane deformation of a simple directionally reinforced incompressible nonlinearly elastic solid. (English summary) *J. Elasticity* **49** (1997), *no.* 1, 31–63. (Cesare Davini) **99a:73042** 73C50 (73B40, 73K20)

— (*with* Lin, Jichliang) Pulse attenuation by kinetically active phase boundary scattering during displacive phase transformations. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 7, 1183–1211. (Summary) **99d:73013** 73B30 (80A22)

Penco, M. A. (*with* Costantini, Domenico; Garibaldi, Ubaldo) Ludwig Boltzmann at the birth of statistical mechanics. (Italian. English and Italian summaries) *Statistica (Bologna)* **56** (1996), *no.* 3, 279–300 (1997). (Summary) **99a:82002** 82–03 (01A55)

Pendavingh, R. (*with* Keijsper, J.) An efficient algorithm for minimum-weight bibranching. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 130–145. (T. R. S. Walsh) **99h:05111** 05C85 (68Q20, 68R10)

Penel', P. (*with* Novotný, Antonin; Solonnikov, Vsevolod A.) Investigation of the problem of viscous compressible fluid flow around a bounded body in Hölder spaces. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 247–269, 287. (Vladimir V. Shelukhin) **99d:76086** 76N10 (35Q30)

Penev, Spiridon (*with* Dechevski, Lyubomir T.) On shape-preserving wavelet estimators of cumulative distribution functions and densities. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 423–462. (Summary) **99d:42056** 42C15 (41A29, 62G05, 65T20)

Peneva, Vania (*with* Popchev, Ivan) Comparison of clusters from fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 75–81. (Summary) **99b:90011** 90A05 (03E72)

Peng, Chang (*with* Liu, Zhuangyi) Exponential stability of a viscoelastic Timoshenko beam. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 343–351. (Jaime E. Muñoz Rivera) **99e:73061** 73F15 (35Q72, 45K05, 47D06, 73K05, 73K12)

Peng, Chiakuei *see* **Peng, Jia Gui**

Peng, Chuang (*with* Carlson, Jon F.; Wheeler, Wayne W.) Transfer maps and virtual projectivity. (English summary) *J. Algebra* **204** (1998), *no.* 1, 286–311. (Sverre O. Smalø) **99j:20005** 20C05 (16E30, 18G25, 20J06)

Peng, D. H. (*with* Wang, Zhi Cheng[1]; Tang, Xian Hua) Sharp conditions for the oscillation of nonlinear neutral delay difference equations. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 7, 1–10. (I. P. Stavroulakis) **99k:39033** 39A10

Peng, Fang Zhi (*with* Liu, Liao) The stability of a static black-hole with mass multipole moment. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **48** (1999), *no.* 1, 6–9. 83C57

Peng, Guanghua (*with* Dyczij-Edlinger, Romanus; Lee, Jin-Fa) Efficient finite element solvers for the Maxwell equations in the frequency domain. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 297–309. (Summary) **99k:78003** 78–08

Peng, Hong (*with* Feng, Zheng Zhu; Yan, Li Hong) A comparison of evolutionary strategies and hybrid evolutionary strategies for constrained optimization problems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 35–40. 90C30 (90C90)

Peng, Hong (*with* Zhang, A Bu) Performance indices and perturbation analysis of series production lines. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **38** (1999), *no.* 1, 21–25. 90B30 (93C95)

— (*with* Zhang, A Bu) A minimax algebraic proof for the Johnson algorithm. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **38** (1999), *no.* 1, 26–30. 93C85 (93C40)

Peng, Hua (*with* Yan, Catherine Huafei) Balancing game with a buffer. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 193–204. (Summary) **99f:90190** 90D05

Peng, Hui (*with* Shen, De Yao) An improved algorithm for self-tuning dynamic matrix control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 945–948. 93C40 (93E12)

Peng, J. M. *see* **Peng, Ji Ming**

Peng, Ji Gen (*with* Xu, Zong Ben) Söderlind's conjectures on nonlinear Lipschitz operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 701–708. (Hong Kun Xu) **99g:47140** 47H12 (47H17, 65H10)

— (*with* Wang, Mian Sen) Resolvent characterizations of generators of operator semigroups. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 339–344. (Ti Jun Xiao) **99j:47055** 47D06

— (*with* Xu, Zong Ben) A nonlinear extension of Holub's theorem and its applications. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 16, 1714–1717. 47H99

— (*with* Xu, Zong Ben) Nonlinear version of Holub's theorem and its application. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 2, 89–91. (Summary) **99a:47118** 47H99 (47H15)

— (*with* Ai, Wen Bao) An equivalent characterization of the Hille-Yosida condition. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 135–140. (Shu Chun Gao) **99c:47057** 47D06

— (*with* Song, De Gong; Wang, Mian Sen; Zhu, Guang Tian) The wellposedness of an abstract Cauchy problem and semigroups of operators. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 225–229. 34G10 (47D06)

Peng, Ji Ming Derivative-free methods for monotone variational inequality and complementarity problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 235–252. (J. Parida) **99j:90100** 90C33 (49J40)

Peng, Jia Gui (*with* Jiao, Xiao Xiang) Conformal minimal two-spheres with constant Gauss curvature in U(3). (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 12, 994–997. (Pascual Lucas Saorin) **99m:53115** 53C42

— (*with* Jiao, Xiao Xiang) Conformal minimal surfaces of constant Gaussian curvature in U(3). (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 8, 814–817. 53A10

— (*with* Tang, Zizhou) Harmonic maps from spheres to spheres. *Topology* **37** (1998), *no.* 1, 39–43. (Xue Shan Zhang) **99b:58064** 58E20 (55Q40)

Peng, Jia Hong (*with* Dai, Bin Lin) Nonelementary purely hyperbolic groups. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 30–32. (Summary) **99h:20081** 20H10

Peng, Jian Chun (*with* Wang, Yao Nan; Wang, Hui) Self-learning control using Gaussian potential function neural networks and its application. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 701–707. 93E35 (93C83)

Peng, Jin Zhang (*with* Wang, Lian Gui) Global existence of solutions to the spin ferromagnetic chain equation. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 58–63. (Summary) **99c:35227** 35Q55 (35B60)

Peng, Jun Hao (*with* Qin, Hong[2]; Wu, Ming) All E-admissible and G-admissible linear estimators of the common mean matrix parameter. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 4, 400–404. 62J05 (62C15)

Peng, Kang (*with* Lu, Dong Hui) A wavelet analysis method for directly obtaining reconstructed image boundaries from projections. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 1, 14–20. 65T20 (65Y25)

Peng, Liang (*with* Cheng, Shihong) The asymptotic distributions for sums of order statistics. II. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 3, 255–276. (Summary) **99i:60048** 60F05

— (*with* de Haan, Laurens) Slow convergence to normality: an Edgeworth expansion without third moment. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 395–406 (19*N*). (Gutti J. Babu) **99a:60018** 60F05 (62E20)

— (*with* Cheng, Shihong; Qi, Yongcheng) Almost sure convergence in extreme value theory. (English summary) *Math. Nachr.* **190** (1998), 43–50. (Erich Haeusler) **99g:60063** 60F15 (60G70)

— Asymptotically unbiased estimators for the extreme-value index. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 107–115. (Jan Beirlant) **99e:62056** 62G05

— Laws of the iterated logarithm for trimmed sum. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 39–46. (Lajos Horváth) **99f:60069** 60F15

Peng, Liangang Some Hall polynomials for representation-finite trivial extension algebras. (English summary) *J. Algebra* **197** (1997), *no.* 1, 1–13. (Flávio Ulhoa Coelho) **99b:16025** 16G60

— (*with* Xiao, Jie[1]) Root categories and simple Lie algebras. (English summary) *J. Algebra* **198** (1997), *no.* 1, 19–56. (Dieter Happel) **99c:17016** 17B20 (16G20, 18E30)

— (*with* Guo, Jin Yun) Universal PBW-basis of Hall-Ringel algebras and Hall polynomials. *J. Algebra* **198** (1997), *no.* 2, 339–351. (Sverre O. Smalø) **99b:16033** 16P10 (16G60, 16P40)

— Lie algebras determined by finite Auslander-Reiten quivers. *Comm. Algebra* **26** (1998), *no.* 9, 2711–2725. (Jeremy Haefner) **99d:17007** 17B05 (16G70)

Peng, Lizhong (*with* Liu, He Ping) Admissible wavelets associated with the Heisenberg group. (English summary) *Pacific J. Math.* **180** (1997), *no.* 1, 101–123. (G. C. Bohnké) **99d:42065** 42C15 (22E25, 22E30, 43A30)

— (*with* Qu, Bingyu) Band-limited wavelets. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 3, 85–88. (Summary) **99k:42064** 42C15 (65T20)

— (*with* He, Jian Xun[3]) Admissible wavelets on the unit disk. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 2, 109–119. (Summary) **99b:22008** 22D10 (42C15, 43A55, 81R30)

Peng, Min Shu Oscillation and asymptotic behavior in neutral delay difference equations with variable coefficients. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **13** (1996), *no.* 6, 13–20. (Summary) **99h:39010** 39A10

— (*with* Huang, Li Hong) Asymptotic behaviour and oscillation in first-order neutral delay difference equations. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 5, 1–5. (Shu Nian Zhang) **99e:39039** 39A10

— (*with* Huang, Li Hong; Xu, Qian Li) Oscillation and stability of a class of higher-order nonlinear difference equations. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 303–307. (Summary) **99b:39018** 39A11

— (*with* Xu, Qian Li; Huang, Li Hong; Ge, Wei Gao) Asymptotic and oscillatory behavior of solutions of certain second-order nonlinear difference equations. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 9–18. (E. Thandapani) **99k:39034** 39A10

Peng, Nan Ling (*with* Ding, Hao Jiang; Li, Wen Xian) A method of resolving the paradoxes concerning a cylindrical wedge subject to a concentrated couple at the vertex or to uniform traction on the surface. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 37–45, *III–IV*. 73B50 (73B40)

— (*with* Ding, Hao Jiang; Li, Yu) The wedge subjected to tractions proportional to r^n: a paradox resolved. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 20, 2695–2714. (Alexander B. Movchan) **99e:73030** 73C02 (73V35)

Peng, Qiu-Liang A state-structured model for the growth of a population with cannibalism. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 1, 75–103. (Joseph So) **99f:92023** 92D25 (34K15, 34K20)

— (*with* Freedman, H. I.) Global stability in a diffusive stage-structured population system with two time delays. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 397–422. (Jian Hong Wu) **99m:92029** 92D25 (35B35, 35K10)

Peng, Qun Sheng (*with* Li, Wei Qing; Tan, Jian Rong) A global recognition method based on patch structure. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 753–758. 68U07

— (*with* Li, Jiang) A new ray tracing method based on the special theory of relativity. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 9, 800–806. 83A05 (68U05)

— (*with* Ma, Lizhuang; Lau, Rynson W. H.; Li, Frederick) Surface reconstruction with quartic triangular patches. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 54–62. 65D17

Peng, Shen Lung (*with* Ho, Chin-Wen; Hsu, Tsan-sheng; Ko, Ming-Tat; Tang, Chuan Yi) A linear-time algorithm for constructing an optimal node-search strategy of a tree. (English summary) *Computing and combinatorics (Taipei, 1998)*, 279–288, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25 (05C85, 68R10)

Peng, Shietung (*with* Gu, Qian-Ping) An efficient algorithm for k-pairwise disjoint paths in star graphs. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 283–287. (Summary) **99e:68124** 68R10 (05C38, 05C85)

— (*with* Gu, Qian-Ping) Node-to-set and set-to-set cluster fault tolerant routing in hypercubes. (English summary) *Parallel Comput.* **24** (1998), *no.* 8, 1245–1261. (Summary) **99e:68005** 68M10

— (*with* Gu, Qian-Ping; Sudborough, Ivan Hal) A 2-approximation algorithm for genome rearrangements by reversals and transpositions. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 327–339. (Michael A. Steel) **99k:92017** 92D20 (05C90, 68Q25)

Peng, Shige (*with* Buckdahn, Rainer; Quincampoix, Marc; Rainer, Catherine) Existence of stochastic control under state constraints. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 17–22. (Summary) **99h:49029** 49J55

— (*with* Yang, Feng) Duplicating and pricing contingent claims with constrained portfolios. (English summary) *Progr. Natur. Sci. (English Ed.)* **8** (1998), *no.* 6, 650–659. 90A09

— (*with* Chen, Zengjing) A decomposition theorem of g-martingales. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 197–208. (Ely Merzbach) **99m:60086** 60H10 (60G44, 60H20)

— (*with* Wu, Zhen) Fully coupled forward-backward stochastic differential equations and applications to optimal control. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 3, 825–843. (Vivek S. Borkar) **99m:49043** 49K45 (60H10, 93E20)

Peng, Shou-Li (*with* Liu, Hong-Zhang; Zhou, Zhong) Star transformations and their genealogical varieties in symbolic dynamics of four letters. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8431–8450. (Summary) **99i:58051** 58F03

— (*with* Zhang, Xu-Sheng; Cao, Ke-Fei) Dual star products and metric universality in symbolic dynamics of three letters. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 87–96. (Summary) **99i:58054** 58F03 (58F13)

— (*with* Zhang, Xu-Sheng) Second topological conjugate transformation in symbolic dynamics. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5311–5324. (Summary) **99g:58047** 58F03

Peng, Shou-Tao (*with* Chen, Cha'o-Kuang) Estimation of the practical stability region of a class of robust controllers with input constraint. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1271–1281. 93D09 (93B52)

Peng, Shuangjie (*with* Ma, Yaming; Deng, Yin Bin) Existence of multiple positive solutions of critical semilinear elliptic problems in $\mathbf{R}^N$. (English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 1, 1–6. (Miguel Ramos) **99h:35051** 35J60 (35B05, 35J20)

Peng, Si Long (*with* Li, Deng Feng[2]) A characterization of periodic multiresolution analysis and an application. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1079–1084. 42C15

Peng, Xiao Yuan (*with* Zhang, Guo Feng[2]; Wang, Xing Ren; Wang, Guang Xiong) An H_∞ approach to discrete-time two-degree-of-freedom robust design. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 975–980. 93B36

Peng, Xue Feng (*with* Fu, Kai Xin; Mao, Se Ling) Finite difference equations and even order spline-on-spline interpolation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 21–26. 65D15 (41A15)

Peng, Y.-J. *see* **Peng, Yue-Jun**

Peng, Yee-Hock (*with* Little, Charles H. C.; Teo, Kee-Leong; Wang, Hong[3]) Chromatic equivalence classes of certain generalized polygon trees. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 103–114. (Summary) **99f:05040** 05C15

— Two new classes of chromatically unique K_4 homeomorphs. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 283–286, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 05C15

Peng, Yi (*with* Huang, Yi Bin; Jing, Ji Liang) Quantum effects for the stationary axisymmetric Sen black hole. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 1, 19–25. (Summary) **99g:83057** 83C57

Peng, Yong Dong (*with* Deng, Yin Bin) The existence of nontrivial solutions of critical semilinear biharmonic equations. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 452–465. (Yi Hong Du) **99g:35046** 35J65 (58E05)

Peng, Yue-Jun An inverse problem in petroleum exploitation. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1533–1546. (V. M. Isakov) **99g:35143** 35R30 (78A25, 78A55, 86A20, 86A22)

— Explicit solutions for 2×2 linearly degenerate systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 75–78. 35L65 (35C05)

— (*with* Alabau, Fatiha; Hamdache, K.) Asymptotic analysis of the transient Vlasov-Poisson system for a plane diode. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 1, 25–48. (Olivier Lafitte) **99d:78020** 78A35 (35Q99, 76X05, 78A55)

— (*with* Cordier, Stéphane) Système Euler-Poisson non linéaire. Existence globale de solutions faibles entropiques. (English and French summaries) [Nonlinear Euler-Poisson system. Global existence of entropy weak solutions] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 1, 1–23. (Alain Miranville) **99c:35195** 35Q35 (35D05, 76X05)

Peng, Zhi Gang A sufficient condition for $k'(z)$ ($k(z) \in H^q$, $q \geq 1$) to be of H^1. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 2, 139–141. (Manfred Stoll) **99k:46035** 46E15 (30D55)

— Topological linear spaces and H^p spaces of functions given by Dirichlet series. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 96–102. (Summary) **99h:46034** 46E10

— (*with* Yang, Aifang) The extreme points and support points of a subclass of starlike functions. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 450–454. (Summary) **99j:30013** 30C45

— The extreme points and support points of a certain class of analytic functions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 5–8. 30C45

Peng, Zuo Xiang Strong convergence rate of a kind of Pickands-type estimator. (English summary) *Xinan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1996), *no.* 5, 430–433. (Summary) **99m:62049** 62G05 (62G30)

— An extension of a Pickands-type estimator. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 759–762. (Summary) **99c:62111** 62G05 (60G70)

Pengelley, David (*with* Laubenbacher, Reinhard C.) ★ Mathematical expeditions. (English summary) Chronicles by the explorers. Undergraduate Texts in Mathematics. Readings in Mathematics. *Springer-Verlag, New York*, 1999. *x+275 pp. ISBN* 0-387-98433-X (E. J. Barbeau) **99i:01005** 01A05

Penin, A. A. Instantons and non-perturbative dynamics of $N = 2$ supersymmetric abelian gauge theories in two dimensions. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 83–98. (Summary) **99h:81215** 81T60 (81T13)

Penjak, Vladimír Essay about Runge-Kutta embedded formulae. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 2, 197–200. 65L06

Penjam, Jaan (*with* Meriste, Merik) Attributed models of computing. (English, Russian and Estonian summaries) *Proc. Est. Acad. Sci. Eng.* **1** (1995), *no.* 2, 139–157. (Summary) **99d:68164** 68Q68 (68Q45, 68Q60)

Penkin, O. M. (*with* Pokornyĭ, Yu. V.) On differential inequalities for elliptic equations on composite manifolds. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 4, 456–458. 35R45 (35J15)

Penkov, Ivan (*with* Dimitrov, Ivan Kolev) Partially and fully integrable modules over Lie superalgebras. (English summary) *Modular interfaces (Riverside, CA*, 1995), 49–67, *AMS/IP Stud. Adv. Math.*, 4, *Amer. Math. Soc., Providence, RI*, 1997. (Hartmut Schlosser) **99a:17009** 17B10 (17B66)

— Characters of strongly generic irreducible Lie superalgebra representations. (English summary) *Internat. J. Math.* **9** (1998), *no.* 3, 331–366. (Joris Van der Jeugt) **99d:17011** 17B10

— (*with* Serganova, V. V.) The support of an irreducible Lie algebra representation. (English summary) *J. Algebra* **209** (1998), *no.* 1, 129–142. (Dietrich Burde) **99i:17008** 17B10

— (*with* Dimitrov, Ivan Kolev) Partially integrable highest weight modules. (English summary) *Transform. Groups* **3** (1998), *no.* 3, 241–253. (Yuliy Billig) **99j:17035** 17B67

Penn, Michal (*with* Nutov, Zeev) Faster approximation algorithms for weighted triconnectivity augmentation problems. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 219–223. (Summary) **99a:05136** 05C85

— (*with* Manor, Raanan) An extended planar algorithm for maximum integral two-flow. (English summary) *Networks* **32** (1998), *no.* 1, 67–76. (Summary) **99d:90047** 90B10 (05C85, 68Q25)

Penna, Gabriella Della (*with* Celletti, Alessandra; Froeschlé, Claude) Analytical approximation of the solution of the dissipative standard map. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 12, 2471–2479. 58F27

Penna, P. (*with* Crescenzi, P.) Strictly-upward drawings of ordered search trees. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 51–67. (Summary) **99d:68050** 68P05 (68U05)

Penna, Vittorio (*with* Rasetti, Mario; Spera, Mauro) Quantum dynamics of 3-D vortices. (English summary) *Secondary calculus and cohomological physics (Moscow*, 1997), 173–193, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Ivailo M. Mladenov) **99j:81085** 81S10 (76C05, 81R30, 81T99)

le Pennec, Thierry *see* **Le Pennec, Thierry**

Pennec, Xavier (*with* Ayache, Nicholas) Uniform distribution, distance and expectation problems for geometric features processing. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 49–67. (Summary) **99c:68259** 68U10

Penner, Robert C. The simplicial compactification of Riemann's moduli space. (English summary) *Topology and Teichmüller spaces (Katinkulta*, 1995), 237–252, *World Sci. Publishing, River Edge, NJ*, 1996. (Darryl McCullough) **99j:32023** 32G15 (30F60, 57M50)

— The universal Ptolemy group and its completions. *Geometric Galois actions*, 2, 293–312, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Athanase Papadopoulos) **99j:32024** 32G15 (20H10, 30F60)

— (*with* Malikov, F. G.) The Lie algebra of homeomorphisms of the circle. (English summary) *Adv. Math.* **140** (1998), *no.* 2, 282–322. (O. V. Shvartsman) **99j:17034** 17B66

Pennestri, Ettore The transition curve of the planar four-bar: an analytical approach. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 8, 1293–1299. (Summary) **99h:70007** 70B15

— (*with* Urbinati, Fabrizio) Kinematic and dynamic analyses of the tripode joint. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 4, 355–367. 70B15

Penney, Richard C. (*with* Damek, Ewa; Hulanicki, A.) Hua operators on bounded homogeneous domains in $\mathbf{C}^n$ and alternative reproducing kernels for holomorphic functions. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 77–120. (A. Korányi) **99d:32044** 32M10 (22E30, 46E22)

Pennisi, S. A fourth order approach to relativistic extended thermodynamics. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 1, 51–71. (Summary) **99m:80005** 80A05 (80A10)

Pennock, David M. (*with* Wellman, Michael P.) Toward a market model for Bayesian inference. (English summary) *Uncertainty in artificial intelligence (Portland, OR*, 1996), 405–413, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99a:90016** 90A05 (90A14, 90A80)

Penny, J. E. T. (*with* Garvey, S. D.; Friswell, M. I.) Some further insight into self-adjoint second-order systems. (English summary) *J. Vib. Control* **5** (1999), *no.* 2, 237–252. (Summary) **99i:70024** 70J05

Penot, Jean-Paul Subdifferential calculus and subdifferential compactness. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics (Odeillo*, 1995), 209–226, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Summary) **99d:49034** 49J52 (46G05, 46N10)

— (*with* Azé, Dominique) Uniformly convex and uniformly smooth convex functions. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 4, 705–730. (Constantin Zălinescu) **99c:49015** 49J52 (47H05, 49N15)

— What is a subgradient in a space which is not an inner product space? *Inner product spaces and applications*, 208–218, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (A. B. Németh) **99f:46060** 46G05 (49J52)

— Duality for radiant and shady programs. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 541–566. (Juan-Enrique Martínez-Legaz) **99f:90085** 90C26 (26B25, 49N15, 52A05, 52A40)

— Are generalized derivatives useful for generalized convex functions? (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy*, 1996), 3–59, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Dariusz Zagrodny) **99j:49028** 49J52 (90C29)

— On the minimization of difference functions. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 373–382. (Roxin Zhang) **99e:90073** 90C26 (49J52)

— (*with* Azé, Dominique; Chou, Chin Ch'êng) Subtraction theorems and approximate openness for multifunctions: topological and infinitesimal viewpoints. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 33–58. (H. H. Bauschke) **99m:49022** 49J52 (46A30, 47H04, 54C60)

— (*with* Phạm Hữ'u Sách) Characterizations of generalized convexities via generalized directional derivatives. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 615–634. (Fred Behringer) **99f:90087** 90C26 (26B25, 49J52, 90C48)

— (*with* Ratsimahalo, Robert) Uniform continuity of projection mappings in Banach spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 1–17. (David Yost) **99m:46040** 46B20 (41A65)

— Second-order conditions for optimization problems with constraints. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 303–318 (*electronic*). (Alberto Cambini) **99k:90160** 90C30 (46N10, 49J52)

Penrose, Mathew D. Random minimal spanning tree and percolation on the N-cube. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 1, 63–82. (Rahul Roy) **99g:60024** 60D05 (60K35)

Penrose, O. The Becker-Döring equations at large times and their connection with the LSW theory of coarsening. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 305–320. (Vitor R. Vieira) **99b:82062** 82C05

— (*with* Carr, Jack) Asymptotic behaviour of solutions to a simplified Lifshitz-Slyozov equation. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 166–176. (J. R. Ockendon) **99m:80011** 80A22 (35Q99, 45K05, 80A20)

Penrose, Roger Twistor theory, the Einstein equations, and quantum mechanics. *Quantum gravity (Erice*, 1995), 228–275, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Peter R. Law) **99i:83072** 83C60 (81P99, 81R25)

— ★ The large, the small and the human mind. (English summary) With chapters by Abner Shimony, Nancy Cartwright and Stephen Hawking. Edited and with a foreword by Malcolm Longair. *Cambridge University Press, Cambridge*, 1997. *xviii+185 pp. ISBN* 0-521-56330-5 (Emanuel H. Knill) **99e:81006** 81Pxx (00A69, 00A79)

— The need for a non-computational extension of quantum action in the brain. *Matter matters?* (*Abisko*, 1993), 11–27, *Springer, Berlin*, 1997. (*see* **99a:92044**) 92C20

— The question of cosmic censorship. (English summary) *Black holes and relativistic stars (Chicago, IL*, 1996), 103–122, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C75

— Afterword. *The geometric universe (Oxford*, 1996), 423–431, *Oxford Univ. Press, Oxford*, 1998. (Michael G. Eastwood) **99f:83054** 83C60 (32L25, 81P05, 81R25)

— (*with* Moroz, Irene M.; Tod, Kenneth Paul) Spherically-symmetric solutions of the Schrödinger-Newton equations. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2733–2742. (Summary) **99j:83057** 83C99 (81P99)

— Mathematical physics in the 20th and 21st centuries? *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 2, 56–64. (Markku Lehto) **99i:81001** 81–02 (00A79, 01A67, 83–02)

— Quantum computation, entanglement and state reduction. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1927–1939. (Emanuel H. Knill) **99g:81009** 81P05 (81P15)

— Some remarks on twistor theory. (English summary) *On Einstein's path (New York*, 1996), 353–366, *Springer, New York*, 1999. (Peter R. Law) **99k:81101** 81R25 (32L25, 83C60)

— *see also* **Geometric universe**, **99b:00015** *and* **Atiyah, Michael F.**, (**99b:00015**)

Pensar, J. (*with* Toivonen, Hannu T.) A worst-case approach to optimal tracking control with robust performance. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 17–32. 93B36 (93D15)

Penskaya, M. Ya. Kernel and pseudokernel estimators for the a priori density of a multivariate parameter. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci. (New York)* **88** (1998), *no.* 6, 840–847. (Rohana J. Karunamuni) **99i:62074** 62G05 (62F15)

Penski, Christian A numerical scheme for highly oscillatory DAEs and its application to circuit simulation. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 173–181. (*see* **99h:34001**) 65L05 (34A09)

Penskoĭ, A. V. Discrete Lagrangian systems on the Virasoro group. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 99–102; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 52–54. (J. S. Joel) **99g:58064** 58F07 (17B68)

— The Volterra lattice as a gradient flow. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 76–77. (Summary) **99j:58157** 58F19 (58F07)

Pentaris, George P. (*with* Pantziou, Grammati E.; Spirakis, Paul G.) Competitive call control in mobile networks. (English summary) *Algorithms and computation (Singapore*, 1997), 404–413, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68R10 (68Q10, 90B10)

— (*with* Fotakis, Dimitris; Pantziou, Grammati E.; Spirakis, Paul G.) Frequency assignment in mobile and radio networks. (English summary) *Networks in distributed computing (Piscataway, NJ*, 1997), 73–90, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 45, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:68004** 68M10 (05C85, 68Q25, 68R10, 90B12)

Penteado, Dirceu Fixed points on surface fiber bundles. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 251–267. (Summary) **99e:55002** 55M20

Péntek, Áron (*with* Kadtke, James B.; Pedrizzetti, Gianni) Dynamical control for capturing vortices near bluff bodies. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1883–1898. 76C05

Penttila, Tim (*with* Praeger, Cheryl E.) Ovoids and translation ovals. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 607–624. (David G. Glynn) **99h:51010** 51E22 (05B25, 51B10, 51E20, 51E21)

— (*with* Royle, Gordon F.) BLT-sets over small fields. (English summary) *Australas. J. Combin.* **17** (1998), 295–307. (F. De Clerck) **99g:05043** 05B25 (51E12)

— (*with* Williams, Blair) Regular packings of PG(3, q). (English summary) *European J. Combin.* **19** (1998), *no.* 6, 713–720. (Martin Funk) **99k:51011** 51E23 (05B40, 51A40)

— (*with* Storme, Leo) Monomial flocks and herds containing a monomial oval. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 21–41. (William Cherowitzo) **99e:51008** 51E20 (05B25, 51E12, 51E21)

— Regular cyclic BLT-sets. (English summary) Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 167–172. (Summary) **99i:51008** 51E20 (51E15)

— (*with* Guralnick, Robert M.; Praeger, Cheryl E.; Saxl, Jan) Linear groups with orders having certain large prime divisors. (English summary) *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 167–214. (Jean Michel) **99m:20113** 20G40 (20C33, 20E28, 20E34)

Penttonen, Martti (*with* Kautonen, Anssi; Leppänen, Ville) Thinning protocols for routing h-relations in complete networks. (English summary) *Randomized algorithms* (*Brno*, 1998), 9 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68M10

Pentus, Mati Product-free Lambek calculus and context-free grammars. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 648–660. (Summary) **99c:03041** 03B65 (68Q50)

— Lambek calculus and formal languages (extended abstract). *Logic Colloquium* '95 (*Haifa*), 269–272, *Lecture Notes Logic*, 11, *Springer, Berlin*, 1998. (*see* **99m:03003**) 68Q50 (03D05)

Penzel, F. (*with* Meister, Erhard; Speck, F.-O.; Teixeira, F. S.) Some interior and exterior boundary-value problems for the Helmholtz equation in a quadrant. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 169–178, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Summary) **99e:35028** 35J05 (45E05, 47G10)

Penzer, Jeremy (*with* de Jong, Piet) Diagnosing shocks in time series. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 796–806. (Juan Carlos Abril) **99g:62137** 62M10 (62M20)

Pepe, Luigi Ferrara and the Copernican celebrations, 1871–1973. (Italian) *Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century* (*Italian*) (*Ferrara*, 1993), 281–291, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A55 (01A60, 01A73)

— *see also* **Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century, 99g:01014**

Pepo, Burbuqe Properties of generalized Cantor sets. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 293–305. (Summary) **99c:28004** 28A05

Pera, Maria Patrizia (*with* Furi, Massimo) Global bifurcation of fixed points and the Poincaré translation operator on manifolds. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 313–331. (Christian Fenske) **99b:58034** 58C30 (34C25, 47H15, 58F14)

— (*with* Furi, Massimo) Carathéodory periodic perturbations of the zero vector field on manifolds. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 79–92. (Anna Capietto) **99h:58153** 58F22 (34C25, 58C30, 58F30)

Peraire, Jaime (*with* Paraschivoiu, Marius; Patera, Anthony T.) A posteriori finite element bounds for linear-functional outputs of elliptic partial differential equations. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 289–312. (Jacques Rappaz) **99a:65156** 65N30 (76M10)

— (*with* Patera, Anthony T.) Bounds for linear-functional outputs of coercive partial differential equations: local indicators and adaptive refinement. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 199–216, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Ricardo G. Durán) **99j:65211** 65N30

— (*with* Morgan, Kenneth; Hassan, O.) A finite element procedure for electromagnetic scattering simulations. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 313–327, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78007** 78–08 (65N30, 78A45)

— (*with* Paraschivoiu, Marius; Maday, Yvon; Patera, Anthony T.) Fast bounds for outputs of partial differential equations. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 323–360, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:65160** 65N30 (65N15, 76M10)

— (*with* Patera, Anthony T.) Asymptotic a posteriori finite element bounds for the outputs of noncoercive problems: the Helmholtz and Burgers equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **171** (1999), *no.* 1-2, 77–86. (Summary) **99m:65218** 65N30

— (*with* Graham, W. R.; Tang, K. Y.) Optimal control of vortex shedding using low-order models. I. Open-loop model development. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 945–972. 49N55 (76D05)

— (*with* Graham, W. R.; Tang, K. Y.) Optimal control of vortex shedding using low-order models. II. Model-based control. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 973–990. 49N55 (76D05)

Péraire, Yves Formules absolues dans la théorie relative des ensembles internes. (English and French summaries) [Absolute formulas in the relative theory of internal sets] *Riv. Mat. Pura Appl. No.* 19 (1996), 27–55. (Ricardo Bianconi) **99f:03094** 03H05

— Proximités et topologies. [Proximities and topologies] *Ann. Math. Blaise Pascal* **4** (1997), *no.* 1, 81–92. (Paul Bankston) **99c:54040** 54E05 (03H05)

— (*with* Borde, Pascal) Un modèle du calcul de Dirac dans la théorie relative des ensembles. (English and French summaries) [A model of the Dirac calculus in relative set theory] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 543–548. (Władysław Lyantse) **99h:46066** 46F10 (03C65, 03H05)

Perakis, Georgia (*with* Magnanti, Thomas L.) Averaging schemes for variational inequalities and systems of equations. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 568–587. (Guy Cohen) **99a:90212** 90C33

Peral Alonso, Ireneo (*with* Caffarelli, Luis A.) On $W^{1,p}$ estimates for elliptic equations in divergence form. *Comm. Pure Appl. Math.* **51** (1998), *no.* 1, 1–21. (H. J. Kuiper) **99c:35053** 35J60 (35B27)

— (*with* García Azorero, J. P.) Hardy inequalities and some critical elliptic and parabolic problems. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 441–476. (Katsuyuki Ishii) **99f:35099** 35K60 (35B30, 35J60)

— (*with* Aguilar Crespo, J. A.) Positive radial solutions of quasilinear equations involving supercritical growth. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 309–331. (Michael A. Karls) **99j:35060** 35J65 (34B15, 35B05)

Percacci, Roberto (*with* Dou, Djamel) The running gravitational couplings. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3449–3468. 83C45

Percival, D. J. (*with* Robinson, P. A.) Generalized plasma dispersion functions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3678–3693. (Tadeusz Nadzieja) **99f:82060** 82D10 (33E20, 81U30)

Percival, Ian C. (*with* Diósi, Lajos; Gisin, Nicolas; Halliwell, Jonathan J.) On the equivalence of quantum state diffusion and decoherent histories for open quantum systems. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 87–97, *Internat. Press, Cambridge, MA*, 1997. (Robert Alicki) **99b:82064** 82C10 (81P05)

— (*with* Strunz, Walter T.) Classical mechanics from quantum state diffusion—a phase-space approach. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1801–1813. (Günter Braunss) **99h:81115** 81S30 (81R30, 82C31)

— (*with* Strunz, Walter T.) Classical dynamics of quantum localization. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1815–1830. (Günter Braunss) **99h:81116** 81S30 (81R30)

Percival, J. N. Special relativity: "inconsistent" or just "incomplete". Comments on I. McCausland's paper: "A reply to: 'The self-consistency of the kinematics of special relativity' " [Phys. Essays **9** (1996), no. 3, 484–486; MR 97i:83005]. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 1, 130–131. (Summary) **99c:83003** 83A05

Percoco, U. (*with* Bertolotti, R.; Contreras, Gerardo; Núñez, L. A.) Algebraic computing and Ricci collineations. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 337–342, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83–04 (83C20)

— (*with* Hernández, Héctor Froilan; Núñez, L. A.) Non-local equation of state in general relativistic radiating spheres. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 3, 871–896. (Summary) **99k:83030** 83C30 (83C55)

Percus, Allon G. (*with* Martin, Olivier C.) Scaling universalities of kth-nearest neighbor distances on closed manifolds. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 424–436. (Ren Ding) **99i:60024** 60D05 (52A22)

Percus, J. K. Nonuniform classical fluid mixture in one-dimensional space with next neighbor interactions. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 249–272. (Summary) **99j:82007** 82B05

Perdigão, Cecília (*with* Bebiano, Natália) Extremal matrices in certain determinantal inequalities. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 3, 261–276. (Summary) **99j:15008** 15A15 (15A18, 15A45)

Perdon, A. M. (*with* Conte, Giuseppe) The block decoupling problem for systems over a ring. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1600–1604. (Jean Francois Lafay) **99j:93026** 93B29 (93C30)

— (*with* Conte, Giuseppe; Lombardo, A.) Dynamic feedback decoupling problem for delay-differential systems via systems over rings. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 235–244. (Summary) **99c:93047** 93B52 (34H05)

Perdu, Didier M. (*with* Levis, Alexander H.) Adaptation as a morphing process: a methodology for the design and evaluation of adaptive organizational structures. (English summary) *Comput. Math. Organ. Theory* **4** (1998), *no.* 1, 5–41. (Summary) **99b:92067** 92H10

Perea, Carmen (*with* Climent, Joan-Josep) Some comparison theorems for weak nonnegative splittings of bounded operators. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 77–106. (Rafael Bru) **99j:65043** 65F10 (47A50)

Perea y Monsuwé, A. (*with* Peters, Hans) Limit consistent solutions in noncooperative games. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 109–129. (Summary) **99h:90124** 90D10

Peredko, Joanna (*with* Balcerzak, Marek) Descriptive character of sets of density and $\mathcal{I}$-density points. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 131–139. (S. M. Srivastava) **99e:28002** 28A05 (54H05)

— (*with* Balcerzak, Marek) One-to-one Borel selection theorems. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2759–2766. (Gabriel Debs) **99m:28003** 28A05 (54H05)

Peregrin, Jaroslav Language and its models: is model theory a theory of semantics? *Nordic J. Philos. Logic* **2** (1997), *no.* 1, 1–23. (B. H. Mayoh) **99c:03042** 03B65

Peregrine, D. H. (*with* Topliss, M. E.) The impact of water waves upon a wall. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 83–98, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15

— (*with* Henderson, K. L.; Dold, J. W.) Unsteady water wave modulations: fully nonlinear solutions and comparison with the nonlinear Schrödinger equation. (English summary) *Wave Motion* **29** (1999), *no.* 4, 341–361. 76B15 (76M25)

Pereguda, O. V. (*with* Kulīnīch, G. L.) Phase picture of the diffusion processes with the degenerate diffusion matrices. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 3, 203–216. (Summary) **99b:60130** 60J60 (60H10)

Peregudin, S. I. Internal waves of stationary type in a stratified fluid. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 160–167, 252–253, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 76C20 (76V05)

Peregudov, D. V. (*with* Vshivtsev, A. S.) Yang-Mills fields with external current. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 435–450; *trans-*

lation in Theoret. and Math. Phys. **104** (1995), *no.* 3, 1108–1119 (1996). (Gheorghe Zet) **99a:81105** 81T13

— (*with* Vshivtsev, A. S.; Kisun'ko, A. G.; Klimenko, K. G.) Phase structure of the Gross-Neveu model taking into account the influence of temperature and finite volume. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 2, 29–45; *translation in Russian Phys. J.* **41** (1998), *no.* 2, 113–128. (Summary) **99c:81146** 81T16 (11E45, 11Z05, 81T10)

Pereira, Antônio Luiz (*with* Oliva, Sérgio Muniz) Attractors for parabolic problems with nonlinear boundary conditions in fractional power spaces. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 453–457, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35K55 (34G20, 35B40, 47H20, 58F39)

Pereira, Emmanuel (*with* Procacci, Aldo) Block renormalization group in a formalism with lattice wavelets: correlation function formulas for interacting fermions. (English summary) *Ann. Physics* **255** (1997), *no.* 1, 19–33. (A. L. Rebenko) **99g:81142** 81T17 (81T25, 81T27)

— (*with* Schor, Ricardo; Barata, João C. A.; Faria da Veiga, Paulo A.) Spectral properties of weakly coupled Landau-Ginzburg stochastic models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 2689–2694. (Summary) **99m:81063** 81Q40 (82C20)

Pereira, Felipe (*with* Douglas, Jim, Jr.; Huang, Chieh-Sen) The modified method of characteristics with adjusted advection for an immiscible displacement problem. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 53–73, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Zhangxin Chen) **99j:76071** 76M10 (65M60, 76S05)

Pereira, Fernando (*with* Dalrymple, Mary; Lamping, John; Saraswat, Vijay) A deductive account of quantification in LFG. *Quantifiers, deduction, and context (Stanford, CA, 1993)*, 33–57, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03B65

Pereira, J. G. (*with* Kraenkel, R. A.; de Rey Neto, E. C.) Linearizability of the perturbed Burgers equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2526–2530. (Summary) **99e:35199** 35Q53

Pereira, José C. F. (*with* Kobayashi, Marcelo H.; Pereira, José M. C.) A conservative finite-volume second-order-accurate projection method on hybrid unstructured grids. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 40–75. (Summary) **99k:76112** 76M25

— (*with* Sousa, J. M. M.) Confined vortex breakdown generated by a rotating cone. (English summary) *J. Fluid Mech.* **385** (1999), 287–323. 76C05 (76–05, 76U05)

Pereira, José M. C. (*with* Kobayashi, Marcelo H.; Pereira, José C. F.) A conservative finite-volume second-order-accurate projection method on hybrid unstructured grids. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 40–75. (Summary) **99k:76112** 76M25

Pereira, Luís Moniz (*with* Damásio, Carlos Viegas) A paraconsistent semantics with contradiction support detection. (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl, 1997)*, 224–243, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17

— (*with* Li, Renwei; Dahl, Veronica) Refining action theories through abductive logic programming. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY, 1997)*, 123–138, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99j:68015** 68N17 (68T27)

— (*with* Leite, João Alexandre) Generalizing updates: from models to programs. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY, 1997)*, 224–246, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99j:68133** 68T27 (68N17)

— (*with* Leite, João Alexandre) Iterated logic program updates. (English summary) *Logic programming (Manchester, 1998)*, 265–278, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68T27 (68N17)

— (*with* Alferes, José Júlio; Przymusinski, Teodor C.) "Classical" negation in nonmonotonic reasoning and logic programming. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 107–142. (Zoran Ognjanović) **99d:68039** 68N17 (03B35, 03B60, 03B70, 68T27)

— *see also* **Logic programming and knowledge representation, 99i:68003**

Pereira, Luiz Carlos (*with* Haeusler, Edward Hermann) Gentzen's second consistency proof and strong cut-elimination. Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 95–111. (Karim Nour) **99f:03076** 03F05

almeida Pereira, O. J. B. *see* **Almeida Pereira, O. J. B.**

Pereira da Silva, Paulo Sérgio (*with* Delaleau, Emmanuel) Filtrations in feedback synthesis. I. Systems and feedbacks. (English summary) *Forum Math.* **10** (1998), *no.* 2, 147–174. (Henk Nijmeijer) **99a:93018** 93B25 (93B50, 93C10)

— (*with* Delaleau, Emmanuel) Filtrations in feedback synthesis. II. Input-output decoupling and disturbance decoupling. (English summary) *Forum Math.* **10** (1998), *no.* 3, 259–276. (Henk Nijmeijer) **99d:93014** 93B25 (93C10)

Perekhod, Anna The approach to multicriteria decision making based on pattern recognition algorithms. *Trends in multicriteria decision making (Cape Town, 1997)*, 68–74, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90A05)

Perel', M. V. (*with* Stesik, O. L.) Solution of the dispersion equation under mode degeneration conditions, and the numerical prediction of conditions for mode degeneration. (Russian. Russian summary) *Problems in the diffraction and propagation of waves, No.* 27 (*Russian*), 55–63, 312, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1997. (*see* **99g:78002**) 78A40 (78–08)

Perelli, A. (*with* Brüdern, Jörg; Cook, Roger J.) The values of binary linear forms at prime arguments. *Sieve methods, exponential sums, and their applications in number theory (Cardiff, 1995)*, 87–100, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Alessandro Zaccagnini) **99f:11130** 11P32 (11P55)

— (*with* Bombieri, Enrico) Distinct zeros of *L*-functions. *Acta Arith.* **83** (1998), *no.* 3, 271–281. (Xian-Jin Li) **99a:11102** 11M41

— (*with* Kaczorowski, Jerzy) Functional independence of the singularities of a class of Dirichlet series. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 289–303. (Matti Jutila) **99b:11102** 11M41

— (*with* Brüdern, Jörg) Goldbach numbers in sparse sequences. *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 2, 353–378. (Daniel A. Goldston) **99j:11119** 11P32 (11L07, 11P55)

— (*with* Balog, Antal) On the L^1 mean of the exponential sum formed with the Möbius function. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 275–288. (R. C. Baker) **99f:11126** 11N64 (11L07, 11P55)

— (*with* Kaczorowski, Jerzy) On the distribution in short intervals of products of a prime and integers from a given set. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 1–14. (A. J. Hildebrand) **99g:11111** 11N25

— (*with* Brüdern, Jörg; Granville, Andrew; Vaughan, R. C.; Wooley, Trevor D.) On the exponential sum over k-free numbers. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 739–761. (D. R. Heath-Brown) **99c:11125** 11P55 (11L99)

Perelli Cippo, Claudio (*with* Bigolin, Bruno) Familles intégrales de jets (sur variétés algébriques) et fibrés $\mathscr{F}$ et $\mathscr{E}$. I, II. (English, French and Polish summaries) [Integral families of jets (on algebraic varieties) and bundles $\mathscr{F}$ and $\mathscr{E}$. I, II] *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **23** (1997), 77–101, 103–118. (Jaime Muñoz Masqué) **99j:58010** 58A15 (58A20)

— Les espaces fibrés des drapeaux intégraux ordinaires et caractéristiques d'un système différentiel extérieur sur une variété. (English, French and Polish summaries) [Fiber spaces of ordinary and characteristic integral flags of an exterior differential system on a manifold] *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **23** (1997), 119–126. (Jaime Muñoz Masqué) **99d:58012** 58A15 (58A17)

Perelló, Carlos The predictive role of mathematics in science. (Catalan) *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 1, 57–64. 00A69 (01A05)

Perelman, Elena An invariant for fraction fields of McConnell algebras. *Bull. London Math. Soc.* **30** (1998), *no.* 5, 529–532. (William N. Traves) **99k:17024** 17B35

Perelman, Galina Some results on the scattering of weakly interacting solitons for nonlinear Schrödinger equations. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 78–137, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Tohru Ozawa) **99h:35203** 35Q55 (35P30)

Perelomov, A. M. (*with* Cariñena, José F.) A few remarks on integral representation for zonal spherical functions on the symmetric space $SU(N)/SO(N, \mathbf{R})$. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L495–L501. (Summary) **99a:33008** 33C55 (22E46, 33C80, 43A90)

— Quantum integrable systems and Clebsch-Gordan series. I. (English summary) *J. Phys. A* **31** (1998), *no.* 1, *L31–L37*. (Kazuhiro Hikami) **99b:81292** 81V70 (22E70, 81R05)

— (*with* Ragoucy, E.; Zaugg, Ph.) Explicit solution of the quantum three-body Calogero-Sutherland model. (English summary) *J. Phys. A* **31** (1998), *no.* 32, *L559–L565*. (Summary) **99f:81233** 81V70 (33C80)

Perelson, Alan S. (*with* Nelson, Patrick W.) Mathematical analysis of HIV-1 dynamics in vivo. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 3–44 (*electronic*). 92C50

Perelstein, M. (*with* Bern, Z.; Dixon, Lance J.; Rozowsky, J. S.) One-loop n-point helicity amplitudes in (self-dual) gravity. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 273–283. (Summary) **99m:83066** 83C45 (81T20)

Pereña, C. M. (*with* Ballesteros, Angel; Herranz, Francisco J.) (Quasi)triangular Poincaré Hopf algebras. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 3–11, *PWN, Warsaw*, 1997. (Anatol Nowicki) **99e:16045** 16W30 (17B37)

Pérennes, Stéphane (*with* Bermond, Jean-Claude; Di Ianni, Miriam; Flammini, Michele) Acyclic orientations for deadlock prevention in interconnection networks (extended abstract). (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 52–64, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (68M10, 68Q25)

— Broadcasting and gossiping on de Bruijn, shuffle-exchange and similar networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 247–262. (Dominique Sotteau) **99g:68019** 68M10 (05C90)

— (*with* Beauquier, Bruno; Hell, Pavol) Optimal wavelength-routed multicasting. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 15–20. (Summary) **99c:94002** 94A05 (90B12)

— (*with* Bermond, Jean-Claude; Darrot, E.; Delmas, O.) Hamilton circuits in the directed wrapped butterfly network. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 21–42. (Summary) **99g:05121** 05C45

— (*with* Bermond, Jean-Claude; Gargano, Luisa) Optimal sequential gossiping by short messages. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 2-3, 145–155. (Summary) **99d:68019** 68M10 (05C90, 90B12)

— (*with* Gómez Martí, José; Padró, Carles) Large generalized cycles. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 107–123. (Joseph B. Klerlein) **99j:05121** 05C38 (05C20)

— (*with* Fujita, Satoshi; Peters, Joseph G.) Neighbourhood gossiping in hypercubes. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 189–195. (Summary) **99f:68015** 68M10

— (*with* Bermond, Jean-Claude; Darrot, E.; Delmas, O.) Hamilton cycle decomposition of the butterfly network. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 371–385. (Brian Alspach) **99k:68127** 68R10 (05C45, 68M10)

Perepechko, Yu. V. (*with* Gavrilyuk, S. L.; Gouin, H.) Hyperbolic models of homogeneous two-fluid mixtures. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 2, 161–175. (Summary) **99b:76089** 76T05 (35Q35, 76M30)

Perera, A. A. I. (*with* Horadam, K. J.) Codes from cocycles. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 151–163, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (L. R. Vermani) **99j:94067** 94B05 (20J05, 94B15, 94B60)

Perera, Gonzalo (*with* Wschebor, Mario) Crossings and occupation measures for a class of semimartingales. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 253–266. (José Rafael León) **99k:60064** 60F05 (60G44, 60J55)

Perera, Kanishka Multiplicity results for some elliptic problems with concave nonlinearities. *J. Differential Equations* **140** (1997), *no.* 1, 133–141. (Rolando Magnanini) **99e:35070** 35J65 (35B05)

— (*with* Schechter, Martin) Morse index estimates in saddle point theorems without a finite-dimensional closed loop. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 1083–1095. (Maria Letizia Bertotti) **99j:58043** 58E05 (35J65)

— Applications of local linking to asymptotically linear elliptic problems at resonance. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **6** (1999), *no.* 1, 55–62. (Xin Kang Guo) **99m:35064** 35J60 (58E05)

Peres, Asher (*with* Terno, Daniel R.) Optimal distinction between non-orthogonal quantum states. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7105–7111. (Frank Antonsen) **99f:81034** 81P99

— (*with* Terno, Daniel R.) Convex probability domain of generalized quantum measurements. (English summary) *J. Phys. A* **31** (1998), *no.* 38, *L671–L675*. (S. Gudder) **99g:81023** 81P15

— Critique of the Wheeler-DeWitt equation. (English summary) *On Einstein's path* (*New York*, 1996), 367–379, *Springer, New York*, 1999. (Viqar Husain) **99m:83080** 83C45

Peres, Pedro L. D. (*with* Bonatti, Ivanil S.; Lopes, Amauri) Transmission line modeling: a circuit theory approach. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 347–352 (*electronic*). (Summary) **99c:94005** 94A05 (94C05)

Peres, Yuval (*with* Chayes, L.; Pemantle, Robin) No directed fractal percolation in zero area. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1353–1362. (Mathew D. Penrose) **99d:82029** 82B43 (60K35)

— (*with* Benjamini, Itai; Pemantle, Robin) Unpredictable paths and percolation. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1198–1211. (Wei-Shih Yang) **99g:60183** 60K35 (60J10)

— (*with* Evans, Steven N.) Eventual intersection for sequences of Lévy processes. (English summary) *Electron. Comm. Probab.* **3** (1998), 21–27 (*electronic*). (Davar Khoshnevisan) **99g:60130** 60J30 (60B15, 60D05, 60G17, 60J45)

— (*with* Steif, Jeffrey E.) The number of infinite clusters in dynamical percolation. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 1, 141–165. (H. Kesten) **99e:60217** 60K35 (31C15, 82C43)

— (*with* Benjamini, Itai; Lyons, Russell; Schramm, Oded) Group-invariant percolation on graphs. (English summary) *Geom. Funct. Anal.* **9** (1999), *no.* 1, 29–66. (Olle Häggström) **99m:60149** 60K35 (60B99)

— (*with* Häggström, Olle) Monotonicity of uniqueness for percolation on Cayley graphs: all infinite clusters are born simultaneously. (English summary) *Probab. Theory Related Fields* **113** (1999), *no.* 2, 273–285. (Ronald Meester) **99k:60253** 60K35

Peresada, Sergei (*with* Marino, Riccardo; Tomei, Patrizio) Global adaptive output feedback control of induction motors with uncertain rotor resistance. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 967–983. 93C95 (93D21)

Peresi, Luiz Antonio (*with* Baeza-Vega, R.; Correa, Iván; Costa, Roberto C. F.) Shape identities in Bernstein algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2659–2679. (Summary) **99c:17044** 17D92

— (*with* Hentzel, Irvin Roy) Degree three, four, and five identities of quadratic algebras. *J. Algebra* **206** (1998), *no.* 1, 1–16. (Alberto Elduque) **99g:17008** 17A45 (17–08)

Peressini, Anthony L. Cumulative versus noncumulative ramified types. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 3, 385–397. (M. Randall Holmes) **99m:03011** 03B15

Perestyuk, N. A. (*with* Boĭchuk, A. A.; Gaĭshun, I. V.; Izobov, N. A.; Il'in, Vladimir Aleksandrovich[1]; Mitropol'skiĭ, Yuriĭ Alekseevich) Anatoliĭ Mikhaĭlovich Samoĭlenko (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **34** (1998), *no.* 1, 3–6; *translation in Differential Equations* **34** (1998), *no.* 1, 1–4. (Editors) **99k:01046** 01A70

Peresyolkova, I. N. (*with* Ostrovskiĭ, I. V.) Nonasymptotic results on distribution of zeros of the function $E_\rho(z,\mu)$. (Russian summary) *Anal. Math.* **23** (1997), *no.* 4, 283–296. (Vladimir Logvinenko) **99g:30037** 30D20 (30E20)

Peretti, Aldo A new continued fraction for Euler's constant. (English summary) *Notes Number Theory Discrete Math.* **3** (1997), *no.* 1, 23–34. (Les Davison) **99f:11160** 11Y65 (11Y60)

— Application of the Laplace transform to the solution of Diophantine equations. *Notes Number Theory Discrete Math.* **3** (1997), *no.* 2, 75–101. (From the text) **99e:11039** 11D99 (44A10)

— The irrationality of Euler's constant. III. *Notes Number Theory Discrete Math.* **3** (1997), *no.* 4, 188–193. 11Y60 (11J70)

— About Goldbach's problem. III. (English summary) *Notes Number Theory Discrete Math.* **3** (1997), *no.* 4, 194–204. 11P32

Peretyat'kin, Mikhail G. ★ Finitely axiomatizable theories. Siberian School of Algebra and Logic. *Consultants Bureau, New York*, 1997. xiv+294 *pp. ISBN* 0-306-11062-8 (Alexandre Ivanov) **99a:03035** 03Cxx (03–02, 03Bxx, 03D45)

— ★ Конечно аксиоматизируемые теории. (Russian. Russian summary) [Finitely axiomatizable theories] Сибирская Школа Алгебры и Логики. [Siberian School of Algebra and Logic] *Nauchnaya Kniga* (*NII MIOONGU*), *Novosibirsk*, 1997. xiv+319 *pp. ISBN* 5-88119-010-6 (J. M. Plotkin (Zbl 884.03031)) **99m:03058** 03Cxx (03–02, 03D45)

Peretz, Ronen Mappings with a composite part and with a constant Jacobian. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 39–43. (Summary) **99c:14027** 14E99 (26B10, 35L99)

— The geometry of the asymptotics of polynomial maps. (English summary) *Israel J. Math.* **105** (1998), 1–59. (Gene Freudenburg) **99f:14022** 14E40 (13B10, 14E09)

— Linear conditions for a polynomial $P(X, Y)$ to have younger mates. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 115–121. (From the introduction) **99m:15032** 15A99

Perevalov, Eugene (*with* Skarke, Harald) Enhanced gauge symmetry in type II and F-theory compactifications: Dynkin diagrams from polyhedra. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 679–700. (Mark Gross) **99a:14058** 14J32 (14M25, 81T30)

— (*with* Candelas, Philip; Rajesh, Govindan) Toric geometry and enhanced gauge symmetry of F-theory/heterotic vacua. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 445–474. (Angel Maria Uranga) **99d:81112** 81T30 (14M25, 32J81)

— (*with* Rajesh, Govindan) Mirror symmetry via deformation of bundles on $K3$ surfaces. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 16, 2931–2934. (Mark Gross) **99a:32028** 32G81 (14J28, 14J32, 32J81, 81T30)

— (*with* Candelas, Philip; Rajesh, Govindan) Matter from toric geometry. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 225–238. (Harald Skarke) **99e:81181** 81T30 (14J32, 14M25, 32J81)

Pereverzev, S. V. (*with* Prössdorf, Siegfried) A discretization of Volterra integral equations of the third kind with weakly singular kernels. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 6, 565–577 (1998). (Summary) **99a:45024** 45L05 (45D05, 45E05, 65R20)

Pereyaslavets, M. (*with* Katsenelenbaum, B. Z.; Mercader del Río, L.; Sorolla Ayza, M.; Thumm, M.) ★ Theory of nonuniform waveguides. (English summary) The cross-section method. IEE Electromagnetic Waves Series, 44. *Institution of Electrical Engineers* (*IEE*), *London*, 1998. *xvi*+249 *pp. ISBN* 0-85296-918-X (A. S. Silbergleit) **99f:78017** 78A50 (35Q99, 78A40)

Pereyra, Cristina *see* **Pereyra, María Cristina**

rodriguez-Pereyra, Gonzalo *see* **Rodriguez-Pereyra, Gonzalo**

Pereyra, María Cristina (*with* Katz, Nets Hawk) On the two weights problem for the Hilbert transform. *Rev. Mat. Iberoamericana* **13** (1997), *no.* 1, 211–243. (C. Carton-Lebrun) **99c:47036** 47B38 (42A50, 44A15, 46E40)

— (*with* Ward, Lesley A.) Paraexponentials, Muckenhoupt weights, and resolvents of paraproducts. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 135–144. (Stephen Buckley) **99c:42033** 42B25 (47B38)

Pereyra, Victor Asynchronous distributed solution of large scale nonlinear inversion problems. (English summary) Applied and computational mathematics (Gramado, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 1, 31–40. (*see* **99m:65003**) 65J15 (65K10)

— *see also* **Applied and computational topics in partial differential equations**, **99k:65002** *and* **Applied and computational mathematics**, **99m:65003**

marín Pérez, A. *see* **Marín Pérez, A.**

robles-Pérez, Aureliano M. *see* **Robles-Pérez, Aureliano M.**

Pérez, Carlos Banach function spaces and the two-weight problem for maximal functions. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 141–158, *Prometheus, Prague*, 1996. (Alberto Fiorenza) **99d:42036** 42B25 (46E30)

— Sharp estimates for commutators of singular integrals via iterations of the Hardy-Littlewood maximal function. *J. Fourier Anal. Appl.* **3** (1997), *no.* 6, 743–756. (Tomás F. Godoy) **99f:42042** 42B25 (35J99, 47G10)

— (*with* MacManus, Paul) Generalized Poincaré inequalities: sharp self-improving properties. *Internat. Math. Res. Notices* **1998**, *no.* 2, 101–116. (From the introduction) **99k:42045** 42B30 (46E35)

— (*with* Franchi, Bruno; Wheeden, Richard L.) Self-improving properties of John-Nirenberg and Poincaré inequalities on spaces of homogeneous type. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 1, 108–146. (J. Michael Pearson) **99d:42042** 42B99 (46N20)

Perez, Carlos E. On the resolution of Fredholm integral equations by multigrid domain separation techniques. (English summary) *Proyecciones* **17** (1998), *no.* 1, 119–132. (Summary) **99d:65372** 65R20 (45L05)

Pérez, E. *see* **Pérez, Esther**

sánchez Pérez, Enrique A. *see* **Sánchez Pérez, Enrique A.**

Pérez, Esther (*with* Alvarez, Marcos; Labastida, J. M. F.) Vassiliev invariants for links from Chern-Simons perturbation theory. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 677–718. (Summary) **99a:58152** 58G18 (57M25, 81Q30, 81T13, 81T15, 81T18)

Pérez, Eugenia High frequencies in a stiff problem modelling the vibrations of a string. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 7 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35Q72 (73D30, 73K12)

— (*with* Lobo-Hidalgo, Miguel; Oleĭnik, Ol'ga Arsen'evna; Shaposhnikova, T. A.) On homogenization of solutions of boundary value problems in domains, perforated along manifolds. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 611–629 (1998). (Alain Brillard) **99k:35018** 35B27 (35J25)

— (*with* Gómez, Delfina; Lobo-Hidalgo, Miguel) On vibrations of a system with concentrated mass. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 453–458, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73D30 (35B25, 35J60, 73B27)

Pérez, Fernando *see* **Pérez-González, Fernando[1]**

Pérez, Gloria (*with* Escudero, Laureano F.; Garín, A.) Some properties of cliques in 0-1 mixed integer programs. (English summary) *Top* **4** (1996), *no.* 2, 215–223. (Jürgen Köhler) **99d:90077** 90C11

mardones Pérez, I. *see* **Mardones Pérez, I.**

muñoz-Perez, J. *see* **Muñoz-Perez, J.**

pérez-Pérez, J. C. *see* **Pérez-Pérez, J. C.**

morales Pérez, J. L. *see* **Morales Pérez, J. L.**

méndez-Pérez, J. M. R. *see* **Méndez-Pérez, J. M. R.**

Pérez, Joaquín (*with* Meeks, William H., III; Ros, Antonio) Uniqueness of the Riemann minimal examples. (English summary) *Invent. Math.* **133** (1998), *no.* 1, 107–132. (Kichoon Yang) **99b:53013** 53A10

— (*with* Ros, Antonio) The space of complete minimal surfaces with finite total curvature as Lagrangian submanifold. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 3935–3952. (Karsten Grosse-Brauckmann) **99m:58038** 58D27 (53A10, 58E12)

arocha Pérez, Jorge Luis *see* **Arocha Pérez, Jorge Luis**

fernández-Pérez, José L. *see* **Fernández-Pérez, José L.**

Pérez, José Luis (*with* Aliaga, José Ignacio; Hernández, Vicente G.) Approximation of the general Lanczos method. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 31–38, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65Fxx

linares Pérez, Josefa *see* **Linares Pérez, Josefa**

Pérez, Juan Antonio (*with* Greenlees, J. P. C.) Connected Lie groups acting freely on a product of linear spheres. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 197–203, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 22E45

— The topology of symmetry. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 243–264, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (From the summary) **99i:55008** 55N99 (57S99)

Pérez, Juan de Dios (*with* Lee, Soo Hyo; Suh, Young Jin) A characterization of Einstein real hypersurfaces in quaternionic projective space. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 165–178. (Jürgen Berndt) **99e:53064** 53C25 (53C40)

— (*with* Ortega, Miguel) Totally real sectional curvature of a real hypersurface in a quaternionic space form. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 227–233. (Jürgen Berndt) **99e:53081** 53C40

flores Pérez, M. *see* **Flores Pérez, M.**

serrano-Pérez, M. Carmen *see* **Serrano-Pérez, M. Carmen**

Perez, M. E. *see* **Pérez, Eugenia**

ibáñez Pérez, M. J. *see* **Ibáñez Pérez, M. J.**

Pérez, Ma. Eugenia *see* **Pérez, Eugenia**

Pérez, Mario (*with* Guadalupe Hernández, José Javier) Perturbation of orthogonal Fourier expansions. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 294–307. (V. Totik) **99f:42049** 42C05 (33C45)

quiroz-Pérez, Norma *see* **Quiroz-Pérez, Norma**

Pérez, Pablo (*with* Meddahi, Salim) A coupling of boundary elements and mixed finite elements. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 12 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (Summary) **99h:65196** 65N30

— (*with* González Taboada, María; Meddahi, Salim) Numerical analysis of a monotonic nonlinear problem in an exterior domain. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997), 793–798, Colecc. Congr., 9, Univ. Vigo, Vigo, 1998.* (*see* **99d:00018**) 65N99

garcía Pérez, Pedro Luis *see* **García Pérez, Pedro Luis**

laverde Pérez, Pedro P. *see* **Laverde Pérez, Pedro P.**

Pérez, R. *see* **Pérez, Rigoberto**

Perez, Raúl (*with* González Muñoz, Antonio) A fuzzy theory refinement algorithm. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 193–220. 68T05 (03B52)

Pérez, Rigoberto (*with* Ramírez González, Victoriano; Márquez, M. L.) Parametric subfamilies of apportionment methods. (English summary) *Advances in computational mathematics (Guangzhou, 1997), 471–479, Lecture Notes in Pure and Appl. Math., 202, Dekker, New York, 1999.* (Fouad T. Aleskerov) **99m:90046** 90A28

Perez, S. *see* **Perez, Sylvie**

Pérez, Sonsoles (*with* Menárguez, M. Trinidad; Soria, Fernando) Pointwise and norm estimates for operators associated with the Ornstein-Uhlenbeck semigroup. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 25–30. (Summary) **99f:35070** 35K10 (47D07, 60J35)

Perez, Sylvie (*with* Luce, Robert) Parameter identification for an elliptic partial differential equation with distributed noisy data. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 291–307. (Summary) **99k:65110** 65N30 (35J15, 65R30)

Pérez, Teresa E. (*with* Marcellán, Francisco; Meijer, Hendrik Gerrit; Piñar, Miguel A.) An asymptotic result for Laguerre-Sobolev orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 87–94. (Summary) **99a:33006** 33C45 (42C05)

— (*with* Álvarez de Morales, María; Piñar, Miguel A.; Ronveaux, André) Orthogonal polynomials associated with a nondiagonal Sobolev inner product with polynomial coefficients. (English summary) *Orthogonal functions, moment theory, and continued fractions (Campinas, 1996), 343–358, Lecture Notes in Pure and Appl. Math., 199, Dekker, New York, 1998.* (A. N. Srivastava) **99k:33017** 33C45 (33C80, 42C05)

— (*with* Piñar, Miguel A.) Sobolev orthogonality and properties of the generalized Laguerre polynomials. (English summary) *Orthogonal functions, moment theory, and continued fractions (Campinas, 1996), 375–385, Lecture Notes in Pure and Appl. Math., 199, Dekker, New York, 1998.* (A. N. Srivastava) **99k:33018** 33C45 (33C80, 42C05)

— (*with* Álvarez de Morales, María; Piñar, Miguel A.) Sobolev orthogonality for the Gegenbauer polynomials $\{C_n^{(-N+1/2)}\}_{n\geq 0}$. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 111–120. (B. D. Agrawal) **99k:33019** 33C45

adrián de Pérez, Trina *see* **Adrián de Pérez, Trina**

Pérez-Abreu, Víctor (*with* Castañeda-Leyva, Netzahualcóyotl) Characterization and approximation of infinitely divisible distributions on Hilbert spaces. (English summary) *Fourth Symposium on Probability Theory and Stochastic Processes (Spanish) (Guanajuato, 1996), 57–70, Aportaciones Mat. Notas Investigación, 12, Soc. Mat. Mexicana, México, 1996.* (Jean-Claude Massé) **99h:60024** 60E07 (60B11, 60E15)

— (*with* Jacod, Jean) On martingales which are finite sums of independent random variables with time dependent coefficients. *Séminaire de Probabilités, XXXI, 62–68, Lecture Notes in Math., 1655, Springer, Berlin, 1997.* (Fuqing Gao) **99e:60114** 60G44 (60G50)

Pérez Acosta, Francisco (*with* Almira Picazo, J. M.) Some extremal properties of generalized Tchebyshev polynomials. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 2, 379–385 (1998). (Alexander Alipkanovich Zhensykbaev) **99f:41006** 41A10 (41A50)

— Some extremal properties of orthogonal polynomials. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 173–182. 42C05

— (*with* Almira Picazo, J. M.) Convergence and compactness in Besov spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1073–1082. 46E35 (46B20)

— (*with* Almira Picazo, J. M.) Comparison of inequalities for the minimax series via Tchebychev polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 319–325. (Dumitru Acu) **99k:26026** 26D15 (41A10, 41A17)

— On a theorem of Bernstein and its applications to weighted minimax series. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 509–520. (D. D. Stancu) **99k:41045** 41A50 (41A10, 42A10)

Perez Bergliaffa, S. E. (*with* Romero, G. E.; Vucetich, H.) Toward an axiomatic pregeometry of space-time. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2281–2298. (Frank Antonsen) **99k:81022** 81P05

Pérez-Bernal, F. (*with* Bijker, Roelof; Frank, Alejandro; Lemus, R.; Arias, J. M.) A comparison between algebraic models of molecular spectroscopy. (English summary) *Symmetries in science, X (Bregenz, 1997), 37–46, Plenum, New York, 1998.* (Summary) **99g:81234** 81V55 (81R05)

Pérez-Brito, Dionisio (*with* Tamir, Arie; Moreno, José A.) A polynomial algorithm for the p-centdian problem on a tree. (English summary) *Networks* **32** (1998), *no.* 4, 255–262. (Johannes Terno) **99k:90139** 90C27 (90C35)

— (*with* Mladenović, Nenad; Moreno, José A.) A note on spanning trees for network location problems. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, 129–135. (Summary) **99a:90115** 90B80 (90C27)

Pérez Bueno, J. C. Bicrossproduct structure and graded contractions of deformed algebras. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1275–1282. (Władysław Marcinek) **99f:81098** 81R50 (16W30, 17B37)

— (*with* de Azcárraga, J. A.; Herranz, Francisco J.; Santander, Mariano) Central extensions of the quasi-orthogonal Lie algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1373–1394. (Said Benayadi) **99d:17004** 17B05 (17B56)

— (*with* Herranz, Francisco J.; Santander, Mariano) Central extensions of the families of quasi-unitary Lie algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5327–5347. (Michael Wüstner) **99i:17007** 17B05

— On the bicrossproduct structures for the $\mathfrak{A}_\lambda(\mathrm{iso}_{\omega_1,\cdots,\omega_N}(N))$ family of algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6505–6516. (Fabio Gavarini) **99i:81107** 81R50 (17B37)

— (*with* Izquierdo, José M.[1]) Poisson structures: old and new. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 103–130. (Janusz Grabowski) **99j:58073** 58F05 (58A50)

— (*with* de Azcárraga, J. A.; Macfarlane, A. J.; Mountain, Arthur J.) Invariant tensors for simple groups. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 657–687. (Said Benayadi) **99e:17011** 17B20 (17B56, 81R05)

Pérez C., J. M. *see* **Pérez-Cerda, José Manuel**

Pérez Carreras, Pedro (*with* Campillo Herrero, Pedro) The notion of continuity from the viewpoint of van Hiele's levels. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 69–80. (U. D'Ambrosio) **99m:00012** 00A35 (01A99, 26A03)

Pérez-Cerda, José Manuel (*with* Cominetti, Roberto) Quadratic rate of convergence for a primal-dual exponential penalty algorithm. (English summary) *Optimization* **39** (1997), *no.* 1, 13–32. (Vladimir I. Venets) **99a:90184** 90C30

— (*with* Alvarez, Felipe) A dynamical system associated with Newton's method for parametric approximations of convex minimization problems. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 193–217. (Bernard Lemaire) **99f:90076** 90C25 (34C35, 35B37, 49M15)

Pérez Chavela, Ernesto Chaos in the solar system. (Spanish. Spanish summary) *Miscelánea Mat. No.* 26 (1997), 59–69. 70F15 (58F13, 70K50)

— (*with* Vela-Arévalo, Luz Vianey) Triple collision in the quasi-homogeneous collinear three-body problem. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 186–211. (Donald G. Saari) **99f:70020** 70F07 (70F35)

Pérez-Esteva, Salvador (*with* Guzmán-Partida, Martha) Hardy spaces of conjugate systems of temperatures. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 605–619. (Bui Huy Qui) **99i:42032** 42B30 (35K05, 46E15)

— *see also* **Congress: Mexican Mathematical Society, 99h:00025**

Pérez-García, Cristina (*with* Schikhof, Wilhelmus H.) p-adic barrelledness and spaces of countable type. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1099–1109. (Dinamérico P. Pombo, Jr.) **99m:46179** 46S10 (46A08)

Pérez-González, F. *see* **Pérez-González, Fernando[2]**

Pérez-González, Fernando[1] (*with* Mosquera, Carlos; López, Roberto) On the bias of the modified output error algorithm. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1261–1262. 93E12 (93B30)

Pérez-González, Fernando[2] (*with* Bonilla, A.; Stray, A.; Trujillo-González, R.) Approximation in weighted Hardy spaces. (English summary) *J. Anal. Math.* **73** (1997), 65–89. (Yuan Ren Lou) **99b:30058** 30E10 (30D55)

— (*with* Khavinson, Dmitry; Shapiro, Harold S.) Approximation in L^1-norm by elements of a uniform algebra. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 401–410. (Yu. A. Brudnyĭ) **99d:41064** 41A65 (46J10)

Perezhogin, A. L. On a locally isometric coding of natural numbers. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 4, 69–76, 96. (Summary) **99b:94058** 94B65 (11T71)

— (*with* Evdokimov, A. A.) Minimal numerations of subsets of a finite set, and the problem of the Hamiltonicity of the graph of the middle layers of a hypercube. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser. 1* **4** (1997), *no.* 4, 6–12, 115. (Summary) **99g:05006** 05A15 (05C45)

Pérez-Jordá, José M. Fast algorithms through divide- and combine-and-conquer strategies. (English summary) *Comput. Phys. Comm.* **117** (1999), *no.* 3, 239–240. 65T20

Pérez Laraudogoitia, Jon Some relativistic and higher order supertasks. (English summary) *Philos. Sci.* **65** (1998), *no.* 3, 502–517. (Lawrence Sklar) **99i:83006** 83A05

Pérez-Marco, Ricardo Fixed points and circle maps. *Acta Math.* **179** (1997), *no.* 2, 243–294. (Hartje Kriete) **99a:58130** 58F20 (30D05, 58F03, 58F23)

Pérez-Mercader, Juan (*with* Hochberg, David; Molina-París, Carmen; Visser, Matt) Zeta functions, renormalization group equations, and the effective action. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 22, 4802–4805. (Summary) **99h:81140** 81T16 (81T17)

Pérez-Moreno, Rafael A. (*with* Sira-Ramírez, Hebertt; García-Esteban, Mauricio) Design of pulse width modulation controllers for stabilization and tracking in derived DC-to-DC power converters. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 301–318. 93D15 (93C95)

Pérez-Palomares, Ana (*with* Adell, José A.) Best constants in preservation inequalities concerning the first modulus and Lipschitz classes for Bernstein-type operators. (English summary) *J. Approx. Theory* **93** (1998), *no.* 1, 128–139. (V. A. Baskakov) **99a:41038** 41A44 (41A17)

Pérez-Peñalver, M. J. (*with* Romaguera, Salvador) Weakly Cauchy filters and quasi-uniform completeness. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 3, 217–228. (Summary) **99m:54004** 54A20 (54E15, 54E50)

Pérez-Pérez, J. C. (*with* Torres del Castillo, G. F.) Perturbations of solutions of the Einstein-Weyl equations: an example. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 047501, 4 *pp.* (Summary) **99m:83039** 83C15 (83C25, 83C60)

Pérez Pinilla, Martín-Blas (*with* Aguirre, Julián) A pseudospectral method for the numerical solution of a nonlinear convection-diffusion equation in the whole space. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 7 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 65M70

Pérez-Ramos, M. D. (*with* Ballester-Bolinches, A.; Pedraza-Aguilera, M. C.) σ-permutably embedded subgroups of finite soluble groups. (English summary) *Problems in algebra, No. 9 (Russian), 38–41, Gomel. Gos. Univ., Gomel', 1996.* (*see* **99g:20005**) 20D10

— (*with* Ballester-Bolinches, A.) Some questions of the Kourovka notebook concerning formation products. *Comm. Algebra* **26** (1998), *no.* 5, 1581–1587. (Sergey F. Kamornikov) **99h:20024** 20D10

— (*with* Ballester-Bolinches, A.; Pedraza-Aguilera, M. C.) Characterizations of Schunck classes of finite soluble groups. *J. Algebra* **202** (1998), *no.* 1, 243–249. (T. O. Hawkes) **99j:20024** 20D10 (20D35)

— (*with* Ballester-Bolinches, A.; Martínez-Pastor, A.) A family of dominant Fitting classes of finite soluble groups. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 33–43. (A. Scarselli) **99a:20013** 20D10

— (*with* Ballester-Bolinches, A.; Pedraza-Aguilera, M. C.) Mutually permutable products of finite groups. *J. Algebra* **213** (1999), *no.* 1, 369–377. (Silvana Franciosi) **99k:20046** 20D40 (20F16)

Pérez Sebastián, M. A. (*with* Egusquiza, I. L.; Feinstein, Alexander; Valle Basagoiti, M. A.) On the entropy and the density matrix of cosmological perturbations. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1927–1936. 83F05 (83C25)

Pérez Terrazas, J. Efren The Drinfel'd double in finite dimension. (Spanish) *Miscelánea Mat. No.* 22 (1995), 69–72. 16W30

Pérez Vicente, Conrado J. (*with* Sartoretto, Flavio; Spigler, Renato) Numerical solution of the Kuramoto-Sakaguchi equation governing populations of coupled oscillators. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1023–1038. (Summary) **99e:65137** 65M70 (34C99, 65C05, 65R20, 70K99, 92B05)

— (*with* Bonilla, Luis L.; Spigler, Renato) Time-periodic phases in populations of nonlinearly coupled oscillators with bimodal frequency distributions. (English summary) *Phys. D* **113** (1998), *no.* 1, 79–97. (Peter Ashwin) **99a:34107** 34C15 (34C23, 58F22, 70K99, 82C31)

Pérez-Victoria, M. (*with* del Águila, F.; Culatti, A.; Muñoz Tapia, R.) Techniques for one-loop calculations in constrained differential renormalization. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 561–585. (Summary) **99h:81136** 81T15

Perfetti, Paolo Fixed point theorems in the Arnol'd model about instability of the action-variables in phase-space. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 379–391. (Luigi Chierchia) **99e:58155** 58F27 (34C99, 58F05, 58F30, 70H05)

Pergamenshchikov, S. M. (*with* Konev, Viktor) An estimation of a periodic trend under the autoregressive noise. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 205–227, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:62116** 62M10

— (*with* Konev, Viktor) On asymptotic minimaxity of fixed accuracy estimators for autoregression parameters. II. Purely explosive process. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 27–59. (B. L. S. Prakasa Rao) **99k:62169** 62M10 (62C20)

Pergamentsev, S. Yu. (*with* Chistyakov, G. P.) Some extensions of the Darmois-Skitovich and Kagan theorems to classes of the generalized random variables. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 463–488. (J. A. Melamed) **99a:62014** 62E10 (62H05)

Pergher, Pedro Luiz Queiroz Bounds on the dimension of manifolds with certain Z_2 fixed sets. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 269–275. (R. E. Stong) **99e:57049** 57R85

Periago, Francisco (*with* Martínez Carracedo, Celso; Sanz Alix, Miguel A.) Imaginary powers of nonnegative operators and their applications to PDEs. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 513–518, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34G10 (35J15, 47D06)

Périaux, Jacques (*with* Winter Althaus, Gabriel; Galán, Manuel J.; Mantel, B.; Sánchez, I.) An introduction on global optimization by genetic algorithms. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 343–367, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65K05 (90C99)

— (*with* Glowinski, Roland; Pan, Tsorng-Whay; Hesla, Todd I.; Joseph, Daniel D.) A fictitious domain method with distributed Lagrange multipliers for the numerical simulation of particulate flow. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 121–137, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99i:76112** 76M25 (65M60, 76T05)

— (*with* He, Jiwen; Glowinski, Roland; Gorman, Michael) Some results on the controllability and the stabilization of the Kuramoto-Sivashinsky equation. (English summary) *Équations aux dérivées partielles et applications*, 571–590, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 35Q30 (93B05)

— (*with* Glowinski, Roland; Pan, Tsorng-Whay) Domain embedding methods for incompressible viscous flow around moving rigid bodies. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 34–51, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99i:76113** 76M25 (65M55, 76D05)

— (*with* Kawarada, Hideo; Ohtomo, T.; Suito, H.) Multi-start fuzzy optimization method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 338–345, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 90C70

— (*with* Glowinski, Roland; Pan, Tsorng-Whay) Distributed Lagrange multiplier methods for incompressible viscous flow around moving rigid bodies. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 181–194. (Summary) **99d:76075** 76M25

— (*with* He, Jiwen; Glowinski, Roland; Metcalfe, Ralph W.) A numerical approach to the control and stabilization of advection-diffusion systems: application to viscous drag reduction. Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 131–156. (Summary) **99m:93053** 93C20 (76M10, 76Rxx, 93B40)

— (*with* Bristeau, M. O.; Glowinski, Roland) Controllability methods for the computation of time-periodic solutions; application to scattering. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 265–292. (Narahari Parhi) **99k:65093** 65M60 (35P25, 93B05)

— *see also* **Approximations and numerical methods for the solution of Maxwell's equations**, **99a:00020** *and* **Parallel computational fluid dynamics**, **99d:76002**

Perić, D. (*with* Dutko, Martin; Owen, D. R. J.) Aspects of adaptive strategies for large deformation problems at finite inelastic strains. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 349–363, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73G05)

— (*with* de Souza Neto, E. A.; Owen, D. R. J.) Continuum modelling and numerical simulation of material damage at finite strains. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 4, 311–384. (Summary) **99j:73063** 73G05 (73C50, 73M25, 73S10, 73V20)

— (*with* Owen, D. R. J.) Finite-element applications to the nonlinear mechanics of solids. (English summary) *Rep. Progr. Phys.* **61** (1998), *no.* 11, 1495–1574. (Summary) **99g:73107** 73V05 (73E60, 73G20)

Perić, V. (*with* Dašić, V.) Near-rings with a minimal defect of distributivity. (English summary) *Math. Montisnigri* **7** (1996), 1–11. (Herbert J. Bernstein) **99c:16049** 16Y30

Pericleous, Koulis A. (*with* Hughes, M.; Cross, Mark) Convection-diffusion in MHD: comparison of primitive variable and vector potential solutions of the magnetic induction equation. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 227–250, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 76M25 (76W05)

— (*with* Djambazov, Georgi S.; Lai, Choi-Hong) Efficient computation of aerodynamic noise. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 500–506, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 76M10 (65M60)

— (*with* Palansuriya, Charaka J.; Lai, Choi-Hong; Ierotheou, Constantinos S.) A domain decomposition based algorithm for non-linear 2D inverse heat conduction problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 515–522, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 80–08 (65M55)

Peřina, J. (*with* Luis, A.) Discrete Wigner function for finite-dimensional systems. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1423–1441. (Günter Braunss) **99k:81147** 81S30

Peřinová, V. (*with* Lukš, A.) Eigenvalue problem for a superposition of the operators of the photon number and the sine of phase. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 415–425, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:81275** 81V80

Peris, Alfredo A note on tensor products of compact diagonal operators. (English summary) *Bull. Soc. Roy. Sci. Liège* **66** (1997), *no.* 6, 405–407. (M. S. Ramanujan) **99a:47030** 47B07 (46M05, 47A80)

— (*with* Bonet, José) Hypercyclic operators on non-normable Fréchet spaces. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 587–595. (Paul Bourdon) **99k:47044** 47A99 (46A04, 47B99)

Peris, Josep E. (*with* Sánchez, M. Carmen; Subiza, Begoña) Numerical representation of choice functions. (English summary) *Ann. Oper. Res.* **80** (1998), 1–10. (Summary) **99g:90023** 90A08 (90A10)

— (*with* Subiza, Begoña) Nontrivial pseudo-utility functions. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 67–73. (Yew-Kwang Ng) **99a:90054** 90A10

— (*with* Sánchez, M. Carmen; Subiza, Begoña) Revealed preference axioms for continuous rational choice. (English summary) *J. Math. Econom.* **30** (1998), *no.* 3, 275–284. (Fouad T. Aleskerov) **99j:90016** 90A09

— (*with* Sánchez, M. Carmen) Veto in fixed agenda social choice correspondences. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 81–97. (Summary) **99m:90020** 90A08

Perišić, D. (*with* Kamiński, Andrzej; Pilipović, Stevan S.) On the convolution in the Gel'fand-Shilov spaces. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 83–96. (Hans-Jürgen Glaeske) **99e:46052** 46F10 (46F05)

Perissinaki, Irini (*with* Ball, Keith M.) The subindependence of coordinate slabs in l_p^n balls. (English summary) *Israel J. Math.* **107** (1998), 289–299. (Yossi Lonke) **99k:52012** 52A38 (60D05)

Periwal, Vipul (*with* Nachtergaele, Bruno) Quantum gate arrays as coherent sums over classical logic gate arrays. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8685–8692. (S. Gudder) **99a:81016** 81P15 (81P10)

— (*with* Tafjord, Øyvind) Finite-time amplitudes in Matrix theory. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 227–238. (Summary) **99a:81157** 81T30 (83E30, 83E50)

— (*with* Tafjord, Øyvind) Matrix string interactions. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 82–84. (Summary) **99c:81206** 81T30

— (*with* von Unge, Rikard) Accelerating D-branes. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 71–76. (Summary) **99b:81205** 81T30

— Consistency of Wilsonian effective actions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6551–6553. (Summary) **99m:81151** 81T15

— Quantum Hamilton-Jacobi equation. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 20, 4366–4369. (Summary) **99a:81085** 81S30

— (*with* Naud, J.; Nemenman, I.; Van Raamsdonk, Mark) Minimal subtraction and the Callan-Symanzik equation. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 1-2, 533–539. (Summary) **99m:81154** 81T17 (81V10)

Perjan, Andrei *see* **Perzhan, A. V.**

Perk, Jacques H. H. (*with* Au-Yang, Helen) The generalized chiral clock model and its phase diagram. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 20–30, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20 (82B26)

Perkins, A. Louise (*with* Orlin, Peter A.; Heburn, George) A frequency accurate spatial derivative finite difference approximation. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 5, 549–560. (Stanisław Burys) **99b:65127** 65N06

Perkins, Edwin A. (*with* Taylor, S. James) The multifractal structure of super-Brownian motion. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 1, 97–138. (Steven N. Evans) **99b:28011** 28A80 (28A78, 60D05, 60G57)

— (*with* Dawson, Donald A.) Long-time behavior and coexistence in a mutually catalytic branching model. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1088–1138. (Klaus Fleischmann) **99f:60167** 60K35 (60H10, 60H15, 60J80)

— (*with* Evans, Steven N.) Collision local times, historical stochastic calculus, and competing superprocesses. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 5, 120 *pp.* (*electronic*). (Anton Wakolbinger) **99h:60098** 60G57 (60H99, 60J55, 60J80)

Perkins, Michael (*with* Belavkin, V. P.) The nondemolition measurement of quantum time. (English summary) Proceedings of the International Quantum Structures Association

1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 219–226. (Apostolos Vourdas) **99f:81027** 81P15

— (*with* Bowcock, Peter) Quantum corrections to the classical reflection factor in $a_2^{(1)}$ Toda field theory. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 3, 612–630. (Summary) **99j:81116** 81T10 (81T15)

Perkins, S. (*with* Escott, A. E.) Synchronizing codewords of q-ary Huffman codes. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 637–655. (Summary) **99j:94030** 94A45

Perkowski, Marek (*with* Song, Ning) Minimization of exclusive sums of multi-valued complex terms for logic cell arrays. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka,* 1998), 32–37, *IEEE Computer Soc., Los Alamitos, CA,* 1998. (*see* **99i:03025**) 94C10

Perl, Teri *see* **Notable women in mathematics, 99d:01037**

Perla Menzala, Gustavo (*with* Davila, Mario) Unique continuation for solutions of a Timoshenko's equation. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 239–252. (Summary) **99b:73017** 73D35 (35Q72, 73K05)

— (*with* Bisognin, E.; Bisognin, V.) Asymptotic behavior in time of the solutions of a coupled system of KdV equations. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 353–370. (Spyridon Kamvissis) **99a:35221** 35Q53 (35B40)

— (*with* Zuazua, Enrique) Energy decay rates for the von Kármán system of thermoelastic plates. (English summary) *Differential Integral Equations* **11** (1998), *no.* 5, 755–770. (Reinhard Racke) **99m:35244** 35Q72 (73B30, 73K10)

— (*with* Astaburuaga, M. A.; Coimbra Charao, R.; Fernández, Claudio A.) Scattering frequencies for a perturbed system of elastic wave equations. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 52–75. (Akira Tsutsumi) **99a:35162** 35L50 (35B20, 47N20, 73D25)

— (*with* Bisognin, E.; Bisognin, V.; Zuazua, Enrique) On exponential stability for von Kármán equations in the presence of thermal effects. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 5, 393–416. (Vilmos Komornik) **99a:73081** 73K10 (35J99, 35Q72, 73B30, 73H10)

— (*with* Davila, Mario) Unique continuation for the Benjamin-Bona-Mahony and Boussinesq's equations. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 367–382. (Nikolay G. Kuznetsov) **99i:35138** 35Q53 (35K85, 76B15)

— (*with* Zuazua, Enrique) The beam equation as a limit of a 1-D nonlinear von Kármán model. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 47–52. 35Q72 (73D35, 73K05)

Perlat, J. P. (*with* Günther, Marco; Le Tallec, Patrick; Struckmeier, Jens) Numerical modeling of gas flows in the transition between rarefied and continuum regimes. (English summary) *Numerical flow simulation, I* (*Marseille,* 1997), 222–241, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig,* 1998. (Summary) **99i:76115** 76M25 (76P05)

Perlick, Volker (*with* Piccione, Paolo) A general-relativistic Fermat principle for extended light sources and extended receivers. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1461–1476. (Anna Germinario) **99h:58038** 58E10 (53C50, 58E30, 83C10)

Perlin, Marc (*with* Schultz, William W.; Vanden-Broeck, Jean-Marc; Jiang, Lei[2]) Highly nonlinear standing water waves with small capillary effect. (English summary) *J. Fluid Mech.* **369** (1998), 253–272. (Summary) **99f:76028** 76B15 (76B45, 76M25)

— (*with* Jiang, Lei[2]; Schultz, William W.) Period tripling and energy dissipation of breaking standing waves. (English summary) *J. Fluid Mech.* **369** (1998), 273–299. (Summary) **99f:76002** 76–05 (76B15)

— (*with* Jiang, Lei[2]; Lin, Huan-Jay; Schultz, William W.) Unsteady ripple generation on steep gravity-capillary waves. (English summary) *J. Fluid Mech.* **386** (1999), 281–304. 76B15 (76B45)

Perlin, Mark (*with* Lancia, Giuseppe) Genotyping of pooled microsatellite markers by combinatorial optimization techniques. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 291–314. (Summary) **99h:92018** 92D20 (90C27, 92C40)

Perline, Richard Mixed Poisson distributions tail equivalent to their mixing distributions. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 229–233. (Summary) **99b:60022** 60E05 (60G70, 62E15)

Perline, Ron (*with* Langer, Joel) Curve motion inducing modified Korteweg-de Vries systems. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 36–40. (Antoni Sym) **99g:53003** 53A04 (35Q53, 58F07)

Perlman, Michael D. (*with* Andersson, Steen A.; Madigan, David) An alternative Markov property for chain graphs. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR,* 1996), 40–48, *Morgan Kaufmann, San Francisco, CA,* 1996. (*see* **99a:68018**) 68T30

— (*with* Andersson, Steen A.; Madigan, David) A characterization of Markov equivalence classes for acyclic digraphs. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 505–541. (M. Studený) **99a:62076** 62H05 (05C90, 60K99, 68T30)

— (*with* Andersson, Steen A.) Normal linear regression models with recursive graphical Markov structure. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 2, 133–187. (Jack C. Lee) **99i:62126** 62H12 (62J05)

lópez-Permouth, Sergio R. *see* **López-Permouth, Sergio R.**

Permyakov, G. P. (*with* Danilov, N. N.) On the β-core in a dynamic quality game with two objective sets. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 13–20, *Yakut-sk. Gos. Univ., Yakutsk,* 1991. (*see* **99m:00021**) 90D25

Permyakov, P. P. *see* **Thayse, André et al., 99m:68190**

Pernarowski, Mark (*with* Dockery, Jack; Hutson, Vivian; Mischaikow, Konstantin) The evolution of slow dispersal rates: a reaction diffusion model. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 61–83. (Si Ning Zheng) **99j:92006** 92D10 (35K57)

— Fast and slow subsystems for a continuum model of bursting activity in the pancreatic islet. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1667–1687 (*electronic*). (John G. Milton) **99h:92011** 92C40 (65N99, 92C05, 92C30)

— (*with* Morita, Yoshihisa; Dockery, Jack) Homoclinic bifurcations in a diffusively coupled excitable system. (English summary) *Differential equations with applications to biology* (*Halifax, NS,* 1997), 397–407, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI,* 1999. (Summary) **99j:92001** 92C10 (34C23, 34C37)

Pernas, Louis About some operators in quaternionic analysis. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste,* 1994), 237–246 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste,* 1998. (Michael V. Shapiro) **99k:30077** 30G35 (58G03)

Pernaud-Thomas, Bernadette (*with* Gregoire, J. P.; Rose, Christian Joseph) Direct and iterative solvers for finite-element problems. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 39–53 (1998). (*see* **99a:65006**) 76M10 (65N30)

Perng, Jau-Woei (*with* Chao, Gong-Liang; Han, Kuang-Wei) Robust stability analysis of time-delay systems using parameter-plane and parameter-space methods. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1249–1262. 93D09

Perng, Ming-Hwei (*with* Chen, Chih-Yuan) Optimal anti-windup control of saturating discrete-time MIMO systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 933–959. 93B50 (93D15)

— (*with* Chen, Chih-Yuan) An optimization-based anti-windup design for MIMO control systems. (English summary) *Internat. J. Control* **69** (1998), *no.* 3, 393–418. 93B50 (93B40)

Pernice, Michael (*with* Walker, Homer F.) NITSOL: a Newton iterative solver for nonlinear systems. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 302–318 (*electronic*). (*see* **99a:65007**) 65H10 (65N22)

Pernici, M. (*with* Raciti, M.) Wilsonian flow and mass-independent renormalization. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 560–592. (Summary) **99g:81143** 81T17

Perny, Patrice (*with* Roubens, Marc) Fuzzy preference modeling. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 3–30, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA,* 1998. (*see* **99h:90001**) 90A05 (04A72, 90A06, 90C29, 90C70)

— (*with* Fodor, János C.; Orlovskiĭ, S. A.; Roubens, Marc) The use of fuzzy preference models in multiple criteria choice, ranking and sorting. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 69–101, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA,* 1998. (*see* **99h:90001**) 90C29 (04A72, 90A06, 90C70)

guidone Peroli, Giovanna *see* **Guidone Peroli, Giovanna**

Peroli, Giovanna Guidone *see* **Guidone Peroli, Giovanna**

Peron, Adriano (*with* Monti, Angelo) A logical characterization of systolic languages. (English summary) *STACS* 98 (*Paris,* 1998), 466–476, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin,* 1998. (Summary) **99g:68117** 68Q45 (03C85)

Perona, Paolo (*with* Porporato, Amilcare; Ridolfi, Luca) A simple experimental equation for the bursting cycle. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 3023–3026. 76F20

Perone, Jennifer (*with* Ben-Dor, Amir; Lancia, Giuseppe; Ravi, R.) Banishing bias from consensus sequences. (English summary) *Combinatorial pattern matching* (*Aarhus,* 1997), 247–261, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin,* 1997. (Summary) **99b:92022** 92D10 (68Q25, 92D20)

Perone Pacifico, M. (*with* Salinetti, G.; Tardella, Luca) A note on the geometry of Bayesian global and local robustness. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 51–64. (Marek Męczarski) **99h:62025** 62F15 (62F35)

Perotti, Alessandro Multidimensional residues and ideal membership. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 143–152. (Gábor Hetyei) **99e:32005** 32A27 (13P99)

Perotto, Simona (*with* Dagnino, Catterina; Santi, Elisabetta) Product formulas based on spline approximation for the numerical evaluation of certain 2-D CPV integrals. *Approximation and optimization, Vol. I* (*Cluj-Napoca,* 1996), 241–250, *Transilvania, Cluj-Napoca,* 1997. (M. I. Israilov) **99b:65027** 65D32 (65D07)

— (*with* Dagnino, Catterina; Santi, Elisabetta) Convergence of rules based on nodal splines for the numerical evaluation of certain 2D Cauchy principal value integrals. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 225–235. (S. Dubuc) **99f:65040** 65D32 (65D07)

Pérouème, M.-C. (*with* Kolev, B.) Recurrent surface homeomorphisms. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 161–168. (L. Guillou) **99j:58162** 58F22 (54H20)

Perov, A. I. Sufficient conditions for the stability of linear systems with constant coefficients in critical cases. I. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 80–89; *translation in Automat. Remote Control* **58** (1997), *no.* 12, *part* 1, 1906–1913 (1998). (Alexander O. Ignat'ev) **99a:34152** 34D20 (34A30)

— Sufficient conditions for the stability of linear systems with constant coefficients in critical cases. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1349–1357, 1438; *translation in Differential Equations* **33** (1997), *no.* 10, 1356–1363 (1998). (From the introduction) **99j:47027** 47A99 (47A10, 47N20)

— On a theorem of Ostrowski. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 77–82. (Anna Lee) **99k:15034** 15A45 (15A09)

— On Brauer's theorem and Cassini ovals. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 225–226; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 221–222. (Jacek Kabziński) **99c:15030** 15A42

Perov, V. P. (*with* Shcherbakova, I. V.) ★ Статистическая динамика дискретных систем. (Russian. Russian summary) [Statistical dynamics of discrete systems] *Izdat. MAI, Moscow,* 1997. 159 *pp. ISBN* 5-7035-0589-5 (From the preface) **99h:93098** 93E03 (93–02, 93B07, 93C55)

Perović, Aleksandar Vertices of bounding curves with minimal self-intersections. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 3–8. (Themis Koufogiorgos) **99g:53004** 53A04

Perregaard, Michael (*with* Clausen, Jens) Parallel branch-and-bound methods for the job-shop scheduling problem. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 137–160. (Summary) **99h:90053** 90B35 (90C27)

Perrier, Valérie (*with* Joly, Pascal; Maday, Yvon) A dynamical adaptive concept based on wavelet packet best bases: application to convection diffusion partial differential equations. (English summary) *Multiscale wavelet methods for partial differential equations*, 199–235, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA,* 1997. (Ruud van Damme) **99d:65287** 65M60 (42C15)

— (*with* Monasse, Pascal) Orthonormal wavelet bases adapted for partial differential equations with boundary conditions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 1040–1065 (*electronic*). (Andreas Rieder) **99c:35028** 35C10 (42C10, 65T10)

Perrin, Daniel (*with* Martin-Deschamps, Mireille) Quand un morphisme de fibrés dégénère-t-il le long d'une courbe lisse? [When does a bundle morphism degenerate

along a smooth curve?] *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 119–167, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Maria Luisa Spreafico) **99i:14035** 14H50 (14M05, 14M06)

Perrin, Dominique (*with* Pin, Jean-Éric) Semigroups and automata on infinite words. *Semigroups, formal languages and groups* (*York*, 1993), 49–72, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Dong Yang Long) **99f:68123** 68Q45 (20M35, 68R15)

— (*with* Béal, Marie-Pierre) Symbolic dynamics and finite automata. *Handbook of formal languages, Vol. 2*, 463–505, *Springer, Berlin*, 1997. (François Blanchard) **99a:68102** 68Q45 (03D05, 20M35, 54H20, 58F03, 58F08, 68Q68)

— (*with* Carton, Olivier) Chains and superchains for ω-rational sets, automata and semigroups. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 6, 673–695. (Summary) **99h:68100** 68Q45 (20M35, 68Q70)

— (*with* Bassino, Frédérique; Béal, Marie-Pierre) Super-state automata and rational trees. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 42–52, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68143** 68Q45 (68Q70)

Perrin, Martine Jacqueline (*with* Burdet, G.) Conformal implementation of the projective equivalence over statistical manifolds. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 7–17. (John W. Rice) **99f:53014** 53B05 (62B99)

Perrine, Serge Sur des équations diophantiennes généralisant celle de Markoff. (English and French summaries) [Diophantine equations that generalize Markoff's] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 1, 127–141. (Summary) **99e:11030** 11D25

Perrin-Riou, Bernadette p-adic L functions and trivial zeroes. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11118–11120. (Glenn Stevens) **99g:11085** 11G40 (11S25, 14G10, 19F15)

— Systèmes d'Euler p-adiques et théorie d'Iwasawa. (English and French summaries) [p-adic Euler systems and Iwasawa theory] *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 5, 1231–1307. (Amnon Besser) **99m:11124** 11R23 (11G40, 11R42)

— Zéros triviaux des fonctions L p-adiques, un cas particulier. (English and French summaries) [A particular case of the trivial zeros of p-adic L-functions] *Compositio Math.* **114** (1998), *no.* 1, 37–76. (Alexey A. Panchishkin) **99k:11097** 11G40 (11F67, 11F85, 11R23, 11R42, 19F15)

— *see also* **Satter prize [awarded to Bernadette Perrin-Riou]**

Perron, Pierre (*with* Ng, Serena) An autoregressive spectral density estimator at frequency zero for nonstationarity tests. (English summary) *Econometric Theory* **14** (1998), *no.* 5, 560–603. (Summary) **99e:62167** 62M15 (62M10)

Perrone, Domenico Homogeneous contact Riemannian three-manifolds. *Illinois J. Math.* **42** (1998), *no.* 2, 243–256. (Themis Koufogiorgos) **99a:53067** 53C30 (53C15)

Perronnet, Alain Interpolation transfinie sur le triangle, le tetraèdre et le pentaèdre. Application à la création de maillages et à la condition de Dirichlet. (English and French summaries) [Transfinite interpolation on the triangle, tetrahedron and pentahedron. Application to mesh generation and the Dirichlet condition] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 117–122. (Summary) **99g:41045** 41A65 (65D15)

Perrotta, Stefania (*with* Celada, Pietro; Treu, Giulia) Existence of solutions for a class of nonconvex minimum problems. *Math. Z.* **228** (1998), *no.* 1, 177–199. (Bernhard Kawohl) **99i:49002** 49J10 (49J45, 49Q10)

— (*with* Celada, Pietro) Functions with prescribed singular values of the gradient. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 383–396. (Alexander A. Pankov) **99f:49001** 49J10 (49Q10)

— (*with* Cellina, Arrigo) On the validity of the maximum principle and of the Euler-Lagrange equation for a minimum problem depending on the gradient. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1987–1998 (*electronic*). (Françoise Berquier) **99g:49018** 49K10 (49J45)

Perry, A. E. *see* **Barenblatt, G. I.**

Perry, G. P. (*with* Cooperstock, F. I.) Electrostatic equilibrium of two spherical charged masses in general relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1329–1345. (Summary) **99a:83042** 83C50

Perry, Louise P. (*with* Glendinning, Paul) Melnikov analysis of chaos in a simple epidemiological model. (English summary) *J. Math. Biol.* **35** (1997), *no.* 3, 359–373. (Hal Leslie Smith) **99e:92031** 92D30 (34C99, 58F13, 58F40)

Perry, Malcolm J. (*with* Costa, Miguel S.) Torons and black hole entropy. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 333–357. (Marco Spaans) **99f:83042** 83C57 (83E30)

Perry, Motty (*with* Aumann, Robert J.; Hart, Sergiu) The absent-minded driver. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 102–116. (*see* **99b:90162**) 90A05 (90D40)

— (*with* Aumann, Robert J.; Hart, Sergiu) The forgetful passenger. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 117–120. (*see* **99b:90162**) 90A05 (90D40)

— (*with* Reny, Philip J.) A general solution to King Solomon's dilemma. (English summary) *Games Econom. Behav.* **26** (1999), *no.* 2, 279–285. (Summary) **99k:90209** 90D06

Perry, Patrick (*with* Li, Mingche; Lin, Mao-Chao; Zhang, Zhen[1]) Runlength limited codes for single error-detection and single error-correction with mixed type errors. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1588–1592. 94A45

Perry, Peter A. (*with* Caudill, Lester F., Jr.; Schueller, Albert W.) Isospectral sets for fourth-order ordinary differential operators. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 935–966 (*electronic*). (Vjacheslav A. Yurko) **99c:34022** 34A55 (34B05, 34L40, 47E05)

— (*with* Brown, Russell M.; Shen, Zhongwei) The additive turbulent decomposition for the two-dimensional incompressible Navier-Stokes equations: convergence theorems and error estimates. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 139–155 (*electronic*). (Alain Miranville) **99i:35124** 35Q30 (65M70, 76D05, 76M25)

Pershin, V. D. (*with* Bukhbinder, I. L.; Toder, G. B.) On a canonical formulation of string theory in massive background fields. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 382–385, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T30

Persiano, G. (*with* De Santis, Alfredo; Di Crescenzo, Giovanni; Yung, Moti) Image density is complete for non-interactive-SZK (extended abstract). (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 784–795, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q15 (94A60)

Persiano, Pino (*with* Auletta, V.; Caragiannis, I.; Kaklamanis, Christos) Efficient wavelength routing in trees with low-degree converters. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 1–14, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99j:68100** 68R10 (05C05, 90B12)

— (*with* Erlebach, Thomas; Jansen, Klaus; Kaklamanis, Christos) An optimal greedy algorithm for wavelength allocation in directed tree networks. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 117–129, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68192** 68R10 (68Q25, 78A55, 90C35)

— (*with* Auletta, V.; Monti, Angelo; Parente, M.) A linear-time algorithm for the feasibility of pebble motion on trees. (English summary) *Algorithmica* **23** (1999), *no.* 3, 223–245. (Summary) **99k:68069** 68Q20 (68R10, 68U05)

Persidskiĭ, Konstantin Petrovich *see* **Amerbaev, V. M.**

Persidskii, S. K. One application of Lyapunov's matrix equation. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2518–2520. (Xiao Xin Liao) **99k:34112** 34D20 (15A24)

Persson, Lars-Erik (*with* Euler, Norbert; Lindblom, Ove; Euler, Marianna) The higher-dimensional Bateman equation and Painlevé analysis of nonintegrable wave equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2* (*Kyiv*, 1997), 185–192, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53 (35C99)

— (*with* Heinig, Hans P.; Kufner, Alois) Some generalisations and refinements of the Hardy inequality. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 271–288, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Tatjana Ostrogorski) **99e:26018** 26D15 (46E30)

— (*with* Cobos, Fernando; Peetre, Jaak) On the connection between real and complex interpolation of quasi-Banach spaces. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 1, 17–37. (Mieczysław Mastyło) **99g:46108** 46M35 (46A03)

— (*with* Barza, Sorina; Pečarić, Josip) Carlson type inequalities. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 121–135. (J. Sándor) **99m:26027** 26D15

— (*with* Kufner, Alois) Some difference inequalities with weights and interpolation. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 437–444. (Javier Soria) **99e:46036** 46E30 (26D15, 46M35)

— (*with* Cobos, Fernando) Real interpolation of compact operators between quasi-Banach spaces. (English summary) *Math. Scand.* **82** (1998), *no.* 1, 138–160. (Evgeniy I. Pustylnik) **99g:46109** 46M35 (47B07)

Persson, Leif (*with* Backlund, Ulf) Separable maximal plurisubharmonic functions in two complex variables. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 260–268. (M. Klimek) **99e:32018** 32F05 (32F07)

Persson, Svein-Arne Stochastic interest rate in life insurance: the principle of equivalence revisited. (English summary) *Scand. Actuar. J.* **1998**, *no.* 2, 97–112. (Summary) **99i:62245** 62P05

Perthame, B. (*with* Souganidis, Panagiotis E.) A limiting case for velocity averaging. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 591–598. (Carlo Cercignani) **99h:82064** 82C40 (35B27, 35Q99, 76P05)

Perthame, Y. B. (*with* Herrero, Henar; Lucquin-Desreux, Brigitte) Modelling of bubbly flows. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 947–952, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76T05 (76M25)

Perumpanani, Abbey J. (*with* Sherratt, Jonathan A.; Norbury, John) Mathematical modelling of capsule formation and multinodularity in benign tumour growth. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1599–1614. (Summary) **99g:92015** 92C50

Pervozvanskiĭ, Anatoliĭ Arkad'evich (*with* Freĭdovich, L. B.) On the astatism of nonlinear systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, *part* 1, 934–940. (Summary) **99j:93054** 93C10 (93D05)

Pervushin, V. N. (*with* Gogilidze, S. A.; Khvedelidze, A. M.; Mladenov, D. M.) On Hamiltonian framework for Bianchi IX cosmology. Abelianization of constraints. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 299–303, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 83C05 (83C20)

— (*with* Zarkevich, N. A.) Hamiltonian reduction for spherically symmetric gravity. (English summary) *Symmetry methods in physics, Vol. 2* (*Dubna*, 1995), 431–437, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 83C05 (58F40)

— (*with* Gyngazov, L. N.; Pawlowski, M.; Smirichinskii, V. I.) Proper time dynamics in general relativity and conformal unified theory. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1749–1773. (Alexander N. Petrov) **99j:83010** 83C05 (83C22, 83D05)

— (*with* Smirichinskii, V. I.) Conformal symmetry and Higgs effect in quantum cosmology. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 119–131. 83C45 (83F05)

— (*with* Papoyan, V. V.; Smirichinskii, V. I.) Conformal quantum cosmology: integrable models and Friedmann observables. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1908–1913. (Summary) **99i:83043** 83C45

— (*with* Pawlowski, M.; Papoyan, V. V.; Smirichinskii, V. I.) Conformal unification of general relativity and standard model. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 293–298. (Summary) **99m:81287** 81V22 (81V17, 83C99)

— (*with* Gogilidze, S. A.; Khvedelidze, A. M.) Reduction in systems with local symmetry. *Phys. Particles Nuclei* **30** (1999), *no.* 1, 66–86; *translated from Fiz. Èlementar. Chastits i Atom. Yadra* **30** (1999), *no.* 1, 160–209 (*Russian. English and Russian summaries*). (Frans Cantrijn) **99m:58088** 58F05 (70G50, 70H05, 70H35, 81T13)

— (*with* Smirichinskii, V. I.) Conformal symmetry and cosmological vacuum in unified theories. *Phys. Atomic Nuclei* **62** (1999), *no.* 1, 157–159; *translated from Yadernaya Fiz.* **62** (1999), *no.* 1, 163–165 (*Russian*). (Summary) **99j:81204** 81V17 (81V15, 83F05)

Perzhan, A. V. (*with* Moroşanu, Gheorghe) The singular limit of telegraph equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 91–106. (Ivan Straškraba) **99c:35240** 35Q60 (35B25, 35L50)

Perzyna, Piotr Constitutive modelling of dissipative solids for localization and fracture. (English summary) *Localization and fracture phenomena in inelastic solids* (*Udine*, 1997), 99–241, *CISM Courses and Lectures*, 386, *Springer, Vienna*, 1998. (Robin Olivian Simionescu-Panait) **99k:73007** 73B05 (73E50, 73E60, 73G20, 73M25, 73S10)

— *see also* **Localization and fracture phenomena in inelastic solids, 99g:73002**

Pesamosca, Giancarlo (*with* Mazzarella, Francesco) A graphic representation of the solution of the Weber problem in the space of the weights. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 3, 343–350. (Summary) **99a:90114** 90B80 (90C20)

— On the solution of a class of location problems. A sample problem. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 1, 33–42. (Summary) **99a:90117** 90B85 (90C30)

Pesando, Igor A κ gauge fixed type IIB superstring action on $AdS_5 \times S_5$. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 2, 13 *pp.* (*electronic*). (Giulio Bonelli) **99k:83125** 83E30 (81T30)

Pesaran, M. Hashem (*with* Binder, Michael) Multivariate linear rational expectations models: characterization of the nature of the solutions and their fully recursive computation. (English summary) *Econometric Theory* **13** (1997), *no.* 6, 877–888. (D. E. A. Giles) **99i:62251** 62P20

— (*with* Binder, Michael) Decision making in the presence of heterogeneous information and social interactions. (English summary) Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 1027–1052. (Summary) **99i:90006** 90A05

— (*with* Ruge-murcia, Francisco J.) Analysis of exchange-rate target zones using a limited-dependent rational-expectations model with jumps. (English summary) *J. Bus. Econom. Statist.* **17** (1999), *no.* 1, 50–66. (Summary) **99i:62255** 62P20

Pesarin, Fortunato An almost exact solution for the multivariate Behrens-Fisher problem. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 85–100 (1998). 62H15

Pescador Romo, Hortensia (*with* López Estrada, Jesús) On the numerical singularity of a matrix. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 205–209, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 65F10

Pescar, Virgil On the univalence of an integral operator outside the unit disk. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 2, 325–328 (1998). (Eugen I. Drăghici) **99g:30017** 30C45

— Some integral operators and their univalence. (English summary) *J. Anal.* **5** (1997), 157–162. (T. N. Shanmugam) **99m:30024** 30C45

Pesce, Hubert Quelques applications de la théorie des représentations en géométrie spectrale. (Italian summary) [Some applications of the theory of representations in spectral geometry] *Rend. Mat. Appl.* (7) **18** (1998), *no.* 1, 1–63. (Carolyn Gordon) **99j:58215** 58G25 (53C20)

— *see also* **Bibliography: Pesce, Hubert, (99b:53003)**

Pesch, Michael Two-sided Gröbner bases in iterated Ore extensions. (English summary) *Symbolic rewriting techniques* (*Ascona*, 1995), 225–243, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Kirby C. Smith) **99h:16042** 16S36 (16D25, 68Q40)

Pesch, Werner (*with* Plaut, Emmanuel) Extended weakly nonlinear theory of planar nematic convection. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1747–1769. 76A15 (76E15, 82D30)

Peschanskiĭ, V. G. *see* **Reminiscences about Il'ya Mikhaĭlovich Lifshits**

Peschel, Ingo (*with* Kaulke, Matthias) A DMRG study of the q-symmetric Heisenberg chain. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 727–734. 82B20 (81R50)

— (*with* Kaulke, Matthias; Legeza, Örs) Density-matrix spectra for integrable models. (English summary) *Ann. Phys.* (8) **8** (1999), *no.* 2, 153–164. (Summary) **99j:82027** 82B23 (82B20)

Peschke, Julie *see* **Fritsch, Rudolf, 99i:05079**

Pesci, Adriana I. (*with* Goldstein, Raymond E.; Shelley, Michael J.) Instabilities and singularities in Hele-Shaw flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2701–2723. (Summary) **99g:76064** 76E99 (76D99, 76S05)

Pesendorfer, Wolfgang (*with* Fudenberg, Drew; Levine, David K.) When are nonanonymous players negligible? (English summary) *J. Econom. Theory* **79** (1998), *no.* 1, 46–71. (Summary) **99a:90243** 90D10

Pesenson, I. Z. Sampling of Paley-Wiener functions on stratified groups. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 271–281. (J. Musielak) **99j:41024** 41A17 (43A30)

Peshkin, Leonid (*with* Meuleau, Nicolas; Hauskrecht, Milos; Kim, Kee-Eung; Kaelbling, Leslie Pack; Dean, Thomas; Boutilier, Craig) Solving very large weakly coupled Markov decision processes. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 165–172, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C40

Pešić, P. D. Secrets, symbols, and systems: parallels between cryptanalysis and algebra, 1580–1700. (English summary) *Isis* **88** (1997), *no.* 4, 674–692. (Summary) **99a:01010** 01A45

— Newton and hidden symmetry. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 151–153. (Summary) **99a:70012** 70D05 (70–03)

Pesin, Yakov B. ★ Dimension theory in dynamical systems. (English summary) Contemporary views and applications. Chicago Lectures in Mathematics. *University of Chicago Press, Chicago, IL*, 1997. xii+304 *pp. ISBN* 0-226-66221-7; 0-226-66222-5 (Irene Hueter) **99b:58003** 58–02 (28A78, 54F45, 54H20, 58F11, 58F15, 58F99)

— (*with* Jiang, Miaohua) Equilibrium measures for coupled map lattices: existence, uniqueness and finite-dimensional approximations. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 675–711. (Bernard Schmitt) **99f:58126** 58F11

Peskin, Charles S. (*with* Arthurs, Kayne M.; Moore, Leon C.; Pitman, E. Bruce; Layton, H. E.) Modeling arteriolar flow and mass transport using the immersed boundary method. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 402–440. 76M25 (76Z05, 92C35)

Peskin, Michael E. (*with* Mirabelli, Eugene A.) Transmission of supersymmetry breaking from a four-dimensional boundary. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 065002, 14 *pp.* (Summary) **99k:81263** 81T30 (81R40)

Peškir, Goran (*with* Graversen, S. E.) On the Russian option: the expected waiting time. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 564–575; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 3, 416–425 (1998). (Christian Hipp) **99i:90015** 90A09 (60J60)

— (*with* Shiryaev, A. N.) On the Brownian first-passage time over a one-sided stochastic boundary. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 591–602; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 3, 444–453 (1998). (H.-J. Engelbert) **99j:60123** 60J65 (60G40, 60G44)

— The best Doob-type bounds for the maximum of Brownian paths. (English summary) *High dimensional probability* (*Oberwolfach*, 1996), 287–296, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Peter Imkeller) **99i:60157** 60J65 (60E15, 60G40)

— (*with* Pedersen, J. L.) Computing the expectation of the Azéma-Yor stopping times. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 2, 265–276. (Jia Gang Wang) **99c:60172** 60J60 (60G40)

— (*with* Graversen, S. E.) Optimal stopping in the $L \log L$-inequality of Hardy and Littlewood. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 2, 171–181. (H.-J. Engelbert) **99c:60089** 60G40 (60E15, 60J65)

— Optimal stopping inequalities for the integral of Brownian paths. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 244–254. (Aimé Lachal) **99c:60182** 60J65 (60E15, 60G40)

— The integral analogue of the Hardy-Littlewood $L \log L$-inequality for Brownian motion. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 137–148. (Dominique Lépingle) **99a:60045** 60G40 (60E15, 60J65)

— *see also* **Functional analysis, 99h:00028**

Pesotan, H. (*with* Hedayat, A. S.) Designs for two-level factorial experiments with linear models containing main effects and selected two-factor interactions. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 109–124. (Summary) **99c:62214** 62K15

Pesquera, Luis (*with* Noriega, J. M.; Rodríguez, Miguel Angel[1]) Propagation of trigger waves in a disordered medium. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 12 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 82D30 (35Q99)

Pesquet-Popescu, Beatrice Wavelet packet decompositions for the analysis of 2-D fields with stationary fractional increments. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 1033–1039. 94A12 (94A11)

Pessoa, Osvaldo, Jr. Can the decoherence approach help to solve the measurement problem? (English summary) *Synthese* **113** (1997/98), *no.* 3, 323–346. (Pekka Johannes Lahti) **99d:81020** 81P15

Pestano-Gabino, Celina (*with* González-Concepción, Concepción) Rationality, minimality and uniqueness of representation of matrix formal power series. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 1, 23–38. (Summary) **99d:41050** 41A58

Pestien, Victor (*with* Wang, Xiaobo) Markov-achievable payoffs for finite-horizon decision models. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 101–118. (O. L. V. Costa) **99a:90229** 90C40 (60K15, 90C39)

Pestka, Grzegorz Variational solution of the Dirac-Coulomb equation using explicitly correlated wavefunctions. Matrix elements and radial integrals. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6243–6251. (M. Znojil) **99e:81265** 81V45 (42C15, 49R05, 81–08)

Pestman, Wiebe R. ★ Mathematical statistics. (English summary) An introduction. de Gruyter Textbook. *Walter de Gruyter & Co., Berlin*, 1998. x+545 *pp. ISBN* 3-11-015356-4 (Publisher's description) **99e:62001a** 62–01

— (*with* Alberink, Ivo B.) ★ Mathematical statistics. (English summary) Problems and detailed solutions. de Gruyter Textbook. *Walter de Gruyter & Co., Berlin*, 1998. x+325 *pp. ISBN* 3-11-015358-0 (Publisher's description) **99e:62001b** 62–01

Pestov, A. B. Gauge symmetry and general relativity. (English summary) *Symmetry methods in physics, Vol. 2* (*Dubna*, 1995), 438–442, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 83C99 (53C80)

— (*with* Barbashov, B. M.) The Weyl non-abelian gauge field and the Thomas precession. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2117–2121. (Alfredo Macías) **99j:83055** 83C99

Pestov, I. Modelling structured geothermal systems. II. Application of linear stability analysis. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 4, 1–10. 86A60

Pestov, Vladimir G. (*with* Hofmann, Karl H.; Morris, Sidney A.; Nickolas, Peter) Small large subgroups of a topological group. (English summary) *Note Mat.* **14** (1994), *no.* 2, 161–165 (1997). (Michael Tkačenko) **99a:22005** 22A05 (54H11)

— (*with* Leĭderman, Arkadiĭ Grigor'evich; Levin, Michael A.) On linear continuous open surjections of the spaces $C_p(X)$. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 206–215 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54C35 (54F45)

— (*with* Megrelishvili, Michael G.; Nickolas, Peter) Uniformities and uniformly continuous functions on locally connected groups. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 279–283. (Summary) **99e:22005** 22A10

— (*with* Leĭderman, Arkadiĭ Grigor'evich; Morris, Sidney A.) The free abelian topological group and the free locally convex space on the unit interval. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 529–538. (A. I. Danilenko) **99a:22006** 22A05

— Epimorphisms of Hausdorff groups by way of topological dynamics. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 2, 257–262. (K. H. Hofmann) **99a:22007** 22A05 (18A20, 54H20)

— Abelian topological groups without irreducible Banach representations. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 343–349, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (L. A. Kurdachenko) **99h:22001** 22A25

— (*with* Bartocci, Claudio; Bruzzo, Ugo; Hernández Ruipérez, Daniel) Quotient supermanifolds. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 107–120. (Fausto Ongay-Larios) **99i:58009** 58A50

— (*with* Shakhmatov, Dmitriĭ B.) A relatively free topological group that is not varietal free. (English summary) *Colloq. Math.* **77** (1998), *no.* 1, 1–8. (Oleg G. Okunev) **99d:22004** 22A05 (54H11)

— (*with* Morris, Sidney A.) On Lie groups in varieties of topological groups. *Colloq. Math.* **78** (1998), *no.* 1, 39–47. (Dikran Dikranjan) **99i:22001** 22A05 (22E65)

— (*with* Morris, Sidney A.) A topological generalization of the Higman-Neumann-Neumann theorem. (English summary) *J. Group Theory* **1** (1998), *no.* 2, 181–187. (Michael Tkačenko) **99b:54063** 54H11 (22A05)

— Independence of almost periodicity upon the topology of the acting group. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 223–225. (Jimmie D. Lawson) **99i:54055** 54H20 (22A99)

— On free actions, minimal flows, and a problem by Ellis. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4149–4165. (Manuel Sanchis) **99b:54069** 54H20

Pestre, Dominique *see* **Science in the twentieth century, 99i:00012**

Peszat, Szymon (*with* Zabczyk, Jerzy) Stochastic evolution equations with a spatially homogeneous Wiener process. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 2, 187–204. (Zdzisław Brzeźniak) **99k:60166** 60H15 (35K55, 35R60, 60G60)

— (*with* Seidler, Jan) Maximal inequalities and space-time regularity of stochastic convolutions. (English summary) *Math. Bohem.* **123** (1998), *no.* 1, 7–32. (Ralf Manthey) **99e:60140** 60H15

Petakos, Kyriakos (*with* Tsapelas, Theothosios) Reliability analysis for systems in a random environment. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 1021–1031. (Carl M. Harris) **99b:90066** 90B25 (60K10, 62N05)

Petcu, Alexandru (*with* Popovici, I. Mircea; Beg, Ismat) Dual of a locally convex space of type (L). (English summary) *Indian J. Math.* **38** (1996), *no.* 3, 219–222. (Summary) **99c:46004** 46A20

Pete, Gábor (*with* Balogh, József) Random disease on the square grid. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 409–422. (Lars Holst) **99k:60014** 60C05

Petean, Jimmy Computations of the Yamabe invariant. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 6, 703–709. (Santiago R. Simanca) **99k:53100** 53C25 (58E11)

Petek, Peter (*with* Škapin-Rugelj, Meta) The dynamics of $\lambda + z + \exp(z)$. *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 38–63. (I. N. Baker) **99b:58199** 58F23 (30D05)

Petek, Tatjana Mappings preserving spectrum and commutativity on Hermitian matrices. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 167–191. (Jaroslav Zemánek) **99m:15026** 15A57

Peter, Ingo J. (*with* Emch, Gérard G.) Quantum Anosov flows: a new family of examples. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4513–4539. (Władysław Adam Majewski) **99i:46052** 46L55 (58F17, 81T20)

Peter, Jacques Non-linear implicit scheme using Newton's method for the numerical solution of the Navier-Stokes equations. (English and French summaries) *Aerosp. Sci. Technol.* **2** (1998), *no.* 3, 157–166. (Summary) **99d:76069** 76M20

Peter, Manfred Dirichlet series associated with polynomials. *Acta Arith.* **84** (1998), *no.* 3, 245–278. (Matti Jutila) **99c:11114** 11M41 (11N45)

— (*with* Lucht, Lutz G.) On the characterization of exponential polynomials. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 3, 201–210. (Maurice Mignotte) **99e:11019** 11B37 (39A10)

Peter, Patrick (*with* Gangui, Alejandro; Gunzig, Edgard) Fermionic currents in cosmic strings. (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 205–216. (*see* **99k:00032**) 83F05 (83E30)

Peterfreund, N. (*with* Guez, A.) Structure-based neural network learning. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 12, 1143–1149. (Summary) **99m:94070** 94C05 (68T05)

— (*with* Baram, Y.) Convergence analysis of nonlinear dynamical systems by nested Lyapunov functions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1179–1184. (Summary) **99c:34099** 34D05 (93D05)

Peterhof, Daniela (*with* Sandstede, Björn; Scheel, Arnd) Exponential dichotomies for solitary-wave solutions of semilinear elliptic equations on infinite cylinders. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 266–308. (Junjie Tang) **99b:35057** 35J60 (34D99, 34G20, 35B32, 58F39)

— (*with* Recke, Lutz) Abstract forced symmetry breaking and forced frequency locking of modulated waves. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 233–262. (Norman Dancer) **99e:58042** 58E09 (34C23, 47H15)

Péterkenne, J. M. (*with* Fisette, P.) Contribution to parallel and vector computation in multibody dynamics. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 717–728. 70–08 (70E99)

Pétermann, Y.-F. S. Is the error term wild enough? (English summary) *Analysis (Munich)* **18** (1998), *no.* 3, 245–256. (Cécile Dartyge) **99i:11086** 11N37 (26A99)

— (*with* Rémy, Jean-Luc) Golomb's self-described sequence and functional-differential equations. (English summary) *Illinois J. Math.* **42** (1998), *no.* 3, 420–440. (V. Siva Rama Prasad) **99k:11035** 11B83 (11B37, 11N37, 34K15)

— (*with* Balakrishnan, U.) Asymptotic estimates for a class of summatory functions. (English summary) *J. Number Theory* **70** (1998), *no.* 1, 1–36. (Wolfgang Müller) **99d:11105** 11N37

— (*with* Balakrishnan, U.) Errata to: "The Dirichlet series of $\zeta(s)\zeta^{\alpha}(s+1)f(s+1)$: on an error term associated with its coefficients" [Acta Arith. **75** (1996), no. 1, 39–69; MR 97k:11131]. *Acta Arith.* **87** (1999), *no.* 3, 287–289. (D. R. Heath-Brown) **99m:11105** 11N37 (11M41)

Peternell, Martin (*with* Pottmann, Helmut) Designing rational surfaces with rational offsets. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 275–286, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 65D17 (41A20)

— (*with* Pottmann, Helmut; Ravani, Bahram) Approximation in line space—applications in robot kinematics and surface reconstruction. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 403–412, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15 (65D17)

— (*with* Pottmann, Helmut) Applications of Laguerre geometry in CAGD. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 2, 165–186. (Antonio López-Carmona) **99c:65037** 65D17 (65Y25)

— (*with* Pottmann, Helmut) A Laguerre geometric approach to rational offsets. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 3, 223–249. (Ljubiša M. Kocić) **99c:65036** 65D17

Peternell, Thomas (*with* Wilson, P. M. H.) Threefolds with extremal Chern classes. *Higher-dimensional complex varieties (Trento, 1994)*, 357–378, *de Gruyter, Berlin*, 1996. (Ulf Persson) **99d:14033** 14J30

— Manifolds of semi-positive curvature. *Transcendental methods in algebraic geometry (Cetraro, 1994)*, 98–142, *Lecture Notes in Math.*, 1646, *Springer, Berlin*, 1996. (Jarosław A. Wiśniewski) **99b:32046** 32J27 (14J40)

— (*with* Campana, Frédéric) Towards a Mori theory on compact Kähler threefolds. I. (English summary) *Math. Nachr.* **187** (1997), 29–59. (Ulf Persson) **99f:32046** 32J17 (32J27)

— Moishezon manifolds and rigidity theorems. (English summary) *Bayreuth. Math. Schr. No.* 54 (1998), 1–108. (Marco Andreatta) **99k:14062** 14J30 (14J40, 32J18, 32J25)

— (*with* Oguiso, Keiji) Calabi-Yau threefolds with positive second Chern class. (English summary) *Comm. Anal. Geom.* **6** (1998), *no.* 1, 153–172. (Mark Gross) **99c:14052** 14J32

— (*with* Campana, Frédéric; Demailly, Jean-Pierre) The algebraic dimension of compact complex threefolds with vanishing second Betti number. (English summary) *Compositio Math.* **112** (1998), *no.* 1, 77–91. (Sándor J. Kovács) **99e:32047** 32J17

— (*with* Campana, Frédéric) Rational curves and ampleness properties of the tangent bundle of algebraic varieties. (English summary) *Manuscripta Math.* **97** (1998), *no.* 1, 59–74. (Massimiliano Mella) **99g:14051** 14J60 (14J30, 14M20)

Peters, G. W. M. (*with* Galaktionov, O. S.; Meleshko, V. V.; Meijer, H. E. H.) Stokes flow in a rectangular cavity with a cylinder. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 2, 81–102. (Summary) **99i:76037** 76D07

— (*with* Anderson, P. D.; Galaktionov, O. S.; van de Vosse, F. N.; Meijer, H. E. H.) Analysis of mixing in three-dimensional time-periodic cavity flows. (English summary) *J. Fluid Mech.* **386** (1999), 149–166. 76R99

Peters, Gunnar (*with* Helsing, Johan) Integral equation methods and numerical solutions of crack and inclusion problems in planar elastostatics. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 965–982 (*electronic*). (Summary) **99j:73114** 73V20 (65N99, 65R20, 73C02, 73M25)

Peters, Hans (*with* Klaus, Bettina) Maastricht in science from Minckelers to Debye: some historical notes. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 91–106, *Brepols, Turnhout*, 1998. (Wilfried Schröder) **99m:01108** 01A99 (01A70)

— (*with* Klaus, Bettina; Storcken, Ton) Strategy-proof reallocation of an infinitely divisible good. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 455–470, *Brepols, Turnhout*, 1998. (Summary) **99j:90005** 90A08 (90A15, 90A80)

— (*with* Perea y Monsuwé, A.) Limit consistent solutions in noncooperative games. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 109–129. (Summary) **99h:90124** 90D10

— (*with* Klaus, Bettina; Storcken, Ton) Strategy-proof division with single-peaked preferences and individual endowments. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 297–311. (Summary) **99a:90022** 90A06

Peters, James F., III Time and clock information systems: concepts and roughly fuzzy Petri net models. (English summary) *Rough sets in knowledge discovery*, 2, 385–417, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68T99 (68Q90)

Peters, Jörg (*with* Reif, Ulrich) The 42 equivalence classes of quadratic surfaces in affine n-space. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 459–473. (Hoàng Lê Minh) **99e:14063** 14P05 (14J99, 14Q10, 65Y25)

— (*with* Reif, Ulrich) Analysis of algorithms generalizing B-spline subdivision. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 728–748 (*electronic*). (Ljubiša M. Kocić) **99e:65027** 65D17 (65D07, 68U07)

Peters, Joseph G. (*with* Kane, Jave O.) Line broadcasting in cycles. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 207–228. (Jian-Min Li) **99e:90036** 90B12 (05C38, 05C90, 68M10)

— (*with* Fujita, Satoshi; Pérennes, Stéphane) Neighbourhood gossiping in hypercubes. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 189–195. (Summary) **99f:68015** 68M10

— *see also* **Network communications broadcasting and gossiping, 99a:68012**

Peters, Marc A. (*with* Iglesias, Pablo A.) On the induced norms of discrete-time and hybrid time-varying systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 9, 811–833. (Summary) **99f:93091** 93C55 (93C30)

Peters, T. J. (*with* Andersson, L.-E.; Stewart, N. F.) Selfintersection of composite curves and surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 507–527. (Summary) **99b:65190** 65Y25 (68U05)

Peters, Terry M. Introduction to the Fourier transform. *The Fourier transform in biomedical engineering*, 1–24, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99c:94011**) 94A12 (42A38, 94A11)

— The 2-D Fourier transform. *The Fourier transform in biomedical engineering*, 53–88, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99c:94011**) 94A12 (92C55, 94A11)

— (*with* Bates, J. H. T.) The discrete Fourier transform and the fast Fourier transform. *The Fourier transform in biomedical engineering*, 175–194, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99c:94011**) 94A12 (65T20)

— *see also* **Fourier transform in biomedical engineering, 99c:94011**

von Petersdorff, Tobias (*with* Schwab, Christoph) Fully discrete multiscale Galerkin BEM. (English summary) *Multiscale wavelet methods for partial differential equations*, 287–346, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Ke Chen) **99a:65158** 65N30

Petersen, Antje (*with* Allouche, Jean-Paul; von Haeseler, Fritz; Lange, Ehler; Skordev, Gencho S.) Linear cellular automata and automatic sequences. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1577–1592. (Valérie Berthé) **99a:11023** 11B85 (11T06, 12Y05, 68Q80)

— (*with* von Haeseler, Fritz) Automaticity of rational functions. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 219–229. (Jean-Paul Allouche) **99g:11029** 11B85 (03D20, 68Q45)

Petersen, Gordon Marshall *see* **Burkill, H., 99k:01052**

Petersen, Holger Homomorphic images of sentential forms and terminating grammars (extended abstract). (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 448–457, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q45

— (*with* Robson, John Michael) Efficient simulations by queue machines. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 884–895, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68053** 68Q05

Petersen, Ian R. (*with* Savkin, Andrey V.) A method for robust stabilization related to the Popov stability criterion. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1105–1115. 93D21 (93D10)

— (*with* Savkin, Andrey V.) Robust state estimation for uncertain systems with averaged integral quadratic constraints. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 923–939. 93E12

— (*with* Savkin, Andrey V.) Robust H^∞ control of uncertain systems with structured uncertainty. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 14 *pp.* (*electronic*). (Summary) **99h:93041** 93B36 (93D21)

— (*with* Moheimani, S. O. Reza; Savkin, Andrey V.) Robust filtering, prediction, smoothing, and observability of uncertain systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 446–457. (Jacob Hammer) **99f:93134** 93E11 (93B35)

— (*with* McFarlane, Duncan C.; Rotea, Mario A.) Optimal guaranteed cost control of discrete-time uncertain linear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 649–657. (Andrzej Świerniak) **99f:93092** 93C55 (49N35, 93C41)

— (*with* Savkin, Andrey V.) Robust stabilization of discrete-time uncertain nonlinear systems. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 87–107. (Vladimir G. Sragovich) **99b:93044** 93D21 (93C41, 93C55)

Petersen, Karl E. (*with* Schmidt, Klaus[1]) Symmetric Gibbs measures. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 7, 2775–2811. (B. M. Gurevich) **99a:28016** 28D05

— (*with* Adams, Terrence M.) Binomial-coefficient multiples of irrationals. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 269–278. (Karma Dajani) **99d:28026** 28D05

Petersen, Peter, V (*with* Shteingold, S. D.; Wei, Guofang) Comparison geometry with integral curvature bounds. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 6, 1011–1030. (Joseph E. Borzellino) **99c:53022** 53C20 (53C21)

— (*with* Wei, Guofang) Relative volume comparison with integral curvature bounds. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 6, 1031–1045. (Joseph E. Borzellino) **99c:53023** 53C20 (53C21)

Petersen, Quentin N. (*with* Veldsman, Stefan) Composition near-rings. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 357–372, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Silvia Pellegrini) **99a:16044** 16Y30

Petersen, Sönke On the Brjuno condition. I. *Progress in holomorphic dynamics*, 6–16, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (Pei-Chu Hu) **99j:58172** 58F23

Petersen, Vigdis A combination of two methods in frequency analysis: the $R(N)$-process. *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 387–398, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (From the text) **99i:94003** 94A11

— Zeros of Szegő polynomials used in frequency analysis. *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 399–408, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Lars F. Villemoes) **99m:94003** 94A11 (42C05, 94A12)

Petersen, W. P. A general implicit splitting for stabilizing numerical simulations of Itô stochastic differential equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1439–1451 (*electronic*). (Suresh V. Lawande) **99h:65231** 65U05 (65C05, 82C80)

Peterson, Allan C. (*with* Merdivenci Atici, Ferhan) Bounds for positive solutions for a focal boundary value problem. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 99–107. (Summary) **99k:39028** 39A10

— (*with* Anderson, Douglas Robert; Avery, Richard I.) Three positive solutions to a discrete focal boundary value problem. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 103–118. (Allan C. Peterson) **99b:39002** 39A10

— A quadratic functional for a third order linear difference equation. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 463–472. (Summary) **99a:39025** 39A10

— (*with* Avery, Richard I.) Multiple positive solutions of a discrete second order conjugate problem. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 1–12. (P. W. Eloe) **99i:39001** 39A10

Peterson, Christopher S. Quasicomplete intersections, powers of ideals, and deficiency modules. *J. Algebra* **204** (1998), *no.* 1, 1–14. (A. Prabhakar Rao) **99m:14091** 14M10 (14B15, 14M06)

Peterson, Douglas Cardinal functions on ultraproducts of Boolean algebras. *J. Symbolic Logic* **62** (1997), *no.* 1, 43–59. (Martin Weese) **99e:03024** 03C20 (03C55, 06E05)

— Reaping numbers and operations on Boolean algebras. *Algebra Universalis* **39** (1998), *no.* 3-4, 103–119. (From the introduction) **99d:03043** 03E05 (03G05, 06E05)

Peterson, Franklin P. (*with* Nguyễn Hữ'u Việt Hu'ng) Spherical classes and the Dickson algebra. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 253–264. (Guillermo Moreno) **99i:55021** 55Q10 (55Q45, 55T15)

Peterson, Ivars ★ The jungles of randomness. (English summary) A mathematical safari. *John Wiley & Sons, Inc., New York*, 1998. xiv+239 *pp. ISBN* 0-471-16449-6 (Zeno G. Swijtink) **99b:00002** 00A08 (00A05, 00A69)

— ★ The mathematical tourist. (English summary) New and updated snapshots of modern mathematics. Revised reprint of the 1988 original. *W. H. Freeman and Company, New York*, 1998. *xviii*+266 *pp. ISBN* 0-7167-3250-5 (E. J. Barbeau) **99d:00001** 00A05 (00A08)

Peterson, Janet S. (*with* Layton, William J.; Lee, Hyesuk Kwon) Numerical solution of the stationary Navier-Stokes equations using a multilevel finite element method. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 1–12 (*electronic*). (Summary) **99d:65323** 65N30 (76D05, 76M10)

Petersson, B. (*with* Bilke, S.; Burda, Zdzisław; Krzywicki, Andrzej; Tabaczek, J.; Thorleifsson, Gudmar) 4d simplicial quantum gravity: matter fields and the corresponding effective action. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 279–286. (Summary) **99d:83030** 83C27 (83C45)

Petersson, Holger P. (*with* Racine, Michel L.) An elementary approach to the Serre-Rost invariant of Albert algebras. *Indag. Math. (N.S.)* **7** (1996), *no.* 3, 343–365. (B. N. Allison) **99j:17045** 17C40

— (*with* Racine, Michel L.) The Serre-Rost invariant of Albert algebras in characteristic three. *Indag. Math. (N.S.)* **8** (1997), *no.* 4, 543–548. (B. N. Allison) **99j:17046** 17C40

— Albert division algebras in characteristic three contain cyclic cubic subfields. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 1, 40–42. (R. Iordănescu) **99m:17038** 17C20

Petersson, Joakim (*with* Sigmund, Ole) Slope constrained topology optimization. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 8, 1417–1434. (Christian Zillober) **99e:73073** 73K40 (73V05, 90C90)

Peterzil, Ya'acov Zil'ber's trichotomy and o-minimal structures (extended abstract). *Logic Colloquium '95* (*Haifa*), 273–274, *Lecture Notes Logic*, 11, *Springer, Berlin*, 1998. (*see* **99m:03003**) 03C40

Pethő, Attila (*with* Lettl, Günter; Voutier, Paul M.) On the arithmetic of simplest sextic fields and related Thue equations. *Number theory* (*Eger*, 1996), 331–348, *de Gruyter, Berlin*, 1998. (Author's review (P.V.)) **99h:11031** 11D41 (11R27, 11Y50)

— (*with* Nakamula, Ken) Squares in binary recurrence sequences. *Number theory* (*Eger*, 1996), 409–421, *de Gruyter, Berlin*, 1998. (Paul M. Voutier) **99g:11020** 11B37 (11D61)

— (*with* Stein, Joachim; Weis, Thomas; Zimmer, Horst G.) Computing the torsion group of elliptic curves by the method of Gröbner bases. *Symbolic rewriting techniques* (*Ascona*, 1995), 245–265, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Joseph H. Silverman) **99e:11071** 11G05 (11Y50, 13P10)

— (*with* Tichy, Robert F.) On two-parametric quartic families of Diophantine problems. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 2, 151–171. (Yuri Bilu) **99e:11031** 11D25 (11D57, 11J86, 11R27)

— (*with* Zimmer, Horst G.) On a system of norm-equations over cyclic cubic number fields. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 317–332. (Michel Olivier) **99k:11168** 11R16 (11G05, 11R27, 11R29)

— (*with* Dujella, Andrej) A generalization of a theorem of Baker and Davenport. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 291–306. (Yann Bugeaud) **99g:11035** 11D09 (11D61)

— (*with* Lettl, Günter; Voutier, Paul M.) Simple families of Thue inequalities. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1871–1894. (Michael A. Bennett) **99h:11074** 11J25 (11D75)

— *see also* **Number theory, 99a:11004**

Petic, C. (*with* Lozovanu, D. D.) Algorithms for finding the minimum cycle mean in the weighted directed graph. (English summary) *Comput. Sci. J. Moldova* **6** (1998), *no.* 1, 27–34. 05C85 (68R10)

Petingi, L. (*with* Boesch, F.; Suffel, C.) On the characterization of graphs with maximum number of spanning trees. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 155–166. (Prabir Das) **99c:05167** 05C75 (05C35)

gegout-Petit, A. *see* **Gegout-Petit, A.**

Petit, Annie Comte et les mathématiques. [Comte and mathematics] *Les philosophes et les mathématiques*, 174–192, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

Petit, Antoine (*with* Meyer, Raphaël) Decomposition of TrPTL formulas. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 418–427, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q60 (68Q10)

— (*with* Gastin, Paul; Meyer, Raphaël) A (non-elementary) modular decision procedure for LTrL. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 356–365, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q60 (03B25, 03B35, 03B45)

— (*with* Meyer, Raphaël) Expressive completeness of LTrL on finite traces: an algebraic proof. (English summary) *STACS* 98 (*Paris*, 1998), 533–543, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68106** 68Q45 (68Q10, 68Q60)

— (*with* Guaiana, G.; Meyer, Raphaël; Weil, Pascal) An extension of the wreath product principle for finite Mazurkiewicz traces. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 277–282. (Summary) **99e:68042** 68Q10 (68Q45, 68Q70)

Petit, Frédérique (*with* Carmona, Philippe; Yor, Marc) On the distribution and asymptotic results for exponential functionals of Lévy processes. (English summary) *Exponential functionals and principal values related to Brownian motion*, 73–130, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (Yasushi Ishikawa) **99h:60144** 60J30

— On principal values of perturbed Brownian motion. *Exponential functionals and principal values related to Brownian motion*, 229–242, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (Paul McGill) **99k:60207** 60J65 (60J55)

— Time reversal and reflected diffusions. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 1, 25–53. (S. Ramasubramanian) **99c:60173** 60J60 (60H10, 60J55, 60J65)

Petit, Jean Louis (*with* Cuer, Michel) On the inverse seismic problem for horizontally layered media: subsidiary study. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 275–293, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (Summary) **99c:86003** 86A15 (73D20, 73D50)

Petit, Jean-Marc Symplectic integrators: rotations and roundoff errors. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 1, 1–21. (Summary) **99f:70004** 70-08 (65G05, 70F15, 70H05)

— (*with* Hénon, Michel) Good rotations. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 420–435. (Summary) **99f:70003** 70-08 (65D32, 70F15)

Petit, Jean-Pierre (*with* Midy, Pierre) Scale invariant cosmology. (English summary) *Internat. J. Modern Phys. D* **8** (1999), *no.* 3, 271–289. 83F05

Petit, P. (*with* Elezgaray, J.) Wavelet methods for a Stefan problem. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 129–136, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 65N30 (80A22)

Petit, Philippe On the optimal control of implicit systems. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 49–81 (*electronic*). (Sergey V. Nikitin) **99b:49023** 49K15

Petit, Robert (*with* El Soufi, Ahmad) Applications harmoniques, applications pluriharmoniques et existence de 2-formes parallèles non nulles. (English summary) [Harmonic and pluriharmonic maps and existence of nonzero parallel 2-forms] *Comment. Math. Helv.* **73** (1998), *no.* 1, 1–21. (Uwe Semmelmann) **99a:58044** 58E20 (53C55)

Petitet, Antoine (*with* Quintana-Ortí, Gregorio; Quintana Ortí, Enrique S.) Efficient solution of the rank-deficient linear least squares problem. (English summary) *SIAM J.*

Sci. Comput. **20** (1999), *no.* 3, 1155–1163 (*electronic*). (Jin Yun Yuan) **99m:65086** 65F30

Petitjean, Sylvain A computational geometric approach to visual hulls. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 407–436. (Summary) **99e:68163** 68U05 (52B55)

Petitjeans, Philippe (*with* Chen, Ching-Yao; Meiburg, Eckart; Maxworthy, Tony) Miscible quarter five-spot displacements in a Hele-Shaw cell and the role of flow-induced dispersion. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1705–1716. 76D99 (76–05, 76S05)

Petitot, Jean La neige est blanche ssi. . . . Prédication et perception. (English and French summaries) [Snow is white iff. . . . Predication and perception] *Math. Inform. Sci. Humaines No.* 140 (1997), 35–50. (Summary) **99a:03065** 03G30

Petkov, Milko Georgiev (*with* Ivanov, Ivan Ganchev) Numerical computation of eigenvalues of Hamiltonian matrices. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 339–346. (Hongyuan Zha) **99j:65060** 65F15 (15A18)

— (*with* El-Sayed, Salah M.; Ivanov, Ivan Ganchev) A new modification of the Rojo method for solving symmetric circulant five-diagonal systems of linear equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 35–44. (Summary) **99d:65089** 65F05 (65F50)

— (*with* Zarnan, J.; Ivanov, Ivan Ganchev) Two-sided iteration methods for matrix inversion. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 129–130, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65F20 (65F30)

Petkov, Petko Khr. (*with* Konstantinov, M. M.; Gu, Da-Wei; Postlethwaite, Ian) Two-dimensional measures of reachability for linear time-invariant systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 195–215. 93B05 (93B40)

— (*with* Konstantinov, M. M.; Stanislavova, M. O.) Perturbation bounds and characterisation of the solution of the associated algebraic Riccati equation. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 7–31. (Jaroslav Zemánek) **99m:15014** 15A24

Petkov, Vesselin M. Sur la conjecture de Lax et Phillips pour un nombre fini d'obstacles strictement convexes. [On the Lax-Phillips conjecture for finitely many strictly convex obstacles] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. XI*, 15 *pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Viorel Iftimie) **99f:35155** 35P25 (35L20, 47A40, 47F05)

— (*with* Popov, Georgi St.) Semi-classical trace formula and clustering of eigenvalues for Schrödinger operators. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 1, 17–83. (G. V. Rozenblyum) **99c:47073** 47F05 (35S05, 47G30, 81Q20)

Petkova, Valentina B. (*with* Furlan, P.; Ganchev, A. Ch.) Fusion rules for admissible representations of affine algebras: the case of $A_2^{(1)}$. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 645–668. (Mark A. Walton) **99k:81091** 81R10 (17B67)

— (*with* Behrend, Roger E.; Pearce, Paul A.; Zuber, Jean-Bernard) On the classification of bulk and boundary conformal field theories. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 163–166. (Isabel P. Ennes) **99m:81214** 81T40 (81R10)

Petković, Ljiljana D. (*with* Tričković, Slobodan B.; Petković, Miodrag S.) Slope methods of higher order for the inclusion of complex roots of polynomials. (English summary) *Reliab. Comput.* **3** (1997), *no.* 4, 349–362. (De Ren Wang) **99c:65093** 65G10 (65H05)

— (*with* Petković, Miodrag S.) ★ Complex interval arithmetic and its applications. (English summary) Mathematical Research, 105. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. 284 *pp. ISBN* 3-527-40134-2 (G. Alefeld) **99m:65103** 65G10 (65–02)

— (*with* Petković, Miodrag S.) Inequalities in circular arithmetic: a survey. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 325–340, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (G. Alefeld) **99d:65150** 65G10

— (*with* Petković, Miodrag S.; Herceg, Djordje) Point estimation of a family of simultaneous zero-finding methods. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 1–12. (Nikolay Vesselinov Kyurkchiev) **99h:65105** 65H05

— Method of curvature in circular complex arithmetic. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 119–127. (Summary) **99h:65097** 65G10 (30E10, 65D20)

Petković, Miodrag S. (*with* Herceg, Djordje; Ilić, Snežana M.) ★ Point estimation theory and its applications. *University of Novi Sad, Institute of Mathematics, Novi Sad*, 1997. vi+168 *pp. ISBN* 86-7031-003-1 (W. Govaerts) **99f:65078** 65H10

— (*with* Herceg, Djordje) Börsch-Supan-like methods: point estimation and parallel implementation. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 327–341. (Summary) **99e:65086** 65H05 (65Y05)

— (*with* Petković, Ljiljana D.; Tričković, Slobodan B.) Slope methods of higher order for the inclusion of complex roots of polynomials. (English summary) *Reliab. Comput.* **3** (1997), *no.* 4, 349–362. (De Ren Wang) **99c:65093** 65G10 (65H05)

— (*with* Petković, Ljiljana D.) ★ Complex interval arithmetic and its applications. (English summary) Mathematical Research, 105. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. 284 *pp. ISBN* 3-527-40134-2 (G. Alefeld) **99m:65103** 65G10 (65–02)

— (*with* Petković, Ljiljana D.) Inequalities in circular arithmetic: a survey. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 325–340, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (G. Alefeld) **99d:65150** 65G10

— (*with* Herceg, Djordje; Ilić, Snežana M.) Point estimation and some applications to iterative methods. (English summary) *BIT* **38** (1998), *no.* 1, 112–126. (De Ren Wang) **99e:65087** 65H05 (65G10)

— (*with* Petković, Ljiljana D.; Herceg, Djordje) Point estimation of a family of simultaneous zero-finding methods. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 1–12. (Nikolay Vesselinov Kyurkchiev) **99h:65105** 65H05

— (*with* Herceg, Djordje) On the convergence of Wang-Zheng's method. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 123–135. (Summary) **99a:65069** 65H05

— (*with* Tričković, Slobodan B.; Herceg, Djordje) On Euler-like methods for the simultaneous approximation of polynomial zeros. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 295–315. (Iliya Makrelov) **99e:65088** 65H05 (30C15)

— (*with* Ilić, Snežana M.; Herceg, Djordje) On the convergence of Halley-like method. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 61–70. (Iliya Makrelov) **99m:65108** 65H05

— (*with* Tričković, Slobodan B.; Herceg, Djordje) Higher order Euler-like methods. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 129–136. (Nikolay Vesselinov Kyurkchiev) **99j:65090** 65H05

— (*with* Herceg, Djordje; Ilić, Snežana M.) Safe convergence of simultaneous methods for polynomial zeros. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 313–331. (T. L. Freeman) **99j:65091** 65H05

— (*with* Lakić, Slobodan) On the matrix square root. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 3, 173–182. (George D. Poole) **99c:65059** 65F10 (15A24)

Petkovšek, Marko (*with* Abramov, Sergei A.; Paule, Peter) q-hypergeometric solutions of q-difference equations. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 3–22. (Alexei Zhedanov) **99f:39001** 39A10 (05A30, 33D15)

Petőcz, Eva (*with* Armero, Francisco) Formulation and analysis of conserving algorithms for frictionless dynamic contact/impact problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 269–300. (Summary) **99b:73038** 73V05 (73D05, 73T05)

Petocz, P. (*with* Cohen, G. L.) Proof by sporting analogy. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 5, 242–245. 05A19

Petrakis, Emmanuel (*with* Rasmusen, Eric) Defining the mean-preserving spread: 3-pt versus 4-pt. (English summary) *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 53–58, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A46

Petrakis, Minos A. Discrepancy norms on the space $M[0,1]$ of Radon measures. *Illinois J. Math.* **42** (1998), *no.* 4, 601–616. (D. N. Zarnadze) **99k:46040** 46E27 (28C05, 46B99, 47B07, 47B38)

Petrakov, Sergei N. (*with* Burkov, Vladimir N.; Novikov, Dmitriĭ Aleksandrovich) Mechanism design in economies with private goods: truthtelling and feasible message sets. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 71–78. 90A53

Petrank, Erez (*with* Goldreich, Oded; Ostrovsky, Rafail) Computational complexity and knowledge complexity. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1116–1141 (*electronic*). (Johan Håstad) **99f:68097** 68Q25 (68Q15)

Petras, Knut (*with* Brass, Helmut; Fischer, Jan-Wilhelm) The Gaussian quadrature method. *Abh. Braunschweig. Wiss. Ges.* **47** (1996), 115–150 (1997). (I. P. Mysovskikh) **99a:65032** 65D32

— Guassian versus optimal integration of analytic functions. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 231–245. (Dimitar Kolev Dimitrov) **99g:41039** 41A55 (65D32)

— On the complexity of self-validating numerical integration and approximation of functions with singularities. (English summary) *J. Complexity* **14** (1998), *no.* 3, 302–318. (Klaus Ritter) **99i:65156** 65Y20 (65D15, 65D30, 65G10)

— Quadrature error estimates involving moduli of continuity of derivatives. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 707–722. (Dumitru Acu) **99f:41036** 41A55 (65D32)

Petravchuk, A. On associative algebras which are sum of two almost commutative subalgebras. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 191–206. (Dinh Van Huynh) **99k:16040** 16N40 (16D25)

Petre, Constantin On the relation between a theorem of Picone and the Cesàro-Stolz theorem. (Romanian. English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 2, 281–290. 26A06

— *see also* **Addenda: "On the relation between a theorem of Picone and the Cesàro-Stolz theorem"**

Petre, Stavre (*with* Ion, Virlan) Almost symplectic tensor systems. I. (Romanian. English summary) *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 76–85. 53C15

Petrean, Alexa L. Application of the queueing theory to discrete event simulation. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 1, 81–88. 90B22 (60K25)

Petrella, Lea (*with* Geweke, John) Prior density-ratio class robustness in econometrics. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 469–478. 62P20 (62F15, 62F35)

Petrenko, B. V. (*with* Kurdachenko, Leonid A.; Subbotin, Igor Ya.) Direct decompositions in Artinian modules over FC-hypercentral groups. (English summary) Algebra Meeting (Rio de Janeiro, 1996). *Mat. Contemp.* **14** (1998), 89–99. (B. Amberg) **99k:20009** 20C07 (20F17, 20F24)

Petrescou, Theodoros (*with* Athanassopoulos, Konstantin; Strantzalos, Polychronis) A class of flows on 2-manifolds with simple recurrence. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 618–635. (Krzysztof Ciesielski) **99d:58141** 58F25 (54H20)

Petrić, Jovan *see* **Krčevinac, Slobodan, 99m:01073**

Petričević, Zlata On S-closed and extremally disconnected fuzzy topological spaces. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 37–45. 54A40 (54D20, 54G05)

Petrie, E. (*with* Ihrig, E.) A new family of one factorizations of the complete graph derived from even starters. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 107–115. (Summary) **99j:05153** 05C70

— (*with* Ihrig, E.) Divisibility and structure constraints on automorphism groups of almost perfect 1-factorizations of K_{2n}. (English summary) *J. Combin. Des.* **6** (1998), *no.* 5, 355–380. (Martin Bača) **99f:05091** 05C70

Petrie, Ted (*with* Masuda, Mikiya; Moser-Jauslin, Lucy) Equivariant algebraic vector bundles over cones with smooth one-dimensional quotient. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 379–414. (Amnon Neeman) **99k:14079** 14L30 (14J60)

— (*with* Masuda, Mikiya; Moser-Jauslin, Lucy) Invariants of equivariant algebraic vector bundles and inequalities for dominant weights. *Topology* **37** (1998), *no.* 1, 161–177. (Kayo Masuda) **99c:14064** 14L30 (14D25, 20G05)

Petrila, Titus (*with* Trif, Damian) Numerical alternative method scheme for Burgers' equation. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 87–96. (Dennis C. Jespersen) **99c:65188** 65M70 (65N35)

— (*with* Borşa, Emilia) Spectral methods for elliptic problems. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 101–109, *Univ.* "*Aurel Vlaicu*" *Arad, Arad*, 1997. (*see* **99i:00014**) 35J20 (65N35)

— (*with* Borşa, Emilia) Spectral methods for hyperbolic problems. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 111–118, *Univ.* "*Aurel Vlaicu*" *Arad, Arad*, 1997. (*see* **99i:00014**) 35L99 (65M70)

— (*with* Borşa, Emilia) Spectral methods for parabolic problems. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 119–128, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 35K10 (65M70)

— (*with* Trif, Damian) An improved viscous step for a Navier-Stokes algorithm in complex geometries. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 311–318. (Timothy Nigel Phillips) **99j:76097** 76M25 (65M99, 76D05)

Petrina, D. Ya. (*with* Cercignani, Carlo; Gerasimenko, V. I.) ★ Many-particle dynamics and kinetic equations. (English summary) Translated from the Russian manuscript by K. Petrina and V. Gredzhuk. Mathematics and its Applications, 420. *Kluwer Academic Publishers Group, Dordrecht*, 1997. viii+244 *pp. ISBN* 0-7923-4696-3 (Reinhard Illner) **99c:82057** 82C40 (35Q99, 45K05, 76P05)

— (*with* Gerasimenko, V. I.) On the generalized kinetic equation. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 7–12. (Rossana Marra) **99c:82059** 82C40 (45K05)

Petrina, K. *see* **Cercignani, Carlo et al., 99c:82057**

Petrini, Michela (*with* Pasquinucci, Andrea) On the evaluation of Compton scattering amplitudes in string theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4717–4757. (Summary) **99h:81181** 81T30

Petrini, Milena Homogenization of linear and nonlinear ordinary differential equations with time depending coefficients. (English summary) *Rend. Sem. Mat. Univ. Padova* **99** (1998), 133–159. (Fu Ru Jiang) **99g:34118** 34E05 (35B27)

Petrishin, R. I. (*with* Lakusta, L. M.) On the integral manifolds of oscillating systems with slowly changing frequencies. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **50** (1998), *no.* 1, 87–93; *translation in Ukrainian Math. J.* **50** (1998), *no.* 1, 100–107. (Summary) **99m:34098** 34C30 (34C29)

Petrishin, Ya. R. (*with* Samoĭlenko, Anatoliĭ Mikhaĭlovich) Boundary value problems with parameters for multifrequency oscillatory systems. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 581–589; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 643–652 (1998). (Summary) **99e:34042** 34C15 (34B15, 34C29)

Petrişor, Emilia Heteroclinic connections in the dynamics of a reversible magnetic-type vector field. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 319–327. (Benedict J. Leimkuhler) **99b:58175** 58F14 (34C37, 58F40, 76X05, 78A30)

Petrogradskiĭ, V. M. Growth of polynilpotent varieties of Lie algebras, and rapidly increasing entire functions. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 6, 119–138; *translation in Sb. Math.* **188** (1997), *no.* 6, 913–931. (Alexander V. Il'tyakov) **99a:17008** 17B01 (17B30)

cufaro Petroni, Nicola *see* **Cufaro Petroni, Nicola**

Petronilho, Gerson Global solvability on the torus for certain classes of operators in the form of a sum of squares of vector fields. *J. Differential Equations* **145** (1998), *no.* 1, 101–118. (Vladimir Tulovsky) **99f:35023** 35H05 (11Z05, 35K99)

— (*with* Himonas, Alexandros Alexandrou) Global hypoellipticity for sums of squares of vector fields of infinite type. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 145–155. (Peter R. Popivanov) **99m:35034** 35H05

— Regularity up to the boundary of solutions of the Dirichlet problem for certain degenerate elliptic equations. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 25–37. (Nguyễn Minh Trí) **99c:35082** 35J70 (35B65)

— (*with* Bergamasco, Adalberto P.) Closedness of the range for vector fields on the torus. (English summary) *J. Differential Equations* **154** (1999), *no.* 1, 132–139. (Summary) **99m:35006** 35A05 (35D05, 46F10)

Petronilho, J. (*with* Álvarez-Nodarse, Renato; Marcellán, Francisco) On some polynomial mappings for measures. Applications. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics* (*Leganés*, 1996), 1–21, *Univ. Carlos III Madrid, Leganés*, 1997. (Summary) **99a:33003** 33C45 (42C05)

— (*with* Álvarez-Nodarse, Renato; Marcellán, Francisco) WKB approximation and Krall-type orthogonal polynomials. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 1, 27–58. (Pascal Maroni) **99k:42049** 42C05 (33C45)

— (*with* da Fonseca, C. M.) Path polynomials of a circuit: a constructive approach. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 313–325. (Summary) **99f:15034** 15A57 (05C50)

Petronio, Carlo (*with* Benedetti, Riccardo) ★ Branched standard spines of 3-manifolds. Lecture Notes in Mathematics, 1653. *Springer-Verlag, Berlin*, 1997. viii+132 *pp. ISBN* 3-540-62627-1 (Sergej V. Matveev) **99a:57012** 57N10 (57R15)

— ★ A theorem of Eliashberg and Thurston on foliations and contact structures. Appunti dei Corsi Tenuti da Docenti della Scuola. [Notes of Courses Given by Teachers at the School] *Scuola Normale Superiore, Pisa*, 1997. 64 *pp.* (Hansjörg Geiges) **99k:57059** 57R30 (53C12, 53C15)

— A combinatorial approach to 3-manifolds. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 177–186. (Sergey S. Anisov) **99e:57031** 57N10

Petropoulos, P. M. (*with* Kiritsis, Elias; Kounnas, Costas; Rizos, J.) Universality properties of $N = 2$ and $N = 1$ heterotic threshold corrections. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 141–171. (Summary) **99b:81196** 81T30

Petropoulos, Peter G. (*with* Yang, Baolin) Plane-wave analysis and comparison of split-field, biaxial, and uniaxial PML methods as ABCs for pseudospectral electromagnetic wave simulations in curvilinear coordinates. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 747–774. (Summary) **99i:78008** 78–08 (78A40, 78A45)

Petroşanu, Dana About some examples in supermathematics. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. D Mech. Engrg.* **58/59** (1996/97), *no.* 1-4, 11–16. (Summary) **99a:58008** 58A50

Petrosjan, L. A. *see* **Petrosyan, L. A.**

Petrosjan, Leon A. *see* **Petrosyan, L. A.**

Petrosky, Tomio (*with* Prigogine, Ilya) The extension of classical dynamics for unstable Hamiltonian systems. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 1–44. (Summary) **99h:82050** 82C05 (70H05)

— (*with* Prigogine, Ilya) Laws of nature, probability and time symmetry breaking. *Generalized functions, operator theory, and dynamical systems* (*Brussels*, 1997), 153–170, *Chapman & Hall/CRC Res. Notes Math.*, 399, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:00030**) 81P05

Petrosyan, L. A. (*with* Zakharov, Viktor) ★ Mathematical models in environmental policy analysis. Translated from the Russian by Y. M. Donets. *Nova Science Publishers, Inc., Commack, NY*, 1997. 246 *pp. ISBN* 1-56072-515-X (Alexander Abakumov) **99d:90001** 90–02 (49N55, 90D25, 92D25)

— (*with* Zenkevich, N. A.; Semina, E. A.) ★ Теория игр. (Russian. Russian summary) [Game theory] *"Vyssh. Shkola", Moscow; Knizhnyĭ Dom "Universitet", Moscow*, 1998. 301 *pp. ISBN* 5-06-001005-8; 5-8013-0007-4 (Publisher's description) **99c:90001** 90–01 (90Dxx)

— Agreeable solutions in differential games. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 165–177. (H. Abou-Kandil) **99f:90207** 90D25 (90D05, 90D12)

— (*with* Ayoshin, Dmitri A.; Tanaka, Tamaki) Construction of a time consistent core in multichoice multistage games. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 198–206. (Summary) **99j:90132** 90D20 (90D12)

— *see also* **Yearbook: Game theory and applications, 99k:90006** *and* **Game theory and applications, 99k:90203**

Petrou, Maria (*with* Stoddart, Andrew J.; Kittler, Josef) On the foundations of probabilistic relaxation with product support. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 29–48. (Summary) **99c:68220** 68T10

Petrov, A. A. *see* **Petrov, Aleksandr A.**

Petrov, A. G. A proof of the instability of the equilibrium position of a ball in a nonhomogeneous potential flow. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 6, 769–772; *translation in Dokl. Phys.* **43** (1998), *no.* 4, 256–259. (From the text) **99k:76032** 76B40 (70E15)

— Exact solutions of a boundary value problem on the unsteady flow of a viscoplastic medium between two plates. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 343–347; *translation in Dokl. Phys.* **43** (1998), *no.* 9, 591–595. 76A10 (73E60)

Petrov, A. I. (*with* Zubov, A. G.; Novikov, P. V.) On the problem of estimating periodic perturbations. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 21–28. 93E10 (93E12)

Petrov, A. N. *see* **Petrov, Aleksandr Nikolaevich**

Petrov, Aleksandr A. (*with* Olenev, N. N.; Pospelov, I. G.) Control of the ecological consequences of economic growth. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 8, 17–32. 92D40 (90A30)

Petrov, Aleksandr Nikolaevich Asymptotically flat spacetimes at spatial infinity. II. Gauge invariance of the integrals of motion in the field approach. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 2, 239–261. (Summary) **99d:83036** 83C30

Petrov, E. (*with* Géradin, M.) Finite element theory for curved and twisted beams based on exact solutions for three-dimensional solids. I. Beam concept and geometrically exact nonlinear formulation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 43–92. (Summary) **99j:73098a** 73V05 (65N30, 73C50, 73K05)

— (*with* Géradin, M.) Finite element theory for curved and twisted beams based on exact solutions for three-dimensional solids. II. Anisotropic and advanced beam models. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 93–127. (Summary) **99j:73098b** 73V05 (65N30, 73C50, 73K05)

Petrov, G. I. (*with* Kosseva, A.; Kostadinov, St. I.) Impulse moving mirror model and impulse partial wave equation in a Hilbert space. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 59–68. (Florin Iacob) **99d:35173** 35R10 (34G20, 35L05, 35Q99)

— (*with* Kosseva, A.; Kostadinov, St. I.) Impulse moving mirror and a differentiability of generalized solution of impulse partial wave equation in a Banach space. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 69–75. (Florin Iacob) **99d:35174** 35R10 (34G20, 35L05, 35Q99)

Petrov, G. S. On the nonoscillation of elliptic integrals. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 47–51, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 262–265 (1998). (Lubomir Gavrilov) **99a:34087** 34C05 (33E05, 34C10, 58F21)

Petrov, Ivan I. An inverse scattering problem in determining of the electrical conductivity in a two-dimensional domain. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 71–73, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 78A45 (35J05, 35R30)

Petrov, K. È. (*with* Ovezgel'dyev, A. O.) Formation of multifactor estimates with interval specification of factor preference. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 5, 85–92, 188–189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 680–685 (1998). 62H25 (90A05)

Petrov, N. G. On an estimate for the norm of an operator inverse to an integral operator. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 53–56, *Yakut. sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 47G10 (45P05, 47A30)

Petrov, N. N. *see* **Petrov, Nikolaĭ Nikolaevich**

Petrov, Nikolaĭ Nikandrovich ★ Теория игр. (Russian. English and Russian summaries) [Game theory] *Izdatel'stvo Udmurtskogo Universiteta, Izhevsk*, 1997. 197 *pp. ISBN* 5-7029-0169-X 90–01 (90Dxx)

— Simple pursuit of rigidly linked evaders. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 89–96; *translation in Automat. Remote Control* **58** (1997), *no.* 12, *part* 1, 1914–1919 (1998). (Summary) **99k:90227** 90D26

— Multiple capture in the Pontryagin example with phase constraints. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 747–754; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 725–732 (1998). (È. G. Al'brekht) **99e:90123** 90D25 (49K15)

— Group pursuit with phase restrictions. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 179–188. (A. M. Tarasyev) **99d:90153** 90D26

— A linear problem of evasion from several pursuers. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 41–43. (Summary) **99k:90228** 90D26

Petrov, Nikolaĭ Nikolaevich (*with* Fomin, F. V.; Golovach, P. A.) Search problems on 1-skeletons of regular polyhedrons. *Game theory and applications, III*, 27–37, *Nova Sci. Publ., Commack, NY*, 1997. (Miroslav D. Ašić) **99b:90178** 90D46 (90B40, 90D26)

— (*with* Fomin, F. V.; Golovach, P. A.) Search problems on 1-skeletons of regular polyhedrons. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 101–111. (Bernhard von Stengel) **99h:90129** 90D43 (05C99, 90B40)

Petrov, Nikolay N. *see* **Petrov, Nikolaĭ Nikandrovich**

Petrov, P. K. The Green function for the problem of diffraction by a cylinder. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 47–51, 140. 78A45

Petrov, P. P. (*with* Sofronov, E. T.) On conditions for boundedness of solutions and stability in the large of a control system. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 56–61, *Yakut.sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 34D20 (34C11, 93D05)

Petrov, Petar P. Three-convex approximation by free knot splines in $C[0, 1]$. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 247–258. (Ewald Quak) **99d:41019** 41A15 (41A29)

Petrov, V. A. *see* **Petrov, Vasil Angelov**

Petrov, V. G. *see* **Petrov, Valko Georguiev**

Petrov, V. V. (*with* Kurkin, A. A.) Hamiltonian description of barotropic Rossby waves. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **39** (1996), *no.* 9, 1067–1074; *translation in Radiophys. and Quantum Electronics* **39** (1996), *no.* 9, 711–716 (1997). (Summary) **99b:76021** 76C20 (76U05)

— Normal canonical variables for barotropic Rossby waves. (Russian) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 8, 1070–1073; *translation in Radiophys. and Quantum Electronics* **41** (1998), *no.* 8, 724–726 (1999). 76C20

Petrov, Valerīĭ Alekseevich Approximate computation of path integrals with respect to the Poisson measure, based on the diagram method. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 1, 5–8, 139. (Summary) **99b:58047** 58D30 (65D30, 81S40)

— (*with* Zavadskiĭ, V. L.) Approximate calculation of Wiener path integrals of a special form. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 30–34, 140. (Summary) **99j:28013** 28C20 (65D30)

— (*with* Zhidkov, E. P.; Likhoded, N. A.) Rapidly converging compound formulas for the approximate computation of Wiener functional integrals. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1621–1625; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1551–1555. (Summary) **99j:65254** 65U05 (60H05)

Petrov, Valko Georguiev (*with* Nikolov, S. G.; Edissonov, I.) Reconstruction of polynomial right-hand side of one-dimensional dynamical system on given integral curve. (English and Russian summaries) *J. Theoret. Appl. Mech.* **27** (1997), *no.* 3, 4, 30–38. (Summary) **99k:34027** 34A55 (34A05)

— (*with* Nikolov, S. G.; Edissonov, I.) Reconstruction of polynomial right-hand sides of two-dimensional dynamical system on given integral curve. (English and Russian summaries) *J. Theoret. Appl. Mech.* **27** (1997), *no.* 4, 5, 45–54. (Summary) **99k:34028** 34A55

Petrov, Vasil Angelov (*with* Proytcheva, Valentina) Existence of positive solutions of neutral differential equations with "maxima". (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 19–31. (F. Vogl) **99c:34187** 34K40 (34K25)

— Nonoscillatory solutions of neutral differential equations with "maxima". (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 129–142. (Yuan Hong Yu) **99c:34164** 34K15 (34C10, 34K40)

— (*with* Bainov, Drumi Dimitrov; Dimitrova, Margarita B.) Oscillatory properties of solutions of impulsive differential equations with several retarded arguments. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 201–212. (Eduardo Liz) **99c:34154** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov; Dimitrova, Margarita B.) Sufficient conditions for existence of bounded nonoscillating solutions of neutral operator-differential equations. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 39–47. (Summary) **99d:34127** 34K15 (34K30, 34K40)

Petrova, E. V. Dynamics of a system of ordinary differential equations that is associated with the telegraph equation. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 29–31. (From the text) **99j:34068** 34C99 (34C20, 35L99)

Petrova, Guergana (*with* Boyanov, Borislav D.) Numerical integration over a disc. A new Gaussian quadrature formula. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 39–59. (Hans Strauss) **99j:41048** 41A55 (65D32)

Pétrova, Irina (*with* Ivanov, Stefan P.) Riemannian manifold in which the skew-symmetric curvature operator has pointwise constant eigenvalues. (English summary) *Geom. Dedicata* **70** (1998), *no.* 3, 269–282. (Andrea Spiro) **99d:53034** 53C20 (53C21)

— *see also* **Vodnev, V. T. et al., 99g:00019**

Petrova, S. S. (*with* Demidov, Sergeĭ S.; Simonov, N. I.) Ordinary differential equations. *Mathematics of the 19th century*, 83–196, *Birkhäuser, Basel*, 1998. (*see* **99d:01022**) 34–03 (01A55)

— (*with* Solov′ev, A. D.) The calculus of finite differences. *Mathematics of the 19th century*, 261–310, *Birkhäuser, Basel*, 1998. (*see* **99d:01022**) 01A55

Petrova, Svetozara (*with* Hope, Harry; Paprzycki, Marcin) Parallel performance of a direct elliptic solver. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 310–318, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65N06 (65Y05)

Petrova, T. F. (*with* Dorogovtsev, A. Ya.) Bounded solutions of a Riccati-type equation in a Banach space. (Russian) *Mathematics today '95, No. 10* (*Russian*), 19–25, *Nauchn. Izdat. "TViMS", Kiev*, 1995. (From the text) **99b:34106** 34G20

Petrova, Zornitza A. (*with* Mishev, Dimitar P.) Oscillation properties of a class of nonlinear hyperbolic equations with constant deviations. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 85–87, *Heron Press, Sofia*, 1998. (Summary) **99g:35138** 35R10 (35B05, 35L15)

— (*with* Mishev, Dimitar P.) Oscillation properties of the neutral Timoshenko beam equation. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 74–76, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 35Q72 (35B05, 73D35, 73K05)

Petrovački, Dušan (*with* Pavlica, Vladimir) About simple fuzzy control and fuzzy control based on fuzzy relational equations. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 41–47. 93C42

Petrović, Ljiljana Causality and Markovian reductions and extensions of a family of Hilbert spaces. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 12 *pp.* (*electronic*). (George Yin) **99i:93066** 93E10 (60B99, 93B15)

Petrovic, Srdjan (*with* Octavio, Alfredo) Joint spectrum and nonisometric functional calculus. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 197–201, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Summary) **99e:47011** 47A13 (47A45, 47A60)

Petrovskiĭ, Ivan Georgievich ★ Selected works. Part I. (English summary) Systems of partial differential equations and algebraic geometry. Introductory material by A. N. Kolmogorov and O. A. Oleinik. Translated from the Russian by G. A. Yosifian [G. A. Iosif′yan]. With a foreword by Lars Gårding. Edited and with a preface by Oleinik. Classics of Soviet Mathematics, 5. *Gordon and Breach Publishers, Amsterdam*, 1996. *x*+557 *pp. ISBN* 2-88124-978-7 (Editors) **99m:01106a** 01A75

— ★ Selected works. Part II. (English summary) Differential equations and probability theory. Introductory material by P. S. Alexandrov [Pavel Sergeevich Aleksandrov] and O. A. Oleinik. Translated from the Russian by G. A. Yosifian [G. A. Iosif′yan]. With a foreword by Lars Gårding. Edited and with a preface by Oleinik. Classics of Soviet Mathematics, 5. *Gordon and Breach Publishers, Amsterdam*, 1996. *xii*+501 *pp. ISBN* 2-88124-979-5 (Editors) **99m:01106b** 01A75

Petrovskii, S. V. (*with* Malchow, H.) A minimal model of pattern formation in a prey-predator system. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 8, 49–63. 92D25 (92D40)

Petrowsky, I. G. *see* **Petrovskiĭ, Ivan Georgievich**

Petruccione, Francesco (*with* Breuer, Heinz-Peter) Relativistic formulation of quantum-state diffusion. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 33–52. (Summary) **99k:82049** 82C10 (82C31)

Petruşel, Adrian $\mathscr{A}$-fixed point theorems for locally contractive multivalued operators and applications to fixed point stability. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 79–92. (Livia D'Apuzzo) **99f:54059** 54H25 (34A60, 47H04, 47H10, 54C60, 54H20)

— Continuous selections for multivalued operators with decomposable values. *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 97–100. (Longin Rybiński) **99h:47059** 47H04 (54C65)

— A generalization of Krasnoselskii's fixed point theorem. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A (Arad*, 1996), 109–112, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 47H10

— Fixed points for multifunctions on generalized metric spaces with applications to a multivalued Cauchy problem. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 657–663. (Wojciech Kryszewski) **99g:34041** 34A60 (34A12, 47H10, 47N20, 54C60, 54H25)

Petrushev, Pencho P. Approximation by ridge functions and neural networks. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 155–189 (*electronic*). (J. Szabados) **99g:41031** 41A30 (41A25, 41A29)

Pétry, André Enseigner l'analyse sur base des méthodes non standard, deux aspects: microscope et ensembles internes. (English summary) [Two aspects of teaching analysis using the methods of nonstandard analysis: the microscope and internal sets] Logique dans l'enseignement des mathématiques (Liège, 1996). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 5, *suppl.*, 45–62. (Antoine Delcroix) **99k:00014** 00A35 (03H05)

Petry, Thomas On the stability of the Abramov transfer for differential-algebraic equations of index 1. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 201–216 (*electronic*). (Michael Hanke) **99g:34009** 34A09 (34A45, 34B05, 65L10)

Petry, Walter On the Hubble law in a nonexpanding nonstationary universe with cosmological constant. (English summary) *Astrophys. Space Sci.* **254** (1997), *no.* 2, 305–317. 83F05

Petryk, H. Macroscopic rate-variables in solids undergoing phase transformation. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 5, 873–894. (Summary) **99b:73011** 73B30 (80A22)

Petryk, R. (*with* Kunstatter, G.; Shelemy, S.) Hamiltonian thermodynamics of black holes in generic 2D dilaton gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3537–3547. (Summary) **99m:83122** 83C57 (83C47)

Petters, Arlie O. Curvature of caustics and singularities of gravitational lenses. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 627–634. (Introduction) **99d:58055** 58E50 (83C99)

— (*with* Wicklin, Frederick J.) Fixed points due to gravitational lenses. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1011–1023. (D. R. J. Chillingworth) **99d:83079** 83C99 (57R45, 58C27, 85A45)

Pettersen, K. Y. (*with* Egeland, Olav) Time-varying exponential stabilization of the position and attitude of an underactuated autonomous underwater vehicle. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 112–115. 93C95 (93D15)

Petterson, Rolf *see* **Proceedings: Conference on Transport Theory, 99b:82003** *and* **99d:82004**

Pettersson, Roger Penalization schemes for reflecting stochastic differential equations. (English summary) *Bernoulli* **3** (1997), *no.* 4, 403–414. (Leszek Słomiński) **99g:60105** 60H10 (65U05)

Pettitt, Anthony N. (*with* Gao, J. T.; Wolff, Rodney C. L.) Local linear kernel estimation for discontinuous nonparametric regression functions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 2871–2894. (Summary) **99i:62090** 62G07

— (*with* Kelly, J. M.; Gao, J. T.) Bias correction for censored data with exponential lifetimes. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 941–963. (Summary) **99e:62173** 62N05

Pettorino, Roberto (*with* Cappiello, Luigi; Marotta, Raffaele; Pezzella, Franco) On off-shell bosonic string amplitudes. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2433–2443. (Summary) **99g:81152** 81T30

Pettorossi, Alberto (*with* Proietti, Maurizio) Transformation of logic programs. *Handbook of logic in artificial intelligence and logic programming, Vol.* 5, 697–787, *Oxford Univ. Press, New York*, 1998. (M. I. Dekhtyar) **99f:68032** 68N17 (03B70, 68Q60)

Petukhin, Vyacheslav Programs with universally quantified embedded implications. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 309–323, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17

Petukhov, A. P. Periodic wavelets. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 10, 69–94; *translation in Sb. Math.* **188** (1997), *no.* 10, 1481–1506. (Kathi Karima Selig) **99b:42042** 42C15 (42C20)

Petukhov, L. V. (*with* Anufriev, I. E.) Application of a stable boundary analogue of the collocation method for the approximation of the solution of some problems in mechanics.

(Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 633–642; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 589–597. (Summary) **99m:65228** 65N35 (73V20)

Petuniu, Yu. I. On an approach to the problem of constructing statistical tests. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 129–136; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 135–142. (A. Ya. Olenko) **99h:62017** 62F03 (62G10)

Petz, Dénes (*with* Oravecz, Ferenc) On the eigenvalue distribution of some symmetric random matrices. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 383–395. (Zhi-Dong Bai) **99a:60020** 60F05 (15A52, 60H25)

— (*with* Hiai, Fumio) Logarithmic energy as an entropy functional. (English summary) *Advances in differential equations and mathematical physics (Atlanta, GA, 1997)*, 205–221, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:46101** 46L50 (60F10)

— (*with* Hiai, Fumio) Maximizing free entropy. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 4, 335–356. (Ken Dykema) **99m:46154** 46L50 (94A17)

— (*with* Ruskai, Mary Beth) Contraction of generalized relative entropy under stochastic mappings on matrices. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 83–89. (Matthew J. Donald) **99b:82015** 82B10 (46L60)

Petzeltová, Hana (*with* Feireisl, Eduard) Singular kernels and compactness in nonlinear conservation laws. *J. Differential Equations* **142** (1998), *no.* 2, 291–304. (Christophe Cheverry) **99b:35132** 35L65 (45K05)

— (*with* Feireisl, Eduard) On the zero-velocity-limit solutions to the Navier-Stokes equations of compressible flow. (English summary) *Manuscripta Math.* **97** (1998), *no.* 1, 109–116. (Summary) **99e:35174** 35Q30 (76N10)

— (*with* Feireisl, Eduard) On compactness of bounded solutions to multidimensional conservation laws with memory. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 193–204. (Summary) **99b:35133** 35L65 (35B35, 45K05)

— Compactness and asymptotic spatial homogeneity in conservation laws with memory. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 409–417, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Pavel Dubovskiĭ) **99i:45019** 45K05 (35B27, 35L65)

Petzl, Henrike (*with* Sharp, Rodney Y.) Comparison of graded and ungraded Cousin complexes. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 289–301. (José A. Hermida-Alonso) **99i:13029** 13D25 (13A02)

Petzold, Linda R. (*with* Ascher, Uri M.) ★ Computer methods for ordinary differential equations and differential-algebraic equations. (English summary) *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xviii+314 pp. ISBN* 0-89871-412-5 (Michael Hanke) **99k:65052** 65Lxx (34A09, 34A45, 65-01)

— (*with* Zhu, Wenjie) Asymptotic stability of Hessenberg delay differential-algebraic equations of retarded or neutral type. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 309–325. (John R. Graef) **99i:34111** 34K20 (34A09, 65L99)

— (*with* Yen, Jeng; Raha, Soumyendu) A time integration algorithm for flexible mechanism dynamics: the DAE α-method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 341–355. (Summary) **99c:70012** 70E99 (34A09, 65L99, 70-08, 73K12, 73V20)

— (*with* Brown, Peter N.; Hindmarsh, Alan C.) Consistent initial condition calculation for differential-algebraic systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1495–1512 (*electronic*). (Gennady Y. Kulikov) **99d:65202** 65L05 (34A09)

— (*with* Yen, Jeng) An efficient Newton-type iteration for the numerical solution of highly oscillatory constrained multibody dynamic systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1513–1534 (*electronic*). (Peter Kunkel) **99c:65140** 65L06 (34A09, 65L70, 70-08)

— (*with* Li, Shengtai; Ren, Yuhe) Stability of moving mesh systems of partial differential equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 719–738 (*electronic*). (Meng Zhao Qin) **99f:65130** 65M12 (65M50)

Peurbach, Georg *see* **Langermann, Y. Tzvi, 99h:01019**

Peuteman, Joan (*with* Aeyels, Dirk) A new asymptotic stability criterion for nonlinear time-variant differential equations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 968–971. (Vũ Ngoc Phát) **99d:34093** 34D10 (93D15)

— (*with* Aeyels, Dirk; Sepulchre, Rodolphe) Asymptotic stability for time-variant systems and observability: uniform and nonuniform criteria. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 1, 1–27. (Zvi Artstein) **99e:34064** 34D20 (93D05)

Pevnyĭ, A. B. Positive-definite functions and multidimensional interpolation. (Russian) *Mathematics today* '94, *No.* 9 (*Ukrainian*), 110–118, "*Vishcha Shkola*", *Kiev*, 1995. (*see* **99a:00016**) 42A82 (41A05, 41A63)

— (*with* Malozëmov, V. N.; Tret'yakov, A. A.) A fast wavelet transform for discrete periodic signals and images. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 77–85; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 161–168. (Summary) **99h:94008** 94A11 (65T20)

Pevzner, Pavel A. (*with* Hannenhalli, Sridhar) Transforming men into mice (polynomial algorithm for genomic distance problem). (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 581–592, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 92D15 (92D10)

— (*with* Bafna, Vineet) Sorting by transpositions. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 224–240 (*electronic*). (Douglas B. West) **99e:05002** 05A05 (05C12, 68P10, 68R05)

Peyerimhoff, A. (*with* Balser, W.) A Laurent-type expansion for solutions of Stokes' equation in sectorial regions. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 1, 15–30. (Guo Chun Wen) **99b:35166** 35Q30 (30E25, 35C10)

Peyerimhoff, Norbert (*with* Karp, Leon) On the distribution of hypersurfaces equidistant from totally geodesic submanifolds in hyperbolic space. (English summary) *Analysis (Munich)* **18** (1998), *no.* 3, 217–225. (Rafael Oswaldo Ruggiero) **99k:58144** 58F17 (34C11, 35P99, 53C22)

— (*with* Lesch, Matthias) On index formulas for manifolds with metric horns. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 649–684. (Robert Lauter) **99d:58166** 58G10 (58G12)

Peyrard, Pierre-François (*with* Degond, Pierre; López, José L.) On the macroscopic dynamics induced by a model wave-particle collision operator. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 3, 153–178. (Summary) **99d:82053** 82C40 (35Q30, 76P05, 76X05)

— (*with* Degond, Pierre; Russo, Giovanni; Villedieu, Philippe) Polynomial upwind schemes for hyperbolic systems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 6, 479–483. (Summary) **99k:65071** 65M06 (35L65)

— (*with* Villedieu, Philippe) A Roe scheme for ideal MHD equations on 2D adaptively refined triangular grids. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 373–393. (Summary) **99m:76096** 76M25 (76W05, 85-08, 85A30)

Peyre, Emmanuel Galois cohomology in degree three and homogeneous varieties. (English summary) *K-Theory* **15** (1998), *no.* 2, 99–145. (Claus Scheiderer) **99k:14017** 14C35 (12G05, 14C15, 14C25, 19E20)

— *see also* **Number and distribution of points of bounded height, 99j:11001**

Peyret, R. (*with* Borchers, W.; Forestier, M. Y.; Kräutle, S.; Pasquetti, R.; Rautmann, R.; Ross, Nicole; Sabbah, Cyril) A parallel hybrid highly accurate elliptic solver for viscous flow problems. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 3–24, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76104** 76M25 (65N55)

Peyrière, J. (*with* Allouche, Jean-Paul; Wen, Zhi Xiong; Wen, Zhi Ying) Hankel determinants of the Thue-Morse sequence. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 1, 1–27. (Valérie Berthé) **99a:11024** 11B85 (68R15)

Peyton Jones, J. C. Mapping nonlinear integro-differential equations to a generalized describing function form. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1145–1160. 93B25 (45G10)

— (*with* Zhuang, M.; Çankaya, I.) Symbolic computation of harmonic balance equations. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 449–460. 93B40

Pezda, Tadeusz (*with* Narkiewicz, Władysław) Finite polynomial orbits in finitely generated domains. (English summary) *Monatsh. Math.* **124** (1997), *no.* 4, 309–316. (Liang-Chung Hsia) **99b:11117** 11R09 (11C08, 11S05)

— Cycles of rational mappings in algebraically closed fields of positive characteristics. Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 15–21. (Michel Grandcolas) **99m:11024** 11C08 (12E99)

Pezzaglia, William M., Jr. Polydimensional relativity, a classical generalization of the automorphism invariance principle. (English summary) *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 305–317, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Stefano De Leo) **99e:81086** 81R25

Pezzella, Franco (*with* Cappiello, Luigi; Marotta, Raffaele; Pettorino, Roberto) On off-shell bosonic string amplitudes. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2433–2443. (Summary) **99g:81152** 81T30

Pezzoli, Elena (*with* Barnabei, Marilena) Möbius functions. *Gian-Carlo Rota on combinatorics*, 83–104, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05A19

Pezzoli, Luigi (*with* Barnabei, Marilena; Nicoletti, Giorgio) Matroids on partially ordered sets. *Adv. in Appl. Math.* **21** (1998), *no.* 1, 78–112. (Neil L. White) **99c:05042** 05B35 (06A07)

Pfaltzgraff, John A. Distortion of locally biholomorphic maps of the n-ball. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 239–253. (Summary) **99a:32030** 32H02

— (*with* DeLillo, Thomas K.) Numerical conformal mapping methods for simply and doubly connected regions. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 155–171 (*electronic*). (N. Papamichael) **99g:30007** 30C30 (65E05)

Pfannmuller, M. P. (*with* Frahm, Holger) A new algebraic Bethe ansatz for gl(2, 1) invariant vertex models. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L543–L548. (Summary) **99a:82036** 82B23

Pfanzagl, J. An asymptotic bound for the average length of confidence intervals. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 4, 465–475 (1998). (Yves Lepage) **99k:62100** 62G15

Pfeffer, Avi (*with* Friedman, Nir; Koller, Daphne) Structured representation of complex stochastic systems. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 157–164, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30

— (*with* Koller, Daphne) Probabilistic frame-based systems. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 580–587, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30

Pfeffer, Washek F. Comparing variations of charges. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 3, 643–654. (Anna Salvadori) **99b:28003** 28A12 (26A39, 26A45)

— (*with* Buczolich, Zoltán) When absolutely continuous implies σ-finite. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **8** (1997), *no.* 1-6, 155–160. (B. Bongiorno) **99i:28010** 28A75 (26B15, 26B30)

— (*with* Buczolich, Zoltán) On absolute continuity. *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 64–78. (B. Bongiorno) **99i:28011** 28A75 (26B15, 26B30)

Pfeffermann, Danny (*with* Feder, Moshe; Signorelli, David) Estimation of autocorrelations of survey errors with application to trend estimation in small areas. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 3, 339–348. 62D05

— (*with* Skinner, C. J.; Holmes, D. J.; Goldstein, Harvey; Rasbash, J.) Weighting for unequal selection probabilities in multilevel models. (English summary) With discussion. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 23–56. (Summary) **99a:62013** 62D05

— (*with* Krieger, Abba M.; Rinott, Yosef) Parametric distributions of complex survey data under informative probability sampling. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1087–1114. (Mahendra K. Sharma) **99m:62015** 62D05

Pfeiffer, Friedrich (*with* Prokop, G.) Position and controller optimization for robotic parts mating. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 57–79, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90C15 (90C90, 93C85)

— *see also* **GAMM 97, 99m:00025a; 99m:00025b** *and* **99m:00025c**

Pfeiffer, Götz (*with* Geck, Meinolf; Hiss, Gerhard; Lübeck, Frank; Malle, Gunter) CHEVIE—a system for computing and processing generic character tables. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 3, 175–210. (Summary) **99m:20017** 20C40 (20C33)

— (*with* Breuer, Thomas) Finding possible permutation characters. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 343–354. (Cheryl E. Praeger) **99e:20005** 20B99 (20B40, 20C15, 20C40)

— (*with* Linton, Stephen; Robertson, Edmund; Ruškuc, N.) Groups and actions in transformation semigroups. (English summary) *Math. Z.* **228** (1998), *no.* 3, 435–450. (K. S. S. Nambooripad) **99e:20078** 20M20 (20B40)

Pfeiffer, Ruth (*with* Freidlin, Mark I.) A threshold estimation problem for processes with hysteresis. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 337–347. (Marianne Huebner) **99e:62145** 62M05

Pfeiffer, Thorsten Pappus' theorem for ring-geometries. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 461–466. (Viktor V. Vdovin) **99k:51002** 51A05 (51A10)

Pfening, András (*with* Telek, Miklós; Fodor, Gábor) Analysis of the completion time of Markov reward models and its application. (English summary) *Acta Cybernet.* **13** (1998), *no.* 4, 439–452. 90C40

— (*with* Telek, Miklós; Fodor, Gábor) An effective numerical method to compute the moments of the completion time of Markov reward models. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 59–65. (Summary) **99g:65132** 65U05 (90C40)

Pfenning, Frank (*with* Schürmann, Carsten) Algorithms for equality and unification in the presence of notational definitions. (English summary) *Workshop on Proof Search in Type-theoretic Languages* (*Lindau*, 1998), 13 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 17, *Elsevier, Amsterdam*, 1998. (*see* **99h:68013**) 68T15 (03B35)

— *see also* **Natural deduction, 99a:03002**

Pfenning, Michael J. (*with* Ford, L. H.) Scalar field quantum inequalities in static spacetimes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3489–3502. (Summary) **99k:83048** 83C47 (81T20, 83C57)

Pferschy, Ulrich (*with* Kellerer, Hans[2]; Speranza, Maria Grazia) An efficient approximation scheme for the subset-sum problem. (English summary) *Algorithms and computation* (*Singapore*, 1997), 394–403, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q25 (90C27)

— (*with* Kellerer, Hans[2]) A new fully polynomial approximation scheme for the knapsack problem. (English summary) *Approximation algorithms for combinatorial optimization* (*Aalborg*, 1998), 123–134, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (Summary) **99m:90115** 90C27 (68Q25, 90C60)

Pfirsch, Dieter (*with* Weitzner, Harold) Nonperiodicity in space of the magnetic moment series. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 420–423. (Summary) **99h:76098** 76X05

Pfister, Charles E. (*with* Lewis, John T.; Russell, Raymond P.; Sullivan, Wayne G.) Reconstruction sequences and equipartition measures: an examination of the asymptotic equipartition property. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1935–1947. (Robert M. Gray) **99b:94013** 94A15 (60G10)

— (*with* Velenik, Y.) Random-cluster representation of the Ashkin-Teller model. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1295–1331. (Agoston Pisztora) **99d:82017** 82B20

— (*with* Velenik, Y.) Large deviations and continuum limit in the 2D Ising model. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 4, 435–506. (Paolo Dai Pra) **99c:60058** 60F10 (60K35, 82B20, 82B26)

Pfister, F. Bernoulli numbers and rotational kinematics. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 3, 758–763. (Summary) **99i:70004** 70B10 (70E99)

Pfister, Gerhard (*with* Greuel, Gert-Martin; Hertling, Claus) Moduli spaces of semiquasihomogeneous singularities with fixed principal part. *J. Algebraic Geom.* **6** (1997), *no.* 1, 169–199. (Piotr Jaworski) **99a:32057** 32S30 (14J15, 32S05)

— (*with* Martin, Bernd; Popescu, Dorin) Maximal Cohen-Macaulay modules over singularities of type $x^t + y^3$. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 591–619. (Yuji Yoshino) **99i:13018** 13C14 (13D10)

— (*with* Greuel, Gert-Martin) Geometric quotients of unipotent group actions. II. *Singularities* (*Oberwolfach*, 1996), 27–36, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Frank D. Grosshans) **99k:14078** 14L30 (13A50, 14D25)

— (*with* Decker, Wolfram; Greuel, Gert-Martin) Primary decomposition: algorithms and comparisons. *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 187–220, *Springer, Berlin*, 1999. (Thomas Garrity) **99m:13049** 13P10

Pfister, Nicolas (*with* Dussault, Jean-Pierre) Modelization of flexible objects using constrained optimization and *B*-spline surfaces. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 51–64, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 65Y25 (65D17, 73K99, 73V20, 90C90)

Pfister, W. (*with* Autant, C.; Schnoebelen, Philippe) Place bisimulations for the reduction of labeled Petri nets with silent moves. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 230–246 (*electronic*). (*see* **99f:68006**) 68Q90

Pfitzmann, Birgit (*with* Damgård, Ivan B.) Sequential iteration of interactive arguments and an efficient zero-knowledge argument for NP. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 772–783, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q15 (68Q05, 68Q25, 94A60)

Pflaum, Christoph A multilevel algorithm for the solution of second order elliptic differential equations on sparse grids. (English summary) *Numer. Math.* **79** (1998), *no.* 1, 141–155. (Petr N. Vabishchevich) **99c:65212** 65N30

Pflaum, Markus J. (*with* Schottenloher, Martin) Holomorphic deformation of Hopf algebras and applications to quantum groups. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 31–44. (Tomasz Brzeziński) **99k:58018** 58B30 (16W30, 81R50)

— On continuous Hochschild homology and cohomology groups. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 1, 43–51. (Gustavo Corach) **99e:46096** 46M20 (16E40, 19D55, 46J15, 58F06)

— The normal symbol on Riemannian manifolds. (English summary) *New York J. Math.* **4** (1998), 97–125 (*electronic*). (Robert Lauter) **99e:58181** 58G15 (35S05, 47G30)

Pfluegl, Wolfgang (*with* Silbey, Robert J.) Long-time properties of random walks with a single trap. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4128–4133. 60J15

Pflug, Georg Ch. ★ Optimization of stochastic models. The interface between simulation and optimization. The Kluwer International Series in Engineering and Computer Science, 373. *Kluwer Academic Publishers, Boston, MA*, 1996. xiv+382 *pp. ISBN* 0-7923-9780-0 (Kurt Marti) **99c:90003** 90–02 (60K99, 90C15)

— (*with* Futschik, Andreas) The likelihood ratio test for simple tree order: a useful asymptotic expansion. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 57–68. (Subhash C. Kochar) **99i:62056** 62F30 (62F03)

— (*with* Ruszczyński, Andrzej; Schultz, Rüdiger) On the Glivenko-Cantelli problem in stochastic programming: linear recourse and extensions. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 204–220. (Vlasta Kaňková) **99c:90084** 90C15 (60F99)

— (*with* Norkin, Vladimir I.; Ruszczyński, Andrzej) A branch and bound method for stochastic global optimization. (English summary) *Math. Programming* **83** (1998), *no.* 3, *Ser. A*, 425–450. (C. Bergthaller) **99j:90055** 90C15

Pflug, P. (*with* Youssfi, E. H.) The Lu Qi-Keng conjecture fails for strongly convex algebraic domains. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 240–245. (Harold P. Boas) **99k:32040** 32H10

Pflüger, Klaus (*with* Doppel, K.; Herfort, W. N.) A nonlinear beam equation arising in the theory of elastic bodies. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 945–960. (Takashi Narazaki) **99a:35252** 35Q72 (34G20, 35G25, 47H20, 73D35)

— Compact traces in weighted Sobolev spaces. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 1, 65–83. (Jiří Rákosník) **99j:46039** 46E35 (35J60)

— Existence and multiplicity of solutions to a p-Laplacian equation with nonlinear boundary condition. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 10, 13 *pp.* (*electronic*). (Summary) **99a:35094** 35J65 (35B32, 35D05)

Phadia, Eswar G. Biography: Vyaghreshwarudu Susarla: 1943–1989. Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, *iv*, 209–213. (*see* **99i:62003**) 01A70

— (*with* Shao, Peter Yi-Shi) Exact moments of the product limit estimator. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 277–286. (Summary) **99k:62078** 62G05 (62N05)

Pham, D. C. *see* **Phan Duc Chinh**

Pham, Duc Chinh *see* **Pham Duc Chinh**

Pham, Frédéric (*with* Delabaere, Eric) Unfolding the quartic oscillator. (English summary) *Ann. Physics* **261** (1997), *no.* 2, 180–218. (Alexander Tovbis) **99k:81065** 81Q20 (34E20)

— (*with* Delabaere, Eric; Dillinger, Hervé) Exact semiclassical expansions for one-dimensional quantum oscillators. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6126–6184. (Summary) **99c:81041** 81Q20 (34E20, 34L40)

Pham, Huyên Optimal stopping of controlled jump diffusion processes: a viscosity solution approach. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 27 *pp.* (*electronic*). (O. L. V. Costa) **99h:49043** 49L25 (49K45, 60J75)

— (*with* Florens-Landais, Danielle) Large deviation probabilities in estimation of Poisson random measures. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 1, 117–139. (Anatolii A. Pukhal'skiĭ) **99h:60053** 60F10 (60G57, 62M09)

Pham, T. D. (*with* Yan, Hong) A quasi-linear fuzzy measure of multi-attributes. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 255–266. (Milan Mareš) **99c:92068** 92J45 (28E10)

— *see also* **Şen, Zekai et al.**

Phạm Anh Minh (*with* Green, David John) Transfer and Chern classes for extraspecial p-groups. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 245–255, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Graham J. Ellis) **99d:20083** 20J06

— Serre's theorem on the cohomology algebra of a p-group. *Bull. London Math. Soc.* **30** (1998), *no.* 5, 518–520. (Nobuaki Yagita) **99i:20073** 20J06

— Hochschild-Serre spectral sequences of split extensions and cohomology of some extra-special p-groups. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 37–48. (P. Donovan) **99g:20097** 20J06

— (*with* Kahn, Bruno) A description of the second mod p cohomology group of a p-group. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 1, 73–104. (Ian J. Leary) **99i:20071** 20J06 (17B50, 20D15)

Pham Dinh Tao (*with* Le Thi Hoai An; Le Dung Muu) A combined D.C. optimization—ellipsoidal branch-and-bound algorithm for solving nonconvex quadratic programming problems. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 9–28. (Summary) **99a:90159** 90C26 (90C25)

— (*with* Le Thi Hoai An) A branch and bound method via d.c. optimization algorithms and ellipsoidal technique for box constrained nonconvex quadratic problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 2, 171–206. (Harold P. Benson) **99g:90089** 90C26 (90C20)

— (*with* Le Thi Hoai An) A d.c. optimization algorithm for solving the trust-region subproblem. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 476–505 (*electronic*). (Vaithilingam Jeyakumar) **99f:90086** 90C26 (90C30)

Phamdo, Nam C. (*with* Kroll, James M.) Analysis and design of trellis codes optimized for a binary symmetric Markov source with MAP detection. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2977–2987. 94B12

Pham Duc Chinh (*with* Phan-Thien, Nhan) Bounds and extremal elastic moduli of isotropic quasi-symmetric multicomponent materials. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 3, 273–281. (Summary) **99a:73094** 73K20 (73B27)

— Bounds for the elastic shear moduli of isotropic and quasi-symmetric composites, and exact modulus of the coated sphere assemblage. (English summary) *Math. Mech. Solids* **4** (1999), *no.* 1, 57–69. (Summary) **99j:73073** 73K20 (73B27)

Pham-Gia, T. Distribution of the stopping time in Bayesian sequential sampling. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 221–227. (Rasul A. Khan) **99g:62123** 62L15

Pham Hien Bang (*with* Le Mau Hai) Extending and lifting some linear topological structures. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 89–100. (Luiza Amália de Moraes) **99g:46002** 46A11 (46G20, 46M99)

Phạm Hữu Sách (*with* Penot, Jean-Paul) Characterizations of generalized convexities via generalized directional derivatives. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 615–634. (Fred Behringer) **99f:90087** 90C26 (26B25, 49J52, 90C48)

Phạm Kỳ Anh Comments on: "The parallel version of the successive approximation method for quasilinear boundary-value problem" [J. Comput. Appl. Math. **72** (1996), no. 2, 335–343; MR 97f:65046] by S. Ernö. *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 333–334. (From the text) **99m:65142** 65L10 (65Y05)

Pham Loi Vu Explicit complex-valued solutions of the Korteweg-de Vries equation on the half-line and on the whole-line. (English summary) *Acta Appl. Math.* **49** (1997), *no.* 2, 107–149. (Eugene Schlereth) **99g:35021** 35C05 (34A55, 34L25, 35P25, 35Q53)

Phạm Ngọc Ánh (*with* Herbera, Dolors; Menini, Claudia) AB-5* for module and ring extensions. *Abelian groups, module theory, and topology* (*Padua*, 1997), 59–68, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Robert Wisbauer) **99k:16014** 16D90 (16P99)

— A note on self-dual modules and Dedekind rings. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 23–25. (Summary) **99h:13025** 13F05 (13C13, 13E10)

Pham Ngoc Dinh, A. (*with* Nguyen Thanh Long; Ortiz, E. L.) On the existence of a solution of a boundary value problem for a non-linear Bessel equation on an unbounded interval. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 237–247. (Summary) **99h:34036** 34B15 (34B30, 65L10)

Phạm Tiến Sơn (*with* Hà Huy Vui) Invariance of the global monodromies in families of polynomials of two complex variables. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 515–526. (Enrique Artal Bartolo) **99f:32060** 32S55

— (*with* Hà Huy Vui) Remark on the equisingularity of families of affine plane curves. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 275–280. (Eugenii Shustin) **99c:32052** 32S15 (32S55)

Pham Tran Nhu Mean square exponential stability under Markov disturbances: inclusion cases. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 317–326. 93E15 (93D20)

Pham Xuan Binh On F-discrete distribution. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 2, 247–256. (Detlef Plachky) **99i:60030** 60E05

Phan, Anh-Vũ (*with* Mukherjee, Subrata; Mayer, J. R. René) Stresses, stress sensitivities and shape optimization in two-dimensional linear elasticity by the boundary contour method. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 8, 1391–1407. (Summary) **99e:73074** 73K40 (73V10)

Phan, Viet Thu *see* **Phan Viet Thu**

Phaneendra, Bh. R. M. (*with* Sree Hari Rao, V.; Prameela, V.) Global dynamics of bidirectional associative memory networks with transmission delays. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 453–471. (Virginia W. Noonburg) **99m:34178** 34K20 (92B20)

— (*with* Sree Hari Rao, V.) Stability of differential systems involving time lags. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 949–964. (Moulay Lhassan Hbid) **99m:34179** 34K20 (34C23, 34K15)

Phan Le Na (*with* Nguyễn Hữ'u Du') Relation between the spectrum of operators and Lyapunov exponents. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 95–106. (Xue Rong Mao) **99h:60129** 60H25

Phan Luong, V. (*with* Laurent, Dominique; Spyratos, Nicolas) The use of deleted tuples in database querying and updating. (English summary) *Acta Inform.* **34** (1997), *no.* 12, 905–925. (János Demetrovics) **99b:68057a** 68P15

— (*with* Laurent, Dominique; Spyratos, Nicolas) Erratum: "The use of deleted tuples in database querying and updating". *Acta Inform.* **35** (1998), *no.* 6, 541. (János Demetrovics) **99b:68057b** 68P15

Phan Minh Dung A formal methodology for verifying situated agents. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 637–642, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27

Phan Nhat Tinh (*with* Nguyễn Xuân Tấn) On the existence of equilibrium points of vector functions. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 141–156. (Mihai Turinici) **99c:90110** 90C29 (90C48, 90D10)

Phan-Thien, Nhan (*with* Pham Duc Chinh) Bounds and extremal elastic moduli of isotropic quasi-symmetric multicomponent materials. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 3, 273–281. (Summary) **99a:73094** 73K20 (73B27)

— (*with* Fan, Xi-Jun; Zheng, Rong) Completed double layer boundary element method for periodic suspensions. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 167–193. (Summary) **99c:76005** 76A99 (76M15, 76T05)

Phan Thien Danh (*with* Nguyễn Văn Khuê) Structure of spaces of germs of holomorphic functions. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 467–480. (Richard M. Aron) **99c:46036** 46E50 (46A04, 46A11, 46A13, 46G20)

Phan Viet Thu (*with* Goldstein, Stanisław) L^p-spaces for UHF algebras. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 593–598. (Fyodor A. Sukochev) **99m:46151** 46L50

Pharamond dit d'Costa, Layla (*with* Oesterlé, Joseph) Fermetures intégrales des $\overline{\mathbf{Z}}$-algèbres. (English summary) [Integral closures of $\overline{\mathbf{Z}}$-algebras] *J. Ramanujan Math. Soc.* **12** (1997), *no.* 2, 147–159. (Marco Fontana) **99b:13009** 13B15 (11R04, 13B21)

Phatak, Makarand S. (*with* Keerthi, S. Sathiya) Gain optimization under control structure and stability region constraints. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 849–864. 93D09 (90C90)

Phelan, R. (*with* Weaire, D.) A counter-example to Kelvin's conjecture on minimal surfaces. (English summary) Reprint of Philos. Mag. Lett. **69** (1994), no. 2, 107–110. *Forma* **11** (1996), *no.* 3, 209–213. (Wolfgang Kühnel) **99d:52022** 52C22 (53A10)

— (*with* Weaire, D.) The structure of monodisperse foam. (English summary) Reprint of Philos. Mag. Lett. **70** (1994), no. 5, 345–350. *Forma* **11** (1996), *no.* 3, 215–221. (Wolfgang Kühnel) **99d:52023** 52C22

— Generalisations of the Kelvin problem and other minimal problems. *Forma* **11** (1996), *no.* 3, 287–302. (Wolfgang Kühnel) **99d:52024** 52C22 (53A10)

Phelps, Kevin T. (*with* Levan, Mike) Nonsystematic perfect codes. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 27–34 (*electronic*). (Jaume Pujol) **99m:94050** 94B05 (94B65)

Phelps, R. R. Lectures on maximal monotone operators. *Extracta Math.* **12** (1997), *no.* 3, 193–230. (S. Simons) **99c:47083** 47H05 (47H04)

— (*with* Simons, Stephen) Unbounded linear monotone operators on nonreflexive Banach spaces. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 303–328. (Hassan Riahi) **99k:47003** 47A05 (47B44, 47H05)

Phemister, T. G. (*with* Drumm, M. J.) Comparison of boundary element representations for potential fields. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 253–258, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N30

Philip, Annamma (*with* Thakur, S. S.) Pairwise fuzzy β-closed mappings. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 171–172. 54A40

Philip, Peter Cardinality and structure of extreme infinite doubly stochastic matrices. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 5, 417–424. (Ryszard Grząślewicz) **99h:15021** 15A51

Philipoff, Philip (*with* Shopolov, Nikolai) Structural solution of the $\mathbf{R}^n$ Schroedinger equation problem based on Sturm-Liouville theory. *Applications of mathematics in engineering* (*Sozopol*, 1997), 90–92, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 81Q05 (34B24)

— (*with* Shopolov, Nikolai) Space L_2 Schroedinger equation problem solutions. *Applications of mathematics in engineering* (*Sozopol*, 1997), 96–99, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 81Q05 (35J10)

— (*with* Shopolov, Nikolai; Grammatikopoulos, Myron K.) An algorithm for inverting the polynomial matrix in the structural solution of the 3D Schrödinger boundary equation problem. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 77–82, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65F35 (65N30)

Philipp, Walter (*with* Berkes, István) Limit theorems for mixing sequences without rate assumptions. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 805–831. (M. Iosifescu) **99d:60022** 60F05 (60F15, 60F17)

— (*with* Berkes, István) A limit theorem for lacunary series $\sum f(n_k x)$. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 1–13. (F. Móricz) **99g:42007** 42A55 (41A58, 60F15)

Philippe, Anne Processing simulation output by Riemann sums. (English summary) *J. Statist. Comput. Simulation* **59** (1997), *no.* 4, 295–314. (Summary) **99d:65027** 65C20

— (*with* Robert, Christian P.) Linking discrete and continuous chains. *Discretization and MCMC convergence assessment*, 47–66, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J10 (60J27, 65C10)

— (*with* Gruet, Marie-Anne; Robert, Christian P.) Estimation of exponential mixtures. *Discretization and MCMC convergence assessment*, 161–173, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 62F15

— (*with* Berger, James O.; Robert, Christian P.) Estimation of quadratic functions: noninformative priors for non-centrality parameters. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 359–375. (N. Giri) **99e:62101** 62H12 (62F10, 62F15)

— (*with* Robert, Christian P.) A note on the confidence properties of reference priors for the calibration model. (English summary) *Test* **7** (1998), *no.* 1, 147–160. (Françoise Garcia-Brouaye) **99k:62060** 62F15 (62J05)

Philippe, Bernard (*with* Heuveline, Vincent; Sadkane, Miloud) Parallel computation of spectral portrait of large matrices by Davidson type methods. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 55–75 (1998). (Summary) **99c:65071** 65F15 (65Y05)

Philippe, F. (*with* Arnaud, J. A.; Boé, J. M.; Chusseau, L.) Illustration of the Fermi-Dirac statistics. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 3, 215–221. 82B05

Philippin, Gérard A. (*with* Henrot, Antoine) Some overdetermined boundary value problems with elliptical free boundaries. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 309–320 (*electronic*). (Summary) **99b:35159** 35N10 (30E25, 35R35)

— (*with* Vernier-Piro, S.) Explicit decay bounds in some quasilinear one-dimensional parabolic problems. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 2, 101–109. (Ya Zhe Chen) **99k:35101** 35K60 (35B50)

Philippon, Patrice Indépendance algébrique et K-fonctions. [Algebraic independence and K-functions] *J. Reine Angew. Math.* **497** (1998), 1–15. (Damien Roy) **99f:11091** 11J85 (11J89)

Philippou, Andreas N. (*with* Antzoulakos, Demetris L.) Distributions of the numbers of successes and failures until the occurrence of the rth overlapping and non-overlapping success run of length k. (English summary) *J. Indian Soc. Statist. Oper. Res.* **17** (1996), *no.* 1-4, 19–30. (Summary) **99e:60030** 60C05

— (*with* Antzoulakos, Demetris L.) Probability distribution functions of succession quotas in the case of Markov dependent trials. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 531–539. (Barry C. Arnold) **99e:60031** 60C05 (60J10)

Philippou, Anna (*with* Cleaveland, Rance; Lee, Insup; Smolka, Scott A.; Sokolsky, Oleg) Probabilistic resource failure in real-time process algebra. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 389–404, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

Philips, Robert (*with* Guttman, I.) A new criterion for variable selection. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 11–19. (Summary) **99g:62096** 62J05 (62F15)

Philipsen, Owe (*with* Wittig, Hartmut) String breaking in non-abelian gauge theories with fundamental matter fields. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 19, 4056–4059. (Summary) **99f:81217** 81V05 (81T13)

Philipson, Tomas The Bayesian model of conditional preference and trade under uncertainty. (English summary) *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 101–104, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A08 (90A43)

Phillips, Cynthia A. (*with* Goldberg, Leslie Ann; Goldberg, Paul W.; Sweedyk, Elizabeth; Warnow, Tandy) Minimizing phylogenetic number to find good evolutionary trees. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 102–127, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **99g:92023** 92D20 (68Q25)

— (*with* Bonet, Maria; Warnow, Tandy; Yooseph, Shibu) Inferring evolutionary trees from polymorphic characters, and an analysis of the Indo-European family of languages. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 43–55, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99e:92021** 92D15 (92B10)

— (*with* Stein, Clifford; Wein, Joel) Task scheduling in networks. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 573–598. (Summary) **99k:68020** 68M10 (68M20, 68Q25, 90B12, 90B35)

— (*with* Goldberg, Leslie Ann; Goldberg, Paul W.; Sorkin, Gregory B.) Constructing computer virus phylogenies. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 188–208. (Juraj Hromkovič) **99c:68124** 68Q25 (68N99, 92D15)

— (*with* Schulz, Andreas S.; Shmoys, David B.; Stein, Clifford; Wein, Joel) Improved bounds on relaxations of a parallel machine scheduling problem. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 413–426. (Summary) **99d:90061** 90B35 (68M20, 90C05)

— (*with* Stein, Clifford; Wein, Joel) Minimizing average completion time in the presence of release dates. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 199–223. (Johannes Terno) **99e:90051** 90B35 (90C35)

Phillips, Daniel (*with* Bauman, Patricia; Tang, Qi) Stable nucleation for the Ginzburg-Landau system with an applied magnetic field. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 1, 1–43. (Peter E. Zhidkov) **99g:58040** 58E50 (35Q55, 82D55)

Phillips, Garry D. A. (*with* Cheung Ip, Wai) The non-monotonicity of the bias and mean squared error of the two stage least squares estimators of exogenous variable coefficients. (English summary) *Econom. Lett.* **60** (1998), *no.* 3, 303–310. (Summary) **99i:62039** 62F10 (62P20)

Phillips, Iain (*with* Ulidowski, Irek) Ordered SOS rules and weak bisimulation. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 195–206. (*see* **99a:68004**) 68Q10 (68Q55, 68Q60)

Phillips, J. D. Quotients of groups. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 271–275. (Elena Brožiková) **99a:20074** 20N05

Phillips, Jeffrey Mark (*with* Punnen, Abraham P.; Kabadi, Santosh N.) A linear time algorithm for the bottleneck traveling salesman problem on a Halin graph. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 105–110. (Summary) **99c:68130** 68Q25 (90C35)

Phillips, John (*with* Carey, Alan L.; Coulhon, Thierry; Mathai, Varghese) Von Neumann spectra near the spectral gap. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 3, 203–242. (Patrick T. McDonald) **99g:58128** 58G26 (58G11, 58G25)

Phillips, Keith L. (*with* Daly, James E.) Walsh multipliers and square functions for the Hardy space H^1. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 4, 311–327. (P. Simon) **99f:42055** 42C10 (46E15)

— (*with* Daly, James E.) A note on H^1 multipliers for locally compact Vilenkin groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 392–397. (Da Chun Yang) **99j:43005** 43A70 (42B15, 43A22, 44A35)

Phillips, N. C. K. (*with* Preece, D. A.; Vowden, B. J.) Double Youden rectangles of sizes $p \times (2p+1)$ and $(p+1) \times (2p+1)$. (English summary) *Ars Combin.* **51** (1999), 161–171. (Summary) **99j:05039** 05B15

— (*with* Preece, D. A.) Tight single-change covering designs with $v = 12$, $k = 4$. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 657–670. (Summary) **99i:05056** 05B30

Phillips, P. C. B. (*with* Chao, John C.) Posterior distributions in limited information analysis of the simultaneous equations model using the Jeffreys prior. (English summary) *J. Econometrics* **87** (1998), *no.* 1, 49–86. (Summary) **99i:62252** 62P20 (62F15)

Phillips, R. *see* **Phillips, Rob**

Phillips, Richard E. (*with* Rainbolt, Julianne G.) Images of periodic linear groups. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 97–106. (Brunella Bruno) **99g:20073** 20F50 (20H20)

— (*with* Wald, Jeanne) Locally solvable finitary Lie algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4375–4384. (Dietrich Burde) **99j:17007** 17B05 (17B30)

Phillips, Rob (*with* Miller, Ron; Beltz, Glen; Ortiz, Michael) A non-local formulation of the Peierls dislocation model. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1845–1867. (*see* **99g:73003**) 73S10

— (*with* Shenoy, V. B.; Miller, Ron; Tadmor, E. B.; Rodney, D.; Ortiz, Michael) An adaptive finite element approach to atomic-scale mechanics—the quasicontinuum method. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 3, 611–642. (Summary) **99k:73116** 73V05 (73B99, 73S10)

Phillips, Steven J. (*with* Westbrook, Jeffery R.) On-line load balancing and network flow. (English summary) *Algorithmica* **21** (1998), *no.* 3, 245–261. (Summary) **99d:68033** 68M20 (90B10, 90D43)

Phillips, T. N. (*with* Gerritsma, M. I.) Discontinuous spectral element approximations for the velocity-pressure-stress formulation of the Stokes problem. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 8, 1401–1419. (Summary) **99g:76082** 76M10

— (*with* Li, Xi Kui; Gwynllyw, D. Rh.; Davies, A. R.) Three-dimensional effects in dynamically loaded journal bearings. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 311–341. (Summary) **99i:76039** 76D08

Phillips, W. R. C. Finite-amplitude rotational waves in viscous shear flows. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 1, 23–47. (Summary) **99e:76039** 76D33 (76E30, 76U05)

Phillipson, Paul E. (*with* Schuster, Peter Karl) Analytics of bifurcation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 471–482. (Summary) **99f:34056** 34C23 (58F14)

Philoponus, John *see* **Giannakis, Elias**

Philos, Ch. G. (*with* Kordonis, I.-G. E.; Niyianni, N. T.) On the behavior of the solutions of scalar first order linear autonomous neutral delay differential equations. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 6, 454–464. (Elena Litsyn) **99i:34099** 34K15 (34K20, 34K40)

— (*with* Sficas, Yiannis) An oscillation criterion for first order linear delay differential equations. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 207–213. (Summary) **99b:34119** 34K15

— (*with* Kordonis, I.-G. E.) Oscillation and nonoscillation in linear delay or advanced difference equations. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 7, 11–21. (E. Thandapani) **99d:39007** 39A10

— Asymptotic behaviour, nonoscillation and stability in periodic first-order linear delay differential equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 6, 1371–1387. (Yuan-Tong Xu) **99k:34156** 34K15 (34K20)

— (*with* Kordonis, I.-G. E.) Oscillation and nonoscillation in delay or advanced differential equations and in integrodifferential equations. (English summary) *Georgian Math. J.* **6** (1999), *no.* 3, 263–284. (István Győri) **99m:34160** 34K15 (45J05, 45M99)

Phipps, Eric (*with* Billings, Lora; Curry, James H.) Symmetric functions and exact Lyapunov exponents. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 44–64. (Hans-Peter Herzel) **99h:58132** 58F14 (05E05, 34C35, 34D45, 58F03, 65J15)

Phipps, Thomas E., Jr. An alternative approach to quantum projection. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 1, 155–163. (Summary) **99b:81024** 81P15

Pho, Yong Soo (*with* Kim, Hyang Sook) Certain real hypersurfaces of a complex space form. II. *Nihonkai Math. J.* **8** (1997), *no.* 2, 155–170. (Makoto Kimura) **99f:53058** 53C40

bui minh Phong *see* **Bui Minh Phong**

Phong, Bui Minh *see* **Bui Minh Phong**

Phong, Duong H. The one-loop graviton scattering amplitude in string theory. (English summary) *Advances in mathematical sciences: CRM's 25 years (Montreal, PQ, 1994)*, 357–372, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Helmut Rumpf) **99b:81206** 81T30 (32G81)

— (*with* Silvotti, Roberto) The fusion matrix and the Verlinde loop operators in conformal field theory. *CR-geometry and overdetermined systems (Osaka, 1994)*, 285–317, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Stanislav Z. Pakuliak) **99a:81163** 81T40 (17B37, 81R50)

— (*with* D'Hoker, Eric) Calogero-Moser systems in $SU(N)$ Seiberg-Witten theory. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 405–444. (Henrik Aratyn) **99f:81194** 81T60 (58F07, 81T13, 81T17)

— (*with* D'Hoker, Eric) Calogero-Moser Lax pairs with spectral parameter for general Lie algebras. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 537–610. (Henrik Aratyn) **99k:58086** 58F07 (17B81, 81T60)

— (*with* D'Hoker, Eric) Calogero-Moser and Toda systems for twisted and untwisted affine Lie algebras. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 611–640. (Henrik Aratyn) **99k:58087** 58F07 (17B67, 81T60)

— (*with* D'Hoker, Eric) Spectral curves for super-Yang-Mills with adjoint hypermultiplet for general simple Lie algebras. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 3, 697–719. (Tetsuya Taniguchi) **99m:58108** 58F07 (14H45, 81T13, 81T60)

— *see also* **Mirror symmetry**, **99i:14003**

nguyen Phuong Các *see* **Nguyen Phuong Các**

Pi, Dao Ying (*with* Sun, You Xian) An open-closed-loop pi-type iterative learning control scheme for discrete nonlinear time-varying systems and its convergence. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 636–639. 93B52 (93C55)

— (*with* Sun, You Xian) An open-closed-loop PI-type iterative learning control scheme for nonlinear systems and its convergence. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 400–403. 93E35

Pi, F. (*with* Farjas, J.; Herrero, R.; Orriols, G.) Experimental analysis of codimension-2 bifurcations in a periodically-forced opto-thermal oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1413–1435. (Summary) **99g:58087** 58F14 (34C23)

Pi, Ming Hong (*with* Xiong, Lian Huan; Hu, Han Ping; Li, De Hua) The Shannon orthogonal wavelet transform using the FFT. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 8, 67–69, 73. 65T20 (42C15, 94A11)

Pi, Su Young (*with* Chung, Hwan Mook; Rey, Siegfried) The MacLaurin's and Taylor's series expansions of the symbolic multiple valued logic functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka, 1998)*, 65–70, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 94C10 (03B50, 03B70)

Pi, Xin Ming Searching for generalized Fermat primes. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 276–280. (Tian Ze Wang) **99i:11118** 11Y11 (11A41)

— A sieve method and a conjecture of Hardy and Littlewood. (Chinese) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 642–644. 11N36

Piacentini, A. (*with* Rosa, N.) An improved domain decomposition method for the 3D Helmholtz equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **162** (1998), *no.* 1-4, 113–124. (Tsorng-Whay Pan) **99i:65144** 65N55 (76M25, 76Q05)

Piacquadio Losada, María (*with* Acosta, Gabriel) The minimum value of the α-concentration of Procaccia of elements in Fuchsian groups with zero-trace generators. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 1–13. (Remo Badii) **99d:58113** 58F12 (28A80, 58F13)

— (*with* Grynberg, S.) Cantor staircases in physics and Diophantine approximations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1095–1106. (Henk P. Bruin) **99k:58121** 58F13 (11J70, 28A80)

Piana, Michele (*with* Colton, David L.; Potthast, Roland) A simple method using Morozov's discrepancy principle for solving inverse scattering problems. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1477–1493. (Elsayed Mohamed E. Zayed) **99b:35209** 35R30 (35J05, 65N99, 76Q05, 78A45)

— (*with* Colton, David L.) The simple method for solving the electromagnetic inverse scattering problem: the case of TE polarized waves. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 597–614. (B. Belinskiy) **99e:78030** 78A45 (35Q60, 35R30, 78–08)

— (*with* Brown, J. C.) Analytical and regularized solutions of the synchrotron integral equation. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 2, 75–88. (Summary) **99e:78022** 78A35 (45B05, 45L05, 76X05)

Pianigiani, Giulio (*with* de Blasi, Francesco S.) Remarks on differential inclusions without existence or continuous dependence. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 95–103. (Mazen Mohamed Shahin) **99i:34023** 34A60

— (*with* de Blasi, Francesco S.) Hausdorff measurable multifunctions. *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 1–15. (Erik J. Balder) **99m:28030** 28B20 (49J45, 54C60)

— (*with* de Blasi, Francesco S.; Górniewicz, Lech) Topological degree and periodic solutions of differential inclusions. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 197–199. (*see* **99f:58002**) 34A60 (34C25, 47H11, 47N20)

Piao, Zhong Xuan (*with* Xue, Chun Yan) Qualitative analysis of the second kind functional reaction model with rate prey harvesting (investing). (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 2, 140–145. (Xiao Qiang Zhao) **99b:92046** 92D25 (34C05)

Piasecki, Marek A characterization of complex $\mathscr{M}$-$\mathscr{M}$ Banach spaces via tangent martingales. *Demonstratio Math.* **30** (1997), *no.* 4, 715–728. (I. Ya. Novikov) **99d:46006** 46B09 (60G46)

Piatetski-Shapiro, I. I. L-functions for GSp_4. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 259–275. (Jiandong Guo) **99a:11058** 11F46 (11F66, 11F70, 22E55)
— (*with* Jiang, Dihua) Arithmeticity of discrete subgroups and automorphic forms. *Geom. Funct. Anal.* **8** (1998), *no.* 3, 586–605. (Solomon Friedberg) **99k:11060** 11F12 (11F06, 11F66, 22E55)
— (*with* Cogdell, James W.) Stability of gamma factors for $SO(2n+1)$. *Manuscripta Math.* **95** (1998), *no.* 4, 437–461. (David Ginzburg) **99d:11053** 11F70 (22E50)
Piatka, Ľudovít (*with* Matejička, Ladislav) Markov process for electric current drain. (English summary) *Stud. Univ. Žilina Math. Phys. Ser.* **11** (1997), 31–47. 94C99 (60J99)
Piątkowski, Andrzej Topological foliation defined by a family of mappings. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **23** (1997), 9–22. (Jean Wouafo Kamga) **99e:57043** 57R30
Piatnitski, Andrey *see* **Pyatnitskii, Andrei L.**
Piau, Didier Théorème central limite fonctionnel pour une marche au hasard en environnement aléatoire. (English and French summaries) [Functional central limit theorem for a random walk in a random environment] *Ann. Probab.* **26** (1998), *no.* 3, 1016–1040. (H. Kesten) **99j:60108** 60J15 (60F17, 60J80, 60K35)
— (*with* Michel, Julien) Large deviations, central limit theorems and L^p convergence for Young measures and stochastic homogenizations. (English summary) *ESAIM Probab. Statist.* **2** (1998), 135–161 (*electronic*). (Boualem Djehiche) **99m:60046** 60F10 (35B27, 49J45, 60F05, 60G50, 60J75)
Piazza, Carla (*with* Dovier, Agostino; Rossi, Gianfranco; Pontelli, Enrico) On the representation and management of finite sets in CLP languages. (English summary) *Logic programming (Manchester, 1998)*, 40–54, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68033** 68N17 (68T20)
di Piazza, L. *see* **Di Piazza, L.**
rodríguez-Piazza, Luis *see* **Rodríguez-Piazza, Luis**
Piazza, Mario (*with* Castellan, Maurizio) Saturated formulas in full linear logic. (English summary) *J. Logic Comput.* **8** (1998), *no.* 5, 665–668. (Summary) **99i:03077** 03F50
Piazza, Paolo (*with* Melrose, Richard B.) Families of Dirac operators, boundaries and the b-calculus. (English summary) *J. Differential Geom.* **46** (1997), *no.* 1, 99–180. (Daniel Grieser) **99a:58144** 58G10
— (*with* Melrose, Richard B.) An index theorem for families of Dirac operators on odd-dimensional manifolds with boundary. (English summary) *J. Differential Geom.* **46** (1997), *no.* 2, 287–334. (Daniel Grieser) **99a:58145** 58G10
— (*with* Leichtnam, Eric) The b-pseudodifferential calculus on Galois coverings and a higher Atiyah-Patodi-Singer index theorem. (English and French summaries) *Mém. Soc. Math. Fr. (N.S.) No.* 68 (1997), iv+121 *pp.* (Rafe Mazzeo) **99d:58168** 58G12 (19K56, 46L87, 58G15)
— (*with* Leichtnam, Eric) Higher eta invariants and the Novikov conjecture on manifolds with boundary. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 497–502. (John G. Miller) **99j:58199** 58G12 (19K56, 58G20)
Piazzese, Franco On the relationships between the Dirac spinors and Clifford subalgebra $Cl^+_{1,3}$. (English summary) *Clifford algebras and spinor structures*, 167–176, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Summary) **99g:15039** 15A66 (81R25)
— Energy and frequencies of a particle in special relativity. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 81–90. 83A05
Piazzi, Aurelio (*with* Visioli, Antonio) Global minimum-time trajectory planning of mechanical manipulators using interval analysis. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 631–652. (Summary) **99h:93070** 93C85 (65G10, 70B15, 70Q05)
Picado, J. Weil nearness spaces. (English summary) *Portugal. Math.* **55** (1998), *no.* 2, 233–254. (H. L. Bentley) **99e:54008** 54B30 (06D20, 18B30, 54E05, 54E15, 54E17)
Picard, Colette (*with* Bouchitté, Guy) Singular perturbations and homogenization in stratified media. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 307–341. (Summary) **99b:35007** 35B27 (73B27)
— (*with* Corbo Esposito, Antonio; Donato, Patrizia; Gaudiello, Antonio) Homogenization of the p-Laplacian in a domain with oscillating boundary. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 1–23. (P. Lindqvist) **99a:35016** 35B27 (35J65, 49J45)
Picard, Dominique (*with* Genon-Catalot, Valentine) ★ Éléments de statistique asymptotique. (French. French summary) [Elements of asymptotic statistics] Mathématiques & Applications [Mathematics & Applications], 11. *Springer-Verlag, Paris*, 1993. $x+131$ *pp. ISBN* 2-287-00409-2 (Philippe Barbe) **99i:62029** 62E20 (62F05, 62F12)
— (*with* Donoho, David L.; Johnstone, Iain M.; Kerkyacharian, Gérard) Universal near minimaxity of wavelet shrinkage. (English summary) *Festschrift for Lucien Le Cam*, 183–218, *Springer, New York*, 1997. (Alexander G. Kukush) **99a:62044** 62G05 (62G20)
— (*with* Härdle, Wolfgang; Kerkyacharian, Gérard; Tsybakov, A. B.) ★ Wavelets, approximation, and statistical applications. (English summary) Lecture Notes in Statistics, 129. *Springer-Verlag, New York*, 1998. *xviii+265 pp. ISBN* 0-387-98453-4 (José Rafael León) **99f:42065** 42C15 (41A30, 42–02, 62G07)
— (*with* Hall, Peter Gavin; Kerkyacharian, Gérard) Block threshold rules for curve estimation using kernel and wavelet methods. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 922–942. (B. L. S. Prakasa Rao) **99k:62082** 62G07
Picard, Pascal (*with* Lafay, J. F.; Kučera, Vladimír) Model matching for linear systems with delays and 2D systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 183–191. (Heide Gluesing-Luerssen) **99b:93017** 93B15 (93B30)
— (*with* Sename, O.; Lafay, J. F.) Weak controllability and controllability indices for linear neutral systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 223–233. (Summary) **99c:93009** 93B05 (34K40, 93C25)
Picard, Rosalind W. (*with* Sherstinsky, Alexander S.) On stability and equilibria of the M-lattice. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 408–415. (Summary) **99e:94011** 94A12 (92B20)
dana-Picard, Thierry *see* **Dana-Picard, Thierry**
Picardello, M. A. *see* **Berenstein, Carlos A. et al., 99c:00011**
Picaronny, Claudine (*with* Bérard, Béatrice) Accepting Zeno words without making time stand still. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 149–158, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q60 (68Q68)
saux Picart, Ph. *see* **Saux Picart, Ph.**
Picavet, Gabriel Deux remarques sur la semi-normalité. [Two remarks concerning seminormality] *Ital. J. Pure Appl. Math. No.* 1 (1997), 101–108 (1998). (Jean-Luc Chabert) **99m:13043** 13F45 (13C11)
— Anodality. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 345–393. (David E. Rush) **99b:13011** 13B22 (13D15)
almira Picazo, J. M. *see* **Almira Picazo, J. M.**
Piccardi, Carlo Bifurcation analysis via harmonic balance in periodic systems with feedback structure. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1507–1515. 93B52 (34C23)
Piccarreta, Salvina (*with* Grasselli, Luigi) Tetrahedron manifolds via coloured graphs. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 125–137. (Seiya Negami) **99b:57004** 57M15 (05C10, 57N10)
Picci, Giorgio Stochastic realization and system identification. *Statistical methods in control and signal processing*, 1–35, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E12 (93B15)
— (*with* van den Hof, J. M.; van Schuppen, J. H.) Primes in several classes of the positive matrices. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 149–185. (D. J. Hartfiel) **99f:15019** 15A23 (15A48, 15A51)
— *see also* **Dynamical systems, control, coding, computer vision, 99k:93006**
Piccinelli, Gabriella (*with* Matos, Tonatiuh; Arreaga, Guillermo) Inflation from an effective standard model of particle physics for curved spacetime. (English summary) *Internat. J. Modern Phys. D* **8** (1999), *no.* 3, 337–347. 81T20 (81V17)
Piccinini, Laurent Convergence of nonmonotone sequence of sub-σ-fields and convergence of associated subspaces $L^p(\mathscr{F}_n)$ ($p \in [1, +\infty]$). (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 73–90. (Richard Becker) **99m:28006** 28A05 (46E30, 60A10)
Piccinini, Renzo A. (*with* Spreafico, Mauro) The Milgram-Steenrod construction of classifying spaces for topological groups. *Exposition. Math.* **16** (1998), *no.* 2, 97–130. (From the introduction) **99f:55022** 55R35
— (*with* Pacati, Claudio; Pavešić, Petar) On the classification of $\mathscr{F}$-fibrations. (English summary) *Topology Appl.* **87** (1998), *no.* 3, 213–227. (Frank Neumann) **99d:55008** 55R35 (18B30, 55R65)
Piccinni, Paolo (*with* Ornea, Liviu) The structure of compact quaternion Hermitian-Weyl manifolds. Proceedings of the Second International Workshop on Differential Geometry and its Applications (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **3** (1995), *no.* 2, 91–96. (From the text) **99a:53062** 53C25
— (*with* Ornea, Liviu) A class of quaternionic manifolds admitting a compatible complex structure. (Italian. English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 4, 293–298. (Andrew Swann) **99k:53096** 53C25 (53C15, 53C56)
— Manifolds with local quaternion Kähler structures. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 4, 679–696 (1998). (Liviu Ornea) **99c:53049** 53C25 (53C15, 53C55)
— (*with* Ornea, Liviu) Weyl structures on quaternionic manifolds. (English summary) *Quaternionic structures in mathematics and physics (Trieste, 1994)*, 231–236 (*electronic*), *Int. Sch. Adv. Stud. (SISSA), Trieste*, 1998. (Andrew Swann) **99k:53098** 53C25
— The geometry of positive locally quaternion Kähler manifolds. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 3, 255–272. (María Laura Barberis) **99f:53047** 53C25 (53C15, 53C35)
— (*with* Ornea, Liviu) Compact hyper-Hermitian-Weyl and quaternion Hermitian-Weyl manifolds. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 4, 383–398. (Andrew Swann) **99k:53097** 53C25 (53C15, 53C56)
— (*with* Ornea, Liviu) Induced Hopf bundles and Einstein metrics. (English summary) *New developments in differential geometry, Budapest* 1996, 295–305, *Kluwer Acad. Publ., Dordrecht*, 1999. (Andrew Bucki) **99k:53099** 53C25 (53C15)
Piccione, Michele (*with* Rubinstein, Ariel) On the interpretation of decision problems with imperfect recall. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 3–24. (*see* **99b:90162**) 90A05 (90D40)
— (*with* Rubinstein, Ariel) The absent-minded driver's paradox: synthesis and responses. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 121–130. (*see* **99b:90162**) 90A05 (90D40)
— (*with* Binmore, Ken; Samuelson, Larry) Evolutionary stability in alternating-offers bargaining games. (English summary) *J. Econom. Theory* **80** (1998), *no.* 2, 257–291. (Summary) **99f:90201** 90D12
Piccione, Paolo (*with* Giannoni, Fabio; Verderesi, José A.) An approach to the relativistic brachistochrone problem by sub-Riemannian geometry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6367–6381. (Fernand Pelletier) **99a:58038** 58E10 (49J10)
— (*with* Giannoni, Fabio; Masiello, Antonio) A Morse theory for light rays on stably causal Lorentzian manifolds. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 4, 359–412. (Author's review (P.P.)) **99i:58034** 58E10
— (*with* Giannoni, Fabio; Masiello, Antonio) A timelike extension of Fermat's principle in general relativity and applications. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 3, 263–283. (Anna Germinario) **99c:58033** 58E10 (58E05)
— (*with* Masiello, Antonio) Shortening null geodesics in Lorentzian manifolds. Applications to closed light rays. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 1, 47–70. (Maria Letizia Bertotti) **99a:58039** 58E10 (53C22, 53C50)
— (*with* Perlick, Volker) A general-relativistic Fermat principle for extended light sources and extended receivers. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1461–1476. (Anna Germinario) **99h:58038** 58E10 (53C50, 58E30, 83C10)
— (*with* Giannoni, Fabio) An existence theory for relativistic brachistochrones in stationary space-times. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6137–6152. (Anna Germinario) **99j:58046** 58E10
— (*with* Giannoni, Fabio) An intrinsic approach to the geodesical connectedness of stationary Lorentzian manifolds. (English summary) *Comm. Anal. Geom.* **7** (1999), *no.* 1, 157–197. (Anna Germinario) **99m:58051** 58E10 (53C50, 58E05)
Piccioni, Mauro (*with* Scarlatti, Sergio; Trouvé, Alain) A variational problem arising from speech recognition. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 753–771 (*electronic*). (Ilya S. Molchanov) **99c:49038** 49N55 (68T10)
— (*with* Baldi, Paolo) A representation formula for the large deviation rate function for the empirical law of a continuous time Markov chain. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 107–115. (Rüdiger Kiesel) **99k:60070** 60F10 (60J27)

Picco, Marco (*with* Dotsenko, Viktor S.; Dotsenko, Vl. S.) Random bond Potts model: the test of the replica symmetry breaking. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 3, 633–674. (Barbara Gentz) **99f:82032** 82B44
— *see also* **Strings, branes and dualities, 99k:81009**
Picco, Pierre (*with* Bovier, Anton) Limit theorems for Bernoulli convolutions. *Disordered systems (Temuco, 1991/1992)*, 135–158, *Travaux en Cours*, 53, *Hermann, Paris*, 1996. (H. Teicher) **99c:60062** 60F15 (60F05)
— (*with* Bovier, Anton; Gayrard, Véronique) Typical profiles of the Kac-Hopfield model. *Mathematical aspects of spin glasses and neural networks*, 187–241, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Peter Eichelsbacher) **99c:82035** 82B44 (60K35)
— (*with* Martínez, Servet A.; San Martín, Jaime) Domain of attraction of quasi-stationary distributions for the Brownian motion with drift. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 385–408. (F. B. Knight) **99i:60156** 60J65 (60J60)
— (*with* Fontes, L. R. G.; Isopi, M.; Kohayakawa, Y.) The spectral gap of the REM under Metropolis dynamics. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 917–943. (Christian Maes) **99g:60184** 60K35 (82B44)
— (*with* Mathieu, Pierre[2]) Metastability and convergence to equilibrium for the random field Curie-Weiss model. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 679–732. (Anton Bovier) **99d:82057** 82C44 (60J27)
— (*with* Buttà, Paolo) Large-deviation principle for one-dimensional vector spin models with Kac potentials. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 101–150. (Barbara Gentz) **99f:82003** 82B05 (60F10)
Piccoli, Benedetto Time-optimal control problems for the swing and the ski. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1409–1429. 49N55 (49K15)
— Infinite time regular synthesis. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 381–405 (*electronic*). (Matthias Kawski) **99m:49058** 49N30 (49J52, 49K15)
— (*with* Bressan, Alberto) A generic classification of time-optimal planar stabilizing feedbacks. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 12–32 (*electronic*). (Henk Nijmeijer) **99c:93085** 93D15 (49J15, 93B29)
loli Piccolomini, E. *see* **Loli Piccolomini, E.**
Piccolomini, Elena Loli *see* **Loli Piccolomini, E.**
Pichelin, E. (*with* Coupez, T.) Finite element solution of the 3D mold filling problem for viscous incompressible fluid. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 359–371. 76M10 (76D99)
Pichkur, V. V. (*with* Garashchenko, F. G.) Structural optimization of dynamical systems on the basis of the generalized Bellman principle. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 6–13, 149. (Summary) **99j:49060** 49L20 (90C29, 90C39)
Pichon, L. (*with* Saadi, A.) Analysis of 3D scattering problems using finite elements and exact boundary conditions. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 113–121, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (78A45)
Pichór, Katarzyna (*with* Rudnicki, Ryszard) Stability of Markov semigroups and applications to parabolic systems. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 56–74. (Jörg-Uwe Löbus) **99a:47066** 47D07 (35K10, 60J35)
— Asymptotic stability of a partial differential equation with an integral perturbation. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 1, 83–96. (Wojciech Bartoszek) **99b:47061** 47D07 (35K22, 47A35)
Pichot, Christian (*with* Lobel, Pierre; Blanc-Féraud, Laure; Barlaud, Michel) Edge-preserving regularization for quantitative reconstruction algorithms in microwave imaging. *Inverse problems, tomography, and image processing (Newark, DE, 1997)*, 113–124, *Plenum, New York*, 1998. (*see* **99a:00030**) 94A12 (65R10)
Pichugov, S. A. (*with* Babenko, Vladislav F.; Kofanov, V. A.) On exact inequalities of Landau-Hadamard-Kolmogorov type for functions of several variables. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 7–9. (Vladimir D. Stepanov) **99b:26027** 26D10 (47A30)
— (*with* Babenko, Vladislav F.; Kofanov, V. A.) Kolmogorov-type inequalities and the approximation of functional classes. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 11–16. (Yu. A. Brudnyĭ) **99m:41018** 41A17 (41A65)
— (*with* Babenko, Vladislav F.; Kofanov, V. A.) Inequalities for norms of intermediate derivatives of periodic functions and their applications. (English summary) *East J. Approx.* **3** (1997), *no.* 3, 351–376. (Ha Huy Bang) **99f:41012** 41A17 (26D10)
— (*with* Babenko, Vladislav F.; Kofanov, V. A.) Additive inequalities for intermediate derivatives of differentiable mappings of Banach spaces. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 332–342; *translation in Math. Notes* **63** (1998), *no.* 3-4, 293–301. (Kazimierz Włodarczyk) **99j:46048** 46G05 (46G20, 58B10, 58C25)
— (*with* Babenko, Vladislav F.; Kofanov, V. A.) Inequalities of Kolmogorov type and some their applications in approximation theory. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 223–237. (Gianluca Vinti) **99g:26035** 26D07 (26D10, 41A17)
Pichushkin, V. V. (*with* Bulanov, S. V.; Echkina, E. Yn.; Inovenkov, I. N.; Pegoraro, F.) On the structural stability of magnetic configurations with two null lines. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 802–815. (Summary) **99k:76151** 76W05
Pick, J. B. Natural and spectral convergence measures of Leslie matrices: additive norms and the imprimitive cases. (English summary) Recent advances in mathematical and computational studies in demography. *Math. Comput. Modelling* **26** (1997), *no.* 6, 25–37. (Poul Einer Hansen) **99b:92047** 92D25 (92H20)
Pick, Luboš (*with* Cianchi, Andrea) Sobolev embeddings into BMO, VMO, and L_∞. (English summary) *Ark. Mat.* **36** (1998), *no.* 2, 317–340. (Ritva M. Hurri-Syrjänen) **99k:46052** 46E35 (46E30)
Pickavance, Keith (*with* Hoggar, Stuart G.) The weight distribution of *KM* codes. *Applications of combinatorial mathematics (Oxford, 1994)*, 95–117, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Mihai Caragiu) **99d:94031** 94B05 (94B60)
Pickering, A. *see* **Pickering, Austin**
Pickering, Andrew (*with* Clarkson, Peter A.; Gordoa, Pilar R.) Multicomponent equations associated to non-isospectral scattering problems. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1463–1476. (R. G. Airapetyan) **99d:35136** 35Q53 (34A55, 34L25, 35Q58, 58F07)
— (*with* Clarkson, Peter A.; Joshi, Nalini) Bäcklund transformations for the second Painlevé hierarchy: a modified truncation approach. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 175–187. (Andrei A. Kapaev) **99m:34009** 34A34 (34A25)
Pickering, Austin (*with* Jack, Ian; Jones, D. R. T.) Renormalisation invariance and the soft β-functions. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 73–77. (Summary) **99b:81157** 81T17 (81R40)
Pickover, Clifford A. *see* **Chaos and fractals, 99g:58086**
Picouet, Philippe (*with* Vianu, Victor) Expressiveness and complexity of active databases. (English summary) *Database theory—ICDT '97 (Delphi)*, 155–172, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15
— (*with* Vianu, Victor) Semantics and expressiveness issues in active databases. (English summary) 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Jose, CA, 1995). *J. Comput. System Sci.* **57** (1998), *no.* 3, 325–355. (Summary) **99k:68044** 68P15
Pictet, Olivier V. (*with* Dacorogna, Michel M.; Müller, Ulrich A.) Hill, bootstrap and jackknife estimators for heavy tails. (English summary) *A practical guide to heavy tails (Santa Barbara, CA, 1995)*, 283–310, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62G05 (62G09)
Picton, Philip (*with* Johnson, Jeffrey Horace) How to train a neural network: an introduction to the new computational paradigm. (English summary) *Complexity* **1** (1995/96), *no.* 6, 13–27. 68T05
Pidcock, M. K. (*with* Aparicio, N. D.) On a class of free boundary problems for the Laplace equation in two dimensions. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 9–18. (Yongzhi Xu) **99a:35274** 35R35 (35J05)
Piechocki, W. (*with* Kalinowski, M. W.) Prequantization of field theory. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 305–311. (Jaime Muñoz Masqué) **99c:81109** 81S10 (58F06, 70G50)
Piechocki, Włodzimierz (*with* Dzhordzhadze, G. P.) Dynamical ambiguities in a singular gravitational field. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, *L*41–*L*45. (Maciej Przanowski) **99g:83013** 83C10
— (*with* Dzhordzhadze, G. P.) Massless particle in 2d spacetime with constant curvature. (English summary) *Phys. Lett. B* **448** (1999), *no.* 3-4, 203–208. (Summary) **99m:83162** 83C99 (81R05)
— Topology of solutions to the Liouville equation. (English summary) Coherent states, differential and quantum geometry (Białowieża, 1997). *Rep. Math. Phys.* **43** (1999), *no.* 1-2, 299–301. (*see* **99k:81004**) 81T10
Piedbœuf, Jean-Claude Recursive modeling of serial flexible manipulators. (English summary) *J. Astronaut. Sci.* **46** (1998), *no.* 1, 1–24. (Summary) **99h:70008** 70B15 (73K12)
Piedmonte, Michael D. (*with* Meckl, Peter H.; Nwokah, Osita D. I.; Franchek, Matthew A.) Multivariable vibration control of a coupled flexible structure using QFT. (English summary) *Internat. J. Control* **69** (1998), *no.* 4, 475–498. 93C85 (73K50)
Piegat, Andrzej Nonregular nonlinear sector modelling. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 611–632. 93A30
Piegl, Les A. (*with* Tiller, Wayne) Algorithm for computing the product of two *B*-splines. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 337–344, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17 (65Y25)
— (*with* Tiller, Wayne) Computing the derivative of NURBS with respect to a knot. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 925–934. (Summary) **99e:65032** 65D25
— (*with* Hawat, R. N.) Genetic algorithm approach to curve-curve intersection. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 269–282. (*see* **99i:65004**) 65Y25
Piekarski, J. (*with* Mróz, Zenon) Sensitivity analysis and optimal design of non-linear structures. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 7, 1231–1262. (Summary) **99c:73056** 73K40
— (*with* Rousselet, Bernard; Myśliński, A.) Design sensitivity for a hyperelastic rod in large displacement with respect to its midcurve shape. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 683–708. (Christian Zillober) **99a:73099** 73K40 (49M30, 49Q10, 73C50, 73K05)
Pienaar, I. (*with* Nel, D. G.) The decomposition of the Behrens-Fisher statistic in q-dimensional common principal component submodels. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 2, 241–252. (Summary) **99i:62137** 62H25
Piene, Ragni (*with* Martin-Deschamps, Mireille) Arithmetically Cohen-Macaulay curves in $\mathbf{P}^4$ of degree 4 and genus 0. (English summary) *Manuscripta Math.* **93** (1997), *no.* 3, 391–408. (Summary) **99b:14001** 14C05
Pieniążek, Leszek The Conley index and retarded functional-differential equations. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 143–148. (Christopher K. McCord) **99m:34165** 34K15 (54H20, 58F32)
Pientka, Brigitte (*with* Kreitz, Christoph) Instantiation of existentially quantified variables in inductive specification proofs. (English summary) *Artificial intelligence and symbolic computation (Plattsburgh, NY, 1998)*, 247–258, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 68Q60 (03B35)
Pieper, Gail W. *see* **Automated reasoning and its applications, 99a:68152**
Pieper, Herbert (*with* Knobloch, Eberhard; Pulte, Helmut) "... das Wesen der reinen Mathematik verherrlichen". (German summary) ["... to glorify the nature of pure mathematics"] *Math. Semesterber.* **42** (1995), *no.* 2, 99–132. (Detlef Laugwitz) **99c:01015** 01A55 (00A30)
— Carl Gustav Jacob Jacobi. *Mathematics in Berlin*, 41–48, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70
— *see also* **Correspondence: Legendre, Adrien-Marie–Jacobi, Carl Gustav Jacob, 99i:01022**
Pieper, Jeff K. Optimal control of a flexible manipulator and controller order reduction. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 331–343. 49N55 (93C85)
Pieper, Wilhelm M. Recursive Gauss integration. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 2, 77–90. 65D30 (65D32)

Pieper-Seier, Irene Zwei erfolgreiche Frauen in der Mathematik: Ruth Moufang (1905–1977) und Hel Braun (1914–1986). [Two successful women in mathematics: Ruth Moufang (1905–1977) and Hel Braun (1914–1986)] *Mitt. Math. Ges. Hamburg* **16** (1997), 25–38. (Karl-Heinz Schlote) **99d:01034** 01A70 (01A80)

— (*with* Spille, Bianca) On strong isotopy of Dickson semifields and geometric implications. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 364–373. (S. C. Althoen) **99h:17001** 17A35 (17A36, 51A40)

Piepho, Hans-Peter An algorithm for fitting the shifted multiplicative model. (English summary) *J. Statist. Comput. Simulation* **62** (1998), *no.* 1-2, 29–43. (Summary) **99m:62103** 62J05

Pieprzyk, Josef (*with* Bakhtiari, S.; Safavi-Naini, Reihaneh) On the weaknesses of Gong's collisionful hash function. (English summary) *J.UCS* **3** (1997), *no.* 3, 185–196 (*electronic*). 68P10

— (*with* Qu, Cheng Xin) Rotation-symmetric functions and fast hashing. (English summary) *Information security and privacy* (*Brisbane*, 1998), 169–180, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94058** 94A60

— (*with* Ghodosi, Hossein; Safavi-Naini, Reihaneh) Secret sharing in multilevel and compartmented groups. (English summary) *Information security and privacy* (*Brisbane*, 1998), 367–378, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94044** 94A60

— (*with* Ghodosi, Hossein; Safavi-Naini, Reihaneh; Wang, Huaxiong) On construction of cumulative secret sharing schemes. (English summary) *Information security and privacy* (*Brisbane*, 1998), 379–398, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60

Pier, Benoît (*with* Kudrolli, A.; Gollub, J. P.) Superlattice patterns in surface waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 99–111. (Summary) **99i:76015** 76B15 (76-05, 76E99)

— (*with* Huerre, Patrick; Chomaz, Jean-Marc; Couairon, Arnaud) Steep nonlinear global modes in spatially developing media. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2433–2435. (Summary) **99g:76062** 76E30

Pier, Jean-Paul *see* **Mathematical works, 99k:00022**

Pierce, Benjamin C. (*with* Ghelli, Giorgio) Bounded existentials and minimal typing. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 75–96. (Martin W. Bunder) **99f:03014** 03B40 (68N15)

— *see also* **Workshop: High-level Concurrent Languages, 99g:68009**

Pierce, Charles D. (*with* Moin, Parviz) A dynamic model for subgrid-scale variance and dissipation rate of a conserved scalar. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3041–3044. (Summary) **99g:76078** 76F99 (80A32)

Pierce, David (*with* Pillay, Anand) A note on the axioms for differentially closed fields of characteristic zero. (English summary) *J. Algebra* **204** (1998), *no.* 1, 108–115. (Alexandru Buium) **99g:12006** 12H05

Pierce, Pamela B. (*with* Waterman, Daniel) Regulated functions whose Fourier series converge for every change of variable. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 264–282. (Paolo M. Soardi) **99j:42006** 42A20

Pierce, Robert D. Inconsistencies in parameters estimated from impulsive noise. (English summary) *Current topics in nonstationary analysis* (*San Diego, CA*, 1995), 15–33, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:62046** 62F12

Pieri, Graziano (*with* Patrone, Fioravante; Tijs, Stef; Torre, Anna) On consistent solutions for strategic games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 191–200. (Milan Mareš) **99k:90211** 90D10 (90A14)

del Piero, Gianpietro *see* **Del Piero, Gianpietro**

Pierre, Michel (*with* Martin, Robert H.) Influence of mixed boundary conditions in some reaction-diffusion systems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 1053–1066. (Weihua Ruan) **99c:35113** 35K57 (35B30)

saint-Pierre, Patrick *see* **Saint-Pierre, Patrick**

Pierri, Rocco (*with* Soldovieri, Francesco) On the information content of the radiated fields in the near zone over bounded domains. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 321–337. (Summary) **99a:78008** 78A10 (78–08)

di Pierro, Alessandra *see* **Di Pierro, Alessandra**

de Pierro, Alvaro R. *see* **De Pierro, Alvaro R.**

Pierzchalski, Antoni *see* **Rudin, Walter, 99g:00008**

Pies, Eike ★ Der Mordfall Descartes. (German. German summary) [The murder case of Descartes] Dokumente—Indizien—Beweise. [Documents—circumstantial evidence—proofs] *Verlag E. & U. Brockhaus, Solingen*, 1996. 149 *pp. ISBN* 3-930132-05-2 (E. Gerlach) **99f:01022** 01A70 (01A45)

Piesch, Walter (*with* Wirth, Steffen) Lorenz curve chords and weighted mean deviation sums. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 3–19 (1998). 62P20

Piestun, Rafael (*with* Shamir, Joseph) Generalized propagation-invariant wave fields. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 12, 3039–3044. (Summary) **99i:78019** 78A40

Pietig, R. (*with* Wegner, F. J.) Low temperature expansion of the gonihedric Ising model. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 549–570. (Summary) **99e:82017** 82B20 (82B26)

Pietkiewicz-Koutny, Marta Synthesis of ENI-systems using minimal regions. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 565–580, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q90)

Pietra, Tito (*with* Siconolfi, Paolo) Fully revealing equilibria in sequential economies with asset markets. (English summary) *J. Math. Econom.* **29** (1998), *no.* 2, 211–223. (Summary) **99d:90038** 90A60 (90A09)

Pietracaprina, Andrea (*with* Grossi, Roberto; Pucci, Geppino) Optimal deterministic protocols for mobile robots on a grid. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 181–192, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68Q20 (68T99)

— *see also* **Algorithms—ESA '98, 99k:68004**

Pietramala, Paolamaria (*with* Marino, Giuseppe) Nonlinear multivalued problems on noncompact intervals. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 863–874. (Radu Precup) **99h:34024** 34A60 (47H04, 47N20)

— (*with* Marino, Giuseppe; Lewicki, Grzegorz) Finite chainability, locally Lipschitzian and uniformly continuous functions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 795–803. (T. H. Steele) **99m:26002** 26A15 (26A16)

de Pietri, Roberto *see* **De Pietri, Roberto**

Pietroni, M. (*with* D'Attanasio, M.) Gauge-invariant renormalization group at finite temperature. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 443–466. (Paulo A. Faria da Veiga) **99b:81156** 81T17

Piétrus, A. (*with* Miranville, Alain; Rakotoson, Jean Michel) Dynamical aspect of a generalized Cahn-Hilliard equation based on a microforce balance. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 315–345. (V. Lakshmikantham) **99c:35095** 35K45 (34G20, 35B40, 35Q53, 47H20)

Pietruska-Paluba, Katarzyna Asymptotic behaviour for the surviving Brownian motion on the Sierpiński gasket with Poisson obstacles. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 321–338 (19*N*). (Ben Hambly) **99c:60155** 60J25 (60G17, 60J60, 60K35)

Pietruszczak, Andrzej Mereological sets of distributive classes. (English summary) *Logic Log. Philos. No.* 4 (1996), 105–122. (Summary) **99f:03074** 03E70 (03B30)

Pietrzyk, Barbara Haar system as a Schauder basis in $L^{p(x,y)q(y)}$. I. (English summary) *Comment. Math. Prace Mat.* **38** (1998), 109–114. (Alberto Fiorenza) **99k:46046** 46E30

Piette, B. M. A. G. (*with* Zakrzewski, Wojciech J.) Soliton-like structures in two spatial dimensions and their properties. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 313–320. (Peter L. Christiansen) **99c:35201** 35Q40 (35Q51, 81T99)

— (*with* Zakrzewski, Wojciech J.) Numerical integration of (2 + 1)-dimensional PDEs for S^2 valued functions. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 359–381. 65M12 (65M70)

— (*with* Kudryavtsev, A. E.; Zakrzewski, Wojciech J.) Skyrmions and domain walls in (2 + 1) dimensions. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 783–795. (Summary) **99b:58074** 58E50 (81T10)

— (*with* Zakrzewski, Wojciech J.) Metastable stationary solutions of the radial d-dimensional sine-Gordon model. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1103–1110. (Summary) **99c:35215** 35Q53

— (*with* Zakrzewski, Wojciech J.) Localized solutions in a two-dimensional Landau-Lifshitz model. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 314–326. (Summary) **99d:82077** 82D40

Pievatolo, A. (*with* Green, Peter J.) Boundary detection through dynamic polygons. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 609–626. (Summary) **99a:62125** 62M05 (62M30)

Pigeot, I. (*with* Strugholtz, H.) Jackknifing the Mantel-Haenszel estimator in sparse contingency tables. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 433–441. (Summary) **99i:62135** 62H17

Pighizzini, Giovanni (*with* Bertoni, Alberto; Mauri, Giancarlo; Sabadini, N.) Algebraic and informational aspects of Zielonka's theorem. (English summary) *Semigroups* (*Luino*, 1992), 17–26, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 68Q45 (20M35, 68Q70)

— (*with* Choffrut, Christian) Distances between languages and reflexivity of relations. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 199–208, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68087** 68Q45 (03D05, 03D35)

— (*with* Mereghetti, Carlo) Optimal simulations between unary automata. (English summary) *STACS 98* (*Paris*, 1998), 139–149, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q68 (68Q45)

— (*with* Geffert, Viliam; Mereghetti, Carlo) Sublogarithmic bounds on space and reversals. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 325–340 (*electronic*). (Summary) **99c:68092** 68Q15 (68Q05)

Pignataro, Marcello W. T. Koiter (1914–1997). *Meccanica* **33** (1998), *no.* 6, 605–606. 01A70

Pigounakis, Konstantinos G. (*with* Kaklis, Panagiotis D.) Smoothing spatial cubic B-splines under shape constraints. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 345–354, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17 (65D07)

— (*with* Kaklis, Panagiotis D.) Fairing of 2D B-splines under design constraints. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 165–178. (*see* **99i:65004**) 65D17 (41A63)

Pigozzi, Don L. (*with* Blok, W. J.) On the congruence extension property. (English summary) *Algebra Universalis* **38** (1997), *no.* 4, 391–394. (V. N. Salïĭ) **99m:08007** 08A30 (08C15)

— (*with* Salibra, Antonino) Lambda abstraction algebras: coordinatizing models of lambda calculus. (English summary) *Fund. Inform.* **32** (1997), *no.* 1, 47–90. (Summary) **99c:03016** 03B40 (03G25)

— (*with* Leavens, Gary T.) Class-based and algebraic models of objects. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems* (*Rio de Janeiro*, 1997/*New Orleans, LA*, 1997), 31 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68N15 (68Q60)

Piguet, C.-A. (*with* Macris, Nicolas) Coexistence of long-range order for two observables at finite temperatures. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 749–755. (Summary) **99m:82005** 82B10 (81V70, 82B20)

Piguet, Olivier Supersymmetry, ultraviolet finiteness and grand unification. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 243–250, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T60 (81T17, 81V22)

— (*with* Del Cima, Oswaldo M.; Franco, Daniel H. T.; Helayël-Neto, José A.) On the non-renormalization properties of gauge theories with a Chern-Simons term. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 2, 25 *pp.* (*electronic*). (Massimo Di Pierro) **99d:81088** 81T15 (81T13)

— (*with* Wolf, Sylvain) The supercurrent trace identities of the $N = 1$, $D = 4$ super-Yang-Mills theory in the Wess-Zumino gauge. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 1, 46 *pp.* (*electronic*). (Summary) **99f:81206** 81T60 (81T13, 81T15, 83E50)

— (*with* Del Cima, Oswaldo M.; Franco, Daniel H. T.; Helayël-Neto, José A.) Exact scale invariance of the BF-Yang-Mills theory in three dimensions. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 10, 15 *pp.* (*electronic*). (Summary) **99c:81141** 81T15 (81T13, 81T50)

Pijaudier-Cabot, Gilles (*with* Huerta, Antonio; Diez, Pedro; Rodríguez-Ferran, Antonio) Error estimation and adaptive finite element analysis of softening solids. *Advances in*

adaptive computational methods in mechanics (*Cachan*, 1997), 333–347, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05

Pijeira-Cabrera, Héctor (*with* Martínez-Finkelshtein, Andrei; Moreno-Balcázar, Juan J.) Asymptotics for Gegenbauer-Sobolev type polynomials. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 85–91, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Summary) **99h:33043** 33C45

Pik, D. R. (*with* Kaashoek, M. A.) Factorization of lower triangular unitary operators with finite Kronecker index into elementary factors. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 183–217, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Mark A. Nudel'man) **99i:47035** 47A68 (15A23, 30D50, 47N70, 93B25)

— (*with* Arov, Damir Z.; Kaashoek, M. A.) Optimal time-variant systems and factorization of operators. I. Minimal and optimal systems. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 389–420. (Dmitriy S. Kalyuzhniy) **99i:47017** 47A48 (47A67, 47N70, 93B28)

Pike, David A. (*with* Billington, Elizabeth J.) Decomposing block-intersection graphs of Steiner triple systems into triangles. (English summary) *Australas. J. Combin.* **18** (1998), 51–64. (A. Rosa) **99m:05027** 05B07 (05C70)

— (*with* Dejter, I. J.; Rodger, C. A.) The directed almost resolvable Hamilton-Waterloo problem. (English summary) *Australas. J. Combin.* **18** (1998), 201–208. (Summary) **99f:05044** 05C20 (05C38)

— (*with* Hoffman, Dean G.) 4-cycle decompositions of the Cartesian product of two complete graphs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 215–226. (Summary) **99i:05166** 05C70 (05C38)

— Hamilton decompositions of block-intersection graphs of Steiner triple systems. (English summary) *Ars Combin.* **51** (1999), 143–148. (Summary) **99j:05136** 05C45 (05B07)

Pike, G. B. Multidimensional Fourier transforms in magnetic resonance imaging. *The Fourier transform in biomedical engineering*, 89–128, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99c:94011**) 92C55 (42B10)

Piket-May, Melinda (*with* Houshmand, Bijan; Itoh, Tatsuo[2]) High-speed electronic circuits with active and nonlinear components. *Advances in computational electrodynamics*, 461–511, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (*see* **99c:78001**) 78A55 (94C99)

Pikhurko, Oleg Extending metrics in compact pairs. (English and Russian summaries) *Mat. Stud.* **3** (1994), 103–106, 122. 54E35 (54C20)

Pikovskiĭ, A. S. (*with* Kurths, Jürgen; Rozenblyum, M. G.) Synchronization transitions in coupled chaotic oscillators. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium* (*San Diego, CA*, 1997), 39–46, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 70K50 (58F13)

— (*with* Politi, Antonio) Dynamic localization of Lyapunov vectors in spacetime chaos. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1049–1062. (Summary) **99b:58164** 58F13 (58F40)

— (*with* Zaks, Mikhail A.; Kurths, Jürgen) Symbolic dynamics behind the singular continuous power spectra of continuous flows. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 77–94. (Summary) **99b:58083** 58F03 (58F25)

— (*with* Abel, Markus; Flach, Sergej) Localization in a coupled standard map lattice. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 4–21. (Summary) **99e:58128** 58F13 (58F27)

Pilabré, N. Boukary (*with* Koulibaly, Akry) Sur la dupliquée Lie admissible d'une algèbre. (English and French summaries) [On the Lie-admissible duplicate of an algebra] *Afrika Mat.* (3) **9** (1998), 73–85. (Alberto Elduque) **99e:17044** 17D25 (17D92)

Pilant, Michael S. (*with* Ko, Jeonghwan; Kurdila, Andrew J.) Triangular wavelet based finite elements via multivalued scaling equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 1-2, 1–17. (Summary) **99c:65205** 65N30 (76M10)

Pilch, Krzysztof (*with* Bouwknegt, Peter; McCarthy, James G.) Operator algebra of the 4D $\mathscr{W}_3$ string. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 63–76, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81069** 81R10 (17B68, 81T30, 81T70)

— (*with* Bouwknegt, Peter) On deformed $\mathscr{W}$-algebras and quantum affine algebras. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 2, 357–397. (Mirko Primc) **99i:81090** 81R50 (17B68, 81R10)

— *see also* **Strings '95, 99h:81008**

Pileckas, Konstantin (*with* Padula, Mariarosaria) On the existence and asymptotical behaviour of a steady flow of a viscous barotropic gas in a pipe. *Ann. Mat. Pura Appl.* (4) **172** (1997), 191–218. (Raphaël Danchin) **99e:35187** 35Q35 (35B40, 76N10)

— (*with* Sequeira, Adélia; Videman, Juha H.) A note on steady flows of non-Newtonian fluids in channels and pipes. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 458–467, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35Q35 (76A05)

— (*with* Novotný, Antonín) Steady compressible Navier-Stokes equations with large potential forces via a method of decomposition. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 665–684. (Zhi Min Chen) **99c:35187** 35Q30 (76N10)

— (*with* Nazarov, Sergei A.) Asymptotics of solutions to Stokes and Navier-Stokes equations in domains with paraboloidal outlets to infinity. (English summary) *Rend. Sem. Mat. Univ. Padova* **99** (1998), 1–43. (Jürgen Socolowsky) **99h:35168** 35Q30 (35C20, 76D05)

— *see also* **Navier-Stokes equations and related nonlinear problems, 99m:35004**

Pilidi, V. S. A criterion for the uniform invertibility of a family of strong approximations of one-dimensional singular integral operators with continuous coefficients. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 430–439; *translation in Math. Notes* **62** (1997), *no.* 3-4, 360–367 (1998). (A. Böttcher) **99e:45001** 45E05 (45L05, 45P05, 47G10)

Pilipchuk, A. S. (*with* Pilipchuk, L. A.) An optimality criterion for a dual linear extremal problem. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 2, 46–49, 80. 90C05 (90C08)

Pilipchuk, L. A. (*with* Pilipchuk, A. S.) An optimality criterion for a dual linear extremal problem. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 2, 46–49, 80. 90C05 (90C08)

Pilipchuk, V. N. (*with* Starushenko, G. A.) On the representation of periodic solutions of differential equations by means of an oblique-angled saw-tooth transformation of the argument. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 11, 25–28. (From the text) **99m:34092** 34C25

— (*with* Vakakis, Alexander F.) Nonlinear normal modes and wave transmission in a class of periodic continuous systems. (English summary) *Dynamics and control of distributed systems*, 95–120, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99f:73035** 73D35 (73D25, 73K12)

— (*with* Vakakis, Alexander F.; Azeez, M. F. A.) Sensitive dependence on initial conditions of strongly nonlinear periodic orbits of the forced pendulum. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 3, 223–237. 70K40

— Application of special nonsmooth temporal transformations to linear and nonlinear systems under discontinuous and impulsive excitation. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 3, 203–234. (Summary) **99m:34012** 34A37 (34C29, 70J35, 70K40)

Pilipenko, A. Yu. On the localization of operators defined on spaces of square-integrable functions. (Russian) *Mathematics today* '95, *No.* 10 (*Russian*), 26–41, *Nauchn. Izdat. "TViMS", Kiev*, 1995. (Petru A. Kozhukhar') **99c:47038** 47B38 (47E05)

— On the existence and uniqueness of the solution of a linear stochastic differential equation with respect to a logarithmic process. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 863–871; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 966–975 (1998). (Rainer Buckdahn) **99e:60125** 60H07 (60H05, 60H10)

Pilipović, Stevan S. (*with* Đapić, N.) Microlocal analysis of Colombeau's generalized functions on a manifold. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 3, 293–309. (Introduction) **99h:46065** 46Fxx (58G07)

— (*with* Kamiński, Andrzej; Perišić, D.) On the convolution in the Gel'fand-Shilov spaces. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 83–96. (Hans-Jürgen Glaeske) **99e:46052** 46F10 (46F05)

— Boundary values of holomorphic functions in the sense of ultradistributions and the microlocal analysis via Poisson's kernel. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 239–256. (Michael Langenbruch) **99k:46069** 46F20 (35A27)

— (*with* Mijatović, Milorad) α-times integrated semigroups ($\alpha \in \mathbf{R}^-$). (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 153–162. (Alexei I. Filinkov) **99k:47096** 47D06 (34G10, 46F99)

— (*with* Nedeljkov, Marko; Scarpalézos, D.) ★ The linear theory of Colombeau generalized functions. (English summary) Pitman Research Notes in Mathematics Series, 385. *Longman, Harlow*, 1998. $x+156$ *pp. ISBN* 0-582-35683-0 (P. Szeptycki) **99m:46096** 46Fxx (35D05, 35S05)

— (*with* Carmichael, Richard D.) The Cauchy and Poisson kernels as ultradifferentiable functions. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 2, 171–186. (Summary) **99c:46039** 46F20 (32A40)

— (*with* Carmichael, Richard D.) Boundary values in ultradistribution spaces. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 3, 195–207. (Summary) **99c:46040** 46F20 (32A45)

— (*with* Carmichael, Richard D.) Cauchy and Poisson kernels for tubes. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 9–14. (Summary) **99f:46052** 46F05 (32A07)

— Linear equations with singular coefficients and nonlinear equations with non-Lipschitz nonlinearities. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 95–109. (Summary) **99d:35024** 35D99 (35A27, 35H05)

— (*with* Stanković, Bogoljub) The structure of a convergent family of Fourier hyperfunctions. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 277–287. (Summary) **99f:46059** 46F15

— (*with* Đapić, N.; Scarpalézos, D.) Microlocal analysis of Colombeau's generalized functions: propagation of singularities. (English summary) *J. Anal. Math.* **75** (1998), 51–66. (Todor Dimitrov Todorov) **99k:35007** 35A27 (46F10, 58G07)

— (*with* Nedeljkov, Marko) Generalized solution to a semilinear hyperbolic system with a non-Lipshitz nonlinearity. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 255–261. (Summary) **99a:35167** 35L60 (35D05, 46F10)

— Microlocal properties of ultradistributions. Composition and kernel type operators. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math. (Beograd) (N.S.)* **64(78)** (1998), 85–97. (Andrea D'Agnolo) **99k:46067** 46F10 (32A45, 35A27)

— (*with* Takači, Arpad; Teofanov, Nenad) Wavelets and quasiasymptotics at a point. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 40–52. (David F. Walnut) **99m:42052** 42C15

— (*with* Eida, Atsuhiko) On the microlocal decomposition of some classes of hyperfunctions. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 455–461. (Andrea D'Agnolo) **99m:58178** 58G07 (32A45, 46F15)

Pilitowska, Agata Identities for classes of algebras closed under the complex structures. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 85–109. (S. Comer) **99f:08001** 08A30 (03C05)

Pillai, R. N. (*with* Sandhya, E.) Geometric sums and Pareto law in reliability theory. (English summary) *IAPQR Trans.* **21** (1996), *no.* 2, 137–142. (Summary) **99j:62142** 62N05

Pillay, Anand (*with* Kim, Byunghan) Simple theories. Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 149–164. (Bruno Poizat) **99b:03049** 03C45

— Differential Galois theory. II. (English summary) Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 181–191. (Summary) **99m:12010** 12H05 (03C45, 03C60)

— (*with* Marker, David) Differential Galois theory. III. Some inverse problems. *Illinois J. Math.* **41** (1997), *no.* 3, 453–461. (From the introduction) **99m:12011** 12H05 (03C45, 03C60)

— (*with* Tsuboi, Akito) Amalgamations preserving $\aleph_0$-categoricity. *J. Symbolic Logic* **62** (1997), *no.* 4, 1070–1074. (G. Cherlin) **99m:03062** 03C35 (03C45)

— (*with* Kim, Byunghan) From stability to simplicity. *Bull. Symbolic Logic* **4** (1998), *no.* 1, 17–36. (Bruno Poizat) **99b:03050** 03C45 (03C60)

— Differential Galois theory. I. *Illinois J. Math.* **42** (1998), *no.* 4, 678–699. (Alexandru Buium) **99m:12009** 12H05 (03C45, 03C60, 12L12)

— (*with* Pierce, David) A note on the axioms for differentially closed fields of characteristic zero. (English summary) *J. Algebra* **204** (1998), *no.* 1, 108–115. (Alexandru Buium) **99g:12006** 12H05

— (*with* Ikeda, Koichiro; Tsuboi, Akito) On theories having three countable models. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 161–166. (G. Cherlin) **99m:03061** 03C15 (03C35, 03C45)

Pillet, Claude-Alain (*with* Jakšić, Vojkan) From resonances to master equations. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 4, 425–445. (Bruno Nachtergaele) **99k:82050** 82C10 (46L55, 46L60)

— (*with* Wayne, C. Eugene) Invariant manifolds for a class of dispersive, Hamiltonian, partial differential equations. (English summary) *J. Differential Equations* **141** (1997), *no.* 2, 310–326. (Peter E. Zhidkov) **99b:35193** 35Q55 (35B40, 58F39)

Pillin, Mathias The form factors in the sinh-Gordon model. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4469–4486. (Konstantin G. Selivanov) **99m:81131** 81T10

— Exact two-particle matrix elements in S-matrix preserving deformation of integrable QFTs. (English summary) *Phys. Lett. B* **448** (1999), *no.* 3-4, 227–233. (Summary) **99m:81132** 81T10 (81T40)

de Pillis, Lisette A comparison of iterative methods for solving nonsymmetric linear systems. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 2, 141–159. (Summary) **99b:65038** 65F10

— Newton's cubic roots. (English summary) *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 5, 236–241. 65H05

— (*with* Radunskaya, A. E.) The multiple-scale wave equation. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 33–80. (Summary) **99j:35011** 35B25 (35L05)

— (*with* Chan, Tony F. C.; Van der Vorst, Henk A.) Transpose-free formulations of Lanczos-type methods for nonsymmetric linear systems. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 51–66. (Summary) **99d:65101** 65F10

di Pillo, G. *see* **Di Pillo, G.**

Pillone, D. (*with* Ghoshal, J.; Jacobs, David P.; Laskar, Renu C.) Partitions in tournaments. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 145–155. (Summary) **99j:05081** 05C20 (05C85)

Pillons, Ludovic Description des variétés quotients par $\mathrm{SL}(2,k)$. (English and French summaries) [Description of quotient varieties by $\mathrm{SL}(2,k)$] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1023–1026. (Summary) **99g:14060** 14L30 (14D25)

Pillot, Michel (*with* Dolecki, Szymon) Relatively maximal convergences. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 699–704. (Summary) **99h:54001** 54A20

— (*with* Dolecki, Szymon) Topologically maximal convergences, accessibility, and covering maps. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 371–384. (Summary) **99j:54005** 54A20 (54D50, 54D55)

schulze-Pillot, Rainer *see* **Schulze-Pillot, Rainer**

Pilo, L. (*with* Guadagnini, Enore) Three-manifold invariants and their relation with the fundamental group. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 47–65. (Răzvan Gelca) **99g:57019** 57N10 (57M05)

Piltant, Olivier (*with* Cossart, Vincent; Reguera, Ana José) On isomorphisms of blowing-ups of complete ideals of a rational surface singularity. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 65–73. (M. Kh. Gizatullin) **99k:14004** 14B05 (14J17)

Piltner, R. (*with* Taylor, Robert Leroy) A systematic construction of B-bar functions for linear and non-linear mixed-enhanced finite elements for plane elasticity problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 5, 615–639. (Summary) **99j:73099** 73V05

Pilyugin, S. Yu. (*with* Vasil'eva, E. V.; Pliss, Viktor Aleksandrovich) Local properties of plane homoclinic structures, and Hausdorff dimension. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 595–601, 716; *translation in Differential Equations* **33** (1997), *no.* 5, 599–605 (1998). (A. Ya. Narmanov) **99f:58138** 58F12

Pilyugina, Violetta (*with* Fel'shtyn, A. L.) Topology of an attraction domain, dynamical zeta functions and Reidemeister torsion. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 259–278. (Dieter H. Mayer) **99f:58164** 58F20 (58F12)

Pimenov, S. F. (*with* Kontorovich, V. M.) Exact solution of the Kompaneets equations for a strong point blast in a medium with a quadratic law of density decrease. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 6, 683–698; *translation in Radiophys. and Quantum Electronics* **41** (1998), *no.* 6, 457–468. (Summary) **99h:85001** 85A15 (76N10)

Pimenov, V. G. (*with* Kim, A. V.) Multistep numerical methods for functional-differential equations. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 377–384. (David R. Hill) **99f:65102** 65L05 (65L20)

Pimentel, B. M. (*with* Teixeira, R. G.; Tomazelli, J. L.) Hamilton-Jacobi approach to Berezinian singular systems. (English summary) *Ann. Physics* **267** (1998), *no.* 1, 75–96. (Frans Cantrijn) **99i:58064** 58F05 (58C50, 70G99, 70H20)

Pimentel, Luis O. Non-diagonal singularity-free cosmological solution with a minimally coupled scalar field. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 183–189, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83021** 83C20 (83D05)

— (*with* Diaz-Rivera, Luz M.) Coasting cosmologies with time dependent cosmological constant. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 10, 1523–1529. 83D05 (83F05)

— Inhomogeneous string cosmology solutions with regular space-time curvature. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 1, 43–49. 83C15 (83F05)

Pin, Jean-Éric Finite semigroups and recognizable languages: an introduction. *Semigroups, formal languages and groups* (*York*, 1993), 1–32, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Dong Yang Long) **99f:68124** 68Q45 (20M35, 68Q70)

— **BG = PG**: a success story. *Semigroups, formal languages and groups* (*York*, 1993), 33–47, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (P. Goralčík) **99e:20072** 20M07

— (*with* Perrin, Dominique) Semigroups and automata on infinite words. *Semigroups, formal languages and groups* (*York*, 1993), 49–72, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Dong Yang Long) **99f:68123** 68Q45 (20M35, 68R15)

— (*with* Froidure, Véronique) Algorithms for computing finite semigroups. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 112–126, *Springer, Berlin*, 1997. (Jorge Almeida) **99k:20111** 20M10

— Bridges for concatenation hierarchies. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 431–442, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68110** 68Q45 (68Q70)

— Tropical semirings. *Idempotency* (*Bristol*, 1994), 50–69, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (C. J. Maxson) **99a:16045** 16Y60 (68Q45, 68Q70)

— Positive varieties and infinite words. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 76–87, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68Q70

cabello Piñar, Juan Carlos *see* **Cabello Piñar, Juan Carlos**

Piñar, Miguel A. (*with* Marcellán, Francisco; Meijer, Hendrik Gerrit; Pérez, Teresa E.) An asymptotic result for Laguerre-Sobolev orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 87–94. (Summary) **99a:33006** 33C45 (42C05)

— (*with* Álvarez de Morales, María; Pérez, Teresa E.; Ronveaux, André) Orthogonal polynomials associated with a nondiagonal Sobolev inner product with polynomial coefficients. (English summary) *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 343–358, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (A. N. Srivastava) **99k:33017** 33C45 (33C80, 42C05)

— (*with* Pérez, Teresa E.) Sobolev orthogonality and properties of the generalized Laguerre polynomials. (English summary) *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 375–385, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (A. N. Srivastava) **99k:33018** 33C45 (33C80, 42C05)

— (*with* Álvarez de Morales, María; Pérez, Teresa E.) Sobolev orthogonality for the Gegenbauer polynomials $\{C_n^{(-N+1/2)}\}_{n\geq 0}$. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 111–120. (B. D. Agrawal) **99k:33019** 33C45

Pinar, Mustafa Çelebi (*with* Elhedhli, Samir) A penalty continuation method for the l_∞ solution of overdetermined linear systems. (English summary) *BIT* **38** (1998), *no.* 1, 127–150. (Marlies Borchardt) **99j:65111** 65K10 (65F20, 90C20)

— (*with* Chen, Bintong) On Newton's method for Huber's robust M-estimation problems in linear regression. (English summary) *BIT* **38** (1998), *no.* 4, 674–684. (Girdhar G. Agarwal) **99k:62065** 62F35 (62J05, 65U05)

— (*with* Chen, Bintong) l_1 solution of linear inequalities. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 19–37. (Horst Hollatz) **99j:90085** 90C30 (15A39, 65K05)

— (*with* Madsen, Kaj; Nielsen, Hans Bruun) A finite continuation algorithm for bound constrained quadratic programming. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 62–83 (*electronic*). (Wu Li) **99k:90113** 90C20 (90C25)

Pinchinat, Sophie (*with* Kushnarenko, Olga) Intensional approaches for symbolic methods. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q55, 68Q60)

Pinchon, Didier (*with* Guillemin, Fabrice) Continued fraction analysis of the duration of an excursion in an $M/M/\infty$ system. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 165–183. (Summary) **99b:60157** 60K25 (30E15, 33C45, 68M20)

— (*with* Guillemin, Fabrice) On the area swept under the occupation process of an $M/M/1$ queue in a busy period. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 383–398. (Vladimir V. Kalashnikov) **99j:60142** 60K25

Pinchover, Yehuda On principal eigenvalues for indefinite-weight elliptic problems. *Spectral and scattering theory* (*Newark, DE*, 1997), 77–87, *Plenum, New York*, 1998. (B. Hellwig) **99h:35034** 35J15 (35P05, 47A55, 47F05)

— Generalized principal eigenvalues for indefinite-weight elliptic problems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 697–702. (Günter Berger) **99j:35152** 35P05 (35J25, 47A55, 47F05)

Pinchuk, S. I. (*with* Bedford, Eric) Domains in $\mathbb{C}^2$ with noncompact automorphism groups. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 199–222. (Steven George Krantz) **99e:32058** 32M05 (32A07)

Pinchukov, V. I. A sixth-order compact scheme for solving Euler equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1717–1720; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1648–1651. (Summary) **99f:76092** 76M20 (65M06, 76N15)

Pincus, Steve (*with* Kalman, Rudolf E.) Not all (possibly) "random" sequences are created equal. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 8, 3513–3518. (Summary) **99d:68179** 68R05 (60A05, 68Q30)

— (*with* Singer, Burton H.) A recipe for randomness. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 18, 10367–10372 (*electronic*). (Summary) **99d:11086** 11K45 (65C10, 68Q30)

Pinder, George F. (*with* Tucciarelli, Tullio; Karatzas, George P.) A primal method for the solution of the groundwater quality management problem. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 463–473. 90C90

Pindor, Maciej (*with* Gilewicz, Jacek) Padé-type approximants and errors of Padé approximants. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 155–165. (Ralitza Kovacheva) **99k:41017** 41A21 (41A55)

Pineau, Jean-Philippe (*with* Casalis, Grégoire; Avalon, Gérard) Spatial instability of planar channel flow with fluid injection through porous walls. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2558–2568. 76E99

Pineda, Antonio (*with* Soto, Joan) The Lamb shift in dimensional regularisation. (English summary) *Phys. Lett. B* **420** (1998), *no.* 3-4, 391–396. (Lewis H. Ryder) **99a:81200** 81V10 (81T15)

juan-Pineda, Daniel *see* **Juan-Pineda, Daniel**

angeles japon Pineda, M. *see* **Angeles Japon Pineda, M.**

delgado Pineda, Miguel *see* **Delgado Pineda, Miguel**

Pineda Ruelas, Mario On the equation $f(t) = t^m - t^{m-1} - x \in k(x)[t]$. (English summary) *XXVIII National Congress of the Mexican Mathematical Society (Spanish) (Colima, 1995)*, 119–124, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Helmut Völklein) **99k:11183** 11S15

Pinedo, Michael (*with* Simchi-Levi, David) Heuristic methods. *Mathematical programming for industrial engineers*, 575–617, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C08 (90–02, 90C27)

— (*with* Singer, Marcos) A shifting bottleneck heuristic for minimizing the total weighted tardiness in a job shop. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 1–17. (Summary) **99h:90054** 90B35 (90C35)

Piñeiro, Cándido (*with* Marchena, Begoña) A note on sequences lying in the range of a vector measure valued in the bidual. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3013–3017. (Giovanni Emmanuele) **99a:46023** 46B20 (28B05, 46G10)

Pinelis, Iosif (*with* Chubarev, Alexander) Fundamental theorem of geometry without the 1-to-1 assumption. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2735–2744. (W. Benz) **99m:51002** 51A15 (51A05, 51A25, 51A45)

Pinello, C. (*with* Balluchi, A.; Di Benedetto, M. D.; Sangiovanni-Vincentelli, Alberto L.) Hybrid control in automotive applications. *Dynamical systems, control, coding, computer vision (Padova, 1998)*, 449–479, *Progr. Systems Control Theory*, 25, *Birkhäuser, Basel*, 1999. (*see* **99k:93006**) 93C95 (93B30)

simón Pinero, Juan Jacobo *see* **Simón Pinero, Juan Jacobo**

Ping, Jia Lun (*with* Fa, Wei; Pang, Hou Rong) Algebraic expressions for irreducible representations of the point-group D_{6h}. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 3, 41–47. 20C35 (81R05)

Ping, Ronggang (*with* Zheng, Ruilun) An improvement in selfconsistent cluster method for determining the critical point in Ising spin system. (English summary) *Xinan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1996), *no.* 5, 452–460. 82B20

Pinheiro, A. B. (*with* Roditi, Itzhak) Nonextensive thermostatistics and deformed structures. (English summary) *Phys. Lett. A* **242** (1998), *no.* 6, 296–300. (Summary) **99b:82032** 82B30

Pinheiro, José C. (*with* DeMets, David L.) Estimating and reducing bias in group sequential designs with Gaussian independent increment structure. (English summary) *Biometrika* **84** (1997), *no.* 4, 831–845. (Summary) **99a:62120** 62L10 (62P10)

Pinho, Fernando T. (*with* Oliveira, Paulo J.) Analytical solution for fully developed channel and pipe flow of Phan-Thien–Tanner fluids. (English summary) *J. Fluid Mech.* **387** (1999), 271–280. 76A05

Pini, Giorgio (*with* Gambolati, Giuseppe) A numerical eigenvalue study of preconditioned non-equilibrium transport equations. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 343–361. 76S05 (76M25)

Pini, Rita (*with* Singh, Chanchal) A survey of recent [1985–1995] advances in generalized convexity with applications to duality theory and optimality conditions. (English summary) *Optimization* **39** (1997), *no.* 4, 311–360. (Summary) **99a:90161** 90C26 (49K27, 49N15, 65K05, 90–02)

— (*with* Singh, Chanchal) (Φ_1, Φ_2)-convexity. (English summary) *Optimization* **40** (1997), *no.* 2, 103–120. (Gerard Sierksma) **99i:52010** 52A41 (52A40, 90C99)

allueva Pinilla, Ana *see* **Allueva Pinilla, Ana**

calvo Pinilla, Manuel *see* **Calvo Pinilla, Manuel**

pérez Pinilla, Martín-Blas *see* **Pérez Pinilla, Martín-Blas**

garcía-Pinillos, M. *see* **García-Pinillos, M.**

Pink, Richard Compact subgroups of linear algebraic groups. (English summary) *J. Algebra* **206** (1998), *no.* 2, 438–504. (Herbert Abels) **99g:20087** 20G25 (22C05)

Pinkall, Ulrich (*with* Kamberov, Georgi I.; Pedit, Franz) Bonnet pairs and isothermic surfaces. *Duke Math. J.* **92** (1998), *no.* 3, 637–644. (Luis J. Alías) **99h:53009** 53A10 (53A05)

Pinkse, Joris A consistent nonparametric test for serial independence. (English summary) *J. Econometrics* **84** (1998), *no.* 2, 205–231. (Summary) **99b:62081** 62G10 (62M10)

— (*with* Slade, Margaret E.) Contracting in space: an application of spatial statistics to discrete-choice models. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 125–154. (Summary) **99c:62290** 62P20 (62H11)

Pinkus, Allan Approximating by ridge functions. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc, 1996)*, 279–292, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Dietrich Braess) **99i:41020** 41A30

— An interlacing property of eigenvalues of strictly totally positive matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 201–206. (Thomas L. Markham) **99f:15013** 15A18 (15A48)

— (*with* Buhmann, Martin D.) Identifying linear combinations of ridge functions. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 1, 103–118. (Andrei Martínez Finkelshtein) **99k:41028** 41A30 (26B40)

Pinn, Klaus Order and chaos in Hofstadter's $Q(n)$ sequence. (English summary) *Complexity* **4** (1999), *no.* 3, 41–46. (Summary) **99k:11036** 11B83

Pinner, Christopher G. (*with* Beaucoup, Franck; Borwein, Peter B.; Boyd, David W.) Multiple roots of $[-1, 1]$ power series. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 135–147. (Raphaël Supper) **99c:30005** 30C15 (26C10, 30B10)

— (*with* Mossinghoff, Michael J.; Vaaler, Jeffrey D.) Perturbing polynomials with all their roots on the unit circle. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1707–1726. (E. J. Barbeau) **99b:26024** 26C10 (12D10, 30C15, 65H05)

— Bounding the elliptic Mahler measure. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 521–529. (Yann Bugeaud) **99e:11135** 11R09

del Pino, Guido E. Interactions for general factors. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 145–158. (Christine Hildegard Müller) **99f:62084** 62J10

del Pino, Manuel *see* **Del Pino, Manuel**

Pino-Mejías, R. (*with* Jiménez-Gamero, M. D.; Muñoz-García, J.; Muñoz-Reyes, A.) On Efron's Method II with identification of outlier bootstrap samples. (English summary) *Comput. Statist.* **13** (1998), *no.* 3, 301–318. 62G09

Piñón, Christopher J. *see* **Quantifiers, deduction, and context, 99k:03029**

Pinotti, M. Cristina (*with* Brodal, Gerth Stølting) Comparator networks for binary heap construction. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 158–168, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68P05

Pinsker, M. S. (*with* Prelov, Vyacheslav V.) On error-free filtering of some stationary processes. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 109–118; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 349–358. (O. A. Glonti) **99j:94013** 94A12 (60G35)

— (*with* Prelov, Vyacheslav V.; van der Meulen, Edward C.) The information creation rate in some stationary non-Gaussian channels in the case of transmission with weak signals. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 1, 3–17; *translation in Problems Inform. Transmission* **34** (1998), *no.* 1, 1–13. (Summary) **99j:94036** 94A40 (94A15)

Pinsky, Mark A. (*with* Taylor, Michael E.) Pointwise Fourier inversion: a wave equation approach. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 6, 647–703. (Sundaram Thangavelu) **99d:42019** 42B10 (35A25, 35L05)

— (*with* Bray, William O.) Pointwise Fourier inversion on rank one symmetric spaces and related topics. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 2, 306–333. (Khélifa Trimèche) **99d:43016** 43A85 (35J99, 42B10)

— (*with* Basin, M. V.) On observation control using impulse feedback design. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 121–137. (V. N. Fomin) **99c:93106** 93E11 (34K35, 93B07)

— (*with* Basin, M. V.) Stability impulse control of faulted nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1604–1608. (Summary) **99f:93114** 93D15 (93C57)

— (*with* Zevin, Aleksandr Aronovich) Oscillations of a pendulum with a periodically varying length and a model of swing. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 105–109. (Summary) **99h:70032** 70K99 (34C15, 34C25, 70K20, 70K28)

Pinsky, Peter M. (*with* Oberai, Assad A.; Malhotra, Manish[2]) On the implementation of the Dirichlet-to-Neumann radiation condition for iterative solution of the Helmholtz equation. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 443–464. (Summary) **99e:65179** 65N99 (78–08)

— (*with* Oberai, Assad A.) A multiscale finite element method for the Helmholtz equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **154** (1998), *no.* 3-4, 281–297. (Summary) **99a:76088** 76M10 (65N30, 76Q05)

Pinsky, Ross G. The behavior of the life span for solutions to $u_t = \Delta u + a(x)u^p$ in $\mathbf{R}^d$. (English summary) *J. Differential Equations* **147** (1998), *no.* 1, 30–57. (Howard A. Levine) **99d:35077** 35K55 (35B40)

Pinsky, Stephen S. (*with* Antonuccio, F.; Lunin, O.) On exact supersymmetry in DLCQ. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 173–179. (Summary) **99h:81201** 81T60

— (*with* Brodsky, Stanley J.; Pauli, Hans-Christian) Quantum chromodynamics and other field theories on the light cone. (English summary) *Phys. Rep.* **301** (1998), *no.* 4-6, 299–486. (Summary) **99d:81176** 81V05 (81T15)

— (*with* Antonuccio, F.; Lunin, O.; Pauli, Hans-Christian; Tsujimaru, S.) DLCQ spectrum of $\mathcal{N} = (8, 8)$ super Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105024, 11 *pp.* (Summary) **99m:81234** 81T60 (81T13)

— (*with* Antonuccio, F.; Pauli, Hans-Christian; Tsujimaru, S.) DLCQ bound states of $\mathcal{N} = (2, 2)$ super-Yang-Mills theory at finite and large N. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125006, 9 *pp.* (Summary) **99m:81235** 81T60 (81T13)

Pinson, Eric (*with* Carlier, J.) Jackson's pseudo preemptive schedule for the $Pm/r_i, q_i/C_{\max}$ scheduling problem. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 41–58. (Jan Węglarz) **99k:90085** 90B35 (68M20)

Pinson, Haru T. A slow decay of a connectivity function in a broad class of SOS models. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 664–670. (Gunter Schütz) **99e:82018** 82B20 (82B24)

Pintea, Cornel (*with* Varga, Csaba) A note on homology and homotopy groups of fiber spaces. *Mathematica* **39(62)** (1997), *no.* 1, 95–101. (Götz Brunner) **99e:55020** 55Q05 (55N99, 55R05, 55R10)

Pintelon, Rik (*with* Schoukens, Johan; Dobrowiecki, Tadeusz) Parametric and nonparametric identification of linear systems in the presence of nonlinear distortions—a frequency domain approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 176–190. (Curtis C. Travis) **99j:93027** 93B30 (93C41)

— (*with* Guillaume, Patrick; Vandersteen, Gerd; Rolain, Yves) Analyses, development, and applications of TLS algorithms in frequency domain system identification. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 983–1004 (*electronic*). (Kurt Marti) **99e:93077** 93E10 (93E12)

— (*with* Schoukens, Johan; Vandersteen, Gerd; Guillaume, Patrick) Frequency-domain identification of linear systems using arbitrary excitations and a nonparametric noise model. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 343–347. 93B30 (93C80)

— (*with* Schoukens, Johan; Vandersteen, Gerd; Rolain, Yves) Identification of invariants of (over)parameterized models: finite sample results. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1073–1077. 93E10

Pintér, Ákos A note on the equation $1^k + 2^k + \cdots + (x-1)^k = y^m$. *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 119–123. (Yann Bugeaud) **99a:11040** 11D61 (11J86)

— (*with* Brindza, Béla) On the Kronecker-Győry specialization. *Number theory (Eger, 1996)*, 107–113, *de Gruyter, Berlin*, 1998. (Aleksander Grytczuk) **99f:11048** 11D99

— (*with* Srivastava, Hari M.) Some remarks on generalized elliptic-type integrals. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 167–170. (Summary) **99h:33064** 33E05 (33C75)

— (*with* Hajdu, L.) Square product of three integers in short intervals. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1299–1301. (Nikos Tzanakis) **99j:11027** 11D25 (11Y50)

Pintér, Gabriella A. (*with* Banks, H. T.) Approximation results for parameter estimation in nonlinear elastomers. (English summary) *Control and estimation of distributed parameter systems (Vorau, 1996)*, 1–13, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Takao Nambu) **99f:93076** 93C20 (34G20, 35L99, 49M25, 65M60, 73K50)

— Weak attractor for damped abstract nonlinear hyperbolic systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 14 *pp.* (*electronic*). (Varga Kalantarov) **99k:34138** 34G20 (35B40, 47H20, 58F39)

lopes-Pinto, António J. B. *see* **Lopes-Pinto, António J. B.**

Pinto, Fred C. Nonlinear stability and dynamical properties for a Kuramoto-Sivashinsky equation in space dimension two. (English summary) *Discrete Contin. Dynam. Systems*

5 (1999), *no.* 1, 117–136. (Bruno Scheurer) **99m:35238** 35Q55 (35B35, 35K55, 46N20, 58F39)

Pinto, Javier A. Integrating discrete and continuous change in a logical framework. (English summary) *Comput. Intelligence* **14** (1998), *no.* 1, 39–88. (Zoran Ognjanović) **99b:68174** 68T27 (03B45, 03B70)

— Occurrences and narratives as constraints in the branching structure of the situation calculus. (English summary) *J. Logic Comput.* **8** (1998), *no.* 6, 777–808. (Olga M. Kosheleva) **99k:68182** 68T27 (68T25, 68T30)

Pinto, Jose M. (*with* Grossmann, Ignacio E.) Assignment and sequencing models for the scheduling of process systems. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 433–466. (*see* **99b:90006**) 90B35 (90B30)

Pinto, Luís (*with* Dyckhoff, Roy) Sequent calculi for the normal terms of the $\lambda\Pi$- and $\lambda\Pi\Sigma$-calculi. (English summary) *Workshop on Proof Search in Type-theoretic Languages* (*Lindau*, 1998), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 17, *Elsevier, Amsterdam*, 1998. (*see* **99h:68013**) 03B40 (03B15, 68N15)

Pinto, M. *see* **Pinto, Manuel**

cougo-Pinto, M. V. *see* **Cougo-Pinto, M. V.**

Pinto, Manuel (*with* López Fenner, Julio) Invariant manifolds & (h,k)-trichotomies. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 94–101, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 34C11 (34D10)

— (*with* Medina, Rigoberto) Asymptotic representation of solutions of ordinary difference systems. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 31–44. (Summary) **99a:39021** 39A10

— (*with* Castillo, Samuel) Asymptotic formulae for solutions of delay-difference systems. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 107–117, *Gordon and Breach, Amsterdam*, 1997. (Shu Nian Zhang) **99i:39002** 39A10

— (*with* López Fenner, Julio) On the ACK-transformation near (h,k)-hyperbolic manifolds. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 407–413, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99i:39009** 39A10

— (*with* Medina, Rigoberto) Asymptotic equivalence and asymptotic behavior of difference systems. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 511–523. (Shu Tang Liu) **99a:39022** 39A10

— (*with* López Fenner, Julio) (h,k)-trichotomies and asymptotics of nonautonomous difference systems. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 105–124. (Shao Zhu Chen) **99a:39020** 39A10 (39A11)

— (*with* González, Patricio) Asymptotic behavior of the solutions of certain complex differential equations. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 13–23. (Éric Delabaere) **99j:34007** 34A20 (34E05)

— (*with* López Fenner, Julio) On (h,k) manifolds with asymptotic phase. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 549–568. (Wei Nian Zhang) **99c:34092** 34C45 (34D05)

— (*with* Medina, Rigoberto) Variationally stable difference equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1141–1152. (Jerzy Popenda) **99c:39016** 39A11

— (*with* Castillo, Samuel) Asymptotic summation for second-order finite difference systems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 117–129. (E. Thandapani) **99e:39009** 39A10

— Weighted convergent and bounded solutions of difference systems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 391–400. (Summary) **99j:39009** 39A10

— (*with* Castillo, Samuel) Asymptotic integration of ordinary different systems. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 1–12. (Rimma A. Prokhorova) **99e:34039** 34C11 (34D10, 34E99)

— (*with* Naulin, Raúl) Admissible perturbations of exponential dichotomy roughness. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 559–571. (Nikolay A. Izobov) **99b:34087** 34D10 (34A30, 34C11)

— (*with* Gallardo, Julio) Asymptotic constancy of solutions of delay-differential equations of implicit type. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 487–504. (P. Ch. Tsamatos) **99h:34116** 34K25

— (*with* Castillo, Samuel) Asymptotic theory for bi-dimensional linear impulsive differential systems, nonelliptic case. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 425–447. (Yuri V. Rogovchenko) **99i:34018** 34A37 (34D05, 34E10)

vaz Pinto, Maria *see* **Vaz Pinto, Maria**

Pinto, R. L. V. (*with* Rustem, Berç) Solving a mixed-integer multiobjective bond portfolio model involving logical conditions. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 497–513. (*see* **99b:90006**) 90C29 (90A09)

gonzalez-Pinto, S. *see* **Gonzalez-Pinto, S.**

Pinto de Carvalho, Sônia (*with* Canale, Eduardo; Markarian, Roberto; Kamphorst, Sylvie Oliffson) A lower bound for chaos on the elliptical stadium. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 189–202. (András Krámli) **99f:58121** 58F11 (58F13)

Pinto-Ferreira, Carlos (*with* Custódio, Luis M. M.) Logic of agreement: foundations, semantic system and proof theory. (English summary) *Internat. J. Approx. Reason.* **20** (1999), *no.* 1, 47–78. (Summary) **99m:68183** 68T27 (03B45, 03B70)

Pinton, J. F. (*with* Danaila, L.; Le Gal, P.; Anselmet, F.; Plaza, F.) Some new features of the passive scalar mixing in a turbulent flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 636–646. 76F99 (76–05)

Pinto-Neto, N. (*with* de Barros, J. Acacio) The causal interpretation of quantum mechanics and the singularity problem and time issue in quantum cosmology. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 201–213. (Alejandro R. Corichi) **99d:83043** 83C45 (81S99)

Pintus, Patrick A. (*with* Cazzavillan, Guido; Lloyd-Braga, Teresa) Multiple steady states and endogenous fluctuations with increasing returns to scale in production. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 60–107. (Summary) **99d:90025** 90A14 (90A50)

Pintz, J. (*with* Baker, R. C.; Harman, Glyn) The exceptional set for Goldbach's problem in short intervals. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 1–54, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Giovanni Coppola) **99g:11121** 11P32 (11N36, 11P55)

Pinus, A. G. On ℵ-identicality of the epimorphy and embeddability relations on quasivarieties. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 11, 52–60; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 11, 50–58 (1998). (A. I. Budkin) **99b:08006** 08C15

— On lattices in skeletons of embeddability of varieties. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1115–1119, iv; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 965–968. (V. A. Artamonov) **99c:08010** 08B10

— On elementary theories of semilattices of partial orders on sets. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 590–592, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 510–511. (Boris M. Schein) **99g:03038** 03C60 (06A06, 06A12)

Pinyagina, O. V. (*with* Fazylov, V. R.) The convex programming method with given absolute-relative error. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1247–1254. (Vladimir I. Venets) **99k:90117** 90C25

Pinzari, Claudia (*with* Doplicher, Sergio; Zuccante, Rita) The C^*-algebra of a Hilbert bimodule. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 263–281. (Michael Frank) **99i:46040** 46L05 (46H25)

Piochi, Brunetto Congruences on Bruck-Reilly monoids. (English summary) *Semigroups* (*Luino*, 1992), 212–223, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M99

Pioline, Boris (*with* Kiritsis, Elias) On R^4 threshold corrections in type IIB string theory and (p,q)-string instantons. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 509–534. (Summary) **99c:81194** 81T30 (11F37, 11Z05)

— (*with* Obers, Niels A.; Rabinovici, Eliezer) M-theory and U-duality on T^d with gauge backgrounds. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 163–181. (Summary) **99c:81202** 81T30

— (*with* Kiritsis, Elias) U-duality and D-brane combinatorics. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 61–69. (Summary) **99a:81150** 81T30 (83E30)

— A note on non-perturbative R^4 couplings. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 73–76. (Summary) **99c:81207** 81T30 (11F37)

Pion, Sylvain (*with* Brönnimann, Hervé; Emiris, Ioannis Z.; Pan, Victor Y.) Sign determination in residue number systems. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 1, 173–197. (Summary) **99h:68094** 68Q40 (68U05)

Pioro, Hope (*with* Juillard, Michel; Laxton, Douglas; McAdam, Peter) An algorithm competition: first-order iterations versus Newton-based techniques. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1291–1318. (F. Szidarovszky) **99m:90052** 90A58 (62P20, 65F10)

Piotrowski, Zbigniew (*with* Kaniewski, J.; Rose, David Alon) Ideal Banach category theorems. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 237–251. (Douglass L. Grant) **99k:54021** 54E52 (54G20)

— Separate and joint continuity in Baire groups. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 109–116. (Adolf R. Mirotin) **99k:22002** 22A05 (54C05, 54H11)

le Piouffle, Myriam *see* **Le Piouffle, Myriam**

Piper, Fred (*with* Blackburn, Simon R.) Applications of combinatorics to security. *Applications of combinatorial mathematics* (*Oxford*, 1994), 31–47, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Alexander M. Barg) **99a:94022** 94A60 (05E30)

Piper, M. S. (*with* Bonnor, W. B.) Suppression of gravitational radiation. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 955–963. (Jorge A. Pullin) **99m:83054** 83C35

Piperevski, Boro M. Existence and construction of a rational solution to a class of linear differential equations with polynomial coefficients. (Macedonian. English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 21–26. 34A05

Piperno, Adolfo (*with* Dezani-Ciancaglini, Mariangiola; de'Liguoro, Ugo) A filter model for concurrent λ-calculus. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1376–1419 (*electronic*). (Chantal Berline) **99f:68025** 68N15 (03B15, 03B40, 03G10, 68Q10, 68Q55)

Pipher, Jill (*with* Mitrea, Dorina; Mitrea, Marius) Vector potential theory on nonsmooth domains in $\mathbf{R}^3$ and applications to electromagnetic scattering. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 2, 131–192. (Margaret A. M. Murray) **99e:31009** 31B10 (31B20, 35Q60, 42B20, 78A45)

— (*with* Kenig, Carlos E.) The absolute continuity of elliptic measure revisited. *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 463–468. (Steven George Krantz) **99j:31010** 31B25 (31B05, 31B20, 35J05)

— (*with* Adolfsson, Vilhelm) The inhomogeneous Dirichlet problem for Δ^2 in Lipschitz domains. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 1, 137–190. (Philip W. Schaefer) **99m:35048** 35J40 (35J65)

Pippenger, Nicholas Average-case bounds for the complexity of path-search. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 1–13, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68199** 68R10 (60C05, 68M10, 90C60, 94C15)

— (*with* Evans, William S.) On the maximum tolerable noise for reliable computation by formulas. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1299–1305. (Summary) **99e:94053** 94C10

— Random interval graphs. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 4, 361–380. (Walter M. Böhm) **99j:60147** 60K25 (05C80)

— (*with* Evans, William S.) Average-case lower bounds for noisy Boolean decision trees. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 433–446 (*electronic*). (Johan Håstad) **99f:68094** 68Q25

Pippert, Raymond E. (*with* Hamburger, Peter) Simple, reducible Venn diagrams on five curves and Hamiltonian cycles. (English summary) *Geom. Dedicata* **68** (1997), *no.* 3, 245–262. (Summary) **99f:05030** 05C10 (05C45)

lust-Piquard, Françoise *see* **Lust-Piquard, Françoise**

moreno Piquero, Juan Carlos *see* **Moreno Piquero, Juan Carlos**

Piquet, Jean (*with* Vasseur, Xavier) Multigrid preconditioned Krylov subspace methods for three-dimensional numerical solutions of the incompressible Navier-Stokes equations. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 1–32. (Summary) **99c:65235** 65N55 (65F10, 76D05, 76M20)

Piramuthu, Robinson (*with* Hero, Alfred O.; Fessler, Jeffrey A.; Titus, Steven R.) Minimax emission computed tomography using high-resolution anatomical side information and *B*-spline models. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 920–938. (Summary) **99m:94011** 94A12 (92C55)

Piran, Tsvi (*with* Hod, Shahar) Late-time evolution of charged gravitational collapse and decay of charged scalar hair. I. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024017, 6 *pp.* 83C57

— (*with* Hod, Shahar) Late-time evolution of charged gravitational collapse and decay of charged scalar hair. II. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024018, 6 *pp.* 83C57

— (*with* Hod, Shahar) Late-time evolution of charged gravitational collapse and decay of charged scalar hair. III. Nonlinear analysis. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024019, 6 *pp.* 83C57

Piranashvili, Z. On the extension of Kotelnikoff-Shannon formula. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 52–54. (From the summary) **99h:94021** 94A12

Piras, Francesco Some remarks on the inverse systems of polynomial modules. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 1, 87–99. (Ralf Fröberg) **99c:13020** 13C11 (13P10)

Pirashvili, Teimuraz (*with* Baues, Hans-Joachim; Hartl, Manfred) Quadratic categories and square rings. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 1–40. (Roland Schwänzl) **99f:18017** 18G50 (18G55, 55P15, 55Q25)

— (*with* Loday, Jean-Louis) The tensor category of linear maps and Leibniz algebras. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 263–276. (Jerry Lodder) **99e:18009** 18D10 (17A30, 18A32)

— The Euler-Poincaré characteristic of a Lie algebra. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 429–431. (Summary) **99g:17042** 17B56

Pirillo, Giuseppe Maximal powers in Fibonacci infinite word. (English summary) *Semigroups* (*Luino*, 1992), 224–230, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M05

— (*with* Justin, Jacques) Decimations and Sturmian words. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 3, 271–290. (Valérie Berthé) **99f:68164** 68R15

Pirlou, Alain (*with* Bougrini, H.; Varenne, J. P.) Propagation et interaction des symboles principaux pour les ondes conormales semi-linéaires. [Propagation and interaction of principal symbols for semilinear conormal waves] *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 333–370. (Alan Jeffrey) **99c:35003** 35A20 (35L60)

— (*with* Zeng, Xiao Ming^2) On the rate of convergence of two Bernstein-Bézier type operators for bounded variation functions. (English summary) *J. Approx. Theory* **95** (1998), *no.* 3, 369–387. (Geetha S. Rao) **99m:41028** 41A25 (41A35, 41A36)

Pirkovskiĭ, A. Yu. On the problem of the existence of a sufficient number of injective Fréchet modules over nonnormable Fréchet algebras. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 4, 137–154; *translation in Izv. Math.* **62** (1998), *no.* 4, 773–788. (Mihai Putinar) **99k:46086** 46H25 (46J10, 46M10, 46M20)

Pirkul, Hasan (*with* Jayaraman, Vaidyanathan) A multi-commodity, multi-plant, capacitated facility location problem: formulation and efficient heuristic solution. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 10, 869–878. 90B80 (90C90)

Pirlot, Marc (*with* Vincke, Ph.) ★ Semiorders. (English summary) Properties, representations, applications. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 36. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+187 *pp. ISBN* 0-7923-4617-3 (T. Katriňák) **99f:06001** 06–02 (05B20, 05C20, 06A99)

— (*with* Bouyssou, D.; Vincke, Ph.) A general model of preference aggregation. (English summary) *Essays in decision making*, 120–134, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90A06)

— (*with* Visée, M.; Teghem, Jacques, Jr.; Ulungu, Ekunda Lukata) Two-phases method and branch and bound procedures to solve the bi-objective knapsack problem. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 139–155. (*see* **99a:90011**) 90C27 (90C29)

— *see also* **Fuzzy sets and applications, 99a:90004**

grimaldi Piro, Anna *see* **Grimaldi Piro, Anna**

vernier-Piro, S. *see* **Vernier-Piro, S.**

Pirogov, S. A. Ball packings and moment inequalities. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 2, 199–201. (Lothar Heinrich) **99k:60045** 60E15 (51E23, 60B11)

Pirola, Gian Pietro The infinitesimal variation of the spin abelian differentials and periodic minimal surfaces. (English summary) *Comm. Anal. Geom.* **6** (1998), *no.* 3, 393–426. (Montserrat Teixidor i Bigas) **99h:53011** 53A10 (14H55)

— (*with* Colombo, Elisabetta) An intersection result for families of abelian varieties. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 2, 111–122. (Ben Moonen) **99c:14058** 14K05 (14C17, 14C20)

— Algebraic curves and non-rigid minimal surfaces in the Euclidean space. (English summary) *Pacific J. Math.* **183** (1998), *no.* 2, 333–357. (Luis J. Alías) **99e:53009** 53A10

Pironneau, Olivier (*with* Lucquin-Desreux, Brigitte) ★ Introduction to scientific computing. (English summary) Translated from the French by Michel Kern. *John Wiley & Sons, Ltd., Chichester*, 1998. *xviii*+361 *pp. ISBN* 0-471-97266-5 (Ian Gladwell) **99f:65002** 65–01 (65–04, 65Mxx, 65Nxx)

— (*with* Achdou, Yves; Abdulaev, G. S.; Hontand, Jean-Claude; Kuznetsov, Yuriĭ Alekseevich[1]; Prud'homme, Christophe) Nonmatching grids for fluids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 3–22, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76103** 76M25 (65M50, 65N50)

— (*with* Achdou, Yves; Valentin, Frederic G. C.) Shape control versus boundary control. (English summary) *Équations aux dérivées partielles et applications*, 1–18, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Pekka Neittaanmäki) **99j:49080** 49Q10 (35L05, 76M30)

— (*with* Achdou, Yves; Mohammadi, Bijan; Valentin, Frederic G. C.) Domain decomposition & wall laws. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 1–14, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:76070** 76M25 (76D10)

— (*with* Achdou, Yves; Le Tallec, Patrick; Valentin, Frederic G. C.) Constructing wall laws with domain decomposition or asymptotic expansion techniques. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 215–232. (Tomás Chacón Rebollo) **99h:76027** 76D10 (65M55, 76F99, 76M25)

— (*with* Achdou, Yves; Valentin, Frederic G. C.) Effective boundary conditions for laminar flows over periodic rough boundaries. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 187–218. (Timothy Nigel Phillips) **99j:76086** 76M25

Piroska, Gábor (*with* Hegedüs, Pál; Ruzsa, Imre Z.) On the Schnirelmann densisty of sumsets. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 333–345. (Georges Grekos) **99k:11019** 11B05

Pirozhenko, I. G. (*with* Nesterenko, V. V.) Justification of the zeta function renormalization in rigid string model. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6265–6280. (Summary) **99j:81123** 81T16 (11Z05, 58G26, 81T30)

— (*with* Nesterenko, V. V.) Open rigid string with Gauss-Bonnet term in the action. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2513–2522. (Summary) **99g:81179** 81T30 (83E30)

Pirozzoli, S. (*with* Grasso, F.; Gatski, T. B.) Analysis and simulation of a turbulent, compressible starting vortex. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 356–367. (Summary) **99k:76122** 76N10 (76F99, 76M25)

Pirsic, Gottlieb (*with* Larcher, Gerhard; Wolf, Reinhard Karl) Quasi-Monte Carlo integration of digitally smooth functions by digital nets. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 321–329, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65071** 65D30 (65C05)

Pisani, Lorenzo (*with* Benci, Vieri; Fortunato, Donato) Remarks on topological solitons. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 349–367. (B. A. Malomed (Zbl 892.35101)) **99f:35172** 35Q51 (35L70)

— (*with* Benci, Vieri; Fortunato, Donato) Soliton like solutions of a Lorentz invariant equation in dimension 3. *Rev. Math. Phys.* **10** (1998), *no.* 3, 315–344. (Patricio L. Felmer) **99h:58046** 58E30 (35Q51)

Pisano, Alessandro (*with* Bartolini, Giorgio; Ferrara, Antonella; Usai, Elio) Adaptive reduction of the control effort in chattering-free sliding-mode control of uncertain nonlinear systems. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 51–71. (Summary) **99c:93049** 93C10 (93B12)

Pisanski, Tomaž (*with* Brandt, Stephan) Another infinite sequence of dense triangle-free graphs. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 43, 5 *pp.* (*electronic*). (John M. Harris) **99h:05062** 05C35

— Cubic graphs. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **45** (1998), *no.* 4, 118–129. 05C75

Pisanti, Nadia DNA computing: a survey. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 64 (1998), 188–216. (Robert M. Baer) **99c:68081** 68Q05

Pisarevskiĭ, V. (*with* Shilnikov, A.; Turaev, D. V.) Asymptotic normal forms for equilibria with a triplet of zero characteristic exponents in systems with symmetry. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 19–27. (James A. Murdock) **99m:58172** 58F36 (34C20)

Pisier, Gilles Quadratic forms in unitary operators. (English summary) *Linear Algebra Appl.* **267** (1997), 125–137. (Alain Valette) **99a:47057** 47C15 (22C05, 22D25, 46L05)

— Problèmes de similarité pour les opérateurs sur l'espace de Hilbert. (English and French summaries) [Similarity problems for operators in Hilbert space] *Matériaux pour l'histoire des mathématiques au XX^e siècle* (*Nice*, 1996), 169–201, *Sémin. Congr.*, 3, *Soc. Math. France, Paris*, 1998. (Christian Le Merdy) **99h:47026** 47A99 (01A60, 46L05, 47B99, 47D25)

— The similarity degree of an operator algebra. (English summary) *Algebra i Analiz* **10** (1998), *no.* 1, 132–186; *reprinted in St. Petersburg Math. J.* **10** (1999), *no.* 1, 103–146. (Allan M. Sinclair) **99c:46066** 46L05 (20C99, 22D20, 46J10, 47D25)

— Operator spaces and similarity problems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 429–452 (*electronic*). (Kenneth R. Davidson) **99i:46045** 46L05 (46B28, 46M20, 47D25)

— Joint similarity problems and the generation of operator algebras with bounded length. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 3, 353–370. (Srdjan Petrović) **99g:47003** 47Axx (46L05, 47B35, 47D25)

Pisinger, David A minimal algorithm for the 0-1 knapsack problem. (English summary) *Oper. Res.* **45** (1997), *no.* 5, 758–767. (Jürgen Köhler) **99j:90047** 90C08 (90C27)

— (*with* Toth, Paolo) Knapsack problems. (English summary) *Handbook of combinatorial optimization, Vol.* 1, 299–428, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C35)

Piskarëv, S. I. (*with* Guidetti, Davide) Stability of Rothe's scheme and maximal regularity for parabolic equations in $C^\theta(\overline{\Omega})$. *Progress in partial differential equations, Vol.* 1 (*Pont-à-Mousson*, 1997), 167–180, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Reinhard Redlinger) **99i:35056** 35K10 (35B45, 65M12)

— (*with* Bobylev, N. A.; Kim, Jong Kyu; Korovin, S. K.) Semidiscrete approximations of semilinear periodic problems in Banach spaces. *Nonlinear Anal.* **33** (1998), *no.* 5, 473–482. (Kiyoko Furuya) **99f:34090** 34G20 (34A45, 47D06, 65J15, 65L99)

Piskorz, Steffen (*with* Malesińska, Ewa; Weißenfels, Gerhard) On the chromatic number of disk graphs. (English summary) *Networks* **32** (1998), *no.* 1, 13–22. (Summary) **99e:05052** 05C15 (90B12, 94A05)

Pismen, Len (*with* Pomeau, Yves; Rica, Sergio) Core structure and oscillations of spinor vortices. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 167–180. (Summary) **99b:82088** 82D50

Pisón, Pilar (*with* Briales, Emilio; Campillo, Antonio; Marijuán López, Carlos) Combinatorics of syzygies for semigroup algebras. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 239–256. (P. Schenzel) **99m:13024** 13D02 (13H10, 14M25)

Pisot, Charles Démonstration élémentaire du théorème des nombres premiers. [Elementary proof of the prime number theorem] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 20, 123–127, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 11N05

Pissinou, Niki (*with* Jia, Xiaohua; Makki, Kia; Jia, Weijia) Group channel routing for conferencing systems in wide area networks. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 217–232. (Summary) **99b:68017** 68M10

Pistoia, Angela (*with* Micheletti, Anna Maria) About the multiplicity of solutions for certain class of fourth order semilinear problems. (English summary) *Matematiche (Catania)* **51** (1996), *no.* 2, 253–271 (1997). (Yi Hong Du) **99a:35092** 35J65 (58E05)
— (*with* Micheletti, Anna Maria) Multiple eigenvalues of the Laplace-Beltrami operator and deformation of the Riemannian metric. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 709–720. (Alberto G. Setti) **99f:58216** 58G25
— (*with* Micheletti, Anna Maria) Multiplicity results for a fourth-order semilinear elliptic problem. *Nonlinear Anal.* **31** (1998), *no.* 7, 895–908. (Yu. P. Rybakov) **99d:35059** 35J65 (35B32, 58E05)
— (*with* Micheletti, Anna Maria) Nontrivial solutions for some fourth order semilinear elliptic problems. *Nonlinear Anal.* **34** (1998), *no.* 4, 509–523. (Andrzej Szulkin) **99h:35066** 35J65
Pistore, Marco (*with* Montanari, Ugo) An introduction to history dependent automata. *Second Workshop on Higher-order Operational Techniques in Semantics (HOOTS II)* (*Stanford, CA*, 1997), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 10, *Elsevier, Amsterdam*, 1998. (*see* **99e:68003**) 68Q10 (68Q68)
Pisztora, Agoston (*with* Povel, Tobias; Zeitouni, Ofer) Precise large deviation estimates for a one-dimensional random walk in a random environment. (English summary) *Probab. Theory Related Fields* **113** (1999), *no.* 2, 191–219. (Timo Seppäläinen) **99m:60048** 60F10 (60J15, 60K35, 82C41)
Pitacco, E. (*with* Haberman, Steven) ★ Actuarial models for disability insurance. (English summary) *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *xx*+280 *pp. ISBN* 0-8493-0389-3 (From the preface) **99g:62150** 62P05
Pita da Veiga, Rafael (*with* Nieto, Juan J.) Convergence of the monotonic method in elliptic problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 525–530, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35J25 (35A35)
Pitanga, Paulo (*with* Rodrigues, Paulo R.) The projector method for regular Poisson manifolds. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8719–8725. (David Martín de Diego) **99d:58069** 58F05 (53C15, 70F10, 70H35)
— (*with* Ibort, Luis Alberto; de León, Manuel; Lacomba, Ernesto A.; Marrero, Juan Carlos; Martín de Diego, David) Geometric formulation of mechanical systems subjected to time-dependent one-sided constraints. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2655–2674. (Frans Cantrijn) **99d:70021** 70F30 (58F05, 70F25)
— Reductions of self-dual Yang-Mills equations. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 4, 529–534. (Gheorghe Zet) **99f:53025** 53C07 (81T13)
Pitarakis, Jean-Yves (*with* Gonzalo, Jesús) Specification via model selection in vector error correction models. (English summary) *Econom. Lett.* **60** (1998), *no.* 3, 321–328. (Summary) **99g:62135** 62M10
— Moment generating functions and further exact results for seasonal autoregressions. (English summary) *Econometric Theory* **14** (1998), *no.* 6, 770–782. (Summary) **99i:62216** 62M10
Pitarka, Arben 3D elastic finite-difference modeling of seismic motion using staggered grids with nonuniform spacing. (English summary) *Bull. Seismol. Soc. Amer.* **89** (1999), *no.* 1, 54–68. (Summary) **99i:86006** 86–08 (86A15)
Pita Ruiz, Claudio Parallel curves. (Spanish. Spanish summary) *Miscelánea Mat. No.* 21 (1994), 29–52. 51N10
Pitassi, Toniann (*with* Beame, Paul; Impagliazzo, Russell) Improved depth lower bounds for small distance connectivity. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 692–701, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25 (68Q15)
— (*with* Alekhnovich, Michael; Buss, Samuel R.; Moran, Shlomo) Minimum propositional proof length is NP-hard to linearly approximate (extended abstract). (English summary) *Mathematical foundations of computer science, 1998* (*Brno*), 176–184, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25 (03F20, 68Q15)
— (*with* Maciel, Alexis) Towards lower bounds for bounded-depth Frege proofs with modular connectives. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 195–227, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (M. I. Dekhtyar) **99c:03087** 03F20 (68Q25, 94C10)
— (*with* Beame, Paul) Propositional proof complexity: past, present, and future. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 65 (1998), 66–89. 03F20 (03D15, 68Q15)
Piterbarg, L. I. Hamiltonian formalism for Rossby waves. *Nonlinear waves and weak turbulence*, 131–166, *Amer. Math. Soc. Transl. Ser.* 2, 182, *Amer. Math. Soc., Providence, RI*, 1998. (Yuri N. Skiba) **99c:76028** 76C20 (35Q35, 58F40, 76C05, 86A10)
Piterbarg, Vladimir V. Expansions and contractions of isotropic stochastic flows of homeomorphisms. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 479–499. (Ming Liao) **99e:60165** 60J30 (60F17)
Pitkäranta, J. (*with* Ovaskainen, O.) An energy method approach to the problem of elastic strip. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 999–1021 (*electronic*). (Cornelius O. Horgan) **99d:73024** 73C10 (73V25)
Pitkethly, J. G. (*with* Davey, B. A.) Endoprimal algebras. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 266–288. (Margret H. Höft) **99k:08004** 08A35 (08A40)
Pitman, E. Bruce (*with* Arthurs, Kayne M.; Moore, Leon C.; Peskin, Charles S.; Layton, H. E.) Modeling arteriolar flow and mass transport using the immersed boundary method. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 402–440. 76M25 (76Z05, 92C35)
Pitman, Jim Some developments of the Blackwell-MacQueen urn scheme. (English summary) *Statistics, probability and game theory*, 245–267, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Hajime Yamato) **99c:60017** 60C05
— (*with* Yor, Marc) On the relative lengths of excursions derived from a stable subordinator. (English summary) *Séminaire de Probabilités, XXXI*, 287–305, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Mamoru Kanda) **99a:60083** 60J55 (60E99, 60G99)
— Partition structures derived from Brownian motion and stable subordinators. (English summary) *Bernoulli* **3** (1997), *no.* 1, 79–96. (Alexander V. Gnedin) **99c:60078** 60G09 (60C05, 60J65)
— (*with* Evans, Steven N.) Stopped Markov chains with stationary occupation times. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 3, 425–433. (Arthur O. Pittenger) **99a:60068** 60J10 (60G40, 60J15, 60J55)
— Enumerations of trees and forests related to branching processes and random walks. (English summary) *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 163–180, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Jochen Geiger) **99g:60157** 60J80 (05C05, 05C30, 60J15)
— (*with* Evans, Steven N.) Construction of Markovian coalescents. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 3, 339–383. (John Verzani) **99k:60184** 60J25 (60G57)
— (*with* Yor, Marc) Ranked functionals of Brownian excursions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 93–97. (F. B. Knight) **99g:60151** 60J65 (60J60)
— (*with* Evans, Steven N.) Stationary Markov processes related to stable Ornstein-Uhlenbeck processes and the additive coalescent. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 175–185. (Jörg-Uwe Löbus) **99j:60109** 60J25 (60G55)
Pitowsky, Itamar Feasible histories, maximum entropy and a minmax choice criterion. (English summary) *Phys. Lett. A* **247** (1998), *no.* 1-2, 9–13. (Matthew J. Donald) **99i:81024** 81P99
— Constructive quantum mechanics, Gleason's theorem and the indeterminacy relations. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 155–164. (Sylvia Pulmannová) **99j:81016** 81P10 (03G12)
Pitre, S. N. (*with* Van der Jeugt, Joris; Srinivasa Rao, K.) [illegible]nsformation and summation formulas for multiple hypergeometric series, and the 9-j coefficient. *Special functions and differential equations* (*Madras*, 1997), 171–177, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 33C70 (33D70, 81R05)
— (*with* Fack, V.; Van der Jeugt, Joris) Racah coefficients, general recoupling coefficients and graph theoretical methods. (English summary) *Special functions and differential equations* (*Madras*, 1997), 178–183, *Allied Publ., New Delhi*, 1998. (Summary) **99i:81061** 81R05 (05C90)
Pitsch, Gisela (*with* Hotz, Günter) On using semi-Dyck sets to analyse coupled-context-free languages. (English summary) *Fund. Inform.* **29** (1997), *no.* 1-2, 1–26. (Marcus Kracht) **99b:68114** 68Q45 (68Q50, 68Q52)
Pitsianis, Nikos P. (*with* Johnsson, S. Lennart) Load-balance in parallel FACR. (English summary) *High performance algorithms for structured matrix problems*, 163–180, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99m:65257** 65Y05 (65F10)
Pitsoulis, Leonidas S. (*with* Pardalos, Panos M.; Resende, Mauricio G. C.) Algorithm 769: Fortran subroutines for approximate solution of sparse quadratic assignment problems using GRASP. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 196–208. 65Y15
— (*with* Burkard, Rainer E.; Çela, Eranda; Pardalos, Panos M.) The quadratic assignment problem. *Handbook of combinatorial optimization, Vol.* 3, 241–237, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (90–02, 90C10)
— (*with* Murphey, R. A.; Pardalos, Panos M.) A greedy randomized adaptive search procedure for the multitarget multisensor tracking problem. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 277–301, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:90112** 90B40
Pitt, François A quantifier-free theory based on a string algebra for NC^1. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 229–252, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Jan Krajíček) **99b:68085** 68Q15 (03D20, 03F20, 03F30)
Pitt, Leonard (*with* Kwek, S.) PAC learning intersections of halfspaces with membership queries. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 53–75. (Summary) **99h:68143** 68T05 (68Q99)
— (*with* Aizenstein, Howard; Hegedűs, Tibor; Hellerstein, Lisa) Complexity-theoretic hardness results for query learning. (English summary) *Comput. Complexity* **7** (1998), *no.* 1, 19–53. (Mark R. Jerrum) **99e:68048** 68Q15 (68Q25, 68T05)
Pitt, Loren D. (*with* Anderson, James Milne) Large time asymptotics for Brownian hitting densities of transient concave curves. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 921–934. (Aimé Lachal) **99b:60133** 60J65 (60G17, 60J25)
— A distribution inequality for martingales with bounded symmetric differences. (English summary) *Stochastic processes and related topics*, 331–337, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Ireneusz Szyszkowski) **99i:60041** 60E15 (60G42, 60G70)
Pittaluga, Giovanna (*with* Chongdar, A. K.; Sacripante, Laura) On generating functions of modified Laguerre polynomials by Lie algebraic method. (English summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 41–52. (David K. Maslen) **99c:33015** 33C45 (33C80)
— (*with* Sacripante, Laura; Venturino, Ezio) Higher order lacunary interpolation. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 15–22. (Summary) **99d:41009** 41A10
— (*with* Chongdar, A. K.; Sacripante, Laura) Weisner's methodic survey of modified Laguerre polynomials. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 23–32. (Summary) **99h:33033** 33C45
Pitteri, Mario (*with* Zanzotto, Giovanni) Beyond space groups: the arithmetic symmetry of deformable multilattices. (English summary) *Acta Cryst. Sect. A* **54** (1998), *no.* 4, 359–373. (Summary) **99d:52014** 52C07 (20H15, 82D25)
Pittman, Jennifer (*with* Murthy, C. A.) Multilayer perceptrons and fractals. (English summary) *Inform. Sci.* **112** (1998), *no.* 1-4, 137–150. (Summary) **99g:68175** 68T05 (28A80)
Pitts, Andrew M. Operationally-based theories of program equivalence. *Semantics and logics of computation* (*Cambridge*, 1995), 241–298, *Publ. Newton Inst.*, 14, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **99h:68111**) 68N15 (03B70, 68Q55)
— Parametric polymorphism and operational equivalence (preliminary version). *Second Workshop on Higher-order Operational Techniques in Semantics* (*HOOTS II*) (*Stanford, CA*, 1997), 26 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 10, *Elsevier, Amsterdam*, 1998. (*see* **99e:68003**) 68N15 (03B40, 03B70)
— *see also* **Workshop: Higher-order Operational Techniques in Semantics**, **99e:68003** *and* **Semantics and logics of computation**, **99h:68111**
Pitts, J. Brian (*with* Schieve, W. C.) On parametrized general relativity. (English summary) Parametrized relativistic quantum theory, Part I (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 9, 1417–1424. (Matej Pavšič) **99m:83020** 83C05
Pitts, Jon T. (*with* Parks, Harold R.) Computing least area hypersurfaces spanning arbitrary boundaries. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3,

886–917. (J. E. Brothers) **99a:65026** 65D17 (49Q05, 65Y25)

Pitts, Susan M. A functional approach to approximations for the observed open times in single ion channel models. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 260–278. (Rudolf Grübel) **99b:60150** 60K10 (60K05, 92C40)

— (*with* Ganesh, Ayalvadi; Green, Peter J.; O'Connell, Neil) Bayesian network management. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 267–282. (Hanspeter Schmidli) **99c:90045** 90B12 (60F10, 62C10)

— (*with* Politis, Konstadinos) Approximations for solutions of renewal-type equations. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 2, 195–216. (Rudolf Grübel) **99k:60218** 60K05

Pituk, Michal (*with* Györi, István) Asymptotic stability in a linear delay difference equation. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 295–299, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39020** 39A10

— Asymptotic behavior of a Poincaré recurrence system. (English summary) *J. Approx. Theory* **91** (1997), *no.* 2, 226–243. (Summary) **99a:39026** 39A10 (41A60)

— (*with* Agarwal, Ravi P.) Convergence to equilibria in recurrence equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 357–368. (Sui Sun Cheng) **99k:39004** 39A10

— (*with* Arino, Ovide) Asymptotic constancy for neutral functional-differential equations. (English summary) *Differential Equations Dynam. Systems* **6** (1998), *no.* 3, 261–273. (Tibor Krisztin) **99j:34094** 34K15 (34K40)

Piva, R. (*with* Bassanini, Piero; Casciola, C. M.; Lancia, M. R.) Uniqueness of the bounded flow solution in aerodynamics. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 12–18. (Summary) **99e:76073** 76G25

— (*with* Bassanini, Piero; Casciola, C. M.; Lancia, M. R.) A theoretical model for multiply connected wings. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 6, 607–634. (Summary) **99k:76015** 76B05 (35Q35, 76C05, 76G25)

— (*with* Riccardi, Giorgio) Motion of an elliptical vortex under rotating strain: conditions for asymmetric merging. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 2, 63–88. (Summary) **99b:76018** 76C05

Piven', V. F. The theory of two-dimensional processes in nonhomogeneous layers with a power law of change of their conductivity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 595–605; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 577–586. (Vladimir Mityushev) **99g:76019** 76B99 (30G20, 35Q15, 73B99)

Pivert, O. (*with* Bosc, P.; Lietard, L.) Flexible database querying and the division of fuzzy relations. (English summary) *Sci. Iran.* **2** (1996), *no.* 4, 329–340. 68P15 (03E72)

Pivovarchik, V. N. Inverse problem for a smooth string with damping at one end. (English summary) *J. Operator Theory* **38** (1997), *no.* 2, 243–263. (Hendrik S. V. de Snoo) **99b:34030** 34A55 (34B24, 34L40)

— On the spectra of small oscillations of a string in the presence of viscous friction on one end. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 78–81; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 61–63. (Björn Textorius) **99j:34127** 34L40 (34B05, 34L20)

Pivovarov, A. A. (*with* Groote, S.; Körner, J. G.) On the evaluation of sunset-type Feynman diagrams. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 515–547. (Summary) **99j:81125** 81T18

Pivovarov, M. L. (*with* Ferreira, L. O.; Lopes, R. V. F.) Rigid body rotation evolution due to a disturbing torque which is known in a body frame. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 239–246. (Summary) **99h:70015** 70E15

Piwakowski, Konrad (*with* Radziszowski, Stanisław P.) $30 \le R(3,3,4) \le 31$. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 135–141. (Martin Klazar) **99f:05083** 05C55 (68R10)

Piza, Eduardo (*with* Trejos, Javier; Murillo, Alex) Global stochastic optimization techniques applied to partitioning. (English summary) *Advances in data science and classification* (*Rome*, 1998), 185–190, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 90C15 (90C90)

Piza, M. S. T. (*with* Grimmett, Geoffrey R.) Decay of correlations in random-cluster models. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 465–480. (H. Kesten) **99a:60115** 60K35 (82B20, 82B43)

— Directed polymers in a random environment: some results on fluctuations. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 581–603. (Aernout C. D. van Enter) **99d:82036** 82B44 (60K35, 82B41, 82D60)

Pizarro, Luis (*with* Fernández-Sánchez, F.; Freire Macías, Emilio; Rodríguez-Luis, A. J.) Analytical and numerical study of a van der Pol-Duffing oscillator. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99k:62003**) 34C15 (34C23, 94C05)

— (*with* Freire Macías, Emilio; Rodríguez-Luis, A. J.; Fernández-Sánchez, F.) Bifurcations of codimension two in an enzyme model. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 92C45 (35B32, 35Q80)

— (*with* Rodriguez-Luis, A. J.; Freire Macías, Emilio; Gamero, E.; Fernández-Sánchez, F.) Islands of periodic orbits in an electronic system. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 19 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C15 (34C23, 34C25, 94C05)

— (*with* Freire Macías, Emilio; Rodríguez-Luis, A. J.) Numerical continuation of several kinds of degenerated homoclinic orbits in planar systems. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 468–474, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C37 (58F14)

— (*with* Rodríguez-Luis, A. J.; Freire Macías, Emilio; Gamero, E.) Analysis of a degenerated Bogdanov-Takens bifurcation in an engineering model. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 486–493, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C23 (58F14)

— (*with* Llibre, Jaume; Ponce, Enrique) Limit cycles of polynomial Liénard systems. Comment on: "Number of limit cycles of the Liénard equation" [Phys. Rev. E (3) **56** (1997), no. 4, 3809–3813; MR 98f:34035] by H. Giacomini and S. Neukirch. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5185–5187. (Summary) **99h:34048** 34C05 (34A45)

Pizer, Arnold K. Ramanujan graphs. *Computational perspectives on number theory* (*Chicago, IL*, 1995), 159–178, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Thomas R. Shemanske) **99b:11046** 11F25 (05C50, 11F11)

Piziak, R. (*with* Odell, P. L.; Hahn, Rebekah D.) Constructing projections on sums and intersections. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 67–74. (Summary) **99i:65047** 65F25

Pizzella, G. *see* **Conference: General Relativity and Gravitational Physics, 99e:83002**

Pizzi, Claudio Rudolf Carnap and the origins of possible worlds semantics. (Italian) *The legacy of Rudolf Carnap* (*Italian*) (*Cesena*, 1992), 331–338, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (Otávio Bueno) **99a:03029** 03B45

Pizzocchero, Livio (*with* Morosi, Carlo) On the continuous limit of integrable lattices. III. Kupershmidt systems and $sl(N+1)$ KdV theories. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2727–2746. (Ahmet Satir) **99k:58095** 58F07 (35Q58)

— (*with* Morosi, Carlo) On the continuous limit of integrable lattices. II. Volterra systems and $sp(N)$ theories. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 2, 235–270. (Yun Bo Zeng) **99b:58120** 58F07 (35Q58)

Pkhakadze, K. Sh. *i*-algebra of sentences. (Georgian. English and Russian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 3, 365–368 (1996). 03B50

Pkhakadze, Sh. A N. Bourbaki type general theory and the properties of contracting symbols and corresponding contracted forms. (English summary) Translated from the original Russian manuscript and Section 1 added by Z. Khasidashvili. *Georgian Math. J.* **6** (1999), *no.* 2, 179–190. (Summary) **99j:03006** 03B10

Pla, Juan The sum of inverses of binomial coefficients revisited. *Fibonacci Quart.* **35** (1997), *no.* 4, 342–345. (Andrew M. Rockett) **99b:11013** 11B65 (05A10, 05A15)

Pla, Núria (*with* Vigo, Marc; Brunet, Pere) From degenerate patches to triangular and trimmed patches. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 435–444, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

Placek, Tomasz On Brouwer's criticism of classical logic and mathematics. (English summary) *Logic Log. Philos. No.* 5 (1997), 19–33. (Branislav Boričić) **99h:03002** 03A05 (01A60, 03–03)

— Charting the labyrinth of Bell-type theorems. (English summary) *Logic Log. Philos. No.* 5 (1997), 93–120. (S. Gudder) **99j:81017** 81P10 (81P15)

— Observing a Schrödinger cat. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 3, 209–231. (R. L. Ingraham) **99d:81021** 81P15

Plachky, Detlef Characterization of discreteness of measures by a property of unique extension. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 57–62. (W. Hackenbroch) **99k:28004** 28A12 (60A10)

Plachta, Leonid Chord diagrams in the classification of Morse-Smale flows on 2-manifolds. *Knot theory* (*Warsaw*, 1995), 255–273, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Evgenii Zhuzhoma) **99k:58108** 58F09 (57R30)

Plahte, Erik (*with* Mestl, Thomas; Omholt, Stig W.) A methodological basis for description and analysis of systems with complex switch-like interactions. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 321–348. (Joseph So) **99j:92003** 92C20 (34C23, 34D20, 92B05, 92B20)

Pla i Carrera, Josep Archimedes and Descartes: method with a change of language. (Catalan) *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 2, 35–84. (J. S. Joel) **99m:01006** 01A20 (00A35, 01A45)

Plail, Michael ★ Die Entwicklung der optimalen Steuerungen. (German) [The development of optimal controls] Von den Anfängen bis zur eigenständigen Disziplin in der Mathematik. [From the beginnings to the status of independent discipline in mathematics] Studien zur Wissenschafts-, Sozial- und Bildungsgeschichte der Mathematik [Studies on the Scientific, Social and Educational History of Mathematics], 12. *Vandenhoeck & Ruprecht, Göttingen*, 1998. *x*+311 *pp. ISBN* 3-525-40319-4 (Rolf Klötzler) **99k:49001** 49–03 (01A60, 49J15)

Plaisted, David A. (*with* Alexander, Geoffrey D.) Propositional search efficiency and first-order theorem proving. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 335–350, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Alexander Leitsch) **99c:68223** 68T15 (03B35, 03F20)

Plakhki, D. (*with* Rukhin, Andrew L.) Lehmann-unbiased statistical procedures: admissibility and invariance. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **228** (1996), *Veroyatn. i Stat.* 1, 284–293, 362; *translation in J. Math. Sci.* (*New York*) **93** (1999), *no.* 3, 436–442. (Summary) **99g:62026** 62F10 (62C15)

Plakhov, A. Yu. (*with* Stěpin, A. M.) Scattering and Coxeter groups. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 159–160; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 401–402. (Serge L. Tabachnikov) **99k:58147** 58F17 (20F55, 70F10, 70F99, 70H05)

Plakhov, A. Yu. Limit behavior of the spectrum in a class of large random matrices. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 2, 85–88; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 2, 140–142. (Boris A. Khoruzhenko) **99d:60006** 60B15 (15A52, 47B80, 82B44)

Plakhtienko, N. P. (*with* Matvīchuk, K. S.) Sufficient conditions for the technical stability of oscillations of two coupled gyrostats supporting moving flywheels. (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **34** (1998), *no.* 6, 104–112; *translation in Internat. Appl. Mech.* **34** (1998), *no.* 6, 598–605. 70E15 (70K20)

Plaksa, S. A. (*with* Mel'nichenko, I. P.) Potential fields with axial symmetry and algebras of monogenic functions of a vector argument. III. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 2, 228–243; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 253–268. (Wazir Hasan Abdi) **99e:30002** 30A05

Plamenevskiĭ, B. A. Elliptic boundary value problems in domains with piecewise smooth boundary. Translated from the Russian by the author. *Partial differential equations, IX*, 217–281, *Encyclopaedia Math. Sci.*, 79, *Springer, Berlin*, 1997. (M. S. Agranovich) **99h:35041** 35J40 (35J25, 47F05, 58G20)

— On the Dirichlet problem for the wave equation in a cylinder with edges. (Russian) *Algebra i Analiz* **10** (1998), *no.* 2, 197–228. (A. Borzymowski) **99i:35087a** 35L05 (35B40, 35C20)

— Erratum: "On the Dirichlet problem for the wave equation in a cylinder with edges". (Russian) *Algebra i Analiz* **10** (1998), *no.* 3, 224. (A. Borzymowski) **99i:35087b** 35L05 (35B40, 35C20)

— On the wave equation in a cylinder with edges. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 81–84; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 63–65. (From the text) **99b:35113** 35L05

garcía-Planas, Ma. Isabel *see* **García-Planas, Ma. Isabel**

Planas-Vilanova, Francesc On the module of effective relations of a standard algebra. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 215–229. (P. Schenzel) **99h:13002** 13A30 (13D03, 13D10)

Planchard, Jacques (*with* Conca, Carlos; Vanninathan, Muthusamy) ★ Fluids and periodic structures. (English summary) RAM: Research in Applied Mathematics, 38. *John Wiley & Sons, Ltd., Chichester; Masson, Paris*, 1995. *xii*+333 *pp. ISBN* 0-471-96059-4 (Ma. Eugenia Pérez Martinez) **99k:73094** 73K70 (35B27, 47A55, 47N20, 65M06, 73B27, 73D30)

— (*with* Allaire, Grégoire; Conca, Carlos) Homogenization and Bloch wave method for fluid tube bundle interaction. (English summary) *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 3-4, 333–361. (Taras A. Mel′nyk) **99j:73077** 73K70 (35B27, 73B27, 73D30)

— (*with* Conca, Carlos; Osses, Axel) Asymptotic analysis relating spectral models in fluid-solid vibrations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1020–1048 (*electronic*). (Summary) **99a:73101** 73K70 (35P10, 35P20, 35Q72, 47A75, 47F05)

Planchon, Fabrice Asymptotic behavior of global solutions to the Navier-Stokes equations in $\mathbf{R}^3$. (English summary) *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 71–93. (Zhi Min Chen) **99k:35144** 35Q30 (35B40, 76D05)

— (*with* Cannone, Marco) Maximal functions inequalities and Navier-Stokes. (English summary) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaiseki kenkyūsho Kōkyūroku No.* 1036 (1998), 139–159. (Summary) **99h:35156** 35Q30 (42B25, 76D05)

Plandowski, Wojciech (*with* Karhumäki, Juhani; Lepistö, Arto) Locally periodic infinite words and a chaotic behaviour. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 421–430, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68107** 68Q45 (68R15)

— (*with* Karhumäki, Juhani; Mañuch, Ján) On defect effect of bi-infinite words. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 674–682, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R15

Plante, André (*with* Fraser, Donald A. S.; McDunnough, Philip; Naderi, Amir) From the likelihood map to Euclidean minimal sufficiency. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 223–230 (19*N*). (Dieter Mussmann) **99e:62007** 62B05 (62A10)

Plantenga, Todd (*with* Lalee, Marucha; Nocedal, Jorge) On the implementation of an algorithm for large-scale equality constrained optimization. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 682–706 (*electronic*). (Riho Lepp) **99e:65102** 65K05 (90C30)

— A trust region method for nonlinear programming based on primal interior-point techniques. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 282–305 (*electronic*). (Yin Zhang) **99g:90132** 90C30 (65K05)

Plantholt, M. (*with* El-Zanati, S. I.; Vanden Eynden, C.) Graph decompositions into generalized cubes. (English summary) *Ars Combin.* **49** (1998), 237–247. (Summary) **99c:05150** 05C70

Plaschko, P. (*with* Schaflinger, U.) Absolute instabilities in two-layer gravity driven film flow with a free surface. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 194–204. (Summary) **99c:73027** 73E05 (76D05, 76T05, 76V05)

Plashchinskiĭ, P. V. (*with* Vasil′ev, I. L.) Discrete Mellin transforms and convolutions. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 46–48, 123. (Summary) **99a:44004** 44A35 (44A10, 44A15)

Plaskota, Leszek ★ Noisy information and computational complexity. (English summary) *Cambridge University Press, Cambridge*, 1996. xii+308 *pp. ISBN* 0-521-55368-7 (Klaus Ritter) **99b:65189** 65Y20 (65–02, 68Q25)

— Average case L_∞-approximation in the presence of Gaussian noise. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 501–515. (Hsien-Kuei Hwang) **99d:41044** 41A46 (65J10)

Plastino, A. *see* **Plastino, Angel Ricardo**

Plastino, Angel Luis (*with* Rigo, A.; Casas, M.) Quantal Euclidean mappings. (English summary) *Phys. A* **253** (1998), *no.* 1-4, 247–259. (Emanuel H. Knill) **99e:81065** 81Q99 (81P05)

— (*with* Giordano, C. M.; Plastino, Angel Ricardo) Noether's theorem and the "extended", conservative approach to time driven systems. (English and Spanish summaries) *Rev. Mexicana Fís.* **45** (1999), *no.* 3, 303–307. 70H33

Plastino, Angel Ricardo (*with* Borland, Lisa; Tsallis, Constantino) Information gain within nonextensive thermostatistics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6490–6501. (A. K. Rajagopal) **99k:82002a** 82B03 (82B30)

— (*with* Gruver, J. L.; Proto, A. N.) Exact dynamics for a class of nonlinear Hamiltonians and the classification of its associated Alhassid-Levine Lie algebras. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 61–65. (Summary) **99e:81063** 81Q99 (17B81, 81R05)

— (*with* Silva, R., Jr.; de Lima, J. Ademir Sales) A Maxwellian path to the q-nonextensive velocity distribution function. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 401–408. (Summary) **99h:82032** 82B30

— (*with* Borland, Lisa; Tsallis, Constantino) Erratum: "Information gain within generalized [non-extensive] thermostatistics". *J. Math. Phys.* **40** (1999), *no.* 4, 2196. (A. K. Rajagopal) **99k:82002b** 82B03 (82B30)

— (*with* Giordano, C. M.; Plastino, Angel Luis) Noether's theorem and the "extended", conservative approach to time driven systems. (English and Spanish summaries) *Rev. Mexicana Fís.* **45** (1999), *no.* 3, 303–307. 70H33

Plastria, Frank (*with* Carrizosa, Emilio) Locating an undesirable facility by generalized cutting planes. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 680–694. (Summary) **99k:90095** 90B80 (51M20, 68U05)

de la Plata, M. J. (*with* Salcedo, L. L.) Feynman diagrams with the effective action. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4021–4035. (Introduction) **99e:81162** 81T18

Platania, G. (*with* Rosania, R.) Exact Bianchi type-I solutions of the Einstein equations with Dirac and scalar fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 8, 1053–1060. (Edson Stédile) **99i:83016** 83C15 (83F05)

Plateau, Brigitte (*with* Fernandes, Paulo; Stewart, William J.) Efficient descriptor-vector multiplications in stochastic automata networks. (English summary) *J. ACM* **45** (1998), *no.* 3, 381–414. (Summary) **99f:68141** 68Q75 (68M20)

— (*with* Fernandes, Paulo; Stewart, William J.) Optimizing tensor product computations in stochastic automata networks. (English and French summaries) Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 325–351. (Summary) **99f:68021** 68M20 (68Q75)

Plateau, Gérard (*with* Bennaceur, Hachemi; Gouachi, Idir) An incremental branch-and-bound method for the satisfiability problem. (English summary) Connections between integer programming and constraint logic programming. *INFORMS J. Comput.* **10** (1998), *no.* 3, 301–308. (*see* **99e:90002**) 90C10 (90C27)

Platen, Eckhard (*with* Schweizer, Martin) On feedback effects from hedging derivatives. (English summary) *Math. Finance* **8** (1998), *no.* 1, 67–84. (Jakša Cvitanić) **99e:90014** 90A09

— (*with* Mil′shteĭn, G. N.; Schurz, H.) Balanced implicit methods for stiff stochastic systems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1010–1019 (*electronic*). (Summary) **99a:65019** 65C20 (60H10)

Platis, A. (*with* Limnios, N.; Le Du, M.) Hitting time in a finite non-homogeneous Markov chain with applications. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 3, 241–253. (Gh. Oprişan) **99k:60175** 60J10 (60K10, 90B25)

Plato *see* **Artmann, B., 99a:01003; Massaro, Domenico, 99d:01010; Kokkinos, Johannes, 99f:01005; Malatesta, Michele** *and* **Caveing, Maurice, (99g:01038)**

von Plato, Jan (*with* Negri, Sara) From Kripke models to algebraic counter-valuations. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 247–261, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B20)

Plato, R. Resolvent estimates for Abel integral operators and the regularization of associated first kind integral equations. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 3, 253–278. (Rudolf Gorenflo) **99i:45005** 45E05 (45L05, 45P05, 47G10, 65R20)

— The method of conjugate residuals for solving the Galerkin equations associated with symmetric positive semidefinite ill-posed problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1621–1645 (*electronic*). (Julio Guacaneme Dix) **99g:65072** 65J20 (45L05, 47A50)

Platonov, A. P. On the differentiability of the elastic-collision integral with respect to energy in problems of neutron deceleration. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 4, 663–669. 82C70 (82D75)

Platonov, S. S. On the one-to-one correspondence between invariant subspaces in some spaces. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 54–60. 22D12

— Nikol′skiĭ-Besov classes on compact symmetric spaces of rank 1. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 153–172. (H. Triebel) **99g:46044** 46E35

— On Jackson-type theorems on a compact symmetric space of rank 1. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 4, 445–448. (N. N. Vakhania) **99b:41022** 41A63 (43A55)

— Approximations on compact symmetric spaces of rank 1. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 5, 113–130; *translation in Sb. Math.* **188** (1997), *no.* 5, 753–769. (Alexander Isaakovich Shtern) **99c:58164** 58G25 (22E30, 41A30, 43A85)

— Invariant subspaces in function spaces of polynomial growth on $\mathbf{R}^N$. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 105–124. (E. A. Gorin) **99g:43004** 43A15 (22A99)

— Invariant subspaces in some function spaces on symmetric spaces. II. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 2, 131–168; *translation in Izv. Math.* **62** (1998), *no.* 2, 339–374. (D. Miličić) **99f:43005** 43A85 (22E46, 46F99)

Platonov, Vladimir Petrovich (*with* Grunewald, Fritz) On finite extensions of arithmetic groups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1153–1158. (B. Sury) **99a:20045** 20G30 (11F06, 20F24)

— (*with* Grunewald, Fritz) Non-arithmetic polycyclic groups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1359–1364. (B. Sury) **99i:20064** 20G30 (20F16)

— (*with* Grunewald, Fritz) Rigidity and automorphism groups of solvable arithmetic groups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 427–432. (B. Sury) **99i:20065** 20G30 (20F16, 20F28)

— (*with* Chernousov, Vladimir I.) The rationality problem for semisimple group varieties. *J. Reine Angew. Math.* **504** (1998), 1–28. (Andy R. Magid) **99i:14056** 14L35 (14M20, 20G15)

Platt, Nathan (*with* Hammel, Stephen; Barnett, John) Diagnosing intermittency. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium* (*San Diego, CA*, 1997), 51–56, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 58F13

Platt, Robert W. Estimation using the modified profile likelihood in log odds ratio regression analysis. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 905–919. (Summary) **99i:62136** 62H17

Platte, Rodrigo B. (*with* Bravo, Elba; Claeyssen, Julio R.) A direct one-step pressure actualization for incompressible flow with pressure Neumann condition. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 43–53. (Summary) **99m:76086** 76M20 (76D05)

Platzeck, María Inés Relations and modules of finite projective dimension over algebras whose idempotent ideals are projective. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 433–446, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Pu Zhang) **99g:16019** 16G20 (16E10)

— (*with* Gastaminza, S.; de la Peña, José Antonio; Redondo, María Julia; Trepode, S.) Finite-dimensional algebras with vanishing Hochschild cohomology. *J. Algebra* **212** (1999), *no.* 1, 1–16. (Thierry Lambre) **99m:16009** 16E40 (16G20)

Plaut, Conrad (*with* Berestovskiĭ, V. N.; Stallman, Cornelius) Geometric groups. I. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1403–1422. (Zhongmin Shen) **99f:22008** 22D05 (53C23, 53C70)

Plaut, Emmanuel (*with* Pesch, Werner) Extended weakly nonlinear theory of planar nematic convection. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1747–1769. 76A15 (76E15, 82D30)

Plaxton, C. Greg (*with* Suel, Torsten) Lower bounds for Shellsort. (English summary) *J. Algorithms* **23** (1997), *no.* 2, 221–240. (Linda Pagli) **99b:68047** 68P10 (68Q25)
— (*with* Korupolu, Madhukar R.; Rajaraman, Rajmohan) Analysis of a local search heuristic for facility location problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 1–10, *ACM, New York*, 1998. (Summary) **99e:90055** 90B80 (68Q25)
— (*with* MacKenzie, Philip D.; Rajaraman, Rajmohan) On contention resolution protocols and associated probabilistic phenomena. (English summary) *J. ACM* **45** (1998), *no.* 2, 324–378. (Menachem Dishon) **99h:68082** 68Q25 (68Q10, 90A80, 90B35)
— (*with* Leighton, Frank Thomson) Hypercubic sorting networks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 1–46 (*electronic*). (A. T. Amin) **99d:68055** 68P10 (68Q22, 68R05)
Plaza, Angel (*with* Padrón, Miguel A.) Some tetrahedral mesh refinement algorithms based on bisection. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 853–858, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M50 (65N50)
Plaza, E. (*with* Esteva, Francesc; Garcia-Calvés, Pere; Godo, Lluís; López de Màntaras, R.) A logical approach to case-based reasoning using fuzzy similarity relations. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 105–122. (Summary) **99f:68191** 68T27 (03B52)
Plaza, F. (*with* Danaila, L.; Le Gal, P.; Anselmet, F.; Pinton, J. F.) Some new features of the passive scalar mixing in a turbulent flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 636–646. 76F99 (76–05)
Plaza, Jan *see* **Artificial intelligence and symbolic computation, 99k:68005**
Plaza, Sergio *see* **Plaza S., Sergio**
Plaza Martín, Francisco J. Prym varieties and the infinite Grassmannian. (English summary) *Internat. J. Math.* **9** (1998), *no.* 1, 75–93. (Emma Previato) **99a:14037** 14H40 (58B25, 58F07)
Plaza S., Sergio (*with* Vera V., Jaime) Differentiability of p-central Cantor sets. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 1–37. (Run Sheng Yang) **99b:58155** 58F12 (28A05, 28A12, 28A80)
Please, C. P. (*with* McNabb, A.; McElwain, D. L. S.) Spontaneous combustion in coal pillars: buoyancy and oxygen starvation. (English summary) *Math. Engrg. Indust.* **7** (1999), *no.* 3, 283–300. (Summary) **99k:80011** 80A25 (76S05)
Plebanek, Grzegorz On Pettis integral and Radon measures. (English summary) *Fund. Math.* **156** (1998), *no.* 2, 183–195. (Lawrence H. Riddle) **99c:46043** 46G10 (04A30, 28C15, 46B22)
Plebański, Jerzy F. (*with* García-Compeán, Hugo; Przanowski, Maciej) Geometry associated with self-dual Yang-Mills and the chiral model approaches to self-dual gravity. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 3, 549–571. (Ian A. B. Strachan) **99i:58068** 58F06 (53C80, 58B30, 83C99)
— (*with* Przanowski, Maciej) Hermite-Einstein four-dimensional manifolds with symmetry. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1721–1735. (J. D. Finley, III) **99h:53063** 53C25 (53C55, 83C20)
— (*with* García-Compeán, Hugo; Quiroz-Pérez, Norma) On the reduced SU(N) gauge theory in the Weyl-Wigner-Moyal formalism. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2089–2102. (Maciej Przanowski) **99e:81145** 81T13 (81S30, 81T30)
— (*with* Przanowski, Maciej; Formański, Sebastian) Linear superposition of two type-N nonlinear gravitons. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 25–31. (J. D. Finley, III) **99j:83015** 83C15 (83C60)
— (*with* García-Compeán, Hugo; Obregón, O.; Ramírez Romero, Cupatitzio) Towards a gravitational analogue to S duality in non-abelian gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7501–7506. (Summary) **99k:81306** 81T60 (81T13)
Plecháč, P. (*with* Matoušek, Jiří) On functional separately convex hulls. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 105–130. (Stelian S. Dumitrascu) **99c:52001** 52A01 (65Y25)
— (*with* Johnston, Desmond A.) Equivalence of ferromagnetic spin models on trees and random graphs. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 475–482. (Summary) **99b:82053** 82B44 (05C80)
Plechko, V. N. Fermionic path integrals and analytic solutions for two-dimensional Ising models. (English summary) *Path integrals: Dubna '96*, 295–299, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 82B20 (81S40)
— Anticommuting integrals and fermionic field theories for two-dimensional Ising models. (English summary) *Symmetry methods in physics, Vol. 2 (Dubna, 1995)*, 443–450, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 82B20
Plefka, Jan C. (*with* Serone, Marco; Waldron, Andrew K.) $D = 11$ SUGRA as the low energy effective action of Matrix theory: three form scattering. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 10, 24 *pp.* (*electronic*). (Summary) **99k:83126** 83E30 (81T30, 83E50)
— (*with* Waldron, Andrew K.) On the quantum mechanics of M(atrix) theory. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 460–484. (Richard A. Corrado) **99h:81182** 81T30 (81Q60)
— (*with* de Wit, Bernard; Peeters, Kasper) Superspace geometry for supermembrane backgrounds. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 99–123. (Paulo Moniz) **99m:83209** 83E50 (81T30, 83E30)
— (*with* de Wit, Bernard; Peeters, Kasper) The supermembrane with winding. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 405–411. (Summary) **99c:81215** 81T30
— (*with* de Wit, Bernard; Peeters, Kasper) Open and closed supermembranes with winding. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 206–215. (Summary) **99e:81213** 81T30 (81Q60)
— (*with* de Wit, Bernard; Peeters, Kasper; Sevrin, Alexander) The M-theory two-brane in $AdS_4 \times S^7$ and $AdS_7 \times S^4$. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 153–158. (Summary) **99j:83073** 83E30 (81T30)
— (*with* Serone, Marco; Waldron, Andrew K.) Matrix theory S matrix. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 14, 2866–2869. (Summary) **99g:81181** 81T30
Pleimling, M. (*with* Neubert, B.; Siems, R.) Low-temperature phase diagram and critical behaviour of the four-state chiral clock model. (English summary) *J. Phys. A* **31** (1998), *no.* 21, 4871–4883. (Summary) **99a:82041** 82B26 (82B20, 82B27)
Plemmons, Robert J. (*with* Nagy, James G.; Pauca, V. Paul; Torgersen, Todd C.) Degradation reduction in optics imagery using Toeplitz structure. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 269–288 (1998). (Summary) **99e:78008** 78–08 (65Y20, 68U10, 94A12)
— Numerical linear algebra in optical imaging. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 362–367, *Springer, Berlin*, 1997. (Summary) **99i:94013** 94A12 (65F30, 78–08)
Plesken, Wilhelm (*with* Souvignier, B.) Analysing finitely presented groups by constructing representations. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 335–349. (Summary) **99h:20009** 20C15 (20C20, 20F05, 68Q40)
— Finite rational matrix groups: a survey. (English summary) *The atlas of finite groups: ten years on (Birmingham, 1995)*, 229–248, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Gabriele Nebe) **99h:20083** 20H20 (11E12, 20C12, 20E42)
— (*with* Opgenorth, J.; Schulz, T.) Crystallographic algorithms and tables. (English summary) *Acta Cryst. Sect. A* **54** (1998), *no.* 5, 517–531. (Karel Dekimpe) **99h:20082** 20H15 (20–04, 82D25)
— (*with* Souvignier, B.) Constructing representations of finite groups and applications to finitely presented groups. *J. Algebra* **202** (1998), *no.* 2, 690–703. (Mohammad-Reza Darafsheh) **99d:20013** 20C15 (20F05)
— (*with* Cohen, Arjeh Marcel; Nebe, Gabriele) Maximal integral forms of the algebraic group G_2 defined by finite subgroups. (English summary) *J. Number Theory* **72** (1998), *no.* 2, 282–308. (Andy R. Magid) **99i:20063** 20G25 (11E57, 20C33)
— Presentations and representations of groups. *Algorithmic algebra and number theory (Heidelberg, 1997)*, 423–434, *Springer, Berlin*, 1999. (D. F. Holt) **99k:20065** 20F05 (20C10, 20C40)
— *see also* **Charlemagne and his heritage. 1200 years of civilization and science in Europe, 99i:00015**
Plesnevich, G. S. The logic of "class-binary relations" models. I. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 5, 17–26. 68T30
— The logic of "class-binary relations" models. II. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 5, 69–80. 68T30 (03B70)
Pleśniak, W. Recent progress in multivariate Markov inequality. (English summary) *Approximation theory*, 449–464, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (M. Lachance) **99g:41016** 41A17 (41A63)
Plesník, Ján (*with* Branković, Ljiljana; Miller, Mirka; Ryan, Joseph; Širáň, Jozef) Large graphs with small degree and diameter: a voltage assignment approach. (English summary) *Australas. J. Combin.* **18** (1998), 65–76. (Summary) **99h:05063** 05C35
— (*with* Baskoro, Edy Tri; Miller, Mirka) On the structure of digraphs with order close to the Moore bound. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 109–119. (Matúš Harminc) **99g:05085** 05C20
Pless, Vera ★ Introduction to the theory of error-correcting codes. (English summary) Third edition. Wiley-Interscience Series in Discrete Mathematics and Optimization. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xiv*+207 *pp. ISBN* 0-471-19047-0 (Editors) **99c:94001** 94–02 (94B05)
— (*with* Fields, Joe; Gaborit, Philippe; Leon, Jeffrey S.) All self-dual Z_4 codes of length 15 or less are known. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 311–322. (Summary) **99a:94061** 94B60
Plesser, M. Ronen (*with* Morrison, David R.) Towards mirror symmetry as duality for two-dimensional abelian gauge theories. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 374–387, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99m:81224** 81T40 (14J32, 32J81)
du Plessis, A. A. (*with* Wall, C. T. C.) Versal deformations in spaces of polynomials of fixed weight. (English summary) *Compositio Math.* **114** (1998), *no.* 2, 113–124. (Eugenii Shustin) **99k:14005** 14B07 (14J70, 32S30)
— (*with* Wall, C. T. C.) Application of the theory of the discriminant to highly singular plane curves. *Math. Proc. Cambridge Philos. Soc.* **126** (1999), *no.* 2, 259–266. (Sherwood Washburn) **99m:14053** 14H20
du Plessis, J. L. (*with* van der Merwe, Abraham Johannes; van der Merwe, C. A.; Muller, M. A. E.) A Bayesian solution to the Behrens-Fisher problem using Monte Carlo simulation techniques. (English summary) *South African Statist. J.* **31** (1997), *no.* 2, 299–329. (Summary) **99c:62065** 62F15
du Plessis, J. Prieur *see* **Fluid transport in porous media, 99a:76153**
Plessix, René-Edouard (*with* De Roeck, Yann-Hervé; Chavent, Guy) Waveform inversion of reflection seismic data for kinematic parameters by local optimization. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1033–1052 (*electronic*). (Summary) **99i:86016** 86A15 (86A22, 90C90)
Pletea, Ariadna-Lucia (*with* Beceanu, Maria) The finite element methods for a singular boundary value problem. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 49–54. (Jiří Nedoma) **99b:65136** 65N30 (65N15)
Pletner, Yu. D. (*with* Al'shin, A. B.; Sveshnikov, A. G.) On the solvability of a nonstationary analogue of the Lavrent'ev-Sedov-Keldysh problem for the ion-acoustic wave equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1520–1525; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1474–1479. (Piotr P. Goldstein) **99i:35161** 35Q99 (76X05, 82D10)
— (*with* Al'shin, A. B.; Sveshnikov, A. G.) Unique solvability of the Dirichlet problem for the equation of ion-acoustic waves in a plasma. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 6, 749–751. 35L99 (35Q35, 76X05)
— (*with* Al'shin, A. B.; Sveshnikov, A. G.) On the Dirichlet problem for the two-dimensional ion-acoustic wave equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1743–1750; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1672–1679. (From the text) **99g:76154** 76X05 (35M20, 35Q35)
Pletyukhov, M. V. (*with* Tolkachev, E. A.) 8D oscillator and 5D Kepler problem: the case of nontrivial constraints. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 93–100. (Ivailo M. Mladenov) **99m:81048** 81Q05 (22E70, 81R05)
— (*with* Tolkachev, E. A.) Evolution of twofold degenerate two-level system. Geometrical effects. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 1073–1082. (Summary) **99i:81058** 81Q99 (58Z05)

Plewik, Szymon (*with* Balcerzak, Marek) Property (P) and game ideals. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 153–158. (Andrzej Szymański) **99a:04004** 04A20 (54A25, 54H05)
— (*with* Fuchino, Sakaé) On a theorem of E. Helly. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 491–497. (B. K. Lahiri) **99c:26001** 26A03 (03E10, 03E35, 06A05)
Pliakis, Dimitris (*with* Pnevmatikos, Spyros; Andreadis, Ioannis) Singularités régularisables des équations d'Euler-Lagrange sur une variété hilbertienne. (English and French summaries) [Removable singularities of the Euler-Lagrange equations on a Hilbert manifold] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 877–882. (Harald Upmeier) **99b:58100** 58F05 (58B20, 58E30)
Plichko, A. N. (*with* Kucher, O. V.) On strict singularity of locally integral operators on Banach function spaces. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 549–561. (M. M. Popov) **99i:47057** 47B38 (46E30, 47G10)
— Decomposition of Banach space into a direct sum of separable and reflexive subspaces and Borel maps. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 335–350. (G. J. O. Jameson) **99m:46041** 46B20
— (*with* Zagorodnyuk, A. V.) On automatic continuity and three problems of *The Scottish book* concerning the boundedness of polynomial functionals. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 477–494. (Jorge Mujica) **99c:46050** 46G20
— (*with* Aleksandrov, G. A.; Kutzarova, Denka) A separable space with no Schauder decomposition. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2805–2806. (Summary) **99m:46020** 46B15
Plimpton, George Arthur *see* **Donoghue, Eileen F., 99i:01032**
Pliś, Maria E. Poincaré theorem and nonlinear PDE's. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 2, 99–105. (Summary) **99e:35020** 35C99 (44A10)
— (*with* Ziemian, Bogdan) Convolution equations in the space of Laplace distributions. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 3, 271–281. (Hans-Jürgen Glaeske) **99m:44002** 44A10 (46F10)
Plisko, V. E. Modified realizability and predicate logic. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 2, 259–269; *translation in Math. Notes* **61** (1997), *no.* 1-2, 212–220. (Roman Kossak) **99h:03037** 03F30 (03C62, 03F55)
Pliss, Viktor Aleksandrovich (*with* Vasil'eva, E. V.; Pilyugin, S. Yu.) Local properties of plane homoclinic structures, and Hausdorff dimension. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 595–601, 716; *translation in Differential Equations* **33** (1997), *no.* 5, 599–605 (1998). (A. Ya. Narmanov) **99f:58138** 58F12
— (*with* Sell, George R.) Some properties of weakly hyperbolic invariant sets. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 672–677, 719; *translation in Differential Equations* **33** (1997), *no.* 5, 675–680 (1998). (Mark J. Friedman) **99d:58131** 58F15 (34C30, 34D10, 58F30)
— (*with* Sell, George R.) Approximation dynamics and the stability of invariant sets. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 1–51. (Carlos A. Morales) **99i:58120** 58F15 (34A45, 34C30, 34C35, 34D35)
Pliuskevicius, Regimantas Replacement of induction by similarity saturation in a first order linear temporal logic. (English summary) *J. Appl. Non-Classical Logics* **8** (1998), *no.* 1-2, 141–169. (Summary) **99k:03046** 03F50 (03B45, 68Q60)
Pljasunov, Alexander (*with* Kochetov, Yu. A.) Efficient algorithm for a class of bilevel linear programming problems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 10–13, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C08
Ploberger, Werner (*with* Bierens, Herman J.) Asymptotic theory of integrated conditional moment tests. (English summary) *Econometrica* **65** (1997), *no.* 5, 1129–1151. (A. L. Nagar) **99a:62086** 62J05 (62F03, 62P20)
Plohr, Bradley J. (*with* Čanić, Sunčica) Erratum to: "The role of limit cycles in the admissibility of shock waves" [Mat. Contemp. **8** (1995), 63–88; MR 96a:35114] by Čanić. (English summary) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 43–44. (From the text) **99k:35117** 35L67 (35B40, 58F21, 58F39, 76L05)
— (*with* Sharp, David H.) Instability of accelerated elastic metal plates. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 786–804. (Summary) **99f:73051** 73K10 (73D99, 73H10)
Ploix, Stéphane (*with* Giuliani, Stéphane; Ragot, José) A unifying approach of LTI discrete-time state observers by means of complementary matrices. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 422–426. 93B07 (93C55)
Plokhotnikov, K. È. Thermogeometric dynamics of a finite crystal sample. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 3, 3–31. 80A22
Plonka, Gerlind Necessary and sufficient conditions for orthonormality of scaling vectors. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 205–218, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Peter A. McCoy) **99c:42072** 42C15
— On stability of scaling vectors. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 293–300, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:65249** 65T99
— (*with* Berg, Lothar) Refinement of vectors of Bernstein polynomials. (English summary) *Rostock. Math. Kolloq.* **1997**, *no.* 50, 19–30. (L. G. Labsker) **99j:41009** 41A10 (15A18, 65D15)
— (*with* Strela, Vasily) From wavelets to multiwavelets. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 375–399, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Eugenio Hernández) **99h:42065** 42C15 (65T20)
— (*with* Berg, Lothar) Compactly supported solutions of two-scale difference equations. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 49–75. (Peter Schroth) **99h:39002** 39A10 (15A18, 65Q05)
— (*with* Strela, Vasily) Construction of multiscaling functions with approximation and symmetry. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 481–510 (*electronic*). (L. Leindler) **99b:41012** 41A30 (42C15)
Plonka, J. Subdirect decompositions of algebras from 2-clone extensions of varieties. *Colloq. Math.* **77** (1998), *no.* 2, 189–199. (E. W. Kiss) **99m:08024** 08B26
Ploščica, Miroslav (*with* Chajda, Ivan) Duality of bounded distributive q-lattices. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 63–72. (Vlad Boicescu) **99i:06010** 06D05 (06E15, 08C15)
— (*with* Haviar, Miroslav; Kaarli, Kalle) Affine completeness of Kleene algebras. (English summary) *Algebra Universalis* **37** (1997), *no.* 4, 477–490. (Brian A. Davey) **99c:06013** 06D15 (08A40)
— (*with* Haviar, Miroslav) On order-polynomial completeness of lattices. (English summary) *Algebra Universalis* **39** (1998), *no.* 3-4, 217–219. (A. Kanamori) **99g:06011** 06B15 (08A40)
— (*with* Tůma, Jiří; Wehrung, Friedrich) Congruence lattices of free lattices in non-distributive varieties. *Colloq. Math.* **76** (1998), *no.* 2, 269–278. (Ivo Düntsch) **99j:06005** 06B10 (06B15, 06B25, 08A05)
Plotkin, Boris I. Varieties of algebras and algebraic varieties. Categories of algebraic varieties. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 2, 64–97. (Ivan Chajda) **99a:08004** 08B05 (08C05, 14A10, 18B30)
— (*with* Plotkin, Tatjana L.; Kraus, Sarit) Problems of equivalence, categoricity of axioms and states description in databases. (English summary) *Studia Logica* **61** (1998), *no.* 3, 347–366. (János Demetrovics) **99m:68043** 68P15 (03B70)
Plotkin, Eugene Boris On the stability of the K_1-functor for Chevalley groups of type E_7. (English summary) *J. Algebra* **210** (1998), *no.* 1, 67–85. (L. N. Vaserstein) **99k:20099** 20G35
Plotkin, Serge (*with* Goel, Ashish; Henzinger, Monika R.) Online throughput-competitive algorithm for multicast routing and admission control. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 97–106, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10 (90C90)
— (*with* Kamath, Anil; Palmon, Omri) Routing and admission control in general topology networks with Poisson arrivals. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 236–258. (Summary) **99c:68016** 68M10 (60K25, 90B12)
Plotkin, Tatjana L. (*with* Plotkin, Boris I.; Kraus, Sarit) Problems of equivalence, categoricity of axioms and states description in databases. (English summary) *Studia Logica* **61** (1998), *no.* 3, 347–366. (János Demetrovics) **99m:68043** 68P15 (03B70)
Plotnikov, A. A. (*with* Anikeeva, V. A.; Vasil'eva, A. B.) Calculations of contrast structures in singularly perturbed equations and systems. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 65–69, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M12 (34E15)
Plotnikov, A. D. One criterion of existence of a Hamiltonian cycle. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 199–202. (Summary) **99a:05093** 05C45
Plotnikov, M. Yu. (*with* Shkarupa, E. V.) Error estimation and optimization in C-space of Monte Carlo iterative solution of nonlinear integral equations. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 1, 53–71. (Summary) **99a:65193** 65R20 (65C05)
Plotnikov, P. V. On the computation of two-dimensional interaction between a cloud of cosmic dust particles and the atmosphere. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1943–1952; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1866–1875. (Summary) **99i:76100** 76M20 (76N15, 86A10)
Plotnikov, V. A. (*with* Mel'nik, Tat'yana Anatol'evna) A generalization of a theorem of A. N. Tikhonov for quasidifferential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1030–1034, 1150; *translation in Differential Equations* **33** (1997), *no.* 8, 1036–1040 (1998). (Tzanko D. Donchev) **99g:34042** 34A99 (34A60, 34E05, 34E15)
— (*with* Plotnikova, L. I.) Averaging of equations of controlled motion in a metric space. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 175–180, 191; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 601–606 (1998). (Bozhidar Cheshankov) **99b:93007** 93B03 (34C29, 34H05, 49J24)
— (*with* Kitanov, P. M.) Continuous dependence of solutions of quasidifferential equations with impulses. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 1-2, 79–85. (Lidia Skóra) **99b:34026** 34A37 (34A12)
— (*with* Kitanov, P. M.) Bogolyubov's theorem for quasidifferential equations with impulses. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1504–1511; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1688–1696 (1998). (Yuri V. Rogovchenko) **99m:34013** 34A37 (34C29)
— (*with* Kitanov, P. M.) Continuous dependence of solutions of quasidifferential equations with non-fixed time of impulses. (English summary) *Serdica Math. J.* **24** (1998), *no.* 2, 153–162. (Summary) **99m:34014** 34A37 (34A12, 34A60)
— (*with* Mel'nik, Tat'yana Anatol'evna) Averaging of quasidifferential equations with fast and slow variables. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1098–1103, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 947–952. (Jan I. Seidler) **99g:34043** 34A99 (34A60, 34C29)
Plotnikova, L. I. (*with* Plotnikov, V. A.) Averaging of equations of controlled motion in a metric space. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 175–180, 191; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 601–606 (1998). (Bozhidar Cheshankov) **99b:93007** 93B03 (34C29, 34H05, 49J24)
Plouvier-Debaigt, Anne Solutions renormalisées pour des équations autonomes des milieux poreux. (English and French summaries) [Renormalized solutions for the autonomous porous-medium equations] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 727–743. (Antonio Fasano) **99f:35103** 35K60 (76S05)
— (*with* Donné, Bruno; Gagneux, Gérard; Urruty, Patrick) Solutions renormalisées pour des modèles des milieux poreux. (English and French summaries) [Renormalized solutions for some porous media models] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1091–1095. (Elias Tuma) **99b:35109** 35K65 (35Q35, 76S05)
Pluciennik, Ryszard (*with* Castaing, Charles) Property (H) in Köthe-Bochner spaces. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 4, 447–459. (Barry Turett) **99i:46025** 46E40 (46B20)
— (*with* Cui, Yun An) Local uniform nonsquareness in Cesàro sequence spaces. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 47–58. (Pedro J. Paúl) **99b:46025** 46B45 (46A45, 46B20)
— (*with* Krassowska, Dorota) A note on property (H) in Köthe-Bochner sequence spaces. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 407–412. (Barry Turett) **99d:46014** 46B20 (46B45, 46E40)
— Points of local uniform rotundity in Köthe-Bochner spaces. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 6, 479–485. (Barry Turett) **99i:46026** 46E40 (46B20)
— (*with* Kolwicz, Paweł) P-convexity of Musielak-Orlicz function spaces of Bochner type. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 43–57. (Cong Xin Wu)

99f:46051 46E40 (46E30)

— (*with* Cui, Yun An; Hudzik, Henryk) On some uniform convexities and smoothness in certain sequence spaces. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 893–905. (Christian Samuel) **99m:46054** 46B45 (46E30)

Plucińska, A. A stochastic characterization of Hermite polynomials. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci. (New York)* **89** (1998), *no.* 5, 1541–1544. (Summary) **99h:33046** 33C45 (60J65)

Pluhár, András (*with* Gécseg, Ferenc; Imreh, Balázs) On the existence of finite isomorphically complete systems of automata. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 2, 77–84. (Summary) **99m:68131** 68Q70

Plum, Michael Eigenvalue problems for differential equations. *Wavelets, multilevel methods and elliptic PDEs (Leicester, 1996)*, 39–83, *Numer. Math. Sci. Comput., Oxford Univ. Press, New York*, 1997. (Vitaly A. Volpert) **99f:35144** 35P05 (35A25, 35L05, 65N25)

— (*with* Brown, B. Malcolm; Eastham, Michael S. P.; McCormack, Daniel K. R.) On a new algorithm for the computation of enclosures for the Titchmarsh-Weyl m-function. *Results Math.* **33** (1998), *no.* 1-2, 50–64. (Anton Zettl) **99b:34138** 34L40 (34B24, 34E05, 34E20, 65L05)

Plummer, John (*with* Lasdon, Leon; Waren, Allan D.) Nonlinear programming. *Mathematical programming for industrial engineers*, 385–485, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C30 (90–02)

Plummer, Michael D. (*with* Zha, Xiaoya) On the connectivity of graphs embedded in surfaces. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 208–228. (Lorenzo Traldi) **99b:05044** 05C10 (05C40, 57M15)

— (*with* Favaron, Odile; Li, Hao[1]) Some results on K_r-covered graphs. (English summary) *Util. Math.* **54** (1998), 33–44. (Summary) **99i:05164** 05C70

Plump, Detlef Simplification orders for term graph rewriting. (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 458–467, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q42 (68R10)

— Termination of graph rewriting is undecidable. (English summary) *Fund. Inform.* **33** (1998), *no.* 2, 201–209. (Summary) **99g:68105** 68Q42 (03D05, 03D35, 05C85, 68R10)

— (*with* Andries, Marc; Engels, Gregor; Habel, Annegret; Hoffmann, Berthold; Kreowski, Hans-Jörg; Kuske, Sabine; Schürr, Andy; Taentzer, Gabriele) Graph transformation for specification and programming. (English summary) *Sci. Comput. Programming* **34** (1999), *no.* 1, 1–54. 68Q60 (68Q50, 68R10)

Plunian, F. (*with* Marty, Ph.; Alemany, A.) Chaotic behaviour of the Rikitake dynamo with symmetric mechanical friction and azimuthal currents. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1835–1842. (Summary) **99d:76102** 76W05 (76E25, 86A25)

— (*with* Marty, Ph.; Alemany, A.) Kinematic dynamo action in a network of screw motions; applications to the core of a fast breeder reactor. (English summary) *J. Fluid Mech.* **382** (1999), 137–154. (Summary) **99m:76128** 76W05

max-Plus Working Group *see* **Max-Plus Working Group**

Plyasunov, A. V. (*with* Kochetov, Yu. A.) A polynomially solvable class of two-level linear programming problems. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **4** (1997), *no.* 2, 23–33, 63 (1998). (K. Zimmermann) **99j:90046** 90C08 (90C60)

Plyushchay, Mikhail S. (*with* Nirov, Khazret S.) P,T-invariant system of Chern-Simons fields: pseudoclassical model and hidden symmetries. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 295–319. (Summary) **99e:81150** 81T13 (81T99)

— (*with* Gamboa, Jorge) Classical anomalies for spinning particles. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 485–504. (Summary) **99c:81223** 81T50

Pnevmatikos, Spyros (*with* Pliakis, Dimitris; Andreadis, Ioannis) Singularités régularisables des équations d'Euler-Lagrange sur une variété hilbertienne. (English and French summaries) [Removable singularities of the Euler-Lagrange equations on a Hilbert manifold] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 877–882. (Harald Upmeier) **99b:58100** 58F05 (58B20, 58E30)

Pnueli, Amir (*with* Kesten, Yonit; Raviv, Li-on) Algorithmic verification of linear temporal logic specifications. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 1–16, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (03B70)

— (*with* Shtrichman, O.; Siegel, Michael) Translation validation for synchronous languages. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 235–246, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68N20 (68Q60)

— (*with* Damm, W.; Ruah, S.) Herbrand automata for hardware verification. (English summary) *CONCUR'98: concurrency theory (Nice)*, 67–83, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68118** 68Q60 (68M07, 68Q68)

— (*with* Kesten, Yonit) Modularization and abstraction: the keys to practical formal verification. (English summary) *Mathematical foundations of computer science, 1998 (Brno)*, 54–71, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q60

Pobedrya, B. E. (*with* Gorbachev, V. I.) Effective characteristics of inhomogeneous media. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 149–156; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 145–151. (Leonid V. Gibiansky) **99d:73007** 73B27 (73K20)

Poberĭ, E. A. Spinor-type objects in metric-affine space-time. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 16, 17 *pp.* (*electronic*). (Peter R. Law) **99g:83063** 83C60 (83D05)

Poborchiĭ, S. V. (*with* Maz'ya, Vladimir G.) ★ Differentiable functions on bad domains. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xx*+481 *pp. ISBN* 981-02-2767-1 (J. Horváth) **99k:46057** 46E35

Pocchiola, Michel (*with* Vegter, Gert) On polygonal covers. (English summary) *Advances in discrete and computational geometry (South Hadley, MA, 1996)*, 257–267, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:68145** 68U05 (68Q25)

Pochet, Y. (*with* Weismantel, Robert) The sequential knapsack polytope. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 248–264 (*electronic*). (Guntram Scheithauer) **99d:90093** 90C27 (90C10)

Pocklington, A. J. (*with* Dorey, Patrick; Tateo, Roberto; Watts, Gerard M. T.) TBA and TCSA with boundaries and excited states. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 641–663. (Summary) **99e:82038** 82B27 (81T40)

Poddar, A. (*with* Chattaraj, P. K.; Sengupta, Santanu) Quantum signature of the classical chaos in the field-induced barrier crossing in a quartic potential. (English summary) *Current Sci.* **76** (1999), *no.* 10, 1371–1376. 81Q50

Poddar, Sougata (*with* Jaskold Gabszewicz, Jean) Demand fluctuations and capacity utilization under duopoly. (English summary) *Econom. Theory* **10** (1997), *no.* 1, 131–146. (Summary) **99g:90030** 90A11 (90D40)

Poddubnyĭ, G. V. (*with* Leonenko, L. L.) Similarity theory for finite sequences and its applications to pattern recognition. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 119–131; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 2, 1163–1172 (1997). (Witold Pedrycz) **99f:68176** 68T10

Podelski, Andreas (*with* Charatonik, Witold) Co-definite set constraints. (English summary) *Rewriting techniques and applications (Tsukuba, 1998)*, 211–225, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68098** 68Q25 (68N17, 68Q60, 68Q68)

— (*with* Charatonik, Witold) Directional type inference for logic programs. (English summary) *Static analysis (Pisa, 1998)*, 278–294, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (Summary) **99m:68029** 68N17 (68Q25)

— (*with* Charatonik, Witold; McAllester, David; Niwiński, Damian; Walukiewicz, Igor) The Horn mu-calculus. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 58–69, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68079** 68Q60 (03B70, 68N17)

Podestà, F. (*with* Alekseevskiĭ, D. V.) Compact cohomogeneity one Riemannian manifolds of positive Euler characteristic and quaternionic Kähler manifolds. (English summary) *Geometry, topology and physics (Campinas, 1996)*, 1–33, *de Gruyter, Berlin*, 1997. (Maria Laura Barberis) **99f:53045** 53C25 (53C30)

— (*with* Verdiani, Luigi) Totally geodesic orbits of isometries. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 5, 399–412. (Catherine Searle) **99j:53071** 53C35 (53C20)

Podgórski, Krzysztof (*with* LePage, Raoul; Ryznar, Michał; White, Alex) Bootstrapping signs and permutations for regression with heavy-tailed errors: a robust resampling. (English summary) *A practical guide to heavy tails (Santa Barbara, CA, 1995)*, 339–358, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62G09

— (*with* Simons, Gordon; Ma, Yi-Wen) On estimation for a binary-symmetric channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1260–1272. (Summary) **99b:94020** 94A34 (94A40)

Podhaisky, H. (*with* Weiner, Rüdiger; Schmitt, Bernhard A.) Numerical experiments with Krylov integrators. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 413–425. (*see* **99e:65002**) 65L05

— (*with* Nguyen Huu Cong; Weiner, Rüdiger) Numerical experiments with some explicit pseudo two-step RK methods on a shared memory computer. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 107–116. (Summary) **99d:65218** 65L06 (65L20)

Podil'chuk, Yu. N. Exact analytic solutions of three-dimensional boundary value problems of the statics of transversally isotropic bodies of canonical form. (A survey). (Russian. English, Russian and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 10, 3–30; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 10, 763–787 (1998). (Summary) **99k:73037** 73C02 (73B40)

Podinovski, Victor V. (*with* Podinovskiĭ, Vladislav V.) Decision analysis under partial information. (English summary) *Trends in multicriteria decision making (Cape Town, 1997)*, 75–84, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A05 (90C29)

Podinovskiĭ, Vladislav V. (*with* Podinovski, Victor V.) Decision analysis under partial information. (English summary) *Trends in multicriteria decision making (Cape Town, 1997)*, 75–84, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A05 (90C29)

Podio-Guidugli, Paolo Inertia and invariance. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 103–124. (Miroslav Šilhavý) **99m:73001** 73A05 (70A05, 73B99)

— (*with* Duda, F. P.; Martins, L. C.) On the representation of the stored energy for elastic materials with full transverse response-symmetry. (English summary) *J. Elasticity* **51** (1998), *no.* 2, 167–176. (D. Ieşan) **99k:73029** 73B40

— (*with* Gurtin, Morton E.) Configurational forces and a constitutive theory for crack propagation that allows for kinking and curving. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1343–1378. (Gérard A. Maugin) **99j:73084** 73M25 (73B27, 73S10)

Podisuk, Maitree On some quadrature formulas for multiple integrals. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 456–460, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65D32 (41A55)

Podivilov, Evgenii (*with* L'vov, Victor S.; Pomyalov, Anna; Procaccia, Itamar; Vandembroucq, Damien) Improved shell model of turbulence. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1811–1822. 76F99

Podkopaev, D. P. (*with* Emelichev, V. A.; Girlich, Eberhard) On the stability of effective solutions of a vector trajectory problem of discrete optimization. I. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 5–16, 120, 122. (N. I. Yanev) **99b:90107** 90C29 (90C27, 90C31)

— (*with* Emelichev, V. A.) On conditions for the quasistability of the Pareto set of a vector problem on a system of subsets. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 39–41, 76. 90C29 (90C31)

— (*with* Emelichev, V. A.; Kravtsov, M. K.) On the quasistability of trajectory problems of vector optimization. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 21–27; *translation in Math. Notes* **63** (1998), *no.* 1-2, 19–24. (Summary) **99c:90105** 90C29 (90C31)

— Conditions for the stability of the Pareto set of a vector trajectory problem. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 3, 65–68, 80. 90C29 (90C31)

— (*with* Emelichev, V. A.) On a quantitative measure of the stability of a vector problem of integer programming. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1801–1805; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1727–1731. (Valentin E. Brimkov) **99m:90102a** 90C10 (90C31)

— (*with* Emelichev, V. A.) Corrections to: "On a quantitative measure of the stability of a vector problem of integer programming". (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **39**

(1999), *no.* 3, 544. (Valentin E. Brimkov) **99m:90102b** 90C10 (90C31)

Podkorytov, A. N. (*with* Reĭnov, O. I.) On the Khinchin-Kahane inequality. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 1, 265–270; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 211–215. (Zsolt Páles) **99f:26035** 26D15

Podladchikov, V. N. (*with* Zgurovskiĭ, M. Z.) A priori choice oĭ covariance noise matrices under conditions of a priori uncertainty. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996,** *no.* 6, 135–144, 157. 93E11 (93E12)

Podleś, Piotr (*with* Kondratowicz, Piotr) On representation theory of quantum $SL_q(2)$ groups at roots of unity. (English summary) *Quantum groups and quantum spaces (Warsaw, 1995)*, 223–248, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Shlomo Gelaki) **99b:16059** 16W30 (17B37, 81R50)

— (*with* Müller, Eric Ferdinand) Introduction to quantum groups. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 4, 511–551. (Tomasz Brzeziński) **99g:46106** 46L89 (16W30, 81R50)

Podlipenko, Yu. K. (*with* Nakonechnyĭ, A. G.) Minimax prediction of solutions of parabolic equations with incomplete data. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 9, 107–112. (Summary) **99k:93041** 93B30 (35K99, 93C20)

— (*with* Levoshich, O. L.; Popkov, I. I.) On minimax estimation in problems of the diffraction of acoustic waves. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998,** *no.* 1, 26–33, 151. (From the text) **99m:76102** 76Q05 (35J05, 49N55)

Podlovchenko, R. I. An algorithm for the canonization of pairs of program schemes with permutation operators. (Russian) *Programmirovanie* **1997,** *no.* 6, 3–16; *translation in Program. Comput. Software* **23** (1997), *no.* 6, 291–301. (M. A. Taĭtslin) **99h:68115** 68Q60

Podlubny, Igor Numerical solution of ordinary fractional differential equations by the fractional difference method. (English summary) *Advances in difference equations (Veszprém, 1995)*, 507–515, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:65105** 65L05 (65L12)

— Application of orthogonal polynomials to solution of fractional integral equations. (English summary) *Transform methods & special functions, Varna '96*, 350–359, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 26A33 (42C05, 45E10)

— ★ Fractional differential equations. An introduction to fractional derivatives, fractional differential equations, to methods of their solution and some of their applications. Mathematics in Science and Engineering, 198. *Academic Press, Inc., San Diego, CA*, 1999. *xxiv*+340 *pp. ISBN* 0-12-558840-2 (Anatoly Kilbas) **99m:26009** 26A33 (34K05)

— Fractional-order systems and $PI^{\lambda}D^{\mu}$-controllers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 208–214. 93B51 (93D15)

Podoksenov, M. N. A Lorentzian manifold with a group of conformal transformations that contains a normal one-parameter subgroup of homotheties. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1356–1359, *iii*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1178–1181. (Author's review) **99e:53100** 53C50

Podol'skiĭ, V. E. (*with* Aleksandrova, E. V.; Bochkareva, O. V.) Summation of regularized traces of the singular Sturm-Liouville operator. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 291–295, 428; *translation in Differential Equations* **33** (1997), *no.* 3, 287–291. (Vladimir Vasil'evich Dubrovskiĭ) **99c:34197** 34L40 (47E05)

— (*with* Bobrov, A. N.) On the convergence of the trace for a power of the Laplace-Beltrami operator with a potential on the sphere S^n. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 69–72; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 280–282 (1998). (Friedbert Prüfer) **99g:58123** 58G25 (58G26)

— (*with* Sadovnichiĭ, V. A.) A class of Sturm-Liouville operators and the approximate computation of first eigenvalues. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 133–148; *reprinted in Sb. Math.* **189** (1998), *no.* 1-2, 129–145. (Boris M. Levitan) **99b:34055** 34B24 (34L20, 35L40, 65L15)

Podolský, Jiří (*with* Griffiths, J. B.) Impulsive waves in de Sitter and anti-de Sitter spacetimes generated by null particles with an arbitrary multipole structure. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 453–463. (Alicia M. Sintes) **99a:83021** 83C20 (83C15)

— Interpretation of the Siklos solutions as exact gravitational waves in the anti-de Sitter universe. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 719–733. (Summary) **99m:83034** 83C15 (83C35)

— Non-expanding impulsive gravitational waves. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3229–3239. (J. B. Griffiths) **99j:83022** 83C20 (83C35)

— (*with* Veselý, Karel) Chaotic motion in pp-wave spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3505–3521. (Summary) **99g:83014** 83C10 (83C15)

— (*with* Griffiths, J. B.) Interpreting a conformally flat pure radiation spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3863–3871. (Brian Edgar) **99k:83018** 83C20 (83C15)

— (*with* Veselý, Karel) Chaos in pp-wave spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 081501, 4 *pp.* 83C15 (58F13)

— (*with* Griffiths, J. B.) Boosted static multipole particles as sources of impulsive gravitational waves. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124024, 5 *pp.* (Summary) **99m:83056** 83C35

Podoplelov, A. Constructing the Gröbner basis using Anick's resolution in the noncommutative algebras. (English summary) *Comput. Sci. J. Moldova* **4** (1996), *no.* 3, 428–435. 68Q40 (16E10)

Podoshvelev, Yu. G. The symmetry of a generalized Burgers system. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 470–472, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53

Podvin, Bérengère (*with* Lumley, John L.) A low-dimensional approach for the minimal flow unit. (English summary) *J. Fluid Mech.* **362** (1998), 121–155. (Roland Schiestel) **99e:76071** 76F99 (76F20, 76M25, 76M35)

Podzorov, S. Yu. Restricted completeness of extended Boolean algebras. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 2, 98–123. (Žarko Mijajlović) **99c:03058** 03C60 (03C50, 03G05, 06E05)

Poedinchuk, A. E. (*with* Tuchkin, Yu. A.; Shestopalov, V. P.) The method of the Riemann-Hilbert problem in the theory of the diffraction of waves by screens of arbitrary cross section. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1314–1328. (B. Belinskiy) **99k:78029** 78A45 (45E05)

Poedts, S. (*with* De Sterck, H.; Low, B. C.) Characteristic analysis of a complex two-dimensional magnetohydrodynamic bow shock flow with steady compound shocks. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 954–969. 76W05 (76L05)

Poénaru, Valentin Extension des immersions en codimension 1 (d'après Samuel Blank). [Extension of immersions in codimension 1 (after Samuel Blank)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 342, 473–505, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 57R42

— (*with* Tanasi, Corrado) Representations of the Whitehead manifold Wh^3 and Julia sets. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, 655–694. (Rafael Oswaldo Ruggiero) **99k:57005** 57M20 (57N10, 58F23)

— (*with* Tanasi, Corrado) Some remarks on geometric simple connectivity. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 1–12. (Terry Lawson) **99k:57047** 57N15 (57M20, 57N50, 57R60, 57R80)

Poet, Jeffrey L. (*with* Shader, Bryan L.) Short score certificates for upset tournaments. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research paper* 24, 18 *pp.* (*electronic*). (Erol Barbut) **99b:05073** 05C20

Poezd, A. D. (*with* Markov, B. A.; Yakunin, S. A.) Radiation conditions for a cone. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 483–488; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 468–473. (Summary) **99e:78026** 78A40 (78–08)

Pogel, Alex (*with* Nation, J. B.) The lattice of completions of an ordered set. (English summary) *Order* **14** (1997), *no.* 1, 1–7. (Marcel Erné) **99f:06008** 06A23 (06A15)

Poggi, Giovanni (*with* Canta, Gerardo R.) Kronecker-product gain-shape vector quantization for multispectral and hyperspectral image coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 5, 668–678. (Henk J. A. M. Heijmans) **99m:94021** 94A29 (68U10, 94A12)

Poggi, Jean-Michel (*with* Portier, Bruno) A test of linearity for functional autoregressive models. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 6, 615–639. (Joseph D. Petruccelli) **99b:62142** 62M10

Poggi, Pietro (*with* Ruffo, Stefano) Exact solutions in the FPU oscillator chain. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 251–272. (Summary) **99b:82063** 82C05 (58F40, 70K40)

Poggiale, J.-C. (*with* Auger, Pierre M.) Aggregation and emergence in systems of ordinary differential equations. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 1–21. (H. A. DeKleine) **99j:92013** 92D25 (34C29, 34C30, 58F12)

— From behavioural to population level: growth and competition. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 41–49. (Summary) **99c:92045** 92D25

— Lotka-Volterra's model and migrations: breaking of the well-known center. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 51–61. (Summary) **99e:92036** 92D40 (92D25)

— Predator-prey models in heterogeneous environment: emergence of functional response. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 63–71. (Summary) **99a:92037** 92D40 (92D25)

— (*with* Kooi, B. W.; Auger, Pierre M.) Aggregation methods in food chains. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 109–120. (Summary) **99c:92042** 92D25

Poggi-Corradini, Pietro Norm convergence of normalized iterates and the growth of Koenigs maps. (English summary) *Ark. Mat.* **37** (1999), *no.* 1, 171–182. (Paul Bourdon) **99m:47038** 47B38 (30D05)

Poghosyan, S. (*with* Rœlly, S.) Invariance principle for martingale-difference random fields. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 235–245. (Alexander V. Bulinskiĭ) **99e:60094** 60F17 (60G60)

Pogliani, Lionello (*with* Randić, Milan; Trinajstić, Nenad) Much ado about nothing—an introductive inquiry about zero. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 729–744. (Summary) **99e:01038** 01A99 (00A30, 00A99)

Pogoda, Zdzisław Hilbert's Sixth Problem (the axiomatization of physics). (Polish. English summary) *Hilbert's Problems (Polish) (Międzyzdroje*, 1993), 63–70, *Polsk. Akad. Nauk, Warsaw*, 1997. (*see* **99b:01001**) 81–03 (01A60, 03B30)

— Hilbert's Eighteenth Problem (crystallographic groups). (Polish. English summary) *Hilbert's Problems (Polish) (Międzyzdroje*, 1993), 203–209, *Polsk. Akad. Nauk, Warsaw*, 1997. (Summary) **99g:01029** 01A60 (20H15)

— (*with* Sokołowski, Leszek M.) Does mathematics distinguish certain dimensions of spaces? Translated by Abe Shenitzer. *Amer. Math. Monthly* **104** (1997), *no.* 9, 860–869. (J. S. Joel) **99a:00001** 00A05 (00A69)

— (*with* Sokołowski, Leszek M.) Does mathematics distinguish certain dimensions of spaces? II. Translated from the Polish by Abe Shenitzer. *Amer. Math. Monthly* **105** (1998), *no.* 5, 456–463. (J. S. Joel) **99f:57013** 57M40 (00A79, 55M10, 57R55)

Pogorelov, A. V. Solution of a problem of A. D. Aleksandrov. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 3, 317–319. (Igor Belegradek) **99m:53123** 53C45

Pogorelov, D. Differential-algebraic equations in multibody system modeling. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 183–194. (Summary) **99j:70003** 70–08 (34A09, 65L99, 70E99)

Pogorelov, V. A. (*with* Sokolov, S. V.) A posteriori synthesis of the optimal control of nonlinear stochastic structures. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998,** *no.* 1, 62–69, 152. 49K45 (93E20)

Pogorzaly, Zygmunt Algebras stably equivalent to selfinjective algebras whose Auslander-Reiten quivers consist only of generalized standard components. *Glasgow Math. J.* **40** (1998), *no.* 1, 1–19. (Henning Krause) **99k:16033** 16G60 (16G70)

— Forms of algebras stably equivalent to self-injective algebras of polynomial growth. *J. Algebra* **205** (1998), *no.* 1, 168–206. (Flávio Ulhoa Coelho) **99e:16022** 16G60 (16G10)

— On a class of self-injective locally bounded categories. *Tsukuba J. Math.* **22** (1998), *no.* 1, 99–111. (Lidia Angeleri Hügel) **99g:16016** 16G10

— Algebras stably equivalent to the trivial extensions of hereditary and tubular algebras. *Comm. Algebra* **27** (1999), *no.* 3, 989–997. (Steffen König) **99m:16021** 16G20

Pogosyan, G. R. (*with* Nakamura, Takashi[3]) ε-bases of triadic logic operations. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka*, 1998), 251–256, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Pogosyan, G. S. (*with* Grosche, Christian; Sisakyan, A. N.) Interbasis expansion for the Kaluza-Klein monopole system. (English summary) *Symmetry methods in physics, Vol. 1* (*Dubna*, 1995), 245–254, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81Q05
— (*with* Hakobyan, Ye. M.; Sisakyan, A. N.) Generalized *D*-dimensional oscillator: interbasis expansions. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1762–1767. (Summary) **99j:81031** 81Q05
— (*with* Hakobyan, Ye. M.; Kibler, Maurice; Sisakyan, A. N.) Generalized oscillator: invariance algebra and interbasis expansions. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1782–1788. (Summary) **99i:81030** 81Q05 (81R05)
— (*with* Kalnins, E. G.; Williams, Graeme C.; Miller, Willard, Jr.) Superintegrability in three-dimensional Euclidean space. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 708–725. (Ya. I. Granovskiĭ) **99m:81044** 81Q05 (35Q55, 81R05)
— *see also* **Conference: Symmetry Methods in Physics, 99i:81002; 99i:81003; Symmetry methods in physics, 99m:81006** *and* **99m:81007**
Pogosyan, Grant *see* **Pogosyan, G. R.**
Pogrebysskaya, E. I. *see* **Pogrebysskiĭ, I. B., 99k:70001**
Pogrebysskiĭ, I. B. ★ От Лагранжа к Эйнштейну. (Russian. Russian summary) [From Lagrange to Einstein] Compiled by E. I. Pogrebysskaya. Edited and with a biography of Pogrebysskiĭ by A. N. Bogolyubov. Историки Науки России XX Века. [History of Science in Russia during the XXth Century] "*Yanus*", *Moscow*, 1996. 400 *pp. ISBN* 5-88929-017-7 (From the text) **99k:70001** 70–03 (01A50, 01A55, 01A60, 01A75)
Pogromsky, Alexander Passivity based design of synchronizing systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 295–319. (Henk Nijmeijer) **99f:93120** 93D15 (34H05, 93D05, 94B50)
— (*with* Nijmeijer, Henk) Observer-based robust synchronization of dynamical systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2243–2254. (Summary) **99m:93095** 93D21
Poguntke, Detlev Normalizers and centralizers of reductive subgroups of almost connected Lie groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 211–217. (Jimmie D. Lawson) **99g:22008** 22E15
Poguntke, Werner (*with* Hermann, Thomas[2]) Fehlerkorrigierende Codes in der Kryptologie. (German summary) [Error-correcting codes in cryptology] *Math. Semesterber.* **42** (1995), *no.* 2, 139–151. (Summary) **99a:94033** 94A60 (94B99)
Poh, E.-K. (*with* Kabamba, Pierre T.; Meerkov, Semyon M.) Pole placement capabilities of vibrational control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1256–1261. (Summary) **99d:93032** 93B55
— (*with* Kabamba, Pierre T.; Meerkov, Semyon M.) Stability robustness in closed loop vibrational control. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1101–1111. (Summary) **99f:93111** 93D09 (93C20)
Poh, Kim Leng (*with* Horvitz, Eric) A graph-theoretic analysis of information value. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 427–435, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99a:68166** 68T30 (90A05)
Pohl, B. (*with* Burrage, Kevin; Erhel, Jocelyne; Williams, Alan) A deflation technique for linear systems of equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1245–1260 (*electronic*). (Summary) **99b:65044** 65F15 (65F10)
Pohl, Thomas (*with* Grecksch, Wilfried; Blaar, Holger) A parallel modified Lagrangian method for an optimal control problem of a linear distributed stochastic system. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 4, 319–340. (Jean-Pierre Lepeltier) **99j:49073** 49M30 (65Y05, 93E20)
Pohlers, Wolfram (*with* Beckmann, Arnold) Applications of cut-free infinitary derivations to generalized recursion theory. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 7–19. (Cristian Calude) **99f:03062** 03D60 (03D55, 03F05, 03F35)
— *see also* **Colloquium: Logic '95, 99b:03005**
Pohozaev, S. *see* **Pokhozhaev, Stanislav Ivanovich**
Pohst, Michael E. (*with* Daberkow, M.; Fieker, C.; Klüners, Jürgen; Roegner, K.; Schörnig, M.; Wildanger, K.) KANT V4. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 267–283. (Wieb Bosma) **99g:11150** 11Y40 (12Y05, 68Q40)
— (*with* Daberkow, M.) On the computation of Hilbert class fields. (English summary) *J. Number Theory* **69** (1998), *no.* 2, 213–230. (Charles J. Parry) **99h:11130** 11R37 (11R29)
— From class groups to class fields. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 103–119, *Springer, Berlin*, 1999. (Michel Olivier) **99k:11194** 11Y40 (11R27, 11R29, 11R37)
Poimenidou, Eirini (*with* Johnson, Kenneth W.) Generalised classes in groups and association schemes: duals of results on characters and sharpness. (English summary) *European J. Combin.* **20** (1999), *no.* 1, 87–92. (Jaume Pujol) **99k:20014** 20C15 (05E30)
Poinbœuf, Fabienne *see* **Hintikka, Jaakko, (99f:03005)**
Poincaré, Henri *see* **Sanzo, Ubaldo, 99e:00006; Israel, Giorgio, 99k:01023; Gower, B. S., 99k:01035; Zahar, E. G., 99m:00010; Nabonnand, Philippe, 99m:01082** *and* **Ruelle, David, (99h:00038)**
Poinsot, T. (*with* Gamet, L.; Ducros, F.; Nicoud, F.) Compact finite difference schemes on non-uniform meshes. Application to direct numerical simulations of compressible flows. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 2, 159–191. (Summary) **99i:76097** 76M20 (76N10)
Point, Nelly (*with* Sacco, Elio) Mathematical properties of a delamination model. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 359–371. (Summary) **99g:73087** 73K20 (49J40, 73C99, 73V25)
— (*with* Sacco, Elio) A delamination model. Mathematical properties. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 151–162, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73058** 73M25 (73K20, 73V25)
Pointet-Tischler, Nicole La suspension cohomologique des espaces d'Eilenberg-Mac Lane. (English and French summaries) [The cohomology suspension of Eilenberg-Mac Lane spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1113–1116. (Summary) **99a:55006** 55P20 (55S05)
Poirier, Dale J. Revising beliefs in nonidentified models. (English summary) *Econometric Theory* **14** (1998), *no.* 4, 483–509. (Marek Męczarski) **99m:62035** 62F15 (62C10)
Poirier, Stéphane Cycle type and descent set in wreath products. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 315–343. (Edward E. Allen) **99i:20014** 20C15 (05E15)
Poirot, Gilles (*with* Magnen, Jacques; Rivasseau, Vincent) Ward-type identities for the two-dimensional Anderson model at weak disorder. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 331–358. (Summary) **99g:82040** 82B44
vigué-Poirrier, Micheline *see* **Vigué-Poirrier, Micheline**
Poisson, Eric Measuring gravitational waves from coalescing compact binaries: a challenge for theorists? (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 190–202, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83006** 83B05 (83C35)
— (*with* Leonard, Stephen W.) Radiative multipole moments of integer-spin fields in curved spacetime. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4789–4814. (Enric Verdaguer) **99e:83019** 83C25 (83C30, 83C35)
— (*with* Leonard, Stephen W.) Gravitational waves from binary systems in circular orbits: convergence of a partially bare multipole expansion. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2075–2081. 83C35 (83C25)
Poisson, Siméon-Denis A paper on the theory of sound [J. Éc. Polytech. **14** (1808), 319–392]. *Classic papers in shock compression science*, 3–65, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76Q05 (76N99)
Poitou, Georges Solution du problème du dixième discriminant (d'après Stark). [Solution of the problem of the tenth discriminant (after Stark)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 335, 367–374, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 11R29 (11R11, 11R42)
Poix, Jérôme Un exemple d'application des grandes déviations à l'approximation stochastique. (English and French summaries) [An example of application of large deviations to stochastic approximation] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 499–504. (Gheorghe Stoica) **99h:60058** 60F10 (62L20)
— Stochastic approximation for local martingale error and random gain process. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 78–97. (George Yin) **99g:62125** 62L20
Poizat, Bruno H.L.M. (Hrushovski-Lang-Mordell). (French. French summary) Séminaire Bourbaki, Vol. 1995/96. *Astérisque No.* 241 (1997), *Exp. No.* 811, 4, 179–194. (Alexandru Buium) **99c:11154** 11U09 (11G99, 14G25)
— Le harem d'Ahiqar ou les deux problèmes de l'algorithmie. [Ahiqar's harem or the two problems of the science of computing] *Gaz. Math. No.* 72 (1997), 59–78. (Olivier Chapuis) **99f:68074** 68Q15 (94C10)
— (*with* Baisalov, Yerzhan) Paires de structures o-minimales. (Esperanto summary) [Pairs of o-minimal structures] *J. Symbolic Logic* **63** (1998), *no.* 2, 570–578. (Carlo Toffalori) **99m:03063** 03C45
Poje, A. C. (*with* Aubry, Nadine; Berkooz, Gal; Coller, B.; Elezgaray, J.; Holmes, Philip J.; Lumley, John L.) Low-dimensional models, wavelet transforms and control. *Eddy structure identification* (*Udine*, 1994), 271–331, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (From the text) **99f:76068** 76Fxx (76M25)
— (*with* Haller, György) Finite time transport in aperiodic flows. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 352–380. (From the text) **99m:76071** 76F99 (58F40)
Pokarowski, P. Uncoupling measures and eigenvalues of stochastic matrices. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 2, 259–267. (D. J. Hartfiel) **99m:15025** 15A51 (15A18, 65F10)
Pokazeev, V. V. (*with* Golubeva, V. A.) Clifford analysis and its applications. I. Representations of Laplace operators. Regularity criteria. Integral representations of Cauchy-Green type. Analysis, 10. *J. Math. Sci.* (*New York*) **91** (1998), *no.* 5, 3258–3292. (John Ryan) **99k:30076** 30G35 (81R25)
Pokhozhaev, Stanislav Ivanovich (*with* Kuzin, I.) ★ Entire solutions of semilinear elliptic equations. (English summary) Progress in Nonlinear Differential Equations and their Applications, 33. *Birkhäuser Verlag, Basel*, 1997. vi+250 *pp. ISBN* 3-7643-5323-6 (Alexandra Kurepa) **99d:35050** 35J60 (35B05)
— On the global fibration method in nonlinear variational problems. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 286–334. (Stanisław Migórski) **99m:35080** 35J65 (34G20, 35J20, 49J10)
Pokorná, Olga (*with* Mikeš, Josef; Němčíková, Jana) On the theory of the 4-quasiplanar mappings of almost quaternionic spaces. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 75–81. (Andrew Bucki) **99m:53060** 53C15 (53C10)
Pokorný, Imrich Remarks on the sum of metrics. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 63–65. (From the text) **99i:54038** 54E35 (26B35)
Pokornyĭ, Yu. V. (*with* Lazarev, K. P.; Gareeva, T. M.) On the spectral properties of some nonlocal boundary value problems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 45–49, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 44–48. (From the text) **99k:34038** 34B05 (34B27, 34L05)
— (*with* Penkin, O. M.) On differential inequalities for elliptic equations on composite manifolds. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 4, 456–458. 35R45 (35J15)
Pokorski, Witold (*with* Ross, Graham G.) Aspects of string unification. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 81–98. (Summary) **99f:81226** 81V22 (81T30)
Pokrovskiĭ, A. V. Analytic continuation and superconvergence of series of homogeneous polynomials. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 5, 708–714, 800; *translation in Math. Notes* **60** (1996), *no.* 5-6, 531–535 (1997). (Ralitza Kovacheva) **99f:30044** 30D10 (30B40)
— (*with* Diamond, Phil; Kloeden, Peter E.; Krasnosel'skiĭ, A. M.) Bifurcation at infinity for equations in spaces of vector-valued functions. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 2, 263–280. (Jean Mawhin) **99a:47094** 47H15 (34B15, 34C25, 47H11, 47H30)
— (*with* Al-Nayef, A. A.; Kloeden, Peter E.) Semi-hyperbolic mappings, condensing operators, and neutral delay equations. (English summary) *J. Differential Equations* **137** (1997), *no.* 2, 320–339. (Introduction) **99c:34185** 34K40 (34K15, 47H09, 47N20, 58F15)
— (*with* Diamond, Phil; Kloeden, Peter E.; Kozyakin, V. S.) A model for roundoff and collapse in computation of chaotic dynamical systems. (English summary) *Math.*

Comput. Simulation **44** (1997), *no.* 2, 163–185. (T. Erber) **99a:58114** 58F13 (34C35, 58F12, 65C20, 65L20)

— (*with* Diamond, Phil; Kloeden, Peter E.; Kozyakin, V. S.) Boundedness and dissipativity of truncated rotations on uniform planar lattices. (English summary) *Math. Nachr.* **191** (1998), 59–81. (Mark J. Friedman) **99f:52020** 52C05 (58F08, 68U20)

— (*with* Abodayeh, K.) A spectral property for the symbolic dynamical system. *Irish Math. Soc. Bull. No.* 42 (1999), 11–14. 58F03 (54H20)

van de Pol, Jaco (*with* Fokkink, Willem Jan) Simulation as a correct transformation of rewrite systems. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 249–258, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q42

— (*with* Groote, Jan Friso; Monin, François) Checking verifications of protocols and distributed systems by computer. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 629–655, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68T15)

— Operational semantics of rewriting with priorities. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 289–312. (Andreas Weiermann) **99j:68063** 68Q42 (68Q55)

Pol, Roman (*with* Chaber, J.; Gruenhage, Gary) On Souslin sets and embeddings in integer-valued function spaces on ω_1. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 37–67 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54B10 (54D20, 54F45, 54H05)

— (*with* Chaber, J.) Remarks on closed relations and a theorem of Hurewicz. (English summary) *Topology Proc.* **22** (1997), 81–94. (Summary) **99i:54033** 54E35 (54H05)

— (*with* Chaber, J.; Gruenhage, Gary) On Souslin sets and embeddings in integer-valued function spaces on ω_1. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 71–104. (Klaas Pieter Hart) **99f:54046** 54H05 (28A05, 54B10, 54D20, 54F45)

— (*with* Namioka, Isaac) Sigma-fragmentability of mappings into $C_p(K)$. (English summary) *Topology Appl.* **89** (1998), *no.* 3, 249–263. (G. D. Dimov) **99k:54009** 54C35 (54C25, 54D30)

Pola, C. (*with* Casas Renteria, Eduardo; Kunisch, Karl) Some applications of BV functions in optimal control and calculus of variations. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 83–96 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99j:49046** 49K20 (35J99, 49M30)

Poláčik, Peter (*with* Brunovský, Pavol) On the local structure of ω-limit sets of maps. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6, 976–986. (Eduard Feireisl) **99a:34143** 34D05 (47H99, 58C30, 58F99)

— Reaction-diffusion equations and realization of gradient vector fields. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 197–206, *World Sci. Publishing, River Edge, NJ*, 1998. (Alexander L. Gladkov) **99j:35109** 35K57 (35B35, 58F39)

— (*with* Dancer, Edward Norman) Realization of vector fields and dynamics of spatially homogeneous parabolic equations. (English summary) *Mem. Amer. Math. Soc.* **140** (1999), *no.* 668, *viii*+82 *pp.* (Björn Sandstede) **99m:35125** 35K60 (35B30, 58F39)

Polacik, Tomasz Propositional quantification in the monadic fragment of intuitionistic logic. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 269–300. (Wim Ruitenburg) **99h:03004** 03B20

Polaillon, G. Interpretation and reduction of Galois lattices of complex data. (English summary) *Advances in data science and classification* (*Rome*, 1998), 433–440, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62–07 (62H30)

Polak, Elijah (*with* Qi, Liqun) Globally and superlinearly convergent algorithm for minimizing a normal merit function. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1005–1019 (*electronic*). (Summary) **99b:90122** 90C30 (65H10, 65K10)

— (*with* Kirjner-Neto, C.) On the conversion of optimization problems with max-min constraints to standard optimization problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 887–915 (*electronic*). (V. F. Dem'yanov) **99i:90086** 90C30 (65K05)

Polak, George G. Lagrangian relaxation for flow shop scheduling. (English summary) *Industrial applications of combinatorial optimization*, 240–255, *Appl. Optim.*, 16, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:90005**) 90B35 (90C27)

Polák, Libor A multiplication on the lattice of varieties of $*$-regular semigroups. (English summary) *Semigroups* (*Luino*, 1992), 231–245, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M07 (20M17)

Polanco, Frank G. (*with* Gear, John A.) Numerical modelling of axisymmetric two-phase porous media flow. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 639–646, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M25 (76S05)

Polanski, Andrzej (*with* Kimmel, Marek; Swierniak, Andrzej) Infinite-dimensional model of evolution of drug resistance of cancer cells. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 1–16. (J. N. Kapur) **99k:92012** 92C50

Polášek, Martin (*with* Čársky, Petr) Incomplete gamma $F_m(x)$ functions for real negative and complex arguments. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 259–265. (Summary) **99c:33001** 33B15 (65D20)

Polasek, W. (*with* Liu, Shuang Zhe; Jin, Song) Heteroskedastic linear regression models—a Bayesian analysis. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 182–191, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62J05 (62F15)

Polat, Burak (*with* Büyükaksoy, Alinur) Diffraction of acoustic waves by a semi-infinite cylindrical impedance pipe of certain wall thickness. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 4, 333–352. 76Q05

Polat, Norbert Intersection theorems for infinite families of convex sets in graphs. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 95–108. (Henry Martyn Mulder) **99h:05101** 05C75 (05C12)

— Graphs without isometric rays and invariant subgraph properties. I. (English summary) *J. Graph Theory* **27** (1998), *no.* 2, 99–109. (M. E. Watkins) **99a:05086** 05C38

— (*with* Laviolette, François) Spanning trees of countable graphs omitting sets of dominated ends. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 151–172. (Jozef Širáň) **99i:05063** 05C05

de Polavieja, Gonzalo Garcia Quantum-state sensitivity to initial conditions. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3184–3187. (Summary) **99b:81031** 81P99

Polchinski, Joseph String theory and black hole complementarity. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 417–426, *World Sci. Publishing, River Edge, NJ*, 1996. (Introduction) **99i:83095** 83E30 (83C57)

— (*with* Douglas, Michael R.; Strominger, Andrew) Probing five-dimensional black holes with D-branes. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 3, 20 *pp.* (*electronic*). (Jeremy Michelson) **99b:83069** 83E30 (81T30, 83C57)

— (*with* Horowitz, Gary T.) Correspondence principle for black holes and strings. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6189–6197. (Summary) **99d:83059** 83C57 (81T30, 83E30)

— ★ String theory. Vol. I. (English summary) An introduction to the bosonic string. Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1998. *xx*+401 *pp. ISBN* 0-521-63303-6 (Angel Maria Uranga) **99h:81183** 81T30 (81–01, 81–02, 83E30)

— ★ String theory. Vol. II. (English summary) Superstring theory and beyond. Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1998. *xx*+531 *pp. ISBN* 0-521-63304-4 (Angel Maria Uranga) **99h:81184** 81T30 (81–01, 81–02, 83E30)

— (*with* Greene, Brian R.; Morrison, David R.) String theory. *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 19, 11039–11040 (*electronic*). (Christophe Grojean) **99g:81164** 81T30 (81–02)

Polderman, Jan Willem (*with* Willems, Jan C.) ★ Introduction to mathematical systems theory. (English summary) A behavioral approach. Texts in Applied Mathematics, 26. *Springer-Verlag, New York*, 1998. xxx+424 *pp. ISBN* 0-387-98266-3 (Matthias Kawski) **99f:93001** 93–02 (34H05, 93–01, 93A30)

Polemarchakis, Herakles M. (*with* Heifetz, Aviad) Partial revelation with rational expectations. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 171–181. (Summary) **99b:90031** 90A14

Polemi, D. (*with* Moreno, Oscar; Pedersen, J. P.) An improved Serre bound for elementary abelian extensions of $F_q(x)$ and the generalized Hamming weights of duals of BCH codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1291–1293. (Summary) **99e:94051** 94B65

Poletaeva, Elena Semi-infinite cohomology and superconformal algebras. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 533–538. (Vladimir V. Bavula) **99m:17027** 17B55 (17B70)

Polevikov, Sergei V. (*with* Kalinin, A. I.) Asymptotic solution of the minimum force problem for linear singularly perturbed systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 625–630. (T. R. Gichev) **99f:49039** 49K40 (49M30)

Polewczak, Jacek (*with* Monaco, Roberto; Rossani, Alberto) Kinetic theory of atoms and photons: an application to the Milne-Chandrasekhar problem. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 625–637. (Alexei Heintz) **99h:82069** 82C70 (76N10, 81V80)

Polhemus, Gavin (*with* Barrio, Miguel; Helling, Robert) Spin-spin interaction in Matrix theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 12, 13 *pp.* (*electronic*). (Summary) **99b:81160** 81T18 (81T30)

Poliakoff, Janet F. (*with* Wong, Yew Kee; Thomas, Peter D.) An analysis of biarc algorithms for 2-D curves. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 401–408, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65053** 65D17 (65D07)

— (*with* Wong, Yew Kee; Thomas, Peter D.) An automated curve fairing algorithm for cubic B-spline curves. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 73–85. (Vasily A. Chernecky) **99m:65037** 65D17 (65Y25)

Policriti, Alberto (*with* Dovier, Agostino; Formisano, Andrea) On T logic programming. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 323–337, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68017** 68N17

— (*with* van Benthem, Johan; D'Agostino, Giovanna; Montanari, Angelo) Modal deduction in second-order logic and set theory. II. (English summary) *Studia Logica* **60** (1998), *no.* 3, 387–420. (Summary) **99i:03016** 03B45

— (*with* Marcone, Alberto; Parlamento, Franco) Finite families with few symmetric differences. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 835–845. (Péter Komjáth) **99f:04001** 04A03 (05D05)

Polidoro, Sergio (*with* Manfredini, Maria) Interior regularity for weak solutions of ultraparabolic equations in divergence form with discontinuous coefficients. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 651–675. (Summary) **99h:35116** 35K70 (35D10, 35R05)

— (*with* Ragusa, Maria Alessandra) Sobolev-Morrey spaces related to an ultraparabolic equation. (English summary) *Manuscripta Math.* **96** (1998), *no.* 3, 371–392. (Summary) **99e:35122** 35K70 (35H05, 46E35)

Polignone Warne, Debra (*with* Gurtin, Morton E.; Viñals, Jorge) Two-phase binary fluids and immiscible fluids described by an order parameter. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 6, 815–831. (Summary) **99e:76123** 76T05 (76A05, 80A22)

— (*with* Warne, Paul G.) On non-symmetric deformations of neo-Hookean solids. (English summary) *J. Elasticity* **50** (1998), *no.* 3, 209–225. (Marian Aron) **99i:73026** 73C50

— (*with* Paullet, Joseph E.; Warne, Paul G.) Existence and uniqueness of azimuthal shear solutions in compressible isotropic nonlinear elasticity. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 1, 53–69. (Reza Malek-Madani) **99j:73032** 73C50 (34B15, 73G05)

Polini, Claudia (*with* Corso, Alberto; Vaz Pinto, Maria) Sally modules and associated graded rings. *Comm. Algebra* **26** (1998), *no.* 8, 2689–2708. (C. P. L. Rhodes) **99d:13027** 13H10 (13A30, 13D40)

— (*with* Ulrich, Bernd) Linkage and reduction numbers. *Math. Ann.* **310** (1998), *no.* 4, 631–651. (Alberto Corso) **99g:13017** 13C40 (13A30, 13H10, 14M06)

Poliquin, R. A. (*with* Rockafellar, R. T.) Proto-derivatives of partial subgradient mappings. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 221–234. (Lionel Thibault) **99h:49025** 49J52 (49K40, 58C20, 90C31)

— (*with* Levy, Adam B.) Characterizing the single-valuedness of multifunctions. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 4, 351–364. (Marcin Studniarski) **99b:49025** 49K40 (49J52, 90C31)

— (*with* Azé, Dominique) Equicalmness and epiderivatives that are pointwise limits. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 555–573. (Jörg Thierfelder) **99b:49014** 49J52 (26B05, 58C20)

— (*with* Combari, C.; Elhilali Alaoui, A.; Levy, Adam B.; Thibault, L.) Convex composite functions in Banach spaces and the primal lower-nice property. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3701–3708. (Doug Ward) **99b:49016** 49J52 (46G05, 46N10, 58C20)

— (*with* Rockafellar, R. T.) Tilt stability of a local minimum. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 287–299 (*electronic*). (B. Mordukhovich) **99e:90100** 90C31 (49J52, 49K40)

Polis, Michael P. *see* **Systems modelling and optimization, 99k:93007**

Polishchuk, A. *see* **Polishchuk, Alexander**

Polishchuk, A. N. (*with* Mitropol'skiĭ, Yuriĭ Alekseevich; Samoĭlenko, Anatoliĭ Mikhaĭlovich; Kalinovich, V. N.; Onishchenko, S. M.) On the work of V. N. Koshlyakov in mechanics and its applications. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1444–1453; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1622–1631 (1998). 70E15 (01A70)

Polishchuk, Alexander (*with* Zaslow, Eric) Categorical mirror symmetry: the elliptic curve. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 2, 443–470. (I. Dolgachev) **99j:14034** 14H52 (14F05, 14H60, 14K22, 18E30, 18F99)

— Poisson structures and birational morphisms associated with bundles on elliptic curves. *Internat. Math. Res. Notices* **1998**, *no.* 13, 683–703. (Francesco Bottacin) **99f:14014** 14D20 (14H52, 14J60)

Polisicchio, Marcella (*with* Zenga, Michele) Kurtosis diagram for continuous variables. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 21–41 (1998). 62E15

Politi, Antonio (*with* Christiansen, Freddy) Guidelines for the construction of a generating partition in the standard map. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 32–41. (Summary) **99e:58059** 58F03 (58F13)

— (*with* Pikovskiĭ, A. S.) Dynamic localization of Lyapunov vectors in spacetime chaos. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1049–1062. (Summary) **99b:58164** 58F13 (58F40)

Politi, T. (*with* Lopez, Luciano; Mastroserio, C.) Variable step-size techniques in continuous Runge-Kutta methods for isospectral dynamical systems. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 261–278. (Summary) **99b:65087** 65L06 (58F19, 65L15)

Politis, D. N. (*with* Romano, Joseph P.; Wolf, Michael[3]) Subsampling for heteroskedastic time series. (English summary) *J. Econometrics* **81** (1997), *no.* 2, 281–317. (Summary) **99c:62261** 62M10

Politis, Konstadinos (*with* Pitts, Susan M.) Approximations for solutions of renewal-type equations. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 2, 195–216. (Rudolf Grübel) **99k:60218** 60K05

Polito, Pompeo (*with* Polverino, Olga) On small blocking sets. (English summary) *Combinatorica* **18** (1998), *no.* 1, 133–137. (Maria Scafati Tallini) **99i:05052** 05B25 (51E21)

Polivoda, O. V. (*with* Ostapenko, V. V.; Finin, G. S.) Optimal distribution of resources for consumers with equal expenditure. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1998**, *no.* 6, 106–109. 90C08 (90C90)

Polizzotto, Castrenze (*with* Fuschi, P.) Internal-variable constitutive model for rate-independent plasticity with hardening saturation surface. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 73–95. (Summary) **99b:73018** 73E05 (73B30)

— A maximum reduced dissipation principle for nonassociative plasticity. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **9** (1998), *no.* 2, 115–129. (Summary) **99k:73066** 73E05

— (*with* Borino, Guido) A thermodynamics-based formulation of gradient-dependent plasticity. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 741–761. (Summary) **99f:73038** 73E05 (73B30)

semeniuk-Polkowska, Maria *see* **Semeniuk-Polkowska, Maria**

Polkowski, Lech T. (*with* Păun, Gheorghe; Skowron, Andrzej) Parallel communicating grammar systems with negotiation. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 315–330. (Summary) **99c:68163** 68Q50

— (*with* Păun, Gheorghe; Skowron, Andrzej) Rough set approximations of languages. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 149–162. (Summary) **99c:68157** 68Q45 (03D05)

— (*with* Skowron, Andrzej) Rough mereology and analytical morphology. (English summary) *Incomplete information: rough set analysis*, 399–437, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03B70 (04A72)

— (*with* Semeniuk-Polkowska, Maria) Approximate reasoning about natural language: a certain distributional-mereological model. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 239–252, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68T27 (03B65, 68S05)

— (*with* Skowron, Andrzej) Rough sets: a perspective. (English summary) *Rough sets in knowledge discovery*, 1, 31–56, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 04A72

— *see also* **Rough sets in knowledge discovery, 99k:68188** *and* **99k:68189**

Poll, Erik Subtyping and inheritance for categorical datatypes (preliminary report). (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 112–125. (Summary) **99e:68103** 68Q65

Pollack, Richard M. (*with* Basu, Saugata; Roy, Marie-Françoise) Computing roadmaps of semi-algebraic sets on a variety (extended abstract). (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 1–15, *Springer, Berlin*, 1997. (*see* **99g:00039**) 14P10 (68Q40)

— (*with* Goodman, Jacob E.) Lifting lines to hyperplanes. (English summary) *Intuitive geometry* (*Budapest*, 1995), 335–338, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Béla Uhrin) **99b:52025** 52B30

— (*with* Basu, Saugata; Roy, Marie-Françoise) A new algorithm to find a point in every cell defined by a family of polynomials. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 341–350, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40 (12D15)

— *see also* **Advances in discrete and computational geometry, 99f:52003**

Pollack-Johnson, Bruce Optimal human resource recruiting policies via goal programming. (English summary) *Opsearch* **33** (1996), *no.* 4, 235–268. (Summary) **99b:90073** 90B70 (92H35)

Pollaczek, Félix *see* **Schreiber, Friedrich, 99m:01088**

Pollak, Moshe (*with* Gordon, Louis) Average run length to false alarm for surveillance schemes designed with partially specified pre-change distribution. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1284–1310. (Summary) **99d:62076** 62L10 (62G05)

— (*with* Yakir, Benjamin) A new representation for a renewal-theoretic constant appearing in asymptotic approximations of large deviations. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 749–774. (M. B. Woodroofe) **99f:60152** 60K05 (62L10)

Pollak, Robert A. (*with* Crawford, David L.; Vella, Francis) Simple inference in multinomial and ordered logit. (English summary) *Econometric Rev.* **17** (1998), *no.* 3, 289–299. (Summary) **99e:62177** 62P20

Pollandt, R. An approximation method for solving inhomogeneous linear and nonlinear differential equations using the boundary element method and radial basis functions. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 8, 545–553. (Summary) **99e:65166** 65N38

Pollard, D. (*with* Chang, Joseph T.) Conditioning as disintegration. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 287–317. (Detlef Plachky) **99b:62001** 62–02 (60A10, 60B05, 62A15, 62B10)

Pollard, Harry (*with* Diamond, Harold George) ★ The theory of algebraic numbers. (English summary) Third edition. *Dover Publications, Inc., Mineola, NY*, 1998. $x+162$ *pp. ISBN* 0-486-40454-4 (Editors) **99k:11164** 11Rxx (11–01)

Pollett, Chris (*with* Remmel, Jeffrey B.) Nonmonotonic reasoning with quantified Boolean constraints. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 18–39, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:68175** 68T27

— A propositional proof system for R^1_2. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 253–277, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Jan Krajíček) **99d:03052** 03F20 (03F30)

— (*with* Johannsen, Jan) On proofs about threshold circuits and counting hierarchies (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 444–452, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q15 (03F30)

Pollett, P. K. (*with* Bean, Nigel; Taylor, Peter G.) The quasistationary distributions of level-independent quasi-birth-and-death processes. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 389–406. (Erik A. van Doorn) **99b:60101** 60J10 (60J80)

— (*with* Bebbington, M. S.; Ziedins, Ilze) Two-link approximation schemes for linear loss networks without controls. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 539–557. (Summary) **99i:90048a** 90B10 (60K30)

— (*with* Bebbington, M. S.; Ziedins, Ilze) Errata to: "Two-link approximation schemes for linear loss networks without controls". *J. Korean Math. Soc.* **35** (1998), *no.* 4, 1061–1063. (Editors) **99i:90048b** 90B10 (60K30)

Pollicott, Mark (*with* Rocha, André C.) A remarkable formula for the determinant of the Laplacian. *Invent. Math.* **130** (1997), *no.* 2, 399–414. (Alexander Fel'shtyn) **99b:58237** 58G26 (58F17)

— (*with* Parry, William) The Livšic cocycle equation for compact Lie group extensions of hyperbolic systems. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 405–416. (Viorel Niţică) **99d:58109** 58F11

— (*with* Sharp, Richard) Poincaré series and zeta functions for surface group actions on **R**-trees. *Math. Z.* **226** (1997), *no.* 3, 335–347. (Boris Datskovsky) **99g:58104** 58F20 (57M15, 57S30)

— (*with* Parry, William) Stability of mixing for toral extensions of hyperbolic systems. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 354–363. (Luis M. Barreira) **99g:58094** 58F15

— (*with* Yuri, Michiko) ★ Dynamical systems and ergodic theory. (English summary) London Mathematical Society Student Texts, 40. *Cambridge University Press, Cambridge*, 1998. $xiv+179$ *pp. ISBN* 0-521-57294-0; 0-521-57599-0 (Boris Hasselblatt) **99f:58130** 58F11 (28Dxx, 54H20, 58–01)

— (*with* Sharp, Richard) Exponential error terms for growth functions on negatively curved surfaces. (English summary) *Amer. J. Math.* **120** (1998), *no.* 5, 1019–1042. (Jens Marklof) **99h:58148** 58F20 (11M36)

— (*with* Geller, William) An entropy for $\mathbf{Z}^2$-actions with finite entropy generators. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 209–220. (Oliver Knill) **99h:58105** 58F11 (28D20)

— (*with* Sharp, Richard; Yuri, Michiko) Large deviations for maps with indifferent fixed points. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1173–1184. (Bernard Schmitt) **99j:58131** 58F11 (28D05)

— (*with* Yuri, Michiko) Regularity of solutions to the measurable Livsic equation. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 559–568. (Makoto Mori) **99d:58110** 58F11 (28D05)

Pollifrone, Giuseppe (*with* Esposito, Giampiero; Kamenshchik, A. Yu.) ★ Euclidean quantum gravity on manifolds with boundary. (English summary) Fundamental Theories of Physics, 85. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xiv+319 *pp. ISBN* 0-7923-4472-3 (Alfred Actor) **99e:81164** 81T20 (81–02, 83–02, 83C45)

Pollney, Denis (*with* Santosuosso, Kevin; Pelavas, Nicos; Musgrave, Peter; Lake, Kayll) Invariants of the Riemann tensor for class B warped product space-times. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 381–394. (Emil Zakhary) **99k:83021** 83C20 (83–04)

Pollock, John L. Reasoning about change and persistence: a solution to the frame problem. *Noûs* **31** (1997), *no.* 2, 143–169. (From the introduction) **99c:68228** 68T20 (03B70)

— The logical foundations of goal-regression planning in autonomous agents. (English summary) *Artificial Intelligence* **106** (1998), *no.* 2, 267–334. 68T20

— Perceiving and reasoning about a changing world. (English summary) *Comput. Intelligence* **14** (1998), *no.* 4, 498–562. 68T27

Pollock, M. D. The non-invariance of the heterotic superstring four-action under the modular transformation. (English summary) *Phys. Lett. B* **411** (1997), *no.* 1-2, 68–72. (Summary) **99b:81207** 81T30 (83E30)
— On the quantization of charged black holes. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 521–534. (Valter Moretti) **99g:83058** 83C57 (83C47)
— How did the universe begin? (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 5, 727–735. 83F05
— Renormalization of the gravitational constant in the heterotic superstring theory. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 275–280. (Summary) **99h:81138** 81T15 (81T30)
— Quantum gravitational effects and the compactification scale in the heterotic superstring theory. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 1, 119–127. (Summary) **99k:83127** 83E30 (81T30, 83C45)
— Emergence of classical space-time from the Planck era. (English summary) *Phys. Lett. B* **448** (1999), *no.* 1-2, 13–19. (Summary) **99m:83212** 83F05 (83E30)
vázquez Polo, F. J. *see* **Vázquez Polo, F. J.**
Polo, Patrick Diagrammes de Dynkin et algèbres enveloppantes d'algèbres de Lie semi-simples. (English and French summaries) [Dynkin diagrams and enveloping algebras of semisimple Lie algebras] *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 5, 631–657. (William M. McGovern) **99h:17015** 17B35 (16S30)
Polombo, Albert Sur les hypersurfaces à courbure moyenne constante de l'espace hyperbolique. [On hypersurfaces with constant mean curvature in hyperbolic space] *Osaka J. Math.* **34** (1997), *no.* 3, 579–588. (João Lucas Marques Barbosa) **99d:53010** 53A10 (53C42)
Polonyi, Janos (*with* Gosselin, Pierre) Path integral for relativistic equations of motion. (English summary) *Ann. Physics* **268** (1998), *no.* 2, 207–224. (Julio Espinoza Ortiz) **99h:81118** 81S40
— (*with* El Hattab, Hanae) Renormalization group transformation for the wave function. (English summary) *Ann. Physics* **268** (1998), *no.* 2, 246–272. (Manfred Salmhofer) **99i:81036** 81Q10 (81T17)
Polous, A. I. (*with* Buryĭ, A. S.; Shlyakonov, V. A.) A functional diagnostic method for program-controlled plants. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 173–178; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 599–602. 93B30 (90B25)
Polovinkin, V. I. Approximations of the Bernoulli polynomials by constants and applications to the theory of quadrature formulas. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 2, 110–121. (D. N. Zarnadze) **99j:41046** 41A44 (41A50)
Polovko, Yu. A. (*with* Romanova, E. P.; Tropp, E. A.) Contrast structures and rotating stall in MHD flows. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows (Aussois, 1997)*, 395–408, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76W05 (76U05)
Pol'shin, S. A. Invariant wave equations, propagators and generalized coherent states over de Sitter space. (English summary) *Phys. Lett. B* **449** (1999), *no.* 1-2, 56–59. (Summary) **99k:81098** 81R20 (81T20)
Polster, Burkard (*with* Schroth, Andreas E.) Halbe Doppeldecker—anschauliche Modelle von Semibiplanes. [Graphic models of semibiplanes] *Überblicke Mathematik* 1998, 128–137, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99a:00018**) 51B20
— (*with* Schroth, Andreas E.) Split semi-biplanes in antiregular generalized quadrangles. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 625–637. (Hendrik Van Maldeghem) **99b:51005a** 51E12 (51H15)
— ★ A geometrical picture book. (English summary) Universitext. *Springer-Verlag, New York*, 1998. *xx*+291 *pp. ISBN* 0-387-98437-2 (Vikram Jha) **99f:51003** 51-01 (05B25, 51E99)
— Separating sets in interpolation and geometry. (English summary) *Aequationes Math.* **56** (1998), *no.* 3, 201–215. (Rainer Löwen) **99k:51020** 51H15 (65Y25)
— Integrating *n*-unisolvent sets of functions. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 4, 313–318. (Tord H. Ganelius) **99b:30057** 30E05 (41A05)
— (*with* Schroth, Andreas E.) Plane models of semi-biplanes. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 135–153. (Theo Grundhöfer) **99c:51005** 51A50 (51B05, 51E12, 51H15)
— (*with* Schroth, Andreas E.) Errata: "Split semi-biplanes in antiregular generalized quadrangles". *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 115. (Hendrik Van Maldeghem) **99b:51005b** 51E12 (51H15)
— Pretty pictures of geometries. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 417–425. (Grazia Raguso) **99f:51022** 51E99
— Invertible sharply *n*-transitive sets. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 231–254. (Antonio Pasini) **99b:51012** 51H15
— Toroidal circle planes that are not Minkowski planes. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 154–167. (Markus Stroppel) **99i:51014** 51H15 (51B20, 51H20)
Poltavskiĭ, L. N. (*with* Lifanov, I. K.) Numerical solution of supersingular integral equations with additional terms containing smooth kernels. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1233–1241, 1295; *translation in Differential Equations* **33** (1997), *no.* 9, 1239–1248 (1998). (Andreas Rathsfeld) **99g:65125** 65R20 (45E05, 45L05, 45M05)
Polterovich, I. (*with* Shnirelman, Alexander) An asymptotic subcone of the Lobachevskiĭ plane as a function space. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 209–210; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 842–843. (Wojciech Wieczorek) **99c:53040** 53C23 (51M10)
Polterovich, Leonid Precise measurements in symplectic topology. *European Congress of Mathematics, Vol. II (Budapest, 1996)*, 159–166, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (Karl Friedrich Siburg) **99i:58065** 58F05 (58D05)
— (*with* Lalonde, François; McDuff, Dusa) On the flux conjectures. (English summary) *Geometry, topology, and dynamics (Montreal, PQ, 1995)*, 69–85, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Miguel T. Abreu) **99e:58025** 58D05 (58F05)
— Hofer's diameter and Lagrangian intersections. *Internat. Math. Res. Notices* **1998**, *no.* 4, 217–223. (David E. Hurtubise) **99b:58037** 58D05 (58F05)
— Symplectic aspects of the first eigenvalue. (English summary) *J. Reine Angew. Math.* **502** (1998), 1–17. (Meike Akveld) **99m:58200** 58G25 (58F05)
Polthier, Konrad (*with* Große-Brauckmann, Karsten) Constant mean curvature surfaces derived from Delaunay's and Wente's examples. (English summary) *Visualization and mathematics (Berlin-Dahlem, 1995)*, 119–134, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53A10
— (*with* Oberknapp, Bernd) An algorithm for discrete constant mean curvature surfaces. (English summary) *Visualization and mathematics (Berlin-Dahlem, 1995)*, 141–161, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53A10
— (*with* Schmies, Markus) Straightest geodesics on polyhedral surfaces. (English summary) *Mathematical visualization (Berlin, 1997)*, 135–150, *Springer, Berlin*, 1998. (*see* **99k:65005**) 53A04
— *see also* **Visualization and mathematics, 99g:68212** *and* **Mathematical visualization, 99k:65005**
Polubarinova-Kochina, Pelageya Yakovlevna (*with* Kochina, N. N.) On the oil-water boundary. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 972–977; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 953–957. (Summary) **99b:76086** 76S05
— The Zhukovskiĭ function and some problems in filtration theory. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 157–159; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 153–155. (Summary) **99b:76087** 76S05
— (*with* Kochina, N. N.) On the problem of an earth dam. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 515–516; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 477–478. 76S05
Polulyakh, E. A. (*with* Pankov, M. A.) Critical points of arbitrary mappings from $\mathbf{R}^n$ into $\mathbf{R}^m$. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 3, 82–85; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 3, 214–216 (1998). (V. D. Sedykh) **99a:58017** 58C27 (58C25)
Polushin, I. G. (*with* Fradkov, A. L.) Quasidissipativity and *L*-dissipativity of nonlinear systems. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 319–322. 93D20 (93C10)
Poluyanova, M. F. On some generalizations of a theorem of Hardy and Littlewood. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 96–97; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 63–64. 40G05
Polvani, Lorenzo M. (*with* DiBattista, Mark T.) Barotropic vortex pairs on a rotating sphere. (English summary) *J. Fluid Mech.* **358** (1998), 107–133. (Summary) **99a:76022** 76C05 (76C20, 76E20, 76U05, 86A10)
Polverino, Olga (*with* Polito, Pompeo) On small blocking sets. (English summary) *Combinatorica* **18** (1998), *no.* 1, 133–137. (Maria Scafati Tallini) **99i:05052** 05B25 (51E21)
Poly, Jean-Baptiste (*with* Raby, Gilles) Prolongement de courants positifs à travers de petits obstacles. (English summary) [Extension of positive currents across small obstacles] *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2091–2098. (Mongi Blel) **99j:32009** 32C30 (32D15)
Polyachenko, E. V. (*with* Kanenaga, Masahiko; Kirillov, A. I.; Mamakin, V. Yu.; Namiki, Mikio; Ohba, Ichiro; Zav'yalov, O. I.) On evaluation of path integrals for bottomless systems. (English summary) *Path integrals: Dubna '96*, 181–186, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40
Polyak, B. T. (*with* Shcherbakov, P. S.) A probabilistic approach to the robust stability of time-delay systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 12, 97–108; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1770–1779 (1997). (Summary) **99a:93079** 93D09 (34K35, 93B40)
— (*with* Kiselev, O. N.; Le Khung Lan) Frequency characteristics under parametric uncertainty. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 155–174; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 645–661. (Summary) **99d:93050** 93D09 (93C41, 93C80)
— Robust stability of interval matrices: a stochastic approach. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 202–207, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99g:93069** 93D09 (90C15, 93E15)
— (*with* Tsypkin, Yakov Zalmanovich) Stability of linear difference equations with unmodelled higher order terms. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 539–546. (Summary) **99a:39046** 39A11 (93D10)
— Convexity of quadratic transformations and its use in control and optimization. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 553–583. (T. Zolezzi) **99i:90069** 90C20 (90–02, 93–02)
Polyakov, A. M. Confining strings. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 23–33. (Summary) **99b:81208** 81T30
— The wall of the cave. (English summary) *Les relations entre les mathématiques et la physique théorique*, 165–177, *Inst. Hautes Études Sci., Bures-sur-Yvette*, 1998. (Massimo Di Pierro) **99m:81207a** 81T30 (81T13)
— String theory and quark confinement. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 1–8. (Massimo Di Pierro) **99h:81185** 81T30 (81V05)
— (*with* Gubser, Steven S.; Klebanov, Igor R.) Gauge theory correlators from non-critical string theory. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 105–114. (Douglas J. Smith) **99e:81204b** 81T30 (81T60, 83E30)
— The wall of the cave. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 5, 645–657. (Massimo Di Pierro) **99m:81207b** 81T30 (81T13)
Polyakov, Konstantin Yu. (*with* Rozenvasser, E. N.; Lampe, Bernhard P.) Optimal discrete filtering for time-delayed systems with respect to mean-square continuous-time error criterion. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 389–406. (Summary) **99c:93107** 93E11 (93C55)
— (*with* Rozenvasser, E. N.; Lampe, Bernhard P.) Application of Laplace transformation for digital redesign of continuous control systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 883–886. 93C57 (93B51)
Polyakov, L. Ya. Characterization of finite groups by maximal subgroups. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 77–79, 104, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D10
— On properties of normal subgroups of finite groups. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 97–103, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20E07

— (*with* Kamornikov, S. F.) On some lattices of subgroups of finite groups. (Russian. English summary) *Problems in algebra, No. 9* (*Russian*), 133–137, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20005**) 20D10

— (*with* Semenchuk, V. N.) Characterization of minimal non-$\mathfrak{F}$-groups. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 60–63; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 4, 58–61. (İ. Ya. Subbotin) **99f:20028** 20D10 (20F17)

Polyakov, O. V. On the approximation of certain classes of differentiable functions by generalized splines. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 951–957; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1067–1074 (1998). (Gheorghe Coman) **99b:41004** 41A15 (41A50)

— On inequalities for the seminorms of some classes of differentiable periodic functions. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1432–1435; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1610–1614 (1998). (Alexandru Leonte) **99m:41020** 41A17 (26A15, 41A35, 46E99)

Polyakov, P. L. (*with* Mathew, T. P.; Russo, Giovanni; Wang, Jun Ping[1]) Domain decomposition operator splittings for the solution of parabolic equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 912–932 (*electronic*). (Lutz Tobiska) **99j:65158** 65M55 (65F30)

Polyakov, Yu. I. Perturbation theory for a particle in a one-dimensional, a centrally symmetric and an axially symmetric field. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 1, 119–123; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 1, 888–891 (1998). (M. Znojil) **99a:81035** 81Q15 (34L40, 35Q40)

Polyakova, O. P. (*with* Dol'nikov, V. L.) The nondensity function and generalized Ramsey numbers. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 3, 84–99; *translation in Discrete Math. Appl.* **8** (1998), *no.* 5, 499–516. (Martin Klazar) **99m:05111** 05C55

Polyakova, R. V. (*with* Zhidkov, E. P.; Ovsyannikov, V. P.; Yudin, I. P.) Numerical modeling of some magnetic systems of solenoidal type. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 314–320, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 78–08 (78A30)

Polyakova, S. V. (*with* Krys'ko, V. A.; Kuznetsov, Valentin Nikolaevich) Operator approach to a geometrically nonlinear problem of static stability of plates and shells. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 40–46; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 2, 37–43. (From the text) **99e:73069** 73K15 (35Q72, 73H05)

Polyanin, A. D. (*with* Zaĭtsev, V. F.) ★ Справочник по обыкновенным дифференциальным уравнениям. (Russian. Russian summary) [Handbook of ordinary differential equations] Точные решения. [Exact solutions] *Fizmatlit "Nauka"*, *Moscow*, 1995. 560 *pp. ISBN* 5-02-015182-3 (Editors) **99d:34001** 34–02 (00A20, 34A05)

— (*with* Zhurov, A. I.) Exact solutions of nonlinear equations in mechanics and mathematical physics. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 5, 640–644; *translation in Dokl. Phys.* **43** (1998), *no.* 6, 381–385. 35Q99 (35C05)

le conte de Poly-Barbut, Claude *see* **Le Conte de Poly-Barbut, Claude**

Polycarpou, Marios M. (*with* Vemuri, Arun T.) Robust nonlinear fault diagnosis in input-output systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 343–360. 93B30 (93E12)

— (*with* Demetriou, Michael A.) Incipient fault diagnosis of dynamical systems using online approximators. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1612–1617. (Summary) **99g:90048** 90B25 (93E10)

— (*with* Mears, Mark J.) Stable adaptive tracking of uncertain systems using nonlinearly parametrized on-line approximators. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 363–384. (Summary) **99a:93059** 93C40 (93D15)

Polychronakos, Alexios P. Probabilities and path-integral realization of generalized exclusion statistics. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 427–435, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81116** 81S05 (81S40)

— (*with* Floratos, E. G.; Leontaris, G. K.; Tzani, R.) Instanton solutions of the self-dual membrane in various dimensions. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 125–130. (Summary) **99a:81137** 81T30 (81T60)

— (*with* Isakov, Sergei B.; Leinaas, Jon Magne; Myrheim, Jan; Varnhagen, Raimund) Algebra of observables for identical particles in one dimension. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 151–160. (Summary) **99e:81112** 81S05

— (*with* Danielsson, Ulf H.) Quarks, monopoles and dyons at large N. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 294–302. (Summary) **99d:81153** 81T60 (81T13)

Polymenakos, Lazaros C. (*with* Bertsekas, Dimitri P.; Tseng, Paul) ε-relaxation and auction methods for separable convex cost network flow problems. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 103–126, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (Summary) **99i:90106** 90C35 (90B10)

— (*with* Bertsekas, Dimitri P.; Tsitsiklis, John N.) Implementation of efficient algorithms for globally optimal trajectories. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 278–283. (Panos M. Pardalos) **99d:49057** 49M25 (90C30)

Polymilis, C. (*with* Rowlands, George; Yannacopoulos, A. N.) A method for locating singularities in the complex time domain for integrable dynamical systems. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 4, 273–281. (Summary) **99a:34026** 34A34 (34A20, 34C35, 58F07, 70H05)

— (*with* Hizanidis, K.; Frantzeskakis, D. J.) Phase plane Stäckel potential dynamics of the Manakov system. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 1112–1124. (Summary) **99c:35229** 35Q55 (58F39)

Polyrakis, Ioannis A. Minimal lattice-subspaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4183–4203. (Summary) **99m:46051** 46B42 (46A40)

Polzehl, Jörg (*with* Neumann, Michael H.) Simultaneous bootstrap confidence bands in nonparametric regression. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 4, 307–333. (Summary) **99e:62066** 62G07 (62G15)

Pomarol, A. (*with* Quirós, M.) The standard model from extra dimensions. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 255–260. (Summary) **99f:81227** 81V22

Pomazanov, M. V. Computation of an optimal manifold for facilitating the selection of a target and its attainment with minimal losses. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 755–765; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 733–742 (1998). (Summary) **99c:49039** 49N55 (49M37)

Pombo, Dinamérico P., Jr. (*with* Caldas Cueva, Miguel) On a characterization of polynomially barrelled spaces. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 93–96. (Summary) **99f:46004** 46A08 (46E50, 46G20)

— On modules of continuous linear mappings. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 197–198. (V. K. Srinivasan) **99e:46059** 46H25 (46A32, 46J05)

— Bilinear mappings on topological modules. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **6** (1999), *no.* 1, 99–109. (David A. Robbins) **99m:46120** 46H25 (46A32)

Pomeau, Yves Statistical mechanics of a self-gravitating gas. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 339–351, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Summary) **99d:82007** 82B05 (82B30)

— (*with* Pismen, Len; Rica, Sergio) Core structure and oscillations of spinor vortices. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 167–180. (Summary) **99b:82088** 82D50

Pomello, Lucia (*with* Bernardinello, Luca) A category of transition systems and its relations with orthomodular posets. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 139–148, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:06001** 06A06 (03G12, 68Q90)

Pomerance, Carl (*with* Erdős, Paul[1]; Sárközy, András) On locally repeated values of certain arithmetic functions. IV. (English summary) *Ramanujan J.* **1** (1997), *no.* 3, 227–241. (Jean-Marie De Koninck) **99c:11119** 11N25 (11A25, 11N37)

— (*with* Robson, John Michael; Shallit, Jeffrey) Automaticity. II. Descriptional complexity in the unary case. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 181–201. (Jean-Paul Allouche) **99a:11026** 11B85 (68Q45, 68R15)

— (*with* Bender, Renet Lovorn) Rigorous discrete logarithm computations in finite fields via smooth polynomials. *Computational perspectives on number theory* (*Chicago, IL*, 1995), 221–232, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Oliver Schirokauer) **99c:11156** 11Y16 (11T06, 11T71)

— (*with* Dence, Thomas P.) Euler's function in residue classes. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 7–20. (Jie Wu) **99k:11148** 11N64 (11N69)

Pommaret, J. F. (*with* Quadrat, A.) Generalized Bezout identity. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 2, 91–116. (Summary) **99e:93020** 93B25 (13N10)

Pommer, C. (*with* Kliem, W.; Stoustrup, Jakob) Stability of rotor systems: a complex modelling approach. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 644–655. (Summary) **99d:70030** 70J25 (34D20)

Pommerenke, Ch. (*with* Rohde, Steffen) The Gehring-Hayman inequality in conformal mapping. (English summary) *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 309–319, *Springer, New York*, 1998. (J. G. Krzyż) **99c:30009** 30C35 (30C55)

— (*with* Chuaqui, M.; Osgood, Brad) On the coefficients of small univalent functions. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 79–86. (Summary) **99c:30035** 30C50

Pommeret, Denys Multidimensional Bhattacharyya matrices and exponential families. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 105–118. (Évelyne Bernadac) **99c:62153** 62H05 (60E05, 62E10)

— Estimateur de variance minimum et familles exponentielles naturelles. (English and French summaries) [Minimum variance unbiased estimator and natural exponential families] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 619–623. (Summary) **99j:62031** 62F10

Pomp, A. Levi functions for linear elliptic systems with variable coefficients including shell equations. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 93–99. (Vadim Komkov) **99h:73026** 73C99 (35Q72, 73K15, 73V10)

Pomp, Marek (*with* Machala, František) Homomorphisms of contexts and isomorphisms of concept lattices. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 121–129 (1997). (N. Prabhakara Rao) **99a:06007** 06B05 (08A35)

— (*with* Machala, František) Disjoint and complete unions of incidence structures. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 365–374. (N. Prabhakara Rao) **99a:06008** 06B05 (08A35)

Pomraning, G. C. Radiative transfer and transport phenomena in stochastic media. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1595–1621. (Summary) **99i:85004** 85A25

— Transport in discrete stochastic mixtures. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 405–443. (Hassan Emamirad) **99h:82070** 82C70

Pomyalov, Anna (*with* Belinicher, Victor I.; L'vov, Victor S.; Procaccia, Itamar) Computing the scaling exponents in fluid turbulence from first principles: demonstration of multiscaling. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 797–832. (Roland Schiestel) **99m:76069** 76F99 (76M35, 82C31, 82D15)

— (*with* L'vov, Victor S.; Podivilov, Evgenii; Procaccia, Itamar; Vandembroucq, Damien) Improved shell model of turbulence. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1811–1822. 76F99

Pomykała, Jacek Non-vanishing of n-th derivatives of twisted elliptic L-functions in the critical point. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 1–10. (Fernando Rodríguez Villegas) **99b:11070** 11G40 (11G05)

Ponce, Enrique (*with* Freire Macías, Emilio; Torres, Francisco) Filippov transformations in piecewise linear systems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 273–278, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34A30 (34C25)

— (*with* Llibre, Jaume; Pizarro, Luis) Limit cycles of polynomial Liénard systems. Comment on: "Number of limit cycles of the Liénard equation" [Phys. Rev. E (3) **56** (1997), no. 4, 3809–3813; MR 98f:34035] by H. Giacomini and S. Neukirch. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5185–5187. (Summary) **99h:34048** 34C05 (34A45)

Ponce, Gustavo On the well posedness of some nonlinear evolution equations. *Nonlinear waves* (*Sapporo*, 1995), 393–424, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Xian Guo Geng) **99k:35140** 35Qxx (35K55, 35L70)

— (*with* Kenig, Carlos E.; Vega, Luis) Global solutions for the KdV equation with unbounded data. *J. Differential Equations* **139** (1997), *no.* 2, 339–364. (Vladislav G. Dubrovsky) **99a:35223** 35Q53 (58F07)

— On nonlinear dispersive equations. Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 67–76 (*electronic*). (Thomas Wanner) **99k:35087** 35K55 (35B30, 35Q53, 35Q55)

— (*with* Kenig, Carlos E.; Vega, Luis) Smoothing effects and local existence theory for the generalized nonlinear Schrödinger equations. *Invent. Math.* **134** (1998), *no.* 3, 489–545. (Nakao Hayashi) **99k:35166** 35Q55
— (*with* Bekiranov, Daniella; Ogawa, Takayoshi) Interaction equations for short and long dispersive waves. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 357–388. (Anatoly M. Kamchatnov) **99i:35143** 35Q55 (35Q35)
fernandez-Ponce, J. M. *see* **Fernandez-Ponce, J. M.**
Ponce, Rodrigo F. (*with* Duarte, Manuel A.) Discrete-time combined model reference adaptive control. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 501–517. (Summary) **99f:93085** 93C40 (93B55)
Ponce Dawson, Silvina (*with* Reynolds, William N.; Pearson, John E.) Self-replicating spots in reaction-diffusion systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 185–198. (Yoram Schiffmann) **99b:92012** 92C15 (35K57, 35Q80, 92E20)
— (*with* Moresco, Pablo) The PIM-simplex method: an extension of the PIM-triple method to saddles with an arbitrary number of expanding directions. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 38–48. (Summary) **99m:58132** 58F13 (65M60)
Ponce de Leão, M. Teresa (*with* Matos, Manuel A.) Multicriteria distribution network planning using simulated annealing. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 4, 377–391. 90B10 (90C29, 90C35)
Pong, Fong (*with* Dubois, Michel) Formal verification of complex coherence protocols using symbolic state models. (English summary) *J. ACM* **45** (1998), *no.* 4, 557–587. (Summary) **99j:68082** 68Q60 (68M07, 68M20)
Pongérard, Patrice Un résultat de ramification globale. (English and French summaries) [A result of global ramification] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 863–865. (Todor V. Gramchev) **99c:35023** 35B32 (35A20)
— (*with* Wagschal, Claude) Ramification non abélienne. (English and French summaries) [Nonabelian ramification] *J. Math. Pures Appl.* (9) **77** (1998), *no.* 1, 51–88. (Masatake Miyake) **99d:35010** 35A20 (35A10)
Pongor, Gábor (*with* Desch, W.; Györi, István) Stability of semilinear delay equations with positive solutions. (English summary) *Positivity* **1** (1997), *no.* 4, 319–330. (Ti Jun Xiao) **99j:34112** 34K20 (34K30)
Ponizovskaya, E. V. (*with* Osipov, V. V.) The nature of bursting noises, stochastic resonance and deterministic chaos in excitable neurons. (English summary) *Phys. Lett. A* **238** (1998), *no.* 6, 369–374. (Summary) **99c:92014** 92C20 (58F13, 58F40)
Ponizovskiĭ, I. S. Completely 0-simple semigroups with invertible sandwich matrices in semigroup rings. (English summary) *Semigroups* (*Luino*, 1992), 246–251, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M25
— On a problem of B. I. Plotkin. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 249–256; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 881–888. (Mária B. Szendrei) **99b:20100** 20M25 (20M20)
Ponnambalam, K. (*with* Sadjadi, Seyed Jafar) Advances in trust region algorithms for constrained optimization. (English summary) Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96) (Delft). *Appl. Numer. Math.* **29** (1999), *no.* 3, 423–443. (Summary) **99k:90162** 90C30 (90–02)
Ponnley, James On lattice associated outer measures and applications to smoothness conditions. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 1, 57–69. (Pedro Jiménez Guerra) **99g:28004** 28A12 (28C15)
Ponnusamy, S. (*with* Parvatham, Rajagopalan) Nonautonomous differential inequalities in the complex plane. *Mathematica* **37(60)** (1995), *no.* 1-2, 205–213. (T. N. Shanmugam) **99c:30028** 30C45
— (*with* Vuorinen, Matti K.) Asymptotic expansions and inequalities for hypergeometric functions. (English summary) *Mathematika* **44** (1997), *no.* 2, 278–301. (Eberhard Wagner) **99b:33004** 33C05 (26D07, 41A60)
— (*with* Sabapathy, S.) Geometric properties of generalized hypergeometric functions. (English summary) *Ramanujan J.* **1** (1997), *no.* 2, 187–210. (Shusen Ding) **99d:33005** 33C20 (30C45)
— Role of special functions in function theory. (English summary) *Special functions and differential equations* (*Madras*, 1997), 127–137, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33002** 33C05 (30C45, 33C15)
— (*with* Vuorinen, Matti K.) Univalence and convexity properties for confluent hypergeometric functions. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 1, 73–97. (Summary) **99f:33004** 33C15 (30C45, 30C55)
— Close-to-convexity properties of Gaussian hypergeometric functions. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 327–337. (R. K. Raina) **99c:30029** 30C45 (33C05)
— Hypergeometric transforms of functions with derivative in a half plane. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 1, 35–49. (Matti Vuorinen) **99i:30027** 30C45 (33C15, 44A20)
— (*with* Balasubramanian, Ramachandran; Vuorinen, Matti K.) Functional inequalities for the quotients of hypergeometric functions. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 256–268. (Summary) **99k:33007** 33C05
— (*with* Balasubramanian, Ramachandran) On Ramanujan asymptotic expansions and inequalities for hypergeometric functions. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 95–108. (Richard B. Paris) **99g:33002** 33C05
Ponomarenko, A. I. Second-order random linear functionals. I. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 137–146; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 143–151. (Summary) **99h:60011** 60B11
— Second-order random linear functionals. II. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 154–164; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 165–175 (1998). (Summary) **99h:60012** 60B11 (60B15)
Ponomarenko, I. N. (*with* Evdokimov, Sergei) On the geometric graph isomorphism problem. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 253–276. (Summary) **99b:68146** 68R10 (05C60, 05C85)
— (*with* Evdokimov, Sergei; Karpinski, Marek) Compact cellular algebras and permutation groups. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 247–267. (Peter J. Cameron) **99k:20004** 20B05 (05C25, 20B25)
Ponomarenko, O. Ĭ. *see* **Ponomarenko, A. I.**
Ponomarev, Igor (*with* Lissianoi, Sergei) On the inversion of the geodesic Radon transform on the hyperbolic plane. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 1053–1062. (Summary) **99c:53082** 53C65 (44A12, 65R10, 92C55)
Ponomarev, Stanisław P. On some descriptive characterizations of the N^{-1}-property. 24th Winter School on Abstract Analysis (Benešova Hora, 1996). *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 2, 65–69. (S. N. Mukhopadhyay) **99b:26022** 26B99
— On some characterizations of quasiregularity. *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 2, 13–18. (Petra Bonfert-Taylor) **99a:30030** 30C65
— (*with* Grande, Zbigniew) On differentiability of functions of two variables. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 601–610. (F. Mirosław Filipczak) **99g:26030** 26B05 (26A24, 26A46, 26B30)
Ponosov, A. Local operators and stochastic differential equations. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 173–189 (1998). (Xue Rong Mao) **99a:47116** 47H40 (34F05, 47N30, 60H10)
Pons, Josep M. (*with* Garcia, J. Antonio) Faddeev-Jackiw approach to gauge theories and ineffective constraints. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 21, 3691–3710. (Summary) **99e:81144** 81T13 (81T70)
— (*with* Shepley, L. C.) Dimensional reduction and gauge group reduction in Bianchi-type cosmology. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024001, 17 *pp.* (Summary) **99m:83021** 83C05 (83C50)
— (*with* Salisbury, D. C.; Shepley, L. C.) Reduced phase space: quotienting procedure for gauge theories. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 419–430. (Narciso Román-Roy) **99k:58076** 58F05 (70G99, 70H05, 70H35)
Pons, Olga (*with* Cubero, J. C.; Medina, J. M.; Vila, M. A.) Fuzzy loss less [lossless] decompositions in databases. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 145–167. (Summary) **99e:68029** 68P15 (03B52, 03B70)
Ponsati-Obiols, Clara Compromise vs capitulation in bargaining with incomplete information. (English and French summaries) *Ann. Économ. Statist.* **1997**, *no.* 48, 191–210. (Summary) **99a:90017** 90A05 (90D12)
— (*with* Watson, Joel) Multiple-issue bargaining and axiomatic solutions. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 501–524. (Summary) **99b:90174** 90D12 (90D05)
— (*with* Sákovics, József) Rubinstein bargaining with two-sided outside options. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 667–672. (Summary) **99b:90175** 90D12
Ponse, Alban (*with* Bergstra, Jan A.) Kleene's three-valued logic and process algebra. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 95–103. (Summary) **99d:68071** 68Q10 (03B50, 03B70, 68Q55, 68Q60)
Ponsoda, E. (*with* Defez, Emilio) Explicit solutions for a class of second-order nonautonomous coupled difference systems with initial conditions. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 39A10 (15A24)
— (*with* Jódar, Lucas) Numerical solutions with a priori error bounds for coupled self-adjoint time dependent partial differential systems. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 2, 1–18. (Summary) **99m:65191** 65M60 (35C10)
Pont, Jean-Claude In memoriam: Pierre Speziali (1913–1995). (French) *Arch. Internat. Hist. Sci.* **47** (1997), *no.* 138, 142–144. 01A70
Ponte, Socorro (*with* Ansemil, José M.; Blasco, Fernando) Quasinormability and topologies on spaces of polynomials. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 534–539. (Luiza Amália de Moraes) **99d:46068** 46G20 (46A32, 46E50)
Ponte Castañeda, P. (*with* Kailasam, M.) A general constitutive theory for linear and nonlinear particulate media with microstructure evolution. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 3, 427–465. (David J. Bergman) **99g:73007** 73B27 (73B05, 73E60, 73K20, 73S10)
— (*with* Bornert, M.) Second-order estimates of the self-consistent type for viscoplastic polycrystals. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 3035–3045. (Summary) **99g:73005** 73B27 (73E60)
— (*with* Bose, K.; Mataga, P. A.) Stable crack growth along a brittle/ductile interface. II. Small scale yielding solutions and interfacial toughness predictions. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 1, 1–34. (From the summary) **99k:73098** 73M25 (73E05, 73V05)
Pontecorvo, Massimiliano Some relations between complex and quaternionic structures. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 219–227. (Jongsu Kim) **99b:53070** 53C25 (53C15)
— (*with* Alekseevskiĭ, D. V.; Marchiafava, S.) Compatible complex structures on almost quaternionic manifolds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 997–1014. (Luis Ugarte) **99e:53028** 53C10 (53C15, 53C56)
— *see also* **Quaternionic structures in mathematics and physics, 99d:53002**
Pontelli, Enrico (*with* Dovier, Agostino; Piazza, Carla; Rossi, Gianfranco) On the representation and management of finite sets in CLP languages. (English summary) *Logic programming* (*Manchester*, 1998), 40–54, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68033** 68N17 (68T20)
— (*with* Ranjan, Desh; Gupta, Gopal) Efficient algorithms for the temporal precedence problem. *Inform. Process. Lett.* **68** (1998), *no.* 2, 71–78. (From the text) **99j:68020** 68P05 (68N17)
Ponter, A. R. S. (*with* Leckie, F. A.) Bounding properties of metal-matrix composites subjected to cyclic thermal loading. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 4, 697–717. (Summary) **99a:73061** 73E20 (73B30, 73K20)
Pontier, Dominique (*with* Auger, Pierre M.) Fast game theory coupled to slow population dynamics: the case of domestic cat populations. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 65–82. (Summary) **99g:92025** 92D25 (90D40)
— (*with* Auger, Pierre M.) Fast game dynamics coupled to slow population dynamics: a single population with hawk-dove strategies. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 81–88. (Summary) **99a:92022** 92D25
Pontón, Eduardo (*with* Chacko, Zacharia; Luty, Markus A.) Calculable dynamical supersymmetry breaking on deformed moduli spaces. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 16, 8 *pp.* (*electronic*). (Summary) **99k:81294** 81T60 (81R40)
Pontryagin, Lev Semenovich *see* **Kostomarov, D. P.**
Ponza, Fabrizio Generalized Wronskian sections and families of Weierstrass points. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 59–62. 14H55

— (*with* Gatto, Letterio) Derivatives of Wronskians with applications to families of special Weierstrass points. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2233–2255. (Raquel Mallavibarrena) **99i:14032** 14H10 (14H55)

Ponzio, Stephen The combinatorics of effective resistances and resistive inverses. (English summary) *Inform. and Comput.* **147** (1998), *no.* 2, 209–223. (D. Stanomir) **99k:94072** 94C05 (05C90, 68R10, 94C15)

— A lower bound for integer multiplication with read-once branching programs. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 798–815 (*electronic*). (Christoph Meinel) **99k:68058** 68Q05 (68M15, 68Q25)

Ponzoni, Ignacio (*with* Sánchez, Mabel C.; Brignole, Nélida B.) Permutation of sparse matrices to a specific lower BTF using graph decompositions. (English summary) *Electron. J. SADIO* **1** (1998), *no.* 1, 76–87 (*electronic*). 65F50

rodriguez-Poo, Juan M. *see* **Rodriguez-Poo, Juan M.**

Poole, Charles P., Jr. ★ The physics handbook. (English summary) Fundamentals and key equations. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xxiv*+493 *pp. ISBN* 0-471-18173-0 (Editors) **99g:00018** 00A20 (00A79)

Poole, David Lynton Exploiting the rule structure for decision making within the independent choice logic. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ*, 1995), 454–463, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 03B70 (68T27, 90A05)

Poole, M. W. (*with* Aitchison, J. M.) A numerical algorithm for the solution of Signorini problems. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 1, 55–67. (Summary) **99d:65334** 65N38 (35R35)

Poolla, Kameshwar (*with* Shamma, Jeff S.) Optimal asymptotic robust performance via nonlinear controllers. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1367–1389. 93B35 (93C10)

Poon, Chung Keung (*with* Ramachandran, Vijaya) A randomized linear work EREW PRAM algorithm to find a minimum spanning forest. (English summary) *Algorithms and computation (Singapore*, 1997), 212–222, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68083** 68Q22 (68R10)

Poon, Kin-Keung (*with* Yang, Chung-Chun) Dynamical behavior of two permutable entire functions. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 159–163. (I. N. Baker) **99b:58200** 58F23 (30D05)

— (*with* Yang, Chung-Chun) Dynamics of composite functions. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 6, 87–89. (Maryam Rabii) **99j:30032** 30D05 (58F23)

Poon, Pak Wai (*with* Koliha, J. J.; Mbekhta, Mostafa; Müller, Vladimír) Corrigendum and addendum: "On the axiomatic theory of spectrum. II" [Studia Math. **119** (1996), no. 2, 129–147; MR 97c:47005] by Mbekhta and Müller. (English summary) *Studia Math.* **130** (1998), *no.* 2, 193–198. (Summary) **99d:47003** 47A10 (46H30, 47A05)

Poon, Wai-Yin (*with* Lee, Sik-Yum) Analysis of two-level structural equation models via *EM* type algorithms. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 749–766. 62P15 (62F10)

Poon, Yat Sun (*with* Pedersen, Henrik; Swann, Andrew) Hypercomplex structures associated to quaternionic manifolds. (English summary) *Differential Geom. Appl.* **9** (1998), *no.* 3, 273–292. (María Laura Barberis) **99k:53062** 53C15 (53C56)

— (*with* Pedersen, Henrik) Deformations of hypercomplex structures. (English summary) *J. Reine Angew. Math.* **499** (1998), 81–99. (Andrew Swann) **99h:32009** 32C25 (32G07, 32L25)

Poonen, Bjorn Some Diophantine equations of the form $x^n + y^n = z^m$. *Acta Arith.* **86** (1998), *no.* 3, 193–205. (Andrew Granville) **99h:11034** 11D41 (11G05, 11G30)

— Drinfeld modules with no supersingular primes. (English summary) *Internat. Math. Res. Notices* **1998**, *no.* 3, 151–159. (Ernst-Ulrich Gekeler) **99a:11074** 11G09 (11G05)

— Zeros of sparse polynomials over local fields of characteristic p. *Math. Res. Lett.* **5** (1998), *no.* 3, 273–279. (Maurice Mignotte) **99f:11152** 11S05

— The classification of rational preperiodic points of quadratic polynomials over **Q**: a refined conjecture. *Math. Z.* **228** (1998), *no.* 1, 11–29. (Joseph H. Silverman) **99j:11076** 11G99 (14G25)

Pooniwala, R. K. (*with* Singh, Virendra Pratap^2) Concerning semicontinuous functions. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 141–144. 54C08

Poor, H. Vincent Finite-field wavelet transforms. (English summary) *Information theory and applications, II (Lac Delage, PQ*, 1995), 225–238, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (Summary) **99b:94005** 94A11 (42C15, 94B15)

— (*with* Kailath, Thomas) Detection of stochastic processes. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2230–2259. (Summary) **99i:94017** 94A13 (60G35, 93E10)

van der Poort, Edo S. (*with* Libura, Marek; Sierksma, Gerard; van der Veen, Jack A. A.) Stability aspects of the traveling salesman problem based on k-best solutions. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 159–185. (András Faragó) **99i:90080** 90C27 (68Q25)

Poovey, Mary ★ A history of the modern fact. (English summary) Problems of knowledge in the sciences of wealth and society. *University of Chicago Press, Chicago, IL*, 1998. *xxvi*+419 *pp. ISBN* 0-226-67525-4; 0-226-67526-2 (Paul Ernest) **99i:01006** 01A05 (00A30)

Pop, Bogdana (*with* Cocan, Moise) An algorithm for solving the problem of convex programming with several objective functions. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 79–88. (Laura Martein) **99k:90142** 90C29 (90C25)

Pop, Cristian An introduction to the theory of parallel communicating grammar systems. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 1, 89–96. 68Q50 (68Q45)

Pop, Florian Glimpses of Grothendieck's anabelian geometry. *Geometric Galois actions*, 1, 113–126, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Yasutaka Ihara) **99f:14026** 14G25 (12F10, 14F35, 14H30)

Pop, Florin Singular extensions of the trace and the relative Dixmier property in the type II_1 factors. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2987–2992. (Summary) **99a:46111** 46L37

Pop, Gabriela (*with* Dinca, George; Panagiotopoulos, Panagiotis D.) An existence result on noncoercive hemivariational inequalities. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 609–632. (Daniel Goeleven) **99d:47069** 47H19 (49J40)

Pop, H. F. (*with* Dumitrescu, Dumitru T.) Degenerate and non-degenerate convex decomposition of finite fuzzy partitions. II. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 1, 111–118. (From the summary) **99i:04002** 04A72

Pop, Horia C. Addendum: "Row reducing quantum matrices, the quantum determinant, and the Dieudonné determinant" [J. Algebra **193** (1997), no. 1, 318–339; MR 98j:16024]. *J. Algebra* **205** (1998), *no.* 1, 333–335. (From the text) **99d:16046** 16W30

Pop, Maria S. (*with* Iancu, Lăcrimioara) A Post type theorem for (m, n) fields. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A (Arad*, 1996), 13–18, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 16Y99

Pop, N. A numerical formulation for quasistatic frictional contact problem. (English summary) *Advances in difference equations (Veszprém*, 1995), 517–524, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 73V25 (65N30, 73T05)

Popa, Anca (*with* Marinescu, Gheorghe) Homotopic resolutions and the de Rham morphism. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 173–182. (From the text) **99h:55006** 55N99 (18G10)

Popa, Constantin A coarsening algorithm for the algebraic multigrid method. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 6, 613–624. 65N55 (65F30)

— Extensions of block-projections methods with relaxation parameters to inconsistent and rank-deficient least-squares problems. (English summary) *BIT* **38** (1998), *no.* 1, 151–176. (W. C. Rheinboldt) **99d:65121** 65F20

— (*with* Juncu, Gh.) Preconditioning by approximations of the Gram matrix for convection-diffusion equations. (English summary) *Math. Comput. Simulation* **48** (1998), *no.* 2, 225–233. (Summary) **99h:65078** 65F30 (65F10, 65J10, 65N06)

Popa, Dumitru On a Boolean algebras which have the Vitali-Hahn-Saks property. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 53–58 (1998). (C. W. Swartz) **99d:28008** 28A60

— Some ideals of operators between spaces of operators. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 2, 411–416 (1998). (Dirk Werner) **99c:47069** 47D50 (46B28, 47B10)

— (*with* Musial, Kazimierz) The weak Radon-Nikodým property in spaces of nuclear operators. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 677–683. (Summary) **99b:46024** 46B22 (46B28, 47B10, 47D15)

Popa, Emil C. On the Sheffer polynomials. *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **43(57)** (1998), *no.* 1, 21–23. (From the text) **99k:33032** 33C45 (05A40)

— (*with* Barza, Sorina) Inequalities related with Carlson's inequality. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 59–64. (Gianluca Vinti) **99d:26021** 26D10 (26D15)

Popa, Irina Duality of vector-valued Bergman spaces. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 1, 91–98. 46E40 (46E15)

Popa, Liliana Measures of representation on a standard H-cone. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 523–530. (N. Boboc) **99g:31014** 31D05 (31C15)

Popa, M. N. (*with* Braicov, A. V.; Makar', P. M.; Port, S. A.) Hilbert's series for comitants graded algebras of differential equations. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 5–14, 150, 153. (Summary) **99j:34013** 34A34 (34A25, 34C05)

Popa, Marin A method for calculating a special type of sum. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **45** (1993), *no.* 6, 471–493. 42A28

— Concurrently firing in Petri-nets. Application in solving Dijkstra's problem. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 337–347. (Summary) **99k:68120** 68Q90 (68Q10)

Popa, Nicolae Dual spaces of dyadic Hardy spaces generated by a rearrangement invariant space X on [0, 1]. (English summary) *Ark. Mat.* **36** (1998), *no.* 1, 163–175. (Alexander Mekler) **99b:46038** 46E30

Popa, Sorin On local finite-dimensional approximation of C^*-algebras. (English summary) *Pacific J. Math.* **181** (1997), *no.* 1, 141–158. (Sze-Kai Tsui) **99b:46086** 46L05

— (*with* Ge, Liming) On some decomposition properties for factors of type II_1. *Duke Math. J.* **94** (1998), *no.* 1, 79–101. (Marie Choda) **99j:46070** 46L35

— On Connes' joint distribution trick and a notion of amenability for positive maps. *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 57–70. (Paul Jolissaint) **99h:46117** 46L37

Popa, Valeriu Units, idempotents and nilpotents of an endomorphism ring. I. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 83–93, 121, 124. (S. Warner) **99f:16048** 16W80 (16U60)

— Units, idempotents and nilpotents of an endomorphism ring. II. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 1, 93–105, 132, 135. (S. Warner) **99f:16049** 16W80 (16U60)

— (*with* Noiri, Takashi) On almost β-continuous functions. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 4, 329–339. (Summary) **99b:54019** 54C08

— A general coincidence theorem for compatible multivalued mappings. (English summary) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **27** (1998), 13–18. 54H25

— (*with* Pathak, H. K.) On unique common fixed points in semi-Hausdorff spaces. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 69–75. 54H25

— (*with* Noiri, Takashi) Almost quasi continuous multifunctions. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 81–90. (*see* **99f:00022**) 54C08 (54C60)

— (*with* Noiri, Takashi) On upper and lower almost β-continuous multifunctions. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 57–73. (Summary) **99i:54021** 54C60 (54C08)

— Some fixed point theorems for compatible mappings satisfying an implicit relation. *Demonstratio Math.* **32** (1999), *no.* 1, 157–163. 54H25

Popchev, Ivan (*with* Peneva, Vania) Comparison of clusters from fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 75–81. (Summary) **99b:90011** 90A05 (03E72)

Pope, Alun Lloyd (*with* Koch, Inge) Asymptotic bias and variance of a kernel-based estimator for the location of a discontinuity. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 1, 45–64. (Summary) **99i:62070** 62G05

— (*with* Gijbels, Irène; Wand, M. P.) Understanding exponential smoothing via kernel regression. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 39–50. (Summary) **99i:62065** 62G05

Pope, C. N. (*with* Lu, Hong[1]; Xu, K. W.) Higher-spin realisations of the bosonic string. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 365–373, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81070** 81R10 (81T30)
— (*with* Lu, Hong[1]; Stelle, K. S.) Multiplet structures of BPS solitons. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 537–561. (Mario Trigiante) **99a:83070** 83E50 (17B81, 83E30)
— (*with* Khviengia, N.; Khviengia, Z.; Lu, Hong[1]) Towards a field theory of F-theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 759–773. (Mario Trigiante) **99f:81168** 81T30 (83E30)
— (*with* Lavrinenko, I. V.; Lu, Hong[1]) Fibre bundles and generalized-dimensional reductions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2239–2256. (Sergey Nikolaevich Roshchupkin) **99h:83061** 83E50 (83E30)
— (*with* Lu, Hong[1]) T-duality and U-duality in toroidally compactified strings. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 139–157. (Summary) **99d:81127** 81T30 (83E30)
— (*with* Lu, Hong[1]; Tran, T. A.; Xu, K. W.) Classification of p-branes, NUTs, waves and intersections. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 98–154. (Jeremy Michelson) **99a:83067** 83E30 (81T30)
— (*with* Cremmer, E.; Lu, Hong[1]; Stelle, K. S.) Spectrum-generating symmetries for BPS solitons. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 132–156. (Marco Spaans) **99h:83053** 83E30 (81T30)
— (*with* Bremer, M. S.; Lu, Hong[1]; Stelle, K. S.) Dirac quantisation conditions and Kaluza-Klein reduction. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 259–294. (Gianguido Dall'Agata) **99m:81175** 81T30 (83E15, 83E30)
— (*with* Duff, M. J.; Hoxha, P.; Lu, Hong[1]; Martínez-Acosta, R. R.) A lattice universe from M-theory. (English summary) *Phys. Lett. B* **451** (1999), *no.* 1-2, 38–45. (Summary) **99m:83187** 83E30 (81T30, 83F05)
Popeea, Cristiana (*with* Tecuceanu, G.) On the open-loop LQ Stackelberg dynamic optimization: the closed-loop implementation of the optimal strategies. (English summary) *Politeh. Univ. Buchar. Sci. Bull. Ser. C Electr. Eng.* **59** (1997), *no.* 1-4, 207–225. 90D25 (49K15)
Popenda, Jerzy (*with* Radicheva, Elena; Gruncharov, Lyuben; Zvetkov, Zoran) Growth estimates for solution of difference equation. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 200–202, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 39A10
— (*with* Magnucka-Blandzi, E.) On the behaviour of rational first order difference equation with constant coefficients. *Demonstratio Math.* **31** (1998), *no.* 2, 405–416. (Olusola Akinyele) **99j:39008** 39A10
— (*with* McKee, Sean) On the existence of asymptotically constant solutions of a system linear difference equations. (English summary) *Fasc. Math. No.* 28 (1998), 109–117. (Summary) **99i:39011** 39A10
— (*with* Agarwal, Ravi P.) On the oscillation of recurrence equations. *Nonlinear Anal.* **36** (1999), *no.* 2, *Ser. A: Theory Methods*, 231–268. (Shao Zhu Chen) **99m:39002** 39A10 (39A12)
Popescu, A. (*with* Alexandru, Victor; Popescu, Nicolae) Completion of r.t. extensions of local fields. II. *Rend. Sem. Mat. Univ. Padova* **100** (1998), 57–66. (Joachim Gräter) **99m:12006** 12F20 (12J25)
pesquet-Popescu, Beatrice *see* **Pesquet-Popescu, Beatrice**
Popescu, Calin Note on the Ptolemy theorem. *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 3, 193–197. (Darko Veljan) **99b:51017** 51M16
Popescu, Cristina Dynamic analysis of some relational data bases parameters. (English summary) *An. Univ. Bucureşti Mat.* **45** (1996), 39–48. (Summary) **99a:68047** 68P15
Popescu, Dan (*with* Boja, Nicolae) On preferential moving frames in the shell geometry. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 65–70. (V. Oproiu) **99a:53004** 53A05 (73K15)
Popescu, Dorin Special Cohen-Macaulay modules over singularities of type $x^{3r}+y^3$. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 89–98. (Yuji Yoshino) **99m:13019** 13C14 (13D10)
— (*with* Martin, Bernd; Pfister, Gerhard) Maximal Cohen-Macaulay modules over singularities of type x^t+y^3. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 591–619. (Yuji Yoshino) **99i:13018** 13C14 (13D10)
— (*with* Herzog, Jürgen) Hilbert functions and generic forms. (English summary) *Compositio Math.* **113** (1998), *no.* 1, 1–22. (J. K. Verma) **99k:13021** 13D40 (13A02)
Popescu, Emil[2] Balayaged and cobalayaged functions on functional Dirichlet spaces. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 137–144, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 31C25 (46E15)
— Exceptional sets and capacities in functional Dirichlet spaces. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 145–152, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 46E15 (31C25)
— An extension of Meyer's theorem concerning the subordination of sub-Markovian resolvents. *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **43(57)** (1998), *no.* 1, 1–6. (Irene Hueter) **99j:31018** 31D05 (28A99, 60J45)
Popescu, Gelu (*with* Davidson, Kenneth R.) Noncommutative disc algebras for semigroups. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 290–311. (Liang Sen Wu) **99f:46105** 46L89 (47D25)
— Universal operator algebras associated to contractive sequences of non-commuting operators. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 2, 469–479. (Kenneth R. Davidson) **99m:47054** 47D25 (46L05, 47A20)
— Interpolation problems in several variables. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 227–250. (Kenneth R. Davidson) **99i:47028** 47A57 (47A20, 47D25)
Popescu, Ileana (*with* Văduva, Ion) A rejection method for simulating multivariate Lomax distribution. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 687–695. (Summary) **99h:65012** 65C05 (60E05)
— (*with* Georgescu, Horia) Parallel algorithms for simulating arcsin random variables. (English summary) *Found. Comput. Decision Sci.* **23** (1998), *no.* 2, 109–117. 65U05 (65Y05)
Popescu, Luminiţa (*with* Mustafa, Octavian) On the equivalence of norms on finite-dimensional linear spaces. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 78–80 (1998). 46B07
Popescu, M. On induced non-linear connections. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 1, 119–126 (1997). (Klaus Horneffer) **99c:53014** 53B15
Popescu, Marcela About some properties of fibre subbundles. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 50–57. 58A30
— (*with* Popescu, Paul) On almost holonomic structures. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 93–97 (1994). 53C15
— Induced connections on fibred submanifolds. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 43–49 (1997). (Mihai Anastasiei) **99k:53036** 53C05
— (*with* Popescu, Paul) The Darboux's property and the $\overline{P}(P)$-derivability. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 50–57 (1997). (Ryszard J. Pawlak) **99m:26005** 26A24 (26A21, 26A27)
— (*with* Popescu, Paul) d-linear connections on fibred manifolds. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 52–59 (1998). (Mihai Anastasiei) **99k:53037** 53C05
— (*with* Popescu, Paul) The structure equations of induced non-linear connections. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 255–260. (L. Tamássy) **99k:53134** 53C60
— On vectorial Finsler connections. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 61–64, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (*see* **99e:53001**) 53C60
— (*with* Popescu, Paul) Reductions associated with vector subbundles. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 56–60, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Summary) **99k:53135** 53C60
— (*with* Popescu, Paul) On the structure equations of the induced linear connections. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 103–109. (Andrew Bucki) **99k:53038** 53C05 (53C15)
— Induced semi-sprays and connections on submanifolds. (English summary) *New developments in differential geometry, Budapest* 1996, 317–327, *Kluwer Acad. Publ., Dordrecht*, 1999. (Mihai Anastasiei) **99m:53044** 53C05
Popescu, Marin Nicolae The effect of quadrature on curved simplices for Stokes equation. (English summary) *An. Univ. Bucureşti Mat.* **46** (1997), 53–66. (Manil Suri) **99c:65213** 65N30 (76D07, 76M25)
Popescu, Mihai-Emilian Transition behavior for asymptotically stable autonomous systems. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **46** (1994), *no.* 4, 469–476. 34D05
— Existence and orbital stability of periodic solutions for small-parameter nonlinear differential systems. *Nonlinear Anal.* **33** (1998), *no.* 7, 773–784. (N. Chafee) **99j:34061** 34C25 (34C15, 34D99)
— Study of the orbital stability of nonlinear controlled systems. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 451–463. (*see* **99m:34001**) 93D05 (34D05, 34H05)
Popescu, Mihai Florin Efficiency of implicit enumeration algorithms with respect to the enumeration function. (Romanian. Romanian summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 2, 205–216. 90C10 (68R05, 90C27)
— Lipschitzian measures of effort on subclasses of implicit enumeration algorithms. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 245–256. 90C10 (90B35)
Popescu, Nicolae (*with* Alexandru, Victor) The Lüroth's theorem for some complete valued fields. *Abelian groups, module theory, and topology* (*Padua*, 1997), 55–58, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Andrzej Sładek) **99h:12007** 12J10 (12F20, 12J20)
— (*with* Alexandru, Victor; Zaharescu, Alexandru) On the closed subfields of $\mathbf{C}_p$. *J. Number Theory* **68** (1998), *no.* 2, 131–150. (J. Browkin) **99k:11182** 11S15 (12F20, 12J25)
— (*with* Alexandru, Victor; Popescu, A.) Completion of r.t. extensions of local fields. II. *Rend. Sem. Mat. Univ. Padova* **100** (1998), 57–66. (Joachim Gräter) **99m:12006** 12F20 (12J25)
Popescu, Paul (*with* Popescu, Marcela) On almost holonomic structures. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 93–97 (1994). 53C15
— (*with* Popescu, Marcela) The Darboux's property and the $\overline{P}(P)$-derivability. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 50–57 (1997). (Ryszard J. Pawlak) **99m:26005** 26A24 (26A21, 26A27)
— (*with* Popescu, Marcela) d-linear connections on fibred manifolds. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 52–59 (1998). (Mihai Anastasiei) **99k:53037** 53C05
— (*with* Popescu, Marcela) The structure equations of induced non-linear connections. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 255–260. (L. Tamássy) **99k:53134** 53C60
— A contravariant approach in (non)commutative geometry. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 71–74, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (Andrzej Sitarz) **99i:16021** 16E99 (58B30)
— (*with* Popescu, Marcela) Reductions associated with vector subbundles. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 56–60, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Summary) **99k:53135** 53C60
— (*with* Popescu, Marcela) On the structure equations of the induced linear connections. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 103–109. (Andrew Bucki) **99k:53038** 53C05 (53C15)
Popescu, Sandu (*with* Hardy, Lucien; Żukowski, Marek) Revisiting Bell's theorem for a class of down-conversion experiments. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 6, *R*4353–*R*4356. (Summary) **99f:81030** 81P15
— (*with* Rohrlich, Daniel) Causality and nonlocality as axioms for quantum mechanics. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 383–389, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05
— (*with* Aharonov, Y.; Oppenheim, J.; Reznik, B.; Unruh, W. G.) Measurement of time of arrival in quantum mechanics. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 6, 4130–4139. (Michael B. Mensky) **99h:81019** 81P15

— (*with* Boschi, D.; Branca, S.; De Martini, Francesco; Hardy, Lucien) Experimental realization of teleporting an unknown pure quantum state via dual classical and Einstein-Podolsky-Rosen channels. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 6, 1121–1125. (Summary) **99b:81029** 81P99

— (*with* Aharonov, Y.; Kaufherr, T.; Reznik, B.) Quantum measurement backreaction and induced topological phases. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 10, 2023–2026. (Péter Pál Lévay) **99b:81018** 81P15 (81S99)

— (*with* Linden, N.) Bound entanglement and teleportation. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 1, 137–140. (Summary) **99k:81046** 81P99

Popescu, Sorin (*with* Aure, Alf; Decker, Wolfram; Hulek, Klaus; Ranestad, Kristian) Syzygies of abelian and bielliptic surfaces in $\mathbf{P}^4$. *Internat. J. Math.* **8** (1997), *no.* 7, 849–919. (James E. Alexander) **99a:14049** 14J25 (14J27, 14J60)

— (*with* Gross, Mark) Equations of $(1,d)$-polarized abelian surfaces. *Math. Ann.* **310** (1998), *no.* 2, 333–377. (Kristian Ranestad) **99d:14046** 14K25 (14K05, 14K10, 14N05)

— Examples of smooth non-general type surfaces in $\mathbf{P}^4$. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 2, 257–275. (James E. Alexander) **99a:14050** 14J25

Popiołek, Jan On the Cattabriga problem for Airy equation in domains with curvilinear boundaries. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 643–655. (Anatoly M. Kamchatnov) **99j:35191** 35Q53

Popivanov, N. I. (*with* Schneider, Manfred Friedrich) Nonlocal regularization of Protter problem for the 3-D Tricomi equation. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 373–378, *VSP, Utrecht*, 1998. (Summary) **99f:35139** 35M10 (65R30)

— (*with* Edmunds, David E.) A nonlocal regularization of some over-determined boundary-value problems. I. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 85–105 (*electronic*). (Guan Quan Zhang) **99c:35172** 35L80 (35N10, 35R25)

Popivanov, Petʺr R. (*with* Slavova, Angela) Blow up and singularities of the solutions of homogeneous quasilinear hyperbolic systems in the plane. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 379–384, *VSP, Utrecht*, 1998. (Summary) **99e:35132** 35L60 (35B05)

— *see also* **Bainov, Drumi Dimitrov**, (**99d:00026**)

Popken, Lars Grid-free particle method for the inhomogeneous Enskog equation and its application to a Riemann-problem. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 2, 255–265. (Summary) **99a:76133** 76P05 (76L05, 76M25, 82C40)

— Fast determination of the state in a cylindrical probe in the free-molecular regime. (English summary) *Transport Theory Statist. Phys.* **28** (1999), *no.* 4, 387–402. 76P05

Popkov, A. Yu. (*with* Popkov, E. Yu.; Popkov, Yu. S.) Multiplicative algorithms for reconstructing images from projections. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 60–77; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 49–65. (Summary) **99e:94010** 94A12 (68U10)

Popkov, E. Yu. (*with* Popkov, A. Yu.; Popkov, Yu. S.) Multiplicative algorithms for reconstructing images from projections. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 60–77; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 49–65. (Summary) **99e:94010** 94A12 (68U10)

Popkov, I. I. (*with* Podlipenko, Yu. K.; Levoshich, O. L.) On minimax estimation in problems of the diffraction of acoustic waves. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 26–33, 151. (From the text) **99m:76102** 76Q05 (35J05, 49N55)

Popkov, Yu. S. Variational principle for image reconstruction from projections. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 131–139; *translation in Automat. Remote Control* **58** (1997), *no.* 12, *part* 2, 1950–1957 (1998). (Ilya S. Molchanov) **99a:68179** 68U10 (94A12)

— (*with* Popkov, A. Yu.; Popkov, E. Yu.) Multiplicative algorithms for reconstructing images from projections. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 60–77; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 49–65. (Summary) **99e:94010** 94A12 (68U10)

— On the convergence of direct multiplicative methods in problems of conditional maximization of entropy. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 93–105; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 1, 534–544. (Summary) **99j:65099** 65H99 (65F30, 90C30)

Pöplau, Gisela (*with* Sprengel, Frauke) Some error estimates for periodic interpolation on full and sparse grids. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 355–362, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D05

Popoli, Arturo Optimal integrability in B^q_σ classes. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 159–170 (1998). (P. S. Bullen) **99f:26036** 26D15 (42B25)

Popov, A. A. Methods of solving certain two-dimensional problems of Doppler tomography. (English summary) Control and identification algorithms; Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 3, 229–236. (Summary) **99i:92010** 92C55 (44A12)

Popov, A. D. (*with* Sergeev, A. G.) Twistor quantization of bosonic string theory. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 213–223, *World Sci. Publishing, River Edge, NJ*, 1994. (Michael Murray) **99c:81074** 81R25 (22E67, 81S10, 81T30)

Popov, A. G. Chebyshev nets and the development of net approaches in mathematical physics (on P. L. Chebyshev's "On cutting cloth"). (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 6, 82–85, 113; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 50–53 (1997). (Vladislav Goldberg) **99g:53006** 53A05 (35Q53)

Popov, A. M. Potentiality conditions for differential-difference equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 422–424, 431; *translation in Differential Equations* **34** (1998), *no.* 3, 423–426. (From the text) **99i:34091** 34K05

— Helmholtz potentiality conditions for systems of differential-difference equations. (Russian. Russian summary) *Mat. Zametki* **64** (1998), *no.* 3, 437–442; *translation in Math. Notes* **64** (1998), *no.* 3-4, 377–381 (1999). (Summary) **99k:34183** 34K40 (31B35)

Popov, A. N. (*with* Popov, N. A.; Levin, V. A.) Resolution of Cantor set theory contradictions based on analysis of unsatisfiable definitions. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 312–315, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 03A05

Popov, A. Yu. (*with* Pechentsov, A. S.) Asymptotic behavior of the spectral function of a family of operators. (Russian) *Mat. Zametki* **61** (1997), *no.* 5, 793–796; *translation in Math. Notes* **61** (1997), *no.* 5-6, 664–668. (Boris Skachek) **99c:34194** 34L20

— (*with* Pechentsov, A. S.) Asymptotic behavior of spectral functions of the differential operators $-y'' - \varepsilon x^2 y$. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 302–306; *translation in Math. Notes* **63** (1998), *no.* 1-2, 264–268. (Vjacheslav A. Yurko) **99d:34166** 34L40 (34B24, 47E05)

Popov, Antony T. Numerical and approximation tools based on mathematical morphology. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 3–10, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:65098** 65G10 (68U10)

— A relation between morphological and interval operations. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 167–178. (Summary) **99b:68206** 68U10 (65G10)

— (*with* Nguyen, Hung T.; Reznik, Leonid K.) An application of fuzzy mathematical morphology to interval-valued knowledge representation: a remark. (English summary) *Reliab. Comput.* **4** (1998), *no.* 3, 283–290. (Summary) **99d:68225** 68T30

Popov, Arkadii Cylindrical self-consistent solutions of semiclassical gravity. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 376–382. (Summary) **99h:83024** 83C45

Popov, Atanas Alexandrov (*with* Thompson, J. M. T.; Croll, J. G. A.) Bifurcation analyses in the parametrically excited vibrations of cylindrical panels. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 3, 205–225. (Summary) **99g:73075** 73K12 (73K15)

Popov, Bogdan A. Algorithms for selecting the form of approximation expressions and splines. *Computational modelling and computing in physics* (*Dubna*, 1996), 229–233, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65D07 (65D15)

Popov, D. A. Spherical convergence of the Fourier series and integral of the indicator of a two-dimensional domain. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 354–373. (V. A. Baskakov) **99h:42021** 42B08 (43A50)

— On the spherical convergence of the Fourier integral of the indicator on an N-dimensional domain. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 7, 145–157. (J. Musielak) **99j:42015** 42B10 (42C10)

Popov, G. *see* **Popov, Georgi St.**

Popov, G. V. (*with* Guzev, M. A.) Modeling of a point source field in a randomly stratified medium in the absence of regular refraction. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 46–52, 198. 35Q99

Popov, G. Ya. (*with* Nazarenko, O. A.) On the diffraction of elastic waves by spherical defects. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 835–847; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 821–832. (Summary) **99d:73039** 73D25 (73B50)

Popov, Georgi St. (*with* Vodev, Georgi) Distribution des résonances et décroissance de l'énergie locale pour le problème de transmission. [Distribution of resonances and local energy decay for the transmission problem] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XIV*, 5 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35J25 (35P20)

— (*with* Petkov, Vesselin M.) Semi-classical trace formula and clustering of eigenvalues for Schrödinger operators. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 1, 17–83. (G. V. Rozenblyum) **99c:47073** 47F05 (35S05, 47G30, 81Q20)

Popov, I. V. (*with* Lebo, I. G.; Rozanov, V. B.; Tishkin, V. F.; Nikishin, V. V.; Favorskiĭ, A. P.) Numerical simulation of Richtmyer-Meshkov instability. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 346–356, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99 (76M25)

Popov, I. Yu. (*with* Geĭler, V. A.; Popova, S. L.) Transmission coefficient for ballistic transport through quantum resonator. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 531–538. (Vitor R. Vieira) **99k:82068** 82C70 (81U99)

— (*with* Geĭler, V. A.; Pavlov, Boris S.) One-particle spectral problem for superlattice with a constant magnetic field. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 79–124. (Mihai Pascu) **99e:81046** 81Q10 (47B25, 47N50)

— (*with* Geĭler, V. A.) Solvable model of a double quantum electron layer in a magnetic field. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 697–705. (Summary) **99d:81185** 81V70 (47N50)

Popov, Konstantin V. A uniqueness result for the recovery of the optical parameters of a dispersive and absorbing thin film. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 725–731. (Summary) **99d:78008** 78A10 (78A55)

Popov, L. D. Two new schemes for applying the projection method to the problem of finding approximate roots of monotone operators. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol.* 4 (*Russian*), 337–344, 377, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Jan Mandel) **99d:65186** 65J15 (47H05, 47H17, 49J40)

— On a one-stage method for solving lexicographic variational inequalities. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 71–81. (R. Tichatschke) **99k:90118** 90C25 (49J40, 90D40)

Popov, M. R. The Smarandache periodical sequences. *Smarandache Notions J.* **9** (1998), *no.* 1-2, 92–94. 11B83

Popov, N. A. (*with* Levin, V. A.; Popov, A. N.) Resolution of Cantor set theory contradictions based on analysis of unsatisfiable definitions. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 312–315, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 03A05

Popov, N. I. *see* **Popov, Nikolaĭ Ivanovich**

Popov, N. M. Decompositional quadrature formulas for computing integrals of high informational complexity. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 113–123. (Summary) **99m:65050** 65D32

Popov, Nikolaĭ Ivanovich (*with* Aksent'ev, L. A.; Kazantsev, A. V.) Uniqueness theorems for an exterior inverse boundary value problem in subclasses of univalent functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 8, 3–13; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 8, 1–11 (1999). (S. R. Nasyrov) **99m:30016** 30C45 (30E25)

Popov, O. V. Applications of estimates for Weyl trigonometric sums with a polynomial of growing degree. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 49–53, 111–112; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 45–48. (Matti Jutila) **99f:11104** 11L15 (11L20, 11P32)

Popov, S. P. (*with* Zhuk, V. I.) On soliton solutions of the two-dimensional Zakharov-Kuznetsov equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 122–135. (Jan Cieśliński) **99g:76140** 76R10 (35Q53, 76D33, 76E15)

— Numerical investigation of some periodic solutions of the Kadomtsev-Petviashvili equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1710–1716; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1641–1647. (Summary) **99f:65148** 65M70

Popov, S. V. Unconditional solvability of boundary value problems for a parabolic problem with changing time direction. (Russian) *Dynamics of control systems, and computational processes (Russian)*, 61–68, *Yakut-sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 35K20

Popov, S. Y. (*with* Berkovich, L. M.) Group analysis of ordinary differential equations of the order $n > 2$. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 164–171, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 34A25 (34A34)

Popov, V. A. *see* **Popov, Viktor Aleksandrovich**

Popov, V. G. Comparison of displacement and stress fields upon diffraction of elastic waves at different defects: cracks and thin rigid intrusions. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2464–2469. (Summary) **99g:73043** 73D25

— Diffraction of plane elastic waves by a delaminated rigid inclusion in the case of smooth contact with the delamination region. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 290–296; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 269–274. 73D25

Popov, V. M. *see* **Popov, Vladimir M.**

Popov, V. N. (*with* Gaidukov, M. N.) Exact solution of the kinetic equation in the problem of nonisothermal flow in the neighborhood of a weakly curved surface. *Fluid Dynam.* **33** (1998), *no.* 2, 289–297; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 165–173 (*Russian. Russian summary*). 76P05

Popov, Victor Yu. (*with* Bykov, A. A.) On the lifetime of one-dimensional transient contrast structures. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 2, 280–288. 35Q99 (35K99)

Popov, Viktor (*with* Power, Henry) The DRM-MD integral equation method: an efficient approach for the numerical solution of domain dominant problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 3, 327–353. 65N38

Popov, Viktor Aleksandrovich Solution of the Hartree-Fock equations for electrons in a crystal. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 978–991; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 937–949. (Summary) **99g:82080** 82D25

Popov, Viktor Nikolaevich (*with* Malyshev, K. L.) On superconductivity in the three-band two-dimensional repulsive Hubbard model. (English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 1, 149–162; *reprinted in Theoret. and Math. Phys.* **105** (1995), *no.* 1, 1307–1318 (1996). (Klaus Ziegler) **99e:82100** 82D55 (82B20)

Popov, Vladimir Leonidovich (*with* Röhrle, Gerhard) On the number of orbits of a parabolic subgroup on its unipotent radical. (English summary) *Algebraic groups and Lie groups*, 297–320, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Dennis Snow) **99f:14063** 14L30 (14L35)

— On the closure of some orbits of algebraic groups. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 76–79; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 286–289 (1998). (Dmitrii A. Timashëv) **99d:14050** 14L30 (14D25, 20G05)

— A finiteness theorem for parabolic subgroups of fixed modality. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 125–132. (Gerhard E. Röhrle) **99k:20095** 20G15 (17B45)

Popov, Vladimir M. (*with* Dolgova, T. P.) Problems of relevant logic in V. A. Smirnov's "Formal deduction and logical calculi". (Russian. Russian summary) *Logical investigations, No.* 4 (*Russian*), 79–93, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03B46

— (*with* Khorokhorin, I. I.) Dyadic semantics for the systems of formal syllogistics C1 and C3. (Russian) *Logical investigations, No.* 4 (*Russian*), 134–136, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03B20

Popov, Yu. P. (*with* Mazhorova, O. S.; Sakharchuk, A. S.) Stability of a difference problem for a system of parabolic equations with nonstandard boundary conditions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 946–954, 1006; *translation in Differential Equations* **33** (1997), *no.* 7, 950–958 (1998). (W. Govaerts) **99c:65168** 65M12

Popova, A. D. (*with* Sidharth, B. G.) The origin of gravitation in quantum mechanics with self-interaction and a self-gravitating wave packet. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 431–440. (From the text) **99k:81050** 81P99

Popova, Evgenija D. Algebraic solutions to a class of interval equations. (English summary) SCAN-97 (Lyon). *J.UCS* **4** (1998), *no.* 1, 48–67 (*electronic*). (E. R. Hansen) **99m:65104** 65G10

djonova-Popova, Iskra *see* **Djonova-Popova, Iskra**

Popova, S. L. (*with* Geĭler, V. A.; Popov, I. Yu.) Transmission coefficient for ballistic transport through quantum resonator. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 531–538. (Vitor R. Vieira) **99k:82068** 82C70 (81U99)

Popova, S. N. (*with* Makarov, E. K.) Local controllability of characteristic Lyapunov exponents of systems with simple exponents. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 495–499, 574; *translation in Differential Equations* **33** (1997), *no.* 4, 496–500. (Vera V. Malygina) **99b:93011** 93B05 (34D08, 34H05)

Popova, T. M. (*with* Vikhtenko, È. M.) Rothe's method for solving the equation of synoptic flows in a barotropic open ocean. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 37–45, 198. (Summary) **99h:86002** 86–08 (65M60, 76M25, 76U05, 86A05)

Popović, Biljana Č. The likelihood functions of some autoregressive time series. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 289–294. (*see* **99d:00009**) 62M10 (60G10)

Popović, Branislav Z. (*with* Jovanović, Boško S.) Interpolation of function spaces and the convergence rate estimates for the finite difference method. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 95–104. (Summary) **99g:65103** 65N12 (65N06)

Popović, Ljiljana (*with* Gutman, Ivan M.; Pavlović, Ljiljana) Elementary edge-cuts in the theory of benzenoid hydrocarbons—an application. (English summary) *Match No.* 36 (1997), 217–229. (Summary) **99a:92040** 92E10 (05C90)

Popovich, G. V. Generalization of translation flows of an ideal incompressible fluid: a modification of the "ansatz" method. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 222–226, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 76C99

Popovich, O. V. (*with* Maĭstrenko, Yurīĭ L.) Existence and stability of periodic solutions of chains of coupled oscillators. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 7, 943–950; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1058–1066 (1998). (Witold Jarczyk) **99b:58132** 58F08 (26A18, 34C15, 39B12)

Popovich, R. E. On reduction and Q-conditional (nonclassical) symmetry. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 437–443, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (J. Chrastina) **99c:58176** 58G35 (35A30)

Popovich, V. O. On Lie reduction of the MHD equations to ordinary differential equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 227–231, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 76W05

Popovich, V. S. (*with* Garmatii, G. Yu.) Solution of nonstationary heat-conduction problems for thermosensitive bodies under convective heat exchange. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 2, 2037–2041. 80A20

Popovichi, I. *see* **Popovici, Irina**

Popovici, Constantin I. A finite element method for the one-dimensional Stefan problem with two phases. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 5-6, 383–391. 65M60 (65N30, 80A22)

Popovici, Dan Self-dual Hilbert C^*-modules and stationary processes. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 107–119 (1998). (William Paschke) **99g:46082** 46L05 (60G10)

— Orthogonal decompositions of isometries in Hilbert C^*-modules. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 99–112. (Michael Frank) **99b:46087** 46L05 (46H25, 47C15)

— On the geometric structure of minimal dilations on Hilbert C^*-modules. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 379–392. (Kenneth R. Davidson) **99g:47111** 47D99 (46L05, 47A20)

Popovici, Florin A characterization of the antiderivability of the real functions of a real variable defining an appropriate integral. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **24** (1997), 118–126 (1998). (R. G. Bartle) **99k:26008** 26A39

— A characterization of the antiderivability of the real functions of real variable defining an appropriate integral. *Octogon Math. Mag.* **6** (1998), *no.* 1, 9–37. (Š. Schwabik) **99f:26014** 26A36 (26A39)

Popovici, I. *see* **Popovici, Irina**

Popovici, I. Mircea (*with* Beg, Ismat; Petcu, Alexandru) Dual of a locally convex space of type (L). (English summary) *Indian J. Math.* **38** (1996), *no.* 3, 219–222. (Summary) **99c:46004** 46A20

Popovici, Irina (*with* Vol'berg, A. L.) On the harmonic measure on the Julia set of Blaschke products with one petal. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 3, 150–197; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 3, 553–594. (A. Yu. Rashkovsky (Zbl 901.31002)) **99g:30033** 30D05 (30C85, 30D50)

— (*with* Vol'berg, A. L.) Boundary Harnack principle for Denjoy domains. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 471–490. (Summary) **99m:30049** 30C85

Popoviciu, Nicolae Convexité en espaces métriques via l'efficience de Pareto. [Convexity in metric spaces via Pareto efficiency] *Mathematica* **38(61)** (1996), *no.* 1-2, 169–175. (Francesco Ferro) **99j:90075** 90C29 (46N10)

Popoviciu, Tiberiu On the proof of Weierstrass' theorem using interpolation polynomials. (French summary) Translated from the Romanian by Daniela Kascó. *East J. Approx.* **4** (1998), *no.* 1, 107–110. (Z. Rubinstein) **99c:41012** 41A10 (41–03)

Popovych, Halyna *see* **Popovich, G. V.**

Popovych, Roman *see* **Popovich, R. E.**

Popovych, Stanislav (*with* Samoĭlenko, Yurīĭ S.; Turovskaya, Lyudmila) Representations of a cubic deformation of su(2) and parasupersymmetric commutation relations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 372–383, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Marcelo R. Ubriaco) **99c:81105** 81S05 (81Q60, 81R50)

— Representation of real forms of Witten's first deformation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 393–396, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 58G99

Popovych, Victor *see* **Popovich, V. O.**

Popowicz, Ziemowit (*with* Isaev, A. P.) $SL_q(N)$-covariant noncommutative geometry. (English summary) *Quantum groups (Karpacz*, 1994), 259–266, *PWN, Warsaw*, 1995. (Andrzej Sitarz) **99i:58015** 58B30 (17B37, 81R50)

— Integrable system constructed out of two interacting superconformal fields. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7935–7944. (Luigi Martina) **99c:58078** 58F07 (81R10, 81T40, 81T60)

— Integrable extensions of $N = 2$ supersymmetric KdV hierarchy associated with the nonuniqueness of the roots of the Lax operator. (English summary) *Phys. Lett. A* **249** (1998), *no.* 3, 204–208. (Oktay K. Pashaev) **99k:58096** 58F07 (35Q53)

— *see also* **Quantum groups, 99e:17001**

Popowska, Barbara (*with* Bobrowski, Dobiesław A.) The estimate of the error for approximation of some discrete distribution by the geometric distribution. *Demonstratio Math.* **30** (1997), *no.* 3, 679–686. (Olcay Akman) **99c:62037** 62E17 (62N05)

— Geometric approximation of mixture of discrete life time distributions. (English summary) *Fasc. Math. No.* 28 (1998), 135–140. (Summary) **99e:62174** 62N05 (62E15)

Poppenberg, Markus On a generalized implicit function theorem for Fréchet spaces. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear*

Topol. Spaces Complex Anal. **3** (1997), 138–151. (Andreas Kriegl) **99j:46049** 46G05 (47H15, 58C15)

Popper, Karl *see* **Stadler, Friedrich, (99b:00022)** *and* **Boyer, Alain, (99g:01038)**

Popper, Raimund G-pseudomanifolds. II. *Period. Math. Hungar.* **33** (1996), *no.* 3, 229–241. (Tomasz Rybicki) **99b:57071** 57S20

Poppi, Antonino The natural philosophy of the early sixteenth century at the Universities of Padua, Bologna and Ferrara. (Italian) *Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century* (*Italian*) (*Ferrara*, 1993), 39–67, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A40

Poppitz, Erich (*with* Lykken, Joseph; Trivedi, Sandip P.) M(ore) on chiral gauge theories from D-branes. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 51–74. (Christophe Grojean) **99f:81203** 81T60 (81T13, 81T30)

— On the one-loop Fayet-Iliopoulos term in chiral four-dimensional type I orbifolds. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 31–44. (Summary) **99j:81153** 81T30

Pop-Stojanović, Zoran (*with* Rao, Murali; Šikić, Hrvoje) Brownian potentials and Besov spaces. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 331–337. (H. Triebel) **99a:46062** 46E35 (35J05, 60J65)

Popvassilev, S. (*with* Dontchev, Julian; Stavrova, D. N.) On the η-expansion topology for the co-semi-regularization and mildly Hausdorff spaces. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 9–19. (From the summary) **99c:54028** 54D15 (54D10, 54G05)

Porat, Moshe (*with* Urieli, Sharon; Cohen, Nir) Optimal reconstruction of images from localized phase. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 838–853. 94A12

ben-Porath, Elchanan *see* **Ben-Porath, Elchanan**

Porcelli, F. (*with* Breizman, B. N.; Candy, J.; Berk, H. L.) On the theory of internal kink oscillations. (English summary) *Phys. Plasmas* **5** (1998), *no.* 6, 2326–2333. (Summary) **99b:76098** 76X05

Pordt, Andreas Random walks in field theory. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 25–44, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82B41 (81T08)

— Polymer expansion in particle physics. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 45–67, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82B10 (81T08, 82B28)

Porembski, Marcus Decomposition cuts—a new way to derive deep cutting planes in global optimization. *Operations Research Proceedings* 1997 (*Jena*), 68–73, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C30

Porfyriadis, P. I. (*with* Nicolaidis, A.; Paschalis, J. E.) String tension and the generation of the conformal anomaly. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 047901, 3 *pp.* 81T50 (81T30)

Porkolab, Lorant (*with* Khachiyan, Leonid) Testing the feasibility of semidefinite programs. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 17–26, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Levent Tunçel) **99f:90132** 90C30 (68Q25, 68Q40)

Porporato, Amilcare (*with* Perona, Paolo; Ridolfi, Luca) A simple experimental equation for the bursting cycle. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 3023–3026. 76F20

Porrà, Josep M. (*with* Bravo Yuste, Santos) Demonstration of a conjecture for random walks in d-dimensional Sierpinski fractals. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6589–6593. (Summary) **99e:82049** 82B41

— (*with* Boguñá, Marián; Masoliver, Jaume) Generalization of the persistent random walk to dimensions greater than 1. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 6992–6998. (Summary) **99g:82026** 82B41

muñoz Porras, José María *see* **Muñoz Porras, José María**

Porrati, Massimo (*with* Girardello, Luciano; Giveon, Amit; Zaffaroni, Alberto[1]) S-duality in $N = 4$ Yang-Mills theories. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 209–219, *World Sci. Publishing, River Edge, NJ*, 1996. (From the text) **99j:81184** 81T60 (81T13)

— (*with* Girardello, Luciano; Zaffaroni, Alberto[1]) Spontaneously broken $N = 2$ supergravity without light mirror fermions. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 272–290. (Piet Termonia) **99b:83074** 83E50 (81R40, 81T30, 83E30)

— (*with* Rozenberg, Alexander) Bound states at threshold in supersymmetric quantum mechanics. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 184–202. (Avinash Khare) **99h:81060** 81Q60 (81T30)

— (*with* Ferrara, Sergio) Central extensions of supersymmetry in four and three dimensions. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 255–260. (Sergey Nikolaevich Roshchupkin) **99c:81180** 81T30 (32J81, 81T60, 83E30)

Porretta, Alessio Uniqueness and homogenization for a class of noncoercive operators in divergence form. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 915–936. (Marino Belloni) **99k:35065** 35J65 (35B27, 49J45)

— Regularity for entropy solutions of a class of parabolic equations with nonregular initial datum. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 53–71. (Bernhard Kawohl) **99i:35077** 35K60 (35B45, 35K65)

Porrot, Sylvain (*with* Dauchet, Max; Durand, Bruno; Vereshchagin, Nikolai K.) Deterministic rational transducers and random sequences. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 258–272, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q68 (68Q30)

Porru, G. (*with* Ramm, Alexander G.) Completeness and non-completeness results for the set of products of solutions to differential equations. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 241–249. 35R30 (35P10)

— (*with* Marras, M.; Mohammed, Seid) Differential inequalities for Minkowski functionals of level sets. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 573–584. (H. J. Kuiper) **99k:35053** 35J60 (35B99, 35K55)

Porsching, T. A. (*with* Chou, So-Hsiang) A note on the restarted CG method and reduced space additive correction. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 129–136. (Ming Kui Chen) **99e:65051** 65F10 (65J10)

— (*with* Hall, C. A.; Bennett, T. L.) Minimax approximation of optical profiles. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1951–1968 (*electronic*). (Summary) **99d:41036** 41A30 (65Y25)

Porsezian, K. Bilinearization of coupled nonlinear Schrödinger type equations: integrability and solitons. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 126–131. (Yun Mei Chen) **99e:35212** 35Q55 (35Q80)

Port, Daniel N. Circular numbers and n-set partitions. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 57–78. (Wen Li Chen) **99d:05005** 05A18

Port, S. A. (*with* Braicov, A. V.; Makar', P. M.; Popa, M. N.) Hilbert's series for comitants graded algebras of differential equations. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 5–14, 150, 153. (Summary) **99j:34013** 34A34 (34A25, 34C05)

ruíz del Portal, F. R. *see* **Ruíz del Portal, F. R.**

Portela, A. (*with* Charafi, A.) Trefftz boundary elements—multi-region formulations. (English summary) *Internat. J. Numer. Methods Engrg.* **45** (1999), *no.* 7, 821–840. 65N38 (73V10)

Portelli, Dario (*with* Mezzetti, Emilia) Linear systems representing threefolds which are scrolls on a rational surface. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 417–431. (Giorgio Ottaviani) **99m:14011** 14C20 (14J30)

Porten, Egmont (*with* Merker, Joël) On the local meromorphic extension of CR meromorphic mappings. (English summary) Complex analysis and applications (Warsaw, 1997). *Ann. Polon. Math.* **70** (1998), 163–193. (Dmitri Zaitsev) **99j:32016** 32D20

Porter, Brian (*with* Allaoui, C.) Evolutionary robustification of digital trajectory-tracking controllers for robotic manipulators. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 2, 277–297. 93C85 (70B15, 70Q05, 93B35)

Porter, Jack R. (*with* Cammaroto, Filippo[1]; Fedorchuk, V. V.) H-closed functions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 563–572. 54C10 (54C20, 54D25)

Porter, La Moyne L., II (*with* Passino, Kevin M.) Genetic adaptive and supervisory control. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 1, 1–41. 93C40 (93C83)

Porter, R. *see* **Porter, Richard**

Porter, R. Michael Weierstrass's contributions to complex variables. (Spanish) Dedicated to the memory of Karl Weierstrass (Spanish). *Miscelánea Mat. No.* 25 (1997), 59–74. (I. Grattan-Guinness) **99m:01022** 01A55 (30-03)

— Quaternionic Möbius transformations and loxodromes. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 3, 285–300. (Summary) **99m:20121** 20H10 (17B99)

— (*with* Reséndis O., Lino F.) Quasiconformally explodable sets. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 4, 379–392. (Summary) **99h:30023** 30C62 (30C75)

Porter, Richard (*with* Evans, D. V.) The trapping of surface waves by multiple submerged horizontal cylinders. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 4, 417–433. (Summary) **99i:76019** 76B15

— (*with* Kuznetsov, N. G.; Evans, D. V.; Simon, M. J.) Uniqueness and trapped modes for surface-piercing cylinders in oblique waves. (English summary) *J. Fluid Mech.* **365** (1998), 351–368. (Summary) **99d:76011** 76B15 (35Q35)

— (*with* Evans, D. V.) Trapped modes embedded in the continuous spectrum. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 263–274. (Summary) **99c:76009** 76B15

— (*with* Evans, D. V.) An example of non-uniqueness in the two-dimensional linear water-wave problem involving a submerged body. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3145–3165. (Nikolay G. Kuznetsov) **99m:76014** 76B15 (35Q35)

— (*with* Evans, D. V.) Trapping and near-trapping by arrays of cylinders in waves. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 149–179. (Summary) **99k:76025** 76B15 (86A05)

Porter, T. *see* **Porter, Timothy**

Porter, Thomas Dale A bound involving the centroid and Wiener index of a tree. (English summary) *Util. Math.* **53** (1998), 141–146. (Summary) **99a:05042** 05C12 (05C90)

Porter, Timothy (*with* Brown, Ronald) On the Schreier theory of non-abelian extensions: generalisations and computations. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 213–227. (Johannes Huebschmann) **99j:20057** 20J05 (18G50, 18G55, 20F05)

— (*with* Brown, Ronald; Golasiński, Marek; Tonks, A.) Spaces of maps into classifying spaces for equivariant crossed complexes. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 2, 157–172. (Pilar C. Carrasco) **99j:18015** 18G55 (18D20, 55P91)

— (*with* Mutlu, Ali) Applications of Peiffer pairings in the Moore complex of a simplicial group. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 7, 148–173 (*electronic*). (R. H. Street) **99k:18018** 18G30 (55P10, 55U10)

— (*with* Mutlu, Ali) Freeness conditions for 2-crossed modules and complexes. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 8, 174–194 (*electronic*). (Graham J. Ellis) **99j:18013** 18G30 (18D35, 18G50, 18G55)

— (*with* Ehlers, Philip John) Erratum to: "Varieties of simplicial groupoids. I. Crossed complexes" [J. Pure Appl. Algebra **120** (1997), no. 3, 221–233; MR 98d:55012]. *J. Pure Appl. Algebra* **134** (1999), *no.* 2, 207–209. (From the text) **99k:55007** 55P15 (18G30, 18G55, 55U35)

Porter, William A. (*with* Abou-Ali, Abdel-Latief H.) Vector quantization for multiple classes. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 151–171. (Summary) **99a:94016** 94A29

Portier, Bruno (*with* Poggi, Jean-Michel) A test of linearity for functional autoregressive models. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 6, 615–639. (Joseph D. Petruccelli) **99b:62142** 62M10

— (*with* Hilgert, Nadine) Estimation non paramétrique dans un modèle autorégressif fonctionnel non directement observé. (English and French summaries) [Nonparametric estimation in a functional autoregressive model with no direct measurements] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 597–600. (Theo Gasser) **99k:62163** 62M10 (62G05)

Portier, Natacha Résolutions universelles pour des problèmes NP-complets. (English summary) [Universal resolutions for NP-complete problems] *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 137–150. (George Tourlakis) **99f:68075** 68Q15 (68Q05)

Portmann, Marie-Claude (*with* Janiak, Adam) Genetic algorithm for the permutation flow-shop scheduling problem with linear models of operations. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 95–114. (Edward J. Anderson) **99j:90038** 90B35 (90C27)

Portnoy, Stephen L. (*with* Zhou, Kenneth Q.) Statistical inference on heteroscedastic models based on regression quantiles. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 3, 239–260. (Summary) **99e:62121** 62J05

— (*with* He, Xuming; Ng, Pin) Bivariate quantile smoothing splines. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 537–550. (Girdhar G. Agarwal) **99h:62036** 62G05

Portnyagin, Dmitriy (*with* Borsuk, M. V.) Barriers on cones for degenerate quasilinear elliptic operators. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 11, 8 *pp.* (*electronic*). (Summary) **99a:35101** 35J70 (35J60)

silva maia Porto, M. B. D. *see* **Silva Maia Porto, M. B. D.**

Porto, Oscar (*with* Meidanis, João; Telles, Guilherme P.) On the consecutive ones property. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 325–354. (A. A. Chernyak) **99k:05043** 05B20

Porto, Stella C. S. (*with* Corrêa, Ricardo C.; Ferreira, Afonso Galvao) Selected algorithmic techniques for parallel optimization. *Handbook of combinatorial optimization, Vol.* 3, 407–456, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (65Y05, 90–02)

Porto, Vincent W. (*with* Fogel, David B.; Wasson, Eugene C.; Boughton, Edward M.; Shively, Jamen W.) Initial results of training neural networks to detect breast cancer using evolutionary programming. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 497–510. (*see* **99b:90008**) 90C90 (92B20, 92C50)

— (*with* Fogel, David B.; Wasson, Eugene C.; Boughton, Edward M.; Shively, Jamen W.) Erratum: "Initial results of training neural networks to detect breast cancer using evolutionary programming" [Control Cybernet. **26** (1997), no. 3, 497–510]. *Control Cybernet.* **26** (1997), *no.* 4, 665. 90C90 (92B20, 92C50)

Portoraro, Frederic D. Strategic construction of Fitch-style proofs. (English summary) Natural deduction. *Studia Logica* **60** (1998), *no.* 1, 45–66. (Summary) **99b:68165** 68T15 (03B35)

Portugal, R. Dirac equation in spatially homogeneous cosmological models. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 12, 1625–1635. (Derek Raine) **99e:81166** 81T20

— An algorithm to simplify tensor expressions. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 215–230. (Summary) **99i:53014** 53B21 (53–04, 65D20)

Porubov, A. V. (*with* Samsonov, A. M.; Velarde, M. G.; Bukhanovsky, A. V.) Strain solitary waves in an elastic rod embedded in another elastic external medium with sliding. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part B*, 3854–3864. 73D35 (73K05)

— (*with* Velarde, M. G.) Exact periodic solutions of the complex Ginzburg-Landau equation. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 884–896. (Summary) **99j:35209** 35Q55 (35B10, 35C05)

— (*with* Parker, David F.) Some general periodic solutions to coupled nonlinear Schrödinger equations. (English summary) *Wave Motion* **29** (1999), *no.* 2, 97–109. (From the text) **99j:35210** 35Q55 (78A60)

Porubský, Štefan On Smarandache's form of the individual Fermat-Euler theorem. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 163–178, *Am. Res. Press, Lupton, AZ*, 1997. (W. Narkiewicz) **99e:11003** 11A07 (13F05)

— On Smarandache's form of the individual Fermat-Euler theorem. (English summary) *Smarandache Notions J.* **8** (1997), *no.* 1-3, 5–20. (J. Sándor) **99h:11004** 11A07 (11R04)

Posashkov, S. A. (*with* Galaktionov, V. A.) Maximal sign-invariants of quasilinear parabolic equations with gradient diffusivity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4948–4964. (Summary) **99g:35053** 35K55

Posch, Harald A. (*with* Hoover, Wm. G.) Chaos and irreversibility in simple model systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 366–373. (*see* **99d:58003**) 58F13

Pöschel, R. (*with* Sushchanskiĭ, V. I.; Lazebnik, F. G.; Ustimenko, V. A.; Klin, Mikhail; Vyshenskiĭ, V. A.) Lev Arkad′evich Kalužnin (1914–1990). Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 5–18. (Editors) **99m:01091** 01A70

— (*with* Gorlov, V. V.) Clones closed with respect to permutation groups or transformation semigroups. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 181–204. (Kazimierz Głazek) **99k:08005** 08A40 (03B50, 06A15, 08A35, 20B25, 20M20)

Pöschel, Thorsten (*with* Schwager, Thomas) Is there a critical acceleration for the onset of convection? (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 625–631, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:73056** 73E99 (76A99, 76E15)

Posenato, Roberto (*with* Bertoni, Alberto; Campadelli, Paola) An upper bound for the maximum cut mean value. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 78–84, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68185** 68R10 (05C35, 68Q25)

Poser, Hans Mathesis universalis and scientia singularis. Connections and disconnections between scientific disciplines. Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 3–21. (*see* **99g:00024**) 00A30

Poshtaru, A. I. (*with* Bolyak, R. I.) On graphs containing a given graph as median. (English summary) *Comput. Sci. J. Moldova* **3** (1995), *no.* 3, 278–286. (Summary) **99k:05074** 05C12

— On graphs G of diameter two with $f(G) \le |V(G)| + \Delta - \delta + 1$. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 3, 261–272. (Summary) **99f:05065** 05C35 (05C12, 68R10)

Posilicano, Andrea (*with* Noja, Diego) The wave equation with one point interaction and the (linearized) classical electrodynamics of a point particle. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 3, 351–377. (Summary) **99b:78006** 78A25 (35Q60, 78A35)

Poskitt, Don S. (*with* Lütkepohl, Helmut) Consistent estimation of the number of cointegration relations in a vector autoregressive model. (English summary) *Econometrics in theory and practice*, 87–100, *Physica, Heidelberg*, 1998. (Summary) **99g:62142** 62M10 (62P20)

— (*with* Doğançay, K.; Chung, Shin-Ho) Double-blind deconvolution: the analysis of post-synaptic currents in nerve cells. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 191–212. (Summary) **99l:62075** 62G05 (62M99)

Poslavskiĭ, S. A. (*with* Shabanov-Kushnarenko, S. Yu.; Shabanov-Kushnarenko, Yu. P.) Comparative identification of finite-dimensional linear processes. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 5, 39–43. (Summary) **99m:93024** 93B30 (68T99, 92J30, 93A30)

Posner, Marc E. (*with* Hall, Nicholas G.; Potts, Chris N.) Scheduling with finite capacity output buffers. (English summary) *Oper. Res.* **46** (1998), *no.* 3, *suppl.*, *S84–S97*. (Yuri Nazarovich Sotskov) **99h:90051** 90B35

Posner, S. E. (*with* Bartlett, Peter L.; Kulkarni, Sanjeev R.) Covering numbers for real-valued function classes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1721–1724. (Vikram Jha) **99b:26014** 26A45 (94A15)

— (*with* Kulkarni, Sanjeev R.) Universal output prediction and nonparametric regression for arbitrary data. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 254–268, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93E12 (62G07)

— (*with* Kulkarni, Sanjeev R.) Nonparametric output prediction for nonlinear fading memory systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 29–37. (Summary) **99j:93097** 93E10

Pospelov, A. S. (*with* Efimov, A. V.; Umnyashkin, S. V.) Some properties of multiplicative orthonormal systems, which are used in digital signal processing. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 137–182. (W. R. Wade) **99m:94010** 94A12 (42C10)

Pospelov, I. G. (*with* Olenev, N. N.; Petrov, Aleksandr A.) Control of the ecological consequences of economic growth. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 8, 17–32. 92D40 (90A30)

Possinger, K. (*with* Wernecke, K.-D.; Kalb, G.; Stein, Julia) Validating classification trees. (English summary) *Biom. J.* **40** (1998), *no.* 8, 993–1005. 62H30

Post, Gary K. (*with* Nomura, Keiko K.) The structure and dynamics of vorticity and rate of strain in incompressible homogeneous turbulence. (English summary) *J. Fluid Mech.* **377** (1998), 65–97. (Summary) **99i:76075** 76F99 (76C05, 76M25)

Pošta, S. (*with* Havlicek, Miloslav; Klimyk, A. U.) Representations of the cyclically symmetric q-deformed algebra $U_q(so_3)$. (English summary) Quantum groups and integrable systems (Prague, 1998). *Czechoslovak J. Phys.* **48** (1998), *no.* 11, 1347–1353. (Michèle Irac-Astaud) **99m:81095** 81R50 (16W30, 17B37)

Poştaru, A. *see* **Poshtaru, A. I.**

Postelnicu, A. (*with* Dragoş, L.) The method of fundamental solutions applied to the flow of incompressible viscous fluids past a thin profile. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **46** (1994), *no.* 1, 27–34. 76D99

Postelnicu, Viorica Positive dependence and coincidences of renewal processes. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 445–449. 60K05

Posteraro, Maria Rosaria (*with* Ferone, Vincenzo; Rakotoson, Jean Michel) Nonlinear parabolic equations with p-growth and unbounded data. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 4, 291–296. (Summary) **99k:35082** 35K55

Postert, Anthony K. (*with* Huh, Keun; Sickles, Robin C.) Maximum penalized likelihood estimation of mixed proportional hazard models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2143–2164. (Summary) **99e:62172** 62N05 (62G05)

Postlethwaite, Ian (*with* Konstantinov, M. M.; Petkov, Petko Khr.; Gu, Da-Wei) Two-dimensional measures of reachability for linear time-invariant systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 195–215. 93B05 (93B40)

— (*with* Murad, Ghassan; Gu, Da-Wei) On the design of robust internal model-based controllers. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 513–537. 93D21 (93B50)

— (*with* Smerlas, Alex; Walker, Daniel J.) H_∞ in flight. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 353–364, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93C95)

Postnikov, A. E. (*with* Gel′fand, Izrail′ Moiseevich; Graev, Mark I.) Combinatorics of hypergeometric functions associated with positive roots. (English summary) *The Arnold-Gelfand mathematical seminars*, 205–221, *Birkhäuser Boston, Boston, MA*, 1997. (A. Klimyk (Zbl 876.33011)) **99k:33046** 33C80 (32G34)

— On a quantum version of Pieri's formula. (English summary) *Advances in geometry*, 371–383, *Progr. Math.*, 172, *Birkhäuser Boston, Boston, MA*, 1999. (Lowell Abrams) **99m:14096** 14M15 (05E15, 14N10)

Postnikov, Alekseĭ Georgievich *see* **Vladimirov, V. S., 99m:01094**

Postnikov, Alexander *see* **Postnikov, A. E.**

Postnikov, Mikhail Mikhailovich *see* **Anosov, D. V.**

Postolache, Mihai (*with* Mocioalcă, Oana) On a geometrical study of population ecosystems. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 101–108. (From the introduction) **99f:92024** 92D25 (34C99, 34D99)

— (*with* Udrişte, Constantin; Mazilu, T.; Udrişte, Aneta) Equilibrium sets of magnetic fields around electric circuits. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 125–136, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Robert L. Warnock) **99m:78009** 78A30

— On global methods for fitting surfaces to scattered data. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **60** (1998), *no.* 3-4, 143–150. 65Y25

Postolică, Vasile Recent remarks on supernormal cones. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol.* 14*A* (*Arad*, 1996), 93–98, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 90C29 (46N10)

— Best approximation in H-locally convex spaces. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 723–733. (Carlos Benítez) **99f:41045** 41A65

Poston, Wendy L. (*with* Wegman, Edward J.; Solka, Jeffrey L.) D-optimal design methods for robust estimation of multivariate location and scatter. (English summary) R. C. Bose

Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 205–213. (*see* **99f:62006**) 62H12 (62K99)

Posypkin, M. A. On closed classes containing precomplete classes of the set of all one-place functions. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 4, 58–59; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 4, 45–46. (Feodor Alexandrovich Murzin) **99c:03035** 03B50

Potapenko, I. F. (*with* de Azevedo, C. A.) The completely conservative difference schemes for the nonlinear Landau-Fokker-Planck equation. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 115–123. (Anne Nouri) **99m:65165** 65M06 (82C31)

Potapneva, E. V. (*with* Gordon, V. S.) Construction of schedules for embedded job processing intervals. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 111–116, 143. 90B22 (90B35)

Potapov, A. B. (*with* Kurdyumov, S. P.; Malinetskiĭ, G. G.) Nonstationary structures, dynamic chaos, cellular automata. News of synergetics. *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 5-6, 75–133. (Remo Badii) **99j:58110** 58F08 (58F13, 68Q80)

— (*with* Malinetskiĭ, G. G.) Nonlinearity. New problems, new opportunities. News of synergetics. *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 5-6, 134–154. (Introduction) **99d:00008** 00A71 (00A69)

— (*with* Ershov, S. V.) On the concept of stationary Lyapunov basis. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 167–198. (Dieter Beule) **99e:58119** 58F11 (34C35, 34D08)

Potapov, M. K. (*with* Vinogradova, I. A.; Lupanov, O. B.; Mel′nikov, I. I.; Sadovnichiĭ, V. A.; Sergeev, I. N.) In memory of Slav Nikolaevich Olekhnik [1945–1995]. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 108–109. 01A70

— (*with* Simonov, B. V.) On the interrelation of the generalized Besov-Nikol′skiĭ and Weyl-Nikol′skiĭ classes of functions. (Russian summary) *Anal. Math.* **22** (1996), *no.* 4, 299–316. (Vladimir D. Stepanov) **99e:46044** 46E35 (42B20)

— (*with* Simonov, B. V.) On the relations between generalized classes of Besov-Nikol′skiĭ and Weyl-Nikol′skiĭ functions. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 250–266. (L. I. Nikolova) **99m:46083** 46E35

— (*with* Berisha, F. M.) Approximation of classes of functions defined by a generalized kth modulus of smoothness. (English summary) Dedicated to P. L. Ul′yanov. *East J. Approx.* **4** (1998), *no.* 2, 217–241. (Eduard Belinskii) **99g:41007** 41A10 (33C45)

— (*with* Kazimirov, G. N.) On the approximation of functions that have a given order of kth generalized modulus of smoothness by algebraic polynomials. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 425–436; *translation in Math. Notes* **63** (1998), *no.* 3-4, 374–383. (Yuri V. Kryakin) **99d:41010** 41A10

— (*with* Bakhalov, N. S.; Besov, O. V.; Nikol′skiĭ, S. M.) Petr Lavrent′evich Ul′yanov (on the occasion of his seventieth birthday). (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 211–220; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 645–655. (Editors) **99m:01039** 01A70

— (*with* Kazimirov, G. N.) On the coincidence of certain classes of functions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 3–11, 79; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 1–9. (Summary) **99c:41013** 41A10 (41A35)

Potashev, A. V. (*with* Elizarov, A. M.; Il′inskiĭ, N. B.) ★ Mathematical methods of airfoil design. (English summary) Inverse boundary-value problems of aerohydrodynamics. Translated from the 1994 Russian original by A. Fokin and revised by the authors. *Akademie Verlag, Berlin*, 1997. 292 *pp. ISBN* 3-05-501701-3 (Editors) **99d:76054** 76G25 (76B05, 76D10, 76H05, 76N20)

Potchinkov, Alexander W. The design of nonrecursive digital filters via convex optimization. (English summary) *Semi-infinite programming*, 361–387, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99b:90141**) 94A12 (90C25)

Potemine, Igor Yu. Espaces symétriques p-adiques, mesures p-adiques et transformations intégrales. [p-adic symmetric spaces, p-adic measures and integral transformations] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 59–84, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Ernst-Wilhelm Zink) **99e:11067** 11F85 (11S80)

— Drinfeld-Anderson motives and multicomponent KP hierarchy. (English summary) *Recent progress in algebra (Taejon/Seoul*, 1997), 213–227, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Yoshinori Hamahata) **99k:11083** 11G09 (58F07)

Potemkin, V. L. (*with* Ryazanov, Vladimir I.) On the noncompactness of David classes. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 191–204. (Gaven J. Martin) **99d:30026** 30C62

— (*with* Ryazanov, Vladimir I.) On mappings with measure restrictions on dilatation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 405–408, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 354–357. (Summary) **99c:30040** 30C62

Potepun, A. V. Condition for inducing topology in a vector lattice by the order completion. (English summary) Some questions of mathematical physics and function theory. *J. Math. Sci. (New York)* **92** (1998), *no.* 6, 4361–4363. (Summary) **99j:46009** 46A40

Potetyunko, È. N. Asymptotic solution of a second-order differential equation with the variable part of the invariant degenerating to a δ-function. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1431–1433, 1440; *translation in Differential Equations* **32** (1996), *no.* 10, 1429–1432 (1997). (Stefan Giller) **99a:34159** 34E20

le Potier, J. *see* **Le Potier, J.**

Potier-Ferry, Michel (*with* Fahmi, Rachid) The group representation theory and vibrations of cyclic structures. *Progress in partial differential equations, Vol.* 1 (*Pont-à-Mousson*, 1997), 88–98, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Peter Ashwin) **99j:58060** 58E40 (35A30)

— (*with* Najah, A.; Cochelin, B.; Damil, N.) A critical review of asymptotic numerical methods. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 1, 31–50. (Summary) **99a:73136** 73V99 (65–02)

Potra, Florian A. (*with* Sheng, Rongqin) A path following method for LCP with superlinearly convergent iteration sequence. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 97–114. (*see* **99b:90006**) 90C33

— (*with* Alefeld, G. E.; Völker, W.) Modifications of the interval-Newton-method with improved asymptotic efficiency. (English summary) *BIT* **38** (1998), *no.* 4, 619–635. (E. R. Hansen) **99m:65100** 65G10 (65H05)

— (*with* Sheng, Rongqin) Superlinearly convergent infeasible-interior-point algorithm for degenerate LCP. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 249–269. (Shinji Mizuno) **99m:90144** 90C33 (65K05)

— (*with* Sheng, Rongqin) Superlinear convergence of interior-point algorithms for semidefinite programming. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 103–119. (Levent Tunçel) **99m:90145** 90C33

— (*with* Qi, Liqun; Sun, De Feng) Secant methods for semismooth equations. (English summary) *Numer. Math.* **80** (1998), *no.* 2, 305–324. (Summary) **99f:65079** 65H10

— (*with* Sheng, Rongqin) On homogeneous interior-point algorithms for semidefinite programming. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 161–184. (Summary) **99b:90123** 90C30 (65K05)

— (*with* González-Lima, María D.; Tapia, Richard A.) On effectively computing the analytic center of the solution set by primal-dual interior-point methods. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 1–25 (*electronic*). (Florian Jarre) **99d:90069** 90C05

— (*with* Sheng, Rongqin) A superlinearly convergent primal-dual infeasible-interior-point algorithm for semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1007–1028 (*electronic*). (Jos F. Sturm) **99j:90086** 90C30 (90C05)

Potra, T. G. A calculus proceeding of the homogenized coefficients. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **43(57)** (1998), *no.* 1, 7–12. 35A25 (65D15, 73B27)

Pötscher, Benedikt M. (*with* Novák, Andreas J.) The distribution of estimators after model selection: large and small sample results. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 1, 19–56. (Summary) **99c:62034** 62E15 (62B10, 62E20)

Pott, Alexander (*with* Reuschling, Dirk; Schmidt, Bernhard) A multiplier theorem for projections of affine difference sets. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 63–67. (Summary) **99c:05032** 05B10

Potter, Laura K. (*with* Godbole, Anant P.; Sandquist, Erik J.) Sign-balanced covering matrices. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 79–93. (Charles J. Colbourn) **99g:05038** 05B20 (05B40)

— (*with* Godbole, Anant P.; Sklar, Jessica K.) Improved upper bounds for the reliability of d-dimensional consecutive-k-out-of-n:F systems. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 2, 219–230. (Summary) **99a:90097** 90B25

Potter, Lee C. (*with* Sabharwal, Ashutosh) Convexly constrained linear inverse problems: iterative least-squares and regularization. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2345–2352. (Summary) **99h:65117** 65J10

Pötter, Ulrich On proportionality of regression coefficients in misspecified general linear regression models. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 45–56, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62J07

Potters, J. A. M. (*with* Reijnierse, Hans) The $\mathscr{B}$-nucleolus of TU-games. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 77–96. (Milan Mareš) **99k:90219** 90D12

— (*with* Reijnierse, J. H.) On finding an envy-free Pareto-optimal division. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 291–311. (Johannes Jahn) **99j:90076** 90C29 (90D40)

Potthast, Roland (*with* Colton, David L.; Piana, Michele) A simple method using Morozov's discrepancy principle for solving inverse scattering problems. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1477–1493. (Elsayed Mohamed E. Zayed) **99b:35209** 35R30 (35J05, 65N99, 76Q05, 78A45)

— On a concept of uniqueness in inverse scattering for a finite number of incident waves. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 666–682 (*electronic*). (Elsayed Mohamed E. Zayed) **99b:35164** 35P25 (35J05, 35R30, 45E05, 76Q05, 86A22)

Potthoff, J. (*with* Våge, Gjermund; Watanabe, Hisao) Generalized solutions of linear parabolic stochastic partial differential equations. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 1, 95–107. (Fred Espen Benth) **99b:60095** 60H15 (60H07)

— (*with* Deck, Th.) On a class of stochastic partial differential equations related to turbulent transport. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 1, 101–122. (Jan Ubøe) **99e:60106** 60G20 (35Q35, 35R60, 60H15, 76F99, 76M35)

govindan Potti, P. K. *see* **Govindan Potti, P. K.**

Pottier, Thibaud (*with* Chaboche, Jean-Louis; Kruch, Serge) Micromechanics versus macromechanics: a combined approach for metal matrix composite constitutive modelling. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 885–908. (Summary) **99k:73086** 73K20 (73B30, 73E60, 73M25, 73S10)

Potting, R. Symmetry breaking in string theory. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1914–1917. (Summary) **99i:81202** 81T30 (81R40)

Pottmann, Helmut (*with* Peternell, Martin) Designing rational surfaces with rational offsets. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 275–286, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 65D17 (41A20)

— (*with* Farouki, Rida T.) Polynomial and rational Pythagorean-hodograph curves reconciled. *The mathematics of surfaces, VI* (*Uxbridge*, 1994), 355–378, *Inst. Math. Appl. Conf. Ser. New Ser.*, 58, *Oxford Univ. Press, New York*, 1996. (Marshall Walker) **99f:65026** 65D17 (65D10)

— (*with* Wallner, Johannes) Spline orbifolds. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 445–464, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:65263** 65Y25 (57M50, 65D17)

— (*with* Peternell, Martin; Ravani, Bahram) Approximation in line space—applications in robot kinematics and surface reconstruction. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 403–412, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15 (65D17)

— (*with* Wallner, Johannes; Chen, Horng-Yang) Galilei Laguerre geometry and rational circular offset surfaces. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 291–305. (Hans Sachs) **99g:53016** 53A40 (51N25)

— (*with* Peternell, Martin) Applications of Laguerre geometry in CAGD. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 2, 165–186. (Antonio López-Carmona) **99c:65037** 65D17 (65Y25)

— (*with* Peternell, Martin) A Laguerre geometric approach to rational offsets. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 3, 223–249. (Ljubiša M. Kocić) **99c:65036** 65D17

— (*with* Randrup, T.) Rotational and helical surface approximation for reverse engineering. (English summary) *Computing* **60** (1998), *no.* 4, 307–322. (Summary) **99c:65038** 65D17 (53A05)

Potts, Chris N. (*with* Chen, Bo; Woeginger, Gerhard J.) A review of machine scheduling: complexity, algorithms and approximability. *Handbook of combinatorial optimization, Vol.* 3, 21–169, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90B35 (90–02, 90C27)

— (*with* Crauwels, H. A. J.; Van Wassenhove, Luk N.) Local search heuristics for the single machine total weighted tardiness scheduling problem. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 341–350. 90B35

— (*with* Glass, Celia A.) Structural properties of lot streaming in a flow shop. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 624–639. (Jean B. Lasserre) **99h:90049** 90B35

— (*with* Chen, Bo; Strusevich, V. A.) Approximation algorithms for two-machine flow shop scheduling with batch setup times. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 255–271. (Bao Sheng Hu) **99f:90046** 90B35 (90C35)

— (*with* Hall, Nicholas G.; Posner, Marc E.) Scheduling with finite capacity output buffers. (English summary) *Oper. Res.* **46** (1998), *no.* 3, *suppl.*, *S84–S97*. (Yuri Nazarovich Sotskov) **99h:90051** 90B35

Potts, D. M. (*with* Verlinden, Pierre; Lyness, J. N.) Error expansions for multidimensional trapezoidal rules with Sidi transformations. (English summary) *Numer. Algorithms* **16** (1997), *no.* 3-4, 321–347 (1998). (Alan M. Cohen) **99h:65039** 65D30

Potts, Daniel (*with* Steidl, Gabriele; Tasche, Manfred) Kernels of spherical harmonics and spherical frames. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme*, 1995), 287–301, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:42042** 42C15 (41A63)

— (*with* Steidl, Gabriele; Tasche, Manfred) Fast and stable algorithms for discrete spherical Fourier transforms. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 433–450. (Markus Hegland) **99h:65229** 65T20 (33C45, 65D20)

— (*with* Steidl, Gabriele) Optimal trigonometric preconditioners for nonsymmetric Toeplitz systems. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 265–292. (A. Bultheel) **99f:65053** 65F10 (65T20)

— (*with* Steidl, Gabriele; Tasche, Manfred) Fast algorithms for discrete polynomial transforms. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1577–1590. (B. P. Parashar) **99b:65183** 65T20 (42C10)

Potyagaĭlo, L. D. The co-Hopf property and the embedding of Kleinian groups into themselves. (Russian) *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk*, 1996), 180, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (*see* **99a:00019**) 20H10 (30F40)

— (*with* Ohshika, Ken'ichi) Self-embeddings of Kleinian groups. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 3, 329–343. (Darryl McCullough) **99d:57009** 57M60 (20H10, 30F40, 57M07, 57S30)

Potyemkin, V. *see* **Potemkin, V. L.**

Poulakis, Dimitrios Estimation effective des points entiers d'une famille de courbes algébriques. (English and French summaries) [Effective estimation of the integral points of a family of algebraic curves] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 4, 691–725. (Zhi Jie Chen) **99a:14030** 14G05 (11G30, 14H05)

— Bounds for the minimal solution of genus zero Diophantine equations. *Acta Arith.* **86** (1998), *no.* 1, 51–90. (Yann Bugeaud) **99d:11069** 11G30 (11D41)

Pouliot, Philippe Chirality vs. duality. (English summary) *Perspectives of strong coupling gauge theories (Nagoya*, 1996), 286–290, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99a:81003**) 81T60 (81T13)

— (*with* Douglas, Michael R.; Kabat, Daniel; Shenker, Stephen H.) D-branes and short distances in string theory. (English summary) *Nuclear Phys. B* **485** (1997), *no.* 1-2, 85–127. (Summary) **99c:81177** 81T30

Pouliquen, Ronan Opérateurs de Schrödinger à potentiels localisés sur des hypersurfaces. (English and French summaries) [Schrödinger operators with potential localized on hypersurfaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1295–1298. (B. Hellwig) **99b:35030** 35J10 (35B45, 35S99)

— Lower bounds for Schrödinger operators in $H^1(\mathbf{R})$. (English summary) *Studia Math.* **132** (1999), *no.* 1, 79–89. (Michael A. Perel'muter) **99j:47071** 47F05 (35J10, 35P15)

Poullikkas, Andreas (*with* Karageorghis, Andreas; Georgiou, Georgios C.; Ascough, John) The method of fundamental solutions for Stokes flows with a free surface. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 667–678. (Summary) **99f:76044** 76D07 (65N99, 76M25)

Poulsen, Niels K. (*with* Lauritsen, Morten B.; Rostgaard, Morten) GPC using a delta-domain emulator-based approach. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 219–232. 93C40 (93E10)

Poulsen, Rolf (*with* Andreasen, Jesper; Jensen, Bjarke) Eight valuation methods in financial mathematics: the Black-Scholes formula as an example. (English summary) *Math. Sci.* **23** (1998), *no.* 1, 18–40. (Summary) **99d:90017** 90A09 (60G35)

Pouly, L. (*with* Arnold, Douglas N.; Mukherjee, Arup) Adaptive finite elements and colliding black holes. (English summary) *Numerical analysis* 1997 (*Dundee*), 1–15, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99f:83039** 83C57 (65N55, 83–08)

Poupaud, Frédéric (*with* Bonnet, Frédéric) Berenger absorbing boundary condition with time finite-volume scheme for triangular meshes. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 333–354. (Summary) **99j:65161** 65M60

— (*with* Collet, J. F.) Asymptotic behaviour of solutions to the diffusive fragmentation-coagulation system. (English summary) *Phys. D* **114** (1998), *no.* 1-2, 123–146. (Vitor R. Vieira) **99j:82051** 82C05 (35Q99, 82D15)

Pouquet, A. (*with* Balsara, Dinshaw S.) The formation of large-scale structures in supersonic magnetohydrodynamic flows. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 89–99. (Summary) **99i:76147** 76W05 (85A30)

Pourabdollah, Mohammad Ali Semicompactifications of transformation semigroups and their corresponding lattice of C^*-subalgebras. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol.* 2 (*Kerman*, 1995), 313–317, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Summary) **99j:46082** 46L55 (22D25, 46L05)

— (*with* Sahleh, A.) Flows and universal compactifications. (English summary) *J. Sci. Islam. Repub. Iran* **8** (1997), *no.* 4, 269–273. (Summary) **99f:54049** 54H15 (54D35, 54H20)

— (*with* Ebrahimi-Vishki, Hamid Reza) More on norm-continuity of weakly almost periodic function. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **2** (1997), *no.* 1, 29–33. (A. Precupanu) **99g:43008** 43A60 (54H15)

— (*with* Khadem-Maboudi, A. A.) Almost periodic type function spaces on weighted semitopological semigroups. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 107–116. (Peter Mah) **99g:43009** 43A60 (22A20)

— (*with* Miri, M. R.) Minimally weakly almost periodic semigroups. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 191–202. (H. Günzler) **99m:43006** 43A60 (43A07, 54D35)

Pourbarat, Kh. (*with* Medgalchi, A. R.) Left amenability of weighted groups. (English and Persian summaries) *Bull. Iranian Math. Soc.* **22** (1996), *no.* 1, 41–55. (Niels Grønbæk) **99a:43002** 43A07

Pourciau, Bruce The preliminary mathematical lemmas of Newton's *Principia*. *Arch. Hist. Exact Sci.* **52** (1998), *no.* 3, 279–295. (Massimo Galuzzi) **99d:01017** 01A45

Pourcin, G. (*with* Loday-Richaud, M.) On index theorems for linear ordinary differential operators. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 5, 1379–1424. (W. Balser) **99g:34022** 34A20 (32G34, 34E05)

Pournaki, M. R. (*with* Darafsheh, M. R.) On the dimensions of cyclic symmetry classes of tensors. (English summary) *J. Algebra* **205** (1998), *no.* 1, 317–325. (Bo Ying Wang) **99g:15040** 15A69 (11A25, 11L99, 20C15)

fernández-Pousa, Carlos R. *see* **Fernández-Pousa, Carlos R.**

Pousin, J. (*with* Sassi, Taoufik) Domain decomposition with nonmatching grids and mixed formulation in the spaces $W_0^{1,p}(\Omega)$, $W_0^{1,q}(\Omega)$. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 9, 639–644. (E. G. D'yakonov) **99g:65121** 65N55

Pouso, Rodrigo L. (*with* Cabada, Alberto) Monotonic approximation of solutions for φ-Laplacian equations with Neumann conditions. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 219–224, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Eduardo Liz) **99e:34025** 34B15 (34A45)

— (*with* Liz, Eduardo) Approximation of solutions for nonlinear periodic boundary value problems with discontinuous upper and lower solutions. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 127–138. (Siegfried Carl) **99f:34013** 34A45 (34B15, 34C25)

— (*with* Liz, Eduardo) Upper and lower solutions with "jumps". (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 484–493. (Seppo Heikkilä) **99d:34037** 34B15 (34A37, 34A40)

Pousse, Alain (*with* Téchené, Jean-Jacques) Quelques propriétés extrémales des valeurs singulières d'un opérateur compact et leurs applications aux analyses factorielles d'une probabilité ou d'une fonction aléatoire. II. Critères d'analyses factorielles linéaires d'une probabilité ou d'une fonction aléatoire. (English summary) [Some extremal properties of the singular values of a compact operator and their application to the factor analysis of a probability or a random function. II. Linear factor analysis criteria for a probability or a random function] *Probab. Math. Statist.* **18** (1998), *no.* 1, 1–18 (19*N*). (Jacques Dauxois) **99k:47182** 47N30 (47B07, 62H25)

la Poutré, Johannes A. *see* **La Poutré, Johannes A.**

Povel, Tobias Critical large deviations of one-dimensional annealed Brownian motion in a Poissonian potential. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1735–1773. (Matthias Löwe) **99d:60035** 60F10 (60J65)

— (*with* Pisztora, Agoston; Zeitouni, Ofer) Precise large deviation estimates for a one-dimensional random walk in a random environment. (English summary) *Probab. Theory Related Fields* **113** (1999), *no.* 2, 191–219. (Timo Seppäläinen) **99m:60048** 60F10 (60J15, 60K35, 82C41)

Povstenko, Yu. Z. (*with* Badur, J.) On two reinterpretations of Cosserat continuum: fiber bundle versus the motor calculus. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 3, 367–376. (Summary) **99h:73013** 73B99 (53B05, 53B50, 73S10)

Powązka, Zbigniew Über Hosszúfunktionalungleichung und die Jensenische Integralungleichung. (English summary) [On Hosszú's functional inequality and Jensen's integral inequality] *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14 (1997), 121–128. (S. L. Segal) **99d:39024** 39B22

Powell, Geoffrey M. L. The Artinian conjecture for $I^{\otimes 2}$. (English summary) With an appendix by Lionel Schwartz. *J. Pure Appl. Algebra* **128** (1998), *no.* 3, 291–310. (David J. Green) **99h:18013** 18G05 (20G05, 55S10)

— Polynomial filtrations and Lannes' T-functor. (English summary) *K-Theory* **13** (1998), *no.* 3, 279–304. (Summary) **99c:55016** 55S10 (18G05)

Powell, James A. (*with* McMillen, Tyler; White, Peter William) Connecting a chemotactic model for mass attack to a rapid integro-difference emulation strategy. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 547–572 (*electronic*). (Gabriela Kirlinger) **99j:92027** 92D50 (65C20)

— (*with* White, Peter William) Spatial invasion of pine beetles into lodgepole forests: a numerical approach. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 164–184 (*electronic*). (Summary) **99i:92031** 92D40 (65L99, 65M99)

Powell, K. G. (*with* Agresar, G.; Linderman, J. J.; Tryggvason, G.) An adaptive, Cartesian, front-tracking method for the motion, deformation and adhesion of circulating cells. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 346–380. (Summary) **99b:92013** 92C40 (76M25, 92C05)

Powell, M. J. D. A review of algorithms for thin plate spline interpolation in two dimensions. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme*, 1995), 303–322, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:65018** 65D07 (41A15, 41A63)

— A thin plate spline method for mapping curves into curves in two dimensions. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 43–57, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65D17 (90C30)

— (*with* Demetriou, I. C.) Least squares fitting to univariate data subject to restrictions on the signs of the second differences. (English summary) *Approximation theory and optimization (Cambridge*, 1996), 109–132, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99c:65023** 65D10

— A review of methods for multivariable interpolation at scattered data points. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 283–309, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Ming Gen Cui) **99g:65014** 65D05 (41A05)

— The use of band matrices for second derivative approximations in trust region algorithms. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 3–28, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Yin Zhang) **99g:90133** 90C30 (65F30)

— Trust region calculations revisited. (English summary) *Numerical analysis* 1997 (*Dundee*), 193–211, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:90063** 90C20 (65K05)

— A "taut string algorithm" for straightening a piecewise linear path in two dimensions. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 1, 1–35. (Juan José Torrens) **99a:65021** 65D10 (65Y20)

Powell, Warren B. (*with* Chen, Zhi-Long) Solving parallel machine scheduling problems by column generation. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 78–94. 90B22 (90C35)

Power, Anthony John (*with* Robinson, Edmund) Premonoidal categories and notions of computation. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 453–468. (Summary) **99m:68115** 68Q55 (18D10)

— (*with* Watanabe, Hiroshi[6]) An axiomatics for categories of coalgebras. (English summary) *First Workshop on Coalgebraic Methods in Computer Science* (*CMCS '98*) (*Lisbon*), 18 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (Summary) **99h:18012** 18D15 (16W30, 68Q55)

— (*with* Hermida, Claudio; Makkai, Michael) Higher-dimensional multigraphs. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 199–206, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 18D05 (03D05, 68Q45)

— (*with* Johnstone, Peter; Tsujishita, Toru; Watanabe, Hiroshi[6]; Worrell, James) An axiomatics for categories of transition systems as coalgebras. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 207–213, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q55 (03B70, 18B05, 68Q10)

Power, Henry (*with* Golberg, Michael; Chen, Ching Shyang; Bowman, Harold) Some comments on the use of radial basis functions in the dual reciprocity method. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 61–69. (Summary) **99d:65296** 65M99

— (*with* Chen, Ching Shyang; Brebbia, C. A.) Dual reciprocity method using compactly supported radial basis functions. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 2, 137–150. 65N38 (65D15)

— (*with* Popov, Viktor) The DRM-MD integral equation method: an efficient approach for the numerical solution of domain dominant problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 3, 327–353. 65N38

Power, John *see* **Power, Anthony John**

Power, S. C. Partly self-adjoint limit algebras. (English summary) *Operator algebras and applications* (*Samos*, 1996), 403–428, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99j:47064** 47D25 (46K50)

— (*with* Donsig, Allan P.) Homology for operator algebras. IV. On the regular classification of limits of 4-cycle algebras. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 240–287. (Kenneth R. Davidson) **99g:47109** 47D25 (19K99, 46L85, 46M20)

— (*with* Laurie, C.) On the C^*-envelope of approximately finite-dimensional operator algebras. (English summary) *Math. Scand.* **80** (1997), *no.* 1, 107–124. (Timothy D. Hudson) **99b:46084** 46L05 (46K50, 47D25)

— Homology for operator algebras. III. Partial isometry homotopy and triangular algebras. (English summary) *New York J. Math.* **4** (1998), 35–56 (*electronic*). (Kenneth R. Davidson) **99g:47108** 47D25 (19K99, 46L85, 46M20)

Powers, David L. ★ Boundary value problems. (English summary) Fourth edition. *Harcourt/Academic Press, San Diego, CA*, 1999. *xii*+528 *pp. ISBN* 0-12-563734-9 (From the preface) **99k:35002** 35-01 (34-01, 34Bxx, 65-01)

Powers, R. C. (*with* McMorris, F. R.) The median function on weak hierarchies. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 265–269, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Michael A. Steel) **99c:92006** 92B10 (05C65)

— (*with* Riedel, Thomas; Sahoo, Prasanna K.) Limit properties of differential mean values. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 216–226. (Mihai Turinici) **99k:26003** 26A24

Powers, Robert T. Recent results concerning E_0-semigroups of $\mathfrak{B}(\mathfrak{h})$. *Operator algebras and quantum field theory* (*Rome*, 1996), 515–524, *Internat. Press, Cambridge, MA*, 199?. (Geoffrey Price) **99b:46104** 46L57 (46L55, 47D03)

Powers, Thomas R. (*with* Zhang, Dengfu; Goldstein, Raymond E.; Stone, Howard A.) Propagation of a topological transition: the Rayleigh instability. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1052–1057. (Summary) **99a:76064** 76E99 (76D45)

Powers, Victoria (*with* Wörmann, Thorsten) An algorithm for sums of squares of real polynomials. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 1, 99–104. (Summary) **99a:11047** 11E25 (12Y05)

Powołocki, Abram (*with* Odyniec, Włodzimierz; Laskowska, Anna) ★ Konstruowanie funkcji elementarnych. (Polish. Polish summary) [Construction of elementary functions] Translated and revised from the 1995 Russian original. *Wyższa Szkoła Pedagogiczna im. Tadeusza Kotarbińskiego* (*WSP*), *Zielona Góra*, 1998. 125 *pp. ISBN* 83-86832-50-9 26-01

Pozdeev, A. A. (*with* Blokhin, A. M.; Zimerman, V. R.) Numerical study of the stationary solution stability for the problem of supersonic flow around a cone with the help of the adequate computational model (method of lines). (English summary) *Siberian J. Differential Equations* **1** (1998), *no.* 4, 295–319. (Dietmar Kröner) **99k:76105** 76M25 (76E99, 76J20)

Pozdeev, V. A. The radiation of nonstationary spherical pressure waves by a moving and partially permeable boundary. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 787–795; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 729–736 (1999). 76B15

Pozhidaev, A. P. Simple factor algebras and subalgebras of algebras of Jacobians. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 593–599, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 512–517. (Alexander N. Rudyĭ) **99j:17005** 17A42 (17B99)

Poźniak, Marcin (*with* Życzkowski, Karol; Kuś, Marek) Composed ensembles of random unitary matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1059–1071. (Alexei Khorunzhy) **99g:82032** 82B41 (15A52, 60G57, 65U05)

Poznyak, A. S. (*with* Zúñiga, Roberto Salas) Information inequalities and limiting possibilities of adaptive control strategies in ARX models with a general quadratic criterion. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 1, 22 *pp.* (*electronic*). (Summary) **99h:93110** 93E12

— (*with* Yu, Wen; Sanchez, Edgar N.; Sira-Ramirez, Hebertt) Robust identification by dynamic neural networks using sliding mode learning. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 135–144. (*see* **99a:93003**) 93B30 (93C83)

— (*with* Taksar, Michael I.; Iparraguirre, A.) Robust output feedback control for linear stochastic systems in continuous time with time-varying parameters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1133–1136. 93D09 (93D21)

— (*with* Palacios, Alejandro Rodríguez) Robust boundary control for linear time-varying infinite-dimensional systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 392–403. (Mary Ann Horn) **99m:93064** 93C73 (93C05, 93C20, 93C50, 93D21)

jiménez Pozo, Miguel A. *see* **Jiménez Pozo, Miguel A.**

Pozo Coronado, L. M. (*with* Muñoz Masqué, Jaime) Parameter-invariant second-order variational problems in one variable. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6225–6242. (Victor Tapia) **99f:58057** 58E30

Pozrikidis, C. (*with* Kwak, Sehoon) Adaptive triangulation of evolving, closed, or open surfaces by the advancing-front method. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 61–88. 65D17 (65N30, 76D99, 76M25)

— (*with* Ramanujan, Saroja) Deformation of liquid capsules enclosed by elastic membranes in simple shear flow: large deformations and the effect of fluid viscosities. (English summary) *J. Fluid Mech.* **361** (1998), 117–143. (Summary) **99b:76031** 76D99 (76A05, 76M15, 76Z05)

— Gravity-driven creeping flow of two adjacent layers through a channel and down a plane wall. (English summary) *J. Fluid Mech.* **371** (1998), 345–376. (From the summary) **99i:76046** 76D99 (76M25)

Pozzo, Monica (*with* Tessarotto, Massimo) Relativistic guiding-center dynamics in the presence of strong flows. (English summary) *Phys. Plasmas* **5** (1998), *no.* 6, 2232–2243. (Summary) **99b:76100** 76X05 (76Y05)

dai Pra, Paolo *see* **Dai Pra, Paolo**

Prabhu, N. *see* **Prabhu, Nagabhushana**

Prabhu, N. U. ★ Stochastic storage processes. (English summary) Queues, insurance risk, dams, and data communication. Second edition. Applications of Mathematics, 15. *Springer-Verlag, New York*, 1998. xvi+206 *pp. ISBN* 0-387-98248-5 (From the preface) **99c:60208** 60K25 (60J25)

Prabhu, Nagabhushana (*with* Lagarias, Jeffrey C.; Reeds, James A.) The parameter space of the d-step conjecture. *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 52–63, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Jesús A. de Loera) **99b:52023** 52B12 (68U05)

— (*with* Morin, T. L.; Zhang, Z.) Complexity of the gravitational method for linear programming. *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 212–223, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Levent Tunçel) **99j:90044** 90C05 (90C60)

— (*with* Bohus, Géza; Jockusch, William; Lee, Carl W.) On a triangulation of the 3-ball and the solid torus. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 259–264. (Summary) **99a:05033** 05C10

— Fixed points of rotations of n-sphere. (English summary) *Int. J. Math. Math. Sci.* **22** (1999), *no.* 1, 221–222. 55M20

Prachar, Karl Über die quadratische Abweichung ganzzahliger Polynome von der Null. [On the quadratic deviation of integral polynomials from zero] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 15–42 (1998). (Michael Drmota) **99h:11021a** 11C08 (41A10)

— *see also* **Drmota, Michael, 99h:11021b**

García-Prada, Oscar *see* **García-Prada, Oscar**

Prada-Sánchez, José M. (*with* García-Soidán, Pilar H.; González-Manteiga, Wenceslao) Edgeworth expansions for nonparametric distribution estimation with applications. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 213–231. (Arup Bose) **99e:62042** 62G05 (62E20)

de Prada Vicente, María Angeles (*with* Kubiak, Tomasz) On internal characterizations of completely L-regular spaces. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 179–187 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54A40 (54D15)

— (*with* Kubiak, Tomasz) Hereditary normality plus extremal disconnectedness and insertion of a continuous function. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 188–190 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54G05 (54C45, 54D15)

— (*with* Kubiak, Tomasz) On internal characterizations of completely L-regular spaces. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 581–592. (T. Thrivikraman) **99d:54003** 54A40 (54D10)

— (*with* Gutiérrez García, J.) Super uniform spaces. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 291–309. (*see* **99c:54002**) 54A40 (54E15)

— (*with* Gutiérrez García, J.; Burton, M. H.) Embeddings into the category of super uniform spaces. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 311–326. (Summary) **99h:54006** 54A40 (54E15)

— (*with* Gutiérrez García, J.; Šostak, Alexander P.) Even fuzzy topologies and related structures. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 327–350. (Summary) **99h:54007** 54A40

— (*with* Kubiak, Tomasz) Lim-inf convergence in completely L-regular spaces. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 233–238. (Summary) **99j:54011** 54A40 (54A20, 54D15)

Prade, Henri (*with* Dubois, Didier) Numerical representations of acceptance. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 149–156, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68185** 68T30 (68T27)

— (*with* Benferhat, Salem; Dubois, Didier) Coping with the limitations of rational inference in the framework of possibility theory. (English summary) *Uncertainty in artificial intelligence (Portland, OR, 1996)*, 90–97, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99b:68180** 68T30
— (*with* Dubois, Didier) Belief revision with uncertain inputs in the possibilistic setting. (English summary) *Uncertainty in artificial intelligence (Portland, OR, 1996)*, 236–243, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30 (03B60, 68T27)
— (*with* Dubois, Didier; Fargier, Hélène) Fuzzy modeling of priority and preference in constraint satisfaction problems. (English summary) *Sci. Iran.* **2** (1996), *no.* 4, 313–328. 68T20
— (*with* Dubois, Didier) Qualitative possibility theory and its applications to reasoning and decision under uncertainty. (English summary) Fuzzy sets and applications. *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 1-2, 5–28. (*see* **99a:90004**) 90A05 (90C70)
— (*with* Benferhat, Salem; Dubois, Didier; Lang, Jérôme; Saffiotti, A.; Smets, P.) Reasoning under inconsistency based on implicitly-specified partial qualitative probability relations: a unified framework. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 121–126, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B70)
— (*with* Dubois, Didier; Le Berre, Daniel; Sabbadin, Régis) Logical representation and computation of optimal decisions in a qualitative setting. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 588–593, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (90A05)
— (*with* Benferhat, Salem; Dubois, Didier) From semantic to syntactic approaches to information combination in possibilistic logic. (English summary) *Aggregation and fusion of imperfect information*, 141–161, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 03B60 (03E72)
— (*with* Dubois, Didier) Similarity versus preference in fuzzy set-based logics. (English summary) *Incomplete information: rough set analysis*, 441–461, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03B52
— (*with* Dubois, Didier) Possibility theory is not fully compositional! A comment on a short note by H. J. Greenberg: "Possibilities of logically equivalent expressions" [Fuzzy Sets and Systems **86** (1997), no. 2, 249–250]. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 131–134. 03B52
— (*with* Dubois, Didier; Sessa, Salvatore) Recent literature. *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 381–386. 00A15 (03B52, 03E72)
— (*with* Giang, P. H.; Dubois, Didier) A probabilistic approach to ordering formulas in a possibilistic knowledge base. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 3, 241–256. (Maria-Teresa Lamata) **99i:68114** 68T30 (68T27)
— (*with* Dubois, Didier; Sessa, Salvatore) Recent literature. *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 351–356. 00A15 (03E72)
— (*with* Dubois, Didier; Sessa, Salvatore) Recent literature. *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 191–197. 00A15 (03E72)
Pradeep, B. (*with* Siva Ram Murthy, C.) A constant time string shuffle algorithm on reconfigurable meshes. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 251–259. (Summary) **99m:68072** 68Q22
Pradeep, C. R. (*with* Shastri, Anant. R.) On rationality of logarithmic Q-homology planes. I. *Osaka J. Math.* **34** (1997), *no.* 2, 429–456. (N. Mohan Kumar) **99b:14034** 14J26
— (*with* Gurjar, R. V.; Shastri, Anant. R.) On rationality of logarithmic Q-homology planes. II. *Osaka J. Math.* **34** (1997), *no.* 3, 725–743. (N. Mohan Kumar) **99i:14038** 14J26
Pradeep, S. (*with* Kumar, K.) Strategies for three-dimensional deployment of tethered satellites. *Mech. Res. Comm.* **25** (1998), *no.* 5, 543–550. 70M20
Pradeilles-Duval, R. M. (*with* Stolz, C.) Thermomechanical approach of running discontinuities. (English summary) *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 245–251, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73007** 73B30
de la Pradelle, Arnaud *see* **de La Pradelle, Arnaud**
Pradhan, G. (*with* Das, Rabindra Nath[2]) Two parameters quadrature rules for approximate evaluation on analytic functions of one complex-variable. (English summary) *Bull. Calcutta Math. Soc.* **90** (1998), *no.* 2, 119–128. 65D32 (65U05)
Pradhan, Satyabrata (*with* Modi, V. J.; Misra, Arun K.) Control of tethered satellite systems using thruster and offset strategies. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 175–193. 93C95 (70M20, 70Q05, 93C85)
Pradisi, G. Open superstrings. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 467–483. (From the introduction) **99j:81154** 81T30 (81T40)
Prado, Eduardo A. Ergodicity of conformal measures for unimodal polynomials. (English summary) *Conform. Geom. Dyn.* **2** (1998), 29–44 (*electronic*). (Patricia Dominguez-Soto) **99g:58106** 58F23
Prado, S. D. (*with* Berry, M. V.; Keating, Jonathan P.) Orbit bifurcations and spectral statistics. (English summary) *J. Phys. A* **31** (1998), *no.* 13, *L245–L254*. (Summary) **99a:81042** 81Q50 (81Q20)
Praeger, Cheryl E. Finite quasiprimitive graphs. (English summary) *Surveys in combinatorics, 1997 (London)*, 65–85, *London Math. Soc. Lecture Note Ser.*, 241, *Cambridge Univ. Press, Cambridge*, 1997. (M. E. Watkins) **99b:05076** 05C25 (20B15)
— (*with* Penttila, Tim) Ovoids and translation ovals. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 607–624. (David G. Glynn) **99h:51010** 51E22 (05B25, 51B10, 51E20, 51E21)
— (*with* Fang, Xin Gui; Li, Cai Heng) On orbital regular graphs and Frobenius graphs. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 85–99. (Summary) **99c:05090** 05C25 (20B25)
— (*with* Godsil, Chris D.; Liebler, Robert A.) Antipodal distance transitive covers of complete graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 455–478. (Robert Beezer) **99e:05130** 05E30 (05C70, 05C75)
— (*with* Baddeley, Robert W.) On classifying all full factorisations and multiple-factorisations of the finite almost simple groups. (English summary) *J. Algebra* **204** (1998), *no.* 1, 129–187. (Martin W. Liebeck) **99h:20019** 20D06 (20E07)
— (*with* Fang, Xin Gui) On graphs admitting arc-transitive actions of almost simple groups. (English summary) *J. Algebra* **205** (1998), *no.* 1, 37–52. (John van Bon) **99f:05052** 05C25 (20B25)
— (*with* Li, Cai Heng; Xu, Ming-Yao) Isomorphisms of finite Cayley digraphs of bounded valency. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 164–183. (T. T. Raghunathan) **99h:05055** 05C25 (05C20, 05C60, 20D20)
— (*with* Li, Cai Heng; Xu, Ming-Yao) On finite groups with the Cayley isomorphism property. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 21–31. (Dave Witte) **99c:20033** 20E34 (05C25)
— (*with* Gardiner, Anthony D.) Topological covers of complete graphs. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 549–559. (Roman Nedela) **99a:05034** 05C10 (05C25)
— (*with* Niemeyer, Alice C.) A recognition algorithm for classical groups over finite fields. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 1, 117–169. (Peter M. Neumann) **99k:20002** 20-04 (20G40)
— (*with* Guralnick, Robert M.; Penttila, Tim; Saxl, Jan) Linear groups with orders having certain large prime divisors. (English summary) *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 167–214. (Jean Michel) **99m:20113** 20G40 (20C33, 20E28, 20E34)
Pragacz, Piotr Symmetric polynomials and divided differences in formulas of intersection theory. *Parameter spaces (Warsaw, 1994)*, 125–177, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Harry Tamvakis) **99b:14002** 14C17 (05E05, 14M12, 14M15)
— The status of Hilbert's Fifteenth Problem in 1993. (Polish. English summary) *Hilbert's Problems (Polish) (Międzyzdroje, 1993)*, 175–184, *Polsk. Akad. Nauk, Warsaw*, 1997. (Summary) **99f:14065** 14M15 (01A60, 14-03, 14C17)
— (*with* Fulton, William) ★ Schubert varieties and degeneracy loci. Appendix J by the authors in collaboration with I. Ciocan-Fontanine. Lecture Notes in Mathematics, 1689. *Springer-Verlag, Berlin*, 1998. *xii+148 pp. ISBN* 3-540-64538-1 (Laurent Manivel) **99m:14092** 14M15 (14C17)
— A generalization of the Macdonald-You formula. *J. Algebra* **204** (1998), *no.* 2, 573–587. (Grant Walker) **99g:05181** 05E05
Pragarauskas, H. (*with* Mikulevičius, R.) On the existence of a viscosity solution to the integro-differential Bellman equation. (English summary) *Probability theory and mathematical statistics (Vilnius, 1993)*, 553–564, *TEV, Vilnius*, 1994. (Min Sun) **99m:35253** 35Q99 (35D05, 45K05, 49L25)
— *see also* **Probability theory and mathematical statistics, 99e:60004**
Práger, Milan Eigenvalues and eigenfunctions of the Laplace operator on an equilateral triangle. (English summary) *Appl. Math.* **43** (1998), *no.* 4, 311–320. (Summary) **99c:35036** 35J05 (35J25, 35P99, 65N25)
Praggastis, Brenda Numeration systems and Markov partitions from self-similar tilings. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3315–3349. (Richard Kenyon) **99m:11009** 11A63 (52C22)
Praharaj, P. (*with* Parhi, N.) Oscillation of linear second order matrix differential equations. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 287–305. (E. Müller-Pfeiffer) **99f:34045** 34C10
Prajapat, Jyotshana (*with* Kumaresan, S.) Serrin's result for hyperbolic space and sphere. *Duke Math. J.* **91** (1998), *no.* 1, 17–28. (V. Raghavendra) **99a:35088** 35J65 (35B05)
— Serrin's result for domains with a corner or cusp. *Duke Math. J.* **91** (1998), *no.* 1, 29–31. (P. Lindqvist) **99a:35055** 35J25 (35J67)
Prajs, Janusz R. On complete metric spaces containing the Sierpiński curve. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3743–3747. (J. R. Isbell) **99b:54050** 54F15 (54C25, 54F50, 54F65)
Prakasa Rao, B. L. S. (*with* Sreehari, M.) Chernoff-type inequality and variance bounds. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 325–335. (Sergei Utev) **99d:60017** 60E15
— Inequalities of Weyl-type and information inequalities. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 681–694. (Lucio Renato Berrone) **99e:26016** 26D10 (60E15)
Prakash, J. S. Special functions for SU(3)—a generating function approach. (English summary) *Special functions and differential equations (Madras, 1997)*, 230–234, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 33C80 (22E46)
Prakash, Om On relative "useful" information measures for generalized probability distributions. (English summary) *J. Indian Soc. Statist. Oper. Res.* **15** (1994), *no.* 1-4, 73–80. (Ma. Luisa Menéndez) **99i:62010** 62B10 (94A15)
Prakash, Swanny *see* **Elbaz, Edgard, 99j:81001**
Prakash, V. (*with* Pandu Rangan, C.; Parthasarathy, Koduvayur Ramaiyer) On the g-centroidal problem in special classes of perfect graphs. (English summary) *Ars Combin.* **50** (1998), 267–278. (Summary) **99h:05034** 05C12 (05C85)
— (*with* Parthasarathy, Koduvayur Ramaiyer; Pandu Rangan, C.) The Duchet conjecture. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 447–459. (A. Vijayakumar) **99h:05035** 05C12 (05C35)
Prakken, Henry (*with* McNamara, Paul F.) Introduction. *Norms, logics and information systems (Bologna, 1998)*, 1–14, *Frontiers Artificial Intelligence Appl.*, 49, *IOS, Amsterdam*, 1999. (*see* **99k:03014**) 03B45
— *see also* **Norms, logics and information systems, 99k:03014**
Praly, Laurent (*with* Jiang, Zhong-Ping) Design of robust adaptive controllers for nonlinear systems with dynamic uncertainties. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 825–840. 93C40 (93B35)
Pramanik, R. K. (*with* Pal, S. C.; Ghosh, M. L.) Transient response due to a pair of antiplane point impact loading on the faces of a finite Griffith crack at the bimaterial interface of anisotropic solids. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 11, 1197–1213. 73D25 (73D05, 73M25)
Prameela, V. (*with* Sree Hari Rao, V.; Phaneendra, Bh. R. M.) Global dynamics of bidirectional associative memory networks with transmission delays. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 453–471. (Virginia W. Noonburg) **99m:34178** 34K20 (92B20)
Prampolini, Andrea (*with* Artuso, Roberto) Correlation decay for an intermittent area-preserving map. (English summary) *Phys. Lett. A* **246** (1998), *no.* 5, 407–411. (Summary) **99e:58111** 58F08
Prance, H. (*with* Ralph, J. F.; Clark, T. D.; Prance, R. J.; Widom, A.; Srivastava, Y. N.) Solutions of the time-dependent Schrödinger equation for a two-state system. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1271–1282. 81Q05

Prance, R. J. (*with* Ralph, J. F.; Clark, T. D.; Prance, H.; Widom, A.; Srivastava, Y. N.) Solutions of the time-dependent Schrödinger equation for a two-state system. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1271–1282. 81Q05

Prandini, M. (*with* Bittanti, Sergio; Campi, M. C.) A penalized identification criterion for securing controllability in adaptive control. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 19 *pp.* (*electronic*). (Sauro Longhi) **99j:93060** 93C40 (93B05)

— (*with* Campi, M. C.) A new recursive identification algorithm for singularity free adaptive control. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 177–183. (Summary) **99d:93071** 93E12 (93B30, 93C40)

Prange, Dirk Epstein-Glaser renormalization and differential renormalization. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2225–2238. (Summary) **99k:81193** 81T15

Prange, R. E. (*with* Georgeot, B.) Fredholm solution of quantum chaos. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 429–444, *Internat. Press, Cambridge, MA*, 1997. (Jens Marklof) **99a:81044** 81Q50

— (*with* Narevich, R.; Zaitsev, Oleg) Quasiclassical surface of section perturbation theory. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1694–1710. (Summary) **99j:81044** 81Q20 (81Q15)

Prasad, B. N. *see* **Prasad, Baij Nath**

Prasad, Badri Nath *see* **Singh, Udita Narayana, 99m:01090**

Prasad, Baij Nath (*with* Pandey, T. N.; Singh, C. S.) Recurrent Finsler connection in a Finsler space with (α, β) metric. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 829–833. (Sándor Bácsó) **99m:53036** 53B40

Prasad, Bhagwat On a pseudo normal nearly co-symplectic manifold. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 503–508. (José A. Oubiña) **99g:53037** 53C15 (53C40)

— Nijenhuis tensor in Lorentzian almost para-contact manifold. (English summary) *Ganita Sandesh* **10** (1996), *no.* 2, 61–64. 53C15 (53C50)

— CR-submanifolds of Lorentzian para-Sasakian manifold. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 293–295. 53C40 (53C25, 53C50)

— W_2-curvature tensor on Kenmotsu manifold. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 287–291. (José A. Oubiña) **99g:53052** 53C25

— Semi-invariant submanifolds of a Lorentzian para-Sasakian manifold. (English summary) *Bull. Malaysian Math. Soc.* (2) **21** (1998), *no.* 1, 21–26. (Eduardo García-Río) **99m:53127** 53C50 (53C15, 53C25)

— Semi-symmetric metric (φ, ξ)-connection in Sasakian manifold. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 50–53. 53C25

Prasad, D. Chithra (*with* Biswas, Supriya; Pal, Sudebkumar Prasant) Recognizing weakly convex visible polygons. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 171–186. (Summary) **99a:68169** 68U05 (52B55)

— (*with* Pal, Sudebkumar Prasant; Dey, Tamal K.) Visibility with multiple diffuse reflections. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 187–196. (Rade Živaljević) **99c:52023** 52B55 (68U05)

— (*with* Aronov, Boris; Davis, A. R.; Dey, Tamal K.; Pal, Sudebkumar Prasant) Visibility with one reflection. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 553–574. (Rade Živaljević) **99c:52019** 52B55 (68U05)

— (*with* Aronov, Boris; Davis, A. R.; Dey, Tamal K.; Pal, Sudebkumar Prasant) Visibility with multiple reflections. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 61–78. (Jesús A. de Loera) **99d:68227** 68U05 (52B55, 68Q25)

Prasad, Dipendra A brief survey on the theta correspondence. *Number theory* (*Tiruchirapalli*, 1996), 171–193, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Gordan Savin) **99e:11063** 11F70 (22E50)

— Some remarks on representations of a division algebra and of the Galois group of a local field. (English summary) *J. Number Theory* **74** (1999), *no.* 1, 73–97. (Dihua Jiang) **99m:11138** 11S45 (11S20)

Prasad, Jagdish (*with* Kherwa, G. Ram; Bhagwandas) Balanced ternary designs from any (v, b, r, k) design. (English summary) *Ars Combin.* **51** (1999), 205–210. 05B05

manjunatha Prasad, K. *see* **Manjunatha Prasad, K.**

Prasad, K. C. A note on inequalities of certain simple continued fractions. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 151–153. (Les Davison) **99c:11009** 11A55

Prasad, K. Manjunatha *see* **Manjunatha Prasad, K.**

Prasad, Lal Babu (*with* Singh, Subhash Ranjan; Yadav, Niranjan Prasad) Flow under oscillatory rate of temperature distribution. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 118–121. 80A20

Prasad, Lallu (*with* Das, Rabindra Nath[1]; Kumar, Santosh[3]) On certain spaces of normalized analytic mappings. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 76–80. 30C45

guru prem Prasad, M. *see* **Guru Prem Prasad, M.**

Prasad, Manohar (*with* Mishra, Subhash C.) Radiative heat transfer in participating media—a review. (English summary) *Sādhanā* **23** (1998), *no.* 2, 213–232. (Summary) **99f:80003** 80A20 (85A25)

Prasad, Manoj K. (*with* Kershaw, David S.; Shaw, Michael J.; Milovich, Jose L.) 3D unstructured mesh ALE hydrodynamics with the upwind discontinuous finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 81–116. (From the summary) **99d:76060** 76M10 (76L05, 76M25)

Prasad, Nadipuram R. *see* **Sugeno, Michio**

Prasad, Phoolan Kinematics of a propagating curve and its equivalence to ray equations of a hyperbolic system. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 125–134. (Summary) **99k:35173** 35Q72 (73B30)

Prasad, R. N. (*with* Pathak, Birendra Kumar) Diophantine equations of the Tarry-Escott type. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 4, 233–235. 11D72

Prasad, Ramadhar (*with* Sharma, Devnandan) Existence and uniqueness of Green's matrix associated with an $n \times n$ matrix differential operator. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 55–59. 34L05

Prasad, S. K. On fuzziness in a probability space. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 73–77. 60A99 (04A72)

Prasad, Sanjiva (*with* Amadio, Roberto M.) Modelling IP mobility. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 301–316, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10)

Prasad, V. S. (*with* Eigen, Stanley) Multiple Rokhlin tower theorem: a simple proof. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 11–14 (*electronic*). (N. N. Ganikhodzhaev) **99h:28032** 28D05 (58F11)

Prasad, Y. N. (*with* Vishwakarma, S. N.) Few integrals involving the multivariable I-function and a general class of polynomials. (English summary) *Proc. Math. Soc.* **12** (1996), 57–63 (1997). (Summary) **99g:33045** 33C70

Prasad, Yogendra (*with* Sinha, A. P.) On fuzzy bi-quasi uniform space. *Math. Ed.* (*Siwan*) **32** (1998), *no.* 3, 145–148. 54A40 (54E15, 54E55)

— (*with* Yadav, Ramdeo Pd.) On study the application of extension principle on fuzzy sets. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 4, 236–238. 04A72

Prasada Rao, Ganti (*with* Subrahmanyam, A. V. B.) Models in generalized MA form for identification of continuous-time systems. *Statistical methods in control and signal processing*, 121–148, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E12 (93C60)

Prasanna, A. R. (*with* Gupta, Anshu; Mishra, Amruta; Mishra, Hiranmaya) Rotating compact objects with magnetic fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3131–3145. (Summary) **99g:83046** 83C55

— (*with* Mohanty, Subhendra) Photon propagation in Einstein and higher derivative gravity. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 501–508. (Volker Perlick) **99i:83049** 83C50 (83C10)

Prasanna, V. K. *see* **Prasanna Kumar, V. K.**

Prasanna Kumar, N. (*with* Shenoy, B. Gokuldas) On the zeros of complex polynomials. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 3, 162–163. 30C15

— (*with* Shenoy, B. Gokuldas) On the zeros of polynomials. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 4, 215–217. 30C15

Prasanna Kumar, V. K. (*with* Lim, Y. W.; Bhat, P. B.) Efficient algorithms for block-cyclic redistribution of arrays. (English summary) *Algorithmica* **24** (1999), *no.* 3-4, 298–330. 68Q22

Prasanth, Ravi K. (*with* Rotea, Mario A.) An interpolation approach to multiobjective $\mathscr{H}_\infty$ design. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 699–720. 93B36

— Two-sided tangential interpolation with real rational units in $\mathscr{H}_\infty$. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 861–874. (Cheng Wu Yang) **99f:93049** 93B36 (93D21)

Prasolov, Andrei V. (*with* Mardešić, Sibe) On strong homology of compact spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 327–354. (Leonard R. Rubin) **99c:55005** 55N07 (18G10, 18G40, 55P55)

Prástaro, Agostino Quantum and integral (co)bordisms in partial differential equations. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 3, 243–302. (Jaime Muñoz Masqué) **99d:58183** 58H10 (35A30, 58A30)

Prat, Joana d'Arc (*with* Massaguer, J. M.; Mercader, Isabel) Secondary instabilities in the two-dimensional Rayleigh-Bénard problem. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76E15

— (*with* Mercader, Isabel; Knobloch, Edgar) Resonant mode interactions in Rayleigh-Bénard convection. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 3145–3156. (Summary) **99f:76053** 76E15

Prates Filho, J. S. (*with* Cavalcanti, M. M.; Domingos Cavalcanti, V. N.; Soriano, J. A.) Existence and exponential decay for a Kirchhoff-Carrier model with viscosity. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 40–60. (Summary) **99g:35084** 35L70 (35B40)

— (*with* Domingos Cavalcanti, V. N.) Exact internal controllability of the elasticity system. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 29–43 (*electronic*). (Mircea Lupu) **99h:93011** 93B05 (35B37, 73K50, 93C20)

Prato, Domingo P. (*with* Lamberti, Pedro W.; Matsuda, Hiroaki) An alternative approach to the Terwiel cumulants expansion in disordered media. (English summary) *J. Phys. A* **32** (1999), *no.* 22, 4027–4034. 82B44

da Prato, Giuseppe *see* **Da Prato, Giuseppe**

Pratsevityĭ, N. V. Convolutions of singular distributions. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 9, 36–43. (Summary) **99k:60121** 60G50 (60E05, 60G30)

Pratt, E. *see* **Thoulouze-Pratt, Elaine**

thoulouze-Pratt, Elaine *see* **Thoulouze-Pratt, Elaine**

Pratt, Michael J. Quartic supercyclides. I. Basic theory. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 7, 671–692. (Summary) **99d:65054** 65D17 (53A05, 65Y25)

Prätzel-Wolters, Dieter (*with* Hoffmann, Jörg; Zerz, Eva) A balanced canonical form for discrete-time minimal systems using characteristic maps. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 63–81. (K. B. Datta) **99g:93017** 93B10 (15A21, 93C55)

Prautzsch, Hartmut (*with* Bister, Daniel) A new approach to Tchebycheffian B-splines. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 35–41, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99i:41003** 41A15

— Smoothness of subdivision surfaces at extraordinary points. (English summary) *Adv. Comput. Math.* **9** (1998), *no.* 3-4, 377–389. (Summary) **99j:65027** 65D17

Pravato, Alberto (*with* Honsell, Furio; Ronchi Della Rocca, Simona) Structured operational semantics of a fragment of the language Scheme. (English summary) *J. Funct. Programming* **8** (1998), *no.* 4, 335–365. (Summary) **99k:68102** 68Q55 (68N15)

Pravda, V. (*with* Bičák, Jiří) Curvature invariants in type-N spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1539–1555. (Maciej Przanowski) **99e:83012** 83C20 (83C30)

Pravdová, A. (*with* Bičák, Jiří) Symmetries of asymptotically flat electrovacuum space-times and radiation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6011–6039. (Leonardo Fernández-Jambrina) **99i:83023** 83C22 (82C20, 83C30)

Pravica, David W. Trapped rays in cylindrically symmetric media and poles of the analytically continued resolvent. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 341–364. (Summary) **99i:47087** 47F05 (35P05, 47N20, 78A40)

Prażmowski, Krzysztof (*with* Oryszczyszyn, Henryk) On projections in projective spaces. *Demonstratio Math.* **31** (1998), *no.* 1, 193–202. (Introduction) **99c:51012** 51E15

Prechelt, Lutz Why we need an explicit forum for negative results. Announcement of the Forum for Negative Results (FNR). (English summary) *J.UCS* **3** (1997), *no.* 9,

1074–1083 (*electronic*). 68Q99 (68T99, 68U99)

Precup, Radu On the continuation principle for nonexpansive maps. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 85–89. (Maria Patrizia Pera) **99f:47073** 47H09 (34G20, 47H10)

— Continuation theorems for mappings of Caristy type. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 101–106. 54H25 (47H10)

— Convexity and quadratic monotone approximation in delay differential equations. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 153–158, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (Summary) **99m:34150** 34K05 (45J05)

— Monotone iterations for decreasing maps in ordered Banach spaces. (English summary) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A* (*Arad*, 1996), 105–108, *"Aurel Vlaicu" Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 47H10 (47H07)

— Continuation principles for coincidences. *Mathematica* **39(62)** (1997), *no.* 1, 103–110. (Maria Patrizia Pera) **99c:47103** 47H15

— Existence theorems for nonlinear problems by continuation methods. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3313–3322. (Donal O'Regan) **99a:47097** 47H15 (34B15, 34C25, 47N20)

Precupanu, Anca-Maria A convexity condition for the nonexistence of some antiproximinal sets in the space of integrable functions. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 209–217, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:90159** 90C48 (41A65, 49Q20)

Preda, Cristian (*with* Romilă, Bogdan; Hollo, Csaba) A structural characterization of D-continuous partially ordered sets. (Romanian. English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 81–96. 68Q55 (06A06)

Preda, Mircea Cezar Uncertain logical rules and the formalization by the maximum entropy principle. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 66–80 (1997). (Summary) **99g:68203** 68T35

— Reasoning with epistemic information. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **24** (1997), 166–186 (1998). (Summary) **99m:68035** 68N17 (68T27)

Preda, Vasile On duality for variational problems with root term. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 1, 99–111. 90C29 (49N15)

— Expressions for the density of a linear combination of N independent random variables. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 649–657. (Iosif Pinelis) **99i:60097** 60G50 (60E99)

— Duality for multiobjective fractional programming problems involving n-set functions. (English summary) *Analysis and topology*, 569–583, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99h:00035**) 90C29 (49N15, 90C32)

— (*with* Chiţescu, I.) On constraint qualification in multiobjective optimization problems: semidifferentiable case. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 417–433. (Laura Martein) **99m:90125** 90C29

Prediger, Susanne Simple concept graphs: a logic approach. (English summary) *Conceptual structures: theory, tools and applications* (*Montpellier*, 1998), 225–239, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (Summary) **99j:03025** 03B70 (06A99, 68T30)

Preece, D. A. (*with* Vowden, B. J.; Phillips, N. C. K.) Double Youden rectangles of sizes $p \times (2p+1)$ and $(p+1) \times (2p+1)$. (English summary) *Ars Combin.* **51** (1999), 161–171. (Summary) **99j:05039** 05B15

— (*with* Phillips, N. C. K.) Tight single-change covering designs with $v = 12$, $k = 4$. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 657–670. (Summary) **99i:05056** 05B30

— (*with* Vowden, B. J.) Some series of cyclic balanced hyper-Graeco-Latin superimpositions of three Youden squares. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 671–682. (Summary) **99j:05040** 05B15

— (*with* Rees, D. H.) Perfect Graeco-Latin balanced incomplete block designs (pergolas). (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 691–712. (Summary) **99i:05042** 05B15

Preen, J. (*with* Wangechi, C.; Stewart, A. G. R.) Number of squfnits in a biquadratic field. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 639–646. (Franz Lemmermeyer) **99c:11132** 11R16 (11R27)

Prehofer, Christian ★ Solving higher-order equations. (English summary) From logic to programming. Progress in Theoretical Computer Science. *Birkhäuser Boston, Inc., Boston, MA*, 1998. viii+186 *pp. ISBN* 0-8176-4032-0 (Ralph W. Wilkerson) **99b:68110** 68Q42 (03B15, 03B70, 68N17, 68Q40, 68T15)

Preiss, David (*with* Tišer, Jaroslav) Positivity principle for more concentrated measures. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 236–246. (Adolf R. Mirotin) **99g:28027** 28C15

— (*with* Bongiorno, Benedetto; Di Piazza, L.) Infinite variation and derivatives in $\mathbf{R}^m$. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 22–33. (M. Laczkovich) **99j:28003** 28A15 (28A75, 49Q15)

— (*with* Mörters, Peter) Tangent measure distributions of fractal measures. (English summary) *Math. Ann.* **312** (1998), *no.* 1, 53–93. (Lars Olsen) **99i:28013** 28A75 (28A80, 60G57)

Preisser, John S. (*with* Qaqish, Bahjat F.) Resistant fits for regression with correlated outcomes: an estimating equations approach. (English summary) The Seventh Eugene Lukacs Conference (Bowling Green, OH, 1997). *J. Statist. Plann. Inference* **75** (1999), *no.* 2, 415–431. (*see* **99k:62004**) 62J12

Preissler, Gabriele ★ Möbius-Differentialgeometrie von Hyperflächen. (German) [Möbius differential geometry of hypersurfaces] Dissertation, Universität Stuttgart, Stuttgart, 1996. *Mathematisches Institut B der Universität Stuttgart, Stuttgart*, 1996. iv+171 *pp.* (Udo Hertrich-Jeromin) **99c:53067** 53C42 (53A10, 53C40, 58E12)

Preitschopf, Christian R. Symmetries and solutions of self-dual Yang-Mills theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 536–542, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:53022** 53C07 (17B67, 58E15)

— (*with* Maznytsia, Alexey; Sorokin, D. P.) Duality of self-dual actions. (English summary) *Nuclear Phys. B* **539** (1999), *no.* 1-2, 438–452. (Summary) **99i:81149** 81T13

Prékopa, András (*with* Vizvári, Béla; Badics, Tamás) Programming under probabilistic constraint with discrete random variable. (English summary) *New trends in mathematical programming*, 235–255, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (A. H. Žilinskas) **99g:90077** 90C15

Prelec, Drazen The probability weighting function. (English summary) *Econometrica* **66** (1998), *no.* 3, 497–527. (Summary) **99a:90053** 90A10

Preller, Anne (*with* Mugnier, Marie-Laure; Chein, Michel) Logic for nested graphs. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 335–357. (Marcus Kracht) **99g:68200** 68T30 (03B65, 03F03)

Prelov, Vyacheslav V. (*with* Pinsker, M. S.) On error-free filtering of some stationary processes. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 109–118; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 349–358. (O. A. Glonti) **99j:94013** 94A12 (60G35)

— (*with* Pinsker, M. S.; van der Meulen, Edward C.) The information creation rate in some stationary non-Gaussian channels in the case of transmission with weak signals. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 1, 3–17; *translation in Problems Inform. Transmission* **34** (1998), *no.* 1, 1–13. (Summary) **99i:94036** 94A40 (94A15)

Prema, K. (*with* Usha, R.) Pulsatile flow of particle-fluid suspension model of blood under periodic body acceleration. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 2, 175–192. 76Z05 (76T05, 92C35)

Premabai, Millicent (*with* Parvatham, Rajagopalan) On neighbourhoods of strongly starlike functions with respect to symmetric points. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 44–49, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 30C45

Premet, Alexander Complexity of Lie algebra representations and nilpotent elements of the stabilizers of linear forms. *Math. Z.* **228** (1998), *no.* 2, 255–282. (Rolf Farnsteiner) **99i:17023** 17B50 (17B35, 17B45)

— (*with* Skryabin, S. M.) Representations of restricted Lie algebras and families of associative $\mathscr{L}$-algebras. (English summary) *J. Reine Angew. Math.* **507** (1999), 189–218. (Jean-Pierre Soublin) **99m:17026** 17B50

guru Prem Prasad, M. *see* **Guru Prem Prasad, M.**

Prencipe, G. Basic algorithms for the MRMW PRAM model. *Calcolo* **34** (1997), *no.* 1-4, 135–144 (1998). 68Q22

Preneel, Bart (*with* Knudsen, Lars R.) Hash functions based on block ciphers and quaternary codes. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 77–90, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99a:94036** 94A60

— (*with* Knudsen, Lars R.) Fast and secure hashing based on codes. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 485–498, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94035** 94A60

— (*with* Knudsen, Lars R.; Lai, Xuejia) Attacks on fast double block length hash functions. (English summary) *J. Cryptology* **11** (1998), *no.* 1, 59–72. (Summary) **99i:94046** 94A60

— (*with* van Oorschot, Paul C.) On the security of iterated message authentication codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 188–199. (Summary) **99k:94040** 94A60

Preparata, F. P. (*with* Devillers, Olivier) A probabilistic analysis of the power of arithmetic filters. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 523–547. (Luiz Henrique de Figueiredo) **99i:68120** 68U05

Preparata, G. (*with* Cacciatori, S.; Rovelli, S.; Spagnolatti, I.; Xue, S.-S.) On the ground state of quantum gravity. (English summary) *Phys. Lett. B* **427** (1998), *no.* 3-4, 254–260. (Summary) **99c:83028** 83C45

Prepeliţă, Valeriu 2D linear systems with boundary conditions. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 6, 625–636. 93C30 (93A30)

— (*with* Doroftei, M.; Vasilache, T.) Peano Baker series convergence for matrix valued functions of bounded variation. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 111–118. (Gianluca Vinti) **99k:26010** 26A45 (26A39, 34A12)

Presa Sagué, Arturo (*with* Dager, S. R.) On an analogue of the Runge theorem for harmonic differential forms. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 109–117, 215; *translation in J. Math. Sci.* (*New York*) **92** (1998), *no.* 1, 3613–3618. (Summary) **99d:58009** 58A10 (31B05)

Presciutti, Alessio (*with* Leonardi, Stefano; Marchetti-Spaccamela, Alberto; Rosén, Adi) On-line randomized call control revisited. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 323–332, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10

Prescott, Philip Nearly optimal orthogonally blocked designs for a quadratic mixture model with q components. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2559–2580. 62K05 (62K10)

— (*with* Draper, Norman R.) Mixture designs for constrained components in orthogonal blocks. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 5, 613–638. 62K10

— Construction of sequentially counterbalanced designs formed from two Latin squares. (English summary) *Util. Math.* **55** (1999), 135–152. (Summary) **99m:05024** 05B05 (05B15)

Presedo Quindimil, M. (*with* Stute, Winfried; González-Manteiga, Wenceslao) Bootstrap approximations in model checks for regression. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 141–149. (Arup Bose) **99e:62070** 62G09 (62J05)

Prešić, Slaviša B. (*with* Kečkić, Jovan D.) Reproductivity—a general approach to equations. Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 157–184. (Introduction) **99e:39090** 39B52 (15A24, 34A05)

parisi-Presicce, Francesco *see* **Parisi-Presicce, Francesco**

Presman, È. L. (*with* Sethi, Suresh P.; Zhang, Hanqin; Zhang, Qing[1]) Optimality of zero-inventory policies for an unreliable manufacturing system producing two part types. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 485–496. (Summary) **99h:90039** 90B05 (90C90)

Prešnajder, P. (*with* Chaichian, Masud; Grosse, Harald) Representations and some applications of q-oscillators. (English summary) *Quantum groups* (*Karpacz*, 1994), 183–191, *PWN, Warsaw*, 1995. (Roberto Casalbuoni) **99f:81090** 81R50

— (*with* Grosse, Harald; Klimčík, C.) $N = 2$ superalgebra and non-commutative geometry. *Symétries quantiques* (*Les Houches*, 1995), 603–612, *North-Holland, Amsterdam*, 1998. (Jihad Mourad) **99m:58021** 58B30 (17B81, 81T99)

— (*with* Grosse, Harald) A noncommutative regularization of the Schwinger model. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 1, 61–69. (Edwin Langmann) **99m:81149** 81T15 (46L60, 46L87, 58B30, 58G40, 81T10, 81T50)

Presnell, Brett Bootstrap unconditional P-values for the sign test with ties and the 2×2 matched-pairs trial. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 47–55. (Summary) **99a:62064** 62G09

— (*with* Proschan, Michael A.) Expect the unexpected from conditional expectation. (English summary) *Amer. Statist.* **52** (1998), *no.* 3, 248–252. (Summary) **99f:60036** 60E99 (62–01)

— (*with* Hall, Peter Gavin) Applications of intentionally biased bootstrap methods. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 257–266 (*electronic*). (Summary) **99e:62067** 62G09 (62G05)

— (*with* Morrison, Scott P.; Littell, Ramon C.) Projected multivariate linear models for directional data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1068–1077. 62H11 (62J05)

— (*with* Gasser, Theo; Hall, Peter Gavin) Nonparametric estimation of the mode of a distribution of random curves. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 681–691. (Summary) **99e:62043** 62G05

— (*with* Hall, Peter Gavin) Intentionally biased bootstrap methods. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 143–158. (Li-Xing Zhu) **99m:62067** 62G09 (62G07, 62G10)

Press, S. James (*with* Lee, Sang Eun) Robustness of Bayesian factor analysis estimates. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1871–1893. 62H25

Pressley, Andrew (*with* Chari, Vyjayanthi) Quantum affine algebras and integrable quantum systems. *Quantum fields and quantum space time* (*Cargèse*, 1996), 245–263, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Rinat Kedem) **99c:17024** 17B37 (81R50)

— (*with* Chari, Vyjayanthi) Twisted quantum affine algebras. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 2, 461–476. (Wen-li Yang) **99f:16041** 16W30 (17B37, 81R50)

Prest, Mike Interpreting modules in modules. (English summary) Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 193–215. (Paul C. Eklof) **99b:03051** 03C60 (16D90)

— Morphisms between finitely presented modules and infinite-dimensional representations. *Algebras and modules, II* (*Geiranger*, 1996), 447–455, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Frank Okoh) **99i:16027** 16G10 (16B70)

— The representation theories of elementarily equivalent rings. *J. Symbolic Logic* **63** (1998), *no.* 2, 439–450. (M. A. Taĭtslin) **99m:03070** 03C60 (08C10, 16B70)

— (*with* Puninskiĭ, G. E.) Σ-pure-injective modules over a commutative Prüfer ring. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 961–971. (Alberto Facchini) **99m:13017** 13C13 (13F05)

Prestidge, Tim Higher spin field equations in a virtual black hole metric. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124022, 15 *pp.* (Summary) **99m:83136** 83C57

Prestin, Jürgen (*with* Sprengel, Frauke) An orthonormal bivariate algebraic polynomial basis for $C(I^2)$ of low degree. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 177–188, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Summary) **99c:42073** 42C15 (42C30)

— (*with* Stosiek, Alina) Approximation in Hölder norms with higher order differences. (English summary) *Rostock. Math. Kolloq. No.* 51 (1997), 33–50. (P. Vértesi) **99a:41013** 41A17 (41A05)

— (*with* Selig, Kathi) Interpolatory and orthonormal trigonometric wavelets. (English summary) *Signal and image representation in combined spaces*, 201–255, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Gerlind Plonka) **99f:42005** 42A10 (41A05, 42C15, 94A12)

Prestini, Elena (*with* Meaney, Christopher) Almost everywhere convergence of inverse spherical transforms on noncompact symmetric spaces. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 2, 277–304. (Summary) **99j:43001** 43A22

— (*with* Meaney, Christopher) Bochner-Riesz means on symmetric spaces. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 557–570. (Sergei S. Platonov) **99j:43003** 43A50 (22E30, 43A85, 46M35)

Presutti, E. (*with* Bodineau, Thierry) Phase diagram of Ising systems with additional long range forces. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 287–298. (Yasunari Higuchi) **99a:82012** 82B20 (82B05, 82B26)

— (*with* Benois, O.; Bodineau, Thierry; Buttà, Paolo) On the validity of van der Waals theory of surface tension. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 2, 175–198. (Agoston Pisztora) **99e:82033** 82B24 (60F10, 82B20, 82B26)

— (*with* De Masi, Anna; Olivieri, E.) Spectral properties of integral operators in problems of interface dynamics and metastability. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 1, 27–112. (Maria E. Vares) **99j:60153** 60K35 (82C24)

— (*with* Benois, O.; Bodineau, Thierry) Large deviations in the van der Waals limit. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 89–104. (Yvan Velenik) **99h:60046** 60F10 (60K35, 82B24)

mauceri del Prete, Vincenza *see* **Mauceri Del Prete, Vincenza**

Pretolani, D. (*with* Nguyen, Sang; Markenzon, L.) On some path problems on oriented hypergraphs. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 1-3, 1–20. (Summary) **99h:68138** 68R10

Pretorius, Frans (*with* Israel, Werner) Quasi-spherical light cones of the Kerr geometry. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2289–2301. (Juan Antonio Sáez) **99i:83017** 83C15

— (*with* Vollick, Dan N.; Israel, Werner) An operational approach to black hole entropy. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6311–6316. (Summary) **99m:83137** 83C57

Preuß, Gerhard Felix Hausdorff (1868–1942). *Handbook of the history of general topology, Vol.* 1, 1–19, *Kluwer Acad. Publ., Dordrecht*, 1997. (R. L. Cooke) **99e:01027** 01A70 (01A60, 54–03)

— Convenient topology. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 171–183. (H. Herrlich) **99b:54015** 54B30 (18B30, 54A05, 54E15)

Previtali, Andrea (*with* Gavioli, Norberto; Mann, Avinoam; Monti, Valerio; Scoppola, Carlo M.) Groups of prime power order with many conjugacy classes. *J. Algebra* **202** (1998), *no.* 1, 129–141. (W. E. Deskins) **99d:20028** 20D15

Previte, Joseph P. Graph substitutions. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 661–685. (Michel Coornaert) **99h:58095** 58F08 (05C99, 28A80, 53C23)

Prewitt, Kathryn Goodness-of-fit test in parametric time series models. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 5, 549–574. (Vladimir Zaiats) **99m:62142** 62M10 (62G10)

Prezhdo, Oleg V. (*with* Kisil, Vladimir V.) Mixing quantum and classical mechanics. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 1, 162–175. (Oleg Yu. Shvedov) **99j:81010** 81P05 (81S99)

Preziosi, Bruno A note on light velocity anisotropy. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 2, 157–163. 83B05 (83A05)

Priami, Corrado (*with* Bodei, Chiara; Degano, Pierpaolo) Constructing specific SOS semantics for concurrency via abstract interpretation (extended abstract). (English summary) *Static analysis* (*Pisa*, 1998), 168–183, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68Q10 (68Q55)

— (*with* Degano, Pierpaolo) Non-interleaving semantics for mobile processes. (English summary) *Theoret. Comput. Sci.* **216** (1999), *no.* 1-2, 237–270. (Summary) **99m:68055** 68Q10 (68Q55)

Prianes, E. (*with* Marcellán, Francisco) Orthogonal polynomials and linear functionals of second degree. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 18 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:42046** 42C05 (33C45)

Pribble, E. J. (*with* Cheon, Gi-Sang; Johnson, Charles Royal; Lee, Sang-Gu) The possible numbers of zeros in an orthogonal matrix. (English summary) *Electron. J. Linear Algebra* **5** (1999), 19–23 (*electronic*). (Summary) **99h:15023** 15A57

Price, Christopher J. A multistart linkage algorithm using first derivatives. (English summary) *Developments in global optimization* (*Szeged*, 1995), 135–152, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (J. Mockus) **99c:90124** 90C30 (65K05)

— (*with* Coope, Ian D.) Exact penalty function methods for nonlinear semi-infinite programming. (English summary) *Semi-infinite programming*, 137–157, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99c:90139** 90C34 (65K05, 90–02, 90C30)

Price, G. W. (*with* Cao, Qing Jie; Zhang, Tian De; Li, Jiu Ping; Djidjeli, K.; Twizell, E. H.) Soliton solutions of a class of generalized N-dimensional nonlinear Schrödinger equations and their properties. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2166–2173. (Summary) **99c:35217** 35Q55

— (*with* Cao, Qing Jie; Zhang, Tian De; Djidjeli, K.; Twizell, E. H.) Soliton solutions of a class of generalized nonlinear Schrödinger equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 389–398. (Hong Yuan Fu) **99b:65096** 65M06 (35Q55)

— (*with* Zhang, Tian De; Cao, Qing Jie; Djidjeli, K.; Twizell, E. H.) Applications of the weighted scheme for GNLS equations in solving soliton solutions. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 525–541. (Summary) **99f:35198** 35Q55 (65M06)

Price, Geoffrey L. Shifts on the hyperfinite II_1 factor. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 121–169. (Marie Choda) **99h:46118** 46L37 (46L40, 46L55)

Price, James F. Parameterization of the fair weather Ekman layer. (English summary) *Ocean modeling and parameterization* (*Les Houches*, 1998), 121–134, *NATO Sci. Ser. C Math. Phys. Sci.*, 516, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99f:86001**) 86A05

Price, John F. (*with* Kholodnyi, Valery A.) ★ Foreign exchange option symmetry. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xx*+134 *pp. ISBN* 981-02-3362-0 (Christian Hipp) **99j:90012** 90A09

Price, Kenneth L. Homological properties of color Lie superalgebras. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 287–293, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Aleksandr A. Mikhalev) **99e:17032** 17B55 (16S30, 17B35, 17B70)

Price, Richard H. (*with* Gleiser, Reinaldo J.; Nicasio, Carlos O.; Pullin, Jorge) Evolving the Bowen-York initial data for spinning black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3401–3407. (Summary) **99m:83112** 83C57

— (*with* Krivan, William) Initial data for superposed rotating black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104003, 9 *pp.* (Summary) **99k:83075** 83C57 (83–08)

— (*with* Nollert, Hans-Peter) Quantifying excitations of quasinormal mode systems. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 980–1010. (Summary) **99k:83034** 83C35 (83C57)

— (*with* Krivan, William) Formation of a rotating black hole from a close-limit head-on collision. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 7, 1358–1361. 83C57

Price, W. G. (*with* Djidjeli, K.; Temarel, P.; Twizell, E. H.) A linearized implicit pseudo-spectral method for certain non-linear water wave equations. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 977–993. (Summary) **99i:76108** 76M25 (65N35, 76B15, 76B25)

— (*with* Cao, Qing Jie; Djidjeli, K.; Twizell, E. H.) Periodic and chaotic behaviour in a reduced form of the perturbed generalized Korteweg-de Vries and Kadomtsev-Petviashvili equations. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 201–221. (Summary) **99j:35182** 35Q53 (58F39, 65D99, 65M99)

Priddy, Stewart (*with* Martino, John) A classification of the stable type of $BG_p^\wedge$ for compact Lie groups. *Topology* **38** (1999), *no.* 1, 1–21. (Don Shimamoto) **99h:55026** 55R35 (55P42)

— *see also* **Homotopy theory via algebraic geometry and group representations, 99c:55001**

Pride, Stephen J. Geometric methods in combinatorial semigroup theory. *Semigroups, formal languages and groups* (*York*, 1993), 215–232, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (D. E. Cohen) **99d:20095** 20M05 (20F05)

— (*with* Guba, V. S.) On the left and right cohomological dimension of monoids. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 4, 391–396. (J. K. Luedeman) **99d:20107** 20M50 (16E10, 20M25)

— (*with* Alonso, Juan Manuel; Bogley, W. A.; Burton, Robert M., Jr.; Wang, Xiao Feng[1]) Second order Dehn functions of groups. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 193, 1–30. (Athanase Papadopoulos) **99c:20047** 20F32 (57M07)

Pride, Steven R. (*with* Berryman, James G.) Connecting theory to experiment in poroelasticity. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 4, 719–747. (Summary) **99a:73013** 73B27 (73N20, 76S05)

Priemer, Roland (*with* Li, Chunshien) Fuzzy control of unknown multiple-input–multiple-output plants. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 245–267. 93C42

— (*with* Kolodziej, Cezary) Stability analysis of fuzzy systems. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 5, 851–873. 93C42 (93D05)

Priese, Lutz (*with* Wimmel, Harro) A uniform approach to true-concurrency and interleaving semantics for Petri nets. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 219–256. (Wolfgang Reisig) **99i:68036** 68Q10 (68Q90)

Priess-Crampe, Sibylla (*with* Ribenboim, Paulo) Generalized ultrametric spaces. II. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 19–31. (From the introduction) **99m:54019** 54E99 (54D35)

— (*with* Ribenboim, Paulo) The common point theorem for ultrametric spaces. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 105–110. 54H25 (12E15, 54E40)

Priest, E. R. (*with* Watson, P. G.; Craig, I. J. D.) The roles of advection and diffusion in planar magnetic merging solutions. (English summary) *Geophys. Astrophys. Fluid Dynam.* **88** (1998), *no.* 3-4, 165–185. 76W05 (85A30)

Priest, Graham Multiple denotation, ambiguity, and the strange case of the missing amoeba. (English summary) *Logique et Anal.* (*N.S.*) **38** (1995), *no.* 150-152, 361–373. (Jean-Yves Béziau) **99d:03022** 03B53 (03A05, 03B50)

— Yablo's paradox. *Analysis* (*Oxford*) **57** (1997), *no.* 4, 236–242. (Lila Luce) **99e:03005** 03A05

— What is so bad about contradictions? *J. Philos.* **95** (1998), *no.* 8, 410–426. 03B53 (03A05)

— *see also* **Impossible worlds, 99d:03002** *and* **Dümont, Jürgen, 99k:00010**

Priestley, H. A. ★ Introduction to integration. (English summary) Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1997. xii+306 *pp. ISBN* 0-19-850124-2; 0-19-850123-4 (K. P. S. Bhaskara Rao) **99d:28001** 28–01 (28A25)

— (*with* Haviar, Miroslav; Konôpka, P.; Wegener, C. B.) Finitely generated free modular ortholattices. I. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2639–2660. (M. J. Mączyński) **99g:06012** 06C15 (06C20, 81P10)

— Varieties of distributive lattices with unary operations. I. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 2, 165–207. (M. E. Adams) **99e:06007** 06D05 (03G20, 06D25, 08B99)

Priestley, Thomas J. (*with* Clarkson, Peter A.) Symmetries of a class of nonlinear fourth order partial differential equations. (English summary) *J. Nonlinear Math. Phys.* **6** (1999), *no.* 1, 66–98. (Summary) **99j:35184** 35Q53

Priestley, W. M. When is a Markovian semigroup induced by a semiflow? (English summary) *Semigroup Forum* **56** (1998), *no.* 3, 301–322. (J. A. Van Casteren) **99g:47103** 47D07 (46L57, 54H20)

Prieto, A. *see* **Prieto Espinosa, Alberto**

Prieto, Ana Isolina (*with* Galué, Leda) Generalized radiation integrals involving Meijer's *G*-function. (Spanish. English and Esperanto summaries) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 57–64. (Summary) **99g:33038** 33C60

— (*with* Srivastava, Hari M.) A generalization of the function $S_M^{(p,q)}$ associated with some families of radiation integrals. (Spanish. English and Spanish summaries) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 65–74. (Summary) **99g:33013** 33C20 (33C45)

Prieto de Castro, Carlos A sum formula for stable equivariant maps. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3475–3480. (Steven R. Costenoble) **99d:55005** 55P91 (55M20, 55N91, 55P42, 55Q91)

Prieto Espinosa, Alberto (*with* Rojas, I.; Valenzuela, O.; Anguita, M.) Analysis of the operators involved in the definition of the implication functions and in the fuzzy inference process. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 367–389. (Summary) **99h:03016** 03B52

— (*with* Rojas, I.; Ortega, Julio; Pelayo, F. J.) Statistical analysis of the main parameters in the fuzzy inference process. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 157–173. 93C42 (03B52)

Prieto Martínez, Juan José An estimator for the number of clusters in a population. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 97–124. (Summary) **99g:62014** 62D05 (60C05, 62G05)

— Estimation of the number of clusters in a population using the generalized jackknife. (Spanish. English and Spanish summaries) *Qüestiió* (2) **22** (1998), *no.* 2, 291–309. 62G09

— A review of the methods of cluster analysis. (Spanish. Spanish summary) *Rev. Acad. Cienc. Zaragoza* (2) **53** (1998), 191–198. 62H30

Prieto Yerro, Ángeles (*with* Jaramillo, Jesús Angel; Zalduendo, Ignacio) The bidual of the space of polynomials on a Banach space. *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 457–471. (Luiza Amália de Moraes) **99a:46030** 46B28 (46B10, 46G20, 46M05)

Prieur, Christophe (*with* Choffrut, Christian; Latteux, Michel) Constructing sequential bijections. (English summary) *Structures in logic and computer science*, 308–321, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Siniša Crvenković) **99i:68083** 68Q70 (20M35)

Priezzhev, V. B. *see* **Renormalization group '96, 99m:81155**

Prigarin, S. M. On the interpolation of positive definite functions and stationary random sequences. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 3, 235–243. 60G10 (42A75, 65C05, 65U05)

— Numerical solution of boundary value problems for linear systems of stochastic differential equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 1983–1988; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1903–1908. (Summary) **99h:65232** 65U05 (60H10, 65L99)

Prignet, Alain Conditions aux limites non homogènes pour des problèmes elliptiques avec second membre mesure. (English and French summaries) [Nonhomogeneous boundary conditions for elliptic problems with right-hand-side measures] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 297–318. (Monica Lazzo) **99c:35078** 35J65 (35R05)

Prigogine, Ilya (*with* Petrosky, Tomio) The extension of classical dynamics for unstable Hamiltonian systems. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 1–44. (Summary) **99h:82050** 82C05 (70H05)

— (*with* Antoniou, Ioannis; Gadella, M.; Pronko, G. P.) Relativistic Gamow vectors. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 2995–3018. (M. J. Mączyński) **99g:81228** 81U30

— (*with* Petrosky, Tomio) Laws of nature, probability and time symmetry breaking. *Generalized functions, operator theory, and dynamical systems* (*Brussels*, 1997), 153–170, *Chapman & Hall/CRC Res. Notes Math.*, 399, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:00030**) 81P05

Prigozhin, Leonid Solution of thin film magnetization problems in type-II superconductivity. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 180–193. (Summary) **99e:78009** 78–08 (76A99, 78A55)

Prilmak, V. G. On the impossibility of describing turbulent flows of a viscous fluid by nonstationary solutions of Navier-Stokes equations of a certain symmetry. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 32–35. (Radyadour Kh. Zeytounian) **99m:76073** 76F99 (76D05)

— (*with* Miyazaki, Teruo) Accurate Navier-Stokes investigation of transitional and turbulent flows in a circular pipe. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 370–411. (Summary) **99a:76118** 76M25 (76F99)

Prikarpat·skiĭ, A. K. (*with* Zagrodziński, J. A.; Blackmore, D. L.) Lax-type flows on Grassmann manifolds and dual momentum mappings. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 539–549. (Iskander A. Taimanov) **99a:58094** 58F07 (58B25)

Prikhod'ko, B. V. Asymptotics of rolling solitary waves. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 6, 23–28; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 6, 833–838 (1998). (From the text) **99b:76026** 76D33 (35Q30)

Prikry, Karel (*with* Dubins, Lester E.) On the existence of disintegrations. (English summary) *Séminaire de Probabilités, XXIX*, 248–259, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Summary) **99m:28013** 28A50 (03E50, 03E75, 28E15, 60A10)

Prilipko, A. I. (*with* Onufriĭchuk, S. P.) Higher order symmetry operators for the Schrödinger equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 328–330, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 81Q05 (35J10)

Primack, Harel (*with* Smilansky, Uzy) On the accuracy of the semiclassical trace formula. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6253–6277. (Summary) **99c:81043** 81Q20

Primak, M. E. (*with* Nenakhov, E. I.) A modified fixed point iteration method for solving exchange models. (English summary) *Optimization* **39** (1997), *no.* 1, 43–52. (Lorenzo Peccati) **99a:90055** 90A12 (90–04)

— (*with* Kheyfets, B. L.) Methods of centers for variational inequalities and linear programming. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 2-3, 273–293. (Shinji Mizuno) **99g:90149** 90C33 (90C05)

Primas, Hans Emergence in exact natural sciences. (English summary) *Acta Polytech. Scand. Math. Comput. Manage. Eng. Ser.* **1998**, *no.* 91, 83–98. (S. Gudder) **99f:81022** 81P10 (03B30)

Primc, Mirko (*with* Meurman, Arne) Annihilating fields of standard modules of $\mathfrak{sl}(2,\mathbb{C})^{\sim}$ and combinatorial identities. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 652, *viii*+89 *pp.* (Hai Sheng Li) **99g:17052** 17B69 (05A19, 17B67)

Primicerio, Angela Selvaggi (*with* Dini, G.) Localization principle of automorphisms on generalized pseudoellipsoids. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 4, 575–584. (Akio Kodama) **99m:32032** 32H35 (32H02, 32H40)

Primicerio, Mario (*with* Cortázar, Carmen; Elgueta, Manuel) Localization of the solution of a one-dimension one-phase Stefan problem. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 71–82 (1997). (Galina I. Bizhanova) **99f:35228** 35R35 (35K05, 80A22)

— (*with* Fasano, Antonio; Mikelić, Andro) Homogenization of flows through porous media with permeable grains. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 1–31. (Robert Lipton) **99e:76119** 76S05 (35B27, 35Q35, 73B27)

Prince, Alan R. The cyclic parallelism of PG(3, 5). (English summary) *European J. Combin.* **19** (1998), *no.* 5, 613–616. (Jim Totten) **99e:51010** 51E23

Prince, G. E. (*with* Jerie, M.; O'Connor, J. E. R.) Computer algebra determination of symmetries in general relativity. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 363–380. (Sergey I. Tertychniy) **99j:83002** 83–04 (83C20, 83C40)

— (*with* Aldridge, J. E.) Computer algebra solution of the inverse problem in the calculus of variations. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 489–509. (Summary) **99h:49049** 49N45

— (*with* O'Connor, J. E. R.) Finding collineations of Kimura metrics. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 1, 69–82. (Patrick Dolan) **99d:83014** 83C15 (83–04)

— (*with* Aldridge, J. E.; Byrnes, G. B.) A universal Hamilton-Jacobi equation for second-order ODEs. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 827–844. (Paola Morando) **99m:58097** 58F05 (34A26, 58E30, 70H20)

Prince, Jerry L. (*with* Xu, Chenyang) Snakes, shapes, and gradient vector flow. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 3, 359–369. (Summary) **99k:94017** 94A12

— (*with* Osman, Nael F.) 3D vector tomography on bounded domains. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 185–196. (Fritz Keinert) **99a:44002** 44A12 (92C55)

Prince, P. J. (*with* Baker, T. S.; Dormand, J. R.) Continuous approximation with embedded Runge-Kutta-Nyström methods. (English summary) *Appl. Numer. Math.* **29** (1999), *no.* 2, 171–188. (Summary) **99h:65126** 65L06

Pringsheim, Alfred *see* **Bauer, Friedrich L., 99g:01031**

Prinja, Anil K. Pencil beam transport in a random medium using the Fermi transport equation. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 667–679. (Summary) **99e:82089** 82C70 (82D30)

Pripoae, Gabriel Teodor (*with* Nicolescu, Liviu) Estimates for the mean functions associated to a symmetric (0, 2)-tensor on a Riemannian manifold. (English summary)

Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 805–812. (Andrew Bucki) **99k:53071** 53C20 (53A07)

Prisakaru, Violeta The upper chromatic number of quasi-interval co-hypergraphs. *Matematiche (Catania)* **52** (1997), *no.* 2, 237–260 (1998). (Peter Mihók) **99f:05085** 05C65 (05C15, 90C35)

di Prisco, A. *see* **Di Prisco, A.**

di Prisco, Carlos Augusto *see* **Di Prisco, Carlos Augusto**

de Prisco, Roberto *see* **De Prisco, Roberto**

delli Priscoli, Francesco *see* **Delli Priscoli, Francesco**

Prishchepov, M. I. (*with* Klyachko, Anton Alexandrovich) The descent method for equations over groups. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 90–93; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 56–58. (L. Bokut') **99g:20052** 20F05

Prishchepova, S. V. (*with* Kostyukova, O. I.) A finite algorithm for solving an optimal control problem with phase constraints at discrete moments of time. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 189–206; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 2, 181–198. (O. V. Vasil'ev) **99d:49055** 49M05 (49K15)

Prishlyak, A. O. New polynomials of knots. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1230–1235. (Sergei V. Chmutov) **99b:57021** 57M25

— Vector fields with a given set of singular points. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1373–1384; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1548–1558 (1998). (S. Yu. Pilyugin) **99m:57026** 57R25 (34C05, 58F21)

— On embedded graphs in a surface. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 211–212; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 844–845. (Dušan Repovš) **99a:57003** 57M15 (05C10)

Prisner, Erich Intersection multigraphs of uniform hypergraphs. (English summary) *Graphs Combin.* **14** (1998), *no.* 4, 363–375. (Jenő Lehel) **99m:05114** 05C65

Pritchard, A. J. (*with* El Jaï, Abdelhak; Simon, Marie Claude; Zerrik, E.) Regional controllability of distributed parameter systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1351–1365. 93B05 (93C20)

— (*with* Hinrichsen, Diederich) Stochastic H^∞. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1504–1538 (*electronic*). (George Yin) **99c:93113** 93E15 (93B36, 93C55, 93D09)

Pritchard, Charles J. (*with* Wigdorowitz, Brian) Mapping frequency response bounds to the time domain. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 335–343. 93B35 (93B30)

— (*with* Wigdorowitz, Brian) Improved method of determining time-domain transient performance bounds from frequency response uncertainty regions. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 311–327. 93B51 (93B50, 93C41)

— (*with* Wigdorowitz, Brian) On the determination of time-domain signal levels at the specification stage in quantitative feedback theory controller synthesis. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 329–348. 93B51 (93C41)

Pritchard, Geoffrey (*with* Li, Wenbo V.) A central limit theorem for the sock-sorting problem. (English summary) *High dimensional probability (Oberwolfach, 1996)*, 245–248, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Nasrollah Etemadi) **99k:60098** 60F17 (60C05)

Pritchard, Huw O. (*with* Vatsya, S. Raj) Connection between classical and quantum descriptions of evolution. (English summary) *Causality and locality in modern physics (Toronto, ON, 1997)*, 441–450, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99j:81012** 81P05

Pritikin, Dan (*with* Miller, Zevi) On randomized greedy matchings. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 3, 353–383. (Lyuben R. Mutafchiev) **99b:05134** 05C85 (05C35)

— All unit-distance graphs of order 6197 are 6-colorable. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 159–163. (Summary) **99c:05068** 05C15

Pritsker, I. E. (*with* Papamichael, N.; Saff, Edward B.) Asymptotic zero distribution of Laurent-type rational functions. (English summary) *J. Approx. Theory* **89** (1997), *no.* 1, 58–88. (H.-J. Runckel) **99a:30007** 30C15 (30C85)

— (*with* Varga, Richard S.) Weighted polynomial approximation in the complex plane. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 475–492. (Juan Carlos Fariña Gil) **99j:41015** 41A10 (30E10)

— Polynomial approximation with varying weights on compact sets of the complex plane. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3283–3292. (Wiesław Pleśniak) **99a:41027** 41A30 (30E10)

— (*with* Kroó, András) A sharp version of Mahler's inequality for products of polynomials. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 3, 269–278. (D. Boyd) **99m:30008** 30C10 (11C08)

Pritula, N. N. The Lie-algebra structure of integrable nonlinear dynamical systems on extended functional manifolds. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1512–1518; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1697–1704 (1998). (Summary) **99k:58030** 58D25 (58F07)

Pritula, Ya. Ya. (*with* Sheremeta, Myroslav M.) Maximum modulus and maximal term of a class of Dirichlet series. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 77–83; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 2, 74–80. (Shlomo Strelitz) **99h:30004a** 30B50 (30D15)

— (*with* Sheremeta, Myroslav M.) Errata: "Maximum modulus and maximal term of a class of Dirichlet series". (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. (Shlomo Strelitz) **99h:30004b** 30B50 (30D15)

Privara, Igor *see* **Mathematical foundations of computer science, 99d:68009**

Privault, Nicolas Splitting the conservation process into creation and annihilation parts. (English summary) *Quantum probability (Gdańsk, 1997)*, 341–348, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Wolfgang Freudenberg) **99h:81109** 81S25 (60H07)

— The Sard inequality on two non-Gaussian spaces. (English summary) *Stochastic analysis and related topics, VI (Geilo, 1996)*, 349–356, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Catherine Donati-Martin) **99m:60030** 60E15 (28C20, 60G30)

— An analytic approach to stochastic calculus. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 353–358. (David Nualart) **99k:60145** 60H07 (60B15, 60H05)

— A pointwise equivalence of gradients on configuration spaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 677–682. (David Nualart) **99k:60140** 60H05

— Absolute continuity in infinite dimensions and anticipating stochastic calculus. (English summary) *Potential Anal.* **8** (1998), *no.* 4, 325–343. (Vladimir I. Bogachev) **99h:28028** 28C20 (46G12, 60B11, 60H07)

Privman, Vladimir (*with* Mozyrsky, Dima) Adiabatic decoherence. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 787–799. (Summary) **99c:82044** 82C10

Priwitzer, Barbara (*with* Salzmann, Helmut R.) Large automorphism groups of 16-dimensional planes are Lie groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 83–93. (Rainer Löwen) **99f:51027** 51H10 (22E99)

Priymak, V. G. *see* **Prilmak, V. G.**

Priyutova, O. M. (*with* Karasëv, V. P.; Derbov, Vladimir L.; Vinitskiĭ, S. I.) Geometric phases of the generalized polarization coherent states in quantum optics. (English summary) *Symmetry methods in physics, Vol. 1 (Dubna, 1995)*, 314–319, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81R30 (81V80)

Prizzi, Martino (*with* Rybakowski, Krzysztof P.) Complicated dynamics of parabolic equations with simple gradient dependence. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3119–3130. (Björn Sandstede) **99a:35125** 35K55 (35B40)

— (*with* Rybakowski, Krzysztof P.) Some recent results on chaotic dynamics of parabolic equations. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 231–235. (*see* **99f:58002**) 35K60 (58F39)

Proakis, John (*with* Biglieri, Ezio; Shamai, Shlomo) Fading channels: information-theoretic and communications aspects. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2619–2692. (Summary) **99i:94032** 94A40 (94–02, 94A15)

Probert, R. L. (*with* Wei, Linsheng) Testing behaviours of processes based on nondeterministic rippling and environment control. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 389–408 (*electronic*). (*see* **99d:68010**) 68Q10 (68Q55, 68Q60)

Procacci, Aldo (*with* Pereira, Emmanuel) Block renormalization group in a formalism with lattice wavelets: correlation function formulas for interacting fermions. (English summary) *Ann. Physics* **255** (1997), *no.* 1, 19–33. (A. L. Rebenko) **99g:81142** 81T17 (81T25, 81T27)

Procaccia, Itamar (*with* Belinicher, Victor I.; L'vov, Victor S.; Pomyalov, Anna) Computing the scaling exponents in fluid turbulence from first principles: demonstration of multiscaling. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 797–832. (Roland Schiestel) **99m:76069** 76F99 (76M35, 82C31, 82D15)

— (*with* L'vov, Victor S.; Podivilov, Evgenii; Pomyalov, Anna; Vandembroucq, Damien) Improved shell model of turbulence. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1811–1822. 76F99

— (*with* Davidovitch, Benny; Hentschel, H. George E.; Olami, Zeev; Sander, Leonard M.; Somfai, Ellak) Diffusion limited aggregation and iterated conformal maps. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1368–1378. (Summary) **99m:82048** 82D99 (58F40)

Procesi, Claudio Complements of subspaces and conical singularities. (Italian. English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 2, 113–123. (V. A. Golubeva) **99a:32024** 32G34 (14D99, 20F55, 32S40)

— (*with* De Concini, C.) Quantum Schubert cells and representations at roots of 1. *Algebraic groups and Lie groups*, 127–160, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Venkatramani Lakshmibai) **99i:20067** 20G99 (16W30)

Prochazka, Aurelius (*with* Pullin, D. I.) Structure and stability of non-symmetric Burgers vortices. (English summary) *J. Fluid Mech.* **363** (1998), 199–228. (Summary) **99f:76042** 76D05 (76C05, 76E99, 76M25)

Próchniak, L. (*with* Szpikowski, S.) Supersymmetry in elementary particle and nuclear physics. (English summary) *Symmetry methods in physics, Vol. 2 (Dubna, 1995)*, 565–573, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81V35 (81R05, 81V25)

Procopiuc, Cecilia-Magdalena (*with* Ţiplea, Ferucio Laurenţiu; Procopiuc, Octavian; Ene, Cristian) On the power and complexity of parallel communicating grammar systems. (English summary) *Artificial life: grammatical models (Mangalia, 1994)*, 53–78, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (68Q05)

— (*with* Freund, Rudolf J.; Păun, Gheorghe; Procopiuc, Octavian) Parallel communicating grammar systems with context-sensitive components. (English summary) *Artificial life: grammatical models (Mangalia, 1994)*, 166–174, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (68Q50)

— (*with* Agarwal, Pankaj K.) Exact and approximation algorithms for clustering (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 658–667, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (62H30)

Procopiuc, Octavian (*with* Ţiplea, Ferucio Laurenţiu; Procopiuc, Cecilia-Magdalena; Ene, Cristian) On the power and complexity of parallel communicating grammar systems. (English summary) *Artificial life: grammatical models (Mangalia, 1994)*, 53–78, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (68Q05)

— (*with* Freund, Rudolf J.; Păun, Gheorghe; Procopiuc, Cecilia-Magdalena) Parallel communicating grammar systems with context-sensitive components. (English summary) *Artificial life: grammatical models (Mangalia, 1994)*, 166–174, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (68Q50)

Procter, Kerrigan Parabolic induction via Hecke algebras and the Zelevinsky duality conjecture. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 1, 79–116. (Volker J. Heiermann) **99h:22025** 22E50 (11S37)

Proctor, M. R. E. (*with* Meunier, N.; Sokolov, D. D.; Soward, Andrew M.; Tobias, S. M.) Asymptotic properties of a nonlinear $\alpha\omega$-dynamo wave: period, amplitude and latitude dependence. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 249–285. (Summary) **99k:85006** 85A30 (76W05, 85A20)

— (*with* Hollerbach, Rainer; Galloway, D. J.) On the adjustment to the Bondi-Gold theorem in a spherical-shell fast dynamo. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 111–132. (Summary) **99c:76116** 76W05 (85A30)

Prodan, Emil The Laplace-Beltrami operator on surfaces with axial symmetry. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4289–4300. (Zhiqin Lu) **99d:58174** 58G25 (65F99)

Prodanescu, I. (*with* Tutescu, L.) On a conjecture concerning the Smarandache function. *Smarandache Notions J.* **9** (1998), *no.* 1-2, 104–105. 11A25

Prodi, Giovanni Remembrance of Mario Dolcher. (Italian) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 221–223 (1998). 01A70

Prodinger, Helmut (*with* Kirschenhofer, Peter; Szpankowski, Wojciech) Analysis of a splitting process arising in probabilistic counting and other related algorithms. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 4, 379–401. (A. Ya. Olenko) **99c:05021** 05A99

— (*with* Panholzer, Alois) Descendants and ascendants in binary trees. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 247–266. (Summary) **99d:68053** 68P05 (05C05)

— (*with* Kirschenhofer, Peter; Martínez, Conrado) Analysis of Hoare's FIND algorithm with median-of-three partition. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 143–156. (Jean-Luc Lambert) **99c:68063** 68P10

— (*with* Martínez, Conrado; Panholzer, Alois) On the number of descendants and ascendants in random search trees. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 20, 36 *pp.* (*electronic*). (Peter Kirschenhofer) **99b:05003** 05A15 (68P05, 68P10)

— (*with* Knopfmacher, Arnold) On Carlitz compositions. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 579–589. (L. Bruce Richmond) **99j:05006** 05A15 (05A05)

— (*with* Grabner, Peter J.; Kirschenhofer, Peter) The sum-of-digits function for complex bases. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 20–40. (M. Mendès France) **99e:11010** 11A63

— (*with* Panholzer, Alois) A generating functions approach for the analysis of grand averages for multiple QUICKSELECT. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 189–209. (Ranjan Chaudhuri) **99k:68038** 68P10

Proebsting, Todd (*with* Kannan, Sampath K.) Register allocation in structured programs. (English summary) SODA '95 (San Francisco, CA). *J. Algorithms* **29** (1998), *no.* 2, 223–237. (Summary) **99j:68018** 68N20 (68R10)

van Proeyen, Antoine *see* **Van Proeyen, Antoine**

Profeti, Alessandro (*with* Fagnani, Fabio) Invariant measures for random dynamical systems over tori. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 201–203. (*see* **99f:58002**) 58F11

Profilo, Gabriella (*with* Soliani, Giulio; Tebaldi, Claudio) Some exact solutions of the two-dimensional Navier-Stokes equations. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 459–471. (Summary) **99a:76038** 76D05 (35Q30)

— (*with* Alfinito, E.; Grassi, V.; Leo, R. A.; Soliani, Giulio) Equations of the reaction-diffusion type with a loop algebra structure. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1387–1401. (Oktay K. Pashaev) **99m:58106** 58F07 (35K57, 58F35)

— (*with* Alfinito, E.; Causo, M. S.; Soliani, Giulio) A class of nonlinear wave equations containing the continuous Toda case. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2173–2189. (Summary) **99c:35157** 35L70 (35A30, 35Q58, 70G99)

Prohaska, M. (*with* Krattenthaler, Christian) A remarkable formula for counting nonintersecting lattice paths in a ladder with respect to turns. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1015–1042. (Aldo Conca) **99e:05009** 05A15 (13C40)

Prőhle, Péter Which of the cancellative semigroups are groups? (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 438–439. 20M10

Proietti, Guido (*with* Nardelli, Enrico; Widmayer, Peter) Finding all the best swaps of a minimum diameter spanning tree under transient edge failures. (English summary) *Algorithms—ESA '98 (Venice)*, 55–66, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (68M20)

— (*with* Nardelli, Enrico; Widmayer, Peter) Finding the detour-critical edge of a shortest path between two nodes. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 51–54. (Summary) **99c:68198** 68R10 (05C38, 05C85, 68Q25)

— (*with* Gaibisso, Carlo; Nardelli, Enrico) Intersection reporting on two collections of disjoint sets. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 41–52. (Summary) **99j:68019** 68P05

Proietti, Maurizio (*with* Pettorossi, Alberto) Transformation of logic programs. *Handbook of logic in artificial intelligence and logic programming, Vol.* 5, 697–787, *Oxford Univ. Press, New York*, 1998. (M. I. Dekhtyar) **99f:68032** 68N17 (03B70, 68Q60)

peirce edition Project *see* **Peirce Edition Project**

Prok, István (*with* Molnár, Emil; Szirmai, J.) Classification of solid transitive simplex tilings in simply connected 3-spaces. II. Metric realizations of the maximal simplex tilings. *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 47–94. (Ren Ding) **99j:52026** 52C22 (57S30)

— Classification of dodecahedral space forms. *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 497–515. (Sándor Szabó) **99i:52029** 52C22 (52–04, 52B55)

Prokhorov, D. V. Coefficients of functions close to the identity function. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 255–263. (Summary) **99a:30021** 30C50 (49K30)

— The sum of coefficients of bounded univalent functions. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 728–733; *translation in Math. Notes* **61** (1997), *no.* 5-6, 609–613. (Iscander Nezhmetdinov) **99c:30030** 30C45 (30C50)

— (*with* Khokhlov, Yu. E.; Vasil'ev, A. Yu.) On geometrical properties of free boundaries in the Hele-Shaw flows moving boundary problem. *Lobachevskii J. Math.* **1** (1998), 3–12 (*electronic*). (Peter A. McCoy) **99m:76054** 76D99 (30C35, 35R35, 76S05)

Prokhorov, I. V. (*with* Anikonov, D. S.; Nazarov, V. G.) Visible and invisible media in tomography. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 599–603. (J. S. Joel) **99e:92016** 92C55

Prokhorov, L. V. (*with* Shabanov, Sergei V.) ★ Гамильтонова механика калибровочных систем. (Russian. Russian summary) [Hamiltonian mechanics of gauge systems] *Izdatel'stvo Sankt-Peterburgskogo Universiteta, St. Petersburg*, 1997. 293 *pp. ISBN* 5-288-01523-6 (Sergiu I. Vacaru) **99h:81001** 81–01 (53C80, 58–01, 81S40, 81T13)

Prokhorov, Yu. G. On the complementability of the canonical divisor for Mori fibrations on conics. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 11, 99–120; *translation in Sb. Math.* **188** (1997), *no.* 11, 1665–1685. (Tomasz Szemberg) **99b:14036** 14J30 (14E30)

Prokhorov, Yu. V. *see* **Probabilistic methods in discrete mathematics, 99f:60004**

Prokhorova, M. F. Modeling of solutions of the heat equation and the Stefan problem with dimension reduction. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 4, 450–452. 35K05 (35R35)

Prokhorova, R. A. (*with* Izobov, N. A.) Coppel-Conti sets of linear systems. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 90–98. (Summary) **99d:34056** 34C11 (34A30, 34D05, 34D10)

Prokhorovich, T. N. (*with* Vasilevich, N. D.) A second-order system of Fuchs type. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1704–1706, 1727–1728; *translation in Differential Equations* **32** (1996), *no.* 12, 1699–1701 (1997). (V. V. Chueshev) **99a:34013** 34A20 (30B40, 34A25)

— A Fuchsian system with four singular points and its application. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1559–1562, 1583; *translation in Differential Equations* **33** (1997), *no.* 11, 1566–1569 (1998). (Summary) **99i:34008** 34A20 (30E25, 45E05)

— (*with* Vasilevich, N. D.) On a special case of a Fuchsian system. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 123–125, 144. (J. S. Joel) **99m:32049** 32S40 (34A20)

— Application of a Fuchsian system to the solution of problems in the plane theory of elasticity. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 29–31, 139. 73C02 (34A20, 73V35)

Prokof'ev, V. P. (*with* Nevol'ko, A. I.; Chinyaev, Yu. P.) Synthesis of an adaptive noise-compensation system with parallel-sequential input signal processing. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 66–69, 150. 93E35 (93C40)

Prokof'eva, S. I. (*with* Ivochkina, N. M.) A priori estimate for the second-order derivatives of solutions to the Dirichlet problem for fully nonlinear parabolic equations. (English summary) Some questions of mathematical physics and function theory. *J. Math. Sci. (New York)* **92** (1998), *no.* 6, 4302–4315. (Alan V. Lair) **99m:35126** 35K60 (35B45)

Prokop, G. (*with* Pfeiffer, Friedrich) Position and controller optimization for robotic parts mating. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 57–79, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90C15 (90C90, 93C85)

Prokop, Roman (*with* Corriou, Jean-Pierre) Design and analysis of simple robust controllers. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 905–921. 93D21

Prokopishin, I. A. (*with* Khlebnikov, D. G.) Deformational and energy criteria for optimization of residual stresses in shells. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 72–82, 157–158. 73K40 (73K15, 90C90, 93C95)

Prokopov, G. P. (*with* Ivanenko, S. A.) Methods for constructing adaptive-harmonic grids. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 643–662; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 6, 627–645. (Włodzimierz Proskurowski) **99a:65171** 65N50

Prokopovich, I. B. (*with* Osadchuk, V. A.; Kravchishin, O. Z.) The linearized equations of propagation of elastic perturbations in a body with free strains. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 2, 1972–1977. (Summary) **99f:73033** 73D15

Proksch, Ruth Edge-2-coloring in case of triangulations of the sphere according to J. Petersen. *Util. Math.* **52** (1997), 3–28. (Steve Fisk) **99h:05043** 05C15

Proll, Les (*with* Smith, Barbara M.) Integer linear programming and constraint programming approaches to a template design problem. (English summary) Connections between integer programming and constraint logic programming. *INFORMS J. Comput.* **10** (1998), *no.* 3, 265–275. (*see* **99e:90002**) 90C10 (90C90)

Prolla, João B. (*with* Navarro, Samuel) Approximation results in the strict topology. (English summary) *Ann. Math. Blaise Pascal* **4** (1997), *no.* 2, 61–82. (Liaqat Ali Khan) **99a:46068** 46E40 (41A65, 46J10)

— (*with* Chiacchio, Ary O.; Roversi, Maria Sueli M.) Extensions of a theorem of Ky Fan. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 735–747. (George Isac) **99j:47095** 47H10 (49J40, 90C48)

Prömel, Hans Jürgen *see* **Lectures on proof verification and approximation algorithms, 99h:68060**

Promislow, K. (*with* Li, Yi A.) Structural stability of non-ground state traveling waves of coupled nonlinear Schrödinger equations. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 137–165. (Elaine Machtyngier) **99j:35204** 35Q55 (35B35, 58F39)

Pronin, Andrei V. (*with* Treshchëv, Dmitriĭ V.) On the inclusion of analytic maps into analytic flows. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 14–24. (Iskander A. Taimanov) **99i:58131** 58F25 (58F05)

Pronin, Petr I. (*with* Kalmykov, M. Yu.; Kazakov, Kirill A.; Stepan'yants, K. V.) Detailed analysis of the dependence of 1-loop counter-terms on gauge and parametrization in Einstein gravity with a cosmological constant. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3777–3794. (Summary) **99g:83036** 83C45 (83–04)

— (*with* Kalmykov, M. Yu.) The one-loop divergences of the linear gravity with the torsion terms in tetrad approach. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 35, 2827–2837. (Summary) **99h:83022** 83C45

— (*with* Kazakov, Kirill A.) Gauge and parametrization dependence in higher derivative quantum gravity. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064012, 13 *pp.* 83C45

Pronko, A. G. (*with* Izergin, A. G.) Correlators in the one-dimensional two-component Bose and Fermi gases. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 445–454. (M. Yu. Rasulova) **99f:82008** 82B10 (82B23)

— (*with* Izergin, A. G.) Temperature correlators in the two-component one-dimensional gas. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 3, 594–632. (Johanna K. Erdmenger) **99m:82014** 82B23

Pronko, G. P. (*with* Antoniou, Ioannis; Gadella, M.) Gamow vectors for degenerate scattering resonances. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2459–2475.

(R. G. Newton) **99b:81260** 81U20 (47A40, 47N50, 81U05)

— (*with* Antoniou, Ioannis; Gadella, M.; Prigogine, Ilya) Relativistic Gamow vectors. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 2995–3018. (M. J. Mączyński) **99g:81228** 81U30

de Prony, Gaspard Clair François Marie Riche *see* **Bradley, Margaret, 99i:01031**

Pronzato, Luc (*with* Pázman, Andrej) Approximate densities of two bias-corrected nonlinear LS estimators. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 145–152, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99j:62092** 62J02

— (*with* Wynn, Henry P.; Zhiglyavskiĭ, A. A.) A generalized golden-section algorithm for line search. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 2, 185–214. (Summary) **99c:90125** 90C30 (65K05)

— On a property of the expected value of a determinant. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 161–165. (Summary) **99k:62138** 62K05 (62H05)

— *see also* **MODA 5—advances in model-oriented data analysis and experimental design, 99f:62008**

Prophet, M. P. (*with* Chalmers, Bruce L.) The existence of shape-preserving operators with a given action. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 813–834. (D. Leviatan) **99j:41031** 41A29 (41A35, 47B99)

de Prophetis, Lucio (*with* Varricchio, Stefano) Recognizability of rectangular pictures by Wang systems. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 4, 269–288. (Rani Siromoney) **99h:68107** 68Q45

de wild Propitius, Mark *see* **de Wild Propitius, Mark**

Propoĭ, A. I. Optimization and learning problems for nonlocal search in excitable media. II. The learning problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 3, 68–81. (Valentin V. Gorokhovik) **99a:90193** 90C30 (49N15, 65K05)

— Optimization and learning problems for nonlocal search in excitable media. III. Search implementation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 54–64; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 561–570. (Valentin V. Gorokhovik) **99a:90194** 90C30 (49N15, 65K05)

— Models of wave media. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 10, 18–26; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 1, 1567–1574 (1998). (Conclusion) **99c:35248** 35Q99 (49N55)

— The learning problem for nonlocal search in wave media. II. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 84–90; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 224–228. (Summary) **99k:90161** 90C30 (65K05)

Propp, James Gary (*with* Wilson, David Bruce) Exact sampling with coupled Markov chains and applications to statistical mechanics. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 223–252. (Arnoldo Frigessi) **99k:60176** 60J10 (82B20)

— (*with* Wilson, David Bruce) Coupling from the past: a user's guide. (English summary) *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 181–192, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99d:60081** 60J10

— (*with* Wilson, David Bruce) How to get a perfectly random sample from a generic Markov chain and generate a random spanning tree of a directed graph. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 170–217. (Salvatore Ingrassia) **99g:60116** 60J10 (05C80)

— (*with* Cohn, Henry; Larsen, Michael) The shape of a typical boxed plane partition. (English summary) *New York J. Math.* **4** (1998), 137–165 (*electronic*). (David M. Bressoud) **99j:60011** 60C05 (05A16, 60K35)

— *see also* **Microsurveys in discrete probability, 99b:60003**

Propst, Georg Equilibrium states of a hyperbolic system of balance laws. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 779–799. (Hermano Frid) **99j:35137** 35L65 (76N10, 76T05)

Proschan, Michael A. (*with* Presnell, Brett) Expect the unexpected from conditional expectation. (English summary) *Amer. Statist.* **52** (1998), *no.* 3, 248–252. (Summary) **99f:60036** 60E99 (62–01)

Prosen, Tomaž Quantization of a generic chaotic 3D billiard with smooth boundary. I. Energy level statistics. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 323–331. (Nariyuki Minami) **99a:81046** 81Q50

— Quantization of generic chaotic 3D billiard with smooth boundary. II. Structure of high-lying eigenstates. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 332–342. (Nariyuki Minami) **99a:81047** 81Q50

— A new class of completely integrable quantum spin chains. (English summary) *J. Phys. A* **31** (1998), *no.* 21, *L*397–*L*403. (Summary) **99h:82028** 82B23

— Berry-Robnik level statistics in a smooth billiard system. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7023–7029. (Summary) **99d:81041** 81Q50

— Quantum invariants of motion in a generic many-body system. (English summary) *J. Phys. A* **31** (1998), *no.* 37, *L*645–*L*653. (Summary) **99g:81244** 81V70

Proshkina, E. V. The finite-element method in a conjugate problem of diffusion observation. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 168–175, 253–254, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 93C20 (65M60)

Proskurin, Daniil Homogeneous ideals in Wick $*$-algebras. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3371–3376. (Roland Speicher) **99a:46123** 46L60 (46L05, 47D45, 47N50, 81S05)

Proskurin, Nikolai ★ Cubic metaplectic forms and theta functions. Lecture Notes in Mathematics, 1677. *Springer-Verlag, Berlin*, 1998. *viii*+196 *pp. ISBN* 3-540-63751-6 (Stefan Kühnlein) **99b:11049** 11F55 (11F30, 11F60)

Proskurowski, Andrzej (*with* Kratochvíl, Jan; Telle, Jan Arne) Complexity of colored graph covers. I. Colored directed multigraphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 242–257, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68113** 68Q25 (05C85, 68R10)

— (*with* Kratochvíl, Jan; Telle, Jan Arne) Covering regular graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 1–16. (Michael Hofmeister) **99a:05035** 05C10 (90C35)

— (*with* Telle, Jan Arne) Algorithms for vertex partitioning problems on partial k-trees. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 529–550. (Hans L. Bodlaender) **99c:68200** 68R10 (05C05, 05C70, 05C85, 68Q25)

— (*with* Aspvall, Bengt; Telle, Jan Arne) Memory requirements for table computations in partial k-tree algorithms. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 222–233, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68R10 (05C85, 68Q25)

— (*with* Kratochvíl, Jan; Manuel, Paul D.; Miller, Mirka) Disjoint and unfolding domination in graphs. (English summary) *Australas. J. Combin.* **18** (1998), 277–292. (Vadim E. Zverovich) **99j:05108** 05C35

— (*with* Farley, Arthur M.; Pelc, Andrzej) Minimum-time multidrop broadcast. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 61–77. (Summary) **99b:90049** 90B12 (05C90, 68M10)

— (*with* Kratochvíl, Jan; Telle, Jan Arne) Complexity of graph covering problems. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 3, 173–195. (Stanisław P. Radziszowski) **99m:68086** 68Q25 (05C70, 05C85, 68R10)

— (*with* Ruskey, Frank; Smith, Malcolm James) Analysis of algorithms for listing equivalence classes of k-ary strings. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 94–109 (*electronic*). (Peter B. Gibbons) **99b:68100** 68Q25 (05A15, 05C30, 68R05, 68R15)

Prosper, Vincent Action of divided differences on modified powers. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 2, 190–199. (Alain J. Phares) **99m:05006** 05A15

Prosperetti, A. Ensemble averaging techniques for disperse flows. (English summary) *Particulate flows* (*Minneapolis, MN*, 1996), 99–136, *IMA Vol. Math. Appl.*, 98, *Springer, New York*, 1998. (Summary) **99k:76144** 76T05 (76M35, 82C70)

— (*with* Hao, Yue[1]) The effect of viscosity on the spherical stability of oscillating gas bubbles. (English summary) *Phys. Fluids* **11** (1999), *no.* 6, 1309–1317. 76D99 (76T05)

— (*with* Hao, Yue[1]) Modelling of spherical gas bubble oscillations and sonoluminescence. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 203–223. (Summary) **99m:76103** 76Q05 (78A99)

Prössdorf, Siegfried (*with* Bruckner, Gottfried; Vainikko, Gennadi) Error bounds of discretization methods for boundary integral equations with noisy data. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 25–37. (Summary) **99a:65187** 65R20 (45L05)

— (*with* Dahmen, Wolfgang; Kleemann, B.; Schneider, Reinhold) Multiscale methods for the solution of the Helmholtz and Laplace equations. *Boundary element topics* (*Stuttgart*, 1995), 189–219, *Springer, Berlin*, 1997. (*see* **99e:00017**) 65N35 (65F50, 65T20)

— (*with* Pereverzev, S. V.) A discretization of Volterra integral equations of the third kind with weakly singular kernels. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 6, 565–577 (1998). (Summary) **99a:45024** 45L05 (45D05, 45E05, 65R20)

— (*with* Khoromskiĭ, B. N.) Fast computations with the harmonic Poincaré-Steklov operators on nested refined meshes. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 1-2, 111–135. (Roger Pierre) **99f:65186** 65N50 (65N12, 65N22, 65N30)

— (*with* Cheng, Jin[2]; Yamamoto, Masahiro) Local estimation for an integral equation of first kind with analytic kernel. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 2, 115–126. (V. M. Isakov) **99g:45001** 45A05 (35R30)

— *see also* **Meister, Erhard**

Prosser, Joseph H. (*with* Kam, Moshe; Kwatny, Harry G.) Online supervisor synthesis for partially observed discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1630–1634. (Wende Chen) **99h:93067** 93C83 (93B07)

Prosser, R. (*with* Cant, R. S.) On the use of wavelets in computational combustion. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 337–361. (Summary) **99h:80002** 80–08 (80A25)

Prosser, Reese T. On the energy spectrum of the hydrogen atom in a photon field. I. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 229–277. (Summary) **99j:81207** 81V45 (81V80)

Prost, Rémy (*with* Jung, Ho-Youl; Choi, Tae-Young) Rounding transform and its application for lossless pyramid structured coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 2, 234–237. (Summary) **99j:94008** 94A12 (94A29)

Protasi, Marco (*with* Battiti, Roberto) Reactive search, a history-sensitive heuristic for MAX-SAT. (English summary) *ACM J. Exp. Algorithmics* **2** (1997), *approx.* 31 *pp.* (*electronic*). 68T20 (68Q25, 68T05)

— (*with* Battiti, Roberto) Approximate algorithms and heuristics for MAX-SAT. *Handbook of combinatorial optimization, Vol.* 1, 77–148, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C10)

Protasov, I. D. Equations of state of a lattice gas. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 478–490; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1581–1592 (1996). (Summary) **99d:82040** 82C05 (82B05)

— State equations with parameters of some continua. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 2, 31–35, 63. (Summary) **99a:82007** 82B05

Protasov, I. V. On the theory of decomposable groups. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 5, 1–3. (Michael Tkačenko) **99a:22008** 22A05 (54H11)

— (*with* Yurchuk, T. L.) Decomposability of free groups. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 38–40. (Summary) **99m:20049** 20E05 (20K15)

— Partitions of direct products of groups. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1385–1395; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1559–1569 (1998). (L. Bican) **99m:20135** 20K45

— (*with* Alas, O. T.; Tkachenko, M. G.; Tkachuk, Vladimir V.; Wilson, Richard Gordon; Yashchenko, I. V.) Almost all submaximal groups are paracompact and σ-discrete. (English summary) *Fund. Math.* **156** (1998), *no.* 3, 241–260. (Klaas Pieter Hart) **99c:54050** 54H11 (54D20, 54G05)

— Topological center of a semigroup of free ultrafilters. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 437–441; *translation in Math. Notes* **63** (1998), *no.* 3-4, 384–387. (Adolf R. Mirotin) **99f:22005** 22A15

— Maximal topologies on groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 6, 1368–1381, *iii*. (L. A. Kurdachenko) **99m:22001** 22A05

Protasov, V. Yu. A generalized joint spectral radius. A geometric approach. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 5, 99–136; *translation*

in Izv. Math. **61** (1997), *no.* 5, 995–1030. (L. Rodman) **99c:15041** 15A48 (47A13, 65F99)

Protić, Petar V. (*with* Stevanović, Nebojša) Some decompositions on Abel-Grassmann's groupoids. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 355–366. (Saraswathi Subbiah) **99g:20122** 20N02

Proto, A. N. (*with* Gruver, J. L.; Plastino, Angel Ricardo) Exact dynamics for a class of nonlinear Hamiltonians and the classification of its associated Alhassid-Levine Lie algebras. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 61–65. (Summary) **99e:81063** 81Q99 (17B81, 81R05)

Protogenov, A. Random walks over Wilson loop space. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 309–314, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Alexandre S. Gajrat) **99j:82066** 82C41

Protopopescu, Vladimir (*with* Lenhart, Suzanne; Yong, Jiong Min) Solving inverse problems of identification type by optimal control methods. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium* (*San Diego, CA*, 1997), 87–94, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 93B30 (35R30, 49N50)

— (*with* Lenhart, Suzanne; Yong, Jiong Min) Optimal control of a reflection boundary coefficient in an acoustic wave equation. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 179–194. (Summary) **99a:49044** 49N55 (35L20, 76Q05)

Protter, Murray H. ★ Basic elements of real analysis. Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1998. *xii*+273 *pp. ISBN* 0-387-98479-8 (From the preface) **99f:26001** 26–01

Protter, Philip (*with* Jacod, Jean) Asymptotic error distributions for the Euler method for stochastic differential equations. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 267–307. (Denis Talay) **99d:60062** 60H10 (60G44, 65U05)

— (*with* Ma, Jin; San Martín, Jaime) Anticipating integrals for a class of martingales. (English summary) *Bernoulli* **4** (1998), *no.* 1, 81–114. (David Nualart) **99j:60071** 60H05 (60H07)

Protzmann, M. (*with* Boche, Holger) Überabtastung und Rekonstruktion verlorener Werte bandbegrenzter Signale. (English summary) [Oversampling and reconstruction of lost values of band-limited signals] *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 785–792. (Summary) **99g:94001** 94A12 (65F05)

Proust, C. (*with* Richard, Pascal) Solving scheduling problems using Petri nets and constraint logic programming. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 2, 125–143. (Summary) **99b:68022** 68M20 (68Q90)

Provan, J. Scott (*with* Ball, Michael O.; Hagstrom, Jane N.) Two-path subsets: efficient counting and applications to performability analysis. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 25–45. (H. T. Lau) **99c:90056** 90B25

— (*with* Alexopoulos, Christos; Ratliff, H. Donald; Stutzman, Bryan R.) Minimal connected enclosures on an embedded planar graph. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 25–38. (Summary) **99j:68098** 68R10 (05C10, 05C85)

Provatas, Nicholas (*with* Goldenfeld, Nigel; Dantzig, Jonathan) Adaptive mesh refinement computation of solidification microstructures using dynamic data structures. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 265–290. (Summary) **99h:80012** 80A22 (80–08)

Provenzale, Antonello (*with* Weiss, Jeffrey B.; McWilliams, James C.) Lagrangian dynamics in high-dimensional point-vortex systems. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1929–1941. (Summary) **99d:76053** 76F99 (76C05, 76M35)

— Transport by coherent barotropic vortices. (English summary) *Annual review of fluid mechanics, Vol.* 31, 55–93, *Annu. Rev. Fluid Mech.*, 31, *Annual Reviews, Palo Alto, CA*, 1999. (Summary) **99j:76023** 76C05 (76U05, 85A30, 86A05)

Provetti, Alessandro (*with* Baral, Chitta; Gabaldon, Alfredo) Value minimization in circumscription. (English summary) *Artificial Intelligence* **102** (1998), *no.* 2, 163–186. (Summary) **99f:68184** 68T27 (03B70)

— (*with* Baral, Chitta; Gabaldon, Alfredo) Formalizing narratives using nested circumscription. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 107–164. (Summary) **99h:68163** 68T30 (68T27)

Providas, E. (*with* Kattis, M. A.) Two-phase potentials in anisotropic elasticity: antiplane deformation. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 7-8, 801–811. (Summary) **99d:73064** 73K20 (73B27, 73B40, 73V35)

Providence, S. (*with* Pan, Victor Y.; Tabanjeh, M. Abu; Chen, Zhao Qin; Sadikou, A.) Transformations of Cauchy matrices, Trummer's problem and a Cauchy-like linear solver. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 274–284, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F30 (65Y25)

da Providência, João (*with* Bebiano, Natália) Numerical ranges in physics. (English summary) *Linear and Multilinear Algebra* **43** (1998), *no.* 4, 327–337. (Summary) **99a:15009** 15A60 (47A12)

— (*with* Kuriyama, Atsushi; Tsue, Yasuhiko; Yamamura, Masatoshi) Modification of the conventional Holstein-Primakoff boson representation for the su(1, 1)-algebra and its classical counterpart. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 819–829. (Dennis Bonatsos) **99m:81075** 81R05 (20C35, 22E70)

Provost, J.-P. (*with* Maamache, M.; Vallée, G.) Unitary equivalence and phase properties of the quantum parametric and generalized harmonic oscillators. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 3, 1777–1780. (Summary) **99m:81045** 81Q05 (81R30)

Provost, Serge B. (*with* Cheong, Young-Ho) The probability content of cones in isotropic random fields. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 2, 237–254. (Summary) **99e:62017** 62E15 (62H10, 62M40)

Proytcheva, Valentina (*with* Petrov, Vasil Angelov) Existence of positive solutions of neutral differential equations with "maxima". (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 19–31. (F. Vogl) **99c:34187** 34K40 (34K25)

Prskawetz, Alexia (*with* Gragnani, Alessandra; Milik, Alexandra; Sanderson, Warren C.) Persistent unstable equilibria and the grace period in dynamic models of environmental change. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 1, 3–25. (Bing Hong Wang) **99g:92043** 92D40 (34C23, 34E15, 90A30, 92D25)

— Government debt, budget surplus, and popularity of politicians. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 131–149. (Summary) **99i:90019** 90A09 (90A53)

Pruchnewski, A. (*with* Böhme, Thomas; Harant, Jochen; Schiermeyer, Ingo) A planarity criterion for cubic bipartite graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 31–43. (Xiaoya Zha) **99h:05027** 05C10 (05C85)

Pruchnicki, Erick Hyperelastic homogenized law for reinforced elastomer at finite strain with edge effects. (English summary) *Acta Mech.* **129** (1998), *no.* 3-4, 139–162. (Summary) **99a:73095** 73K20 (73B27, 73S10)

— Overall properties of thin hyperelastic plate at finite strain with edge effects using asymptotic method. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 9, 973–1000. (Summary) **99e:73013** 73B27 (73C50, 73K10, 73K20)

— Homogenized elastoplastic properties for a partially cohesive composite material. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 568–589. (Summary) **99e:73051** 73E05 (73B27, 73K20, 73S10)

Prucnal, Tadeusz *see* **Dyrda, Kazimiera et al., 99m:01054**

Prud'homme, Christophe (*with* Achdou, Yves; Abdulaev, G. S.; Hontand, Jean-Claude; Kuznetsov, Yuriĭ Alekseevich[1]; Pironneau, Olivier) Nonmatching grids for fluids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 3–22, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76103** 76M25 (65M50, 65N50)

Prudhomme, Serge (*with* Oden, J. Tinsley) A technique for a posteriori error estimation of *h-p* approximations of the Stokes equations. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 43–63, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99d:65264** 65M15 (73V05, 76M10)

— (*with* Jin, Hao) A posteriori error estimation of steady-state finite element solutions of the Navier-Stokes equations by a subdomain residual method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 1-2, 19–48. 76M10

— (*with* Oden, J. Tinsley; Feng, Yusheng) Local and pollution error estimation for Stokesian flows. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 33–39. (Stephen W. Brady) **99c:76071** 76M10 (65M06, 76D07)

Prudnikov, Anatoliĭ Platonovich (*with* Skórnik, Urszula) A remark on Watson transform. (English summary) *Transform methods & special functions, Varna* '96, 360–367, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:44010** 44A15 (33C45, 44A20)

— (*with* Moiseev, Evgeniĭ Ivanovich; Skórnik, Urszula) On the generalized Fourier sine- and cosine- transforms. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 163–166. 42A38 (33C15)

Prudnikov, I. M. On the approximation of multivalued mappings. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1319–1326; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 11, 1277–1284. (B. Mordukhovich) **99d:49035** 49J52 (47H04, 90C31)

Pruess, Steven (*with* Fulton, C. T.) The computation of spectral density functions for singular Sturm-Liouville problems involving simple continuous spectra. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 1, 107–129. (Summary) **99j:65127** 65L10 (65–04)

— (*with* Jin, Hongsung) Uniformly superconvergent approximations for linear two-point boundary value problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 363–375 (*electronic*). (Marco Marletta) **99e:65111** 65L10 (65L20, 65L60)

Prüfer, Friedbert (*with* Berndt, Jürgen; Vanhecke, Lieven) Totally geodesic submanifolds of symmetric-like Riemannian manifolds. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 463–475. (Anna M. Fino) **99i:53054** 53C40 (53C30)

— (*with* Günther, Paul) Mean value operators, differential operators and D'Atri spaces. (English summary) *Ann. Global Anal. Geom.* **17** (1999), *no.* 2, 113–127. (Jürgen Berndt) **99k:53092** 53C25

Prüfer, Martin (*with* Schmidt, Carsten) Parameter identification in robot control. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 377–399. (*see* **99b:70004**) 93C85 (70B15, 70Q05)

Prugovečki, Eduard Quantum geometry and gravity. (English summary) *Quantum gravity* (*Erice*, 1995), 276–302, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:83043** 83C45 (81S20)

Pruhs, Kirk (*with* Kalyanasundaram, Bala) Fault-tolerant real-time scheduling. (English summary) *Algorithms—ESA* '97 (*Graz*), 296–307, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68M20 (68M15)

— (*with* Kalyanasundaram, Bala) On-line network optimization problems. *Online algorithms* (*Schloss Dagstuhl*, 1996), 268–280, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68R10 (68M10, 90C35)

Pruidze, G. On the formal groups of the type $\frac{A(X)C(Y)-A(Y)C(X)}{B(X)D(Y)-B(Y)D(X)}$. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 186–188. 55N22

fournier-Prunaret, Danièle *see* **Fournier-Prunaret, Danièle**

Prunaru, Bebe (*with* Bercovici, Hari) Quasiaffine transforms of polynomially bounded operators. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 5, 384–387. (Christian Le Merdy) **99i:47015** 47A45 (47A60)

— (*with* Putinar, Mihai) The generic local spectrum of any operator is the full spectrum. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 3, 332–336. (Thomas Len Miller) **99m:47003** 47A11 (47A13)

Pruneda, Rosa Eva (*with* Castillo, Enrique F.; Cobo Ortega, Ángel; Jubete, Francisco) ★ Orthogonal sets and polar methods in linear algebra. (English summary) Applications to matrix calculations, systems of equations, inequalities, and linear programming. Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xiv*+422 *pp. ISBN* 0-471-32889-8 (From the preface) **99k:90001** 90–01 (15–01, 65F30, 90C05)

de Prunelé, E. The method of o(4, 2) operator replacements and its application to the three-body Coulomb problem. (English summary) *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 451–460, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81R05 (81V45)

Prus, Stanisław (*with* Kutzarova, Denka; Nikolova, Lyudmila I.) Infinite-dimensional geometric properties of real interpolation spaces. (English summary) *Math. Nachr.* **191** (1998), 215–228. (Yu. I. Petunin) **99e:46100** 46M35 (46B20, 46B70)

Prusinkiewicz, Przemyslaw (*with* Kari, Lila) Subapical L systems. *Artificial life: grammatical models* (*Mangalia*, 1994), 116–121, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (92B05)

Pruss, Alexander R. Steiner symmetry, horizontal convexity, and some Dirichlet problems. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 863–895. (Matts Essén)

99c:31002 31A05 (31A15)

— A two-sided estimate in the Hsu-Robbins-Erdős law of large numbers. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 2, 173–180. (A. Spătaru) **99c:60100** 60G50 (60E15)

— A bounded N-tuplewise independent and identically distributed counterexample to the CLT. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 3, 323–332. (Dominik Szynal) **99e:60068** 60F05

Prüss, Jan Poisson estimates and maximal regularity for evolutionary integral equations in L_p-spaces. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 287–321 (1997). (Alberto Venni) **99c:34184** 34K30 (45J05, 45N05, 47N20)

— (*with* Clément, Philippe; Da Prato, Giuseppe) White noise perturbation of the equations of linear parabolic viscoelasticity. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 207–220 (1998). (Isamu Dôku) **99m:34183** 34K30 (34K50, 45J05, 60H20, 73F15)

Pruyn, John S. (*with* Thompson, David F.) On characterizing sensitivity-based and traditional formulations for quantitative feedback theory. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 536–545. 93B52 (93D21)

Prvanović, Mileva (*with* Defever, Filip; Deszcz, Ryszard) On warped product manifolds satisfying some curvature condition of pseudosymmetric type. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 43–62. (Florentino García Santos) **99f:53018** 53B30

— Locally decomposable Riemannian manifold endowed with some semi-symmetric F-connection. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 45–56. (Zbigniew Olszak) **99b:53024** 53B20 (53C15)

— On a curvature tensor of Kähler type in an almost Hermitian and almost para-Hermitian manifold. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 57–64. (Andrew Bucki) **99f:53032** 53C15

Prvanović, Slobodan (*with* Marić, Zvonko) Decoherence within the concept of consistent histories. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 321–327. (M. J. Mączyński) **99b:81015** 81P05

Pryakhina, O. D. (*with* Tukodova, O. M.; Freĭgeĭt, M. R.) Solution of nonstationary coupled electromechanical problems for layered media. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 1031–1042; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 995–1006 (1998). (Summary) **99c:73066** 73R05 (78A99)

— (*with* Smirnova, A. V.; Tukodova, O. M.) The method of fictitious absorption in dynamic problems of electro-elasticity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 834–839; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 771–776 (1999). 73R05 (73D99)

Pryde, A. J. (*with* Basit, Bolis) Strong continuity of semigroup homomorphisms. (English summary) *Studia Math.* **132** (1999), *no.* 1, 71–78. (Liliana Pavel) **99m:22003** 22A25 (47D03)

Prykarpatsky, A. K. *see* **Prikarpat·skiĭ, A. K.**

Prykarpatsky, Y. A. (*with* Kopych, M.; Samulyak, R. V.) Adiabatic invariants of a generalized Hénon-Heiles Hamiltonian system and the structure of chaotic motion. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 2, 32–36. (Jean-Pierre Marco) **99a:58136** 58F30 (58F05, 58F13, 70H05, 70K50)

— (*with* Blackmore, D. L.; Samulyak, R. V.) The integrability of Lie-invariant geometric objects generated by ideals in the Grassmann algebra. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 54–67. (Summary) **99a:58005** 58A15 (58F35)

Prylypko, O. I. *see* **Prilipko, A. I.**

Przanowski, K. The infinitesimal form of induced representation of the κ-Poincaré group. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 51–54, *PWN, Warsaw*, 1997. (Anatol Nowicki) **99f:81099** 81R50 (17B37)

Przanowski, Maciej (*with* García-Compeán, Hugo; Plebański, Jerzy F.) Geometry associated with self-dual Yang-Mills and the chiral model approaches to self-dual gravity. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 3, 549–571. (Ian A. B. Strachan) **99i:58068** 58F06 (53C80, 58B30, 83C99)

— (*with* Plebański, Jerzy F.) Hermite-Einstein four-dimensional manifolds with symmetry. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1721–1735. (J. D. Finley, III) **99h:53063** 53C25 (53C55, 83C20)

— (*with* Plebański, Jerzy F.; Formański, Sebastian) Linear superposition of two type-N nonlinear gravitons. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 25–31. (J. D. Finley, III) **99j:83015** 83C15 (83C60)

Przebinda, Tomasz (*with* Özaydin, Murad) Platonic orthonormal wavelets. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 4, 351–365. (G. C. Bohnké) **99c:42071** 42C15 (20C15)

Przesławski, Krzysztof (*with* Moszyńska, Maria) Santaló points associated with radial densities. II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 273–288. (V. K. Oganyan) **99j:52005** 52A22 (53C65)

— Integral representations of mixed volumes and mixed moment tensors. II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 299–314. (Beifang Chen) **99b:52015** 52A39

— (*with* Benítez, Carlos; Yost, David Thomas) A universal modulus for normed spaces. (English summary) *Studia Math.* **127** (1998), *no.* 1, 21–46. (Yves Raynaud) **99i:46005** 46B20

Przeworska-Rolewicz, Danuta (*with* Binderman, Zbigniew) Almost quasinilpotent right inverses. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 23–38. (M. Z. Nashed) **99e:47002** 47A05

— Short story of the term "algebraic analysis". (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 211–220. (Editors) **99h:01006** 01A05 (47–03, 47A05)

— ★ Logarithms and antilogarithms. (English summary) An algebraic analysis approach. With an appendix by Zbigniew Binderman. Mathematics and its Applications, 437. *Kluwer Academic Publishers, Dordrecht*, 1998. $x+348$ *pp. ISBN* 0-7923-4974-1 (H. Lausch) **99j:47002** 47–02 (26–02, 46N20, 47A05, 47A50, 47N20)

— Linear combinations of right invertible operators in commutative algebras with logarithms. (English summary) *Demonstratio Math.* **31** (1998), *no.* 4, 887–898. (Summary) **99k:47004** 47A05

— Carleman operators in commutative algebras with logarithms. (English summary) *Fraçt. Calc. Appl. Anal.* **1** (1998), *no.* 1, 1–22. (Summary) **99j:47004** 47A05 (47A50, 47G10, 47N20)

— Power mappings in algebras with logarithms. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 247–256. (Summary) **99k:47005** 47A05 (39B52, 47A60)

Pržulj, Nataša (*with* Liestman, Arthur L.) Minimum average time broadcast graphs. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 139–147. (Summary) **99f:68160** 68R10 (05C35, 68M10)

Przybycin, Jolanta On bifurcation intervals for nonlinear eigenvalue problems. (English summary) *Ann. Polon. Math.* **71** (1999), *no.* 1, 39–46. (Summary) **99m:35183** 35P30 (34B15, 47H12, 47N20, 58E07)

Przyłuski, K. Maciej (*with* Banaszuk, Andrzej) On perturbations of controllable implicit linear systems. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 91–102. (John Tsinias) **99k:93015** 93B05 (49K40, 93C73)

Przymusinski, Teodor C. (*with* Alferes, José Júlio; Pereira, Luís Moniz) "Classical" negation in nonmonotonic reasoning and logic programming. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 107–142. (Zoran Ognjanović) **99d:68039** 68N17 (03B35, 03B60, 03B70, 68T27)

— *see also* **Logic programming and knowledge representation, 99i:68003**

Przytycka, Teresa M. Sparse dynamic programming for maximum agreement subtree problem. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 249–264, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Michael A. Steel) **99a:05032** 05C05 (05C85, 90C39, 92D15)

— (*with* Larmore, Lawrence L.) The optimal alphabetic tree problem revisited. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 1–20. (Summary) **99c:68128** 68Q25

— (*with* Higham, Lisa) Asymptotically optimal election on weighted rings. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 721–733 (*electronic*). (Summary) **99d:68023** 68M10 (68Q22)

Przytycki, Feliks (*with* Nowicki, Tomasz) Topological invariance of the Collet-Eckmann property for S-unimodal maps. (English summary) *Fund. Math.* **155** (1998), *no.* 1, 33–43. (Yun Ping Jiang) **99a:58058** 58F03 (58F15)

— Conical limit set and Poincaré exponent for iterations of rational functions. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 2081–2099. (Petra Bonfert-Taylor) **99h:58110** 58F11 (30D05, 30F40, 58F23)

— *see also* **Dedicated to the memory of Wiesław Szlenk**

Przytycki, Józef H. Algebraic topology based on knots: an introduction. (English summary) *KNOTS '96* (*Tokyo*), 279–297, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57030** 57M25

— (*with* Murasugi, Kunio) Index of graphs and non-amphicheirality of alternating knots. *Progress in knot theory and related topics*, 20–28, *Travaux en Cours*, 56, *Hermann, Paris*, 1997. (Torsten Asselmeyer) **99g:57011** 57M25 (57M15)

— (*with* Jones, Vaughan F. R.) Lissajous knots and billiard knots. (English summary) *Knot theory* (*Warsaw*, 1995), 145–163, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Robert Ghrist) **99h:57009** 57M25

— 3-coloring and other elementary invariants of knots. *Knot theory* (*Warsaw*, 1995), 275–295, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (*see* **99c:57002**) 57M25

— (*with* Sikora, Adam S.) Skein algebra of a group. *Knot theory* (*Warsaw*, 1995), 297–306, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Carlo Petronio) **99e:57019** 57M25 (20C07, 57N10)

— Classical roots of knot theory. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 531–545. (L. Neuwirth) **99c:57030** 57M25 (57–03)

— *see also* **Knot theory, 99c:57002**

Psaradakis, Zacharias Bootstrap-based evaluation of Markov-switching time series models. (English summary) *Econometric Rev.* **17** (1998), *no.* 3, 275–288. 62M10 (60J10, 62G09, 62M15)

Psarrakos, P. (*with* Maroulas, J.) On the connectedness of numerical range of matrix polynomials. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 97–108. (Makoto Takaguchi) **99h:15027** 15A60

— (*with* Maroulas, J.) A connection between numerical ranges of selfadjoint matrix polynomials. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 327–340. (Summary) **99g:15035** 15A60 (47A12, 47A56, 65F35)

Pshenichnyĭ, B. N. (*with* Kuntsevich, V. M.) Ivariant and stationary sets of nonlinear discrete systems under bounded perturbations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 35–45, 296. 93B03 (93C41)

— (*with* Kuntsevich, V. M.) Minimal invariant sets of discrete dynamical systems with a stable linear part. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 1, 81–91, 155. (Summary) **99d:93048** 93D05 (93B03, 93C55)

Psihoyios, Yorgos (*with* Cash, J. R.) A stability result for general linear methods with characteristic function having real poles only. (English summary) *BIT* **38** (1998), *no.* 3, 612–617. (Summary) **99g:65079** 65L05 (65L20)

Psomopoulos, Evagelos Commuting powers and commutativity of rings. (English summary) *Math. Montisnigri* **8** (1997), 151–158. (Summary) **99a:16026** 16U80

— Commutativity of torsion-free periodic rings. (English summary) *Math. Montisnigri* **9** (1998), 87–91. (Summary) **99g:16041** 16U80

Ptak, Marek On the reflexivity of multigenerator algebras. *Dissertationes Math.* (*Rozprawy Mat.*) **378** (1998), 61 *pp.* (Jörg Eschmeier) **99m:47055** 47D27 (47A13, 47A15, 47A45, 47A60, 47D25)

— (*with* Azoff, Edward A.) A dichotomy for linear spaces of Toeplitz operators. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 2, 411–428. (Shunhua Sun) **99h:47030** 47B35 (47D15)

— (*with* Albrecht, Ernst) Invariant subspaces for doubly commuting contractions with rich Taylor spectrum. (English summary) *J. Operator Theory* **40** (1998), *no.* 2, 373–384. (Hari Bercovici) **99g:47010** 47A15 (47A13, 47A20, 47D27)

Pták, Pavel (*with* Kropatsch, Walter) The path-connectedness in Z^2 and Z^3 and classical topologies. (English summary) *Advances in pattern recognition (Sydney, 1998)*, 181–189, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68U10 (68T10)

— (*with* Navara, Mirko) Considering uncertainty and dependence in Boolean, quantum and fuzzy logics. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika (Prague)* **34** (1998), *no.* 1, 121–134. (David W. Miller) **99k:03015** 03B48 (03B52, 03G12)

Pták, Vlastimil (*with* Arioli, M.; Strakoš, Zdeněk) Krylov sequences of maximal length and convergence of GMRES. (English summary) *BIT* **38** (1998), *no.* 4, 636–643. (Summary) **99j:65039** 65F10

— (*with* Fiedler, Miroslav) Some inequalities related to M-matrices. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 171–176. (Jeffrey Stuart) **99b:15022** 15A45

Ptolemy of Alexandria ★ Ptolemy's *Almagest*. (English summary) Translated from the Greek, annotated, with a preface, introduction and appendices by G. J. Toomer. Revised reprint of the 1984 translation. With a foreword by Owen Gingerich. *Princeton University Press, Princeton, NJ*, 1998. *xviii+693 pp. ISBN* 0-691-00260-6 (Editors) **99g:01004** 01A20 (01A75)

— *see also* **Savoie, Denis**

Pu, Dingguo (*with* Tian, Wei Wen) A class of Broyden algorithms with revised search directions. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 2, 93–109. (Mihai Turinici) **99f:90133** 90C30 (65K05, 90C25)

— (*with* Zhang, Jian Zhong) Inexact generalized Newton methods for second order C-differentiable optimization. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 2, 107–122. (Zhen Yu Huang) **99g:90134** 90C30 (90C33)

Pu, Fei A nonoverlapping domain decomposition method for solving one-sided obstacle problems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 95–99. (Summary) **99d:65353** 65N55

Pu, Fu Ke (*with* Hu, Zhan-Ning; Wang, Yupeng) Integrabilities of the t-J model with impurities. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5241–5262. (Summary) **99c:82012** 82B20 (82D15)

— (*with* Li, Bo Zang) Spin parity effect resulting from time-inversion symmetry. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 983–988. 82D40

Pu, He Ping (*with* Huang, Ting Zhu) (Block) H-matrices and sub-positive definite matrices. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 216–218. 15A57 (15A48)

— (*with* Huang, Ting Zhu) Unified formulas for the problems of counting two classes of linear permutations. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 3, 332–336. 05A15

Pu, Huo Hui Min (*with* Cline, Daren B. H.) Verifying irreducibility and continuity of a nonlinear time series. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 139–148. (Yuzo Hosoya) **99k:62157** 62M10

Pu, Junsheng (*with* Wang, Jihong; Moore, Philip R.; Zhang, Zongmao) Modelling study and servo-control of air motor systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 459–476. 93C95 (93A30)

Pu, Xiaorong (*with* Zhang, Qinglin; Wang, Zhenyong) Effects of contents on propositional reasoning: a representation-based explanation. (English summary) *Xinan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1996), *no.* 5, 505–512. 03A05 (92J10)

Pu, Zhi Lin Existence of optimal controls for nonlinear evolution systems and their application. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 283–287. 49J27

Pucacco, G. (*with* Boccaletti, D.; Di Bari, M.; Cipriani, P.) Finsler geometry in classical mechanics and in Bianchi cosmological models. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 213–224. (Miguel C. Muñoz-Lecanda) **99c:53015** 53B40 (53B50, 70F07, 70H35, 83F05)

Pucar, P. (*with* Sjöberg, Jonas) On the hinge-finding algorithm for hinging hyperplanes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1310–1319. (Summary) **99b:65013** 65D15 (41A63)

Pucci, Edvige (*with* Saccomandi, Giuseppe) Universal generalized plane deformations in constrained elasticity. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 201–216. (Marian Aron) **99d:73030** 73C50 (73G05)

— (*with* Saccomandi, Giuseppe) Universal motions for constrained simple materials. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 3, 469–484. (Henry W. Haslach, Jr.) **99m:73002** 73B05 (73B99, 73C50, 73G05)

Pucci, Geppino (*with* Grossi, Roberto; Pietracaprina, Andrea) Optimal deterministic protocols for mobile robots on a grid. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 181–192, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68Q20 (68T99)

— *see also* **Algorithms—ESA '98**, **99k:68004**

Pucci, Patrizia (*with* Serrin, James) Some new reuslts on global nonexistence for abstract evolution with positive initial energy. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 241–247. (Sergiu Aizicovici) **99i:34086** 34G20 (35L70)

— (*with* Serrin, James) Uniqueness of ground states for quasilinear elliptic operators. *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 501–528. (C. A. Swanson) **99k:35066** 35J65 (34B15)

— (*with* Serrin, James) Uniqueness of ground states for quasilinear elliptic equations in the exponential case. *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 529–539. (C. A. Swanson) **99k:35067** 35J65 (34B15)

— (*with* Serrin, James) Local asymptotic stability for dissipative wave systems. (English summary) *Israel J. Math.* **104** (1998), 29–50. (Alan Jeffrey) **99b:35149** 35L70 (34D05, 35B40)

Puccini, Gabriel (*with* Castagnino, Mario A.; Diener, Roberto; Lara, Luis) Rigged Hilbert spaces and time asymmetry: the case of the upside-down simple harmonic oscillator. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2349–2369. (J.-P. Antoine) **99f:81043** 81Q10 (47A70, 47N50, 82B05)

Puccio, Luigia (*with* Cotronei, Mariantonia) An application of multiwavelet analysis to signal compression. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc, 1996)*, 75–82, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 94A29 (94A11, 94A12)

Pucella, R. R. An analysis of Lambek's production machines. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 5, 483–497. (Roman Murawski) **99b:03056** 03D05 (03B65, 68S05)

Puchko, N. P. (*with* Goroshko, O. O.) Lagrangian equations for the multibodies hereditary systems. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1997), *no.* 7, 209–222. (Arun Banerjee) **99c:70005** 70D10 (70H35, 73F99)

Puchol, Carlos (*with* Colby, Christopher; Jategaonkar, Lalita; Jagadeesan, Radha; Läufer, Konstantin) The semantics of Triveni: a process-algebraic API for threads + events. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997)*, 27 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99b:68012**) 68Q10 (68Q55, 68Q90)

Puchta, Jan-Christoph (*with* Wolke, Dieter) Über die Verteilung der primen quadratischen Reste und Nicht-Reste mod p. (English summary) [On the distribution of prime quadratic residues and non-residues mod p] *Monatsh. Math.* **124** (1997), *no.* 4, 337–342. (Lutz Gerhard Lucht) **99a:11111** 11N69 (11M20)

Puczyłowski, Edmund R. (*with* Krempa, Jan) Adam Suliński (1928–1997). (Polish) *Wiadom. Mat.* **33** (1997), 209–212. (Editors) **99m:01074** 01A70

— (*with* Smoktunowicz, Agata) On maximal ideals and the Brown-McCoy radical of polynomial rings. *Comm. Algebra* **26** (1998), *no.* 8, 2473–2482. (Andrei Kelarev) **99d:16026** 16N80 (16S36)

— (*with* Grzeszczuk, Piotr) On finiteness conditions of modular lattices. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2949–2957. (C. S. Sharma) **99i:06007** 06C05 (16D10)

— (*with* Ferrero, Miguel A.) The singular ideal and radicals. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 195–209. (R. F. Rossa) **99d:16024** 16N80

Pudil, Pavel (*with* Grim, Jiří) On virtually binary nature of probabilistic neural networks. (English summary) *Advances in pattern recognition (Sydney, 1998)*, 765–774, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68T05 (62C99)

— *see also* **Advances in pattern recognition**, **99k:68002**

Pudjaprasetya, S. R. (*with* Van Groesen, E.; Soewono, E.) The splitting of solitary waves running over a shallower water. (English summary) *Wave Motion* **29** (1999), *no.* 4, 375–389. (Summary) **99m:76029** 76B25

Pudlák, Pavel (*with* Krause, Matthias) On computing Boolean functions by sparse real polynomials. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI*, 1995), 682–691, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25 (06F30, 68Q15)

— (*with* Buss, Samuel R.; Impagliazzo, Russell; Krajíček, Jan; Razborov, A. A.; Sgall, Jiří) Proof complexity in algebraic systems and bounded depth Frege systems with modular counting. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 256–298. (Mariko Yasugi) **99g:03060** 03F20

— (*with* Lefmann, Hanno; Savický, Petr) On sparse parity check matrices. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 2, 107–130. (L. R. Vermani) **99c:94063** 94B65 (94B05)

— The lengths of proofs. *Handbook of proof theory*, 547–637, *Stud. Logic Found. Math.*, 137, *North-Holland, Amsterdam*, 1998. (M. I. Dekhtyar) **99i:03073** 03F20 (03B35, 68T15)

— Satisfiability—algorithms and logic (extended abstract). (English summary) *Mathematical foundations of computer science, 1998 (Brno)*, 129–141, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25 (03B05, 03D15, 03F20)

— (*with* Sgall, Jiří) Algebraic models of computation and interpolation for algebraic proof systems. *Proof complexity and feasible arithmetics (Rutgers, NJ*, 1996), 279–295, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Juraj Hromkovič) **99b:68101** 68Q25 (03B05, 68Q05)

— (*with* Krajíček, Jan) Some consequences of cryptographical conjectures for S^1_2 and EF. (English summary) *Inform. and Comput.* **140** (1998), *no.* 1, 82–94. (Roman Murawski) **99c:03092** 03F30 (03F20, 68P25, 68Q15, 94A60)

Pudney, Peter (*with* Howlett, P. G.) An optimal driving strategy for a solar powered car on an undulating road. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 553–567. (From the summary) **99h:49050** 49N55 (34H05, 70Q05, 93C95)

— (*with* Cheng, Jia Xin; Davydova, E. E.; Howlett, P. G.) Optimal driving strategies for a train journey with non-zero track gradient and speed limits. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 2, 89–115. 49N55 (93C95)

Pudovikov, D. E. (*with* Kraĭko, A. N.) On the significance of length restriction in the construction of bodies of minimal drag. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 822–837; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 797–810 (1998). (Summary) **99d:76055** 76J20

— (*with* Kraĭko, A. N.) On the construction of symmetric profiles that are optimal in a supersonic and a hypersonic flow under arbitrary isoperimetric conditions. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 931–946; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 901–915 (1998). (Summary) **99c:76063** 76K05 (76J20, 76L05)

Lluis-Puebla, Emilio *see* **Lluis-Puebla, Emilio**

Puech, Joël (*with* Cockayne, E. J.; Favaron, Odile; Mynhardt, Christina M.) Packing, perfect neighbourhood, irredundant and R-annihilated sets in graphs. (English summary) *Australas. J. Combin.* **18** (1998), 253–262. (Summary) **99f:05088** 05C70 (05C35)

— (*with* Cockayne, E. J.; Favaron, Odile; Mynhardt, Christina M.) An inequality chain of domination parameters for trees. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 127–142. (Gary MacGillivray) **99m:05118** 05C70 (05C50)

— Irredundance perfect and P_6-free graphs. (English summary) *J. Graph Theory* **29** (1998), *no.* 4, 239–255. (Christine M. Mynhardt) **99j:05155** 05C70

Puel, Jean-Pierre (*with* Mignot, Fulbert) Quelques résultats sur un problème elliptique avec non linéarité exponentielle. (French summary) [Some results on an elliptic problem with exponential nonlinearity] *Équations aux dérivées partielles et applications*, 683–704, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Monica Lazzo) **99j:35065** 35J65 (34A12, 35B99, 35D05, 58F39)

— (*with* Casas Rentería, Eduardo; Kavian, O.) Optimal control of an ill-posed elliptic semilinear equation with an exponential nonlinearity. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 361–380 (*electronic*). (Tomáš Roubíček) **99k:49012** 49J20 (35J65, 49N60)

— (*with* Osses, Axel) Boundary controllability of a stationary Stokes system with linear convection observed on an interior curve. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 201–234. (Vera Winitzky de Spinadel) **99i:93007** 93B05 (76D07, 76M30, 93C20)

— *see also* **Control and partial differential equations, 99g:00037**

Puente, M. A. (*with* Freixas, J.) Complete games with minimum. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 97–109. (Summary) **99i:90125** 90D12

Puente Peñalba, Jesús (*with* Laucelli Meana, Marco; Osorio, M. A. R.) Finite temperature Matrix theory. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 613–640. (Summary) **99g:81176** 81T30 (83C57)

— (*with* Laucelli Meana, Marco) Matrix strings, compactification scales and Hagedorn transition. (English summary) *Phys. Lett. B* **447** (1999), *no.* 1-2, 59–66. (Summary) **99j:81148** 81T30

Puerta, F. *see* **Puerta Sales, Fernando**

Puerta, Ferran *see* **Puerta Sales, Fernando**

Puerta, X. (*with* Ferrer Llop, Josep; Puerta Sales, Fernando) Differentiable structure of the set of controllable $(A, B)^t$-invariant subspaces. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 161–177. (Mihail Voicu) **99e:93008** 93B05 (15A04)

Puertas, María Luz (*with* Arenas, Francisco García) The Jordan curve theorem. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 43–60. 55M20

— (*with* Arenas, Francisco García) A new kind of infinite-dimensional spaces. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 1-2, 21–31. (Summary) **99k:54025** 54F45

Puerta Sales, Fernando (*with* Ferrer Llop, Josep; Puerta, X.) Differentiable structure of the set of controllable $(A, B)^t$-invariant subspaces. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 161–177. (Mihail Voicu) **99e:93008** 93B05 (15A04)

— (*with* Ferrer Llop, Josep) Global block-similarity and pole assignment of class C^p. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 924–932 (*electronic*). (Petko Petkov) **99d:93009** 93B12 (93B29)

Puerto Albandoz, Justo (*with* Fernández García, Francisco Ramón; Monroy, L.) Two-person non-zero-sum games as multicriteria goal games. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 195–208. (Summary) **99j:90113** 90D05 (90A05)

— (*with* Fernández García, Francisco Ramón; Monroy, L.) Multicriteria goal games. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 403–421. (Summary) **99g:90165** 90D06 (90C29)

— (*with* Carrizosa, Emilio; Muñoz-Márquez, M.) Location and shape of a rectangular facility in $\mathbf{R}^n$. Convexity properties. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 277–290. (Zeng Kun Xu) **99i:90058** 90B85 (52A41)

— (*with* Carrizosa, Emilio; Muñoz-Márquez, M.) A note on the optimal positioning of service units. (English summary) *Oper. Res.* **46** (1998), *no.* 1, 155–156. 90B05 (90C90)

Puga, Isabel *see* **Puga-Espinosa, Isabel**

Pugach, L. I. On the C-projectivity of ideals in Banach algebras. *Glasgow Math. J.* **40** (1998), *no.* 2, 143–145. (Jaroslav Zemánek) **99d:46070** 46H25 (46J10, 46M10)

Pugachëv, O. V. The Ostrogradskiĭ-Gauss formula in an infinite-dimensional space. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 115–128; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 757–770. (V. A. Romanov) **99g:46058** 46G12 (28C20)

— Surface measures in infinite-dimensional spaces. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 106–114; *translation in Math. Notes* **63** (1998), *no.* 1-2, 94–101. (A. V. Uglanov) **99g:28029** 28C20 (46G12, 58C35)

Puga-Espinosa, Isabel Mappings on weakly arcwise open dendroids. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 115–121. (L. E. Ward, Jr.) **99i:54048** 54F15 (54C10, 54E40, 54F50)

Pugai, Yaroslav (*with* Feĭgin, B. L.; Jimbo, Michio; Miwa, Tetsuji; Odesskiĭ, A. V.) Algebra of screening operators for the deformed W_n algebra. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 501–541. (Jun'ichi Shiraishi) **99b:81075** 81R10 (17B68, 81T40)

— (*with* Lashkevich, M. Yu.) Free field construction for correlation functions of the eight-vertex model. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 623–651. (Murray T. Batchelor) **99g:82019** 82B23 (82B20)

— (*with* Lashkevich, M. Yu.) Nearest-neighbor two-point correlation function of the Z-invariant eight-vertex model. *JETP Lett.* **68** (1998), *no.* 3, 257–262; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **68** (1998), *no.* 3, 243–247 (*Russian. Russian summary*). (Takeo Kojima) **99j:82018** 82B20 (82B23)

Puget, Jean-François A fast algorithm for the bound consistency of alldiff constraints. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 359–366, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20 (90C08)

— (*with* Sebag, Michèle; Rouveirol, Céline) Induction of constraint logic programs. (English summary) *Learning and reasoning with complex representations* (*Cairns*, 1996), 148–167, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68N17 (68T05, 68T20)

Pugh, A. C. (*with* Hou, Ming; Hayton, G. E.) Generalized transfer functions and input-output equivalence. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1163–1178. 93A30 (93C30)

— (*with* Karampetakis, N. P.; Hayton, G. E.) Notes on a hierarchical theory of systems and applications. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 2, 185–201. (Introduction) **99c:93001** 93A13 (93A30)

— (*with* Mahmood, Suraiya J.; Karampetakis, N. P.) Solvability, reachability, controllability and observability of regular PMDs. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 617–630. (Summary) **99c:93022** 93B17 (93B40)

— (*with* McInerney, S. J.; Boudellioua, M. S.; Johnson, Dean Spencer; Hayton, G. E.) A transformation for 2-D linear systems and a generalization of a theorem of Rosenbrock. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 491–503. (Summary) **99h:93059** 93C30 (93B25)

— (*with* McInerney, S. J.; Boudellioua, M. S.; Hayton, G. E.) Matrix pencil equivalents of a general 2-D polynomial matrix. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1027–1050. (T. Kaczorek) **99j:93023** 93B25 (15A22, 93C55)

— (*with* Hou, Ming; Müller, Peter C.) Disturbance decoupled functional observers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 382–386. (Summary) **99j:93015** 93B07 (93B25, 93B52)

Pugh, Charles (*with* Shub, Michael) Stable ergodicity and stable accessibility. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 258–268, *Internat. Press, Cambridge, MA*, 199?. (András Krámli) **99c:58097** 58F11 (58F15)

Pugh, M. C. (*with* Shelley, Michael J.) Singularity formation in thin jets with surface tension. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 7, 733–795. (Thomas Y. Hou) **99d:76007** 76B10 (76B45, 76E99)

Pugliese, A. (*with* Rosà, Roberto; Damaggio, M. L.) Analysis of a model for macroparasitic infection with variable aggregation and clumped infections. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 419–447. (Summary) **99g:92018** 92C60 (92D30)

Pugliese, Francesco (*with* Cicerone, Serafino; Frigioni, Daniele; Nanni, Umberto) A uniform approach to semi-dynamic problems on digraphs. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 69–90. (Summary) **99g:68151** 68R10 (05C20, 05C85, 68P05)

Pugliese, Paolo (*with* Eisinberg, Alfredo; Franzé, Giuseppe) Vandermonde matrices on integer nodes. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 75–85. (Luis Verde-Star) **99m:65054** 65F05 (11C20, 15A23, 65F35)

Pugliese, Rosario (*with* Boreale, Michele; De Nicola, Rocco) Asynchronous observations of processes. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 95–109, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q10

Puglisi, Orazio (*with* Lucchini, Andrea) A note on groups satisfying the congruence intersection property. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 61–68. (Gunnar Traustason) **99h:20051** 20E34 (20F19)

— (*with* Leinen, Felix) Irreducible finitary Lie algebras over fields of characteristic zero. (English summary) *J. Algebra* **210** (1998), *no.* 2, 697–702. (Richard E. Phillips) **99m:17030** 17B65 (17B20)

Puhalskii, A. A. *see* **Pukhal'skiĭ, A. A.**

Puhalskii, Anatolii *see* **Pukhal'skiĭ, A. A.**

Puhalskii, Anatolii A. *see* **Pukhal'skiĭ, A. A.**

Pühl, Heidrun Convexity and openness with linear rate. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 382–395. (Adam B. Levy) **99h:49026** 49J52 (49K40, 58C20, 90C31)

— (*with* Schirotzek, W.; Weber, M. R.) On matrices satisfying a maximum principle with respect to a cone. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 337–356. (Richard D. Hill) **99h:15020** 15A48 (15A09, 15A39)

Puhlmann, Hermann Re-grouping information in a domain-theoretic data model. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 1, 67–92. (Guo-Qiang Zhang) **99f:68047** 68P15

Puin, Christopher Character correspondences and subgroups of operator groups. (English summary) *J. Algebra* **207** (1998), *no.* 2, 478–490. (Henry S. Leonard, Jr.) **99g:20023** 20C15

Puite, Quintijn (*with* Schellinx, Harold) On the Jordan-Hölder decomposition of proof nets. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 1, 59–65. (R. Gylys) **99c:03098** 03F50 (03B20, 03F07, 18G99)

Puitg, François (*with* Dufourd, Jean-François) Formal specification and theorem proving breakthroughs in geometric modeling. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 401–422, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68Q60 (03B35, 68U05)

Pujals, Enrique Ramiro (*with* Morales, Carlos Arnoldo; Pacífico, Maria José) On C^1 robust singular transitive sets for three-dimensional flows. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 81–86. (Michael Hurley) **99j:58183** 58F25 (34C35)

— (*with* Morales, Carlos Arnoldo) Strange attractors containing a singularity with two positive multipliers. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 3, 671–679. (Lorenzo J. Díaz) **99i:58106** 58F13 (58F12)

Pujar, S. S. Integral formulas in Riemannian geometry. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 389–395. (Eberhard Teufel) **99d:53078** 53C65

Pujari, Arun K. (*with* Shiny, A. K.) Computation of prime implicants using matrix and paths. (English summary) *J. Logic Comput.* **8** (1998), *no.* 2, 135–145. (Summary) **99a:68159** 68T27 (03B05, 03B35, 94C10)

Pujol, P. (*with* Cabra, Daniel C.; Honecker, A.; Mussardo, G.) A non-perturbative approach to the random-bond Ising model. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8415–8426. (Aernout C. D. van Enter) **99d:82031** 82B44 (81T99)

Pujols, Agnès (*with* Bachelot, Alain) Décroissance de l'énergie locale d'une onde diffusée par un obstacle inhomogène. (French summary) [Local energy decrease in a wave scattered by a nonhomogeneous obstacle] *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 451–459. (Ján Lovíšek) **99j:35149** 35L85 (35L05)

Pukánszky, Lajos *see* **Dixmier, Jacques et al., 99k:01056**

Pukelsheim, Friedrich (*with* Draper, Norman R.) Mixture models based on homogeneous polynomials. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 303–311. (Summary) **99f:62095** 62K15 (62J05)

Pukhal'skiĭ, A. A. (*with* Whitt, Ward) Functional large deviation principles for first-passage-time processes. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 362–381. (Summary) **99c:60059** 60F10 (60G55, 60K05)

— (*with* Krichagina, E. V.) A heavy-traffic analysis of a closed queueing system with a GI/∞ service center. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 235–280. (Summary) **99f:60159** 60K25

— (*with* Spokoĭnyĭ, V. G.) On large-deviation efficiency in statistical inference. (English summary) *Bernoulli* **4** (1998), *no.* 2, 203–272. (N. R. Chaganty) **99k:62040** 62F03 (62C99)

— (*with* Whitt, Ward) Functional large deviation principles for waiting and departure processes. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 479–507. (Gheorghe Stoica) **99f:60160** 60K25 (60F10, 60F17)

— (*with* Reiman, Martin I.) A critically loaded multirate link with trunk reservation. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 157–190. (Summary) **99b:90059** 90B22 (60K25)

Pukhlikov, Aleksandr V. Birational automorphisms of higher-dimensional algebraic varieties. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 97–107 (*electronic*). (Mark Gross) **99k:14026** 14E05 (14J45)

— Birational automorphisms of Fano hypersurfaces. *Invent. Math.* **134** (1998), *no.* 2, 401–426. (Takao Fujita) **99i:14046** 14J45 (14C20, 14E07)

— Birational automorphisms of three-dimensional algebraic varieties with a pencil of del Pezzo surfaces. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 1, 123–164; *translation in Izv. Math.* **62** (1998), *no.* 1, 115–155. (M. Kh. Gizatullin) **99f:14016** 14E05 (14J30)

Pukhnachev, V. V. On a problem of viscous strip deformation with a free boundary. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 4, 357–362. (Summary) **99m:76047** 76D05 (35Q30, 35R35)

Pukhta, Mohammad Sayeed (*with* Dewan, K. K.; Bhat, Aijaz Ahmad) Inequalities concerning the L^p-norm of a polynomial. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 14–21. (Wiesław Pleśniak) **99e:41010** 41A17

van Pul, M. (*with* Maglaperidze, N. O.; Tsigroshvili, Z. P.) Goodness-of-fit tests for parametric hypotheses on the distribution of point processes. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 60–77. (Martin Jacobsen) **99m:62071** 62G10 (62M07)

Pulapaka, H. (*with* Vince, Andrew) Non-revisiting paths on surfaces with low genus. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 267–277. (D. Barnette) **99b:05045** 05C10 (57M15)

Pulé, Joseph V. (*with* Macris, Nicolas; Martin, Philippe André[1]) Large volume asymptotics of Brownian integrals and orbital magnetism. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 2, 147–183. (Roberto Fernández) **99d:82022** 82B21 (60J65, 82B10, 82D40)

— (*with* Scrowston, M.) Infinite degeneracy for a Landau Hamiltonian with Poisson impurities. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6304–6314. (Nariyuki Minami) **99b:82058** 82B44 (47N50, 60H25)

— (*with* Macris, Nicolas; Martin, Philippe André[1]) On edge states in semi-infinite quantum Hall systems. (English summary) *J. Phys. A* **32** (1999), *no.* 10, 1985–1996. (Summary) **99m:81295** 81V70

Pulleyblank, William R. (*with* Cook, William J.; Cunningham, William H.; Schrijver, Alexander) ★ Combinatorial optimization. (English summary) Wiley-Interscience Series in Discrete Mathematics and Optimization. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. x+355 *pp. ISBN* 0-471-55894-X (Ulrich Faigle) **99b:90098** 90C27 (90–02, 90C35)

— (*with* Anbil, Ranga; Forrest, John J.) Column generation and the airline crew pairing problem. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 677–686 (*electronic*). (Uwe Zimmermann) **99g:90163** 90C90 (90B25, 90C10)

— (*with* Fekete, Sándor P.) Traveling the boundary of Minkowski sums. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 171–174. (Summary) **99b:68198** 68U05

Pullin, D. I. (*with* Saffman, P. G.) Vortex dynamics in turbulence. (English summary) *Annual review of fluid mechanics, Vol. 30*, 31–51, *Annu. Rev. Fluid Mech., 30, Annual Reviews, Palo Alto, CA*, 1998. (From the introduction) **99a:76072** 76F99 (76C05, 76D99)

— (*with* Brady, Mark A.; Leonard, A.) Regularized vortex sheet evolution in three dimensions. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 520–545. (Summary) **99f:76034** 76C05 (76M25)

— (*with* Prochazka, Aurelius) Structure and stability of non-symmetric Burgers vortices. (English summary) *J. Fluid Mech.* **363** (1998), 199–228. (Summary) **99f:76042** 76D05 (76C05, 76E99, 76M25)

— (*with* Moore, Derek W.) On steady compressible flows with compact vorticity; the compressible Hill's spherical vortex. (English summary) *J. Fluid Mech.* **374** (1998), 285–303. (Summary) **99i:76136** 76N10 (76C05)

Pullin, Jorge (*with* Gambini, Rodolfo) Variational derivation of exact skein relations from Chern-Simons theories. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 621–640. (David H. Adams) **99a:57029** 57R57 (57M25, 58D30, 58G40, 81T16)

— (*with* Fort, Hugo; Gambini, Rodolfo) Lattice knot theory and quantum gravity in the loop representation. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2127–2143. (Summary) **99d:83031** 83C27 (57M25, 83C45)

— (*with* Gambini, Rodolfo; Lewandowski, Jerzy; Marolf, Donald) On the consistency of the constraint algebra in spin network quantum gravity. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 97–109. (Francois Vanderseypen) **99f:83025** 83C27 (83C45)

— (*with* Gambini, Rodolfo; Griego, Jorge) Vassiliev invariants: a new framework for quantum gravity. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 3, 675–696. (Stephen F. Sawin) **99m:83069** 83C45 (57M25)

— (*with* Gambini, Rodolfo) Does loop quantum gravity imply $\Lambda = 0$? (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 279–283. (Kirill V. Krasnov) **99j:83035** 83C45

— (*with* Gleiser, Reinaldo J.; Nicasio, Carlos O.; Price, Richard H.) Evolving the Bowen-York initial data for spinning black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3401–3407. (Summary) **99m:83112** 83C57

Pullman, Norman J. (*with* Fraughnaugh, Kathryn; Monson, Sylvia D.; Rees, Rolf S.) Uni-intersection graphs. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 14–22. (Hiroshi Maehara) **99d:05074** 05C75

— (*with* Beasley, Leroy B.; Monson, Sylvia D.) Linear operators that strongly preserve graphical properties of matrices. II. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 53–66. (Summary) **99j:15004** 15A04 (05C50)

Pulmannová, Sylvia (*with* Cohen, Paula Beazley; Hudson, Robin L.; Parthasarathy, Kalyanapuram Rangachari) Hall's transformation via quantum stochastic calculus. (English summary) *Quantum probability* (*Gdańsk*, 1997), 147–155, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Timothy M. W. Eyre) **99h:81105** 81S25 (17B35)

— Quantum logics and instruments. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 163–174. (D. J. Foulis) **99i:81019** 81P10 (03G12)

— Quantum logics and convex spaces. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2303–2332. (Décio Krause) **99i:81018** 81P10 (03B22, 03G10, 03G12)

— (*with* Lahti, Pekka J.; Ylinen, Kari) Coexistent observables and effects in a convexity approach. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6364–6371. (D. J. Foulis) **99j:81020** 81P15

— (*with* Hudson, Robin L.) Chaotic expansion of elements of the universal enveloping algebra of a Lie algebra associated with a quantum stochastic calculus. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 462–480. (John E. Gough) **99d:81066** 81S25

— *see also* **Quantum structures, 99g:00049**

Pulte, Helmut (*with* Knobloch, Eberhard; Pieper, Herbert) "... das Wesen der reinen Mathematik verherrlichen". (German summary) ["... to glorify the nature of pure mathematics"] *Math. Semesterber.* **42** (1995), *no.* 2, 99–132. (Detlef Laugwitz) **99c:01015** 01A55 (00A30)

— Jacobi's criticism of Lagrange: the changing role of mathematics in the foundations of classical mechanics. (English, French and German summaries) *Historia Math.* **25** (1998), *no.* 2, 154–184. (Peter M. Harman) **99g:01022** 01A55 (01A50, 70–03)

Pultr, A. (*with* Sichler, J.) Finite commutative monoids of open maps. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 1, 63–77. (J. R. Isbell) **99g:20115** 20M20 (06D20, 54C10, 54D10, 54H10, 54H15)

— (*with* Banaschewski, Bernhard) A new look at pointfree metrization theorems. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 167–175. (J. R. Isbell) **99g:54024** 54E35 (06A23, 06D20)

Pulver, Sandra M. The theory of games. *Math. Ed.* **10** (1993), *no.* 1, 49–54. 90Dxx

Pulverer, K. (*with* Merz, W.; Wilczok, E.) Single species dopant diffusion in silicon. (English summary) *Math. Sci.* **23** (1998), *no.* 1, 1–17. (Summary) **99e:35225** 35Q80 (82D45)

— (*with* Merz, W.; Stoth, Barbara) Construction of an asymptotic model for the oxidation process of silicon. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 711–720. (Summary) **99h:35211** 35Q80 (35R35, 80A22)

Pulvirenti, Ada (*with* Wennberg, Bernt) A Maxwellian lower bound for solutions to the Boltzmann equation. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 145–160. (Carlo Cercignani) **99f:82056** 82C40 (45K05, 76P05)

Pulvirenti, G. (*with* Santagati, G.; Villani, Alfonso) Distributed-parameter control processes in unbounded sets. Control problems. (Italian. English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 2, 413–443 (1997). (Florin Iacob) **99a:49011** 49J20 (35L10, 93B03, 93B05, 93C20)

Pulvirenti, M. (*with* Caprino, S.; Wagner, Wolfgang[1]) Stationary particle systems approximating stationary solutions to the Boltzmann equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 913–934 (*electronic*). (Sylvie Méléard) **99b:60166** 60K35 (76P05, 82C40)

Pumplün, S. An extension of Arason's theorem to certain Brauer-Severi varieties. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 5, 368–369. (Jan van Geel) **99m:11052** 11E81 (16K20)

— Composition algebras over rings of fractions revisited. (English summary) *J. Algebra* **201** (1998), *no.* 1, 151–166. (Alberto Elduque) **99a:17006** 17A75

— Composition algebras over rings of genus zero. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1277–1292. (Alberto Elduque) **99e:17002** 17A75

Püngel, J. (*with* Florian, Helmut; Tutschke, Wolfgang) Matrix differential transformations. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 103–117. (Summary) **99m:35014** 35A30 (15A54, 34A25, 35C05)

Puninskiĭ, G. E. (*with* Tuganbaev, Askar A.) ★ Кольца и модули. (Russian) [Rings and modules] *Izdatel'stvo "SOYuZ"* (*Moskovskiĭ Gosudarstvennyĭ Sotsial'nyĭ Universitet*), *Moscow*, 1998. *viii*+420 *pp. ISBN* 5-7139-0101-7 (Jan Trlifaj) **99i:16002** 16–02 (03C60, 16D40, 16D50, 16P60)

— (*with* Prest, Mike) Σ-pure-injective modules over a commutative Prüfer ring. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 961–971. (Alberto Facchini) **99m:13017** 13C13 (13F05)

Punnen, Abraham P. (*with* Phillips, Jeffrey Mark; Kabadi, Santosh N.) A linear time algorithm for the bottleneck traveling salesman problem on a Halin graph. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 105–110. (Summary) **99c:68130** 68Q25 (90C35)

— *see also* **Traveling salesman problem, 99m:90007**

Punta, E. (*with* Bartolini, Giorgio; Ferrara, Antonella; Usai, Elio) Chattering elimination in the hybrid control of constrained manipulators via first/second order sliding mode control. (English summary) *Dynam. Control* **9** (1999), *no.* 2, 99–124. 93C85 (93B12)

Puntanen, Simo (*with* Mitra, Sujit Kumar; Styan, George P. H.) Shorted matrices and their applications in linear statistical models: a review. (English summary) *New trends in probability and statistics, Vol. 3* (*Tartu/Pühajärve*, 1994), 289–311, *VSP, Utrecht*, 1995. (Summary) **99h:62090** 62J05

— *see also* **Linear algebra and statistics, 99i:00019**

Püntmann, C. (*with* Bohm, Arno; Loewe, Mark; Maxson, S.; Patuleanu, P.; Gadella, M.) Gamow-Jordan vectors and non-reducible density operators from higher-order S-matrix poles. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6072–6100. (Summary) **99b:81261** 81U20

Pupeikis, Rimantas State estimation of dynamic systems in the presence of time-varying outliers in observations. (English and Lithuanian summaries) *Informatica* (*Vilnius*) **9** (1998), *no.* 3, 325–342. (Han Fu Chen) **99j:93098** 93E10 (93E11)

Puppe, Clemens (*with* Nehring, Klaus) On the multi-preference approach to evaluating opportunities. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 41–63. (Yew-Kwang Ng) **99m:90014** 90A06

Puppe, Volker (*with* Huck, Wolfgang) Circle actions on 4-manifolds. II. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 6, 493–500. (Mikiya Masuda) **99j:57040** 57S25 (57M60, 57N13, 57S15)

Puppo, Enrico (*with* De Floriani, Leila; Magillo, Paola) A formal approach to multiresolution hypersurface modeling. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 302–323, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65191** 65Y25 (65D17)

— Variable resolution triangulations. (English summary) International Workshop on Algorithms and Data Structures (Halifax, NS, 1997). *Comput. Geom.* **11** (1998), *no.* 3-4, 219–238. (Summary) **99m:68215** 68U05 (52B55)

Puppo, Gabriella Bubble stabilization of spectral methods: the multidimensional case. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 2, 115–149. (Timothy Nigel Phillips) **99j:65214** 65N35 (76M25)

Pupyshev, V. I. (*with* Mikhaĭlova, T. Yu.) Algebraic method for the evolution operator approximation. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4263–4275. (Summary) **99e:81272** 81V55 (47N50)

Pupyshev, V. V. About spurious solutions of the Faddeev differential equations. (English summary) *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 461–464, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81Q05

Purcaru, Monica Metric semi-symmetric N-linear connections in the bundle of accelerations. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 113–118. (Tadashi Aikou) **99j:53094** 53C60 (58A20)

Puri, M. C. (*with* Arora, Savita) On lexicographic optimal solutions in transportation problems. (English summary) *Optimization* **39** (1997), *no.* 4, 383–403. (Summary) **99b:90042** 90B06 (90C29)

— (*with* Gupta, Renu) Bicriteria integer nonlinear fractional programming problem. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 1–16. 90C29 (90C10)

— (*with* Arora, Shalini) A lexi-search algorithm for a time minimizing assignment problem. (English summary) *Opsearch* **35** (1998), *no.* 3, 193–213. (Summary) **99f:90053** 90B80 (90C27)

Puri, Madan L. (*with* Brunner, Edgar) Nonparametric methods in design and analysis of experiments. *Design and analysis of experiments*, 631–703, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62G10 (62J10)

— (*with* Haiman, George; Mayeur, Nelly; Nevzorov, V. B.) Records and 2-block records of 1-dependent stationary sequences under local dependence. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 4, 481–503. (Patrik Albin) **99i:60069** 60F15 (60G70)

— (*with* Harel, Michel) Autoregression quantiles and related rank score processes for generalized random coefficient autoregressive processes. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 271–294. (Pham Dinh Tuan) **99g:62136** 62M10 (62G10)

Puri, Pratap (*with* Jordan, P. M.) Wave structure in Stokes' second problem for a dipolar fluid with nonclassical heat conduction. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 145–160. (Summary) **99i:80010** 80A20 (76A05, 76R99)

Puri, R. R. A quasiprobability based criterion for classifying the states of N spin-$\frac{1}{2}$s as classical or non-classical. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5719–5726. (Summary) **99b:81095** 81R30 (81V80)

Purkayastha, Sumitra Simple proofs of two results on convolutions of unimodal distributions. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 97–100. (Summary) **99j:62014** 62E15

Purkert, Annerose *see* **Yushkevich, A. P., 99f:01024**

Purkert, Walter *see* **Yushkevich, A. P., 99f:01024**

Purnachandra Rao, Ch. (*with* Mukherjee, Rathindra Nath[1]) Optimality and duality for variational problems with generalized convexity. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 11, 1535–1546. (Summary) **99b:90112** 90C29 (49N15)

Purnachandra Rao, K. (*with* Rao, J. Krishna; Annapurna, M.) Inhomogeneous Kantowski-Sachs type cosmological models. (English summary) *Math. Today* (*Ahmedabad*) **16** (1998), 25–37. 83C15

Purnama, A. (*with* Smith, Ronald) Two outfalls in an estuary: optimal wasteload allocation. (English summary) *J. Engrg. Math.* **35** (1999), *no.* 3, 273–283. 86A05

Purnaprajna, B. P. (*with* Gallego, Francisco Javier) Very ampleness and higher syzygies for Calabi-Yau threefolds. *Math. Ann.* **312** (1998), *no.* 1, 133–149. (Mark Gross) **99g:14048** 14J32 (14C20)

Pursel, J. D. (*with* Goggans, P. M.) A finite-difference time-domain method for solving electromagnetic problems with bandpass-limited sources. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 9–15. 78–08

Purtukhiya, O. G. On the representation of measure-valued solutions of second order stochastic parabolic equations. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **116** (1998), 133–158. (Rosario Delgado) **99m:60085** 60H07 (60G57, 60H15)

Purushotham, G. Some physical properties of two-dimensional magneto fluid flows. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 1–8. 76W05

— Generalisation of Fresnel's and Euler's integrals. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 265–270. (Y. Sitaraman) **99h:26003** 26A06

Purwanto (*with* Wallis, W. D.) Minimum order of a graph with given deficiency and either minimum or maximum degree. (English summary) *Ars Combin.* **50** (1998), 187–192. (Summary) **99i:05115** 05C35 (05C70)

Puryushkis, G. On the Dirichlet problem for nonstrongly elliptic systems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 570–571, 576; *translation in Differential Equations* **34** (1998), *no.* 4, 573–575. (Summary) **99j:35042** 35J55

Puschnigg, Michael ★ Asymptotic cyclic cohomology. *Universität Heidelberg, Naturwiss.-Math. Gesamtfak., Heidelberg*, 1993. 211 *pp.* (H. Schroeder (Zbl 827.19001)) **99e:46097** 46M20 (19D55, 19K35, 46H05, 46L85)

— ★ Asymptotic cyclic cohomology. Lecture Notes in Mathematics, 1642. *Springer-Verlag, Berlin*, 1996. xxiv+238 *pp. ISBN* 3-540-61986-0 (A. Cap (Zbl 867.19001)) **99e:46098** 46M20 (19D55, 19K35, 46H05, 46L85)

— A survey of asymptotic cyclic cohomology. (English summary) *Cyclic cohomology and noncommutative geometry* (*Waterloo, ON*, 1995), 155–168, *Fields Inst. Commun.*, 17, *Amer. Math. Soc., Providence, RI*, 1997. (Hiroshi Takai) **99b:46109** 46L85 (19D55, 46L80)

— Explicit product structures in cyclic homology theories. *K-Theory* **15** (1998), *no.* 4, 323–345. (Kevin P. Knudson) **99j:16003** 16E40 (19D55)

Pushin, O. M. K'-theory of quadrics with degenerations. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 177–191. (Şerban Bărcănescu) **99k:14018** 14C35 (19E08)

Pushkar', E. A. (*with* Barmin, A. A.) Oblique interaction of an Alfvén discontinuity and a fast magnetohydrodynamic shock wave propagating in opposite directions. *Fluid Dynam.* **32** (1997), *no.* 6, 857–869 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 6, 120–136 (*Russian. Russian summary*). (Summary) **99a:76159** 76W05 (76L05)

Pushkar', Petr E. Diameters of immersed manifolds and of wave fronts. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 201–205. (Darko Milinković) **99j:57037** 57R99

— (*with* Ferrand, Emmanuel) Non-cancellation of cusps on wave fronts. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 827–831. (Summary) **99j:57030** 57R45 (57R15, 58C27)

Pushkarna, Narinder (*with* Saran, Jagdish) Some identities for moments of order statistics and their applications in combinatorial identities. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 11–20. 62G30 (05A19, 62E15)

— (*with* Saran, Jagdish) Some new identities for single moments of order statistics. (English summary) *Statistics* **30** (1998), *no.* 4, 345–355. (Summary) **99k:62104** 62G30

— (*with* Saran, Jagdish) Correction to a recurrence relation between moments of order statistics. (English summary) *Statistics* **31** (1998), *no.* 1, 79–81. (Barry C. Arnold) **99i:62118** 62G30

Pushkin, A. V. "Monstrous Moonshine" and physics. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 316–319, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:83058** 83C99 (20D08, 81P99)

Pushnitskiĭ, A. B. A representation for the spectral shift function in the case of perturbations of fixed sign. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 197–213; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 6, 1181–1194. (Vladimir Derkach) **99a:47021** 47A55 (47A40, 47B25)

Pushpa Latha, L. (*with* Sampathkumar, E.) Complement of a graph: a generalization. (English summary) *Graphs Combin.* **14** (1998), *no.* 4, 377–392. (A. Vijayakumar) **99k:05142** 05C75

— (*with* Sampathkumar, E.; Venkatachalam, C. V.; Bhat, Pradeep) Generalized complements of a graph. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 625–639. (A. Vijayakumar) **99f:05097** 05C75

Pustylnik, Evgenii Embedding functions and their role in interpolation theory. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 3, 305–325. (Fernando Cobos) **99d:46097** 46M35

— (*with* Cwikel, Michael) Sobolev type embeddings in the limiting case. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 433–446. (N. Ya. Kruglyak) **99k:46055** 46E35 (46M35)

Pustyl'nikov, L. D. Infinite-dimensional nonlinear ordinary differential equations and KAM theory. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 105–160; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 551–604. (C. Eugene Wayne) **99h:34069** 34C37 (34G20, 35Q99, 58F22, 58F27, 70K99)

Pusz, W. On representations of quantum Lorentz group. (English summary) *Quantum groups* (*Karpacz*, 1994), 409–420, *PWN, Warsaw*, 1995. (Władysław Marcinek) **99i:81108** 81R50 (17B37, 46L89)

van der Put, Marius Reduction modulo p of differential equations. *Indag. Math.* (*N.S.*) **7** (1996), *no.* 3, 367–387. (Alain Lasjaunias) **99e:12009** 12H25 (12H05)

— The structure of Ω and its quotients $\Gamma\backslash\Omega$. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 103–112, *World Sci. Publishing, River Edge, NJ*, 1997. (Frank Herrlich) **99g:11075** 11G09 (11F85, 14G20)

— (*with* Top, Jaap) Analytic compactification and modular forms. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 113–140, *World Sci. Publishing, River Edge, NJ*, 1997. (Yoshinori Hamahata) **99h:11060** 11G09 (11F11, 11G18)

— (*with* Top, Jaap) Algebraic compactification and modular interpretation. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 141–166, *World Sci. Publishing, River Edge, NJ*, 1997. (Yoshinori Hamahata) **99k:11084** 11G09 (11F11)

— (*with* Reversat, Marc) Automorphic forms and Drinfeld's reciprocity law. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 188–223, *World Sci. Publishing, River Edge, NJ*, 1997. (Jean-Claude Douai) **99j:11059** 11F80 (11F32, 11G09, 11R39)

— *see also* **Drinfeld modules, modular schemes and applications, 99b:11002**

Puta, Mircea (*with* Buchner, Klaus; Craioveanu, Mircea) Recent progress in the integration of Poisson systems via the mid-point rule and Runge-Kutta algorithm. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 9–19. (Ram Krishan Sharma) **99d:70003** 70–08 (65L06, 70H05)

— Integrability and geometric prequantization of the Maxwell-Bloch equations. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 3, 243–250. (Ivailo M. Mladenov) **99c:58062** 58F06 (58F07, 81S10, 81V80)

— Optimal control problems on matrix Lie groups. (English summary) *New developments in differential geometry, Budapest* 1996, 361–373, *Kluwer Acad. Publ., Dordrecht*, 1999. (Carlos José Braga Barros) **99k:49062** 49K30 (70Q05, 93B05)

Putcha, Mohan S. Monoids of Lie type. *Semigroups, formal languages and groups* (*York*, 1993), 353–367, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Lex Renner) **99f:20105** 20M30

— (*with* Renner, Lex E.) Linear algebraic monoids. *Positivity in Lie theory: open problems*, 271–281, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Jan Okniński) **99h:20097** 20M20 (20D06, 20G15)

— Conjugacy classes and nilpotent variety of a reductive monoid. (English summary) *Canad. J. Math.* **50** (1998), *no.* 4, 829–844. (Lex Renner) **99f:20095** 20M10

— Complex representations of finite monoids. II. Highest weight categories and quivers. (English summary) *J. Algebra* **205** (1998), *no.* 1, 53–76. (G. J. Lallement) **99f:20106** 20M30

— Monoid deformations and group representations. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 2, 159–178. (Jan Okniński) **99g:20117** 20M30 (20G05, 20G40, 20M20)

Puterman, Martin L. (*with* Haviv, Moshe) Bias optimality in controlled queueing systems. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 136–150. (Summary) **99a:60104** 60K25 (90C40)

Putinar, Gabriela Nilpotent quotients of fundamental groups of special 3-manifolds with boundary. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 233–237. (Lee Mosher) **99g:57023** 57N10 (57M05)

Putinar, Mihai (*with* Gustafsson, Björn) An exponential transform and regularity of free boundaries in two dimensions. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 507–543. (John E. McCarthy) **99k:30004** 30B40 (47B38)

— Extremal solutions of the two-dimensional L-problem of moments. II. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 38–58. (Tiberiu Constantinescu) **99d:47017** 47A57 (44A60, 47B20)
— Matrix analysis and the Friedrichs operator of a quadrature domain. (English summary) *Linear Algebra Appl.* **270** (1998), 215–229. (Richard Rochberg) **99a:47039** 47B35 (30C40, 30E05)
— (*with* Prunaru, Bebe) The generic local spectrum of any operator is the full spectrum. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 3, 332–336. (Thomas Len Miller) **99m:47003** 47A11 (47A13)
Putkaradze, Vakhtang (*with* Constantin, Peter; Hallstrom, Chris) Heat transport in rotating convection. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 275–284. (Marie Christine Néel) **99m:76104** 76R10 (35Q35, 76E15, 76U05)
Putnam, Erna *see* **Carnap, Rudolf**, (**99a:00006a**); **Heyting, Arend**, (**99a:00006a**) *and* **Hahn, Hans**, (**99a:00006a**)
Putnam, H. *see* **Santos, Ernesto Perini F. da Mota**
Putnam, Ian (*with* Kaminker, Jerome; Spielberg, John S.) Operator algebras and hyperbolic dynamics. *Operator algebras and quantum field theory* (*Rome*, 1996), 525–532, *Internat. Press, Cambridge, MA*, 199?. (Berndt Brenken) **99b:46103** 46L55 (46L85, 54H20, 55P25, 58F15)
van der Putten, Roberto *see* **Van der Putten, Roberto**
Putter, Hein (*with* van Zwet, Willem R.) Empirical Edgeworth expansions for symmetric statistics. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1540–1569. (Zuzana Prášková) **99k:62036** 62E20 (60F05, 62G09)
Putti, Mario (*with* Cordes, Christian) Finite element approximation of the diffusion operator on tetrahedra. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1154–1168 (*electronic*). (Jaroslaw Jelen) **99d:65325** 65N30 (65N35, 76M10)
Puu, Tönu ★ Mathematical location and land use theory. An introduction. Advances in Spatial Science. *Springer-Verlag, Berlin*, 1997. $x+294$ *pp. ISBN* 3-540-61819-8 (Sandra L. Arlinghaus) **99h:90003** 90-02 (90A25, 90B80, 90B85)
Puyesky, I. (*with* Frankel, I.) The motion of a dipolar spherical particle in homogeneous shear and time-periodic fields. (English summary) *J. Fluid Mech.* **369** (1998), 191–216. (Summary) **99f:76017** 76A99 (76W05, 76Z10)
Puyol-Gruart, Josep (*with* Godo, Lluís; Sierra, Carles) Specialisation calculus and communication. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 107–130. (Summary) **99i:68112** 68T27
Půža, B. (*with* Kiguradze, I. T.) On boundary value problems for functional-differential equations. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 106–113. (Summary) **99d:34120** 34K10
— (*with* Kiguradze, I. T.) On the solvability of nonlinear boundary value problems for functional-differential equations. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 251–262. (Vladimir P. Maksimov) **99e:34092** 34K10
Puzynin, I. V. (*with* Kholmurodov, Kh. T.; Smirnov, Yu. S.) On one computational scheme solving the nonstationary Schrödinger equation with polynomial nonlinearity. *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 190–192, *Springer, Berlin*, 1997. (*see* **99g:00039**) 65N06
Puzynin, V. I. The Milne equation for the numerical solution of the Coulomb two-center problem in the continuous spectrum. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 4, 89–103. 78A25
Pyatkin, A. V. Proof of Melnikov-Vizing conjecture for multigraphs with maximum degree at most 3. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 275–278. (Summary) **99b:05062** 05C15
Pyatkov, S. G. Interpolation of some function spaces and indefinite Sturm-Liouville problems. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 179–200, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (P. A. Mishnayevskiy) **99f:47060** 47E05 (34B24, 34L10, 46E35, 46M35)
Pyatnitskii, Andrei L. (*with* Bourgeat, Alain; Mikelić, Andro) Modèle de double porosité aléatoire. (English and French summaries) [Random double porosity model] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 99–104. (Antonio Fasano) **99i:76141** 76S05 (35B25, 35Q35, 73B27, 76M35)
Pyatnitskiĭ, E. S. Criteria for the complete controllability of mechanical systems with bounded controls. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 707–718; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 703–712. (Alexander M. Kovalev) **99f:70035** 70Q05 (70B15, 93C15)
Pyatov, P. N. The differential calculus on $\mathrm{SL}_q(N)$ and the deformation of Leibnitz rule. (English summary) *Quantum groups* (*Karpacz*, 1994), 291–296, *PWN, Warsaw*, 1995. (*see* **99e:17001**) 58B30 (16W30)
— (*with* Hadjiivanov, L. K.; Isaev, A. P.; Ogievetskiĭ, O. V.; Todorov, Ivan T.) Hecke algebraic properties of dynamical R-matrices. Application to related quantum matrix algebras. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 427–448. (Andrei G. Bytsko) **99k:81114** 81R50 (17B37)
Pyber, László (*with* Liebeck, Martin W.) Upper bounds for the number of conjugacy classes of a finite group. (English summary) *J. Algebra* **198** (1997), *no.* 2, 538–562. (Ma. Jesús Iranzo) **99c:20023** 20D99 (20C15)
— Group enumeration and where it leads us. *European Congress of Mathematics, Vol. II* (*Budapest*, 1996), 187–199, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (Andrea Lucchini) **99i:20037** 20D60 (11N45, 20B15, 20E18, 20P05)
— (*with* Pálfy, P. P.) Small groups of automorphisms. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 4, 386–390. (Stefan Heiss) **99g:20040** 20D45 (20B25)
Pych-Taberska, Paulina Pointwise approximation of absolutely continuous functions by certain linear operators. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 67–76. (Walter Schempp) **99f:41020** 41A25 (41A10)
— On the generalized Favard operators. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 265–273. (Carlo Bardaro) **99k:41021** 41A25 (41A35)
Pycior, Helena M. ★ Symbols, impossible numbers, and geometric entanglements. British algebra through the commentaries on Newton's *Universal arithmetick. Cambridge University Press, Cambridge*, 1997. xii+328 *pp. ISBN* 0-521-48124-4 (Massimo Galuzzi) **99c:01010** 01A45 (01A50)
Pykacz, Jarosław Fuzzy quantum logics as a basis for quantum probability theory. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 281–290. (Marjan Matvejchuk) **99g:81016** 81P10 (03B52, 03E72, 03G12)
— Erratum: "Conjunctions, disjunctions, and Bell-type inequalities in orthoalgebras" [Internat. J. Theoret. Phys. **35** (1996), no. 11, 2353–2363; MR 98a:81011]. *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 1171–1172. (From the text) **99c:81015** 81P10
Pyke, David F. (*with* Baganha, Manuel P.; Ferrer, Geraldo) The residual life of the renewal process: a simple algorithm. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 4, 435–443. 90B05 (90B22)
Pym, John (*with* Baker, John Walter; Lau, Anthony To-Ming) Module homomorphisms and topological centres associated with weakly sequentially complete Banach algebras. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 186–208. (Summary) **99h:46081** 46H05 (43A15)
— (*with* Bordbar, B.) The weakly almost periodic compactification of a direct sum of finite groups. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 421–449. (N. Hindman) **99g:22003** 22A15 (54D35, 54H11)
Pyo, Yong-Soo (*with* Kim, Hyang Sook; Lee, Gil Sang) Geodesics and circles on real hypersurfaces of type A and B in a complex space form. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 79–89. (Jürgen Berndt) **99i:53043** 53C22 (53C40)
Pyrih, Pavel A space losing the normality with one point. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 2, 207–208. (Summary) **99m:54010** 54D15 (54G20)
— Norm and pointwise topologies need not to be binormal. *Extracta Math.* **13** (1998), *no.* 1, 111–113. (O. T. Alas) **99i:54004** 54A10 (54C35, 54D15)
— A space where disjoint open sets have disjoint closures. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 133–134. 54G20
Pyt'ev, A. Yu. (*with* Pyt'ev, Yu. P.) On the effective dimension of a set of measurements. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 682–697; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 657–671. (Summary) **99d:65028** 65C20 (65J15)
Pyt'ev, Yu. P. Foundations of possibility theory. Methods for optimal estimation and decision making. III. Independence, conditional possibility and conditional necessity. A conditional integral with respect to a σ-algebra. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 6, 3–5. 90A05
— Foundations of possibility theory. Methods for optimal estimation and decision making. IV. Maximal extension of possibility. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 1, 3–6. 90A05
— Foundations of possibility theory. Methods for optimal estimation and decision making. V. Fuzzy elements, independence and conditional distributions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 2, 3–8. 90A05 (28E10, 62A99, 93A05)
— (*with* Pyt'ev, A. Yu.) On the effective dimension of a set of measurements. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 682–697; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 657–671. (Summary) **99d:65028** 65C20 (65J15)
— A possibility-theoretic method for measurement reduction. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1999**, *no.* 1, 3–7. 65U05
Pytlak, R. Runge-Kutta based procedure for the optimal control of differential-algebraic equations. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 675–705. (Maria do Rosário de Pinho) **99c:49031** 49M25 (34A09, 65L06)
— (*with* Vinter, R. B.) A feasible directions algorithm for optimal control problems with state and control constraints: convergence analysis. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1999–2019 (*electronic*). (Walter Alt) **99f:49046** 49M05 (49M37)
— An efficient algorithm for large-scale nonlinear programming problems with simple bounds on the variables. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 532–560 (*electronic*). (Christian Zillober) **99e:90095** 90C30 (65K05, 90C06)
Pytlik, Tadeusz Hilbert's Fifth Problem. (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 55–61, *Polsk. Akad. Nauk, Warsaw*, 1997. (Krzysztof Ciesielski) **99i:01029** 01A60 (22-03, 57S05)

–Q–

Qadir, Asghar (*with* Ziad, M.) A positive energy density spacetime related to the Reboucas-Tiomno and Einstein universes. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 185–190. (Alicia M. Sintes) **99j:83016** 83C15 (83C20)

— (*with* Ziad, M.) Ricci collineations of spherically symmetric spacetimes. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 6, 773–784. (Brian Edgar) **99g:83019** 83C20 (83C40)

ho-mock-Qai, Bertina *see* **Ho-Mock-Qai, Bertina**

Qamaruddin (*with* Mursaleen) Some new sequence spaces over non-Archimedian fields and their matrix transformations. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 81–86. (Summary) **99k:40009** 40H05

— (*with* Mursaleen; Khatib, M. A.) On difference Cesàro sequence spaces of non-absolute type. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 337–342. (Summary) **99g:40004** 40H05 (40D25, 40J05)

Qaqish, Bahjat F. (*with* Preisser, John S.) Resistant fits for regression with correlated outcomes: an estimating equations approach. (English summary) The Seventh Eugene Lukacs Conference (Bowling Green, OH, 1997). *J. Statist. Plann. Inference* **75** (1999), *no.* 2, 415–431. (*see* **99k:62004**) 62J12

Qatanani, Naji ★ Lösungsverfahren und Analysis der Integralgleichung für das Hohlraum-Strahlungs-Problem. (German) [Solution method and analysis of the integral equation for the problem of cavity radiation] Dissertation, Universität Stuttgart, Stuttgart, 1996. *Universität Stuttgart, Stuttgart*, 1996. iv+75 *pp.* (Ulrich Tautenhahn) **99e:78028** 78A40 (45L05, 65R20, 78–08)

Qi, Aiqin Existence of solutions of periodic boundary value problems for second order nonlinear integro-differential equations. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 211–220. (Józef Banaś) **99h:45015** 45J05 (34K10, 47H15)

Qi, Chuan Da (*with* Yu, Ying Da; Lu, Shi Tang) Asymptotic stability of solutions to investment control models. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 72–76. 90A09 (93C95)

Qi, Dewei Lattice-Boltzmann simulations of particles in non-zero-Reynolds-number flows. (English summary) *J. Fluid Mech.* **385** (1999), 41–62. 76M25 (76P05, 76T05)

Qi, Dong Wen (*with* Jing, Zhu-Jun) Bifurcations of a pair of nonorientable heteroclinic cycles. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 319–338. (Rodrigo Bamon) **99f:58150** 58F14 (34C23, 34C37)

Qi, Dongxu (*with* Ding, Wei; Li, Huashan) A new image transformation scheme and digital approximation between different pictures. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 465–469, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 68U10 (94A05)

Qi, Fei Hu (*with* Chen, Yan Xin) Research on synergetic learning algorithms. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 8, 26–30. 65J10 (68T05)

Qi, Feng (*with* Xu, Sen Lin) Refinements and extensions of an inequality. II. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 616–620. (Zsolt Páles) **99i:26028** 26D15

— A method of constructing inequalities about e^x. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 16–23. (B. Crstici) **99a:26012** 26D07 (33B10)

— (*with* Luo, Qiu-Ming) A simple proof of monotonicity for extended mean values. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 356–359. 15A48

— (*with* Pečarić, Josip; Šimić, V.; Xu, Sen Lin) Refinements and extensions of an inequality. III. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 439–448. (Zsolt Páles) **99i:26029** 26D15

— (*with* Xu, Sen Lin) The function $(b^x - a^x)/x$: inequalities and properties. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3355–3359. (Ling Yau Chan) **99a:26001** 26A09 (26A48, 26D07)

— Generalized weighted mean values with two parameters. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2723–2732. (Mircea Ivan) **99k:26027** 26D15 (26A24)

— On a two-parameter family of nonhomogeneous mean values. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 155–163. (Mircea Ivan) **99g:26026** 26A48 (26D10)

— (*with* Huang, Zheng) Inequalities of the complete elliptic integrals. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 165–169. (J. M. H. Peters) **99k:33062** 33E05 (26D10, 26D15, 33C55)

— (*with* Guo, Sen-Lin) Inequalities for the incomplete gamma and related functions. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 47–53. (Summary) **99j:33003** 33B15 (26D07)

Qi, Guo Qiang (*with* Xiao, Hong^2; Li, Xue Chen) Oscillations and asymptotic properties of higher-order neutral functional-differential equations. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 2, 12–18. (Yi Zhong Lin) **99k:34160** 34K15 (34K40)

Qi, He (*with* Zheng, Wei Ying; Liu, Ming Fang) The construction of 12-parameter rectangular plate elements. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 5–9. 65N30 (73K10, 73V05)

Qi, Hou-Duo Algorithms guaranteeing iterative points within nonnegative orthant in complementarity problems. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 311–324, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C33

— (*with* Liu, Guang Hui; Han, Ji Ye; Xu, Zhong Ling^2) Convergence analysis on a class of conjugate gradient methods without sufficient decrease condition. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 1, 11–16. (Kurt Marti) **99d:90115** 90C30 (65K05)

— A monotonicity property of projection operators onto closed convex sets. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 580–582. 90C30 (90C48)

— (*with* Liao, Li-Zhi; Lin, Zheng Hua) Regularized smoothing approximations to vertical nonlinear complementarity problems. *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 261–276. (Jie Sun) **99k:90178** 90C33 (90C30)

— (*with* Liao, Li-Zhi) A neural network for the linear complementarity problem. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 3, 9–18. 90C33

Qi, Jian Gang (*with* Liu, Yan Sheng) Local existence of weak solutions to differential systems in abstract spaces. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 79–83. (Kotik K. Lee) **99f:34093** 34G20

Qi, Liqun (*with* Birge, John R.; Wei, Zeng Xin) A general approach to convergence properties of some methods for nonsmooth convex optimization. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 141–158. (J. Frédéric Bonnans) **99f:90079** 90C25 (65K05, 90C30)

— (*with* Wei, Zeng Xin; Birge, John R.) A new method for nonsmooth convex optimization. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 157–179. (M. Teboulle) **99k:90166** 90C30 (90C25)

— (*with* Birge, John R.; Wei, Zeng Xin) Convergence analysis of some methods for minimizing a nonsmooth convex function. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 357–383. (Stefan M. Stefanov) **99k:90150** 90C30 (49J52, 90C15)

— (*with* Potra, Florian A.; Sun, De Feng) Secant methods for semismooth equations. (English summary) *Numer. Math.* **80** (1998), *no.* 2, 305–324. (Summary) **99f:65079** 65H10

— (*with* Polak, Elijah) Globally and superlinearly convergent algorithm for minimizing a normal merit function. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1005–1019 (*electronic*). (Summary) **99b:90122** 90C30 (65H10, 65K10)

— (*with* Jiang, Houyuan; Fukushima, Masao; Sun, De Feng) A trust region method for solving generalized complementarity problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 140–157 (*electronic*). (Bruce D. Craven) **99c:90134** 90C33 (65K05)

— (*with* Mifflin, Robert; Sun, De Feng) Quasi-Newton bundle-type methods for nondifferentiable convex optimization. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 583–603 (*electronic*). (J. Frédéric Bonnans) **99f:90131** 90C30 (49J45, 65K05, 90C25)

— *see also* **Reformulation: nonsmooth, piecewise smooth, semismooth and smoothing methods, 99k:90004**

Qi, Min Financial applications of artificial neural networks. *Statistical methods in finance*, 529–552, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:90023** 90A09 (68T05, 92B20)

Qi, Qiu Lan (*with* Guo, Shun Sheng) On the simultaneous approximation of functions and their derivatives by the gamma operators. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 4, 475–486. (Joseph M. Lambert) **99g:41025** 41A29 (41A25, 41A65)

Qi, Song Ru (*with* Lu, Lian Shan) A test for whether a linear programming problem has infinitely many optimal solutions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 34–37. 93C05

Qi, Tang *see* **Tang, Qi**

Qi, Tie Shan (*with* Chen, Shao Chun) An analysis of MITC elements. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 168–172. (Summary) **99g:65111** 65N30 (73K10, 73V05)

Qi, Wen Bang A solution method for equations with nonsymmetric positive definite coefficient matrices. (Chinese. English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **2** (1998), *no.* 4, 35–39. 65F10 (65F30)

Qi, Wen Feng (*with* Zhou, Jin Jun) The 0, 1 distribution of the highest power digits of primitive sequences over the ring $\mathbf{Z}(2^3)$. II. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 18, 1938–1940. 11B50

— (*with* Zhou, Jin Jun) Distribution of 0 and 1 in the highest level of primitive sequences over $\mathbf{Z}/(2^e)$. II. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 633–635. (Jean-Paul Allouche) **99m:11015** 11B50 (11B37, 94A60)

Qi, Xiang Tong (*with* Chen, Qiu Shuang; Tu, Feng Sheng) Input control and scheduling in job shops. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 49–56. 90B35 (90C90)

Qi, Yongcheng A problem on stability of order statistics. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 21–25. (Summary) **99c:62150** 62G30 (62G20)

— (*with* Cheng, Shihong; Peng, Liang) Almost sure convergence in extreme value theory. (English summary) *Math. Nachr.* **190** (1998), 43–50. (Erich Haeusler) **99g:60063** 60F15 (60G70)

Qi, Yuan-wei The existence and non-existence theorems for ground states of nonlinear elliptic systems. *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1749–1780. (Philip W. Schaefer) **99i:35030** 35J45 (35J60)

Qi, Zhao Hui (*with* Tang, Li Min) Conformal parameters for finite rotational tensors and their application in multibody systems. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 6, 711–718. 70B10 (70E99)

— (*with* Tang, Li Min) Mixed state Hamilton elements. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **39** (1999), *no.* 1, 12–16. 73V05

Qi, Zhichang (*with* Luo, Tiegeng; Chen, Huo Wang; Wang, Bingshan; Wang, Ji; Gong, Zhenghu) Verifying automata specification of distributed probabilistic real-time systems. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 588–596. (Summary) **99m:68123** 68Q60

Qian, Chuanxi (*with* Ladas, G.; Yan, Ju Rang) Oscillation of difference equations with oscillating coefficients. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 55–65. (Guang Zhang) **99a:39027** 39A10 (39A11)

— (*with* Graef, John R.; Miciano-Cariño, Agnes) A Sturm type comparison theorem for higher order nonlinear difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 263–270, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99f:39005** 39A10

— (*with* Graef, John R.; Miciano-Cariño, Agnes) A comparison result for nonlinear difference equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1547–1553. (*see* **98i:00029**) 39A10

— (*with* Graef, John R.) Asymptotic behavior of forced delay equations with periodic coefficients. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 551–564. (Vera V. Malygina) **99g:34155** 34K25

— (*with* Farkas, Miklos; Graef, John R.) Asymptotic periodicity of delay differential equations. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 150–165. (Ovide Arino) **99i:34098** 34K15

Qian, Chunlin (*with* Chen, Zuchi) Estimates for discrete spectrum of a certain system. *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 2, 222–224. (Iuliu Dan Coroian)

99c:35177 35P15 (35J40, 35P05)

Qian, Fang Sheng The infinite ST-groups. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 5–7. 20F99

Qian, Fu Cai (*with* Fei, Chu Hong; Wan, Bai Wu) A hybrid algorithm for global optimization using chaotic search. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 3, 232–235. 90C30

— (*with* Wan, Bai Wu) A hierarchical optimizing control algorithm for nonseparable steady states of large-scale systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 7, 21–23, 55. 49K15 (93A13)

Qian, Guo Hua (*with* Zhang, Yong Kang; Xu, He Xian) Seminormal quasidirect products in finite groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 2, 15–18. 20D40 (20D35)

Qian, Guo Liang (*with* Shu, Wen Hao; Wang, Ya Dong) A heuristic algorithm for extension matrices based on information entropy. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 619–626. 68T05

Qian, Hailong (*with* Schmidt, Peter Joseph) The asymptotic equivalence between the iterated improved 2SLS estimator and the 3SLS estimator. (English summary) *Econometric Rev.* **16** (1997), *no.* 4, 441–457. (Summary) **99c:62291** 62P20

— (*with* Kim, Yangseon; Schmidt, Peter Joseph) Efficient GMM and MD estimation of autoregressive models. (English summary) *Econom. Lett.* **62** (1999), *no.* 3, 265–270. (Summary) **99m:62137** 62M10

Qian, Hong (*with* Raymond, Gary M.; Bassingthwaighte, James B.) On two-dimensional fractional Brownian motion and fractional Brownian random field. (English summary) *J. Phys. A* **31** (1998), *no.* 28, *L527–L535*. (Summary) **99c:82053** 82C31

Qian, Ji Xin (*with* Hou, Chun Hai) Decay estimates for Razumikhin-type theorems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 5, 699–701. 93D05

— (*with* Hou, Chun Hai) Decay estimates for applications of Razumikhin-type theorems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 921–924. (Summary) **99d:34147** 34K20

— (*with* Hou, Chun Hai) On an estimate of the decay rate for applications of Razumikhin-type theorems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 958–960. (Summary) **99e:93058** 93D10 (34K20)

— (*with* Hou, Chun Hai) Practical stability and exponential estimates of trajectory bounds for retarded systems with bounded disturbances. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 50–61. (Anthony N. Michel) **99d:34148** 34K20 (34K35, 93D09)

— (*with* Hou, Chun Hai) Remarks on quantitative analysis for a family of scalar delay differential inequalities. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 334–336. (Pedro Martínez-Amores) **99m:34173** 34K20

Qian, Jian Guo (*with* Xiang, Jumin) Some properties of a class of interchange graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 486. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 455–462. (Summary) **99m:05110** 05C50

— The edge connectivity of the generalized interchange graph $G^{+\infty}(R,S)$. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 4, 478–482. (Summary) **99i:05129** 05C40 (05C50)

— On the upper bound of the diameter of interchange graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 277–285. (Summary) **99h:05068** 05C35

Qian, Jin (*with* Ray-Chaudhuri, Dijen K.) Frankl-Füredi type inequalities for polynomial semi-lattices. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 28, 15 *pp.* (*electronic*). (Marcel Erné) **99f:06004** 06A07 (05A20)

Qian, Jinghua The *p*-variation of partial sum processes and the empirical process. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1370–1383. (Rimas Norvaiša) **99i:60052** 60F05 (60F15, 60J15, 62G30)

Qian, Kun (*with* McDonald, David R.) An approximation method for complete solutions of Markov-modulated fluid models. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 3-4, 365–384. (Summary) **99i:60170** 60K30

Qian, Li Jun (*with* Liu, Kang Yong) Existence of equilibrium solutions on reducible interval von Neumann models. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 4, 358–365. 65F30 (65G10, 90A14)

Qian, Maijian (*with* Burke, James V.) A variable metric proximal point algorithm for monotone operators. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 353–375 (*electronic*). (Claudia A. Sagastizábal) **99h:90093** 90C30 (47H05, 47N10, 49M30)

Qian, Min (*with* Qin, Wen-Xin; Zhu, Shu) One-dimensional global attractor for discretization of the damped driven sine-Gordon equation. *Nonlinear Anal.* **34** (1998), *no.* 7, 941–951. (Jean-Michel Rakotoson) **99g:35115** 35Q53 (34G20, 35B40, 47H20, 58F39)

— (*with* Qin, Wen-Xin) Heteroclinic cycles in lattice dynamical systems. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 1, 1–7. (Vassili G. Gelfreich) **99d:58100** 58F10 (58F08)

— (*with* Zhou, Shengfan; Zhu, Shu) One-dimensional global attractor for the damped and driven sine-Gordon equation. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 113–122. (Peter E. Kloeden) **99a:35226** 35Q53 (34G20, 35B40, 35L70, 47H20)

Qian, Min Ping (*with* Li, Yulin) Convergence of TINA algorithms. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 5, 557–561. (Matthias Löwe) **99b:60116** 60J25 (60F15, 90C27)

— (*with* Chen, Dayue; Feng, Jian Feng) The metastable behavior of the three-dimensional stochastic Ising model. II. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1129–1135. (Summary) **99c:82036** 82B44 (82B20)

— (*with* Fang, Haitao; Gong, Guang Lu) An improved annealing method and its large-time behavior. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 55–74. (Laurent Miclo) **99g:60137** 60J60 (49R05, 60F05, 65C05)

— (*with* Gong, Guang Lu) Computational intelligence from a mathematical viewpoint. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 16, 1681–1695. 68T01

Qian, Nantian (*with* Yue, Chengbo) Local rigidity of Anosov higher-rank lattice actions. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 687–702. (Alexander Starkov) **99k:58138** 58F15 (22E40)

Qian, Shang-Wu (*with* Xie, Guo-Qiang; Gu, Zhi-Yu) Separation of variables treatment of the invariant quadratic in momentum for any admissible potential. (English summary) *Ann. Physics* **266** (1998), *no.* 2, 497–502. (M. Znojil) **99d:81033** 81Q05 (35Q40)

Qian, Tao Generalization of Fueter's result to $\mathbf{R}^{n+1}$. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 2, 111–117. (Marin S. Marinov) **99d:30047** 30G35

— (*with* Long, Rui Lin) Clifford martingale Φ-equivalence between $S(f)$ and f^*. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 95–107. (Dominique Lépingle) **99k:60119** 60G46 (60G42)

— Singular integrals on star-shaped Lipschitz surfaces in the quaternionic space. *Math. Ann.* **310** (1998), *no.* 4, 601–630. (Marius Mitrea) **99f:42037** 42B20 (20G35, 47G10)

— *see also* **Khavinson, Dmitry**, **99c:42021**

Qian, Tianbing (*with* Pardalos, Panos M.; Resende, Mauricio G. C.) A greedy randomized adaptive search procedure for the feedback vertex set problem. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 399–412. 90C27 (90C15)

Qian, Weijie (*with* Nicolaenko, Basil) Inertial manifolds for nonlinear viscoelasticity equations. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1075–1093. (Igor D. Chueshov) **99d:35164** 35Q72 (34G20, 47H20, 58F39)

Qian, Xiang Zheng (*with* Dai, Bin Xiang) Oscillation of first order nonlinear neutral differential equations with "integrally small" coefficients. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 6, 13–17. (Summary) **99h:34102** 34K15 (34K40)

— (*with* Li, Longtu; Wang, Zhi Cheng[1]) Existence results for second order Volterra integrodifferential equations with deviating arguments. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 553–562. (George Karakostas) **99g:45009** 45J05 (34K10, 47H10)

Qian, Yuehong (*with* Jimenez, Jose) Note on a fourth order finite difference scheme for the wave equation. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 461–469. 65M06

Qian, Zhong Fan The relation between two sorts of convergence factors. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 120–122. 90C30 (65K05)

Qian, Zhongmin (*with* Lyons, Terry) Flow equations on spaces of rough paths. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 135–159. (Ana Bela Cruzeiro) **99b:58241** 58G32 (60H05)

— (*with* Chen, Zhen-Qing; Hu, Yao Zhong; Zheng, Weian) Stability and approximations of symmetric diffusion semigroups and kernels. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 255–280. (Zhi Ming Ma) **99f:60139** 60J60 (35A08, 35J45, 47D07)

— A comparison theorem for an elliptic operator. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 137–142. (Gilles Carron) **99d:58161** 58G03 (53C21)

— (*with* Lyons, Terry) Flow of diffeomorphisms induced by a geometric multiplicative functional. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 1, 91–119. (Ming Liao) **99k:60153** 60H10 (58G32)

Qiang, Shaoxing (*with* Ren, Fu yao; Zhao, Xingqiu; Jiang, Feng; Qiu, Weiyuan; Su, Feng) On fractal properties of reflection sequences from a well log and seismic trace. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 691–699. 86A15

Qiang, Shi Zhong (*with* Wang, Xiao Guo; Fan, Jia Shen; Jia, Chun Sheng) A new method of solution for the Reissner plate bending problem. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 114–119, *IX–X*. 73K10

Qiao, Bai You (*with* Kong, Fan Jia; Wang, Guang Xing) A new topological formula for computing SKT reliability of networks. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 283–285. 90B12 (05C90, 94A05)

Qiao, Jianyong Topological complexity of Julia sets. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1158–1165. (Zhuan Ye) **99e:30016** 30D05 (58F23)

Qiao, Jin (*with* Gu, Yong Xing) On factorization of meromorphic functions. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 951. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 509–512. (Yu Zan He) **99d:30032** 30D35

Qiao, Sanzheng (*with* Wang, William Shi-Yuan) A matrix representation of phylogenetic trees. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 274–283, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99c:92028** 92D15 (68Q20, 92B10)

Qiao, Xiao Lin (*with* Song, Shiji; Zhang, Jiewu; Che, Zhao Dong) The convergency of (DG) fuzzy integrals on *L*-fuzzy sets. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 821–836. (Summary) **99i:28026** 28E10

Qiao, Yuying (*with* Huang, Sha; Li, Shengxun) The Hilbert problem for the first order elliptic complex equation with discontinuous coefficients. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 4, 317–322. (Guo Chun Wen) **99b:35048** 35J55 (30E25)

Qiao, Zhi Jun (*with* Strampp, Walter) On different integrable systems sharing the same nondynamical *r*-matrix. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3271–3279. (Wen Xiu Ma) **99d:58088** 58F07 (35Q58)

— *r*-matrices and algebraic geometry solutions of integrable symplectic maps. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 11, 1149–1153. 58F07 (14K25)

Qiao, Zhong (*with* Zhang, Yue[1]; Wang, Guangyuan) Solving processes for a system of first-order fuzzy differential equations. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 3, 333–347. (Peter E. Kloeden) **99b:34015** 34A30 (26E50, 93C42)

— (*with* Zhang, Yue[1]; Wang, Guangyuan) Fuzzy random variable-valued exponential function, logarithmic function and power function. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 311–324. (Cong Xin Wu) **99i:26032** 26E50

Qin, Bin (*with* Shi, Song Jiao; Xi, Yu Geng) H_∞ output feedback robust stabilization for nonlinear systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 6, 78–82. 93D21 (93B36)

Qin, Gengsheng Residuals density estimation in censored linear regression model. *Acta Math. Appl. Sinica (English Ser.)* **15** (1999), *no.* 1, 109–112. 62J05

Qin, H. *see* **Qin, Hong[3]**

Qin, Hong[2] (*with* Peng, Jun Hao; Wu, Ming) All *E*-admissible and *G*-admissible linear estimators of the common mean matrix parameter. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 4, 400–404. 62J05 (62C15)

Qin, Hong[3] (*with* Tang, W. M.; Lee, W. W.; Rewoldt, G.) Gyrokinetic perpendicular dynamics. (English summary) *Phys. Plasmas* **6** (1999), *no.* 5, *part* 1, 1575–1588. 76X05

Qin, Hua Shu (*with* Liu, Yi Jun) Stabilization of nonlinear systems with mismatched uncertainties via linear dynamic output feedback. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 145–153. 93D15 (34D05, 34H05, 93D05)

— (*with* Hong, Yi Guang; Mei, Sheng Wei; Wen, Shao Peng) Viscosity solutions and an analysis of approximate algorithms for nonlinear H_∞ control. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 447–453. 93B36 (49L25)

— (*with* Hong, Yi Guang; Mei, Sheng Wei; Zhu, Quan Min) Finite attraction for nonlinear uncertain mechanical systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 397–407. (Alexander M. Kovalev) **99k:70024** 70Q05 (70H05, 93D21)

Qin, Huaizhen (*with* Cui, Hengjian; Li, Yong[7]) The N.S. conditions for the ratio of two quadratic forms to have an F-distribution and its applications. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 453–471. (A. K. Gupta) **99d:62060** 62H10

Qin, Jing[1] (*with* Jammalamadaka, Sreenivasa Rao) Some results on the empirical spacings process and its bootstrapped version. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 17–33, *VSP, Utrecht*, 1995. (Summary) **99h:60041** 60F05 (60F15, 62G09)

— (*with* Li, Gang[3]) Semiparametric likelihood-based inference for biased and truncated data when the total sample size is known. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 243–254. (Summary) **99d:62040** 62G05

Qin, Ke Yun (*with* Xu, Yang) The lattice-valued system $L(X)$ of propositional logic. I. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 5–11. 03B50

— (*with* Xu, Yang; Song, Zhen Ming) The compactness and Löwenheim-Skolem properties for the logic FM. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 4, 371–375. 03B50

— (*with* Xu, Yang) The category of fuzzy lattice implication algebras. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 13–16. 06A23 (06C99)

— (*with* Xu, Yang; Song, Zhen Ming) The lattice-valued system $L(X)$ of propositional logic. II. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 10–19. 03B50

Qin, Shu Ming (*with* Wang, Li[1]) The essential problem of multi-objective optimization algorithms. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 445–448. 90C29

Qin, Tiehu Periodic weak solutions to boundary value problem of nonlinear viscoelastic dynamic equation with memory. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 128–136, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35Q72 (35B10, 73F15)

Qin, Wen-Xin (*with* Zhou, Shengfan) Zero-dimensional global attractor of damped sine-Gordon equation. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 3, 260–264. (Summary) **99g:35116** 35Q53 (35B40, 58F39)

— (*with* Qian, Min; Zhu, Shu) One-dimensional global attractor for discretization of the damped driven sine-Gordon equation. *Nonlinear Anal.* **34** (1998), *no.* 7, 941–951. (Jean-Michel Rakotoson) **99g:35115** 35Q53 (34G20, 35B40, 47H20, 58F39)

— (*with* Qian, Min) Heteroclinic cycles in lattice dynamical systems. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 1, 1–7. (Vassili G. Gelfreich) **99d:58100** 58F10 (58F08)

— Unbounded attractors for maps. *Nonlinear Anal.* **36** (1999), *no.* 1, *Ser. A: Theory Methods*, 63–70. (Michael Hurley) **99j:58136** 58F12

Qin, Xue Zhi (*with* Tang, Huan Wen; Wang, Xue Hua) A study of an efficient algorithm for large system optimization. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 1–8. 90C30 (90C06)

Qin, Yi (*with* Guan, Zhi Hong) Exponential stability in the large of impulsive Hopfield neural networks with delays. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 959–964. 93D20 (93C83)

Qin, Yong (*with* Zhu, Zuo Tong) Weak transitivity of lattice-ordered permutation groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 2, 17–20. (Summary) **99b:06017** 06F15 (20B99)

Qin, Yong Song (*with* Zhao, Lin Cheng) Semi-empirical likelihood ratio tests for the difference of two sample quantiles. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 103–112. (Summary) **99a:62069** 62G10

Qin, Yu Yuan (*with* Li, Tao Sheng) The expansion of a max-algebra and its properties. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 593–599. (Chong Guang Cao) **99f:15021** 15A33

— Axiomatic methods for optimization problems. IV. Finite improvement algorithms and an iterated algorithm. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 3, 326–330. 90C27

— Axiomatic methods for optimization problems. V. An algebraic expression for optimizing sets. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 3, 331–334. 90C27

— (*with* Zheng, Zhao Bao) On the discovery of algorithms. III. The nonnegative independent set problem and linear programming. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 75–80. 90C27

— (*with* Zheng, Zhao Bao) On the discovery of algorithms. IV. A list of properties in combinatorial optimization. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 4, 421–427. 90C27

Qin, Z. *see* **Qin, Zhu**

Qin, Zhenbo (*with* Katz, Sheldon H.; Ruan, Yongbin) Enumeration of nodal genus-2 plane curves with fixed complex structure. *J. Algebraic Geom.* **7** (1998), *no.* 3, 569–587. (Andreas Gathmann) **99d:14058** 14N10 (14D20)

Qin, Zhong Ping (*with* Zhang, Huan Guo; Xu, Guo Ai; Jiang, Li Li) The computer-aided AIC method for finding the isotopy classes of Latin squares. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 669–673. (Summary) **99k:05042** 05B15

— (*with* Xu, Guo Ai) Isotopy classes of $(4, k)$ Latin arrays ($k \leq 11$). (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 3, 100–102. 05B15

— (*with* Cao, Xing Qin) Construction of authentication codes using reversible linear transformations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 3, 103–104. 94A60

— (*with* Song, Qing Wen) A TMP trade-off method for finding a class of one-way functions. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 94–97. 94A60

Qin, Zhu (*with* Tabarrok, Behrouz; Stylianou, M.) Generalized conservation checks in finite element analysis. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 7, 1295–1307. (Summary) **99h:73082** 73V05 (76M10, 80–08)

Qing, Jie Renormalized energy for Ginzburg-Landau vortices on closed surfaces. *Math. Z.* **225** (1997), *no.* 1, 1–34. (Sophia Demoulini) **99a:58052** 58E20 (35Q55, 58E30, 58G05)

Qing, Xin A class of gravitational wave equations in gravitational gauge theory. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 4, 407–414. 83C35

Qiou, Zuqiang (*with* Ravishanker, Nalini) Bayesian inference for time series with infinite variance stable innovations. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 259–280, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62M10 (62F15)

— (*with* Ravishanker, Nalini) Bayesian inference for time series with stable innovations. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 2, 235–249. (Summary) **99a:62135** 62M10 (62F15)

Qiu, Chun Hui (*with* Chen, Gu Ding; Lin, Liang Yu) A class of higher-order singular integral equations. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 33–36. (Summary) **99k:45007** 45E05

Qiu, Dao Wen Cover-type fuzzy compactness. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 3, 46–49. 54A40 (54D30)

Qiu, De Hua Semi-Markov discounted models with unbounded rewards. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 100–105. (Summary) **99d:90137** 90C40

Qiu, G. Y. *see* **Qiu, Geoffrey Yue**

Qiu, Gan Di Meromorphic functions that share three values. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 333–337. (Summary) **99b:30046** 30D35

— (*with* Zheng, Sai Ying) Uniqueness of meromorphic functions that share three values. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 47–50, 60. 30D35

— Four values theorem of derivatives of meromorphic functions. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 245–248. (Pei-Chu Hu) **99k:30053** 30D35

Qiu, Gangdi (*with* Lin, Xiu Qing) Unicity of derivatives of meromorphic functions that share a value. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 295–297. 30D35

Qiu, Gen Sheng (*with* Wang, Zi Guo) Necessary and sufficient conditions for solutions in semiconvex multiobjective programming. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 47–51. 90C29 (90C26)

— Duality theory and optimality conditions for multiobjective programming with semilocally convex functions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 87–91. 90C29 (90C48)

Qiu, Geoffrey Yue (*with* Pence, Thomas J.) Remarks on the behavior of simple directionally reinforced incompressible nonlinearly elastic solids. (English summary) *J. Elasticity* **49** (1997), *no.* 1, 1–30. (Cesare Davini) **99a:73041** 73C50 (73B05, 73B40, 73K20)

— (*with* Pence, Thomas J.) Loss of ellipticity in plane deformation of a simple directionally reinforced incompressible nonlinearly elastic solid. (English summary) *J. Elasticity* **49** (1997), *no.* 1, 31–63. (Cesare Davini) **99a:73042** 73C50 (73B40, 73K20)

Qiu, Guo Yong Existence and uniqueness of solutions to Boussinesq equation systems and error estimates for the Fourier spectral method. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 4, 17–21. (Xian Guo Geng) **99e:35203** 35Q53 (65M70)

Qiu, Hui Ling On the uniqueness of meromorphic functions. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 2, 25–30. (Qingcai Zhang) **99m:30063** 30D35

Qiu, Jin A two-stage estimator for a semiparametric regression model under random censorship. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 281–288. (Summary) **99m:62063** 62G07

Qiu, Jinghui Quasi-fast completeness and inductive limits of webbed spaces. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 55–59. (C. Bosch) **99d:46003** 46A30 (46A13)

Qiu, Jiqing (*with* Wu, Cong Xin) Some remarks for fuzzy complex analysis. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 231–238. 30A99

Qiu, Ke (*with* Gao, Shu Hong; Novick, Beth) From Hall's matching theorem to optimal routing on hypercubes. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 291–301. (Qiao Li) **99j:68106** 68R10 (05A05, 68M10)

Qiu, Li (*with* Bai, Er-Wei; Tempo, Roberto) Unfalsified weighted least squares estimates in set-membership identification. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 1, 41–49. (Summary) **99c:94006** 94A12

— (*with* Bernhardsson, Bo; Rantzer, Anders) Real perturbation values and real quadratic forms in a complex vector space. (English summary) *Linear Algebra Appl.* **270** (1998), 131–154. (R. A. Horn) **99a:15010** 15A63 (15A18, 15A60)

— (*with* Hu, Tingshu) On structured perturbation of Hermitian matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 287–314. (Ilse C. F. Ipsen) **99c:15007** 15A15 (15A18, 15A23, 15A42)

— (*with* Chen, Jie[4]) Time domain characterizations of performance limitations of feedback control. *Learning, control and hybrid systems* (*Bangalore*, 1998), 397–415, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93B52)

Qiu, Lin (*with* Yang, Biao; Kuang, Jiaoxun) The NGP-stability of Runge-Kutta methods for systems of neutral delay differential equations. (English summary) *Numer. Math.* **81** (1999), *no.* 3, 451–459. (Yun Kang Liu) **99j:65124** 65L06

Qiu, Pei Zhang (*with* Zhang, Ting Jie; Li, Hai Tao) Boundary value problems for a class of fourth-order difference equations and the generation of fractal surfaces. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 386–393. (Summary) **99e:39054** 39A10 (28A80)

Qiu, Qi Zhang (*with* Sun, Ling) Minimal systems of generators for central division algebra and semi-simple algebra. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 21, 1777–1780. (B. Fein) **99j:16010** 16K20
— (*with* Sun, Ling) Minimal generating systems for rings of matrices over a division ring. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 255–258. 16S50
Qiu, Qing Jiu (*with* Zhang, Ping[4]) Propagation of higher-order regularities of the boundaries of 3-D vortex patches. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 381–390. (Shu Ming Sun) **99a:35216** 35Q35 (76C05)
— (*with* Zheng, Qin[2]) Concentration-cancellation phenomena for the velocity fields in incompressible fluid flows. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1176–1184. (Benoît P. Desjardins) **99e:76044** 76D99 (35Q35, 76C99)
— (*with* Yin, Hui Cheng) Axisymmetric $H^1(\mathbf{R}^3)$ solutions for the 3-D incompressible Euler equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 29–38. (Cun-Zheng Wang) **99d:35132** 35Q30 (76C05)
— (*with* Yin, Hui Cheng) The lifespan of solutions to 3-D spherically symmetric compressible Euler equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 757–762. (Ming Mei) **99m:35191** 35Q30 (35L60, 76N10)
— (*with* Zhang, Ping[4]) Remarks on the existence of weak solutions to 2-D incompressible Navier-Stokes equations. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 658. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 529–536. (Summary) **99j:35173** 35Q30 (35D05, 76D05)
— (*with* Zheng, Qin[2]) The concentration and oscillation of H^1 strong solutions for u^5-Klein Gordon equations. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 4, 387–392. (Summary) **99j:35147** 35L70 (35B25)
— (*with* Zhang, Ping[4]; Wu, Guang Rong) Propagation of oscillations to 2D incompressible Euler equations. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 449–460. (Summary) **99i:35130** 35Q30 (76C99)
Qiu, Qiu Sheng On the locally biorder-convex space and super-efficiency. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 12, 1227–1234. (J. Borwein) **99m:46009** 46A40 (46N10, 58E17, 90C48)
— Connectedness of the strictly efficient solution set of the optimization problem for a set-valued mapping and its applications. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 85–92. 90C29
Qiu, Rong The fundamental equations of dynamics using representation of quasi-coordinates in the space of non-linear non-holonomic constraints. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 11, 1105–1113; *translated from Appl. Math. Mech.* **18** (1997), *no.* 11, 1033–1040 (*Chinese. English and Chinese summaries*). (Edwin J. Kreuzer) **99e:70042** 70F25 (70H30)
Qiu, Rongsheng (*with* Gao, Jing; Yang, Zhi) An adaptive neuron PID controller with optimal prediction for unknown time-varying delay systems. (English summary) *J. Gansu Univ. Technol. (Engl. Ed.)* **2** (1998), *no.* 1, 57–61. 93D15 (93C30)
Qiu, Ruifeng (*with* Deng, Xuegong) Incompressible surfaces in handlebodies and closed 3-manifolds. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 69–74. (Summary) **99f:57021** 57N10
— (*with* Lei, Fengchun) On reducing handle additions. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 168–170. (Summary) **99f:57020** 57N10
— (*with* Zhang, Ying) ∂-reducible Dehn surgery and annular Dehn surgery. (English summary) *Topology Appl.* **92** (1999), *no.* 1, 79–84. (Ying Qing Wu) **99m:57017** 57N10
Qiu, Shu Xi The fine continuity for complex generalized weights. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 178–180. (Summary) **99g:31013** 31C99
— Bounded linear functionals on the Banach space L_u^Ψ. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 2, 157–160. 46E40 (46E30)
Qiu, Sigang The undersampled discrete Gabor transform. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 5, 1221–1228. (Summary) **99k:94015** 94A12 (44A15)
Qiu, Songliang On Mori's theorem in quasiconformal theory. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 319. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 35–44. (G. D. Anderson) **99a:30026** 30C62
— (*with* Anderson, G. D.; Vuorinen, Matti K.) Precise estimates for differences of the Gaussian hypergeometric function. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 212–234. (J. M. H. Peters) **99k:33010** 33C20 (26D07, 26D15, 26D20, 33B10, 33C05)
— (*with* Anderson, G. D.; Vamanamurthy, Mavina K.) Elliptic integral inequalities, with applications. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 195–207. (J. M. H. Peters) **99k:33061** 33E05 (26A48, 26A51, 26D07)
— (*with* Vamanamurthy, Mavina K.; Vuorinen, Matti K.) Some inequalities for the growth of elliptic integrals. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1224–1237 (*electronic*). (G. D. Anderson) **99k:33063** 33E05 (30C62)
Qiu, Wei Gen (*with* Liu, Yong Qing) Solutions of nonlinear index-2 generalized systems and their stability. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 48–53. (Shu Xiang Yu) **99m:34003** 34A09 (34D20)
— (*with* Liu, Yong Qing) Qualitative analysis of the equilibrium of a nonlinear generalized system. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 90–94. (Summary) **99m:34004** 34A09 (34A26, 34A34, 34C05)
Qiu, Weiyuan (*with* Ren, Fu yao; Zhao, Xingqiu; Jiang, Feng; Su, Feng; Qiang, Shaoxing) On fractal properties of reflection sequences from a well log and seismic trace. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 691–699. 86A15
— (*with* Zhou, Ji[2]; Ren, Fu yao) Julia sets of the random iteration systems and its subsystems. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 4, 265–268. (Petra Bonfert-Taylor) **99c:58135** 58F23 (30D05)
Qiu, Wenyuan (*with* Xin, Houwen) Topological chirality and achirality of the closed circular DNAs. *Chinese Sci. Bull.* **42** (1997), *no.* 20, 1705–1708. (Summary) **99c:92031** 92D20 (57M25)
Qiu, X. M. *see* **Qiu, Xiao Ming**
Qiu, Xi-Jun (*with* Feng, Sze-Shiang; Zhu, Zhi-Yuan) Energy spectrum of excitations in the Proca-Chern-Simons system. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2105–2113. 81T13 (81S40)
— (*with* Feng, Sze-Shiang; Wang, Bin[2]; Zong, Hong-Shi) Bosonization to order $1/m$ by duality in three dimensions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 29, 2393–2398. (Summary) **99g:81137** 81T16
Qiu, Xiao Ming (*with* Wang, Zhijun) Two theorems on the Hubbard-Hirsch model. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 1, 51–56. (Summary) **99a:82025** 82B20
— (*with* Yan, Jun[2]) Sinh-Gordon matter field and a solvable model in two-dimensional gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1319–1329. (Michael O. Katanaev) **99h:83042** 83C99 (81T40)
Qiu, Y. *see* **Qiu, Yiqi**
Qiu, Yanghui (*with* Burgdörfer, Joachim; Müller, Jörg) Periodic orbit spectra of simple atoms. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 304–338, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45 (81Q50)
Qiu, Yiqi (*with* Sloan, D. M.) Numerical solution of Fisher's equation using a moving mesh method. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 726–746. 65M55 (92D10)
— (*with* Sloan, D. M.) Analysis of difference approximations to a singularly perturbed two-point boundary value problem on an adaptively generated grid. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 1–25. (Bernhard A. Schmitt) **99m:65147** 65L50 (65L10)
Qiu, Yu Huang (*with* Zhang, Ben Yong) Weight function matrices and zeros and poles of closed loop systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 2, 258–261. 93B60
Qiu, Z. *see* **Qiu, Zongan**
Qiu, Zong-yan (*with* Xu, Dian-Yan) Kerr-NUT-de Sitter metric and step-by-step extension method. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 12, 885–888. (Summary) **99d:83018** 83C15
Qiu, Zongan (*with* Berglund, Per; Ellis, Jonathan Richard; Faraggi, Alon E.; Nanopoulos, Dimitri V.) Toward the M(F)-theory embedding of realistic free-fermion models. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 269–278. (Summary) **99e:81174** 81T30
Qiu, Zu Lian (*with* Yin, Zheng Qi; Zhang, Gui Hong) The configuration and design of an estimator for disturbance. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 631–635. 93E10
Qu, An Jing On hypotenuse diagrams in ancient China. *Centaurus* **39** (1997), *no.* 3, 193–210. (Alexei K. Volkov) **99a:01005** 01A25
— Numerical methods in medieval Chinese mathematical astronomy. (English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 2, 99–104. (Benno van Dalen) **99j:01002** 01A25
— (*with* Li, Cai Ping; Han, Qi Heng) The meaning of the Mo and Mie algorithms in ancient Chinese calendrics. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 5, 369–373. 01A25
— On complementary consecutive labelings of octahedron. (English summary) *Ars Combin.* **51** (1999), 287–294. (Summary) **99j:05169** 05C78
Qu, Bingyu (*with* Peng, Lizhong) Band-limited wavelets. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 3, 85–88. (Summary) **99k:42064** 42C15 (65T20)
Qu, C. K. (*with* Wong, Roderick) "Best possible" upper and lower bounds for the zeros of the Bessel function $J_\nu(x)$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2833–2859. (Andrea Laforgia) **99j:33006** 33C10 (41A60)
Qu, Chang Zheng Symmetry reductions and integrability for the modified Boussinesq equation from EPU [FPU] problem. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 1, 153–156. (Summary) **99d:35145** 35Q53
— Asymptotics of heat kernels and Green kernels on the Heisenberg group. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 1–10. (Jia Yu Li) **99m:58185** 58G11 (35H05, 35K05, 58G18)
— (*with* Zhang, Gai Ying) Partially invariant solutions of nonlinear Schrödinger equations with variable coefficients and having four-dimensional symmetry algebras. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 1–5. 35Q55 (35A30)
Qu, Chao Chun (*with* Chen, Fengxin; Wang, Ping[4]) On the differential system governing flows in magnetic field with data in L^p. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 299–305. (Paolo Secchi) **99b:35174** 35Q35 (35K55, 76W05)
Qu, Cheng Qin (*with* Wang, Bo Ying[2]) A note on isospectral cosymplectic manifolds. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 266–271. (De Tang Zhou) **99e:58196** 58G25 (53C15)
— (*with* Ouyang, Chong Zhen) The spectrum of the Laplacian on minimal hypersurfaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 150–154. (De Tang Zhou) **99j:58216** 58G25 (53C42)
Qu, Cheng Xin (*with* Pieprzyk, Josef) Rotation-symmetric functions and fast hashing. (English summary) *Information security and privacy (Brisbane, 1998)*, 169–180, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94058** 94A60
Qu, Han Zhang The λ-Lindelöf property and λ-compactness. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 113–114. 54D20
Qu, R. *see* **Qu, Rui Bin**
Qu, R. P. (*with* Palta, M.) Testing lack of fit in mixed effect models for longitudinal data. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 93–106, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62P10 (62J99)
Qu, Rui Bin Generalized conic curves and their applications in curve approximation. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 4, 56–74. (Yu Yu Feng) **99f:65030** 65D17 (41A63, 65Y25)
— (*with* Agarwal, Ravi P.) An iterative scheme for solving nonlinear two-point boundary value problems. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 285–302. (Summary) **99d:65227** 65L10 (65L60)
— (*with* Agarwal, Ravi P.) A collocation method for solving a class of singular nonlinear two-point boundary value problems. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 2, 147–163. (Ekkehard Wagenführer) **99a:65094** 65L10
— (*with* Agarwal, Ravi P.) Improved error bounds for freezing solutions of linear boundary value problems. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 97–112. (Martin Hermann) **99h:65133** 65L10 (34A45)
— (*with* Agarwal, Ravi P.) A subdivision approach to the construction of approximate solutions of boundary-value problems with deviating arguments. (English summary)

Comput. Math. Appl. **35** (1998), *no.* 11, 121–135. (Martin Hermann) **99h:65134** 65L10 (34A45)

— (*with* Gong, Weizhong) A generalization of cubic curves and their Bézier representations. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 77–89. (Yu Yu Feng) **99i:65017** 65D17 (65Y25, 68U07)

Qu, S. (*with* Marti, Kurt) Adaptive stochastic path planning for robots—path planning in real-time. *Operations Research Proceedings* 1997 (*Jena*), 144–149, *Springer, Berlin*, 1998. (*see* **99d:90008**) 93C85 (93C95)

Qu, Wen Bo (*with* Wu, Jun De; Pap, Endre; Li, Rong Lu) Swartz's Orlicz-Pettis theorem for operators. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 37–43. (Andreas Defant) **99h:46028** 46B28 (46A03, 46B15)

— (*with* Wu, Jun De; Li, Rong Lu) An infinite matrix convergence theorem and its applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 39–44. (Summary) **99i:40007** 40C05

— (*with* Wu, Jun De; Li, Rong Lu) The extension of the Eberlein-Shmul'yan theorem to locally convex spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 663–666. (Summary) **99f:46003** 46A03

— (*with* Wu, Jun De; Li, Rong Lu) A criterion for sequential spaces. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 215–218. (Summary) **99e:46010** 46A45

Qu, Yanyun (*with* Gao, Wei-guo; Xue, Jungong) A new implementation of EN method. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 199–208. 65F10 (65F30)

Qu, Yong Ming (*with* Sun, Jian Zhong; Chen, Fa Lai) Approximate parametric representation of algebraic curves. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 4, 382–388. (Summary) **99c:65039** 65D17

— (*with* Sun, Jian Zhong; Chen, Fa Lai) Approximate common divisors of polynomials and degree reduction for rational curves. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 486. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 437–444. 65D05 (14Q05, 65D15)

Qu, Zhihua (*with* Kaloust, J.) Attenuation of nonlinearly state-dependent uncertainties: robust control design and its application to robotic manipulators. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 27–40. 93B36 (93C85)

— (*with* Ambrose, H.) Model reference robust control for MIMO systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 599–623. 93B35

Quackenbush, R. W. (*with* Davey, B. A.) Bookkeeping duality for paraprimal algebras. *Contributions to general algebra*, 9 (*Linz*, 1994), 19–26, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Keith A. Kearnes) **99a:08001** 08A02 (08A30, 08B05, 08C15)

Quadrat, A. (*with* Pommaret, J. F.) Generalized Bezout identity. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 2, 91–116. (Summary) **99e:93020** 93B25 (13N10)

Quadrat, Jean-Pierre (*with* Max-Plus Working Group) Min-plus linearity and statistical mechanics. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 565–587. (Ofer Zeitouni) **99b:60105** 60J10 (06F25, 60F15, 82B03)

— (*with* Cohen, Guy; Gaubert, Stéphane) Algebraic system analysis of timed Petri nets. (English summary) *Idempotency* (*Bristol*, 1994), 145–170, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Zbigniew Banaszak) **99b:93005** 93A30 (68Q90, 93B25)

— (*with* Cohen, Guy; Gaubert, Stéphane) Timed-event graphs with multipliers and homogeneous min-plus systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1296–1302. (Summary) **99f:93099** 93C83 (68Q90)

Quadrelli, B. M. (*with* Atluri, S. N.) Analysis of flexible multibody systems with spatial beams using mixed variational principles. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1071–1090. 73K12 (70E15)

Quadri, Murtaza A. (*with* Ali, Asma; Kumari, Achlesh) Structure of rings with some polynomial constraints. (English summary) *Indian J. Math.* **40** (1998), *no.* 2, 177–182. 16U80

Quadrio, M. (*with* Cucitore, R.; Baron, A.) On the effectiveness and limitations of local criteria for the identification of a vortex. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 2, 261–282. (Summary) **99m:76037** 76C05

Quaisser, Erhard Lower levels of Euclidean planes. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 467–472. (Summary) **99f:51024** 51F99

— (*with* Alpers, Karsten) Lattices in the pseudo-Euclidean plane. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 129–141. (John R. Reay) **99g:52027** 52C05

Quak, Ewald On a spline multiresolution analysis with homogeneous boundary conditions. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 301–308, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65020** 65D07 (65T99)

Quan, Chang Song Existence of solutions to boundary value problems for a class of singular third-order differential equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 9–12. 34B15 (47H10)

Quan, Guang Ri (*with* Hong, Bing Rong; Li, Wei Gang) A feedforward neural network based on learning rules. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 57–61. 68T05

Quan, Hong Shun (*with* Huang, Shi Zhong) A sufficient condition for the existence of limit cycles of the system $\dot{x} = Q(x, y)$, $\dot{y} = P(x)$. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 1, 15–20. (Mao An Han) **99i:34043** 34C05

Quan, Shuo (*with* Guo, Cui Hua) Limit cycles of a class of higher-degree polynomial systems and their application. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 3, 9–13. (Xiang Sheng Xie) **99a:34079** 34C05

Quandalle, Philippe (*with* Bamberger, Alain; Benjelloun-Dabaghi, Zakia; Billette, Emmanuel; Jaecker-Voirol, Anne; Sandu, Adrian) Mathematical and numerical studies to improve CPU time in a transport-convection atomospheric problem. (English summary) *Équations aux dérivées partielles et applications*, 81–105, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 86A10 (86–08)

Quandt, M. (*with* Reinhardt, Hugo) Field strength formulation of SU(2) Yang-Mills theory in the maximal abelian gauge: perturbation theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4049–4076. (Summary) **99e:81153** 81T13 (81T15)

— (*with* Reinhardt, Hugo) Ward identities for Yang-Mills theory in abelian gauges: abelian dominance at high energies. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 115–124. (Summary) **99a:81110** 81T15 (81T13)

nguyen thanh Quang *see* **Nguyen Thanh Quang**

Quang, C. K. (*with* Benczúr, András A.; Nikovits, T.) Some constraints assuring serializability in multidatabases. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 9–21. (Summary) **99d:68061** 68P15

Quang, Pham X. (*with* Mack, Y. P.) Kernel methods in line and point transect sampling. (English and French summaries) *Biometrics* **54** (1998), *no.* 2, 606–619. (Summary) **99b:62157** 62P10 (62G05)

nguyen Quang Do, Thong *see* **Nguyen Quang Do, Thong**

đinh Quang Lu'u *see* **Đinh Quang Lu'u**

lê Quang Trung *see* **Lê Quang Trung**

Quano, Yas-Hiro Form factors of the XXZ model and the affine quantum group symmetry. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1791–1800. (Jun'ichi Shiraishi) **99m:82010** 82B20 (81R50)

Quarati, P. (*with* Kaniadakis, G.; Scarfone, A. M.) Nonlinear canonical quantum system of collectively interacting particles via an exclusion-inclusion principle. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5574–5585. (Summary) **99g:81118** 81S30

Quarez, Ronan The Artin conjecture for Q-algebras. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 229–263. (D.-M. Popescu) **99f:13010** 13B40 (13B10, 13H05, 14E40)

— The Noetherian space of abstract locally Nash sets. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1945–1966. (Murray Marshall) **99e:14064** 14P10 (14P15, 14P20)

— The idempotency of the real spectrum implies the extension theorem for Nash functions. *Math. Z.* **227** (1998), *no.* 4, 555–570. (Alessandro Tancredi) **99d:14062** 14P20 (32C07)

Quarta, F. (*with* Caruso, C.) Interpolation methods comparison. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 109–126. (Summary) **99c:65014** 65D05 (41A05)

Quartapelle, L. (*with* Guermond, Jean-Luc) On stability and convergence of projection methods based on pressure Poisson equation. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 9, 1039–1053. (Summary) **99a:76084** 76M10

— (*with* Ambrosi, D.) A Taylor-Galerkin method for simulating nonlinear dispersive water waves. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 546–569. (Summary) **99f:76084** 76M10 (76B15, 76B25)

— (*with* Guermond, Jean-Luc) On the approximation of the unsteady Navier-Stokes equations by finite element projection methods. (English summary) *Numer. Math.* **80** (1998), *no.* 2, 207–238. (Marko A. Rojas-Medar) **99i:65105** 65M60 (65M12, 76D05, 76M10)

— (*with* Napolitano, Michele; Pascazio, G.) A review of vorticity conditions in the numerical solution of the ζ-ψ equations. (English summary) *Comput. & Fluids* **28** (1999), *no.* 2, 139–185. (Summary) **99j:76096** 76M25 (76M10, 76M20)

Quarteroni, A. (*with* Lahaye, D. J. P.; Maggio, F.) Hybrid finite element–spectral element approximation of wave propagation problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 4, 265–289. (Mohammad Asadzadeh) **99d:65263** 65M15 (65M60, 65M70, 73D30, 73V05, 76M10, 76Q05)

— (*with* Tagliani, Aldo; Zampieri, E.) Generalized Galerkin approximations of elastic waves with absorbing boundary conditions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 323–341. (Summary) **99h:73088** 73V20 (73D15)

Quas, Anthony N. Rigidity of continuous coboundaries. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 5, 595–600. (G. R. Goodson) **99c:28054** 28D05

— (*with* Dooley, Anthony H.; Klemeš, Ivo) Product and Markov measures of type III. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 84–110. (N. N. Ganikhodzhaev) **99h:28039** 28D15 (28A35, 46L99)

— (*with* Coelho, Zaqueu) Criteria for $\overline{d}$-continuity. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3257–3268. (Mariusz Lemańczyk) **99d:28028** 28D05

Quass, Dallan (*with* Kawaguchi, Akira; Lieuwen, Daniel; Mumick, Inderpal Singh; Ross, Kenneth Andrew) Concurrency control theory for deferred materialized views. (English summary) *Database theory—ICDT '97* (*Delphi*), 306–320, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68Q10)

Quastel, J. (*with* Yau, Horng-Tzer) Lattice gases, large deviations, and the incompressible Navier-Stokes equations. (English summary) *Ann. of Math.* (2) **148** (1998), *no.* 1, 51–108. (S. R. S. Varadhan) **99j:60157** 60K35 (60F10, 76M35, 82C22)

Quatember, R. (*with* Kalik, K.; Wendland, Wolfgang L.) Interpolation, triangulation and numerical integration on closed manifolds. *Boundary element topics* (*Stuttgart*, 1995), 395–417, *Springer, Berlin*, 1997. (Introduction) **99h:65037** 65D30 (65Y25)

Quattrocchi, Gaetano Spanning sets and scattering sets in handcuffed designs of order v and block size 3. (English summary) *Ars Combin.* **50** (1998), 251–256. (Summary) **99i:05057** 05B30

Quebbemann, H.-G. A shadow identity and an application to isoduality. (English summary) *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 339–345. (Christine Bachoc) **99m:11054** 11F27 (11H06, 11H50)

Queffélec, M. Transcendance des fractions continues de Thue-Morse. (French summary) [Transcendence of Thue-Morse continued fractions] *J. Number Theory* **73** (1998), *no.* 2, 201–211. (Jean-Paul Allouche) **99j:11081** 11J81 (11B85, 11J70)

núñez-Queija, R. *see* **Núñez-Queija, R.**

Quek, T. S. (*with* Yap, L. Y. H.) Measures in $M(G)$ which satisfy certain integrability conditions. (Russian summary) *Anal. Math.* **23** (1997), *no.* 1, 35–44. (Hang-Chin Lai) **99h:43009** 43A22 (43A10, 43A15)

— (*with* Onneweer, C. W.) L^p-multipliers of mixed-norm type on locally compact Vilenkin groups. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 3, 370–387. (Toshiyuki Kitada) **99m:43007** 43A70 (43A22)

— Fourier multipliers on weighted L^p-spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2343–2351. (Walter Trebels) **99j:42023** 42B20 (42B15, 46E30, 47B38)

Quenec'h, J. L. (*with* Jeulin, D.; Coster, M.; Chermant, J. L.) Approach of liquid phase sintering process by probabilistic models. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 231–249, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:60005**) 73B99 (60D05, 73V30, 76A99, 76M35)

Quenez, M. C. (*with* El Karoui, N.) Non-linear pricing theory and backward stochastic differential equations. *Financial mathematics* (*Bressanone*, 1996), 191–246, *Lecture Notes in Math.*, 1656, *Springer, Berlin*, 1997. (*see* **99a:90033**) 90A14 (60H10)

— (*with* El Karoui, N.; Pardoux, Étienne) Reflected backward SDEs and American options. *Numerical methods in finance*, 215–231, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (A. F. Gualtierotti) **99b:60078** 60H10 (60G40, 90A09)

Quer, Jordi La classe de Brauer de l'algèbre d'endomorphismes d'une variété abélienne modulaire. (English and French summaries) [The Brauer class of the endomorphism algebra of a modular abelian variety] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 227–230. (Summary) **99j:14045** 14K15 (11F11, 11G10, 14K05)

Quesada, José F. Bidirectional and event-driven parsing with multi-virtual trees. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 253–265, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (68Q52)

Quesada, José María (*with* Marano, Miguel) Monotone I_φ-approximation. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 1, 51–57. (Hong Kun Xu) **99a:41024** 41A29

alonso Quesada, Santiago *see* **Alonso Quesada, Santiago**

Quesne, C. Coloured Hopf algebras. (English summary) *Special functions and differential equations* (*Madras*, 1997), 290–296, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 16W30 (81R50)

— Duals of colored quantum universal enveloping algebras and colored universal $\mathcal{T}$-matrices. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1199–1222. (Darin R. Stephenson) **99a:17023** 17B37 (81R50)

— (*with* del Sol Mesa, A.; Smirnov, Yu. F.) Generalized Morse potential: symmetry and satellite potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 321–335. (Summary) **99a:81204** 81V55 (81R05)

— (*with* Vansteenkiste, N.) C_λ-extended harmonic oscillator and (para)supersymmetric quantum mechanics. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 21–28. (Parthasarathi Majumdar) **99i:81054** 81Q60 (81S05)

Quetelet, Lambert-Adolphe-Jacques *see* **Universality and relevance today of the scientific thought of Adolphe Quetelet, 99a:01002; Toyoda, Toshiyuki, 99g:01025; Droesbeke, Jean-Jacques, (99a:01002); André, Robert, (99a:01002) *and* Stigler, Stephen M., (99a:01002)**

Quevedo, Fernando Duality beyond global symmetries: the fate of the B_μ field. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 436–438, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

— (*with* Burgess, Clifford P.; de la Macorra, Axel; Maksymyk, Ivan) Supersymmetric models with product groups and field dependent gauge couplings. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 7, 30 *pp.* (*electronic*). (Summary) **99g:81209** 81T60 (81T13)

— Superstring phenomenology: an overview. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 134–143. (Introduction) **99e:81205** 81T30 (81V22)

— (*with* Burgess, Clifford P.; Ibáñez, Luis E.) Strings at the intermediate scale or is the Fermi scale dual to the Planck scale? (English summary) *Phys. Lett. B* **447** (1999), *no.* 3-4, 257–265. (Summary) **99k:81344** 81V22 (81T30)

Quevedo, Hernando (*with* Criscuolo, A.; Waelbroeck, Henri) Quantization of $2+1$ gravity on the torus. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 20–28, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83033** 83C45 (81S30, 81V17)

— (*with* Núñez, Darío; Sánchez, Alberto) Einstein's equations as functional geodesics. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 5, 440–448. (Maciej Przanowski) **99k:83007** 83C05 (83C15, 83C20)

muñoz Quevedo, José M. *see* **Muñoz Quevedo, José M.**

Queyranne, Maurice (*with* Spieksma, Frits; Tardella, Fabio) A general class of greedily solvable linear programs. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 892–908. (Rainer Burkard) **99j:90067** 90C27 (90C05, 90C08)

— Minimizing symmetric submodular functions. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 3–12. (Mechthild Opperud) **99g:90099** 90C27 (90C10)

Quezada Batalla, Roberto (*with* García Corte, Julio César) On strong perturbations of covariant generators of quantum dynamical semigroups. *Fourth Symposium on Probability Theory and Stochastic Processes* (*Spanish*) (*Guanajuato*, 1996), 91–105, *Aportaciones Mat. Notas Investigación*, 12, *Soc. Mat. Mexicana, México*, 1996. (Franco Fagnola) **99h:81106** 81S25 (47N50, 82C10)

— (*with* Dobrokhotov, Sergeĭ Yu.; Vargas Jarillo, Cristóbal; Zhevandrov, P. N.) In memoriam: Víctor Martínez Olivé. (Spanish) *Miscelánea Mat. No.* 23 (1996), 1–15. 01A70

— (*with* Chebotarëv, A. M.; García Corte, Julio César) On the Lindblad equation with unbounded variable coefficients. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 125–140; *translation in Math. Notes* **61** (1997), *no.* 1-2, 105–117. (Lech Jakóbczyk) **99c:82042** 82C10 (47D07, 47N50)

— (*with* Chebotarëv, A. M.; García Corte, Julio César) A priori estimates and existence theorems for the Lindblad equation with unbounded time-dependent coefficients. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 44–65. (Franco Fagnola) **99m:81112** 81S25 (47N50, 82C10)

al-Qūhī, Abū Sahl Bijān *see* **al-Kūhī, Abū Sahl Waijan ibn Rustam**

Quigg, John (*with* Raeburn, Iain) Characterisations of crossed products by partial actions. (English summary) *J. Operator Theory* **37** (1997), *no.* 2, 311–340. (Summary) **99a:46121** 46L55

— (*with* Kaliszewski, S.) Imprimitivity for C^*-coactions of non-amenable groups. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 101–118. (Erik Bédos) **99a:46118** 46L55 (22D25)

— Crossed product duality for partial C^*-automorphisms. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1067–1088. (Claire Anantharaman-Delaroche) **99k:46121** 46L55

Quillen, C. B. (*with* Lomtev, Igor; Karniadakis, George Em) Spectral/hp methods for viscous compressible flows on unstructured 2D meshes. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 325–357. (Summary) **99c:76087** 76M25

Quilliot, A. (*with* Moukrim, Aziz) A relation between multiprocessor scheduling and linear programming. (English summary) *Order* **14** (1997/98), *no.* 3, 269–278. (Summary) **99f:68106** 68Q25 (68M20, 90C05)

— On the properties of the subsets of a discrete domain defined by the local optimae of a function endowed with some geometrical properties. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 309–322. (Summary) **99h:90070** 90C10 (65Y25)

mai Qui Nam *see* **Mai Qui Nam**

Quincampoix, Marc (*with* Saint-Pierre, Patrick) An algorithm for viability kernels in Hölderian case: approximation by discrete dynamical systems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 13 *pp.* (*electronic*). (Vladimir Veliov) **99j:49007** 49J24 (34A60)

— (*with* Vel'ov, Vladimir M.) Viability with a target: theory and applications. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 47–54, *Heron Press, Sofia*, 1998. (Patrick Saint-Pierre) **99k:49009** 49J15 (34A60, 34H05, 93B03)

— (*with* Buckdahn, Rainer; Peng, Shige; Rainer, Catherine) Existence of stochastic control under state constraints. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 17–22. (Summary) **99h:49029** 49J55

— Singular perturbations for differential equations and inclusions: an approach through constrained systems. *Nonlinear Anal.* **32** (1998), *no.* 5, 697–710. (Oleg P. Filatov) **99a:34158** 34E15 (34A60, 49K40)

Quincy, Jean-Baptiste (*with* Hughes, Thomas J. R.; Feijóo, Gonzalo R.; Mazzei, Luca) The variational multiscale method—a paradigm for computational mechanics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 3–24. (I. N. Molchanov) **99m:65239** 65N55 (65M55, 73V05, 73V25)

presedo Quindimil, M. *see* **Presedo Quindimil, M.**

Quine, J. R. (*with* Zhang, Peter Liang) Extremal symplectic lattices. (English summary) *Israel J. Math.* **108** (1998), 237–251. (Stefan Kühnlein) **99m:11073** 11H50 (14H40)

Quine, Malcolm P. (*with* Szczotka, Władysław) Asymptotic normality of processes with a branching structure. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 833–848. (D. R. Grey) **99k:60216** 60J80 (60F17, 60J15)

— A simple proof of a Slutsky-type result. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 3, 471–473. (From the text) **99c:60050** 60F05

Quine, W. V. ★ From stimulus to science. *Harvard University Press, Cambridge, MA*, 1995. $x+114$ *pp. ISBN* 0-674-32635-0 (Editors) **99b:03011** 03A05

— Mission to Brazil. Contemporary Brazilian research in logic, Part II. *Logique et Anal. (N.S.)* **40** (1997), *no.* 157, 5–8. (*see* **99g:03003**) 01A70

— *see also* **Decline and obsolescence of logical empiricism, 99a:00006b**

Quinn, Catherine T. (*with* Casse, Louis Reynolds Antoine) The Bruck-Bose map and Beukenhout-Metz unitals. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 89–98. (Gary L. Ebert) **99k:51007** 51E20 (51A20)

Quinn, Jennifer J. (*with* Sundberg, Eric Lars) Strong chromatic index in subset graphs. (English summary) *Ars Combin.* **49** (1998), 155–159. (Summary) **99e:05054** 05C15

Quinn, Kathleen A. S. *see* **Combinatorial designs and their applications, 99k:05002**

Quinn, Terrance Factorization in approximately polynormal C^*-algebras: products of positive operators. (English summary) *J. Natur. Geom.* **14** (1998), *no.* 2, 93–132. (Cecelia Laurie) **99g:46083** 46L05 (47A68, 47C15)

Quinn, Terrance J., II (*with* Gates, Richard) Estimation of salmon escapement: models with entry, mortality and stochasticity. (English summary) *Natur. Resource Modeling* **10** (1997), *no.* 3, 217–250. (Summary) **99i:90138** 90D40 (92D40)

Quinn, Theodore C. (*with* Wald, Robert M.) Axiomatic approach to electromagnetic and gravitational radiation reaction of particles in curved spacetime. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3381–3394. (Klaus Kirsten) **99a:81117** 81T20 (83C47)

Quint, Daniel (*with* Rodman, Leiba; Spitkovsky, Ilya M.) New cases of almost periodic factorization of triangular matrix functions. *Michigan Math. J.* **45** (1998), *no.* 1, 73–102. (A. Böttcher) **99c:47020** 47A68 (39A10, 42A75, 45E10, 47B35)

sánchez Quintana, Ana María *see* **Sánchez Quintana, Ana María**

Quintana, Fernando A. (*with* Newton, Michael A.; Zhang, Yunlei) Nonparametric Bayes methods using predictive updating. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 45–61, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62065** 62G05 (62F15)

— Nonparametric Bayesian analysis for assessing homogeneity in $k \times l$ contingency tables with fixed right margin totals. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1140–1149. (Summary) **99f:62076** 62H17 (62F15)

Quintana, Juan (*with* Kierstead, Hal A.) Square Hamiltonian cycles in graphs with maximal 4-cliques. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 81–92. (Hansjoachim Walther) **99c:05125** 05C45

Quintana Ortí, Enrique S. (*with* Quintana-Ortí, Gregorio) Parallel codes for computing the numerical rank. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 451–470. (Summary) **99c:65079** 65F30 (15A03, 15A23, 68Q22)

— (*with* Hernández, Vicente G.; Quintana-Ortí, Gregorio) Numerical methods for the solution of the linear-quadratic optimal control problem. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 3, 383–402. 49N10 (65K10)

— (*with* Quintana-Ortí, Gregorio; Petitet, Antoine) Efficient solution of the rank-deficient linear least squares problem. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1155–1163 (*electronic*). (Jin Yun Yuan) **99m:65086** 65F30

Quintana-Ortí, Gregorio (*with* Bischof, Christian H.) Computing rank-revealing QR factorizations of dense matrices. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 226–253. 65F35 (65–04)

— (*with* Bischof, Christian H.) Algorithm 782: codes for rank-revealing QR factorizations of dense matrices. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 254–257. 65F35 (65–04)

— (*with* Quintana Ortí, Enrique S.) Parallel codes for computing the numerical rank. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 451–470. (Summary) **99c:65079** 65F30 (15A03, 15A23, 68Q22)

— (*with* Quintana Ortí, Enrique S.; Hernández, Vicente G.) Numerical methods for the solution of the linear-quadratic optimal control problem. (Spanish. English and Spanish

summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 3, 383–402. 49N10 (65K10)

— (*with* Quintana Ortí, Enrique S.; Petitet, Antoine) Efficient solution of the rank-deficient linear least squares problem. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1155–1163 (*electronic*). (Jin Yun Yuan) **99m:65086** 65F30

Quintanilla, Ramón (*with* Bofill, F.) A spatial decay estimate for a visco-elastodynamic problem. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:73037** 73F15 (35Q72)

— (*with* Martínez, Fernando) Decay estimates for p-harmonic functions in unbounded domains. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 501–506, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35J65 (35B05)

— (*with* Dalmau, M.; Saludes i Closa, Jordi) Bolzano's theorem implies the supremum axiom. (Catalan) *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 1, 39–40. 26A03

— (*with* Martínez, Fernando) Existence, uniqueness and asymptotic behaviour of solutions to the equations of viscoelasticity with voids. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 25, 3347–3361. (Kenneth Kuttler) **99g:73062** 73F15 (35Q72)

— (*with* Martínez, Fernando) On the incremental problem in thermoelasticity with microstructure. *Meccanica* **33** (1998), *no.* 6, 601–604. (J. Ignaczak) **99k:73026** 73B30 (35Q72)

— Spatial behaviour for quasilinear parabolic equations in cylinders and cones. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 137–146. (Dian K. Palagachev) **99d:35078** 35K55 (35B05)

— Phragmen-Lindelof alternative in nonlinear viscoelasticity. *Nonlinear Anal.* **34** (1998), *no.* 1, 7–16. (Mircea Sofonea) **99e:73062** 73F15 (35Q72, 73G25)

— (*with* Martínez, Fernando) On the incremental problem in thermoelasticity of nonsimple materials. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 703–710. (Andrzej Chrzęszczyk) **99i:73013** 73B30 (34G20, 35Q72)

Quintarelli, Elisa (*with* Cortesi, Agostino; Dovier, Agostino; Tanca, Letizia) Operational and abstract semantics of a query language for semi-structured information. (English summary) *Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming (DDLP'98)* (*Manchester*, 1998), 127–139, *GMD Rep.*, 22, *GMD—Forschungszentrum Informationstech., St. Augustin*, 1998. (*see* **99g:68052**) 68P15 (68Q55)

Quintas, Louis V. (*with* Farrell, Edward J.; Kennedy, John W.) Graph permanent, determinant and cycle polynomials. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 73–82. (Norbert Seifter) **99d:05061** 05C50 (15A15)

— (*with* Gargano, Michael L.; Kennedy, John W.) Group weighted balanced digraphs and their duals. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 161–167. (Summary) **99j:05080** 05C20 (05C75)

— (*with* Balińska, Krystyna T.; Brightwell, Graham R.) Graphs whose vertices are graphs with bounded degree: distance problems. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 109–121. (Martin Knor) **99h:05031** 05C12

Quinteiro, C. (*with* Borceux, Francis; Rosický, Jiří) A theory of enriched sketches. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 3, 47–72 (*electronic*). (R. H. Street) **99i:18009** 18C10 (18D20)

Quintela Estévez, Peregrina (*with* Barral Rodiño, Patrica; Bermúdez de Castro, Alfredo) Three-dimensional numerical simulation of thermomechanical deformations in a solidification process. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 893–898, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 80A22

Quintero, A. (*with* Ayala, R.; Chávez, M. J.) A Hahn-Mazurkiewicz theorem for generalized Peano continua. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 4, 325–330. (Michael Tkačenko) **99h:54045** 54F15 (54E40)

— (*with* Ayala, R.) On the Ganea strong category in proper homotopy. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 247–263. (Leonard R. Rubin) **99f:55006** 55M30

— (*with* Ayala, R.; Chávez, M. J.; Márquez, Alberto) On the proper planarity of 3-connected generalized Peano continua. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 171–181. (Summary) **99g:54030** 54F15 (57M15)

— (*with* Ayala, R.; Chávez, M. J.; Márquez, Alberto) On the connectivity of infinite graphs and 2-complexes. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 13–37. (Thomas Andreae) **99i:05126** 05C40 (57M15, 57M20)

Quinto, Eric Todd Exterior and limited-angle tomography in non-destructive evaluation. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 339–353. (Summary) **99g:92017** 92C55 (65R10)

Quintos, Carmela E. Fully modified vector autoregressive inference in partially nonstationary models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 783–795. (Summary) **99c:62262** 62M10

— Stability tests in error correction models. (English summary) *J. Econometrics* **82** (1998), *no.* 2, 289–315. (Summary) **99c:62292** 62P20

— Analysis of cointegration vectors using the GMM approach. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 155–188. (Summary) **99e:62181** 62P20 (62M10)

Quirk, James P. Qualitative comparative statics. (English summary) *J. Math. Econom.* **28** (1997), *no.* 2, 127–154. (Summary) **99c:90030** 90A14

Quiroga-Barranco, R. Hermitian metric rigidity for foliated vector bundles. (English summary) *Geom. Dedicata* **71** (1998), *no.* 3, 287–298. (Alexander Starkov) **99j:53028** 53C12 (32M15)

Quiroga-Goode, G. (*with* Carcione, J. M.) Heterogeneous modelling behaviour at an interface in porous media. (English summary) *Comput. Geosci.* **1** (1997), *no.* 2, 109–125. 76S05 (76M25)

Quirós, Adolfo The Fields Medals [of 1998]. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 3, 439–446. 01A70

Quirós, M. (*with* Moreno, Jesus M.; Seco, M.) Bubbles in the supersymmetric standard model. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 489–500. (Summary) **99f:81225** 81V22

— (*with* Antoniadis, Ignatios) Supersymmetry breaking in M-theory. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 312–320. (Summary) **99c:81160** 81T30 (81R40)

— (*with* Pomarol, A.) The standard model from extra dimensions. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 255–260. (Summary) **99f:81227** 81V22

iriarte Quirós, Manrique *see* **Iriarte Quirós, Manrique**

Quiroz, Adolfo J. (*with* Trabucco, Juan C.) Kolmogorov-Smirnov type statistics for testing multivariate normality. (English summary) *Publ. Mat. Urug.* **7** (1997), 67–82 (1998). (Hartmut Milbrodt) **99i:62109** 62G10 (62H15)

— (*with* Brito, M. R.; Chávez, E. L.; Yukich, J. E.) Connectivity of the mutual k-nearest-neighbor graph in clustering and outlier detection. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 33–42. (Tamas Lengyel) **99c:62165** 62H30

Quiroz-Pérez, Norma (*with* Zwiebach, Barton) A brief introduction to duality and D-branes. (English summary) *Particles and fields (Morelia*, 1997), 279–294, *AIP Conf. Proc.*, 445, *Amer. Inst. Phys., Woodbury, NY*, 1998. (C. Gauthier) **99m:81208** 81T30 (81–02)

— (*with* García-Compeán, Hugo; Plebański, Jerzy F.) On the reduced SU(N) gauge theory in the Weyl-Wigner-Moyal formalism. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2089–2102. (Maciej Przanowski) **99e:81145** 81T13 (81S30, 81T30)

Quispel, G. R. W. (*with* McLachlan, Robert I.) Generating functions for dynamical systems with symmetries, integrals, and differential invariants. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 298–309. (Benedict J. Leimkuhler) **99b:58098** 58F05 (58F35, 65L06, 70–08, 70H05)

— (*with* McLachlan, Robert I.; Robidoux, Nicolas) Unified approach to Hamiltonian systems, Poisson systems, gradient systems, and systems with Lyapunov functions or first integrals. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 12, 2399–2403. (Summary) **99f:58079** 58F05 (34A34)

— (*with* McLachlan, Robert I.; Turner, G. S.) Numerical integrators that preserve symmetries and reversing symmetries. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 586–599 (*electronic*). (Werner M. Seiler) **99b:65083** 65L05 (34A50, 70–08, 70H33)

Quisquater, Jean-Jacques (*with* Joye, Marc) Reducing the elliptic curve cryptosystem of Meyer-Müller to the cryptosystem of Rabin-Williams. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 53–56. 94A60 (11G20, 11T71)

Quist, A. J. (*with* de Klerk, E.; Roos, Cornelis; Terlaky, Tamás) Copositive relaxation for general quadratic programming. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 185–208. (Summary) **99a:90145** 90C20

Quittner, Pavol Transition from decay to blow-up in a parabolic system. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 199–206. (Summary) **99c:35123** 35K60 (35B40)

— Signed solutions for a semilinear elliptic problem. (English summary) *Differential Integral Equations* **11** (1998), *no.* 4, 551–559. (Summary) **99j:35067** 35J65

Qun, Zhang *see* **Zhang, Qun**

le Quoc Han *see* **Le Quoc Han**

vũ Quốc Phóng *see* **Vũ Quốc Phóng**

nguyen Quoc Son *see* **Nguyen Quoc Son**

nguyễn Quôc Tháng *see* **Nguyễn Quôc Tháng**

duong Quoc Viet *see* **Duong Quoc Viet**

Quraishi, Rehana Ricci inheritance in plane symmetric cosmological model. *J. Indian Acad. Math.* **20** (1998), *no.* 2, 189–192. 83C15

–R–

van Raamsdonk, Femke (*with* Barthe, Gilles) Termination of algebraic type systems: the syntactic approach. *Algebraic and logic programming* (*Southampton*, 1997), 174–193, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68Q42 (68N15)

— (*with* Etalle, Sandro) Beyond success and failure. (English summary) *Logic programming* (*Manchester*, 1998), 190–204, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68N05)

van Raamsdonk, Mark *see* **Van Raamsdonk, Mark**

Raatikainen, Panu The problem of the simplest Diophantine representation. *Nordic J. Philos. Logic* **2** (1997), *no.* 2, 47–54. (Cristian Calude) **99g:03043** 03D15 (03F20, 03F30)

Rabani, Yuval (*with* Kenyon, Claire M.; Sinclair, Alistair) Biased random walks, Lyapunov functions, and stochastic analysis of best fit bin packing. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 218–235. (Summary) **99f:60120** 60J05 (68Q25)

— (*with* Aumann, Yonatan) An $O(\log k)$ approximate min-cut max-flow theorem and approximation algorithm. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 291–301 (*electronic*). (Michal Penn) **99d:05078** 05C85 (68R10, 90B10)

— (*with* Fiat, Amos; Foster, Dean P.; Karloff, Howard; Ravid, Yiftach; Vishwanathan, Sundar) Competitive algorithms for layered graph traversal. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 448–463 (*electronic*). (Summary) **99g:68064** 68Q10 (05C85, 68Q25, 68R10)

Rabaud, M. (*with* Gauthier, Georges; Gondret, P.) Axisymmetric propagating vortices in the flow between a stationary and a rotating disk enclosed by a cylinder. (English summary) *J. Fluid Mech.* **386** (1999), 105–126. 76-05 (76E10, 76U05)

Rabei, E. M. (*with* Nawafleh, K. I.; Ghassib, H. B.) Some physical applications of the canonical method. (English summary) *Hadronic J.* **22** (1999), *no.* 2, 241–255. 78A35

Rabello, S. (*with* de Albuquerque, Luiz C.; Farina de Souza, Carlos) Schwinger's method and the computation of determinants. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 6, 524–528. (Summary) **99b:58235** 58G26 (81T16)

Rabelo, M. L. (*with* Aminov, Yu. A.) On toroidal submanifolds of constant negative curvature. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 275–283. (María J. Druetta) **99c:53059** 53C42 (53C40)

— (*with* Borisenko, A. A.; Tenenblat, K.) On saddle submanifolds of Riemannian manifolds. (English summary) *Geom. Dedicata* **67** (1997), *no.* 2, 233–243. (Yu Xin Dong) **99c:53025** 53C21 (53C42)

Rabena, M. T. Deriving reference decisions. (English summary) *Test* **7** (1998), *no.* 1, 161–177. (Summary) **99m:62010** 62C05 (62F15)

Rabenivo, Joseph Non-Pfaffian quasi-bi-Hamiltonian systems with two degrees of freedom. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7113–7120. (Robert Brouzet) **99f:58080** 58F05

Raber, Ulrich (*with* Horst, Reiner) Convergent outer approximation algorithms for solving unary programs. (English summary) *J. Global Optim.* **13** (1998), *no.* 2, 123–149. (Summary) **99g:90121** 90C30 (90C60)

— A simplicial branch-and-bound method for solving nonconvex all-quadratic programs. (English summary) Workshop on Global Optimization (Trier, 1997). *J. Global Optim.* **13** (1998), *no.* 4, 417–432. (Summary) **99m:90107** 90C20 (90C26)

Rabier, Patrick J. (*with* Maubach, Joseph M.) On boundary-hybrid finite element methods for the Laplace equation. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 273–287. (Jean-Luc Guermond) **99e:65158** 65N30 (65N50)

— (*with* Layton, William J.; Maubach, Joseph M.) Robustness of an elementwise parallel finite element method for convection-diffusion problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1870–1891 (*electronic*). (Summary) **99d:65322** 65N30 (76M10)

Räbiger, Frank (*with* Ricker, Werner J.) C_0-semigroups and cosine families of linear operators in hereditarily indecomposable Banach spaces. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 697–706. (Dieter Lutz) **99k:47098** 47D06 (47D09)

— (*with* Nguyễn Văn Minh; Schnaubelt, Roland) Exponential stability, exponential expansiveness, and exponential dichotomy of evolution equations on the half-line. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 332–353. (Wei Nian Zhang) **99j:34083** 34G10 (34D05, 47D06)

Rabii, Maryam (*with* Ahmadi, Davood) A combinatorial model for the dynamics of the family $z(z^n - b)$. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 3–11, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (I. N. Baker) **99b:58195** 58F23 (30D05)

— Local connectedness of the Julia set of the family $z^m(z^n - b)$. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 457–470. (Gregery T. Buzzard) **99d:58140** 58F23 (30D05)

Rabin, Jeffrey M. Geodesics and BPS states in $N = 2$ supersymmetric QCD. (English summary) *Phys. Lett. B* **411** (1997), *no.* 3-4, 274–282. (Summary) **99a:81174** 81T60 (14H45, 81T13)

Rabin, Michael O. (*with* Fischer, Michael J.) Super-exponential complexity of Presburger arithmetic. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 122–135, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 03F20 (03B25, 03F30, 68Q25)

— (*with* Kushilevitz, Eyal; Mansour, Yishay; Zuckerman, David) Lower bounds for randomized mutual exclusion. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1550–1563 (*electronic*). (Julian Padget) **99h:68066** 68Q22 (60J10, 68Q10, 68Q25)

Rabin, Tal (*with* Bellare, Mihir; Garay, Juan A.) Batch verification with applications to cryptography and checking (invited paper). (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 170–191, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99h:94043** 94A60

Rabinovich, Alexander On schematological equivalence of partially interpreted dataflow networks. (English summary) *Inform. and Comput.* **138** (1997), *no.* 1, 49–87. (Vladimiro Sassone) **99g:68067** 68Q10 (68Q05)

— Complexity of equivalence problems for concurrent systems of finite agents. (English summary) *Inform. and Comput.* **139** (1997), *no.* 2, 111–129. (Vladimiro Sassone) **99g:68068** 68Q10 (68Q25, 68Q55, 68Q60)

— Modularity and expressibility for nets of relations. (English summary) *Acta Inform.* **35** (1998), *no.* 4, 293–327. (Raymond Devillers) **99j:68094** 68Q90 (68Q70)

— Non-elementary lower bound for propositional duration calculus. *Inform. Process. Lett.* **66** (1998), *no.* 1, 7–11. (From the introduction) **99b:68122** 68Q60 (68Q25)

— On translations of temporal logic of actions into monadic second-order logic. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 197–214. (M. A. Taĭtslin) **99a:68119** 68Q60 (03B15, 03B45, 03B70)

Rabinovich, Asya (*with* Calderbank, A. Robert; Duel-Hallen, Alexandra; Fishburn, Peter C.) Interpolation by convolutional codes, overload distortion, and the erasure channel. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 94–105. 94B10 (94B35)

Rabinovich, Savely (*with* Berkolaĭko, G. M.; Havlin, S.) Analysis of Carleman representation of analytical recursions. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 81–90. (Katarina Jankova) **99g:58080** 58F13

Rabinovich, V. S. (*with* Gontmakher, I. M.) Exponential estimates of solutions of partial differential equations near singularities of coefficients. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 65–79. (Leonid Friedlander) **99f:35014** 35B40 (35J10, 35S99, 47G30)

— Mellin pseudodifferential operators techniques in the theory of singular integral operators on some Carleson curves. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 201–218, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Georgi E. Karadzhov) **99f:47063** 47G10 (35S30, 45E05, 47G30)

— (*with* Roch, Steffen; Silbermann, Bernd) Fredholm theory and finite section method for band-dominated operators. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 4, 452–495. (A. Böttcher) **99f:47037** 47B37 (47A53, 47D30, 65J10)

— (*with* Böttcher, Albrecht; Karlovich, Yu. I.) Mellin pseudodifferential operators with slowly varying symbols and singular integrals on Carleson curves with Muckenhoupt weights. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 363–376. (Ron Kerman) **99i:47093** 47G30 (35Sxx, 45E05)

Rabinovich, Yuri (*with* Raz, Ran) Lower bounds on the distortion of embedding finite metric spaces in graphs. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 79–94. (Dušan Repovš) **99a:57004** 57M15 (05C10)

Rabinovici, Eliezer (*with* Giveon, Amit; Pelc, Oskar) The Coulomb phase in $N = 1$ gauge theories with an LG-type superpotential. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 100–124. (Gustavo Dotti) **99c:81239** 81T60 (81T13)

— (*with* Obers, Niels A.; Pioline, Boris) M-theory and U-duality on T^d with gauge backgrounds. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 163–181. (Summary) **99c:81202** 81T30

— (*with* Englert, François) Statistical entropy of Schwarzschild black holes. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 269–274. (Summary) **99b:83049** 83C57 (83E30)

Rabinowicz, Wlodek Wise choice: on dynamic decision-making without independence. *Logic, action and cognition* (*Umeå*, 1993), 97–109, *Trends Log. Stud. Log. Libr.*, 2, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99k:03012**) 03B45

Rabinowitz, Paul H. Heteroclinics for a Hamiltonian system of double pendulum type. (English summary) *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 1, 41–76. (Boris Buffoni) **99a:34138** 34C37 (58E05, 58F22, 70H35, 70K99)

— (*with* Bolotin, Sergei V.) A variational construction of chaotic trajectories for a reversible Hamiltonian system. (English summary) *J. Differential Equations* **148** (1998), *no.* 2, 364–387. (Vittorio Coti Zelati) **99m:58143** 58F15 (34C37, 58E10, 58F05, 70H05)

Rabinowitz, Stanley A note on the sum $\sum 1/w_{k^2}$. *Missouri J. Math. Sci.* **10** (1998), *no.* 3, 141–146. (Neville Robbins) **99g:11021** 11B37

Rabitz, Herschel (*with* Ramakrishna, Viswanath) Control of molecular dynamics. *Systems modelling and optimization* (*Detroit, MI*, 1997), 495–503, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C95 (93C25)

Rabover, V. I On a construction of a smooth extension. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 323–325. (Stanislav Ponomarev) **99b:26018** 26B05 (58C25)

Rabtsevich, V. A. On conditions for the absence of rapidly increasing solutions of the Emden-Fowler equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 678–683, 719; *translation in Differential Equations* **33** (1997), *no.* 5, 681–686 (1998). (Vincent Šoltés) **99b:34064** 34C10 (34C15)

— On criterion of the absence of strongly increasing solutions of the Emden-Fowler equation. *Mem. Differential Equations Math. Phys.* **11** (1997), 178–182. 34C11

— On rapidly increasing solutions of arbitrary-order Emden-Fowler systems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 222–227, 287; *translation in Differential Equations* **34** (1998), *no.* 2, 226–230. (Vladimir Sh. Burd) **99m:34077** 34C11

Rabus, Mariusz (*with* Shelah, Saharon) Topological density of ccc Boolean algebras—every cardinality occurs. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2573–2581. (Vinodkumar) **99m:06026** 06E15 (03E10, 54D80)

Rabut, Christophe (*with* Conti, Costanza; Morandi, R.) Shape-preserving quasi-interpolating univariate cubic splines. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 55–62, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65038** 65D17 (65D07)

— (*with* Conti, Costanza) A technique for the construction of generalized B-splines. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 63–70, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 41A15

— Discrétisation $\mathbf{P}_n$-exacte de dérivées. (English and French summaries) [$\mathbf{P}_n$-exact discretization of derivatives] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 999–1004. (Summary) **99j:65029** 65D25

— *see also* **Curves and surfaces with applications in CAGD, 99g:65004** *and* **Surface fitting and multiresolution methods, 99g:65005**

Raby, Gilles (*with* Poly, Jean-Baptiste) Prolongement de courants positifs à travers de petits obstacles. (English summary) [Extension of positive currents across small obstacles] *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2091–2098. (Mongi Blel) **99j:32009** 32C30 (32D15)

Rachdi, L. T. (*with* Lazhari, M. N.; Trimèche, Khélifa) Asymptotic expansion and generalized Schläfli integral representation for the eigenfunction of a singular second-order dif-

ferential operator. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 263–292. (Christiane Tretter) **99a:34225** 34L20 (33C45, 34B30, 34E05)

— (*with* Nessibi, M. M.; Trimèche, Khélifa) The local central limit theorem on the product of the Chébli-Trimèche hypergroup and the Euclidean hypergroup $\mathbf{R}^n$. (English summary) *J. Math. Sci. (Calcutta)* **9** (1998), *no.* 2, 109–123. (Michael Voit) **99m:60017** 60B15 (43A62, 60F05)

Rachdi, Mustapha (*with* Monsan, Vincent) Spectral density estimation for p-adic stationary processes. (English summary) *Ann. Math. Blaise Pascal* **5** (1998), *no.* 1, 25–41. (Summary) **99c:62271** 62M15 (62G20)

— Choix optimal de la fenêtre spectrale pour un processus stationnaire à temps discret α-mélangeant. (English and French summaries) [Optimal choice of spectral bandwidth for a discrete α-mixing stationary process] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 405–408. (Francesco Battaglia) **99i:62225** 62M15

— Choix de la largeur de fenêtre spectrale par validation croisée pour un processus stationnaire à temps continu. (English and French summaries) [Cross-validated choice of spectral bandwidth for a continuous stationary process] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 777–780. (Summary) **99h:60077** 60G10

Rached, Ziad (*with* Racine, Michel L.) Exceptional Jordan triple systems. *Comm. Algebra* **25** (1997), *no.* 8, 2687–2702. (Irvin Roy Hentzel) **99a:17005** 17A40 (17A30, 17D05)

Rachev, Svetlozar T. (*with* Klebanov, Lev B.) Sums of a random number of random variables and their approximations with ν-accompanying infinitely divisible laws. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 471–496. (Tomasz J. Kozubowski) **99c:60025** 60E07 (60E10, 60F05)

— (*with* Feldman, Philip M.; Rüschendorf, Ludger) Limiting distribution of the collision resolution interval. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 1, 1–22. (Pavel P. Bocharov) **99a:60111** 60K30 (60F05, 94A05)

— (*with* Rüschendorf, Ludger) ★ Mass transportation problems. Vol. I. (English summary) Theory. Probability and its Applications. *Springer-Verlag, New York*, 1998. *xxvi*+508 *pp. ISBN* 0-387-98350-3 (Vladimir L. Levin) **99k:28006** 28A35 (28C15, 49K27, 60B05, 90B15)

— (*with* Rüschendorf, Ludger) ★ Mass transportation problems. Vol. II. (English summary) Applications. Probability and its Applications. *Springer-Verlag, New York*, 1998. *xxvi*+430 *pp. ISBN* 0-387-98352-X (Vladimir L. Levin) **99k:28007** 28A35 (28C15, 49K27, 60B05, 60B10, 90C48)

— (*with* Mittnik, Stefan; Paolella, Marc S.) Stable Paretian modeling in finance: some empirical and theoretical aspects. (English summary) *A practical guide to heavy tails (Santa Barbara, CA*, 1995), 79–110, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 90A09

— (*with* Paulauskas, Vygantas) Cointegrated processes with infinite variance innovations. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 775–792. (Jia Gang Wang) **99g:60049** 60F05 (62M10, 90A20)

— (*with* Mittnik, Stefan; Kim, Jeong-Ryeol) Time series with unit roots and infinite-variance disturbances. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 69–74. 62M10

— (*with* Mittnik, Stefan; Kim, Jeong-Ryeol) Chi-square-type distributions for heavy-tailed variates. (English summary) *Econometric Theory* **14** (1998), *no.* 3, 339–354. (Summary) **99b:62015** 62E15

Rachidi, Mustapha (*with* Mouline, Mehdi) Application of Markov chains properties to r-generalized Fibonacci sequences. *Fibonacci Quart.* **37** (1999), *no.* 1, 34–38. 11B39 (60J10)

Rachik, Mostafa (*with* Karrakchou, Jamila) Optimal control of distributed stochastic systems with delays in the control. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 167–181. (Negash G. Medhin) **99k:93097** 93E20 (49K45)

— (*with* Karrakchou, Jamila; Lahmidi, F.; Namir, A.) Stability, observers and compensators for discrete-time delay systems. *Systems modelling and optimization (Detroit, MI*, 1997), 71–79, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C55 (93D15)

Rachin, N. (*with* Neamţu, Nicolae N.; Milici, C.) About equivalence of Cauchy's functional equation $f(x+y)=f(x)f(y)$ with some other equations. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 1, 26–29. (Summary) **99j:39021** 39B22

Rachinskiĭ, D. I. (*with* Krasnosel'skiĭ, Mark Aleksandrovich; Kuznetsov, N. A.) Nonlinear potential systems with incomplete corrections. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 7, 11–17; *translation in Automat. Remote Control* **57** (1996), *no.* 7, *part* 1, 918–924. (A. Ya. Dorogovtsev) **99c:47120** 47H99 (34D05, 39A11, 47N10)

— (*with* Krasnosel'skiĭ, Mark Aleksandrovich; Kuznetsov, N. A.; Mèrts, R.) Iterative procedures with incomplete corrections, and the solution of nonlinear equations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 8, 46–56; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 1, 1285–1293 (1998). (A. M. Galperin) **99d:65164** 65H10 (47H17)

— On the Cauchy problem for differential equations with Mroz hysteresis nonlinearity. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1041–1048, 1150; *translation in Differential Equations* **33** (1997), *no.* 8, 1047–1054 (1998). (P. Crăciunas) **99h:34013** 34A34 (47H30, 73E99)

Rachkovskiĭ, N. N. (*with* Makarov, E. K.) On a general approach to a definition of proper maximality. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 25–29, 123. 90C29

Rachlin, John (*with* Kasif, Simon; Salzberg, Steven; Waltz, David; Aha, David W.) A probabilistic framework for memory-based reasoning. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 287–311. 68T30 (68T27)

Rachůnek, Jiří DRl-semigroups and MV-algebras. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 365–372. (R. Sh. Grigolia) **99m:06030** 06F05 (03G20, 06D30, 20M99)

— MV-algebras are categorically equivalent to a class of $\mathcal{DR}l_{1(i)}$-semigroups. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 437–441. (Summary) **99i:06018** 06F05 (03G20, 06D30, 06F35)

Rachůnková, Irena Topological degree methods in functional boundary value problems. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 237–238. (*see* **99f:58002**) 34K10 (47H11, 47N20)

Racilă, Mihaela Une méthode de type élément fini appliquée dans la mécanique des fluides. (French summary) [A finite-element method applied to fluid mechanics] *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 98–110 (1998). (A. Jami) **99j:76075** 76M10 (65M60, 76R50)

Racine, Michel L. (*with* Petersson, Holger P.) An elementary approach to the Serre-Rost invariant of Albert algebras. *Indag. Math. (N.S.)* **7** (1996), *no.* 3, 343–365. (B. N. Allison) **99j:17045** 17C40

— (*with* Rached, Ziad) Exceptional Jordan triple systems. *Comm. Algebra* **25** (1997), *no.* 8, 2687–2702. (Irvin Roy Hentzel) **99a:17005** 17A40 (17A30, 17D05)

— (*with* Petersson, Holger P.) The Serre-Rost invariant of Albert algebras in characteristic three. *Indag. Math. (N.S.)* **8** (1997), *no.* 4, 543–548. (B. N. Allison) **99j:17046** 17C40

— Primitive superalgebras with superinvolution. (English summary) *J. Algebra* **206** (1998), *no.* 2, 588–614. (Alberto Elduque) **99g:16056** 16W55 (17A70)

Raciti, M. (*with* Pernici, M.) Wilsonian flow and mass-independent renormalization. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 560–592. (Summary) **99g:81143** 81T17

Račkauskas, A. On the convergence rate in the multi-dimensional martingale CLT. (English summary) *Probability theory and mathematical statistics (Vilnius*, 1993), 629–643, *TEV, Vilnius*, 1994. (Summary) **99e:60069** 60F05 (60G42)

— Limit theorems for large deviations probabilities of certain quadratic forms. (English and Lithuanian summaries) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 532–549; *reprinted in Lithuanian Math. J.* **37** (1997), *no.* 4, 402–415 (1998). (Serguei V. Zhulenev) **99i:60058** 60F10

Racke, Reinhard Asymptotic behavior of damped systems and generalized Fourier transforms. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai*, 1995), 146–152, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35B40 (35K55, 35L70)

— (*with* Wang, Ya Guang) Propagation of singularities in one-dimensional thermoelasticity. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 216–247. (Song Jiang) **99f:73014** 73B30 (35B40, 35Q72, 80A20)

— (*with* Jiang, Song; Muñoz Rivera, Jaime E.) Asymptotic stability and global existence in thermoelasticity with symmetry. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 259–275. (Reinhard Racke) **99d:35163** 35Q72 (35B40, 73B30)

— (*with* Muñoz Rivera, Jaime E.) Multidimensional contact problems in thermoelasticity. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1307–1337 (*electronic*). (Song Jiang) **99f:73015** 73B30 (35Q72, 73C50, 73T05)

Racković, Miloš Dividing the polynomial expressions based on the criteria of reducing the number of computational operations. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 137–143. 68Q40 (70B15)

Rackwitz, Rüdiger (*with* Kuschel, Norbert) Two basic problems in reliability-based structural optimization. (English summary) Structural reliability and stochastic structural optimization. *Math. Methods Oper. Res.* **46** (1997), *no.* 3, 309–333. (Summary) **99a:90099** 90B25 (90C90)

Racugno, Walter (*with* Moreno, Elías; Bertolino, Francesco) An intrinsic limiting procedure for model selection and hypotheses testing. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1451–1460. (Summary) **99i:62054** 62F15

Rácz, István (*with* Süveges, Mária) On the uniqueness of stationary axisymmetric ellipsoidal vacuum configurations. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 14, 1101–1107. (Alicia M. Sintes) **99e:83015** 83C20 (83C15)

Rączka, Ryszard *see* **Coherent states, differential and quantum geometry**, **99k:81004**

Raczunas, M. *see* **Graham, Ronald L. et al.**, **99c:68001** *and* **99m:68002**

Raczyński, A. (*with* Nadzieja, T.) A singular radially symmetric problem in electrolytes theory. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 1, 101–112. (J. W. Jerome) **99a:34060** 34B15 (35B40, 35K60, 76X05, 82D99, 92E20)

Rada, Juan (*with* Saorín Castaño, M.) Rings characterized by (pre)envelopes and (pre)covers of their modules. *Comm. Algebra* **26** (1998), *no.* 3, 899–912. (Pham Ngoc Anh) **99f:16002** 16D10

— (*with* Saorín Castaño, M.) On two open problems about embedding of modules in free modules. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 105–118. (J. L. Gómez Pardo) **99m:16033** 16L60 (16E50, 16L30)

Radas, Sonja (*with* Šikić, Tomislav) A note on the generalization of Hua's inequality. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 321–323. (E. Thandapani) **99e:26023** 26D20 (26D15)

Radavičius, M. (*with* Rudzkis, R.) Purposeful projection in models of a mixture of Gaussian distributions that preserves information about the cluster structure. (Russian. Russian and Lithuanian summaries) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 550–563; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 416–425 (1998). (Kalev Pärna) **99h:62084** 62H30

Radbruch, Knut Mathematik in der Lyrik. [Mathematics in lyric poetry] *Überblicke Mathematik* 1996/97, 38–51, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99d:00011**) 01A99

Radchenko, I. F. (*with* Bakan, G. M.) A computation method for determining the moments of inertia of bodies of revolution about geometric axes. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 114–119, 159. 70E99

Radchenko, V. N. On the approximation of integrals with respect to a random measure by integrals with respect to a real measure. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 165–166; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 177–179 (1998). (Summary) **99f:60091** 60G57

Radcliffe, A. J. (*with* Scott, A. D.) Reconstructing subsets of Z_n. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 2, 169–187. (Y. Roditty) **99k:05158** 05D99

Radcliffe, John (*with* Rass, L.) Spatial Mendelian games. (English summary) *Math. Biosci.* **151** (1998), *no.* 2, 199–218. (Summary) **99j:92020** 92D25 (90D40, 92D15)

Radcliffe, Nicholas J. (*with* Surry, Patrick D.) The COMOGA method: constrained optimisation by multi-objective genetic algorithms. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 391–412. (*see* **99b:90008**) 90C27 (90C29)

Rademacher, Hans-Bert (*with* Kühnel, Wolfgang) Asymptotically Euclidean manifolds and twistor spinors. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 67–76. (Uwe Semmelmann) **99h:53060** 53C25 (53C21, 58G25, 58G30)

Radenović, Stojan A note on Jensen's functional. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 215–220. (Summary) **99i:30002** 30A10
— (*with* Kadelburg, Zoran) Some properties of short exact sequences of locally convex Riesz spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 81–89. (R. Cristescu) **99e:46007** 46A40 (46M99)
Räder, Alexander (*with* Ivan, Constantin) Decision models with complete connections with infinite horizon. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 6, 495–515. 90C40 (90A05)
— (*with* Ivan, Constantin) Homogeneous decision models with complete connections with infinite horizon. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 1-2, 95–103. 90A05
Rader, David J., Jr. (*with* Boros, Endre; Hammer, Peter L.; Minoux, Michel) Optimal cell flipping to minimize channel density in VLSI design and pseudo-Boolean optimization. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 69–88. (Summary) **99k:68123** 68R05 (68Q35)
Rădescu, E. (*with* Rădescu, N.) Some elementary algebraic considerations inspired by Smarandache type functions. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 124–128, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A25
— (*with* Rădescu, N.) Some considerations concerning the summatory function associated to generalised Smarandache function. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 136–138, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A05
Rădescu, N. (*with* Rădescu, E.) Some elementary algebraic considerations inspired by Smarandache type functions. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 124–128, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A25
— (*with* Rădescu, E.) Some considerations concerning the summatory function associated to generalised Smarandache function. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 136–138, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A05
Radespiel, R. (*with* Swanson, Roy Charles; Turkel, Eli) On some numerical dissipation schemes. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 518–544. (Summary) **99h:76069** 76M20 (76H05, 76K05)
Radev, Slavian Argumentation systems. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 331–346. (Summary) **99c:68233** 68T27 (03B52)
Radford, David E. (*with* Lambe, Larry) Solutions to the quantum Yang-Baxter equation having certain bialgebras as their reduced FRT construction. *Illinois J. Math.* **42** (1998), *no.* 4, 630–654. (Nicolás Andruskiewitsch) **99k:16082** 16W30 (17B37)
— (*with* Kauffman, Louis H.; Sawin, Stephen) Centrality and the KRH invariant. *J. Knot Theory Ramifications* **7** (1998), *no.* 5, 571–624. (Vyacheslav S. Krushkal) **99k:57017** 57M25 (16W30, 57N10)
— Finite-dimensional simple-pointed Hopf algebras. *J. Algebra* **211** (1999), *no.* 2, 686–710. (E. J. Taft) **99j:16025** 16W30
Radha, R. (*with* Vijayalakshmi, S.; Lakshmanan, M.) Explode-decay dromions in the non-isospectral Davey-Stewartson I (DSI) equation. (English summary) *J. Nonlinear Math. Phys.* **6** (1999), *no.* 2, 120–126. 35Q55
Radha, Ramakrishnan (*with* Thangavelu, Sundaram) Weyl multipliers for invariant Sobolev spaces. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 31–40. (Gerald B. Folland) **99g:46045** 46E35 (42B15, 44A15, 47B38)
Radhakrishnan, Jaikumar (*with* Mukund, Madhavan; Narayan Kumar, K.; Sohoni, Milind) Robust asynchronous protocols are finite-state. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 188–199, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q10 (68M10, 68Q45)
Radhakrishnan, Venkatesh (*with* Marathe, Madhav V.; Hunt, Harry B., III; Stearns, Richard E.) Complexity of hierarchically and 1-dimensional periodically specified problems. I. Hardness results. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 225–259, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Italo José Dejter) **99c:68129** 68Q25 (03B05, 03D15, 03F20, 68Q15, 68R10)
— (*with* Hunt, Harry B., III; Marathe, Madhav V.; Stearns, Richard E.) The complexity of planar counting problems. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1142–1167 (*electronic*). (Italo José Dejter) **99e:68052** 68Q15 (68R10)
— (*with* Marathe, Madhav V.; Hunt, Harry B., III; Stearns, Richard E.) Approximation algorithms for PSPACE-hard hierarchically and periodically specified problems. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1237–1261 (*electronic*). (Summary) **99f:68103** 68Q25 (68Q15, 68R10)
Radhakrishnan, Viswanathan (*with* Chakaravarthy, Venkatesan T.; Krithivasan, Kamala) Pattern matching in matrix grammars. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 1, 59–72. (Summary) **99j:68075** 68Q50 (68Q45, 68Q52)
Radi, E. (*with* Bigoni, D.; Tralli, A.) On uniqueness for frictional contact rate problems. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 275–296. (Summary) **99j:73092** 73T05
Radić, Mirko Some inequalities and properties concerning chordal polygons. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 141–150. 51M16
Radicati, Giuseppe (*with* Duff, Iain S.; Marrone, Michele; Vittoli, Carlo) Level 3 basic linear algebra subprograms for sparse matrices: a user-level interface. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 379–401. 65Y15
Radicheva, Elena (*with* Popenda, Jerzy; Gruncharov, Lyuben; Zvetkov, Zoran) Growth estimates for solution of difference equation. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 200–202, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 39A10
Radin, Charles (*with* Sadun, Lorenzo) An algebraic invariant for substitution tiling systems. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 21–37. (Elizaveta Zamorzaeva) **99j:52027** 52C22 (52C20)
— (*with* Conway, John H.) Quaquaversal tilings and rotations. (English summary) *Invent. Math.* **132** (1998), *no.* 1, 179–188. (Richard Kenyon) **99c:52031** 52C22 (20G20)
— (*with* Sadun, Lorenzo) Subgroups of SO(3) associated with tilings. (English summary) *J. Algebra* **202** (1998), *no.* 2, 611–633. (Richard Kenyon) **99c:20064** 20G20 (20E06, 52C22)
Radionov, A. N. (*with* Mel'nikov, B. F.) On the choice of strategy in nondeterministic antagonistic games. (Russian. Russian summary) *Programmirovanie* **1998**, *no.* 5, 55–62; *translation in Program. Comput. Software* **24** (1998), *no.* 5, 247–252. 90D46 (68T20)
Radjabalipour, M. (*with* Salemi, A.) Partial multiplicities and perturbation. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 319–323, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Summary) **99b:15013** 15A18 (47A55)
— (*with* Radjavi, Heydar) A finiteness lemma, Brauer's theorem and other irreducibility results. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 301–319. (P. M. Higgins) **99m:20152** 20M20
Radjai, Farhang Multicontact dynamics. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 305–311, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73E99 (73B99, 73T05)
Radjavi, Heydar (*with* Livshits, Leonya; MacDonald, Gordon Wilson; Mathes, B. Benjamin) Reducible semigroups of idempotent operators. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 35–69. (Cecelia Laurie) **99m:47004** 47A15 (20M99, 47D03)
— (*with* Edelstein, Michael; Tan, Kok-Keong) Boundedness stability properties of linear and affine operators. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 111–125. (Summary) **99b:47002** 47A05 (15A04, 47B15, 47B20)
— (*with* Radjabalipour, M.) A finiteness lemma, Brauer's theorem and other irreducibility results. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 301–319. (P. M. Higgins) **99m:20152** 20M20
Radkevich, E. V. (*with* Omel'yanov, G. A.; Danilov, V. G.) Tanh-type asymptotic solution of the conserved phase field system. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 663–689. (Song Mu Zheng) **99j:73014** 73B30 (35Q72, 80A22)
— (*with* Omel'yanov, G. A.; Danilov, V. G.) Asymptotic solution of the conserved phase field system in the fast relaxation case. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 1, 1–21. (Matthias Wilhelm Winter) **99c:80005** 80A22 (35Q99)
— (*with* Danilov, V. G.; Omel'yanov, G. A.) Weak solutions to the phase field system. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 27–35. (Summary) **99d:35181** 35R35 (35D99, 35Q99, 80A22)
Radko, Timour (*with* Stern, Melvin E.) On the propagation of oceanic mesoscale vortices. (English summary) *J. Fluid Mech.* **380** (1999), 39–57. (Summary) **99k:86003** 86A05 (76C05)
Rädler, Karl-Heinz (*with* Dobler, Wolfgang) An integral equation approach to kinematic dynamo models. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 1-2, 45–74. (Summary) **99j:76133** 76W05 (85A30)
Radnaev, V. A. On n-disjoint operators. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 4, 44–78. (Yu. A. Abramovich) **99k:47078** 47B60 (46B40)
Radner, Roy Profit maximization with bankruptcy and variable scale. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 6, 849–867. (Summary) **99b:90024** 90A09
Radnović, Milena (*with* Dragović, Vladimir) On periodical trajectories of the billiard systems within an ellipsoid in $\mathbf{R}^d$ and generalized Cayley's condition. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5866–5869. (Iskander A. Taimanov) **99j:58158** 58F20
Rado, Richard *see* **Rogers, C. Ambrose**, **99a:01023**
Radojević, Dragi The metric which allows the pure radiation field. (English and Serbian summaries) *Theoret. Appl. Mech.* **23** (1997), 151–156. (Summary) **99d:83015** 83C15
Radomir, Irinel Some sufficient conditions for univalency. (English summary) *Mathematica* **39(62)** (1997), *no.* 1, 111–116. (Summary) **99b:30024** 30C55
Radons, Günter On the equilibrium state of random walkers in random environments: analytical results. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4141–4148. (Summary) **99b:82041** 82B41
Radosz, Andrzej (*with* Konwent, Henryk; Machnikowski, Paweł; Magnuszewski, Piotr) Some properties of double-Morse potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7541–7559. (Summary) **99g:81037** 81Q05
Radović, Igor Numerische Analysis gewisser Klassen multivariater Funktionen mittels quasi-Monte Carlo Verfahren. (German summary) [Numerical analysis of certain classes of multivariate functions by means of quasi-Monte Carlo procedures] *Grazer Mathematische Berichte*, 330, 1–29, *Grazer Math. Ber.*, 330, *Karl-Franzens-Univ. Graz, Graz*, 1997. (Gerhard Larcher) **99a:65016** 65C05 (65D15)
Radovitzky, R. (*with* Ortiz, Michael) Lagrangian finite element analysis of Newtonian fluid flows. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 4, 607–619. 76M10
— (*with* Ortiz, Michael) Error estimation and adaptive meshing in strongly nonlinear dynamic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **172** (1999), *no.* 1-4, 203–240. (Summary) **99m:76083** 76M10 (73V05)
Radtsig, Yu. Yu. (*with* Nefedov, E. I.; Èminov, S. I.) The phenomenon of fast convergence of the Galerkin method in diffraction theory. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 621–624; *translation in Dokl. Phys.* **43** (1998), *no.* 4, 225–228. 65M70 (78–08, 78A45)
Radu, Constantin F. Sur les équations constitutives de la déformation plastique d'un milieu composite biphasique. (French and Romanian summaries) [The constitutive equations of plastic deformation for a two-phase composite medium] *Politehn. Univ. Bucharest Sci. Bull. Ser. D Mech. Engrg.* **60** (1998), *no.* 1-2, 5–14. 73E05 (73B27)
Radu, Cristian (*with* Govaerts, René; Vandewalle, Joos) Witness hiding restrictive blind signature scheme. (English summary) *Cryptography and coding* (*Cirencester*, 1997), 283–294, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (Summary) **99h:94054** 94A60
Radu, Eugen² Features of a charged rotating spacetime. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2743–2760. (Summary) **99h:83007** 83C10 (83C15)
— On the Euclidean approach to quantum field theory in Gödel space-time. (English summary) *Phys. Lett. A* **247** (1998), *no.* 3, 207–210. (Valter Moretti) **99i:81160** 81T20 (83C47)
Radu, Viorel (*with* Miheț, Dorel) A fixed point theorem for mappings with contractive iterate in PM-spaces. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 2, 311–314 (1998). 54H25 (54E70)

— (*with* Părău, E.) Some remarks on Tardiff's fixed point theorem on Menger spaces. *Portugal. Math.* **54** (1997), *no.* 4, 431–440. (From the introduction) **99k:47186** 47S50 (47H10, 54H25)

Radul, T. On the functor of order-preserving functionals. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 609–615. (Summary) **99h:54017** 54B30 (18C15, 54C35)

— Absorbing spaces for C-compacta. (English summary) *Topology Appl.* **83** (1998), *no.* 2, 127–133. (Paul F. Duvall) **99c:54048** 54F45 (57N17, 57N20)

Rădulescu, Florin Quantum dynamics and Berezin's deformation quantization. (English summary) *Operator algebras and quantum field theory* (*Rome*, 1996), 383–389, *Internat. Press, Cambridge, MA*, 199?. (Éric Leichtnam) **99a:58078** 58F06 (46L60, 81S10)

Radulescu, M. L. (*with* Clarke, F. H.) Geometric approximation of proximal normals. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 373–379. (Philip D. Loewen) **99h:49027** 49J52 (58C20)

Rădulescu, Vicenţiu D. On the Volterra theorem. *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 9–10 (1995). 54E35

— (*with* Lefter, Cătălin) On the Ginzburg-Landau energy with vanishing weight. *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 3–11 (1995). 58E30 (35Q58)

— (*with* Mironescu, Petru) On an orthogonality theorem in Banach spaces. (Romanian) *Stud. Cerc. Mat.* **46** (1994), *no.* 3, 393–396. 46B20

— (*with* Lefter, Cătălin) Minimization problems and renormalized energies related to the Ginzburg-Landau equation. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 1–13 (1997). (Patricio L. Felmer) **99k:58046** 58E20 (35Q55, 49Q20, 58E50)

— (*with* Panagiotopoulos, Panagiotis D.) Perturbations of hemivariational inequalities with constraints and applications. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 285–297. (Stanisław Migórski) **99c:35083** 35J85 (47H19, 49J40, 58E05)

— (*with* Şt. Cîrstea, Florica Corina) Existence and uniqueness of positive solutions to a semilinear elliptic problem in $\mathbf{R}^N$. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 417–425. (Summary) **99j:35056** 35J60 (35B05)

Radulović, Dragan The bootstrap of empirical processes for α-mixing sequences. (English summary) *High dimensional probability* (*Oberwolfach*, 1996), 315–330, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Miguel A. Arcones) **99h:60042** 60F05 (60G10, 62G09, 62G30)

— Can we bootstrap even if CLT fails? (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 813–830. (Igor S. Borisov) **99h:60014** 60B12 (60F17, 62G09)

Radulovich, Zhelko Geodesic and holomorphically-projective mapping of conformally-Kählerian spaces. (English summary) *Filomat No.* 11 (1997), 61–76. (Luis M. Hervella) **99f:53071** 53C55

— Holomorphically-projective mappings of parabolically-Kählerian spaces. (English summary) *Math. Montisnigri* **8** (1997), 159–184. (Josef Mikeš) **99e:53036** 53C15 (53C25)

— (*with* Mikeš, Josef) On projective transformations of Riemannian spaces with harmonic curvature. (English summary) *New developments in differential geometry, Budapest* 1996, 279–283, *Kluwer Acad. Publ., Dordrecht*, 1999. (Andrew Bucki) **99k:53095** 53C25 (53C20)

Radunskaya, A. E. (*with* de Pillis, Lisette) The multiple-scale wave equation. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 33–80. (Summary) **99j:35011** 35B25 (35L05)

Radwan, Abdelaziz (*with* Van Oystaeyen, Freddy) Micro-structure sheaves, formal sheaves and quantum sections over projective schemes. *Anneaux et modules* (*Colmar*, 1991), 97–117, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (A. Verschoren) **99b:16047** 16S60 (16W60)

Radwan, Ahmed A. A. Reoptimization shortest path algorithms for sparse networks: a comparison. (English summary) *J. Indian Soc. Statist. Oper. Res.* **15** (1994), *no.* 1-4, 13–24. 90C35 (90B10)

— (*with* Khidr, A. M.) Artificial order statistics. (English summary) *J. Indian Soc. Statist. Oper. Res.* **17** (1996), *no.* 1-4, 1–5. 62G30

Radwan, Ahmed E. Magnetohydrodynamic stability of streaming liquid cylinder with doubly perturbed interfaces having a streaming fluid mantle jet. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 4, 715–730. 76E25 (76W05)

— Selfgravitating electrodynamic stability of a fluid-tar annular jet pervaded by periodic time dependent electric field. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 1, 89–109. (Summary) **99g:76059** 76E25 (76W05)

— Electrification capillary instability of a charging annular fluid jet. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 1–12. (Summary) **99e:76047** 76E25

— (*with* Elsheikh, Mohamed G.) Gravitohydrodynamic instability of a streaming fluid cylinder. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 81–98. (Summary) **99e:76052** 76E99

— Self-gravitating instability of a gas-core fluid cylinder pervaded by magnetic fields. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 1, 123–141. 76E25 (76W05)

Radwan, Nizar (*with* Loewy, Raphael) On spaces of matrices with a bounded number of eigenvalues. (English summary) *Electron. J. Linear Algebra* **3** (1998), 142–152 (*electronic*). (William Watkins) **99i:15025** 15A42 (15A45)

— (*with* Meshulam, Roy) On linear subspaces of nilpotent elements in a Lie algebra. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 195–199. (Summary) **99d:17005** 17B05

Radwan, Samir F. On the fourth-order accurate compact ADI scheme for solving the unsteady nonlinear coupled Burgers' equations. (English summary) *J. Nonlinear Math. Phys.* **6** (1999), *no.* 1, 13–34. (Summary) **99k:76103** 76M20

Radyno, A. Ya. Asymptotic behavior of orthogonal polynomials that correspond to the Sobolev scalar product. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 4, 23–29, 122–123. (Summary) **99k:42053** 42C05 (42B25)

Radyno, N. (*with* Antonevich, Anatoliĭ B.; Radyno, Ya. V.) About the theory of mnemofunctions and its applications. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 123–134. (Summary) **99d:46054** 46F10 (35D99)

Radyno, Ya. V. (*with* Antonevich, Anatoliĭ B.) On the theory of mnemonic functions and its applications. (Russian. English and Russian summaries) *Vestn. Belorussk. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1996**, *no.* 3, 46–52, 81. (Todor Dimitrov Todorov) **99a:46070** 46F10 (47B37, 47B48, 60G20)

— (*with* Antonevich, Anatoliĭ B.; Radyno, N.) About the theory of mnemofunctions and its applications. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 123–134. (Summary) **99d:46054** 46F10 (35D99)

Radzevich, S. P. (*with* Ligun, A. A.; Shumeĭko, A. A.; Goodman, E. D.) Asymptotically optimum recovery of smooth contours by [a] Bézier curve. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 495–506. (Summary) **99b:65017** 65D17 (68U05)

Radzievskiĭ, G. V. (*with* Gomilko, A. M.) On numerical ranges of a family of commuting operators. (Russian) *Mat. Zametki* **62** (1997), *no.* 5, 787–791; *translation in Math. Notes* **62** (1997), *no.* 5-6, 659–663 (1998). (Vladimir Müller) **99e:47009** 47A12 (47A13)

— Direct and inverse theorems in problems of approximation by vectors of finite degree. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 4, 83–124; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 561–601. (Yu. A. Brudnyĭ) **99g:41034** 41A35 (46M35, 47A58)

Radzik, Tadeusz On a new solution concept for bargaining problems. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 3, 285–294. (Summary) **99e:90026** 90A60 (90D05)

Radzik, Tomasz Fractional combinatorial optimization. *Handbook of combinatorial optimization, Vol.* 1, 429–478, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C32)

Radzikowska, E. (*with* Kotowski, R.) Variational principle in thermo-electro-magneto-dynamics of micropolar media. (English summary) *J. Tech. Phys.* **39** (1998), *no.* 2, 283–295. (Summary) **99i:73003** 73B25 (73B30, 73R05, 73V25, 78A25)

Radziszowski, Stanisław P. Small Ramsey numbers. (English summary) *Electron. J. Combin.* **1** (1994), *Dynamic Survey* 1, 30 *pp.* (*electronic*). (Ivan Pashov) **99k:05117** 05C55

— (*with* Piwakowski, Konrad) $30 \le R(3,3,4) \le 31$. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 135–141. (Martin Klazar) **99f:05083** 05C55 (68R10)

Raeburn, Iain (*with* Landstad, M. B.) Equivariant deformations of homogeneous spaces. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 2, 480–507. (Judith A. Packer) **99b:22012** 22D25 (46L05)

— (*with* Quigg, John) Characterisations of crossed products by partial actions. (English summary) *J. Operator Theory* **37** (1997), *no.* 2, 311–340. (Summary) **99a:46121** 46L55

— (*with* Fowler, Neal J.) Discrete product systems and twisted crossed products by semigroups. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 171–204. (Claire Anantharaman-Delaroche) **99k:46118** 46L55

— (*with* Echterhoff, Siegfried; Kaliszewski, S.) Crossed products by dual coactions of groups and homogeneous spaces. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 151–176. (Yoshikazu Katayama) **99h:46124** 46L55 (22D25)

— (*with* Kumjian, Alex; Pask, David) Cuntz-Krieger algebras of directed graphs. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 161–174. (Berndt Brenken) **99i:46049** 46L35 (05C20, 22A22)

de Raedt, Luc *see* **De Raedt, Luc**

Raetzel, Olaf (*with* Howe, Paul S.; Sezgin, Ergin) On brane actions and superembeddings. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 11, 19 *pp.* (*electronic*). (Sergey Nikolaevich Roshchupkin) **99i:81186** 81T30 (83E30)

Raeva, Maja Limit cycles of a class of quasi-linear autonomous systems. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 93–95, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 34C05

Raevskaya, V. Yu. (*with* Arestov, Vitalii V.) An extremal problem for algebraic polynomials with zero mean value on an interval. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 332–342; *translation in Math. Notes* **62** (1997), *no.* 3-4, 278–287 (1998). (Summary) **99a:41004** 41A10

skubalska-Rafajłowicz, Ewa *see* **Skubalska-Rafajłowicz, Ewa**

Rafajłowicz, Ewaryst Selective random search for optimal experiment designs. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 75–83, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62092** 62K05

— (*with* Skubalska-Rafajłowicz, Ewa) Searching for optimal experimental designs using space-filling curves. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 647–656. 62K05

Rafal'son, S. Z. Some sharp inequalities for algebraic polynomials. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 161–177. (Kairat T. Mynbaev) **99h:41018** 41A17 (41A10)

Rafels, Carles (*with* Tijs, Stef) On the cores of cooperative games and the stability of the Weber set. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 491–499. (Summary) **99a:90254** 90D12

— (*with* Martinez-de-Albeniz, F. Javier) On the intersection between the imputation set and the Weber set. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 111–120. (Summary) **99i:90128** 90D12

Raffalli, Christophe A semantical storage operator theorem for all types. (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 1, 17–31. (Summary) **99c:03095** 03F35 (03B40, 03B70, 03F50, 68N15)

Raffed, Yazid Said (*with* Addou, Idris; Bouguima, Sidi Mohammed; Derhab, Mohammed) On the number of solutions of a quasilinear elliptic class of B.V.P. with jumping nonlinearities. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 575–600. (Michal Fečkan) **99m:34030** 34B15 (35J60)

Raffinot, Mathieu (*with* Navarro, Gonzalo) A bit-parallel approach to suffix automata: fast extended string matching. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 14–33, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68055** 68Q25 (68U15)

Raffke, Werner W. A. A box in a grid. *Geombinatorics* **8** (1998), *no.* 2, 55–60. (Uwe Schnell) **99m:52023** 52C07

Raffoul, Youssef N. Boundedness and periodicity of Volterra systems of difference equations. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 4, 381–393. (Summary) **99g:39012** 39A10

— Periodic solutions for scalar and vector nonlinear difference equations. (English summary) *Panamer. Math. J.* **9** (1999), *no.* 1, 97–111. (Vladimir Sh. Burd) **99m:39017** 39A11

Rafique, Mohammad *see* **Mir, Khalid Latif**

Rafter, John A. (*with* Abell, Martha L.; Braselton, James P.) ★ Statistics with Mathematica®. (English summary) With 1 CD-ROM (Macintosh, Windows, DOS and UNIX) [ISBN: 0-12-041555-0]. *Academic Press, Inc., San Diego, CA*, 1999. *xiv*+632 *pp. ISBN* 0-12-041554-2 (Editors) **99m:62006** 62-04 (62-01, 65U05)

Raga, M. Carmen (*with* Candela, Vicente F.) Representation of the shift operator in spaces of wavelets generated by splines. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 629–634, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65T99

grotta Ragazzo, C. *see* **Grotta Ragazzo, C.**

Ragbi, Bouameur Weak convergence for rectangle-indexed weighted multivariate empirical U-statistic processes under mixing conditions. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 476–498. (Ken-ichi Yoshihara) **99f:60051** 60F05

Ragde, Prabhakar (*with* Berkman, Omer; Matias, Yossi) Triply-logarithmic parallel upper and lower bounds for minimum and range minima over small domains. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 197–215. (Summary) **99c:68107** 68Q22 (68P10)

Raggi, Francisco (*with* Fernández-Alonso, Rogelio) The lattice structure of nonhereditary torsion theories. *Comm. Algebra* **26** (1998), *no.* 6, 1851–1861. (Maureen H. Fenrick) **99c:16026** 16S90 (13D30)

— (*with* Rincón-Mejía, Hugo Alberto; Signoret P., Carlos J. E.) On some classes of R-modules and congruences in R-tors. *Comm. Algebra* **27** (1999), *no.* 2, 889–901. (J. K. Luedeman) **99m:16003** 16D10 (16S90)

Raggi-Cárdenas, Alberto (*with* Larrión, Francisco; Salmerón, Leonardo) ★ Rudimentos de mansedumbre y salvajismo en teoría de representaciones. (Spanish. Spanish summary) [Rudiments of tameness and wildness in representation theory] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 5. *Sociedad Matemática Mexicana, México*, 1995. *x*+239 *pp. ISBN* 968-36-4618-2 (Flávio Ulhoa Coelho) **99j:16006** 16G20

Raghavachari, M. A note on optimal component test plans for series system reliability with exponential failure times. *Technometrics* **40** (1998), *no.* 4, 345–347. 62N05

Raghavan, J. (*with* Manoranjan, V. S.) Arnoldi-Chebyshev approach for convection-diffusion computations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 95–105. (Martin Stynes) **99f:65151** 65N06 (65F10, 65N22)

Raghavan, K. N. (*with* Sankaran, Parameswaran) A new approach to standard monomial theory for classical groups. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 57–73. (Venkatramani Lakshmibai) **99d:17012** 17B10 (20G05)

Raghavan, Nandini (*with* Cox, Dennis D.) Adaptive mixture importance sampling. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 3, 237–259. (Summary) **99i:62094** 62G07

Raghavan, Padma Efficient parallel sparse triangular solution using selective inversion. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 1, 29–40. (Summary) **99c:65090** 65F50 (65Y05, 68Q22)

Raghavan, Prabhakar (*with* Chandra, Ashok K.; Ruzzo, Walter L.; Smolensky, Roman; Tiwari, Prasoon) The electrical resistance of a graph captures its commute and cover times. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 312–340. (Mark R. Jerrum) **99h:60140** 60J15 (05C90, 94C05)

— (*with* Borodin, Allan; Schieber, Baruch; Upfal, Eli) How much can hardware help routing? (English summary) *J. ACM* **44** (1997), *no.* 5, 726–741. (Luisa Gargano) **99b:68012** 68M10 (68Q22, 68R10)

— (*with* Kavraki, Lydia E.; Latombe, Jean-Claude; Motwani, Rajeev) Randomized query processing in robot path planning. (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 50–60. (Summary) **99g:68209** 68U05

— (*with* Irani, Sandy) Combinatorial and experimental results for randomized point matching algorithms. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 17–31. (Summary) **99k:68193** 68U05

— (*with* Upfal, Eli) Stochastic contention resolution with short delays. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 710–720 (*electronic*). (Summary) **99d:68121** 68Q25 (60K30, 68M20)

— (*with* Beame, Paul; Borodin, Allan; Ruzzo, Walter L.; Tompa, Martin) A time-space tradeoff for undirected graph traversal by walking automata. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1051–1072 (*electronic*). (From the text) **99m:68077** 68Q25 (05C40, 68Q05, 68R10)

Raghavan, Raghu (*with* Lawton, Wayne; Ranjan, S. R.; Viswanathan, R. Raju) Ribbons and groups: a thin rod theory for catheters and filaments. (English summary) *J. Phys. A* **32** (1999), *no.* 9, 1709–1735. (Summary) **99k:73077** 73K05 (73P20, 73V05, 92C50)

Raghavan, Srinivasacharya Glimpses of Ramanujan's work. *Ramanujan Visiting Lectures*, 1–16, *Tech. Rep.*, 4, *Madurai Kamaraj Univ., Madurai*, 199?. (*see* **99g:11001**) 11-03 (01A70)

— (*with* Kim, Byeong Moon; Kim, Myung-Hwan[1]) 2-universal positive definite integral quinary diagonal quadratic forms. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 333–337. (Andrzej Sładek) **99c:11042** 11E20 (11E12)

Raghavan, T. E. S. *see* **Stochastic and differential games, 99m:90005**

Raghavarao, Damaraju (*with* Wiley, James B.) Estimating main effects with Pareto optimal subsets. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 425–432. (Summary) **99j:62039** 62F99

— (*with* Zhou, Bei) Universal optimality of UE 3-designs for a competing effects model. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 153–164. (Sanpei Kageyama) **99b:62115** 62K10 (62K05)

Raghavendra, N. (*with* Biswas, Indranil) Curvature of the determinant bundle and the Kähler form over the moduli of parabolic bundles for a family of pointed curves. *Asian J. Math.* **2** (1998), *no.* 2, 303–324. (Laurent Manivel) **99k:32032** 32G13 (14D20, 58G26)

Raghavendran, R. Non-unique factorisation. (English summary) *Math. Ed.* **10** (1994), *no.* 3, 170–174. (W. Narkiewicz) **99g:11004** 11A05 (11R27)

Raghunathan, Ravi A converse theorem for Dirichlet series with poles. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 231–235. (Cem Y. Yildirim) **99i:11034** 11F66 (11F11)

Raghunathan, T. T. (*with* Bhave, N. S.) Enumeration of bipartite self-complementary graphs. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 11, 1451–1459. (E. Keith Lloyd) **99a:05064** 05C30

Ragi, R. (*with* Bagnato, V. S.; Baseia, B.) A note on generalized superposition of coherent states. (English summary) *Modern Phys. Lett. B* **13** (1999), *no.* 3-4, 131–134 (*electronic*). 81R30

Ragimov, M. B. Bounded and almost periodical solutions of the differential equations of second order. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 129–145 (1997). (Summary) **99k:34130** 34G10 (34C11, 34C25)

Ragnedda, Francesco (*with* Grimaldi Piro, Anna) Area integral estimates for solutions of parabolic equations. *Progress in partial differential equations, Vol. 1 (Pont-à-Mousson*, 1997), 138–148, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Minoru Murata) **99f:35071** 35K20 (35B05, 42B25)

— (*with* Banichuk, N. V.; Serra, Mauro) Probabilistic approaches for optimal beam design based on fracture mechanics. (English and Italian summaries) *Meccanica* **34** (1999), *no.* 1, 29–38. (Summary) **99m:73055** 73K40 (73M25)

Ragni, Marcello (*with* Gori Cocchieri, Candida) Differential equations with functional argument in Banach spaces. (Italian) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 787–802. (Radu Precup) **99h:34117** 34K30 (47H15, 47N20)

Ragnisco, Orlando (*with* Ballesteros, Angel) A systematic construction of completely integrable Hamiltonians from coalgebras. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3791–3813. (Zheng-Mao Sheng) **99g:58061** 58F07 (16W30)

Ragos, O. (*with* Vrahatis, M. N.; Grapsa, T. N.; Zafiropoulos, F. A.) On the localization and computation of zeros of Bessel functions. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 6, 467–475. (Summary) **99d:65064** 65D20 (33C10, 34B30)

Ragot, José (*with* Malti, R.; Ekongolo, S. B.) Dynamic SISO and MISO system approximations based on optimal Laguerre models. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1318–1323. 93B30 (93C80)

— (*with* Malti, R.; Maquin, D.) Bilateral decomposition of a time function into Laguerre series. Application to LTI system identification. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 851–869. (Summary) **99b:93026** 93B40 (93B30)

— (*with* Ploix, Stéphane; Giuliani, Stéphane) A unifying approach of LTI discrete-time state observers by means of complementary matrices. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 422–426. 93B07 (93C55)

Ragoucy, E. (*with* Perelomov, A. M.; Zaugg, Ph.) Explicit solution of the quantum three-body Calogero-Sutherland model. (English summary) *J. Phys. A* **31** (1998), *no.* 32, *L*559–*L*565. (Summary) **99f:81233** 81V70 (33C80)

Ragozin, David L. (*with* Gomes, Sônia M.; Kushpel', A. K.; Levesley, Jeremy) sk-spline interpolation on the torus using number-theoretic knots. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc*, 1996), 143–149, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:41017** 41A15 (65D07)

— (*with* Levesley, Jeremy) Zonal kernels, approximations and positive definiteness on spheres and compact homogeneous spaces. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc*, 1996), 371–378, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:41037** 41A63 (41A30)

Ragusa, Alfio (*with* Maggioni, Renato) Betti numbers of space curves bounded by Hilbert functions. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 217–232 (1998). (Rosa M. Miró-Roig) **99e:14035** 14H50 (13C40, 13D40)

Ragusa, Maria Alessandra (*with* Zamboni, Pietro) An Adams' type inequality. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 4, 13–16. (Jiří Rákosník) **99k:46058** 46E35 (26D10)

— (*with* Polidoro, Sergio) Sobolev-Morrey spaces related to an ultraparabolic equation. (English summary) *Manuscripta Math.* **96** (1998), *no.* 3, 371–392. (Summary) **99e:35122** 35K70 (35H05, 46E35)

— (*with* Zamboni, Pietro) Local regularity of solutions to quasilinear elliptic equations with general structure. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 131–147. (Summary) **99j:35054** 35J60 (35B65)

Ragusa, Silvestre A solution of a nonsymmetric theory of gravitation. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 3, 275–286. 83D05

Raha, A. B. (*with* Kundu, Subiman) Addendum: "The bounded-open topology and its relatives" [Rend. Istit. Mat. Univ. Trieste **27** (1995), no. 1-2, 61–77; MR 98a:54011]. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 163–166 (1998). 54C35 (03E50, 46E25, 46J10, 54D30, 54D60, 54G10)

Raha, Soumyendu (*with* Yen, Jeng; Petzold, Linda R.) A time integration algorithm for flexible mechanism dynamics: the DAE α-method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 341–355. (Summary) **99c:70012** 70E99 (34A09, 65L99, 70–08, 73K12, 73V20)

Rahavandrainy, Olivier Composantes uniformes d'une strate de Brill-Noether de $\mathrm{Hilb}_N\mathbf{P}^2$. (English and French summaries) [Uniform components of a Brill-Noether stratum of $\mathrm{Hilb}_N\mathbf{P}^2$] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 577–581. (Vincenzo Di Gennaro) **99h:14004** 14C05

Rahbar, M. Nonparametric estimation of regression parameters from censored data with a continuous covariate. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz*, 1997), 429–442, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 62G05

Rahbek, Anders (*with* Harbo, Ingrid; Johansen, Søren; Nielsen, Bent) Asymptotic inference on cointegrating rank in partial systems. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 388–399. (Summary) **99e:62178** 62P20 (62M10)

Rahibe, M. (*with* Aubry, Nadine; Sivashinsky, G. I.) Instability of pole solutions for planar propagating flames in sufficiently large domains. (English summary) *Combust. Theory Model.* **2** (1998), *no.* 1, 19–41. (Summary) **99a:80005** 80A25 (35Q35, 76E99)

Rahiman, P. M. Abdul. (*with* Ahmad, Z. U.) b-translativity of (J, p_n)-method. *J. Nat. Acad. Math. India* **8** (1990), *no.* 2, 105–108. (Jozef Antoni) **99e:40008** 40G10

Rahimi Tabar, M. R. (*with* Khorrami, Mohammad; Aghamohammadi, A.) Logarithmic conformal field theories with continuous weights. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 179–185. (Michael A. I. Flohr) **99j:81167** 81T40 (17B68, 81R10)

— (*with* Rouhani, S.) Zamalodchikov's c-theorem and the logarithmic conformal field theory. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 85–89. (Satoru Saito) **99f:81183** 81T40

Rahimov, Ibrahim *see* **Rakhimov, I. U.**

Rahlfs, V. W. (*with* Frick, H.) On power and necessary sample sizes of the Wilcoxon-Mann-Whitney test. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2445–2460. 62G10

Rahman, M. *see* **Rahman, Matiur**

Rahman, M. F. (*with* Khan, F. M.) Infinite matrices and Cesàro sequence spaces. (Russian summary) *Anal. Math.* **23** (1997), *no.* 1, 3–11. (E. Jürimäe) **99j:40016** 40H05 (46A45)

Rahman, M. S. *see* **Rahman, Md. Shafiqur**

Rahman, Matiur Interaction of water waves with submerged offshore structures. (English summary) *Advances in fluid mechanics, II* (*Udine*, 1998), 115–124, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76B15

— (*with* Bora, S. N.; Satish, M. G.) A note on second-order wave forces on a circular cylinder in finite water depth. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 63–70. 76B15

— *see also* **Laminar and turbulent boundary layers, 99d:76027** *and* **Advances in fluid mechanics, 99k:76003**

Rahman, Md. Saidur (*with* Nakano, Shin-ichi; Nishizeki, Takao) A linear algorithm for optimal orthogonal drawings of triconnected cubic plane graphs. (English summary) *Graph drawing* (*Rome*, 1997), 99–110, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)

— (*with* Nakano, Shin-ichi; Nishizeki, Takao) Rectangular grid drawings of plane graphs. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 203–220. (Vladimir P. Korzhik) **99c:05055** 05C10 (05C85, 68U05)

Rahman, Md. Shafiqur (*with* Alam, M. S.) Family of discrete mixture distributions. (English summary) *J. Stat. Stud.* **17** (1997), 53–62. (Summary) **99f:62025** 62E15

Rahman, Mizan Some cubic summation and transformation formulas. (English summary) *Ramanujan J.* **1** (1997), *no.* 3, 299–308. (Axel Riese) **99d:33023** 33D15 (33C05)

— (*with* Ismail, Mourad E. H.) The q-Laguerre polynomials and related moment problems. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 155–174. (Axel Riese) **99b:33040** 33D45 (44A60)

Rahman, Qazi I. Some results and problems about polynomials. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 219–235, *New Age, New Delhi*, 1997. (*see* **99d:00019**) 30C10

— (*with* Dryanov, Dimiter P.) Nikol′skiĭ-type inequalities for polynomials with restricted zeros. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 369–377. (Gradimir V. Milovanović) **99g:41011** 41A17 (30C10, 41A44)

— (*with* Grozev, Georgi R.) Lagrange interpolation by entire functions of exponential type and mean convergence. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 63–80. (P. Vértesi) **99h:41026** 41A28 (30E05)

— (*with* Dechevski, Lyubomir T.; Dryanov, Dimiter P.) Approximation by entire functions with only real zeros. (English summary) *Approximation theory*, 181–195, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (N. A. Shirokov) **99g:41024** 41A29 (41A10)

Rahman, Syed Hasibur (*with* Chandra, Prabhat) A special type of set in a linear space called arithmetical set. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 116–117. 15A03

Rahman, Zahidul (*with* Bayard, David S.; Spanos, John) A result on exponential tracking error convergence and persistent excitation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1334–1338. 93B40 (93E25)

Rahman, Zia-ur (*with* Huck, Friedrich O.; Fales, Carl L.) ★ Visual communication. (English summary) An information theory approach. The Kluwer International Series in Engineering and Computer Science, 409. *Kluwer Academic Publishers, Boston, MA*, 1997. xviii+203 *pp. ISBN* 0-7923-9956-0 (Gilbert Crombez) **99b:94010** 94A12 (68U10, 94A15)

Rahmani, A. (*with* Sueur, C.; Dauphin-Tanguy, G.) Approche des bond graphs pour l'analyse structurelle des systèmes linéaires. (French summary) [Bond graph approach for the structural analysis of linear systems] *Linear Algebra Appl.* **259** (1997), 101–131. (D. Stanomir) **99b:94069** 94C15 (68R10, 93A30)

Rahmani, Morteza (*with* Mohseni Moghadam, Mahmoud) Application of variable nodes in approximation of a function. (English and Persian summaries) *Bull. Iranian Math. Soc.* **23** (1997), *no.* 1, 23–36. (Summary) **99e:41005** 41A10

Rahmati, Farhad Déformation des surfaces projectives toriques. (English, French and Polish summaries) [Deformations of projective toric surfaces] *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **23** (1997), 23–31. (Jan Stevens) **99e:14006** 14D15 (14M15)

Rahme, Elham (*with* Joseph, Lawrence) Exact sample size determination for binomial experiments. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 83–93. (Summary) **99a:62026** 62F10

Rahmfeld, Joachim (*with* Duff, M. J.; Liu, James T.) Dipole moments of black holes and string states. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 161–199. (Summary) **99g:83076** 83E30 (81T30, 83C57)

— (*with* Kol, Barak) BPS spectrum of 5-dimensional field theories, (p, q) webs and curve counting. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 6, 15 *pp.* (*electronic*). (Angel Maria Uranga) **99m:81201** 81T30 (81T60, 83E30)

— (*with* Duff, M. J.; Liu, James T.) $g = 1$ for Dirichlet 0-branes. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 129–140. (David S. Berman) **99e:83054** 83E30 (81T30, 83C57)

— (*with* Kallosh, Renata) The GS string action on $AdS_5 \times S^5$. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 143–146. (Summary) **99h:83056** 83E30 (81T30)

Rahmouni, Adib (*with* Mazet, Pierre-Alain; Paintandre, Stéphan) Interprétation dispersive du milieu PML de Bérenger. (English and French summaries) [Dispersive interpretation of Bérenger's PML medium] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 59–64. (Summary) **99f:78015** 78A45

Rahn, Christopher D. (*with* Clark, J. D.; Fraser, W. B.; Sharma, Rajiv) The dynamic response of a ballooning yarn: theory and experiment. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2767–2789. (Summary) **99f:73053** 73K12 (73H10)

— (*with* Canbolat, H.; Dawson, Darren M.; Nagarkatti, S.) Adaptive boundary control of out-of-plane cable vibration. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 4, 963–969. (Summary) **99j:73075** 73K50 (93C20)

— (*with* Baicu, Catalin F.; Dawson, Darren M.) Exponentially stabilizing boundary control of string-mass systems. (English summary) *J. Vib. Control* **5** (1999), *no.* 3, 491–502. 93D15 (73K50, 93C20)

Rahula, Maido Ülo Lumiste 70. *Proc. Estonian Acad. Sci. Phys. Math.* **48** (1999), *no.* 2, 152–153. 01A70

Rai, Arisudan Sonic waves in thermally conducting and dissociating gases. (English and Serbian summaries) *Theoret. Appl. Mech.* **24** (1998), 125–138. 76N15 (76Q05)

Rai, Balram (*with* Bachas, Constantin P.; Tomaras, T. N.) New string excitations in the two-Higgs-doublet standard model. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 12, 2443–2446. (Summary) **99k:81343** 81V15 (81T30, 81V10)

Rai, Sanjay (*with* Brewer, Dennis) Analysis of a nonlinear FDE for an age-structured population. (English summary) *J. Natur. Geom.* **11** (1997), *no.* 1, 57–74. (Summary) **99a:92029** 92D25 (34K15)

Rai, Vikas (*with* Upadhyay, Ranjit Kumar; Iyengar, S. R. K.) Chaos: an ecological reality? (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1325–1333. 92D40 (58F13)

Raianu, Ş. (*with* Beattie, Margaret; Dăscălescu, Sorin) Galois extensions for co-Frobenius Hopf algebras. (English summary) *J. Algebra* **198** (1997), *no.* 1, 164–183. (Stefaan Caenepeel) **99c:16034** 16W30

— (*with* Dăscălescu, Sorin; Năstăsescu, C.) Strongly graded coalgebras and crossed coproducts. *Abelian groups, module theory, and topology* (*Padua*, 1997), 131–142, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Blas Torrecillas Jover) **99j:16023** 16W30

— (*with* Dăscălescu, Sorin; Van Oystaeyen, Freddy) Smash (co)products from adjunctions. *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 103–110, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Jeffrey Bergen) **99g:16047** 16W30 (16S40)

— (*with* Beattie, Margaret; Dăscălescu, Sorin; Van Oystaeyen, Freddy) The categories of Yetter-Drinfel′d modules, Doi-Hopf modules and two-sided two-cosided Hopf modules. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 223–237. (Stefaan Caenepeel) **99h:16054** 16W30

Raich, Andrew S. (*with* Muehlegger, Erich J.; Silva, Cesar E.; Zhao, Wenhuan) Lightly mixing on dense algebras. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 259–265. (Nathaniel Friedman) **99c:28052** 28D05

Raich, Vivek V. (*with* Shrivastava, Praveen Kumar; Bawa, N. P. S.) Common fixed point theorems for three mappings under weak commutativity condition. *J. Indian Acad. Math.* **20** (1998), *no.* 2, 207–214. 54H25

Rai Dastidar, Krishna (*with* Rai Dastidar, T. K.) A model of nonlocal quantum electrodynamics; time's arrow and EPR-like quantum correlation. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1265–1280. (Summary) **99g:81230a** 81V10 (81P99)

— (*with* Rai Dastidar, T. K.) Errata: "A model of nonlocal quantum electrodynamics; time's arrow and EPR-like quantum correlation". *Modern Phys. Lett. A* **13** (1998), *no.* 27, 2247. (Editors) **99g:81230b** 81V10 (81P99)

Rai Dastidar, T. K. (*with* Rai Dastidar, Krishna) A model of nonlocal quantum electrodynamics; time's arrow and EPR-like quantum correlation. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1265–1280. (Summary) **99g:81230a** 81V10 (81P99)

— (*with* Rai Dastidar, Krishna) Errata: "A model of nonlocal quantum electrodynamics; time's arrow and EPR-like quantum correlation". *Modern Phys. Lett. A* **13** (1998), *no.* 27, 2247. (Editors) **99g:81230b** 81V10 (81P99)

Raĭgorodskiĭ, A. M. On dimensionality in the Borsuk problem. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 181–182; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1324–1325. (Introduction) **99c:52005** 52A20

— Defect of admissible balls and octahedra in a lattice, and systems of common representatives. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 6, 117–141; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 931–954. (N. G. Moshchevitin) **99k:11105** 11H31 (11H06, 11H16)

Raikov, George D. Eigenvalue asymptotics for the Schrödinger operator in strong constant magnetic fields. *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1583–1619. (Viorel Iftimie) **99i:35120** 35P20 (35J10, 47F05, 47N50, 81Q10)

Raimondo, Marc Minimax estimation of sharp change points. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1379–1397. (Yanhong Wu) **99i:62076** 62G05 (62C20)

Raina, Ajay K. (*with* Valavi, A. G.) Flexible regenerative supervision of sequential behaviour. (English summary) *Sādhanā* **23** (1998), *no.* 2, 151–165. (Jan H. van Schuppen) **99m:93066** 93C83 (93C55, 93C85)

Raina, Ravinder Krishna Reduction formulas associated with series involving arbitrary coefficients. (English summary) *Integral Transform. Spec. Funct.* **3** (1995), *no.* 3, 221–234. (Harold Exton) **99b:33007** 33C20 (33C60)

— (*with* Bolia, Mamta) On generalized fractional integrals of certain subclasses of starlike and convex functions. (English summary) *Math. Notae* **38** (1995/96), 3–20 (1997). (M. E. Muldoon) **99m:30025** 30C45 (26A33)

— (*with* Ladha, R. K.) A note on certain classes of transformation formulas involving several variables. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 4, 517–524. (Summary) **99k:33014** 33C20 (33C60)

— (*with* Bolia, Mamta) The decompositional structure of a generalized hypergeometric transformation of convolution type. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 87–93. (R. K. Saxena) **99e:44002** 44A20 (33C20, 44A35, 45P05)

— Some results concerning fractional differintegrals. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 139–145. (B. P. Parashar) **99f:26013** 26A33

— On certain classes of analytic functions and applications to fractional calculus operators. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 247–260. (H. M. Srivastava) **99c:30031** 30C45 (26A33)

— (*with* Bolia, Mamta) New classes of distortion theorems for certain subclasses of analytic functions involving certain fractional derivatives. (English summary) *Ann. Math. Blaise Pascal* **5** (1998), *no.* 1, 43–53. (H. M. Srivastava) **99g:30018** 30C45 (26A33)

— (*with* Bolia, Mamta) On certain classes of distortion theorems involving generalized fractional integral operators. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 301–307. (N. K. Thakare) **99m:30026** 30C45 (26A33, 33C05)

— (*with* Kalia, R. N.) Characterizations for subclasses of analytic functions connecting linear fractional calculus operators. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 4, 335–350. (H. M. Srivastava) **99k:30025** 30C45 (26A33)

— (*with* Nahar, Tej Singh) Certain subclasses of analytic p-valent functions with negative coefficients. (English and Lithuanian summaries) *Informatica (Vilnius)* **9** (1998), *no.* 4, 469–478. (S. L. Shukla) **99m:30027** 30C45 (30C50)

— (*with* Saigo, Megumi; Choi, Jae Ho) A note on a certain linear operator and its applications to certain subclasses of analytic functions. (English summary) *J. Fract. Calc.* **14** (1998), 45–51. (Summary) **99j:30014** 30C45 (26A33)

— (*with* Bolia, Mamta) On a certain subclass of analytic functions involving certain fractional calculus operators. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 1, 7–20. (H. M. Srivastava) **99m:26010** 26A33 (30C45, 33C05, 33C45)

Rainbolt, Julianne G. (*with* Phillips, Richard E.) Images of periodic linear groups. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 97–106. (Brunella Bruno) **99g:20073** 20F50 (20H20)

— The generalized Gelfand-Graev representations of $U(3,q)$. (English summary) *J. Algebra* **202** (1998), *no.* 1, 44–71. (Meinolf Geck) **99f:20021** 20C33 (20G05, 20G40)

Rainer, Catherine Projection d'une diffusion sur sa filtration lente. [Projection of a diffusion onto its slow filtration] *Séminaire de Probabilités, XXX*, 228–242, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (H.-J. Engelbert) **99e:60178a** 60J60 (60J65)

— (*with* Azéma, J.; Yor, Marc) Une propriété des martingales pures. [A property of pure martingales] *Séminaire de Probabilités, XXX*, 243–254, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Ely Merzbach) **99c:60098** 60G44 (60J65)

— Errata: "Projection of a diffusion onto its slow filtration". (French) *Séminaire de Probabilités, XXXI*, 329, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (H.-J. Engelbert) **99e:60178b** 60J60 (60J65)

— (*with* Buckdahn, Rainer; Peng, Shige; Quincampoix, Marc) Existence of stochastic control under state constraints. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 17–22. (Summary) **99h:49029** 49J55

Raines, M. E. (*with* Rodger, C. A.) Embedding partial extended triple systems and totally symmetric quasigroups. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 211–222. (Frank E. Bennett) **99a:05015** 05B07 (20N05)

Rains, Eric M. Combinatorial properties of Brownian motion on the compact classical groups. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 659–679. (Summary) **99f:60016** 60B15 (60J65)

— (*with* Edel, Yves; Sloane, Neil J. A.) On kissing numbers in dimensions 32 to 128. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 22, *5 pp. (electronic)*. (Summary) **99c:94064** 94B75

— (*with* Calderbank, A. Robert; Shor, Peter W.; Sloane, Neil J. A.) Quantum error correction via codes over GF(4). (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1369–1387. (Dennis Dieks) **99m:94063** 94B60

— (*with* Sloane, Neil J. A.) The shadow theory of modular and unimodular lattices. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 359–389. (Gabriele Nebe) **99i:11053** 11H31 (11H50, 11H56)

— (*with* Sloane, Neil J. A.) On Cayley's enumeration of alkanes (or 4-valent trees). (English summary) *J. Integer Seq.* **2** (1999), 1 *HTML document (electronic)*. (Summary) **99j:05010** 05A15 (92E10)

— (*with* Bennett, Charles H.; DiVincenzo, David P.; Fuchs, Christopher A.; Mor, Tal; Shor, Peter W.; Smolin, John A.; Wootters, William K.) Quantum nonlocality without entanglement. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1070–1091. (V. Ya. Kreinovich) **99m:81027** 81P99 (68Q75, 81P15)

Rainsbury, J. (*with* Pelczar, M.) The indexical character of names. (English summary) *Synthese* **114** (1998), *no.* 2, 293–317. 03B65 (03A05)

Raisch, Jörg (*with* O'Young, Siu D.) Discrete approximation and supervisory control of continuous systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 569–573. (*see* **99a:93006**) 93C40 (49M25)

Raita, Timo (*with* Békési, József; Galambos, Gábor) Longest fragment first algorithms for data compression. (English summary) *New trends in mathematical programming*, 13–28, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99h:68043** 68P99 (94A29)

Raith, Peter Dynamical properties of a piecewise monotonic interval map and its small perturbations. (English summary) *Iteration theory (ECIT'94) (Opava)*, 37–65, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F03 (54H20, 58F11)

— The dynamics of piecewise monotonic maps under small perturbations. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 4, 783–811 (1998). (Volker Matthias Gundlach) **99d:58111** 58F11 (28D20, 54H20, 58F20)

— (*with* Hofbauer, Franz) Density of periodic orbit measures for transformations on the interval with two monotonic pieces. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 221–234. (Anthony Quas) **99f:58125** 58F11 (58F03)

Raitums, Uldis On the extension of a set of elliptic operators via the closure of the set of solutions. *Nonlinear Anal.* **34** (1998), *no.* 7, 1067–1079. (Alexander A. Kovalevsky) **99j:35031** 35J45 (47F05, 49J20)

babu Raj, C. *see* **Babu Raj, C.**

Raj, Jagdish (*with* Sharma, Som Datt; Anand, Renu) Composition operators on Bergman-Orlicz type spaces. (English summary) *Indian J. Math.* **40** (1998), *no.* 2, 227–235. (Wayne Stewart Smith) **99m:47039** 47B38 (46E30)

Raj, Kuldip (*with* Komal, B. S.; Gupta, Shally) Isometric and Fredholm weighted substitution operators on the generalized spaces of entire functions. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 25–35. (Shamil Makhmutov) **99g:47067** 47B38 (30D20)

— (*with* Komal, B. S.) On operators of weighted substitution on the generalized spaces of entire functions. II. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 117–123. (John N. McDonald) **99g:47066** 47B38 (46E10)

ananth Raj, P. *see* **Ananth Raj, P.**

Raja, C. R. E. (*with* Dani, S. G.) A note on Tortrat groups. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 571–576. (Daniel Neuenschwander) **99g:60012** 60B15 (22D05)

Rajagopal, A. K. Equations of motion in nonequilibrium statistical mechanics for nonextensive systems. (English summary) *Phys. A* **253** (1998), *no.* 1-4, 271–289. (Lamberto Rondoni) **99i:82028** 82C10 (82C31)

Rajagopal, K. R. (*with* Huntley, Hugh Edgar; Wineman, A. S.) Stress softening, strain localization and permanent set in the circumferential shear of an incompressible elastomeric cylinder. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 309–338. (Cesare Davini) **99a:73039** 73C50 (73S10)

— (*with* Humphrey, J. D.) Finite thermoelasticity of constrained elastomers subject to biaxial loading. (English summary) *J. Elasticity* **49** (1997/98), *no.* 3, 189–200. (Summary) **99d:73010** 73B30 (73C50)

— On a class of elastodynamic motions in a neo-Hookean elastic solid. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 3, 397–405. (Summary) **99a:73043** 73C50 (73D35, 73G05)

— (*with* Rao, I. J.) Some simple flows of a Johnson-Segalman fluid. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 209–219. (Summary) **99g:76004** 76A05

— (*with* Mollica, F.) Secondary flows due to axial shearing of a third grade fluid between two eccentrically placed cylinders. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 4, 411–429. (Summary) **99j:76002** 76A05

Rajagopalan, Minakshisundaram (*with* Sundaresan, Kondagunta) Backward shifts on Banach spaces $C(X)$. II. (English summary) *Proceedings of the Tennessee Topology Conference (Nashville, TN, 1996)*, 199–205, *World Sci. Publishing, River Edge, NJ*, 1997. (Richard M. Crownover) **99f:47038** 47B37 (46E15, 47B38, 54H20)

Rajagopalan, S. Raj (*with* Aiello, William A.; Venkatesan, Ramarathnam) Design of practical and provably good random number generators. (English summary) SODA '95 (San Francisco, CA). *J. Algorithms* **29** (1998), *no.* 2, 358–389. (Gheorghe Barbu) **99m:65013** 65C10 (68P25, 68Q10)

Rajagopalan, Sridhar (*with* Vazirani, Vijay V.) Primal-dual RNC approximation algorithms for set cover and covering integer programs. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 526–541 (*electronic*). (Klaus Hofstedt) **99f:90171** 90C35 (68Q25, 90C08, 90C27)

Rajagopalan, V. (*with* Krishnamoorthy, A.) $M(1,2)/G(1,2)/1/(L_1,L_2)$ queue with Markov dependent shift in service. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 1, 1–9. (Summary) **99b:90060** 90B22 (60K25)

Rajamani, Rajesh Observers for Lipschitz nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 397–401. (Summary) **99a:93011** 93B07 (93B51, 93C10, 93D20)

Rajan, Ashvin Varada A note on incomplete markets. (English summary) *J. Math. Econom.* **31** (1999), *no.* 2, 281–285. (Summary) **99k:90064** 90A60

Rajan, B. Sundar (*with* Vazirani, Vijay V.; Saran, Huzur) An efficient algorithm for constructing minimal trellises for codes over finite abelian groups. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1839–1854. (Piroska Lakatos) **99a:94048** 94B05 (94B12, 94B15, 94B60)

— (*with* Zain, A. A.) Quasideterminant characterization of MDS group codes over abelian groups. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 313–330. (Piroska Lakatos) **99b:94046** 94B05 (94B15, 94B60)

Rajan, C. S. Distribution of values of Hecke characters of infinite order. (English summary) *Acta Arith.* **85** (1998), *no.* 3, 279–291. (M. Ram Murty) **99e:11142** 11R45 (11M41)

— (*with* Bhatia, Rajendra; Ramadas, T. R.; Shah, Nimish A.) The work of the Fields medalists: 1998. (English summary) *Current Sci.* **75** (1998), *no.* 12, 1290–1295. 01A70

— (*with* Guruprasad, Krishnamurthi) Group cohomology and the symplectic structure on the moduli space of representations. *Duke Math. J.* **91** (1998), *no.* 1, 137–149. (Valentino Zocca) **99e:58030** 58D27 (57R15, 58F05)

— On strong multiplicity one for l-adic representations. *Internat. Math. Res. Notices* **1998**, *no.* 3, 161–172. (Nigel Boston) **99c:11064** 11F80 (11R45)

— Automorphisms of $X(11)$ over characteristic 3 and the Mathieu group M_{11}. (English summary) *J. Ramanujan Math. Soc.* **13** (1998), *no.* 1, 63–72. (Akio Tamagawa) **99f:14027** 14G35 (11G18, 14E09, 14H45, 20D08)

Rajan, Dayanand S. (*with* Case, John; Shende, Anil M.) Rotation in lattice computers. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 185–197 (*electronic*). (*see* **99g:68005**) 68Q05

Rajan, K. (*with* Molokov, S.) Magnetohydrodynamic flows around bodies in strong transverse magnetic fields. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows (Aussois, 1997)*, 45–60, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:76125** 76W05

Rajan, Kumar (*with* Deo, Narsingh) A parallel algorithm for generating disjoint 2-$(v,4,1)$ packings. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 5–18. (Summary) **99j:05050** 05B40 (68Q22)

Rajan, Rajendran (*with* Agrawal, Rajeev) Concavity of queueing systems with NBU service times. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 551–567. (Vladimir V. Kalashnikov) **99j:60148** 60K25 (68M20, 90B22)

Rajan, Uday Trembles in the Bayesian foundations of solution concepts of games. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 248–266. (James Bergin) **99m:90010** 90A05 (90D06, 90D35)

Rajapakse, R. K. N. D. *see* **Poroelasticity, 99f:73001**

Rajaraman, A. *see* **Rajaraman, Arvind**

Rajaraman, Anand (*with* Chekuri, Chandra) Conjunctive query containment revisited (extended abstract). (English summary) *Database theory—ICDT '97 (Delphi)*, 56–70, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Rajaraman, Arvind (*with* Fischler, Willy; Halyo, Edi; Susskind, Leonard) The incredible shrinking torus. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 2, 409–426. (Yolanda Lozano) **99d:81115** 81T30 (81T13, 81T60)

— (*with* Klebanov, Igor R.; Tseytlin, Arkady A.) Intermediate scalars and the effective string model of black holes. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 157–176. (Summary) **99a:83066** 83E30 (81T30, 83C57)

— (*with* Dine, Michael) Multigraviton scattering in the matrix model. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 77–85. (Summary) **99c:81151** 81T18 (81T30, 83E30)

— Two-form field scattering off three-brane black holes. (English summary) *Phys. Lett. B* **437** (1998), *no.* 1-2, 69–76. (Summary) **99e:83059** 83E30 (83C57)

— (*with* Kallosh, Renata; Kumar, Jason) Special conformal symmetry of worldvolume actions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6452–6454. (Summary) **99m:81198** 81T30 (81T20, 81T60)

— (*with* Kallosh, Renata) Vacua of M theory and string theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125003, 7 *pp.* (Summary) **99m:81199** 81T30 (83E30)

Rajaraman, Rajmohan (*with* Korupolu, Madhukar R.; Plaxton, C. Greg) Analysis of a local search heuristic for facility location problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 1–10, *ACM, New York*, 1998. (Summary) **99e:90055** 90B80 (68Q25)

— (*with* MacKenzie, Philip D.; Plaxton, C. Greg) On contention resolution protocols and associated probabilistic phenomena. (English summary) *J. ACM* **45** (1998), *no.* 2, 324–378. (Menachem Dishon) **99h:68082** 68Q25 (68Q10, 90A80, 90B35)

Rajasekar, Arcot (*with* Lobo, Jorge; Minker, Jack) Semantics for disjunctive and normal disjunctive logic programs. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 325–353, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99g:68038** 68N17 (03B70, 68Q55)

Rajasekaran, G. Fock space representation of differential calculus on the noncommutative quantum space. (English summary) *Special functions and differential equations* (*Madras*, 1997), 280–289, *Allied Publ., New Delhi*, 1998. (Roberto Casalbuoni) **99i:81109** 81R50 (58B30)

— (*with* Malik, R. P.; Mishra, Ashok Kumar) Dynamics in a noncommutative phase space. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4759–4775. (Roberto Casalbuoni) **99h:81093** 81R50 (58B30)

Rajasekaran, Sanguthevar (*with* Rolim, José D. P.) Randomized parallel algorithms for combinatorial optimization. (English summary) *Handbook of combinatorial optimization, Vol.* 3, 567–620, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (65Y05, 90–02, 90C15)

— An optimal parallel algorithm for sorting multisets. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 141–143. (Summary) **99c:68064** 68P10 (68Q22)

— Selection on mesh connected computers with fixed and reconfigurable buses. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 68–81. (Summary) **99d:68095** 68Q22

— Computing on optical models. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 239–249, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68085** 68Q22 (68M10, 90C90)

— *see also* **Randomization methods in algorithm design, 99f:68007**

Rajasekera, J. R. (*with* Fang, Shu Cherng; Tsao, H.-S. J.) ★ Entropy optimization and mathematical programming. International Series in Operations Research & Management Science, 8. *Kluwer Academic Publishers, Boston, MA*, 1997. x+343 *pp. ISBN* 0-7923-9939-0 (John J. Dinkel) **99b:90119** 90C30 (90–02, 94A17)

Raja Sekhar, G. P. (*with* Padmavathi, B. S.; Amaranath, T.) A note on complete general solutions of Stokes equations. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 383–388. (Paolo Maremonti) **99g:76040** 76D07 (35Q30, 76D05)

Rajasethupathy, Kulathur S. (*with* Hemaspaandra, Lane A.; Sethupathy, Prasanna; Zimand, Marius) Power balance and apportionment algorithms for the United States Congress. (English summary) *ACM J. Exp. Algorithmics* **3** (1998), *approx.* 16 *pp.* (*electronic*). 68Q25

Rajchenbach, J. Continuous flows and avalanches of grains. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 421–439, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73E99 (76A99)

Raje, Salil (*with* Cho, Jun-Dong; Sarrafzadeh, Majid) Fast approximation algorithms on maxcut, k-coloring, and k-color ordering for VLSI applications. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1253–1266. 68Q35 (65Y10)

Rajeev, B. First order calculus and last entrance times. *Séminaire de Probabilités, XXX*, 261–287, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Marek Rutkowski) **99c:60112** 60H05

Rajeev, S. G. (*with* Henderson, R. J.) Renormalized path integral in quantum mechanics. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2171–2180. (Summary) **99c:81121** 81S40

— (*with* Turgut, O. T.) Geometric quantization and two-dimensional QCD. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 493–517. (Edwin Langmann) **99b:81254** 81T70 (58E05, 58F06, 81S10, 81T40, 81V05)

— (*with* Lee, C.-W. H.) Symmetry algebras of large-N Matrix models for open strings. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 656–688. (Daniela Bigatti) **99g:81173** 81T30 (81V05)

— (*with* Lee, C.-W. H.) Integrability of supersymmetric quantum Matrix models in the large-N limit. (English summary) *Phys. Lett. B* **436** (1998), *no.* 1-2, 91–96. (Summary) **99g:82011** 82B20 (81Q60)

Rajendran, S. (*with* Leung, A. Y. T.; Starr, A. G.; Chan, J. K. W.) Bifurcation and stability of a three-hinged rod under a conservative load. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 5, 657–696. (Summary) **99i:73043** 73H05 (73K05)

Rajesh, G. (*with* Muraleedharan Nair, K. R.) Residual entropy function in discrete time. (English summary) *Far East J. Theor. Stat.* **2** (1998), *no.* 1, 1–10. (Summary) **99j:62143** 62N05 (62E10)

Rajesh, Govindan (*with* Candelas, Philip; Perevalov, Eugene) Toric geometry and enhanced gauge symmetry of F-theory/heterotic vacua. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 445–474. (Angel Maria Uranga) **99d:81112** 81T30 (14M25, 32J81)

— (*with* Perevalov, Eugene) Mirror symmetry via deformation of bundles on $K3$ surfaces. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 16, 2931–2934. (Mark Gross) **99a:32028** 32G81 (14J28, 14J32, 32J81, 81T30)

— Toric geometry and F-theory/heterotic duality in four dimensions. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 18, 25 *pp.* (*electronic*). (Harald Skarke) **99k:81269** 81T30 (14J32, 14M25, 32J81)

— (*with* Candelas, Philip; Perevalov, Eugene) Matter from toric geometry. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 225–238. (Harald Skarke) **99e:81181** 81T30 (14J32, 14M25, 32J81)

Rajeswari, C. (*with* Dheena, P.) Weakly regular near-rings. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1207–1213. (Wen-Fong Ke) **99d:16051** 16Y30

Rajewsky, N. (*with* Santen, L.; Schadschneider, A.; Schreckenberg, Michael) The asymmetric exclusion process: comparison of update procedures. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 151–194. (Summary) **99c:82092** 82C80 (82C20)

Rajković, P. M. (*with* Milovanović, Gradimir V.; Marjanović, Z. M.) A class of orthogonal polynomials on the radial rays in the complex plane. II. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 29–47. (Boris Petrovich Osilenker) **99d:33012** 33C45 (30C10, 30C15)

— (*with* Milovanović, Gradimir V.; Marjanović, Z. M.) Zero distribution of polynomials orthogonal on the radial rays in the complex plane. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 127–142. (Summary) **99h:42048** 42C05 (33C45)

Rajola, Sandro (*with* Scafati Tallini, Maria) Blocking sets of small size and colourings in finite affine planes. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 417–429 (1998). (Tamás Szőnyi) **99m:51014** 51E21 (05C65, 51E15)

— Designs in Steiner systems and nonregular hyperovals in PG$(2, q)$. (Italian. English summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 135–142 (1998). (William Cherowitzo) **99f:51007** 51E10 (05B05, 05B25, 51E21)

— A new construction of blocking sets in AG(d, q). (Italian summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 557–570. (Jörg Eisfeld) **99k:51009** 51E21

Rajopadhye, Sanjay (*with* de Dinechin, Florent; Wilde, Doran K.; Andonov, Rumen) A regular VLSI array for an irregular algorithm. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 195–200, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (*see* **99g:65007**) 68Q35

Rajopadhye, Shubha V. (*with* Nishihara, Kenji) Asymptotic behaviour of solutions to the Korteweg-de Vries-Burgers equation. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 85–93. (Vladislav G. Dubrovsky) **99c:35212** 35Q53 (35B40, 76D33)

Rajović, Miloje (*with* Dimitrovski, Dragan; Stojiljković, Rade) Méthode des itérations appliquée aux équations de type I. N. Vécua d'ordre supérieur aux coefficients analytiques. (French summary) [Iteration method applied to higher-order equations of I. N. Vekua type with analytic coefficients] *Math. Balkanica* (*N.S.*) **10** (1996), *no.* 4, 355–363. 35C99 (30G20, 35A35, 35J45)

— (*with* Dimitrovski, Dragan; Stojiljković, Rade) Elementary solution of Vecua equation with analytic coefficients on $z, \overline{z}$. (English summary) *Mat. Vesnik* **49** (1997), *no.* 2, 123–128. (Kerim Koca) **99m:30095** 30G20 (35J45)

Rajpal, Sanjay On binary k-paving matroids and Reed-Muller codes. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 191–200. (Dragan M. Acketa) **99g:05046** 05B35 (94B05)

Rajput, Anil (*with* Rathore, M. S.; Deshmukh, Rajendra) Asymptotically regular maps and sequences in 2-metric spaces. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 167–170. 54H25 (54E35, 54E55)

Rajput, B. S. *see* **Rajput, Balwant Singh**

Rajput, Balram S. *see* **Stochastic processes and related topics, 99e:60007**

Rajput, Balwant Singh (*with* Pandey, V. P.) Dyon-dyon bound states in non-relativistic and relativistic frameworks. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 30, 5245–5256. (Summary) **99i:81266** 81V10 (81Q99)

Rajsbaum, Sergio (*with* Even, Shimon) The use of a synchronizer yields the maximum computation rate in distributed networks. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 5, 447–474. (Summary) **99d:68020** 68M10

— (*with* Galeana-Sánchez, Hortensia) A conjecture on cycle-pancyclism in tournaments. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 2, 243–251. (Summary) **99m:05065** 05C20 (05C38)

— (*with* Even, Shimon; Itkis, Gene) On mixed connectivity certificates. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 253–269. (Italo José Dejter) **99h:05075** 05C40 (68Q10, 68R10)

viswanadha Raju, D. *see* **Viswanadha Raju, D.**

Raju, D. Viswanadha *see* **Viswanadha Raju, D.**

Raju, K. V. L. P. (*with* Satyanarayana, B.; Raju, P. S. N.) Facility location problems in the presence of two-circular forbidden regions with Euclidean distance norm. (English summary) *Opsearch* **35** (1998), *no.* 4, 360–372. 90B85 (90C30)

Raju, Narayana Pillai (*with* Krishnamoorthy, A.) (s, S) inventory with lead time—the N-policy. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 4, 45–52. (L. C. Thomas) **99m:90058** 90B05 (90A09)

Raju, P. S. N. (*with* Satyanarayana, B.; Raju, K. V. L. P.) Facility location problems in the presence of two-circular forbidden regions with Euclidean distance norm. (English summary) *Opsearch* **35** (1998), *no.* 4, 360–372. 90B85 (90C30)

Raka, Madhu (*with* Rani, Urmila) Inhomogeneous minima of a class of quaternary quadratic forms of type (3, 1). (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 889–908. (Martin Henk) **99k:11106** 11H50 (11H55)

Rakesh Potential inversion from transmission data for the one-dimensional, wave equation. (English summary) *Wave Motion* **25** (1997), *no.* 4, 319–329. (Summary) **99c:73025** 73D50 (35L05, 35R30)

— Inversion of spherically symmetric potentials from boundary data for the wave equation. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 999–1007. (Summary) **99f:35117** 35L05 (35R30)

Rakesh, Leela (*with* Angelos, James; Grossman, George W.; Kaufman, Edwin; Lenker, Terry) Limit cycles for successive projections onto hyperplanes in $\mathbf{R}^n$. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 201–228. (E. G. D'yakonov) **99k:65041** 65F99

Rakhimberdiev, M. I. (*with* Smirnov, T. I.) On the properties of linear extensions of shifts on a torus that are close to ergodic. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 47–57. (András Krámli) **99h:58111** 58F11 (28D10)

— (*with* Kalybaeva, A. A.) Invariant sets and limit points of the discrete Boltzmann equation in the spatially homogeneous case. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 24–33. (A. D. Khon'kin) **99f:82054** 82C40

Rakhimov, A. *see* **Rakhimov, Abdugafur**

Rakhimov, A. A. *see* **Rakhimov, Abdumalik A.**

Rakhimov, Abdugafur (*with* Ayupov, Shavkat A.; Usmanov, Shukhrat) ★ Jordan, real and Lie structures in operator algebras. (English summary) Mathematics and its Applications, 418. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+225 *pp. ISBN* 0-7923-4684-X (Cho Ho Chu) **99g:46100** 46L70 (17B60, 17C50, 46L10)

— (*with* Boykabilov, B.) Injectivity, amenability, semidiscreteness and hyperfiniteness in real W^*-algebras. (English summary) *Algebra and operator theory* (*Tashkent*, 1997), 193–201, *Kluwer Acad. Publ., Dordrecht*, 1998. (E. Størmer) **99m:46146** 46L10 (46L35)

Rakhimov, Abdumalik A. Spectral expansions of distributions from negative Sobolev classes. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 1000–1001, 1008; *translation in Differential Equations* **32** (1996), *no.* 7, 1011–1013 (1997). (Kamoliddin Kh. Boimatov) **99b:47068** 47F05 (35P10, 46F10)

Rakhimov, G. M. (*with* Khusanbaev, Ya. M.) On the convergence of a process associated with a difference scheme to a diffusion process. (Russian. Russian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 155–162; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 161–168. (V. G. Kolomiets) **99i:60142** 60J15 (60G42, 60H25, 60J80, 65U05)

Rakhimov, I. *see* **Rakhimov, I. U.**

Rakhimov, I. S. Description of the differential field of invariant differential rational functions for a representation of the group $SL(k, F)$. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 55–57 (1997). 20G05 (12H05)

— (*with* Bekbaev, U. D.) On the equivalence of linear ordinary differential equations defined over an associative differential ring. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 11–17. (Daniel Bertrand) **99j:12003** 12H05 (13N10, 16S32, 34A30)

Rakhimov, I. U. (*with* Teshaboev, A. O.) Some properties of Markov decomposable branching processes with final type. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 66–71 (1996). (Fima Klebaner) **99e:60192** 60J80

— (*with* Teshaboev, A. O.) Limit theorems for branching processes with immigration. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 62–70. 60J80

— A transfer theorem for multitype processes and applications. (English summary) *Applied statistical science, II* (*Malang*, 1996), 37–56, *Nova Sci. Publ., Commack, NY*, 1997. (M. P. Quine) **99b:60147** 60J80 (60F05)

— Record values of a family of branching processes. *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 285–293, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (John Charles D'Souza) **99b:60148** 60J80

— (*with* Hasan, Husna) Limit theorems for exceedances of sequence of branching processes. (English summary) *Bull. Malaysian Math. Soc.* (2) **21** (1998), *no.* 1, 37–46. (Boualem Djehiche) **99m:60135** 60J80 (33C10, 33C15, 60F17)

— Multitype processes with reproduction-dependent immigration. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 281–292. (M. P. Quine) **99j:60130** 60J80

Rakhimov, Z. Kh. Coercive estimates and decomposability for differential operators of odd order. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 5, 278–281 (1992). 47E05 (34L05)

Rakhmanov, E. A. (*with* Saff, Edward B.; Simeonov, P. C.) Rational approximation with varying weights. II. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 331–338. (D. J. Leeming) **99a:41015** 41A20

Rakhmatullina, L. F. The upper estimate of the spectral radius of the isotonic operator in the space of continuous functions. *Mem. Differential Equations Math. Phys.* **11** (1997), 163–167. 47B38 (47A10, 47G10)

Rakić, Zoran (*with* Blažić, Novica; Bokan, Neda; Gilkey, Peter B.) Pseudo-Riemannian Osserman manifolds. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 1–12. (Eric Boeckx) **99i:53067** 53C50

— An example of rank two symmetric Osserman space. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 517–521. (Quo-Shin Chi) **99d:53074** 53C50

— (*with* Blažić, Novica; Bokan, Neda) Foliation of a dynamically homogeneous neutral manifold. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6118–6124. (James J. Hebda) **99i:53068** 53C50 (53C12, 53C30)

Rakin, L. V. On the number of zeros in solutions of a nonlinear differential equation. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 176–181, 254, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 34C15 (34C10)

Rakočević, Vladimir A note on S. Maeda's inequality. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 93–100. (Sudhir H. Kulkarni) **99g:47004** 47A05 (15A09, 47A63)

— On continuity of the Moore-Penrose and Drazin inverses. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 163–172. (Summary) **99a:47002** 47A05 (15A09, 47A53)

— (*with* Jovanović, Ivan) Multipliers of mixed-norm sequence spaces and measures of noncompactness. II. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 197–206. (Asuman Aksoy) **99c:47085** 47H09 (30B10, 47B37)

— (*with* Malkowsky, E.) The measure of noncompactness of linear operators between certain sequence spaces. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 151–170. (Hans-Olav Tylli) **99i:40011** 40H05 (47A99, 47B37)

Rakotomanana, Lalaonirina R. Contribution à la modélisation géométrique et thermodynamique d'une classe de milieux faiblement continus. [Contribution to the geometric and thermodynamical modelling of a class of weakly continuous media] *Arch. Rational Mech. Anal.* **141** (1998), *no.* 3, 199–236. (Gérard A. Maugin) **99e:73020** 73B30 (73A05, 73S10, 80A99)

Rakotondralambo, Joseph (*with* Boualem, Hassan; Brouzet, Robert; Turiel, Francisco-Javier) Fibration lagrangienne munie d'une pseudo-métrique compatible. (English and French summaries) [Lagrangian fibration endowed with a compatible pseudometric] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1201–1204. (Carlo Morosi) **99i:53024** 53C15 (58F05)

Rakotondratsimba, Yves Two weighted Φ-inequalities for the fractional maximal operator. (English summary) *SUT J. Math.* **33** (1997), *no.* 1, 65–71. (Ron Kerman) **99d:42037** 42B25

— (*with* Kamaly, Amir) Weighted inequalities for discrete and integral Hardy operators. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 183–188. (Kairat T. Mynbaev) **99d:26022** 26D10 (39B72)

— Weighted norm inequalities for Riemann-Liouville fractional integrals of order less than one. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 801–829. (Vladimir D. Stepanov) **99j:42028** 42B25 (26A33)

— Two-weight norm inequality for Calderón-Zygmund operators. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 39–54. (Hans P. Heinig) **99g:42018** 42B20 (26D10, 47G10)

— A remark on Fefferman-Stein's inequalities. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 1–8. (Tomás F. Godoy) **99g:42023** 42B25

— On the boundedness of classical operators on weighted Lorentz spaces. (English summary) *Georgian Math. J.* **5** (1998), *no.* 2, 177–200. (Petr Gurka) **99h:42028** 42B20 (26D10, 47B38)

— Characterization of a two-weighted vector-valued inequality for fractional maximal operators. (English summary) *Georgian Math. J.* **5** (1998), *no.* 6, 583–600. (Michael A. Perel'muter) **99i:42027** 42B25

— Two weight norm inequality for the fractional maximal operator and the fractional integral operator. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 81–101. (Michael B. Korey) **99h:42035** 42B25 (26D10, 47B38)

— Weighted L^p–L^q inequalities for the fractional integral operator when $1 < q < p < \infty$. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 209–222. (Alberto Fiorenza) **99i:42028** 42B25

— Weighted inequalities of weak type for the fractional integral operator. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 115–134. (Vladimir D. Stepanov) **99j:42029** 42B25 (26A33)

Rakotoson, Jean Michel (*with* Simon, Benoît) Relative rearrangement on a finite measure space. Application to the regularity of weighted monotone rearrangement. I. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat.* (*Esp.*) **91** (1997), *no.* 1, 17–31. (P. Szeptycki) **99m:46074a** 46E30

— (*with* Simon, Benoît) Relative rearrangement on a finite measure space. Application to weighted spaces and to P.D.E. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat.* (*Esp.*) **91** (1997), *no.* 1, 33–45. (P. Szeptycki) **99m:46074b** 46E30

— (*with* Miranville, Alain; Piétrus, A.) Dynamical aspect of a generalized Cahn-Hilliard equation based on a microforce balance. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 315–345. (V. Lakshmikantham) **99c:35095** 35K45 (34G20, 35B40, 35Q53, 47H20)

— (*with* Díaz Díaz, Jesús Ildefonso; Nagai, Toshitaka) Symmetrization techniques on unbounded domains: application to a chemotaxis system on $\mathbf{R}^N$. *J. Differential Equations* **145** (1998), *no.* 1, 156–183. (Piotr Biler) **99c:35242** 35Q80 (35K15, 92C45)

— (*with* Díaz Díaz, Jesús Ildefonso; Padial, J. F.) Mathematical treatment of the magnetic confinement in a current carrying stellarator. *Nonlinear Anal.* **34** (1998), *no.* 6, 857–887. (Jacqueline Mossino) **99i:35182** 35R35 (35Q35, 76X05)

— (*with* Ferone, Adele; Jalal, M. A.; Volpicelli, Roberta) Nonlocal generalized models for a confined plasma in a Tokamak. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 43–46. 35J60 (35Q35, 76X05)

— (*with* Ferone, Vincenzo; Posteraro, Maria Rosaria) Nonlinear parabolic equations with p-growth and unbounded data. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 4, 291–296. (Summary) **99k:35082** 35K55

— Galerkin approximation, strong continuity of the relative rearrangement map and application to plasma physics equations. (English summary) *Differential Integral Equations* **12** (1999), *no.* 1, 67–81. (Summary) **99i:35039** 35J60 (47N20, 76X05)

Rakowski, Marek Wiener-Hopf factorization of singular matrix functions. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 219–230, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Sergeĭ Grudskiĭ) **99g:47036** 47A68 (15A23, 45E05, 47G10)

Rakshit, Amit Kumar (*with* Sengupta, P. R.) Magneto-thermo-visco-elastic waves in an initially stressed conducting layer. (English summary) *Sādhanā* **23** (1998), *no.* 3, 233–246. (Summary) **99j:73041** 73D20 (73B30, 73F15, 73R05)

Ralescu, Stefan S. A law of the iterated logarithm for perturbed kernel quantiles near the origin. *Research developments in probability and statistics*, 45–57, *VSP, Utrecht*, 1996. (Barbara H. Szyszkowicz) **99a:60030** 60F15 (62G05)

— A Bahadur-Kiefer law for the Nadaraya empiric-quantile processes. (Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 380–392; *reprinted in Theory Probab. Appl.* **41** (1996), *no.* 2, 296–306 (1997). (M. Csörgő) **99b:60046** 60F15 (62G30)

Ralević, Nebojša M. (*with* Pap, Endre) Pseudo-Laplace transform. *Nonlinear Anal.* **33** (1998), *no.* 5, 533–550. (From the introduction) **99m:44001** 44A10

Rall, Douglas F. (*with* Markus, Lisa) On seed graphs with two components. (English summary) *Ars Combin.* **49** (1998), 193–204. (Bert L. Hartnell) **99g:05154** 05C75 (05C35)

— (*with* Hartnell, Bert L.; Whitehead, C. A.) The watchman's walk problem: an introduction. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 149–155. (Summary) **99j:05131** 05C45

— (*with* Hartnell, Bert L.) A bound on the size of a graph with given order and bondage number. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 409–413. (Summary) **99i:05110** 05C35

Rallis, Stephen (*with* Mao, Zhengyu) A trace formula for dual pairs. *Duke Math. J.* **87** (1997), *no.* 2, 321–341. (Werner Hoffmann) **99a:22032** 22E55 (11F70, 11F72)

— (*with* Ginzburg, David; Soudry, David) A tower of theta correspondences for G_2. *Duke Math. J.* **88** (1997), *no.* 3, 537–624. (Gordan Savin) **99c:11059** 11F70 (22E45)

— (*with* Ginzburg, David; Soudry, David) On the automorphic theta representation for simply laced groups. (English summary) *Israel J. Math.* **100** (1997), 61–116. (Gordan Savin) **99c:11058** 11F70 (22E45)

— (*with* Jiang, Dihua) Fourier coefficients of Eisenstein series of the exceptional group of type G_2. (English summary) *Pacific J. Math.* **181** (1997), *no.* 2, 281–314. (Gordan Savin) **99d:11054** 11F70 (11R54)

— (*with* Baruch, Ehud Moshe) A remark on Gelfand pairs of finite groups of Lie type. (English summary) *J. Algebra* **201** (1998), *no.* 2, 493–500. (Chon Hu Cheng) **99c:20056** 20G05 (20G25, 20G40)

Rałowski, R. (*with* Marcinek, Władysław) Particle operators from braided geometry. (English summary) *Quantum groups* (*Karpacz*, 1994), 149–153, *PWN, Warsaw*, 1995. (Fang Li) **99k:81119** 81R50 (17B37)

Ralph, Daniel Sequential quadratic programming for mathematical programs with linear complementarity constraints. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 663–668, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 90C33 (90C30)

— (*with* Eberhard, Andrew; Nyblom, Michael) Applying generalised convexity notions to jets. (English summary) *Generalized convexity, generalized monotonicity: recent results*

(*Luminy*, 1996), 111–157, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alberto Seeger) **99i:49019** 49J52 (90C31)

— (*with* Luo, Zhi-Quan; Pang, Jong-Shi) Piecewise sequential quadratic programming for mathematical programs with nonlinear complementarity constraints. (English summary) *Multilevel optimization: algorithms and applications*, 209–229, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99b:90139** 90C33 (90C20)

— (*with* Churilov, Leonid; Sniedovich, Moshe) A note on composite concave quadratic programming. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 163–169. 90C20 (90C31)

Ralph, J. F. (*with* Clark, T. D.; Prance, H.; Prance, R. J.; Widom, A.; Srivastava, Y. N.) Solutions of the time-dependent Schrödinger equation for a two-state system. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1271–1282. 81Q05

Ralston, James V. (*with* Eskin, Gregory) Inverse scattering problems for Schrödinger operators with magnetic and electric potentials. *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 147–166, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Richard Ford) **99b:35028** 35J10 (35R30, 81U40)

— (*with* Eskin, Gregory) Inverse scattering problems for the Schrödinger operators with external Yang-Mills potentials. *Partial differential equations and their applications* (*Toronto, ON*, 1995), 91–106, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Hiroshi Isozaki) **99a:81191** 81U40 (35J10, 35P25, 81Q10)

— (*with* Guillot, J.-C.) Inverse scattering at fixed energy for layered media. (English and French summaries) *J. Math. Pures Appl.* (9) **78** (1999), *no.* 1, 27–48. (Summary) **99m:35262** 35R30 (35L05)

Ram, Anant (*with* Hooda, D. S.) On two generalized measures of "useful" J-divergence. (English summary) *Ganita* **48** (1997), *no.* 1, 1–10. (Summary) **99e:94015** 94A15

Ram, Arun An elementary proof of Roichman's rule for irreducible characters of Iwahori-Hecke algebras of type A. *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 335–342, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Chanyoung Lee Shader) **99h:05124** 05E10 (05E05, 20C30)

— (*with* Halverson, Tom) Murnaghan-Nakayama rules for characters of Iwahori-Hecke algebras of the complex reflection groups $G(r, p, n)$. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 167–192. (Andrew P. Mathas) **99e:20007** 20C05 (05E05, 51F15)

— (*with* Benkart, Georgia; Lee Shader, Chanyoung) Tensor product representations for orthosymplectic Lie superalgebras. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 1, 1–48. (Thomas M. Halverson) **99k:17013** 17B10 (05E15)

Ram, Shri (*with* Singh, C. P.) Early universe in self-creation cosmology. (English summary) *Astrophys. Space Sci.* **257** (1997/98), *no.* 1, 123–129. 83F05 (83C15)

— (*with* Singh, C. P.) Anisotropic Bianchi type-II cosmological models in self-creation cosmology. (English summary) *Astrophys. Space Sci.* **257** (1997/98), *no.* 2, 287–292. 83D05

— (*with* Tiwari, S. K.) Inhomogeneous plane symmetric models in a scalar-tensor theory. (English summary) *Astrophys. Space Sci.* **259** (1998), *no.* 1, 91–97. 83D05

— (*with* Tiwari, S. K.) Generalized Einstein-Rosen space-times with scalar waves. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 705–710. 83C15

Ram, Yitshak M. (*with* Elhay, Sylvan) Constructing the shape of a rod from eigenvalues. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 597–608. (Summary) **99f:73050** 73K05 (15A18, 73D30, 73D50)

— Pole assignment for the vibrating rod. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 461–476. (Sergei A. Ivanov) **99g:93037** 93B55 (73K05, 73K12, 73K50, 93C20)

Rama, K. K. (*with* Bhaskara, H. K.; Lacomba, Ernesto A.; Tulczyjew, Włodzimierz Marek) Generating functions, Morse families and characteristics of resistive nonlinear branch networks. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 213–223. (Summary) **99c:94066** 94C05 (58F05, 58F40)

Rama, S. Kalyana (*with* Sathiapalan, B.) The Hagedorn transition, deconfinement and the AdS/CFT correspondence. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3137–3143. (Summary) **99m:83194** 83E30 (81T30)

— (*with* Das, Sumit R.; Mathur, Samir D.; Ramadevi, P.) Boosts, Schwarzschild black holes and absorption cross sections in M-theory. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 187–204. (Marco Cavaglià) **99i:83056** 83C57 (81T30, 83E30)

Rama Brahmam, G. S. (*with* Subba Rao, V.) Solution of the dam-break problem using wavelets. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 253–260. (Summary) **99j:76016** 76B15 (65R10, 76M25, 86A05)

Ramachandra, Kanakanahalli (*with* Balasubramanian, Ramachandran) Titchmarsh's phenomenon for $\zeta(s)$. *Number theory and related topics* (*Bombay*, 1988), 13–22, *Tata Inst. Fund. Res. Stud. Math.*, 12, *Tata Inst. Fund. Res., Bombay*, 1989. (Author's review (K.R.) (Zbl 745.11039)) **99a:11099** 11M06

— (*with* Balasubramanian, Ramachandran) Two remarks on a paper: "On the distribution of multiplicities of zeros of Riemann zeta function" [Czechoslovak Math. J. **44(119)** (1994), no. 3, 385–404; MR 95m:11093] by J. Moser. *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 199–208. (Daniel A. Goldston) **99k:11132** 11M26

— (*with* Sankaranarayanan, Ayyadurai) Vinogradov's three primes theorem. *Math. Student* **66** (1997), *no.* 1-4, 27–72. (G. Greaves) **99f:11131** 11P32 (11–03)

— (*with* Balasubramanian, Ramachandran) Some remarks on a lemma of A. E. Ingham. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 281–289. (Matti Jutila) **99c:11106** 11M06 (11M41)

Ramachandramurthi, Siddharthan (*with* Booth, Heather D.; Govindan, Rajeev; Langston, Michael A.) Fast algorithms for K_4 immersion testing. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 344–378. (Hans L. Bodlaender) **99m:68147** 68R10 (05C10, 05C85, 68Q25)

Ramachandra Murthy, M. S. *see* **Murthy, M. S. Ramachandra**

Ramachandran, Balasubrahmanyan Complex-valued characteristic functions with (some) real powers. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 1, 1–7. (Rudolf Grübel) **99k:60038** 60E10 (60E05)

— Complex-valued characteristic functions with (some) real powers. II. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 337–349. (Summary) **99g:60036** 60E10 (60E05)

Ramachandran, D. (*with* Rüschendorf, Ludger) Duality theorems for assignments with upper bounds. *Distributions with given marginals and moment problems* (*Prague*, 1996), 283–290, *Kluwer Acad. Publ., Dordrecht*, 1997. (Vladimir L. Levin) **99h:28009** 28A35 (60A10)

Ramachandran, Kuttath (*with* Ranjan, Akhil) Finite-dimensional imbeddings of harmonic spaces. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 13–21. (Lieven Vanhecke) **99a:53063** 53C25

Ramachandran, Mohan (*with* Napier, Terrence) The Bochner-Hartogs dichotomy for weakly 1-complete Kähler manifolds. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 5, 1345–1365. (Fangyang Zheng) **99e:32012** 32C17

— (*with* Katzarkov, Ludmil) On the universal coverings of algebraic surfaces. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 525–535. (Philippe P. Eyssidieux) **99h:14015** 14E20 (14J99, 32E05, 32F05, 32J25)

— (*with* Napier, Terrence) The L^2 $\overline{\partial}$-method, weak Lefschetz theorems, and the topology of Kähler manifolds. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 2, 375–396. (Thierry Bouche) **99a:32008** 32C17 (32L20)

Ramachandran, Subramonian N-reconstructibility of nonreconstructible tournaments. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 23–29. (Summary) **99m:05113** 05C60 (05C20)

Ramachandran, Vijaya (*with* Korupolu, Madhukar R.) Quasi-fully dynamic algorithms for two-connectivity, cycle equivalence and related problems. (English summary) *Algorithms—ESA '97* (*Graz*), 326–340, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68R10 (68Q25)

— (*with* Poon, Chung Keung) A randomized linear work EREW PRAM algorithm to find a minimum spanning forest. (English summary) *Algorithms and computation* (*Singapore*, 1997), 212–222, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68083** 68Q22 (68R10)

— (*with* Gibbons, Phillip B.; Matias, Yossi) The queue-read queue-write asynchronous PRAM model. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 3–29. (Wojciech Rytter) **99f:68053** 68Q05 (68Q10, 68Q22)

— (*with* MacKenzie, Philip D.) ERCW PRAMs and optical communication. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 153–180. (From the introduction) **99c:68112** 68Q22 (68Q25)

— (*with* Gibbons, Phillip B.; Matias, Yossi) The queue-read queue-write PRAM model: accounting for contention in parallel algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 734–770 (*electronic*). (Summary) **99g:68057** 68Q05 (68Q22)

Ramachandran Nair, V. K. (*with* Geetha, K. G.) A class of bivariate distributions with specified conditionals. (English summary) *Far East J. Theor. Stat.* **1** (1997), 63–68. (Summary) **99j:62012** 62E15

Ramadan, A. A. (*with* El Gayyar, M. K.; Kerre, Etienne E.) Smooth pretopological spaces. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 1, 9–26. 54A05

Ramadan, Bassem (*with* Wichman, Indrek S.) Theory of attached and lifted diffusion flames. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3145–3154. (Summary) **99g:80010** 80A25

Ramadan, Mohamed On the hypercenter and hyperquasicenter of a finite group. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **23** (1998), *no.* 1, 91–94. (W. E. Deskins) **99d:20031** 20D25 (20D10, 20F16)

Ramadan, Z. Spline approximation for system of two third order ordinary differential equations. II. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 225–233. (Editors) **99a:34031** 34A45

Ramadanov, Ivan-Pierre (*with* Laville, Guy) Fonctions holomorphes cliffordiennes. (English and French summaries) [Cliffordian holomorphic functions] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 307–310. (Wolfgang Sprössig) **99m:30098** 30G35

Ramadas, T. R. Faltings' construction of the K-Z connection. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 133–143. (Francesco Bottacin) **99j:32022** 32G13 (14D20)

— (*with* Rajan, C. S.; Bhatia, Rajendra; Shah, Nimish A.) The work of the Fields medalists: 1998. (English summary) *Current Sci.* **75** (1998), *no.* 12, 1290–1295. 01A70

Ramadevi, P. (*with* Das, Saurya; Dasgupta, Arundhati) Can extremal black holes have nonzero entropy? (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 39, 3067–3079. (Gil De Oliveira-Neto) **99f:83044** 83C57 (83E30)

— (*with* Dabholkar, Atish; Mandal, Gautam) Non-renormalization of mass of some non-supersymmetric string states. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 117–131. (Summary) **99b:81183** 81T30 (81T15)

— (*with* Das, Sumit R.; Mathur, Samir D.; Rama, S. Kalyana) Boosts, Schwarzschild black holes and absorption cross sections in M-theory. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 187–204. (Marco Cavaglià) **99i:83056** 83C57 (81T30, 83E30)

— (*with* Das, Saurya; Dasgupta, Arundhati; Sarkar, Tapobrata) Planckian scattering of D-branes. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 51–58. (Summary) **99b:81184** 81T30

Ramadge, Peter J. (*with* Horn, Charles S.) A topological analysis of a family of dynamical systems with non-standard chaotic and periodic behaviour. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 979–996. 93C10 (58F13)

— (*with* Hocherman, Judith; Kulkarni, Sanjeev R.) Controller switching based on output prediction errors. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 596–607. (Jacek Kabziński) **99d:93045** 93C57 (93D15)

— (*with* Hocherman, Judith; Kulkarni, Sanjeev R.) Controller switching based on output predictions. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 135–149, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C30 (93C83)

Ramage, A. (*with* Fischer, Bernd; Silvester, David J.; Wathen, Andrew J.) Minimum residual methods for augmented systems. (English summary) *BIT* **38** (1998), *no.* 3, 527–543. (Jin Yun Yuan) **99i:65031** 65F10 (65F35, 65F50)

Ramagge, Jacqui (*with* Robertson, A. Guyan; Steger, Tim) A Haagerup inequality for $\tilde{A}_1 \times \tilde{A}_1$ and $\tilde{A}_2$ buildings. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 4, 702–731. (Alain Valette) **99j:20046** 20F32 (20E42, 22D25, 57M07)

— (*with* Wheeler, Wayne W.) Posets and differential graded algebras. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 1–19. (Volkmar Welker) **99b:16012** 16E40 (06A06, 13D25)

Ramahi, Ahmed (*with* Tokad, Yilmaz) On the fourth order finite screw system: general displacement of a point in a rigid body. (English summary) *Acta Mech.* **130** (1998),

no. 1-2, 41–53. (Summary) **99d:70007** 70B15
— (*with* Tokad, Yilmaz) On the finite screw cylindroid represented as a 2-system of screws. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 2, 111–125. (Summary) **99b:70003** 70B10
— (*with* Tokad, Yilmaz) On the kinematics of three-link spatial cam mechanisms. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 4, 349–361. (Summary) **99e:70012** 70B15
Ramakrishna, Ravi Deforming an even representation. *Invent. Math.* **132** (1998), *no.* 3, 563–580. (Nigel Boston) **99h:11128** 11R32 (11R34)
— Deforming an even representation. II. Raising the level. (English summary) *J. Number Theory* **72** (1998), *no.* 1, 92–109. (Nigel Boston) **99h:11129** 11R32 (11R34)
Ramakrishna, Viswanath Disturbance decoupling via differential forms. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 29 *pp.* (*electronic*). (Summary) **99h:93054** 93C10 (93C25)
— (*with* Hunt, L. R.; Meyer, George) Stable inversion and parameter variations. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 203–207. 93B40 (93C40)
— On degenerate Monge-Ampère equations. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 257–277, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Marek Kossowski) **99j:58013** 58A15 (35J60, 35J70)
— (*with* Rabitz, Herschel) Control of molecular dynamics. *Systems modelling and optimization* (*Detroit, MI*, 1997), 495–503, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C95 (93C25)
Ramakrishnan, Alladi Cubic and general extensions of the Lorentz transformation. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 88–92. (Abraham A. Ungar) **99m:83007** 83A05 (15A57, 70H40)
Ramakrishnan, B. (*with* Lal, A. K.) On exceptions of integral quadratic forms. (English summary) *Number theory* (*Tiruchirapalli*, 1996), 151–170, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Rainer Schulze-Pillot) **99a:11055** 11F30 (11E45, 11F11, 11F27)
Ramakrishnan, C. R. (*with* Rao, Prasad; Ramakrishnan, I. V.) On the optimality of scheduling strategies in subsumption based tabled resolution. (English summary) *Logic programming* (*Manchester*, 1998), 310–324, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17
Ramakrishnan, Dinakar (*with* Luo, Wenzhi) Determination of modular elliptic curves by Heegner points. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 251–258. (M. Ram Murty) **99b:11069** 11G40 (11G05, 11G10, 11G18)
Ramakrishnan, I. V. (*with* Rao, Prasad; Ramakrishnan, C. R.) On the optimality of scheduling strategies in subsumption based tabled resolution. (English summary) *Logic programming* (*Manchester*, 1998), 310–324, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17
Ramakrishnan, S. *see* **Ramakrishnan, Subramanian**
Ramakrishnan, Sangeeta (*with* Rose, Kenneth; Gersho, Allen) Constrained-storage vector quantization with a universal codebook. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 785–793. 94A12
Ramakrishnan, Subramanian (*with* Sudderth, William D.) Geometric convergence of algorithms in gambling theory. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 568–575. (Lorenzo Peccati) **99j:60056** 60G40 (90D60)
Ramalhoto, M. F. (*with* Gómez-Corral, A.) Some decomposition formulae for $M/M/r/r+d$ queues with constant retrial rate. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 123–145. (Summary) **99b:60161** 60K25
Ramalingam, G. (*with* Song, J.; Joskowicz, L.; Miller, Raymond E.) Solving systems of difference constraints incrementally. (English summary) *Algorithmica* **23** (1999), *no.* 3, 261–275. (Summary) **99j:90105** 90C35 (15A39, 68T20)
Ramallo, A. V. (*with* Camino, J. M.; Sánchez de Santos, J. M.) Graded parafermions. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 715–741. (Mark A. Walton) **99k:81090** 81R10
Ramamohanarao, Kotagiri (*with* Bailey, James Alexander; Crnogorac, Lobel; Søndergaard, Harald) Abstract interpretation of active rules and its use in termination analysis. *Database theory—ICDT '97* (*Delphi*), 188–202, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15
— (*with* Bailey, James Alexander; Dong, Guozhu) Structural issues in active rule systems. (English summary) *Database theory—ICDT '97* (*Delphi*), 203–214, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15
Ramamurthy, Badrinath (*with* Chalamaiah, Nimmagadda) Finding shortest paths in distributed loop networks. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 157–161. 68M10 (68M15)
Ramamurthy, Rajesh (*with* Farouki, Rida T.) Degenerate point/curve and curve/curve bisectors arising in medial axis computations for planar domains with curved boundaries. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 6, 615–635. (Summary) **99d:65390** 65Y25
— (*with* Farouki, Rida T.) Specified-precision computation of curve/curve bisectors. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 599–617. (Summary) **99e:65192** 65Y25 (68U05)
— (*with* Farouki, Rida T.) Voronoi diagram and medial axis algorithm for planar domains with curved boundaries. I. Theoretical foundations. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 119–141. (Antonio López-Carmona) **99m:65263** 65Y25 (65D17)
Ramamurthy, S. (*with* Mukherjee, Biswanath) Fault-tolerant design of wavelength-routed optical networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 117–128, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 68M10 (90B12)
Raman, Arvind (*with* Bajaj, A. K.) On the non-stationary passage through bifurcations in resonantly forced Hamiltonian oscillators. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 907–933. (James A. Murdock) **99k:34085** 34C23 (34C20, 58F36, 70H05)
Raman, Ganesh Shock-induced flow resonance in supersonic jets of complex geometry. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 692–709. (Summary) **99j:76069** 76L05 (76J20)
Raman, Rajeev (*with* Andersson, Arne; Hagerup, Torben; Nilsson, Stefan) Sorting in linear time? (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 74–93. (Friedhelm Meyer auf der Heide) **99k:68034** 68P10 (68Q25)
— (*with* Golin, Mordecai J.; Schwarz, Christian; Smid, Michiel H. M.) Randomized data structures for the dynamic closest-pair problem. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1036–1072 (*electronic*). (Hans-Dietrich Hecker) **99e:68159** 68U05
— (*with* Dietz, Paul F.) Small-rank selection in parallel, with applications to heap construction. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 33–51. (Summary) **99i:68055** 68Q22 (68P05)
Raman, Sethu (*with* Boybeyi, Zafer) Mesoscale atmospheric transport and diffusion processes. (English summary) *Dynamics of atmospheric flows*, 155–191, *Adv. Fluid Mech.*, 18, *Comput. Mech., Southampton*, 1998. (Summary) **99m:86008** 86A10 (76R50)
— *see also* **Dynamics of atmospheric flows, 99j:86001**
Raman, Venkatesh (*with* Ramnath, Sarnath) Improved upper bounds for time-space tradeoffs for selection with limited storage. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 131–142, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68039** 68P10
Ramana, D. S. (*with* Balasubramanian, Ramachandran) Atkin's theorem on pseudo-squares. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 21–25. (Georges Grekos) **99e:11012** 11B05 (11B13)
Ramana, Motakuri V. (*with* Pardalos, Panos M.) Semidefinite programming. (English summary) *Interior point methods of mathematical programming*, 369–398, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C30 (65K05)
— Polyhedra, spectrahedra, and semidefinite programming. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 27–38, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Michael L. Dowling) **99d:90074** 90C08 (90C26)
venkata Ramana, V. V. *see* **Venkata Ramana, V. V.**
Ramana Murty, P. V. On natural partial orders in regular semigroups. *Semigroups* (*Luino*, 1992), 252–255, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M17
Ramanan, Kavita (*with* Dupuis, Paul) A Skorokhod problem formulation and large deviation analysis of a processor sharing model. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 109–124. (Summary) **99c:60201** 60K25 (68M10)
Ramanan, Prakash Tight $\Omega(n \lg n)$ lower bound for finding a longest increasing subsequence. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 161–164. (Summary) **99k:68083** 68Q25
Ramanan, Sundararaman (*with* Hirschowitz, André) New evidence for Green's conjecture on syzygies of canonical curves. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 2, 145–152. (Luca Chiantini) **99a:14033** 14H10 (13D02)
Ramanathan, Jayakumar ★ Methods of applied Fourier analysis. (English summary) Applied and Numerical Harmonic Analysis. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xii*+329 *pp. ISBN* 0-8176-3963-2 (David F. Walnut) **99h:42001** 42-01 (00A69, 60G25, 94A12)
Ramanathan, R. (*with* Mitra, A. N.) On simulating Liouvillian flow from quantum mechanics via Wigner functions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4492–4498. (Jacques Renaud) **99g:81119** 81S30
Ramanathan, T. V. (*with* Hanagal, David D.) Tests for bivariate exponentiality against BIFRA alternatives based on censored samples. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1947–1960. 62F03
Ramani, A. (*with* Takahashi, Daisuke; Tokihiro, Tetsuji; Grammaticos, B.; Ohta, Yasuhiro) Constructing solutions to the ultradiscrete Painlevé equations. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7953–7966. (Summary) **99a:39049** 39A12 (82C20)
— (*with* Grammaticos, B.) Retracing the Painlevé-Gambier classification for discrete systems. (English summary) Dedicated to Martin David Kruskal. *Methods Appl. Anal.* **4** (1997), *no.* 2, 196–211. (L. A. V. Carvalho) **99f:39006** 39A10 (34A34)
— (*with* Ohta, Yasuhiro; Satsuma, Junkichi; Grammaticos, B.) Self-duality and Schlesinger chains for the asymmetric d-P_{II} and q-P_{III} equations. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 67–76. (I. P. Stavroulakis) **99f:39029** 39A12
— (*with* Grammaticos, B.; Ohta, Yasuhiro; Sakai, Hidetaka) Degeneration through coalescence of the q-Painlevé VI equation. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3545–3558. (Kuppuswamy Porsezian) **99g:39007** 39A10 (39A12, 58F07)
— (*with* Grammaticos, B.) From continuous Painlevé IV to the asymmetric discrete Painlevé I. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5787–5798. (Summary) **99e:39070** 39A12 (34A34, 58F07)
— (*with* Tamizhmani, K. M.; Grammaticos, B.; Kajiwara, Kenji) Coalescence cascades and special-function solutions for the continuous and discrete Painlevé equations. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5799–5810. (Summary) **99e:34013** 34A34 (33C99, 39A12)
— (*with* Grammaticos, B.; Lafortune, Stéphane) Schlesinger transformations for linearizable equations. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 2, 131–145. (Alexey V. Samokhin) **99k:34015** 34A34 (34A25, 39A10, 58F37)
— (*with* Takahashi, Daisuke; Grammaticos, B.; Ohta, Yasuhiro) The ultimate discretisation of the Painlevé equations. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 185–196. (Kuppuswamy Porsezian) **99g:39013** 39A10 (39A12, 58F37)
— (*with* Grammaticos, B.; Winternitz, Pavel) Discretizing families of linearizable equations. (English summary) *Phys. Lett. A* **245** (1998), *no.* 5, 382–388. (Summary) **99c:58138** 58F35 (39A12)
— (*with* Joshi, Nalini; Grammaticos, B.) A bilinear approach to discrete Miura transformations. (English summary) *Phys. Lett. A* **249** (1998), *no.* 1-2, 59–62. (Summary) **99h:58174** 58F37
— (*with* Tamizhmani, K. M.; Satsuma, Junkichi; Grammaticos, B.) Nonlinear integrodifferential equations as discrete systems. (English summary) *Inverse Problems* **15** (1999), *no.* 3, 787–791. 35Q99 (45K05)
Ramanujam, J. (*with* Sadayappan, P.; Ercal, F.) Partitioning graphs on message-passing machines by pairwise mincut. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 223–237. (Summary) **99g:68020** 68M10
Ramanujam, M. (*with* Natesan, S.) Initial-value technique for singularly-perturbed turning-point problems exhibiting twin boundary layers. (English summary) *J. Optim.*

Theory Appl. **99** (1998), *no.* 1, 37–52. (Summary) **99h:34022** 34A45 (34B05, 34E15, 65L99)

Ramanujam, N. (*with* Natesan, S.) A computational method for solving singularly perturbed turning point problems exhibiting twin boundary layers. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 259–275. (Summary) **99c:65146** 65L10 (34E20)

— (*with* Natesan, S.) Initial-value technique for singularly perturbed boundary-value problems for second-order ordinary differential equations arising in chemical reactor theory. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 455–470. (Summary) **99a:34038** 34B05 (34A45, 34B15, 34E15)

— (*with* Natesan, S.) Booster method for singularly-perturbed one-dimensional convection-diffusion Neumann problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 53–72. (Bernhard A. Schmitt) **99j:65128** 65L10 (34A45, 34E15)

— (*with* Natesan, S.) A "booster method" for singular perturbation problems arising in chemical reactor theory. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 27–48. (Summary) **99i:65078** 65L10 (34B15, 34E15, 80A30, 80A50)

Ramanujam, P. (*with* Nagurney, Anna) Command and control for congestion pricing of general multimodal transportation networks. (English summary) Transportation. *Sci. Iran.* **2** (1995), *no.* 3, 185–195. (*see* **99g:90011**) 90B06 (90C35)

Ramanujam, R. Rules for trace consistent reasoning. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 57–71, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60 (03B45)

— *see also* **Festschrift: Parikh, Rohit J., 99i:03003**

Ramanujan, M. S. (*with* Tanović-Miller, N.) A generalization of the Hausdorff-Young theorem. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 4, 279–303. (Asuman Aksoy) **99m:46012** 46A45 (46B45)

Ramanujan, S. *see* **Ramanujan, Srinivasa Aiyangar**

Ramanujan, Saroja (*with* Pozrikidis, C.) Deformation of liquid capsules enclosed by elastic membranes in simple shear flow: large deformations and the effect of fluid viscosities. (English summary) *J. Fluid Mech.* **361** (1998), 117–143. (Summary) **99b:76031** 76D99 (76A05, 76M15, 76Z05)

Ramanujan, Srinivasa Aiyangar Highly composite numbers. (English summary) Annotated and with a foreword by Jean-Louis Nicolas and Guy Robin. *Ramanujan J.* **1** (1997), *no.* 2, 119–153. (A. J. Hildebrand) **99b:11112** 11N56 (11M26, 11N25)

— *see also* **Sathyamurthy, T. V., 99c:01030**; **Berndt, Bruce C., 99f:11024**; **Srinivasa Rao, K., 99g:01036**; **Lectures: Ramanujan, Srinivasa Aiyangar, 99g:11001**; **Agarwal, Ratan Prakash, 99h:11001a**; **99h:11001b**; **Berndt, Bruce C., 99k:01032**; **Murukesapillai, K.**; **Tiwari, Suresh Chandra**; **Ranganathan, N. R.** *and* **Raghavan, Srinivasacharya, (99g:11001)**

Ramaré, Olivier (*with* Bhowmik, Gautami) Algebra of matrix arithmetic. (English summary) *J. Algebra* **210** (1998), *no.* 1, 194–215. (Jin Yun Guo) **99k:15032** 15A36 (11C20, 16S99)

— (*with* Bertault, F.; Zimmermann, Paul) On sums of seven cubes. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1303–1310. (S. Turjányi) **99j:11116** 11P05 (11Y35)

Ramasami, E. K. (*with* Chandrasekaran, P.) Painlevé analysis and pseudopotentials of the Schamel's equation. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 293–300. (*see* **99g:00038**) 35Q53

— (*with* Palaniswami, S. C.) Nonoscillation of generalized nonautonomous logistic equation with multiple delays. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 379–385. (Summary) **99g:34145** 34K15

Ramasamy, A. M. S. A numerical method for forecasting. *Math. Ed.* **10** (1994), *no.* 3, 204–205. 65U05 (90A20)

— Relationship between the solutions of the Pell's equations $A^2 - DB^2 = 1$ and $A^2 - 2B^2 = \pm 1$. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 381–389. (Edward L. Cohen) **99f:11036** 11D09 (11B37)

Ramasubramanian, Sundareswaran On the gauge for the Neumann problem in the half space. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 379–384. (Michèle Mastrangelo-Dehen) **99j:35030** 35J10 (60J65)

— Transition densities of reflecting diffusions. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 3, 347–381. (Zhen-Qing Chen) **99k:60202** 60J60 (35K99)

— (*with* Balaji, Srinivasan) Recurrence and transience of diffusions in a half-space. (English summary) *Bernoulli* **3** (1997), *no.* 1, 97–119. (Ross Pinsky) **99b:60125** 60J60 (60J65)

— (*with* Balaji, Srinivasan) Reflecting diffusions in the quadrant: recurrence and transience. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 9–24. (Angelos Dassios) **99k:60204** 60J65 (60J70)

— (*with* Balaji, Srinivasan) Reflecting diffusions in an orthant: an introduction. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 25–36. (Michèle Mastrangelo-Dehen) **99k:60199** 60J60 (60J65, 60J70)

Ramaswami, A. (*with* von der Linden, W.; Dose, V.) Bayesian group analysis. (English summary) *Maximum entropy and Bayesian methods* (*Boise, ID*, 1997), 87–99, *Fund. Theories Phys.*, 98, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99k:62005**) 62F15

Ramaswami, Geetha (*with* Iserles, Arieh; Sofroniou, Mark) Runge-Kutta methods for quadratic ordinary differential equations. (English summary) *BIT* **38** (1998), *no.* 2, 315–346. (Iulian Coroian) **99i:65074** 65L06

Ramaswami, R. (*with* Italiano, Giuseppe F.) Maintaining spanning trees of small diameter. (English summary) *Algorithmica* **22** (1998), *no.* 3, 275–304. (Summary) **99f:68037** 68P05 (05C85, 68M10)

Ramaswamy, Kizhanatham V. Single facility sequencing with variable processing times and costs. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 2-3, 115–123. 90C35

Ramaswamy, S. *see* **Ramaswamy, Sundararaja**

Ramaswamy, Sridhar Efficient indexing for constraint and temporal databases. (English summary) *Database theory—ICDT'97* (*Delphi*), 419–431, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Ramaswamy, Sundararaja Dirichlet problem for some hypoelliptic operators. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 4, 405–409. (Gennadii V. Demidenko) **99a:35032** 35H05 (35J70)

Ramayyan, A. (*with* Thandapani, E.) Second order linear difference equations over discrete Hardy fields. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 2, 181–187. (Vichian Laohakosol) **99g:39014** 39A10 (12H10)

Ramazani Gornami, M. A. Elementary topics on modules. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 443–445, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Robert Wisbauer) **99c:13014** 13C05

Ramazanov, A.-R. K. Rational approximation with a sign-sensitive weight. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 5, 715–725, 800; *translation in Math. Notes* **60** (1996), *no.* 5-6, 536–543 (1997). (Andrei Martínez Finkelshtein) **99c:41030** 41A20 (41A17)

— Sign-sensitive approximations of bounded functions by polynomials. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 53–58; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 5, 51–56. (Andrei Martínez Finkelshtein) **99h:41011** 41A10

Ramazanov, M. D. Optimization of the norm of the error functional for the lattice cubature formula in the scale of Wiener spaces. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 6, 743–745. 65D32 (41A55)

— *see also* **Sobolev, Sergeĭ L'vovich, 99g:65029a**

Rambau, Jörg A suspension lemma for bounded posets. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 374–379. (Summary) **99a:06005** 06A07

cruz Rambaud, Salvador *see* **Cruz Rambaud, Salvador**

Rambaud, Salvador Cruz *see* **Cruz Rambaud, Salvador**

Rambod, Edmond (*with* Rosenfeld, Moshe; Gharib, Morteza) Circulation and formation number of laminar vortex rings. (English summary) *J. Fluid Mech.* **376** (1998), 297–318. 76C05

Ramchandran, Kannan (*with* Orchard, Michael T.) An investigation of wavelet-based image coding using an entropy-constrained quantization framework. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 2, 342–353. (Summary) **99k:94003** 94A11 (94A12)

Ramdani, Sofiane (*with* Rossetto, Bruno; Lenzini, Thierry; Suchey, Gilles) Slow-fast autonomous dynamical systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2135–2145. (Summary) **99m:34101** 34C35 (34E05)

Ramek, Michael *see* **Symmetries in science, 99f:81004**

Ramer, Arthur (*with* Hiller, John; Diamond, Phil; Padet, Colette) Total uncertainty revisited. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 3, 223–237. (Summary) **99m:68198** 68T30 (90A05, 94A17)

— Combinatorial interpretation of uncertainty and conditioning. *Learning and reasoning with complex representations* (*Cairns*, 1996), 248–255, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68T27 (68T30)

Ramesh, Anavai (*with* Murray, Neil V.) Parameterized prime implicant/implicate computations for regular logics. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 2, 155–179. (Petr Jirků) **99m:03045** 03B50 (03B70, 68T27)

Ramesh, Chaveli (*with* Rao, P. R. K.; Sharma, Govind) Scale-limitedness in wavelet transforms. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 211–228. (Kathi Karima Selig) **99k:42065** 42C15

Ramesh, H. (*with* Mahajan, Sanjeev) Derandomizing semidefinite programming based approximation algorithms. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 162–169, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q20 (90C34, 90C60)

Ramesh, R. Fifteen years of work with a guru [Stanley Zionts]: a lifetime or just the beginning. (English summary) *Essays in decision making*, 393–406, *Springer, Berlin*, 1997. (*see* **99f:90005**) 01A70

Ramey, J. E. (*with* Caro, Yair; Ellingham, M. N.) Local structure when all maximal independent sets have equal weight. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 644–654 (*electronic*). (Bert L. Hartnell) **99g:05161** 05C85 (05C75, 68R10)

Ramgoolam, Sanjaye (*with* Cordes, Stefan; Moore, Gregory W.) Large N 2D Yang-Mills theory and topological string theory. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 543–619. (Martin Schlichenmaier) **99d:58032** 58D29 (55N91, 58D27, 81T40, 81T70)

— (*with* Guralnik, Z.) From 0-branes to torons. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 1-2, 129–138. (Summary) **99d:81157** 81T60 (81T13, 81T30)

— (*with* Brodie, John H.) On Matrix models of M5 branes. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 1-2, 139–160. (Summary) **99d:81110** 81T30 (81T60)

— (*with* Ganor, Ori J.; Gopakumar, Rajesh) Higher loop effects in M(atrix) orbifolds. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 268–273. (Summary) **99e:81190** 81T30 (81T15)

Ramík, Jaroslav Multi-index transportation problem with fuzzy coefficients and fuzzy decision variables. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 151–168. (Summary) **99a:90239** 90C70

Ramil Novo, L. A. (*with* González-Manteiga, Wenceslao) χ^2 goodness-of-fit tests for polynomial regression. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 229–258. (Summary) **99a:62070** 62G10

Ramírez, A. F. Relative entropy and mixing properties of infinite-dimensional diffusions. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 3, 369–395. (Sylvie Roelly) **99d:60112** 60K35 (60J60)

Ramírez, C. *see* **Ramírez Romero, Cupatitzio**

Ramírez, Cupatitzio *see* **Ramírez Romero, Cupatitzio**

Ramírez, Domingo (*with* Munuera Gómez, Carlos) The second and third generalized Hamming weights of Hermitian codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 709–712. (Summary) **99j:94069** 94B05

sira-Ramírez, Hebertt *see* **Sira-Ramírez, Hebertt**

Ramírez, J. *see* **Ramírez-Labrador, José**

Ramírez, Jose (*with* Canudas de Wit, Carlos) Optimal torque control for current-fed induction motors. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1084–1089. 93C95 (49N55)

repilado Ramírez, José Antonio *see* **Repilado Ramírez, José Antonio**

pastrana Ramírez, L. *see* **Pastrana Ramírez, L.**

Ramírez, María Isabel (*with* El Amin, Kaidi; Rodríguez-Palacios, Ángel) Absolute-valued algebraic algebras are finite-dimensional. (English summary) *J. Algebra* **195** (1997), *no.* 1, 295–307. (Alexander V. Il'tyakov) **99c:17004** 17A75 (17A80, 46H70)

Ramírez, Rafael *see* **Arnol'd, Vladimir Igorevich, 99m:00018**
Ramírez, V. *see* **Ramírez González, Victoriano**
Ramirez, W. Fred (*with* Sklyar, M. V.) Implicit Kalman filtering. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 393–412. (Summary) **99j:93106** 93E11 (93E25)
— (*with* Tholudur, Arun) Obtaining smoother singular arc policies using a modified iterative dynamic programming algorithm. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1115–1128. 90C39 (93E20)
— (*with* Sklyar, M. V.) Source identification in distributed parameter systems. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 733–754. (*see* **99h:93003**) 93B30 (93C20)
— (*with* Tholudur, Arun) System modelling using neural network parameter functions. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 887–898. (*see* **99h:93003**) 93A30 (93B30, 93C83)
— *see also* **Data processing and process control, 99h:93003**
Ramírez Alfonsín, Jorge L. Zero-knowledge proofs. (Spanish) *Miscelánea Mat. No.* 22 (1995), 51–56. 68Q15 (94A60)
— (*with* Forge, D.) Straight line arrangements in the real projective plane. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 155–161. (Margaret M. Bayer) **99g:52018** 52B30 (05B30)
— A special arrangement with minimal number of triangles. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 273–276. 68U05
— *see also* **Probabilistic methods for algorithmic discrete mathematics, 99i:05003**
Ramírez Galarza, Ana Irene ★ Geometría analítica: una introducción a la geometría. (Spanish. Spanish summary) [Analytic geometry: an introduction to geometry] *Las Prensas de Ciencias, México*, 1998. *viii*+337 *pp. ISBN* 968-36-6719-8 51–01
Ramírez González, Victoriano (*with* Muñoz-Delgado, Francisco-Javier; Cárdenas-Morales, Daniel) Korovkin's theorems for certain conservative operators. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 117–126, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (D. E. Wulbert) **99g:41036** 41A36
— (*with* Muñoz-Delgado, Francisco-Javier; Cárdenas-Morales, Daniel) Qualitative Korovkin-type results on conservative approximation. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 144–159. (Alexey L. Lukashov) **99f:41032** 41A36 (41A65)
— (*with* Márquez, M. L.; Pérez, Rigoberto) Parametric subfamilies of apportionment methods. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 471–479, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Fouad T. Aleskerov) **99m:90046** 90A28
Ramírez-Labrador, José (*with* Gandarias-Núñez, M. L.; Venero, P.) Similarity reductions for a nonlinear diffusion equation. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 3, 234–244. (Roman O. Popovich) **99f:35087** 35K57 (35C05)
Ramírez Mittelbrunn, J. (*with* de Vega, H. J.; Ramón Medrano, M.; Sánchez, Norma) The two-dimensional stringy black-hole: a new approach and a new effect. (English summary) *String theory in curved space times* (*Paris*, 1996), 301–332, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83C57 (83E30)
— (*with* de Vega, H. J.; Ramón Medrano, M.; Sánchez, Norma) Classical splitting of fundamental strings. (English summary) *String theory in curved space times* (*Paris*, 1996), 366–393, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 81T30
Ramírez Romero, Cupatitzio The Dirac equation as spontaneously broken supersymmetry. (English summary) *Particles and fields* (*Morelia*, 1997), 357–360, *AIP Conf. Proc.*, 445, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99i:81085** 81R40
— (*with* García-Compeán, Hugo; Obregón, O.; Plebański, Jerzy F.) Towards a gravitational analogue to *S* duality in non-abelian gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7501–7506. (Summary) **99k:81306** 81T60 (81T13)
— (*with* García-Compeán, Hugo; Obregón, O.) Gravitational duality in MacDowell-Mansouri gauge theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104012, 3 *pp.* (Summary) **99m:83168** 83D05 (81T60)
Ramírez-Ros, Rafael (*with* Delshams, Amadeu) Numerical study of the Poincaré-Mel'nikov-Arnol'd method for mappings. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 15 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 58F30 (65L08)
— (*with* Delshams, Amadeu) Melnikov potential for exact symplectic maps. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 213–245. (Tere M. Seara) **99f:58154** 58F15 (34C37, 58F05, 70H05)
— (*with* Delshams, Amadeu) Singular splitting of separatrices for the perturbed McMillan map. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 243–248, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Vassili G. Gelfreich) **99e:58156** 58F30 (34C37, 58F15)
— (*with* Delshams, Amadeu) Exponentially small splitting of separatrices for perturbed integrable standard-like maps. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 3, 317–352. (Ernest Fontich) **99f:58177** 58F30 (34C11, 34C20, 34C37, 58F15)
Ramm, Alexander G. (*with* Porru, G.) Completeness and non-completeness results for the set of products of solutions to differential equations. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 241–249. 35R30 (35P10)
— (*with* Desbat, L.) Finding small objects from tomographic data. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1239–1246. (Alexander S. Denisjuk) **99a:92012** 92C55 (44A12, 65R10)
— (*with* Athanasiadis, Christodoulos; Stratis, Ioannis G.) Inverse acoustic scattering by a layered obstacle. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 1–8, *Plenum, New York*, 1998. (Yongzhi Xu) **99d:76090** 76Q05 (35J05, 35R30)
— On S. Saitoh's characterization of the range of linear transforms. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 125–128, *Plenum, New York*, 1998. (*see* **99a:00030**) 47B38 (46E22, 47A05)
— (*with* Makrakis, G. N.) Scattering by obstacles in acoustic waveguides. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 89–109, *Plenum, New York*, 1998. (Yongzhi Xu) **99j:35026** 35J05 (35P25, 35R30, 76Q05)
— Recovery of compactly supported spherically symmetric potentials from the phase shift of the *S*-wave. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 111–130, *Plenum, New York*, 1998. (Tuncay Aktosun) **99d:81175** 81U40 (34A55, 34L25)
— A new approach to the inverse scattering and spectral problems for the Sturm-Liouville equation. (English summary) *Ann. Phys.* (8) **7** (1998), *no.* 4, 321–338. (Boris M. Levitan) **99k:34029** 34A55 (34L25, 34L40)
— Necessary and sufficient condition for a domain, which fails to have Pompeiu property, to be a ball. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 2, 165–171. (Ulrich Tautenhahn) **99f:35026** 35J05 (35R30)
— (*with* Arredondo Ruiz, J. H.; Izquierdo, B. C.) Formula for the radius of the support of the potential in terms of scattering data. (English summary) *J. Phys. A* **31** (1998), *no.* 1, *L39–L44*. (Summary) **99a:81188** 81U05
— Recovery of quarkonium system from experimental data. (English summary) *J. Phys. A* **31** (1998), *no.* 15, *L295–L299*. (Summary) **99b:81264** 81U40 (34A55, 34L25)
— Fundamental solutions to some elliptic equations with discontinuous senior coefficients and an inequality for these solutions. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 99–104. (Summary) **99b:35034** 35J15 (35A08, 35B45)
— Inequalities for norms of some integral operators. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 259–265. (Igor M. Novitskii) **99f:47064** 47G10 (47A30)
— (*with* Shivakumar, P. N.) Inequalities for the minimal eigenvalue of the Laplacian in an annulus. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 559–563. (Summary) **99f:35149** 35P15 (35J25)
— Compactly supported spherically symmetric potentials are uniquely determined by the phase shift of the *s*-wave. (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 215–219. (Summary) **99b:81265** 81U40
— Inequalities for brachistochrone. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 135–140. 49J05 (49K05)
— *see also* **Inverse problems, tomography, and image processing, 99a:00030** *and* **Spectral and scattering theory, 99a:00048**
Ramm, E. (*with* Rössle, Andreas; Bischoff, M.; Wendland, Wolfgang L.) On the mathematical foundation of the (1, 1, 2)-plate model. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 14, 2143–2168. (Summary) **99j:73100** 73V05 (73K10)
Rammerstorfer, Franz G. (*with* Buryachenko, V. A.) Thermoelastic stress fluctuations in random-structure coated particulate composites. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 763–788. (Summary) **99g:73010** 73B30 (73B35, 73K20, 73V30)
siva Ram Murthy, C. *see* **Siva Ram Murthy, C.**
Ramnath, Sarnath (*with* Ivković, Zoran; Sunder, Sivaprakasam) Fully dynamic algorithms for permutation graph coloring. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 16–35 (*electronic*). (*see* **99g:68005**) 68R10 (05C15, 05C85)
— (*with* Raman, Venkatesh) Improved upper bounds for time-space tradeoffs for selection with limited storage. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 131–142, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68039** 68P10
Ramollo, Motlatsi Pius On the motion of a bore across a barrier. (English summary) *Advances in fluid mechanics, II* (*Udine*, 1998), 125–135, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76B15 (76M25)
Ramon, Jan (*with* Bruynooghe, Maurice) A framework for defining distances between first-order logic objects. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 271–280, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (*see* **99k:68010**) 68T05 (03B70)
Ramond, Pierre (*with* Binétruy, Pierre; Deffayet, Cédric; Dudas, Emilian) Pseudo-anomalous U(1) symmetry in the strong coupling limit of the heterotic string. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 163–172. (Summary) **99h:81153** 81T30
— (*with* Gross, Benedict H.; Kostant, Bertram; Sternberg, Shlomo) The Weyl character formula, the half-spin representations, and equal rank subgroups. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 15, 8441–8442 (*electronic*). (Summary) **99f:17007** 17B10
Ramón Medrano, M. (*with* de Vega, H. J.; Sánchez, Norma) Particle transmutation and fermion number violation from the scattering of strings and superstrings in curved spacetimes. (English summary) *String theory in curved space times* (*Paris*, 1996), 68–135, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30)
— (*with* de Vega, H. J.; Ramírez Mittelbrunn, J.; Sánchez, Norma) The two-dimensional stringy black-hole: a new approach and a new effect. (English summary) *String theory in curved space times* (*Paris*, 1996), 301–332, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83C57 (83E30)
— (*with* de Vega, H. J.; Ramírez Mittelbrunn, J.; Sánchez, Norma) Classical splitting of fundamental strings. (English summary) *String theory in curved space times* (*Paris*, 1996), 366–393, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 81T30
Ramos, Angel Manuel (*with* Díaz Díaz, Jesús Ildefonso) Approximate controllability and obstruction for higher order parabolic semilinear equations. *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 93B05 (93C20)
— (*with* Díaz Díaz, Jesús Ildefonso) On the approximate controllability for higher order parabolic nonlinear equations of Cahn-Hilliard type. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 111–127, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Sergei A. Avdonin) **99g:93043** 93C20 (35K55, 35Q80, 93B05)
— Results on approximate controllability for quasilinear diffusion equations. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1129–1134, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93B05 (35K60)
— (*with* Díaz Díaz, Jesús Ildefonso; Henry, Jacques) On the approximate controllability of some semilinear parabolic boundary-value problems. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 1, 71–97. (Takao Nambu) **99c:93005** 93B05 (35B37, 35K60, 93C20)
Ramos, E. *see* **Ramos, Eduardo[2]**
Ramos, Edgar A. (*with* Chong, Ka Wong) Improved deterministic parallel padded sorting. (English summary) *Algorithms—ESA '98* (*Venice*), 405–416, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68P10 (68Q22)
Ramos, Eduardo[1] The reduced covariant phase space quantization of the three-dimensional Nambu-Goto string. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 435–452. (C. Gauthier) **99d:81130** 81T30
— On three-dimensional constant curvature strings. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 41–46. (Summary) **99b:83073** 83E30 (81T30)

Ramos, Eduardo² (*with* Cuevas, S.) Transport of momentum and heat in oscillatory MHD flow. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows (Aussois, 1997)*, 107–122, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007** 76W05)

Ramos, Fernando Manuel (*with* Muniz, Wagner Barbosa; de Campos Velho, Haroldo F.) A comparison of some inverse methods for estimating the initial condition of the heat equation. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 145–163. (Summary) **99k:65086** 65M30 (35K05)

sousa Ramos, J. *see* **Sousa Ramos, J.**

lópez Ramos, J. A. *see* **López Ramos, J. A.**

Ramos, J. I. Linearization methods for reaction-diffusion equations: 1-D problems. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 199–224. (Reinhard Redlinger) **99b:65101** 65M06 (65M20)

— Linearization methods for reaction-diffusion equations: multidimensional problems. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 225–254. (Reinhard Redlinger) **99b:65102** 65M06 (65M20)

— A piecewise time-linearized method for the logistic differential equation. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 139–148. (Summary) **99c:65141** 65L07 (34A45)

— Upstream boundary conditions for flows in porous channels. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 149–154. (Summary) **99c:76107** 76S05

— Maps of implicit, linearized θ-methods for the logistic differential equation. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 1–15. (Summary) **99c:65150** 65L20

— Implicit, compact, linearized θ-methods with factorization for multidimensional reaction-diffusion equations. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 17–43. (Summary) **99c:65175** 65M15

— (*with* García-López, C. M.) Intermediate boundary conditions in operator-splitting techniques and linearization methods. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 113–136. (Summary) **99c:65159** 65M06

— Asymptotic analysis of compound liquid jets at low Reynolds numbers. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 223–240. (Summary) **99k:76048** 76D25

Ramos, J. S. *see* **Sousa Ramos, J.**

pérez-Ramos, M. D. *see* **Pérez-Ramos, M. D.**

machado Ramos, M. P. *see* **Machado Ramos, M. P.**

Ramos, M. T. *see* **Ramos Domínguez, María Teresa**

Ramos, Miguel (*with* Domingos, Ana Rute) On the solvability of a resonant elliptic equation with asymmetric nonlinearity. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 45–57. (Anna Maria Candela) **99k:35048** 35J60 (58E05)

Ramos, P. A. (*with* García López de Lacalle, Jesús; Snoeyink, Jack) Fitting a set of points by a circle. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 389–402. (Summary) **99h:52017** 52B55 (68U05)

Ramos, P. B. (*with* Martins, Márcio José) Exact solution of the lattice vertex model analogue of the coupled Bariev XY chains. (English summary) *J. Phys. A* **30** (1997), *no.* 14, L465–L470. (Summary) **99a:82034** 82B23 (82B20)

Ramos, R. M. *see* **Ramos Domínguez, Rosa María**

Ramos, R. R. (*with* Bravo Castillero, Julián; Otero Hernández, José A.; Diaz, R. G.) The overall properties of piezocomposite materials with cylindrical fibres. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995)*, 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (David J. Bergman) **99j:73006** 73B27 (73R05, 73V35)

bautista Ramos, Raymundo *see* **Bautista Ramos, Raymundo**

Ramos, Zenaida E. *see* **Ramos Zuñiga, Zenaida E.**

Ramos Domínguez, María Teresa (*with* Ramos Domínguez, Rosa María; Colebrook, M.; Sicilia Rodríguez, J.) Locating a facility on a network with multiple median-type objectives. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 221–235. (Summary) **99m:90153** 90C35 (05C12, 90B80)

Ramos Domínguez, Rosa María (*with* Ramos Domínguez, María Teresa; Colebrook, M.; Sicilia Rodríguez, J.) Locating a facility on a network with multiple median-type objectives. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 221–235. (Summary) **99m:90153** 90C35 (05C12, 90B80)

Ramos-Jiménez, G. (*with* López-Muñoz, J.; Morales-Bueno, R.) Comparisons of Parikh's condition to other conditions for context-free languages. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 231–244. (Summary) **99b:68117** 68Q45 (03D05)

Ramos Zuñiga, Zenaida E. Approximation to the Riemann zeta function. (English summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro, 1994)*, 231–233, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013** 11M06)

Rampazzo, Franco (*with* Motta, Monica) The value function of a slow growth control problem with state constraints. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 3, 20 *pp.* (*electronic*). (M. Margarida Amorim Ferreira) **99j:49063** 49L25 (49K15, 49L20)

— (*with* Frankowska, Halina) Relaxing constrained control systems. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 71–81. (Marc Quincampoix) **99d:49015** 49J24 (34H05)

— (*with* Sartori, C.) The minimum time function with unbounded controls. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 34 *pp.* (*electronic*). (Peter R. Wolenski) **99h:49044** 49L25 (49K45)

— Differential games with unbounded versus bounded controls. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 814–839 (*electronic*). (E. N. Barron) **99f:90208** 90D25 (49L20)

Rampersad, Joanne (*with* Farouki, Rida T.) Cycles upon cycles: an anecdotal history of higher curves in science and engineering. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 95–116, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:01003** 01A05 (00A69, 65–03)

Rampetas, Konstantinos Demazure operators for complex reflection groups $G(e, e, n)$. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 179–196. (Hiro-Fumi Yamada) **99m:20091** 20F55

Rampichini, Marta (*with* Cromwell, Peter R.; Beltrami, Elisabetta) The Borromean rings. *Math. Intelligencer* **20** (1998), *no.* 1, 53–62. (G. Burde) **99c:57015** 57M25 (01A35, 01A99)

Rampon, Jean-Xavier (*with* Müller, Haiko) Partial orders and their convex subsets. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 507–517. (Gerhard Behrendt) **99b:06004** 06A06

— (*with* Ille, Pierre) Reconstruction of posets with the same comparability graph. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 368–377. (Bernd S. W. Schröder) **99j:05148** 05C60 (06A06)

Ramras, Mark Congestion-free routings of linear complement permutations. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 487–500 (*electronic*). (Summary) **99c:68022** 68M10 (05C85)

Rams, Sławomir Bézout-type theorems for certain analytic sets. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 277–283. (Zbigniew Szafraniec) **99g:32014** 32C25 (14C17)

Ramsamooj, N. (*with* Farrell, Edward J.) On the derivatives of a certain characteristic polynomial. (English summary) *J. Math. Sci. (Calcutta)* **9** (1998), *no.* 1, 93–99. (Haruo Hosoya) **99j:05151** 05C70

Ramsay, Arlan Lacunary sections for locally compact groupoids. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 933–940. (Mahendra G. Nadkarni) **99c:28059** 28D99 (22A22, 54H15)

— (*with* Walter, Martin E.) Fourier-Stieltjes algebras of locally compact groupoids. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 2, 314–367. (Jean N. Renault) **99a:22010** 22D25 (43A40, 46L05)

Ramsay, Colin (*with* Gray, Brenton D.) On the number of Pasch configurations in a Steiner triple system. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 105–112. (Summary) **99c:05030** 05B07

— (*with* Gray, Brenton D.) On the spectrum of $\{v, k, t\}$ trades. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 1–19. (Esther R. Lamken) **99e:05019** 05B05

Ramsay, J. O. (*with* Heckman, Nancy) Some theory for L-spline smoothing. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 371–380, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:41015** 41A15 (46N30, 62G07)

Ramsey, S. A. (*with* Hu, B. L.) Erratum: "Nonequilibrium inflaton dynamics and reheating: back reaction of parametric particle creation and curved spacetime effects" [Phys. Rev. D (3) **56** (1997), no. 2, 678–705; MR 98j:81233]. (English summary) *Phys. Rev. D (3)* **57** (1998), *no.* 6, 3798. 81T20 (83C47)

Ramuppillai, L. (*with* Thandapani, E.) Oscillation theorems for certain class of nonlinear difference equations. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 513–519. (Summary) **99d:39019** 39A12 (39A11)

cotta-Ramusino, Paolo *see* **Cotta-Ramusino, Paolo**

Ran, A. C. M. (*with* van Mill, Jan) On a generalization of Lyapounov's theorem. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 227–242. (Ion Chiţescu) **99k:28014** 28B05 (46G10)

— (*with* Kaashoek, M. A.; van der Mee, C. V. M.) Wiener-Hopf factorization of transfer functions of extended Pritchard-Salamon realizations. (English summary) *Math. Nachr.* **196** (1998), 71–102. (L. Rodman) **99k:47030** 47A56 (47A68, 47N70, 93B15)

Ran, Ziv The number of unisecant rational cubics to a plane cubic. *Quart. J. Math. Oxford Ser. (2)* **49** (1998), *no.* 196, 487–489. (Gian Mario Besana) **99m:14105** 14N10

Rana, Inder K. ★ An introduction to measure and integration. (English summary) *Narosa Publishing House, London*, 1997. *xx*+380 *pp. ISBN* 81-7319-120-4 (Richard Becker) **99m:28002** 28–01

— ★ From numbers to analysis. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xvi*+370 *pp. ISBN* 981-02-3304-3 (W. T. Whitley) **99k:00004** 00A05 (26–01)

Rana, Lubna (*with* Gates, S. James, Jr.) Superspace geometrical representations of extended super Virasoro algebras. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2, 80–88. (Sergey Nikolaevich Roshchupkin) **99m:81082** 81R10 (17B68)

Rana, S. S. (*with* Dubey, Y. P.) Best error bounds of deficient quintic spline interpolation. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1337–1344. (Chenglie Hu) **99b:65010** 65D05

— (*with* Dubey, Y. P.) Best error bounds for deficient quartic spline interpolation. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 385–393. 41A15 (65D07)

Rana, Soraya (*with* Heckendorn, Robert B.; Whitley, Darrell) A tractable Walsh analysis of SAT and its implications for genetic algorithms. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 392–397, *MIT Press, Cambridge, MA*, 1998. (Summary) **99f:68108** 68Q25 (68T05)

Rañada, Antonio F. (*with* Trueba, José L.) A topological mechanism of discretization for the electric charge. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 196–200. (You Quan Li) **99d:78015** 78A25 (81V10)

Rañada, Manuel F. Lax formalism for a family of integrable Calogero-Moser related n-particle systems. (English summary) *Phys. Lett. A* **238** (1998), *no.* 1, 29–34. (Masato Hisakado) **99b:58124** 58F07 (70F10, 70H05)

— *see also* **Geometry and physics, 99g:58001**

Ranalli, Ramona R. (*with* McCall, Thomas M.; Parry, Charles J.) The 2-rank of the class group of imaginary bicyclic biquadratic fields. (English summary) *Canad. J. Math.* **49** (1997), *no.* 2, 283–300. (Bart de Smit) **99d:11116** 11R16 (11R29)

Rančić, Snežana Lj. (*with* Danković, Bratislav M.; Milovanović, Gradimir V.) Malmquist and Müntz orthogonal systems and applications. *Inner product spaces and applications*, 22–41, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (K. Pan) **99f:42047** 42C05

— (*with* Milovanović, Gradimir V.; Danković, Bratislav M.) Some Müntz orthogonal systems. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 299–310. (Summary) **99i:33010** 33C45

— (*with* Milovanović, Gradimir V.) Some improvements in calculation of the natural log of a square matrix. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo (2) Suppl. No. 52, Vol. II* (1998), 619–623. (Summary) **99d:65133** 65F30

Rančić, Svetozar (*with* Stanimirović, Predrag S.) First order gradient optimization in LISP. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 611–626. 90C30

(90–04)

Rand, Richard H. (*with* Wirkus, Stephen; Ruina, Andy) How to pump a swing. *College Math. J.* **29** (1998), *no.* 4, 266–275. (Albert D. Morozov) **99i:70026** 70K05 (34C15, 70K40)

— (*with* Zounes, Randolph S.) Transition curves for the quasi-periodic Mathieu equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1094–1115 (*electronic*). (James A. Murdock) **99f:34070** 34C27 (70K28)

— (*with* Zounes, Randolph S.; Hastings, Rachel) Dynamics of a quasiperiodically-forced Mathieu oscillator. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 61–70, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70K40 (34C15, 58F27, 70K50)

Randall, Curt (*with* Akers, Robert L.; Baffes, Paul; Kant, Elaine; Steinberg, Stanly; Young, Robert L.) Automatic synthesis of numerical codes for solving partial differential equations. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 3–22. (*see* **99a:00035**) 35–04

Randall, Dana (*with* Tetali, Prasad) Analyzing Glauber dynamics by comparison of Markov chains. (English summary) *LATIN'98: theoretical informatics (Campinas, 1998)*, 292–304, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68122** 68Q25 (68R05, 90C40)

Randall, Duane (*with* Lam, Kee Yuen) Projectivity of Im J, cospherical classes and geometric dimension. (English summary) *Stable and unstable homotopy (Toronto, ON, 1996)*, 181–186, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Donald M. Davis) **99b:55025** 55Q50 (55R50, 55S25)

— Block bundle origin of stable block bundle homotopy. (English summary) *Higher homotopy structures in topology and mathematical physics (Poughkeepsie, NY, 1996)*, 287–302, *Contemp. Math.*, 227, *Amer. Math. Soc., Providence, RI*, 1999. (R. E. Stong) **99k:55018** 55R60 (55Q45, 55Q50)

Randall, Jennifer The heat kernel for generalized Heisenberg groups. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 2, 287–316. (Xue Bo Luo) **99b:22018** 22E30 (58G11)

Randall, K. H. (*with* Leiserson, Charles E.) Parallel algorithms for the circuit value update problem. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Santa Barbara, CA, 1995). *Theory Comput. Syst.* **30** (1997), *no.* 6, 583–597. (Summary) **99g:68096** 68Q25 (68Q22)

Randall, Lisa (*with* Erlich, Joshua; Naqvi, Asad) Coulomb branch of $N = 2$ supersymmetric product group theories from branes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046002, 10 *pp.* (Summary) **99k:81235** 81T30 (81T60)

— (*with* Shirman, Y.; von Unge, Rikard) Brane boxes: bending and beta functions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105005, 7 *pp.* (Summary) **99m:81259** 81T60 (81T13, 81T30)

Randall, Marcus (*with* Abramson, David) A simulated annealing code for general integer linear programs. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 3–21. (*see* **99k:90002**) 90C10 (90–04)

Randell, Richard Invariants of piecewise-linear knots. (English summary) *Knot theory (Warsaw, 1995)*, 307–319, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57031** 57M25

Randerath, Bert (*with* Niessen, Thomas) Regular factors of simple regular graphs and factor-spectra. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 89–103. (Summary) **99a:05115** 05C70

— (*with* Volkmann, Lutz) Characterization of graphs with equal domination and covering number. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 159–169. (Summary) **99g:05155** 05C75

— (*with* Volkmann, Lutz) Characterization of graphs with equal domination and matching number. (English summary) *Util. Math.* **55** (1999), 65–72. (Summary) **99m:05139** 05C75 (05C70)

Rández, L. (*with* Calvo Pinilla, Manuel; Laburta, M. P.; Montijano, J. I.) Numerical solution of unit flows by the Runge-Kutta method. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 623–628, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L06

— (*with* Franco, J. M.; Gómez, I.) Canonical DIRK methods versus SDIRK methods for nondissipative stiff problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 737–742, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L99

Randić, Milan (*with* Pogliani, Lionello; Trinajstić, Nenad) Much ado about nothing—an introductive inquiry about zero. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 729–744. (Summary) **99e:01038** 01A99 (00A30, 00A99)

Randjbar-Daemi, S. Domain-wall-overlap formulation of lattice chiral gauge theories. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 543–546, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T25

— (*with* Nair, V. P.) On brane solutions in M(atrix) theory. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 333–347. (Summary) **99g:81178** 81T30

— *see also* **String theory, gauge theory and quantum gravity, 99a:81005**

Randles, Ronald H. (*with* Um, Yonghwan) Nonparametric tests for the multivariate multi-sample location problem. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 801–812. (Summary) **99h:62061** 62G10

Randolph, T. (*with* Latushkin, Yu. D.; Schnaubelt, Roland) Exponential dichotomy and mild solutions of nonautonomous equations in Banach spaces. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 489–510. (Janusz Mierczyński) **99g:34123** 34G10 (34C35, 34D05, 47D06)

Randriamampianina, Anthony (*with* Hugues, Sandrine) An improved projection scheme applied to pseudospectral methods for the incompressible Navier-Stokes equations. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 501–521. (Summary) **99f:76106** 76M25

Randrianantoanina, Beata 1-complemented subspaces of spaces with 1-unconditional bases. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1242–1264. (Anatolij M. Plichko) **99b:46009** 46B15 (46B04, 46B45)

— One-complemented subspaces of real sequence spaces. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 139–154. (Asuman Aksoy) **99c:46017** 46B45

— Contractive projections and isometries in sequence spaces. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 323–340. (Richard Fleming) **99h:46030** 46B45 (47B37)

Randrianantoanina, Narcisse Some remarks on the Dunford-Pettis property. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1199–1213. (Rajappa K. Asthagiri) **99j:46041** 46E40 (46B20)

— (*with* Dowling, Patrick N.; Turett, Barry) Remarks on James's distortion theorems. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 49–54. (Summary) **99b:46014** 46B20

— (*with* Saab, Elias) The near Radon-Nikodým property in Lebesgue-Bochner function spaces. *Illinois J. Math.* **42** (1998), *no.* 1, 40–57. (K. Musiał) **99e:46050** 46E40 (46B22, 46G10)

— Factorization of operators on C^*-algebras. (English summary) *Studia Math.* **128** (1998), *no.* 3, 273–285. (Christian Le Merdy) **99d:46078** 46L05 (47B10, 47D15)

Randrianarivony, Arthur Moments des polynômes orthogonaux unitaires de Sheffer généralisés et spécialisations. (English summary) [Moments of generalized unitary orthogonal Sheffer polynomials and specializations] *European J. Combin.* **19** (1998), *no.* 4, 507–518. (Jiang Zeng) **99g:05190** 05E35 (05A15, 33D45)

Randrup, T. (*with* Pottmann, Helmut) Rotational and helical surface approximation for reverse engineering. (English summary) *Computing* **60** (1998), *no.* 4, 307–322. (Summary) **99c:65038** 65D17 (53A05)

Rane, Vivek V. A new approximate functional equation for Hurwitz zeta function for rational parameter. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 4, 377–385. (Summary) **99k:11135** 11M35

Ranestad, Kristian (*with* Aure, Alf; Decker, Wolfram; Hulek, Klaus; Popescu, Sorin) Syzygies of abelian and bielliptic surfaces in $\mathbf{P}^4$. *Internat. J. Math.* **8** (1997), *no.* 7, 849–919. (James E. Alexander) **99a:14049** 14J25 (14J27, 14J60)

— (*with* Braun, Robert) Conic bundles in projective fourspace. *Algebraic geometry (Catania, 1993/Barcelona, 1994)*, 331–339, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (James E. Alexander) **99j:14039** 14J26 (14J25)

sri Ranga, Alagacone *see* **Sri Ranga, Alagacone**

Rangachari, M. S. Remarks on gap Tauberian theorems. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 145–148. (John A. Fridy) **99a:40004** 40E05 (40H05)

— Calculus in Banach spaces. *Lecture notes on aspects of nonlinear, functional and applicable analysis (ANFAA) (Madras, 1998)*, 21–52, *Indian Inst. Tech., Madras*, 1998. (Marián Fabian) **99h:46075** 46G05 (26E15, 47H15)

pandu Rangan, C. *see* **Pandu Rangan, C.**

Rangan, G. Recent trends in p-adic functional analysis. *Functional analysis*, 221–232, *Narosa, New Delhi*, 1998. (*see* **99h:00036**) 46S10

— p-adic functional analysis and applications. *Lecture notes on aspects of nonlinear, functional and applicable analysis (ANFAA) (Madras, 1998)*, 75–98, *Indian Inst. Tech., Madras*, 1998. (Bertin Diarra) **99g:46110** 46S10 (12J25)

Ranganathan, N. R. An easy entry to Ramanujan's magnificent mathematical palace. *Current Sci.* **76** (1999), *no.* 10, 1292. 01A70

Ranganathan, Swatiprakash M. (*with* Chen, Guanrong; Lu, Jialiang; Nicholas, Brent) Bifurcation dynamics in discrete-time delayed-feedback control systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **9** (1999), *no.* 1, 287–293. 93C10 (58F14)

Rangarajan, Govindan Jolt factorization of pendulum map. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3649–3658. (Summary) **99e:70051** 70H05 (70–08)

— (*with* Borkar, Vivek S.; Jain, Sanjay[2]) Evolutionary games with two timescales. (English summary) *Phys. D* **125** (1999), *no.* 1-2, 155–166. (Ross Cressman) **99m:90182** 90D40 (90A16, 92D15, 92D50)

Rangaswamy, K. M. (*with* Bican, Ladislav) Smooth unions of Butler groups. (English summary) *Forum Math.* **10** (1998), *no.* 2, 233–247. (Mark Lane) **99d:20089** 20K20

— (*with* Monari-Martinez, Elisabetta) Torsion-free modules over valuation domains whose balanced-projective dimension is at most one. *J. Algebra* **205** (1998), *no.* 1, 91–104. (C. Vinsonhaler) **99g:13029** 13F30 (13C13, 13D05, 20K20)

— A criterion for complete decomposability and Butler modules over valuation domains. *J. Algebra* **205** (1998), *no.* 1, 105–118. (C. Vinsonhaler) **99g:13030** 13F30 (13C13, 13D05, 20K20)

Rangel, R. H. (*with* Coimbra, C. F. M.) General solution of the particle momentum equation in unsteady Stokes flows. (English summary) *J. Fluid Mech.* **370** (1998), 53–72. (Summary) **99e:76034** 76D07

Rangel, Socorro (*with* Darby-Dowman, Ken) The application of preprocessing and cutting plane techniques for a class of production planning problems. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 3, 297–318. 90B30 (90C10)

Ranger, K. B. Arbitrary motions of a viscous incompressible liquid in a finite region. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 2, 185–195. (Summary) **99d:76024** 76D05

Rani, Dinesh (*with* Chugh, Renu; Kumar, Ramesh[2]) Some fixed point theorems in Hausdorff spaces. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 429–438. 54H25

Rani, Urmila (*with* Raka, Madhu) Inhomogeneous minima of a class of quaternary quadratic forms of type (3, 1). (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 889–908. (Martin Henk) **99k:11106** 11H50 (11H55)

Raniecki, B. (*with* Lexcellent, Ch.) The equilibrium motion of the martensitic interface in thick-walled infinite austenitic plate. *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 45–52, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73B30 (73K10)

Ranjan, Akhil (*with* Ramachandran, Kuttath) Finite-dimensional imbeddings of harmonic spaces. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 13–21. (Lieven Vanhecke) **99a:53063** 53C25

Ranjan, Desh (*with* Harary, Frank) Breaking symmetry in complete graphs by orienting edges: asymptotic bounds. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 227–230. (Summary) **99g:05109** 05C35 (05C85, 68R10)

— (*with* Pontelli, Enrico; Gupta, Gopal) Efficient algorithms for the temporal precedence problem. *Inform. Process. Lett.* **68** (1998), *no.* 2, 71–78. (From the text) **99j:68020** 68P05 (68N17)

— (*with* Dubhashi, Devdatt) Balls and bins: a study in negative dependence. *Random Structures Algorithms* **13** (1998), *no.* 2, 99–124. (Colin J. H. McDiarmid) **99k:60048** 60E99 (68Q25)

Ranjan, S. R. (*with* Lawton, Wayne; Raghavan, Raghu; Viswanathan, R. Raju) Ribbons and groups: a thin rod theory for catheters and filaments. (English summary) *J. Phys. A* **32** (1999), *no.* 9, 1709–1735. (Summary) **99k:73077** 73K05 (73P20, 73V05, 92C50)

Rankhel', A. O. (*with* Vasil'kov, G. V.; Dezhina, I. Yu.) On rheological models of elastoviscoplastic media. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 3, 21–35, 111. (Summary) **99j:73056** 73E60

Rankin, Robert A. G. H. Hardy as I knew him. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 2, 73–81. (Jeremy Gray) **99e:01028** 01A70

— Modular forms and Hecke operators. *Number theory and its applications* (*Ankara*, 1996), 151–169, *Lecture Notes in Pure and Appl. Math.*, 204, *Dekker, New York*, 1999. (Yasushi Tokuno) **99k:11064** 11F25 (11F11)

Rankine, W. J. Macquorn On the thermodynamic theory of waves of finite longitudinal disturbance [Philos. Trans. **160** (1870), part II, 277–288]. *Classic papers in shock compression science*, 133–147, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76N10 (76L05, 80A10)

Rannacher, Rolf (*with* Nabh, G.) A comparative study of nonlinear Galerkin finite element methods for one-dimensional dissipative evolution problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 2, 113–144. (Reinhard Scholz) **99c:65184** 65M60

— (*with* Führer, Christian) An adaptive streamline-diffusion finite element method for hyperbolic conservation laws. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 3, 145–162. (Summary) **99j:65168** 65M60 (35L05, 76M10, 76Rxx)

— (*with* Suttmeier, F. T.) A posteriori error control and mesh adaptation for FE models in elasticity and elasto-plasticity. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 275–292, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99g:73108** 73V05 (65N55)

— (*with* Suttmeier, F. T.) A posteriori error control in finite element methods via duality techniques: application to perfect plasticity. (English summary) *Comput. Mech.* **21** (1998), *no.* 2, 123–133. (Summary) **99a:73127** 73V05 (65N30, 73E99)

— A posteriori error estimation in least-squares stabilized finite element schemes. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 99–114. (So-Hsiang Chou) **99m:65192** 65M60 (65M12, 76M10)

— (*with* Hujeirat, A.) A method for computing compressible, highly stratified flows in astrophysics based on operator splitting. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 1–22. (Summary) **99b:85001** 85A30 (85–08)

Rannou, E. The complexity of stratification computation. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 47–78. (Victoria Powers) **99a:14082** 14P10

Rant, J. (*with* Feichtinger, U.; Moritsch, O.; Schweda, M.; Zerrouki, H.) The finiteness of the four-dimensional antisymmetric tensor field model in a curved background. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4513–4537. (Summary) **99e:81165** 81T20 (81T60)

Ranta, Aarne Syntactic calculus with dependent types. (English summary) Recent advances in logical and algebraic approaches to grammar (Nancy, 1995). *J. Logic Lang. Inform.* **7** (1998), *no.* 4, 413–431. (Summary) **99k:03027** 03B65

Ranta, Matti A. (*with* von Hertzen, Raimo; Holmlund, Ulf) Theory of optimal competitive running. (Finnish. English and Finnish summaries) *Arkhimedes* **1998**, *no.* 4, 16–22. 92C10 (00A71)

Rantakokko, Jarmo A framework for partitioning structured grids with inhomogeneous workload. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 2, 135–151. 65F30 (65Y05)

Rantala, Veikko Connectionism and the emergence of propositional knowledge. (English summary) *Acta Polytech. Scand. Math. Comput. Manage. Eng. Ser.* **1998**, *no.* 91, 254–262. 03B45

Rantzer, Anders (*with* Johansson, Mikael) Computation of piecewise quadratic Lyapunov functions for hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 555–559. (*see* **99a:93006**) 93D05 (93C30)

— (*with* Bernhardsson, Bo; Qiu, Li) Real perturbation values and real quadratic forms in a complex vector space. (English summary) *Linear Algebra Appl.* **270** (1998), 131–154. (R. A. Horn) **99a:15010** 15A63 (15A18, 15A60)

— (*with* Andersson, Lennart; Beck, Carolyn) Model comparison and simplification. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 157–181. (*see* **99k:93005**) 93B11 (93B17)

Ranyuk, Yu. N. Last interview with D. V. Volkov. *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 1–8, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 01A70

Ranzato, Francesco (*with* Giacobazzi, Roberto) On the least complete extension of complete subsemilattices. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 235–237. (Marcel Erné) **99g:06006** 06A12 (06A15, 06A23, 68Q55)

— (*with* Giacobazzi, Roberto; Scozzari, Francesca) Complete abstract interpretations made constructive. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 366–377, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q55

— (*with* Giacobazzi, Roberto; Scozzari, Francesca) Building complete abstract interpretations in a linear logic-based setting. (English summary) *Static analysis* (*Pisa*, 1998), 215–229, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68Q55 (68N20)

— (*with* Giacobazzi, Roberto) Uniform closures: order-theoretically reconstructing logic program semantics and abstract domain refinements. (English summary) *Inform. and Comput.* **145** (1998), *no.* 2, 153–190. (Summary) **99f:68028** 68N17

— (*with* Giacobazzi, Roberto) Optimal domains for disjunctive abstract interpretation. (English summary) 6th European Symposium on Programming (Linköping, 1996). *Sci. Comput. Programming* **32** (1998), *no.* 1-3, 177–210. (Guo-Qiang Zhang) **99m:68113** 68Q55 (06A23, 68N15, 68Q60)

narasinga Rao, A. *see* **Narasinga Rao, A.**

Rao, A. Appaji (*with* Kadalbajoo, Mohan. K.) Parallel discrete invariant embedding algorithm for singular perturbation problems. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 149–161. (Summary) **99c:65143** 65L10 (65Y05)

Rao, A. R. *see* **Rao, Annaswami Ranganatha**

Rao, A. Ramachandra *see* **Rao, Ayyagari Ramachandra**

gopala Rao, A. V. *see* **Gopala Rao, A. V.**

Rao, Adabala Ramachandra (*with* Biswal, Purna Chandra) The onset of steady Bénard-Marangoni convection in a two-layer system of conducting fluid in the presence of a uniform magnetic field. (English summary) *J. Engrg. Math.* **35** (1999), *no.* 4, 385–404. 76E15 (76E25, 76W05)

Rao, Anand S. (*with* Georgeff, Michael P.) Decision procedures for BDI logics. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 293–343. (Petr Jirků) **99h:03007** 03B45 (03B25, 03B35, 68T27)

Rao, Annaswami Ranganatha Cyclic perspectivity. (English summary) *Math. Ed.* **9** (1993), *no.* 4, 239–242. 51A05

Rao, Ayyagari Ramachandra (*with* Jana, Rabindranath; Bandyopadhyay, Suraj) A Markov chain Monte Carlo method for generating random (0, 1)-matrices with given marginals. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 225–242. (B. L. Granovskiy) **99k:65012** 65C05 (15A52, 60J15)

nageswara Rao, B. *see* **Nageswara Rao, B.**

prakasa Rao, B. L. S. *see* **Prakasa Rao, B. L. S.**

Rao, B. Nageswara *see* **Nageswara Rao, B.**

Rao, B. V. Raja (*with* Bhattacharya, Rabi Nath) Asymptotics of iteration of i.i.d. symmetric stable processes. (English summary) *Research developments in probability and statistics*, 3–10, *VSP, Utrecht*, 1996. (Summary) **99c:60039** 60F05 (60J05)

— (*with* Gangopadhyay, Sreela) Strategic purely nonatomic random walks. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 409–415. (E.-A. Weiss, Jr.) **99c:60099** 60G50 (60A10, 60J15)

— (*with* Chakraborty, Santanu) Completeness of Bhattacharya metric on the space of probabilities. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 321–326. (Rimas Norvaiša) **99i:60026** 60E05 (28A33)

Rao, Bopeng Optimal energy decay rate in a damped Rayleigh beam. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 721–734. (Takashi Narazaki) **99h:35210** 35Q72 (35P20, 47N20, 73K05, 93D15)

— Stabilization of elastic plates with dynamical boundary control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 148–163 (*electronic*). (Kenneth B. Hannsgen) **99a:73100** 73K50 (35Q72, 73K10, 93C20, 93D15)

— (*with* Wehbe, Ali) Stabilisation frontière de plaques de Kirchhoff avec résolvante non compacte. (English and French summaries) [Boundary stabilization of Kirchhoff plates with noncompact resolvent] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 7, 591–596. (Summary) **99k:93080** 93D15 (35L70, 35Q72, 73K50, 93C20)

Rao, C. R. *see* **Rao, Calyampudi Radhakrishna**

Rao, C. S. Śrīyantra—a study of spherical and plane forms. (English summary) *Indian J. Hist. Sci.* **33** (1998), *no.* 3, 203–227. (A. I. Volodarskiĭ) **99k:01008** 01A32

Rao, C. V. (*with* Murty, Kanuri Narasimha) Theory of differential inequalities associated with nth order nonlinear differential equations and their applications to three point boundary value problems. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 137–143. (P. W. Eloe) **99f:34021** 34B10 (34A40, 34B15)

Rao, Calyampudi Radhakrishna The use of Hellinger distance in graphical displays of contingency table data. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 143–161, *VSP, Utrecht*, 1995. (Summary) **99h:62077** 62H17

— Principal component and factor analyses. *Statistical methods in finance*, 489–505, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62078** 62H25

— (*with* Bai, Zhi-Dong; Wu, Yue Hua) Robust inference in multivariate linear regression using difference of two convex functions as the discrepancy measure. *Robust inference*, 1–19, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35 (62J05)

— (*with* Maddala, G. S.) Future directions. *Robust inference*, 661–675, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

— (*with* Pathak, P. K.; Koltchinskii, Vladimir I.) Bootstrap by sequential resampling. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 257–281. (Alfredas Račkauskas) **99j:62059** 62G09 (62D05, 62L10)

— (*with* Rao, M. Bhaskara) ★ Matrix algebra and its applications to statistics and econometrics. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xx*+535 *pp.* *ISBN* 981-02-3268-3 15–01 (62–01)

— Resumé. Statistical theory and applications. *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 1, 7–26. (*see* **99f:00031**) 01A70

— Geometry of circular vectors and pattern recognition of shape of a boundary. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 22, 12783–12786 (*electronic*). (Summary) **99h:68149** 68T10

— (*with* Srivastava, Virendra Kumar; Toutenburg, Helge) Pitman nearness comparisons of Stein-type estimators for regression coefficients in replicated experiments. (English summary) *Statist. Papers* **39** (1998), *no.* 1, 61–74. (Shyamal D. Peddada) **99g:62097** 62J05 (62C15)

— *see also* **Robust inference, 99d:62025**; **Statistical theory and applications, 99f:00031**; **Design and analysis of experiments, 99f:62002** *and* **Statistical methods in finance, 99g:62157**

purnachandra Rao, Ch. *see* **Purnachandra Rao, Ch.**

Rao, G. K. R. (*with* Fixman, Uri; Okoh, Frank) An eigenvalue problem for the numerical range of a bounded linear operator. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 421–435. (Kiran Chandra Das) **99k:47010** 47A12

bhishma Rao, G. S. S. *see* **Bhishma Rao, G. S. S.**

prasada Rao, Ganti *see* **Prasada Rao, Ganti**

Rao, Ganti Prasada *see* **Prasada Rao, Ganti**

Rao, Geetha S. (*with* Bhaskaramurthi, T. L.) Chebyshev centers proximinality and farthest points in strong normed almost linear spaces. (English summary) *Approx. Theory Appl.* (*N.S.*) **13** (1997), *no.* 4, 99–111. (Ioan Şerb) **99c:41070** 41A65 (46A16)

— (*with* Swaminathan, M.) On strict polynomial bases. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 183–193. (Ole Christensen) **99e:46014** 46B15

govinda Rao, H. S. *see* **Govinda Rao, H. S.**

Rao, I. J. (*with* Rajagopal, K. R.) Some simple flows of a Johnson-Segalman fluid. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 209–219. (Summary) **99g:76004**

76A05

Rao, J. Krishna (*with* Annapurna, M.; Trivedi, M. M.) Static charged isothermal gaseous spheres in general relativity. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1143–1149. 83C55

— (*with* Annapurna, M.; Purnachandra Rao, K.) Inhomogeneous Kantowski-Sachs type cosmological models. (English summary) *Math. Today (Ahmedabad)* **16** (1998), 25–37. 83C15

Rao, J. N. K. Resampling methods for complex survey data. *Conference on Statistical Science Honouring the Bicentennial of Stefano Franscini's Birth (Ascona, 1996)*, 149–156, *Monte Verità, Birkhäuser, Basel*, 1997. (*see* **99e:62002**) 62D05 (62G09)

Rao, J. Sunil Bootstrap choice of cost complexity for better subset selection. (English summary) *Statist. Sinica* **9** (1999), *no.* 1, 273–287. 62G09

purnachandra Rao, K. *see* **Purnachandra Rao, K.**

Rao, K. P. R. (*with* Srinivasa Rao, N.; Bhishma Rao, G. S. S.) Common fixed point theorem in metric linear space. *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 147–148. 54H25

bhaskara Rao, K. P. S. *see* **Bhaskara Rao, K. P. S.**

seshagiri Rao, K. V. V. *see* **Seshagiri Rao, K. V. V.**

Rao, M. Bhaskara (*with* Rao, Calyampudi Radhakrishna) ★ Matrix algebra and its applications to statistics and econometrics. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xx+535 pp. ISBN* 981-02-3268-3 15-01 (62-01)

— (*with* Ogunyemi, Theophilus O.) A note on E-optimal minimal block designs under mixed effects model. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 2-3, 163–168. (Summary) **99h:62098** 62K05 (62K10)

— (*with* Ogunyemi, Theophilus O.) On s- and (m, s)-optimality of minimal incomplete block designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 189–195. (Summary) **99g:62111** 62K05 (62K10)

— (*with* Arani, Ramin B.) Erratum to: "A result on a 2×2 survival experiment" [Math. Biosci. **146** (1997), no. 2, 63–73]. *Math. Biosci.* **158** (1999), *no.* 1, 93. 92B15

Rao, M. Murali Krishna Γ-semirings. II. *Southeast Asian Bull. Math.* **21** (1997), *no.* 3, 281–287. 16Y60

krishna Rao, M. R. K. *see* **Krishna Rao, M. R. K.**

Rao, Murali (*with* Pop-Stojanović, Zoran; Šikić, Hrvoje) Brownian potentials and Besov spaces. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 331–337. (H. Triebel) **99a:46062** 46E35 (35J05, 60J65)

srinivasa Rao, N. *see* **Srinivasa Rao, N.**

Rao, N. N. (*with* Roy Chowdhury, Asesh; Dasgupta, Brahmananda) Painléve analysis and Backlund transformations for coupled generalized Schrödinger-Boussinesq system. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1747–1753. (Summary) **99i:35155** 35Q55 (58F37)

Rao, N. V. (*with* Čučković, Željko) Mellin transform, monomial symbols, and commuting Toeplitz operators. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 195–214. (Jonathan Arazy) **99f:47033** 47B35 (43A32, 46E99, 47B38)

Rao, P. R. K. (*with* Ramesh, Chaveli; Sharma, Govind) Scale-limitedness in wavelet transforms. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 211–228. (Kathi Karima Selig) **99k:42065** 42C15

Rao, P. S. (*with* Konig, Jean-Claude; Trystram, D.) Analysis of gossiping algorithms with restricted buffers. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 2, 117–133. 90B12 (65Y05)

Rao, Poduri S. R. S. ★ Variance components estimation. (English summary) Mixed models, methodologies and applications. Monographs on Statistics and Applied Probability, 78. *Chapman & Hall, London*, 1997. xx+204 *pp. ISBN* 0-412-72860-5 (Tonghui T. Wang) **99c:62189** 62J05 (62J10)

— (*with* Heckler, Charles E.) Multivariate one-way random effects model. (English summary) MSI-2000, Vol. IV (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **18** (1998), *no.* 1-2, 109–128. (Summary) **99g:62077** 62H12

Rao, Prasad (*with* Ramakrishnan, C. R.; Ramakrishnan, I. V.) On the optimality of scheduling strategies in subsumption based tabled resolution. (English summary) *Logic programming (Manchester, 1998)*, 310–324, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17

Rao, Ravi A. An abelian group structure on orbits of "unimodular squares" in dimension 3. *J. Algebra* **210** (1998), *no.* 1, 216–224. (L. N. Vaserstein) **99k:20103** 20H05

subba Rao, S. *see* **Subba Rao, S.**

Rao, S. S. *see* **Rao, Singiresu Sambasiva**

Rao, S. V. (*with* Mukhopadhyay, Asish) Fast algorithms for computing β-skeletons and their relatives. (English summary) *Algorithms and computation (Singapore, 1997)*, 374–383, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68R10 (05C85, 68U05)

Rao, Satish (*with* Leiserson, Charles E.; Toledo, Sivan) Efficient out-of-core algorithms for linear relaxation using blocking covers. (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 332–344. (Summary) **99f:65070** 65F99 (65F50)

— (*with* Richa, Andréa W.) New approximation techniques for some ordering problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 211–218, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10)

— (*with* Goldberg, Andrew V.) Beyond the flow decomposition barrier. (English summary) *J. ACM* **45** (1998), *no.* 5, 783–797. (Maretsugu Yamasaki) **99m:90114** 90C27 (68Q25)

— (*with* Goldberg, Andrew V.) Flows in undirected unit capacity networks. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 1–5 (*electronic*). (Summary) **99j:05177** 05C85 (68R10)

Rao, Singiresu Sambasiva (*with* Chen, Li) Numerical solution of fuzzy linear equations in engineering analysis. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 3, 391–408. 65F30

Rao, Sumathi (*with* Ghosh, Ranjan Kumar) Fractional quantum Hall effect states as exact ground states. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 11, 1125–1134. (Summary) **99a:81206** 81V70

— (*with* Ghosh, Ranjan Kumar) Exactly solvable models in arbitrary dimensions. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 213–218. (Tuncay Aktosun) **99c:81025** 81Q05

subba Rao, T. *see* **Subba Rao, T.**

Rao, T. R. N. (*with* Feng, Gui-Liang; Wu, Xinwen) New double-byte error-correcting codes for memory systems. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1152–1163. (Summary) **99e:94041** 94B05 (94B15)

Rao, T. S. S. R. K. Spaces of operators as continuous function spaces. *Extracta Math.* **12** (1997), *no.* 3, 251–253. (Rajappa K. Asthagiri) **99m:46049** 46B28 (46E15, 47D15)

— (*with* Emmanuele, G.) Spaces of Bochner integrable functions and spaces of representable operators as $\mathfrak{U}$-ideals. *Quart. J. Math. Oxford Ser. (2)* **48** (1997), *no.* 192, 467–478. (Henryk Hudzik) **99a:46066** 46E40 (46B20, 46B28, 47B60)

— (*with* Basu, Sudeshna) Some stability results for asymptotic norming properties of Banach spaces. *Colloq. Math.* **75** (1998), *no.* 2, 271–284. (Dirk Werner) **99j:46013** 46B04 (46B20)

Rao, T. S. S. Srinivasa (*with* Gupta, U. C.) On the analysis of single server finite queue with state dependent arrival and service processes: $M(n)/G(n)/1/K$. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 2, 83–89. (Summary) **99b:90055** 90B22 (60K25)

subba Rao, V. *see* **Subba Rao, V.**

Rao, Vidhyānāth K. Towards the algebra structure of the Morava K-theory of the orthogonal groups. *Manuscripta Math.* **94** (1997), *no.* 3, 287–301. (W. Stephen Wilson) **99d:55002** 55N20 (57T10)

Raous, M. (*with* Cocu, M.; Thoulouze-Pratt, Elaine) Constructive aspects of functional analysis for the treatment of frictional contact. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 109–120. (Ján Lovišek) **99h:73070** 73T05 (73E60, 73F99, 73V25)

— (*with* Cocu, M.; Cangemi, L.) Approximation results for a class of quasistatic contact problems including adhesion and friction. *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 211–218, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99k:73109** 73T05 (73B30)

Rapajić, Sanja (*with* Herceg, Dragoslav; Surla, Katarina) Cubic spline difference scheme on a mesh of Bakhvalov type. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 41–49. (Josef Dalík) **99k:65061** 65L10

Rapaport, A. E. Characterization of barriers of differential games. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 151–179. (Martino Bardi) **99g:90173** 90D25 (49L25)

— (*with* Astolfi, Alessandro) Robust stabilization of the angular velocity of a rigid body. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 257–264. 93C85 (70E15, 70Q05, 93D21)

Rapaport, Ivan (*with* Mazoyer, Jacques) Inducing an order on cellular automata by a grouping operation. (English summary) *STACS 98 (Paris, 1998)*, 116–127, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99g:68142** 68Q80

— (*with* Mazoyer, Jacques) Inducing an order on cellular automata by a grouping operation. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 177–196. (Summary) **99k:68118** 68Q80

Rapcsák, Tamás Variable metric methods along geodetics. (English summary) *New trends in mathematical programming*, 257–275, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Shu Zhong Zhang) **99h:90100** 90C30 (65K05)

— (*with* Vásárhelyiné Szabó, Anna) On a relation between problems of calculus of variations and mathematical programming. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 238–248, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 49K05 (90C31)

— *see also* **New trends in mathematical programming**, **99c:90004**

Raphaël, Elie (*with* Boutreux, Thomas; de Gennes, Pierre-Gilles) Surface flows of granular materials: a modified picture for thick avalanches. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4692–4700. (Summary) **99h:73035** 73E99 (73N20, 76A99, 86A99)

Raphael, Louise A. (*with* Kon, Mark A.) Characterizing convergence rates for multiresolution approximations. (English summary) *Signal and image representation in combined spaces*, 415–437, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Gilbert Walter) **99f:42067** 42C15 (41A25)

Raphael, R. M. (*with* Burgess, W. D.) On extensions of regular rings of finite index by central elements. (English summary) *Advances in ring theory (Granville, OH, 1996)*, 73–86, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Pere Ara) **99b:16013** 16E50

Rapinchuk, Andrei S. On an approximation property for nondiscrete inequivalent representations of finitely generated groups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 19–24. (Alain Valette) **99i:20057** 20G05 (22D10)

— On SS-rigid groups and A. Weil's criterion for local rigidity. I. (English summary) *Manuscripta Math.* **97** (1998), *no.* 4, 529–543. (Alexander Lubotzky) **99m:20019** 20C99 (22E40)

— On the finite-dimensional unitary representations of Kazhdan groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1557–1562. (Alain Valette) **99h:22004** 22D10 (20H20, 22E40)

Rapisarda, Paolo (*with* Willems, Jan C.) The subspace Nevanlinna interpolation problem and the most powerful unfalsified model. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 291–300. (Mark A. Nudel'man) **99b:93027** 93B50 (30E05, 46C20, 93C60)

Rapoport, Diego L. *see* **Rapoport Campodónico, Diego Lucio**

Rapoport, M. Analogien zwischen den Modulräumen von Vektorbündeln und von Flaggen. [Analogies between the moduli spaces of vector bundles and of flags] *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 4, 164–180. (Hans U. Boden) **99e:14010** 14D20 (14H60, 14M15)

Rapoport Campodónico, Diego Lucio Riemann-Cartan-Weyl geometries, quantum diffusions and the equivalence of the free Maxwell and Dirac-Hestenes equations. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 129–146. (Waldyr Alves Rodrigues, Jr.) **99m:81088** 81R20 (15A66, 78A25)

Rappaport, David (*with* Arkin, Esther M.; Meijer, Henk; Mitchell, Joseph S. B.; Skiena, Steven S.) Decision trees for geometric models. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 343–363. (Summary) **99b:68193** 68U05 (52B55, 68U10)

Rappaz, J. (*with* Parietti, C.) A quasi-static two-dimensional induction heating problem. I. modelling and analysis. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1003–1021. (P. Rochus) **99i:80009** 80A20 (78A25)

Rappoport, I. S. (*with* Chikrii, Arkadii A.) A guaranteed result in a differential game of group pursuit with a terminal payoff function. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 584–594; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 567–576. (O. A. Malafeyev) **99k:90229** 90D26 (49J15)

Raptis, E. (*with* Varsos, D.) On the profinite topology of the automorphism group of a residually torsion free nilpotent group. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 735–738. (Summary) **99h:20061** 20F28 (20F18)

Raqab, Mohammad Zayed (*with* Amin, Wael A.) Some ordering results on order statistics and record values. (English summary) *IAPQR Trans.* **21** (1996), *no.* 1, 1–8. (Summary) **99i:62117** 62G30

— Characterizations of continuous distributions based on moments of record values. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 187–196 (1998). (Summary) **99b:62012** 62E10

— Order statistics from the Burr type X model. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 111–120. 62G30 (65U05)

Rardchenko, T. N. (*with* Kartasheva, L. V.) The problem of the jump in the space of generalized functions on $\mathbf{R}_+$. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 83–84, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 46F10

Rardin, Ronald L. (*with* Ng, Peh H.) Commodity family extended formulations of uncapacitated fixed charge network flow problems. (English summary) *Networks* **30** (1997), *no.* 1, 57–71. (Summary) **99i:90111** 90C35 (90B10)

Ras, Zbigniew W. Answering non-standard queries in distributed knowledge-based systems. (English summary) *Rough sets in knowledge discovery*, 2, 98–108, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68T30 (68P15)

Raşa, Ion (*with* Vladislav, T.) Some properties of Bernstein and Stancu operators. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 345–350, *Transilvania, Cluj-Napoca*, 1997. (Detlef H. Mache) **99b:41016** 41A36

— (*with* Altomare, Francesco) Towards a characterization of a class of differential operators associated with positive projections. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 3–38. (Maurizio Chicco) **99h:35072** 35J70 (35J15, 47B65, 47N20)

— (*with* Vladislav, T.) Altomare projections and Lipschitz constants. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 749–756. (George A. Anastassiou) **99g:41046** 41A65

Rasband, S. Neil (*with* Spencer, Ross L.) Modes and quasi-modes for $m = 1, 2$ in a gyrokinetic model for a non-neutral plasma. (English summary) *Phys. Plasmas* **6** (1999), *no.* 5, *part* 1, 1435–1441. 76X05

Rasbash, J. (*with* Pfeffermann, Danny; Skinner, C. J.; Holmes, D. J.; Goldstein, Harvey) Weighting for unequal selection probabilities in multilevel models. (English summary) With discussion. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 23–56. (Summary) **99a:62013** 62D05

Răşcanu, Aurel (*with* Bensoussan, Alain) Large time behaviour for parabolic stochastic variational inequalities. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 1, 149–173 (1997). (Bohdan Maslowski) **99c:60125** 60H15 (49J40, 49K45)

— (*with* Pardoux, Étienne) Backward stochastic differential equations with subdifferential operator and related variational inequalities. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 2, 191–215. (Rainer Buckdahn) **99k:60156** 60H10 (35R60, 49J40)

Raschhofer, Ernst (*with* Grosse, Harald; Langmann, Edwin) Introduction to simple integrable models of quantum field theory. (English summary) *Conformal field theories and integrable models* (*Budapest*, 1996), 126–150, *Lecture Notes in Phys.*, 498, *Springer, Berlin*, 1997. (Summary) **99i:82005** 82B05 (81T10, 82B23)

Raschle, Thomas (*with* Sterbini, Andrea) An $O(n^3)$ time algorithm for recognizing threshold dimension 2 graphs. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 255–259. (Summary) **99j:05181** 05C85 (68R10)

Rasetti, Mario (*with* Zanardi, Paolo) Error avoiding quantum codes. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 25, 1085–1093. (Władysław Adam Majewski) **99b:82066** 82C10 (94B99)

— (*with* Penna, Vittorio; Spera, Mauro) Quantum dynamics of 3-D vortices. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 173–193, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Ivailo M. Mladenov) **99j:81085** 81S10 (76C05, 81R30, 81T99)

— (*with* Celeghini, Enrico) Generalized bosons and coherent states. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 16, 3424–3427. (Summary) **99a:81066** 81R30

— (*with* Ceresole, Anna; Zecchina, R.) Geometry, topology, and physics of non-abelian lattices. *Riv. Nuovo Cimento Soc. Ital. Fis.* (4) **21** (1998), *no.* 5, 56 *pp.* (Vasily A. Chernecky) **99e:82014** 82B20 (52C07, 82–02)

alonso Rasgado, M. T. *see* **Alonso Rasgado, M. T.**

Rashed, Roshdi Geometrical optics. *Encyclopedia of the history of Arabic science, Vol.* 1–3, 643–671, *Routledge, London*, 1996. (*see* **99k:01001**) 01A30

— Archimedean learning in the Middle Ages: the Banū Mūsā. *Historia Sci.* (2) **6** (1996), *no.* 1, 1–16. (Y. Dold) **99f:01006** 01A30 (01A20)

— Al-Qūhī vs. Aristotle: on motion. (English and French summaries) *Arabic Sci. Philos.* **9** (1999), *no.* 1, 3, 5, 7–24. 01A30 (01A20)

— *see also* **Encyclopedia: History of Arabic science, 99k:01001**

Rashidi, Reza (*with* Chartrand, Gary; Gavlas, Heather; Henning, Michael A.) Stratidistance in stratified graphs. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 337–347. (Ioan Tomescu) **99b:05046** 05C12

Rashidinia, Jalil (*with* Aziz, Tariq) Spline solution of fourth-order parabolic partial differential equations. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 2, 139–148. 65M99 (65D07)

Rashkova, Tsetska G. $*$-identities of minimal degree in matrix algebras of low order. (English summary) *Period. Math. Hungar.* **34** (1997), *no.* 3, 229–233. (Vesselin Drensky) **99c:16022** 16R50 (15A24, 16R10, 20C30)

Rashkovskiĭ, A. Yu. Flows associated with holomorphic almost periodic mappings. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 2, 250–269. (M. Klimek) **99b:32040** 32H30 (32C30)

— Eigenvalues of positive currents of bidegree (1, 1). (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1289–1293. (Mongi Blel) **99h:32010** 32C30

— (*with* Favorov, S. Yu.; Ronkin, L. I.) Almost periodic currents and holomorphic chains. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 445–449. (Mohammed El Amrani) **99k:32016** 32C30

— Maximal plurisubharmonic functions associated with holomorphic mappings. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 297–309. (Norman Levenberg) **99d:32020** 32F05 (32F07)

— (*with* Favorov, S. Yu.; Ronkin, L. I.) Almost periodic divisors in a strip. (English summary) *J. Anal. Math.* **74** (1998), 325–345. (Daniele Struppa) **99k:42016** 42A75 (30D15)

Rashwan, R. A. (*with* Ahmed, M. A.) Coincidence points of compatible multivalued mappings. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 20–28 (*electronic*). 54H25 (54C60, 54E40)

— Common fixed points by Ishikawa iterates in metric linear spaces. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 19–23. (B. E. Rhoades) **99c:47093** 47H10

— (*with* Hedar, A.) On common fixed point theorems of compatible mappings in Menger spaces. *Demonstratio Math.* **31** (1998), *no.* 3, 537–546. 54H25 (54E70)

— (*with* Ahmed, M. A.) Fixed points of single and set-valued mappings. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 29–37. 54H25 (54C60)

— Common fixed points by Ishikawa iterates in metric linear spaces. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 237–242. (B. E. Rhoades) **99k:47149** 47H10

— (*with* Ahmed, M. A.) Common fixed points for generalized contraction mappings in convex metric spaces. (English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 15–21. 54H25

Rasigni, G. (*with* d'Iribarne, C.; Rasigni, M.) Minimal spanning tree and percolation on mosaics: graph theory and percolation. (English summary) *J. Phys. A* **32** (1999), *no.* 14, 2611–2622. 82B43 (05C05)

Rasigni, M. (*with* d'Iribarne, C.; Rasigni, G.) Minimal spanning tree and percolation on mosaics: graph theory and percolation. (English summary) *J. Phys. A* **32** (1999), *no.* 14, 2611–2622. 82B43 (05C05)

Rasiowa, Helena ★ Wstęp do matematyki współczesnej. (Polish. Polish summary) [Introduction to modern mathematics] Tenth edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 304 *pp. ISBN* 83-01-01373-7 (Editors) **99g:03001** 03–02 (04–02)

— *see also* **Logic, algebra, and computer science, 99m:03004** *and* **Bartol, Wiktor et al., (99m:03004)**

Raskin, J.-F. (*with* Henzinger, Thomas A.; Schobbens, P.-Y.) The regular real-time languages. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 580–591, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (68Q45)

— (*with* Schobbens, P.-Y.; Henzinger, Thomas A.) Axioms for real-time logics. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 219–236, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10)

— (*with* Schobbens, P.-Y.) The logic of "initially" and "next": complete axiomatization and complexity. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 5, 221–225. (Summary) **99m:03038** 03B45 (03B70, 68Q60, 68T15)

Raskin, Natalya (*with* Halevi, Yoram) Discrete-time frequency weighted model reduction and application to sampled-data models. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 315–329. 93B11 (93C57)

Rašković, Miodrag (*with* Đorđević, Radosav Ž.) ★ Probability quantifiers and operators. Vesta Company Series in Pure and Applied Mathematics. *Vesta Company, Belgrade*, 1996. iv+122 *pp. ISBN* 86-7212-004-3 (David Ross) **99e:03045** 03H05 (03B48, 03C70, 03C75, 28C99, 60A05)

— (*with* Boričić, Branislav) A probabilistic validity measure in intuitionistic propositional logic. (English summary) *Math. Balkanica* (*N.S.*) **10** (1996), *no.* 4, 365–372. (Frans Voorbraak) **99i:03022** 03B48 (03B20)

— (*with* Đorđević, Radosav Ž.; Bradić, M.) Weak cylindric probability algebras. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **61(75)** (1997), 6–16. (S. Comer) **99e:03043** 03G25 (03C70)

Rasmusen, Eric (*with* Petrakis, Emmanuel) Defining the mean-preserving spread: 3-pt versus 4-pt. (English summary) *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 53–58, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A46

Rasmussen, Jens Juul (*with* Nielsen, A. H.; He, Xinyu; Bohr, Tomas) Vortex merging and spectral cascade in two-dimensional flows. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2263–2265. 76F99 (76C05, 76M25)

— (*with* Schmidt, M. R.; Beckers, Marcel; Nielsen, A. H.; van Heijst, GertJan F.) On the interaction between two oppositely signed, shielded, monopolar vortices. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3099–3110. (Summary) **99g:76022** 76C05 (76–05, 76D05, 76M25)

— (*with* van de Konijnenberg, J. A.; Nielsen, A. H.; Stenum, B.) Shear-flow instability in a rotating fluid. (English summary) *J. Fluid Mech.* **387** (1999), 177–204. 76E99 (76U05)

Rasmussen, Jørgen Two-point functions in affine SL(N) current algebra. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 15, 1213–1221. (Stanislav Z. Pakuliak) **99e:81080** 81R10 (17B65, 22E67)

— Two-point functions in affine current algebra and conjugate weights. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1281–1288. (Stanislav Z. Pakuliak) **99h:81070** 81R10 (17B68, 81T40)

— Screening current representation of quantum superalgebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1485–1493. (Stanislav Z. Pakuliak) **99i:81110** 81R50 (17B68, 81T40)

— Free field realizations of affine current superalgebras, screening currents and primary fields. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 688–720. (Stanislav Z. Pakuliak) **99b:81080** 81R10 (81T40)

— Explicit decompositions of Weyl reflections in affine Lie algebras. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 632–644. (Andrew Pressley) **99e:17037** 17B67 (81R10)

Rasmussen, K. Ø. (*with* Johansson, Magnus; Aubry, Serge; Gaĭdideĭ, Yu. B.; Christiansen, Peter Leth) Dynamics of breathers in discrete nonlinear Schrödinger models. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 115–124. (Summary) **99e:70060** 70K99 (58F40, 78A60)

Rasmussen, Lars Eilstrup Approximately counting cliques. (English summary) Proceedings of the Workshop on Randomized Algorithms and Computation (Berkeley, CA, 1995). *Random Structures Algorithms* **11** (1997), *no.* 4, 395–411. (E. Rodney Canfield) **99a:68136** 68R10 (05C85, 68Q25)

— (*with* Adler, Micah; Chakrabarti, Soumen; Mitzenmacher, Michael) Parallel randomized load balancing. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 2, 159–188. (Mukkai S. Krishnamoorthy) **99m:68021** 68M20

Rasol'ko, G. A. (*with* Sheshko, M. A.; Shulyaev, D. S.) On exact and approximate solutions of a singular integral equation with a Cauchy kernel on the real half-line. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 43–48, 124. (Summary) **99k:45010** 45E05 (45L05)

Raspaud, A. (*with* Borodin, O. V.; Kostochka, A. V.; Nešetřil, Jaroslav; Sopena, E.) On universal graphs for planar oriented graphs of a given girth. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 73–85. (Pavol Hell) **99e:05046** 05C15 (05C20)

Rass, L. (*with* Radcliffe, John) Spatial Mendelian games. (English summary) *Math. Biosci.* **151** (1998), *no.* 2, 199–218. (Summary) **99j:92020** 92D25 (90D40, 92D15)

Rassart, E. (*with* Leroux, Pierre; Robitaille, A.) Enumeration of symmetry classes of convex polyominoes in the square lattice. (English and French summaries) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 343–380. (Edward A. Bender) **99g:05050** 05B50 (05A15)

Rassenti, Stephen J. (*with* McCabe, Kevin A.; Smith, Vernon L.) Reciprocity, trust, and payoff privacy in extensive form bargaining. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 10–24. (Summary) **99b:90172** 90D12 (90A60)

Rassi, Hannes (*with* Lang, Johann; Röschel, Otto) GC^1-continuity of integral Bézier-patches—another approach. (English summary) *Beiträge zur Geometrie*, 43–54, *Grazer Math. Ber.*, 332, *Karl-Franzens-Univ. Graz, Graz*, 1997. (Summary) **99g:65019** 65D17

Rassias, John Michael Six-dimensional Landau inequalities. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 6, 473–494. (Summary) **99m:47049** 47D06 (47A30, 47D09)

— Solution of the Ulam stability problem for Euler-Lagrange quadratic mappings. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 613–639. (Nicole Brillouët-Belluot) **99e:39096** 39B72 (39B52, 47H99)

Rassias, Themistocles M. On a problem of S. M. Ulam and the asymptotic stability of the Cauchy functional equation with applications. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 297–309, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Jianguo Si) **99e:39092** 39B52

— Stability of the generalized orthogonality functional equation. *Inner product spaces and applications*, 219–240, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (Maciej Sablik) **99f:39042** 39B72 (47H99)

— (*with* Hyers, Donald H.; Isac, George) ★ Stability of functional equations in several variables. (English summary) Progress in Nonlinear Differential Equations and their Applications, 34. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *vi+313 pp. ISBN* 0-8176-4024-X (Zygfryd Kominek) **99i:39035** 39Bxx (39–02, 47H99)

— (*with* Andreian Cazacu, Cabiria) On Stoilow's work and its influence. *Analysis and topology*, 9–39, *World Sci. Publishing, River Edge, NJ*, 1998. (Michael von Renteln) **99m:01032** 01A70

— Stability and set-valued functions. (English summary) *Analysis and topology*, 585–614, *World Sci. Publishing, River Edge, NJ*, 1998. (Kazimierz Nikodem) **99m:28031** 28B20 (39B52, 39B72, 54C65)

— (*with* Milovanović, Gradimir V.) New developments on Turán's extremal problems for polynomials. (English summary) *Approximation theory*, 433–447, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Michael Felten) **99e:41014** 41A17 (41A10)

— Properties of isometries and approximate isometries. (English summary) *Recent progress in inequalities (Niš*, 1996), 341–379, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:51028** 51K05 (46B99, 46J10)

— (*with* Al-Said, Eisa A.; Noor, Muhammad Aslam) Numerical solutions of third-order obstacle problems. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 75–84. 49J40 (65K10)

— (*with* Noor, Muhammad Aslam; Noor, Khalida Inayat) Set-valued resolvent equations and mixed variational inequalities. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 741–759. (Vyacheslav N. Pavlenko) **99i:58046** 58E35 (47H19, 49J40, 65J15)

— (*with* Shibata, Keiichi) Variational problem of some quadratic functionals in complex analysis. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 234–253. (Vasily A. Chernecky) **99k:30036** 30C70 (30F45, 30F60)

— (*with* Haruki, Hiroshi) A new characteristic of Möbius transformations by use of Apollonius quadrilaterals. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2857–2861. (Summary) **99a:30012** 30C35

— *see also* **Analysis and topology**, **99h:00035**

Rasson, Jean-Paul (*with* Jacquemin, Didier; Bertholet, Vincent) A new geometrical hypothesis for clustering and discriminant analysis. (English summary) *Advances in data science and classification* (*Rome*, 1998), 257–264, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

maleck-Rassoul, Rysvan *see* **Maleck-Rassoul, Rysvan**

Rassy, M. (*with* Zieschang, P.-H.) Basic structure theory of association schemes. *Math. Z.* **227** (1998), *no.* 3, 391–402. (Sung-Yell Song) **99f:05127** 05E30

Rast, Mark Peter Compressible plume dynamics and stability. (English summary) *J. Fluid Mech.* **369** (1998), 125–149. (Summary) **99f:76112** 76N10 (76E99, 76M25, 76V05, 85A30)

Rastegar, A. (*with* Jafarizadeh, M. A.; Darabi, F.) On the Duru-Kleinert path integral in quantum cosmology. (English summary) *Phys. Lett. A* **248** (1998), *no.* 1, 19–24. (Summary) **99e:83028** 83C45

Rastogi, Rajeev (*with* Mehrotra, Sharad; Breitbart, Yuri; Korth, Henry F.; Silberschatz, Avi) On correctness of nonserializable executions. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 68–82. (Armin Cremers) **99c:68074** 68P15 (68Q10)

Rastrigin, L. A. (*with* Vulf, G. N.) Investigation of associative control by precedents. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 15–24, 155. 93B51 (93C40)

Rasulov, A. A. On a property of the function of best responses in a hierarchical game of a special type. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 57–62. 90D65

Rasulov, Mahir (*with* Coskun, Erhan) An efficient numerical method for solving the Korteveg [Korteweg]-de Vries equation in a class of discontinuous functions. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 2-3, 139–154. 65M06 (65M50)

Rasulzadeh, M. E. (*with* Yagubov, M. A.) Generalized control depending on multiparameters and their applications to the optimal control theory. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 583–585, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 49J20 (35J60, 93C20)

Răsvan, Vladimir Dynamical systems with several equilibria and natural Liapunov functions. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 207–215. (Jan Andres) **99d:34097** 34D20 (34C99)

Rataj, Jan Translative and kinematic formulae for curvature measures of flat sections. (English summary) *Math. Nachr.* **197** (1999), 89–101. (Daniel Hug) **99j:53099** 53C65 (52A22)

Ratanaprasert, Chawewan Compatible orders of semilattices. (English summary) Ordered algebraic structures '93 (Liptovský Ján, 1993). *Tatra Mt. Math. Publ.* **5** (1995), 177–187. (Marcel Erné) **99d:06009** 06A12 (06C10)

Ratcliff, Gail (*with* Benson, Chal; Jenkins, Joe) The spherical transform of a Schwartz function on the Heisenberg group. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 379–423. (Jacek Cygan) **99d:22016** 22E30 (22E25)

— (*with* Benson, Chal) Combinatorics and spherical functions on the Heisenberg group. (English summary) *Represent. Theory* **2** (1998), 79–105 (*electronic*). (Jean Ludwig) **99f:22014** 22E30

Ratcliffe, John G. (*with* Tschantz, Steven T.) Volumes of integral congruence hyperbolic manifolds. *J. Reine Angew. Math.* **488** (1997), 55–78. (Kerry N. Jones) **99b:11076** 11H06 (11F06, 20H05, 57N15)

— (*with* Tschantz, Steven T.) Gravitational instantons of constant curvature. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2613–2627. (Athanase Papadopoulos) **99k:53127** 53C50 (51M10, 53C80, 57M50, 57N13, 83C99)

Rath, Biswanath Case study of the convergency of nonlinear perturbation series: Morse-Feshbach nonlinear series. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 13, 2103–2115. 81Q15

Rath, H. J. (*with* Wulf, P.; Egbers, C.) Routes to chaos in wide-gap spherical Couette flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 6, 1359–1372. 76–05 (76E99)

Rath, Kali P. (*with* Khan, M. Ali; Sun, Yeneng) On the existence of pure strategy equilibria in games with a continuum of players. (English summary) *J. Econom. Theory* **76** (1997), *no.* 1, 13–46. (Summary) **99h:90126** 90D13

Rathbun, Randall L. Errata for Table 2—nonequivalent prime 6-clusters of extent < 20937: "n-clusters for $1 < n < 7$" [Math. Comp. **53** (1989), no. 187, 439–444; MR 89j:52008] by L. C. Noll and D. I. Bell. *Math. Comp.* 52A37

— (*with* Buchholz, Ralph H.) Heron triangles and elliptic curves. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 411–421. (Andrew Bremner) **99h:11026** 11D25 (11G05, 51M04)

Rathe, U. W. (*with* Sanders, Peter; Knight, Peter L.) A case study in scalability: an ADI method for the two-dimensional time-dependent Dirac equation. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 525–533. 65F30 (65Y05)

Rather, Nisar Ahmed (*with* Aziz, Abdul[1]) New L^q inequalities for polynomials. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 177–191. (Saulius Norvidas) **99b:26025** 26D05 (41A17)

— (*with* Aziz, Abdul[1]) A refinement of a theorem of Paul Turán concerning polynomials. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 231–238. (N. K. Govil) **99b:30001** 30A10 (30C10, 30D15)

Rathie, Arjun K. (*with* Nagar, Vishakha) Some summation formulas for the series ${}_4F_3$. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 63–64. (Summary) **99g:33012** 33C20

— (*with* Joshi, Mukesh M.; Nagar, Vishakha; Chhajer, G. C.) On Ramanujan's summations. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 65–66. 33C20 (11Y60)

— (*with* Mathur, Rachana) Integrals involving hypergeometric function. I. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 344–346. (Summary) **99g:33005** 33C05

— (*with* Choi, Junesang) A short proof of Bailey's formula. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 1065–1067. (From the text) **99g:33014** 33C20

— (*with* Choi, Junesang) An evaluation of $\zeta(2)$. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 393–398. (G. Velammal) **99d:11097** 11M06 (11Y60, 33B15, 33C05)

— A new generalization of generalized hypergeometric functions. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 2, 297–310 (1998). (P. Anandani) **99f:33006** 33C20

— (*with* Choi, Junesang) A note on generalizations of Preece's identity and other contiguous results. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 339–344. (Summary) **99d:33006** 33C20 (33C10)

— (*with* Choi, Junesang) A note on an identity due to Preece. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 205–209. (Summary) **99h:33025** 33C20 (33C10)

— (*with* Choi, Junesang) Some more results contiguous to a Bailey's formula. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 743–750. (Summary) **99h:33026** 33C20 (33C10, 33C15)

— (*with* Rathie, P. N.) On the asymptotic and exact volume distribution of random rhombic R-parallelotope. (English summary) Statistical theory and applications. *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 1, 121–128. (*see* **99f:00031**) 60D05 (62E20)

— On Banach's match box problem. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 135–139. (Summary) **99i:62027** 62E15

— (*with* Vyas, Vishwa Mohan) A study of I-function. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), *no.* 3, 185–191. (Summary) **99k:33044** 33C60

Rathie, N. R. (*with* Joshi, Mukesh M.) An expansion formula for $\overline{H}$-function in series involving Jacobi polynomials. (English summary) *Acta Cienc. Indica Math.* **22** (1996),

no. 2, 232–235. (Summary) **99e:33008** 33C45 (33C60)
— (*with* Suri, Komal; Joshi, Mukesh M.) Some finite series of $\overline{H}$-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 241–244. (Summary) **99h:33027** 33C20 (33C60)
— (*with* Suri, Komal) A summation formula for $\overline{H}$-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 277–280. (Summary) **99h:33028** 33C20 (33C60)
Rathie, P. N. (*with* Daboul, Jamil) Generalized parity and r-polynomials. (English summary) *Int. J. Math. Stat. Sci.* **5** (1996), *no.* 2, 179–196. (Summary) **99b:33014** 33C45 (30C15)
— (*with* Rathie, Arjun K.) On the asymptotic and exact volume distribution of random rhombic R-parallelotope. (English summary) Statistical theory and applications. *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 1, 121–128. (*see* **99f:00031**) 60D05 (62E20)
Rathinam, M. (*with* van Nieuwstadt, Michiel J.; Murray, Richard M.) Differential flatness and absolute equivalence of nonlinear control systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1225–1239 (*electronic*). (Henk Nijmeijer) **99f:93034** 93B29 (58A15, 58A17, 93C10)
Rathjen, Michael Explicit mathematics with the monotone fixed point principle. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 509–542. (A. Kučera) **99m:03125** 03F65 (03D70)
Rathke, J. Resource based models for asynchrony. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 273–287, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q10 (68R10)
— (*with* Hennessy, Matthew) Bisimulations for a calculus of broadcasting systems. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 225–260. (Andrea Maggiolo-Schettini) **99e:68044** 68Q10 (68Q55, 68Q60)
Rathod, H. T. (*with* Hiremath, S. V.) Boundary integration of polynomials over an arbitrary linear tetrahedron in Euclidean three-dimensional space. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 1-2, 81–106. (Sven Ehrich) **99c:65045** 65D30
— (*with* Hiremath, S. V.) Boundary integration of polynomials over an arbitrary linear hexahedron in Euclidean three-dimensional space. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 1-2, 155–193. (Summary) **99e:65041** 65D30
— (*with* Shafiqul Islam, Md.) Integration of rational functions of bivariate polynomial numerators with linear denominators over a $(-1, 1)$ square in a local parametric two-dimensional space. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 1-2, 195–213. (C. Dagnino) **99k:65024** 65D30 (26C15)
— (*with* Govinda Rao, H. S.) Integration of trivariate polynomials over linear polyhedra in Euclidean three-dimensional space. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 355–385. (Summary) **99a:52018** 52B55 (68U07)
Rathore, G. P. S. (*with* Tapi, U. D.; Thakur, S. S.) Quasi weak pre-open set. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 114–117. 54E55
Rathore, M. S. (*with* Sharma, M. L.; Sharma, P. L.) Common fixed point theorems for setvalued mappings. (English summary) *Vikram Math. J.* **14** (1994), 1–9. 54H25 (54C60, 54E55)
— (*with* Nijhawan, R. R.) Fixed point theorem on two metric space. (English summary) *Vikram Math. J.* **14** (1994), 45–50. 54H25 (54E40)
— (*with* Sharma, M. L.; Singh, Bijendra) Coincidence point theorems for multivalued mappings. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 353–356. 54H25
— (*with* Deshmukh, Rajendra; Rajput, Anil) Asymptotically regular maps and sequences in 2-metric spaces. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 167–170. 54H25 (54E35, 54E55)
— (*with* Singh, Naval; Sharma, M. L.) Fixed point of certain involutions in 2-Banach spaces. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 189–191. 47H10
Rathsfeld, Andreas A wavelet algorithm for the boundary element solution of a geodetic boundary value problem. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 267–287. (Summary) **99d:86002** 86-08 (86A30)
— A wavelet algorithm for the solution of a singular integral equation over a smooth two-dimensional manifold. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 4, 445–501. (Fritz Keinert) **99k:45027** 45L05 (65R20)
— Edge asymptotics for the radiosity equation over polyhedral boundaries. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 3, 217–241. (Habib Ammari) **99k:78021** 78A40 (45A05, 45L05)
Ratier, Guillaume (*with* Balinski, Michel) On stable marriages and graphs, and strategy and polytopes. (English summary) *SIAM Rev.* **39** (1997), *no.* 4, 575–604. (Winfried Hochstättler) **99b:90096** 90C27 (05C70, 90C35)
— (*with* Balinski, Michel) Graphs and marriages. *Amer. Math. Monthly* **105** (1998), *no.* 5, 430–445. (Winfried Hochstättler) **99e:90074** 90C27 (05C70)
Ratiner, N. M. Properties of bordism classes of framed submanifolds of Fredholm structure. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997,** *no.* 8, 77–80; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 8, 73–76 (1998). (Jacobo Pejsachowicz) **99b:58019** 58B15
Ratis, Yu. L. (*with* Volov, V. T.; Volov, D. B.) Construction of a scheme for computing radiation transfer for problems of radiative gas dynamics. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1919–1927; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1842–1850. (Summary) **99i:76131** 76M25 (76N15, 80–08)
Ratiu, Tudor S. (*with* Bao, David) On a maximal torus in the volume-preserving diffeomorphism group of the finite cylinder. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 3, 193–210. (J. E. Marsden) **99a:58009** 58B25 (22E65, 58D05)
— (*with* Holm, Darryl D.; Marsden, Jerrold E.) The Euler-Poincaré equations and semidirect products with applications to continuum theories. (English summary) *Adv. Math.* **137** (1998), *no.* 1, 1–81. (Jair Koiller) **99e:58070** 58F05 (58E30, 58F40, 70H30, 73B99, 73V25)
— (*with* Fassò, Francesco) Compatibility of symplectic structures adapted to noncommutatively integrable systems. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 199–220. (Sonia Pinto de Carvalho) **99g:58049** 58F05 (58F07)
Ratliff, H. Donald (*with* Alexopoulos, Christos; Provan, J. Scott; Stutzman, Bryan R.) Minimal connected enclosures on an embedded planar graph. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 25–38. (Summary) **99j:68098** 68R10 (05C10, 05C85)
Ratnakumar, P. K. (*with* Thangavelu, Sundaram) Spherical means, wave equations, and Hermite-Laguerre expansions. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 253–290. (J. V. Baxley) **99h:33047** 33C45
Ratnaseelan, R. (*with* Gesztesy, Fritz) An alternative approach to algebro-geometric solutions of the AKNS hierarchy. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 3, 345–391. (Peter L. Christiansen) **99d:58079** 58F07 (34L40, 35Q51)
Ratnaweera, Anuradha (*with* Appelquist, Thomas; Terning, John; Wijewardhana, L. C. R.) Phase structure of an SU(N) gauge theory with N_f flavors. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105017, 11 *pp.* 81V05 (81T13)
Ratner, Mark Mathematics, computational chemistry, and battery building: some notions. *Modelling and computation for applications in mathematics, science, and engineering (Evanston, IL, 1996)*, 1–24, *Numer. Math. Sci. Comput., Oxford Univ. Press, New York*, 1998. (*see* **99k:00033**) 00A69 (82C43)
Ratsa, M. F. (*with* Malaĭ, V. P.) Description of chain classically complete systems of pseudo-Boolean functions. (Russian. English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1992,** *no.* 2, 15–21. (S. Rudeanu) **99f:03019** 03B50 (03G10, 06E30)
— (*with* Covalgiu, O.) On the existence of a criterion of model completeness for the closed classes of 3-valued functions. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997,** *no.* 3, 101–104, 107, 110. (Gongli Zhang) **99b:03037** 03B50 (06E30)
Ratsaby, Joel (*with* Maĭorov, V. E.) On the value of partial information for learning from examples. (English summary) *J. Complexity* **13** (1997), *no.* 4, 509–544. (Peter Auer) **99c:68215** 68T05 (68Q99)
— (*with* Maĭorov, V. E.) The degree of approximation of sets in Euclidean space using sets with bounded Vapnik-Chervonenkis dimension. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 1, 81–93. (Yuly Makovoz) **99f:41019** 41A25 (41A46, 46N40, 65D15, 68T05)
Ratsch, U. *see* **Intelligence and artificial intelligence, 99d:68211**
Ratschek, Helmut (*with* Rokne, Jon G.) Test for intersection between box and tetrahedron. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 191–204. (Summary) **99k:65044** 65G10 (65Y25, 68U05)
Ratsimahalo, Robert (*with* Penot, Jean-Paul) Uniform continuity of projection mappings in Banach spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 1–17. (David Yost) **99m:46040** 46B20 (41A65)
Rattan, A. (*with* Stewart, Colin B.) Goldbach's conjecture for $\mathbf{Z}[x]$. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 3, 83–85. (Maurice Mignotte) **99f:11132** 11P32 (11C08)
Ratter, Mark C. (*with* Gilson, Claire R.) Three-dimensional three-wave interactions: a bilinear approach. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 349–367. (C. Rogers) **99c:35203** 35Q51
Ratti, J. S. (*with* Mukherjea, Arunava) A functional equation involving iterates of a bijection on the unit interval. II. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 459–464. (R. A. Rosenbaum) **99d:39021** 39B12
Rattihalli, R. N. (*with* Shirke, D. T.) UMA confidence intervals for the parameter of a family of distributions involving one truncation parameter. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 165–170. 62F25
Ratto, Andrea (*with* Arezzo, Claudio) Stable minimal surfaces and holomorphic curves in Kähler manifolds. *Conf. Semin. Mat. Univ. Bari No.* 269 (1997), 1–22. (Anne-Joëlle Vanderwinden) **99k:53109** 53C42 (53C25, 58E20)
— Harmonic maps with potential. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 229–242. (Caio J. C. Negreiros) **99h:58043** 58E20
Rattray, Charles Abstractly modelling complex systems. *Systems: theory and practice*, 1–12, *Adv. Comput. Sci., Springer, Vienna*, 1998. (*see* **99g:93002**) 93A05 (93A10)
Rätz, Jürg (*with* Chmieliński, Jacek) Orthogonality equation almost everywhere. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 317–335. (W. Smajdor) **99e:39087** 39B52 (46C05)
Rau, A. R. P. Unitary integration of quantum Liouville-Bloch equations. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 22, 4785–4789. (Summary) **99h:81122** 81S99
Rau, René T. Piecewise linear approximation for scientific data. (English summary) *Geometric modeling: theory and practice (Blaubeuren, 1996)*, 335–341, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65028** 65D17
— (*with* Weiskopf, Daniel; Ruder, Hanns) Special relativity in virtual reality. (English summary) *Mathematical visualization (Berlin, 1997)*, 269–279, *Springer, Berlin*, 1998. (*see* **99k:65005**) 83A05
— *see also* **Geometric modeling: theory and practice, 99d:65003**
Raubenheimer, H. (*with* Mouton, S.) Cones in Banach algebras. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 4, 489–502. (Robin Harte) **99i:46035** 46H20 (46B40)
Rauch, Jeffrey B. (*with* Donnat, P.; Joly, J.-L.; Métivier, Guy) Diffractive nonlinear geometric optics. *Séminaire sur les Équations aux Dérivées Partielles, 1995–1996, Exp. No. XVII*, 25 *pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Ya-Guang Wang) **99m:35147** 35L60 (35B25, 35L05, 78A60)
— (*with* Joly, J.-L.; Métivier, Guy) Nonlinear oscillations and caustics. *Singularities and oscillations (Minneapolis, MN, 1994/1995)*, 79–95, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (L. Kalyakin (Zbl 909.35093)) **99j:35222** 35Q99 (35L60)
— (*with* Keel, Markus) Lectures on geometric optics. *Hyperbolic equations and frequency interactions (Park City, UT, 1995)*, 383–466, *IAS/Park City Math. Ser.*, 5, *Amer. Math. Soc., Providence, RI*, 1999. (Ya-Guang Wang) **99m:35146** 35L60 (35–01, 78A05)
Rau-Chaplin, Andrew (*with* Diallo, Mohamadou; Ferreira, Afonso Galvao) Communication-efficient deterministic parallel algorithms for planar point location and 2d Voronoi diagram. (English summary) *STACS 98 (Paris*, 1998), 399–409, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68U05 (68Q22)
Raudys, Šarūnas (*with* Skurikhina, Marina) Small sample properties of ridge-estimate of the covariance matrix in statistical and neural net classification. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 237–245, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62H30

— Intrinsic dimensionality and small sample properties of classifiers. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 4, 461–466. 62H30

Raugel, G. *see* **Dangelmayr, Gerhard et al., 99d:58002**

Raugi, Albert Théorème ergodique multiplicatif. Produits de matrices aléatoires indépendantes. (English and French summaries) [Multiplicative ergodic theorem. Products of independent random matrices] *Fascicule de probabilités*, 43 *pp.*, *Publ. Inst. Rech. Math. Rennes*, 1996/1997, *Univ. Rennes I, Rennes*, 199?. (Summary) **99e:60028** 60B15 (28D05, 60J15)

— (*with* Conze, J.-P.; Hervé, L.) Pavages auto-affines, opérateurs de transfert et critères de réseau dans $\mathbf{R}^d$. (English and French summaries) [Self-affine tilings, transfer operators and criteria for lattices in $\mathbf{R}^d$] *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 1, 1–42. (Steen Pedersen) **99a:52034** 52C22 (28A80, 42C15)

Rauh, A. (*with* Bainov, Drumi Dimitrov; Minchev, Emil) Finite time singularities of solutions of initial-boundary value problem for the Davey-Stewartson system. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 421–430. (P. L. Sulem) **99e:35206** 35Q55 (76B15)

— (*with* Karabis, A.; Minchev, Emil) Finite-time singularities of solutions of a class of nonlinear Schrödinger equations. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1593–1606. (Summary) **99c:35223** 35Q55 (35B05)

Rauh, Michael T. A model of temporary search market equilibrium. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 128–153. (Rüdiger Kiesel) **99a:90080** 90A56 (90A40)

Rauh, Rüdiger (*with* Jahn, Johannes) Contingent epiderivatives and set-valued optimization. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 2, 193–211. (Abderrahim Jourani) **99a:49024** 49J52 (49K27, 90C29)

Rauhe, Theis (*with* Husfeldt, Thore) Hardness results for dynamic problems by extensions of Fredman and Saks' chronogram method. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 67–78, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q20 (68Q25)

Rausch de Traubenberg, M. (*with* Baseilhac, P.; Grangé, P.) Extension of sine-Gordon field theory from generalized Clifford algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2531–2539. (Summary) **99j:81106** 81T10

— (*with* Simon, Pascal) 2D fractional supersymmetry and conformal field theory for alternative statistics. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 485–505. (Summary) **99d:81145** 81T40 (81R50)

Raußen, Martin (*with* Fajstrup, Lisbeth; Goubault, Eric) Detecting deadlocks in concurrent systems. (English summary) *CONCUR'98: concurrency theory (Nice)*, 332–347, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10)

— Cyclic group actions on manifolds from deformations of rational homotopy types. *Math. Ann.* **312** (1998), *no.* 4, 737–760. (John F. Oprea) **99j:57043** 57S99 (55P62)

Rautenbach, Dieter (*with* Volkmann, Lutz) Some structural results on linear arboricity. (English summary) *Australas. J. Combin.* **17** (1998), 267–274. (Summary) **99c:05049** 05C05

— Bounds on the weak domination number. (English summary) *Australas. J. Combin.* **18** (1998), 245–251. (Summary) **99i:05116** 05C35

— (*with* Volkmann, Lutz) The domatic number of block-cactus graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 185–193. (Summary) **99c:05109** 05C35 (05C70, 05C75)

— The influence of special vertices on strong domination. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 683–690. (Summary) **99m:05080** 05C35

Rautiainen, T. T. (*with* Sutton, A. P.) The role of the diffusion mechanism in models of the evolution of microstructure during phase separation. (English summary) *Computational and mathematical models of microstructural evolution (San Francisco, CA, 1998)*, 65–70, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 73S10 (73B30)

Rautmann, R. (*with* Borchers, W.; Forestier, M. Y.; Kräutle, S.; Pasquetti, R.; Peyret, R.; Ross, Nicole; Sabbah, Cyril) A parallel hybrid highly accurate elliptic solver for viscous flow problems. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 3–24, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76104** 76M25 (65N55)

— Convergence rates in $H^{2\gamma}$ of Rothe's method to the Navier-Stokes equations. (English summary) *Theory of the Navier-Stokes equations*, 127–135, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (André Nachbin) **99j:65147** 65M12 (35Q30, 76D05)

— *see also* **Theory of the Navier-Stokes equations, 99c:35002**

Rauzy, Antoine Jean-Pierre (*with* Bertrand, Christine) Valeurs propres d'opérateurs différentiels du second ordre sur une variété de Finsler. (English and French summaries) [Eigenvalues of second-order differential operators on a Finsler manifold] *Bull. Sci. Math.* **122** (1998), *no.* 5, 399–408. (Mircea Crasmareanu) **99f:58182** 58G03 (53C60, 58G25)

Rauzy, Gérard Points transcendants sur les variétés de groupe (d'après Serge Lang) [MR **32** #7507]. [Transcendental points on group varieties (after Serge Lang)] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 276, 453–460, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 14L10

Rav, Yehuda Die mathematische Tätigkeit aus der Perspektive der EE. [Mathematical activity from the perspective of evolutionary epistemology] *Die evolutionäre Erkenntnistheorie im Spiegel der Wissenschaften (Vienna, 1993)*, 22–35, *WUV-Universitätsverl., Vienna*, 1996. (Michael Otte) **99b:00004** 00A30

Raval, Alpan (*with* Parker, Leonard) Relation between Einstein and quantum field equations. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7327–7339. (Summary) **99k:81201** 81T20 (83C47)

Ravani, Bahram (*with* Wagner, Michael G.) Curves with rational Frenet-Serret motion. (English summary) *Comput. Aided Geom. Design* **15** (1997), *no.* 1, 79–101. (Summary) **99b:65021** 65D17 (41A63)

— (*with* Pottmann, Helmut; Peternell, Martin) Approximation in line space—applications in robot kinematics and surface reconstruction. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 403–412, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15 (65D17)

Ravanini, F. (*with* Feverati, G.; Takács, Gábor) Truncated conformal space at $c = 1$, nonlinear integral equation and quantization rules for multi-soliton states. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 264–273. (Summary) **99e:81222** 81T40 (81T10)

— (*with* Feverati, G.; Takács, Gábor) Non-linear integral equation and finite volume spectrum of sine-Gordon theory. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 543–586. (Summary) **99k:81175** 81T10

Ravel, Patrick (*with* Helluy, Philippe; Maire, Sylvain) Intégration numérique d'ordre élevé de fonctions régulières ou singulières sur un intervalle. (English and French summaries) [Higher-order numerical integration of regular or singular functions on an interval] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 843–848. (Summary) **99h:65036** 65D30

Ravenel, Douglas C. What we still don't know about loop spaces of spheres. (English summary) *Homotopy theory via algebraic geometry and group representations (Evanston, IL, 1997)*, 275–292, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Neil P. Strickland) **99h:55008** 55P35 (55N22, 55P20, 55P25, 55T20, 55T25)

— (*with* Hopkins, Michael J.; Wilson, W. Stephen) Morava Hopf algebras and spaces $K(n)$ equivalent to finite Postnikov systems. (English summary) *Stable and unstable homotopy (Toronto, ON, 1996)*, 137–163, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Nobuaki Yagita) **99e:55005** 55N20 (55N15, 55P20, 55S45, 57T05)

— (*with* Dwyer, William G.; Dror Farjoun, Emmanuel) Bousfield localizations of classifying spaces of nilpotent groups. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1855–1861. (Samuel B. Smith) **99i:55016** 55P60 (55R35)

Ravi, M. S. (*with* Lomadze, Vakhtang; Rosenthal, Joachim; Schumacher, J. M.) A behavioral approach to singular systems. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 3, 331–344. (Kevin A. Grasse) **99m:93002** 93A05 (14F05, 93C55)

Ravi, R. (*with* Ben-Dor, Amir; Lancia, Giuseppe; Perone, Jennifer) Banishing bias from consensus sequences. (English summary) *Combinatorial pattern matching (Aarhus, 1997)*, 247–261, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99b:92022** 92D10 (68Q25, 92D20)

— (*with* Krumke, Sven O.; Marathe, Madhav V.; Noltemeier, Hartmut; Ravi, S. S.) Network improvement problems. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 247–268, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:90147** 90C35 (05C90, 68M10)

— (*with* Marathe, Madhav V.; Sundaram, Ravi) Improved results on service-constrained network design problems. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 269–276, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:68135** 68R10 (68Q25)

— (*with* Wu, Bang Ye; Lancia, Giuseppe; Bafna, Vineet; Chao, Kun-Mao; Tang, Chuan Yi) A polynomial time approximation scheme for minimum routing cost spanning trees. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 21–32, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)

— (*with* Garg, Naveen; Konjevod, Goran) A polylogarithmic approximation algorithm for the group Steiner tree problem. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 253–259, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68Q25, 68Q35)

— (*with* Kececioglu, John D.) Approximation algorithms for multiple sequence alignment under a fixed evolutionary tree. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 355–366. (Summary) **99j:92010** 92D15 (05C85)

— (*with* Marathe, Madhav V.; Sundaram, Ravi; Ravi, S. S.; Rosenkrantz, Daniel J.; Hunt, Harry B., III) Bicriteria network design problems. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 142–171. (Dominique Sotteau) **99h:68137** 68R10 (68M10)

— (*with* Lu, Hsueh-I) Approximating maximum leaf spanning trees in almost linear time. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 132–141. (Summary) **99d:68116** 68Q25 (05C85, 68R10)

— (*with* Krumke, Sven O.; Marathe, Madhav V.; Noltemeier, Hartmut; Ravi, S. S.) Approximation algorithms for certain network improvement problems. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 257–288. (András Faragó) **99k:90188** 90C35 (05C90, 90B10)

Ravi, S. *see* **Ravi, Sreenivasan**

Ravi, S. S. (*with* Krumke, Sven O.; Marathe, Madhav V.; Noltemeier, Hartmut; Ravi, R.) Network improvement problems. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 247–268, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:90147** 90C35 (05C90, 68M10)

— (*with* Marathe, Madhav V.; Ravi, R.; Sundaram, Ravi; Rosenkrantz, Daniel J.; Hunt, Harry B., III) Bicriteria network design problems. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 142–171. (Dominique Sotteau) **99h:68137** 68R10 (68M10)

— (*with* Krumke, Sven O.; Marathe, Madhav V.; Noltemeier, Hartmut; Ravi, R.) Approximation algorithms for certain network improvement problems. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 257–288. (András Faragó) **99k:90188** 90C35 (05C90, 90B10)

— (*with* Drangmeister, Kay U.; Krumke, Sven O.; Marathe, Madhav V.; Noltemeier, Hartmut) Modifying edges of a network to obtain short subgraphs. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 91–121. (Summary) **99d:68189** 68R10 (05C85, 68Q25)

Ravi, Sreenivasan (*with* Sathe, Y. S.) A characterization of negative binomial distribution. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 31–32. 62E10

Raviart, Pierre-Arnaud (*with* Godlewski, Edwige; Olazabal, Marina) On the linearization of hyperbolic systems of conservation laws. Application to stability. (English summary) *Équations aux dérivées partielles et applications*, 549–570, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Christophe Cheverry) **99h:35125** 35L65

— (*with* Assous, Franck; Ciarlet, Patrick, Jr.; Segré, J.; Sonnendrücker, Eric) The solution of Maxwell's equations in a non-convex polyhedron. I. Saddle-point approach and singularities. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 364–368, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q60 (65N30, 78–08, 78A25)

— Singular perturbation problems for the Vlasov-Poisson equations. Applications to plasma physics. *XV Congress on Differential Equations and Applications/V Congress on Applied*

Mathematics, Vol. I, II (Spanish) (*Vigo*, 1997), 79–91, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (From the introduction) **99e:35012** 35B25 (35Q99, 76X05, 82D10)

Ravichandran, G. (*with* Bhattacharya, Kaushik; Ortiz, Michael) Energy-based model of compressive splitting in heterogeneous brittle solids. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 2171–2181. (Summary) **99h:73062** 73M25 (73S10)

Ravid, Yiftach (*with* Fiat, Amos; Foster, Dean P.; Karloff, Howard; Rabani, Yuval; Vishwanathan, Sundar) Competitive algorithms for layered graph traversal. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 448–463 (*electronic*). (Summary) **99g:68064** 68Q10 (05C85, 68Q25, 68R10)

Ravi Kanth, K. V. (*with* Singh, Ambuj) Efficient dynamic range searching using data replication. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 2, 97–105. (Summary) **99f:68202** 68U05 (68P05)

Ravikumar, B. *see* **Ravikumar, Balasubramanian**

Ravikumar, Balasubrahmanian (*with* Michener, Ronald) Chaotic dynamics in a cash-in-advance economy. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 7, 1117–1137. (Summary) **99b:90033** 90A16

Ravikumar, Balasubramanian Peg-solitaire, string rewriting systems and finite automata. (English summary) *Algorithms and computation* (*Singapore*, 1997), 233–242, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q42 (68Q45)

Ravindra, B. (*with* Mallik, Asok Kumar) Dissipative control of chaos in non-linear vibrating systems. *J. Sound Vibration* **211** (1998), *no.* 4, 709–715. (From the introduction) **99c:70032** 70K50 (58F13, 58F40, 70Q05, 93C95)

— (*with* Hagedorn, P.) Invariants of chaotic attractor in a nonlinearly damped system. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 4, 875–879. 34D45 (34C99, 58F13, 70K50)

Ravindran, Kanagaraj (*with* Nithiarasu, Perumal) A new semi-implicit time stepping procedure for buoyancy driven flow in a fluid saturated porous medium. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 147–154. (Summary) **99h:76059** 76M10 (65M55, 76S05)

Ravindran, Kuppusamy States on effect algebras that have the φ-symmetry property. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 175–181. (Sylvia Pulmannová) **99g:81017** 81P10 (03G20, 08A55)

Ravindran, S. S. (*with* Ito, Kazufumi) A reduced basis method for control problems governed by PDEs. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 153–168, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Summary) **99c:49029** 49M05 (49K20, 76D05, 93C20)

— Numerical approximation of optimal flow control problems by SQP method. *Optimal control of viscous flow*, 181–198, *SIAM, Philadelphia, PA*, 1998. (From the introduction) **99d:49058** 49M25 (35Q35, 65N30, 76D05, 93C20)

— (*with* Hou, LiSheng) Penalty methods for numerical approximations of optimal boundary flow control problems. (English summary) Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 157–167. (Summary) **99m:49048** 49M25 (65M06, 76D05)

— (*with* Ito, Kazufumi) A reduced-order method for simulation and control of fluid flows. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 403–425. (Summary) **99a:76111** 76M25 (49J20)

— (*with* Hou, LiSheng) A penalized Neumann control approach for solving an optimal Dirichlet control problem for the Navier-Stokes equations. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1795–1814 (*electronic*). (Long An Ying) **99d:49040** 49K20 (35Q30, 65M60, 76D05)

— (*with* Ito, Kazufumi) Optimal control of thermally convected fluid flows. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1847–1869 (*electronic*). (Ruxandra Stavre) **99f:49009** 49J20 (49K20, 76M10)

Ravindranadh Babu, G. V. (*with* Sastry, K. P. R.) Fixed point theorems in metric spaces by altering distances. (English summary) *Bull. Calcutta Math. Soc.* **90** (1998), *no.* 3, 175–182. 54H25

Ravindranath, V. (*with* Kambo, N. S.; Handa, B. R.) Estimation of the smaller and larger of truncation parameters of two nonregular distributions. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2439–2456. (I. D. Dhariyal) **99c:62052** 62F10

Ravishanker, Nalini (*with* Qiou, Zuqiang) Bayesian inference for time series with infinite variance stable innovations. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 259–280, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62M10 (62F15)

— (*with* Pai, Jeffrey S.) Bayesian analysis of autoregressive fractionally integrated moving-average processes. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 99–112. (Summary) **99a:62134** 62M10

— (*with* Qiou, Zuqiang) Bayesian inference for time series with stable innovations. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 2, 235–249. (Summary) **99a:62135** 62M10 (62F15)

Raviv, Li-on (*with* Kesten, Yonit; Pnueli, Amir) Algorithmic verification of linear temporal logic specifications. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 1–16, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (03B70)

Ravve, Elena V. *see* **Colloquium: Logic '95, 99m:03003**

al-Rawaf, A. S. *see* **Al-Rawaf, A. S.**

Rawat, K. S. (*with* Negi, Darwan Singh) Integral inequalities in Kaehlerian manifold. *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 290–296. 53B35

— (*with* Negi, Darwan Singh) Affine motion in almost Tachibana recurrent spaces. *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 235–238. 53C15

— (*with* Negi, Darwan Singh) Theorems on Kaehlerian spaces with recurrent and symmetric Bochner curvature tensor. *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 239–242. 53B35

— (*with* Negi, Darwan Singh) Projective motion in a Kaehlerian recurrent space. *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 251–254. 53B35

— (*with* Negi, Darwan Singh) Some investigations in Kaehlerian space. *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 255–258. 53B35

— (*with* Negi, Darwan Singh) The study of decomposition in a Kaehlerian space. *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 307–311. 53B35

— (*with* Negi, Darwan Singh) A note on decomposition in a Kaehlerian recurrent space. *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 123–126. 53B35

Rawdon, E. (*with* Litherland, R. A.; Simon, Jonathan K.; Durumeric, O.) Thickness of knots. (English summary) *Topology Appl.* **91** (1999), *no.* 3, 233–244. (Sadayoshi Kojima) **99k:57025** 57M25

Rawlings, James B. (*with* Meadows, Edward S.; Henson, Michael A.; Eaton, John W.) Receding horizon control and discontinuous state feedback stabilization. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1217–1229. 93D15

— (*with* Scokaert, Pierre O. M.) Constrained linear quadratic regulation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1163–1169. (Summary) **99d:93034** 93C05 (49N10, 93C55)

— (*with* Scokaert, Pierre O. M.; Mayne, D. Q.) Suboptimal model predictive control (feasibility implies stability). (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 648–654. 93D21 (90C90)

Rawlings, John O. (*with* Pantula, Sastry G.; Dickey, David A.) ★ Applied regression analysis. (English summary) A research tool. Second edition. Springer Texts in Statistics. *Springer-Verlag, New York*, 1998. *xviii+657 pp. ISBN* 0-387-98454-2 (Publisher's description) **99d:62070** 62J05 (62–01)

— (*with* Kang, Gunseog) Marginal curvatures for functions of parameters in nonlinear regression. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 467–476. (Summary) **99e:62114** 62J02

Rawlins, A. D. (*with* McIver, P.) Diffraction by a thick half-plane with an absorbent end face. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3167–3182. (Summary) **99h:76084** 76Q05

Rawlins, Gregory J. E. (*with* Bradford, Phillip G.; Shannon, Gregory E.) Efficient matrix chain ordering in polylog time. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 466–490 (*electronic*). (Summary) **99f:90089** 90C27 (68Q25, 90C60)

Rawlinson, Andrew A. (*with* Kowalenko, Victor) Mellin-Barnes regularization, Borel summation and the Bender-Wu asymptotics for the anharmonic oscillator. (English summary) *J. Phys. A* **31** (1998), *no.* 38, *L663–L670*. (Summary) **99e:81041** 81Q05

Rawnsley, John Tangential star products. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 36–42, *World Sci. Publishing, River Edge, NJ*, 1996. (Mohsen Masmoudi) **99e:58087** 58F06

Rawy, E. K. (*with* Iskandar, Labib; Ghaleb, A. F.) Numerical solution for a nonlinear, one-dimensional problem of thermoelasticity. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 53–76. 73V15 (73B30)

Ray, A. *see* **Ray, Asok**

Ray, Animesh (*with* Ogihara, Mitsunori) The minimum DNA computation model and its computational power. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 309–322, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Satoru Miyano) **99m:68052** 68Q05 (92D20)

— (*with* Ogihara, Mitsunori) DNA-based parallel computation by "counting". (English summary) *DNA based computers III* (*Philadelphia, PA*, 1997), 255–264, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05 (68Q25)

Ray, Asok (*with* Garcia, Humberto E.) State-space supervisory control of reconfigurable discrete event systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 767–797. 93C83 (93A30)

— (*with* Tsai, Nan-Chyuan) Stochastic optimal control under randomly varying distributed delays. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1179–1202. 93E20 (93C15)

— (*with* Yaz, Edwin Engin) Linear unbiased state estimation under randomly varying bounded sensor delay. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 27–32. (Summary) **99b:93047** 93E10 (93D15)

Ray, Asok Kumar[1] Proposed duals of multivectors and their geometrical interpretations. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 92–97. (Summary) **99h:15028** 15A63 (51A99)

Ray, Asok Kumer On product of fuzzy subgroups. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 181–183. 20N25

Ray, Braja Kishore (*with* Das, Gokulananda) Degree of approximation in the Hölder metric by a new trigonometric method of summation. (English summary) *J. Anal.* **5** (1997), 127–137. (Alexandru Leonte) **99m:42004** 42A10 (41A25)

— (*with* Das, Gokulananda) Abelian and Tauberian theorems for a new trigonometric method of summation. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 4, 391–403. (Arun Kumar) **99f:40006** 40E05 (40G05)

— (*with* Das, Gokulananda; Ojha, Akshay Kumar) Degree of approximation of functions associated with Hardy-Littlewood series in the Hölder metric by Borel means. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 279–293. (Summary) **99j:42032** 42B30 (41A25)

— (*with* Das, Gokulananda; Ojha, Akshay Kumar) Degree of approximation of functions associated with Hardy-Littlewood series in the generalized Hölder metric. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 109–120. (M. W. Müller) **99h:42009** 42A24 (40C05, 41A25)

Ray, Deb Shankar (*with* Banik, Suman Kumar; Chaudhuri, Jyotipratim Ray) Theory of adiabatic fluctuations: third-order noise. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7301–7313. (Summary) **99e:82064** 82C31

— (*with* Bag, Bidhan Chandra; Chaudhuri, Shanta; Chaudhuri, Jyotipratim Ray) A semiclassical theory of quantum noise in open chaotic systems. (English summary) *Phys. D* **125** (1999), *no.* 1-2, 47–64. (Summary) **99i:81045** 81Q50 (81S30)

Ray, G. G. (*with* Acharyya, S. K.; Chattopadhyay, K. C.) The maximal congruences on $C_+(X)$ and $C_+^*(X)$. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 5, 449–458. 54C35 (46E10, 46H10)

Ray, Greg (*with* Ludwig, Kirk) Semantics for opaque contexts. *Language, mind, and ontology*, 1998, 141–166, *Philos. Perspect.*, 12, *Blackwell, Boston, MA*, 1997. (*see* **99k:03028**) 03B65

Ray, Jaideep (*with* Zabusky, Norman J.; Samtaney, R. S.) Vortex models for Richtmyer-Meshkov fast/slow environments: scaling laws for interface growth rates. (English summary) *Proceedings of the Fifth International Workshop on Compressible Tur-*

bulent Mixing (*Stony Brook, NY*, 1995), 89–97, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99
— (*with* Samtaney, R. S.; Zabusky, Norman J.) Baroclinic circulation generation on shock accelerated slow/fast gas interfaces. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1217–1230. (Summary) **99b:76048** 76L05 (76N99)
Ray, Koushik (*with* Mukhopadhyay, Subir) Conifolds from D-branes. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 247–254. (Summary) **99a:81149** 81T30 (14M25, 32G81)
— A Ricci-flat metric on D-brane orbifolds. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 307–317. (Harald Skarke) **99b:81186** 81T30 (14M25, 32C17, 53C55)
Ray, Kumar S. (*with* Hossain, Abul) An extension of QSIM with qualitative curvature. (English summary) *Artificial Intelligence* **96** (1997), *no.* 2, 303–350. (Pavel S. Pankov) **99d:68093** 68Q20 (65Y25, 68T99)
Ray, Nigel A topological calculus for formal power series. (English summary) *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 293–311, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Yuli B. Rudyak) **99i:55006** 55N22 (57R77)
— Universal constructions in umbral calculus. *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 343–357, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Marko Razpet) **99e:05015** 05A40
— (*with* Lenart, Cristian) Hopf algebras of set systems. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 255–280. (Summary) **99m:16062** 16W30 (05A40, 05E05)
— (*with* Bukhshtaber, V. M.) Flag manifolds and the Landweber-Novikov algebra. (English summary) *Geom. Topol.* **2** (1998), 79–101 (*electronic*). (Mark Hovey) **99c:57064** 57R77 (55N22, 55S25)
Ray, Snigdha Some results of the functions related to the set C_k. (English summary) *J. Bihar Math. Soc.* **17** (1996), 15–21. (Summary) **99j:26004** 26A30 (28A99)
Ray, Suryansu (*with* Sessa, Salvatore) Representation of an MV-algebra by its triangular norms. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 171–175. (Summary) **99g:03067** 03G20
Ray, Swagato K. (*with* Bagchi, S. C.) Uncertainty principles like Hardy's theorem on some Lie groups. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 3, 289–302. (A. Morimoto) **99k:43001** 43A30 (22E30)
Ray, Thomas S. A computational approach to evolutionary biology. *Advanced mathematical approach to biology*, 1–107, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99c:92005**) 92D15 (92B05)
Raychaudhuri, A. K. Raychaudhuri replies: "Comment on 'Theorem for nonrotating singularity-free universes'" [Phys. Rev. Lett. **81** (1998), no. 22, 5031; 1 660 012] by A. Saa and "Comment on 'Theorem for nonrotating singularity-free universes'" [ibid., 5032; 1 660 008] by J. M. M. Senovilla. *Phys. Rev. Lett.* **81** (1998), *no.* 22, 5033. 83F05
— *see also* **Senovilla, José M. M.** *and* **Saa, Alberto**
Ray Chaudhuri, Atasi (*with* Basu, Arup; Bhandari, S. K.; Chaudhuri, B. B.) Consistent set estimation in k-dimensions: an efficient approach. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 667–676, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62G05
Ray-Chaudhuri, Dijen K. (*with* Qian, Jin) Frankl-Füredi type inequalities for polynomial semi-lattices. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 28, 15 *pp.* (*electronic*). (Marcel Erné) **99f:06004** 06A07 (05A20)
Raychaudhuri, Sreerup (*with* Mathews, Prakash; Sridhar, K.) Getting to the top with extra dimensions. (English summary) *Phys. Lett. B* **450** (1999), *no.* 4, 343–347. 81V22
Raykov, Ivan Uniform convergence for multi-valued algorithms. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 11, 1491–1504. (Gérard Lebourg) **99e:90096** 90C30 (47H17, 65K05, 90C31)
Rayleigh, Lord *see* **Strutt, John William, Lord Rayleigh**
Raymond, Gary M. (*with* Qian, Hong; Bassingthwaighte, James B.) On two-dimensional fractional Brownian motion and fractional Brownian random field. (English summary) *J. Phys. A* **31** (1998), *no.* 28, *L527–L535*. (Summary) **99c:82053** 82C31
saint Raymond, J. *see* **Saint Raymond, J.**
Raymond, J.-P. (*with* Casas Rentería, Eduardo; Zidani, H.) Optimal control problem governed by semilinear elliptic equations with integral control constraints and pointwise state constraints. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 89–102, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (J. Frédéric Bonnans) **99f:49028** 49K20 (35J60)
— (*with* Arada, N.) State-constrained relaxed problems for semilinear elliptic equations. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 248–271. (Tomáš Roubíček) **99f:49003** 49J20 (93C20)
— (*with* Alibert, J.-J.) A Lagrange multiplier theorem for control problems with state constraints. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 697–704. (Pier Luigi Zezza) **99k:49053** 49K20 (49K27)
— (*with* Zidani, H.) Pontryagin's principle for state-constrained control problems governed by parabolic equations with unbounded controls. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1853–1879 (*electronic*). (Fredi Tröltzsch) **99f:49030** 49K20
— (*with* Zidani, H.) Hamiltonian Pontryagin's principles for control problems governed by semilinear parabolic equations. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 2, 143–177. (J. Frédéric Bonnans) **99j:49050** 49K20 (35K55, 65K10)
saint-Raymond, Laure *see* **Saint-Raymond, Laure**
muciño-Raymundo, Jesús *see* **Muciño-Raymundo, Jesús**
Raynal, Michel (*with* Baldoni, Roberto; Helary, Jean-Michel) Consistent records in asynchronous computations. (English summary) *Acta Inform.* **35** (1998), *no.* 6, 441–455. (Summary) **99c:68083** 68Q10
— (*with* Manabe, Yoshifumi; Baldoni, Roberto; Aoyagi, Shigemi) k-arbiter: a safe and general scheme for h-out-of-k mutual exclusion. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 97–112. (Annabelle McIver) **99a:68066** 68Q10
Raynaud, Michel Familles de fibrés vectoriels sur une surface de Riemann (d'après C. S. Seshadri, M. S. Narasimhan et D. Mumford). [Families of vector bundles on a Riemann surface (after C. S. Seshadri, M. S. Narasimhan and D. Mumford)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 316, 45–60, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 14J60
— Caractéristique d'Euler-Poincaré d'un faisceau et cohomologie des variétés abéliennes. [Euler-Poincaré characteristic of a sheaf and cohomology of abelian varieties] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 286, 129–147, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 14F20 (14K05)
Raynaud, Nicolas (*with* Capatina-Papaghiuc, Daniela) Numerical approximation of stiff transmission problems by mixed finite element methods. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 5, 611–629. (Guo Liang Chen) **99h:65187** 65N30 (65N15)
Raynaud, Yves Ultrapowers of Köthe function spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 733–742. (Yu. A. Abramovich) **99b:46039** 46E30 (46B08, 46M07)
— Ultrapowers of Calderón-Lozanovskiĭ interpolation spaces. (English summary) *Indag. Math. (N.S.)* **9** (1998), *no.* 1, 65–105. (Fernando Cobos) **99d:46098** 46M35 (46B08)
Rayner, A. D. M. (*with* Davidson, F. A.; Sleeman, B. D.; Crawford, J. W.; Ritz, K.) Travelling waves and pattern formation in a model for fungal development. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 589–608. (Joseph So) **99d:92024** 92D25 (35K57, 35Q80, 92C15)
Rayner, J. C. W. (*with* Davy, Pamela J.) Ordinary and inverse sampling in the trinomial. (English summary) *Math. Sci.* **23** (1998), *no.* 1, 50–53. 60E05 (60C05)
Rayskin, Victoria α-Hölder linearization. (English summary) *J. Differential Equations* **147** (1998), *no.* 2, 271–284. (Evgenii Zhuzhoma) **99j:58190** 58F36 (58F15)
Rayward-Smith, V. J. (*with* Harrison, S. A.) Minimal cost linkages in graphs. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 295–319. (Summary) **99m:90150** 90C35 (05C90)
Raz, Ran (*with* Verbitskiĭ, O. V.; Tardos, Gábor; Vereshagin, Nikolai) Arthur-Merlin games in Boolean decision trees. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 58–67, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q05)
— (*with* Rabinovich, Yuri) Lower bounds on the distortion of embedding finite metric spaces in graphs. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 79–94. (Dušan Repovš) **99a:57004** 57M15 (05C10)
Raza, Asad (*with* Muldoon, Martin E.) Convolution formulae for functions of Rayleigh type. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9327–9330. (Summary) **99k:33008** 33C15
Razafindrakoto, E. (*with* Boukir, K.; Maday, Yvon; Métivet, Brigitte) A high-order characteristics/finite element method for the incompressible Navier-Stokes equations. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 12, 1421–1454. (M. M. Sussman) **99a:76082** 76M10 (65M12, 76D05)
Razali, M. R. M. (*with* Murid, A. H. M.) On boundary integral equations of the second kind for symmetric regions. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 449–455, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65R20
— (*with* Murid, A. H. M.; Nashed, M. Zuhair) Numerical conformal mapping for exterior regions via the Kerzman-Stein kernel. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 4, 517–532. (Chenglie Hu) **99k:30008** 30C30 (65E05)
Razavi, Ali (*with* Haddad, Wassim M.; Hyland, David C.) Active vibration isolation of multi-degree-of-freedom systems. (English summary) *J. Vib. Control* **5** (1999), *no.* 4, 577–589. 93D15 (76Q05)
Razaznejad, Behrooz (*with* Adawi, Tom; Cederwall, Martin; Gran, Ulf; Nilsson, Bengt E. W.) Goldstone tensor modes. (English summary) *J. High Energy Phys.* **1999**, *no.* 2, *Paper* 1, 21 *pp.* (*electronic*). (Summary) **99k:81210** 81T30 (83E50)
Razborov, A. A. (*with* Buss, Samuel R.; Impagliazzo, Russell; Krajíček, Jan; Pudlák, Pavel; Sgall, Jiří) Proof complexity in algebraic systems and bounded depth Frege systems with modular counting. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 256–298. (Mariko Yasugi) **99g:03060** 03F20
— (*with* Jukna, Stasys; Savický, Petr; Wegener, Ingo) On P versus NP ∩ co-NP for decision trees and read-once branching programs. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 319–326, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68053** 68Q15 (03D15, 68Q05)
— (*with* Jukna, Stasys) Neither reading few bits twice nor reading illegally helps much. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 3, 223–238. (Christoph Meinel) **99f:68054** 68Q05 (68Q15, 68Q25)
Razgulin, A. V. Galerkin and inertial manifold methods for finite-dimensional approximation of nonlocal equations of nonlinear optics. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 355–360. (P. Rochus) **99a:78035** 78A60 (35Q60, 47H20, 65M60)
— On the analyticity of a nonlocal phase-to-intensity mapping. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 3, 17–20, 50; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 3, 23–27. (Summary) **99c:78007** 78A10 (35J10, 78A60)
Razin, Andrey V. (*with* Pelinovskiĭ, E. N.; Sasorova, Elena V.) Berkhoff approximation in a problem on surface gravity wave propagation in a basin with bottom irregularities. (English summary) *Waves Random Media* **8** (1998), *no.* 2, 255–268. (Summary) **99a:76015** 76B15
Razin, M. (*with* Shabat, G. B.; Shabat, V.) Edge operations. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 199–211. (Vagn Lundsgaard Hansen) **99g:14042** 14H55
Razmyslov, Yu. P. On a duality of varieties of representations of ternary Lie and super Lie systems. (English summary) *Lie groups and Lie algebras*, 217–230, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Vesselin Drensky) **99k:17004** 17A40 (17A30)
Razumov, A. V. (*with* Savel'ev, M. V.) On some class of multidimensional nonlinear integrable systems. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 547–551, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 58F07
Razzaghi, Mohsen (*with* Shafiee, Masoud) On the solution of the covariance matrix differential equation for singular systems. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 337–343. (Summary) **99m:65155** 65L99 (65U05)
Razzhevaĭkin, V. N. (*with* Shpitonkov, M. I.) ★ Вопросы эволюционного моделирования в задачах корреляционной адаптометрии. (Russian. Russian summary) [Questions of evolution modeling in problems of correlation adaptometry]

Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1995. 39 *pp.* 92D15

— (*with* Demidova, O. A.) Modeling of the epidemic process in a population structured with respect to risk factors. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 9, 27–42. (J. Milota) **99d:92036** 92D30 (35Q80, 47N20)

Rcheulishvili, G. L. Generalized Killing vectors in the five-dimensional Lorentz space. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 2, 249–253; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 2, 995–998 (1998). (Kishore Marathe) **99c:53074** 53C50 (53C80, 83E15)

lo Re, Pia Maria *see* **Lo Re, Pia Maria**

Re, Riccardo Multiplication of sections and Clifford bounds for stable vector bundles on curves. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1931–1944. (Ravi D. Vakil) **99f:14038** 14H60

Re, Xi Ti (*with* Han, Jiu Qiang; Huang, Yong Xuan) An analytical algorithm for Nehari problem and its application in control system identification. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 5, 6–8. 93B30 (93B40)

Rea, C. (*with* Chirka, E. M.) Differentiable CR mappings and CR orbits. *Duke Math. J.* **94** (1998), *no.* 2, 325–340. (J. Merker) **99f:32015** 32C16 (32F40, 32H02)

gerville-Reache, Leo *see* **Gerville-Reache, Leo**

Read, Campbell B. *see* **Encyclopedia: Statistical sciences, 99a:62001a**; **99a:62001b** *and* **99m:62001**

Read, Ronald C. Enumeration. (English summary) *Graph connections*, 13–33, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 05C30

— Graph theory and the amateur cryptographer. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 121–127. (J. Dénes) **99b:94041** 94A60 (05C90)

Read, Stephen Completeness and categoricity: Frege, Gödel and model theory. (English summary) *Hist. Philos. Logic* **18** (1997), *no.* 2, 79–93. (Charles F. Kielkopf) **99a:03001** 03–03 (01A60, 03A05, 03Cxx)

Read, W. W. (*with* Gill, Andrew; Sneddon, G. E.) On series solutions to Laplacian free boundary problems. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 343–350, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N35

— (*with* Belward, S. R.; Higgins, Patrick John) Iterative schemes for series solutions to Laplacian free boundary problems. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 669–676, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N35

Readdy, Margaret (*with* Billera, Louis J.; Ehrenborg, Richard) The *cd*-index of zonotopes and arrangements. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 23–40, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Johann Linhart) **99h:52011** 52B12 (52B30)

— (*with* Ehrenborg, Richard; Steingrímsson, Einar) Mixed volumes and slices of the cube. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 1, 121–126. (S. S. Kutateladze (Zbl 896.52017)) **99j:52008** 52A39

Reade, J. B. (*with* Little, G.) Estimates for the norm of the nth indefinite integral. *Bull. London Math. Soc.* **30** (1998), *no.* 5, 539–542. (Introduction) **99g:47068** 47B38 (45P05, 47A30, 47G10)

Real, J. *see* **Real Anguas, José**

Real, José *see* **Real Anguas, José**

Real, Pedro On the computability of the Steenrod squares. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **42** (1996), 57–63 (1998). (N. J. Kuhn) **99h:55027** 55S05 (55S10)

Real Anguas, José (*with* Fernández-Cara, Enrique) Remarks on the controllability of some stochastic partial differential equations. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 141–151, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Summary) **99d:93004** 93B05 (35R60, 60H15, 93E03)

— (*with* Fernández-Cara, Enrique; Garrido-Atienza, María José) On the approximate controllability of a stochastic parabolic equation with a multiplicative noise. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 8, 675–680. (Summary) **99m:93005** 93B05 (35K99, 35R60, 93C20, 93E03)

Reams, Robert An inequality for nonnegative matrices and the inverse eigenvalue problem. (English summary) *Linear and Multilinear Algebra* **41** (1996), *no.* 4, 367–375. (Summary) **99c:15031** 15A42 (15A18, 15A23)

Rebarber, Richard (*with* Zwart, H. J.) Open-loop stabilizability of infinite-dimensional systems. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 2, 129–160. (Elena De Santis) **99g:93075** 93D15 (93C25)

— (*with* Townley, Stuart) Generalized sampled data feedback control of distributed parameter systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 229–240. (Vasile Drăgan) **99f:93081** 93C25 (93B52, 93C57)

— (*with* Townley, Stuart) Robustness with respect to delays for exponential stability of distributed parameter systems. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 230–244 (*electronic*). (R. F. Datko) **99i:93061** 93D21 (34K20, 34K35, 93C20)

Rebbani, Faouzia (*with* Guezane-Lakoud, Assia; Yurchuk, Nikolai I.) Problème aux limites pour une équation différentielle opérationnelle de second ordre. (English, French and Arabic summaries) [Boundary value problem for a second-order operator-differential equation] *Maghreb Math. Rev.* **6** (1997), *no.* 1, 39–48. (Angelo Favini) **99c:35257** 35R20 (34G10, 35L20)

Rebello, M. P. (*with* da Rocha, Armando Freitas; Miura, K.) Toward a theory of molecular computing. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 123–157. (From the introduction) **99e:68039** 68Q05 (68Q45)

Rebelo, C. A glance at the periodic Ambrosetti-Prodi problem. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 480–485, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C25

Rebelo, J.-C. (*with* Ghys, E.) Singularités des flots holomorphes. II. (English and French summaries) [Singularities of holomorphic flows. II] *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 4, 1117–1174. (M. G. Soares) **99a:32059** 32S65

Rebenko, A. L. (*with* Litvinov, E. V.; Shchepanyuk, G. V.) Wick calculus on spaces of generalized functions of compound Poisson white noise. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 219–248. (Summary) **99j:60054** 60G20 (60H99)

— A new proof of Ruelle's superstability bounds. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 815–826. (Wei-Shih Yang) **99f:82016** 82B21 (82B05)

— (*with* Albeverio, Sergio; Kondratiev, A. Yu.) Peierls argument and long-range order behavior of quantum lattice systems with unbounded spins. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1137–1152. (From the text) **99k:82008** 82B10 (82B26)

— (*with* Albeverio, Sergio; Kondrat'ev, Yu. G.; Minlos, R. A.) Small-mass behavior of quantum Gibbs states for lattice models with unbounded spins. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1153–1172. (Summary) **99j:82008** 82B10

Rebhan, Anton (*with* Nastase, Horatiu; Stephanov, Misha; van Nieuwenhuizen, Peter) Topological boundary conditions, the BPS bound, and elimination of ambiguities in the quantum mass of solitons. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 471–514. (Summary) **99m:81150** 81T15 (81T10)

Rebhi, S. (*with* Harrabi, A.; Selmi, A.) Solutions of superlinear elliptic equations and their Morse indices. I, II. *Duke Math. J.* **94** (1998), *no.* 1, 141–157, 159–179. (Vitaly B. Moroz) **99i:35037** 35J60 (58E05)

Rebholz, Joachim (*with* He, Hua; Keirstead, William P.) Double lookbacks. (English summary) *Math. Finance* **8** (1998), *no.* 3, 201–228. (Summary) **99c:90020** 90A09

Rebillard, Luc Rational approximation in the complex plane using a τ-method and computer algebra. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 187–208 (1998). (H. P. Dikshit) **99m:65027** 65D15 (65L05)

Rebinguet, Nadja Sur les zéros des séries d'Eisenstein dans le demi-plan de Drinfeld. (English and French summaries) [Zeroes of Eisenstein series in the Drinfel'd upper half-plane] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 667–670. (Ernst-Ulrich Gekeler) **99h:11045** 11F11 (11G09)

Reblewski, F. (*with* Labbé, C.; Vincent, Jean-Marc) Performance evaluation of high speed network protocols by emulation on a versatile architecture. (English and French summaries) Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 253–270. (*see* **99e:90004**) 90B25

Rebolledo, Rolando (*with* Fagnola, Franco) The approach to equilibrium of a class of quantum dynamical semigroups. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 4, 561–572. (Kalyanapuram R. Parthasarathy) **99m:81115** 81S25 (81V80, 82C10)

chacón Rebollo, Tómas *see* **Chacón Rebollo, Tómas**

Rebouças, M. J. (*with* Paiva, F. M.; Hall, G. S.; MacCallum, Malcolm A. H.) Limits of the energy-momentum tensor in general relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1031–1041. (Emil Zakhary) **99f:83028** 83C40

— (*with* Åman, J. E.; Fonseca-Neto, J. B.; MacCallum, Malcolm A. H.) Riemann-Cartan spacetimes of Gödel type. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1089–1101. (Alberto Saa Vazquez) **99b:83063** 83D05 (53C80)

— (*with* Tavakol, R. K.; Teixeira, A. F. F.) Topology and fragility in cosmology. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 535–543. (Gagik T. Ter-Kazarian) **99c:83019** 83C20 (53C80, 83F05)

— (*with* Fonseca-Neto, J. B.) On a class of Riemann-Cartan space-times of Gödel type. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1301–1317. (Alberto Saa Vazquez) **99g:83015** 83C15 (83D05)

— (*with* Teixeira, A. F. F.) Causal anomalies in Kaluza-Klein gravity theories. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3181–3191. (Summary) **99c:83079** 83E15 (81T50)

— (*with* Teixeira, A. F. F.) Riemannian space-times of Gödel type in five dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2180–2192. (Nora Bretón Báez) **99m:83035** 83C15 (83C20, 83E15)

— (*with* Bernui, A.; Gomero, G. I.; Teixeira, A. F. F.) Radiation damping in FRW space-times with different topologies. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4699–4706. 83F05 (83C15)

Reboulet, Anne-Marie (*with* Viallefont, Anne; Lebreton, Jean-Dominique; Gory, Gerard) Parameter identifiability and model selection in capture-recapture models: a numerical approach. (English and French summaries) *Biom. J.* **40** (1998), *no.* 3, 313–325. (Summary) **99f:62036** 62F10 (62P10)

Recami, Erasmo (*with* Salesi, Giovanni) Kinematics and hydrodynamics of spinning particles: some simple considerations. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 253–268. (Jayme Vaz, Jr.) **99b:81087** 81R25

— (*with* Salesi, Giovanni) The velocity operator for spinning particles in quantum mechanics. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 269–278. (Jayme Vaz, Jr.) **99b:81088** 81R25

— (*with* Evans, Myron Wyn) Physical meaning of the photon's wavefunction according to Ettore Majorana. *The enigmatic photon, Vol.* 4, 137–145, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 81V10 (81P99)

Recasens, J. On a geometric combinatorial problem. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 273–279. (A. Vijayakumar) **99b:05141** 05D05

Recchioni, Maria Cristina (*with* Russo, Giovanni) Hamilton-based numerical methods for a fluid-membrane interaction in two and three dimensions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 861–892 (*electronic*). (From the text) **99a:76119** 76M25 (76C05)

tapia-Recillas, H. *see* **Tapia-Recillas, H.**

Recio, Tomas (*with* Alonso, Cesar; Gutierrez, Jaime) A note on separated factors of separated polynomials. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 217–222. (Wolfgang Michael Ruppert) **99f:12001** 12E05 (12E10)

— (*with* González-Vega, Laureano; Lombardi, Henri; Roy, Marie-Françoise) Sturm-Habicht sequences, determinants and real roots of univariate polynomials. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 300–316, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 12D15 (13P99, 68Q40)

— (*with* Gutierrez, Jaime) Advances on the simplification of sine-cosine equations. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 1, 31–70. (Summary) **99f:68112** 68Q40 (13P10, 70B15)

Recke, Lutz (*with* Peterhof, Daniela) Abstract forced symmetry breaking and forced frequency locking of modulated waves. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 233–262. (Norman Dancer) **99e:58042** 58E09 (34C23, 47H15)

Recknagel, Andreas (*with* Fröhlich, Jürg; Grandjean, Olivier) Supersymmetry and non-commutative geometry. *Quantum fields and quantum space time* (*Cargèse*, 1996), 93–121, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Yuri A. Kordyukov) **99d:58024** 58B30 (46L60, 46L87, 81T60)

— (*with* Fröhlich, Jürg; Grandjean, Olivier) Supersymmetric quantum theory, non-commutative geometry, and gravitation. *Symétries quantiques* (*Les Houches*, 1995), 221–385, *North-Holland, Amsterdam*, 1998. (Alan L. Carey) **99k:58015a** 58B30 (53C55, 58G30, 81Q60, 83C99)

— (*with* Fröhlich, Jürg; Grandjean, Olivier) Supersymmetric quantum theory and differential geometry. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 527–594. (Alan L. Carey) **99k:58015b** 58B30 (53C55, 58G30, 81Q60, 83C99)

Reckziegel, Helmut (*with* Lohnherr, Michael) On ruled real hypersurfaces in complex space forms. (English summary) *Geom. Dedicata* **74** (1999), *no.* 3, 267–286. (Jürgen Berndt) **99m:53120** 53C42 (53C40)

Rechław, Ireneusz (*with* Jasinski, Jakub) Restrictions to continuous and pointwise discontinuous functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 161–174. (Jack B. Brown) **99g:26005** 26A15 (26A03)

Recski, András Some polynomially solvable subcases of the detailed routing problem in VLSI design. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 107–110, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C35 (90C90)

— *see also* **Congress: Mathematics, 99e:00018**; **99e:00019** *and* **Graph theory and combinatorial biology, 99k:00031**

Reddy, B. D. (*with* Reese, St.; Küssner, Martin) A new stabilization technique for finite elements in non-linear elasticity. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 11, 1617–1652. (Summary) **99m:73071** 73V05 (73C50)

Reddy, Chandra (*with* Tadepalli, Prasad) Learning Horn definitions with equivalence and membership queries. (English summary) *Inductive logic programming* (*Prague*, 1997), 243–255, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (Summary) **99c:68047** 68N17 (68T05)

— (*with* Tadepalli, Prasad) Learning first-order acyclic Horn programs from entailment. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 23–37, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (Summary) **99m:68036** 68N17 (03B70, 68T05)

Reddy, D. R. K. (*with* Venkateswara Rao, N.) On some Bianchi type cosmological models in a bimetric theory of gravitation. (English summary) *Astrophys. Space Sci.* **257** (1997/98), *no.* 2, 293–298. 83D05

krishna Reddy, G. V. *see* **Krishna Reddy, G. V.**

Reddy, J. N. (*with* Gartling, D. K.) ★ The finite element method in heat transfer and fluid dynamics. *CRC Press, Boca Raton, FL*, 1994. xii+390 *pp. ISBN* 0-8493-9410-4 (From the preface) **99a:80003** 80A20 (65M60, 65N30, 76M10, 80–08)

— (*with* Wang, Chien Ming) Deflection relationships between classical and third-order plate theories. (English summary) *Acta Mech.* **130** (1998), *no.* 3-4, 199–208. (Summary) **99c:73044** 73K10

— *see also* **Symposium: Advances in Computational Mechanics, 99b:76003**

madhukar Reddy, K. *see* **Madhukar Reddy, K.**

Reddy, L. Venkateswara (*with* Mukherjee, Rathindra Nath[1]) Efficiency and duality of multiobjective fractional control problems under (F, ρ)-convexity. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 1, 51–69. 90C29 (90C32)

Reddy, Satish C. (*with* Schmid, Peter J.; Baggett, Jeffrey S.; Henningson, Dan S.) On stability of streamwise streaks and transition thresholds in plane channel flows. (English summary) *J. Fluid Mech.* **365** (1998), 269–303. (Summary) **99e:76053** 76E99 (76D10, 76F99, 76N20)

Rédei, Miklós ★ Quantum logic in algebraic approach. (English summary) Fundamental Theories of Physics, 91. *Kluwer Academic Publishers Group, Dordrecht*, 1998. x+238 *pp. ISBN* 0-7923-4903-2 (S. Gudder) **99c:81016** 81P10 (03G12, 06C15)

Redekopp, L. G. (*with* Lim, D. W.) Absolute instability conditions for variable density, swirling jet flows. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 2, 165–185. (Summary) **99d:76033** 76E05 (76C05)

Rederlechner, Bernd (*with* Keller, Jörg) A note on correctness proofs for overflow detection logic in adders for d-th complement numbers. (English summary) *J.UCS* **3** (1997), *no.* 10, 1121–1125 (*electronic*). 68M07

Redfern, Edwin J. (*with* Mardia, Kanti V.; Goodall, Colin; Alonso, Francisco J.) The Kriged Kalman filter. (English summary) With comments and a rejoinder by the authors. *Test* **7** (1998), *no.* 2, 217–285. (Summary) **99i:62227** 62M20

Redhead, Michael L. G. (*with* Ridderbos, T. M.) The spin-echo experiments and the second law of thermodynamics. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1237–1270. (Summary) **99g:80005** 80A10 (82B30)

— (*with* Wagner, Fabian) Unified treatment of EPR and Bell arguments in algebraic quantum field theory. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 2, 111–125. (Christian D. Jäkel) **99i:81014** 81P05 (81T05)

Redheffer, Irene (*with* Volkmann, Peter) Ein Fixpunktsatz für quasimonoton wachsende Funktionen. (English summary) [A fixed-point theorem for quasimonotonically increasing functions] *Arch. Math.* (*Basel*) **70** (1998), *no.* 4, 307–312. (Markus Kunze) **99a:47086** 47H10 (47H07)

Redheffer, Raymond M. (*with* Volkmann, Peter) Die Funktionalgleichung $f(x) + \max\{f(y), f(-y)\} = \max\{f(x+y), f(x-y)\}$. (English summary) [The functional equation $f(x) + \max\{f(y), f(-y)\} = \max\{f(x+y), f(x-y)\}$] *General inequalities*, 7 (*Oberwolfach*, 1995), 311–318, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Summary) **99m:39024** 39B52

— Old and new results on Lotka-Volterra systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3207–3213. (Virginia W. Noonburg) **99b:34075** 34C25 (34C99, 34D05, 92D25)

— Monotonicity of the maxima. *Amer. Math. Monthly* **105** (1998), *no.* 10, 945–948. (Uri Elias) **99h:34056** 34C10

— (*with* Herzog, Gerd) Asymptotisches Verhalten der Maxima der Lösungen gewisser Differentialgleichungen. (German summary) [Asymptotic behavior of maxima of solutions of certain differential equations] *Arch. Math.* (*Basel*) **72** (1999), *no.* 2, 132–144. (E. Müller-Pfeiffer) **99k:34066** 34C10

— (*with* Fujii, Nobuhiko; Nakamura, Akihiro[1]) On the excess of sets of complex exponentials. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1815–1818. (N. A. Shirokov) **99i:30006** 30B60

Redivo-Zaglia, M. (*with* Brezinski, Claude; Sadok, H.) Problems of breakdown and near-breakdown in Lanczos-based algorithms. *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 255–270, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (Guo Liang Chen) **99g:65052** 65F30

— (*with* Brezinski, Claude) Transpose-free Lanczos-type algorithms for nonsymmetric linear systems. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 67–103. (Guo Liang Chen) **99g:65050** 65F25 (65F30)

— (*with* Brezinski, Claude; Rodriguez, Giuseppe; Seatzu, Sebastiano) Extrapolation techniques for ill-conditioned linear systems. (English summary) *Numer. Math.* **81** (1998), *no.* 1, 1–29. (Thomas A. Atchison) **99j:65069** 65F30 (65B05, 65J20)

Red'ko, V. N. (*with* Brona, Yu. I.; Buĭ, D. B.) Relational algebras: projection and join operations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 89–100, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 530–539 (1998). (Jānis Cīrulis) **99a:68048** 68P15 (03G15)

— (*with* Brona, Yu. I.; Buĭ, D. B.) Relational algebras: division and renaming operations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 5, 3–15, 187; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 615–623 (1998). (Summary) **99k:68045** 68P15

Redner, O. (*with* Chayes, L.; Machta, Jonathan) Graphical representations for Ising systems in external fields. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 17–32. (Daniel Ueltschi) **99h:82010** 82B20 (82B26, 82B43, 82B80)

vega-Redondo, Fernando *see* **Vega-Redondo, Fernando**

Redondo, María Julia (*with* Solotar, Andrea) Paracyclic complexes arising from α-derivations. *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahía Blanca*, 1997), 99–104, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (J. Kuzmanovich) **99i:16019** 16E40

— (*with* Gastaminza, S.; de la Peña, José Antonio; Platzeck, María Inés; Trepode, S.) Finite-dimensional algebras with vanishing Hochschild cohomology. *J. Algebra* **212** (1999), *no.* 1, 1–16. (Thierry Lambre) **99m:16009** 16E40 (16G20)

Redwane, Hicham (*with* Blanchard, Dominique) Renormalized solutions for a class of nonlinear evolution problems. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 2, 117–151. (Alan V. Lair) **99b:35084** 35K55 (35K60)

Reeb, Georges Propriétés des trajectoires de certains systèmes dynamiques. [Properties of the trajectories of certain dynamical systems] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 21, 129–140, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 34C35 (34C25, 58F25)

— Sur les feuilletages analytiques (d'après André Haefliger). [On analytic foliations (after A. Haefliger)] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 192, 339–345, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 32L30 (57R30)

Reed, Bruce A. (*with* Hind, Hugh R.; Molloy, Michael Sean O'Brien) Colouring a graph frugally. (English summary) *Combinatorica* **17** (1997), *no.* 4, 469–482. (David E. Woolbright) **99j:05070** 05C15

— (*with* Molloy, Michael Sean O'Brien) Colouring graphs where chromatic number is almost their maximum degree. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 216–225, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:05053** 05C15 (05C85, 68R10)

— (*with* Molloy, Michael Sean O'Brien) A bound on the total chromatic number. (English summary) *Combinatorica* **18** (1998), *no.* 2, 241–280. (Ortrud R. Oellermann) **99j:05074** 05C15 (05C80)

— (*with* Everett, Hazel; Klein, Sulamita) An optimal algorithm for finding clique-cross partitions. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 171–177. (Summary) **99k:05128** 05C70 (05C85)

— (*with* Seymour, P. D.) Fractional colouring and Hadwiger's conjecture. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 147–152. (H. L. Abbott) **99k:05079** 05C15

— ω, Δ, and χ. (English summary) *J. Graph Theory* **27** (1998), *no.* 4, 177–212. (Ioan Tomescu) **99a:05051** 05C15 (05C80)

— (*with* Molloy, Michael Sean O'Brien; Steiger, William) On the mixing rate of the triangulation walk. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 179–190, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:60124** 60J15 (60C05)

— (*with* McDiarmid, Colin) Colouring proximity graphs in the plane. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 123–137. (Qiao Li) **99m:05063** 05C15

— (*with* Mahadev, N. V. R.) A note on vertex orders for stability number. (English summary) *J. Graph Theory* **30** (1999), *no.* 2, 113–120. (Chinh T. Hoang) **99m:05152** 05C85

— (*with* Hind, Hugh R.; Molloy, Michael Sean O'Brien) Total coloring with Δ + poly(log Δ) colors. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 816–821 (*electronic*). (Summary) **99e:05050** 05C15 (05C85)

— *see also* **Probabilistic methods for algorithmic discrete mathematics, 99i:05003**

Reed, E. (*with* Knill, Oliver) Complexity growth in almost periodic fluids in the case of lattice gas cellular automata and Vlasov systems. (English summary) *Complex Systems* **10** (1996), *no.* 3, 219–227. (Summary) **99a:82079** 82C40 (82C20)

Reed, G. M. (*with* Cook, H.) On the non-productivity of normality in Moore spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 875–880. (J. E. Vaughan) **99f:54036** 54E30 (03E50, 54A10, 54B10, 54D15)

Reed, Helen L. *see* **Annual review of fluid mechanics, 99h:76001**

Reed, Irving S. (*with* Goldstein, J. Scott; Scharf, Louis L.) A multistage representation of the Wiener filter based on orthogonal projections. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2943–2959. 94A12

Reeder, Mark Hecke algebras and harmonic analysis on p-adic groups. (English summary) *Amer. J. Math.* **119** (1997), *no.* 1, 225–249. (David Goldberg) **99c:22025** 22E50 (22E35)

— Small modules, nilpotent orbits, and motives of reductive groups. *Internat. Math. Res. Notices* **1998**, *no.* 20, 1079–1101. (William M. McGovern) **99j:20051** 20G05 (22E46)

Reeds, James A. (*with* Lagarias, Jeffrey C.; Prabhu, Nagabhushana) The parameter space of the d-step conjecture. *Foundations of software technology and theoretical computer science (Hyderabad, 1996)*, 52–63, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Jesús A. de Loera) **99b:52023** 52B12 (68U05)

— (*with* Lagarias, Jeffrey C.; Wright, Margaret H.; Wright, Paul E.) Convergence properties of the Nelder-Mead simplex method in low dimensions. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 112–147 (*electronic*). (John J. Dinkel) **99j:90081** 90C30 (65K05)

Reeh, Achim (*with* Grossmann, Siegfried; Lohse, Detlef) Scaling of the irreducible SO(3)-invariants of velocity correlations in turbulence. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 715–724. (Summary) **99i:76074** 76F99

Reeken, Michael (*with* Kanovei, Vladimir) Mathematics in a nonstandard world. I. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 369–408. (Miodrag D. Rašković) **99h:03044** 03H05 (03E70)

— (*with* Kanovei, Vladimir) Mathematics in a nonstandard world. II. *Math. Japon.* **45** (1997), *no.* 3, 555–571. (Miodrag D. Rašković) **99h:03045** 03H05 (03E40, 03E70)

— (*with* Kanovei, Vladimir) Elementary extensions of external classes in a nonstandard universe. (English summary) *Studia Logica* **60** (1998), *no.* 2, 253–273. (Pavol Zlatoš) **99j:03047** 03E70 (03H05)

Reeks, M. W. (*with* Hyland, K. E.; McKee, Sean) Exact analytic solutions to turbulent particle flow equations. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1249–1261. (Summary) **99m:76072** 76F99 (76M35)

Reemtsen, Rembert (*with* Görner, Stephan) Numerical methods for semi-infinite programming: a survey. (English summary) *Semi-infinite programming*, 195–275, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99c:90142** 90C34 (65K05, 90–02)

— *see also* **Semi-infinite programming, 99b:90141**

Reent, K. S. Modeling of time-dependent aerodynamic characteristics of a rotating circular row of blades. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 1021–1032; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 976–986. (Summary) **99f:76078** 76G25 (76M25)

Rees, D. H. (*with* Preece, D. A.) Perfect Graeco-Latin balanced incomplete block designs (pergolas). (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 691–712. (Summary) **99i:05042** 05B15

Rees, D. W. A. Elastic-plastic stresses in rotating discs by von Mises and Tresca. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 4, 281–288. 73E05

Rees, David (*with* Kirby, David) The multiplicity of a set of homogeneous polynomials over a commutative ring. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 97–105. (Jaime-Luis Garcia-Roig) **99h:13031** 13H15 (13D25)

Rees, Elmer G. (*with* Boyer, Charles P.; Galicki, Krzysztof; Mann, Benjamin M.) Einstein manifolds of positive scalar curvature with arbitrary second Betti number. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 1–7. (Andrew Swann) **99c:53041** 53C25 (14J45, 57S25)

— (*with* Bukhshtaber, V. M.) Multivalued groups, their representations and Hopf algebras. (English summary) *Transform. Groups* **2** (1997), *no.* 4, 325–349. (P. S. Landweber) **99b:20071** 20F99 (16W30)

— (*with* Bukhshtaber, V. M.) Multivalued groups, n-Hopf algebras and n-ring homomorphisms. (English summary) *Lie groups and Lie algebras*, 85–107, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Nobuaki Obata) **99f:20111** 20N20 (05E05, 16W30)

— (*with* Boyer, Charles P.; Galicki, Krzysztof; Mann, Benjamin M.) Compact 3-Sasakian 7-manifolds with arbitrary second Betti number. *Invent. Math.* **131** (1998), *no.* 2, 321–344. (Roger Bielawski) **99b:53066** 53C25 (14J45, 57S25)

van Rees, G. H. J. (*with* Bate, John Aubrey) Lotto designs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 15–39. (Charles J. Colbourn) **99m:05037** 05B30 (05B40)

— (*with* Drake, David A.; Wallis, W. D.) Maximal sets of mutually orthogonal Latin squares. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 87–94. (Jörn Quistorff) **99k:05039** 05B15

Rees, Martin J. Astrophysical evidence for black holes. (English summary) *Black holes and relativistic stars (Chicago, IL, 1996)*, 79–101, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C57 (83F05)

Rees, Mina Spiegel *see* **Green, Judy et al., 99h:01036**

Rees, N. W. (*with* Cao, S. G.; Feng, Gang[1]) Stability analysis and design for a class of continuous-time fuzzy control systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1069–1087. 93C42 (93D10)

— (*with* Feng, Gang[1]; Cao, S. G.; Ma, Jian) H_∞ control of fuzzy dynamic systems. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 4, 559–576. 93B36 (93C42)

Rees, Rolf S. (*with* Fraughnaugh, Kathryn; Pullman, Norman J.; Monson, Sylvia D.) Uni-intersection graphs. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 14–22. (Hiroshi Maehara) **99d:05074** 05C75

— Maximal sets of triangle-factors on $v = 6m$ vertices. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 235–244. (W. D. Wallis) **99d:05072** 05C70

— Maximal sets of triangle-factors on $v = 6m + 3$ vertices. (English summary) *J. Combin. Des.* **6** (1998), *no.* 5, 309–323. (A. Rosa) **99h:05012** 05B07 (05C70)

— (*with* Lamken, E. R.; Mills, William H.) Resolvable minimum coverings with quadruples. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 431–450. (G. H. J. Van Rees) **99k:05055** 05B40

Rees, Sarah Hairdressing in groups: a survey of combings and formal languages. (English summary) *The Epstein birthday schrift*, 493–509 (*electronic*), *Geom. Topol. Monogr.*, 1, *Geom. Topol., Coventry*, 1998. (Richard Kenyon) **99m:20069** 20F10 (68Q40, 68Q70)

— Automatic groups associated with word orders other than shortlex. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 5, 575–598. (Stephan Rosebrock) **99m:20070** 20F10 (03D40, 20–04, 68Q40, 68Q42)

Reese, C. S. (*with* Eubank, Randall L.; Kambour, E. L.; Kim, Jongtae; Klipple, K.; Schimek, M.) Estimation in partially linear models. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 1, 27–34. (Li-Xing Zhu) **99k:62074** 62G05 (62J02)

Reese, M. S. (*with* Kenney, Charles; Laub, A. J.) Statistical condition estimation for linear least squares. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 906–923 (*electronic*). (Hongyuan Zha) **99e:65072** 65F30 (15A12, 62J05)

Reese, St. (*with* Küssner, Martin; Reddy, B. D.) A new stabilization technique for finite elements in non-linear elasticity. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 11, 1617–1652. (Summary) **99m:73071** 73V05 (73C50)

Reeve, J. S. (*with* Heath, M.) An efficient parallel version of the Householder-QL matrix diagonalisation algorithm. (English summary) *Parallel Comput.* **25** (1999), *no.* 3, 311–319. (Summary) **99m:65081** 65F25 (15A21)

Reeves, Alyson A. A parallel implementation of Buchberger's algorithm over Z_p for $p \leq 31991$. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 2, 229–244. (Alessandro Logar) **99j:13022** 13P10 (68Q40)

Reeves, Colin R. Landscapes, operators and heuristic search. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 473–490. (*see* **99k:90002**) 90C27 (65C05)

Reeves, L. D. (*with* Niblo, Graham A.) The geometry of cube complexes and the complexity of their fundamental groups. (English summary) *Topology* **37** (1998), *no.* 3, 621–633. (Darryl McCullough) **99a:20037** 20F32 (20F55, 57M50)

Reeves, Steve *see* **Formal Methods Pacific, 99a:68008** *and* **Combinatorics, complexity, & logic, 99d:68003**

Refalo, Philippe Meta linear constraints in constraint logic programming. (English summary) *Logic programming (Manchester, 1998)*, 55–69, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68T20)

Refenes, Paul (*with* Holt, William) The Durbin-Watson test for neural regression models. (English summary) *Risk measurement, econometrics and neural networks (Karlsruhe, 1997)*, 57–68, *Contrib. Econom., Physica, Heidelberg*, 1998. (Summary) **99k:62125** 62J05 (62J20)

Refolli, Andrea (*with* Penati, Silvia; Sevrin, Alexander; Zanon, Daniela) Geometry and beta functions for $N = 2$ matter models in two dimensions. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 593–610. (Summary) **99g:81141** 81T17 (81T60)

Rega, Giuseppe (*with* Lenci, Stefano) A procedure for reducing the chaotic response region in an impact mechanical system. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 4, 391–409. (Summary) **99a:70037** 70K50

Regalia, Phillip A. (*with* Mboup, Mamadou; Ashari, Mehdi) A multivariable Steiglitz-McBride method: stationary points and a priori error bound. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 125–153. 93B30

Regan, Kenneth W. (*with* Sivakumar, D.; Cai, Jin-Yi) Pseudorandom generators, measure theory, and natural proofs. (English summary) 36*th Annual Symposium on Foundations of Computer Science (Milwaukee, WI*, 1995), 26–35, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15

— (*with* Li, Lide; Ogihara, Mitsunori) On information from #P functions. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 280–295 (*electronic*). (*see* **99f:68006**) 68Q15

— Polynomials and combinatorial definitions of languages. (English summary) *Complexity theory retrospective, II*, 261–293, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15)

— (*with* Vollmer, Heribert) Gap-languages and log-time complexity classes. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 101–116. (Frederic Green) **99c:68098** 68Q15 (03D15)

— (*with* Downey, Rodney G.; Fellows, Michael R.) Descriptive complexity and the W hierarchy. (English summary) *Proof complexity and feasible arithmetics (Rutgers, NJ*, 1996), 119–134, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:68072** 68Q15 (03D10, 03D15, 03D20, 03D30, 03D80, 68Q25)

— (*with* Buhrman, Harry; van Melkebeek, Dieter; Sivakumar, D.; Strauss, Martin Joel) A generalization of resource-bounded measure, with an application (extended abstract). (English summary) *STACS 98 (Paris*, 1998), 161–171, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q15

— (*with* Sivakumar, D.) Probabilistic martingales and BPTIME classes. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY*, 1998), 186–200, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68049** 68Q15

Regazzini, Eugenio De Finetti's reconstruction of the Bayes-Laplace paradigm. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 159–176. (Angelo Gilio) **99a:62007** 62A15 (60A05, 60G09)

— (*with* Sazonov, Vyacheslav Vasil'evich) On the central limit problem for partially exchangeable random variables with values in a Hilbert space. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 796–812. (Alfredas Račkauskas) **99i:60010** 60B12 (62F05)

Regenwetter, Michel Probabilistic preferences and topset voting. (English summary) *Math. Social Sci.* **34** (1997), *no.* 2, 91–105. (Maurice Salles) **99a:90071** 90A28 (90A07, 90A08, 92J45)

— (*with* Doignon, Jean-Paul) The choice probabilities of the latent-scale model satisfy the size-independent model when n is small. (English summary) *J. Math. Psych.* **42** (1998), *no.* 1, 102–106. (Summary) **99b:90038** 90A28

— (*with* Grofman, Bernard) Choosing subsets: a size-independent probabilistic model and the quest for a social welfare ordering. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 423–443. (Maurice Salles) **99f:90014** 90A08 (90A28)

Regev, Amitai (*with* Zeilberger, Doron) Proof of a conjecture on multisets of hook numbers. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 391–394. (Jennifer R. Galovich) **99g:05182** 05E10

— (*with* Beckner, William) Asymptotic estimates using probability. (English summary) *Adv. Math.* **138** (1998), *no.* 1, 1–14. (Peter Kirschenhofer) **99j:05011** 05A16 (20C30, 60C05)

— Asymptotics of the number of k-words with an l-descent. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 15, 4*pp.* (*electronic*). (Summary) **99k:05010** 05A16 (05E10)

— Maximal degrees for Young diagrams in the (k, l) hook. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 721–726. (Ernesto Vallejo) **99k:05160** 05E10 (05A17, 20C30)

— (*with* Berele, A.) Codimensions of products and of intersections of verbally prime T-ideals. (English summary) *Israel J. Math.* **103** (1998), 17–28. (E. Formanek) **99b:16037** 16R10

Reggio, Gianna (*with* Cerioli, Maura) Very abstract specifications: a formalism independent approach. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 1, 17–66. (V. Căzănescu) **99c:68056** 68N99 (68Q55)

Reghiş, Mircea (*with* Jebelean, Petru) The comparison theorem of Stokes for infinite systems of differential equations. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 487–496. (Sergey G. Lobanov) **99h:34086** 34G20 (34A12)

Régin, Jean-Charles (*with* Bessière, Christian; Freuder, Eugene C.) Using constraint metaknowledge to reduce arc consistency computation. (English summary) *Artificial Intelligence* **107** (1999), *no.* 1, 125–148. (Summary) **99j:68128** 68T20

Regiomontanus, Johannes *see* **Shank, Michael H., 99c:01009** *and* **Steele, John M.**

Regnath, Hanne (*with* Seibert, Gerhard) Frobenius functors and invariant factors. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1757–1768. (Mark R. Johnson) **99e:13004** 13A35 (13H99)

Regner, Susanne (*with* Andersen, Lars Døvling; Fleischner, Herbert) Algorithms and outerplanar conditions for A-trails in plane Eulerian graphs. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 2, 99–112. (Cun-Quan Zhang) **99c:05121** 05C45 (05C85)

Regnier, Laurent *see* **Logic and models of computation, 99h:03001**

Reguera, Ana José Curves and proximity on rational surface singularities. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 107–126. (Anne S. Pichon) **99g:14046** 14J17 (14H20, 14J26)

— (*with* Lejeune-Jalabert, Monique) Arcs and wedges on sandwiched surface singularities. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 207–212. (De-Qi Zhang) **99g:14045** 14J17

— (*with* Cossart, Vincent; Piltant, Olivier) On isomorphisms of blowing-ups of complete ideals of a rational surface singularity. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 65–73. (M. Kh. Gizatullin) **99k:14004** 14B05 (14J17)

Reguera, Nuria Numerical integration of Boussinesq's "good" equation. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 859–864, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99

Reguera-López, Ana J. *see* **Reguera, Ana José**

Rehacek, Jan (*with* Bunimovich, Leonid A.) On the ergodicity of many-dimensional focusing billiards. (English and French summaries) Classical and quantum chaos. *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 4, 421–448. (Serge E. Troubetzkoy) **99g:58070** 58F11

— (*with* Bunimovich, Leonid A.) How high-dimensional stadia look like. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 277–301. (András Krámli) **99k:58133** 58F15 (82C05)

Řehák, Pavel (*with* Došlý, Ondřej) Conjugacy criteria for second-order linear difference equations. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 2, 301–310. (Summary) **99i:39005** 39A10

Rehberg, J. (*with* Everitt, W. N.; Nasri-Roudsari, G.) A note on the analytic form of the Kramer sampling theorem. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 310–319. (K. Pan) **99h:30036** 30E20

Rehbock, V. (*with* Lee, H. W. J.; Teo, Kok Lay) Suboptimal local feedback control for a class of constrained discrete time nonlinear control problems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 133–148. (Summary) **99j:93044** 93B52 (93C55)

— (*with* Teo, Kok Lay; Lee, H. W. J.) Control parametrization enhancing technique for time optimal control and optimal three-valued control problems. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 617–631. (Ernest Scheiber) **99j:49074** 49M30 (49M25)

— (*with* Wang, Song; Teo, Kok Lay) Computing optimal control with hyperbolic partial differential equation. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998), *no.* 2, 266–287. (Fredi Tröltzsch) **99m:49051** 49M25 (49K20, 65M06)

— (*with* Teo, Kok Lay; Jennings, L. S.; Lee, H. W. J.) The control parameterization enhancing transform for constrained optimal control problems. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 314–335. (Summary) **99k:49073** 49M30 (49K15)

abd-el-Reheem, Zaki F. *see* **Abd-El-Reheem, Zaki F.**

Rehman, Fazal-Ur (*with* Michalska, Hannah) Stabilization of a class of nonlinear systems through Lyapunov function decomposition. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 381–409. 93D15

— (*with* Michalska, Hannah) Guiding functions and discontinuous control: the underwater vehicle example. (English summary) *Internat. J. Control* **69** (1998), *no.* 1, 1–30. 93C95 (70Q05)

Rehmann, Ulf (*with* Hurrelbrink, Jurgen) Splitting patterns and trace forms. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 71–78. (Martin Epkenhans) **99d:11035** 11E04

— (*with* Kersten, Ina) Excellent algebraic groups. I. (English summary) *J. Algebra* **200** (1998), *no.* 1, 334–346. (Manuel Ojanguren) **99c:20063** 20G15 (15A63, 16K20)

Rehof, Jakob (*with* Henglein, Fritz) Constraint automata and the complexity of recursive subtype entailment. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 616–627, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68N15 (68Q25)

Rehren, Karl-Henning Generalized Cuntz algebras associated with subfactors. *Operator algebras and quantum field theory* (*Rome*, 1996), 284–295, *Internat. Press, Cambridge, MA*, 199?. (Yasuyuki Kawahigashi) **99a:46112** 46L37

— (*with* Frieler, K.) A non-abelian square root of abelian vertex operators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3073–3090. (Jens Böckenhauer) **99f:81120** 81T05 (46F10, 81R10)

Reibert, Mark S. (*with* Saric, William S.; Carrillo, Ruben B., Jr.) Nonlinear stability and transition in 3-D boundary layers. (English and Italian summaries) Topics in fluid mechanics (Turin, 1998). *Meccanica* **33** (1998), *no.* 5, 469–487. (*see* **99h:76005**) 76E30 (76D10, 76F99, 76N20)

Reich, Edgar Steiner symmetrization and the conformal moduli of parallelograms. *Analysis and topology*, 615–620, *World Sci. Publishing, River Edge, NJ*, 1998. (Vladimir N. Dubinin) **99m:31004** 31A15 (30C75, 30C85)

— Extremal extensions from the circle to the disk. *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 321–335, *Springer, New York*, 1998. (J. G. Krzyż) **99c:30041** 30C62 (30B40, 30C70, 47B38)

— The unique extremality counterexample. *J. Anal. Math.* **75** (1998), 339–347. (Johnny E. Brown) **99k:30037** 30C70 (30C62)

— *see also* **Chen, Ji Xiu, 99h:30021**

Reich, Gabriele (*with* Ihler, Edmund; Widmayer, Peter) Class Steiner trees and VLSI-design. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 173–194. (Summary) **99m:68151** 68R10 (05C85, 68Q25, 68Q35)

Reich, Karin Materialien zu Mathematikern, die in Hamburg gewirkt haben. (German summary) [Materials on mathematicians who worked in Hamburg] *Mitt. Math. Ges. Hamburg* **16** (1997), 137–154. (Editors) **99m:01085** 01A70

— Gauß' *Theoria motus*: Entstehung, Quellen, Rezeption. [Gauss' *Theoria motus*: Evolution, origins, reception] *Gauss-Ges. Göttingen Mitt. No.* 35 (1998), 3–15. (H. Treder) **99h:01028** 01A55 (70–03)

Reich, Ludwig Iterative roots of formal power series: universal expressions for the coefficients and analytic iteration. *Contributions to the theory of functional equations, II* (*Zamárdi*, 1995), 21–32, *Grazer Math. Ber.*, 327, *Karl-Franzens-Univ. Graz, Graz*, 1996. (Tomás Sánchez-Giralda) **99a:12001** 12D99 (13F25)

— On the local distribution of analytic contractions in $\mathbf{C}^3$ with respect to embeddability. *Iteration theory (ECIT 94)* (*Opava*), 217–226, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 13J05 (13F25, 39B12)

— On the local distribution of analytic contractions in $\mathbf{C}^3$ with respect to embeddability. *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 305–315 (1998). (Harold P. Boas) **99m:32001** 32A05 (13J05, 39B12)

— (*with* Unger, Josef) ★ Derivationen höherer Ordnung als Lösungen von Funktionalgleichungen. (German) [Derivations of higher order as solutions of functional equations] Grazer Mathematische Berichte [Graz Mathematical Reports], 336. *Karl-Franzens-Universität Graz, Graz*, 1998. *ii*+83 *pp.* (B. Crstici) **99k:39068** 39B22 (13B02, 39–01)

— György Targonski, 1928–1998. (German) *Aequationes Math.* **57** (1999), *no.* 1, 1–3. 01A70

— *see also* **Iteration theory (ECIT 94), 99h:58001**

Reich, Sebastian Preservation of adiabatic invariants under symplectic discretization. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 45–55. (Werner M. Seiler) **99j:70022** 70H05 (58F10, 65L99, 70–08)

Reich, Simeon (*with* Khatskevich, V. A.; Shoikhet, David) Semi-complete holomorphic vector fields on homogeneous open unit balls in Banach spaces. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 143–148. (Summary) **99k:47176** 47H20 (58B12)

— (*with* Shoikhet, David) Semigroups and generators on convex domains with the hyperbolic metric. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 4, 231–250. (Marco Abate) **99g:47155** 47H20 (32K05, 46G20, 47H10)

— (*with* Shoikhet, David) Results and conjectures in holomorphic fixed point theory. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3529–3538. (Tadeusz Kuczumow) **99b:47088** 47H10 (47H20, 58C10)

— (*with* Censor, Yair) The Dykstra algorithm with Bregman projections. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 407–419. (M. Teboulle) **99e:90111** 90C48 (49M30, 65K10)

— (*with* Ackleh, Azmy S.) Parameter estimation in nonlinear evolution equations. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 933–947. (Gabriel Dimitriu) **99k:93038** 93B30 (34G20, 35K99, 49K27, 65K10)

— (*with* Böhm, Michael; Demetriou, Michael A.; Rosen, I. G.) Model reference adaptive control of distributed parameter systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 33–81 (*electronic*). (Toshihiro Kobayashi) **99b:93032** 93C40 (93C20, 93D21)

— (*with* Shoikhet, David) Averages of holomorphic mappings and holomorphic retractions on convex hyperbolic domains. (English summary) *Studia Math.* **130** (1998), *no.* 3, 231–244. (Peter R. Mercer) **99d:47073** 47H20 (46G20, 47H10, 58C10)

— (*with* Shoikhet, David) A characterization of holomorphic generators on the Cartesian product of Hilbert balls. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 383–396. (Jarosław Górnicki) **99m:46113** 46G20 (34G20, 47H20, 58C10)

— (*with* Aizicovici, Sergiu) Anti-periodic solutions to a class of non-monotone evolution equations. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 35–42. (Piotr Biler) **99k:34133** 34G20 (35K55, 35R70)

— (*with* Aizicovici, Sergiu; Chen, Yu Qing) Accretive operators in locally convex spaces. (English summary) *Panamer. Math. J.* **9** (1999), *no.* 1, 1–10. (Vladimir E. Fedorov) **99k:47133** 47H06 (34A60, 34G20)

Reichel, Horst Dialgebraic logics (extended abstract). (English summary) *First Workshop on Coalgebraic Methods in Computer Science* (*CMCS '98*) (*Lisbon*), 9 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (*see* **99e:68002**) 03B20 (03B45, 68Q55, 68Q65)

— *see also* **Workshop: Coalgebraic Methods in Computer Science, 99e:68002**

Reichel, L. (*with* Baglama, J.; Calvetti, D.) Fast Leja points. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 124–140 (*electronic*). (Summary) **99j:65036** 65E05 (65D20, 65F99)

— (*with* Barnard, Roger W.; Dahlquist, Germund; Pearce, Kent; Richards, K. C.) Gram polynomials and the Kummer function. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 128–143. (Olav Njåstad) **99g:42030** 42C05 (33C15, 41A10)

— (*with* Calvetti, D.) A hybrid iterative method for symmetric indefinite linear systems. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 2, 109–133. (Zhenyue Zhang) **99e:65050** 65F10

— (*with* Baglama, J.; Calvetti, D.; Golub, Gene H.) Adaptively preconditioned GMRES algorithms. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 243–269 (*electronic*). (Summary) **99d:65097** 65F10

Reichel, Mario (*with* Denecke, Klaus) Monoids of hypersubstitutions and M-solid varieties. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 117–126, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Shelly L. Wismath) **99a:08003** 08B05 (20M07)
rentz-Reichert, Henrik *see* **Rentz-Reichert, Henrik**
Reichstein, Zinovy Generators of central simple algebras. (English summary) *J. Algebra* **207** (1998), *no.* 2, 511–524. (Nikolaus Vonessen) **99g:16024** 16K20 (12E15)
Reid, Alan W. (*with* Jones, Kerry N.) Geodesic intersections in arithmetic hyperbolic 3-manifolds. *Duke Math. J.* **89** (1997), *no.* 1, 75–86. (Colin C. Adams) **99a:57009** 57M50 (20H10, 57N10)
— (*with* Long, D. D.) On Fuchsian groups with the same set of axes. *Bull. London Math. Soc.* **30** (1998), *no.* 5, 533–538. (G. M. Lyan) **99k:20104** 20H10 (30F35)
— (*with* Long, D. D.) Free products with amalgamation and p-adic Lie groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 423–433. (S. Andreadakis) **99m:20052** 20E06 (57M07)
— (*with* Callahan, Patrick J.) Hyperbolic structures on knot complements. Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 705–738. (Michael Heusener) **99e:57022** 57M50 (57M25)
— (*with* Jones, Kerry N.) Minimal index torsion-free subgroups of Kleinian groups. *Math. Ann.* **310** (1998), *no.* 2, 235–250. (Bruno Zimmermann) **99a:57010** 57M50 (20H10, 30F40, 57S30)
— (*with* Cooper, Daryl; Long, D. D.) Infinite Coxeter groups are virtually indicable. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 303–313. (Tadeusz Januszkiewicz) **99f:20067** 20F55
Reid, D. J. Optimising the distributed execution of join queries in polynomial time. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 105–126. (Summary) **99m:68044** 68P15 (90C90)
Reid, Gregory J. (*with* Mansfield, Elizabeth L.; Clarkson, Peter A.) Nonclassical reductions of a $(3+1)$-cubic nonlinear Schrödinger system. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 460–488. (Summary) **99j:35206** 35Q55 (35–04, 35A30, 65–04, 65M06)
— (*with* Lisle, Ian G.) Geometry and structure of Lie pseudogroups from infinitesimal defining systems. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 355–379. (Fernando Alcalde-Cuesta) **99h:58206** 58H05 (58A15, 58G35)
Reid, K. B. (*with* Zhang, Cun Quan) Score sequences of semicomplete digraphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 27–32. (Summary) **99c:05084** 05C20
— (*with* Fisher, David C.; Lundgren, J. Richard; Merz, Sarah K.) The domination and competition graphs of a tournament. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 103–110. (Robert C. Brigham) **99g:05086** 05C20 (05C75)
Reid, M. *see* **Reid, Miles**
Reid, M. D. (*with* Deuar, P.) Macroscopic local realism: how do we define it and is it compatible with quantum mechanics? (English summary) *Ann. Physics* **265** (1998), *no.* 1, 52–79. (S. Gudder) **99e:81025** 81P15
Reid, Miles *see* **Shafarevich, Igor R., 99g:00009**
Reid, N. (*with* Seifu, Yodit) Applications of bivariate and univariate local Lyapunov exponents. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 559–579. (Summary) **99c:62263** 62M10 (62–09)
— (*with* Fraser, Donald A. S.; Wu, Jian Rong) On the informative presentation of likelihood. (English summary) *Applied statistical science, III*, 253–265, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99k:62056** 62F15 (62F25)
— (*with* Viraswami, K.) A note on the likelihood-ratio statistic under model misspecification. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 161–168. (Steven E. Stern) **99g:62030** 62F12 (62E20)
— (*with* Cakmak, S.; Fraser, Donald A. S.; McDunnough, Philip; Yuan, Xiaojin) Likelihood centered asymptotic model exponential and location model versions. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 211–222. (Summary) **99g:62019** 62F03
Reid, S. R. (*with* Li, Shuguang; Soden, P. D.) A continuum damage model for transverse matrix cracking in laminated fibre-reinforced composites. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1746, 2379–2412. (From the text) **99h:73065** 73M25 (73K20)
Reid, W. H. Integral representations for products of Airy functions. II. Cubic products. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 4, 646–655. (E. R. Love) **99h:33016** 33C10 (44A10)
— Integral representations for products of Airy functions. III. Quartic products. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 4, 656–664. (E. R. Love) **99h:33017** 33C10 (44A10)
Reidys, C. M. Acyclic orientations of random graphs. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 181–192. (Tomasz J. Łuczak) **99e:05110** 05C80
— (*with* Barrett, Chris) Elements of a theory of computer simulation. I. Sequential CA over random graphs. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 241–259. (Summary) **99h:68181** 68U20 (68Q80)
Reif, John H. Efficient parallel solution of sparse eigenvalue and eigenvector problems. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 123–132, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q22 (15A18)
— Paradigms for biomolecular computation. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 72–93, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05
— (*with* Gazit, Hillel) A randomized parallel algorithm for planar graph isomorphism. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 290–314. (Joseph Ja'Ja') **99i:68056** 68Q22 (05C85, 68Q25, 68R10)
— Local parallel biomolecular computation. (English summary) *DNA based computers III* (*Philadelphia, PA*, 1997), 217–254, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 92–08 (68Q05)
Reif, Konrad (*with* Weinzierl, Klaus; Zell, Andreas; Unbehauen, Rolf) Nonlinear feedback stabilization by tangential linearization. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 673–687. 93D15
— (*with* Luo, Fa Long; Unbehauen, Rolf; Li, Yan Da) Analog approach for the eigen-decomposition of positive definite matrices. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 49–61. (Summary) **99b:15012** 15A18 (15A48, 68T05)
— (*with* Weinzierl, Klaus; Zell, Andreas; Unbehauen, Rolf) A homotopy approach for nonlinear control synthesis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1311–1318. 93B50 (93B40)
— (*with* Sonnemann, Frank; Unbehauen, Rolf) Nonlinear state observation using H_∞-filtering Riccati design. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 203–208. 93E11 (93B36)
Reif, Ulrich Orthogonality relations for cardinal B-splines over bounded intervals. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 59–69, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99f:41011** 41A15 (65D07)
— (*with* Peters, Jörg) The 42 equivalence classes of quadratic surfaces in affine n-space. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 459–473. (Hoàng Lê Minh) **99e:14063** 14P05 (14J99, 14Q10, 65Y25)
— TURBS—topologically unrestricted rational B-splines. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 57–77. (Summary) **99j:65020** 65D15 (41A15, 41A63)
— (*with* Peters, Jörg) Analysis of algorithms generalizing B-spline subdivision. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 728–748 (*electronic*). (Ljubiša M. Kocić) **99e:65027** 65D17 (65D07, 68U07)
— On the local existence of the quadratic geometric Hermite interpolant. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 3, 217–221. (Summary) **99k:65015** 65D05 (41A05)
Reiffen, Hans-Jörg (*with* Holmann, H.; Kaup, B.) Singular holomorphic foliations with attractive leaves. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 4, 625–658 (1998). (M. G. Soares) **99c:32043** 32L30 (58F18)
— (*with* Trapp, Heinz W.) ★ Einführung in die Analysis. (German. German summary) [Introduction to analysis] Differentiation und Integration. [Differentiation and integration] Osnabrücker Studien zur Mathematik. [Osnabrück Studies in Mathematics] *Universitätsverlag Rasch, Osnabrück*, 1999. *xii+397 pp. ISBN* 3-932147-89-8 26–01
Reijnierse, Hans (*with* Potters, J. A. M.) The $\mathscr{B}$-nucleolus of TU-games. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 77–96. (Milan Mareš) **99k:90219** 90D12
— (*with* Derks, Jean) On the core of a collection of coalitions. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 451–459. (Summary) **99k:90216** 90D12
Reijnierse, J. H. (*with* Potters, J. A. M.) On finding an envy-free Pareto-optimal division. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 291–311. (Johannes Jahn) **99j:90076** 90C29 (90D40)
Reikvam, Kristin (*with* Øksendal, Bernt) Viscosity solutions of optimal stopping problems. (English summary) *Stochastics Stochastics Rep.* **62** (1998), *no.* 3-4, 285–301. (Summary) **99a:60044** 60G40 (49L25)
Reilly, Ivan L. (*with* Mršević, Mila) A note on local connectedness in bitopological spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 715–721. 54E55 (54D05)
— (*with* Ganster, Maximilian; Kanibir, Alev) Two comments concerning certain topological spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 965–967. (Summary) **99j:54002** 54A05 (54D05)
— (*with* Cao, Jiling; Romaguera, Salvador) Some properties of quasiuniform multifunction spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 169–177. (Zbigniew Grande) **99c:54019** 54C35 (54C60, 54E15)
— On generalized open sets and decompositions of continuity. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 213–217. (Douglass L. Grant) **99i:54015** 54C08 (54C05)
— (*with* Cao, Jiling; Künzi, Hans-Peter A.; Romaguera, Salvador) Quasi-uniform hyperspaces of compact subsets. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 117–126. (J. R. Isbell) **99c:54014** 54B20 (54E15)
Reilly, Norman R. (*with* Zhang, Shu Hua[1]) Operators on the lattice of pseudovarieties of finite semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 2, 208–239. (Sheila Oates-Williams) **99j:20066** 20M07 (08C15)
Reiman, Martin I. (*with* Wein, Lawrence M.) Dynamic scheduling of a two-class queue with setups. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 532–547. (Summary) **99d:90053** 90B22
— (*with* Pukhal'skiĭ, A. A.) A critically loaded multirate link with trunk reservation. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 157–190. (Summary) **99b:90059** 90B22 (60K25)
— (*with* Mandelbaum, Avi; Massey, William A.) Strong approximations for Markovian service networks. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 1-2, 149–201. (John P. Lehoczky) **99i:60163** 60K20 (60K25, 90B22)
Reimann, H. M. (*with* Korányi, Adam) Equivariant extension of quasiconformal deformations into the complex unit ball. *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 153–176. (Gerald B. Folland) **99g:32059** 32M15 (30C65)
Reimann, St. Oscillation and pattern formation in a system of self-regulating cells. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 338–361. (Summary) **99f:92003** 92C15 (34C15)
Reimer, Manfred Asymptotic behaviour of the four-norms of the polynomial reproducing kernel functions on the sphere. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 1, 85–95. (Margit Rösler) **99b:33025** 33C55 (33C45)
— *see also* **Multivariate approximation, 99a:41001**
Rein, Gerhard Growth estimates for the solutions of the Vlasov-Poisson system in the plasma physics case. (English summary) *Math. Nachr.* **191** (1998), 269–278. (R. Glassey) **99c:82067** 82D10 (35L60, 76X05, 82C21)
— (*with* Braasch, Peter; Vukadinović, Jesenko) Nonlinear stability of stationary plasmas—an extension of the energy-Casimir method. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 831–844 (*electronic*). (Tadeusz Nadzieja) **99m:35247** 35Q99 (35B35, 76X05, 82D10)
Reina, Cesare (*with* Falqui, Gregorio; Zampa, Alessandro) Krichever maps, Faà di Bruno polynomials, and cohomology in KP theory. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 4, 349–361. (Francesco Bottacin) **99a:58088** 58F07 (14H15, 35Q53)
— *see also* **Conference: General Relativity and Gravitational Physics, 99e:83002**
Reinders, Martin Unique range sets ignoring multiplicities. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 339–341. (Summary) **99b:30047** 30D35
— (*with* Frank, Günter) A unique range set for meromorphic functions with 11 elements. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 185–193. (Summary) **99m:30060** 30D35

Reineke, Markus Multiplicative properties of dual canonical bases of quantum groups. *J. Algebra* **211** (1999), *no.* 1, 134–149. (Nicola Ciccoli) **99k:17034** 17B37 (16W30)

Reinelt, Douglas A. (*with* Kraynik, Andrew M.) Elastic-plastic behavior of a Kelvin foam. (English summary) *Forma* **11** (1996), *no.* 3, 255–270. (Béla Uhrin) **99e:52033** 52B60

Reiner, Ethan (*with* O'Quigley, John) A stopping rule for the continual reassessment method. (English summary) *Biometrika* **85** (1998), *no.* 3, 741–748. (Summary) **99i:62186** 62L15

— Variation on a theme of Solomon. (English summary) Selected papers in honor of Adriano Garsia (Taormina, 1994). *Discrete Math.* **193** (1998), *no.* 1-3, 247–255. (Summary) **99i:20053** 20F55

— (*with* Hetyei, Gábor) Permutation trees and variation statistics. (English summary) *European J. Combin.* **19** (1998), *no.* 7, 847–866. (Volker Strehl) **99i:05011** 05A15 (05C05, 05E25)

Reiner, Victor Non-crossing partitions for classical reflection groups. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 195–222. (Darla Kremer) **99f:06005** 06A07 (05A18, 05E15)

— (*with* Edelman, P. H.) Visibility complexes and the Baues problem for triangulations in the plane. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 35–59. (Summary) **99h:52013** 52B40 (55P99)

— (*with* Stanton, Dennis W.) Unimodality of differences of specialized Schur functions. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 1, 91–107. (Joaquin O. Carbonara) **99c:05198** 05E05 (17B10, 17B20)

— (*with* Eagon, John A.) Resolutions of Stanley-Reisner rings and Alexander duality. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 3, 265–275. (Ralf Fröberg) **99h:13017** 13D25 (13D02, 13H10)

— (*with* Peeva, Irena V.; Sturmfels, Bernd) How to shell a monoid. *Math. Ann.* **310** (1998), *no.* 2, 379–393. (Aron Simis) **99d:13020** 13D40 (06A08, 13A02, 13P10)

— (*with* Burgiel, H.) Two signed associahedra. (English summary) *New York J. Math.* **4** (1998), 83–95 (*electronic*). (Volkmar Welker) **99g:52013** 52B12

— (*with* Herzog, Jürgen; Welker, Volkmar) The Koszul property in affine semigroup rings. (English summary) *Pacific J. Math.* **186** (1998), *no.* 1, 39–65. (Ralf Fröberg) **99j:13010** 13D03 (05E25)

Reinert, Birgit (*with* Madlener, Klaus) String rewriting and Gröbner bases—a general approach to monoid and group rings. (English summary) *Symbolic rewriting techniques* (*Ascona*, 1995), 127–180, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Joachim Apel) **99e:68076** 68Q40 (16S15, 16S34, 68Q42)

— (*with* Madlener, Klaus) A generalization of Gröbner basis algorithms to polycyclic group rings. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 1, 23–43. (Colin M. Campbell) **99d:16029** 16S34

— (*with* Madlener, Klaus) Relating rewriting techniques on monoids and rings: congruences on monoids and ideals in monoid rings. (English summary) Rewriting techniques and applications (New Brunswick, NJ, 1996). *Theoret. Comput. Sci.* **208** (1998), *no.* 1-2, 3–31. (Friedrich Otto) **99m:68102** 68Q42 (16S36, 20M05, 20M25, 68Q40)

Reinert, Gesine (*with* Goldstein, Larry Mark) Stein's method and the zero bias transformation with application to simple random sampling. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 935–952. (Andrew D. Barbour) **99e:60059** 60F05 (62D05)

— Couplings for normal approximations with Stein's method. (English summary) *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 193–207, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Małgorzata Majsnerowska) **99h:60043** 60F05 (60E10)

Reinfelds, Andrejs The reduction of discrete dynamical systems in metric space. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 525–536, *Gordon and Breach, Amsterdam*, 1997. (Fozi M. Dannan) **99j:39010** 39A10 (39B12, 54H20)

— Dynamical equivalence of dynamical systems. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 149–155. (*see* **99f:58002**) 54H20

Reingold, Nick (*with* Lund, Carsten; Westbrook, Jeffery R.; Yan, Dicky) Competitive on-line algorithms for distributed data management. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1086–1111 (*electronic*). (Summary) **99m:68068** 68Q20 (68Q25)

Reinhardt, H. *see* **Reinhardt, Hugo**

Reinhardt, H.-J. (*with* Han, Hou De) Some stability estimates for Cauchy problems for elliptic equations. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 5, 437–454. (Nicolai N. Tarkhanov) **99c:65193** 65N12 (35J25)

Reinhardt, Hugo Resolution of Gauss' law in Yang-Mills theory by gauge-invariant projection: topology and magnetic monopoles. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 505–529. (Bernd J. Schroers) **99c:81138** 81T13

— (*with* Quandt, M.) Field strength formulation of SU(2) Yang-Mills theory in the maximal abelian gauge: perturbation theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4049–4076. (Summary) **99e:81153** 81T13 (81T15)

— (*with* Quandt, M.) Ward identities for Yang-Mills theory in abelian gauges: abelian dominance at high energies. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 115–124. (Summary) **99a:81110** 81T15 (81T13)

Reinhardt, Klaus (*with* Lange, Klaus-Jörn) Set automata. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 321–329, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:68095** 68Q45 (68N15, 68Q25)

— (*with* Allender, Eric) Isolation, matching, and counting. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 92–100, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68040** 68Q15

Reinhardt, W. D. An Eulerian-based approach to elastic-plastic decomposition. (English summary) *Acta Mech.* **131** (1998), *no.* 1-2, 111–119. 73E99

Reinhardt, W. P. (*with* Blümel, Reinhold) ★ Chaos in atomic physics. (English summary) Cambridge Monographs on Atomic, Molecular and Chemical Physics, 10. *Cambridge University Press, Cambridge*, 1997. *xvi*+326 *pp. ISBN* 0-521-45502-2 (A. Ventura) **99i:81047** 81Q50 (81-01, 81V45)

Reinhart, Jürgen Implementation of the response surface method (RSM) for stochastic structural optimization problems. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 394–409, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99g:90078** 90C15 (90C90)

Reinhold, Jürgen Semilattices of ordered compactifications. (English summary) *Order* **14** (1997/98), *no.* 3, 279–294. (H. A. Priestley) **99i:54026** 54D35 (06B15, 54F05)

Reinhold, Karin (*with* Klemeš, Ivo) Rank one transformations with singular spectral type. (English summary) *Israel J. Math.* **98** (1997), 1–14. (Nathaniel Friedman) **99c:28049** 28D05

Reinov, O. I. (*with* Podkorytov, A. N.) On the Khinchin-Kahane inequality. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 1, 265–270; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 211–215. (Zsolt Páles) **99f:26035** 26D15

Reinsch, Klaus-Dieter Interpolation by pieces of Euler's elastica. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 379–386, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:73115** 73V20 (41A30, 73H05, 73K05)

Reinschke, Kurt J. (*with* Röbenack, Klaus) Digraph based determination of Jordan block size structure of singular matrix pencils. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 495–507. (Frank Uhlig) **99e:93021** 93B25 (05C50, 15A21, 15A22, 34A09)

Reinsdorf, Marshall B. (*with* Dorfman, Alan H.) The Sato-Vartia index and the monotonicity axiom. (English summary) *J. Econometrics* **90** (1999), *no.* 1, 45–61. (Summary) **99m:62165** 62P20

Reinsel, Gregory C. (*with* Tam, Wing-kuen) Seasonal moving-average unit root tests in the presence of a linear trend. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 5, 609–625. (Summary) **99e:62165** 62M10

Reis, H. C. Quantum evolution of inhomogeneities in curved space. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 10, 1633–1650. 83C47 (81T20)

dos Reis, José G. *see* **Dos Reis, José G.**

Reischer, Corina (*with* Simovici, Dan A.; Stojmenović, Ivan) An algebraic approach to entropy. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 271–280, *Hölder-Pichler-Tempsky, Vienna*, 1995. (M. Studený) **99e:94018** 94A17 (04A05)

— (*with* Ngom, Alioune; Simovici, Dan A.; Stojmenović, Ivan) Learning with permutably homogeneous multiple-valued multiple-threshold perceptrons. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 161–166, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 68T05

Reischuk, Rüdiger (*with* Liśkiewicz, Maciej) Computing with sublogarithmic space. (English summary) *Complexity theory retrospective, II*, 197–224, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15, 68Q05)

— (*with* Liśkiewicz, Maciej) Computational limitations of stochastic Turing machines and Arthur-Merlin games with small space bounds. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 91–107, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68036** 68Q05 (68Q15)

— (*with* Jakoby, Andreas; Schindelhauer, Christian) The complexity of broadcasting in planar and decomposable graphs. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 179–206. (Summary) **99e:68006** 68M10 (05C85, 68R10, 90B12)

— (*with* Zeugmann, Thomas) Learning one-variable pattern languages in linear average time. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 95–102. (Summary) **99i:68105** 68T05 (68Q45)

Reiser, Benjamin (*with* Flehinger, Betty J.; Yashchin, Emmanuel) Survival with competing risks and masked causes of failures. (English summary) *Biometrika* **85** (1998), *no.* 1, 151–164. (Summary) **99d:62033** 62G05 (62N05)

— (*with* Bar-Lev, Shaul K.) On confidence intervals for nonmonotone parametric functions and an application to the squared mean of the normal distribution. (English summary) *Statist. Papers* **40** (1999), *no.* 1, 89–98. 62F25

Reisin, Tamir G. (*with* Tzivion, Shalva; Levin, Zev) A numerical solution of the kinetic collection equation using high spectral grid resolution: a proposed reference. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 527–544. (Summary) **99i:82002** 82-08 (86-08)

Reisinger, Axel *see* **Klein, Étienne, 99k:81002**

Reisner, Shlomo (*with* Gordon, Yehoram; Schütt, Carsten) Umbrellas and polytopal approximation of the Euclidean ball. (English summary) *J. Approx. Theory* **90** (1997), *no.* 1, 9–22. (Peter M. Gruber) **99k:52009a** 52A27 (41A30, 52A20)

— (*with* Lopez, Mario Alberto) A special case of Mahler's conjecture. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 163–177. (Carla Peri) **99h:52009** 52A38 (52A40, 52B11, 52B55)

— (*with* Gordon, Yehoram; Schütt, Carsten) Erratum: "Umbrellas and polytopal approximation of the Euclidean ball". *J. Approx. Theory* **95** (1998), *no.* 2, 331. (Peter M. Gruber) **99k:52009b** 52A27 (41A30, 52A20)

— (*with* Meyer, Mathieu) Inequalities involving integrals of polar-conjugate concave functions. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 219–227. (Andrea Colesanti) **99c:52004** 52A20 (52A40)

Reiss, R.-D. (*with* Kaufmann, Edgar) Approximation of the Hill estimator process. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 347–354. (Erich Haeusler) **99j:60067** 60G70 (60F15, 60F17, 62G30)

Reissig, Michael (*with* Timofeev, A. Yu.) Leray-Volevich conditions for systems of evolution equations basing on the generalized derivative in the sense of Gelfond-Leontjev. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 251–268. 35A20 (35K99)

— On L_p-L_q estimates for solutions of a special weakly hyperbolic equation. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 153–164, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35L80 (35B45)

— (*with* Dreher, M.) About the C^∞-well-posedness of fully nonlinear weakly hyperbolic equations of second order with spatial degeneracy. *Adv. Differential Equations* **2** (1997), *no.* 6, 1029–1058. (Herbert Koch) **99b:35146** 35L70 (35B30, 35B65, 35L80)

— (*with* Hübner, F.) Analytical and numerical treatment of Hele-Shaw models with and without regularization. *Generalized analytic functions* (*Graz*, 1997), 271–287, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Peter A. McCoy) **99i:76047** 76D99 (35Q99, 65M06, 76M20, 76S05)

— (*with* Dreher, M.) Weakly hyperbolic equations—a modern field in the theory of hyperbolic equations. (English summary) *Partial differential and integral equations*

(*Newark, DE*, 1997), 303–318, *Int. Soc. Anal. Appl. Comput.*, **2**, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:35163** 35L70

Reissner, Eric *see* **Kröner, E.**

Reisz, Thomas The Gross-Neveu model and QCDs chiral phase transition. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 192–230, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 81V05

— (*with* Meyer-Ortmanns, Hildegard) The monotony criterion for a finite size scaling analysis of phase transitions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5316–5323. (Summary) **99g:82024** 82B26

— Hopping parameter series construction for models with non-trivial vacuum. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 363–380. (Summary) **99d:81096** 81T18

— (*with* Meyer-Ortmanns, Hildegard) Dynamical linked cluster expansions: a novel expansion scheme for point-link-point interactions. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 6, 947–985. (Summary) **99k:81207** 81T25 (82D30)

Reitberger, Heinrich The contributions of L. Vietoris and H. Tietze to the foundations of general topology. *Handbook of the history of general topology, Vol.* 1, 31–40, *Kluwer Acad. Publ., Dordrecht*, 1997. (Roman Duda) **99d:01035** 01A70 (01A60, 54–03)

Reiten, Idun Old and recent work with Maurice. *Representation theory and algebraic geometry* (*Waltham, MA*, 1995), 63–87, *London Math. Soc. Lecture Note Ser.*, 238, *Cambridge Univ. Press, Cambridge*, 1997. (Dieter Happel) **99c:16011** 16G10 (01A70, 16–03)

— Tilting theory and quasitilted algebras. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 109–120 (*electronic*). (Hagen Meltzer) **99i:16028** 16G10 (16–02)

— (*with* Green, Edward L.[1]; Martínez-Villa, Roberto; Solberg, Øyvind; Zacharia, D.) On modules with linear presentations. *J. Algebra* **205** (1998), *no.* 2, 578–604. (Sverre O. Smalø) **99i:16075** 16W50 (16E10, 16G20, 16G70)

— (*with* Dräxler, Peter; Smalø, Sverre O.; Solberg, Øyvind) Exact categories and vector space categories. (English summary) With an appendix by B. Keller. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 647–682. (Hagen Meltzer) **99f:16001** 16B50 (16G20, 16G70, 18E10)

— *see also* **Algebras and modules, 99e:16001** *and* **99e:16002**

Reiter, Michael K. (*with* Stubblebine, Stuart G.) Resilient authentication using path independence. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 12, 1351–1362. 68Q25 (94A60)

Reith, Steffen (*with* Wagner, Klaus Werner) On Boolean lowness and Boolean highness. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 147–156, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q15 (03D15)

Reitich, Fernando (*with* Bruno, Oscar P.) Bounds on the effective elastic properties of martensitic polycrystals. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 51–62, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (Summary) **99f:73008** 73B30 (73C99, 73S10)

— (*with* Friedman, Avner) Asymptotic behavior of solutions of coagulation-fragmentation models. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 563–591. (Summary) **99i:45018** 45K05 (45G10, 82C99)

Reitmann, V. (*with* Boichenko, V. A.; Franz, Astrid; Leonov, G. A.) Hausdorff and fractal dimension estimates for invariant sets of non-injective maps. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 207–223. (Remo Badii) **99d:58114** 58F12 (28A80, 58F11)

Reizes, John A. (*with* Chen, Li[4]; Garimella, Suresh V.; Leonardi, Eddie) The development of a bubble rising in a viscous liquid. (English summary) *J. Fluid Mech.* **387** (1999), 61–96. 76D99 (76T05)

Reizner, Isabelle Analyticité globale pour $\overline{\partial}_b$ sur certaines hypersurfaces compactes de $\mathbf{C}^n$. (English and French summaries) [Global analyticity for $\overline{\partial}_b$ on certain compact hypersurfaces in $\mathbf{C}^n$] *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 4, 719–746 (1998). (Makhlouf Derridj) **99g:32028** 32F20

— Analyticité globale de la solution du problème $\overline{\partial}$-Neumann pour une classe de domaines de $\mathbf{C}^n$. (English and French summaries) [Global analyticity for the $\overline{\partial}$-Neumann problem on some domains of $\mathbf{C}^n$] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1231–1236. (A. Alexandrou Himonas) **99b:32020** 32F20 (35N15)

Rejali, A. The Arens regularity of weighted inverse semigroup algebras. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol.* 2 (*Kerman*, 1995), 347–353, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Adolf R. Mirotin) **99c:43002** 43A20 (20M99, 46J99)

— Weighted function spaces on topological groups. (English and Persian summaries) *Bull. Iranian Math. Soc.* **22** (1996), *no.* 2, 43–63. (A. T.-M. Lau) **99d:43009** 43A60

Rejto, Peter (*with* Taboada, Mario) A turning point problem arising in connection with a limiting absorption principle for Schrödinger operators with generalized von Neumann-Wigner potentials. *Spectral and scattering theory* (*Newark, DE*, 1997), 131–155, *Plenum, New York*, 1998. (Philippe Briet) **99f:35030** 35J10 (34E20, 34L20, 34L25, 34L40, 81Q10)

v. Rekowski, B. (*with* Kichatinov, L. L.) Global flow symmetry breaking by the anisotropic kinetic alpha-effect. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 133–145. (Summary) **99b:76093** 76U05 (76E20, 76E25, 76V05, 76W05, 85A30)

Rem, J. (*with* Kuvshinov, B. N.; Pegoraro, F.; Schep, T. J.) Drift-Alfvén vortices with finite ion gyroradius and electron inertia effects. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 713–728. (Summary) **99k:76163** 76X05

Rembieliński, Jakub Quantum braided Poincaré group. (English summary) *Quantum groups* (*Karpacz*, 1994), 421–432, *PWN, Warsaw*, 1995. (Andrzej Sitarz) **99i:81111** 81R50 (16W30, 17B37)

— (*with* Backhouse, N. B.; Tybor, W.) Class operators for compact Lie groups. Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 9–15. (Leticia Barchini) **99f:22020** 22E46 (22C05, 43A85)

— (*with* Papaloucas, L. C.; Smoliński, K. A.) Quantum mechanics on a circle and its possible q-deformations. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 179–188, *PWN, Warsaw*, 1997. (Roberto Casalbuoni) **99e:81102** 81R50 (81S99)

— Tachyons and preferred frames. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 9, 1677–1709. (Summary) **99d:81170** 81T99

— (*with* Caban, P.) Localization problem in the relativistic quantum mechanics. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 303–311, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Matej Pavšič) **99k:81038** 81P99 (83A05)

— (*with* Kowalski, Krzysztof) Groups and nonlinear dynamical systems: chaotic dynamics on the SU(2) × SU(2) group. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 437–448. (Summary) **99c:58107** 58F13 (34A34)

commission inter-i.R.E.M. "Épistémologie et histoire des Mathématiques" *see* **Commission Inter-I.R.E.M. "Épistémologie et Histoire des Mathématiques"**

Remes, Marko Hölder parametrizations of self-similar sets. *Ann. Acad. Sci. Fenn. Math. Diss. No.* 112 (1998), 68 *pp.* (Andreas Schief) **99b:28010** 28A78 (28A80)

Remezo, L. On the superposition of the relative para-Bose and para-Fermi sets. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 22, 1809–1818. (Avinash Khare) **99h:81098** 81S05 (81Q60, 81R05)

Remiddi, Ettore The analytical value of the 6th-order electron (g-2) in QED. *Perturbative and nonperturbative aspects of quantum field theory* (*Schladming*, 1996), 299–309, *Lecture Notes in Phys.*, 479, *Springer, Berlin*, 1997. (*see* **99d:81177**) 81V10

— Differential equations for Feynman graph amplitudes. (English summary) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 187–200, *Univ. Stud. Bologna, Bologna*, 1998. (R. Delbourgo) **99e:81163** 81T18

Rémila, Eric (*with* Dorkenoo, Marius; Eglin-Leclerc, Marie-Christine) Construction of non-intersecting colored flows through a planar cellular figure. (English summary) *STACS* 98 (*Paris*, 1998), 587–595, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:05108** 05C85 (52C99)

— Tiling groups: new applications in the triangular lattice. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 189–204. (Elizaveta Zamorzaeva) **99i:52024** 52C20 (05B45, 68U05)

Remillard, Bruno (*with* Ghoudi, Kilani) Empirical processes based on pseudo-observations. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 171–197, *North-Holland, Amsterdam*, 1998. (Miguel A. Arcones) **99k:60097** 60F17 (60B12)

Remling, Christian Geometric characterization of singular self-adjoint boundary conditions for Hamiltonian systems. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 49–61. (Summary) **99a:34067** 34B20 (34L05)

— (*with* Christ, Michael; Kiselev, Alexander) The absolutely continuous spectrum of one-dimensional Schrödinger operators with decaying potentials. *Math. Res. Lett.* **4** (1997), *no.* 5, 719–723. (Günter Stolz) **99b:34139** 34L40 (47E05, 81Q10)

— The absolutely continuous spectrum of one-dimensional Schrödinger operators with decaying potentials. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 151–170. (Alexander A. Kiselev) **99f:34123** 34L40 (47E05, 81Q05)

— Some Schrödinger operators with power-decaying potentials and pure point spectrum. II. The discrete case. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 200–213. (Günter Stolz) **99j:47050** 47B39 (39A10, 47N50, 81Q10)

— Spectral analysis of higher order differential operators. I. General properties of the m-function. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 2, 367–380. (Anton Zettl) **99k:47111** 47E05 (34B20, 34L05)

— Embedded singular continuous spectrum for one-dimensional Schrödinger operators. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2479–2497. (Alexander A. Kiselev) **99j:34128** 34L40 (34L05, 47E05, 81Q10)

Remmel, Jeffrey B. (*with* Pollett, Chris) Nonmonotonic reasoning with quantified Boolean constraints. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 18–39, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:68175** 68T27

— (*with* Ash, C. J.; Knight, J. F.) Quasi-simple relations in copies of a given recursive structure. *Ann. Pure Appl. Logic* **86** (1997), *no.* 3, 203–218. (Rodney G. Downey) **99a:03046** 03D45

— (*with* Marek, V. Wiktor; Nerode, Anil) Nonmonotonic rule systems with recursive sets of restraints. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 339–384. (Giovanni Criscuolo) **99a:03032** 03B60 (03F50, 68T27)

— (*with* Marek, V. Wiktor; Nerode, Anil) Complexity of recursive normal default logic. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 139–147. (M. I. Dekhtyar) **99j:68134** 68T27 (03B70)

— (*with* Garsia, Adriano) Plethystic formulas and positivity for q,t-Kostka coefficients. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 245–262, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Mark D. Haiman) **99j:05189d** 05E05 (33C80, 33D80)

— (*with* Cenzer, Douglas) Index sets for Π^0_1 classes. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 3–61. (Victor Selivanov) **99m:03080** 03D25 (03D55, 03D80)

— (*with* Yang, Mei) Hook-Schur functions analogues of Littlewood's identities and their bijective proofs. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 257–272. (Joaquin O. Carbonara) **99c:05201** 05E05

— (*with* Cenzer, Douglas) Complexity and categoricity. (English summary) *Inform. and Comput.* **140** (1998), *no.* 1, 2–25. (Marat M. Arslanov) **99c:03056** 03C57 (03D15, 03D45, 68Q15)

— *see also* **Computability theory, 99d:03038**; **Handbook: Recursive mathematics, 99k:03003** *and* **99k:03004**

Remmert, Reinhold Über einen Satz von Weierstrass-Dedekind. (German summary) [On a theorem of Weierstrass and Dedekind] *Math. Semesterber.* **43** (1996), *no.* 1, 65–80. (Chr. U. Jensen) **99e:13025** 13E10

— From Riemann surfaces to complex spaces. (English and French summaries) *Matériaux pour l'histoire des mathématiques au XX^e siècle* (*Nice*, 1996), 203–241, *Sémin. Congr.*, 3, *Soc. Math. France, Paris*, 1998. (Salvatore Coen) **99j:01013** 01A55 (01A60, 30–03, 32–03)

Remmert, Volker R. ★ Ariadnefäden im Wissenschaftslabyrinth. (German. German summary) [Ariadne threads in the labyrinth of science] Studien zu Galilei: Historiographie—Mathematik—Wirkung. [Studies on Galileo: historiography—mathematics—influence] Dissertation, Universität Freiburg, Freiburg, 1997. Freiburger Studien zur Frühen Neuzeit [Freiburg Studies on the Early Modern

Era], 2. *Peter Lang, Bern*, 1998. 287 *pp.* *ISBN* 3-906759-58-X (C. J. Scriba) **99h:01023** 01A45 (01A70, 01A80)

Rempała, Grzegorz (*with* Székely, Gábor) On estimation with elementary symmetric polynomials. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 77–88. (Igor S. Borisov) **99e:62025** 62F12 (60F05, 62E20)

— Strong law of large numbers for U-statistics of varying order. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 263–270. (Summary) **99h:60066** 60F15

— (*with* Gupta, Arjun K.) Weak limits of U-statistics of infinite order. (English summary) *Random Oper. Stochastic Equations* **7** (1999), *no.* 1, 39–52. (Miguel A. Arcones) **99k:60065** 60F05

Rempulska, L. (*with* Skorupka, M.) The Voronovskaya theorem for some linear positive operators of functions of two variables. (English summary) *Note Mat.* **16** (1996), *no.* 1, 145–154 (1998). (Radu Păltănea) **99m:41042** 41A36 (41A30, 41A63)

— (*with* Szmanda, Błażej) On the limitability of solutions of some difference equations. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 1, 64–68. (Shu Tang Liu) **99a:39028** 39A10

— (*with* Bogalska, K.; Gojtka, E.; Gurdek, M.) The Picard and the Gauss-Weierstrass singular integrals of functions of two variables. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 71–85 (1998). (Ambikeswar Sharma) **99d:41030** 41A25 (42A10)

— (*with* Skorupka, M.) The Voronovskaya theorem for some linear positive operators in exponential weight spaces. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 519–526. (A. Meir) **99a:41036** 41A36

Remus, Dieter (*with* Comfort, W. W.) Long chains of topological group topologies—a continuation. (English summary) *Topology Appl.* **75** (1997), *no.* 1, 51–79. (Michael Tkačenko) **99a:22002** 22A05 (54H11)

Rémy, Jean-Luc (*with* Pétermann, Y.-F. S.) Golomb's self-described sequence and functional-differential equations. (English summary) *Illinois J. Math.* **42** (1998), *no.* 3, 420–440. (V. Siva Rama Prasad) **99k:11035** 11B83 (11B37, 11N37, 34K15)

Ren, Bin A sufficient and necessary condition for a solvable Lie algebra to be complete. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 309–314. (Rolf Farnsteiner) **99b:17007** 17B30

Ren, Chong Xun Asymptotic behaviour of solutions of third order nonlinear differential equations with deviating arguments. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 231–236. (Hiroshi Onose) **99a:34197** 34K15

— (*with* Yu, Yuan Hong) Oscillation of neutral hyperbolic differential equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 271–277. 35R10 (35B05, 35L10)

— (*with* Zhang, Yu Feng; Yu, Yuan Hong; Zhuang, Yu[1]) An oscillation theorem for second-order ordinary differential equations. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 110–114. (Guo Zhu Gao) **99j:34049** 34C10

Ren, Fang Guo (*with* Li, Zun Xian; Luo, Jiang Yun) A construction of Reed-Muller codes. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 5–6, 10. (Summary) **99k:94048** 94B05

Ren, Fu yao (*with* Li, Wanshe) The random iterations of commutable rational functions. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 685–690. (I. N. Baker) **99h:58158** 58F23 (30D05)

— (*with* Zhao, Xingqiu; Jiang, Feng; Qiu, Weiyuan; Su, Feng; Qiang, Shaoxing) On fractal properties of reflection sequences from a well log and seismic trace. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 691–699. 86A15

— (*with* Yu, Zu-Guo; Zhou, Ji[2]) Fractional integral associated to generalized cookie-cutter set and its physical interpretation. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5569–5577. (Summary) **99a:82095** 82D20 (28A80, 73B30, 82D55)

— (*with* Zhou, Ji[2]; Qiu, Weiyuan) Julia sets of the random iteration systems and its subsystems. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 4, 265–268. (Petra Bonfert-Taylor) **99c:58135** 58F23 (30D05)

— (*with* Gong, Zhimin; Wang, Jian[1]) On computation for the multipliers of periodic orbits of polynomial maps. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 51–58. (Franco Vivaldi) **99h:58146** 58F20 (12E05)

— (*with* Liang, Jin-Rong) Hausdorff dimensions of random net fractals. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 2, 235–250. (Norbert Patzschke) **99e:28014** 28A80 (60D05, 60J80)

Ren, Gong (*with* Koh, E. L.) The Aczel-Chung equation in distributions. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 65–74. (Summary) **99i:46028** 46F10 (39B52)

Ren, Guang-bin (*with* Liu, Tai Shun) Decomposition theorem of normalized biholomorphic convex mappings. (English summary) *J. Reine Angew. Math.* **496** (1998), 1–13. (I-Hsun Tsai) **99e:32034** 32H02

— (*with* Shi, Ji-huai) Boundedness of the Cesàro operator on mixed norm spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3553–3560. (Aristomenis Siskakis) **99b:47047** 47B38 (30D55)

— (*with* Liu, Tai Shun) Growth theorem of convex mappings on bounded convex circular domains. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 123–130. (T. J. Suffridge) **99c:32033** 32H02

— (*with* Shi, Ji-huai) Gleason's problem in weighted Bergman space on egg domains. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 225–231. (Manfred Stoll) **99f:32038** 32H10 (32F15)

Ren, Han A cycle theorem for Hamiltonian graphs without $K_{1,3}$. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 165–172. (Summary) **99e:05087** 05C45

— (*with* Liu, Yan Pei) Enumeration of rooted planar Halin maps. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 1, 124. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 1, 117–121. (Summary) **99m:05072** 05C30

Ren, Hongshan The accurate distribution of all roots of the equation $\lambda + a + be^{-\tau\lambda} = 0$. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 331–345. (M. K. Jain) **99a:30009** 30C15 (34K05)

— (*with* Zheng, Zu Xiu; Xu, Jian Hua[2]) A class of FDE with deviating argument which depends on state and rate of change of the state. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 454–459. (Angela Slavova Dimitrova) **99e:34102** 34K15 (34K05)

— (*with* Zheng, Zu Xiu) The accurate solution of the initial value problem of the equation $x'(t) + ax(t) + bx(t-\tau) = 0$. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 546–560. (Summary) **99i:34092** 34K05

Ren, Jiagang (*with* Huang, Zhi Yuan) D_∞-approximation of quadratic variations of smooth Itô processes. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 534. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 305–310. (Ely Merzbach) **99k:60142** 60H07 (60G44)

Ren, Jian-Jian (*with* Bickel, Peter J.) The m out of n bootstrap and goodness of fit tests with double censored data. (English summary) *Robust statistics, data analysis, and computer intensive methods (Schloss Thurnau, 1994)*, 35–47, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (M. Hušková) **99e:62073** 62G10 (62G09)

— (*with* Gu, Ming Gao[2]) Regression M-estimators with doubly censored data. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2638–2664. (Winfried Stute) **99b:62067** 62G05 (62E20, 62J05)

— (*with* Zhou, Mai[1]) L-estimators and M-estimators for doubly censored data. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 1, 1–20. (Summary) **99g:62045** 62G05 (62F35, 62N05)

— On self-consistent estimators and kernel density estimators with doubly censored data. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 27–43. (Lajos Horváth) **99c:62112** 62G05 (62G20)

Ren, Li Wei *see* **Ren, Li Wei[2]**

Ren, Li Wei[1] (*with* Ermentrout, G. Bard) Monotonicity of phaselocked solutions in chains and arrays of nearest-neighbor coupled oscillators. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 208–234 (*electronic*). (Peter Ashwin) **99d:34058** 34C15 (34C29, 70K10)

Ren, Li Wei[2] (*with* Bu, Qing Ying; Ye, Yi Ning) Weak sequential completeness of Bochner function spaces $L_p(\mu, X)$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 559–564. (Summary) **99e:46046** 46E40

— (*with* Cui, Yun An) Smooth points of the vector-valued sequence spaces $ss(E)$. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 16–19. (Bor-Luh Lin) **99k:46030** 46B45 (46A45)

Ren, Liwei *see* **Ren, Li Wei[1]**

Ren, Qiang Generalized Bernstein operators and their convergence. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 86–90. 41A35

— (*with* Wang, Jian Yong) The order of convergence of some sequences of bivariate probabilistic operators on a simplex. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 323–328. 41A35

— Some properties of L-fuzzy almost nice compactness. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 89–92. 54A40

Ren, Qing Jun (*with* Du, Hong Shan; Zhou, Hou Chun; Zheng, Qing Yu) The quasi-Laplacian permanental polynomial of a graph. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 59–62. 05C50 (15A15)

Ren, Shi Jun (*with* Hong, Bing Rong) A fast algorithm to determine whether convex regions bounded by multiple linear constraints are empty. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 896–901. 90C08

Ren, Shuzhan Linear stability of the three-dimensional semigeostrophic model in geometric coordinates. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 22, 3392–3402. (Summary) **99h:86013** 86A10

— Further results on the stability of rapidly rotating vortices in the asymmetric balance formulation. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 4, 475–482. (Summary) **99j:86013** 86A10 (76C05, 76E20)

Ren, Wei[1] (*with* Huang, Sunan) Automatic vehicle following with integrated throttle and brake control. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 75–83. 93C95 (93C85)

Ren, Xiao Chidume's open problems and fixed point theorems. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 505–508. (Summary) **99g:47136** 47H10 (47H09, 47H17)

Ren, Xue Mei Stable adaptive control for a class of nonlinear systems using neural networks. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 4, 316–320. 93D21 (93C40)

Ren, Xueming (*with* Guo, Yu Qi; Shum, Kar Ping) Congruences on ideal nil-extension of completely regular semigroups. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 379–381. (A. R. Rajan) **99b:20094** 20M17

Ren, Y. J. *see* **Ren, Yongjian**

Ren, Yan Li (*with* Wang, Yao) P-radicals, weak P-radicals and quasi-P-radicals of Γ-rings. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 101–104. 16Y99

Ren, Yanxia (*with* Wu, Rong[1]) Properties of a supercritical superdiffusion and solutions of its corresponding differential equation. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 11, 908–911. (Ingemar Kaj) **99g:60143** 60J60 (60G57)

— (*with* Wang, Yong Jin) Absolutely continuous states of exit measures for super-Brownian motions with branching restricted to a hyperplane. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 582–594. (Summary) **99d:60097** 60J80 (60G57)

Ren, Yao Feng (*with* Liang, Han Ying) Complete convergence for B-valued L^p-mixingale sequences. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 749–754. (Allan Gut) **99i:60073** 60F15 (60B12, 60G48)

Ren, Yongjian (*with* Elishakoff, Isaac) The bird's eye view on finite element method for structures with large stochastic variations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 51–61. (Summary) **99j:73095** 73V05 (65N30)

— (*with* Elishakoff, Isaac; Impollonia, N.) New exact solutions for randomly loaded beams with stochastic flexibility. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 16, 2325–2340. (Summary) **99m:73053** 73K35

Ren, Yuhe (*with* Li, Lei) An approximate solution of integral equation for radiative heat exchange. (English summary) *Information* **1** (1998), *no.* 2, 23–31. (Summary) **99h:80006** 80A20 (45B05, 80–08)

— (*with* Li, Shengtai; Petzold, Linda R.) Stability of moving mesh systems of partial differential equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2,

719–738 (*electronic*). (Meng Zhao Qin) **99f:65130** 65M12 (65M50)

Ren, Zhe (*with* Chen, Ming Hua[2]; Hu, Shu He) Strong consistency of a class of estimators in a partial linear model. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 429–438. (Summary) **99m:62095** 62J05 (62G05)

Renard, David Transfert d'intégrales orbitales entre $\mathrm{Mp}(2n, \mathbf{R})$ et $\mathrm{SO}(n+1, n)$. [Transfer of orbital integrals between $\mathrm{Mp}(2n, \mathbf{R})$ and $\mathrm{SO}(n+1, n)$] *Duke Math. J.* **95** (1998), *no.* 2, 425–450. (Jeffrey Adams) **99h:22018** 22E46 (22E30)

Renard, Yves Perturbation singulière d'un problème de frottement sec non monotone. (English and French summaries) [Singular perturbation of a nonmonotonic dry friction problem] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 131–136. (Summary) **99e:34020** 34A60 (34E15, 70F99, 73T05)

Renardy, Michael Well-posedness of the shallow water equations in the presence of a front. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 95–105. (Nikolay G. Kuznetsov) **99a:35212** 35Q35 (35L80, 76B15, 76C05)

— (*with* Renardy, Yuriko Yamamuro) Influence of non-Boussinesq effects on patterns in salt-finger convection. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 224–250. (Marie Christine Néel) **99g:76055** 76E15 (35Q35, 76Rxx, 86A05)

— High Weissenberg number asymptotics and corner singularities in viscoelastic flows. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow (Haifa, 1997)*, 13–20, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76A10 (73F99)

— Bifurcation of traveling waves resulting from resonant mode crossings in oceanic currents. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 1, 35–46. (Arjen Doelman) **99m:76061** 76E30 (35B32, 76E20, 76U05, 86A05)

— A note on bifurcation problems in large containers. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 4, 189–199. (Summary) **99k:76061** 76E30 (35B32, 35Q35)

Renardy, Yuriko Yamamuro (*with* Andereck, C. David; Colovas, Peter W.; Degen, Michael M.) Instabilities in two layer Rayleigh-Bénard convection: overview and outlook. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1451–1470. (Summary) **99i:76052** 76E15 (86A10)

— (*with* Renardy, Michael) Influence of non-Boussinesq effects on patterns in salt-finger convection. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 224–250. (Marie Christine Néel) **99g:76055** 76E15 (35Q35, 76Rxx, 86A05)

Renaud, Marc (*with* Ferrand, André) Analyse des points morts d'une plate-forme dite de Stewart. (French summary) [Analysis of the dead points of a Stewart platform] *Mech. Mach. Theory* **33** (1998), *no.* 4, 409–424. 70B15

Renault, Eric (*with* Ghysels, Eric; Harvey, Andrew C.) Stochastic volatility. *Statistical methods in finance*, 119–191, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62138** 62P20 (62M10, 90A09)

— (*with* Florens, Jean-Pierre; Touzi, Nizar) Testing for embeddability by stationary reversible continuous-time Markov processes. (English summary) *Econometric Theory* **14** (1998), *no.* 6, 744–769. (Summary) **99h:62107** 62M05 (62P20)

— (*with* Dufour, Jean-Marie) Short run and long run causality in time series: theory. (English summary) *Econometrica* **66** (1998), *no.* 5, 1099–1125. (B. L. S. Prakasa Rao) **99m:62134** 62M10

Renault, Jean (*with* Arzumanyan, V. A.) Examples of pseudogroups and their C^*-algebras. *Operator algebras and quantum field theory (Rome, 1996)*, 93–104, *Internat. Press, Cambridge, MA*, 199?. (Siegfried Echterhoff) **99a:46101** 46L05

— The Fourier algebra of a measured groupoid and its multipliers. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 2, 455–490. (Françoise Lust-Piquard) **99a:43004** 43A15 (22A22, 43A22, 43A35, 46L99)

Renaut, Rosemary Stability of a Chebychev pseudospectral solution of the wave equation with absorbing boundaries. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 243–259. (D. M. Sloan) **99b:65123** 65M70 (35B35, 65M12)

— (*with* Jeltsch, Rolf; Smit, Jacobus Hendrik) An accuracy barrier for stable three-time-level difference schemes for hyperbolic equations. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 445–484. (Claude Carasso) **99m:65160** 65M06

— A parallel multisplitting solution of the least squares problem. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 1, 11–31. (Summary) **99b:65039** 65F10 (65Y05)

Renberg, Milo (*with* Cooper, Curtis; Kennedy, Robert E.) On certain sums of functions of base b expansions. *Fibonacci Quart.* **36** (1998), *no.* 5, 407–415. (Peter J. Grabner) **99k:11117** 11K16 (11A63)

Rencławowicz, J. Global existence and blow up of solutions for a completely coupled Fujita type system of reaction-diffusion equations. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 3, 313–326. (Summary) **99e:35110** 35K57 (35B05)

Rendall, Alan D. Existence of constant mean curvature foliations in spacetimes with two-dimensional local symmetry. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 1, 145–164. (Pablo Padilla) **99c:53075** 53C50 (53C12, 83C05)

— Existence and non-existence results for global constant mean curvature foliations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3589–3598. (Miguel Sánchez) **99b:53088** 53C50 (53C12, 53C42, 83C05)

— (*with* Kichenassamy, Satyanad) Analytic description of singularities in Gowdy spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1339–1355. (Simonetta Frittelli) **99d:83077** 83C75 (83C15, 83C20)

— Compact null hypersurfaces and collapsing Riemannian manifolds. (English summary) *Math. Nachr.* **193** (1998), 111–118. (Luis M. Hervella) **99f:53070** 53C50 (53C20)

Render, Hermann The maximal ideal space of $H^\infty(\mathbf{D})$ with respect to the Hadamard product. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1409–1411. (Summary) **99h:46101** 46J20 (30H05, 46J15)

Rendl, Franz (*with* Zhao, Qing; Karisch, Stefan E.; Wolkowicz, Henry) Semidefinite programming relaxations for the quadratic assignment problem. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 71–109. (Yin Zhang) **99f:90103** 90C27 (90C26)

— (*with* Helmberg, Christoph) Solving quadratic (0, 1)-problems by semidefinite programs and cutting planes. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 291–315. (Summary) **99f:90063** 90C09 (90C27)

— Semidefinite programming and combinatorial optimization. (English summary) Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96) (Delft). *Appl. Numer. Math.* **29** (1999), *no.* 3, 255–281. (Anton Volgenant) **99k:90137** 90C27 (90C10)

Renegar, James Recent progress on the complexity of the decision problem for the reals. *Quantifier elimination and cylindrical algebraic decomposition (Linz, 1993)*, 220–241, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q25 (03B25, 03C10, 68Q40)

Reneke, James (*with* Bose, Anil; Cover, Alan) Point dissipative 2D systems with conservative homogeneous nonlinear term. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv, 1994)*, 10–19, *Sci. Cult. Technol. Publ., Singapore*, 1995. (Summary) **99h:34073** 34D20 (34C99)

— (*with* Bose, Anil; Cover, Alan) Linear feedback control of nonlinear systems with a dominating conservative quadratic term. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 507–518. (Summary) **99c:93046** 93B52 (93C10)

Renelt, Heinrich Smooth approximation of solutions of Cauchy-Riemann systems. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **50** (1996), 191–199. (Kiyoko Nishizawa) **99a:30027** 30C62 (30C75, 30E25, 35A35, 65E05)

Renganathan, N. (*with* Ayyappan, G.) On bulk service Markovian queue with service batch size dependence and with accessible and non-accessible batches. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 45–54. 60K25

Renger, W. (*with* Gesztesy, Fritz) New classes of Toda soliton solutions. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 27–50. (Luigi Martina) **99f:58097** 58F07 (47B25, 47N20, 70F10, 70K99)

Reniers, Michel Adriaan ★ Message sequence chart. (English summary) Syntax and semantics. Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1999. IPA Dissertation Series, 1999-07. *Eindhoven University of Technology, Eindhoven*, 1999. *viii+212 pp.* 68N99 (68Q10)

Renka, Robert J. Algorithm 772: STRIPACK: Delaunay triangulation and Voronoi diagram on the surface of a sphere. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 416–434. 65Y15

— Algorithm 773: SSRFPACK: interpolation of scattered data on the surface of a sphere with a surface under tension. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 435–442. 65Y15

— (*with* Neuberger, J. W.) Sobolev gradients and the Ginzburg-Landau functional. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 582–590 (*electronic*). (Summary) **99d:35051** 35J60 (35Q55)

Renner, Lex E. Finite reductive monoids. *Semigroups, formal languages and groups (York*, 1993), 369–380, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Mohan S. Putcha) **99d:20102** 20M10 (20G40)

— Modular representations of finite monoids of Lie type. *Semigroups, formal languages and groups (York*, 1993), 381–390, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Mohan S. Putcha) **99d:20105** 20M30 (20C33)

— (*with* Putcha, Mohan S.) Linear algebraic monoids. *Positivity in Lie theory: open problems*, 271–281, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Jan Okniński) **99h:20097** 20M20 (20D06, 20G15)

Rennó, Nilton O. (*with* Burkett, Matthew L.; Larkin, Matthew P.) A simple thermodynamical theory for dust devils. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 21, 3244–3252. (Summary) **99h:86014** 86A10 (76C05)

Renno, Pasquale (*with* D'Acunto, Berardino; De Angelis, Monica) Fundamental solution of a dissipative operator. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **64** (1997), 295–314 (1998). (Summary) **99e:35003** 35A08 (35G20, 35Q99)

Renom, José Miguel (*with* Palacios, José Luis) Random walks on edge transitive graphs. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 29–34. (Summary) **99a:60072** 60J15

Renren, Liu *see* **Liu, Ren Ren**

Renreng, A. A new solution of Einstein's field equations with apparently repulsive gravitation. (English summary) *Hadronic J.* **21** (1998), *no.* 5, 527–540. 83D05

van Rens, B. J. E. (*with* Brekelmans, W. A. M.; Baaijens, F. P. T.) Homogenization of the elastoplastic behavior of perforated plates. (English summary) *Comput. & Structures* **69** (1998), *no.* 4, 537–545. (Summary) **99e:73014** 73B27 (73E05, 73K10)

janse van Rensburg, E. J. *see* **Janse van Rensburg, E. J.**

Renshaw, Eric (*with* Dai, Yonglong) Regularity and reversibility results for birth-death-migration processes. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 685–697. (Madathingal G. Nair) **99e:60163** 60J27 (60J80, 92H25)

— (*with* Gibson, Gavin J.) Can Markov chain Monte Carlo be usefully applied to stochastic processes with hidden birth times? (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1581–1606. (Summary) **99h:65013** 65C05 (92D25)

Renshaw, James On subrings of amalgamated free products of rings. (English summary) *Colloq. Math.* **79** (1999), *no.* 2, 241–248. (P. M. Cohn) **99k:16053** 16S10

Rensink, Arend (*with* Wehrheim, Heike) Dependency-based action refinement. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 468–477, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q10 (68Q55, 68Q60)

von Renteln, Michael Paul Stäckel (1862–1919)—Mathematiker und Mathematikhistoriker. [Paul Stäckel (1862–1919)—mathematician and historian of mathematics] *Überblicke Mathematik* 1996/97, 151–160, *Überbl. Math., Vieweg, Braunschweig*, 1997. (C. J. Scriba) **99j:01023** 01A70

Rentería, C. (*with* Tapia-Recillas, H.) Some linear codes arising from the Veronese surface over GF(4). (English summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro*, 1994), 155–162, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99g:94021** 94B05 (13D40)

— (*with* Tapia-Recillas, H.) Theta functions: an application to coding theory. (Spanish) *Miscelánea Mat. No.* 23 (1996), 39–54. 94B05 (11T71)

— (*with* Tapia-Recillas, H.) A note on the weights of the subfield subcode of the generalized binary Reed-Muller code. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 93–97. (Summary) **99k:94049** 94B05

casas Rentería, Eduardo *see* **Casas Rentería, Eduardo**

Renton, John D. The characteristic response of hollow cones. (English summary) *J. Elasticity* **49** (1997/98), *no.* 2, 101–112. (Summary) **99d:73023** 73C02

Rentz-Reichert, Henrik ★ Robuste Mehrgitterverfahren zur Lösung der inkompressiblen Navier-Stokes Gleichung: ein Vergleich. (German. English and German summaries) [Robust multigrid methods for the solution of the incompressible Navier-Stokes equation: a comparison] Dissertation, Universität Stuttgart, Stuttgart, 1996. Bericht [Report], 96/9. *Institut für Computeranwendungen der Universität Stuttgart, Stuttgart*, 1996. 173 *pp.* (Michael Fröhner) **99i:76128** 76M25 (65M55, 76D05)

Rentzsch, Christian A Lévy Khintchine type representation of convolution semigroups on commutative hypergroups. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 185–198 (19*N*). (Walter R. Bloom) **99k:60013** 60B15 (43A62)

Renvall, Ari (*with* Ding, Cunsheng; Laihonen, Tero) Linear multisecret-sharing schemes and error-correcting codes. (English summary) *J.UCS* **3** (1997), *no.* 9, 1023–1036 (*electronic*). (Kanat S. Abdukhalikov) **99k:94033** 94A60 (94B05)

— (*with* Cusick, Thomas W.; Ding, Cunsheng) ★ Stream ciphers and number theory. North-Holland Mathematical Library, 55. *North-Holland Publishing Co., Amsterdam*, 1998. *xiv*+431 *pp. ISBN* 0-444-82873-7 (Author's review (T.W.C.)) **99h:94045** 94A60 (11T71)

— (*with* Niemi, Valtteri) Secure multiparty computations without computers. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 173–183. (A. Pethő) **99g:94016** 94A60 (68P25)

Reny, Philip J. (*with* Perry, Motty) A general solution to King Solomon's dilemma. (English summary) *Games Econom. Behav.* **26** (1999), *no.* 2, 279–285. (Summary) **99k:90209** 90D06

Renz, Jochen (*with* Nebel, Bernhard) On the complexity of qualitative spatial reasoning: a maximal tractable fragment of the region connection calculus. (English summary) *Artificial Intelligence* **108** (1999), *no.* 1-2, 69–123. (Summary) **99m:68188** 68T27 (68Q25)

Renzacci, F. (*with* Papalini, Francesca) Existence of optimal controls for a minimax problem. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 1, 13–27. (Summary) **99a:49013** 49J24 (49J35)

Repetto, E. A. (*with* Ortiz, Michael) Nonconvex energy minimization and dislocation structures in ductile single crystals. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 397–462. (Summary) **99k:73068** 73E99 (73S10, 73V25)

— (*with* Ortiz, Michael; Si, Helen) A continuum model of kinetic roughening and coarsening in thin films. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 697–730. (Summary) **99k:82078** 82D55

Repilado Ramírez, José Antonio (*with* Ruiz Chaveco, Antonio Iván; Bernal, A.) Analysis and identification of a mathematical model of the transmission of infectious diseases. (Spanish. English and Spanish summaries) *Cienc. Mat. (Havana)* **16** (1998), *no.* 1, 65–69. (Summary) **99i:92024** 92D25 (34C99)

— (*with* Nápoles Valdés, Juan E.) Boundedness and global stability of the solutions of a system of differential equations. (Spanish. English and Spanish summaries) *Cienc. Mat. (Havana)* **16** (1998), *no.* 1, 71–74. (Antonio R. Tineo) **99m:34111** 34D05 (34C11)

Repin, O. A. Generalized operators of fractional integro-differentiation in meaning of M. Saigo and their applications. (English summary) *Transform methods & special functions, Varna '96*, 368–376, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 35L80 (26A33, 35C99, 35M10)

Repin, S. I. A posteriori error estimation for nonlinear variational problems by duality theory. (English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsii.* 28, 201–214, 342. (Rolf Klötzler) **99e:49049** 49N15 (65J15)

Repka, Joe (*with* Murnaghan, Fiona) Reducibility of some induced representations of split classical p-adic groups. (English summary) *Compositio Math.* **114** (1998), *no.* 3, 263–313. (Volker J. Heiermann) **99m:22021** 22E50 (22E35)

— (*with* Selick, Paul S.) On the subalgebra of $H_*((\mathbf{RP}^\infty)^n; F_2)$ annihilated by Steenrod operations. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 273–288. (Jin Kun Lin) **99d:55012** 55S10

— (*with* Murnaghan, Fiona) Reducibility of some induced representations of p-adic unitary groups. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 193–210. (Roman Bezrukavnikov) **99g:22019** 22E50 (11S37)

Repnikov, V. D. (*with* Zaĭtseva, M. I.) Some semigroup properties of Hölder averagings. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 4, 442–444. (From the text) **99j:47049** 47B38 (35B99, 47D06)

Repnitskiĭ, V. B. Varieties of algebras with nontrivial identities on lattices of subalgebras. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 4, 452–454. (Ivan Chajda) **99b:08004** 08B05 (16R50, 20M07)

— On lattice-universal varieties of algebras. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 5, 53–59; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 5, 50–56. (Anna Romanowska) **99a:06011** 06B15 (08A30, 08B99)

— (*with* Volkov, Mikhail V.) The finite basis problem for pseudovariety $\mathscr{O}$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 661–669. (Graham T. Clarke) **99m:20139** 20M07 (08B05, 08C15)

Repo, Pasi (*with* Mäkelä, Jarmo) Quantum-mechanical model of the Reissner-Nordström black hole. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4899–4916. (Summary) **99m:83126** 83C57 (83C47)

Repovš, Dušan D. (*with* Semenov, Pavel V.) A selection theorem for mappings with nonconvex nondecomposable values in L_p-spaces. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 407–412 (1997). (A. Nowak) **99a:54012** 54C65 (26E25, 52A30)

— (*with* Ageev, S. M.; Shchepin, E. V.) On the softness of the Dranishnikov resolution. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 7–32. (Š. Ungar) **99h:54021** 54C10 (54C60, 55R65, 57N20)

— (*with* Skopenkov, A. B.) Embeddability and isotopy of polyhedra in Euclidean spaces. *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 173–187. (Paul F. Duvall) **99g:57028** 57N35 (57Q35)

— (*with* Cavicchioli, Alberto) Peripheral acyclicity and homology manifolds. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 5–24. (Paul F. Duvall) **99g:57026** 57N35 (57P99)

— (*with* Cavicchioli, Alberto; Lickorish, William B. R.) On the equivalent spines problem. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 775–788. (Summary) **99b:57035** 57N10

— (*with* Shchepin, E. V.) A proof of the Hilbert-Smith conjecture for actions by Lipschitz maps. *Math. Ann.* **308** (1997), *no.* 2, 361–364. (Sergey A. Antonjan) **99c:57066** 57S05 (53C20, 54F45, 54H11)

— (*with* Semenov, Pavel V.; Shchepin, E. V.) On exact Milyutin mappings. (English summary) *Topology Appl.* **81** (1997), *no.* 3, 197–205. (M. van de Vel) **99f:54022** 54C60 (54C65, 55R10)

— (*with* Cavicchioli, Alberto; Hegenbarth, Friedrich) On manifold spines and cyclic presentations of groups. (English summary) *Knot theory (Warsaw*, 1995), 49–56, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57003** 57M05 (57N10)

— (*with* Skopenkov, A. B.) On homogeneous compacta in Euclidean space and the classical Hilbert-Smith conjecture. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 222–226, *World Sci. Publishing, River Edge, NJ*, 1998. (Sergey A. Antonjan) **99m:57032** 57S10 (54F15, 54H15)

— (*with* Ageev, S. M.; Bogatyĭ, Semen A.; Fabel, Paul) Extensors of noncompact Lie groups. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 151–154. 22E99 (46B99, 54H11)

— (*with* Semenov, Pavel V.; Shchepin, E. V.) Approximation of upper semicontinuous maps on paracompact spaces. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1089–1101. (L. Górniewicz) **99j:54022** 54C60 (47H04, 54C65, 65J99)

— (*with* Ageev, S. M.) A unified finite-dimensional selection theorem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 971–981, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 835–843. (Stoyan Nedev) **99h:54030** 54C65 (54C20, 54D20, 54F45)

— (*with* Cavicchioli, Alberto; Skopenkov, A. B.) Open problems on graphs arising from geometric topology. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 207–226. (Andrew Vince) **99d:57002** 57M15 (05C10, 54B35, 54C25, 54F50)

— (*with* Skopenkov, A. B.) A deleted product criterion for approximability of maps by embeddings. (English summary) *Topology Appl.* **87** (1998), *no.* 1, 1–19. (Alexander N. Dranishnikov) **99g:57029** 57Q35 (55S15, 57Q55)

— (*with* Cavicchioli, Alberto; Muranov, Yu. V.) Spectral sequences in K-theory for a twisted quadratic extension. (English summary) *Yokohama Math. J.* **46** (1998), *no.* 1, 1–13. (A. A. Ranicki) **99k:19003** 19J25 (57R67)

— (*with* Malešič, Jože) On characterization of Lipschitz manifolds. (English summary) *New developments in differential geometry, Budapest* 1996, 265–277, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99j:57042** 57S99

— (*with* Karimov, U. Kh.) On suspensions of noncontractible compacta of trivial shape. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 627–632. (Summary) **99c:54023** 54C56 (54C55, 55P10)

Reps, Thomas Program analysis via graph reachability. (English summary) *Logic programming (Port Washington, NY*, 1997), 5–19, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N99 (68Q45, 68R10)

Requardt, Manfred (*with* Nowotny, Thomas) Dimension theory of graphs and networks. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2447–2463. (Francois Vanderseypen) **99f:58022** 58B30 (05C90)

Requejo, C. (*with* Fernandes, Luis; Fischer, Andreas[1]; Júdice, Joaquim; Soares, João) A block active set algorithm for large-scale quadratic programming with box constraints. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 75–95. (*see* **99b:90006**) 90C20

Rerikh, K. V. Nonalgebraic integrability of one reversible dynamical system of the Cremona type. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2821–2832. (Mikhail B. Sevryuk) **99c:58134** 58F23 (14E07, 39B32, 39B62, 58F36)

Resasco, D. C. (*with* Lee, Ding; Nagem, R. J.; Chen, Chi-fang) A coupled 3D fluid-elastic wave propagation model: mathematical formulation and analysis. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 147–178. (Summary) **99a:73105** 73K70 (73D15, 76M20, 76Q05, 86A05)

Rescigno, Adele A. (*with* Gargano, Luisa; Vaccaro, Ugo) Minimum time broadcast in faulty star networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 97–119. (A. T. Amin) **99e:68123** 68R10 (05C85, 68M10, 68M15)

— (*with* Vaccaro, Ugo) Highly fault-tolerant routing in the star and hypercube interconnection networks. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 221–230. (Summary) **99f:68017** 68M10 (68M15)

— (*with* Bermond, Jean-Claude; Gargano, Luisa; Vaccaro, Ugo) Fast gossiping by short messages. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 917–941 (*electronic*). (A. T. Amin) **99d:68184** 68R10 (68M10, 90B12, 94C15)

Resende, Mauricio G. C. (*with* Pardalos, Panos M.) Interior point methods for global optimization. (English summary) *Interior point methods of mathematical programming*, 467–500, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C30 (65K05)

— (*with* Pardalos, Panos M.; Pitsoulis, Leonidas S.) Algorithm 769: Fortran subroutines for approximate solution of sparse quadratic assignment problems using GRASP. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 196–208. 65Y15

— (*with* Mitchell, John E.; Pardalos, Panos M.) Interior point methods for combinatorial optimization. *Handbook of combinatorial optimization, Vol.* 1, 189–297, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90-02, 90C10)

— (*with* Martins, Simone L.; Pardalos, Panos M.; Ribeiro, Celso C.) Greedy randomized adaptive search procedures for the Steiner problem in graphs. (English summary) *Randomization methods in algorithm design (Princeton, NJ*, 1997), 133–145, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:90109** 90C35 (68R10)

— (*with* Pardalos, Panos M.; Qian, Tianbing) A greedy randomized adaptive search procedure for the feedback vertex set problem. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 399–412. 90C27 (90C15)

Reséndis O., Lino F. (*with* Zając, Józef) Maximal dilatation of the Beurling-Ahlfors extension operator. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 141–154. (G. Lakshma Reddy) **99c:30042** 30C62

— Quasiconformal distortion of univalent functions via holomorphic motions. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 69–84. (Craig A. Nolder) **99j:30021** 30C62

— (*with* Porter, R. Michael) Quasiconformally explodable sets. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 4, 379–392. (Summary) **99h:30023** 30C62 (30C75)

Reshef, Eilon (*with* Peleg, David) Deterministic polylog approximation for minimum communication spanning trees (extended abstract). (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 670–681, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68R10 (68Q25, 90B12)

Reshetikhin, N. Yu. (*with* Frenkel, Edward) Deformations of $\mathscr{W}$-algebras associated to simple Lie algebras. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 1, 1–32. (Christoph Schweigert) **99k:17028** 17B37 (17B35, 81R50, 82B23)

— (*with* Andersen, Jørgen Ellegaard; Mattes, Josef) Quantization of the algebra of chord diagrams. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 451–467. (Justin D. Roberts) **99m:58040** 58D29 (57M25, 58F06)

Reshetnyak, Yu. G. *see* **Algebra, geometry, analysis and mathematical physics, 99a:00019**

Reshetova, T. N. (*with* Lukoyanov, N. Yu.) Problems of conflict control of functional systems of high dimension. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 586–597; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 545–554. (Summary) **99m:49040** 49K35 (90D25)

Reshmin, S. A. (*with* Chernous'ko, Feliks Leonidovich) Control synthesis in a nonlinear dynamical system, based on decomposition. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 121–128; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 115–122. (Bozhidar Cheshankov) **99g:49033** 49N35 (70Q05, 93C85)

susan-Resiga, Romeo F. *see* **Susan-Resiga, Romeo F.**

Resing, J. A. C. (*with* Adan, I. J. B. F.; van Doorn, Erik A.; Scheinhardt, W. R. W.) Analysis of a single-server queue interacting with a fluid reservoir. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 313–336. (Walter M. Böhm) **99j:60135** 60K20 (60K25, 90B22)

de Resmini, Marialuisa J. On the Mathon plane. (English summary) *J. Geom.* **60** (1997), *no.* 1-2, 47–64. (Christine M. O'Keefe) **99e:51006** 51E15 (51E20)

— (*with* Hamilton, Nicholas) Hyperovals and unitals in Figueroa planes. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 215–220. (William Cherowitzo) **99b:51008** 51E21 (51A35, 51E20)

Resnick, Sidney I. (*with* Samorodnitsky, Gennady) Performance decay in a single server exponential queueing model with long range dependence. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 235–243. (Summary) **99d:90054** 90B22

— Why non-linearities can ruin the heavy-tailed modeler's day. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 219–239, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62M10

— (*with* Stărică, Catalin) Tail index estimation for dependent data. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 1156–1183. (Erich Haeusler) **99k:60136** 60G70 (60G10, 62G30)

— (*with* Subramanian, Ajay) Heavy tailed hidden semi-Markov models. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 319–334. (S. Kalpakam) **99g:60161** 60K15 (62M10)

— (*with* de Haan, Laurens) On asymptotic normality of the Hill estimator. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 849–866. (László Viharos) **99e:62046** 62G05 (62G20)

— (*with* Cohen, Jason; Samorodnitsky, Gennady) Sample correlations of infinite variance time series models: an empirical and theoretical study. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 255–282. 62M10 (60E07, 60G70)

Respondek, Witold (*with* Delaleau, Emmanuel) Lowering the orders of derivatives of controls in generalized state space systems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 3, 27 *pp.* (*electronic*). (Summary) **99h:93027a** 93B17 (58E25)

— (*with* Delaleau, Emmanuel) Errata: "Lowering the orders of derivatives of controls in generalized state space systems". *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 221. (Editors) **99h:93027b** 93B17 (58F25)

— Feedback classification of nonlinear control systems on $\mathbf{R}^2$ and $\mathbf{R}^3$. (English summary) *Geometry of feedback and optimal control*, 347–381, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 93B29 (93C10)

— (*with* Delaleau, Emmanuel) Lowering the orders of derivatives of controls in generalized state space systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 427–453. (Henk Nijmeijer) **99h:93028** 93B17 (93C10)

— *see also* **Geometry of feedback and optimal control, 99b:93001**

Ressel, Klaus J. (*with* Manteuffel, Thomas A.) Least-squares finite-element solution of the neutron transport equation in diffusive regimes. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 806–835 (*electronic*). (Summary) **99a:65153** 65N30 (65N15, 65N55)

— (*with* Gutknecht, Martin H.) QMR smoothing for Lanczos-type product methods based on three-term recurrences. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 55–73 (*electronic*). (Jin Xi Zhao) **99d:65143** 65F50 (65F30)

Ressel, P. (*with* Ricker, Werner J.) Semigroup representations, positive definite functions and abelian C^*-algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2949–2955. (Alexander Isaakovich Shtern) **99a:47059** 47D03 (20M14, 46L05, 47A67, 47B15, 47D25)

Restall, Greg (*with* Slaney, John K.; Meyer, Robert K.) Linear arithmetic desecsed. (English summary) *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 155-156, 379–387. (Christian Bennet) **99m:03041** 03B46 (03F30)

Restivo, Antonio (*with* Crochemore, Maxime; Mignosi, Filippo) Automata and forbidden words. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 111–117. (Summary) **99d:68204** 68R15 (68Q45)

— (*with* Mignosi, Filippo; Salemi, Sergio) Periodicity and the golden ratio. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 153–167. (Valérie Berthé) **99h:68140** 68R15 (11B85)

— (*with* Giammarresi, Dora; Mantaci, Sabrina; Mignosi, Filippo) Periodicities on trees. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 145–181. (Summary) **99d:68205** 68R15 (68R05)

Restrepo, Juan Mario (*with* Leaf, Gary K.) Inner product computations using periodized Daubechies wavelets. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 19, 3557–3578. (Summary) **99f:65209** 65T99 (65D15)

Restrepo, Mauricio (*with* Ardila de la Peña, Victor Manuel; Julio-Arrieta, Carlos A.; Duque Hoyos, Álvaro; Luna Torres, Joaquín) Sieves and adjunction. (Spanish. English and Spanish summaries) *Bol. Mat.* (*N.S.*) **2** (1995), *no.* 2, 167–171. (Summary) **99g:18001** 18A40

Restuccia, A. Global analysis of duality maps in quantum field theory. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields* (*Mérida*, 1996), 459–468, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99e:81244** 81T60 (81T30)

— (*with* Martín, Isbelia) On the construction of global duality maps in strings and supermembrane theories. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 109–115, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 81T30

— (*with* Martín, Isbelia; Torrealba, R.) On the stability of compactified $D = 11$ supermembranes: global aspects of the bosonic sector. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 1-2, 117–128. (Summary) **99j:81150** 81T30

Restuccia, Gaetana (*with* Tyc, Andrzej) Regularity in characteristic p of the invariants of (co)actions of certain finite Hopf algebras and formal groups. (Italian. English summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 1011–1019. (Enric Nart) **99d:16047** 16W30 (14L05)

— (*with* Ionescu, Cristodor) q-torsion freeness of symmetric powers. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 329–346. (José F. Andrade) **99c:13021** 13C12 (13C15, 13D25, 13H10)

— (*with* Crupi, Marilena) Integrable derivations and formal groups in unequal characteristic. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 169–190. (Paul Thomas Young) **99m:14082** 14L05 (13B10)

Restuccia, L. (*with* Maugin, Gérard A.) Pseudomomentum in relativistic continuum mechanics. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 521–530. (Summary) **99g:73016** 73B99

— (*with* Maruszewski, B.) Nonlinear thermoelasticity of ferroelastics. *Mech. Res. Comm.* **25** (1998), *no.* 2, 137–145. (Gérard A. Maugin) **99a:73028** 73B30 (73C50, 73R05)

Retakh, Vladimir (*with* Gel'fand, Izrail' Moiseevich; Shubin, Mikhail) Fedosov manifolds. *Adv. Math.* **136** (1998), *no.* 1, 104–140. (Markus J. Pflaum) **99d:53023** 53C05 (53C15, 58F06)

— (*with* Etingof, Pavel; Gel'fand, Izrail' Moiseevich) Nonabelian integrable systems, quasideterminants, and Marchenko lemma. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 1–12. (Nicolás Andruskiewitsch) **99h:58083** 58F07 (16W25)

Retamal, J. C. (*with* Guerra, E. S.) Realization of atomic Greenberger-Horne-Zeilinger states via cavity quantum electrodynamics. (English summary) *J. Modern Opt.* **46** (1999), *no.* 2, 295–302. 81V10

Retchkiman, Zvi (*with* Silva-Navarro, Gerardo) A vector Lyapunov function approach for the stabilization of nonlinear systems. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 461–480. (Summary) **99k:93086** 93D30 (34D20, 34H05, 93D15)

Rethmann, J. (*with* Wanke, E.) Competitive analysis of on-line stack-up algorithms. (English summary) *Algorithms—ESA '97* (*Graz*), 402–415, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68Q25

— (*with* Wanke, E.) Storage controlled pile-up systems, theoretical foundations. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 111–116, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B70 (90C90)

Retoré, Christian (*with* Bechet, Denis; de Groote, Philippe) A complete axiomatisation for the inclusion of series-parallel partial orders. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 230–240, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Václav Koubek) **99b:06001** 06A06 (68Q42, 68R10)

— A semantic characterisation of the correctness of a proof net. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 445–452. (P. C. Gilmore) **99c:03079** 03F07

— (*with* Lecomte, Alain) Words as modules: a lexicalised grammar in the framework of linear logic proof nets. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 129–144, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (03F50)

— *see also* **Logical aspects of computational linguistics, 99d:03004** *and* **Recent advances in logical and algebraic approaches to grammar, 99k:68013**

Rettrup, Sten (*with* Friis-Jensen, Britt; Cooper, David L.) Normalization of projected spin eigenfunctions. (English summary) *J. Math. Chem.* **22** (1997), *no.* 2-4, 249–254 (1998). (A. J. Coleman) **99j:81209** 81V55 (20C15, 81R05, 81V45)

Réty, Jean-Hugues Distributed concurrent constraint programming. (English summary) *Fund. Inform.* **34** (1998), *no.* 3, 323–346. (Summary) **99h:68157** 68T20 (68Q10)

Réty, Pierre (*with* Limet, Sébastien) E-unification by means of tree tuple synchronized grammars. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 69–98. (Neculai Curteanu) **99e:68142** 68T15 (03B35, 03C05, 03D05, 68Q42)

— (*with* Limet, Sébastien) Solving disequations modulo some class of rewrite systems. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 121–135, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68134** 68Q42 (03B25, 68Q40)

echarte Reula, Francisco Javier *see* **Echarte Reula, Francisco Javier**

Reula, Oscar A. (*with* Iriondo, Mirta S.; Leguizamón, Enzo O.) Fast and slow solutions in general relativity: the initialization procedure. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1555–1565. (Alan D. Rendall) **99b:83008** 83C05 (35L40, 83C25)

Reus, B. (*with* Streicher, Th.) General synthetic domain theory—a logical approach (extended abstract). (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 293–313, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q55 (03B15, 06B35)

medina Reus, Elena *see* **Medina Reus, Elena**

Reuschling, Dirk (*with* Pott, Alexander; Schmidt, Bernhard) A multiplier theorem for projections of affine difference sets. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 63–67. (Summary) **99c:05032** 05B10

Reusken, A. A. (*with* Anthonissen, M. J. H.; van 't Hof, Bastiaan) A finite volume scheme for solving elliptic boundary value problems on composite grids. (English summary) *Computing* **61** (1998), *no.* 4, 285–305. (Shu-Sen Xie) **99m:65207** 65N30 (65N50)

Reutenauer, Christophe (*with* Duchamp, Gérard) Un critère de rationalité provenant de la géométrie non commutative. (English summary) [A rationality criterion from noncommutative geometry] *Invent. Math.* **128** (1997), *no.* 3, 613–622. (Summary) **99d:22009** 22D15 (58B30)

— (*with* Bruyère, Véronique) A proof of Choffrut's theorem on subsequential functions. (English summary) *Theoret. Comput. Sci.* **215** (1999), *no.* 1-2, 329–335. (From the text) **99m:68129** 68Q70 (68Q45)

Reuter, George R. (*with* Macula, Anthony J.) Simplified searching for two defects. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 77–82. (Summary) **99a:62109** 62K05

Reuter, Mark Language, lies, and human action in William of Ockham's treatment of insolubles. *Vivarium* **36** (1998), *no.* 1, 108–133. (Ignacio Angelelli) **99e:03006** 03A05 (01A35, 03–03)

Reutskiy, S. Yu. (*with* Tirozzi, Brunello) Quasi-Trefftz spectral method for separable linear elliptic equations. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 47–74. (Summary) **99h:65202** 65N35

Reuven, Ilan (*with* Be'ery, Yair) Entropy/length profiles, bounds on the minimal covering of bipartite graphs, and trellis complexity of nonlinear codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 580–598. (Summary) **99c:94051** 94B12 (05C90)

— (*with* Shany, Yaron; Be'ery, Yair) On the trellis representation of the Delsarte-Goethals codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1547–1554. (Summary) **99i:94068** 94B12

— (*with* Be'ery, Yair) Generalized Hamming weights of nonlinear codes and the relation to the Z_4-linear representation. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 713–720. (Summary) **99m:94051** 94B05

Revalski, J. P. *see* **Proceedings: Conference on Mathematical Methods in Operations Research/Workshop on Well-posedness and Stability of Optimization Problems, 99k:49002**

Revenchuk, Sergei M. (*with* Pavlenko, Vladimir P.) Global drift modes in rotating tokamak plasmas. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3311–3318. (Summary) **99f:76137** 76X05 (76U05)

Revenko, I. V. On exact solutions of the Lorentz-Dirac-Maxwell equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 214–216, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 81R20

— (*with* Zhdanov, Renat; Fushchich, Vīl'gel'm Īllīch) Stationary mKdV hierarchy and integrability of the Dirac equations by quadratures. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 155–158. (Woodford W. Zachary) **99d:58093** 58F07 (35Q53, 81Q05)

Reventós, Agusti (*with* Herrera, Blas) The transverse structure of Lie flows of codimension 3. *J. Math. Kyoto Univ.* **37** (1997), *no.* 3, 455–476. (Gaël Meigniez) **99a:58124** 58F18 (17B99, 57R30)

Reverberi, Pierfrancesco (*with* Campisi, Domenico; Nastasi, Alberto) Multidimensional signalling and entry decision strategies. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 313–318, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90A05

Reversat, Marc (*with* van der Put, Marius) Automorphic forms and Drinfeld's reciprocity law. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 188–223, *World Sci. Publishing, River Edge, NJ*, 1997. (Jean-Claude Douai) **99j:11059** 11F80 (11F32, 11G09, 11R39)

— *see also* **Drinfeld modules, modular schemes and applications, 99b:11002**

Reverter, F. (*with* Oller, J. M.) A modified Taylor series method for solving initial-value problems in ordinary differential equations. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 231–246. (Summary) **99m:65131** 65L05 (34A45)

Révész, Pál ★ Random walks of infinitely many particles. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1994. *xvi*+191 *pp. ISBN* 981-02-1784-6 (F. Papangelou (Zbl 841.60053)) **99e:60157** 60J15 (60J80)

— (*with* Csáki, Endre; Rosen, Jay) Functional laws of the iterated logarithm for local times of recurrent random walks on $\mathbf{Z}^2$. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 4, 545–563. (M. Csörgő) **99k:60109** 60G20 (60F17)

— The maximum of a critical branching Wiener process. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 4, 953–977. (H. Kesten) **99m:60136** 60J80 (60F05)

— (*with* Csáki, Endre; Földes, A.) A strong invariance principle for the local time difference of a simple symmetric planar random walk. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 25–39. (Lajos Horváth) **99i:60065** 60F15 (60F17, 60J15, 60J55)

— The range of a critical branching Wiener process. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 379–389. (John Verzani) **99h:60157** 60J80 (60J65)

Revesz, Peter Z. Datalog queries of set constraint databases. (English summary) *Database theory—ICDT* '95 (*Prague*), 425–438, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— Model-theoretic minimal change operators for constraint databases. (English summary) *Database theory—ICDT* '97 (*Delphi*), 447–460, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

— Refining restriction enzyme genome maps. (English summary) *Constraints* **2** (1997), *no.* 3-4, 361–375. (James L. Cornette) **99c:92001** 92–04 (68Q75, 92D20)

— The evaluation and the computational complexity of Datalog queries of Boolean constraint databases. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 5, 553–573. (Summary) **99m:68045** 68P15

Revin, D. O. (*with* Mazurov, Viktor Danilovich) On the Hall D_π-property for finite groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 125–134, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 106–113. (N. D. Podufalov) **99d:20030** 20D20

Revinskiĭ, V. V. (*with* Kolyada, A. A.; Selyaninov, M. Yu.; Chernyavskiĭ, A. F.) Minimally redundant polynomial-scalar modular number systems. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 103–106, 143. 68M07

Revzen, M. (*with* De Baere, W.; Mann, Ady) Bell's inequality violation and localization. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 391–396, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05

— (*with* Brif, C.; Mann, Ady) Generalized coherent states are unique Bell states of quantum systems with Lie-group symmetries. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 2, 742–745. (Summary) **99b:81090** 81R30

Rewoldt, G. (*with* Qin, Hong[3]; Tang, W. M.; Lee, W. W.) Gyrokinetic perpendicular dynamics. (English summary) *Phys. Plasmas* **6** (1999), *no.* 5, *part* 1, 1575–1588. 76X05

Rex, Georg Componentwise distance to singularity. (English summary) SCAN-97 (Lyon). *J.UCS* **4** (1998), *no.* 1, 68–81 (*electronic*). (Pavel S. Pankov) **99m:65105** 65G10 (65F15, 65F30)

— (*with* Rohn, Jiří) Enclosing solutions of linear equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 524–539 (*electronic*). (Ljiljana Petković) **99h:65099** 65G10 (15A06, 65F10)

— (*with* Rohn, Jiří) Sufficient conditions for regularity and singularity of interval matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 437–445 (*electronic*). (J. Michel Muller) **99i:65054** 65G10 (15A18)

Rexford, Jennifer (*with* Cohen, Edith; Krishnamurthy, Balachander) Evaluating server-assisted cache replacement in the web. (English summary) *Algorithms—ESA* '98 (*Venice*), 307–319, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68U99

Rey, Christian (*with* Risler, Franck) On the reuse of Ritz vectors for the solution to nonlinear elasticity problems by domain decomposition methods. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 334–340, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99h:73089** 73V20 (65B99, 65H05, 65Y05, 73C50)

— (*with* Risler, Franck) A Rayleigh-Ritz preconditioner for the iterative solution to large scale nonlinear problems. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 279–311. (R. P. Tewarson) **99f:65080** 65H10 (65B99, 65F50, 65Y05)

gonzalez-Rey, Francisco *see* **Gonzalez-Rey, Francisco**

Rey, J. M. *see* **Rey, José María**

Rey, Jean-François The block product of categories and Tilson's division. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 379–400. (J. R. Isbell) **99d:18002** 18A99

— The kernel of a relational morphism of categories. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 401–421. (J. R. Isbell) **99d:18003** 18A99

Rey, José-Manuel (*with* Morán, Manuel) Geometry of self-similar measures. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 2, 365–386. (Hermann Haase) **99f:28011** 28A78 (28A80)

— (*with* Morán, Manuel) Singularity of self-similar measures with respect to Hausdorff measures. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2297–2310. (Lars Olsen) **99c:28019** 28A78 (28A80)

Rey, José María (*with* Díaz Díaz, Gregorio) Long-time behavior in some Hamilton-Jacobi equations. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*) (*Vic*, 1995), 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35F20 (35B40, 49L20)

viaño Rey, Juan M. *see* **Viaño Rey, Juan M.**

Rey, Lourdes (*with* Ruiz, Francisco; Caballero Fernández, Rafael E.; Gómez, Trinidad; González, Mercedes) The static approach to quadratic dynamic goal programming. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 138–148, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C20 (90C39)

lachièze-Rey, Marc *see* **Lachièze-Rey, Marc**

Rey, Reynaldo M. (*with* Agapito, Julius Caesar C.; Ôtani, Mitsuharu; Paredes, Lorna I.; Sy, Polly Wee) Approximation of some elliptic equations in Banach spaces. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 9–13, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35J60 (35A35, 47H17)

— (*with* Agapito, Julius Caesar C.; Paredes, Lorna I.; Sy, Polly Wee) On the asymptotic behavior of solutions to $-\Delta_p u = \lambda |u|^{p-2}u$. (English summary) *Matimyás Mat.* **20** (1997), *no.* 1, 1–7. (Summary) **99m:35071** 35J65 (34B15, 35B40)

Rey, Siegfried (*with* Chung, Hwan Mook; Pi, Su Young) The MacLaurin's and Taylor's series expansions of the symbolic multiple valued logic functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 65–70, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 94C10 (03B50, 03B70)

Rey, Soo-Jong (*with* Kabat, Daniel) Wilson lines and T-duality in heterotic M(atrix) theory. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 535–568. (Yolanda Lozano) **99d:81119** 81T30 (81T13, 81T60)

— Classical and quantum aspects of BPS black holes in $N = 2$, $D = 4$ heterotic string compactifications. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 569–608. (Summary) **99i:83096** 83E30 (81T30, 83C57)

— (*with* Chow, Chi-Keung) Chiral perturbation theory for tensor mesons. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 10, 10 *pp.* (*electronic*). (Summary) **99c:81265** 81V05

— (*with* Park, Jaemo) Dual D-brane actions on $AdS_5 \times S^5$. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 8, 8 *pp.* (*electronic*). (Summary) **99i:81201** 81T30 (83E30)

— (*with* Yee, Jung-Tay) BPS dynamics of the triple (p, q) string junction. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 229–240. (Summary) **99h:81187** 81T30

— (*with* Theisen, Stefan; Yee, Jung-Tay) Wilson-Polyakov loop at finite temperature in large-N gauge theory and anti-de Sitter supergravity. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 171–186. (Summary) **99d:83098** 83E30 (81T30, 83E50)

— (*with* Kim, Nakwoo) M(atrix) theory on T_5/Z_2 orbifold and five-branes. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 155–182. (David S. Berman) **99k:81251** 81T30 (83E30)

de Reyck, Bert *see* **De Reyck, Bert**

Reyes, A. (*with* Menéndez Acuña, Ernesto) A proposal for applying Srivastava's estimator when the optimum value of the parameter is unknown. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 107–110. 62D05

Reyes, Edgar N. Commuting operators and class functions. (English summary) *J. Lie Theory* **7** (1997), *no.* 2, 239–243. (Judith A. Packer) **99f:22009** 22D25

Reyes, Enrique G. Pseudo-spherical surfaces and integrability of evolution equations. (English summary) *J. Differential Equations* **147** (1998), *no.* 1, 195–230. (Keti Tenenblat) **99k:35088a** 35K55 (53A05)

— Erratum: "Pseudo-spherical surfaces and integrability of evolution equations". *J. Differential Equations* **153** (1999), *no.* 1, 223–224. (Keti Tenenblat) **99k:35088b** 35K55 (53A05)

martín-Reyes, F. J. *see* **Martín-Reyes, F. J.**

Reyes, J. A. (*with* del Castillo-Mussot, M.) 1D Schrödinger equations with Coulomb-type potentials. (English summary) *J. Phys. A* **32** (1999), *no.* 10, 2017–2025. (Summary) **99k:81056** 81Q05

sánchez-Reyes, Javier *see* **Sánchez-Reyes, Javier**

bory Reyes, Juan *see* **Bory Reyes, Juan**

Reyes, Marcelo *see* **Reyes García, Marcelo**

Reyes, Noli N. On multiresolution analysis interpolations. *Functional analysis and global analysis* (*Quezon City*, 1996), 235–238, *Springer, Singapore*, 1997. (*see* **99g:00040**) 42C15 (41A30)

Reyes Carrión, Ramón Instantons in dimension greater than four. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 235–240, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 53C07

— A generalization of the notion of instanton. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 1, 1–20. (Luis Ugarte) **99a:53024** 53C07 (58C25, 58G05)

Reyes García, Marcelo (*with* Montañes Bernal, Antonio) Effect of a shift in the trend function on Dickey-Fuller unit root tests. (English summary) *Econometric Theory* **14** (1998), *no.* 3, 355–363. (Summary) **99d:62086** 62M10 (62P20)

Reyes Sanchez, M. V. (*with* Smet, A.; Verschoren, Alain) Involutive invariants of a Krull domain and Amitsur cohomology. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 239–256, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (F. DeMeyer) **99e:13002** 13A20 (13D03, 16H05)

Reyle, U. (*with* Gabbay, Dov M.) Labelled resolution for classical and nonclassical logics. (English summary) *Studia Logica* **59** (1997), *no.* 2, 179–216. (Neculai Curteanu) **99a:03012** 03B35 (03B20, 03B45, 03B65, 68T15, 68T27)

Reyn, J. W. Phase portraits of quadratic systems. *Differential equations* (*Bandung*, 1996), 169–185, *Kluwer Acad. Publ., Dordrecht*, 1997. (Natalia Borisovna Medvedeva) **99d:34046** 34C05 (34C25)

— *see also* **Planar nonlinear dynamical systems**, **99g:00053**

flores-Reyna, G. *see* **Flores-Reyna, G.**

Reynaud, Serge (*with* Jaekel, Marc-Thierry) Conformal symmetry and quantum relativity. (English summary) Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), *no.* 3, 439–456. (Dan Radu Grigore) **99m:81107** 81S05 (81P05)

— *see also* **Quantum fluctuations**, **99k:81356**

de Rey Neto, E. C. (*with* Kraenkel, R. A.; Pereira, J. G.) Linearizability of the perturbed Burgers equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2526–2530. (Summary) **99e:35199** 35Q53

Reynier, Marie (*with* Nedjar, Boumediene) Error on the constitutive relation in the nonlinear formulation of elastic beams: the plane case. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 299–314. (Summary) **99d:73051** 73K05 (73C50, 73V20)

Reynolds, D. W. (*with* Fabrizio, Mauro; Gentili, Giorgio) On rigid linear heat conductors with memory. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 7-8, 765–782. (Renuka Datta) **99i:80006** 80A20 (80A97)

Reynolds, M. A. A decidable temporal logic of parallelism. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 3, 419–436. (G. Mirkowska) **99m:03036** 03B45 (68Q60)

Reynolds, R. A. (*with* Humphrey, J. D.) Steady diffusion within a finitely extended mixture slab. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 147–167. (Summary) **99a:73034** 73B99 (76A02)

Reynolds, W. C. (*with* Kassinos, S. C.) Linear dependencies in fourth-rank turbulence tensor models. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 79–83. 76F99 (35Q35)

Reynolds, William N. (*with* Ponce Dawson, Silvina; Pearson, John E.) Self-replicating spots in reaction-diffusion systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 185–198. (Yoram Schiffmann) **99b:92012** 92C15 (35K57, 35Q80, 92E20)

Rezaie, M. Chromatic polynomial of Cartesian product of graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 447–450, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:05063** 05C15 (05B15)

Rezakhanlou, Fraydoun Large deviations from a kinetic limit. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1259–1340. (Giambattista Giacomin) **99i:60175** 60K35 (60F10, 82C22)

— Equilibrium fluctuations for the discrete Boltzmann equation. *Duke Math. J.* **93** (1998), *no.* 2, 257–288. (Carlo Cercignani) **99e:82082** 82C40 (45K05, 60H15, 82C31)

Rezende, Jorge A theorem on some linear Hamiltonian systems. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 2, 163–173. (Uri Elias) **99i:34012** 34A30 (58F05)

de Rezende, K. A. (*with* Cruz, Ricardo N.) Cycle rank of Lyapunov graphs and the genera of manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3715–3720. (Christopher K. McCord) **99f:58112** 58F09 (57R70, 58F25)

Rezgui, Ali Précision et convergence des méthodes de volumes finis. (English and French summaries) [Accuracy and convergence of finite-volume methods] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 421–426. (Summary) **99f:65144** 65M60

Reznichenko, E. A. (*with* Uspenskii, Vladimir V.) Pseudocompact Mal′tsev spaces. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 83–104. (Michael Tkačenko) **99e:54019** 54D30 (22A30, 54C35)

Reznik, B. (*with* Aharonov, Y.; Oppenheim, J.; Popescu, Sandu; Unruh, W. G.) Measurement of time of arrival in quantum mechanics. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 6, 4130–4139. (Michael B. Mensky) **99h:81019** 81P15

— (*with* Aharonov, Y.; Kaufherr, T.; Popescu, Sandu) Quantum measurement backreaction and induced topological phases. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 10, 2023–2026. (Péter Pál Lévay) **99b:81018** 81P15 (81S99)

Reznik, Leonid K. (*with* Popov, Antony T.; Nguyen, Hung T.) An application of fuzzy mathematical morphology to interval-valued knowledge representation: a remark. (English summary) *Reliab. Comput.* **4** (1998), *no.* 3, 283–290. (Summary) **99d:68225** 68T30

Reznikov, Alexander Three-manifolds class field theory (homology of coverings for a nonvirtually b_1-positive manifold). *Selecta Math.* (*N.S.*) **3** (1997), *no.* 3, 361–399. (Darryl McCullough) **99b:57041** 57N10 (11R99, 20J06)

Reznikov, Andrei (*with* Bernstein, Joseph) Sobolev norms of automorphic functionals and Fourier coefficients of cusp forms. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 111–116. (Matti Jutila) **99g:11061** 11F37 (11F30)

Reznikova, Anna On the stability of one method for generalized inversion of matrix relative to rounding-off errors. (English summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1416–1423; *reprinted in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1372–1380. (Ilse C. F. Ipsen) **99a:65052** 65F20 (15A09, 15A18, 15A57, 65H10)

Rezola, M. L. (*with* Alfaro, Manuel; Marcellán, Francisco) Estimates for Jacobi-Sobolev type orthogonal polynomials. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 157–174. (Summary) **99c:42040** 42C05 (33C45)

Rezunenko, A. V. (*with* Chueshov, Igor D.) Global attractors for a class of retarded quasilinear partial differential equations. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 363–383. (Tadeusz Nadzieja) **99a:35250** 35Q72 (34G20, 35B40, 47H20, 58F39)

— On singular limit dynamics for a class of retarded nonlinear partial differential equations. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 193–211. (Yang Kuang) **99f:35218** 35R10 (34K30, 35B40, 73K70)

— (*with* Boutet de Monvel, Louis; Chueshov, Igor D.) Inertial manifolds for retarded semilinear parabolic equations. *Nonlinear Anal.* **34** (1998), *no.* 6, 907–925. (J. Milota) **99h:35218** 35R10 (34K30, 35K55, 47H20)

Rezzolla, L. (*with* Rupright, M. E.; Abrahams, Andrew M.) Cauchy-perturbative matching and outer boundary conditions: methods and tests. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044005, 9 *pp.* (Summary) **99k:83001** 83–08 (83C05)

R.-Grandjeán L.-Valcárcel, Alfredo (*with* Ladra González, Manuel) On totally free crossed modules. *Glasgow Math. J.* **40** (1998), *no.* 3, 323–332. (Graham J. Ellis) **99k:18019** 18G99

Rhaly, H. C., Jr. Hyponormal terraced matrices. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 425–428. (Fuad Kittaneh) **99e:47028** 47B20 (47B37)

Rhandi, Abdelaziz Extrapolation methods to solve non-autonomous retarded partial differential equations. (English summary) *Studia Math.* **126** (1997), *no.* 3, 219–233. (Sjoerd M. Verduyn Lunel) **99c:47058** 47D06 (34K30, 35R10, 46M35, 47N20)

— (*with* Maniar, L.) Extrapolation and inhomogeneous retarded differential equations on infinite-dimensional spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 331–346. (Eugenio Sinestrari) **99f:34116** 34K30

Rhanizar, B. On extrapolation methods in optimization. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 485–498. (Armin Hoffmann) **99a:90195** 90C30 (65B05, 65K05)

al-Rhayyel, Ahmad *see* **Al-Rhayyel, Ahmad**

Rhedin, Henric (*with* Hwang, Stephen) States in the BRST cohomology for G/H WZNW models. *Strings '95* (*Los Angeles, CA*, 1995), 247–248, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T40 (17B81, 81T70)

— (*with* Ennes, Isabel P.; Naculich, Stephen G.; Schnitzer, Howard J.) One-instanton predictions for non-hyperelliptic curves derived from M-theory. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 245–257. (Summary) **99h:81207** 81T60 (14H45, 81T13)

— (*with* Schnitzer, Howard J.) The non-abelian Coulomb phase of the gauged vector model at large N. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 516–526. (Summary) **99h:81142** 81T17

Rhee, Chongkye On the chromatic index of graphs with $2m + 1$ vertices and $2m^2$ edges. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 115–118. (Summary) **99c:05069** 05C15 (68R10)

Rhee, Dojun (*with* Fossorier, Marc P. C.; Lin, Shu) Bit-error probability for maximum-likelihood decoding of linear block codes and related soft-decision decoding methods. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3083–3090. (Summary) **99i:94071** 94B35 (94B05)

Rhee, WanSoo T. (*with* Bramel, Julien; Simchi-Levi, David) Average-case analysis of the bin-packing problem with general cost structures. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 7, 673–686. (N. I. Yanev) **99d:90091** 90C27

Rheinwald, Rosemarie Paradoxien und die Vergegenständlichung von Begriffen—zu Freges Unterscheidung zwischen Begriff und Gegenstand. (English summary) [Paradoxes and the objectification of concepts—on Frege's distinction between concept and object] *Erkenntnis* **47** (1997), *no.* 1, 7–35. (Ignacio Angelelli) **99b:03012** 03A05 (01A60, 03–03)

Rhemtulla, Akbar H. (*with* Kim, Yangkok) Groups with ordered structures. (English summary) *Groups—Korea '94* (*Pusan*), 199–210, *de Gruyter, Berlin*, 1995. (Ian M. Chiswell) **99c:20052** 20F60 (06F15)

— (*with* Mohammadi Hassanabadi, A.) Criteria for commutativity in large groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 65–70. (Patrizia Longobardi) **99f:20061** 20F24 (20F99)

Rho, Jae Chul (*with* Yoo, Jong-Kwang) Super-decomposable operators. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 49–57. (Feng Xu) **99g:47075** 47B40 (46H99)

Rho, Oh Hyun (*with* Kim, Kyu Hong; Lee, Joon Ho) An improvement of AUSM schemes by introducing the pressure-based weight functions. (English summary) *Comput. & Fluids* **27** (1998), *no.* 3, 311–346. (Summary) **99b:76054** 76M20 (76K05)

Rho, Yoomi An extremal problem concerning graphs not containing K_t and $K_{t,s-t}$. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 195–209. (R. H. Schelp) **99g:05113** 05C35

Rhoades, Billy E. Using general principles to prove fixed point theorems. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 241–260. (Summary) **99i:54060** 54H25 (47H10)

— (*with* Móricz, Ferenc) An equivalent reformulation of summability by weighted mean methods. (English summary) *Linear Algebra Appl.* **268** (1998), 171–181. (S. Baron) **99c:40001** 40A05 (40G05)

— Absolute comparison theorems for double weighted mean and double Cesàro means. (English summary) *Math. Slovaca* **48** (1998), *no.* 3, 285–301. (H.-H. Körle) **99i:40005** 40B05 (40D25, 40F05, 40G99)

— (*with* DeFranza, J.; Fleming, D. J.) On the absolute Hardy-Bohr criteria. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 161–172. (Amnon Jakimovski) **99m:40004** 40C05 (40G99, 40H05, 46A45)

Rhoads, Gregory S. On Carleman's differential inequality and the equation for Gaussian curvature. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 4, 393–403. (Summary) **99i:35040** 35J60 (53C21)

Rhode, Anne Katharina ★ Rotationssymmetrische Flächen konstanter mittlerer Krümmung in zwei konzentrischen Kreisen. (German) [Rotation-symmetric surfaces of constant mean curvature in two concentric circles] Dissertation, Rheinische Friedrich-Wilhelms-Universität Bonn, Bonn, 1995. Bonner Mathematische Schriften [Bonn Mathematical Publications], 285. *Universität Bonn, Mathematisches Institut, Bonn*, 1996. *ii* + 293 *pp.* (Klaus Steffen) **99m:53017** 53A10 (49K40, 49Q10)

große-Rhode, Martin *see* **Große-Rhode, Martin**

Rhodes, A. D. Analytic maps which cover an annulus. *Bull. Hong Kong Math. Soc.* **2** (1999), *no.* 2, 187–191. 30C55

Rhodes, Frank (*with* Melter, Robert A.) Geodetic metrizations of graphs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 267–279. (Summary) **99f:05034** 05C12

Rhodes, John L. (*with* Nehaniv, Chrystopher L.) Krohn-Rhodes theory, hierarchies and evolution. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 29–42, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Juraj Hromkovič) **99c:92027** 92D15 (03D15, 20M20, 68Q70, 92B05)

Rhodes, Susan J. (*with* Chetwynd, Amanda G.) Avoiding multiple entry arrays. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 257–266. (Anthony B. Evans) **99b:05023** 05B15

Rhofir, K. (*with* Bahi, Jacques; Miellou, Jean Claude) Asynchronous multisplitting methods for nonlinear fixed point problems. (English summary) *Numer. Algorithms* **15** (1997), *no.* 3-4, 315–345. (Gerd Pönisch) **99c:65100** 65H10

bel hadj Rhouma, Nadra *see* **Bel Hadj Rhouma, Nadra**

Riadh, Zaier (*with* Yamada, Manabu; Mizuno, Naoki) Adaptive zero phase error tracking controller with extended gain characteristics. (English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 306–315. 93B55 (90C40)

Riahi, D. N. Analysis and modeling for a turbulent convective plume. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 57–63. 76F99

Riahi, H. *see* **Riahi, Hassan**

Riahi, Hasna Study of the critical points at infinity arising from the failure of the Palais-Smale condition for n-body type problems. (English summary) *Mem. Amer. Math. Soc.* **138** (1999), *no.* 658, *viii*+112 *pp.* (Maria Letizia Bertotti) **99i:58028** 58E05 (34C25, 58F05, 70F10, 70H05)

Riahi, Hassan (*with* Chadli, O.; Chbani, Z.) Recession methods for equilibrium problems and applications to variational and hemivariational inequalities. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 185–196. (Daniel Goeleven) **99k:49020** 49J40 (47H19)

Riani, Marco (*with* Zani, Sergio) An iterative method for the detection of multivariate outliers. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 101–117 (1998). 62H99 (62F35)

— (*with* Zani, Sergio) Generalized distance measures for asymmetric multivariate distributions. (English summary) *Advances in data science and classification* (*Rome*, 1998), 503–508, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H11 (62H10)

Riazi, Abdolhamid Extremely amenable locally compact semigroups. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 441–447. (Peter Mah) **99e:43002** 43A07 (22A20)

Riazi, N. (*with* Gharaati, A. R.) Dynamics of sine-Gordon solitons. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 1081–1120. (Summary) **99a:81101** 81T10

Ribarska, Nadezhda K. Three space property for σ-fragmentability. *Mathematika* **45** (1998), *no.* 1, 113–118. (Warren B. Moors) **99m:46042** 46B20 (54E99, 54H99)

Ribas, Carmen (*with* Goovaerts, Marc J.; Dhaene, Jan) A note on the stop-loss preserving property of Wang's premium principle. *Schweiz. Aktuarver. Mitt.* **1998**, *no.* 2, 237–241. 62P05

Ribaud, Francis Cauchy problem for semilinear parabolic equations with initial data in $H^s_p(\mathbf{R}^n)$ spaces. (English summary) *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 1–46. (Qing Fang) **99i:35065** 35K55 (35B65)

Ribbe, Jürgen (*with* Huneke, Craig) Symbolic squares in regular local rings. (English summary) *Math. Z.* **229** (1998), *no.* 1, 31–44. (Mark R. Johnson) **99j:13018** 13H05 (13A15)

Ribe, N. M. Spouting and planform selection in the Rayleigh-Taylor instability of miscible viscous fluids. (English summary) *J. Fluid Mech.* **377** (1998), 27–45. (Summary) **99i:76061** 76E30 (76V05)

Ribeiro, Celso C. (*with* Martins, Simone L.; Souza, Mauricio C.) A parallel GRASP for the Steiner problem in graphs. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 285–297, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05

— (*with* Martins, Simone L.; Pardalos, Panos M.; Resende, Mauricio G. C.) Greedy randomized adaptive search procedures for the Steiner problem in graphs. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 133–145, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:90109** 90C35 (68R10)

Ribeiro, L. *see* **Korff, Leila Ribeiro**

Ribeiro, R. F. (*with* Bazeia, D.; Nascimento, J. R. S.; Toledo, D.) Soliton stability in systems of two real scalar fields. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8157–8166. (Summary) **99b:58073** 58E50 (70G50)

Ribeiro, Vinay J. (*with* Riedi, Rudolf H.; Crouse, Matthew S.; Baraniuk, Richard G.) A multifractal wavelet model with application to network traffic. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 992–1018. (Summary) **99m:94014** 94A12 (90B12)

Ribenboim, Paulo Prime number records. (English summary) *Math. Ed.* **9** (1993), *no.* 4, 220–228. 11A41 (11Y11)

— ★ Collected papers of Paulo Ribenboim. Vol. 1. Queen's Papers in Pure and Applied Mathematics, 104. *Queen's University, Kingston, ON*, 1997. *lii*+506 *pp. ISBN* 0-88911-783-7 (Tadeusz Józefiak) **99j:01029a** 01A75

— ★ Collected papers of Paulo Ribenboim. Vol. 2. Queen's Papers in Pure and Applied Mathematics, 104. *Queen's University, Kingston, ON*, 1997. *vi*+532 *pp. ISBN* 0-88911-785-3 (Tadeusz Józefiak) **99j:01029b** 01A75

— ★ Collected papers of Paulo Ribenboim. Vol. 3. Queen's Papers in Pure and Applied Mathematics, 104. *Queen's University, Kingston, ON*, 1997. *vi*+550 *pp. ISBN* 0-88911-787-X (Tadeusz Józefiak) **99j:01029c** 01A75

— ★ Collected papers of Paulo Ribenboim. Vol. 4. Queen's Papers in Pure and Applied Mathematics, 104. *Queen's University, Kingston, ON*, 1997. *vi*+579 *pp. ISBN* 0-88911-789-6 (Tadeusz Józefiak) **99j:01029d** 01A75

— ★ Collected papers of Paulo Ribenboim. Vol. 5. Queen's Papers in Pure and Applied Mathematics, 104. *Queen's University, Kingston, ON*, 1997. *vi*+573 *pp. ISBN* 0-88911-791-8 (Tadeusz Józefiak) **99j:01029e** 01A75

— ★ Collected papers of Paulo Ribenboim. Vol. 6. Queen's Papers in Pure and Applied Mathematics, 104. *Queen's University, Kingston, ON*, 1997. *xxii*+581 *pp. ISBN* 0-88911-793-4 (Tadeusz Józefiak) **99j:01029f** 01A75

— ★ Collected papers of Paulo Ribenboim. Vol. 7. Queen's Papers in Pure and Applied Mathematics, 104. *Queen's University, Kingston, ON*, 1997. *vi*+570 *pp. ISBN* 0-88911-795-0 (Tadeusz Józefiak) **99j:01029g** 01A75

— (*with* Priess-Crampe, Sibylla) Generalized ultrametric spaces. II. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 19–31. (From the introduction) **99m:54019** 54E99 (54D35)

— Semisimple rings and von Neumann regular rings of generalized power series. *J. Algebra* **198** (1997), *no.* 2, 327–338. (Giuseppe Baccella) **99f:16013** 16E50 (16S36)

— (*with* McDaniel, Wayne L.) Squares in Lucas sequences having an even first parameter. *Colloq. Math.* **78** (1998), *no.* 1, 29–34. (Péter Kiss) **99j:11019** 11B39

— (*with* Priess-Crampe, Sibylla) The common point theorem for ultrametric spaces. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 105–110. 54H25 (12E15, 54E40)

— (*with* McDaniel, Wayne L.) Square-classes in Lucas sequences having odd parameters. (English summary) *J. Number Theory* **73** (1998), *no.* 1, 14–27. (Péter Kiss) **99j:11017** 11B39

— Homework! *Number theory* (*Ottawa, ON*, 1996), 391–392, *CRM Proc. Lecture Notes*, 19, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99k:11005**) 11–02

— An algorithm to determine the points with integral coordinates in certain elliptic curves. (English summary) *J. Number Theory* **74** (1999), *no.* 1, 19–38. (Maurice Mignotte) **99j:11028** 11D25 (11B39, 11G05)

— (*with* Walsh, P. G.) The *ABC* conjecture and the powerful part of terms in binary recurring sequences. (English summary) *J. Number Theory* **74** (1999), *no.* 1, 134–147. (Abderrahmane Nitaj) **99k:11047** 11D41 (11J25)

— Pell numbers, squares and cubes. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 1-2, 131–152. (Neville Robbins) **99k:11023** 11B37

Ribes, L. (*with* Herfort, W. N.; Zalesskii, P. A.) Finite extensions of free pro-p groups of rank at most two. (English summary) *Israel J. Math.* **107** (1998), 195–227. (Martyn Quick) **99m:20061** 20E18 (20E05)

— (*with* Segal, Daniel; Zalesskii, P. A.) Conjugacy separability and free products of groups with cyclic amalgamation. *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 609–628. (David Meier) **99m:20053** 20E06 (20E18, 20E26)

Ribet, Kenneth A. (*with* Diamond, Fred) l-adic modular deformations and Wiles's "main conjecture". *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 357–371, *Springer, New York*, 1997. (*see* **99k:11004**) 11F80 (11G05)

— Images of semistable Galois representations. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 277–297. (Chandrashekhar Khare) **99a:11065** 11F80

— (*with* Takahashi, Shuzo) Parametrizations of elliptic curves by Shimura curves and by classical modular curves. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11110–11114. (Massimo Bertolini) **99e:11080** 11G18 (11F33, 11G05)

Ribits'ka, O. M. On the positive J-fraction solutions of the linear functional equations. *Comm. Anal. Theory Contin. Fractions* **6** (1997), 41–44. (Anton Suhadolc) **99a:47019** 47A50 (30B70, 47B60)

— A fractional-analytic method of finding Moore-Penrose and Drasin pseudo-inverse matrices. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2442–2445. (Summary) **99d:65122** 65F20

Ribotta, R. (*with* Joets, A.; Monastyrskiĭ, M. I.) Ensembles of singularities generated by surfaces with polyhedral symmetry. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 8, 1547–1550. (Summary) **99c:58018** 58C27

Rica, Sergio (*with* Pismen, Len; Porneau, Yves) Core structure and oscillations of spinor vortices. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 167–180. (Summary) **99b:82088** 82D50

Rica da Silva, A. (*with* Sousa Ramos, J.; Croca, J. R.; Moreira, R. N.) Non-linear Schrödinger equation, Burger's equation and superposition of solutions. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 421–430, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81Q05 (35Q53, 35Q55)

Ricca, Renzo L. Applications of knot theory in fluid mechanics. (English summary) *Knot theory* (*Warsaw*, 1995), 321–346, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99e:76021** 76C05 (57M25, 76W05, 78A25)

Riccardi, A. (*with* Montheillet, F.) A generalized self-consistent method for solids containing randomly oriented spheroidal inclusions. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 39–56. (Summary) **99i:73053** 73K20

Riccardi, Giorgio (*with* Piva, R.) Motion of an elliptical vortex under rotating strain: conditions for asymmetric merging. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 2, 63–88. (Summary) **99b:76018** 76C05

Ricceri, Biagio Some problems concerning a general theorem on variational inequalities. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 201–203. (Vesa Mustonen) **99e:47095** 47H19 (49J40)

— Covering dimension and nonlinear equations. Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 97–100. (Jacobo Pejsachowicz) **99k:47161** 47H15 (47H10)

— *see also* **Minimax theory and applications, 99c:49007**

Ricci, Fulvio L^p-L^q boundedness for convolution operators defined by singular measures in $\mathbf{R}^n$. (Italian) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 237–252. (Cristian E. Gutiérrez) **99c:42023** 42B15 (44A35, 47B35, 47G10, 53A07)

— (*with* Berndt, Jürgen; Vanhecke, Lieven) Weakly symmetric groups of Heisenberg type. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 275–284. (Rosa Anna

Marinosci) **99f:53052** 53C35 (53C30)

— (*with* Carbery, Anthony; Wright, James Robert) Maximal functions and Hilbert transforms associated to polynomials. *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 117–144. (Gary Sampson) **99k:42014** 42A50 (42B25)

— (*with* Marletta, Gianfranco) Two-parameter maximal functions associated with homogeneous surfaces in $\mathbf{R}^n$. (English summary) *Studia Math.* **130** (1998), *no.* 1, 53–65. (Detlef Horst Müller) **99d:42032** 42B25

— (*with* Marletta, Gianfranco; Zienkiewicz, Jacek) Two-parameter maximal functions associated with degenerate homogeneous surfaces in $\mathbf{R}^3$. (English summary) *Studia Math.* **130** (1998), *no.* 1, 67–75. (Detlef Horst Müller) **99d:42033** 42B25

Ricci, Gabriele New characterizations of universal matrices show that neural networks cannot be made algebraic. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 269–291, *Heyn, Klagenfurt*, 1998. (Summary) **99h:68146** 68T05

Ricci, Maria Lavinia Bounded solutions relative to a vibrating and not tensioned string. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 69–87. (D. Ieşan) **99c:73037** 73K03 (35Q72, 73D30)

Ricci, Paolo Emilio (*with* Belingeri, Carlo) A generalization of the discrete Fourier transform. (English summary) *Integral Transform. Spec. Funct.* **3** (1995), *no.* 3, 165–174. (Summary) **99b:33012** 33C45 (42A38, 65T20)

— (*with* Gilbert, Robert Pertsch) A short biography of Gaetano Fichera [1922–1996]. *Appl. Anal.* **65** (1997), *no.* 1-2, 1–2. 01A70

— (*with* He, Matthew X.; Simon, David S.) Numerical results on the zeros of generalized Fibonacci polynomials. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 25–40 (1998). (Summary) **99j:33013** 33C45 (05A10)

— (*with* Germano, Bruna; Noschese, Silvia) General sets of relativistic Laguerre polynomials. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 109–116. (Summary) **99h:33038** 33C45

— (*with* He, Matthew X.; Pan, K. C.) Asymptotics of the zeros of relativistic Hermite polynomials. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1248–1257. (Gradimir V. Milovanović) **99b:33017** 33C45 (31A15, 42C05)

— (*with* Belingeri, Carlo) General sets of relativistic Jacobi polynomials. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 459–468. (Summary) **99h:33039** 33C45

— (*with* Belingeri, Carlo; Villo', O.) A discretization of the Laplace and Gauss-Weierstrass operators. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 127–140. (Summary) **99b:39021** 39A12 (44A10)

— (*with* Cuccoli, Mauro) A characterization of the Chebyshev and Fibonacci polynomials. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 129–140. (Valery V. Karachik) **99f:33008** 33C45 (11B39)

— (*with* He, Matthew X.; Natalini, Pierpaolo) Zero's asymptotic distribution of polynomials orthogonal with respect to varying weights. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 183–190, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99j:33014** 33C45 (34E20, 42C05)

Ricci, Riccardo (*with* Andreucci, D.; Fasano, Antonio) A continuous model for Ziegler-Natta polymerization. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 219–226, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 80A32

Ricciardelli, Salvatore (*with* Mingozzi, Aristide; Bianco, Lucio) Dynamic programming strategies for the traveling salesman problem with time window and precedence constraints. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 365–377. (P. F. Körner) **99f:90098** 90C27 (90C35)

Ricciardi, Luigi M. (*with* Inoue, Junko[2]; Sato, Shunsuke) A note on the moments of the first-passage time of the Ornstein-Uhlenbeck process with a reflecting boundary. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 87–99. (Summary) **99c:60184** 60J70 (92C20, 92D25)

Ricciardi, Tonia (*with* Tarantello, Gabriella) On a periodic boundary value problem with exponential nonlinearities. (English summary) *Differential Integral Equations* **11** (1998), *no.* 5, 745–753. (Xin Kang Guo) **99m:34043** 34B15 (35J65, 58E05)

Ricci-Curbastro, Gregorio *see* **Dell'Aglio, Luca**, **99g:01020**

Riccioni, Fabio (*with* Ferrara, Sergio; Sagnotti, Augusto) Tensor and vector multiplets in six-dimensional supergravity. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 115–140. (Sergiu I. Vacaru) **99g:83082** 83E50 (83E30)

— (*with* Sagnotti, Augusto) Some properties of tensor multiplets in six-dimensional supergravity. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 68–73. (Sergiu I. Vacaru) **99g:83083** 83E50 (83E30)

— Tensor multiplets in six-dimensional (2, 0) supergravity. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 126–134. (Sergey Nikolaevich Roshchupkin) **99f:83076** 83E50

— (*with* Sagnotti, Augusto) Consistent and covariant anomalies in six-dimensional supergravity. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 298–305. (C. Gauthier) **99i:81218** 81T50 (83E50)

Riccomagno, Eva (*with* Schwabe, Rainer; Wynn, Henry P.) Lattice-based *D*-optimum design for Fourier regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2313–2327. (Ewaryst Rafajłowicz) **99c:62210** 62K05

— (*with* Bates, R. A.; Schwabe, Rainer; Wynn, Henry P.) Lattices and dual lattices in optimal experimental design for Fourier models. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 3, 283–296. 62K05

— (*with* Caboara, Massimo) An algebraic computational approach to the identifiability of Fourier models. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 2, 245–260. (Gerton Lunter) **99j:68058** 68Q40 (13P10, 62K99)

Rice, Adrian C. (*with* Wilson, Robin J.) From national to international society: the London Mathematical Society, 1867–1900. (English, French and German summaries) *Historia Math.* **25** (1998), *no.* 2, 185–217. (E. Keith Lloyd) **99g:01039** 01A74 (01A55)

Rice, Dien A. (*with* Sanders, Barry C.) Complementarity and entangled coherent states. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 3, *L*41–*L*47. (K. Wódkiewicz) **99e:81088** 81R30

Rice, James R. (*with* Morrissey, John W.) Crack front waves. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 3, 467–487. (Alexander B. Movchan) **99e:73083** 73M25 (73D99)

Rice, John A. (*with* Heckman, Nancy) Line transects of two-dimensional random fields: estimation and design. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 481–501. (R. J. Martin) **99k:62180** 62M40 (60G60)

— (*with* Brumback, Babette A.) Smoothing spline models for the analysis of nested and crossed samples of curves. (English summary) With comments and a rejoinder by the authors. *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 961–994. (Summary) **99e:62038** 62G05 (62G09)

Rice, Kenneth (*with* Warnow, Tandy) Parsimony is hard to beat! (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 124–133, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99b:92028** 92D15 (68Q20, 92B10)

Rice, M. J. *see* **Rice, Michael J.**

Rice, Michael D. Continuous algorithms. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 299–318. (Summary) **99c:54015** 54C05 (52A20, 54C35, 68P10, 68R05)

Rice, Michael J. (*with* Chisci, L.; Rossiter, J. A.) Stable GPC by dynamic programming. (English summary) *Systems Control Lett.* **33** (1998), *no.* 5, 291–300. (Summary) **99a:93035** 93B40 (93D15)

Richa, Andréa W. (*with* Rao, Satish) New approximation techniques for some ordering problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 211–218, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10)

Richa, T. R. W. (*with* Leite, R. S.; Tomei, Carlos) Geometric proofs of some theorems of Schur-Horn type. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 149–173. (Constantin Udrişte) **99k:15033** 15A42 (15A45, 15A57)

Richard, Christoph (*with* Wolff, Manfred P. H.; Gloor, Oliver) ★ Analysis alive. (German. German summary) Ein interaktiver Mathematik-Kurs. [An interactive course in mathematics] With 1 CD-ROM (Windows, Macintosh and UNIX). *Birkhäuser Verlag, Basel*, 1998. *xiv*+372 *pp. ISBN* 3-7643-5966-8 00A05 (26–01)

— (*with* Höffe, M.; Hermisson, J.; Baake, Michael) Random tilings: concepts and examples. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6385–6408. (Richard Kenyon) **99g:82033** 82B41 (52C20, 82D25)

Richard, Denis (*with* Zhu, Hong[1]; Lu, Xian Jie) Undecidability of arithmetical structures. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 667–672. (Zhi Wei Sun) **99f:03060** 03D35 (11U05)

Richard, Gilles (*with* Saubion, Frédéric) A rewrite approach to transform constraint logic programs. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 184–200 (*electronic*). (*see* **99d:68010**) 68N17 (68Q42, 68T20)

Richard, Jean-Pierre (*with* Goubet-Bartholoméüs, A.; Tchangani, A. P.; Dambrine, M.) Nonlinear delay systems: tools for a quantitative approach to stabilization. (English summary) *Stability and control of time-delay systems*, 218–240, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (34K35, 93C30)

— (*with* Goubet-Bartholoméüs, A.; Dambrine, M.) Delay-dependent stability domains of nonlinear delay systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 245–256. (Summary) **99c:93078** 93D05 (34K20)

— (*with* Tchangani, A. P.; Dambrine, M.) Stability, attraction domains, and ultimate boundedness for nonlinear neutral systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 291–298. (Michael I. Gil') **99d:34154** 34K20

— (*with* Tchangani, A. P.; Dambrine, M.; Kolmanovskii, Vladimir B.) Stability of nonlinear differential equations with distributed delay. *Nonlinear Anal.* **34** (1998), *no.* 7, 1081–1095. (T. A. Burton) **99d:34153** 34K20

— *see also* **Delay systems**, **99a:93005**

Richard, P. (*with* Oger, L.; Troadec, J. P.; Gervois, A.) Tessellation of binary assemblies of spheres. (English summary) *Phys. A* **259** (1998), *no.* 1-2, 205–221. (Summary) **99e:82095** 82D20

Richard, Pascal (*with* Proust, C.) Solving scheduling problems using Petri nets and constraint logic programming. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 2, 125–143. (Summary) **99b:68022** 68M20 (68Q90)

Richard II *see* **Ackermann, Silke**

Richards, Barry (*with* Hajian, Mozafar T.; El-Sakkout, Hani; Wallace, Mark Glossop; Lever, Jonathan M.) Towards a closer integration of finite domain propagation and simplex-based algorithms. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 421–431. (*see* **99b:90006**) 90C08 (90C90)

— (*with* Hajian, Mozafar T.; Rodošek, Robert) Introduction of a new class of variables to discrete and integer programming problems. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 39–51. (*see* **99k:90002**) 90C10 (90C27)

Richards, Derek The periodically driven excited hydrogen atom. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 173–204, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45 (81Q15)

Richards, Donald St. P. (*with* Gupta, Rameshwar D.) Multivariate Liouville distributions. V. (English summary) *Advances in the theory and practice of statistics*, 377–396, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **99c:60022** 60E05 (43A05, 62E15, 62H05)

— (*with* Gupta, Rameshwar D.) Invariance properties of some classical tests for exponentiality. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 203–213. (D. N. Shanbhag) **99f:62023** 62E10 (62F03)

— (*with* Gross, Kenneth I.) Algebraic methods toward higher-order probability inequalities. *Stochastic processes and related topics*, 185–206, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Pawel Hitczenko) **99k:60040** 60E15 (60G09, 62H20)

— (*with* Garren, Steven T.) General conditions for comparing the reliability functions of systems of components sharing a common environment. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 124–135. (Bent Natvig) **99f:60153** 60K10 (62N05, 90B25)

Richards, G. W. (*with* Hwang, Frank K.) Extended generalized shuffle networks: sufficient conditions for strictly nonblocking operation. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 15–48, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:94073** 94C10

Richards, K. C. (*with* Barnard, Roger W.; Dahlquist, Germund; Pearce, Kent; Reichel, L.) Gram polynomials and the Kummer function. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 128–143. (Olav Njåstad) **99g:42030** 42C05 (33C15, 41A10)

Richards, Kelvin J. Interleaving at the equator. Its parameterization and effect on the large scale dynamics. *Ocean modeling and parameterization* (*Les Houches*, 1998), 235–251, *NATO Sci. Ser. C Math. Phys. Sci.*, 516, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99f:86001**) 86A05

Richardson, A. M. (*with* Welsh, Alan H.) Approaches to the robust estimation of mixed models. *Robust inference*, 343–384, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62J05 (62F35)

Richardson, Al *see* **Richardson, Allan Keith**

Richardson, Alan W. ★ Carnap's construction of the world. (English summary) The *Aufbau* and the emergence of logical empiricism. *Cambridge University Press, Cambridge*, 1998. x+242 *pp. ISBN* 0-521-43008-9 (Charles F. Kielkopf) **99a:01007** 00A30 (01A60, 03-03, 03A05)

Richardson, Allan Keith (*with* Leibbrandt, George; Martin, C. P.) The pole part of the 1PI four-point function in light-cone gauge Yang-Mills theory. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 521–548. (Summary) **99a:81114** 81T18 (81T15)

Richardson, Daniel How to recognize zero. (English summary) *J. Symbolic Comput.* **24** (1997), *no.* 6, 627–645. (A. J. Wilkie) **99e:11153** 11U05 (11J91)

— Local theories and cylindrical decomposition. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 351–364, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 03C62 (03C60)

Richardson, G. *see* **Richardson, Giles William**

Richardson, Gary D. (*with* Minkler, J.; Minkler, G.) T-regular probabilistic convergence spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 210–221. (Liviu Florescu) **99e:54022** 54E70 (54A20)

— (*with* Kent, D. C.) Completions of probabilistic Cauchy spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 399–407. (Summary) **99h:54043** 54E70 (54A05, 54A20)

Richardson, Giles William (*with* Chapman, S. J.) Motion and homogenization of vortices in anisotropic type II superconductors. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 587–606 (*electronic*). (J. R. Ockendon) **99c:82073** 82D55 (35B27, 35Q55)

Richardson, Gregory The structure of fuzzy preferences: social choice implications. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 359–369. (J. J. Buckley) **99h:90010** 90A08

Richardson, J. D. (*with* Cruse, T. A.) Nonsingular BEM for fracture modeling. (English summary) *Comput. & Structures* **66** (1998), *no.* 5, 695–703. (Summary) **99a:73132** 73V10 (73M25)

Richardson, Ken (*with* Lee, Jeffrey M.) Riemannian foliations and eigenvalue comparison. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 6, 497–525. (James F. Glazebrook) **99k:53047** 53C12 (58G25)

— The asymptotics of heat kernels on Riemannian foliations. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 2, 356–401. (James F. Glazebrook) **99e:58188** 58G18 (53C12, 58G11)

Richardson, M. J. E. (*with* Cardy, John L.) The reaction process $A + A \to O$ in Sinai disorder. (English summary) *J. Phys. A* **32** (1999), *no.* 22, 4035–4045. 82C44

Richardson, Roger Wolcott *see* **Algebraic groups and Lie groups, 99b:00024** *and* **Lehrer, G. I., 99m:01078**

Richardson, Sylvia (*with* Robert, Christian P.) Markov chain Monte Carlo methods. *Discretization and MCMC convergence assessment*, 1–25, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 65C10 (60J05, 60J10, 60J27, 62F15)

— (*with* Guihenneuc-Jouyaux, Chantal; Lasserre, Virginie) Convergence assessment in latent variable models: application to the longitudinal modelling of a marker of HIV progression. *Discretization and MCMC convergence assessment*, 147–160, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J20 (62P10)

Richardson, T. J. Total curvature and intersection tomography. (English summary) *Adv. Math.* **130** (1997), *no.* 1, 1–32. (Daniel Hug) **99c:52007** 52A22 (44A12, 49Q15, 53C65)

— (*with* Mitter, Sanjoy K.) A variational formulation-based edge focussing algorithm. (English summary) *Sādhanā* **22** (1997), *no.* 4, 553–574. (Sisto Baldo) **99e:49015** 49J45 (68U10, 94A13)

Richardson, Thomas *see* **Richardson, Thomas Stuart**

Richardson, Thomas M. Elementary abelian 3-subgroups of the Monster. (English summary) *J. Algebra* **210** (1998), *no.* 1, 320–351. (Jamshid Moori) **99k:20037** 20D08

Richardson, Thomas Stuart A discovery algorithm for directed cyclic graphs. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 454–461, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99b:68191** 68T30

— A polynomial-time algorithm for deciding Markov equivalence of directed cyclic graphical models. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 462–469, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

Richardt, J. (*with* Karl, F.; Müller, C.) Connections between fuzzy theory, simulated annealing, and convex duality. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 3, 307–334. (Roman Słowiński) **99g:90162** 90C70 (68T05, 90C27, 90C29)

loday-Richaud, M. *see* **Loday-Richaud, M.**

le Riche, R. *see* **Le Riche, R.**

Richman, Fred (*with* Bridges, Douglas; Wang, Yuchuan) Sets, complements and boundaries. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 4, 425–445. (A. Kučera) **99f:03087** 03F65 (46S30, 54E99)

— Flat dimension, constructivity, and the Hilbert syzygy theorem. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 2, 263–273. (David A. Jorgensen) **99g:13021** 13D02 (03F65, 16D10)

— Existence proofs. (English summary) *Amer. Math. Monthly* **106** (1999), *no.* 4, 303–308. 03A05 (03F05)

Richmond, L. Bruce (*with* Bender, Edward A.) A multivariate Lagrange inversion formula for asymptotic calculations. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 33, 4 *pp.* (*electronic*). (Summary) **99c:05008** 05A15

— (*with* Panario, Daniel) Analysis of Ben-Or's polynomial irreducibility test. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 439–456. (Igor E. Shparlinski) **99j:11141** 11T06 (11Y16, 12E05, 68Q25, 94A60)

— (*with* Bender, Edward A.) Multivariate asymptotics for products of large powers with applications to Lagrange inversion. (English summary) *Electron. J. Combin.* **6** (1999), *no.* 1, *Research Paper* 8, 21 *pp.* (*electronic*). (Summary) **99j:41050** 41A60 (05A16)

Richmond, M. Bettina (*with* Nichols, Warren D.) The Grothendieck algebra of a Hopf algebra. I. *Comm. Algebra* **26** (1998), *no.* 4, 1081–1095. (Horia Pop) **99m:16064** 16W30

Richmond, Thomas A. (*with* Mooney, Douglas D.) Cardinality and structure of semilattices of ordered compactifications. (English summary) *Papers on general topology and applications* (*Slippery Rock, PA*, 1993), 188–193, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Aleksander Błaszczyk) **99b:54034** 54D35 (06A12, 54D40, 54F05)

— Quasiorders, principal topologies, and partially ordered partitions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 221–234. (Marcel Erné) **99h:06003** 06A07 (05A18, 06F30, 54A05)

— (*with* Mooney, Douglas D.) The lattice of ordered compactifications of a direct sum of totally ordered spaces. (English summary) *Order* **15** (1998), *no.* 1, 1–19. (Summary) **99h:54044** 54F05 (54D35)

Richmond, W. B. (*with* Moore, James C.; Whinston, A. B.) An optimal search strategy based on user preferences for choice oriented databases. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 1, 1–32. (Summary) **99a:68051** 68P20 (68P15)

Richstein, Jörg Unendliche Geschwisterliebe unter Zahlen oder Die Suche nach den Primzahlzwillingen. [Infinite sibling love among numbers or The search for the twin primes] *Überblicke Mathematik* 1996/97, 135–143, *Überbl. Math., Vieweg, Braunschweig*, 1997. (Matti Jutila) **99f:11117** 11N05 (11Y35)

Richter, Christian Partitioning balls into topologically equivalent pieces. (German summary) *Elem. Math.* **53** (1998), *no.* 4, 149–158. (Jaroslav Ivančo) **99m:52001** 52A07 (51F20)

— On decompositions of compact convex sets. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 1–4. (Summary) **99d:52002** 52A07 (52A01, 52A55)

— A chain of controllable partitions of unity on the cube and the approximation of Hölder continuous functions. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 159–191. (D. Leviatan) **99k:41032** 41A30 (41A25, 41A63)

— Entropy, approximation quantities and the asymptotics of the modulus of continuity. (English summary) *Math. Nachr.* **198** (1999), 179–188. (Bl. Sendov) **99j:41051** 41A60 (47A58, 54C70)

Richter, David A. (*with* Milson, Robert) Quantization of cohomology in semi-simple Lie algebras. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 401–414. (Elena Poletaeva) **99j:17031** 17B56 (58H99)

Richter, Günther More on exponential objects in categories of pretopological spaces. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 4, 309–319. (M. Hušek) **99g:54006** 54B30 (18B30, 18D15, 54A05)

Richter, Mathias² Use of box splines in computer tomography. (English summary) *Computing* **61** (1998), *no.* 2, 133–150. (David R. Hill) **99k:65019** 65D07 (65R10, 92C55)

Richter, Michael M. *see* **Intelligence and artificial intelligence, 99d:68211; ALT 94 and AII 94, 99g:68001** *and* **Algorithmic learning theory, 99m:68005**

Richter, Olaf (*with* Klein, Christian) The Ernst equation and the Riemann-Hilbert problem on hyperelliptic Riemann surfaces. (English summary) *J. Geom. Phys.* **24** (1997), *no.* 1, 53–60. (Dmitri Korotkin) **99c:83014b** 83C15 (14K20)

— (*with* Klein, Christian) Explicit solution of Riemann-Hilbert problems for the Ernst equation. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 857–862. (Dmitri Korotkin) **99c:83014a** 83C15 (14K20)

Richter, Stefan (*with* Aleman, Alexandru) Simply invariant subspaces of H^2 of some multiply connected regions. *Integral Equations Operator Theory* **24** (1996), *no.* 2, 127–155. (D. Sarason) **99b:47010a** 47A15 (30D55, 46E20, 47B38)

— (*with* Aleman, Alexandru) Erratum: "Simply invariant subspaces of H^2 of some multiply connected regions". *Integral Equations Operator Theory* **29** (1997), *no.* 4, 501–504. (D. Sarason) **99b:47010b** 47A15 (30D55, 46E20, 47B38)

Richter-Gebert, Jürgen ★ Realization spaces of polytopes. Lecture Notes in Mathematics, 1643. *Springer-Verlag, Berlin*, 1996. xii+187 *pp. ISBN* 3-540-62084-2 (Margaret M. Bayer) **99b:52020** 52B05 (14P10, 52B55)

— The universality theorems for oriented matroids and polytopes. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 269–292, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52021** 52B40 (52B30)

Rickard, Jeremy Some recent advances in modular representation theory. (English summary) *Algebras and modules, I* (*Trondheim*, 1996), 157–178, *CMS Conf. Proc.*, 23, *Amer. Math. Soc., Providence, RI*, 1998. (P. Donovan) **99h:20011** 20C20 (18E30)

— The abelian defect group conjecture. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 121–128 (*electronic*). (J. L. Alperin) **99f:20014** 20C20 (16G10, 18E30)

Ricker, Werner J. (*with* Okada, Susumu) Representation of complete Boolean algebras of projections as ranges of spectral measures. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 209–227. (T. V. Panchapagesan) **99e:47038a** 47B40 (47A60)

— (*with* Okada, Susumu) Corrections to: "Representation of complete Boolean algebras of projections as ranges of spectral measures". (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 689–693. (T. V. Panchapagesan) **99e:47038b** 47B40 (47A60)

— (*with* Okada, Susumu) Boolean algebras of projections and ranges of spectral measures. *Dissertationes Math. (Rozprawy Mat.)* **365** (1997), 33 *pp.* (Ian Raymond Doust) **99c:47042** 47B40 (47A60, 47B15, 47D30)

— (*with* Albrecht, Ernst) Commutant algebras for certain differential operators in $L^p(\mathbf{R})$. (English summary) *Banach algebras '97* (*Blaubeuren*), 27–42, *de Gruyter, Berlin*, 1998. (Michael M. Neumann) **99i:47080** 47E05 (47A11, 47D99)

— (*with* Räbiger, Frank) C_0-semigroups and cosine families of linear operators in hereditarily indecomposable Banach spaces. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 697–706. (Dieter Lutz) **99k:47098** 47D06 (47D09)

— Rybakov's theorem in Fréchet spaces and completeness of L^1-spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 247–252. (R. G. Bartle) **99h:28023** 28B05 (46E40, 46G10)

— (*with* Fernández López, Antonio²; Naranjo, Francisco) Completeness of L^1-spaces for measures with values in complex vector spaces. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 76–87. (Oscar Blasco) **99d:46051** 46E40 (46E30)

— (*with* Ressel, P.) Semigroup representations, positive definite functions and abelian C^*-algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2949–2955. (Alexander Isaakovich Shtern) **99a:47059** 47D03 (20M14, 46L05, 47A67, 47B15, 47D25)

— (*with* Albrecht, Ernst) On p-dependent local spectral properties of certain linear differential operators in $L^p(\mathbf{R}^N)$. (English summary) *Studia Math.* **130** (1998), *no.* 1, 23–52. (Robert Lauter) **99d:47018** 47A60 (35E20, 46J99, 47B40, 47F05)

— The strong closure of σ-complete Boolean algebras of projections. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 4, 282–288. (Henry R. Dowson) **99m:47027** 47B15 (47D99)

Rickert, John (*with* Klebanoff, Aaron) Studying the Cantor dust at the edge of Feigenbaum diagrams. *College Math. J.* **29** (1998), *no.* 3, 189–198. (Frederick R. Marotto) **99f:58068** 58F03 (54H20, 58F13)

Ricketts, Thomas (*with* Goldfarb, Warren) Carnap and the philosophy of mathematics. *Logical empiricism at its peak*, 337–354, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006a**) 00A30

Rickman, Seppo (*with* Holopainen, Ilkka) Ricci curvature, Harnack functions, and Picard type theorems for quasiregular mappings. *Analysis and topology*, 315–326, *World Sci. Publishing, River Edge, NJ*, 1998. (Juha Heinonen) **99j:30026** 30C65 (53C20)

— (*with* Heinonen, Juha) Quasiregular maps $S^3 \to S^3$ with wild branch sets. (English summary) *Topology* **37** (1998), *no.* 1, 1–24. (Allan Edmonds) **99e:57005** 57M12 (57M30)

Rico, José M. (*with* Duffy, Joseph) Robot isotropy: a reassessment. (English summary) *Advances in robot kinematics: analysis and control (Salzburg*, 1998), 435–444, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70013** 70B15

Ricotta, R. M. (*with* Drigo Filho, E.) Supersymmetric quantum mechanics and partially solvable potential. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1722–1725. (Summary) **99i:81052** 81Q60

Ridder, Thomas Basics of statistical VaR-estimation. (English summary) *Risk measurement, econometrics and neural networks (Karlsruhe*, 1997), 161–187, *Contrib. Econom., Physica, Heidelberg*, 1998. (Summary) **99k:90034** 90A09 (90A16)

Ridderbos, T. M. (*with* Redhead, Michael L. G.) The spin-echo experiments and the second law of thermodynamics. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1237–1270. (Summary) **99g:80005** 80A10 (82B30)

Rideau, Guy (*with* Irac-Astaud, Michèle) Deformed harmonic oscillators: coherent states and Bargmann representations. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1179–1186. (Summary) **99c:81078** 81R30 (81R50)

— (*with* Frappat, L.; Hussin, V.) Classification of the quantum deformations of the superalgebra gl(1|1). (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4049–4072. (Robert Rałowski) **99i:81098** 81R50 (17B37)

Rider, William J. Filtering non-solenoidal modes in numerical solutions of incompressible flows. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 5, 789–814. (Summary) **99g:76113** 76M25

— (*with* Kothe, Douglas B.) Reconstructing volume tracking. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 2, 112–152. (Summary) **99a:65200** 65Y25 (76M25)

Ridley, J. N. (*with* Knopfmacher, Arnold; Mullen, Gary L.) Nets and sequences obtained from irreducible polynomials over finite fields. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 3, 265–269. (Harald Niederreiter) **99m:11142** 11T06 (11K38)

Ridolfi, Luca (*with* Perona, Paolo; Porporato, Amilcare) A simple experimental equation for the bursting cycle. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 3023–3026. 76F20

Riebeek, Remko Juriën ★ Computations in association schemes. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1998. *Thesis Publishers, Amsterdam*, 1998. $x+87$ *pp.* (Paul-Hermann Zieschang) **99d:05089** 05E30 (68Q40)

— (*with* Brouwer, Andries E.) The spectrum of the second subconstituent of the bilinear forms graph $H_q(d, e)$. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 299–305. (Sylvia A. Hobart) **99c:05130** 05C50 (05E30)

— (*with* Brouwer, Andries E.) The spectra of Coxeter graphs. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 1, 15–28. (D. Cvetković) **99g:05129** 05C50 (05E30)

— (*with* Brouwer, Andries E.; Koolen, J. H.) A new distance-regular graph associated to the Mathieu group M_{10}. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 2, 153–156. (Summary) **99g:05184** 05E30 (20D08)

Riečan, Beloslav (*with* Marková-Stupňanová, Andrea) On the double g-integral. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 161–171. (Endre Pap) **99a:28021** 28E10 (28A15)

— (*with* Vrábelová, Marta) On the Kurzweil integral for functions with values in ordered spaces. III. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 93–100. (D. Butković) **99c:28035** 28B15

— (*with* Neubrunn, Tibor) ★ Integral, measure, and ordering. (English summary) Appendix A by Ferdinand Chovanec and František Kôpka. Appendix B by Hana Kirchheimová and Zdenka Riečanová. Mathematics and its Applications, 411. *Kluwer Academic Publishers, Dordrecht; Ister Science, Bratislava*, 1997. xiv+378 *pp. ISBN* 0-7923-4566-5; 80-88683-18-1 (Endre Pap) **99e:28001** 28–01 (03E72, 06F15, 28A60, 28B15, 28E10, 46N50, 81P10)

— (*with* Markechová, D.) The Kolmogorov-Sinaj theorem on generators for fuzzy dynamical systems. *Demonstratio Math.* **30** (1997), *no.* 2, 429–436. (Wolfgang Sander) **99d:28043** 28E10 (04A72)

— (*with* Duchoň, Miloslav) On the product of semigroup valued measures. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 17–27. (Dan Vuza) **99e:28020** 28B10 (81P05)

— On the extension of D-poset valued measures. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 385–394. (Endre Pap) **99i:28019** 28B15

— (*with* Vrábelová, Marta) The Kurzweil construction of an integral in ordered spaces. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 565–574. (Przemo Kranz) **99g:28024** 28B15 (26A39)

— (*with* Markechová, D.) The entropy of fuzzy dynamical systems, general scheme and generators. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 191–199. (Summary) **99d:03048** 03E72 (03G12, 58F11)

— Weak observables in MV algebras. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 183–189. (Carol Sisson Regehr) **99f:81023** 81P10 (03G25)

— (*with* Duchoň, Miloslav) Fuzzy moment problem. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 193–197. (Summary) **99g:44013** 44A60

— On the strong law of large numbers for weak observables in MV algebra. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 13–21. (M. J. Mączyński) **99j:81018** 81P10 (28B99, 60F15)

Riečanová, Zdenka Lattices and quantum logics with separated intervals, atomicity. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 191–197. (Helmut Länger) **99f:06012** 06B30 (03G12, 81P10)

— *see also* **Riečan, Beloslav**, **99e:28001** *and* **Kalmbach, Gudrun**, **99j:81014**

Riecke, Hermann (*with* Granzow, Glen D.) Double phase slips and spatiotemporal chaos in a model for parametrically excited standing waves. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 900–919 (*electronic*). (Summary) **99i:35146** 35Q55 (58F13, 58F39, 65M99, 76E30)

Rieckers, Alfred (*with* Gerisch, T.) Limiting dynamics, KMS-states, and macroscopic phase angle for weakly inhomogeneous BCS-models. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 5, 727–750. (Summary) **99f:82007** 82B10 (46L55, 46L60, 82D55)

— (*with* Honegger, Reinhard) Squeezing of optical states on the CCR-algebra. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 6, 869–892. (Lech Jakóbczyk) **99b:81093** 81R30 (46L60, 46N50, 76D45, 81S05, 81V80)

— Fuzzy sets in macroscopic quantum systems. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 623–628. (Summary) **99f:81035** 81P99 (04A72)

— (*with* Honegger, Reinhard) Unitary implementations of one-parameter squeezing groups. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 777–801. (Nicolaas P. Landsman) **99d:46092** 46L60 (81V80)

— (*with* Gerisch, T.) Limiting Gibbs states and phase transitions of a bipartite mean-field Hubbard model. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 759–785. (Summary) **99c:82007** 82B10 (82B26, 82D55)

— (*with* Honegger, Reinhard) Coherence properties of squeezed photon states. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 147–159. (Lech Jakóbczyk) **99h:81240** 81V80 (46N50, 47N50, 81R30, 81S05)

Riedel, Kurt S. Piecewise convex function estimation: pilot estimators. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2592–2606. (Theo Gasser) **99e:62057** 62G05 (65D10, 65U05)

Riedel, Thomas (*with* Sahoo, Prasanna K.) On two functional equations connected with the characterizations of the distance measures. (English summary) *Aequationes Math.* **54** (1997), *no.* 3, 242–263. (Valeri Kaliaguine) **99g:39029** 39B22 (39B52)

— (*with* Sahoo, Prasanna K.) A functional equation characterizing low degree polynomials in two variables. *Demonstratio Math.* **30** (1997), *no.* 1, 85–94. (J. Aczél) **99b:39029** 39B22

— (*with* Kannappan, Palaniappan; Sahoo, Prasanna K.) On a functional equation associated with Simpson's rule. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 115–126. (Summary) **99g:39028** 39B22 (65D15, 65Q05)

— (*with* Powers, R. C.; Sahoo, Prasanna K.) Limit properties of differential mean values. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 216–226. (Mihai Turinici) **99k:26003** 26A24

— (*with* Sablik, Maciej) Characterizing polynomial functions by a mean value property. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 597–609. (Wolfgang Sander) **99k:39071** 39B52 (26A24, 39A10)

Rieder, Andreas Wavelet multilevel solvers for linear ill-posed problems stabilized by Tikhonov regularization. (English summary) *Multiscale wavelet methods for partial differential equations*, 347–380, *Wavelet Anal. Appl., 6, Academic Press, San Diego, CA*, 1997. (Summary) **99f:65094** 65J20 (42C15)

— (*with* Louis, Alfred Karl; Maaß, Peter) ★ Wavelets. (German. German summary) Theorie und Anwendungen. [Theory and applications] Second edition. Teubner Studienbücher Mathematik. [Teubner Mathematical Textbooks] *B. G. Teubner, Stuttgart*, 1998. *ii*+330 *pp. ISBN* 3-519-12094-1 (Editors) **99k:42063** 42C15 (65R10, 65T20, 94A12)

— A domain embedding method for Dirichlet problems in arbitrary space dimension. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 4, 405–431. (Do Young Kwak) **99f:65187** 65N50 (65N30)

— A painless and direct way from integral to discrete fast wavelet transforms. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 781–785. (Fritz Keinert) **99i:42053** 42C15 (65T99)

Rieders, Maria (*with* Kim, Eungab; Van Oyen, Mark P.) General dynamic programming algorithms applied to polling systems. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1197–1221. (Florica Luban) **99i:90055** 90B35 (90C39)

Riedesel, Charles (*with* Deogun, Jitender S.) Hamiltonian cycles in permutation graphs. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 161–200. (Feng Tian) **99g:05122** 05C45 (68R10)

Riedi, Rudolf H. (*with* Mandelbrot, Benoit B.) Inversion formula for continuous multifractals. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 3, 332–354. (Norbert Patzschke) **99b:28012** 28A80

— (*with* Crouse, Matthew S.; Ribeiro, Vinay J.; Baraniuk, Richard G.) A multifractal wavelet model with application to network traffic. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 992–1018. (Summary) **99m:94014** 94A12 (90B12)

Riedl, Reinhard (*with* Domenig, Thomas; Jarchow, Hans) The domain space of an analytic composition operator. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 56–65. (Paul Bourdon) **99k:47063** 47B38 (30D55, 46E15)

Riedler, Jürgen (*with* Beirl, Wolfgang; Bittner, Elmar; Hauke, Alf; Homolka, Peter; Markum, Harald) Phase structure and graviton propagators in lattice formulations of four-dimensional quantum gravity. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 4, 1163–1173. 83C27 (83–08, 83C45)

Rief, H. (*with* Doyle, J. P.) Photon transport in three-dimensional structures treated by random walk techniques: Monte Carlo benchmark of ocean colour simulations. (English

summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 215–241. (*see* **99d:65008**) 86-08 (65C05)

Rieffel, Marc A. Metrics on states from actions of compact groups. (English summary) *Doc. Math.* **3** (1998), 215–229 (*electronic*). (A. I. Danilenko) **99k:46126** 46L87 (46L55, 58B30, 60B10)

Rieger, Georg Johann Der Quermaßkörper des regulären Tetraeders. [The quermass body of the regular tetrahedron] *Abh. Braunschweig. Wiss. Ges.* **48** (1997), 75–86 (1998). (Serguey M. Pokas') **99f:52006** 52A15

— On the modular figure and Ford-spheres. (English summary) *Math. Nachr.* **186** (1997), 225–242. (Summary) **99a:11082** 11H31 (52C17)

— The golden section and Newton approximation. *Fibonacci Quart.* **37** (1999), *no.* 2, 178–179. 11A55 (11B39)

Rieger, H. (*with* Iglói, F.; Karevski, Dragi) Random and aperiodic quantum spin chains: a comparative study. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **1** (1998), *no.* 4, 513–517. (Summary) **99g:82038** 82B44

Rieger, J. H. Notes on the complexity of exact view graph algorithms for piecewise smooth algebraic surfaces. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 205–229. (Summary) **99e:68164** 68U05 (52B55)

del Riego, L. *see* **Del Riego, L.**

Riemann, Georg Friedrich Bernhard The propagation of planar air waves of finite amplitude [Abh. Ges. Wiss. Göttingen **8** (1860), 43–65]. *Classic papers in shock compression science*, 109–128, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76N10 (35L99, 76L05)

— *see also* **Dugowson, Stéphane**, **99b:01011**; **Laugwitz, Detlef**, **99b:01012** *and* **Neuenschwander, E.**

Riemenschneider, Sherman D. (*with* Jia, Rong Qing; Zhou, Ding-Xuan) Approximation by multiple refinable functions. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 944–962. (J. W. Neuberger) **99f:39036** 39B12 (41A63, 65D15)

— (*with* Shen, Zuowei) Multidimensional interpolatory subdivision schemes. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2357–2381. (D. S. Lubinsky) **99j:65011** 65D05 (41A15)

— (*with* Jia, Rong Qing; Zhou, Ding-Xuan) Vector subdivision schemes and multiple wavelets. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1533–1563. (María Cristina Pereyra) **99d:42062** 42C15 (39B12, 65F15, 65T20)

— (*with* Ji, Hui; Shen, Zuowei) Multivariate compactly supported fundamental refinable functions, duals, and biorthogonal wavelets. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 2, 173–204. (Fabio Bagarello) **99m:42049** 42C15

Riemslagh, Kris (*with* Vierendeels, Jan; Dick, Erik) Two-dimensional incompressible Navier-Stokes calculations in complex-shaped moving domains. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 57–73. (Summary) **99d:76077** 76M25 (76D05)

Rieppo, Jarkko (*with* Kinnunen, Liisa; Laine, Ilpo) Remarks concerning $f'' + A(z)f = 0$ and some fields of meromorphic functions. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 309–315. (Summary) **99a:34010** 34A20 (12H05, 30D35)

Riera, J. (*with* Alcaide, David; Sicilia Rodríguez, J.) Approximate algorithms for the $P\|C_{\max}$ problem. (English summary) *Top* **4** (1996), *no.* 2, 345–359. (Summary) **99c:90069** 90B35 (90C90)

Riera, J. J. (*with* Fuentes, M. E.; Valdés-Sosa, Pedro A.; Ohárriz, Y.) EEG-distributed inverse solutions for a spherical head model. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 1009–1019. 78A55

Ries, Adam *see* **Gebhardt, Rainer**, **99m:00004**

Riese, Udo Kronecker-Weber via Kummer. *Exposition. Math.* **16** (1998), *no.* 3, 271–276. (Fernando Barrera-Mora) **99f:11142** 11R18 (11R32, 11R37)

— A subnormality criterion in finite groups related to character degrees. *J. Algebra* **201** (1998), *no.* 2, 357–362. (V. A. Belonogov) **99a:20005** 20C15

— (*with* Schmid, Peter Paul) Characters induced from Sylow subgroups. *J. Algebra* **207** (1998), *no.* 2, 682–694. (Gabriel Navarro) **99e:20013** 20C15 (20D05, 20D20)

Riesinger, Rolf Spreads admitting elliptic regulizations. (English summary) *J. Geom.* **60** (1997), *no.* 1-2, 127–145. (Norman L. Johnson) **99h:51013** 51E23

Riesz, Frigyes *see* **Thron, W. J.**, **99e:01022**

Rietdijk, R. H. Notes on big ray tracing. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 149–168. (Summary) **99k:86007** 86A15

Rietman, R. (*with* Martins, Márcio José; Nienhuis, Bernard) Intersecting loop model as a solvable super spin chain. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 3, 504–507. (Summary) **99c:82027** 82B23 (82B20)

lemarié-Rieusset, Pierre Gilles *see* **Lemarié-Rieusset, Pierre Gilles**

Riezler, Stefan Quantitative constraint logic programming for weighted grammar applications. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 346–365, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (Summary) **99f:68169** 68S05

Rifà, Josep A new algebraic algorithm to decode the ternary Golay code. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 271–274. (Summary) **99k:94061** 94B35

— Well-ordered Steiner triple systems and 1-perfect partitions of the N-cube. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 35–47 (*electronic*). (Ian Blake) **99i:05035** 05B07 (68R05, 94B25)

Rifai, Steven M. (*with* Johan, Zdeněk; Wang, Wen-Ping; Grisval, Jean-Pierre; Hughes, Thomas J. R.; Ferencz, Robert M.) Multiphysics simulation of flow-induced vibrations and aeroelasticity on parallel computing platforms. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 3-4, 393–417. 73K70 (73V20, 76M25)

Rifi, Khalid (*with* Hallin, Marc) A Berry-Esseen theorem for serial rank statistics. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 777–799. (M. Hušková) **99g:62064** 62G20

Rigal, Élisabeth *see* **Jaakko Hintikka**, **99f:03005**; **Hintikka, Jaakko**, (**99f:03005**) *and* (**99f:03005**)

Rigal, Laurent (*with* Adjamagbo, Kossivi) Sur les vecteurs cycliques et les éléments primitifs différentiels. [On cyclic vectors and differential primitive elements] *Lois d'algèbres et variétés algébriques* (*Colmar*, 1991), 117–133, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (María-Angeles Zurro) **99f:12004** 12H05

Rigal, Marie-Hélène Systèmes bihamiltoniens en dimension impaire. (English and French summaries) [Bi-Hamiltonian systems in odd dimension] *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 3, 345–359. (Carlo Morosi) **99c:58126** 58F18 (57R30, 58F07)

— Rigidité des feuilletages transversalement conformément parallélisables. (English summary) [Rigidity of transversally conformally parallelizable foliations] *Tohoku Math. J.* (2) **50** (1998), *no.* 3, 407–418. (R. E. Stong) **99f:57034** 57R30

Riganti, R. (*with* Rossani, Alberto) Singular perturbation techniques in the study of a dynamical system arising from the kinetic theory of atoms and photons. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 47–63. (Summary) **99e:82083** 82C40

Rigas, Alcibíades (*with* Chaves, Lucas M.) Hopf maps and triality. *Math. J. Okayama Univ.* **38** (1996), 197–208 (1998). (Elmer G. Rees) **99m:55016** 55Q52 (57T20)

— Hopf maps, triality and noncancellation phenomena. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 277–287. (Summary) **99e:55031** 55R99 (55P99, 55Q99)

Rigat, Stéphane Version explicite du principe fondamental d'Ehrenpreis-Malgrange-Palamodov dans le cas non homogène. (French summary) [Explicit version of the Ehrenpreis-Malgrange-Palamodov fundamental principle in the nonhomogeneous case] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 9, 777–799. (Norbert Ortner) **99g:32004** 32A25 (32A27, 32C30, 35C05, 35E20)

Rigatos, Gerasimos G. (*with* Tzafestas, Costas S.; Tzafestas, Spyros G.) Design of fault-tolerant control systems: passive and active approaches. (English summary) *Systems Sci.* **24** (1998), *no.* 4, 5–28. 93B50 (90B25)

Rigby, John F. Traditional Japanese geometry. *Math. Medley* **24** (1997), *no.* 2, 40–45. (Andrea Bréard) **99c:01007** 01A27 (01A50, 01A55)

Righetti, Pier Giorgio (*with* Zhukov, Mikhail Yu.; Ermakov, S. V.) Modeling of transport processes in the presence of substance-locking effects. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 743–776 (*electronic*). (Reinhard Redlinger) **99j:80006** 80A20 (35L65, 65M06, 76R50, 92E20)

Righini, Giovanni (*with* Trubian, Marco) Data-dependent bounds for the general and the asymmetric Stacker-Crane problems. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 235–242. (Summary) **99j:68056** 68Q25 (90B35)

Righter, Rhonda (*with* Shanthikumar, J. George) Independently expiring multiarmed bandits. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 453–468. (Peter Watts Jones) **99i:62180** 62L05 (62L15)

— (*with* Koole, Ger) Optimal control of tandem reentrant queues. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 4, 337–347. (Nicole Bäuerle) **99f:90037** 90B22 (60K25)

Rigo, A. (*with* Casas, M.; Plastino, Angel Luis) Quantal Euclidean mappings. (English summary) *Phys. A* **253** (1998), *no.* 1-4, 247–259. (Emanuel H. Knill) **99e:81065** 81Q99 (81P05)

Rigo, Pietro (*with* Berti, Patrizia) Sufficient conditions for the existence of disintegrations. (English summary) *J. Theoret. Probab.* **12** (1999), *no.* 1, 75–86. (Detlef Plachky) **99m:60005** 60A10 (28C05, 62B05)

Rigoli, Marco (*with* Salvatori, Maura; Vignati, Marco) Subharmonic functions on graphs. (English summary) *Israel J. Math.* **99** (1997), 1–27. (Fausto Di Biase) **99a:31006** 31C20 (31C12)

— (*with* Salvatori, Maura; Vignati, Marco) Geometry of graphs and manifolds. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 243–268. (Fei-Tsen Liang) **99c:53032** 53C21 (05C99, 31C05, 58G03)

— (*with* Brandolini, Luca; Setti, Alberto G.) Positive solutions of Yamabe-type equations on the Heisenberg group. *Duke Math. J.* **91** (1998), *no.* 2, 241–296. (Chu Li Fu) **99d:35027** 35H05 (35B05, 58G99)

— (*with* Salvatori, Maura; Vignati, Marco) Volume growth and p-subharmonic functions on complete manifolds. *Math. Z.* **227** (1998), *no.* 3, 367–375. (Alberto G. Setti) **99h:58177** 58G03 (35J60, 53C21)

Rigou, Zafiria (*with* Dassios, George) On the theory of exterior elastic Herglotz functions. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 3–41. (Joseph J. Roseman) **99g:73023** 73C02 (35Q72)

— (*with* Dassios, George) On the reconstruction of a rigid body in the theory of elasticity. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 911–923. (Paul Andrew Martin) **99a:73052** 73D25 (35Q72, 73D50)

Riguet, Jacques Calcul différentiel libre. [Free differential calculus] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 105, 43–49, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 57M25 (57M07)

— Deducibility and exactness. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 341–347. (Vinodkumar) **99k:08001** 08A02 (03G30, 18A10, 18D05, 55N99)

Riguzzi, Fabrizio (*with* Kakas, Antonios C.) Learning with abduction. (English summary) *Inductive logic programming* (*Prague*, 1997), 181–188, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)

— (*with* Lamma, Evelina; Mello, Paola; Milano, Michela) A system for abductive learning of logic programs. (English summary) *Logic programming and knowledge representation* (*Port Jefferson, NY*, 1997), 102–122, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99m:68033** 68N17 (68T05)

— (*with* Lamma, Evelina; Mello, Paola; Milano, Michela) Integrating induction and abduction in logic programming. (English summary) *Inform. Sci.* **116** (1999), *no.* 1, 25–54. (Summary) **99k:68029** 68N17

Rihm, Robert Implicit methods for enclosing solutions of ODEs. (English summary) SCAN-97 (Lyon). *J.UCS* **4** (1998), *no.* 2, 202–209 (*electronic*). (Summary) **99j:65118** 65L05 (65G10)

Riis, Søren Count(q) does not imply Count(p). (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 1–56. (Jan Krajíček) **99c:03093** 03F30 (03D15, 03F20)

— (*with* Beame, Paul) More on the relative strength of counting principles. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 13–35, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Roman Murawski) **99c:03082** 03F20

de Rijke, Maarten (*with* Montanari, Angelo) Two-sorted metric temporal logics. (English summary) Algebraic methodology and software technology (Montreal, PQ, 1995). *Theoret. Comput. Sci.* **183** (1997), *no.* 2, 187–214. (Zoran Ognjanović) **99c:03025** 03B45 (03B70, 68Q60)

— (*with* Monz, Christof) A tableaux calculus for ambiguous quantification. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 232–246, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B65)

— (*with* Kurtonina, Natasha) Expressiveness of concept expressions in first-order description logics. (English summary) *Artificial Intelligence* **107** (1999), *no.* 2, 303–333. (Summary) **99k:68181** 68T27

— *see also* **Advances in modal logic**

Rikken, G. L. J. A. (*with* Lacoste, D.; van Tiggelen, B. A.; Sparenberg, A.) Optics of a Faraday-active Mie sphere. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1636–1642. (Summary) **99b:78005** 78A10 (78A05)

Rikte, Sten (*with* Kristensson, Gerhard; Sihvola, Ari) Mixing formulas in the time domain. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1411–1422. (Summary) **99a:78014** 78A25

— (*with* Egorov, Igor; Karlsson, Anders) Time-domain Green dyadics for temporally dispersive, simple media. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3219–3240. (Summary) **99d:78025a** 78A40

— (*with* Egorov, Igor; Karlsson, Anders) Corrigenda: "Time-domain Green dyadics for temporally dispersive, simple media". *J. Phys. A* **31** (1998), *no.* 22, 5191. (Editors) **99d:78025b** 78A40

— The theory of the propagation of TEM-pulses in dispersive bi-isotropic slabs. (English summary) *Wave Motion* **29** (1999), *no.* 1, 1–21. (Summary) **99g:78022** 78A45 (78A40)

Riley, A. J. (*with* Lowson, M. V.) Development of a three-dimensional free shear layer. (English summary) *J. Fluid Mech.* **369** (1998), 49–89. (Murad Brutyan) **99g:76067** 76F10 (76–05)

Riley, David Michael Algebras with collapsing monomials. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 5, 521–528. (Yuliy Billig) **99g:16029** 16R40 (17B30, 20M07)

— (*with* Bakhturin, Yu. A.; Giambruno, Antonio) Group-graded algebras with polynomial identity. (English summary) *Israel J. Math.* **104** (1998), 145–155. (E. Formanek) **99c:16041** 16W50 (16R99, 16W30)

— (*with* Tasić, V.) Mal'cev nilpotent algebras. (English summary) *Arch. Math.* (*Basel*) **72** (1999), *no.* 1, 22–27. (Yuliy Billig) **99k:16050** 16R40 (20M07)

— (*with* Wilson, Mark Curtis) Associative rings satisfying the Engel condition. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 973–976. (Louis Rowen) **99f:16025** 16R50

Riley, J. J. (*with* Slinn, Donald N.) A model for the simulation of turbulent boundary layers in an incompressible stratified flow. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 550–602. (Summary) **99e:76084** 76M20 (76D10, 76F99, 76V05)

Riley, N. Unsteady fully-developed flow in a curved pipe. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 131–141. (Summary) **99f:76047** 76D10

— (*with* Yan, Baoshe) Viscous flow about a submerged circular cylinder induced by free-surface travelling waves. (English summary) *J. Fluid Mech.* **374** (1998), 173–194. (Summary) **99i:76049** 76D99 (76D10, 76D33)

— James Lighthill: the collected works. Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 5–9. (From the text) **99m:01086** 01A70

Riley, R. J. (*with* Neitzel, G. P.) Instability of thermocapillary-buoyancy convection in shallow layers. I. Characterization of steady and oscillatory instabilities. (English summary) *J. Fluid Mech.* **359** (1998), 143–164. (Summary) **99a:76053a** 76E15 (76R05)

— (*with* Benz, Simon; Hintz, P.; Neitzel, G. P.) Instability of thermocapillary-buoyancy convection in shallow layers. II. Suppression of hydrothermal waves. (English summary) *J. Fluid Mech.* **359** (1998), 165–180. (Summary) **99a:76053b** 76E15 (76R05)

Rim, Chaiho (*with* Oh, Phillial) The q-deformed oscillator representations and their coherent states of the su(1, 1) algebra. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 285–293. (Constantin Brif) **99b:81108** 81R50 (81R30)

Rim, Chong S. (*with* Narasimhan, Jagannathan; Nakajima, Kazuo) A graph theoretical approach for the yield enhancement of reconfigurable VLSI/WSI arrays. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 195–221. (Summary) **99j:68109** 68R10 (05C85, 68M07, 68Q35)

Rim, Dong Il (*with* Im, Sung Mo; Kim, Won Kyu) New existence of equilibria via connectedness. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 315–319. (Summary) **99k:47141** 47H10 (47N10, 54C60, 54H25, 90A14)

Rim, Kyung Soo (*with* Choi, U Jin) Weighted norm inequalities for $\mathscr{M}$-harmonic conjugate functions. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 437–444. (Summary) **99a:32002** 32A22

Rim, Seog-Hoon (*with* Teply, Mark L.) Weak Baer modules localized with respect to a torsion theory. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 173–176. (Theodore Faticoni) **99i:16058** 16S90 (16D70)

Rimányi, R. The hierarchy of $\Sigma^{2,0}$ germs. (English summary) *Acta Math. Hungar.* **77** (1997), *no.* 4, 311–321. (Maria Aparecida Soares Ruas) **99d:58029** 58C27 (57R35)

— (*with* Szücs, A.) Pontrjagin-Thom-type construction for maps with singularities. *Topology* **37** (1998), *no.* 6, 1177–1191. (Ştefan Papadima) **99g:57031** 57R45 (55Q52, 55R65, 57R90)

Rimoldi, Bixio (*with* Urbanke, Rüdiger) Lattice codes can achieve capacity on the AWGN channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 273–278. (Summary) **99a:94013** 94A24 (94A40)

Rinaldi, Giovanni (*with* Jünger, Michael) Relaxations of the max cut problem and computation of spin glass ground states. *Operations Research Proceedings* 1997 (*Jena*), 74–83, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C30 (82D30)

Rinaldi, Maurizio (*with* Bonora, Loriano; Chu, Chong-Sun) Perturbative anomalies of the M-5-brane. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 7, 12 *pp.* (*electronic*). (Daniel N. Kabat) **99i:81216** 81T50 (81T30)

— (*with* Cattaneo, Alberto S.; Cotta-Ramusino, Paolo) BRST symmetries for the tangent gauge group. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1316–1339. (Noriaki Ano) **99k:58054** 58E50 (53C80, 81T70)

Rinaldi, Sergio Love dynamics: the case of linear couples. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 181–192. (Summary) **99d:92057** 92J99 (34C99)

— (*with* De Feo, O.) Singular homoclinic bifurcations in tritrophic food chains. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 7–20. (Summary) **99g:92041** 92D40 (34C23, 34C37, 58F40)

— Laura and Petrarch: an intriguing case of cyclical love dynamics. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1205–1221 (*electronic*). (Summary) **99c:92067** 92J10 (34C05, 34E15)

Rinauro, Silvana (*with* Cutolo, Giovanni; Lennox, John C.; Smith, Howard; Wiegold, James) On infinite core-finite groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 169–175. (O. Yu. Dashkova) **99g:20062** 20F14

Rincon, Hugo *see* **Rincón-Mejía, Hugo Alberto**

Rincon, L. A. Estimates for the derivatives of diffusion semigroups. (English summary) *Electron. Comm. Probab.* **3** (1998), 65–74 (*electronic*). (Ren Ming Song) **99g:60144** 60J60 (47D07, 60H10)

Rincón-Mejía, Hugo Alberto (*with* Raggi, Francisco; Signoret P., Carlos J. E.) On some classes of R-modules and congruences in R-tors. *Comm. Algebra* **27** (1999), *no.* 2, 889–901. (J. K. Luedeman) **99m:16003** 16D10 (16S90)

Rincón Zapatero, J. P. Hyperbolic systems that arise in differential games. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 12 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 90D25 (35L99)

— (*with* Martínez Rodríguez, Julia; Martín-Herrán, G.) New method to characterize subgame perfect Nash equilibria in differential games. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 377–395. (Han Sheng Wu) **99c:90173** 90D25 (93C10)

Rindler, Wolfgang Birkhoff's theorem with Λ-term and Bertotti-Kasner space. (English summary) *Phys. Lett. A* **245** (1998), *no.* 5, 363–365. (Serguey M. Pokas') **99f:83014** 83C15 (83C20)

— (*with* Robinson, Ivor) A plain man's guide to bivectors, biquaternions, and the algebra and geometry of Lorentz transformations. (English summary) *On Einstein's path* (*New York*, 1996), 407–433, *Springer, New York*, 1999. (Stefano De Leo) **99m:83008** 83A05 (15A90)

Ring, Wolfgang (*with* Schöpf, Peter; Schwaiger, Jens) On functions continuous on certain classes of "thin" sets. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 205–224. (M. Laczkovich) **99b:26019** 26B05

— (*with* Peichl, G. H.) Optimization of the shape of an electromagnet: regularity results. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 997–1014. (Pekka Neittaanmäki) **99j:78012** 78A30 (35Q60, 49Q10)

Ringeissen, Christophe (*with* Kirchner, Claude) Higher-order equational unification via explicit substitutions. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 61–75, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (Summary) **99d:68218** 68T15 (03B35, 03B40, 68N17)

— (*with* Kirchner, Claude) Rule-based constraint programming. (English summary) *Fund. Inform.* **34** (1998), *no.* 3, 225–262. 68N17 (68T20)

Ringel, Claus Michael Quantum Serre relations. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 137–148, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (D. A. Jordan) **99i:16073** 16W30 (17B37)

— The preprojective algebra of a quiver. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 467–480, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Zygmunt Pogorzały) **99i:16031** 16G20 (16G70)

— (*with* Ágoston, István; Lukács, Erzsébet) Realizations of Frobenius functions. (English summary) *J. Algebra* **210** (1998), *no.* 2, 419–439. (V. V. Sergeĭchuk) **99j:16007** 16G70

Ringel, Gerhard Mathematik in Berlin. Streifzüge durch die Graphentheorie. [Mathematics in Berlin. Strolling through graph theory] *Mathematik aus Berlin*, 227–244, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 01A99 (05–03)

— (*with* Enomoto, Hikoe; Llado, Anna S.; Nakamigawa, Tomoki) Super edge-magic graphs. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 105–109. (Summary) **99h:05102** 05C78

Ringhofer, Christian A. (*with* Gobbert, Matthias K.) An asymptotic analysis for a model of chemical vapor deposition on a microstructured surface. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 737–752 (*electronic*). (Summary) **99a:76043** 76D30 (73B27, 80A32)

— (*with* Gardner, Carl L.) Approximation of thermal equilibrium for quantum gases with discontinuous potentials and application to semiconductor devices. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 780–805 (*electronic*). (J. R. Ockendon) **99c:81280** 81V70 (78A55)

Rini, Adriane A. The Aristotelicity of Thomason's semantics. *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 155-156, 255–270. (Jean-Pierre Ginisti) **99m:03015** 03B20 (01A20, 03–03, 03B45)

Rinne, D. (*with* Freiling, Chris; Thomson, Brian S.) A Riemann-type integral based on the second symmetric derivative. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 539–556. (James Foran) **99c:26004** 26A24 (26A42)

Rinott, Yosef (*with* Rotar, Vladimir) On coupling constructions and rates in the CLT for dependent summands with applications to the antivoter model and weighted U-statistics. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 1080–1105. (Qi Man Shao) **99g:60050** 60F05 (60J10, 60K35, 62E20)

— (*with* Lann, Avital; Mosheiov, Gur) Asymptotic optimality in probability of a heuristic schedule for open shops with job overlaps. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 63–68. (Summary) **99g:90060** 90B35 (60K30)

— (*with* Pfeffermann, Danny; Krieger, Abba M.) Parametric distributions of complex survey data under informative probability sampling. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1087–1114. (Mahendra K. Sharma) **99m:62015** 62D05

Rintoul, M. D. (*with* Berlyand, L.; Torquato, Salvatore) First-passage percolation, semi-directed Bernoulli percolation, and failure in brittle materials. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 603–623. (Summary) **99c:73080** 73M25 (73V30, 82B43)

zavala-Río, A. *see* **Zavala-Río, A.**

Río, Anna (*with* Cardona, G.; Gonzàlez Rovira, Josep; Lario, Joan-C.) On curves of genus 2 with Jacobian of GL_2-type. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 37–54. (Dino J. Lorenzini) **99j:11068** 11G10 (14H40)

Río, E. *see* **Río, Emmanuel**

García-Río, Eduardo *see* **García-Río, Eduardo**

Río, Emmanuel Strong approximation for set-indexed partial sum processes via KMT constructions. III. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 319–338 (*electronic*). (M. Csörgő) **99b:60049** 60F17 (62G99)

— (*with* Massart, P.) A uniform Marcinkiewicz-Zygmund strong law of large numbers for empirical processes. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 199–211, *North-Holland, Amsterdam*, 1998. (Miguel A. Arcones) **99k:60087** 60F15 (60B12)

— Distances minimales et distances idéales. (English and French summaries) [Minimal distances and ideal distances] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1127–1130. (Pawel Hitczenko) **99m:60025** 60E05 (60E15)

— Processus empiriques absolument réguliers et entropie universelle. (English and French summaries) [Absolutely regular empirical processes and universal entropy] *Probab. Theory Related Fields* **111** (1998), *no.* 4, 585–608. (Miguel A. Arcones) **99h:60075** 60F17 (60B12, 60F05)

mercader del Río, L. *see* **Mercader del Río, L.**

del Rio, Rafael (*with* Gesztesy, Fritz; Simon, Barry) Inverse spectral analysis with partial information on the potential. III. Updating boundary conditions. *Internat. Math. Res. Notices* **1997**, *no.* 15, 751–758. (Vjacheslav A. Yurko) **99a:34032** 34A55 (34B24, 34L05, 47E05, 81U40)

Rioboo, Renaud (*with* Moreno Maza, Marc) Polynomial gcd computations over towers of algebraic extensions. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 365–382, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **99c:13049** 13P05 (68Q40)

del Río Castillo, Rafael René On a problem of P. Hartman and A. Wintner. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 119–123, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Evgeney V. Cheremnikh) **99g:34060** 34B24 (34L05)

— *see also* **Congress: Mexican Mathematical Society, 99i:00016**

Rionero, Salvatore On the stability of fluid motions. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 9–31 (1998). (Zhi Min Chen) **99k:35151** 35Q35 (35B35, 76E25)

— On the magnetohydrodynamic stability. *Classical problems in mechanics*, 347–376, *Quad. Mat.*, 1, *Aracne, Rome*, 1997. (From the introduction) **99f:76057** 76E25 (76E15, 76W05)

— (*with* Flavin, James N.) On the temperature distribution in cold ice. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 4, 299–312. (Summary) **99c:86009** 86A40 (80A20)

— (*with* Mulone, G.) The rotating Bénard problem: new stability results for any Prandtl and Taylor numbers. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 6, 347–363. (Adelina Georgescu) **99i:76054** 76E15 (76E30, 76U05)

Riordan, Oliver (*with* Bollobás, Béla) Colorings generated by monotone properties. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 1, 1–25. (E. Rodney Canfield) **99m:05055** 05C15 (05A16, 60C05)

— An ordering on the even discrete torus. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 110–127 (*electronic*). (Douglas B. West) **99e:05077** 05C35 (05C78)

Ríos, Alejandro (*with* Barthe, Gilles; Kamareddine, Fairouz) Explicit substitutions for the $\lambda\Delta$-calculus. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 209–223, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (03B40, 68Q55)

— (*with* Kamareddine, Fairouz) Extending a λ-calculus with explicit substitution which preserves strong normalisation into a confluent calculus on open terms. (English summary) *J. Funct. Programming* **7** (1997), *no.* 4, 395–420. (Vladimiro Sassone) **99g:03013** 03B40 (68N15, 68Q42)

Ríos, Juan (*with* Barrios, Dolores; Malumbres, L.) Convergence conditions of genetic algorithms. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 231–241. (Summary) **99k:90125** 90C27 (68T05)

Rios, Ricardo Towards a nonparametric test of linearity for times series. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 339–358. (Ken-ichi Yoshihara) **99f:62112** 62M10 (62G10)

Rios-Bolívar, Miguel (*with* Zinober, Alan S. I.) A symbolic computation toolbox for the design of dynamical adaptive nonlinear controllers. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 73–88. (*see* **99a:93003**) 93B40 (93–04, 93B51, 93C40)

Ríos Insua, David On the foundations of decision making under partial information. (English summary) *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 93–100, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A05 (90A43)

— (*with* Müller, Peter[2]) Feedforward neural networks for nonparametric regression. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 181–193, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99e:62058** 62G05 (62F15, 62J02, 68T05)

Ríos-Insua, Sixto (*with* Mateos, Alfonso) Multi-attribute evaluation with imprecise vector utility. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fis. Nat.* (*Esp.*) **90** (1996), *no.* 3, 149–155. (Summary) **99i:90022** 90A10

— (*with* Mateos, Alfonso) Utility efficiency and its approximation. (English summary) *Top* **4** (1996), *no.* 2, 285–299. (Summary) **99h:90020** 90A09 (90C29)

— (*with* Mateos, Alfonso; Nevado, Gregorio) Solving discrete multiobjective optimization problems based on approximation. (English summary) *Opsearch* **35** (1998), *no.* 2, 93–105. 90C29 (90C27)

Riotto, A. (*with* Espinosa, J. R.; Ross, Graham G.) D-term inflation in superstring theories. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 461–477. (Summary) **99g:81158** 81T30

— (*with* Dienes, Keith R.; Dudas, Emilian; Gherghetta, Tony) Cosmological phase transitions and radius stabilization in higher dimensions. (English summary) *Nuclear Phys. B* **543** (1999), *no.* 1-2, 387–422. (Summary) **99m:81162** 81T25 (81V25)

perrin-Riou, Bernadette *see* **Perrin-Riou, Bernadette**

Ripa, P. (*with* Beron-Vera, F. J.) Free boundary effects on baroclinic instability. (English summary) *J. Fluid Mech.* **352** (1997), 245–264. (Shouhong Wang) **99a:76054** 76E20 (76V05, 86A05)

Ripamonti, Nicoletta Operator symbols and classical limit of the Wigner function. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 167–170. 81S30 (47N50)

— Classical limit of the matrix elements on quantized Lobachevskii plane. (English summary) *Math. Phys. Electron. J.* **4** (1998), *Paper* 2, 19 *pp.* (*electronic*). (Jacques Renaud) **99h:81114** 81S30 (81Q20)

fabre de la Ripelle, M. *see* **Fabre de la Ripelle, M.**

Ripken, Wolfgang (*with* Opfer, Gerhard) Complex version of Catalan's problem. (English summary) *Mitt. Math. Ges. Hamburg* **17** (1998), 101–112. (Maurice Mignotte) **99h:11033** 11D41

Riquer, V. (*with* Moshinsky, Marcos; del Sol Mesa, A.) Supermultiplicity and the relativistic Coulomb problem with arbitrary spin. (English summary) *Found. Phys.* **27** (1997), *no.* 8, 1139–1157. (A. M. Gavrilik) **99b:81037** 81Q05 (81Q10, 81R05)

arreola-Risa, Antonio *see* **Arreola-Risa, Antonio**

Risebro, Nils Henrik (*with* Colombo, Rinaldo M.) Continuous dependence in the large for some equations of gas dynamics. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1693–1718. (Stefan Diehl) **99h:35124** 35L65 (47H20, 76N15)

— (*with* Holden, Helge; Lie, Knut-Andreas) An unconditionally stable method for the Euler equations. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 76–96. (Summary) **99k:76110** 76M25 (76L05, 76N15)

Riskin, Adrian (*with* Wilson, Stephen E.) Edge-graceful labellings of odd cycles and their products. *Bull. Inst. Combin. Appl.* **24** (1998), 57–64. (Summary) **99c:05172** 05C78 (05C38)

Risler, Franck (*with* Rey, Christian) On the reuse of Ritz vectors for the solution to nonlinear elasticity problems by domain decomposition methods. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 334–340, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99h:73089** 73V20 (65B99, 65H05, 65Y05, 73C50)

— (*with* Rey, Christian) A Rayleigh-Ritz preconditioner for the iterative solution to large scale nonlinear problems. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 279–311. (R. P. Tewarson) **99f:65080** 65H10 (65B99, 65F50, 65Y05)

Risler, Jean-Jacques (*with* Hindry, Marc; Duby, Jean-Jacques; Laumond, Jean-Paul; Châtelet, Gilles; Schapira, Pierre; Bourguignon, Jean Pierre) Le rôle des mathématiques. [The role of mathematics] *Gaz. Math. No.* 74 (1997), 5–25. (Editors) **99g:00021** 00A30 (01A80)

Rispoli, Fred J. The monotonic diameter of traveling salesman polytopes. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 69–73. (Frank Werner) **99h:90086** 90C27 (68Q25)

— (*with* Cosares, Steven) A bound of 4 for the diameter of the symmetric traveling salesman polytope. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 373–380 (*electronic*). (P. F. Körner) **99f:90099** 90C27 (52A38)

Riss, E. On the scooping property of measures by means of disjoint balls. 24th Winter School on Abstract Analysis (Benešova Hora, 1996). *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 2, 71–82. (A. V. Uglanov) **99g:28030** 28C20 (46G12)

Riss, Uwe Volker Extension of the Hilbert space by J-unitary transformations. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 3, 288–313. (Lech Jakóbczyk) **99e:47041** 47B50 (47A40, 47N50, 81U99)

Rissanen, Jorma (*with* Barron, Andrew; Yu, Bin[1]) The minimum description length principle in coding and modeling. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2743–2760. (Summary) **99h:94032** 94A29 (94–02, 94A24)

— (*with* Shedler, G.) Failure-time prediction. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 193–210. (Summary) **99a:62143** 62N10

Risteski, Ice B. A simple reduction of the Poincaré differential equation to Cauchy matrix form. *Missouri J. Math. Sci.* **11** (1999), *no.* 1, 4–9. 34A30

Ristinmaa, M. (*with* Ottosen, N. S.) Viscoplasticity based on an additive split of the conjugated forces. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 2, 207–235. (Mircea Sofonea) **99d:73046** 73E10

Ristioja, Juha (*with* Aulaskari, Rauno; He, Yu Zan; Zhao, Ruhan) Q_p spaces on Riemann surfaces. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 449–464. (P. Lappan) **99g:30045** 30D45

Risto, Lahdelma *see* **Lahdelma, Risto**

Ristori, Gioia (*with* Montanari, Ugo) A concurrent functional semantics for a process algebra based on action systems. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 357–377. (Editors) **99c:68167** 68Q55 (68Q10)

del Ristoro, F. *see* **Del Ristoro, F.**

van Ritbergen, T. (*with* Schellekens, A. N.; Vermaseren, J. A. M.) Group theory factors for Feynman diagrams. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 1, 41–96. (Summary) **99j:81126** 81T18

Ritelli, Daniele (*with* Foschi, Silvia) "Stability" properties of generalized Lotka-Volterra predator prey systems. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 755–764. (Miklós Farkas) **99h:34063** 34C25 (34D99, 92D25)

de Ritis, R. (*with* Capozziello, S.; Dymnikova, I.; Rubano, C.; Scudellaro, P.) Reconstruction of the state equation and the scalar field potential in inflationary cosmology. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 291–300, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83F05

— (*with* Capozziello, S.; Marino, A. A.) Recovering the effective cosmological constant in extended gravity theories. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1247–1272. (Summary) **99c:83075** 83D05

Ritoré, Manuel Index one minimal surfaces in flat three space forms. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1137–1153. (Rabah Souam) **99h:58041** 58E12 (53A10)

Ritov, Ya'acov (*with* Bickel, Peter J.; Klaassen, Chris A. J.; Wellner, Jon A.) ★ Efficient and adaptive estimation for semiparametric models. (English summary) Reprint of the 1993

original. *Springer-Verlag, New York*, 1998. *xxii+560 pp. ISBN* 0-387-98473-9 (Editors) **99c:62076** 62G05 (62F10, 62F12, 62G20)

— (*with* Bickel, Peter J.; Rydén, Tobias) Asymptotic normality of the maximum-likelihood estimator for general hidden Markov models. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1614–1635. (Tobias Rydén) **99j:62120** 62M09 (62F12)

Rittatore, Alvaro *see* **Brion, Michel, 99m:14005**

Rittaud, Benoît Équidistribution presque partout modulo 1 de suites oscillantes. (English and French summaries) [Uniform distribution almost everywhere modulo 1 of some oscillating sequences] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 339–342. (N. G. Moshchevitin) **99k:11119** 11K31

Rittenberg, Vladimir (*with* Arndt, Peter F.; Heinzel, Thomas) Stochastic models on a ring and quadratic algebras. The three-species diffusion problem. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 833–843. (Summary) **99h:82033** 82B31 (82B20)

— (*with* Alcaraz, F. C.; Dasmahapatra, Srinandan) *N*-species stochastic models with boundaries and quadratic algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 845–878. (Summary) **99h:82034** 82B31 (82B20)

Ritter, Eike (*with* Ghani, Neil; de Paiva, V. C. V.) Explicit substitutions for constructive necessity. *Automata, languages and programming* (*Aalborg*, 1998), 743–754, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 03B40 (03B70, 68N15)

Ritter, Jürgen (*with* Gruenberg, Karl W.; Weiss, Alfred R.) On Chinburg's root number conjecture. *Jahresber. Deutsch. Math.-Verein.* **100** (1998), *no.* 1, 36–44. (Nigel Byott) **99a:11128** 11R33 (11R42, 19A31)

Ritter, Stefan (*with* Dobner, Hans-Jürgen) Attacking a conjecture in mathematical physics by combining methods of computational analysis and scientific computing. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 287–295. (Summary) **99b:78007** 78A30 (45L05, 45P05, 65R99, 78–08)

— (*with* Dobner, Hans-Jürgen) Numerical computation of Lamé functions. (English summary) *Transform methods & special functions, Varna* '96, 91–99, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 65D20 (33E10)

— On a class of Robin boundary value problems in physical geodesy. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3916–3926. (Summary) **99c:86004** 86A30

— (*with* Dobner, Hans-Jürgen) Reliable computation of eigenvalues of the magnetostatic integral operator. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 8, 1–10. (Summary) **99a:78003** 78–08 (65R20, 78A30)

— (*with* Hornberg, A.) An integral equation method for the flow in an infinite tunnel. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 731–742. (Summary) **99i:76025** 76B99 (45L05, 65R20, 76M25)

— (*with* Kirsch, Andreas) The Nyström method for solving a class of singular integral equations and applications in 3D-plate elasticity. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 2, 177–197. (Nikolay Y. Tikhonenko) **99k:65117** 65R20 (45L05, 73K10)

Ritter, Stefan Matthias On a linear Diophantine problem of Frobenius: extending the basis. (English summary) *J. Number Theory* **69** (1998), *no.* 2, 201–212. (Béla Vizvári) **99b:11023** 11D04

Ritus, V. I. (*with* Nikishov, A. I.) Rindler solutions and particle sources. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 522–526, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81159** 81T20 (83C47)

Ritz, Adam The beta-function in $N = 2$ supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **434** (1998), *no.* 1-2, 54–60. (Summary) **99d:81092** 81T17 (81T13, 81T60)

Ritz, K. (*with* Davidson, F. A.; Sleeman, B. D.; Rayner, A. D. M.; Crawford, J. W.) Travelling waves and pattern formation in a model for fungal development. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 589–608. (Joseph So) **99d:92024** 92D25 (35K57, 35Q80, 92C15)

Ritzberger, Klaus (*with* Güth, Werner; Kirchsteiger, Georg) Imperfectly observable commitments in *n*-player games. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 54–74. (Akira Okada) **99f:90191** 90D06 (90A35, 90D10)

bonilla Rius, Elisa *see* **Bonilla Rius, Elisa**

Rius, Juan M. Integral formulation of the measured equation of invariance: an sparse matrix boundary element method. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 21–32, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65F50, 65R20)

Rivadulla, Andrés The Popperian revolution in the methodology of science. *Wittgenstein and the Vienna Circle* (*Spanish*) (*Toledo*, 1994), 305–316, *Estudios*, 49, *Ed. Univ. Castilla-La Mancha, Cuenca*, 1998. (*see* **99b:00022**) 00A30 (01A60)

Rival, I. *see* **ORDAL '96, 99m:68011**

Rivals, E. (*with* Delahaye, J.-P.) Optimal representation in average using Kolmogorov complexity. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 261–287. (Cristian Calude) **99c:68135** 68Q30

Rivas, Juan Antonio (*with* Jiménez, Mariano) Fuzzy number approximation. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 1, 69–78. (E. S. Lee) **99k:04001** 04A72 (03E72)

Rivas, M. (*with* Aguirregabiria, J. M.; Bel, Lluis; Hernández Martin, Aníbal) Regular order reductions of ordinary and delay-differential equations. (English summary) *Comput. Phys. Comm.* **116** (1999), *no.* 1, 95–105. 65–04 (65L99)

Rivas, S. (*with* Merentes, N.; Nikodem, Kazimierz) Continuity of the superposition of set-valued functions. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 43–48. (Isaac V. Shragin) **99a:47114** 47H30 (54C05, 54C60)

Rivas Rodríguez, M. Teresa (*with* Extremiana Aldana, J. Ignacio; Hernández, Luis Javier) Closed model categories for $[n, m]$-types. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 10, 250–268 (*electronic*). (Pilar C. Carrasco) **99c:55010** 55P15 (18D15, 55U35)

Rivasseau, Vincent (*with* Magnen, Jacques; Poirot, Gilles) Ward-type identities for the two-dimensional Anderson model at weak disorder. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 331–358. (Summary) **99g:82040** 82B44

Rivat, Joël (*with* Deléglise, Marc) Computing $\psi(x)$. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1691–1696. (Simon T. Wong) **99a:11147** 11Y35 (11N56)

— (*with* Sárközy, András; Stewart, C. L.) Congruence properties of the Ω-function on sumsets. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 1–18. (Y.-F. S. Pétermann) **99m:11112** 11N64 (11N36)

Rivaud, J. J. Maps. (Spanish) *Miscelánea Mat. No.* 27 (1998), 39–59. 00A69 (01A99)

Rivelles, V. O. *see* **School: Particles and Fields, 99f:81003**

Rivenc, François Quantifier n'est pas jouer: absolutisme et relativisme dans la GTS. [To quantify is not to play: absolutism and relativity in GTS] *Jaakko Hintikka* (*Paris*, 1994), 149–169, *Probl. Controv., Vrin, Paris*, 1998. (*see* **99f:03005**) 03B65

— *see also* **Sandu, Gabriel, (99f:03005)**

gato-Rivera, Beatriz *see* **Gato-Rivera, Beatriz**

muñoz Rivera, Jaime E. *see* **Muñoz Rivera, Jaime E.**

diaz-Rivera, Luz M. *see* **Diaz-Rivera, Luz M.**

Rivera, M. J. *see* **Rivera Ortún, María José**

Rivera, R. (*with* Villarroel, D.) Response to: "Comment on: 'An exactly solvable two-body problem with retarded interactions and radiation reaction in classical electrodynamics' " [J. Math. Phys. **39** (1998), no. 10, 5663; 1 642 281] by V. Hnizdo. *J. Math. Phys.* **39** (1998), *no.* 10, 5664. 78A35

— *see also* **Hnizdo, V.**

Rivera-Campo, Eduardo (*with* Neumann-Lara, Víctor; Urrutia, Jorge) A note on covering the edges of a graph with bonds. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 633–636. (Summary) **99i:05170** 05C70

Rivera-Gallego, Wilson A genetic algorithm for circulant Euclidean distance matrices. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 197–208. (Summary) **99d:65144** 65F99

Rivera Ortún, María José (*with* López Molina, J. A.) On projective tensor products with complemented subspaces isomorphic to l^1. (English summary) *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 414–420. (K. Floret) **99e:46026** 46B28 (46M05)

Rivero, Jesus *see* **Rivero Mendoza, Jesús**

Rivero, Margarita (*with* Bonilla, B.; Trujillo, Juan J.) On fractional order continuity, integrability and derivability of real functions. (English summary) *Transform methods & special functions, Varna* '96, 48–55, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26005** 26A33

— (*with* Hayek Calil, Nácere; Trujillo, Juan J.; Bonilla, B.; Moreno Piquero, Juan Carlos) On existence of solutions of ordinary differential equations of fractional order. (English summary) *Transform methods & special functions, Varna* '96, 150–158, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26006** 26A33 (34A12)

— (*with* Trujillo, Juan J.; Bonilla, B.) On a new generalized Taylor's formula. (English summary) *Transform methods & special functions, Varna* '96, 508–516, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26010** 26A33

Rivero Mendoza, Jesús (*with* Tineo, Antonio) Cooperative systems and time-varying discrete diffusion for single species. *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 346–357. (Hal Leslie Smith) **99a:34123** 34C25 (92D25)

Rivers, A. D. (*with* Brough, D.) A symmetrical-time resolution of the clock paradox. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 2, 200–212. 83A05

Rivest, Louis-Paul (*with* Ghoudi, Kilani; Khoudraji, Abdelhaq) Propriétés statistiques des copules de valeurs extrêmes bidimensionnelles. (English and French summaries) [Statistical properties of copulas of two-dimensional extrema] *Canad. J. Statist.* **26** (1998), *no.* 1, 187–197. (Summary) **99b:62091** 62H05 (62E10)

— Some linear models for estimating the motion of rigid bodies with applications to geometric quality assurance. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 632–642. (Shyamal D. Peddada) **99g:62148** 62N10 (62H12)

Rivest, Ronald L. *see* **Menezes, Alfred J. et al., 99g:94015**

Rivet, J. P. (*with* Debbasch, F.) A diffusion equation from the relativistic Ornstein-Uhlenbeck process. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1179–1199. (M. Lawrence Glasser) **99d:82049** 82C31

Rivier, Nicolas (*with* Aste, Tomaso) Organized packing. *Forma* **11** (1996), *no.* 3, 223–231. (Igor Rivin) **99a:49047** 49Q10 (49Q20, 52C17, 53A10)

Rivière, Alain Nervure d'un ouvert d'un espace euclidien. (English summary) [The rib of an open set in Euclidean space] *J. Sci. Univ. Tehran Int. Ed.* **1** (1996), *no.* 1, 1–24. (Tomás Domínguez Benavides) **99g:53010** 53A07

Rivière, Tristan Minimizing fibrations and p-harmonic maps in homotopy classes from S^3 into S^2. (English summary) *Comm. Anal. Geom.* **6** (1998), *no.* 3, 427–483. (Martin Fuchs) **99f:58052** 58E20

— A remark on the use of differential forms for the Skyrme problem. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 229–238. (U. D'Ambrosio) **99m:58059** 58E15 (49Q20)

Rivin, Igor *see* **Epstein birthday schrift, 99h:00016**

Rivolo, M. T. (*with* Simi, A.) The computation of square and cube roots in Italy from Fibonacci to Bombelli. (Italian) *Arch. Hist. Exact Sci.* **52** (1998), *no.* 2, 161–193. (Massimo Galuzzi) **99d:01015** 01A35 (01A40)

Rixen, Daniel J. Dual Schur complement method for semi-definite problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 341–348, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (15A06, 65F10, 73V20)

— (*with* Farhat, Charbel; Lacour, Catherine) Incorporation of linear multipoint constraints in substructure based iterative solvers. I. A numerically scalable algorithm. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 6, 997–1016. (Summary) **99f:73080** 73V05

— (*with* Farhat, Charbel) A simple and efficient extension of a class of substructure based preconditioners to heterogeneous structural mechanics problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 4, 489–516. (Summary) **99i:73072** 73V05

Rizea, M. (*with* Ixaru, L. Gr.) Four step methods for $y'' = f(x, y)$. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 1, 87–99. (Summary) **99d:65214** 65L06 (34A45, 65L05, 65L20)

Riznyk, V. V. Combinatorial configurations in optimization problems of information technology. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 2, 41–48, 153. 90C90 (90C27)

Rizos, D. C. (*with* Karabalis, D. L.) A time domain BEM for 3-D elastodynamic analysis using the *B*-spline fundamental solutions. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 108–115. 73V10

Rizos, J. (*with* Kiritsis, Elias; Kounnas, Costas; Petropoulos, P. M.) Universality properties of $N = 2$ and $N = 1$ heterotic threshold corrections. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 141–171. (Summary) **99b:81196** 81T30

— (*with* Kanti, P.; Mavromatos, Nick E.; Tamvakis, K.; Winstanley, Elizabeth) Dilatonic black holes in higher curvature string gravity. II. Linear stability. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6255–6264. (Summary) **99m:83116** 83C57 (83E30)

Rizvi, S. M. Kamil (*with* Ahuja, Gopi) The extended Hankel transformation on M'_μ-space and its representation. *J. Maulana Azad College Tech.* **30** (1997), 83–92. 44A15

Rizvi, Syed A. (*with* Wang, Lin-Cheng; Nasrabadi, Nasser M.) A modular neural network vector predictor for predictive image coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 8, 1198–1217. 94A12 (68U10, 90B22)

Rizza, Giovanni Battista (*with* Ianuş, Stere) Totally umbilical submanifolds: some remarks. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 213–218 (1998). (Bang-yen Chen) **99e:53075** 53C40

— (*with* Ianuş, Stere) Some submanifolds of a para-Kähler manifold. (Italian summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 71–80. (Andrew Bucki) **99e:53076** 53C40 (53C15)

bassotti Rizza, Lucilla *see* **Bassotti Rizza, Lucilla**

Rizzato, F. B. (*with* Corso, G.; Pakter, R.; Caldas, I. L.) Bifurcation-reconnection sequences in nonpendular resonance. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 377–392. (Summary) **99a:70030** 70K20 (70H05, 78A35)

— (*with* Lopes, Silvia) Chaos and energy redistribution in the nonlinear interaction of two spatio-temporal wave triplets. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 13–25. (Summary) **99b:76099** 76X05 (58F13, 58F40)

Rizzi, Alfredo *see* **Advances in data science and classification, 99k:62003**

Rizzi, Anthony Angular momentum in general relativity: a new definition. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 6, 1150–1153. (Summary) **99d:83037** 83C30

Rizzi, Egidio (*with* Loret, Benjamin) Strain localization in fluid-saturated anisotropic elastic-plastic porous media. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 2, 235–251. (Summary) **99j:73053** 73E05 (73Q05, 76S05)

— (*with* Loret, Benjamin) Strain localization in fluid-saturated anisotropic elastic-plastic porous media with double porosity. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 3, 503–530. (Summary) **99k:73103** 73N20 (73E99, 73Q05, 76S05)

Rizzi, Romeo Packing T-cuts and T-joins. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 201–204. 05C70

— (*with* Caprara, Alberto) Improving a family of approximation algorithms to edge color multigraphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 11–15. (Summary) **99f:68151** 68R10 (05C15, 05C85, 68Q25)

— Kōnig's edge coloring theorem without augmenting paths. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 87. 05C15

— (*with* Battiti, Roberto; Bertossi, A.) Randomized greedy algorithms for the hypergraph partitioning problem. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 21–35, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68007**) 68M10 (68Q35, 68R10, 90C35)

Rizzo, F. J. (*with* Martin, Paul Andrew; Cruse, T. A.) Smoothness-relaxation strategies for singular and hypersingular integral equations. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 5, 885–906. (Summary) **99c:65248** 65R20 (45E05, 45L05)

Rizzo, Ottavio G. Average root numbers in families of elliptic curves. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1597–1603. (Susan Howson) **99i:11042** 11G05 (11G40)

lo-Rizzo, Vilfrido *see* **Lo-Rizzo, Vilfrido**

Rjasanow, Sergej (*with* Wagner, Wolfgang[1]) A generalized collision mechanism for stochastic particle schemes approximating Boltzmann-type equations. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 165–178. (Hans Babovsky) **99e:82084** 82C40 (76M35, 76P05)

— (*with* Schreiber, Thomas[1]; Wagner, Wolfgang[1]) Reduction of the number of particles in the stochastic weighted particle method for the Boltzmann equation. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 382–405. (Reinhard Illner) **99i:82034** 82C40 (45K05, 65C05, 76P05)

— (*with* Wagner, Wolfgang[1]) On time counting procedures in the DSMC method for rarefied gases. (English summary) *Math. Comput. Simulation* **48** (1998), *no.* 2, 151–176. 65C05 (65M70, 76M35, 76P05)

— The structure of the boundary element matrix for the three-dimensional Dirichlet problem in elasticity. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 3, 203–217. (Vitoriano Ruas) **99g:65118** 65N38

Roach, G. F. (*with* Pavlov, Boris S.; Yafyasov, Adil) Resonance scattering and design of quantum gates. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 336–351, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99h:68045** 68Q05 (81P99)

— (*with* Argyropoulos, E.; Kiriaki, Kiriakie) A modified Green's-function technique for the exterior Dirichlet problem in linear elasticity. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 275–295. (Igor Yu. Chudinovich) **99g:73020** 73C02 (35Q72, 73D30)

Roach, Robert L. (*with* Yanping, Shi) Unconditional stability, monotonicity and accuracy of the linear exponential interpolation function for the Burgers equation. (English summary) *Comput. & Fluids* **27** (1998), *no.* 8, 963–983. (Summary) **99d:76078** 76M25

Roache, Patrick J. ★ Elliptic marching methods and domain decomposition. Symbolic and Numeric Computation Series. *CRC Press, Boca Raton, FL*, 1995. xvi+190 *pp. ISBN* 0-8493-7378-6 (S. F. McCormick (Zbl 842.65080)) **99d:65354** 65N55 (76M25)

Roan, Shi-shyr Schwarz's function and chiral Potts model. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 3, 242–261. (Rinat M. Kashaev) **99k:82025** 82B23 (14H15, 81T60, 82B20)

— (*with* Klemm, Albrecht Otto; Lian, Bong H.; Yau, Shing-Tung) Calabi-Yau four-folds for M- and F-theory compactifications. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 515–574. (Mark Gross) **99h:14042** 14J32 (14J35, 32J18, 81T30)

Roanes-Lozano, Eugenio (*with* Laita, Luis M.; Roanes-Macías, Eugenio) A polynomial model for multi-valued logics with a touch of algebraic geometry and computer algebra. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 83–99. (János Bagyinszki) **99j:03022** 03B50 (68Q40)

— *see also* **Non-standard applications of computer algebra, 99a:00035**

Roanes-Macías, Eugenio (*with* Roanes-Lozano, Eugenio; Laita, Luis M.) A polynomial model for multi-valued logics with a touch of algebraic geometry and computer algebra. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 83–99. (János Bagyinszki) **99j:03022** 03B50 (68Q40)

Robalewska, Hanna Random graphs generated by the star 2-process. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 2, 125–149. (Andrzej Ruciński) **99e:05111** 05C80 (60C05)

Robart, Thierry (*with* Kamran, Niky) A compatible analytic manifold structure for Lie pseudogroups of infinite type. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 111–120, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Kazushige Ueno) **99g:58133** 58H05 (22E65)

Robb, Arthur On branch curves of algebraic surfaces. (English summary) *Singularities and complex geometry* (*Beijing*, 1994), 193–221, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99e:14018** 14E20 (14J28)

Robberto, M. (*with* Bertero, Mario; Boccacci, Patrizia; Di Benedetto, Fabio) Restoration of chopped and nodded images in infrared astronomy. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 345–372. 65D99 (65F99)

Robbiani, Marcello On the arithmetic of isotropic del Pezzo surfaces of degree six. (English summary) *J. Reine Angew. Math.* **503** (1998), 1–45. (Klaus Künnemann) **99m:14041** 14G05 (11G35, 14J45)

Robbiano, L. *see* **Robbiano, Luc**

Robbiano, Lorenzo (*with* Valla, Giuseppe) Hilbert-Poincaré series of bigraded algebras. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 521–540. (Ralf Fröberg) **99j:13011** 13D40 (13A30)

Robbiano, Luc (*with* Bel, Liliane; Oppenheim, G.; Viano, M. C.) Distribution processes with stationary fractional increments. (English and French summaries) *Systèmes différentiels fractionnaires* (*Paris*, 1998), 43–54, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (V. V. Anh) **99m:60080** 60H05

— (*with* Zuily, Claude) Uniqueness in the Cauchy problem for operators with partially holomorphic coefficients. *Invent. Math.* **131** (1998), *no.* 3, 493–539. (Masafumi Yoshino) **99e:35004** 35A20 (35A10)

— (*with* Bel, Liliane; Oppenheim, G.; Viano, M. C.) Linear distribution processes. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 43–58. (Summary) **99c:60083** 60G20 (60G10, 60G17)

Robbie, Desmond (*with* Svetlichny, Sergey) Wallace semigroups and topological loops. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 329–336 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Jean-Paul Pier) **99e:22007** 22A15 (54D20, 54H11)

— (*with* Comfort, W. W.; Morris, Sidney A.; Svetlichny, Sergey; Tkachenko, M. G.) Suitable sets for topological groups. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 25–46. (Klaas Pieter Hart) **99g:54033** 54H11 (22A05, 54A25)

Robbins, J. M. (*with* Foxman, J. A.) Periodic orbit Maslov indices for systems with time-reversal symmetry. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8187–8190. (Christian Grosche) **99c:81044** 81Q50 (58F22, 81Q20)

Robbins, Marian E. Composition operators between Bergman spaces. (English summary) *Studies on composition operators* (*Laramie, WY*, 1996), 175–189, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (Miroslav Engliš) **99a:47048** 47B38 (30H05, 46E20)

Robbins, Neville Some new partition identities. (English summary) *Ars Combin.* **50** (1998), 193–206. (Richard P. Lewis) **99k:11160** 11P81 (05A19)

— Wilson's theorem via Eulerian numbers. *Fibonacci Quart.* **36** (1998), *no.* 4, 317–318. (Mihai Caragiu) **99g:11006** 11A07 (11B68)

— Lucas partitions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 387–396. (Richard P. Lewis) **99a:11115** 11P81 (11B39)

Robdera, Mangatiana A. (*with* Saab, Paulette) Convolution operators associated with vector measures. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 3, 367–384. (Françoise Lust-Piquard) **99k:47068** 47B38 (43A20, 46E40, 47B10)

Röbenack, Klaus (*with* Reinschke, Kurt J.) Digraph based determination of Jordan block size structure of singular matrix pencils. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 495–507. (Frank Uhlig) **99e:93021** 93B25 (05C50, 15A21, 15A22, 34A09)

Robert, Aline (*with* de Guzmán, Miguel; Hodgson, Bernard R.; Villani, Vinicio) Difficulties in the passage from secondary to tertiary education. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 747–762 (*electronic*). (*see* **99e:00025**) 00A35

Robert, Carl (*with* Alligood, Kathleen T.; Ott, Edward; Yorke, James A.) Outer tangency bifurcations of chaotic sets. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 22, 4867–4870. (Summary) **99b:58165** 58F13

Robert, Christian P. (*with* Goutis, Constantinos) Choice among hypotheses using estimation criteria. (English and French summaries) *Ann. Économ. Statist.* **1997**, *no.* 46, 1–22. (Ram Shanmugam) **99j:62021** 62F03

— (*with* Richardson, Sylvia) Markov chain Monte Carlo methods. *Discretization and MCMC convergence assessment*, 1–25, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 65C10 (60J05, 60J10, 60J27, 62F15)

— (*with* Cellier, Dominique) Convergence control of MCMC algorithms. *Discretization and MCMC convergence assessment*, 27–46, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J05 (60F05, 60J10)

— (*with* Philippe, Anne) Linking discrete and continuous chains. *Discretization and MCMC convergence assessment*, 47–66, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J10 (60J27, 65C10)

— (*with* Guihenneuc-Jouyaux, Chantal) Valid discretization via renewal theory. *Discretization and MCMC convergence assessment*, 67–97, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J27 (60J05, 60K05)

— (*with* Chauveau, Didier; Diebolt, Jean) Control by the central limit theorem. *Discretization and MCMC convergence assessment*, 99–126, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J10 (60F05, 60J05, 62G10)

— (*with* Gruet, Marie-Anne; Philippe, Anne) Estimation of exponential mixtures. *Discretization and MCMC convergence assessment*, 161–173, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 62F15

— (*with* Goutis, Constantinos) Model choice in generalised linear models: a Bayesian approach via Kullback-Leibler projections. (English summary) *Biometrika* **85** (1998), *no.* 1, 29–37. (Mohan Delampady) **99m:62109** 62J12 (62F15)

— (*with* Guihenneuc-Jouyaux, Chantal) Discretization of continuous Markov chains and Markov chain Monte Carlo convergence assessment. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1055–1067. (Summary) **99f:60124** 60J10 (60J27, 62F15, 65C05)

— (*with* Fraisse, Anne-Marie; Roy, Madeleine) Semi-tail upper bounds on admissible estimators in continuous exponential families with a nuisance parameter. (English summary) *Statist. Decisions* **16** (1998), *no.* 2, 147–162. (Kurt Hoffmann) **99f:62018** 62C15 (62F10)

— (*with* Berger, James O.; Philippe, Anne) Estimation of quadratic functions: noninformative priors for non-centrality parameters. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 359–375. (N. Giri) **99e:62101** 62H12 (62F10, 62F15)

— (*with* Philippe, Anne) A note on the confidence properties of reference priors for the calibration model. (English summary) *Test* **7** (1998), *no.* 1, 147–160. (Françoise Garcia-Brouaye) **99k:62060** 62F15 (62J05)

— *see also* **Discretization and MCMC convergence assessment, 99m:65012**

Robert, Didier Semi-classical approximation in quantum mechanics. A survey of old and recent mathematical results. Mathematical results in quantum mechanics (Ascona, 1996). *Helv. Phys. Acta* **71** (1998), *no.* 1, 44–116. (H. Hogreve) **99h:81052** 81Q20 (47N50, 81–02, 81U05)

— (*with* Laptev, A.; Safarov, Yu.) Remarks on the paper of V. Guillemin and K. Okikiolu: "Subprincipal terms in Szegö estimates" [Math. Res. Lett. **4** (1997), no. 1, 173–179; MR 97k:58169]. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 57–61. (Leonid Friedlander) **99g:58126** 58G25 (35P20, 58G15, 58G18)

— (*with* Bruneau, Vincent) Asymptotics of the scattering phase for the Dirac operator: high energy, semi-classical and non-relativistic limits. (English summary) *Ark. Mat.* **37** (1999), *no.* 1, 1–32. (Hitoshi Kitada) **99m:35179** 35P20 (35J99, 47A40, 47N50, 81U05)

Robert, Philippe Space-time properties of a storage process. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 189–192. (Wolfgang Stadje) **99m:60148** 60K30 (90B22)

Robert, Raoul On the gravitational collapse of stellar systems. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3827–3840. (Summary) **99m:85002** 85A05

— (*with* Clopeau, Thierry; Mikelić, Andro) On the vanishing viscosity limit for the 2D incompressible Navier-Stokes equations with the friction type boundary conditions. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1625–1636. (Summary) **99g:35102** 35Q30 (73D30, 76D05)

— (*with* Mikelić, Andro) On the equations describing a relaxation toward a statistical equilibrium state in the two-dimensional perfect fluid dynamics. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1238–1255 (*electronic*). (Alexandre J. Chorin) **99d:76051** 76F99 (76M35, 82D15)

Robert, Sophie Computing the singular values of a complex matrix using one-sided Jacobi method on the Intel-Paragon machine. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 6, 609–620. 65F30 (65Y05)

lachand-Robert, Thomas *see* **Lachand-Robert, Thomas**

Robert, Yves (*with* Boulet, Pierre; Dongarra, Jack J.; Vivien, Frédéric) Static tiling for heterogeneous computing platforms. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 547–568. 68M20

Roberts, A. J. (*with* Mei, Zhen) Equations for turbulent flood waves. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 342–352, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:86005** 86A05 (76F99)

— (*with* Suslov, S. A.) Similarity, attraction and initial conditions in an example of nonlinear diffusion. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998/99), (*E*), *E*1–*E*25 (*electronic*). 35K55 (35B99)

— (*with* Smith, David H.) Branching behavior of standing waves—the signatures of resonance. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1051–1064. (Summary) **99m:76024** 76B15

Roberts, A. P. (*with* Parkes, N. E.; Newmann, M. M.) A variational approach to the polynomial optimization of multivariable control with coloured noise at the controller output. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1037–1048. (Summary) **99d:93031** 93B52 (49M30, 93E20)

Roberts, Alan (*with* Symvonis, Antonios) On-line matching routing on trees. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 282–291, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68M10

Roberts, Boyd B. (*with* Washington, Lawrence C.) The modularity of some Q-curves. (English summary) *Compositio Math.* **111** (1998), *no.* 1, 35–49. (Conjeeveram S. Rajan) **99a:11072** 11G05 (11G18)

Roberts, Brooks Tempered representations and the theta correspondence. (English summary) *Canad. J. Math.* **50** (1998), *no.* 5, 1105–1118. (Goran Muić) **99j:11054** 11F70 (11F27, 22E50)

— Nonvanishing of Gl(2) automorphic *L* functions at 1/2. *Math. Ann.* **312** (1998), *no.* 3, 575–597. (Dihua Jiang) **99i:11035** 11F67 (11F70)

— The non-Archimedean theta correspondence for GSp(2) and GO(4). (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 781–811. (David Manderscheid) **99d:11056** 11F70 (11F27, 22E50)

Roberts, Catherine A. Analysis of explosion for nonlinear Volterra equations. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 153–166. (Song Mu Zheng) **99j:45003** 45G10 (45D05, 45M99, 47N20)

Roberts, D. E. On a vector *q-d* algorithm. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 3, 193–219. (Jan Zítko) **99e:65064** 65F15 (65D20)

— A vector Chebyshev algorithm. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 33–50. (Pierre Hillion) **99d:65085** 65D99 (15A66, 41A21, 65F99)

Roberts, David P. Twin sextic algebras. *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 341–368. (Kurt Girstmair) **99j:12001** 12F10 (16H05, 20B25)

Roberts, Fred S. (*with* Sheng, Li) Phylogeny graphs of arbitrary digraphs. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 233–237, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Robert C. Brigham) **99c:05085** 05C20 (05C75, 92D15)

— (*with* McMorris, F. R.; Mulder, Henry Martyn) The median procedure on median graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 165–181. (Pranava K. Jha) **99f:05033** 05C12

— (*with* Sheng, Li) Phylogeny numbers. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 213–228. (J. Richard Lundgren) **99j:05086** 05C20 (68R10)

— (*with* Mahadev, N. V. R.; Pekeč, Aleksandar) On the meaningfulness of optimal solutions to scheduling problems: can an optimal solution be nonoptimal? (English summary) *Oper. Res.* **46** (1998), *no.* 3, *suppl.*, *S*120–*S*134. (Summary) **99f:90048** 90B35 (90C27)

— *see also* **Mathematical support for molecular biology, 99k:92003**

Roberts, Gareth O. (*with* Rosenthal, Jeffrey S.) Geometric ergodicity and hybrid Markov chains. (English summary) *Electron. Comm. Probab.* **2** (1997), *no.* 2, 13–25 (*electronic*). (Esa Nummelin) **99b:60122** 60J35 (60F25, 60J10)

— (*with* Rosenthal, Jeffrey S.) Two convergence properties of hybrid samplers. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 397–407. (Jean Diebolt) **99e:60145** 60J05 (62M05)

— (*with* Rosenthal, Jeffrey S.) Markov-chain Monte Carlo: some practical implications of theoretical results. (English and French summaries) With discussion by Hemant Ishwaran and Neal Madras and a rejoinder by the authors. *Canad. J. Statist.* **26** (1998), *no.* 1, 5–31. (Christian P. Robert) **99h:62123** 62M99

— (*with* Rosenthal, Jeffrey S.; Schwartz, Peter O.) Convergence properties of perturbed Markov chains. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 1–11. (Mu Fa Chen) **99c:60139** 60J05 (62F15, 62M99)

— (*with* Rosenthal, Jeffrey S.) Optimal scaling of discrete approximations to Langevin diffusions. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 255–268. (Jean Diebolt) **99e:60146** 60J05 (65C05)

— Optimal Metropolis algorithms for product measures on the vertices of a hypercube. (English summary) *Stochastics Stochastics Rep.* **62** (1998), *no.* 3-4, 275–283. (Summary) **99a:60021** 60F05 (60J10, 65U05)

Roberts, I. T. (*with* Hamilton, G. M.; Rogers, D. G.) Regular perfect systems of sets of iterated differences. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 29–44. (K. C. Prasad) **99d:05011** 05B10 (05A17)

Roberts, J. A. *see* **Roberts, Jason A.**

Roberts, J. E. *see* **Roberts, John E.**

Roberts, James W. (*with* Simonian, Alain D.; Théberge, F.; Mazumdar, Ravi R.) Asymptotic estimates for blocking probabilities in a large multi-rate loss network. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 806–829. (Peter Gerrard Taylor) **99c:60211** 60K30 (60F10, 90B15)

Roberts, Jason A. (*with* Ford, Neville J.; Baker, Christopher T. H.) Nonlinear Volterra integro-differential equations—stability and numerical stability of θ-methods. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 4, 397–416. (Summary) **99j:45006** 45J05 (45L05, 45M99, 65R20)

Roberts, John A. G. (*with* Lamb, Jeroen S. W.) Time-reversal symmetry in dynamical systems: a survey. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 1–39. (Mikhail B. Sevryuk) **99b:58174** 58F14 (34C23, 34C25, 34C37, 58F22, 58F35, 58F36)

Roberts, John E. (*with* Buchholz, Detlev; Doplicher, Sergio; Morchio, Gianni; Strocchi, Franco) A model for charges of electromagnetic type. *Operator algebras and quantum field theory* (*Rome*, 1996), 647–660, *Internat. Press, Cambridge, MA*, 199?. (Władysław Adam Majewski) **99a:81092** 81T05 (46L60)

— The cohomology and homology of quantum field theory. *Quantum fields and quantum space time* (*Cargèse*, 1996), 357–368, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Stephen J. Summers) **99b:81137** 81T05 (18G50, 46L60, 46M20)

Roberts, Justin Kirby calculus in manifolds with boundary. *Turkish J. Math.* **21** (1997), *no.* 1, 111–117. (From the text) **99c:57045** 57N10

Roberts, Lawrence (*with* Gerard, Brian) Graphical discovery of a new identity for Jacobi polynomials. *Amer. Math. Monthly* **105** (1998), *no.* 2, 163–166. (R. K. Raina) **99c:33016** 33C45

Roberts, M. G. (*with* Kao, R. R.) Quarantine-based disease control in domesticated animal herds. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 115–120. (Summary) **99b:92056** 92D30 (92D25)

— (*with* Heesterbeek, J. A. P.) A simple parasite model with complicated dynamics. (English summary) *J. Math. Biol.* **37** (1998), *no.* 3, 272–290. (Summary) **99i:92029** 92D30

— (*with* Saha, A. K.) The asymptotic behaviour of a logistic epidemic model with stochastic disease transmission. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 37–41. (Summary) **99g:92039** 92D30 (60J85)

Roberts, P. D. *see* **Roberts, Peter David**

Roberts, Paul H. (*with* Glatzmaier, Gary A.) Dynamo theory then and now. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1325–1338. (Summary) **99i:86017** 86A25 (76W05)

Roberts, Peter David (*with* Becerra, V. M.) Dynamic integrated system optimization and parameter estimation for discrete time optimal control of nonlinear systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 257–281. 49K30 (93C55)

Roberts, R. M. *see* **Roberts, Richard Mark**

Roberts, Randy M. (*with* Morel, Jim Emanuel; Shashkov, Mikhail) A local support-operators diffusion discretization scheme for quadrilateral *r-z* meshes. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 17–51. (Stanisław Burys) **99k:65091** 65M55

Roberts, Richard Mark (*with* de Sousa Dias, M. E. R.) Bifurcations from relative equilibria of Hamiltonian systems. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1719–1738. (Jair Koiller) **99b:58176** 58F14 (58F05, 70E15, 70H05, 70H33)

— (*with* Montaldi, J. A.) Relative equilibria of molecules. (English summary) *J. Nonlinear Sci.* **9** (1999), *no.* 1, 53–88. (M. E. R. de Sousa Dias) **99j:58079** 58F05 (70F99, 70H05,

70K20)

Roberts, Stephen G. (*with* Leyk, Teresa) Numerical solving of a free boundary phase field model using Krylov subspace method. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 479–486, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N06 (80A22)

— (*with* Matthai, Stephan) High resolution potential flow methods in oil exploration. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 677–684, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M10 (76S05)

— (*with* Hegland, Markus; Altas, Irfan) Finite element thin plate splines for data mining applications. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 245–252, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65031** 65D07 (62–07, 65U05, 65Y25)

Robertson, A. Guyan (*with* Steger, Tim) Negative definite kernels and a dynamical characterization of property (T) for countable groups. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 247–253. (Alain Valette) **99c:22008** 22D40 (22D10, 28D15, 43A35)

— (*with* Ramagge, Jacqui; Steger, Tim) A Haagerup inequality for $\widetilde{A}_1 \times \widetilde{A}_1$ and $\widetilde{A}_2$ buildings. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 4, 702–731. (Alain Valette) **99j:20046** 20F32 (20E42, 22D25, 57M07)

— Crofton formulae and geodesic distance in hyperbolic spaces. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 163–172. (Alan S. McRae) **99c:53083** 53C65 (52A55)

— Addendum to: "Crofton formulae and geodesic distance in hyperbolic spaces" [J. Lie Theory **8** (1998), no. 1, 163–172; MR 99c:53083]. *J. Lie Theory* **8** (1998), *no.* 2, 441. 53C65 (52A55)

Robertson, Aaron (*with* Zeilberger, Doron) A 2-coloring of $[1, n]$ can have $(1/22)n^2 + O(n)$ monochromatic Schur triples, but not less! (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 19, 4 *pp.* (*electronic*). (N. Hindman) **99j:05188** 05D10

— New lower bounds for some multicolored Ramsey numbers. (English summary) *Electron. J. Combin.* **6** (1999), *no.* 1, *Research Paper* 3, 6 *pp.* (*electronic*). (Summary) **99j:05145** 05C55 (05D10)

Robertson, Douglas S. Algorithmic information theory, free will, and the Turing test. (English summary) *Complexity* **4** (1999), *no.* 3, 25–34. 68Q30 (68T01)

Robertson, Edmund (*with* Campbell, Colin Matthew; Miyamoto, Izumi; Williams, P. D.) The efficiency of $\mathrm{PSL}(2, p)^3$ and other direct products of groups. *Glasgow Math. J.* **39** (1997), *no.* 3, 259–268. (Julian Petresco) **99c:20037** 20F05 (20G40)

— (*with* Campbell, Colin Matthew; Havas, George; Linton, Stephen) Symmetric presentations and orthogonal groups. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 1–10, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Saïd N. Sidki) **99m:20112** 20G40 (20F05)

— (*with* Linton, Stephen; Pfeiffer, Götz; Ruškuc, N.) Groups and actions in transformation semigroups. (English summary) *Math. Z.* **228** (1998), *no.* 3, 435–450. (K. S. S. Nambooripad) **99e:20078** 20M20 (20B40)

Robertson, G. *see* **Robertson, A. Guyan**

Robertson, Guyan *see* **Robertson, A. Guyan**

Robertson, J. C. (*with* Breusch, T. S.; Welsh, Alan H.) The emperor's new clothes: a critique of the multivariate t regression model. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 269–286. (Xuming He) **99a:62087** 62J05 (62F35)

Robertson, J. M. (*with* Webb, William) ★ Cake-cutting algorithms. (English summary) Be fair if you can. *A K Peters, Ltd., Natick, MA*, 1998. $x+181$ *pp. ISBN* 1-56881-076-8 (Daniel Elliott Loeb) **99j:90025** 90A80 (05A05)

— (*with* Wood, G. R.) Information in Buffon experiments. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 21–37. (J. A. Melamed) **99d:62004** 62B10 (62F12, 94A17)

Robertson, Lewis C. (*with* Liu, Guoyang) Free subgroups of $\mathrm{SO}_3(\mathbf{Q})$. *Comm. Algebra* **27** (1999), *no.* 4, 1555–1570. (Alla S. Detinko) **99m:20048** 20E05 (20G20)

Robertson, Neil (*with* Seymour, P. D.) Graph minors. XV. Giant steps. (English summary) *J. Combin. Theory Ser. B* **68** (1996), *no.* 1, 112–148. (Summary) **99c:05056** 05C10

Robertson, S. A. (*with* de Carvalho, Francisco J. Craveiro) A remark on cylindrical curves and induced curves in $\mathbf{RP}^2$. *Note Mat.* **16** (1996), *no.* 1, 21–24 (1998). (Chuan Yu Ma) **99m:53005** 53A04 (53A20)

Robertson, S. S. (*with* Fadlalmoula, Z.; O'Reilly, John; Leithead, W. E.) Individual channel analysis of the turbogenerator with a power system stabilizer. (English summary) *Internat. J. Control* **69** (1998), *no.* 2, 175–202. 93C95

Robertson, Tim (*with* Dykstra, Richard L.; Kochar, Subhash) Restricted tests for testing independence of time to failure and cause of failure in a competing-risks model. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 57–68. (Summary) **99c:62141** 62G20 (62F10)

— (*with* Park, Chul Gyu; Lee, Chu-In Charles) Goodness-of-fit test for uniform stochastic ordering among several distributions. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 69–81. (Subhash C. Kochar) **99g:62062** 62G10

de Roberval, Gilles Personne ★ *Éléments de géométrie* de G. P. de Roberval. (French. French summary) [G. P. de Roberval's *Elements of geometry*] Texts collected, introduced and commented on by Vincent Jullien. Preface by Jean Dhombres. Mathesis. *Librairie Philosophique J. Vrin, Paris*, 1996. 544 *pp. ISBN* 2-7116-1259-7 (Victor V. Pambuccian) **99h:01024** 01A45 (01A20, 51–03)

— *see also* **Jullien, Vincent**, (**99h:01003**)

Robichaux, J. (*with* Balachandar, S.; Vanka, S. P.) Three-dimensional Floquet instability of the wake of square cylinder. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 560–578. (Summary) **99j:76054** 76E99 (76D25)

Robidoux, Nicolas (*with* McLachlan, Robert I.; Quispel, G. R. W.) Unified approach to Hamiltonian systems, Poisson systems, gradient systems, and systems with Lyapunov functions or first integrals. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 12, 2399–2403. (Summary) **99f:58079** 58F05 (34A34)

Robin, Gustave *see* **Gustafson, Karl**, **99e:01016**

Robin, Guy *see* **Ramanujan, Srinivasa Aiyangar**, **99b:11112**

Robin, Vincent (*with* Guillaume, Philippe; Huard, Alain) Generalized multivariate Padé approximants. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 203–214. (Ralitza Kovacheva) **99k:41018** 41A21

Robin, W. On the reversion method for the approximate solution of non-linear ordinary differential equations. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 1, 11–31. 65L06 (34A45)

Robinett, R. W. Periodic orbit theory analysis of the circular disk or annular billiard: nonclassical effects and the distribution of energy eigenvalues. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 1, 67–77. (Summary) **99h:81057** 81Q50

— Isolated versus nonisolated periodic orbits in variants of the two-dimensional square and circular billiards. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 101–122. (Julio Espinoza Ortiz) **99k:81073** 81Q50

Robins, Gabriel (*with* Helvig, C. S.; Zelikovsky, Alexander) Moving-target TSP and related problems. (English summary) *Algorithms—ESA '98* (*Venice*), 453–464, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:90151** 90C35 (68Q25, 90C27)

— (*with* Kahng, Andrew B.; Walkup, Elizabeth A.) How to test a tree. (English summary) *Networks* **32** (1998), *no.* 3, 189–197. (Summary) **99d:68029** 68M15 (68Q35, 68R10, 94C12)

— (*with* Robinson, Brian L.; Sethi, Bhupinder S.) On detecting spatial regularity in noisy images. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 4, 189–195. (Summary) **99k:68169** 68T10

Robins, Harlan (*with* Ooguri, Hirosi; Tannenhauser, Jonathan) Glueballs and their Kaluza-Klein cousins. (English summary) *Phys. Lett. B* **437** (1998), *no.* 1-2, 77–81. (Summary) **99g:83080** 83E30 (81T13, 83E15)

Robins, James M. (*with* Pearl, Judea) Probabilistic evaluation of sequential plans from causal models with hidden variables. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 444–453, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T30 (68T20)

— Causal inference from complex longitudinal data. *Latent variable modeling and applications to causality* (*Los Angeles, CA*, 1994), 69–117, *Lecture Notes in Statist.*, 120, *Springer, New York*, 1997. (E. Arjas) **99m:62166** 62P25

— (*with* Holcroft, Christina A.; Rotnitzky, Andrea) Efficient estimation of regression parameters from multistage studies with validation of outcome and covariates. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 349–374. (Summary) **99c:62180** 62J05 (62G05)

— (*with* van der Laan, Mark J.) Locally efficient estimation with current status data and time-dependent covariates. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 693–701. (Summary) **99c:62284** 62P10

— (*with* Rotnitzky, Andrea; Scharfstein, Daniel O.) Semiparametric regression for repeated outcomes with nonignorable nonresponse. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1321–1339. (Summary) **99j:62050** 62G05

Robins, V. (*with* Meiss, James D.; Bradley, Elizabeth) Computing connectedness: an exercise in computational topology. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 913–922. (Beverly Diamond) **99g:54017** 54D05 (68U05)

Robinson, Brian L. (*with* Robins, Gabriel; Sethi, Bhupinder S.) On detecting spatial regularity in noisy images. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 4, 189–195. (Summary) **99k:68169** 68T10

Robinson, David Clyde (*with* Goldberg, Joshua N.) Null surface canonical formalism. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 849–858. (Summary) **99m:83014** 83C05

— Chiral actions and Einstein's vacuum equations. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 7, 2067–2078. (Brian Edgar) **99j:83011** 83C05 (83C60)

Robinson, Derek J. S. (*with* Beidleman, James C.) The permutizer condition in infinite soluble groups. (English summary) *J. Algebra* **210** (1998), *no.* 1, 311–319. (Martin R. Pettet) **99m:20071** 20F16

— (*with* Timm, Mathew) On groups that are isomorphic with every subgroup of finite index and their topology. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 91–104. (Howard Smith) **99d:20038** 20E15 (20F34)

Robinson, Derek W. (*with* ter Elst, A. F. M.) Spectral estimates for positive Rockland operators. (English summary) *Algebraic groups and Lie groups*, 195–213, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (A. H. Dooley) **99m:22004** 22E30 (35H05, 35S99, 43A65, 47A60, 47B99, 58G03)

— (*with* ter Elst, A. F. M.; Sikora, Adam) Heat kernels and Riesz transforms on nilpotent Lie groups. (English summary) *Colloq. Math.* **74** (1997), *no.* 2, 191–218. (Dominique Manchon) **99a:35029** 35H05 (22E25, 35J30, 47F05)

— (*with* ter Elst, A. F. M.) Weighted subcoercive operators on Lie groups. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 88–163. (Vladimir V. Kisil) **99h:47055** 47F05 (22E99, 35H05, 47D06)

— (*with* ter Elst, A. F. M.) Local lower bounds on heat kernels. (English summary) *Positivity* **2** (1998), *no.* 2, 123–151. (Brian C. Hall) **99k:35036** 35J40 (22E30, 35K25, 47D06, 58G11)

Robinson, Donald W. The image of the adjoint mapping. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 143–148. (Jian Long Chen) **99e:15005** 15A09 (13B10)

Robinson, Edmund (*with* Power, Anthony John) Premonoidal categories and notions of computation. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 453–468. (Summary) **99m:68115** 68Q55 (18D10)

Robinson, F. N. H. (*with* Ockendon, H.) A pure sine-wave oscillator with a fast settling time. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 2, 95–104. (Summary) **99c:34070** 34C15 (70K10)

Robinson, Geoffrey R. Some open conjectures on representation theory. *Representation theory of finite groups* (*Columbus, OH*, 1995), 127–131, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (Stuart Martin) **99c:20008** 20C20

— Twisted tensor induction. *J. Algebra* **202** (1998), *no.* 2, 577–582. (David Gluck) **99b:20012** 20C15

— On local control of the number of conjugacy classes. *J. Algebra* **203** (1998), *no.* 2, 590–595. (Kanat S. Abdukhalikov) **99e:20033** 20D99

— (*with* Külshammer, Burkhard) On the number of conjugacy classes of π-elements in a finite group. *J. Algebra* **205** (1998), *no.* 1, 326–332. (Wujie Shi) **99h:20041** 20D20

— Further consequences of conjectures like Alperin's. *J. Group Theory* **1** (1998), *no.* 2, 131–141. (Burkhard Külshammer) **99b:20020** 20C20 (20C05)

— Counting conjugacy classes of unitriangular groups associated to finite-dimensional algebras. *J. Group Theory* **1** (1998), *no.* 3, 271–274. (Naohisa Shimomura) **99h:14025**

14G10 (20D15, 20D20, 20H30)
— A bound on norms of generalized characters with applications. *J. Algebra* **212** (1999), *no.* 2, 660–668. (Abram I. Saksonov) **99m:20008** 20C15
Robinson, Ivor (*with* MacAlevey, Paul) An invariant of type *N* spaces. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3935–3936. (Summary) **99i:83021** 83C20
— (*with* Rindler, Wolfgang) A plain man's guide to bivectors, biquaternions, and the algebra and geometry of Lorentz transformations. (English summary) *On Einstein's path* (*New York*, 1996), 407–433, *Springer, New York*, 1999. (Stefano De Leo) **99m:83008** 83A05 (15A90)
Robinson, J. A. *see* **Robinson, John Alan**
Robinson, James Cooper Some closure results for inertial manifolds. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 3, 373–400. (Igor D. Chueshov) **99c:34139** 34G20 (34D99, 47H20, 58F39)
— (*with* Caraballo Garrido, Tomás; Langa, José A.) Upper semicontinuity of attractors for small random perturbations of dynamical systems. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1557–1581. (M. L. Blank) **99i:58133** 58F39 (34C35, 34G20, 35B40, 35R60, 58F12, 76D05)
— All possible chaotic dynamics can be approximated in three dimensions. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 529–545. (Xin-Zhi Liu) **99d:58124** 58F13 (34A45, 34C35, 76D05)
Robinson, John (*with* Ma, Chunsheng) Saddlepoint approximation for sample and bootstrap quantiles. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 479–486. (Summary) **99m:62068** 62G09
— (*with* Keener, Robert W.; Weber, Neville C.) Tail probability approximations for *U*-statistics. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 59–65. (Miguel A. Arcones) **99b:60040** 60F10
Robinson, John Alan Informal rigor and mathematical understanding. *Computational logic and proof theory* (*Vienna*, 1997), 54–64, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Yuxin Zheng) **99b:00006** 00A35 (00A30, 03A05)
— *see also* **Handbook of logic in artificial intelligence and logic programming, 99a:68009**
Robinson, Laurence D. (*with* Dorroh, J. Robert; Lien, Da-Hsiang Donald; Tiku, Moti L.) The effects of covariate adjustment in generalized linear models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1653–1675. 62J12
Robinson, M. L. (*with* Arno, Steven; Wheeler, Ferrell S.) Imaginary quadratic fields with small odd class number. *Acta Arith.* **83** (1998), *no.* 4, 295–330. (Stéphane Louboutin) **99a:11123** 11R29 (11R11)
taylor-Robinson, M. M. *see* **Taylor-Robinson, M. M.**
Robinson, P. A. (*with* Percival, D. J.) Generalized plasma dispersion functions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3678–3693. (Tadeusz Nadzieja) **99f:82060** 82D10 (33E20, 81U30)
Robinson, P. M. *see* **Robinson, Peter M.**
Robinson, Paul L. Quadratic Weyl representations. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 1, 1–17. (Władysław Adam Majewski) **99g:81107** 81S05 (46N50, 47N50)
Robinson, Peter M. (*with* Velasco, C.) Autocorrelation-robust inference. *Robust inference*, 267–298, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62M10 (62F35)
— Large-sample inference for nonparametric regression with dependent errors. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2054–2083. (Alexander G. Kukush) **99a:62060** 62G07 (60G18, 62G20)
— Inference-without-smoothing in the presence of nonparametric autocorrelation. (English summary) *Econometrica* **66** (1998), *no.* 5, 1163–1182. (A. Ya. Olenko) **99h:62146** 62P20 (62M10)
— (*with* Zaffaroni, Paolo) Nonlinear time series with long memory: a model for stochastic volatility. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 359–371. (Roger Gay) **99e:62161** 62M10
— (*with* Lobato, Ignacio N.) A nonparametric test for I(0). (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 3, 475–495. (Hartmut Milbrodt) **99h:62059** 62G10 (62M10)
Robinson, Sam L. (*with* Hagedorn, George A.) Bohr-Sommerfeld quantization rules in the semiclassical limit. (English summary) *J. Phys. A* **31** (1998), *no.* 50, 10113–10130. (Frédéric Klopp) **99m:81059** 81Q20
Robinson, Stephen B. (*with* Runst, Thomas) Solvability conditions for semilinear elliptic boundary value problems at resonance with bounded and unbounded nonlinear terms. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 4, 595–624. (Vitaly B. Moroz) **99m:35081** 35J65 (46N20, 47H15, 47N20)
Robinson, Zachary Flatness and smooth points of *p*-adic subanalytic sets. (English summary) Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 217–225. (Qing Liu) **99b:32050** 32P05 (03C10, 32B20)
Robitaille, A. (*with* Leroux, Pierre; Rassart, E.) Enumeration of symmetry classes of convex polyominoes in the square lattice. (English and French summaries) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 343–380. (Edward A. Bender) **99g:05050** 05B50 (05A15)
Robles, Arturo (*with* Serrano, M.; Huidobro Rojo, J. A.) Analysis of the solution of a thermoelastoplastic model. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 73B30 (73E50, 73V20)
Robles, Jack Evolution with changing mutation rates. (English summary) *J. Econom. Theory* **79** (1998), *no.* 2, 207–223. (W. Gordon S. Hines) **99i:90139** 90D40 (90D20, 92D15)
Robles-Pérez, Aureliano M. (*with* Ortega, Rafael) A maximum principle for periodic solutions of the telegraph equation. *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 625–651. (Eduard Feireisl) **99c:35137** 35L20 (35B50)
Robnik, Marko (*with* Veble, Gregor) On spectral statistics of classically integrable systems. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4669–4704. (Summary) **99c:81047** 81Q50
— (*with* Krylov, George) On the Green function of linear evolution equations for a region with a boundary. (English summary) *J. Phys. A* **32** (1999), *no.* 7, 1261–1267. 35K10 (35A08)
Robson, Arthur J. Naive adaptive behavior and the observability of gambles. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 97–108. (Summary) **99h:90131** 90D60
Robson, Eleanor (*with* Fowler, David) Square root approximations in old Babylonian mathematics: YBC 7289 in context. (English and French summaries) *Historia Math.* **25** (1998), *no.* 4, 366–378. (K.-B. Gundlach) **99m:01002** 01A17
Robson, John Michael (*with* Pomerance, Carl; Shallit, Jeffrey) Automaticity. II. Descriptional complexity in the unary case. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 181–201. (Jean-Paul Allouche) **99a:11026** 11B85 (68Q45, 68R15)
— (*with* Petersen, Holger) Efficient simulations by queue machines. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 884–895, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68053** 68Q05
Roca, A. *see* **Roca Martinez, Alicia**
Roca, Francisco (*with* Cañada, A.) Some qualitative properties of the range of conservative pendulum-like operators with Dirichlet boundary conditions. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 300–305, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34B15 (47H15)
— (*with* Cañada, A.) Lagrange multiplier method and nonlinear elliptic boundary value problems with periodic nonlinearity. *Progress in partial differential equations, Vol. 1* (*Pont-à-Mousson*, 1997), 58–66, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Jie Yang) **99j:35062** 35J65 (49K20)
— Noncoercive functionals with global minimum and nonlinear boundary value problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 351–355, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34B15
Roca, Jaume (*with* Paris, Jordi) A remark on the effective description of topological defects. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 377–390. (Summary) **99c:81258** 81T99
Roca Martinez, Alicia (*with* Zaballa, Ion) Restricted invariant factor assignment under state-feedback. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 509–529. (T. Kaczorek) **99f:93030** 93B25 (15A21)
Rocca, M. C. (*with* Bollini, C. G.) Vacuum state of the quantum string without anomalies in any number of dimensions. (English summary) *Nuovo Cimento Soc. Ital. Fis. A* (12) **110** (1997), *no.* 4, 353–361. (Summary) **99f:81186** 81T50 (81R10, 81T30)
— (*with* Bollini, C. G.; Civitarese, O.; De Paoli, A. L.) Gamow states in a rigged Hilbert space. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 34–37, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Summary) **99d:81180** 81V35 (47N50)
— (*with* Grunfeld, A. G.) The Klein-Gordon oscillator and the proper-time formalism in a rigged Hilbert space. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 11, 1351–1359. (Summary) **99j:81029** 81Q05 (47N50)
ronchi della Rocca, Simona *see* **Ronchi Della Rocca, Simona**
Rocco, N. R. (*with* Shumyatskiĭ, P. V.) On nilpotent π-subgroups in solvable groups. (English summary) *J. Group Theory* **1** (1998), *no.* 3, 283–290. (Beverly Hargraves) **99i:20026** 20D10 (20D15)
— (*with* Shumyatskiĭ, P. V.) On periodic groups having almost regular 2-elements. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 385–391. (A. H. Rhemtulla) **99m:20086** 20F50 (20E26)
di Rocco, Sandra *see* **Di Rocco, Sandra**
Ročck, Martin (*with* Gonzalez-Rey, Francisco; Wiles, S.; Lindström, Ulf; von Unge, Rikard) Feynman rules in $N = 2$ projective superspace. I. Massless hypermultiplets. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 426–448. (Ilya Shapiro) **99f:81198** 81T60 (81T18)
— (*with* Shrock, Robert; Tsai, Shan-Ho) Chromatic polynomials for families of strip graphs and their asymptotic limits. (English summary) *Phys. A* **252** (1998), *no.* 3-4, 505–546. (Zhibo Chen) **99c:05070** 05C15
— (*with* Gonzalez-Rey, Francisco) Nonholomorphic $N = 2$ terms in $N = 4$ super Yang-Mills theory: 1-loop calculation in $N = 2$ superspace. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 303–311. (Summary) **99d:81156** 81T60 (81T13, 81T15, 81T18)
issard-Roch, Françoise *see* **Issard-Roch, Françoise**
Roch, J.-L. (*with* Dumitrescu, Bogdan; Doreille, M.; Trystram, D.) Two-dimensional block partitionings for the parallel sparse Cholesky factorization. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 17–38 (1998). (R. P. Tewarson) **99d:65088** 65F05 (65F50)
Roch, Michel (*with* Côté, Jean; Gravel, Sylvie; Méthot, André; Patoine, Alain; Caveen, James; Valin, Michel; Thomas, Steve; Staniforth, Andrew) Forecasting with a variable-resolution global model. (English summary) *Numerical methods in fluid mechanics*, 23–32, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 86–08 (86A10)
Roch, Steffen (*with* Rabinovich, V. S.; Silbermann, Bernd) Fredholm theory and finite section method for band-dominated operators. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 4, 452–495. (A. Böttcher) **99f:47037** 47B37 (47A53, 47D30, 65J10)
— (*with* Silbermann, Bernd) Index calculus for approximation methods and singular value decomposition. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 401–426. (Catalin Badea) **99g:47030** 47A58 (46L99, 47A50, 47A53)
— (*with* Silbermann, Bernd) A note on singular values of Cauchy-Toeplitz matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 531–536. (Summary) **99d:47027** 47B35 (15A18)
— Numerical ranges of large Toeplitz matrices. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 185–198. (Sergeĭ Grudskiĭ) **99g:47055** 47B35 (15A60, 65F30)
Rocha, A. *see* **Rocha dos Santos, Angela**
Rocha, A. F. *see* **da Rocha, Armando Freitas**
Rocha, André C. (*with* Anderson, James W.) Analyticity of Hausdorff dimension of limit sets of Kleinian groups. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 2, 349–364. (B. N. Apanasov) **99a:30039** 30F40 (58F20)
— (*with* Pollicott, Mark) A remarkable formula for the determinant of the Laplacian. *Invent. Math.* **130** (1997), *no.* 2, 399–414. (Alexander Fel'shtyn) **99b:58237** 58G26 (58F17)
da Rocha, Armando Freitas (*with* Rebello, M. P.; Miura, K.) Toward a theory of molecular computing. (English summary) Using fuzzy algebraic structures in intelligent systems.

Inform. Sci. **106** (1998), *no.* 1-2, 123–157. (From the introduction) **99e:68039** 68Q05 (68Q45)

Rocha, C. *see* **Conference: Differential Equations, 99d:00015**

Rocha, I. A. (*with* Marcellán, Francisco) Complex path integral representation for semiclassical linear functionals. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 107–127. (Pascal Maroni) **99h:42047** 42C05 (41A35)

Rocha, Jorge (*with* Díaz, Lorenzo J.) Large measure of hyperbolic dynamics when unfolding heteroclinic cycles. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 857–884. (Summary) **99b:58181** 58F15 (58F11)

Rocha, Juan (*with* Chinea, Domingo; Marrero, Juan Carlos) Almost contact submersions with total space a locally conformal cosymplectic manifold. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, 473–517. (Manuel de León) **99d:53028** 53C15

Rocha, Luis Mateus Obituary for Professor Gordon Pask [1928–1996]. *Internat. J. Gen. Systems* **26** (1997), *no.* 3, 219–222. 01A70

Rocha, Paula (*with* Rogers, Eric; Owens, David H.) Stability of discrete non-unit memory linear repetitive processes—a two-dimensional systems interpretation. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 457–482. 93D05 (93C30)

— (*with* Wood, Jeffrey James) A new perspective on controllability properties for dynamical systems. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 869–879. (*see* **99a:92001**) 93B05 (93–02)

Rocha-Chávez, R. (*with* Shapiro, M. V.; Sommen, Franciscus) On the singular Bochner-Martinelli integral. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 354–365. (Alexandr M. Kytmanov) **99i:32003** 32A25

Rocha dos Santos, Angela (*with* Cavalcanti, M. M.; Domingos Cavalcanti, V. N.; Soriano, J. A.) Exact controllability of a second-order integro-differential equation with a pressure term. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 9, 18 *pp.* (*electronic*). (Irina F. Sivergina) **99k:93017** 93B05 (35L99, 45K05, 73K50, 93C20)

Rocha Filho, Tarcísio M. (*with* Figueiredo, Annibal; Brenig, Léon) Algebraic structures and invariant manifolds of differential systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2929–2946. (Michael K. Kinyon) **99h:34010** 34A34 (17A99, 34C20)

— (*with* Figueiredo, Annibal; Brenig, Léon) [QPSI] a MAPLE package for the determination of quasi-polynomial symmetries and invariants. (English summary) *Comput. Phys. Comm.* **117** (1999), *no.* 3, 263–272. 65–04 (65C20)

da Rocha Lopes, Vera Lucia *see* **Lopes, Vera Lúcia Rocha**

Rocha-Martínez, José M. (*with* Shaked, Moshe) A bivariate discrete-time model of failure and repair. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 147–169. (Philip J. Boland) **99e:60196** 60K10

da Rocha Medrado, João Carlos (*with* Teixeira, Marco Antonio) Symmetric singularities of reversible vector fields in dimension three. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 122–131. (Rodrigo Bamon) **99b:58191** 58F21 (34C05, 58F36)

Rochdi, A. (*with* Cuenca Mira, J. A.; De Los Santos Villodres, R.; Kaïdi, El Amin Mokhtar) Real quadratic flexible division algebras. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 1–22. (Theo Grundhöfer) **99m:17003** 17A35 (17A20)

Rochdi, Mohamed Nonlinear evolution systems modelling quasistatic contact problems in rate-type viscoplasticity. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 239–248, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Kenneth Kuttler) **99a:73114** 73T05 (34G20, 35Q72, 73E60)

— On Signorini's contact problem in rate-type viscoplasticity. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 101–111. (Kenneth Kuttler) **99a:73115** 73T05 (35Q72, 73E60, 73V25)

— (*with* Sofonea, Mircea) On the existence and behaviour of the solution for a class of nonlinear evolution systems. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 659–667. (Weimin Han) **99h:73034** 73E60 (34G20, 73E50)

— (*with* Teniou, Boudjemaa) Frictional contact problems for nonlinear elastic materials. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 491–504. (Meir Shillor) **99j:73093** 73T05 (73C50, 73V25)

— (*with* Shillor, Meir; Sofonea, Mircea) Quasistatic viscoelastic contact with normal compliance and friction. (English summary) *J. Elasticity* **51** (1998), *no.* 2, 105–126. (Kenneth Kuttler) **99k:73110** 73T05 (73F99)

— (*with* Sofonea, Mircea) On rate-type viscoplastic problems with linear boundary conditions. (English summary) *Math. Nachr.* **193** (1998), 119–135. (Mircea Sofonea) **99g:73053** 73E50 (34G20, 35Q72, 73E60)

Roche, Alan Types and Hecke algebras for principal series representations of split reductive p-adic groups. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 3, 361–413. (Bertrand Lemaire) **99d:22028** 22E50

hugonnard-Roche, Henri *see* **Hugonnard-Roche, Henri**

Roche, Jean R. Gradient of the discretized energy method and discretized continuous gradient in electromagnetic shaping simulation. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 545–565. (Pekka Neittaanmäki) **99e:78010** 78–08 (49Q10, 65K10)

— (*with* Sonnendrücker, Eric; Bertrand, Pierre; Ghizzo, Alain) The semi-Lagrangian method for the numerical resolution of the Vlasov equation. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 201–220. (Summary) **99j:76100** 76M25 (76X05)

Roche, John J. ★ The mathematics of measurement. A critical history. *The Athlone Press Ltd., London*; *Springer-Verlag, New York*, 1998. *xii*+330 *pp. ISBN* 0-387-91581-8 (Peter M. Harman) **99k:01002** 01A05 (00A79)

— The present status of Maxwell's displacement current. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 155–166. (Summary) **99d:78016** 78A25

Rochet, Jean Charles (*with* Biais, Bruno; Björk, Tomas; Cvitanić, Jakša; El Karoui, N.; Jouini, Elyès) ★ Financial mathematics. Lectures given at the 3rd C.I.M.E. Session held in Bressanone, July 8–13, 1996. Edited by W. J. Runggaldier. Lecture Notes in Mathematics, 1656. *Springer-Verlag, Berlin*, 1997. viii+316 *pp. ISBN* 3-540-62642-5 (Marek Rutkowski) **99a:90033** 90A09 (60H10, 60H30, 90–06)

— (*with* Biais, Bruno) Risk sharing, adverse selection and market structure. (English summary) *Financial mathematics* (*Bressanone*, 1996), 1–51, *Lecture Notes in Math.*, 1656, *Springer, Berlin*, 1997. (*see* **99a:90033**) 90A09 (90A46)

Rochet, S. (*with* Venturini, Gilles; Slimane, M.) Schemata and deception in binary genetic algorithms: a tutorial. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 339–373. (*see* **99b:90008**) 90C27 (90–02, 90C30)

do Rocío, Osvaldo Germano Maximal semigroups in finitely generated nilpotent groups. (English summary) *Proyecciones* **17** (1998), *no.* 1, 55–62. (Andreas Caranti) **99f:20109** 20M99 (20F18)

Rockafellar, R. T. (*with* Poliquin, R. A.) Proto-derivatives of partial subgradient mappings. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 221–234. (Lionel Thibault) **99h:49025** 49J52 (49K40, 58C20, 90C31)

— (*with* Zagrodny, D.) A derivative-coderivative inclusion in second-order nonsmooth analysis. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 1, 89–105. (Lionel Thibault) **99a:49025** 49J52 (58C20)

— (*with* Dontchev, Asen L.) Characterizations of Lipschitzian stability in nonlinear programming. (English summary) *Mathematical programming with data perturbations*, 65–82, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (D. Klatte) **99b:90130** 90C31 (49K40)

— (*with* Poliquin, R. A.) Tilt stability of a local minimum. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 287–299 (*electronic*). (B. Mordukhovich) **99e:90100** 90C31 (49J52, 49K40)

Rockett, Peter I. (*with* Aherne, Frank J.; Thacker, Neil A.) The Bhattacharyya metric as an absolute similarity measure for frequency coded data. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 4, 363–368. 62B10

Rockmore, Daniel N. (*with* Brucks, K.; Galeeva, R.; Mumbrú, Pere; Tresser, Charles) On the $*$-product in kneading theory. (English summary) *Fund. Math.* **152** (1997), *no.* 3, 189–209. (Summary) **99c:54055** 54H20

Röckner, Michael (*with* Bogachev, Vladimir I.; Krylov, Nicolai V.) Elliptic regularity and essential self-adjointness of Dirichlet operators on $\mathbf{R}^n$. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 451–461. (Vladimir B. Vasilyev) **99c:35037** 35J10 (47F05)

— (*with* Zhang, Tu Sheng) Convergence of operators semigroups generated by elliptic operators. *Osaka J. Math.* **34** (1997), *no.* 4, 923–932. (Ivor E. McGillivray) **99d:31005** 31C25 (35K10, 47D06, 60J45)

— (*with* Albeverio, Sergio; Kondrat'ev, Yu. G.; Tsikalenko, T. V.) Uniqueness of Gibbs states for quantum lattice systems. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 2, 193–218. (Summary) **99d:82009** 82B10 (60H30, 60K35, 82B31)

— (*with* Jost, Jürgen; Kendall, Wilfrid S.; Mosco, Umberto; Sturm, Karl-Theodor) ★ New directions in Dirichlet forms. AMS/IP Studies in Advanced Mathematics, 8. *American Mathematical Society, Providence, RI*; *International Press, Cambridge, MA*, 1998. *xiv*+277 *pp. ISBN* 0-8218-1061-8 (Editors) **99e:31002** 31–06 (31C25, 60J35)

— Stochastic analysis on configuration spaces: basic ideas and recent results. *New directions in Dirichlet forms*, 157–231, *AMS/IP Stud. Adv. Math.*, 8, *Amer. Math. Soc., Providence, RI*, 1998. (Byron Schmuland) **99k:60124** 60G55 (47D07, 60K35, 82C21, 82C31)

— Dirichlet forms on infinite-dimensional "manifold-like" state spaces: a survey of recent results and some prospects for the future. (English summary) *Probability towards* 2000 (*New York*, 1995), 287–306, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Tu Sheng Zhang) **99d:31006** 31C25 (60J45)

— (*with* Zhang, Tu Sheng) On the strong Feller property of the semigroups generated by non-divergence operators with L^p-drift. (English summary) *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 401–408, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (F. B. Knight) **99i:60144** 60J35 (47D07, 60J60)

— (*with* Ma, Zhi-Ming; Zhang, Tu Sheng) Approximation of arbitrary Dirichlet processes by Markov chains. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 1, 1–22. (Yoichi Oshima) **99c:60160** 60J40 (31C25, 60J10)

— (*with* Albeverio, Sergio; Kondrat'ev, Yu. G.) Analysis and geometry on configuration spaces. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 444–500. (David Nualart) **99d:58179** 58G32 (60J60, 60J65)

— (*with* Albeverio, Sergio; Kondrat'ev, Yu. G.) Analysis and geometry on configuration spaces: the Gibbsian case. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 242–291. (Vladimir I. Bogachev) **99f:58219** 58G32 (31C25, 60H30, 60J60)

— (*with* Albeverio, Sergio; Kondrat'ev, Yu. G.) Diffeomorphism groups and current algebras: configuration space analysis in quantum theory. (English summary) *Rev. Math. Phys.* **11** (1999), *no.* 1, 1–23. (A. L. Rebenko) **99m:81127** 81T08 (58D05, 60J99, 81R10)

Rockwell, Donald Vortex-body interactions. (English summary) *Annual review of fluid mechanics, Vol.* 30, 199–229, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (Summary) **99b:76019** 76C05 (76G25)

Rockwood, Alyn Blending. *Introduction to implicit surfaces*, 196–221, *Morgan Kaufmann Ser. Comput. Graph. Geom. Model., Morgan Kaufmann, San Francisco, CA*, 1997. (*see* **99i:00008**) 00A69 (65Y25)

— (*with* Kadi, Zafer) Conformal maps defined about polynomial curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 4, 323–337. (F. W. Stallmann) **99b:30008** 30C30 (65E05)

Rocsoreanu, Carmen (*with* Dumitrescu, Constantin A.) Some connections between the Smarandache function and the Fibonacci sequence. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 50–60. 11B39 (11A25)

Rode, S. *see* **Mouton, S.**

Rodeh, Michael (*with* Sagiv, Mooly; Francez, Nissim; Wilhelm, Reinhard) A logic-based approach to program flow analysis. (English summary) *Acta Inform.* **35** (1998), *no.* 6, 457–504. (Summary) **99b:68123** 68Q60

González Rodelas, Pedro *see* **González Rodelas, Pedro**

Rodellar, José (*with* Magaña, Mario E.) Optimal positioning of actuators for active control of vibrations in plates. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1099–1104, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K50 (73K10)

— (*with* Luo, Ning Su; de la Sen, Manuel) Composite adaptive SMC of nonlinear base isolated buildings with actuator dynamics. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 183–197. (*see* **99a:93003**) 93C95

Roden, J. Alan (*with* Gedney, Stephen D.; Madsen, Niel K.; Mohammadian, Alireza H.; Hall, William F.; Shankar, Vijaya; Rowell, Chris) Explicit time-domain solutions of Maxwell's equations via generalized grids. *Advances in computational electrodynamics*, 163–262, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78002** 78–08 (65M06, 78A45)

Rodenas, F. (*with* de Azcárraga, J. A.) Differential calculus on q-Minkowski space. (English summary) *Quantum groups* (*Karpacz*, 1994), 221–230, *PWN, Warsaw*, 1995. (*see* **99e:17001**) 58B30

Rodenhausen, Anna (*with* Peitgen, Heinz-Otto; Skordev, Gencho S.) Self-similar functions generated by cellular automata. (English summary) *Fractals* **6** (1998), *no.* 4, 371–394. (François Blanchard) **99j:58111** 58F08 (68Q80)

Röder, Klaus (*with* Bamberg, Günter; Dorfleitner, Gregor) Trading strategies of a financially strong investor in futures and stocks: is profitable manipulation possible? (English summary) *Econometrics in theory and practice*, 175–187, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 90A09

Rodger, C. A. (*with* Raines, M. E.) Embedding partial extended triple systems and totally symmetric quasigroups. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 211–222. (Frank E. Bennett) **99a:05015** 05B07 (20N05)

— (*with* Fu, Hung-Lin; Lindner, C. C.) The Doyen-Wilson theorem for minimum coverings with triples. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 341–352. (H. Lenz) **99a:05013** 05B07 (05C70)

— (*with* Dejter, I. J.; Pike, David A.) The directed almost resolvable Hamilton-Waterloo problem. (English summary) *Australas. J. Combin.* **18** (1998), 201–208. (Summary) **99f:05044** 05C20 (05C38)

— (*with* Foust, G. M.) Hypergraph designs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 125–140. (Jean-Claude Bermond) **99m:05039** 05B30 (05C65)

— (*with* Fu, Hung-Lin) Group divisible designs with two associate classes: $n = 2$ or $m = 2$. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 94–117. (Chester J. Salwach) **99g:05023** 05B05

— (*with* Daven, Mike) (k, g)-cages are 3-connected. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 207–215. (Summary) **99j:05125** 05C40

— Balanced transitive orientations. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 247–253. (Summary) **99k:05034** 05B07

Rodgers, G. J. (*with* Head, D. A.) The anisotropic Bak-Sneppen model. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 3977–3988. (Summary) **99a:82064** 82C26 (82C27, 92D15)

Rodgers, Tom *see* **Mathemagician and pied puzzler, 99m:00002**

Rodicio, Antonio G. (*with* Blanco, Amalia; Majadas Soto, Javier) On the acyclicity of the Tate complex. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 125–132. (Cristodor Ionescu) **99i:13024** 13D03

Rodin, A. B. (*with* Shikin, I. S.) Dissipative evolution of the Alfvén soliton. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 1053–1055. 76W05

Rodino, Luigi (*with* Mascarello Rodino, Maria) ★ Partial differential equations with multiple characteristics. (English summary) Mathematical Topics, 13. *Akademie Verlag, Berlin*, 1997. 352 *pp. ISBN* 3-05-501764-1 (Vladimir Tulovsky) **99a:35009** 35A27 (35A30, 35Sxx, 47G30)

— (*with* Boggiatto, Paolo; Buzano, Ernesto) Spectral asymptotics for hypoelliptic operators. (English summary) *Differential equations, asymptotic analysis, and mathematical physics* (*Potsdam*, 1996), 40–46, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Leonid B. Parnovskiĭ) **99a:35194** 35P20 (35H05, 47F05)

— (*with* Gramchev, Todor) Gevrey solvability for semilinear partial differential equations. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 1–13. (Summary) **99i:35003** 35A07 (35A27)

mascarello Rodino, Maria *see* **Mascarello Rodino, Maria**

Rodinò, Nicola Cyclic modules over End(V_D) whose endomorphism ring is an ultrapower of D. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 351–357, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (G. M. Bergman) **99j:16018** 16S50 (03C20, 03C60, 16K40)

barral Rodiño, Patrica *see* **Barral Rodiño, Patrica**

Rodionov, A. M. A method for studying the stability of differential and discrete equations with delay. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 12, 38–47; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1720–1727 (1997). (István Győri) **99e:34108** 34K20 (39A12)

— On an approach to the application of the second Lyapunov method to Volterra equations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998,** *no.* 4, 57–64; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 1, 502–508. (Jarosław Morchało) **99k:34174** 34K25 (45M10)

Rodionov, V. V. A block-parametric method for finding the shortest paths in a graph. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 4, 690–696. 90C35

Rodis-Lewis, Geneviève Quelques remarques sur la question de la vitesse de la lumière chez Descartes. (English and French summaries) [Some remarks about the question of the speed of light in Descartes] "Pour Descartes": mathématiques et physique cartésiennes (Paris, 1996). *Rev. Histoire Sci.* **51** (1998), *no.* 2-3, 347–354. (Peter M. Harman) **99k:01017** 01A45 (78–03)

Roditi, Itzhak (*with* Foerster, Angela; Links, Jon) Anisotropic correlated electron model associated with the Temperley-Lieb algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 14, 1035–1040. (Summary) **99c:82074** 82D55 (81R50, 82B23)

— (*with* Lima-Santos, A.; Foerster, Angela) Bethe ansatz solution of the anisotropic correlated electron model associated with the Temperley-Lieb algebra. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 25, 4309–4324. (Yao Zhong Zhang) **99i:82015** 82B23 (81R50)

— (*with* Foerster, Angela; Links, Jon) Integrable multiparametric quantum spin chains. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 687–695. (Robert A. Weston) **99g:82008** 82B20 (82B23)

— (*with* Pinheiro, A. B.) Nonextensive thermostatistics and deformed structures. (English summary) *Phys. Lett. A* **242** (1998), *no.* 6, 296–300. (Summary) **99b:82032** 82B30

— (*with* Borges, Ernesto P.) A family of nonextensive entropies. (English summary) *Phys. Lett. A* **246** (1998), *no.* 5, 399–402. (A. K. Rajagopal) **99i:82004** 82B05

Rodkina, A. E. On stabilization time of movement of one-link robot-manipulator. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 537–549, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 93D15 (70B15, 70Q05, 93C85)

— On rate control of n-link manipulator robot. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 359–364. (Summary) **99f:93102** 93C85 (70B15, 70Q05)

— On asymptotical normality of stochastic procedures with retardation. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 361–379. (Paweł J. Szabłowski) **99g:62126** 62L20 (60F05, 60F15, 60F25)

Rödl, Vojtěch (*with* Bertram-Kretzberg, Claudia; Lefmann, Hanno; Wysocka, Beata) Proper bounded edge-colorings (extended abstract). (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 121–130, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 05C15

— (*with* Thoma, Luboš) On the size of set systems on $[n]$ not containing weak (r, Δ)-systems. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 166–173. (Summary) **99g:05176** 05D05

— (*with* Duffus, Dwight; Łuczak, Tomasz; Ruciński, Andrzej) Endomorphisms of partially ordered sets. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 33–46. (Gerhard Behrendt) **99d:06003** 06A06

— (*with* Gunderson, David S.) Extremal problems for affine cubes of integers. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 65–79. (Georges Grekos) **99a:11015** 11B25 (05D10, 11P99)

— (*with* Kostochka, A. V.) On large systems of sets with no large weak Δ-subsystems. (English summary) *Combinatorica* **18** (1998), *no.* 2, 235–240. (H. L. Abbott) **99k:05157** 05D05

— (*with* Kostochka, A. V.) Partial Steiner systems and matchings in hypergraphs. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 335–347. (Summary) **99i:05153** 05C65 (05C70)

— (*with* Duffus, Dwight; Łuczak, Tomasz) Biased positional games on hypergraphs. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 141–149. (Rong Si Chen) **99m:90183** 90D43 (05C65)

Rödler, Richard A convergence theorem for a special class of stochastic processes. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 153–162. (Rüdiger Kiesel) **99h:60093** 60G48 (60F15)

— Convergence of disturbed martingales and a stochastic model for annuity funds. (English summary) *Comm. Statist. Stochastic Models* **15** (1999), *no.* 1, 1–10. (Summary) **99j:90017** 90A09 (60G42)

Rodman, Leiba (*with* Li, Chi-Kwong) Shapes and computer generation of numerical ranges of Krein space operators. (English summary) *Electron. J. Linear Algebra* **3** (1998), 31–47 (*electronic*). (Hiroshi Nakazato) **99c:15048** 15A60 (47A12, 47B50)

— (*with* Alpay, Daniel; Bolotnikov, Vladimir) Tangential interpolation with symmetries and two-point interpolation problem for matrix-valued H_2-functions. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 1–28. (Joseph A. Ball) **99h:47021** 47A57 (30D55)

— (*with* Ball, Joseph A.; Karlovich, Yu. I.; Spitkovsky, Ilya M.) Sarason interpolation and Toeplitz corona theorem for almost periodic matrix functions. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 243–281. (A. Böttcher) **99k:47033** 47A57 (42A75, 47B35, 47B50)

— (*with* Quint, Daniel; Spitkovsky, Ilya M.) New cases of almost periodic factorization of triangular matrix functions. *Michigan Math. J.* **45** (1998), *no.* 1, 73–102. (A. Böttcher) **99c:47020** 47A68 (39A10, 42A75, 45E10, 47B35)

— (*with* Jafarian, Ali A.; Šemrl, Peter) Linear maps preserving the isomorphism class of lattices of invariant subspaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3607–3617. (P. Rosenthal) **99e:47012** 47A15 (15A99, 47B49)

Rodney, D. (*with* Shenoy, V. B.; Miller, Ron; Tadmor, E. B.; Phillips, Rob; Ortiz, Michael) An adaptive finite element approach to atomic-scale mechanics—the quasicontinuum method. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 3, 611–642. (Summary) **99k:73116** 73V05 (73B99, 73S10)

Rodnikov, A. V. Poisson series algebra in the problem of celestial body rotation around its mass center. (English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 59–60. 70E15 (70F15)

Rodošek, Robert (*with* Hajian, Mozafar T.; Richards, Barry) Introduction of a new class of variables to discrete and integer programming problems. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 39–51. (*see* **99k:90002**) 90C10 (90C27)

— (*with* Wallace, Mark Glossop; Hajian, Mozafar T.) A new approach to integrating mixed integer programming and constraint logic programming. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 63–87. (*see* **99k:90002**) 90C11 (90C27)

Rodrigo, Marianito R. (*with* Ikeda, Hideo) Travelling front waves in parallel coupled nerve fibers. *Math. J. Toyama Univ.* **19** (1996), 211–252. (Qi Xiao Ye) **99d:35166** 35Q80 (35B25, 35K57, 92C20)

izepe Rodrigues, Claudina *see* **Izepe Rodrigues, Claudina**

Rodrigues, Helder Carrico (*with* Folgado, J.) Structural optimization with a non-smooth buckling load criterion. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 235–253. (*see* **99k:73003**) 73K40 (49Q10, 73B27, 73H05, 90C90)

Rodrigues, Hildebrando Munhoz Abstract methods for synchronization and applications. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 263–296. (Summary) **99a:34156** 34D45 (34H05, 58F13)

— (*with* Afraimovich, Valentin) Uniform dissipativeness and synchronization on nonautonomous equations. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 3–17, *World Sci. Publishing, River Edge, NJ*, 1998. (Peter Ashwin) **99i:34052** 34C11 (34D20, 34D45, 58F10)

— (*with* Carvalho, Alexandre N.; Dłotko, Tomasz) Upper semicontinuity of attractors and synchronization. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 13–41. (Peter E. Kloeden) **99a:47108** 47H20 (34D45, 34G20, 35K57, 58F12)

Rodrigues, Irene Pimenta (*with* Lopes, Gabriel Pereira) An interval algebra for temporal relations conveyed by a text. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 223–237, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (68T27)

Rodrigues, J. F. *see* **Rodrigues, José-Francisco**

Rodrigues, João P. (*with* de Mello Koch, Robert) Duality and light cone symmetries of the equations of motion. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 83–89.

(Summary) **99c:81200** 81T30

Rodrigues, José-Francisco (*with* Santos, Lisa) Some free boundary problems in theoretical glaciology. *The mathematics of models for climatology and environment* (*Puerto de la Cruz*, 1995), 337–364, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (Jiří Nedoma) **99h:86016** 86A40 (35Q80, 73N20)

— (*with* Zal'tsman, B. B.) Regular solutions of a Stefan problem in strips. *Ann. Mat. Pura Appl.* (4) **172** (1997), 165–189. (Galina I. Bizhanova) **99f:35231** 35R35 (35K05, 80A22)

— (*with* Urbano, José Miguel) On the stationary Boussinesq-Stefan problem with constitutive power-laws. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 4, 555–566. (Peter G. Danilaev) **99b:80008** 80A22 (35R35, 73B30, 76A05)

— (*with* Chemetov, N.) A class of nonlinear elliptic problems with nonconvex constraints and applications. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 333–357. (Samir Adly) **99d:35066** 35J85 (35R35, 49J40)

Rodrigues, Josemar Inference for the software reliability using asymmetric loss functions: a hierarchical Bayes approach. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2165–2171. 62N05 (62F15)

— (*with* Leite, José Galvão) A note on Bayesian analysis in $M/M/1$ queues derived from confidence intervals. (English summary) *Statistics* **31** (1998), *no.* 1, 35–42. (Summary) **99b:62039** 62F15 (60K25)

Rodrigues, Paulo R. (*with* Pitanga, Paulo) The projector method for regular Poisson manifolds. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8719–8725. (David Martín de Diego) **99d:58069** 58F05 (53C15, 70F10, 70H35)

de lima Rodrigues, R. *see* **de Lima Rodrigues, R.**

Rodrigues, Waldyr Alves, Jr. (*with* de Carvalho, Alexandre Luis Trovon) A finest topology for Minkowski spacetime. (Portuguese. English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 23–38 (1997). (Jorge Goncalves Cardoso) **99g:83005** 83A05 (51P05)

— (*with* Ławrynowicz, Julian; Wojtczak, Leszek) Clifford-algebraical approach to particle lifetimes. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **21** (1996), 57–63. (Bertfried Fauser) **99c:83078** 83E15

— (*with* Vaz, Jayme, Jr.) Maxwell and Dirac theories as an already unified theory. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 369–386. (Pierre Anglès) **99k:81100** 81R20 (15A66, 78A25, 81V10)

— (*with* Vaz, Jayme, Jr.) On the equation $\nabla \times a = \kappa a$. (English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 19–24 (1998). (Kotik K. Lee) **99j:78011** 78A25

— (*with* De Leo, Stefano) Quantum mechanics: from complex to complexified quaternions. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2725–2757. (Dominique Lambert) **99f:81118** 81S99 (81P99)

— (*with* Vaz, Jayme, Jr.) Subluminal and superluminal electromagnetic waves and the lepton mass spectrum. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 319–346, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Jorge Goncalves Cardoso) **99g:81232** 81V25 (81R20)

— (*with* Maiorino, José E.; Bozhkov, Yuri D.) New solutions of the main relativistic wave equations. *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 201–229, *Univ. Stud. Bologna, Bologna*, 1998. (Dominique Lambert) **99h:81073** 81R20 (35Q40, 35Q75)

— (*with* Vaz, Jayme, Jr.) From electromagnetism to relativistic quantum mechanics. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 789–814. (Stefano De Leo) **99i:81073** 81R20 (78A25)

— (*with* De Leo, Stefano) Quaternionic electron theory: Dirac's equation. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1511–1529. (Dan Radu Grigore) **99f:81079** 81R20 (81Q99)

— (*with* De Leo, Stefano) Quaternionic electron theory: geometry, algebra, and Dirac's spinors. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1707–1720. (Bertfried Fauser) **99j:81060** 81R25 (15A66)

Rodrigues Costa, Sueli I. (*with* Gerônimo, João Roberto; Palazzo, Reginaldo, Jr.; Interlando, J. Carmelo; Alves, Marcelo Muniz Silva) The symmetry group of $\mathbf{Z}_q^n$ in the Lee space and the $\mathbf{Z}_{q^s}$-linear codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 66–77, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94035** 94B05

— (*with* Grou, Maria Alice; Figueiredo, Vera) Mechanical curves—a kinematic Greek look through the computer. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 3, 459–468. 70B99 (53A17)

rodríguez-Rodríguez, A. R. *see* **Rodríguez-Rodríguez, A. R.**

montes-Rodríguez, Alfonso *see* **Montes-Rodríguez, Alfonso**

alonso Rodríguez, Ana *see* **Alonso Rodríguez, Ana**

almeida Rodriguez, Angel Jose *see* **Almeida Rodriguez, Angel Jose**

Rodriguez, Armando A. (*with* Wang, Yanzhuo) Performance enhancement methods for unstable bank-to-turn (BTT) missiles with saturating actuators. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 641–678. 93C95 (93B50)

González Rodríguez, Benito *see* **González Rodríguez, Benito**

Rodríguez, C. *see* **Rodríguez Torreblanca, C.**

Rodriguez, Carlos C. CV-NP Bayesianism by MCMC. (English summary) *Maximum entropy and Bayesian methods* (*Boise, ID*, 1997), 15–24, *Fund. Theories Phys.*, 98, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99k:62005**) 62G10 (62F15)

Rodríguez, Carmelo *see* **Rodríguez Torreblanca, C.**

Rodríguez, Carmen (*with* Martínez Varela, A. M.; Vázquez-Méndez, Miguel E.) A control problem related to wastewater treatment. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 35–40. (Summary) **99i:49044** 49N55 (76R50, 86A05)

Rodríguez, Elsa Liliana (*with* Ogata, H.; Yano, Y.) TVOO: a temporal versioned object-oriented data model. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 281–300. 68P15

cala Rodríguez, F. *see* **Cala Rodríguez, F.**

Rodriguez, Giuseppe (*with* van der Mee, C. V. M.; Seatzu, Sebastiano) *LDU* factorization results for bi-infinite and semi-infinite scalar and block Toeplitz matrices. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 307–335 (1998). (Lucas Jódar) **99f:65045** 65F05

— (*with* Goodman, Tim N. T.; Micchelli, Charles A.; Seatzu, Sebastiano) On the limiting profile arising from orthonormalizing shifts of exponentially decaying functions. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 331–354. (Summary) **99d:15011** 15A23 (41A15, 65D07)

— (*with* Brezinski, Claude; Redivo-Zaglia, M.; Seatzu, Sebastiano) Extrapolation techniques for ill-conditioned linear systems. (English summary) *Numer. Math.* **81** (1998), *no.* 1, 1–29. (Thomas A. Atchison) **99j:65069** 65F30 (65B05, 65J20)

— (*with* van der Mee, C. V. M.; Seatzu, Sebastiano) Block Cholesky factorization of infinite matrices and orthonormalization of vectors of functions. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 423–455, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Guo Rong Wang) **99m:65079** 65F25 (15A23)

Rodríguez, Guillermo (*with* Jain, Abhinandan) Two-way recursive decomposition of the free-flying robot mass matrix. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 413–431. (*see* **99b:70004**) 70B15 (70Q05, 93C85)

sicilia Rodríguez, J. *see* **Sicilia Rodríguez, J.**

Rodríguez, J. A. *see* **Rodríguez Velazquez, Juan Alberto**

Rodríguez, Jesús (*with* Etheridge, Debra Lynn) Periodic solutions of nonlinear discrete-time systems. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 119–137. (Summary) **99a:39013** 39A10 (39A12)

— (*with* Etheridge, Debra Lynn) Scalar discrete nonlinear two-point boundary value problems. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 2, 127–144. (Summary) **99g:39020** 39A12 (39A10)

Rodríguez, Jose *see* **Rodríguez, Jose Antonio**

Rodríguez, José Angel (*with* Alsedà, Lluis; Paraños, J.) The full periodicity kernel for a class of graph maps. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 313–320. (José Miguel Moreno) **99d:58133** 58F20 (54H20, 58F03)

Rodríguez, Jose Antonio (*with* Traldi, Lorenzo) (K, j)-domination and (K, j)-reliability. (English summary) *Networks* **30** (1997), *no.* 4, 293–306. (A. A. Chernyak and A. I. Adintsova) **99d:68199** 68R10 (05B35, 05C85, 68M15)

Rodríguez, José Luis (*with* Casacuberta, Carles) On towers approximating homological localizations. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 645–656. (Edgar H. Brown, Jr.) **99b:55016** 55P60 (55N20)

— (*with* Casacuberta, Carles; Hernández, Luis Javier) Models for torsion homotopy types. (English summary) *Israel J. Math.* **107** (1998), 301–318. (Donald M. Davis) **99i:55027** 55U35 (55P15)

Rodríguez, José M. *see* **Rodríguez Seijo, José M.**

martínez Rodríguez, Julia *see* **Martínez Rodríguez, Julia**

Rodríguez, L. *see* **Rodríguez, Elsa Liliana**

Rodríguez, Lucio (*with* Rosenberg, Harold) Minimal surfaces in $\mathbf{R}^3$ with one end and bounded curvature. (English summary) *Manuscripta Math.* **96** (1998), *no.* 1, 3–7. (Yi Fang) **99e:53010** 53A10

Rodríguez, M. A. (*with* Aragón, G.; Aragón, J. L.) Clifford algebras and geometric algebra. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 2, 91–102. (I. R. Porteous) **99b:15038** 15A66

suárez Rodríguez, M. Carmen *see* **Suárez Rodríguez, M. Carmen**

rivas Rodríguez, M. Teresa *see* **Rivas Rodríguez, M. Teresa**

Rodríguez, M. V. *see* **Rodríguez Uria, M. Victoria**

Rodríguez, Mabel A. Properties of external visibility. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 15–23. (Summary) **99a:52004** 52A30

— Krasnoselsky-type theorems involving outward rays. *Bull. Soc. Roy. Sci. Liège* **67** (1998), *no.* 1-2, 23–30. (Marilyn Breen) **99g:52005** 52A30 (52A35)

Rodríguez, Miguel A. *see* **Rodríguez, Miguel Angel[2]**

Rodríguez, Miguel Angel[1] (*with* Noriega, J. M.; Pesquera, Luis) Propagation of trigger waves in a disordered medium. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 12 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 82D30 (35Q99)

Rodríguez, Miguel Angel[2] Symmetries of differential equations. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 181–201. (J. Chrastina) **99k:35013** 35A30 (34A26)

suárez Rodríguez, P. *see* **Suárez Rodríguez, P.**

Rodríguez, Patricio (*with* Dombrovskaia, Lioubov; Nussbaum, Miguel) Knowledge-based language for modeling linear programming problems. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 379–388. 90C05 (90C90)

— (*with* Nussbaum, Miguel; Baeza, Rodrigo; León, Gerardo; Sepúlveda, Marcos; Cobián, Agustín) Using global search heuristics for the capacity vehicle routing problem. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 407–417. 90C35 (90B06)

Rodríguez, R. *see* **Rodríguez, Ricardo O.**

Rodriguez, R. S. (*with* Jones, Roy; Li, Xin[3]; Mohapatra, Ram Narayan) On the Bernstein inequality for rational functions with a prescribed zero. (English summary) *J. Approx. Theory* **95** (1998), *no.* 3, 476–496. (Wiesław Pleśniak) **99m:41019** 41A17

Rodríguez, Ramón Gerardo (*with* Hosotani, Yutaka) Bosonized massive N-flavour Schwinger model. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9925–9955. (Summary) **99j:81112** 81T10 (81V05)

Rodriguez, Ricardo O. (*with* Garcia-Calvés, Pere; Godo, Lluís) Using fuzzy similarity relations to revise and update a knowledge base. (English summary) Fifth Spanish Congress on Fuzzy Logic and Technology (Murcia, 1995). *Mathware Soft Comput.* **3** (1996), *no.* 3, 357–370. (Jonathan Lawry) **99b:68176** 68T27 (03B52, 03B60, 04A72)

Rodríguez, Rita V. (*with* Anger, Frank D.) Prior's temporal legacy in computer science. *Logic and reality* (*Christchurch*, 1989), 89–109, *Oxford Univ. Press, New York*, 1996. (Curt Christian) **99a:68157** 68T27 (03B45, 03B70, 68P15, 68Q60)

— (*with* Anger, Frank D.) Using constraint propagation to reason about unsynchronized clocks. (English summary) *Constraints* **3** (1998), *no.* 2-3, 191–202. (Summary) **99b:68167** 68T20

Rodríguez, Rodolfo (*with* Bermúdez de Castro, Alfredo) Numerical computation of elastoacoustic vibrations with interface damping. (English summary) *Équations aux dérivées partielles et applications*, 165–187, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99h:73058** 73K70 (65M60, 73V05, 76Q05)

— (*with* Durán, Ricardo G.; Hervella-Nieto, L.; Liberman, E.; Solomin, J.) Approximation of the vibration modes of a plate by Reissner-Mindlin equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1447–1463. (Riccardo Fazio) **99m:73045** 73K10 (65N30, 73V20)

garcet Rodríguez, Sandra A. *see* **Garcet Rodríguez, Sandra A.**

Rodríguez-Arias Fernández, Mariano (*with* Castillo, Jesús M. F.) Inverse characterizations of the existence of solutions for some nonlinear Abel-Volterra equations. *Nonlinear Anal.* **34** (1998), *no.* 3, 433–442. (Wojciech Mydlarczyk) **99e:45004** 45G05 (45D05, 45E10)

Rodríguez-Artalejo, Mario (*with* Arenas-Sánchez, P.) A lazy narrowing calculus for functional logic programming with algebraic polymorphic types. (English summary) *Logic programming (Port Washington, NY, 1997)*, 53–67, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68Q65)

— (*with* Leach Albert, Javier; Nieva, Susana) Constraint logic programming with hereditary Harrop formulas. (English summary) *Logic programming (Port Washington, NY, 1997)*, 307–321, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68021** 68N17 (03B70)

Rodríguez-Bernal, Aníbal (*with* Jiménez-Casas, Angela) Linear stability of some phase field models. Asymptotic behavior. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 5 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35K55 (35B35)

— (*with* Jiménez-Casas, Angela) Asymptotic dynamics of a closed thermosyphon. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 483–488, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76D99 (35B40, 76R99)

— (*with* Arrieta, José M.; Carvalho, Alexandre N.) Critical nonlinearities at the boundary. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 353–358. (Lisa Santos) **99i:35072** 35K60 (35K05)

— (*with* Van Vleck, Erik S.) Complex oscillations in a closed thermosyphon. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 41–56. (Summary) **99e:76115** 76R99 (34C35, 58F40, 76F20)

— (*with* Van Vleck, Erik S.) Diffusion induced chaos in a closed loop thermosyphon. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1072–1093 (*electronic*). (Woodford W. Zachary) **99d:76041** 76E30 (35Q35, 58F40, 76R99)

— Localized spatial homogenization and large diffusion. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1361–1380 (*electronic*). (Dietrich Göhde) **99h:35038** 35J25 (35B25, 35R05, 73B27)

Rodríguez-Campos, M. Celia (*with* González-Manteiga, Wenceslao; Cao-Abad, R.) Testing the hypothesis of a generalized linear regression model using nonparametric regression estimation. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 99–122. (Andrzej S. Kozek) **99j:62069** 62G10

Rodríguez-Díaz, J. M. (*with* López-Fidalgo, J.) Characteristic polynomial criteria in optimal experimental design. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design (Marseilles, 1998)*, 31–38, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99g:62110** 62K05

Rodríguez Expósito, José (*with* Cruz-Báez, D. I.) The $\mathcal{L}_\nu^{(\rho)}$-transformation on McBride's spaces of generalized functions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 445–452. (H. M. Srivastava) **99k:44006** 44A15 (46F12)

— (*with* Almeida, V. M.) An algebraic derivative and some of its applications. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 3, 247–254. (Mridula Garg) **99k:26007** 26A33

— (*with* Almeida, V. M.) Applications of the algebraic derivatives to solving some differential equations of fractional order. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 1-2, 243–250. (K. S. Miller) **99k:34009** 34A25 (26A33, 44A40)

— (*with* Alamo, J. A.) An operational calculus for the fractional operator $B_{\rho,\alpha,\beta}$. (Spanish. English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 1, 59–66. (Summary) **99g:44009** 44A40

Rodríguez-Ferran, Antonio (*with* Huerta, Antonio; Díez, Pedro; Pijaudier-Cabot, Gilles) Error estimation and adaptive finite element analysis of softening solids. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 333–347, *Stud. Appl. Mech., 47, Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05

Rodríguez-Galiano, Ma. Isabel (*with* González-Pachón, Jacinto) An algorithm for solving intransitivities without repeating trials. (English summary) *Trends in multicriteria decision making (Cape Town, 1997)*, 61–67, *Lecture Notes in Econom. and Math. Systems, 465, Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90A07)

Rodríguez Lallena, José Antonio (*with* Lafuerza Guillén, Bernardo; Sempi, Carlo) Some classes of probabilistic normed spaces. (English and Italian summaries) *Rend. Mat. Appl. (7)* **17** (1997), *no.* 2, 237–252. (S. N. Mishra) **99d:46103** 46S50 (46B99, 46E30)

— (*with* Lafuerza Guillén, Bernardo; Sempi, Carlo) Probabilistic norms for linear operators. *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 462–476. (Xi Lin) **99f:47096** 47S50 (47A30, 47D15)

Rodríguez-Luis, A. J. (*with* Fernández-Sánchez, F.; Freire Macías, Emilio; Pizarro, Luis) Analytical and numerical study of a van der Pol-Duffing oscillator. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C15 (34C23, 94C05)

— (*with* Pizarro, Luis; Freire Macías, Emilio; Fernández-Sánchez, F.) Bifurcations of codimension two in an enzyme model. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 92C45 (35B32, 35Q80)

— (*with* Gamero, E.; Freire Macías, Emilio; Algaba, A.) Simplified normal forms for nonhyperbolic equilibria in $\mathbf{R}^3$. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C20 (34C23, 58F36)

— (*with* Freire Macías, Emilio; Gamero, E.; Pizarro, Luis; Fernández-Sánchez, F.) Islands of periodic orbits in an electronic system. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 19 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C15 (34C23, 34C25, 94C05)

— (*with* Fernández-Sánchez, F.; Freire Macías, Emilio) Isolas, cusps and global bifurcations in an electronic oscillator. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 319–336. (Alan R. Champneys) **99c:58118** 58F14 (34C15, 34C37, 94C05)

— (*with* Gamero, E.; Freire Macías, Emilio; Algaba, A.) Normal forms for the Hopf-zero degeneracy in reversible systems. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 356–363, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C20 (58F14)

— (*with* Pizarro, Luis; Freire Macías, Emilio) Numerical continuation of several kinds of degenerated homoclinic orbits in planar systems. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 468–474, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C37 (58F14)

— (*with* Freire Macías, Emilio; Gamero, E.; Pizarro, Luis) Analysis of a degenerated Bogdanov-Takens bifurcation in an engineering model. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 486–493, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C23 (58F14)

— (*with* Fernández-Sánchez, F.; Freire Macías, Emilio; Gamero, E.) Codimension-two global bifurcations in a three-dimensional van der Pol-Duffing oscillator. (Spanish. English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 249–254, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C23 (34C15, 58F14)

— (*with* Freire Macías, Emilio; Gamero, E.) Estimation of canard blowup in a van der Pol oscillator. (Spanish. English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 267–272, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C25 (34E15)

— (*with* Freire Macías, Emilio; Gamero, E.) Study of a degenerate Bogdanov-Takens bifurcation in a family of mechanical oscillators. *Mech. Res. Comm.* **25** (1998), *no.* 3, 287–297. (From the text) **99g:34085** 34C23 (34C37, 58F14, 70K99)

— (*with* Algaba, A.; Freire Macías, Emilio; Gamero, E.) Analysis of Hopf and Takens-Bogdanov bifurcations in a modified van der Pol-Duffing oscillator. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 4, 369–404. (Stephan A. van Gils) **99g:34084** 34C23 (34C15, 58F14)

— (*with* Belhaq, M.; Freire Macías, Emilio; Houssni, M.) Second period-doubling in a three-dimensional system. *Mech. Res. Comm.* **26** (1999), *no.* 2, 123–128. 34C23 (58F14)

Rodríguez-Marco, A. (*with* Negro, Javier; del Olmo, Mariano A.) Nonrelativistic conformal groups. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3786–3809. (Michael S. Marinov) **99a:81056** 81R05 (22E70)

— (*with* Negro, Javier; del Olmo, Mariano A.) Nonrelativistic conformal groups. II. Further developments and physical applications. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3810–3831. (Michael S. Marinov) **99a:81057** 81R05 (22E70)

Rodríguez-Marín, Luis (*with* Novo-Sanjurjo, Vicente) Conditions for optimality in nondifferentiable multiobjective programming. (Spanish. English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 3–9. 90C29 (49J52)

Rodríguez Mateos, Francisco Growth and size of the exceptional set in Nevanlinna's second fundamental theorem. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 3, 199–210. (Zhuan Ye) **99j:30035** 30D35

Rodríguez-Mesa, Lourdes (*with* Betancor, Jorge J.) On Hankel convolutors on certain Hankel transformable function spaces. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 351–369. (Om P. Singh) **99m:44009** 44A35 (44A15, 46F12)

— (*with* Betancor, Jorge J.) Pointwise convergence for Hankel transforms. (English summary) *Transform methods & special functions, Varna '96*, 41–47, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:44007** 44A15

— (*with* Betancor, Jorge J.) Lipschitz-Hankel spaces, partial Hankel integrals and Bochner-Riesz means. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 115–122. (J. Horváth) **99i:46021** 46E35 (33C10, 44A15, 46F12)

— (*with* Betancor, Jorge J.) On Hankel convolutors on Zemanian spaces. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 135–144. (Summary) **99d:46060** 46F12

— (*with* Betancor, Jorge J.) Lipschitz-Hankel spaces and partial Hankel integrals. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 1–12. (Summary) **99g:44006** 44A15 (46F12)

— (*with* Betancor, Jorge J.) On the Besov-Hankel spaces. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 781–788. (J. Horváth) **99i:46020** 46E35 (33C10, 44A15, 46F12)

— (*with* Betancor, Jorge J.) A Paley-Wiener theorem for the Hankel transform of Colombeau type generalized functions. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 11–29. (Todor Dimitrov Todorov) **99m:46102** 46F12 (44A15)

Rodríguez-Palacios, Ángel (*with* Moreno Galindo, A.) The norm extension problem: positive results and limits. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 165–171. (Khristo N. Boyadzhiev) **99e:46061** 46H70 (17C65)

— (*with* El Amin, Kaidi; Ramírez, Maria Isabel) Absolute-valued algebraic algebras are finite-dimensional. (English summary) *J. Algebra* **195** (1997), *no.* 1, 295–307. (Alexander V. Il'tyakov) **99c:17004** 17A75 (17A80, 46H70)

— (*with* Cabrera García, M.; Moreno Galindo, A.) Zel'manov's theorem for primitive Jordan-Banach algebras. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 231–244. (Antonio Fernández López) **99g:46066** 46H70

— Isometries and Jordan-Isomorphisms onto C^*-algebras. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 71–85. (Horst Behncke) **99g:46103** 46L70

— (*with* Moreno Galindo, A.) Algebra norms on tensor products of algebras, and the norm extension problem. (English summary) *Linear Algebra Appl.* **269** (1998), 257–305. (Maria Fragoulopoulou) **99f:46076** 46K05 (15A69, 16W10, 46M05)

Rodríguez-Pereyra, Gonzalo Searle's correspondence theory of truth and the slingshot. *Philos. Quart.* **48** (1998), *no.* 193, 513–522. 03A05

Rodríguez-Piazza, Luis (*with* Freniche, Francisco; García-Vázquez, Juan Carlos) The failure of Fatou's theorem on Poisson integrals of Pettis integrable functions. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 1, 28–41. (Brian Jefferies) **99k:46075** 46G10 (28B05, 46B20, 46E40)

Rodríguez-Poo, Juan M. Semiparametric smoothing splines. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 1, 1–10. (Summary) **99e:62059** 62G05

Rodríguez-Rodríguez, A. R. (*with* Alvarez Vázquez, L. J.; Viaño Rey, Juan M.) Genuinely clamped beams. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 887–892, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K05

— (*with* Alvarez Vázquez, L. J.; Viaño Rey, Juan M.) Genuinely clamped beams. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 375–388. (Zvonimir Tutek) **99f:73048** 73K05

Rodríguez-Salinas, Baltasar Uniformly countably additive families of measures and group invariant measures. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 97–111. (Z. Lipecki) **99j:28011** 28C10 (28D05, 43A07)

— (*with* Hernández, Francisco L.) Lattice-embedding scales of L^p spaces into Orlicz spaces. (English summary) *Israel J. Math.* **104** (1998), 191–220. (Yu. A. Abramovich) **99g:46032** 46E30

— On Dirichlet's principle and its applications. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 9–29. (Gabriele Grillo) **99j:47032** 47B25 (11Z05, 47A10, 47F05)

Rodríguez Seijo, José M. A coupled 3D-2D model for a turbine blade. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 989–993, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K99

— (*with* Viaño Rey, Juan M.) Asymptotic analysis of Poisson's equation in a thin domain and its application to thin-walled elastic beams and tubes. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 3, 187–226. (Cornelius O. Horgan) **99b:35013** 35B40 (35J05, 73C02, 73K05)

Rodríguez Torreblanca, C. (*with* Ortiz, Isabel) *D*-optimal designs for weighted polynomial regression without any initial terms. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 67–74, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62091** 62K05

— (*with* Ortiz, Isabel) Optimal designs with respect to Elfving's partial minimax criterion for heteroscedastic polynomial regression. (English summary) *Test* **7** (1998), *no.* 2, 347–360. (Summary) **99j:62107** 62K05

Rodríguez Uría, M. Victoria (*with* Arenas Parra, M. Mar; Bilbao Terol, Amelia; Jiménez, Mariano) Fuzzy parameters multiobjective linear programming problem: solution analysis. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 128–137, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90C70)

Rodriguez Velazquez, Juan Alberto (*with* Yebra, J. L. A.) Bounding the diameter and the mean distance of a graph from its eigenvalues: Laplacian versus adjacency matrix methods. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 267–275. (Summary) **99h:05085** 05C50 (05C12)

kandri Rody, Abdelilah *see* **Kandri Rody, Abdelilah**

Roe, John An example of dual control. *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1215–1221. (Erik K. Pedersen) **99e:58178** 58G12 (19K56, 46L80)

— ★ Elliptic operators, topology and asymptotic methods. (English summary) Second edition. Pitman Research Notes in Mathematics Series, 395. *Longman, Harlow*, 1998. *ii*+209 *pp. ISBN* 0-582-32502-1 (Editors) **99m:58182** 58G10 (58G11)

— Kasparov products and dual algebras. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 286–296. (Summary) **99d:46094** 46L80 (19K35)

Roe, Philip L. Compounded of many simples: reflections on the role of model problems in CFD. *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 241–258, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Leonid K. Antanovskiĭ) **99a:76079** 76Mxx

— (*with* Linde, Timur) On multidimensional positively conservative high-resolution schemes. *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 299–313, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Gholam-Ali Zakeri) **99b:76055** 76M20 (65M12)

— The Harten Memorial Lecture—new applications of upwinding. *Numerical methods for wave propagation* (*Manchester*, 1995), 1–31, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99f:65006**) 65M55 (76M20, 76M25)

— (*with* Linde, Timur) On a mistaken notion of "proper upwinding". *J. Comput. Phys.* **142** (1998), *no.* 2, 611–614. (Dietmar Kröner) **99f:76107** 76M25 (65M99, 76N15)

— (*with* Myong, R. S.) On Godunov-type schemes for magnetohydrodynamics. I. A model system. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 545–567. (Magdi M. Shoucri) **99j:76085** 76M20 (76W05)

— Linear bicharacteristic schemes without dissipation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1405–1427 (*electronic*). (G. W. Hedstrom) **99b:65109** 65M25 (73V20, 76M25, 78–08)

de Roeck, Anne *see* **De Roeck, Anne**

de Roeck, Yann-Hervé *see* **De Roeck, Yann-Hervé**

Roegner, K. (*with* Daberkow, M.; Fieker, C.; Klüners, Jürgen; Pohst, Michael E.; Schörnig, M.; Wildanger, K.) KANT V4. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 267–283. (Wieb Bosma) **99g:11150** 11Y40 (12Y05, 68Q40)

Roehm, Denny James (*with* Jones, Dawn M.; Schultz, Michelle) On matchings in graphs. (English summary) *Ars Combin.* **50** (1998), 65–79. (Martin Bača) **99m:05125** 05C70

Roelants van Baronaigien, Dominique Fast Gray code generation of the bit sequence representation of k-ary trees. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 169–174. (Summary) **99k:05153** 05C85 (05C05)

— A multi-stack method for the fast generation of permutations with minimal length increasing subsequences. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 123–126. 68R05

Relly, S. (*with* Poghosyan, S.) Invariance principle for martingale-difference random fields. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 235–245. (Alexander V. Bulinskiĭ) **99e:60094** 60F17 (60G60)

— (*with* Fritz, József; Zessin, H.) Stationary states of interacting Brownian motions. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 151–164. (Hans-Otto Georgii) **99h:60164** 60K35 (60J25)

Roelse, Peter Factoring high-degree polynomials over $\mathbf{F}_2$ with Niederreiter's algorithm on the IBM SP2. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 869–880. (Igor E. Shparlinski) **99i:11112** 11T06 (11Y16)

Roeper, Peter (*with* Leblanc, Hugues) Of A and B being logically independent of each other and of their having no common factual content. *Theoria* **61** (1995), *no.* 1, 61–79. (Maria-Teresa Lamata) **99j:03017** 03B48 (60A05)

— Region-based topology. (English summary) *J. Philos. Logic* **26** (1997), *no.* 3, 251–309. (Andreas Blass) **99f:54005** 54A05 (54D45)

Roepstorff, G. Electrons in a radiation field: a new type of path integrals. (English summary) *Path integrals: Dubna '96*, 289–294, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81V80 (81S40)

Roerdink, Jos B. T. M. (*with* Tuzikov, A. V.; Heijmans, Henk J. A. M.; Sheĭnin, S. A.) Measures and indices of reflection symmetry for convex polyhedra. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 59–65, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Christian Ronse) **99k:52014** 52A38 (51M16, 52A39, 52B15, 68U05, 68U10)

— *see also* **Mathematical morphology and its applications to image and signal processing, 99g:68217**

Roero, Clara Silvia (*with* Mazzone, Silvia) ★ Jacob Hermann and the diffusion of the Leibnizian calculus in Italy. Biblioteca di Nuncius: Studi e Testi [Nuncius Library: Studies and Texts], XXVI. *Leo S. Olschki Editore, Florence*, 1997. *xiv*+556 *pp. ISBN* 88-222-4555-5 (Detlef Laugwitz) **99f:01010** 01A50 (01A45, 01A70, 26–03)

Roesch, Michel (*with* Brenier, Yann) Reconstruction d'écoulements incompressibles à partir de données lagrangiennes. (French summary) [Reconstructing incompressible flows from Lagrangian data] *Actes du 29ème Congrès d'Analyse Numérique: CANum'97* (*Larnas*, 1997), 11–22 (*electronic*), *ESAIM Proc.*, 3, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99e:76026** 76C99 (76D05, 76M25)

Roesch, Pascale Topologie locale des méthodes de Newton cubiques: plan dynamique. (English and French summaries) [Local topology of cubic Newton methods: dynamical plane] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1221–1226. (Peter Petek) **99j:58174** 58F23 (30D05)

— Topologie locale des méthodes de Newton cubiques: plan paramétrique. (English and French summaries) [Local topology of cubic Newton methods: the parameter plane] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 2, 151–154. (Peter Petek) **99m:58155** 58F23

van Roessel, H. J. *see* **Van Roessel, H. J.**

Roessler, Damien (*with* Köhler, Kai) Un théorème du point fixe de Lefschetz en géométrie d'Arakelov. (English and French summaries) [A Lefschetz fixed point theorem in Arakelov geometry] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 719–722. (Klaus Künnemann) **99m:14046** 14G40 (14C40, 14L30, 58G26)

Rofe-Beketov, F. S. (*with* Kalf, Hubert) On the essential self-adjointness of Schrödinger operators with locally integrable potentials. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 95–106. (Günter Stolz) **99e:47063** 47F05 (35J10, 35P05, 47B25)

Rogachevskiĭ, I. (*with* Kleeorin, N.) Anomalous scalings and dynamics of magnetic helicity. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 3008–3011. (Summary) **99k:76153** 76W05

Rogatko, A. (*with* Zacks, Shelemyahu; Babb, James Scott) Optimal Bayesian-feasible dose escalation for cancer phase I trials. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 215–220. (Summary) **99b:62118** 62L05 (62P10)

Rogatko, Marek (*with* Moderski, Rafał) Euclidean dilaton black hole vortex. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3449–3456. 83C57

— Extrema of mass, first law of black hole mechanics, and a staticity theorem in Einstein-Maxwell-axion-dilaton gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044011, 11 *pp.* (Summary) **99m:83138** 83C57 (83C22)

— (*with* Moderski, Rafał) Abelian Higgs hair for electrically charged dilaton black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124016, 13 *pp.* 83C57

Rogava, V. M. The Baire property and almost disjunctive families of sets. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 3, 386–389 (1995). 54E52

Rogaway, Phillip Bucket hashing and its application to fast message authentication. (English summary) *J. Cryptology* **12** (1999), *no.* 2, 91–115. (Summary) **99m:94036** 94A60

Rogawski, Jonathan (*with* Lapid, Erez M.) On twists of cuspidal representations of GL(2). (English summary) *Forum Math.* **10** (1998), *no.* 2, 175–197. (Volker J. Heiermann) **99d:11055** 11F70 (11F72, 11R39, 22E55)

— (*with* Jacquet, Hervé; Lapid, Erez M.) Periods of automorphic forms. *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 173–240. (Jiandong Guo) **99c:11056** 11F67 (11F70, 11F72, 22E55)

Rogen, Peter Principal normal indicatrices of closed space curves. (English summary) *Geom. Dedicata* **74** (1999), *no.* 1, 49–60. (Joel L. Weiner) **99m:53007** 53A04

Roger, Claude Various aspects and generalizations of the Godbillon-Vey invariant. (English summary) *Lie groups and Lie algebras*, 231–247, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99c:57060** 57R32 (17B66, 57R30, 58H10)

— (*with* Ovsienko, Valentin) Deforming the Lie algebra of vector fields on S^1 inside the Poisson algebra on $\hat{T}^*S^1$. (English summary) *Comm. Math. Phys.* **198** (1998), *no.* 1, 97–110. (Janusz Grabowski) **99k:58202** 58H15 (17B66)

Rogers, Alan R. Population structure and modern human origins. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 55–79, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D15 (92B15)

Rogers, B. N. (*with* Zeiler, A.; Biskamp, D.; Drake, J. F.) Transition from resistive ballooning to η_i driven turbulence in tokamaks. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2654–2663. (Summary) **99b:76102** 76X05

Rogers, C. *see* **Rogers, Colin**

Rogers, C. Ambrose Obituary: Richard Rado. *Bull. London Math. Soc.* **30** (1998), *no.* 2, 185–195. (Editors) **99a:01023** 01A70

Rogers, Colin (*with* Schief, W. K.; Winternitz, Pavel) Lie-theoretical generalization and discretization of the Pinney equation. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 246–264. (Summary) **99i:34011** 34A26 (34A34, 39A12)

— (*with* Schief, W. K.) Intrinsic geometry of the NLS equation and its auto-Bäcklund transformation. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 3, 267–287. (Xian Guo Geng) **99j:35211** 35Q55 (58F37)

Rogers, D. G. (*with* Hamilton, G. M.; Roberts, I. T.) Regular perfect systems of sets of iterated differences. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 29–44. (K. C. Prasad) **99d:05011** 05B10 (05A17)

Rogers, Eric (*with* Rocha, Paula; Owens, David H.) Stability of discrete non-unit memory linear repetitive processes—a two-dimensional systems interpretation. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 457–482. 93D05 (93C30)

— (*with* Amann, Notker; Owens, David H.) Iterative learning control using optimal feedback and feedforward actions. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 277–293. 93E35 (93C40)

— (*with* Gałkowski, Krzysztof; Owens, David H.) Control systems theory for linear repetitive processes—recent progress and open research problems. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 737–774. (Summary) **99c:93003** 93A30 (93B50, 93C30)

— (*with* French, M.) Approximate models for adaptive feedback linearization. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1305–1321. 93B17

— (*with* Gałkowski, Krzysztof; Owens, David H.) Matrix rank based conditions for reachability/controllability of discrete line repetitive processes. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 201–224. (Summary) **99c:93006** 93B05 (93C55)

— (*with* Wood, Jeffrey James; Owens, David H.) A formal theory of matrix primeness. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 1, 40–78. (François Ollivier) **99j:93059** 93C35 (13C15, 13H10, 93C20)

— (*with* Wood, Jeffrey James; Owens, David H.) Minimum lag descriptions and minimal Gröbner bases. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 289–293. (Summary) **99c:93028** 93B25 (93E03)

Rogers, James Strict LT_2 : regular :: local : recognizable. (English summary) *Logical aspects of computational linguistics (Nancy, 1996)*, 366–385, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (Summary) **99f:68125** 68Q45 (03B15, 03D05)

Rogers, James T., Jr. Recent results on the boundaries of Siegel disks. *Progress in holomorphic dynamics*, 41–49, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (Walter Bergweiler) **99j:58175** 58F23 (30D05)

— Diophantine conditions imply critical points on the boundaries of Siegel disks of polynomials. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 175–193. (Walter Bergweiler) **99g:58107** 58F23 (30D05)

Rogers, Joel C. W. (*with* Hinczewski, Michael) The response of a damped pendulum to a large driving force. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 2, 105–127. (Sergei A. Dovbysh) **99g:34076** 34C15 (34C28, 34C37, 34D05, 70K40)

Rogers, John D. (*with* Fortnow, Lance) Complexity limitations on quantum computation. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 202–209, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q05, 81P99)

— (*with* Naik, Ashish V.; Royer, James S.; Selman, Alan L.) A hierarchy based on output multiplicity. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 131–157. (Marius Zimand) **99m:68064** 68Q15

Rogers, Kathleen A. (*with* Manning, Robert S.; Maddocks, John H.) Isoperimetric conjugate points with application to the stability of DNA minicircles. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3047–3074. (Summary) **99j:49032** 49K10 (73K05, 73V25, 92D20)

Rogers, L. C. G. (*with* Hobson, David G.) Complete models with stochastic volatility. (English summary) *Math. Finance* **8** (1998), *no.* 1, 27–48. (Walter Schachermayer) **99i:90016** 90A09

Rogers, Michael M. (*with* Moser, Robert D.; Ewing, Daniel W.) Self-similarity of time-evolving plane wakes. (English summary) *J. Fluid Mech.* **367** (1998), 255–289. (Summary) **99e:76070** 76F99 (76M25)

Rogers, Rodney O. Relationships between four binary tree coding schemes. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 157–172. (Summary) **99k:94063** 94B60 (05C05)

Rogerson, Graham A. (*with* Sandiford, K. J.) Flexural waves in incompressible pre-stressed elastic composites. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 4, 597–624. (Piotr Borejko) **99c:73021** 73D15 (73K20)

— On the existence of surface waves and the propagation of plate waves in pre-stressed fibre-reinforced composites. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 9, 1581–1612. 73D20 (73K10, 73K20)

— (*with* Murphy, Jeremiah G.) Surface waves in slightly compressible, finitely deformed elastic media. *Mech. Res. Comm.* **25** (1998), *no.* 5, 493–502. (Philippe Boulanger) **99k:73056** 73D20 (73C50, 73G05)

Roget, C. (*with* Brazier, J. Ph.; Cousteix, J.; Mauss, J.) A contribution to the physical analysis of separated flows past three-dimensional humps. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 3, 307–329. (Summary) **99e:76036** 76D15 (76D10)

Rogge, L. (*with* Landers, D.) Best φ-approximants for bounded loss functions. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 255–260. (Dominikus Noll) **99i:62226** 62M20 (41A50, 62C05)

— (*with* Armitage, David H.; Gardiner, Stephen J.; Haußmann, Werner) Best one-sided L^1-approximation by harmonic functions. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 181–194. (Antonio Bonilla-Ramirez) **99e:31005** 31B05 (41A30)

— (*with* Landers, D.) Nonstandard characterization of convergence in law for $D[0, 1]$-valued random variables. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 199–203. (Summary) **99b:60011** 60B12 (03H05)

Roggenbach, Markus (*with* Majster-Cederbaum, Mila) Transition systems from event structures revisited. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 119–124. (Introduction) **99f:68063** 68Q10 (68Q55)

Roggero, Margherita (*with* Valabrega, Paolo) On the smallest degree of a surface containing a space curve. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 123–138. (Luca Chiantini) **99b:14029** 14H50 (14J25)

Rogina, Mladen A knot insertion algorithm for weighted cubic splines. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 387–394, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65032** 65D17 (65D07)

Roginskaya, M. M. An asymptotic lower bound for multidimensional Calderón-Zygmund operators on singular measures. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 2, 147–168; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 2, 301–318. (Vladimir B. Vasilyev) **99d:42038** 42B25

Rognes, John Trace maps from the algebraic K-theory of the integers (after Marcel Bökstedt). (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 277–286. (Ulrike Tillmann) **99b:19005** 19D55

Rogoff, Z. M. (*with* Tew, R. H.) A multiple-scales analysis of total internal reflection at a fluid-solid interface. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 3067–3094. (Summary) **99a:73055** 73D25 (73K70, 76Q05)

Rogov, A. A. (*with* Chernetskii, V. I.; Shchegoleva, I. V.) Statistical analysis of renewal processes. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 137–144, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60K05 (62G05)

Rogov, V.-B. K. (*with* Ol'shanetskiĭ, M. A.) q-integral representations of modified Bessel q-functions and Macdonald q-functions. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 8, 125–148; *translation in Sb. Math.* **188** (1997), *no.* 8, 1235–1258. (Alexei Zhedanov) **99b:33034** 33D15

Rogovchenko, S. P. (*with* Rogovchenko, Yu. V.) Asymptotics of solutions for a class of second order nonlinear differential equations. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 157–164. (P. K. Palamides) **99k:34126** 34E99

Rogovchenko, Yu. V. Oscillation criteria for second order nonlinear perturbed differential equations. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 334–357. (John R. Graef) **99a:34099** 34C10 (34C15)

— On the asymptotic behavior of solutions for a class of second order nonlinear differential equations. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 113–120. (Josef Diblík) **99d:34101** 34E05 (34E10)

— (*with* Rogovchenko, S. P.) Asymptotics of solutions for a class of second order nonlinear differential equations. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 157–164. (P. K. Palamides) **99k:34126** 34E99

— Oscillation criteria for certain nonlinear differential equations. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 399–416. (Ch. G. Philos) **99k:34071** 34C10 (34K15)

Rogozhin, Yu. (*with* Margenstern, M.) Some small self-describing Turing machines. (English summary) *Comput. Sci. J. Moldova* **6** (1998), *no.* 1, 57–82. (Ronald E. Prather) **99j:68032** 68Q05 (03D10)

Roh, Eun Hwan (*with* Jun, Young Bae) A result on fuzzy irreducible ideals of BCK-algebras. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 141–144. (Summary) **99f:06024** 06F35

— (*with* Jun, Young Bae; Wei, Shi Min) Fuzzy $(*)$-ideals in BCI-algebras. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 437–445. (C. S. Hoo) **99g:06025** 06F35 (03G25, 04A72)

— (*with* Jun, Young Bae; Meng, Jie; Xin, Xiao Long) Fuzzy dual ideals in BCK-algebras. II. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 203–214. 06F35 (03G25, 04A72)

— (*with* Jun, Young Bae; Huang, Wen Ping) On prime dual ideals in BCK-algebras. II. *Kyungpook Math. J.* **38** (1998), *no.* 2, 387–391. 06F35 (03G25)

— (*with* Jun, Young Bae; Wei, Shi Min) Supplement of the paper: "Some ideals in BCI-algebras" [Math. Japon. **43** (1996), no. 1, 47–50]. (English summary) *Sci. Math.* **1** (1998), *no.* 2, 209–210 (*electronic*). 06F35 (03G25)

— (*with* Jun, Young Bae; Wei, Shi Min; Zhu, Yi Quan) Some ideals in BCI-algebras. II. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 147–154. (Summary) **99d:06026** 06F35 (03G25)

— (*with* Jun, Young Bae; Mostafa, Samy M.) On fuzzy implicative ideals of BCK-algebras. (English summary) *Soochow J. Math.* **25** (1999), *no.* 1, 57–70. (Summary) **99k:06012** 06F35 (03G25)

Rohatgi, V. (*with* Kagan, Abram; Laha, Radha Govinda) Independence of the sum and absolute difference of independent random variables does not imply their normality. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 2, 263–265. (J. A. Melamed) **99a:62016** 62E10

Rohde, Andrea On Sard's theorem for nonsmooth functions. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 1023–1039. (Y. Yomdin) **99m:58029** 58C20 (49J52)

Rohde, Christian Upwind finite volume schemes for weakly coupled hyperbolic systems of conservation laws in 2D. (English summary) *Numer. Math.* **81** (1998), *no.* 1, 85–123. (Riccardo Fazio) **99j:65174** 65M60 (35L65, 76M25, 76N15)

— Entropy solutions for weakly coupled hyperbolic systems in several space dimensions. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 470–499. (Ivan Straškraba) **99e:35133** 35L60 (35L65)

Rohde, Steffen (*with* Pommerenke, Ch.) The Gehring-Hayman inequality in conformal mapping. (English summary) *Quasiconformal mappings and analysis (Ann Arbor, MI, 1995)*, 309–319, *Springer, New York*, 1998. (J. G. Krzyż) **99c:30009** 30C35 (30C55)

— (*with* Bonk, Mario; Koskela, Pekka) Conformal metrics on the unit ball in Euclidean space. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 3, 635–664. (Juha Heinonen) **99f:30033** 30C65

Rohlfs, Jürgen (*with* Speh, Birgit) A comparison of geometric theta functions for forms of orthogonal groups. (English summary) *Geometry and representation theory of real and p-adic groups (Córdoba, 1995)*, 243–272, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Jiandong Guo) **99c:11061** 11F70 (11F72, 22E55)

Rohn, Jiří (*with* Mayer, Günter) On the applicability of the interval Gaussian algorithm. (English summary) *Reliab. Comput.* **4** (1998), *no.* 3, 205–222. (M. A. Wolfe) **99f:65071** 65G10 (65F05)

— (*with* Rex, Georg) Enclosing solutions of linear equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 524–539 (*electronic*). (Ljiljana Petković) **99h:65099** 65G10 (15A06, 65F10)

— (*with* Rex, Georg) Sufficient conditions for regularity and singularity of interval matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 437–445 (*electronic*). (J. Michel Muller) **99i:65054** 65G10 (15A18)

— (*with* Jansson, Christian) An algorithm for checking regularity of interval matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 3, 756–776 (*electronic*). (Summary) **99m:65101** 65G10 (65F30, 90C90)

Rohrbach, Hans Helmut Hasse and Crelle's journal. Translated from the 1982 German original by Bärbel Deninger. *J. Reine Angew. Math.* **500** (1998), 5–13. (Editors) **99g:01040** 01A74 (01A60, 01A70)

Röhrig, Ralf Representation and processing of qualitative orientation knowledge. (English summary) *KI-97: advances in artificial intelligence (Freiburg, 1997)*, 219–230, *Lecture Notes in Comput. Sci.*, 1303, *Springer, Berlin*, 1997. (*see* **99d:68006**) 68T99

Röhrl, N. (*with* Waldi, Rolf) A determinantal criterion for positive sign-solvability. *Comm. Algebra* **26** (1998), *no.* 7, 2361–2369. (John Chollet) **99k:15036** 15A48 (15A15, 15A45)

Röhrle, Gerhard (*with* Popov, Vladimir Leonidovich) On the number of orbits of a parabolic subgroup on its unipotent radical. (English summary) *Algebraic groups and Lie groups*, 297–320, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Dennis Snow) **99f:14063** 14L30 (14L35)

— Maximal parabolic subgroups in classical groups are of modality zero. (English summary) *Geom. Dedicata* **66** (1997), *no.* 1, 51–64. (R. Veeramony) **99b:20081** 20G15 (20G20, 22E20)

— A note on the modality of parabolic subgroups. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 4, 549–559. (V. L. Popov) **99e:20060** 20G15 (14L30)

— On normal abelian subgroups in parabolic groups. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 5, 1455–1482. (Dmitri I. Panyushev) **99i:20062** 20G15 (17B45)

— (*with* Jürgens, Ulf) Algorithmic modality analysis for parabolic groups. (English summary) *Geom. Dedicata* **73** (1998), *no.* 3, 317–337. (Dmitri I. Panyushev) **99k:20094** 20G15 (17B45)

Rohrlich, Daniel (*with* Popescu, Sandu) Causality and nonlocality as axioms for quantum mechanics. (English summary) *Causality and locality in modern physics (Toronto, ON, 1997)*, 383–389, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05

Rohrlich, David E. Modular curves, Hecke correspondence, and *L*-functions. *Modular forms and Fermat's last theorem (Boston, MA, 1995)*, 41–100, *Springer, New York*, 1997. (*see* **99k:11004**) 11G18 (11F32, 11F66, 11G40)

— (*with* Tunnell, Jerrold B.) An elementary case of Serre's conjecture. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 299–309. (Chandrashekhar Khare) **99a:11066** 11F80 (11F11)

Rohrlich, Fritz The arrow of time in the equations of motion. (English summary) *Found. Phys.* **28** (1998), *no.* 7, 1045–1056. (Dan Radu Grigore) **99h:70004** 70A05 (81P05)

Rohs, A. P. (*with* Görlich, E.) Bounds for relative projection constants in $L^1(-1,1)$. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 589–597. (Manfred Sommer) **99h:41009** 41A10 (41A35, 46E30)

Roichman, Yuval Induction and restriction of Kazhdan-Lusztig cells. (English summary) *Adv. Math.* **134** (1998), *no.* 2, 384–398. (Jian Yi Shi) **99c:20051** 20F55 (20G05)

— (*with* Friedman, Joel; Joux, Antoine; Stern, Jacques; Tillich, Jean-Pierre) The action of a few permutations on r-tuples is quickly transitive. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 4, 335–350. (Martin Klazar) **99e:05106** 05C80 (05A05, 94A60)

Roig, G. (*with* Yen, K. K.; Zhou, S. F.) Extreme point result for robust stability of discrete systems with complex coefficients in a diamond. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 529–538. 93D09

margalef-Roig, J. *see* **Margalef-Roig, J.**

garcía-Roig, J.-L. *see* **García-Roig, J.-L.**

miró-Roig, Rosa M. *see* **Miró-Roig, Rosa M.**

Roitberg, I. Elliptic boundary value problems for general elliptic systems in complete scales of Banach spaces. (English summary) *Differential and integral operators (Regensburg, 1995)*, 231–241, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Jan Bochenek) **99f:35041** 35J55 (35R20)

Roĭter, A. V. (*with* Belousov, K. I.; Nazarova, L. A.) Finitely presentable triadic sets. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 3–27; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 651–673. (Daniel Simson) **99i:16029** 16G20 (16G10, 16G60)

— (*with* Belousov, K. I.; Nazarova, L. A.) Representations of finitely represented dyadic sets. (English summary) *Algebras and modules, II (Geiranger, 1996)*, 61–76, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Sverre O. Smalø) **99k:16031** 16G20 (15A21, 16G50, 18E05)

Roitman, Judith (*with* Soukup, Lajos) Luzin and anti-Luzin almost disjoint families. (English summary) *Fund. Math.* **158** (1998), *no.* 1, 51–67. (Klaas Pieter Hart) **99g:03050** 03E05 (03E35, 54G20)

Rojas, I. (*with* Valenzuela, O.; Anguita, M.; Prieto Espinosa, Alberto) Analysis of the operators involved in the definition of the implication functions and in the fuzzy inference process. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 367–389. (Summary) **99h:03016** 03B52

— (*with* Ortega, Julio; Pelayo, F. J.; Prieto Espinosa, Alberto) Statistical analysis of the main parameters in the fuzzy inference process. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 157–173. 93C42 (03B52)

Rojas, Jacqueline Fabiola (*with* Vainsencher, Israel) Conical sextuplets. (English summary) *Comm. Algebra* **24** (1996), *no.* 11, 3437–3457. (From the introduction) **99c:14003** 14C05 (14E05)

galea Rojas, Manuel *see* **Galea Rojas, Manuel**

Rojas Medar, Marko A. Magneto-micropolar fluid motion: existence and uniqueness of strong solution. (English summary) *Math. Nachr.* **188** (1997), 301–319. (A. J. Meir) **99h:76094** 76W05 (35Q35, 76A05, 76D99)

— (*with* Damázio, Pedro D.) On some questions of the weak solutions of evolution equations for magnetohydrodynamic type. (English summary) *Proyecciones* **16** (1997), *no.* 2, 83–97. (Summary) **99e:35183** 35Q35 (35D10, 76W05)

— (*with* Notte Cuello, E. A.) Stationary solutions for generalized Boussinesq models in exterior domains. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 22, 9 *pp.* (*electronic*). (Grzegorz Karch) **99h:35178** 35Q35 (35D05, 35J55, 76D99)

— (*with* Brandão, Adilson J. V.; Silva, Geraldo Nunes) Nonsmooth continuous-time optimization problems: sufficient conditions. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 305–318. (Vera Zeidan) **99j:49031** 49K05

— (*with* Damázio, Pedro D.) On the convergence rate of semi-Galerkin approximations for the equations of viscous fluids in the presence of diffusion. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 105–125. (Vitoriano Ruas) **99m:76092** 76M25 (65M12, 76D05)

— (*with* Boldrini, José Luiz) Magneto-micropolar fluid motion: existence of weak solutions. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 2, 443–460. (Mariarosaria Padula) **99k:76154** 76W05 (35D05, 35Q35, 76A99)

— (*with* Bassanezi, Rodney C.; Román-Flores, Heriberto) A generalization of the Minkowski embedding theorem and applications. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 263–269. (Summary) **99m:49033** 49J55 (46E99)

Rojek, J. (*with* Zienkiewicz, O. C.; Taylor, Robert Leroy; Pastor, M.) Triangles and tetrahedra in explicit dynamic codes for solids. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 3, 565–583. (Summary) **99f:73085** 73V05

Rojo, H. *see* **Rojo J., Héctor**

huidobro Rojo, J. A. *see* **Huidobro Rojo, J. A.**

Rojo, Javier (*with* Dykstra, Richard L.; Kochar, Subhash) Stochastic comparisons of parallel systems of heterogeneous exponential components. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 203–211. (Philip J. Boland) **99e:62041** 62G05 (60E15, 62N05)

— Estimation of the quantile function of an IFRA distribution. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 293–310. (Mir Masoom Ali) **99i:62077** 62G05 (62N05)

Rojo, Jesús (*with* Tristán, Luis A.) Singularities and energy absorption in magnetohydrodynamics. (English and Spanish summaries) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76W05 (76X05)

— (*with* Alonso, Ana I.; Hong, Jialin) A class of ergodic solutions of differential equations with piecewise constant arguments. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 561–574. (Russell A. Johnson) **99m:34155** 34K15 (34C28)

— (*with* Alvarez, Jorge) A new family of explicit two-stage methods of order three for the scalar autonomous IVP. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1999), *no.* 3, 246–251. 65L05

Rojo, O. (*with* Soto, R.; Rojo J., Héctor) Bounds for the spectral radius and the largest singular value. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 41–50. (Summary) **99c:65080** 65F30 (15A42)

— (*with* Ayala, Victor; Soto, R.) Observability of the direct product of bilinear control systems on Lie groups. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 107–112. (Yuri L. Sachkov) **99f:93017** 93B07 (93B25, 93C10)

Rojo J., Héctor (*with* Rojo, O.; Soto, R.) Bounds for the spectral radius and the largest singular value. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 41–50. (Summary) **99c:65080** 65F30 (15A42)

Rokhlenko, A. (*with* Carlen, Eric Anders; Esposito, Raffaele; Lebowitz, Joel L.; Marra, R.) Kinetics of a model weakly ionized plasma in the presence of multiple equilibria. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 3, 193–218. (Carlo Cercignani) **99h:82072** 82D10 (35Q99, 76P05, 76X05, 82C40)

Rokhlin, D. B. On the spectral problem for Laplace tidal equations on a surface with an edge. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 4, 15–18, 101. (Ya. A. Roĭtberg) **99f:58207** 58G18 (35P20, 47A56, 47F05, 58G25, 76B99)

— Impact on a planar body floating on the surface of a thin layer of an ideal incompressible fluid. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1368–1378. (Summary) **99k:76020** 76B10 (35Q35)

Rokhlin, Vladimir V. (*with* Greengard, Leslie) A new version of the fast multipole method for the Laplace equation in three dimensions. (English summary) *Acta numerica*, 1997, 229–269, *Acta Numer.*, 6, *Cambridge Univ. Press, Cambridge*, 1997. (G. A. Evans) **99c:65012** 65C20

— (*with* Yarvin, Norman) A generalized one-dimensional fast multipole method with application to filtering of spherical harmonics. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 594–609. (Summary) **99h:78007** 78–08 (33C55, 65T20)

— (*with* Hrycak, Tomasz) An improved fast multipole algorithm for potential fields. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1804–1826 (*electronic*). (Summary) **99d:65026** 65C20 (65N99, 70–08, 70F10, 78–08)

— (*with* Yarvin, Norman) Generalized Gaussian quadratures and singular value decompositions of integral operators. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 699–718 (*electronic*). (T. Feagin) **99i:65025** 65D32 (45L05, 47G10)

Roki, Rajko (*with* Jardas, Cvetan; Pečarić, Josip; Sarapa, Nikola) On an inequality of Hardy-Littlewood-Pólya and some applications to entropies. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 201–206. (Lars Erik Persson) **99c:26017** 26D15 (94A17)

jokiel-Rokita, A. *see* **Jokiel-Rokita, A.**

Rokityanskiĭ, D. Ya. Optimal ellipsoidal bounds for the reachable set of linear systems with an uncertain matrix. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 17–20. 93E03 (93C41)

Rokne, Jon G. (*with* Ratschek, Helmut) Test for intersection between box and tetrahedron. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 191–204. (Summary) **99k:65044** 65G10 (65Y25, 68U05)

— (*with* Lin, Qun[1]) Disk Bézier curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 7, 721–737. (Summary) **99b:65018** 65D17 (65D10, 65G10)

— (*with* Lin, Qun[1]) Inclusion isotonicity for circular centered forms in several complex variables. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 6, 1069–1076. (G. Alefeld) **99d:65148** 65G10

— (*with* Gavrilova, Marina) Swap conditions for dynamic Voronoi diagrams for circles and line segments. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 2, 89–106. (Summary) **99h:65240** 65Y25 (51N05, 52B55, 65D17)

— (*with* Yao, Chengfu) An integral linear interpolation approach to the design of incremental line algorithms. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 3–19. (Summary) **99k:65120** 65Y25 (65D15, 68U05)

Rokni, M. (*with* Berger, B. S.; Minis, I.) Singular values of cumulant matrices. *J. Sound Vibration* **205** (1997), *no.* 5, 706–711. (Zhenyue Zhang) **99b:15032** 15A57 (15A18)

Rolain, Yves (*with* Pintelon, Rik; Guillaume, Patrick; Vandersteen, Gerd) Analyses, development, and applications of TLS algorithms in frequency domain system identification. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 983–1004 (*electronic*). (Kurt Marti) **99e:93077** 93E10 (93E12)

— (*with* Pintelon, Rik; Schoukens, Johan; Vandersteen, Gerd) Identification of invariants of (over)parameterized models: finite sample results. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1073–1077. 93E10

Roland, Kaj (*with* Sato, Haru-Tada) Multiloop Φ^3 amplitudes from bosonic string theory. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 488–508. (Summary) **99a:81151** 81T30

przeworska-Rolewicz, Danuta *see* **Przeworska-Rolewicz, Danuta**

Rolewicz, Stefan (*with* Lausch, Hans; Pallaschke, Diethard) Universal derivations in spaces of functions with values in non-commutative Banach algebras. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 115–120. (K. B. Laursen) **99b:46074** 46H99 (16W25, 46E40)

— (*with* Pallaschke, Diethard) Penalty and augmented Lagrangian in general optimization problems. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 423–437, *Brepols, Turnhout*, 1998. (V. F. Dem′yanov) **99m:90134** 90C30

— On uniformly Φ-convex functions and strongly monotone multifunctions. Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 239–245. (Ronald M. Mathsen) **99m:26019** 26A51 (52A01, 54C60)

Rolf, Juri (*with* Ambjørn, Jan; Nielsen, Jakob L.; Savvidy, George) Spikes in quantum Regge calculus. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3225–3241. (Annalisa Marzuoli) **99f:83023** 83C27 (83C45)

— (*with* Ambjørn, Jan; Nielsen, Jakob L.; Boulatov, Dimitri V.; Watabiki, Yoshiyuki) The spectral dimension of 2D quantum gravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 10, 8 *pp.* (*electronic*). (Summary) **99c:83026** 83C45

— (*with* Cvitanović, Predrag; Hansen, Kim; Vattay, Gábor) Beyond the periodic orbit theory. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1209–1232. (Roberto Artuso) **99g:58102** 58F20 (58F19)

Rolfsen, Dale (*with* Zhu, Jun[1]) Braids, orderings and zero divisors. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 6, 837–841. (Vitaly A. Roman′kov) **99g:20072** 20F36 (16S34, 57M25)

Rolim, José D. P. (*with* Andreev, A. E.; Clementi, Andrea E. F.) Optimal bounds for the approximation of Boolean functions and some applications. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 243–268. (Summary) **99j:94083** 94C10 (68Q25)

— (*with* Rajasekaran, Sanguthevar) Randomized parallel algorithms for combinatorial optimization. (English summary) *Handbook of combinatorial optimization, Vol. 3*, 567–620, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (65Y05, 90–02, 90C15)

— (*with* Trevisan, Luca) A case study of de-randomization methods for combinatorial approximation algorithms. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 319–334, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Nikolay N. Ivanov) **99h:90067** 90C09 (68Q25, 90C10, 90C27)

— (*with* Clementi, Andrea E. F.; Trevisan, Luca) Recent advances towards proving P=BPP. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 64 (1998), 96–103. (Summary) **99b:68081** 68Q15 (03D15)

— (*with* Tvrdík, Pavel; Trdlička, Jan; Vrťo, Imrich) Bisecting de Bruijn and Kautz graphs. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 87–97. (Summary) **99a:05057** 05C20

— (*with* Trevisan, Luca) A case study of de-randomization methods for combinatorial approximation algorithms. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 219–236. (Summary) **99k:90138** 90C27 (90C15)

— (*with* Ďuriš, Pavol) Lower bounds on the multiparty communication complexity. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 90–95. (Juraj Hromkovič) **99f:68067** 68Q15 (68Q10, 68Q22, 94C10)

— (*with* Andreev, A. E.; Clementi, Andrea E. F.; Crescenzi, P.; Dahlhaus, Elias; De Agostino, Sergio) The parallel complexity of approximating the high degree subgraph problem. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 261–282. (Mukkai S. Krishnamoorthy) **99g:68087** 68Q25 (05C85, 68Q15, 68Q22)

— *see also* **Randomization methods in algorithm design, 99f:68007; Parallel algorithms for irregularly structured problems, 99g:65007; Solving irregularly structured problems in parallel, 99h:65007** *and* **Approximation algorithms for combinatorial optimization, 99i:68002**

Rolin, Jean-Philippe (*with* Lion, Jean-Marie) Volumes, feuilles de Rolle de feuilletages analytiques et théorème de Wilkie. (English and French summaries) [Volumes, Rolle leaves of analytic foliations and Wilkie theorem] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 1, 93–112. (Zbigniew Szafraniec) **99m:32009** 32C05 (14P15)

Roliński, T. (*with* Olszewski, S.) First adiabatic invariant of a charged particle modified in a time-dependent magnetic field. (English summary) *Phys. Plasmas* **6** (1999), *no.* 2, 425–434. (Summary) **99k:78018** 78A35 (76X05)

Rolland, Erik (*with* Amiri, Ali; Barkhi, Reza) Queueing delay guarantees in bandwidth packing. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 9, 921–935. (Summary) **99m:90071** 90B12 (90B22)

Rolland, Robert (*with* Mercier, Dany-Jack) Polynômes homogènes qui s'annulent sur l'espace projectif $\mathbf{P}^m(\mathbf{F}_q)$. (French summary) [Homogeneous polynomials that vanish on the projective space $\mathbf{P}^m(\mathbf{F}_q)$] *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 227–240. (Francisco Jesús Castro-Jiménez) **99h:13015** 13D02

Rolle, Jean-Daniel A model for perturbed production or measurement processes involving compound normal distributions. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 75–88. 90B30 (62H05)

Roller, Dieter *see* **Geometric constraint solving and applications, 99e:68167**

Roller, Sabine (*with* Klein, Rupert; Geratz, Karl Josef; Terhoeven, Peter; Munz, Claus-Dieter; Denet, Bruno; Searby, Geoffrey) Numerical techniques for multi-scale weakly compressible reactive flows. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 242–259, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99j:76091** 76M25 (76N10, 80–08, 80A25)

Rollet, G. (*with* Martin, Paul Purdon) The Potts model representation and a Robinson-Schensted correspondence for the partition algebra. (English summary) *Compositio Math.* **112** (1998), *no.* 2, 237–254. (Yasuyuki Kawahigashi) **99f:05121** 05E10 (82B20)

Rollins, David K. (*with* Shivamoggi, Bhimsen K.) Magnetohydrodynamic boundary layer on a flat plate: further analytic results. (English summary) *J. Math. Phys.* **40** (1999), *no.* 7, 3372–3378. 76W05 (76D10)

Rol′shchikov, V. E. (*with* Bigil′deev, S. I.) Properties of an approximate gradient depending on the weight function. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 89–94. 90C30 (49J52)

Rolski, Tomasz (*with* Palmowski, Zbigniew) The superposition of alternating on-off flows and a fluid model. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 524–540. (Muhammad El-Taha) **99h:60162** 60K25 (68M20, 90B22)

— (*with* Dębicki, Krzysztof; Michna, Zbigniew) On the supremum from Gaussian processes over infinite horizon. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 83–100 (19*N*). (Simeon M. Berman) **99g:60075** 60G15

— (*with* Levikson, Benny; Weiss, Gideon) On a Poisson hyperbolic staircase. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 11–31. (J. Hüsler) **99k:60122** 60G55 (60G70)

Rom, Raphael (*with* Naor, Joseph; Orda, Ariel) Scheduled hot-potato routing. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no* 4, 20 *pp.* (*electronic*). (Summary) **99c:68021** 68M10

Roma, Massimo (*with* Lucidi, Stefano; Palagi, Laura) On some properties of quadratic programs with a convex quadratic constraint. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 105–122 (*electronic*). (Dorel Duca) **99f:90074** 90C20 (65K05, 90C25)

Romaguera, Salvador (*with* Schellekens, Michel) On the structure of the dual complexity space: the general case. *Extracta Math.* **13** (1998), *no.* 2, 249–253. 54E15 (54E50)

— (*with* Cao, Jiling; Reilly, Ivan L.) Some properties of quasiuniform multifunction spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 169–177. (Zbigniew Grande) **99c:54019** 54C35 (54C60, 54E15)

— On cofinally complete metric spaces. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 165–170. (Summary) **99f:54040** 54E50 (54E35, 54E45)

— (*with* Künzi, Hans-Peter A.) Well-quasi-ordering and the Hausdorff quasi-uniformity. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 207–218. (G. D. Dimov) **99f:54035** 54E15 (06A06, 54B20, 54D30)

— (*with* Cao, Jiling; Künzi, Hans-Peter A.; Reilly, Ivan L.) Quasi-uniform hyperspaces of compact subsets. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 117–126. (J. R. Isbell) **99c:54014** 54B20 (54E15)

— (*with* Pérez-Peñalver, M. J.) Weakly Cauchy filters and quasi-uniform completeness. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 3, 217–228. (Summary) **99m:54004** 54A20 (54E15, 54E50)

— (*with* Gregori, Valentin) Common fixed point theorems for pairs of fuzzy mappings. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 43–54. 54A40 (54H25)

Román, J. E. (*with* Guerrero, D.; Hernández, Vicente G.; Vidal Macía, Antonio M.) Parallel solution of the generalized Lyapunov equation using the Hammarling method. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 799–804, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65F30

Román, J. M. (*with* Sierra, Germán; Dukelsky, J.; Martín-Delgado, Miguel A.) The matrix product approach to quantum spin ladders. (English summary) *J. Phys. A* **31** (1998), *no.* 48, 9729–9759. (Summary) **99j:82019** 82B20

Román, Leopoldo (*with* Paré, Robert) Dinatural numbers. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 1, 33–92. (R. H. Street) **99f:18003** 18A23 (18D20)

Roman, Olena Nonlinear conformally invariant wave equations and their exact solutions. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2 (Kyiv, 1997)*, 147–154, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35L70 (35C05, 81R20)

Roman, Steven ★ Introduction to coding and information theory. (English summary) Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1997. xiv+323 *pp.* *ISBN* 0-387-94704-3 (Boris D. Kudryashov) **99b:94001** 94-01 (94A15, 94Bxx)

baguer diaz Romañach, Martha L. *see* **Baguer Diaz Romañach, Martha L.**

Romanelli, Silvia (*with* Favini, Angelo) Degenerate second order operators as generators of analytic semigroups on $C[0,+\infty]$ or on $L^p_{\alpha-1/2}(0,+\infty)$. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 93–100, *Transilvania, Cluj-Napoca*, 1997. (Alexei I. Filinkov) **99m:47047** 47D06 (34G10)

— (*with* Favini, Angelo) Analytic semigroups on $C[0,1]$ generated by some classes of second order differential operators. (English summary) *Semigroup Forum* **56** (1998), *no.* 3, 362–372. (Alexei I. Filinkov) **99j:47053** 47D06 (34G10)

Romanenko, E. Yu. (*with* Agarwal, Ravi P.) Stable periodic solutions of difference equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 81–84. (Summary) **99a:39003** 39A10

— Attractors of continuous difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 377–390. (Summary) **99i:39013** 39A10

Romanenko, Irene A. (*with* Kuzutin, Denis V.; Osokina, Olga P.) On the consistency of optimal behavior in extensive games. *Game theory and applications, III*, 65–76, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:90008**) 90D06

— (*with* Kuzutin, Denis V.; Osokina, Olga P.) On the consistency of optimal behavior in extensive games. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 139–150. (H. Abou-Kandil) **99f:90196** 90D10 (90D12)

Romanenko, V. A. A remark on a problem in celestial mechanics. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 111–112. (Summary) **99f:70022** 70F15 (70F07)

Romanenko, V. D. Multirate discrete control systems (basic approaches to design). (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 32–43, 155. 93C55 (93C70)

— (*with* Koval′, M. Yu.) Sensitivity of multirate discrete control systems under conditions of uncertainty about the speeds of the separating motions. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 96–107, 156–157. 93C55 (93C70)

Román-Flores, Heriberto (*with* Rojas Medar, Marko A.; Bassanezi, Rodney C.) A generalization of the Minkowski embedding theorem and applications. (English

summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 263–269. (Summary) **99m:49033** 49J55 (46E99)

Romani, Giuliano (*with* Mazzocco, Renzo) Symmetry properties for submanifolds and totally geodesic maps. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 423–431. (O. Kowalski) **99i:53059** 53C40 (53C35)

Romanik, Kathleen Approximate testing and its relationship to learning. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 79–99. (Jerzy W. Grzymała-Busse) **99c:68216** 68T05

— (*with* Bose, Prosenjit; Everett, Hazel; Fekete, Sándor P.; Houle, Michael E.; Lubiw, Anna; Meijer, Henk; Rote, Günter; Shermer, Thomas C.; Whitesides, S. H.; Zelle, Christian) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)

— (*with* Dudek, Gregory; Whitesides, S. H.) Localizing a robot with minimum travel. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 583–604 (*electronic*). (Summary) **99b:68093** 68Q25 (68T99, 68U05, 68U30)

Romanishin, I. M. (*with* Sinitskiĭ, L. A.) H_D-systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 224–238, 300. 93D10 (93C05)

Roman'kov, V. A. (*with* Bryant, Roger M.) The automorphism groups of relatively free algebras. *J. Algebra* **209** (1998), *no.* 2, 713–723. (J. R. J. Groves) **99k:20073** 20F28

Romano, Joseph P. (*with* Politis, D. N.; Wolf, Michael[3]) Subsampling for heteroskedastic time series. (English summary) *J. Econometrics* **81** (1997), *no.* 2, 281–317. (Summary) **99c:62261** 62M10

Romano, Silvano (*with* Zagrebnov, V. A.) Orientational ordering transition in a continuous-spin ferrofluid. (English summary) *Phys. A* **253** (1998), *no.* 1-4, 483–497. (Gustavo R. Guerberoff) **99g:82016** 82B21 (82B05)

Romanov, A. M. On nonsystematic perfect codes of length 15. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 4, 75–78, 116. 94B60

Romanov, A. S. On a generalization of Sobolev spaces. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 949–953, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 821–824. (Luboš Pick) **99k:46059** 46E35

Romanov, D. S. On the number of deadlock tests for closings of block circuits of parity counters. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 32–49; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 573–591. (Summary) **99e:94059** 94C12 (05A10)

Romanov, R. V. (*with* Rudin, G. E.) Scattering on p-adic graphs. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 587–597. (Audrey A. Terras) **99d:11129** 11S40 (11F72)

Romanov, V. P. (*with* Aksenova, E. V.; Val'kov, A. Yu.) Green's function of wave field in media with one-dimensional large-scale periodicity. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 1184–1192. (Summary) **99k:78019** 78A40 (34E20, 35J05)

Romanov, Vladimir Gavrilovich A local variant of a numerical method for solving an inverse problem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 904–918, *iii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 797–810. (G. W. Hedstrom) **99f:65136** 65M30 (65R20)

— An estimate for the conditional stability of a solution of an inverse problem with a fixed point source. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 597–599. (Plamen D. Stefanov) **99a:35270** 35R30 (35B35, 35L05)

— Stability estimates in the three-dimensional inverse problem for the transport equation. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 5, 463–475. (Alexander S. Denisjuk) **99a:35271** 35R30 (45K05)

— (*with* Anikonov, Yu. E.) On uniqueness of determination of a form of first degree by its integrals along geodesics. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 6, 487–490 (1998). (V. K. Oganyan) **99f:53072** 53C65

— (*with* Gottlieb, Johannes) Joint inversion of transient electromagnetic and proton resonance surface data by coupled Maxwell's and Bloch's equations. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 3, 263–279. (Summary) **99g:78032** 78A99 (35Q60, 35R30, 86A20, 86A22)

— On an estimate for the stability of the solution of an inverse problem for a hyperbolic equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 436–449, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 381–393. (Plamen D. Stefanov) **99i:35177** 35R30 (35L05)

— (*with* He, Sailing) Identification of dipole sources in a bounded domain for Maxwell's equations. (English summary) *Wave Motion* **28** (1998), *no.* 1, 25–40. (Tom Roberts) **99c:78009** 78A25 (31B20, 35J05, 35Q60, 35R30)

— *see also* **Inverse problems of mathematical physics**

Romanova, E. P. (*with* Polovko, Yu. A.; Tropp, E. A.) Contrast structures and rotating stall in MHD flows. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 395–408, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76W05 (76U05)

Romanovich, S. S. Two-dimensional spreading of currents. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 11, 32–37. 78A55

Romanovskiĭ, M. Yu. (*with* Korobkin, V. V.) Laser thermonuclear fusion with force confinement of hot plasma. (Russian. English and Russian summaries) *Interaction of superhigh-intensity laser radiation with a plasma* (*Russian*), 3–33, 180, *Trudy IOFAN*, 50, *Fizmatlit "Nauka", Moscow*, 1995. (*see* **99a:82094**) 82D10 (76X05)

Romanovskiĭ, R. K. (*with* Sadovnichuk, S. G.) A special addition theorem for theta functions, and soliton equations. (Russian) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 181, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (*see* **99a:00019**) 14K25 (58F07)

— (*with* Dobrovol'skiĭ, S. M.) The method of Lyapunov functions for almost periodic systems. (Russian) *Mat. Zametki* **62** (1997), *no.* 1, 151–153; *translation in Math. Notes* **62** (1997), *no.* 1-2, 126–128 (1998). (From the text) **99a:34148** 34D20 (34C27)

Romanovskii, V. G. (*with* Cherkas, L. A.; Żołądek, Henryk) The centre conditions for a certain cubic system. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 299–302. (From the text) **99i:34041** 34C05

Romanowska, Anna From dissemilattices to snack algebras. (English summary) *Fund. Inform.* **31** (1997), *no.* 1, 65–77. (Introduction) **99b:68058** 68P15 (06A12)

Román-Roy, Narciso (*with* Echeverría-Enríquez, Arturo; Muñoz-Lecanda, Miguel C.) Multivector fields and connections: setting Lagrangian equations in field theories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4578–4603. (Manuel de León) **99i:58059** 58F05 (53C05)

Romão Cavati, Cicero IA supported synchronous digital hierarchy transport network planning. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 4, 365–375. 90B10 (93B35)

Romate, J. E. An approximate Riemann solver for a two-phase flow model with numerically given slip relation. (English summary) *Comput. & Fluids* **27** (1998), *no.* 4, 455–477. (Jian-Ping Zhu) **99e:76083** 76M20 (76T05)

Romeijn, H. Edwin (*with* Chou, Yu-Li; Smith, Robert L.) Approximating shortest paths in large-scale networks with an application to intelligent transportation systems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 163–179. 90B10 (90B20)

— (*with* Smith, Robert L.) Shadow prices in infinite-dimensional linear programming. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 239–256. (Edward J. Anderson) **99c:90078** 90C08 (90C34)

— (*with* Cross, William P.; Smith, Robert L.) Approximating extreme points of infinite-dimensional convex sets. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 433–442. (Edward J. Anderson) **99c:90088** 90C25 (90C10)

Romenskiĭ, E. I. (*with* Godunov, S. K.; Mikhaĭlova, T. Yu.) Systems of thermodynamically consistent conservation laws that are invariant under rotations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 790–806, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 690–705. (Victor V. Zharinov) **99g:35078** 35L65 (35Q99)

— Hyperbolic systems of thermodynamically compatible conservation laws in continuum mechanics. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 115–130. (M. Fabrizio) **99k:73027** 73B30

ter haar Romeny, Bart M. *see* **ter Haar Romeny, Bart M.**

Romeo, August (*with* Leseduarte, S.) Influence of a magnetic fluxon on the vacuum energy of quantum fields confined by a bag. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 317–336. (Alfred Actor) **99e:81160** 81T16 (58G26)

Römer, Hartmann (*with* Bordemann, Martin; Waldmann, Stefan) A remark on formal KMS states in deformation quantization. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 49–61. (Summary) **99f:58083** 58F06 (58H15, 82B10)

Römer, R. A. (*with* Grimm, Uwe; Schliecker, G.) Electronic states in topologically disordered systems. (English summary) *Ann. Phys.* (8) **7** (1998), *no.* 5-6, 389–393. 82B44 (82D30)

Romera, Miguel (*with* Pastor, Gerardo; Álvarez, Gonzalo; Montoya, Fausto V.) Ordering of the Mandelbrot-like set of the exponential map. (English summary) *Chaos* **8** (1998), *no.* 4, 739–740. (Summary) **99h:58160** 58F23

Romera, R. (*with* Cipra, T.) Kalman filter with outliers and missing observations. (English summary) *Test* **6** (1997), *no.* 2, 379–395. (Keigo Watanabe) **99d:93067** 93E11

Romerio, Michel V. (*with* Descloux, Jean; Flueck, Michel) A problem of magnetostatics related to thin plates. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 7, 859–876. (Summary) **99i:78015** 78A30 (78–08)

— (*with* Cedio-Fengya, D. J.; Vogelius, Michael) Determination of the interface between the fluids in a Hall-Héroult cell from measurements of electric potentials and currents on the electrodes. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 245–277 (*electronic*). (Alfredo Lorenzi) **99k:35196** 35R35 (65N99, 78A55)

Romero, Alfonso (*with* Alías, Luis J.; Sánchez, Miguel) Spacelike hypersurfaces of constant mean curvature in certain spacetimes. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 655–661. (Ramesh Sharma) **99c:53058** 53C42 (53C50)

Romero, Carlos Augusto (*with* Bezerra, Valdir B.; Mostepanenko, V. M.) Hamiltonian diagonalization for a nonconformal scalar field in an isotropic gravitational background. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 249–259. (Summary) **99c:83036** 83C47 (81T20)

— (*with* Tavares, D. M.) Comments on the geometry of the conical space-time. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2077–2084. (János Kánnár) **99h:83012** 83C15

ramírez Romero, Cupatitzio *see* **Ramírez Romero, Cupatitzio**

lópez Romero, Fco. Demetrio *see* **López Romero, Fco. Demetrio**

Romero, G. E. (*with* Perez Bergliaffa, S. E.; Vucetich, H.) Toward an axiomatic pregeometry of space-time. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2281–2298. (Frank Antonsen) **99k:81022** 81P05

Romero, Juan Luis (*with* Gandarias-Núñez, M. L.; Díaz Moreno, José Manuel) Nonclassical symmetry reductions of a porous medium equation with convection. (English summary) *J. Phys. A* **32** (1999), *no.* 8, 1461–1473. (Summary) **99m:76108** 76S05 (35K55, 35Q35)

Romero, Mauricio (*with* Gómez Fernández, Juan Alfredo) Global convergence of a multidirectional algorithm for unconstrained optimal control problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 995–1023. (Michael E. Fisher) **99i:49036** 49M25 (65K10, 90C48)

Romero, Neptalí (*with* Mora, Leonardo) Persistence of homoclinic tangencies for area-preserving maps. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 711–725. (Dario Bambusi) **99e:58137** 58F15 (58F22, 58F30)

— (*with* Rovella, A.; Vilamajor, F.) On the dynamics of n-dimensional quadratic endomorphisms. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 295–308. (Wei Nian Zhang) **99g:58085** 58F13 (58F12)

salinas de Romero, Susana *see* **Salinas de Romero, Susana**

Romero Fuster, M. Carmen (*with* Nuno Ballesteros, Juan J.) Separation properties of circles immersed in 2-spheres. *Math. Student* **64** (1995), *no.* 1-4, 57–66 (1996). (Patricia J. M. Grasse) **99e:57044** 57R42

— Stereographic projections and geometric singularities. (English summary) Workshop on Real and Complex Singularities (São Carlos, 1996). *Mat. Contemp.* **12** (1997), 167–182. (V. D. Sedykh) **99i:58020** 58C27 (57R45)

— Geometric singularities of curves and surfaces and their stereographical images. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 363–373. (V. D. Sedykh) **99j:58026** 58C27 (51L15, 57R45)

Romilă, Bogdan (*with* Preda, Cristian; Hollo, Csaba) A structural characterization of D-continuous partially ordered sets. (Romanian. English summary) *Stud. Cerc. Mat.* **47**

(1995), *no.* 1, 81–96. 68Q55 (06A06)

Römisch, Werner (*with* Dentcheva, Darinka) Optimal power generation under uncertainty via stochastic programming. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 22–56, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90C15 (90C90)

— *see also* **Proceedings: Conference on Approximation and Optimization in the Caribbean, 99e:00022**

Rom-Kedar, Vered (*with* Dvorkin, Yona; Paldor, Nathan) Chaotic Hamiltonian dynamics of particle's horizontal motion in the atmosphere. (English summary) *Phys. D* **106** (1997), *no.* 3-4, 389–431. (Summary) **99f:86005** 86A10 (58F13, 58F40, 70H05, 70K50)

— (*with* Turaev, D. V.) On smooth Hamiltonian flows limited to ergodic billiards. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 17–50, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (András Krámli) **99h:58113** 58F11 (28D10, 34C35)

— (*with* Turaev, D. V.) Elliptic islands appearing in near-ergodic flows. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 575–600. (Nikolai Chernov) **99c:58123** 58F15 (34C37, 58F11)

Romm, Ya. E. Parallel sorting by merging according to comparison matrices. I. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1994**, *no.* 5, 3–23, 188; *translation in Cybernet. Systems Anal.* **30** (1994), *no.* 5, 631–647 (1995). (From the text) **99d:68058** 68P10

— Parallel sorting by merging according to comparison matrices. II. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1995**, *no.* 4, 13–37, 187; *translation in Cybernet. Systems Anal.* **31** (1995), *no.* 4, 484–505 (1996). (From the text) **99d:68059** 68P10

Rommelfanger, Heinrich (*with* Słowiński, Roman) Fuzzy linear programming with single or multiple objective functions. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 179–213, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C70 (04A72, 90C05, 90C29)

pescador Romo, Hortensia *see* **Pescador Romo, Hortensia**

Romo, Juan (*with* Berrendero, José R.; Mazzi, Sonia; Zamar, Ruben H.) On the explosion rate of maximum-bias functions. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 333–351. (Summary) **99i:62057** 62F35

— (*with* Berrendero, José R.) Stability under contamination of robust regression estimators based on differences of residuals. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 149–165. (Xuming He) **99k:62064** 62F35 (62J05)

Romo Santos, Concepción European mathematics in the twelfth century: the century of translations. (Spanish) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 185–192. (Julio Samsó-Moya) **99h:01020** 01A35

— Principal topics of algebra. Applications. (Spanish) *Rev. Acad. Cienc. Zaragoza* (2) **53** (1998), 137–150. 20A99

van Rompay, Kristel *see* **Van Rompay, Kristel**

Ron, Amos (*with* Buhmann, Martin D.; Micchelli, Charles A.) Asymptotically optimal approximation and numerical solutions of differential equations. (English summary) *Approximation theory and optimization* (*Cambridge*, 1996), 59–82, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99f:65023** 65D15 (65M06)

— (*with* Shen, Zuowei) Affine systems in $L_2(\mathbf{R}^d)$. II. Dual systems. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 617–637. (Charles K. Chui) **99g:42044** 42C15 (46E30)

— (*with* Shen, Zuowei) Affine systems in $L_2(\mathbf{R}^d)$: the analysis of the analysis operator. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 2, 408–447. (Charles K. Chui) **99g:42043** 42C15 (46E30)

— (*with* de Boor, Carl; DeVore, Ronald A.) Approximation orders of FSI spaces in $L_2(\mathbf{R}^d)$. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 411–427. 41A25 (42B99)

— (*with* de Boor, Carl; DeVore, Ronald A.) Approximation orders of FSI spaces in $L_2(\mathbf{R}^d)$. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 631–652. (Rong Qing Jia) **99j:41029** 41A25 (41A63, 42C15, 46E30)

Ron, Dana (*with* Freund, Yoav; Kearns, Michael; Mansour, Yishay; Rubinfeld, Ronitt; Schapire, Robert E.) Efficient algorithms for learning to play repeated games against computationally bounded adversaries. *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 332–341, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05 (90D20)

— (*with* Freund, Yoav; Kearns, Michael; Rubinfeld, Ronitt; Schapire, Robert E.; Sellie, Linda) Efficient learning of typical finite automata from random walks. (English summary) *Inform. and Comput.* **138** (1997), *no.* 1, 23–48. (Rani Siromoney) **99f:68118** 68Q45 (68T05)

— (*with* Singer, Yoram; Tishby, Naftali) On the learnability and usage of acyclic probabilistic finite automata. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 133–152. (Sanjay Jain) **99e:68136** 68T05 (68Q68)

Ronan, Mark (*with* Abramenko, Peter) A characterization of twin buildings by twin apartments. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 1–9. (Antonio Pasini) **99m:51016** 51E24 (20E42, 51B25)

Roncadelli, M. Random path approach to quantum mechanics: conceptual structure and physical interpretation. (English summary) *New perspectives in the physics of mesoscopic systems* (*Caserta*, 1996), 252–263, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99f:81036** 81P99

Roncato, Alessandro (*with* Flocchini, Paola; Santoro, Nicola) Symmetries and sense of direction in labeled graphs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 99–115. (Jozef Širáň) **99i:05194** 05C99 (05C78, 68R10)

Ronchetti, E. (*with* Markatou, Marianthi) Robust inference: the approach based on influence functions. *Robust inference*, 49–75, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

— *see also* **Conference: Statistical Science, 99e:62002**

Ronchi Della Rocca, Simona (*with* Roversi, Luca) Lambda calculus and intuitionistic linear logic. (English summary) *Studia Logica* **59** (1997), *no.* 3, 417–448. (Summary) **99a:03023** 03B40 (03F50, 65N15)

— (*with* Honsell, Furio; Pravato, Alberto) Structured operational semantics of a fragment of the language Scheme. (English summary) *J. Funct. Programming* **8** (1998), *no.* 4, 335–365. (Summary) **99k:68102** 68Q55 (68N15)

Ronco, María O. (*with* Loday, Jean-Louis) Hopf algebra of the planar binary trees. (English summary) *Adv. Math.* **139** (1998), *no.* 2, 293–309. (Robert B. Howlett) **99m:16063** 16W30 (20C30)

Ronconi, Débora P. (*with* Armentano, Vinícius A.) Tabu search for total tardiness minimization in flowshop scheduling problems. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 3, 219–235. 90B35 (90–02)

de Ronde, John (*with* de Haan, Laurens) Sea and wind: multivariate extremes at work. (English summary) *Extremes* **1** (1998), *no.* 1, 7–45. 62G30 (60G70, 62N05)

Rong, Chunming (*with* Helleseth, Tor; Yang, Kyeongcheol) New infinite families of 3-designs from Preparata codes over Z_4. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 139–156. (Chester J. Salwach) **99m:05019** 05B05 (94B05)

Rong, Hai Wu (*with* Fang, Tong) Asymptotic stability of second-order linear stochastic differential equations. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 3, 72–78, *VI.* 34D20 (34F05)

— (*with* Wang, Ming Yu; Fang, Tong) Stability and bifurcations of stochastic Arnold systems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 112–116, *VIII–IX.* 34F05

— (*with* Xu, Wei[3]; Fang, Tong) C^r stochastic center manifold theory. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 3, 8–13, *I.* (Summary) **99f:58116** 58F10

— (*with* Xu, Wei[3]; Fang, Tong) The maximal Lyapunov exponent and stability for coupled nonlinear stochastic systems with two degrees of freedom. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **15** (1998), *no.* 1, 22–29, *II.* (Summary) **99e:34078** 34F05 (34D08, 60H10, 70L05)

Rong, Qinghao (*with* Guan, Xin Ping; Yang, Jun) Asymptotic and oscillatory behavior of nth order neutral difference equation with forced term. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 143–149. (From the introduction) **99j:39005** 39A10

Rong, Ting-Yu (*with* Lu, An-Qi) Parametrized Lagrange multiplier method and construction of generalized mixed variational principles for computational mechanics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 3-4, 287–296. (Summary) **99i:73073** 73V05 (73V25)

Rong, Wei Dong Proper ε-efficiency in vector optimization problems with cone-subconvexlikeness. (English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 5, 609–613. (Lúcio Tunes dos Santos) **99g:90115** 90C29

— (*with* Wu, Yu Nan) Benson's proper efficient solutions of nondifferentiable B-convex multiobjective programming problems. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 6, 768–773. (Zun Quan Xia) **99f:90113** 90C29 (90C30)

— (*with* Chen, Guang Ya) Characterizations of the Benson proper efficiency for nonconvex vector optimization. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 365–384. (Phan Quốc Khánh) **99f:90106** 90C29 (90C26)

— (*with* Wu, Yu Nan) Characterizations of super efficiency in cone-convexlike vector optimization with set-valued maps. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 247–258. (Jörg Thierfelder) **99m:90126** 90C29 (26E25, 90C48)

— Proper efficiency of nonconvex vector optimization problems. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 18–25. (Ferenc Forgó) **99e:90081** 90C29 (49N15, 90C48)

Rong, Xi Min (*with* Xiong, Hong Yun) Riesz product spaces and representation theory. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 455–458. (Summary) **99e:46008** 46A40

— (*with* Zhang, Xi Bin; Zhang, Shi Ying) Research on portfolio investment models. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 81–88. 90A09

Rong, Xiaochun A Bochner theorem and applications. *Duke Math. J.* **91** (1998), *no.* 2, 381–392. (Zhongmin Shen) **99e:53043** 53C20 (53C23)

Rong, Yong Wu (*with* Lickorish, William B. R.) On derivatives of link polynomials. (English summary) *Topology Appl.* **87** (1998), *no.* 1, 63–71. (Summary) **99k:57023** 57M25

Ronga, Félice Points d'inflexion sur les courbes réelles: un travail de Felix Klein à la lumière de la théorie des singularités d'applications. [Inflection points on real curves: a work of Felix Klein in light of the theory of singularities of mappings] *Gaz. Math. No.* 74 (1997), 41–55. (Georges Comte) **99d:01021** 01A55 (14P99, 58C27)

— (*with* Tognoli, Alberto; Vust, Thierry) The number of conics tangent to five given conics: the real case. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 391–421. (Ragni Piene) **99d:14059** 14N10 (14P25)

Ronglu, L. *see* **Li, Rong Lu**

Ronkin, L. I. Holomorphic periodic functions and periodic divisors. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 1, 108–122. (Harold P. Boas) **99b:32001** 32A07 (32A10, 32A15)

— Periodic algebraic divisors. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 329–337. (Harold P. Boas) **99b:32002** 32A15 (32A22)

— Almost periodic divisors and the spatial extension of almost periodic measures. Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 152–156. (Mohammed El Amrani) **99f:32019** 32C99

— CR-functions and holomorphic almost periodic functions with an integer finite basis. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 4, 472–490. (Anders V. Fällström) **99e:32004** 32A10 (32C16)

— (*with* Favorov, S. Yu.; Rashkovskiĭ, A. Yu.) Almost periodic currents and holomorphic chains. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 445–449. (Mohammed El Amrani) **99k:32016** 32C30

— (*with* Favorov, S. Yu.; Rashkovskiĭ, A. Yu.) Almost periodic divisors in a strip. (English summary) *J. Anal. Math.* **74** (1998), 325–345. (Daniele Struppa) **99k:42016** 42A75 (30D15)

Rönning, Jan-Olav Convergence results for the square root of the Poisson kernel. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 219–235. (Marius Mitrea) **99e:31004** 31A20 (42B20)

Ronse, Christian (*with* Wagner, D.; Tajine, M.) An approach to discretization based on the Hausdorff metric. (English summary) *Mathematical morphology and its applications*

to image and signal processing (*Amsterdam*, 1998), 67–74, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:68180** 68U10

— (*with* Heijmans, Henk J. A. M.) A lattice-theoretical framework for annular filters in morphological image processing. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 1, 45–89. (E. H. Kronheimer) **99c:68260** 68U10 (06C05)

Ronto, Andrei On the boundary value problems with linear multipoint restrictions. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1995), *no.* 1, 81–89. 65L06

Ronto, N. I. On numerical-analytic method for BVPs with parameters. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 125–132. 34A45 (34B15)

Ronveaux, André Orthogonal polynomials: recurrence relations for connections and linearization coefficient. (English summary) *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 475–482, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 33C45 (42C05)

— (*with* Belmehdi, S.; Lewanowicz, S.) Linearization of the product of orthogonal polynomials of a discrete variable. (English summary) *Appl. Math.* (*Warsaw*) **24** (1997), *no.* 4, 445–455. (Summary) **99a:33005** 33C45 (33E30)

— (*with* Godoy, E.; Zarzo, A.; Area, I.) Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: continuous case. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 257–275. (Nicholay G. Tomin) **99g:33023** 33C45 (42C05)

— (*with* Area, I.; Godoy, E.; Zarzo, A.) Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: discrete case. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 321–337. (Summary) **99a:33004a** 33C45 (42C05, 65Q05)

— (*with* Álvarez de Morales, María; Pérez, Teresa E.; Piñar, Miguel A.) Orthogonal polynomials associated with a nondiagonal Sobolev inner product with polynomial coefficients. (English summary) *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 343–358, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (A. N. Srivastava) **99k:33017** 33C45 (33C80, 42C05)

— (*with* Area, I.; Godoy, E.; Zarzo, A.) Recursive approach to connection and linearization coefficients between polynomials. (English summary) *Special functions and differential equations* (*Madras*, 1997), 83–101, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33011** 33C45 (39A10)

— (*with* Zarzo, A.; Area, I.; Godoy, E.) Bernstein bases and Hahn-Eberlein orthogonal polynomials. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 87–96. (Summary) **99g:33032** 33C45

— (*with* Area, I.; Godoy, E.; Zarzo, A.) Corrigendum: "Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: discrete case". (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 309–325. (Summary) **99a:33004b** 33C45 (42C05, 68Q05)

— (*with* Godoy, E.; Zarzo, A.; Area, I.) Fourth-order difference equation for the first associated of classical discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 45–50. (Peter Schroth) **99h:33048** 33C45 (39A10)

— (*with* Godoy, E.; Zarzo, A.; Area, I.) On the limit relations between classical continuous and discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 97–105. (Summary) **99g:33024** 33C45

— (*with* Foupouagnigni, M.; Koepf, Wolfram) Fourth-order difference equation for the associated classical discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 2, 103–108. (Summary) **99i:39006** 39A10 (33C45, 39A12)

— (*with* Zarzo, A.; Area, I.; Godoy, E.) Transverse limits in the Askey tableau. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 327–335. (Summary) **99k:33033** 33C45 (39A10)

— (*with* Foupouagnigni, M.; Koepf, Wolfram) Fourth order q-difference equation for the first associated of the q-classical orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 231–236. (Summary) **99j:33022** 33D45 (39A10)

Rónyai, Lajos (*with* de Graaf, W. A.; Ivanyos, Gábor; Küronya, A.) Computing Levi decompositions in Lie algebras. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 291–303. (Andrej A. Zolotykh) **99a:17001** 17–04 (16–04, 17B05)

— (*with* Cohen, Arjeh Marcel; de Graaf, W. A.) Computations in finite-dimensional Lie algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 129–138. (Hartmut Schlosser) **99g:17002** 17–08 (17B01, 68Q40)

— (*with* Demetrovics, János; Friedl, Katalin) Periodical scheduling. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 337–342. (Summary) **99b:90048** 90B12 (90B35)

— (*with* Ivanyos, Gábor) Quaternion algebras. *Some tapas of computer algebra*, 311–314, *Algorithms Comput. Math.*, 4, *Springer, Berlin*, 1999. (*see* **99k:00038**) 16K20

de Roo, Mees Intersecting branes and supersymmetry. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 18–24, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 81T30 (83E30)

— (*with* Achúcarro, Ana; Huiszoon, L.) Unstable vortices do not confine. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 288–292. (Summary) **99f:81228** 81V25 (81T30)

— (*with* Panda, Sudhakar; van der Schaar, Jan Pieter) Intersecting branes in matrix theory. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 50–56. (Summary) **99b:81209** 81T30

van Rooij, Arnoud C. M. (*with* Buskes, Gerard) Representation of Riesz spaces without the Axiom of Choice. (English summary) *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 19–22. (Summary) **99h:46003** 46A40

— (*with* Ruymgaart, Frits H.) Convergence in the Hausdorff metric of estimators of irregular densities, using Fourier-Cesàro approximation. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 179–184. (Somnath Datta) **99m:62064** 62G07 (42A10, 62G20)

Rooke, D. P. (*with* Wen, P. H.; Aliabadi, M. H.) A new method for transformation of domain integrals to boundary integrals in boundary element method. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 11, 1055–1065. 73V10 (45L05, 65R20)

Roomeldi, Raul Solvability of Z_2-graded $(-1, 1)$ algebras. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 1, 17–30. (Harry F. Smith) **99m:17040** 17D20

Rooney, J. (*with* Duffy, Joseph; Crane, Carl D.; Knight, B.) An investigation of a special motion of an octahedron manipulator using screw theory. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 307–316, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Roos, Cornelis (*with* Jansen, Benjamin; Terlaky, Tamás) Introduction to the theory of interior point methods. (English summary) *Interior point methods of mathematical programming*, 3–34, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05

— (*with* Jansen, Benjamin; Terlaky, Tamás) Target-following methods for linear programming. (English summary) *Interior point methods of mathematical programming*, 83–124, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05

— (*with* Illés, Tibor; Terlaky, Tamás) Polynomial affine-scaling algorithms for $P_*(\kappa)$ linear complementary problems. (English summary) *Recent advances in optimization* (*Trier*, 1996), 119–137, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (S. R. Mohan) **99a:90211** 90C33

— (*with* Warners, Joost P.; Terlaky, Tamás; Jansen, Benjamin) A potential reduction approach to the frequency assignment problem. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 251–282. (Ulrich Faigle) **99b:90106** 90C27 (90C26)

— (*with* de Klerk, E.; Terlaky, Tamás) Infeasible-start semidefinite programming algorithms via self-dual embeddings. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 215–236, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Jos F. Sturm) **99b:90091** 90C25 (90C05)

— (*with* de Klerk, E.; Terlaky, Tamás) A nonconvex weighted potential function for polynomial target following methods. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 3–14. (*see* **99b:90006**) 90C05

— (*with* Snijders, A.; van Zanten, A. J.) Cyclonomial number systems and the ranking of lexicographically ordered constant-sum codes. (English summary) *Ars Combin.* **48** (1998), 173–184. (Summary) **99d:05002** 05A10 (94B60)

— (*with* de Klerk, E.; Terlaky, Tamás) Polynomial primal-dual affine scaling algorithms in semidefinite programming. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 51–69. (Michael L. Dowling) **99e:90071** 90C26 (90C30)

— (*with* Quist, A. J.; de Klerk, E.; Terlaky, Tamás) Copositive relaxation for general quadratic programming. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 185–208. (Summary) **99a:90145** 90C20

— (*with* Greenberg, Harvey J.; Holder, Allen G.; Terlaky, Tamás) On the dimension of the set of Rim perturbations for optimal partition invariance. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 207–216 (*electronic*). (Shu Zhong Zhang) **99m:90095** 90C05 (90C31)

— *see also* **Proceedings: Workshop on High Performance Optimization Techniques, 99i:90004**

Roos, Guy Volume of bounded symmetric domains and compactification of Jordan triple systems. (English summary) *Lie groups and Lie algebras*, 249–259, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Harald Upmeier) **99d:32045** 32M15 (17C99)

Roos, H.-G. (*with* Stynes, Martin; Tobiska, Lutz) ★ Numerical methods for singularly perturbed differential equations. (English summary) Convection-diffusion and flow problems. Springer Series in Computational Mathematics, 24. *Springer-Verlag, Berlin*, 1996. xvi+348 *pp. ISBN* 3-540-60718-8 (Gert Lube) **99a:65134** 65N12 (35B25, 65M06, 76D10, 76M10)

— (*with* Dobrowolski, M.) A priori estimates for the solution of convection-diffusion problems and interpolation on Shishkin meshes. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 1001–1012. (Lutz Tobiska) **99e:65154** 65N30 (35B25, 76D30, 76M25, 76R99)

— Layer-adapted grids for singular perturbation problems. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 5, 291–309. (Summary) **99d:65301** 65N12 (65N30)

Roos, Jan-Erik Some non-Koszul algebras. *Advances in geometry*, 385–389, *Progr. Math.*, 172, *Birkhäuser Boston, Boston, MA*, 1999. (C. Năstăsescu) **99k:16021** 16E99 (18G15)

Roos, Kees *see* **Roos, Cornelis**

Roos, Małgorzata Stein-Chen method for compound Poisson approximation: the coupling approach. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 645–660, *TEV, Vilnius*, 1994. (From the text) **99g:60051** 60F05

— An extension of Janson's inequality. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 3, 213–227. (Andrew D. Barbour) **99e:60054** 60E15 (60C05)

Roos, Thomas (*with* Albers, Gerhard; Guibas, Leonidas J.; Mitchell, Joseph S. B.) Voronoi diagrams of moving points. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 365–379. (Summary) **99b:68192** 68U05 (52B55)

Roos, Yves (*with* Ryl, Isabelle; Clerbout, Mireille) Partial characterization of synchronization languages. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 209–218, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q10 (68Q55)

Roose, Dirk (*with* Luzyanina, Tatyana; Engelborghs, Koen; Lust, Kurt) Computation, continuation and bifurcation analysis of periodic solutions of delay differential equations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2547–2560. (Summary) **99b:34117** 34K15 (34C23, 34C25, 65F30)

— (*with* Goossens, Serge; Cai, Xiao-Chuan) Overlapping nonmatching grids method: some preliminary studies. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 254–261, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65F10, 65N22)

— (*with* Engelborghs, Koen; Luzyanina, Tatyana) Bifurcation analysis of periodic solutions of neutral functional-differential equations: a case study. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 10, 1889–1905. (Summary) **99j:34097** 34K15 (34C23, 34C25, 34K40, 65L99)

— (*with* Lust, Kurt; Spence, A.; Champneys, A. R.) An adaptive Newton-Picard algorithm with subspace iteration for computing periodic solutions. (English summary) *SIAM*

J. Sci. Comput. **19** (1998), *no.* 4, 1188–1209 (*electronic*). (Summary) **99b:65088** 65L07 (65N12)

Roose, Frederik (*with* Craps, Ben; Troost, Walter; Van Proeyen, Antoine) The definitions of special geometry. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 390–395, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81183** 81T60 (53C25, 53C80)

— (*with* Craps, Ben; Troost, Walter; Van Proeyen, Antoine) What is special Kähler geometry? (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 565–613. (Krzysztof Galicki) **99e:53061** 53C25 (32G81, 53C55, 53C80, 83E50)

— (*with* Craps, Ben) Anomalous D-brane and orientifold couplings from the boundary state. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 150–159. (Summary) **99m:81176** 81T30

— (*with* Craps, Ben; Troost, Walter; Van Proeyen, Antoine) Special Kähler geometry: does there exist a prepotential? *Strings, branes and dualities* (*Cargèse*, 1997), 449–454, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 53C25 (53C80, 83E30)

Roosta, G. R. (*with* Kaveh, A.) Substructuring and ordering: graph-theoretical methods. (English summary) *Sci. Iran.* **1** (1994), *no.* 2, 117–125. 73V20 (05C85, 05C90)

— (*with* Kaveh, A.) Cycle bases of graphs and applications in structural mechanics. (English and Farsi summaries) *Iranian J. Sci. Tech.* **22** (1998), *no.* 3, *Trans. B Tech.*, 365–378, 400. (Summary) **99f:73060** 73K40 (05C38)

Root, William L. (*with* Serakos, Demetrios) The state of dynamical input-output systems as an operator. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 224–248. (M. Z. Nashed) **99f:93033** 93B28 (47N70)

Root-Bernstein, Robert S. (*with* Merrill, Stephen J.) A model of the role of cofactors in the initiation and development of AIDS. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 2, 173–185. (Summary) **99k:92043** 92D30

van Rootselaar, Bob *see* **Bolzano, Bernard**, **99h:01041** *and* **99j:01026**

Rootzén, Holger (*with* Kratz, Marie F.) On the rate of convergence for extremes of mean square differentiable stationary normal processes. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 908–923. (J. Hüsler) **99b:60063** 60G70 (60F05, 60G15)

— (*with* Leadbetter, M. Ross; de Haan, Laurens) On the distribution of tail array sums for strongly mixing stationary sequences. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 868–885. (J. Hüsler) **99e:60070** 60F05 (60G10, 60G70)

Roper, Duncan (*with* Zinder, Yakov) An iterative algorithm for scheduling unit-time tasks with precedence constraints to minimise the maximum lateness. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 321–340. (*see* **99b:90006**) 90B35 (90C35)

Roper, Kevin A. (*with* Suffridge, Ted J.) Convexity properties of holomorphic mappings in $\mathbf{C}^n$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1803–1833. (Sheng Gong) **99h:32027** 32H02 (32A17, 32A30)

Röpke, Gerd Cluster expansion of the functional integral in the strong coupling limit and application to correlated electron systems (Hubbard model). (English summary) *Path integrals: Dubna '96*, 254–258, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

— (*with* Sedrakian, Armen) A quantum kinetic equation for Fermi systems including three-body correlations. (English summary) *Ann. Physics* **266** (1998), *no.* 2, 524–550. (Silvia Totaro) **99d:82064** 82C70

Röpsch, C. (*with* Nacken, M.; Nessel, R. J.) On the approximation of Riemann integrable functions by Fejér means. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 41–51. (Michael Felten) **99k:42004** 42A10 (41A40, 42A45)

— (*with* Nessel, R. J.) On the comparison of trigonometric convolution operators with their discrete analogues for Riemann integrable functions. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 4, 297–306. (Dinh Dung) **99m:42006** 42A10 (41A17)

Roque, Marian P. Spectral properties of differential expressions with exponentially growing coefficients in weighted space. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 127–136. (Summary) **99k:47112** 47E05 (34L05)

Roquejoffre, Jean-Michel (*with* Namah, Gawtum) Convergence to periodic fronts in a class of semilinear parabolic equations. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 4, 521–536. (Yoshio Yamada) **99a:35123** 35K55 (35B40)

— (*with* Vila, Jean-Paul) Stability of ZND detonation waves in the Majda combustion model. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 3-4, 329–348. (Vitaly A. Volpert) **99m:80016** 80A25 (35Q99, 76E99)

— Comportement asymptotique des solutions d'équations de Hamilton-Jacobi monodimensionnelles. (English and French summaries) [Long-time behavior of the solutions of one-dimensional nonlinear Hamilton-Jacobi equations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 185–189. 35F20 (35B40)

Roquette, Peter Zur Geschichte der Zahlentheorie in den dreißiger Jahren. Die Entstehung der Riemannschen Vermutung für Kurven, und ihres Beweises im elliptischen Fall. (English summary) [On the history of number theory in the 1930s. The evolution of the Riemann hypothesis for curves, and its proof in the elliptic case] *Math. Semesterber.* **45** (1998), *no.* 1, 1–38. (J. S. Joel) **99m:11001** 11-03 (01A60)

Rørdam, Mikael (*with* Dykema, Kenneth J.; Haagerup, Uffe) The stable rank of some free product C^*-algebras. *Duke Math. J.* **90** (1997), *no.* 1, 95–121. (Gustavo Corach) **99g:46077a** 46L05 (19B10, 19K56, 46L35, 46L80)

— Classification of extensions of certain C^*-algebras by their six term exact sequences in K-theory. *Math. Ann.* **308** (1997), *no.* 1, 93–117. (Judith A. Packer) **99b:46108** 46L80 (19K35, 46L05)

— (*with* Dykema, Kenneth J.) Purely infinite, simple C^*-algebras arising from free product constructions. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 323–341. (Marie Choda) **99d:46074** 46L05

— (*with* Dykema, Kenneth J.; Haagerup, Uffe) Correction to: "The stable rank of some free product C^*-algebras". *Duke Math. J.* **94** (1998), *no.* 1, 213. (Gustavo Corach) **99g:46077b** 46L05 (19B10, 19K56, 46L35, 46L80)

— (*with* Dykema, Kenneth J.) Projections in free product C^*-algebras. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 1, 1–16. (Gustavo Corach) **99d:46075** 46L05

— (*with* Hjelmborg, Jacob v. B.) On stability of C^*-algebras. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 153–170. (E. Størmer) **99g:46079** 46L05

Ros, Antonio (*with* El Soufi, Ahmad; Ilias, Saïd) Sur la première valeur propre des tores. [On the first eigenvalue of the torus] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 17–23, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Noureddine Rahmani) **99e:58192** 58G25

— (*with* Guo, Zhen[1]) An important vector field on a surface in 3-space and related results. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 645–650. (Yi Bing Shen) **99m:53103** 53C40

— (*with* Meeks, William H., III; Pérez, Joaquín) Uniqueness of the Riemann minimal examples. (English summary) *Invent. Math.* **133** (1998), *no.* 1, 107–132. (Kichoon Yang) **99b:53013** 53A10

— (*with* Pérez, Joaquín) The space of complete minimal surfaces with finite total curvature as Lagrangian submanifold. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 3935–3952. (Karsten Grosse-Brauckmann) **99m:58038** 58D27 (53A10, 58E12)

Ros, J. (*with* Blanes, Sergio; Casas, F.) Symplectic integrators with processing to order 6. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 201–206, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70–08 (65L05)

aroca hernández-Ros, José Manuel *see* **Aroca Hernández-Ros, José Manuel**

ramírez-Ros, Rafael *see* **Ramírez-Ros, Rafael**

Rosa, Alexander (*with* Danziger, P.; Grannell, M. J.; Griggs, Terry) On the 2-parallel chromatic index of Steiner triple systems. (English summary) *Australas. J. Combin.* **17** (1998), 109–131. (K. T. Phelps) **99e:05022** 05B07

— (*with* Grannell, M. J.) Cycles in 2-factorizations. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 41–64. (Italo José Dejter) **99m:05086** 05C38 (05C70)

Rosa, Charles H. (*with* Kallio, Markku) Large-scale convex optimization via saddle point computation. (English summary) *Oper. Res.* **47** (1999), *no.* 1, 93–101. (Summary) **99m:90109** 90C25

Rosa, Epaminondas, Jr. (*with* Ott, Edward) Mixed basin boundary structures of chaotic systems. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part A*, 343–352. 58F13

Rosa, L. *see* **Rosa, Luigi**

de Rosa, Liliana *see* **De Rosa, Liliana**

Rosa, Luigi (*with* dell'Isola, Francesco; Woźniak, Cz.) A micro-structured continuum modelling compacting fluid-saturated grounds: the effects of pore-size scale parameter. (English summary) *Acta Mech.* **127** (1998), *no.* 1-4, 165–182. (Summary) **99k:73102** 73N20 (73Q05, 73S10, 76S05, 86A15)

— (*with* Man'ko, V. I.; Vitale, Patrizia) Probability representation in quantum field theory. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 328–336. (Julio Espinoza Ortiz) **99k:81161** 81S99

Rosa, M. A. F. (*with* Motter, A. E.) Hyperbolic calculus. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 109–128. (John Ryan) **99m:30099** 30G35

Rosa, N. (*with* Piacentini, A.) An improved domain decomposition method for the 3D Helmholtz equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **162** (1998), *no.* 1-4, 113–124. (Tsorng-Whay Pan) **99i:65144** 65N55 (76M25, 76Q05)

Rosà, R. *see* **Rosà, Roberto**

Rosa, Ricardo (*with* Temam, Roger) Finite-dimensional feedback control of a scalar reaction-diffusion equation via inertial manifold theory. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 382–391, *Springer, Berlin*, 1997. (Jian Hong Wu) **99k:93052** 93B52 (93C20)

— (*with* Moise, Ioana; Wang, Xiao Ming[1]) Attractors for non-compact semigroups via energy equations. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1369–1393. (Piotr Biler) **99h:35020** 35B40 (35K55, 35Q53, 47H20, 58F39, 76D05)

Rosà, Roberto (*with* Pugliese, A.; Damaggio, M. L.) Analysis of a model for macroparasitic infection with variable aggregation and clumped infections. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 419–447. (Summary) **99g:92018** 92C60 (92D30)

Rosado, Jose Ignacio (*with* Gato-Rivera, Beatriz) Families of singular and subsingular vectors of the topological $N = 2$ superconformal algebra. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 477–522. (Zoltán Bajnok) **99c:81066** 81R10 (17B81, 81T40)

Rosakis, Phoebus (*with* Healey, Timothy J.) Unbounded branches of classical injective solutions to the forced displacement problem in nonlinear elastostatics. (English summary) *J. Elasticity* **49** (1997), *no.* 1, 65–78. (Massimo Lanza de Cristoforis) **99c:73018** 73C50 (35J55, 35Q72)

— Characterization of convex isotropic functions. (English summary) *J. Elasticity* **49** (1997/98), *no.* 3, 257–267. (Maurizio Vianello) **99h:73002** 73B05 (52A41, 73C50)

— (*with* Vainchtein, A.; Healey, Timothy J.; Truskinovsky, Lev) The role of the spinodal region in one-dimensional martensitic phase transitions. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 29–48. (Summary) **99a:73030** 73B30 (73C50, 73V25)

Rosales, J. C. (*with* García-Sánchez, Pedro A.; Urbano-Blanco, J. M.) On Cohen-Macaulay subsemigroups of $\mathbf{N}^2$. *Comm. Algebra* **26** (1998), *no.* 8, 2543–2558. (Joseph Gubeladze) **99g:13032** 13H10 (20M14, 20M25)

— (*with* García-Sánchez, Pedro A.) On numerical semigroups with high embedding dimension. (English summary) *J. Algebra* **203** (1998), *no.* 2, 567–578. (Jonathan Leech) **99g:20108** 20M14 (20M05)

— (*with* García-Sánchez, Pedro A.) Nonnegative elements of subgroups of $\mathbf{Z}^n$. (English summary) *Linear Algebra Appl.* **270** (1998), 351–357. (Mary E. Flahive) **99c:11027** 11D04 (11D79, 15A06)

— (*with* García-Sánchez, Pedro A.) On normal affine semigroups. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 175–186. (Jonathan Leech) **99m:20144** 20M14 (13H10)

Rosales, J. J. (*with* Tkach, V. I.; Martínez, J.) Action for the FRW model and complex matter field with local supersymmetry. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3755–3762. (Alfredo Macías) **99i:83106** 83E50 (81Q60, 83F05)

Rosales, M. B. (*with* Filipich, C. P.; Bellés, P. M.) Natural vibration of rectangular plates considered as tridimensional solids. (English summary) *J. Sound Vibration* **212** (1998), *no.* 4, 599–610. (Summary) **99a:73086** 73K12 (73K10)

Rosales, M. J. *see* **Rosales Moreno, M. J.**

Rosales, Rodolfo R. (*with* Turner, C. V.; Tabak, Esteban G.; Majda, Andrew J.) Nonlinear interaction between long waves in the equatorial waveguide. Fifth Workshop on Partial

Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 283–297. (Yuri N. Skiba) **99k:76039** 76C20 (35Q35, 76B15, 76U05, 86A10)

— (*with* Tabak, Esteban G.) Caustics of weak shock waves. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 206–222. (Roberto Natalini) **99b:76047** 76L05 (35L67)

Rosales Gonsales, Ernesto (*with* Davydov, Alekseĭ Aleksandrovich) Smooth normal forms of folded resonance saddles and nodes and complete classification of generic linear second order PDE's on the plane. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 59–68, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99g:35009** 35A30 (35G05, 58F36)

— (*with* Shcherbakov, A. A.; Ortíz-Bobadilla, Laura) Countable set of limit cycles for the equation $dw/dz = P_n(z,w)/Q_n(z,w)$. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 4, 539–581. (Sergeĭ Yu. Yakovenko) **99m:58150** 58F21 (34C05)

Rosales Moreno, M. J. (*with* Gutiérrez Jáimez, Ramón) Diffusion approximations for Lotka-Volterra type models. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 809–832. (Summary) **99f:92019** 92D25 (60J70)

Rosalsky, Andrew (*with* Klesov, Oleg) On independence and conditional independence. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 2-3, 121–124. (Summary) **99a:60002** 60A05

— (*with* Rosenblatt, Joseph) On the rate of convergence of series of Banach space valued random elements. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4237–4248. (Nasrollah Etemadi) **99c:60004** 60B05 (60B11, 60B12)

— (*with* Sreehari, M.) On the limiting behavior of randomly weighted partial sums. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 4, 403–410. (Carlos Matrán) **99k:60089** 60F15 (60F05)

— (*with* Rosenblatt, Joseph) On convergence of series of random variables with applications to martingale convergence and to convergence of series with orthogonal summands. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 553–566. (R. J. Tomkins) **99e:60088** 60F15 (60G42, 60G50)

Rosania, R. (*with* Platania, G.) Exact Bianchi type-I solutions of the Einstein equations with Dirac and scalar fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 8, 1053–1060. (Edson Stédile) **99i:83016** 83C15 (83F05)

del Rosario, R. C. H. *see* **Del Rosario, R. C. H.**

Rosas, Ennis (*with* Vielma, Jorge) Operator-compact and operator-connected spaces. (English summary) *Sci. Math.* **1** (1998), *no.* 2, 203–208 (*electronic*). 54A99 (54D10)

Rosas-Ortiz, J. Oscar New families of isospectral hydrogen-like potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 27, *L507–L513*. 81Q60 (81Q05)

— Exactly solvable hydrogen-like potentials and the factorization method. (English summary) *J. Phys. A* **31** (1998), *no.* 50, 10163–10179. (Summary) **99k:81057** 81Q05 (34L40, 81Q60)

Rosati, Riccardo Complexity of only knowing: the propositional case. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 76–91, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:03031** 03B45 (03B70, 03D15, 03F20, 68Q25, 68T27)

— Reducing query answering to satisfiability in nonmonotonic logics. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 853–858, *MIT Press, Cambridge, MA*, 1998. (From the text) **99g:03032** 03B70 (03B60, 68T27)

Rosato, N. (*with* Abundo, Mario; Accardi, Luigi; Stella, L.) A stochastic model for the cooperative relaxation of proteins, based on a hierarchy of interactions between amino acidic residues. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 327–358. (Ming-Ying Leung) **99g:92020** 92D20 (60J70)

Rosay, Jean-Pierre Automorphisms of $\mathbf{C}^n$, a survey of Andersén-Lempert theory and applications. *Complex geometric analysis in Pohang* (1997), 131–145, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Frank Kutzschebauch) **99m:32034** 32H50 (32M99)

— A simple proof of uniqueness for perturbations of the Mizohata operator. *Complex geometric analysis in Pohang* (1997), 253–256, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99e:32002**) 35A20 (35B20)

Rosaz, Laurent Inventories of unavoidable languages and the word-extension conjecture. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 151–170. (Frédérique Bassino) **99e:68131** 68R15 (68Q45)

Rösch, Arnd Second order optimality conditions and stability estimates for the identification of nonlinear heat transfer laws. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 237–246, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Summary) **99c:49023** 49K20 (35K85, 35R30)

Rösch, Claudia (*with* Inomata, Akira; Junker, Georg) Remarks on the magnetic top. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 729–739. (Summary) **99j:81091** 81S40 (81R99)

Röschel, Otto (*with* Lang, Johann; Rassi, Hannes) GC^1-continuity of integral Bézier-patches—another approach. (English summary) *Beiträge zur Geometrie*, 43–54, *Grazer Math. Ber.*, 332, *Karl-Franzens-Univ. Graz, Graz*, 1997. (Summary) **99g:65019** 65D17

— (*with* Mick, S.) Geometry & architecturally shaky platforms. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 455–464, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:70011** 70B15

— (*with* Mick, S.) Characterisation of architecturally shaky platforms. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 465–474, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70014** 70B15

— *see also* **Contributions to geometry**, **99c:53002**

Rosculet, Marcel (*with* Bărbulescu, Ion) On some partial differential equations of hyperbolic type. Mean-formulas. *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 44–49. 35C99 (35L99)

Rose, Christian Joseph (*with* Gregoire, J. P.; Pernaud-Thomas, Bernadette) Direct and iterative solvers for finite-element problems. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 39–53 (1998). (*see* **99a:65006**) 76M10 (65N30)

Rose, David Alon (*with* Dontchev, Julian; Ganster, Maximilian) Ideal resolvability. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 92–103 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54A05 (04A15, 28A05, 54A20, 54H05)

— (*with* Dontchev, Julian; Ganster, Maximilian) α-scattered spaces. II. (English summary) *Houston J. Math.* **23** (1997), *no.* 2, 231–246. 54G12 (54C08, 54F65, 54G15, 54G20)

— Local ideals in topological spaces. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 801–815. (Summary) **99h:54066** 54H99 (54A25, 54D20)

— (*with* Dontchev, Julian) On spaces whose nowhere dense subsets are scattered. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 735–740. (Summary) **99h:54052** 54G12 (54G05)

— (*with* Dontchev, Julian) Extremal disconnectedness modulo dual filtrations. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 33–46. (Summary) **99b:54057** 54G05 (54A20, 54H05)

— (*with* Kaniewski, J.; Piotrowski, Zbigniew) Ideal Banach category theorems. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 237–251. (Douglass L. Grant) **99k:54021** 54E52 (54G20)

Rose, David M. (*with* Sukhov, Yu. M.; Vvedenskaya, Nikita D.) An optimal probabilistic routing policy for a large packet-switched network. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1027–1050. (Andrew D. Barbour) **99j:60150** 60K30 (60K20, 90B12)

Rose, Eva Linear-time hierarchies for a functional language machine model. (English summary) 6th European Symposium on Programming (Linköping, 1996). *Sci. Comput. Programming* **32** (1998), *no.* 1-3, 109–143. (Summary) **99h:68027** 68N15 (68Q05, 68Q15, 68Q55)

Rose, Greg A stream cipher based on linear feedback over GF(2^8). (English summary) *Information security and privacy* (*Brisbane*, 1998), 135–146, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60

Rose, Henry (*with* Ouwehand, P.) Small congruence distributive varieties: retracts, injectives, equational compactness and amalgamation. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 3, 207–228. (Keith A. Kearnes) **99i:08003** 08B10 (08A45)

Rose, J. A. (*with* Deaton, Russell; Garzon, Max; Franceschetti, D. R.; Stevens, S. E., Jr.) DNA computing: a review. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 231–245. 68Q05 (68Q10)

— (*with* Gao, Yuan; Garzon, Max; Murphy, R. C.; Deaton, Russell; Franceschetti, D. R.; Stevens, S. E., Jr.) DNA implementation of nondeterminism. (English summary) *DNA based computers III* (*Philadelphia, PA*, 1997), 137–148, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05

Rose, Kenneth (*with* Ramakrishnan, Sangeeta; Gersho, Allen) Constrained-storage vector quantization with a universal codebook. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 785–793. 94A12

Rose, Kristoffer Høgsbro (*with* Danvy, Olivier) Higher-order rewriting and partial evaluation. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 286–301, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68Q42

Roselló, Llorenç *see* **Arnol'd, Vladimir Igorevich**, **99m:00018**

Roseman, Dennis What should a surface in 4-space look like? (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 67–82, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53A07 (53–04)

— Reidemeister-type moves for surfaces in four-dimensional space. (English summary) *Knot theory* (*Warsaw*, 1995), 347–380, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99f:57029** 57Q45 (57R99)

Rosén, Adi (*with* Azar, Yossi; Bartal, Yair; Feuerstein, Esteban; Fiat, Amos; Leonardi, Stefano) On capital investment. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 429–441, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (N. H. Bingham) **99c:90017** 90A09 (68Q25)

— (*with* Leonardi, Stefano; Marchetti-Spaccamela, Alberto; Presciutti, Alessio) On-line randomized call control revisited. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 323–332, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10

— (*with* Kushilevitz, Eyal; Ostrovsky, Rafail) Log-space polynomial end-to-end communication. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1531–1549 (*electronic*). (Summary) **99c:68018** 68M10 (68Q22, 68Q25)

von Rosen, Dietrich (*with* Fang, Hong Bin; Fang, Kai-Tai) An extension of the complex normal distribution. (English summary) *Advances in the theory and practice of statistics*, 415–427, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Tonghui T. Wang) **99c:62159** 62H12 (62H05)

— (*with* Pan, Jian-Xin; Fang, Kai-Tai) Local influence assessment in the growth curve model with unstructured covariance. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 263–278. (C. R. Rao) **99a:62078** 62H12 (62J12)

— On moments of the inverted Wishart distribution. (English summary) *Statistics* **30** (1997), *no.* 3, 259–278. (Summary) **99a:60017** 60E99 (62H10)

— On using residuals in the growth curve model. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 370–379, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62J10

— (*with* Srivastava, Muni S.) Outliers in multivariate regression models. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 195–208. (Tonghui T. Wang) **99i:62121** 62H10

— (*with* Kollo, Tõnu) A unified approach to the approximation of multivariate densities. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 93–109. (Yasunori Fujikoshi) **99k:62108** 62H05 (62H10)

— (*with* Pan, Jian-Xin; Fang, Kai-Tai) On the posterior distribution of the covariance matrix of the growth curve model. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 33–39. (Jack C. Lee) **99k:62114** 62H12

Rosen, Gary (*with* Böhm, Michael; Devinny, Joseph; Jahani, Fereidoun) On a moving-boundary system modeling corrosion in sewer pipes. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 247–269. (Summary) **99b:80007** 80A22 (80A32)

Rosen, Gideon (*with* Burgess, John P.) ★ A subject with no object. (English summary) Strategies for nominalistic interpretation of mathematics. *The Clarendon Press, Oxford University Press, New York*, 1997. xii+259 *pp. ISBN* 0-19-823615-8 (Alex Blum) **99a:00004** 00A30 (03A05)

Rosen, Harvey An almost continuous nonextendable function. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 567–570. (Summary) **99d:26003** 26A15 (54C08)

— Darboux quasicontinuous functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 631–639. (Sorin Gheorghe Gal) **99g:26007** 26A15 (26A21, 54C08, 54C30)

Rosen, I. G. (*with* Kazimir, Joseph) A one-space theory for the uniform exponential convergence of an adaptive identification scheme for distributed parameter systems. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 245–283. (Jan Bialasiewicz) **99f:93037** 93B30 (93C25)

— (*with* Böhm, Michael; Demetriou, Michael A.; Reich, Simeon) Model reference adaptive control of distributed parameter systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 33–81 (*electronic*). (Toshihiro Kobayashi) **99b:93032** 93C40 (93C20, 93D21)

Rosen, J. B. (*with* Bradley, P. S.; Mangasarian, O. L.) Parsimonious least norm approximation. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 5–21. (Sven-Åke Gustafson) **99i:65045** 65F20 (90C31, 90C90)

— (*with* Park, Haesun; Glick, John) Structured total least norm for nonlinear problems. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 14–30 (*electronic*). (Hongyuan Zha) **99g:65056** 65F30 (65M99)

Rosen, Jay (*with* Csáki, Endre; Révész, Pál) Functional laws of the iterated logarithm for local times of recurrent random walks on $\mathbf{Z}^2$. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 4, 545–563. (M. Csörgő) **99k:60109** 60G20 (60F17)

— (*with* Deuschel, Jean-Dominique) Occupation time large deviations for critical branching Brownian motion, super-Brownian motion and related processes. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 602–643. (Anton Wakolbinger) **99g:60057** 60F10 (60G57, 60J55, 60J80)

Rosen, Joe ★ Symmetry discovered. (English summary) Concepts and applications in nature and science. Revised reprint of the 1975 original. *Dover Publications, Inc., Mineola, NY*, 1998. *xiv*+152 *pp. ISBN* 0-486-29433-1 (From the preface) **99e:20001** 20–01 (00A69, 51–01)

Rosen, Michael Remarks on the history of Fermat's last theorem 1844 to 1984. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 505–525, *Springer, New York*, 1997. (*see* **99k:11004**) 11–03 (01A55, 01A60, 11D41)

— (*with* Silverman, Joseph H.) On the rank of an elliptic surface. (English summary) *Invent. Math.* **133** (1998), *no.* 1, 43–67. (Carlo Gasbarri) **99f:11081** 11G40 (11G35, 14G10)

Rosenau, Philip (*with* Hyman, James M.) Pulsating multiplet solutions of quintic wave equations. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 502–512. (Summary) **99j:35187** 35Q53

— On a class of nonlinear dispersive-dissipative interactions. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 525–546. (Summary) **99k:35169** 35Q55

— (*with* Goodman, Jonathan; Kurganov, Alexander) Breakdown in Burgers-type equations with saturating dissipation fluxes. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 247–268. (Summary) **99j:35185** 35Q53 (65M99)

— (*with* Levy, Doron) Compactons in a class of nonlinearly quintic equations. (English summary) *Phys. Lett. A* **252** (1999), *no.* 6, 297–306. 35Q53

Rosenbaum, Kurt Induced symplectic modules. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 34–43; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 3, 31–40. (Abram I. Saksonov) **99e:20014** 20C15 (15A63)

Rosenbaum, Marcos (*with* Luehr, C. P.; Harleston L., Hugh) Spinors from a differential geometric point of view. (English summary) *Clifford algebras and spinor structures*, 205–240, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Bertfried Fauser) **99b:53019** 53A50 (15A66)

— (*with* Criscuolo, A.; Đurđević, Mićo; Vergara, J. David) Quantum spinors and spin groups from quantum Clifford algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6451–6474. (Dominique Lambert) **99a:81063** 81R25 (15A66, 17B37, 81R50)

— (*with* Turbiner, A. V.; Capella, Antonio) Solvability of the G_2 integrable system. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 22, 3885–3903. (Kazuhiro Hikami) **99g:81245** 81V70 (58F07)

— (*with* Criscuolo, A.; Vergara, J. David) Involutive braided Spin$(4-h,h)$ groups. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 46–68. (Tomasz Brzeziński) **99c:81086** 81R50 (58B30)

Rosenbaum, Paul R. Observational studies and nonrandomized experiments. *Design and analysis of experiments*, 181–197, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K99

Rosenbaum, Ute (*with* Beutelspacher, Albrecht) ★ Projective geometry: from foundations to applications. (English summary) *Cambridge University Press, Cambridge*, 1998. *x*+258 *pp. ISBN* 0-521-48277-1; 0-521-48364-6 (Giorgio Faina) **99f:51001** 51–01 (94A60, 94B05)

Rosenberg, A. L. *see* **Rosenberg, Arnold L.**

Rosenberg, Alexander L. The spectrum of abelian categories and reconstruction of schemes. *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 257–274, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Luca Barbieri Viale) **99d:18011** 18E10 (14A15, 18F20)

— Noncommutative schemes. (English summary) *Compositio Math.* **112** (1998), *no.* 1, 93–125. (A. Verschoren) **99h:14002** 14A22 (16E30, 16W50)

Rosenberg, Arnold L. (*with* Avior, A.; Calamoneri, T.; Even, Shimon; Litman, Ami) A tight layout of the butterfly network. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 475–487. (Summary) **99b:68011** 68M10 (05C85, 68Q35)

Rosenberg, Burton Fast nondeterministic recognition of context-free languages using two queues. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 91–93. (Summary) **99c:68159** 68Q45

Rosenberg, Catherine (*with* Hébuterne, Gérard) Arrival and departure state distributions in the general bulk-service queue. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 107–118. (P. R. Parthasarathy) **99k:90075** 90B22 (60K25)

Rosenberg, Harold (*with* Toubiana, Eric) Simply connected minimal surfaces in $\mathbf{R}^3$ transverse to horizontal planes. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 1, 89–100. (Yi Fang) **99e:53011** 53A10

— (*with* Rodríguez, Lucio) Minimal surfaces in $\mathbf{R}^3$ with one end and bounded curvature. (English summary) *Manuscripta Math.* **96** (1998), *no.* 1, 3–7. (Yi Fang) **99e:53010** 53A10

Rosenberg, I. G. Wall monoids. I. (English summary) *New frontiers in hyperstructures* (*Molise*, 1995), 159–166, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (*see* **98c:20004**) 20N20

— Multiple-valued hyperstructures. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 326–333, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 08A40

— (*with* Chajda, Ivan) Discriminator algebras with one nullary operation. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 101–107, *Heyn, Klagenfurt*, 1998. (S. Comer) **99m:08009** 08A40 (08A30)

— (*with* Hikita, T.) Completeness for uniformly delayed circuits, a survey. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 49–61. (Summary) **99i:94076** 94C05 (03B50)

— An interface between algebra and combinatorics. Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 219–224. (*see* **99c:00012**) 08A99 (20N20, 54E99)

Rosenberg, Jonathan M. Behavior of K-theory under quantization. *Operator algebras and quantum field theory* (*Rome*, 1996), 404–415, *Internat. Press, Cambridge, MA*, 199?. (Mauro Spera) **99a:46129** 46L87 (19K56, 46L80, 58G10, 58G12)

— (*with* Coombes, Kevin R.; Lipsman, Ronald L.) ★ Multivariable calculus and Mathematica. (English summary) With applications to geometry and physics. With 1 IBM-PC floppy disk (3.5 inch; HD). *Springer-Verlag–TELOS, New York*, 1998. *xiv*+283 *pp. ISBN* 0-387-98360-0 (From the preface) **99b:26001** 26–01

— (*with* Dixmier, Jacques; Duflo, Michel; Hajnal, András; Kadison, Richard V.; Kóranyi, Adam; Vergne, Michèle) Lajos Pukánszky (1928–1996). (English summary) *Notices Amer. Math. Soc.* **45** (1998), *no.* 4, 492–499. (Editors) **99k:01056** 01A70

Rosenberg, S. *see* **Rosenberg, Steven**

Rosenberg, Seth Testing causality violation on spacetimes with closed timelike curves. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3365–3377. (Summary) **99m:83153** 83C75

Rosenberg, Steven (*with* Elworthy, K. D.; Li, Xue-Mei^2) Bounded and L^2 harmonic forms on universal covers. *Geom. Funct. Anal.* **8** (1998), *no.* 2, 283–303. (Gilles Carron) **99d:58180** 58G32 (53C20, 58A14)

Rosenberger, Gerhard (*with* Dörfer, Martin) Zeta function of finitely generated nilpotent groups. *Groups—Korea '94* (*Pusan*), 35–46, *de Gruyter, Berlin*, 1995. (Marcus du Sautoy) **99b:20060** 20F18 (11M41)

— (*with* Fine, Benjamin; Stille, Michael) Conjugacy pinched and cyclically pinched one-relator groups. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 207–227. (David Meier) **99c:20039** 20F05 (20E06, 20E26)

— (*with* Fine, Benjamin; Gaglione, Anthony M.; Myasnikov, A. G.; Spellman, Dennis) A classification of fully residually free groups of rank three or less. (English summary) *J. Algebra* **200** (1998), *no.* 2, 571–605. (Dimitrios Varsos) **99b:20053** 20E26

— (*with* Baer, Christine) The equation $ax^2 + by^2 + cz^2 = dxyz$ over quadratic imaginary fields. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 30–39. (Nikos Tzanakis) **99c:11028** 11D09 (11F06, 11R04)

Rosenblatt, Joseph (*with* Rosalsky, Andrew) On the rate of convergence of series of Banach space valued random elements. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4237–4248. (Nasrollah Etemadi) **99c:60004** 60B05 (60B11, 60B12)

— (*with* Rosalsky, Andrew) On convergence of series of random variables with applications to martingale convergence and to convergence of series with orthogonal summands. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 553–566. (R. J. Tomkins) **99e:60088** 60F15 (60G42, 60G50)

Rosenblatt, Judah (*with* Bell, Stoughton) ★ Mathematical analysis for modeling. (English summary) CRC Mathematical Modelling Series. *CRC Press, Boca Raton, FL*, 1999. *xvi*+860 *pp. ISBN* 0-8493-8337-4 00–01 (00A06, 00A71, 00A72)

Rosenblatt, Murray Non-Gaussian autoregressive and moving average schemes. *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 731–737, *North-Holland, Amsterdam*, 1998. (Michael L. Stein) **99m:60067** 60G25 (62M10, 62M20)

— (*with* Lii, Keh-Shin) Line spectral analysis for harmonizable processes. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 9, 4800–4803 (*electronic*). (M. P. Moklyachuk) **99f:62115** 62M15

Rosenblueth, Javier F. Jacobi's conditions for the Lagrange problem with linear dynamics. (English summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 125–138, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (M. A. Yagubov) **99k:49050** 49K15 (49K10)

— Sufficiency and conjugate points for the Lagrange problem with linear dynamics. (English summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 139–153, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (M. A. Yagubov) **99k:49049** 49K15 (49K10)

— Variational conditions for the Lagrange problem with linear dynamics. (English summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 155–170, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (M. A. Yagubov) **99k:49048** 49K15 (49K10)

— Compactification of noncommensurately delayed controls. (English summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 171–178, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Summary) **99i:49018** 49J45 (49J25)

Rosenblum, Michael G. *see* **Rozenblyum, M. G.**

Rosencrans, Steve Taylor dispersion in curved channels. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1216–1241. (Summary) **99e:35017** 35B40 (35B27, 35K99, 76R50)

Rosenfeld, Azriel (*with* Wu, Angela Y.) Geodesic visibility in graphs. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 5–12. (Summary) **99c:68203** 68R10 (05C99)

— Fuzzy geometry: an updated overview. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 127–133. 54A40 (04A72, 51M99, 52A99)

— (*with* Fejes, Sándor) Migration processes. I. The continuous case. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 1, 5–25. (Summary) **99a:68174** 68U10 (68T10)

— (*with* Fejes, Sándor) Migration processes. II. The discrete case. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 1, 27–40. (Summary) **99a:68175** 68U10 (68T10)
— *see also* **Mordeson, John N., 99i:03070**

Rosenfeld, B. A. Geometry of planes over nonassociative algebras. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 103–110. (K. Strambach) **99e:51012** 51H10 (51C05, 51N30)

Rosenfeld, Moshe (*with* Rambod, Edmond; Gharib, Morteza) Circulation and formation number of laminar vortex rings. (English summary) *J. Fluid Mech.* **376** (1998), 297–318. 76C05

Rosengren, Hjalmar On the triple sum formula for Wigner 9*j*-symbols. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6730–6744. (J. F. Cornwell) **99k:81084** 81R05 (20C35, 22E70, 33C80)

— Multilinear Hankel forms of higher order and orthogonal polynomials. (English summary) *Math. Scand.* **82** (1998), *no.* 1, 53–88. (Richard Rochberg) **99m:47033** 47B35 (33C45, 33C55)

Rosenhaus, V. (*with* Katzin, Gerald H.) Noether operator relation and conservation laws for partial differential equations. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 286–293, *World Sci. Publishing, River Edge, NJ*, 1996. (Irina Yehorchenko) **99c:35011** 35A30 (35L65, 35Q53, 58F35, 58G35)

Rosenkrantz, Daniel J. (*with* Shukla, Sandeep K.; Hunt, Harry B., III; Stearns, Richard E.) The polynomial time decidability of simulation relations for finite state processes: a HORNSAT based approach. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 603–641, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Ryszard Janicki) **99h:68116** 68Q60 (03B05, 68N17, 68Q10, 68Q68)

— (*with* Marathe, Madhav V.; Hunt, Harry B., III; Stearns, Richard E.) Theory of periodically specified problems: complexity and approximability. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 106–118, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q25)

— (*with* Marathe, Madhav V.; Ravi, R.; Sundaram, Ravi; Ravi, S. S.; Hunt, Harry B., III) Bicriteria network design problems. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 142–171. (Dominique Sotteau) **99h:68137** 68R10 (68M10)

Rosenkranz, Ze'ev ★ Albert through the looking-glass. (English summary) The personal papers of Albert Einstein. With forewords by Menachem Magidor and Sara Japhet. JNUL Publications, 59. *Hebrew University of Jerusalem, Jewish National & University Library* (*JNUL*), *Jerusalem*, 1998. *xvi*+156 *pp. ISBN* 965-90170-0-6 (From the preface) **99d:01036** 01A70

Rosenow, Silke A heuristic for the probabilistic traveling salesman problem. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 117–122, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C35

Rosensteel, G. (*with* Troupe, J.) Algebraic nonlinear collective motion. (English summary) *Ann. Physics* **270** (1998), *no.* 1, 126–154. (A. Ventura) **99m:81081** 81R05 (81V35)

Rosenstein, Baruch (*with* Kovner, Alex) Strings and string breaking in (2 + 1)-dimensional nonabelian theories. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 3, 25 *pp.* (*electronic*). (Christophe Grojean) **99k:81255** 81T30 (81T13)

Rosenthal, Erik (*with* Hähnle, Reiner; Murray, Neil V.) Some remarks on completeness, connection graph resolution and link deletion. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 172–186, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35

— (*with* Lu, James J.; Murray, Neil V.) A framework for automated reasoning in multiple-valued logics. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 1, 39–67. (Summary) **99e:03022** 03B50 (03B35, 03B52, 68T15)

Rosenthal, Jeffrey S. (*with* Roberts, Gareth O.) Geometric ergodicity and hybrid Markov chains. (English summary) *Electron. Comm. Probab.* **2** (1997), *no.* 2, 13–25 (*electronic*). (Esa Nummelin) **99b:60122** 60J35 (60F25, 60J10)

— (*with* Roberts, Gareth O.) Two convergence properties of hybrid samplers. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 397–407. (Jean Diebolt) **99e:60145** 60J05 (62M05)

— (*with* Roberts, Gareth O.) Markov-chain Monte Carlo: some practical implications of theoretical results. (English and French summaries) With discussion by Hemant Ishwaran and Neal Madras and a rejoinder by the authors. *Canad. J. Statist.* **26** (1998), *no.* 1, 5–31. (Christian P. Robert) **99h:62123** 62M99

— (*with* Roberts, Gareth O.; Schwartz, Peter O.) Convergence properties of perturbed Markov chains. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 1–11. (Mu Fa Chen) **99c:60139** 60J05 (62F15, 62M99)

— (*with* Roberts, Gareth O.) Optimal scaling of discrete approximations to Langevin diffusions. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 255–268. (Jean Diebolt) **99e:60146** 60J05 (65C05)

Rosenthal, Joachim (*with* Lomadze, Vakhtang; Ravi, M. S.; Schumacher, J. M.) A behavioral approach to singular systems. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 3, 331–344. (Kevin A. Grasse) **99m:93002** 93A05 (14F05, 93C55)

— (*with* Allen, Brian M.) A matrix Euclidean algorithm induced by state space realization. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 105–121. (Summary) **99k:93033** 93B15 (15A99, 65F30)

Rosenvasser, Ye. N. *see* **Rozenvasser, E. N.**

Rosenwasser, Yephim N. *see* **Rozenvasser, E. N.**

Roshchenya, A. L. (*with* Dobrovol'skiĭ, N. M.) On the number of points in a lattice in a hyperbolic cross. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 363–369; *translation in Math. Notes* **63** (1998), *no.* 3-4, 319–324. (Matti Jutila) **99j:11117** 11P21

Roshchin, V. A. (*with* Sergienko, I. V.) On the solution of an integer programming problem of a special type. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 16–22, 151. 90C10 (90C27)

Roshchupkin, S. N. (*with* Zheltukhin, A. A.) On a possibility of membrane cosmology. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 360–366, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99i:83108** 83F05 (83E30)

Rosić, Nikola An application of double transformation of differential equations. (English and Serbian summaries) *Zb. Rad.* (*Kragujevac*) *No.* 20 (1998), 35–39. 34A05

Rosicki, Witold Some simple invariants of the position of a surface in $\mathbf{R}^4$. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 4, 335–344. (Mark D. Meyerson) **99h:57050** 57Q45 (57M25)

Rosický, Jiří (*with* Adámek, Jiří) Apology: "A remark on accessible and axiomatizable categories" [Comment. Math. Univ. Carolin. **37** (1996), no. 2, 411–414; MR 98i:18001]. *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 203. (From the text) **99e:18005** 18B99

— (*with* Adámek, Jiří; Johnstone, Peter; Makowsky, Johann A.) Finitary sketches. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 699–707. (Leo Esakia) **99e:03044** 03G30 (03C75, 03C95, 18C10, 68Q65)

— Accessible categories, saturation and categoricity. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 891–901. (Summary) **99f:03049** 03C75 (03C95, 03G30, 18C10)

— (*with* Borceux, Francis; Quinteiro, C.) A theory of enriched sketches. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 3, 47–72 (*electronic*). (R. H. Street) **99i:18009** 18C10 (18D20)

Rosier, Lionel Exact boundary controllability for the linear Korteweg-de Vries equation—a numerical study. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 255–267 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99i:93008** 93B05 (35Q53, 65M99, 93C20)

— (*with* Bacciotti, Andrea) Liapunov and Lagrange stability: inverse theorems for discontinuous systems. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 2, 101–128. (Zvi Artstein) **99e:34065** 34D20 (34D05)

barrera Rosillo, D. *see* **Barrera Rosillo, D.**

Rosindale, I. (*with* Davey, Keith; Alonso Rasgado, M. T.) The 3-D elastodynamic boundary element method: semi-analytical integration for linear isoparametric triangular elements. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 8, 1031–1054. (Summary) **99k:73118** 73V10 (73D99)

Rosino, Leonida The works of Galileo in support of the Copernican concept. (Italian) *Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century* (*Italian*) (*Ferrara*, 1993), 109–122, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A45

Rosinová, Danica (*with* Veselý, Vojtech) Robust exponential stability of a class of nonlinear systems. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 5, 579–594. (Takehiro Mori) **99j:93077** 93D09

Rosiński, Jan Structure of stationary stable processes. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 461–472, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 60G10 (60E07, 60G57)

Rosłanowski, Andrzej (*with* Shelah, Saharon) Simple forcing notions and forcing axioms. *J. Symbolic Logic* **62** (1997), *no.* 4, 1297–1314. (Eva Coplakova) **99j:03043** 03E40 (03E50)

— (*with* Shelah, Saharon) Cardinal invariants of ultraproducts of Boolean algebras. (English summary) *Fund. Math.* **155** (1998), *no.* 2, 101–151. (U. Felgner) **99g:03033** 03C20 (03C60, 03E35, 03G05, 06E05, 06E15)

— (*with* Balcerzak, Marek; Shelah, Saharon) Ideals without ccc. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 128–148. (Miroslav Repický) **99j:03039** 03E15 (03E35, 03E55, 54H05)

Rösler, Margit Generalized Hermite polynomials and the heat equation for Dunkl operators. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 519–542. (Walter Schempp) **99k:33048** 33C80 (33C45)

— (*with* Voit, Michael) An uncertainty principle for Hankel transforms. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 183–194. (Walter Schempp) **99i:44007** 44A15 (26D10, 43A25)

Roslova, T. Yu. On the validity of generalized localization for double trigonometric Fourier series of functions from $L \ln^+ L \ln^+ \ln^+ L$. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 6, 744–745. 42B10

— (*with* Bloshanskaya, S. K.; Bloshanskiĭ, I. L.) Generalized localization for double trigonometric Fourier series and Fourier-Walsh series of functions from $L \log^+ L \log^+ \log^+ L$. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 21–46; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 657–682. (P. Simon) **99f:42054** 42C10 (42B05)

Rosly, A. *see* **Roslyĭ, A. A.**

Rosly, A. A. *see* **Roslyĭ, A. A.**

Roslyakov, G. S. (*with* Fedorenko, V. V.) The study of three-dimensional gas flow in a nozzle using the completely implicit method. (English summary) Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 4, 296–303. (Summary) **99j:76098** 76M25 (76N15)

Roslyĭ, A. A. (*with* Fock, V. V.) Moduli space of flat connections as a Poisson manifold. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3195–3206. (Valentino Zocca) **99c:58024** 58D27 (58F05)

— (*with* Selivanov, K. G.) Form factors in sin(h)-Gordon theory. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 334–338. (Marco Moriconi) **99k:81178** 81T10 (81T40)

— (*with* Keurentjes, A.; Smilga, A. V.) Isolated vacua in supersymmetric Yang-Mills theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 081701, 4 *pp.* (Summary) **99k:81313** 81T60 (81T13)

Rosolini, Giuseppe (*with* Bucalo, Anna) Lifting. (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 281–292, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Summary) **99g:18003** 18B99 (68Q99)

— (*with* Birkedal, L.; Carboni, A.; Scott, Dana S.) Type theory via exact categories (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 188–198, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q55 (03B70, 18E10)

— (*with* Bucalo, Anna) Repleteness and the associated sheaf. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 147–151. (Summary) **99k:18005** 18B25 (18A40, 18D15, 18F20)

— *see also* **Category theory and computer science, 99c:68004**

Rosquist, Kjell (*with* Goliath, Martin) Lax pair tensors and integrable spacetimes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1521–1534. (Dmitri Korotkin) **99i:83018** 83C15 (58F07)

Ross, Christopher R. (*with* Chandler-Wilde, Simon N.; Zhang, Bo[1]) Scattering by rough surfaces. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 164–168, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35R30 (78A45)

Ross, D. K. *see* **Ross, Dennis K.**

Ross, David A. Loeb measure and probability. *Nonstandard analysis (Edinburgh, 1996)*, 91–120, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 493, *Kluwer Acad. Publ., Dordrecht*, 1997. (P. A. Loeb) **99d:28042** 28E05 (03H05, 28A99, 60A10)

Ross, David S. (*with* Weinstein, Steven J.; Hoff, Joseph W.) Time-dependent equations governing the shape of a three-dimensional liquid curtain. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1815–1818. (Summary) **99e:76016** 76B99 (76B45, 76D33)

Ross, Dennis K. (*with* Tapia, Victor) Conformal fourth-rank gravity, non-vanishing cosmological constant and anisotropy. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 245–249. (Manoel F. Borges) **99a:83060** 83D05

— Minimally-extended fiber bundle models of gauge theories. (English summary) *Nuovo Cimento Soc. Ital. Fis. A* (12) **111** (1998), *no.* 3, 243–250. (Hans P. Künzle) **99e:53026** 53C07 (53C80, 81T13)

Ross, Graham G. (*with* Pokorski, Witold) Aspects of string unification. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 81–98. (Summary) **99f:81226** 81V22 (81T30)

— (*with* Espinosa, J. R.; Riotto, A.) *D*-term inflation in superstring theories. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 461–477. (Summary) **99g:81158** 81T30

— (*with* Ghilencea, Dumitru) Unification and extra space-time dimensions. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 165–172. (Summary) **99h:81229** 81V22 (81T60)

Ross, K. A. *see* **Ross, Kenneth Allen**

Ross, Kenneth A. *see* **Ross, Kenneth Andrew**

Ross, Kenneth Allen (*with* Wright, Charles R. B.) ★ Matematyka dyskretna. (Polish. Polish summary) [Discrete mathematics] Translated from the 1992 third English edition by E. Sepko-Guzicka, W. Guzicki and P. Zakrzewski. *Wydawnictwo Naukowe PWN, Warsaw*, 1996. 899 *pp. ISBN* 83-01-12129-7 (Editors) **99f:00001** 00–01 (05–01, 68–01)

— (*with* Willis, George) Riemann sums and modular functions on locally compact groups. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 325–331. (V. Losert) **99h:43012** 43A55 (22D05)

— Hypergroups and signed hypergroups. *Harmonic analysis and hypergroups (Delhi, 1995)*, 77–91, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Margit Rösler) **99b:43004** 43A62 (60J10)

— Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Leonard Gillman. *Amer. Math. Monthly* **106** (1999), *no.* 2, 97–98. 01A70

— *see also* **Harmonic analysis and hypergroups, 99a:43001**

Ross, Kenneth Andrew (*with* Kawaguchi, Akira; Lieuwen, Daniel; Mumick, Inderpal Singh; Quass, Dallan) Concurrency control theory for deferred materialized views. (English summary) *Database theory—ICDT'97 (Delphi)*, 306–320, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68Q10)

Ross, Nicole (*with* Borchers, W.; Forestier, M. Y.; Kräutle, S.; Pasquetti, R.; Peyret, R.; Rautmann, R.; Sabbah, Cyril) A parallel hybrid highly accurate elliptic solver for viscous flow problems. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 3–24, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76104** 76M25 (65N55)

Ross, Patricia A. The limits of physicalism. (English summary) *Philos. Sci.* **66** (1999), *no.* 1, 94–116. 00A69

Ross, Sheldon M. ★ Simulation. Second edition. Statistical Modeling and Decision Science. *Academic Press, Inc., San Diego, CA*, 1997. xii+282 *pp. ISBN* 0-12-598410-3 (James E. Gentle) **99c:65013** 65C20 (65–01)

— Using the importance sampling identity to bound tail probabilities. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 445–452. (Bronius Riauba) **99h:60036** 60E15

Ross, Simon F. (*with* Horowitz, Gary T.) Possible resolution of black hole singularities from large N gauge theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 15, 9 *pp.* (*electronic*). (Marco Spaans) **99f:83050** 83C57 (81T30, 81T60, 83E30)

— Singularities in wavy strings. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 3, 14 *pp.* (*electronic*). (Summary) **99e:83060** 83E30 (81T30, 83C57)

Ross, Stephen A. The mathematics of finance: pricing derivatives. Current and future challenges in the applications of mathematics (Providence, RI, 1997). *Quart. Appl. Math.* **56** (1998), *no.* 4, 695–706. (*see* **99i:00017**) 90A09

Rossa, Bernd Quiescence as an explanation for asynchronous exponential growth in a size structured cell population of exponentially growing cells. I. (English summary) *Advances in mathematical population dynamics—molecules, cells and man (Houston, TX, 1995)*, 223–239, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Hassan Emamirad) **99h:92033** 92D25 (47D06, 47N60, 92C40)

Rossani, Alberto (*with* Riganti, R.) Singular perturbation techniques in the study of a dynamical system arising from the kinetic theory of atoms and photons. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 47–63. (Summary) **99e:82083** 82C40

— (*with* Spiga, Giampiero) Kinetic theory with inelastic interactions. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 273–287. (Summary) **99d:82054** 82C40

— (*with* Monaco, Roberto; Polewczak, Jacek) Kinetic theory of atoms and photons: an application to the Milne-Chandrasekhar problem. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 625–637. (Alexei Heintz) **99h:82069** 82C70 (76N10, 81V80)

Rossanigo, Alessandra (*with* Zambelli, Vittoria) Existence of quasinormal complements for non-normal subgroups of a finite group. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 309–322 (1997). (Summary) **99d:20024** 20D10 (20D35)

Rosset, Edi Symmetry and convexity of level sets of solutions to the infinity Laplace's equation. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 34, 12 *pp.* (*electronic*). (Summary) **99j:35068** 35J65 (35B99)

— (*with* Alessandrini, Giovanni) The inverse conductivity problem with one measurement: bounds on the size of the unknown object. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1060–1071 (*electronic*). (Gottfried Anger) **99j:35227** 35R30 (31B20, 35J25)

Rosset, Shmuel (*with* Abarbanel, Joseph) Some non-finitely presented Lie algebras. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 105–112. (Yun Gao) **99c:17034** 17B55

Rossetto, Bruno (*with* Lenzini, Thierry; Ramdani, Sofiane; Suchey, Gilles) Slow-fast autonomous dynamical systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2135–2145. (Summary) **99m:34101** 34C35 (34E05)

de Rossi, Alfredo *see* **De Rossi, Alfredo**

Rossi, Anna Maria Existence of solutions for a quasilinear elliptic inequality derived from a free boundary problem. (Italian. English summary) *Matematiche (Catania)* **52** (1997), *no.* 2, 311–332 (1998). (Lisa Santos) **99h:35236** 35R35 (35J60)

— (*with* Oppezzi, Pirro) Renormalized solutions for divergence problems with L^1 data. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 889–914. (Anna Mercaldo) **99k:35072** 35J85 (35D05)

Rossi, Carlo (*with* Devasia, Santosh; Paden, Brad) Exact-output tracking theory for systems with parameter jumps. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 117–131. 93D15 (93C30)

Rossi, Francesca (*with* Corradini, Andrea; Montanari, Ugo; Ehrig, Hartmut; Heckel, Reiko; Löwe, Michael) Algebraic approaches to graph transformation. Basic concepts and double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 163–245, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

Rossi, Giancarlo (*with* Bianchi, Massimo; Fucito, Francesco; Martellini, Maurizio) String theory and ALE instantons. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 173–179, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:81150** 81T30 (83E30)

— (*with* Bianchi, Massimo; Kovacs, Stefano; Green, Michael B.) Instantons in supersymmetric Yang-Mills and D-instantons in IIB superstring theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 13, 35 *pp.* (*electronic*). (Daniel N. Kabat) **99m:81241** 81T60 (81T13, 81T30)

Rossi, Gianfranco (*with* Dovier, Agostino; Piazza, Carla; Pontelli, Enrico) On the representation and management of finite sets in CLP languages. (English summary) *Logic programming (Manchester, 1998)*, 40–54, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68033** 68N17 (68T20)

Rossi, Hugo *see* **Prospects in mathematics, 99g:00034**

Rossi, J. D. (*with* Durán, Ricardo G.; Etcheverry, J. I.) Numerical approximation of a parabolic problem with a nonlinear boundary condition. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 497–506. (Summary) **99a:65122** 65M60 (35K60)

Rossi, Jean-Gérard Sur deux types de rapport entre sujets et prédicats dans la philosophie leibnizienne. (English summary) [On two types of relation between subject and predicate in the philosophy of Leibniz] *Studia Leibnitiana* **29** (1997), *no.* 1, 103–111. (Summary) **99k:01018** 01A45 (00A30)

Rossi, John (*with* Fryntov, A. E.; Weitsman, Allen) Circular means of fine Green's functions and the longest arc relation. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 211–224. (Summary) **99m:31001** 31A05 (31A15)

— (*with* Fenton, P. C.) Cercles de remplissage for entire functions. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 59–66. (Indrajit Lahiri) **99k:30044** 30D15 (30D20, 30D35)

Rossi, Louis F. (*with* Sarocka, David C.; Bernoff, Andrew J.) Large-amplitude solutions to the Sivashinsky and Riley-Davis equations for directional solidification. (English summary) *Phys. D* **127** (1999), *no.* 3-4, 146–176. (Summary) **99m:80015** 80A22 (76T05)

Rossi, M. *see* **Rossi, Maurice**

Rossi, Marco (*with* Avan, J.; Frappat, L.; Sorba, P.) From quantum to elliptic algebras. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1083–1092. (Paul Demkin) **99h:17016** 17B37 (17B67, 17B68, 81R10, 81R50)

— (*with* Avan, J.; Frappat, L.; Sorba, P.) New $\mathscr{W}_{q,p}(\mathrm{sl}(2))$ algebras from the elliptic algebra $\mathscr{A}_{q,p}(\widehat{\mathrm{sl}}(2)_c)$. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 27–35. (Summary) **99h:81081** 81R50 (17B37, 17B81, 81R10)

— (*with* Avan, J.; Frappat, L.; Sorba, P.) Central extensions of classical and quantum q-Virasoro algebras. (English summary) *Phys. Lett. A* **251** (1999), *no.* 1, 13–24. (Fabio Gavarini) **99j:81068** 81R50 (17B37)

Rossi, Mary Ann *see* **Brackenridge, J. Bruce, 99j:01006**

Rossi, Maurice *see* **Hydrodynamics and nonlinear instabilities, 99i:76001**

Rossi, Michele Hodge theory on some invariant threefolds of even degree. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 267–279. (Jan Nagel) **99d:14007** 14C30 (14C25, 14J30)

Rossi, Paolo[1] (*with* Campostrini, Massimo; Vicari, Ettore) The large-N expansion of unitary-matrix models. (English summary) *Phys. Rep.* **302** (1998), *no.* 4, 143–209. (Summary) **99d:81080** 81T10 (81T13, 81T25, 81T27, 81V05)

Rossi, Patrizia On the defect of an analytic disc. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 333–349. (Harold P. Boas) **99g:32012** 32C16 (32D15)

Rossi, Sabina (*with* Le Charlier, Baudouin; Leclère, Christophe; Cortesi, Agostino) Automated verification of behavioural properties of Prolog programs. (English summary) *Advances in computing science—ASIAN'97 (Kathmandu, 1997)*, 225–238, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68N17 (68Q60)

— (*with* Le Charlier, Baudouin; Leclère, Christophe; Cortesi, Agostino) Automated verification of Prolog programs. (English summary) *J. Logic Programming* **39** (1999), *no.* 1-3, 3–42. 68Q60 (68N17)

Rossi, Tuomo (*with* Toivanen, Jari) Parallel fictitious domain method for a non-linear elliptic Neumann boundary value problem. (English summary) Czech-US Workshop in Iterative Methods and Parallel Computing, Part I (Milovy, 1997). *Numer. Linear Algebra Appl.* **6** (1999), *no.* 1, 51–60. (*see* **99m:65008**) 65N55 (65N50)

Rossikhin, Yu. A. (*with* Shitikova, M. V.) Dynamic stability of an elastic cylindrical shell being in external contact with an elastic isotropic medium with respect to nonstationary excitations. (English summary) *J. Vib. Control* **5** (1999), *no.* 1, 3–44. (Summary) **99i:73050** 73K15 (73D99, 73H10)

Rossini, Gerardo L. (*with* Cabra, Daniel C.) Spinons as composite fermions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 4, 265–276. (Summary) **99b:81214** 81T40

— (*with* Cabra, Daniel C.; Moreno, Enrique Francisco) Quasiparticle operators with non-abelian braiding statistics. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 362–368. (Matthias Dörrzapf) **99h:81068** 81R10 (81T40)
— (*with* Adam, Christoph) Schwinger terms in Weyl-invariant and diffeomorphism-invariant 2D scalar field theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4833–4838. (Summary) **99m:81228** 81T50 (81T20)
Rossini, Milvia Irregularity detection from noisy data in one and two dimensions. (English summary) *Numer. Algorithms* **16** (1997), *no.* 3-4, 283–301 (1998). (A. Bultheel) **99d:65055** 65D17 (94A12)
— 2D-discontinuity detection from scattered data. (English summary) *Computing* **61** (1998), *no.* 3, 215–234. (G. A. Evans) **99j:65016** 65D10 (65R10)
Rossiter, J. A. (*with* Chisci, L.; Lombardi, A.; Mosca, Edoardo) State-space approach to stabilizing stochastic predictive control. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 619–637. 93E15 (93D15)
— (*with* Kouvaritakis, B.; Ju, G. J.) Robust stable generalized predictive control. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 411–434. 93D21 (93B36)
— (*with* Gossner, J. R.; Kouvaritakis, B.) Cautious stable predictive control: a guaranteed stable predictive control algorithm with low input activity and good robustness. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 675–697. 93D15 (93B30)
— (*with* Chisci, L.) Efficient mixed weights least squares algorithms for constrained predictive control. (English summary) *Systems Sci.* **23** (1997), *no.* 4, 5–17 (1998). (Summary) **99f:93056** 93B40 (93D15)
— (*with* Chisci, L.; Rice, Michael J.) Stable GPC by dynamic programming. (English summary) *Systems Control Lett.* **33** (1998), *no.* 5, 291–300. (Summary) **99a:93035** 93B40 (93D15)
— (*with* Kouvaritakis, B.; Cannon, M.) Recent developments in generalized predictive control for continuous-time systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 164–173. (De Xing Feng) **99m:93058** 93C40 (93E35)
Rössle, Andreas (*with* Dauge, Monique; Djurdjevic, Ivica) Higher order bending and membrane responses of thin linearly elastic plates. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 519–524. (Tomasz Lewiński) **99j:73067** 73K10
— (*with* Dauge, Monique; Djurdjevic, Ivica) Full asymptotic expansions for thin elastic free plates. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1243–1248. (Summary) **99g:73073** 73K10 (35Q72, 73C02)
— On the derivation of an asymptotically correct shear correction factor for the Reissner-Mindlin plate model. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 269–274. (Summary) **99k:73081** 73K10 (73C99)
— (*with* Bischoff, M.; Wendland, Wolfgang L.; Ramm, E.) On the mathematical foundation of the (1, 1, 2)-plate model. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 14, 2143–2168. (Summary) **99j:73100** 73V05 (73K10)
Rössler, Otto E. (*with* Kittel, A.; Parisi, Jürgen; Peinke, J.; Baier, Gerold; Klein, Michael) Unifying iteration rule for fractal objects. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1887–1896. (Summary) **99a:39052** 39B12 (28A80)
— ★ Endophysics. The world as an interface. With a preface and contributions by Peter Weibel. Edited by Reimara Rössler. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xvi*+204 *pp. ISBN* 981-02-2752-3 (S. Gudder) **99e:81011** 81P05 (81P20)
— (*with* Kuypers, Heinrich; Parisi, Jürgen) Gravitational slowing down of clocks implies proportional size increase. (English summary) *A perspective look at nonlinear media*, 370–372, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99d:83080** 83C99 (83A05, 83C57)
Rössler, Reimara *see* **Rössler, Otto E., 99e:81011**
Rossman, Wayne (*with* Hoffman, David A.) Limit surfaces of Riemann examples. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 161–171. (Rabah Souam) **99h:53008** 53A10 (49Q05)
— (*with* Umehara, Masaaki; Yamada, Kōtarō) Irreducible constant mean curvature 1 surfaces in hyperbolic space with positive genus. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 449–484. (Luis J. Alías) **99a:53025; EA 99m** 53A10 (53A35, 53C42)
— Minimal surfaces with planar boundary curves. *Kyushu J. Math.* **52** (1998), *no.* 1, 209–225. (Joaquín Pérez) **99c:53007** 53A10
— (*with* Umehara, Masaaki; Yamada, Kōtarō) Flux for mean curvature 1 surfaces in hyperbolic 3-space, and applications. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2147–2154. (Rabah Souam) **99j:53011** 53A10
Rossmanith, Peter (*with* Zeugmann, Thomas) Learning k-variable pattern languages efficiently stochastically finite on average from positive data. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 13–24, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (Summary) **99m:68172** 68T05 (68Q45)
Roßmann, Jürgen (*with* Kozlov, Vladimir Arkad′evich; Maz′ya, Vladimir G.) Spectral properties of operator pencils generated by elliptic boundary value problems for the Lamé system. *Rostock. Math. Kolloq. No.* 51 (1997), 5–24. (Kamoliddin Kh. Boimatov) **99f:35141** 35P05 (35J25, 47F05, 73C02)
Rössner, Carsten (*with* Seifert, Jean-Pierre) On the hardness of approximating shortest integer relations among rational numbers. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 287–297. (Summary) **99i:68066** 68Q25 (68Q15)
Rosso, Marc (*with* Kassel, Christian; Turaev, Vladimir G.) ★ Quantum groups and knot invariants. (English, French, German and Russian summaries) Panoramas et Synthèses [Panoramas and Syntheses], 5. *Société Mathématique de France, Paris*, 1997. vi+115 *pp. ISBN* 2-85629-055-8 (Ruth Lawrence) **99b:57011** 57M25 (16W60, 17B37, 18D10, 57N10)
— Quantum groups and braid groups. *Symétries quantiques* (*Les Houches*, 1995), 757–785, *North-Holland, Amsterdam*, 1998. (Tomasz Brzeziński) **99m:17022** 17B37 (16W30, 20F36)
— (*with* Cibils, Claude) Hopf bimodules are modules. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 3, 225–231. (Walter R. Ferrer Santos) **99i:16067** 16W30
Rosso, Riccardo (*with* Virga, Epifanio G.) Exact statics and approximate dynamics of adhering lipid tubules. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 2, 107–119. (Summary) **99d:92010** 92C05 (76D45, 92C10, 92C40)
van Rossum-Wijsmuller, Marijke (*with* Kátai, Imre) On the iterates of the sum of unitary divisors. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 149–167. (Lutz Gerhard Lucht) **99a:11008** 11A25 (11N36)
Rost, Daniel (*with* Gänssler, Peter; Ziegler, Klaus) On random measure processes with application to smoothed empirical processes. *High dimensional probability* (*Oberwolfach*, 1996), 93–102, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Miguel A. Arcones) **99h:60072** 60F17 (60B12, 60F20)
Rost, Hermann Das Parkplatzproblem. (German summary) [The parking spot problem] *Math. Semesterber.* **46** (1999), *no.* 1, 97–113. 90B80 (90C90)
Rost, Jan-Michael (*with* Tanner, Gregor) Two-electron atoms: from resonances to fragmentation. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 274–303, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45
— (*with* van de Sand, Gerd) Semiclassical time-dependent propagation in three dimensions for a Coulomb potential. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 3, *R*1723–*R*1726. (Summary) **99m:81061** 81Q20
Rost, Karla (*with* Heinig, Georg) Representations of Toeplitz-plus-Hankel matrices using trigonometric transformations with application to fast matrix-vector multiplication. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 225–248. (Marc Van Barel) **99d:65091** 65F05 (15A57)
— (*with* Vavřín, Zdeněk) Inversion formulas and fast algorithms for Löwner-Vandermonde matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 537–549. (George D. Poole) **99d:65094** 65F05 (15A09, 65F30, 65Y20)
— (*with* Heinig, Georg) DFT representations of Toeplitz-plus-Hankel Bezoutians with application to fast matrix-vector multiplication. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 157–175. (Ilse C. F. Ipsen) **99j:65037** 65F05 (15A09, 15A23, 65T20)
Rostami Varnos Fadrani, D. Fast iterative methods for solving of nonlinear weakly singular integral equations on smooth or nonsmooth boundary. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 12, 1257–1274. (Summary) **99j:65242** 65R20 (45L05)
Rostgaard, Morten (*with* Lauritsen, Morten B.; Poulsen, Niels K.) GPC using a delta-domain emulator-based approach. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 219–232. 93C40 (93E10)
Rostomashvili, Z. (*with* Kemkhadze, S.) General geometric lattices. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 1, 14–17. 06C10 (06C05)
Rosu, Haret C. (*with* Guzmán, Juan R.) Gegenbauer polynomials and supersymmetric quantum mechanics. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 6, 941–942. (Jiu Qing Liang) **99a:81049** 81Q60 (33C55)
— (*with* Guzmán, Juan R.) Supersymmetric techniques applied to the Jacobi equation. (English summary) *European J. Phys.* **19** (1998), *no.* 3, 287–292. (Avinash Khare) **99i:81055** 81Q60 (33C45)
— (*with* Socorro, José) Double Darboux method for the Taub continuum. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 5, 677–682. (Summary) **99c:83033** 83C45 (83F05)
Roszak, B. On the pointwise approximation by Borel and Euler means. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 369–391. (S. Baron) **99c:42001** 42A10 (40G05, 40G10, 41A25, 42A24)
Roszkowski, Krzysztof (*with* Malec, Edward) Comment on the Herzlich's proof of the Penrose inequality. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 8, 1975–1978. (Piotr T. Chruściel) **99j:53048** 53C21 (53C80, 83C57, 83C75)
Rota, Gian-Carlo Baxter operators, an introduction. *Gian-Carlo Rota on combinatorics*, 504–512, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05A30
— (*with* Shen, Jianhong; Taylor, Brian D.) All polynomials of binomial type are represented by Abel polynomials. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 731–738 (1998). (Maurice J. Ginocchio) **99j:05018** 05A40
— (*with* Di Bucchianico, Alessandro; Loeb, Daniel E.) Umbral calculus in Hilbert space. *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 213–238, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Heinrich Niederhausen) **99i:05021** 05A40 (33C55, 47A99)
— Five dilemmas associated with the era of communication. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *no.* 1, 25–30. 00A69
— Geometric probability. *Math. Intelligencer* **20** (1998), *no.* 4, 11–16. (Irene Hueter) **99j:60020** 60D05
— Combinatorial snapshots. *Math. Intelligencer* **21** (1999), *no.* 2, 8–14. 05-01 (00A99, 11M06)
— *see also* **Mathematical essays in honor of Gian-Carlo Rota, 99a:00055**; **Gian-Carlo Rota on combinatorics, 99b:01027**; **Bogart, Kenneth P., (99b:01027)** *and* **Chen, William Y. C., (99b:01027)**
Rotar, Vladimir ★ Probability theory. Translated from the Russian by the author. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xviii*+414 *pp. ISBN* 981-02-2213-0 (Martin I. Goldstein) **99j:60001** 60-01
— (*with* Rinott, Yosef) On coupling constructions and rates in the CLT for dependent summands with applications to the antivoter model and weighted U-statistics. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 1080–1105. (Qi Man Shao) **99g:60050** 60F05 (60J10, 60K35, 62E20)
Rotariu-Bruma, A. I. (*with* Peletier, L. A.; Troy, William C.) A generalisation of the extended Fisher-Kolmogorov equation with an application to pulse propagation along optical fibers. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 66–76, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (*see* **99d:35004**) 35K55 (35Q51, 78A60)
— (*with* Peletier, L. A.) Pulse-like spatial patterns described by higher-order model equations. *J. Differential Equations* **150** (1998), *no.* 1, 124–187. (Grzegorz Karch) **99j:35098** 35K55 (34A12, 34C11, 35B10)
Rotaru, Mihai (*with* Ciobanu, Gabriel) Faithful π-nets. A graphical representation of the asynchronous π-calculus. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 22 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (Summary) **99j:68036** 68Q10 (68Q55, 68Q60)

Rote, Günter (*with* Woeginger, Gerhard J.) Minimizing the number of tardy jobs on a single machine with batch setup times. (English summary) *Acta Cybernet.* **13** (1998), *no.* 4, 423–429. (Summary) **99m:90089** 90B35 (90C60)

— (*with* Alt, Helmut; Fuchs, Ulrich; Weber, Gerald) Matching convex shapes with respect to the symmetric difference. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 89–103. (Rephael Wenger) **99i:68118** 68U05 (52B55)

— (*with* Schwarzkopf, Otfried; Fuchs, Ulrich; Welzl, Emo) Approximation of convex figures by pairs of rectangles. (English summary) *Comput. Geom.* **10** (1998), *no.* 2, 77–87. (Summary) **99a:52019** 52B55 (52A27, 68U05)

— (*with* Bose, Prosenjit; Everett, Hazel; Fekete, Sándor P.; Houle, Michael E.; Lubiw, Anna; Meijer, Henk; Romanik, Kathleen; Shermer, Thomas C.; Whitesides, S. H.; Zelle, Christian) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)

— (*with* Burkard, Rainer E.; Çela, Eranda; Woeginger, Gerhard J.) The quadratic assignment problem with a monotone anti-Monge and a symmetric Toeplitz matrix: easy and hard cases. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 125–158. (Roman Słowiński) **99i:90078** 90C27 (90C20)

— (*with* Aichholzer, Oswin; Aurenhammer, Franz; Xu, Yin-Feng) Constant-level greedy triangulations approximate the MWT well. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 361–369. (Summary) **99m:65260** 65Y25

Rotea, Mario A. (*with* Prasanth, Ravi K.) An interpolation approach to multiobjective $\mathscr{H}_\infty$ design. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 699–720. 93B36

— (*with* Iwasaki, Tetsuya) Fixed-order scaled $\mathscr{H}_\infty$ synthesis. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 6, 381–398. (Jacob Hammer) **99a:93030** 93B36 (93B51)

— (*with* Tsiotras, Panagiotis; Corless, Martin) Suboptimal control of rigid body motion with a quadratic cost. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 55–81. (Summary) **99j:93067** 93C85 (70E15, 70Q05)

— (*with* Petersen, Ian R.; McFarlane, Duncan C.) Optimal guaranteed cost control of discrete-time uncertain linear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 649–657. (Andrzej Świerniak) **99f:93092** 93C55 (49N35, 93C41)

— (*with* Tsiotras, Panagiotis; Corless, Martin) Optimal control of rigid body angular velocity with quadratic cost. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 507–532. (Alexander M. Kovalev) **99a:70046** 70Q05 (49K15, 70E15, 93C15, 93D15)

Roters, Markus (*with* Finner, H.) Asymptotic comparison of step-down and step-up multiple test procedures based on exchangeable test statistics. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 505–524. (S. Panchapakesan) **99h:62064** 62G30

— Optimal stopping in a dice game. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 229–235. (Summary) **99b:60056** 60G40

Roth, Dan (*with* Khardon, Roni) Defaults and relevance in model-based reasoning. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 169–193. (Summary) **99k:68187** 68T30 (03B70)

— (*with* Khardon, Roni) Learning to reason. (English summary) *J. ACM* **44** (1997), *no.* 5, 697–725. (Petr Jirků) **99h:68142** 68T05 (03B70, 68T27)

Roth, K. F. Rational approximations to algebraic numbers [MR **22** #10977]. *Fields Medallists' lectures*, 60–66, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 11J68

— *see also* **Davenport, Harold**, (**99b:00010**)

Roth, Oliver On the Taylor coefficients for powers of the derivative of univalent functions. (English summary) *J. Anal.* **6** (1998), 131–138. (Iscander Nezhmetdinov) **99m:30030** 30C50

Roth, Ron M. Probabilistic crisscross error correction. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1425–1438. (Alexander M. Barg) **99a:94063** 94B60

— (*with* Seroussi, Gadiel) Reduced-redundancy product codes for burst error correction. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1395–1406. (Summary) **99j:94072** 94B20

— (*with* Bar-Yehuda, Reuven; Geiger, Dan; Naor, Joseph) Approximation algorithms for the feedback vertex set problem with applications to constraint satisfaction and Bayesian inference. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 942–959 (*electronic*). (Summary) **99c:68117** 68Q25 (05C85, 68R10, 68T20)

— (*with* Merhav, Neri; Arikan, Erdal) Hierarchical guessing with a fidelity criterion. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 330–337. (Summary) **99j:94026** 94A34 (94A29)

— (*with* Talyansky, Roman; Etzion, Tuvi) Efficient code constructions for certain two-dimensional constraints. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 794–799. 94A14

Roth, Siegmar Solitons in polyacetylene. *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 240–256, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82D60

Roth, Ulli Die Bestimmung der Mathematik bei Cusanus und Leibniz. (English summary) [The conception of mathematics in Cusanus and Leibniz] *Studia Leibnitiana* **29** (1997), *no.* 1, 63–80. (Summary) **99k:01010** 01A35 (00A30, 01A45)

Roth, Walter Locally convex cones as generalizations of locally convex vector spaces. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 215–245. (I. Namioka) **99m:46004** 46A19 (46A40)

Rothaus, Oscar S. (*with* Gross, Leonard) Herbst inequalities for supercontractive semigroups. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 295–318. (Thierry Coulhon) **99i:47074** 47D07 (31C25, 60J25)

— Sharp log-Sobolev inequalities. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2903–2904. (J. Michael Pearson) **99f:46048** 46E35 (47D07)

Rothberg, Edward (*with* Hendrickson, Bruce) Improving the run time and quality of nested dissection ordering. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 468–489 (*electronic*). (Summary) **99d:65142** 65F50

Rothblum, Uriel G. (*with* Coppersmith, Don; Hoffman, Alan J.) Inequalities of Rayleigh quotients and bounds on the spectral radius of nonnegative symmetric matrices. (English summary) *Linear Algebra Appl.* **263** (1997), 201–220. (Summary) **99c:65067** 65F15 (15A42)

— (*with* Hartfiel, D. J.) Convergence of inhomogenous products of matrices and coefficients of ergodicity. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 1–9. (Adolf Rhodius) **99g:15041** 15A99 (15A18)

— (*with* Hwang, Frank K.; Onn, Shmuel) Representations and characterizations of vertices of bounded-shape partition polytopes. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 263–284. (Jesús A. de Loera) **99f:52014** 52B12 (05A18, 90C27)

— (*with* Chang, Gerard J.; Chen, Fu-Loong; Huang, Lingling; Hwang, Frank K.; Nuan, Su-Tzu; Sun, I-Fan; Wang, Jan-Wen; Yeh, Hong-Gwa) Sortabilities of partition properties. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 413–427. (Summary) **99k:90129** 90C27 (90C10)

Rothe, F. A variant of Frobenius' method for the Emden-Fowler equation. (English summary) *Appl. Anal.* **66** (1997), *no.* 3-4, 227–244. (Summary) **99b:35058** 35J60 (34B15, 35C99, 85A30)

Rothe, Jörg A promise class at least as hard as the polynomial hierarchy. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 92–107 (*electronic*). (*see* **99f:68006**) 68Q15

— (*with* Hemaspaandra, Lane A.; Wechsung, Gerd) Easy sets and hard certificate schemes. (English summary) *Acta Inform.* **34** (1997), *no.* 11, 859–879. (Eric Bach) **99c:68096** 68Q15 (03D15, 68Q30)

— (*with* Hemaspaandra, Lane A.; Jiang, Zhigen; Watanabe, Osamu[2]) Polynomial-time multi-selectivity. (English summary) *J.UCS* **3** (1997), *no.* 3, 197–229 (*electronic*). (Summary) **99h:68054** 68Q15 (03D15)

— (*with* Goldsmith, Judy; Ogihara, Mitsunori) Tally NP sets and easy census functions. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 483–492, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q15

— (*with* Hemaspaandra, Edith) Recognizing when greed can approximate maximum independent sets is complete for parallel access to NP. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 151–156. (Summary) **99d:68083** 68Q15

— (*with* Hemaspaandra, Lane A.; Jiang, Zhigen; Watanabe, Osamu[2]) Boolean operations, joins, and the extended low hierarchy. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 317–327. (Marius Zimand) **99h:68055** 68Q15 (03D15)

Rothe, Klaus D. (*with* Cabra, Daniel C.) Fermionic coset realization of primaries in critical statistical models. (English summary) *Ann. Physics* **251** (1996), *no.* 2, 337–362. (Summary) **99c:81064** 81R10 (81T40, 82B27)

— (*with* Kim, Yong-Wan) Lagrangian approach to local symmetries and self-dual model in gauge invariant formulation. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4183–4194. (Summary) **99e:81251** 81T70 (81T13)

— (*with* Kim, Yong-Wan) BFT Hamiltonian embedding of non-abelian self-dual model. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 510–520. (Antonio González-Arroyo) **99a:81182** 81T70 (81T13)

Rothemund, Paul W. K. (*with* Roweis, Sam; Winfree, Erik; Burgoyne, Richard; Chelyapov, Nickolas V.; Goodman, Myron F.; Adleman, Leonard M.) A sticker based model for DNA computation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 1–29, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68059** 68Q05 (92D20)

— (*with* Adleman, Leonard M.; Roweis, Sam; Winfree, Erik) On applying molecular computation to the data encryption standard. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 31–44, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:94034** 94A60 (68Q05, 92D20)

Rothenberg, Jerome Consumption style as choice under risk static choice, dynamic irrationality and crimes of passion. *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 105–114, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A08 (90A46)

Rothenberg, Melvin G. (*with* Mathai, Varghese) On the homotopy invariance of L^2 torsion for covering spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 887–897. (Matthias Lesch) **99c:58167** 58G26 (57N10, 57N65, 57Q10)

Rothenhäusler, Frank (*with* Balke, Ludwig; Kaess, Alexandra; Neuschäfer, Uta; Scheidt, Stefan) Polyhedral fundamental domains for discrete subgroups of PSL(2, **R**). (English summary) *Topology* **37** (1998), *no.* 6, 1247–1264. (I. Dolgachev) **99j:22017** 22E40 (14B05, 30F35, 32S25, 51M20, 57S30)

Rothenstein, Bernhard Uptodate Galileo transformation (UGT) and Lorentz transformation. *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 1, 86–93. (Abraham A. Ungar) **99m:83009** 83A05

— Learning the consequences of nonstandard clock synchronization from Einstein's special relativity. (English summary) *Hadronic J.* **21** (1998), *no.* 4, 415–430. 83A05

Rothmaler, Philipp Mittag-Leffler modules. (English summary) Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 227–239. (Alberto Facchini) **99b:16006** 16D80 (03C60)

Rothman, Daniel H. (*with* Zaleski, Stéphane) ★ Lattice-gas cellular automata. (English summary) Simple models of complex hydrodynamics. Collection Aléa-Saclay: Monographs and Texts in Statistical Physics, 5. *Cambridge University Press, Cambridge*, 1997. xxii+297 *pp. ISBN* 0-521-55201-X (Lamberto Rondoni) **99d:82001** 82–02 (76D05, 76M25, 76P05, 82C70, 82D05)

Rothmann, Mark D. (*with* Russo, Ralph P.) Some further results on the limiting proportion of types. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 639–646, *North-Holland, Amsterdam*, 1998. (Moshe Shaked) **99j:60134** 60K05 (60F05)

— (*with* El Barmi, Hammou) Nonparametric estimation in selection biased models in the presence of estimating equations. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 4, 381–399. (Summary) **99j:62053** 62G07

Rothos, Vassilios M. (*with* Bountis, Tassos C.) The second order Mel'nikov vector. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 26–35. (Guido Gentile) **99g:34104** 34C37 (34C23, 58F30)

Rothschild, Linda Preiss (*with* Baouendi, Mohamed Salah; Ebenfelt, Peter) Algebraicity of holomorphic mappings between real algebraic sets in $\mathbf{C}^n$. *Acta Math.* **177** (1996), *no.* 2, 225–273. (J. Merker) **99b:32030** 32H02 (32C16, 32F25)

— (*with* Baouendi, Mohamed Salah; Ebenfelt, Peter) Parametrization of local biholomorphisms of real analytic hypersurfaces. *Asian J. Math.* **1** (1997), *no.* 1, 1–16. (Mario Landucci) **99b:32022** 32F25 (32H02)

— (*with* Baouendi, Mohamed Salah; Ebenfelt, Peter) CR automorphisms of real analytic manifolds in complex space. *Comm. Anal. Geom.* **6** (1998), *no.* 2, 291–315. (Gerd Schmalz) **99i:32024** 32F25 (32C16)

Rothstein, Mitchell Explicit formulas for the Airy and Bessel bispectral involutions in terms of Calogero-Moser pairs. *The bispectral problem (Montreal, PQ, 1997)*, 105–110, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Alexander V. Shapovalov) **99f:58104** 58F07 (33C10, 35Q58)

Rotich, J. Kibet (*with* Sun, Shi Jie) Regularity of the optimality criterion with respect to basic parameters in scheduling problems and its application. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 92–98. (Summary) **99a:90111** 90B35

Rotkiewicz, A. Arithmetical progressions formed by Lucas pseudoprimes. *Number theory (Eger, 1996)*, 465–472, *de Gruyter, Berlin*, 1998. (Péter Kiss) **99f:11020** 11B39 (11A07)

Rotman, Joseph J. ★ Galois theory. (English summary) Second edition. Universitext. *Springer-Verlag, New York*, 1998. *xiv+157 pp. ISBN* 0-387-98541-7 (From the preface) **99g:12004** 12F10 (11R32)

— ★ Journey into mathematics. An introduction to proofs. *Prentice Hall, Inc., Upper Saddle River, NJ*, 1998. xiv+237 *pp. ISBN* 0-13-842360-1 (F. J. Papp) **99h:00001** 00–01 (00A35)

Rotnitzky, Andrea (*with* Holcroft, Christina A.; Robins, James M.) Efficient estimation of regression parameters from multistage studies with validation of outcome and covariates. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 349–374. (Summary) **99c:62180** 62J05 (62G05)

— (*with* Robins, James M.; Scharfstein, Daniel O.) Semiparametric regression for repeated outcomes with nonignorable nonresponse. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1321–1339. (Summary) **99j:62050** 62G05

Rotoli, Giacomo (*with* dell'Erba, Ramiro; dell'Isola, Francesco) The influence of the curvature dependence of the surface tension on the geometry of electrically charged menisci. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 2, 89–105. 80A10

Rotstein, Héctor (*with* Galperin, Noam; Gutman, Per-Olof) Set membership approach for reducing value sets in the frequency domain. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1346–1350. 93C30 (93C80)

— (*with* Sznaier, Mario) An exact solution to general four-block discrete-time mixed $\mathscr{H}_2/\mathscr{H}_\infty$ problems via convex optimization. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1475–1480. 93B36 (90C90)

Rottbrand, K. Time-dependent plane wave diffraction by a half-plane: explicit solution for Rawlins' mixed initial boundary value problem. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 5, 321–334. (Summary) **99c:35133** 35L05 (35C05, 45E10, 76Q05, 78A45)

Rötteler, Martin (*with* Grassl, Markus; Beth, Thomas) Computing local invariants of quantum-bit systems. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1833–1839. (Summary) **99d:81026** 81P99

Röttger, Markus (*with* Bezrukov, Sergei; Chavez, J. D.; Harper, L. H.; Schroeder, Ulf-Peter) Embedding of hypercubes into grids. (English summary) *Mathematical foundations of computer science, 1998 (Brno)*, 693–701, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68M10)

— (*with* Schroeder, Ulf-Peter) Embedding 2-dimensional grids into optimal hypercubes with edge-congestion 1 or 2. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 231–242. (Summary) **99f:68162** 68R10 (68M10)

Röttgermann, A. (*with* Wagner, Siegfried) A transonic panel method for helicopter flows. *Boundary element topics (Stuttgart, 1995)*, 363–393, *Springer, Berlin*, 1997. (*see* **99e:00017**) 76M15 (65N38, 76H05)

Rotthaus, Christel (*with* Heinzer, William J.; Wiegand, Sylvia M.) Noetherian rings between a semilocal domain and its completion. (English summary) *J. Algebra* **198** (1997), *no.* 2, 627–655. (Daniel D. Anderson) **99a:13008** 13E05 (13J10)

— Excellent rings, Henselian rings, and the approximation property. *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 317–334. (D.-M. Popescu) **99k:13031** 13F40 (13J10, 13J15, 14B12)

— (*with* Heinzer, William J.; Wiegand, Sylvia M.) Building Noetherian domains inside an ideal-adic completion. (English summary) *Abelian groups, module theory, and topology (Padua, 1997)*, 279–287, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (David E. Rush) **99m:13035** 13E05 (13C15, 13J10)

— (*with* Heinzer, William J.; Wiegand, Sylvia M.) Intermediate rings between a local domain and its completion. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 19–46. (D.-M. Popescu) **99m:13047** 13J10 (13F25, 13J05)

Rottschäfer, Vivi (*with* Doelman, Arjen) Multibump patterns near a co-dimension 2-point. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 43–54, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99b:35092** 35K57 (35Q55)

— (*with* Doelman, Arjen) On the transition from the Ginzburg-Landau equation to the extended Fisher-Kolmogorov equation. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 261–292. (Guido Schneider) **99f:76062** 76E30 (35Q55, 58F39)

Rouault, A. (*with* Chauvin, B.) Boltzmann-Gibbs weights in the branching random walk. (English summary) *Classical and modern branching processes (Minneapolis, MN, 1994)*, 41–50, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Rinaldo Schinazi) **99a:60090** 60J80 (60F10, 60K35, 82C41)

— (*with* Bercu, Bernard; Gamboa, F.) Large deviations for quadratic forms of stationary Gaussian processes. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 75–90. (Vadim R. Fatalov) **99c:60052** 60F10 (60G15, 62M15)

Roubaud, Jacques Jeux, vérité (poétique), catégories. [Games, (poetic) truth, categories] *Jaakko Hintikka (Paris, 1994)*, 185–195, *Probl. Controv., Vrin, Paris*, 1998. (*see* **99f:03005**) 03B65 (03A05)

Roubens, Marc (*with* Perny, Patrice) Fuzzy preference modeling. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 3–30, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90A05 (04A72, 90A06, 90C29, 90C70)

— (*with* Fodor, János C.; Orlovskiĭ, S. A.; Perny, Patrice) The use of fuzzy preference models in multiple criteria choice, ranking and sorting. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 69–101, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C29 (04A72, 90A06, 90C70)

— (*with* Fonck, Pascale; Fodor, János C.) An application of aggregation procedures to the definition of measures of similarity between fuzzy sets. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 67–74. (Summary) **99d:90010** 90A05 (03E72)

— *see also* **Advances in decision analysis, 99m:90003**

Roubíček, Tomáš (*with* Kružík, Martin) On the measures of DiPerna and Majda. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 383–399. (Michel Valadier) **99c:49043** 49Q20 (46N10)

— Optimal control of nonlinear Fredholm integral equations. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 707–729. (Francesco Ferro) **99d:49041** 49K20 (49J45)

— Optimality conditions for nonconvex variational problems relaxed in terms of Young measures. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 3, 335–347. (Pablo Pedregal) **99g:49023** 49K20 (49Q20)

— Nonlinear heat equation with L^1-data. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 4, 517–527. (Yun Mei Chen) **99j:35115** 35K60 (35Dxx)

Rouchon, Pierre Necessary condition and genericity of dynamic feedback linearization. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 2, 14 *pp.* (*electronic*). (Anna Maria Perdon) **99m:93020** 93B18 (58C27, 93B52)

— (*with* Fliess, Michel; Mounier, Hugues; Rudolph, Joachim) Systèmes linéaires sur les opérateurs de Mikusiński et commande d'une poutre flexible. (English and French summaries) [Linear systems involving Mikusiński operators and control of a flexible beam] *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 183–193 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Guenter Leugering) **99c:93057** 93C20 (35Q72, 73K05, 73K50)

— (*with* Fliess, Michel; Lévine, Jean; Martin, Philippe Pierre) Nonlinear control and diffieties, with an application to physics. (English summary) *Secondary calculus and cohomological physics (Moscow, 1997)*, 81–92, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Emilia Petrisor) **99i:93026** 93C10 (58H99, 70Q05)

— (*with* Mounier, Hugues; Rudolph, Joachim; Fliess, Michel) Tracking control of a vibrating string with an interior mass viewed as delay system. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 315–321 (*electronic*). (Enrique Zuazua) **99h:73057** 73K50 (73D30, 93B05)

nasri-Roudsari, G. *see* **Nasri-Roudsari, G.**

Rouff, Marc Nonlinear decoupling method in the case of fast varying parameters. (English summary) *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 1-2, 27–38. 93C15 (93B30)

Rougée, Paul ★ Mécanique des grandes transformations. (French. French summary) [Mechanics of large deformations] Mathématiques & Applications [Mathematics & Applications], 25. *Springer-Verlag, Berlin*, 1997. *x+404 pp. ISBN* 3-540-62691-3 (Gianpietro Del Piero) **99k:73005** 73A05 (73Bxx, 73C50, 73Gxx)

de Rougemont, Michel (*with* Afrati, Foto N.; Guessarian, Irène) The expressiveness of Datalog circuits (DAC). (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 119–128, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:68060** 68P15 (68N17)

— (*with* Ivanov, Sergei Vladimirovich) Interactive protocols on the reals. (English summary) *STACS 98 (Paris, 1998)*, 499–510, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68056** 68Q15 (68Q05)

djafari Rouhani, Behzad *see* **Djafari Rouhani, Behzad**

Rouhani, Behzad Djafari *see* **Djafari Rouhani, Behzad**

Rouhani, S. (*with* Rahimi Tabar, M. R.) Zamalodchikov's c-theorem and the logarithmic conformal field theory. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 85–89. (Satoru Saito) **99f:81183** 81T40

Rouillé, Patrick Sur les polaires de certaines 1-formes. (English and French summaries) [On the polars of certain one-forms] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 677–680. (J. S. Joel) **99g:32063** 32S65 (58F18)

Rouillier, Fabrice (*with* Faugère, Jean-Charles; Moreau de Saint-Martin, François) Design of regular nonseparable bidimensional wavelets using Gröbner basis techniques. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 845–856. 94A11 (42C15)

Roukema, Boudewijn F. (*with* Blanlœil, Vincent) Three-dimensional topology-independent methods to look for global topology. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2645–2655. (Summary) **99f:83086** 83F05

Rouleux, Michel Resonances for a semi-classical Schrödinger operator near a non-trapping energy level. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 6, 487–523. (Hiroshi Isozaki) **99k:81068** 81Q20 (35J10)

Rounds, William C. (*with* Zhang, Guo-Qiang) Power defaults (preliminary report). (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl, 1997)*, 152–169, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68T27

— (*with* Klavins, Eric; Zhang, Guo-Qiang) Experimenting with power default reasoning. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 846–852, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B70)

Rouques, Jean-Philippe Laplace asymptotics for generalized K.P.P. equation. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), *Art.* 10, 225–258 (*electronic*). (J. D. Biggins) **99b:35096** 35K57 (35B25, 35C20, 35Q99, 60H30)

Rouquier, Raphaël (*with* Broué, Michel; Malle, Gunter) Complex reflection groups, braid groups, Hecke algebras. (English summary) *J. Reine Angew. Math.* **500** (1998), 127–190. (Arjeh M. Cohen) **99m:20088** 20F55 (20C05, 20F36)

Roura, Salvador (*with* Martínez, Conrado) Optimal sampling strategies in quicksort. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 327–338, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68038** 68P10

— (*with* Martínez, Conrado) Randomized binary search trees. (English summary) *J. ACM* **45** (1998), *no.* 2, 288–323. (Ricardo Baeza-Yates) **99e:68026** 68P05 (68P10, 68Q25)

Rourke, Colin P. (*with* Lambropoulou, Sofia) Markov's theorem in 3-manifolds. (English summary) Special issue on braid groups and related topics (Jerusalem, 1995). *Topology Appl.* **78** (1997), *no.* 1-2, 95–122. (Summary) **99e:57015** 57M25 (57N10)

— (*with* Fenn, Roger; Keyman, Ebru) The singular braid monoid embeds in a group. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 7, 881–892. (Darren D. Long) **99k:57013** 57M25

— *see also* **Epstein birthday schrift, 99h:00016**

Rourke, David E. (*with* Bush, Seth D.) Inversion of the Bloch equations with T_2 relaxation: an application of the dressing method. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 7216–7230. (Summary) **99e:81276** 81V80 (35Q60, 78A99)

Roush, F. W. (*with* Kim, Ki Hang) Free Z_p actions on subshifts. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 293–322. (Doris Fiebig) **99f:58066** 58F03 (54H20)

Roussarie, Robert Smoothness property of some nonanalytic bifurcation lines. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 199–204, *Univ. Lleida, Lleida*, 199?. (Summary) **99b:58177** 58F14 (34C05, 34C23)

— (*with* Bamón, Rodrigo) Bifurcations: an introduction. *Dynamical systems* (*Temuco*, 1991/1992), 1–54, *Travaux en Cours*, 52, *Hermann, Paris*, 1996. (Patrick Bonckaert) **99c:58117** 58F14 (34C23)

— Bifurcations des équations différentielles ordinaires sur le plan. [Bifurcations of ordinary differential equations in the plane] *Actes de l'Université d'Été* 1996: *Recherche Mathématique et Formation* (*Dijon*), 17–23, *Univ. Bourgogne, Dijon*, 1997. (Armengol Gasull) **99k:34086** 34C23 (34C05, 58F14, 58F21)

— ★ Bifurcation of planar vector fields and Hilbert's sixteenth problem. (English summary) Progress in Mathematics, 164. *Birkhäuser Verlag, Basel*, 1998. *xviii+204 pp. ISBN* 3-7643-5900-5 (Sergeĭ Yu. Yakovenko) **99k:58129** 58F14 (34C05, 34C23, 58F21)

Roussas, George G. Exponential probability inequalities with some applications. (English summary) *Statistics, probability and game theory*, 303–319, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Przemysław Matuła) **99b:60029** 60E15 (62H20)

— (*with* Cai, Zongwu) Smooth estimate of quantiles under association. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 3, 275–287. (Michael Falk) **99b:62046** 62G05

— (*with* Cai, Zongwu) Efficient estimation of a distribution function under quadrant dependence. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 211–224. (Hajime Yamato) **99d:62029** 62G05

Rousseau, C. *see* **Rousseau, Christiane**

Rousseau, Cecil C. (*with* Li, Yusheng) A Ramsey goodness result for graphs with many pendant edges. (English summary) *Ars Combin.* **49** (1998), 315–318. (Summary) **99c:05140** 05C55

— (*with* Jayawardene, Chula J.) An upper bound for the Ramsey number of a quadrilateral versus a complete graph on seven vertices. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 175–188. (Summary) **99m:05112** 05C55

Rousseau, Christiane (*with* Krauskopf, Bernd) Codimension-three unfoldings of reflectionally symmetric planar vector fields. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1115–1150. (Rodrigo Bamon) **99c:58119** 58F14 (34C05, 34C23, 34C37)

— (*with* Świrszcz, G.; Żołądek, Henryk) Cyclicity of graphics with semi-hyperbolic points inside quadratic systems. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 2, 149–189. (Sergeĭ Yu. Yakovenko) **99h:58149** 58F21 (34C05, 34C23, 58F14)

— (*with* Khibnik, A. I.; Krauskopf, Bernd) Global study of a family of cubic Liénard equations. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1505–1519. (F. Berezovskaya) **99i:58111** 58F14 (34C23)

Rousseau, George A sufficient condition for a non-negative matrix to have non-negative determinant. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 179–185. (Summary) **99j:15030** 15A48 (15A15)

Rousseau, Judith Asymptotic Bayes risks for a general class of losses. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 115–121. (Marek Męczarski) **99c:62014** 62C10 (62F12, 62F15)

Rousseeuw, Peter J. Introduction to positive-breakdown methods. *Robust inference*, 101–121, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

— (*with* Hubert, Mia) The catline for deep regression. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 2, 270–296. (Xuming He) **99i:62146** 62J05 (62F35)

— (*with* Ruts, Ida) Constructing the bivariate Tukey median. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 827–839. 62G99 (62F35, 62H05)

Roussel, F. (*with* Giakoumakis, Vassilis; Thuillier, H.) On P_4-tidy graphs. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 17–41 (*electronic*). (Chinh T. Hoang) **99c:05162** 05C75 (05C15, 05C35)

Rousselet, Bernard (*with* Piekarski, J.; Myśliński, A.) Design sensitivity for a hyperelastic rod in large displacement with respect to its midcurve shape. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 683–708. (Christian Zillober) **99a:73099** 73K40 (49M30, 49Q10, 73C50, 73K05)

Rousset, Marie-Christine (*with* Levy, Alon Y.) Verification of knowledge bases based on containment checking. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 227–250. (Summary) **99d:68224** 68T30 (68P15)

— (*with* Levy, Alon Y.) Combining Horn rules and description logics in CARIN. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 165–209. (Summary) **99h:68164** 68T30 (68T25)

Roussev, R. P. (*with* Dobrev, Vladimir K.; Terziev, P. A.) Induced representations of $U_q(\mathrm{so}(3))$ with subrepresentations of integer spin only. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9269–9277. (Roberto Casalbuoni) **99i:81097** 81R50 (17B37)

Roussignol, Michel (*with* Francq, Christian) On white noises driven by hidden Markov chains. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 6, 553–578. (Tobias Rydén) **99c:62237** 62M09 (62F12)

Roussopoulos, G. (*with* Papaodysseus, C.; Koukoutsis, E.; Halkias, C. C.) A parallelizable recursive least squares algorithm for adaptive filtering, with very good tracking properties. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 275–292. (Summary) **99k:94014** 94A12

Rout, R. N. (*with* Kumar, Anil[1]; Ojha, B. K.) Duality in nondifferentiable programming involving pseudoinvexity. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 3, 175–177. 90C29 (49N15)

Rouveirol, Céline (*with* Sebag, Michèle; Puget, Jean-François) Induction of constraint logic programs. (English summary) *Learning and reasoning with complex representations* (*Cairns*, 1996), 148–167, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68N17 (68T05, 68T20)

Roux, Bernard Pierre Using an eraser or a pencil for two-processor scheduling. (English summary) *Order* **14** (1997/98), *no.* 4, 373–383. (Yuri Nazarovich Sotskov) **99i:90056** 90B35 (06A07, 68M20)

Roux, Delfina (*with* De Michele, L.) Approximate units and Gibbs phenomenon. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 739–746. (Weiyi Su) **99c:42011** 42A85 (42B99)

— (*with* De Michele, L.) The Gibbs phenomenon for multiple Fourier integrals and series: restriction theorems. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 351–360. (Walter Trebels) **99i:42015** 42B08 (42–02, 42B10)

Roux, François-Xavier (*with* Choukroun, Franck; Leca, Pierre; Ha-Duong, Tuong) Parallel solver for 3D Maxwell integral equations on axisymmetrical geometry. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 171–185, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65R20)

— (*with* de La Bourdonnaye, Armel; Farhat, Charbel; Macedo, Antonini P.; Magoulès, Frédéric) A non-overlapping domain decomposition method for the exterior Helmholtz problem. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 42–66, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99f:65190** 65N55 (65Y05)

— (*with* Farhat, Charbel) Parallel implementation of direct solution strategies for the coarse grid solvers in 2-level FETI method. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 158–173, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65Y05)

— (*with* Japhet, Caroline; Nataf, Frédéric) Extension of a coarse grid preconditioner to non-symmetric problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 279–286, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65M60 (65F30, 65Y05)

— (*with* Farhat, Charbel; Chen, Po-Shu; Mandel, Jan) The two-level FETI method. II. Extension to shell problems, parallel implementation and performance results. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 153–179. (From the summary) **99c:73078b** 73V05 (65N55, 73K15)

le Roux, Frédéric *see* **Le Roux, Frédéric**

Roux, Gilles (*with* Nejjari, F.; Dahhou, B.; Benhammou, A.) Estimation and optimal control design of a biological wastewater treatment process. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 269–280. 49N55 (93E10)

le Roux, Marie-Noelle *see* **Le Roux, Marie-Noelle**

Roux, S. G. (*with* Arneodo, A.; Manneville, S.; Muzy, J. F.) Experimental evidence for anomalous scale dependent cascading process in turbulent velocity statistics. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 3, 374–381. 76–05 (76F99, 76M25)

Roux, Stéphane Quasi-static contacts. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 267–284, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73T05 (73B99)

Rouy, E. (*with* Barles, Guy) A strong comparison result for the Bellman equation arising in stochastic exit time control problems and its applications. *Comm. Partial Differential Equations* **23** (1998), *no.* 11-12, 1995–2033. (E. N. Barron) **99i:49030** 49L20 (35R60, 49K45, 93E20)

Rovatti, Riccardo (*with* Setti, Gianluca; Mazzini, Gianluca) Chaotic complex spreading sequences for asynchronous DS-CDMA. II. Some theoretical performance bounds. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 496–506. (Summary) **99e:94002** 94A05

— (*with* Borgatti, Michele; Guerrieri, Roberto) A geometric approach to maximum-speed n-dimensional continuous linear interpolation in rectangular grids. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 894–899. (Summary) **99f:65014** 65D05

Rovba, E. A. (*with* Rusak, V. N.) On the rate of approximation by interpolation rational operators with specified poles. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 21–24, 123. (Alekos Vidras) **99m:30076** 30E05 (41A20)

— Rational summation operators of Jackson type. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 2, 270–277; *translation in Math. Notes* **61** (1997), *no.* 1-2, 221–226. (Alexey L. Lukashov) **99e:41019** 41A36 (41A20)

Rovella, A. (*with* Pacífico, Maria José; Viana, Marcelo) Infinite-modal maps with global chaotic behavior. (English summary) *Ann. of Math.* (2) **148** (1998), *no.* 2, 441–484. (Grzegorz Świątek) **99k:58060** 58F03 (58F13)

— (*with* Romero, Neptalí; Vilamajor, F.) On the dynamics of n-dimensional quadratic endomorphisms. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 295–308. (Wei Nian Zhang) **99g:58085** 58F13 (58F12)

— (*with* Pacífico, Maria José; Viana, Marcelo) Corrigendum: "Infinite-modal maps with global chaotic behavior" [Ann. of Math. (2) **148** (1998), no. 2, 441–484; MR 99k:58060]. *Ann. of Math.* (2) **149** (1999), *no.* 2, 705. 58F03 (58F13)

Rovelli, Carlo (*with* Newman, Ezra T.) Hamilton-Jacobi theory for constrained systems and gauge invariant degrees of freedom in general relativity and Yang-Mills theory. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 401–425, *World Sci. Publishing, River Edge, NJ*, 1994. (Riccardo Capovilla) **99a:58073** 58F05 (58Z05, 81T13, 83C05)

— A physical prediction from quantum gravity: quantization of the area. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 281–290, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83035** 83C45

— (*with* Borissov, Roumen; De Pietri, Roberto) Matrix elements of Thiemann's Hamiltonian constraint in loop quantum gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2793–2823. (Hugo A. Morales-Técotl) **99e:83025** 83C45

— (*with* Montesinos-Velásquez, Merced) The fermionic contribution to the spectrum of the area operator in nonperturbative quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3795–3801. (Kirill V. Krasnov) **99i:83041** 83C45

— "Incerto tempore, incertisque loci": can we compute the exact time at which a quantum measurement happens? (English summary) *Found. Phys.* **28** (1998), *no.* 7, 1031–1043. (Koichiro Matsuno) **99i:81021** 81P15

— (*with* Landi, Giovanni) Gravity from Dirac eigenvalues. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 6, 479–494. (Ion V. Vancea) **99m:83074** 83C45 (58B30, 58G40)

— What is a gauge transformation in quantum mechanics? (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 21, 4613–4616. (Nicolaas P. Landsman) **99c:81126** 81S99 (83C45)

— Erratum: "What is a gauge transformation in quantum mechanics?" [Phys. Rev. Lett. **80** (1998), no. 21, 4613–4616; MR 99c:81126]. *Phys. Rev. Lett.* **81** (1998), *no.* 20, 4530. (Nicolaas P. Landsman) **99i:81133** 81S99 (83C45)

— *see also* **Kijowski, Jerzy, 99m:81023**

Rovelli, S. (*with* Cacciatori, S.; Preparata, G.; Spagnolatti, I.; Xue, S.-S.) On the ground state of quantum gravity. (English summary) *Phys. Lett. B* **427** (1998), *no.* 3-4, 254–260. (Summary) **99c:83028** 83C45

Rovenskiĭ, Vladimir Foliations on closed geodesics with positive mixed sectional curvature and special behaviour of *L*-Jacobi fields. (English and Russian summaries) *Tr. Geom. Semin. No.* 23 (1997), 113–123. (James J. Hebda) **99m:53049** 53C12 (53C22)

— ★ Foliations on Riemannian manifolds and submanifolds. (English summary) Appendix A by the author and Victor Toponogov. *Birkhäuser Boston, Inc., Boston, MA*, 1998. x+286 *pp. ISBN* 0-8176-3806-7 (José Carmelo González-Dávila) **99b:53043** 53C12 (53C40)

— On the role of partial Ricci curvature in the geometry of submanifolds and foliations. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 1, 61–82. (Summary) **99h:53076** 53C40 (53C12)

— Partial Ricci curvature of a submanifold inside a cylinder or cone in Euclidean space. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 6, 1382–1390, *iii.* (Vladislav Goldberg) **99m:53070** 53C20

— Submanifolds with restrictions on *q*-Ricci curvature. (English summary) *New developments in differential geometry, Budapest* 1996, 375–388, *Kluwer Acad. Publ., Dordrecht*, 1999. (Luis A. Florit) **99k:53082** 53C21 (53C40)

Roversi, Luca (*with* Ronchi Della Rocca, Simona) Lambda calculus and intuitionistic linear logic. (English summary) *Studia Logica* **59** (1997), *no.* 3, 417–448. (Summary) **99a:03023** 03B40 (03F50, 65N15)

Roversi, Maria Sueli M. (*with* Prolla, João B.; Chiacchio, Ary O.) Extensions of a theorem of Ky Fan. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 735–747. (George Isac) **99j:47095** 47H10 (49J40, 90C48)

Rovinskiĭ, A. B. (*with* Zhabotinskiĭ, A. M.; Epstein, Irving R.) Target patterns arising from the short-wave instability in near-critical regimes of reaction-diffusion systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2412–2417. (Jian Hong Wu) **99b:92010** 92C05 (35K57, 35Q80, 92E20)

— (*with* Zhabotinskiĭ, A. M.; Epstein, Irving R.) Stability of planar reactive fronts in external fields. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5541–5547. (Summary) **99g:80012** 80A32 (80A25)

gonzàlez Rovira, Josep *see* **Gonzàlez Rovira, Josep**

Rovithakis, George A. Robustifying nonlinear systems using high-order neural network controllers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 102–108. 93C83 (93B35)

Rovnyak, James (*with* Alpay, Daniel; Dijksma, Aad; de Snoo, Hendrik S. V.) Reproducing kernel Pontryagin spaces. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 425–444, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Stefania A. M. Marcantognini) **99g:46028** 46E22 (46C20, 47A57, 47B50)

— (*with* Alpay, Daniel; Bolotnikov, Vladimir; Dijksma, Aad; Sadosky, Cora) Espaces de Hilbert inclus contractivement dans l'espace de Hardy du bi-disque. (English and French summaries) [Hilbert spaces contractively included in the Hardy space of the bidisk] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1365–1370. (Emil Straube) **99g:46029** 46E22 (32A35, 46J15, 47A45)

— (*with* Alpay, Daniel) Loewner's theorem for kernels having a finite number of negative squares. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1109–1117. (Adolf A. Nudelman) **99m:47013** 47A57 (30E05, 47B50)

Rowan, William H. The category of directed systems in a category. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 63–86. (J. R. Isbell) **99b:18004** 18A35 (18B15, 18E10)

Rowe, David E. Mathematics in Berlin, 1810–1933. *Mathematics in Berlin*, 9–26, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A72 (01A55, 01A60)

— Einstein in Berlin. *Mathematics in Berlin*, 117–125, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70

Rowe, David J. (*with* de Guise, Hubert) Clebsch-Gordan coefficients in the asymptotic limit. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1087–1106. (J. F. Cornwell) **99a:17012** 17B15 (81R05)

Roweis, Sam (*with* Winfree, Erik; Burgoyne, Richard; Chelyapov, Nickolas V.; Goodman, Myron F.; Rothemund, Paul W. K.; Adleman, Leonard M.) A sticker based model for DNA computation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 1–29, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68059** 68Q05 (92D20)

— (*with* Adleman, Leonard M.; Rothemund, Paul W. K.; Winfree, Erik) On applying molecular computation to the data encryption standard. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 31–44, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:94034** 94A60 (68Q05, 92D20)

Rowell, Chris (*with* Gedney, Stephen D.; Roden, J. Alan; Madsen, Niel K.; Mohammadian, Alireza H.; Hall, William F.; Shankar, Vijaya) Explicit time-domain solutions of Maxwell's equations via generalized grids. *Advances in computational electrodynamics*, 163–262, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78002** 78–08 (65M06, 78A45)

Rowell, Ginger (*with* Siegrist, Kyle) Relative aging of distributions. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 469–478. (Dominik Szynal) **99k:60050** 60E99 (60K10, 62E10)

Rowen, Louis H. (*with* Small, Lance) Primitive ideals of algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3853–3857. (Ronald S. Irving) **99e:16026** 16N60 (16D25, 16P60)

— (*with* Saltman, David J.) Normalized Brauer factor sets. (English summary) *J. Algebra* **198** (1997), *no.* 2, 446–468. (Patrick J. Morandi) **99f:16019** 16K20 (16S35)

— (*with* Cedó, Ferran) Addendum to: "Examples of semiperfect rings" [Israel J. Math. **65** (1989), no. 3, 273–283; MR 90j:16054] by Rowen. (English summary) *Israel J. Math.* **107** (1998), 343–348. (Summary) **99i:16037** 16L30

— *see also* **Ring theory, 99g:16001**

Rowlands, George (*with* Polymilis, C.; Yannacopoulos, A. N.) A method for locating singularities in the complex time domain for integrable dynamical systems. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 4, 273–281. (Summary) **99a:34026** 34A34 (34A20, 34C35, 58F07, 70H05)

— (*with* Infeld, E.) Lagrangian picture of plasma physics. II. *J. Tech. Phys.* **39** (1998), *no.* 1, 3–35. (Summary) **99g:76157** 76X05 (82D10)

Rowlands, Peter The physical consequences of a new version of the Dirac equation. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 397–402, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99k:81099** 81R20

Rowley, B. (*with* Wloka, J.) New aspects of the *L*-condition for elliptic systems. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 283–294. (Vladimir Tulovsky) **99h:35044** 35J45

Rowley, Chris *see* **Combinatorial designs and their applications, 99k:05002**

Rowley, Peter J. (*with* Lempken, Wolfgang; Parker, Christopher W.) Minimal parabolic systems for the symmetric and alternating groups. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 149–162, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Hiroyoshi Yamaki) **99h:20020** 20D06 (20B30, 20E42)

— (*with* Parker, Christopher W.) Extremal subgroups in twisted Lie type groups. (English summary) *J. Reine Angew. Math.* **498** (1998), 135–152. (N. K. Dickson) **99g:20028** 20D06

Rowlinson, Peter Linear algebra. (English summary) *Graph connections*, 86–99, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 05C50 (05E30)

— On graphs with multiple eigenvalues. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 75–85. (D. Cvetković) **99k:05112** 05C50

— (*with* Cvetković, Dragoš M.; Lepović, Mirko; Simić, Slobodan K.) A database of star complements of graphs. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 103–112. (N. Trinajstić) **99m:05132** 05C75

— *see also* **Conference: Combinatorial, 99h:00023**

Rowse, D. (*with* Parrott, A. K.; LeHyaric, A.; Monk, P. B.; Jennings, N.; Murphy, John Andrew) Parallelisation of a 3-D electromagnetic scattering code. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 329–340, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65N30)

Roxburgh, D. G. (*with* Connor, Paul) Plane deformation and stability of an elastic layer with intrinsic boundary elasticity. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 2, 213–234. (Summary) **99j:73033** 73C50 (73H05)

Roy, Akhil Ranjan (*with* De, Supriya Kumar; Biswas, Ranjit) Multicriteria decision making using intuitionistic fuzzy set theory. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 837–842. 90C70 (03E70, 03E72, 03F55, 90A05)

Roy, Amitabha (*with* Ginsberg, Matthew L.; Parkes, Andrew J.) Supermodels and robustness. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 334–339, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20

Roy, Amitava (*with* Barat, P.) Modification of Karhunen-Loeve transform for pattern recognition. (English summary) *Sādhanā* **23** (1998), *no.* 4, 341–350. 68T10 (76Q05)

Roy, Amiya Bhusan (*with* Das, P. K.) The role of four regulatory hormones in controlling testicular function in a delay model. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 5, 101–116. (M. J. Chappell) **99a:92011** 92C50 (34K35, 93C95)

— (*with* Kesh, Dipak; Mukherjee, Debasis; Sarkar, Ashis Kumar) Ratio dependent predation: a bifurcation analysis. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 295–305. (Summary) **99c:92041** 92D25 (34K15)

— (*with* Mukherjee, Debasis; Bhakta, Paresh Chandra) Uniform persistence in Kolmogorov models with convex growth functions. *Nonlinear Anal.* **34** (1998), *no.* 3, 427–432. (From the introduction) **99j:92009** 92D15 (34C99, 34D20)

Roy, Arati (*with* Saxena, Poonam; Yadava, R. N.) On the Walsh transforms. *J. Maulana Azad College Tech.* **31** (1998), 145–151. 42C10 (44A15, 94A12)

Roy, Barnana (*with* Roy, Pinaki) Coherent states, even and odd coherent states in a finite-dimensional Hilbert space and their properties. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1307–1317. (Valery P. Karassiov) **99i:81082** 81R30

— Nonclassical properties of the real and imaginary nonlinear Schrödinger cat states. (English summary) *Phys. Lett. A* **249** (1998), *no.* 1-2, 25–29. (Summary) **99h:81076** 81R30

dutta-Roy, Binayak *see* **Dutta-Roy, Binayak**

Roy, D. *see* **Roy, Dipak**

ghosh Roy, D. N. *see* **Ghosh Roy, D. N.**

Roy, Damien (*with* Waldschmidt, Michel) Simultaneous approximation and algebraic independence. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 379–430. (Michel Laurent) **99a:11090** 11J85 (11J82)

— (*with* Thunder, Jeffrey Lin) Addendum and erratum to: "An absolute Siegel's lemma" [J. Reine Angew. Math. **476** (1996), 1–26; MR 97h:11075]. *J. Reine Angew. Math.* **508** (1999), 47–51. (Michel Waldschmidt) **99m:11078** 11J13 (11H50, 11J61, 11R56)

— (*with* Laurent, Michel) Criteria of algebraic independence with multiplicities and interpolation determinants. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1845–1870. (Yann Bugeaud) **99h:11080** 11J85

Roy, Debasish (*with* Iyengar, R. N.) New approaches for the study of non-linear oscillators. (English summary) *J. Sound Vibration* **211** (1998), *no.* 5, 843–875. (James A. Murdock) **99i:34054** 34C15 (34A45, 70–08, 70K99)

— (*with* Iyengar, R. N.) Extensions of the phase space linearization (PSL) technique for non-linear oscillators. (English summary) *J. Sound Vibration* **211** (1998), *no.* 5, 877–906. (James A. Murdock) **99i:34055** 34C15 (34A45, 70–08, 70K99)

Roy, Dilip Some characterizations of a multivariate Lomax distribution within the class of generalised mixtures of exponential distributions. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 11–21. (Gérard Letac) **99i:62022** 62E10

— (*with* Mukherjee, S. P.) Bivariate distributions through Cox's regression model. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 290–300, *Narosa, New Delhi*, 1998. (Ramesh C. Gupta) **99k:62029** 62E10

Roy, Dipak (*with* Mukherjee, T. K.; Sen, Mridul Kanti) Primary representation in Noetherian modules. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 285–298. (Sylvia Wiegand) **99j:13013** 13E05

Roy, Kathleen (*with* So, Shing-Seung) Right simple subsemigroups and right subgroups of a compact semigroup. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 2, 121–125. (Summary) **99i:22008** 22A15

Roy, Madeleine (*with* Fraisse, Anne-Marie; Robert, Christian P.) Semi-tail upper bounds on admissible estimators in continuous exponential families with a nuisance parameter. (English summary) *Statist. Decisions* **16** (1998), *no.* 2, 147–162. (Kurt Hoffmann) **99f:62018** 62C15 (62F10)

Roy, Manindra Kumar (*with* Sinha, Sanjoy Kumar; Ali, Mir Masoom) Some negative binomial mixtured distributions. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 285–302. 62E15

Roy, Marie-Françoise (*with* Lickteig, Thomas) Cauchy index computation. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 337–351 (1998). (K. Chandrasekhara Rao) **99g:15042** 15A99 (68Q25)

— (*with* Basu, Saugata; Pollack, Richard M.) Computing roadmaps of semi-algebraic sets on a variety (extended abstract). (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 1–15, *Springer, Berlin*, 1997. (*see* **99g:00039**) 14P10 (68Q40)

— (*with* González-Vega, Laureano; Recio, Tomas; Lombardi, Henri) Sturm-Habicht sequences, determinants and real roots of univariate polynomials. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 300–316, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 12D15 (13P99, 68Q40)

— (*with* Basu, Saugata; Pollack, Richard M.) A new algorithm to find a point in every cell defined by a family of polynomials. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 341–350, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40 (12D15)

— (*with* Itenberg, I. V.) Interactions between real algebraic geometry and discrete and computational geometry. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 217–236, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Eugenii Shustin) **99j:14052** 14P10 (14P25, 68Q25)

román-Roy, Narciso *see* **Román-Roy, Narciso**

Roy, P. *see* **Roy, Pinaki**

Roy, P. K. *see* **Roy, Prodyot Kumar**

Roy, Pinaki (*with* Roy, Barnana) Coherent states, even and odd coherent states in a finite-dimensional Hilbert space and their properties. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1307–1317. (Valery P. Karassiov) **99i:81082** 81R30

— (*with* Junker, Georg) Supersymmetric construction of exactly solvable potentials and nonlinear algebras. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1736–1743. (Summary) **99i:81053** 81Q60

Roy, Prodyot Kumar Supersymmetric generalization of Boussinesq-Burger system. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 10, 1623–1627. (Nikolai A. Kostov) **99b:58125** 58F07 (81T60)

— On coupled KdV equations. (English summary) *Phys. Lett. A* **249** (1998), *no.* 1-2, 55–58. 35Q53

Roy, R. L. To study the condition of harmonicity in Zelmanov metric. *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 114–115. 53B20

Roy, Rahul (*with* Sarkar, Anish; White, Damien G.) Backbends in directed percolation. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 889–908. (Yasunari Higuchi) **99j:60158** 60K35 (82B43)

Roy, Rajarshi (*with* Ashwin, Peter; Terry, John R.; Thornburg, K. Scott, Jr.) Blowout bifurcation in a system of coupled chaotic lasers. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7186–7189. (Summary) **99g:78026** 78A60 (58F13, 58F40)

sinha Roy, S. *see* **Sinha Roy, S.**

Roy, Shibaji Orbifolds of M-theory and type II string theories in two dimensions. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 175–194. (Gerardo Marcelo Aldazabal) **99e:81206** 81T30

— On S duality of toroidally compactified type IIB string effective action. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4445–4467. (Gianguido Dall'Agata) **99m:83195** 83E30 (81T30, 83C57, 83E30)

— SL(2, **Z**) multiplets of type II superstrings in $D < 10$. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 176–184. (Paulo Moniz) **99d:81131** 81T30

— (*with* Das, Ashok; Maharana, Jnanadeva) An SL(2, **Z**) multiplet of black holes in $D = 4$ type II superstring theory. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 185–195. (Paulo Moniz) **99c:83086** 83E30 (81T30, 83C57)

— (*with* Lu, Jian Xin) An SL(2, **Z**) multiplet of type IIB super five-branes. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 289–296. (Summary) **99d:81128** 81T30

— (*with* Lu, Jian Xin) 4-string junction and its network. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 167–176. (Summary) **99h:81173** 81T30

Roy, Sisir ★ Statistical geometry and applications to microphysics and cosmology. (English summary) Fundamental Theories of Physics, 92. *Kluwer Academic Publishers Group, Dordrecht*, 1998. xii+246 *pp. ISBN* 0-7923-4907-5 (R. L. Ingraham) **99c:81020** 81P20 (60D05, 81P15)

— *see also* **Enigmatic photon, 99h:81226**

Roy, Subrata (*with* Baker, Allen Jerome; Iannelli, J. S.; Chaffin, D. J.) On some recent adventures into improved finite element CFD methods for convective transport. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 27–42. (From the summary) **99d:76056** 76M10 (65M60, 76Rxx)

Roy, Suddhasatwa (*with* Kovenock, Dan) Dynamic capacity choice in a Bertrand-Edgeworth framework. (English summary) *J. Math. Econom.* **29** (1998), *no.* 2, 135–160. (Summary) **99h:90009** 90A08 (90D10)

Roy, Suman (*with* Chandru, Vijaya; Subrahmanyam, Ramesh) Negation as failure as resolution. (English summary) *Constraints* **3** (1998), *no.* 4, 315–329. (Summary) **99k:68027** 68N17

Roy, Sumit (*with* Schlegel, Christian; Alexander, Paul D.) Coded asynchronous CDMA and its efficient detection. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2837–2847. 94A05

Roy, Tapan Kumar (*with* Mandal, M.; Maiti, Manoranjan) A fuzzy inventory model of deteriorating items with stock-dependent demand under limited storage space. (English summary) *Opsearch* **35** (1998), *no.* 4, 323–337. 90B05 (90C70)

Roy, Tarun K. (*with* Lahiri, Avijit; Bhowal, Ajanta) Resonant collisions in four-dimensional reversible maps: a description of scenarios. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 95–116. (Mikhail B. Sevryuk) **99b:58173** 58F14 (34C35, 58F30, 70K30)

Roy, U. (*with* Bhattacharya, A.; Talukdar, B.; Ghosh, Angsula) Quantal information entropies for atoms. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1667–1680. (Summary) **99d:81022** 81P99 (94A17)

— (*with* Bhattacharya, A.; Talukdar, B.; Banerji, G.) Transcendental-function representation of Stark-modified hydrogenic states and atomic dipole polarizability. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1219–1226. (Summary) **99a:81033** 81Q15 (81V45)

Roy, Yves (*with* Mignotte, Maurice) Lower bounds for Catalan's equation. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 351–356. (Michael A. Bennett) **99g:11042** 11D61 (11J86)

Royall, Richard M. ★ Statistical evidence. (English summary) A likelihood paradigm. Monographs on Statistics and Applied Probability, 71. *Chapman & Hall, London*, 1997. *xvi*+191 *pp. ISBN* 0-412-04411-0 (Thomas A. Severini) **99f:62012** 62A10 (62-02)

Royce, B. (*with* Domokos, Gábor; Holmes, Philip J.) Constrained Euler buckling. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 3, 281–314. (Summary) **99b:73025** 73H05 (34B15, 58F40)

Roychoudhury, R. (*with* Nag, Nivedita; Sinha, Anjana) Quantum deformation of the confined Hulthen problem. (English summary) *Czechoslovak J. Phys.* **48** (1998), *no.* 9, 1025–1033. (From the text) **99j:81073** 81R50

Roy Choudhury, S. *see* **Choudhury, S. Roy**

Roy Chowdhury, Asesh (*with* Mukhopadhyay, Indranil^2) Marsden-Ratiu reduction and W_3^2 algebra. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 878–885. (Josep Herrero) **99e:58075** 58F05 (17B68, 58F07, 81R10)

— (*with* Pal, Swapan Kr.) N-fold Bäcklund transformation for deformed nonlinear Schrödinger equation. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 4, 1021–1031. (Chris Athorne) **99b:58216** 58F37 (35Q55)

— (*with* Mukhopadhyay, Indranil^2) Classical r-matrices and the four-wave interaction equation. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 471–477. (Woodford W. Zachary) **99f:58103** 58F07 (22E67, 35Q58)

— (*with* Dasgupta, Brahmananda; Rao, N. N.) Painléve analysis and Backlund transformations for coupled generalized Schrödinger-Boussinesq system. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1747–1753. (Summary) **99i:35155** 35Q55 (58F37)

— (*with* Paul, Swapan K.) On the n-fold Backlund transformation for the Davey-Stewartson equation. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1913–1920. (Xian Guo Geng) **99m:58174** 58F37 (35Q55)

— (*with* Sen, Dolan Chapa) On the Moyal quantized BKP type hierarchies. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 1–7. (Alexander V. Shapovalov) **99b:58126** 58F07 (81S10)

— (*with* Paul, Sudhir) On the analytical approach to the N-fold Bäcklund transformation of Davey-Stewartson equation. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 4, 349–356. (Summary) **99h:35202** 35Q55 (58F37)

— (*with* Mukhopadhyay, Indranil^2) On integrable and super-integrable systems with explicit x-dependence: an Adler-Kostant-Symes approach. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 262–268. (Pol Vanhaecke) **99j:58099** 58F07

Roychowdhury, Shounak (*with* Wang, Bo-Hyeun) On generalized Hamacher families of triangular operators. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 419–439. (Summary) **99h:04007** 04A72

Royer, James S. (*with* Kurtz, Stuart A.; Mahaney, Stephen R.; Simon, Janos) Biological computing. (English summary) *Complexity theory retrospective, II*, 179–195, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q05 (92D20)

— (*with* Naik, Ashish V.; Rogers, John D.; Selman, Alan L.) A hierarchy based on output multiplicity. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 131–157. (Marius Zimand) **99m:68064** 68Q15

— (*with* Kurtz, Stuart A.; Mahaney, Stephen R.; Simon, Janos) Active transport in biological computing. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 171–179, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99f:68055** 68Q05 (68Q25)

Royle, Gordon F. (*with* Penttila, Tim) BLT-sets over small fields. (English summary) *Australas. J. Combin.* **17** (1998), 295–307. (F. De Clerck) **99g:05043** 05B25 (51E12)

— An orderly algorithm and some applications in finite geometry. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 105–115. (Harald Löwe) **99c:51013** 51E20 (90C27)

— (*with* Jensen, Tommy R.) Hajós constructions of critical graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 37–50. (David Burns) **99j:05071** 05C15

Roynette, B. (*with* Benachour, Said; Chassaing, Philippe; Vallois, Pierre) Processus associés à l'équation des milieux poreux. [Processes associated with the porous-medium equation] *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 793–832 (1997). (Kazuaki Taira) **99c:35099** 35K55 (35Q35, 60H10, 60J65, 76M35, 76S05)

— (*with* Benachour, Said; Talay, D.; Vallois, Pierre) Nonlinear self-stabilizing processes. I. Existence, invariant probability, propagation of chaos. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 173–201. (Sylvie Méléard) **99j:60079** 60H10 (60J60, 60K35)

— (*with* Benachour, Said; Vallois, Pierre) Nonlinear self-stabilizing processes. II. Convergence to invariant probability. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 203–224. (Sylvie Méléard) **99j:60080** 60H10 (60J60, 60K35)

beltrán Royo, C. *see* **Beltrán Royo, C.**

Rozali, Moshe (*with* Leigh, Robert G.) A note on six-dimensional gauge theories. (English summary) *Phys. Lett. B* **433** (1998), *no.* 1-2, 43–48. (Summary) **99c:81197** 81T30 (58B30, 81T13)

Rozanov, N. N. ★ Оптическая бистабильность и гистерезис в распределенных нелинейных системах. (Russian. Russian summary) [Optical bistability and hysteresis in distributed nonlinear systems] *"Nauka", Moscow*, 1997. 335 *pp. ISBN* 5-02-014616-1 (Anatoly M. Kamchatnov) **99g:78030** 78A60 (35B35, 47H30, 93D05)

Rozanov, V. B. (*with* Lebo, I. G.; Tishkin, V. F.; Nikishin, V. V.; Popov, I. V.; Favorskiĭ, A. P.) Numerical simulation of Richtmyer-Meshkov instability. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY*, 1995), 346–356, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99 (76M25)

Rozanov, Yu. A. ★ Random fields and stochastic partial differential equations. (English summary) Translated and revised from the 1995 Russian original. Mathematics and its Applications, 438. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii+229 pp. ISBN* 0-7923-4984-9 (Editors) **99c:60107** 60G60 (35R60, 46N20, 46N30, 47N30, 60G20, 60H15)

Różański, Roman Bayes empirical estimation by the method of sieves with some applications. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 343–346, *Springer, Berlin*, 1997. (*see* **99a:90009**) 62C12

— (*with* Ibarrola Muñoz, María del Pilar; Vélez Ibarrola, Ricardo) On estimation of the mean and covariance parameter for Gaussian random fields. (English summary) *Statistics* **31** (1998), *no.* 1, 1–20. (Summary) **99b:62150** 62M40 (62F15, 62M30)

Rozansky, Lev The trivial connection contribution to Witten's invariant and finite type invariants of rational homology spheres. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 23–54. (David H. Adams) **99c:57063** 57R57 (57M25, 58G18, 81Q30, 81T18)

— The universal R-matrix, Burau representation, and the Melvin-Morton expansion of the colored Jones polynomial. (English summary) *Adv. Math.* **134** (1998), *no.* 1, 1–31. (Hugh Reynolds Morton) **99d:57005** 57M25 (20F36)

— On p-adic convergence of perturbative invariants of some rational homology spheres. *Duke Math. J.* **91** (1998), *no.* 2, 353–379. (Ruth Lawrence) **99i:57038** 57N10 (11S80, 57M25)

garcía Rozas, J. R. *see* **García Rozas, J. R.**

Roze, Denis (*with* Michod, Richard E.) Cooperation and conflict in the evolution of individuality. III. Transitions in the unit of fitness. (English summary) *Mathematical and computational biology (Aizu-Wakamatsu City*, 1997), 47–91, *Lectures Math. Life Sci.*, 26, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99k:92002**) 92D15 (92C15)

Rozeboom, William W. A note on Carnap's meaning criterion. *Decline and obsolescence of logical empiricism*, 177–182, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006b**) 00A30 (03A05)

Rozen, V. V. Embeddings of ordered sets into ordered linear spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 32–38; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 7, 29–35 (1999). (R. Cristescu) **99i:46004** 46A40

Rozenbaum, K. *see* **Rosenbaum, Kurt**

Rozenberg, Alexander (*with* Porrati, Massimo) Bound states at threshold in supersymmetric quantum mechanics. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 184–202. (Avinash Khare) **99h:81060** 81Q60 (81T30)

Rozenberg, Grzegorz (*with* Dassow, Jürgen; Păun, Gheorghe) Grammar systems. *Handbook of formal languages, Vol.* 2, 155–213, *Springer, Berlin*, 1997. (Jetty Kleijn) **99a:68114** 68Q50 (03D05, 68Q10)

— (*with* Kari, Lila; Salomaa, Arto) L systems. *Handbook of formal languages, Vol.* 1, 253–328, *Springer, Berlin*, 1997. (From the introduction) **99h:68105** 68Q45 (03D05, 68Q50)

— (*with* Engelfriet, Joost) Node replacement graph grammars. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol.* 1, 1–94, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C85, 68Q10, 68R10)

— (*with* Ehrenfeucht, Andrzej; Harju, Tero) 2-structures—a framework for decomposition and transformation of graphs. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol.* 1, 401–478, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68R10 (05C99, 68Q99)

— (*with* Ehrenfeucht, Andrzej; Salomaa, Kai) Semantics of nonsequential tree-based computation schemes. (English summary) *Fund. Inform.* **29** (1997), *no.* 4, 305–324. (K. G. Subramanian) **99c:68078** 68Q05 (68Q55)

— (*with* Păun, Gheorghe; Salomaa, Arto) Complementarity versus universality: keynotes of DNA computing. (English summary) *Complexity* **4** (1998), *no.* 1, 14–19. (Robert M. Baer) **99k:68057** 68Q05 (68Q75)

— (*with* Mateescu, Alexandru; Păun, Gheorghe; Salomaa, Arto) Simple splicing systems. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 145–163. (Summary) **99d:68150** 68Q45 (92D20)

— (*with* Ehrenfeucht, Andrzej; Harju, Tero; ten Pas, P.) Permutations, parenthesis words, and Schröder numbers. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 259–264. (Summary) **99d:05003** 05A15

— (*with* Mateescu, Alexandru; Salomaa, Arto) Shuffle on trajectories: syntactic constraints. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 1–56. (Jetty Kleijn) **99c:68156** 68Q45

— (*with* Păun, Gheorghe) Sticker systems. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 183–203. (Summary) **99d:68153** 68Q45

— (*with* Ehrenfeucht, Andrzej; Păun, Gheorghe) On representing recursively enumerable languages by internal contextual languages. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 61–83. (Summary) **99g:68111** 68Q45 (03D05)

— *see also* **Handbook: Graph grammars and computing by graph transformation**, **99b:68006** *and* **Structures in logic and computer science**, **99b:68008**

Rozenblyum, G. V. (*with* Solomyak, M. Z.) The Cwikel-Lieb-Rozenblyum estimator for generators of positive semigroups and semigroups dominated by positive semigroups. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 214–236; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 6, 1195–1211. (Vitali A. Liskevich) **99c:47059** 47D06 (35J10, 35P15, 47B65, 81Q10)

— (*with* Solomyak, M. Z.) On principal eigenvalues for indefinite problems in Euclidean space. (English summary) *Math. Nachr.* **192** (1998), 205–223. (Yehuda Pinchover) **99e:35162** 35P05 (35J25, 47F05)

Rozenblyum, M. G. (*with* Kurths, Jürgen; Pikovskiĭ, A. S.) Synchronization transitions in coupled chaotic oscillators. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium (San Diego, CA*, 1997), 39–46, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 70K50 (58F13)

Rozenvasser, E. N. Synthesis of multidimensional linear systems with a characteristic polynomial. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 35–55; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 1, 1091–1107 (1997). (Krzysztof Kuźmiński) **99f:93121** 93D15 (93B50)

— Operator models and L_2-norm of continuous-time impulse systems. I. Linear periodic impulse and continuous-time impulse operators. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 120–141; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 2, 1477–1491 (1997). (Vũ Ngoc Phát) **99e:93047** 93C55 (49N25, 93C57)

— Operator models and L_2-norm of continuous-time impulse systems. II. Linear periodic impulse and continuous-time impulse systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 52–73; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1574–1591 (1997). (Vũ Ngoc Phát) **99e:93048** 93C55 (49N25, 93C57)

— Frequency analysis and H^2-norm of linear periodic operators. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 9, 43–68; *translation in Automat. Remote Control* **58** (1997), *no.* 9, *part* 1, 1437–1458 (1998). (Mihail Voicu) **99c:93037** 93B36 (47N70)

— (*with* Polyakov, Konstantin Yu.; Lampe, Bernhard P.) Optimal discrete filtering for time-delayed systems with respect to mean-square continuous-time error criterion. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 389–406. (Summary) **99c:93107** 93E11 (93C55)

— (*with* Polyakov, Konstantin Yu.; Lampe, Bernhard P.) Application of Laplace transformation for digital redesign of continuous control systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 883–886. 93C57 (93B51)

Rozhankivs'ka, M. I. On stable operator polynomials. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2446–2449. (Summary) **99g:47024** 47A56 (41A10)

Rozhanskaya, Mariam Statics. In collaboration with I. S. Levinova. *Encyclopedia of the history of Arabic science, Vol.* 1–3, 614–642, *Routledge, London*, 1996. (*see* **99k:01001**) 01A30

Rozhansky, V. (*with* Kaganovich, I.) Transverse conductivity in a braided magnetic field. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3901–3909. (Summary) **99f:76134** 76X05

Rozhdestvenskiĭ, Boris Leonidovich *see* **Samarskiĭ, Aleksandr Andreevich et al.**

Rozhec, Yurii B. (*with* Blatov, Igor A.; Blatova, Victoria V.; Strygin, Vadim V.) Galerkin-Petrov method for strongly nonlinear singularly perturbed boundary value problems on special meshes. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 321–332. (George W. Reddien) **99d:65225** 65L10 (34E15, 65L60, 65L70)

Rozhkov, A. V. Metric relations in groups of tree automorphisms. (Russian. Russian summary) *Algebra i Logika* **37** (1998), *no.* 3, 338–357, 377; *translation in Algebra and Logic* **37** (1998), *no.* 3, 192–203. (Í. Ya. Subbotin) **99m:20055** 20E08 (20F10)

Rozhkovskaya, Tamara *see* **Godunov, S. K., 99a:34017b**; **Krylov, Nicolai V., 99g:35002** *and* **Some questions of mathematical physics and function theory**, **99h:00043**

Rozi, Tashpulat (*with* Fukuyu, Akio) Response of Hill's spherical vortices to a 3-dimensional infinitesimal disturbance. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 80–96. (*see* **99e:76056**) 76C05 (76F99)

Rozikov, U. A. (*with* Ganikhodzhaev, N. N.) On periodic Gibbs distributions of the Ising model on Bethe lattices. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 8–18 (1996). (B. M. Gurevich) **99f:60169** 60K35 (82B05, 82B20)

— (*with* Ganikhodzhaev, N. N.) Extremity of the disordered phase in the ferromagnetic Potts model on the Bethe lattice. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 35–41 (1997). (B. S. Nahapetian) **99k:82042** 82B44 (82B20)

— Structures of partitions of the group representation of the Cayley tree into cosets by finite-index normal subgroups, and their applications to the description of periodic Gibbs distributions. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 1, 170–175; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 1, 929–933 (1998). (B. S. Nahapetian) **99b:82023** 82B20 (20E08)

— (*with* Ganikhodzhaev, N. N.) Classes of normal subgroups of finite index of the group representation of the Cayley tree. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 31–39. (David I. Moldavanskiĭ) **99f:20042** 20E06

— Description of limit Gibbs measures for λ-models on Bethe lattices. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 427–435, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 373–380. (B. M. Gurevich) **99e:60218** 60K35 (82B20)

Rozkosz, Andrzej (*with* Słomiński, Leszek) On stability and existence of solutions of SDEs with reflection at the boundary. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 2, 285–302. (Anatoliy A. Levakov) **99c:60120** 60H10

— On weak convergence of one-dimensional diffusions with time-dependent coefficients. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 101–117 (19*N*). (H.-J. Engelbert) **99h:60123** 60H10 (60F17, 60J60)

Rozložník, Miroslav (*with* Maryška, Jiří; Tůma, Miroslav) The potential fluid flow problem and the convergence rate of the minimal residual method. (English summary) *Numer. Linear Algebra Appl.* **3** (1996), *no.* 6, 525–542. (Summary) **99a:76087** 76M10 (65N30, 76S05)

— (*with* Greenbaum, A.; Strakoš, Zdeněk) Numerical behaviour of the modified Gram-Schmidt GMRES implementation. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 706–719. (From the summary) **99a:65036** 65F05

— (*with* Weiss, Rüdiger) On the stable implementation of the generalized minimal error method. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 49–62. (Summary) **99g:65042** 65F10

Rozov, Nikolai Khristovich (*with* Kolesov, A. Yu.; Kolesov, Yu. S.) Chaos of "broken torus" type in three-dimensional relaxation systems. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 11, 3–18; *translation in Sb. Math.* **188** (1997), *no.* 11, 1571–1586. (Peter Moson) **99c:34094** 34C99 (34E15, 58F13)

— (*with* Kolesov, A. Yu.; Mishchenko, E. F.) Relay with delay and its C^1-approximation. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 126–153. (Vladimir Sh. Burd) **99f:34113** 34K25 (34E15)

— *see also* **Izobov, N. A.**

Rozovskii, Boris L. (*with* Lototskiĭ, S. V.) Recursive nonlinear filter for a continuous discrete-time model: separation of parameters and observations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1154–1158. 93E11 (93C20)

— *see also* **Statistics and control of stochastic processes, 99e:60005** *and* **Stochastic partial differential equations: six perspectives, 99g:60005**

Rozovskiĭ, L. V. Probabilities of large deviations of sums of independent random variables with a common distribution function from the domain of attraction of a nonsymmetric stable law. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 496–530; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 454–482 (1998). (Vadim R. Fatalov) **99e:60080** 60F10

— On the coefficients of the Cramer series. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **43** (1998), *no.* 1, 161–166. (Pawel Hitczenko) **99m:60049** 60F10

Rozowsky, J. S. (*with* Bern, Z.; Dixon, Lance J.; Perelstein, M.) One-loop n-point helicity amplitudes in (self-dual) gravity. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 273–283. (Summary) **99m:83066** 83C45 (81T20)

Rozoy, B. (*with* Kleijn, H. C. M.; Morin, Rémi) Event structures for local traces. (English summary) *Fifth International Workshop on Expressiveness in Concurrency (EXPRESS '98) (Nice)*, 16 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68Q10 (68Q90)

Rtveliashvili, E. On Crull [Krull] dimension of skew polynomial rings. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 173–175 (1995). (Summary) **99g:16034** 16S36 (16P60)

Ru, Chong-Qing (*with* Schiavone, Peter; Mioduchowski, A.) Uniformity of stresses within a three-phase elliptic inclusion in anti-plane shear. (English summary) *J. Elasticity* **52** (1998/99), *no.* 2, 121–128. (Summary) **99m:73015** 73C02

— (*with* Mao, Scott X.; Epstein, Marcelo) Electric-field induced interfacial cracking in multilayer electrostrictive actuators. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1301–1318. 73R05 (73M25)

— (*with* Schiavone, Peter) On Constanda's matrix of nonuniqueness in a theory of plates in asymmetric elasticity. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 1, 137–145. (Tomasz Lewiński) **99b:73029** 73K10 (73B25)

— (*with* Schiavone, Peter) Integral equation methods in plane-strain elasticity with boundary reinforcement. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2223–2242. (Summary) **99e:73035** 73C35 (45J05, 73V99)

— Three-phase elliptical inclusions with internal uniform hydrostatic stresses. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 259–273. (Summary) **99j:73023** 73C02 (73B27, 73V35)

Ru, Dae-Hee (*with* Baek, Jong-Il; Choi, Jeong-Yeol) A weak ordering of positive dependence structure of stochastic processes. (English summary) *Tokyo J. Math.* **21** (1998), *no.* 1, 95–105. (Marco Scarsini) **99h:60028** 60E15 (60G07, 62H20)

Ru, Min Nevanlinna theory and its relation with Diophantine approximation. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 343–349. (Summary) **99b:32003** 32A22 (11J99, 32H30)

Ruah, S. (*with* Damm, W.; Pnueli, Amir) Herbrand automata for hardware verification. (English summary) *CONCUR'98: concurrency theory (Nice)*, 67–83, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68118** 68Q60 (68M07, 68Q68)

Ruan, Da (*with* Li, Xiao Zhong) Fuzzy δ rule and its simulations in fuzzy relation equations. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 781–791. (Summary) **99h:68144** 68T05 (04A72)

— (*with* Li, Xiao Zhong) Novel neural algorithms based on fuzzy δ rules for solving fuzzy relation equations. II. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 473–486. 68T05

Ruan, Dong (*with* Sun, Hong-zhou) Algebraic expressions for $O(N) \supset O(N-1)$ reduction factors for the three-rowed irreducible representations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 630–649. (Patrick J. Moylan) **99f:81073** 81R05 (20G05, 22E70)

Ruan, Guo Zhen (*with* Zuo, Xiao Bo) The optimality conditions and fundamental properties of linear multilevel programming problems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 159–166. 90C08 (90C29)

— The hard bound method for linear programming. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 27–32. 90C05

Ruan, Jiong (*with* Tang, Feng Jun; Huang, Zhen Xun) Hopf bifurcation of generalized Liénard equations parametrized by delay. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 469–476. (Bo Zhang) **99m:34166** 34K15 (34C23, 34C25, 34K20)

— (*with* Li, Jijuan; Zeng, Xiping; Huang, Zhen Xun) An improved strategy in controlling chaotic dynamics to any desired orbit. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 1, 31–35. 93C10 (34H05, 58F13)

— (*with* Li, Lijuan) An improved method in synchronization of chaotic systems. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 140–143. 58F13

— (*with* Wang, Xinmin[3]; Tang, Bingyong) A note on synchronization with heterogeneous driving. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2239–2241. (Summary) **99m:34102** 34C35

Ruan, Qi Hua (*with* Lin, Liang Yu; Yao, Guo Xin) Bochner-Henkin formulas on a bounded domain. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 5, 625–628. (Shu Jin Chen) **99k:32005** 32A25

Ruan, Rongyao (*with* Chen, Huixin; Zinober, Alan S. I.) Strong consistency and convergence rate of parameter identification for bilinear systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 907–919. 93B30 (93B40)

Ruan, Shi Gui The dynamics of chemostat models. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 4, 377–397. (Yang Kuang) **99e:34056** 34C35 (35Q80, 92E20)

— Turing instability and travelling waves in diffusive plankton models with delayed nutrient recycling. (English summary) *IMA J. Appl. Math.* **61** (1998), *no.* 1, 15–32. (Si Ning Zheng) **99k:92035** 92D25 (35Q80)

— (*with* He, Xue-zhong) Global stability in chemostat-type plankton models with delayed nutrient recycling. (English summary) *J. Math. Biol.* **37** (1998), *no.* 3, 253–271. (Summary) **99i:92020** 92D25

— (*with* He, Xue-zhong) Global stability in chemostat-type competition models with nutrient recycling. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 170–192 (*electronic*). (Hassan El-Owaidy) **99f:92025** 92D25 (34K15, 34K20)

— (*with* He, Xue-zhong; Xia, Huaxing) Global stability in chemostat-type equations with distributed delays. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 681–696 (*electronic*). (Hassan El-Owaidy) **99d:92027** 92D25 (34K20, 45J05)

— (*with* Xiao, Dongmei) Bogdanov-Takens bifurcations in predator-prey systems with constant rate harvesting. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 493–506, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:92032** 92D40 (34C23, 58F40)

— *see also* **Differential equations with applications to biology, 99g:92002**

Ruan, W. H. Monotone iterative method for degenerate nonlinear parabolic equations. *Nonlinear Anal.* **34** (1998), *no.* 1, 37–63. (Siegfried Carl) **99e:35121** 35K65 (35B05, 35B45, 35K60)

— Local average Liapunov functions and persistence in population dynamics. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 134–154 (*electronic*). (Si Ning Zheng) **99g:92030** 92D25 (34C35, 35K99, 35Q80)

Ruan, W. Y. (*with* Bao, Cheng Guang) Transformation bracket for 2D hyperspherical harmonics and its applications to few-anyon problems. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5634–5642. (Alexei Zhedanov) **99b:33032** 33C90 (81V70)

Ruan, Xiao Qing (*with* Zhao, Bing) Inverse scattering solutions of the Helmholtz equation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 123–126. 76Q05 (35J05)

Ruan, Xiaogang A dynamic neuro-fuzzy system. Configuration, stability, and fuzzy operational function. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 315–321. (Summary) **99j:68120** 68T05 (03B52)

Ruan, Ying Bin (*with* Zhong, Huai Jie) On the zero variation sequences of the generalized operator ideals. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **14** (1998), *no.* 1, 6–9. (Summary) **99i:47078** 47D50 (46B15, 46B28)

Ruan, Yongbin (*with* Tian, Gang) Higher genus symplectic invariants and sigma models coupled with gravity. *Invent. Math.* **130** (1997), *no.* 3, 455–516. (Bernd Siebert) **99d:58030** 58D10 (14N10, 57R57, 58D29)

— (*with* Katz, Sheldon H.; Qin, Zhenbo) Enumeration of nodal genus-2 plane curves with fixed complex structure. *J. Algebraic Geom.* **7** (1998), *no.* 3, 569–587. (Andreas Gathmann) **99d:14058** 14N10 (14D20)

Ruan, Zhong-Jin (*with* Effros, Edward G.) On the analogues of integral mappings and local reflexivity for operator spaces. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1289–1310. (Christian Le Merdy) **99h:46026** 46B28 (46L05, 47D25)

— *see also* **Operator algebras and operator theory, 99h:46001**

Ruas, Maria Aparecida Soares (*with* Saia, Marcelo José) The polyhedron of equisingularity of germs of hypersurfaces. *Real and complex singularities (São Carlos, 1994)*, 37–48, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (Mihai Tibăr) **99a:32054** 32S15 (14B07, 32S25)

— *see also* **Workshop: Real and Complex Singularities, 99b:00023**

Ruas, V. (*with* Carneiro de Araújo, J. H.) A stable finite element method for the axisymmetric three-field Stokes system. (English summary) *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 3-4, 267–286. (Jean-Luc Guermond) **99m:76077** 76M10 (76D07)

— (*with* Ghadi, F.; Wakrim, M.) A mixed finite element method to solve the Stokes problem in the stream function and vorticity formulation. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 381–398. (Lutz Tobiska) **99m:76078** 76M10 (65M60, 76D07)

— (*with* Zhu, Jiang[1]) On the velocity-vorticity formulation of the two-dimensional Stokes system and its finite element approximation. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 1, 27–43. (Summary) **99d:76063** 76M10 (65M60, 65N30, 76D07)

Rüb, Christine On Batcher's merge sorts as parallel sorting algorithms. (English summary) *STACS 98 (Paris, 1998)*, 410–420, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68P10 (68Q22)

abual-Rub, M. S. *see* **Abual-Rub, M. S.**

Ruban, Anatoliĭ Ivanovich Sensitivity coefficients for discontinuous dynamical systems. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 41–47. 93B35

Rubano, C. (*with* Capozziello, S.; de Ritis, R.; Dymnikova, I.; Scudellaro, P.) Reconstruction of the state equation and the scalar field potential in inflationary cosmology. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 291–300, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83F05

Rubanov, Nikolai S. (*with* Bovbel', E. I.; Kukharchik, Peter D.; Bodrov, Vitaly J.) The modified number-theoretic transform over the direct sum of finite fields to compute the linear convolution. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 813–817. 94A12

Rubei, Elena Projective normality of abelian varieties with a line bundle of type $(2, \cdots)$. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 361–367. (H. Lange) **99k:14074** 14K05

Rubel, Lee A. (*with* Downey, Rodney G.; Füredi, Zoltán; Jockusch, Carl G., Jr.) Difference sets and computability theory. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 63–72. (A. A. Mullin) **99h:03022** 03D20 (03D25, 05B10)

— (*with* Danielyan, Arthur A.) Uniform approximation by entire functions that are all bounded on a given set. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 469–473. (Antonio Bonilla-Ramirez) **99i:30056a** 30E10 (41A30)

— (*with* Danielyan, Arthur A.) Erratum: "Uniform approximation by entire functions that are all bounded on a given set". *Constr. Approx.* **15** (1999), *no.* 1, 153. (Antonio Bonilla-Ramirez) **99i:30056b** 30E10 (41A30)

Rubenchik, A. M. (*with* Berning, M.) A weakly nonlinear theory for the dynamical Rayleigh-Taylor instability. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1564–1587. (Summary) **99b:76032** 76E10 (76B45)

carmona Ruber, Jorge *see* **Carmona Ruber, Jorge**

Rubiano, Gustavo N. The Mandelbrot set. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **3** (1996), *no.* 1, 25–36. (Manuel Morán) **99h:28020** 28A80 (30D05, 58F23)

— Fractals: the footprint of chaos. (Spanish) *Lect. Mat.* **18** (1997), *no.* 1, 53–69. (Antonio Falcó) **99m:58133** 58F13 (00A30, 28A80)

Rubin, Boris (*with* Gorenflo, Rudolf; Medvedeva, T.) Locally controllable regularization of Abel integral equations via operator complementation. (English summary) *J. Inverse*

Ill-Posed Probl. **5** (1997), *no.* 5, 427–436. (Anatoly Kilbas) **99b:45002** 45E10 (45L05, 65J10)

— On Calderón's reproducing formula. (English summary) *Signal and image representation in combined spaces*, 439–455, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Rodolfo Torres) **99g:42019** 42B20 (47G10)

— Continuous wavelet transforms on a sphere. (English summary) *Signal and image representation in combined spaces*, 457–476, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Rodolfo Torres) **99g:42045** 42C15 (44A05)

— (*with* Ryabogin, Dmitri; Shamir, Eliahu) Fractional integrals and wavelet transforms. (English summary) *Transform methods & special functions, Varna '96*, 377–385, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 26A33 (42C15)

— Spherical Radon transform and related wavelet transforms. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 2, 202–215. (Alexander S. Denisjuk) **99c:44003** 44A12 (42C15)

— Fractional calculus and wavelet transforms in integral geometry. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 2, 193–219. (I. Ya. Novikov) **99i:42054** 42C15 (42B10, 44A12)

— The Calderón reproducing formula, windowed X-ray transforms, and Radon transforms in L^p-spaces. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 175–197. (Rodolfo Torres) **99m:42028** 42B20 (44A12)

— L^p-properties of solutions of the singular Helmholtz equation in the half-space. (English summary) *Fract. Calc. Appl. Anal.* **2** (1999), *no.* 1, 47–61. (Summary) **99m:35037** 35J05 (35B45)

Rubin, David S. (*with* Fishman, George S.) Best- and worst-case variances when bounds are available for the distribution function. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 1, 35–53. (Truc Nguyen) **99k:62033** 62E17

Rubin, Donald B. (*with* Liu, Chuanhai) Maximum likelihood estimation of factor analysis using the ECME algorithm with complete and incomplete data. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 729–747. 62P15 (62H25)

Rubin, Harvey (*with* Leete, Thomas H.; Schwartz, Matthew D.; Williams, Robert M.; Wood, David Harlan; Salem, Jerome S.) Massively parallel DNA computation: expansion of symbolic determinants. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 45–58, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (68Q40, 92D20)

— *see also* **DNA based computers, 99m:68008**

Rubin, Herman (*with* Howard, Paul E.; Keremedis, Kyriakos; Rubin, Jean E.) Versions of normality and some weak forms of the axiom of choice. (English summary) *MLQ Math. Log. Q.* **44** (1998), *no.* 3, 367–382. (N. H. Williams) **99h:03027** 03E25 (54D15)

Rubin, Jean E. (*with* Brunner, N.; Howard, Paul E.) Choice principles in Węglorz' models. (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 97–121. (J. M. Plotkin) **99e:03033** 03E25 (00A30, 06E99, 46A22)

— (*with* Howard, Paul E.) ★ Consequences of the axiom of choice. (English summary) With 1 IBM-PC floppy disk (3.5 inch; WD). Mathematical Surveys and Monographs, 59. *American Mathematical Society, Providence, RI*, 1998. *viii+432 pp. ISBN* 0-8218-0977-6 (Yehuda Rav) **99h:03026** 03E25 (03E35, 04A25)

— (*with* Howard, Paul E.; Keremedis, Kyriakos; Rubin, Herman) Versions of normality and some weak forms of the axiom of choice. (English summary) *MLQ Math. Log. Q.* **44** (1998), *no.* 3, 367–382. (N. H. Williams) **99h:03027** 03E25 (54D15)

Rubin, Jonathan E. (*with* Jones, Christopher K. R. T.) Existence of standing pulse solutions to an inhomogeneous reaction-diffusion system. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 1, 1–35. (Vladimir Grebenev) **99b:35094** 35K57 (34C37, 35Q60, 58F39, 78A60)

Rubin, Karl (*with* de Smit, Bart; Schoof, René) Criteria for complete intersections. *Modular forms and Fermat's last theorem (Boston, MA, 1995)*, 343–356, *Springer, New York*, 1997. (*see* **99k:11004**) 11F25 (13C40)

— Modularity of mod 5 representations. *Modular forms and Fermat's last theorem (Boston, MA, 1995)*, 463–474, *Springer, New York*, 1997. (*see* **99k:11004**) 11G05 (11F80, 11G18)

Rubin, Leonard R. (*with* Jimenez, Rolando) The existence of n-shape theory for arbitrary compacta. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 123–132. (Yuri V. Lubenets) **99i:55015** 55P55

Rubin, Matatyahu Locally moving groups and reconstruction problems. (English summary) *Ordered groups and infinite permutation groups*, 121–157, *Math. Appl.*, 354, *Kluwer Acad. Publ., Dordrecht*, 1996. (P. A. Biryukov) **99d:20003** 20B27 (03C07, 03C60, 06E05, 54H15)

Rubin, Richard L. A q^2-analogue operator for q^2-analogue Fourier analysis. *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 571–582. (Dharma P. Gupta) **99g:33050** 33D70 (39A12)

Rubin, Ron (*with* Salwen, Nathan) A canonical quantization of the baker's map. (English summary) *Ann. Physics* **269** (1998), *no.* 2, 159–181. (N. L. Balazs) **99m:81066** 81Q50 (58F13)

— (*with* Leśniewski, Andrzej; Salwen, Nathan) Classical limits for quantum maps on the torus. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1835–1847. (Albert Jeu-Liang Sheu) **99b:81116** 81S10 (46L60, 58F06, 70K50, 81Q50)

Rubinfeld, Ronitt (*with* Goldreich, Oded; Sudan, Madhu) Learning polynomials with queries: the highly noisy case. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 294–303, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05

— (*with* Freund, Yoav; Kearns, Michael; Mansour, Yishay; Ron, Dana; Schapire, Robert E.) Efficient algorithms for learning to play repeated games against computationally bounded adversaries. *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 332–341, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05 (90D20)

— (*with* Freund, Yoav; Kearns, Michael; Ron, Dana; Schapire, Robert E.; Sellie, Linda) Efficient learning of typical finite automata from random walks. (English summary) *Inform. and Comput.* **138** (1997), *no.* 1, 23–48. (Rani Siromoney) **99f:68118** 68Q45 (68T05)

Rubino, Bruno (*with* Marcati, Pierangelo) Entropy methods for nonstrictly hyperbolic systems. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 4, 333–346. (Ralph Saxton) **99f:35135** 35L70 (35D05)

— Weak solutions to quasilinear wave equations of Klein-Gordon or sine-Gordon type and relaxation to reaction-diffusion equations. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 4, 439–457. (Weihua Ruan) **99f:35092** 35K57 (35D05, 35Q53)

Rubinov, A. R. (*with* Timkovskiĭ, V. G.) String noninclusion optimization problems. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 456–467 (*electronic*). (Erkki Mäkinen) **99e:68058** 68Q20 (68Q25)

Rubinov, Aleksandr M. (*with* Glover, B. M.) Quasiconvexity via two step functions. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 159–183, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Diethard Pallaschke) **99m:49029** 49J52 (90C26, 90C48)

— (*with* Vladimirov, A. A.) Convex-along-rays functions and star-shaped sets. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 593–613. (Diethard Pallaschke) **99g:52002** 52A20 (90C25)

— (*with* Glover, B. M.) Duality for increasing positively homogeneous functions and normal sets. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 2, 105–123. (Jean-Pierre Crouzeix) **99g:90090** 90C26 (49N15, 90A10)

— (*with* Xu, Hui Fu; Glover, B. M.) Strict lower subdifferentiability and applications. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 379–391. (Zsolt Páles) **99m:49031** 49J52 (58C20, 90C26)

Rubinov, Anatoly R. *see* **Rubinov, A. R.**

Rubinovich, E. Ya. A differential game of programmed pursuit with a constraint on the turn of the evader. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 76–94; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 1, 1436–1451 (1997). (From the introduction) **99d:90154** 90D26

— A generalized linear-quadratic stochastic problem of control from incomplete data. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 216–239; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1243–1262. (Wilfried Grecksch) **99a:93112** 93E20 (49N10)

Rubinshtein, A. I. On the best convergence of trigonometric integrals. (Russian summary) *Anal. Math.* **22** (1996), *no.* 3, 199–212. (V. A. Baskakov) **99f:42013** 42A28

Rubinshtein, G. Sh. (*with* Bykadorov, I. A.) Some families of discrete extremal problems on unbounded locally compact metric spaces. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 4, 443–445. (Vladimir L. Levin) **99c:28040** 28C99 (54E45, 90C27)

Rubinstein, Ariel (*with* Piccione, Michele) On the interpretation of decision problems with imperfect recall. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 3–24. (*see* **99b:90162**) 90A05 (90D40)

— (*with* Piccione, Michele) The absent-minded driver's paradox: synthesis and responses. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 121–130. (*see* **99b:90162**) 90A05 (90D40)

— (*with* Zhou, Lin) Choice problems with a "reference" point. (English summary) *Math. Social Sci.* **37** (1999), *no.* 3, 205–209. (Summary) **99m:90019** 90A08

Rubinstein, H. *see* **Rubinstein, Joachim H.**

Rubinstein, I. (*with* Zal'tsman, B. B.) Morphological instability of similarity solution to the Stefan problem with undercooling and surface tension. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 341–354. (Li Shang Jiang) **99d:35021** 35B35 (35K05, 35R35, 80A22)

Rubinstein, Jacob (*with* Schatzman, Michelle) On multiply connected mesoscopic superconducting structures. *Séminaire de Théorie Spectrale et Géométrie, No. 15, Année 1996–1997*, 207–220, *Sémin. Théor. Spectr. Géom., 15, Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Summary) **99c:82077** 82D55 (35Q99)

— (*with* Schatzman, Michelle) Spectral and variational problems on multiconnected strips. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 377–382. (John Albert) **99b:35194** 35Q55 (35A15, 82D55)

— Six lectures on superconductivity. *Boundaries, interfaces, and transitions (Banff, AB, 1995)*, 163–184, *CRM Proc. Lecture Notes*, 13, *Amer. Math. Soc., Providence, RI*, 1998. (J. R. Ockendon) **99e:82101** 82D55 (35Q99, 58E50, 82–02)

— (*with* Schatzman, Michelle) Asymptotics for thin superconducting rings. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 8, 801–820. (J. R. Ockendon) **99k:82079** 82D55 (49S05, 58E50)

— (*with* Berger, Jorge) Bifurcation analysis for phase transitions in superconducting rings with nonuniform thickness. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 103–121 (*electronic*). (J. R. Ockendon) **99b:82089** 82D55 (34B15, 34C23, 35B32, 35Q72)

— (*with* Levy, Avraham) Hilbert-space Karhunen-Loève transform with application to image analysis. (English summary) *J. Opt. Soc. Amer. A* **16** (1999), *no.* 1, 28–35. (Summary) **99i:78026** 78A99 (68U10, 94A12)

Rubinstein, Joachim H. (*with* Gershkovich, V.) Morse theory for Min-type functions. *Asian J. Math.* **1** (1997), *no.* 4, 696–715. (Vitaly B. Moroz) **99i:58027** 58E05 (53C20, 53C23, 57R70)

— (*with* Brazil, M.; Thomas, Doreen A.; Weng, J. F.; Wormald, Nicholas C.) Minimal Steiner trees for rectangular arrays of lattice points. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 2, 181–208. (From the text) **99d:05022** 05C05

— (*with* Wang, Shicheng) π_1-injective surfaces in graph manifolds. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 4, 499–515. (Darren D. Long) **99h:57039** 57N10 (57M05)

— (*with* Aitchison, I. R.) Polyhedral metrics and 3-manifolds which are virtual bundles. *Bull. London Math. Soc.* **31** (1999), *no.* 1, 90–96. (G. Peter Scott) **99h:57024** 57M50 (57N10, 57R30)

— (*with* Aitchison, I. R.; Matsumoto, Saburo) Dehn surgery on the figure 8 knot: immersed surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2437–2442. (Kimihiko Motegi) **99j:57012** 57M50 (57M25, 57N10, 57N35, 57Q35)

Rubinstein, Reuven Y. (*with* Melamed, Benjamin) ★ Modern simulation and modeling. (English summary) Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xx+352 *pp. ISBN* 0-471-17077-1 (From the preface) **99c:90055** 90B22 (60K99, 62F99, 93A30)

Rubinstein, Robert (*with* Zhou, Ye; Speziale, Charles G.) Some remarks concerning recent work on rotating turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3242–3244. 76F99 (76U05)

— *see also* **Canuto, V. M.**

Rubinstein, Shlomi (*with* Hassin, Refael) An approximation algorithm for the maximum traveling salesman problem. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 125–130. (Summary) **99c:90094** 90C27 (68Q25)

Rubio, Albert (*with* Jouannaud, Jean-Pierre) Rewrite orderings for higher-order terms in η-long β-normal form and the recursive path ordering. (English summary) Rewriting techniques and applications (New Brunswick, NJ, 1996). *Theoret. Comput. Sci.* **208** (1998), *no.* 1-2, 33–58. (Editors) **99i:68071** 68Q42 (03B40)

Rubio, Diana (*with* Burns, John A.; King, Belinda B.) Feedback control of a thermal fluid using state estimation. Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 93–112. (*see* **99k:76005**) 93E11 (76D99)

— A computational study of the representation problem for flow control. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 13 *pp.* (*electronic*). (Summary) **99g:93046** 93C20 (65M60, 76D05)

Rubio, J. E. (*with* Farahi, M. H.; Wilson, D. A.) The optimal control of the linear wave equation. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 833–848. 49K20 (49J20)

— (*with* Farahi, M. H.; Wilson, D. A.) The global control of a nonlinear wave equation. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 1–15. 93C20 (35L70)

— The global optimization of variational problems with discontinuous solutions. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 225–237. (Summary) **99b:49002** 49J05 (03H05)

calera-Rubio, Jorge *see* **Calera-Rubio, Jorge**

Rubio, Obidio (*with* Thompson, Mark) Hausdorff dimension of functionally invariant sets for rotating internal weakly viscoelastic fluids. *Nonlinear Anal.* **32** (1998), *no.* 2, 201–223. (Anibal Rodriguez-Bernal) **99k:76011** 76A10 (34G20, 35Q35, 47H20, 58F40)

Rublík, František A quantile goodness-of-fit test applicable to distributions with non-differentiable densities. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 5, 505–524. (Georg Neuhaus) **99c:62136** 62G10

Rubshtein, Ben-Zion (*with* Braverman, Michael; Veksler, A. S.) Dominated ergodic theorems in rearrangement invariant spaces. (English summary) *Studia Math.* **128** (1998), *no.* 2, 145–157. (Radu Zaharopol) **99b:47014** 47A35 (28D05, 46E30, 47B38)

Rubtsov, Vladimir (*with* Donin, J.; Gurevich, Dmitriĭ I.) Quantum hyperboloid and braided modules. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 103–118, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Summary) **99i:17016** 17B37 (81R50)

— (*with* Enriquez, Benjamin) Quantum groups in higher genus and Drinfeld's new realizations method ($\mathfrak{sl}_2$ case). (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 6, 821–846. (Stanislav Z. Pakuliak) **99b:17011** 17B37 (17B68, 22E65)

— (*with* Gurevich, Dmitriĭ I.; Donin, J.) Two types of Poisson pencils and related quantum objects. (English summary) *Lie groups and Lie algebras*, 27–46, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Tomasz Brzeziński) **99h:81089** 81R50 (17B37)

— (*with* Enriquez, Benjamin; Feĭgin, B. L.) Separation of variables for Gaudin-Calogero systems. (English summary) *Compositio Math.* **110** (1998), *no.* 1, 1–16. (Alexander E. Polishchuk) **99f:32030** 32G34 (14D20, 14H60)

Ruch, David K. Completely continuous and related multilinear operators. (English summary) *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 377–396. (M. S. Ramanujan) **99f:47025** 47B07 (47A80, 47A99, 47D50)

— (*with* So, Wasin; Wang, Jian Zhong[2]) Global support of a scaling vector. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 493–498. (Summary) **99e:42050** 42C15

— (*with* Wang, Jian Zhong[2]) Connections between the support and linear independence of refinable distributions. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 472–485. (Amos Ron) **99h:42070** 42C20

Ruch, Ernst (*with* Stulpe, Werner) Proof of the mixing theorem for statistical systems in classical physics. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 3, 329–352. (Ryszard Grząślewicz) **99m:46177** 46N30 (28D99, 46E27, 47B37)

Ruch, Jean-Jacques Étude de moyennes pondérées de sommes de Riemann. (English summary) [Study of weighted means of Riemann sums] *Exposition. Math.* **16** (1998), *no.* 3, 277–285. (Michael T. Lacey) **99e:60099** 60F99 (26A42, 28D05)

Ruciński, Andrzej (*with* Duffus, Dwight; Łuczak, Tomasz; Rödl, Vojtěch) Endomorphisms of partially ordered sets. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 33–46. (Gerhard Behrendt) **99d:06003** 06A06

Rück, Hans-Georg L-series of automorphic cusp forms of Drinfeld type. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 311–329, *World Sci. Publishing, River Edge, NJ*, 1997. (Yoshinori Hamahata) **99g:11066** 11F66 (11G09)

— (*with* Tipp, Ulrich) A Gross-Zagier formula for function fields. *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 121–137, *Springer, Berlin*, 1999. (Yoshinori Hamahata) **99k:11098** 11G40 (11G09)

— (*with* Paulus, Sachar) Real and imaginary quadratic representations of hyperelliptic function fields. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1233–1241. (Martha Rzedowski-Calderón) **99i:11107** 11R58

Ruckle, W. H. (*with* Kikuta, K.) Accumulation games. I. Noisy Search. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 395–408. (Miroslav D. Ašić) **99c:90175** 90D26 (90D25)

— (*with* Fleming, D. J.) Remarks on the Wilansky property. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 667–675. (Cihan Orhan) **99k:40010** 40H05 (46A45)

Rucklidge, A. M. (*with* Silber, Mary) Bifurcations of periodic orbits with spatio-temporal symmetries. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1435–1455. (Ian Melbourne) **99h:58134** 58F14 (34C25, 34C35, 35B10, 35B32, 76E99)

Rückmann, Jan-J. (*with* Jongen, Hubertus Th.) On stability and deformation in semi-infinite optimization. (English summary) *Semi-infinite programming*, 29–67, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99c:90141** 90C34 (90-02)

— (*with* Jongen, Hubertus Th.; Stein, O.) Generalized semi-infinite optimization: a first order optimality condition and examples. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 145–158. (R. Tichatschke) **99g:90151** 90C34

— *see also* **Semi-infinite programming, 99b:90141**

Rudall, Brian H. *see* **Cherruault, Yves, 99e:92001**

Rudas, I. J. (*with* Kaynak, M. O.) Minimum and maximum fuzziness generalized operators. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 83–94. (Summary) **99d:03049** 03E72

Rüde, Ulrich (*with* Zhou, Ai Hui) Multi-parameter extrapolation methods for boundary integral equations. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 173–190. (Summary) **99h:65220** 65R20 (45L05)

— (*with* Lyness, J. N.) Cubature of integrands containing derivatives. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 439–461. (G. A. Evans) **99c:65048** 65D32

— (*with* Jung, Michael[1]) Implicit extrapolation methods for variable coefficient problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1109–1124 (*electronic*). (Summary) **99b:65164** 65N55 (65F10, 65N22)

Rudeanu, Sergiu (*with* Melter, Robert A.) Voronoĭ diagrams for Boolean algebras. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 429–434. 06E20

— On Boolean modus ponens. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 115–119. (Summary) **99i:03081** 03G05 (06E05)

— On general and reproductive solutions of finite equations. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **63(77)** (1998), 26–30. (Péter Komjáth) **99m:08013** 08A55 (04A05, 06E30)

Rudelson, M. Contact points of convex bodies. (English summary) *Israel J. Math.* **101** (1997), 93–124. (Apostolos A. Giannopoulos) **99d:52006** 52A20 (46B07)

Ruder, Hanns (*with* Rau, René T.; Weiskopf, Daniel) Special relativity in virtual reality. (English summary) *Mathematical visualization* (*Berlin*, 1997), 269–279, *Springer, Berlin*, 1998. (*see* **99k:65005**) 83A05

Ruderman, M. S. (*with* Wright, A. N.) Structure of driven Alfvén waves with oblique magnetic field and dissipation. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 649–659. (Summary) **99k:76155** 76W05

Rudev, A. N. (*with* Zubov, Leonid M.) On the instability of a nonlinearly elastic beam under tension. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 786–798; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 777–788. (Summary) **99c:73035** 73H05 (73C50, 73K05)

— (*with* Zubov, Leonid M.) On the canonical representation of the deviator of a symmetric tensor. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 1, 44–47; *translation in Dokl. Phys.* **43** (1998), *no.* 1, 38–41. (Stan Chiriță) **99a:73006** 73B05

Rudi, Ülo (*with* Kaplansky, Felix) Time-dependent properties of a viscous vortex ring. (English and Estonian summaries) *Proc. Est. Acad. Sci. Eng.* **3** (1997), *no.* 3, 171–184. (Summary) **99f:76039** 76D05 (76C05)

Rudich, Steven Super-bits, demi-bits, and NP/qpoly-natural proofs. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 85–93, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **99a:68076** 68Q15

— (*with* Nisan, Noam; Saks, Michael E.) Products and help bits in decision trees. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1035–1050 (*electronic*). (Summary) **99m:68089** 68Q25 (68Q05, 68Q99)

Rudin, G. E. (*with* Romanov, R. V.) Scattering on p-adic graphs. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 587–597. (Audrey A. Terras) **99d:11129** 11S40 (11F72)

Rudin, Mary Ellen The early work of F. B. Jones. *Handbook of the history of general topology, Vol.* 1, 85–96, *Kluwer Acad. Publ., Dordrecht*, 1997. (Klaas Pieter Hart) **99e:01029** 01A70 (01A60, 54-03)

Rudin, Walter ★ Analiza rzeczywista i zespolona. (Polish. Polish summary) [Real and complex analysis] Translated from the English by Antoni Pierzchalski and Paweł Walczak. Second edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 432 *pp. ISBN* 83-01-05124-8 (Editors) **99g:00008** 00A05 (26-01, 30-01, 42-01, 46-01)

— ★ So hab ich's erlebt. (German. German summary) [The way I remember it] Von Wien nach Wisconsin—Erinnerungen eines Mathematikers. [From Vienna to Wisconsin—memoirs of a mathematician] Translated from the 1997 English original by Ina Paschen with the assistance of the author. *R. Oldenbourg Verlag, Munich*, 1998. *viii*+181 *pp. ISBN* 3-486-24577-5 (Editors) **99g:01035** 01A70 (01A60)

Rudkovskiĭ, M. A. Twisted product of Lie groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1120–1129, iv; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 969–977. (A. I. Danilenko) **99b:20051** 20E22 (22E99)

Rudman, Murray (*with* Cummins, Sharen) Solving the Navier-Stokes equations using an exact projection method on a 2-D staggered grid. (English summary) *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 200–205. 65M60 (76M25)

Rudnaya, Svetlana (*with* Santosa, Fadil; Chiareli, Alessandra) Optimal design of a diffractive optical element. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 44–53, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A55 (49Q10)

Rudnev, Michael (*with* Wiggins, Stephen) Existence of exponentially small separatrix splittings and homoclinic connections between whiskered tori in weakly hyperbolic near-integrable Hamiltonian systems. (English summary) *Phys. D* **114** (1998), *no.* 1-2, 3–80. (Author's review (M.R.)) **99f:58175** 58F27 (34C37, 58F05, 58F15, 70H05)

Rudnev, S. A. (*with* Faldin, N. V.) Linearization of a relay tracking system by a useful signal. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 36–43. 93B18 (93D15)

Rudnick, Zeév (*with* Sarnak, Peter) The pair correlation function of fractional parts of polynomials. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 61–70. (John B. Friedlander) **99g:11088** 11J54 (11J71)

— (*with* Ginzburg, David) Stable multiplicities in the length spectrum of Riemann surfaces. (English summary) *Israel J. Math.* **104** (1998), 129–144. (Jens Marklof) **99g:58125** 58G25 (30F10)

Rudnicki, Ryszard (*with* Pichór, Katarzyna) Stability of Markov semigroups and applications to parabolic systems. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 56–74. (Jörg-Uwe Löbus) **99a:47066** 47D07 (35K10, 60J35)

Rudnicki, W. Cosmic censorship in a Kerr-like collapse scenario. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 981–986. (Summary) **99m:83154** 83C75

Rudnitskiĭ, O. I. On invariants of symmetry groups of regular complex polytopes. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6,

2505–2508. (Andrew Vince) **99g:52014** 52B15 (20F55)

Rudol, K. Spectra of subnormal Hardy type operators. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 3, 213–222. (Introduction) **99b:47029** 47B20 (46J15, 47A10, 47B38)

Rudolf, Rüdiger (*with* Dudás, T.) Spanning trees and shortest paths in Monge graphs. (English summary) *Computing* **60** (1998), *no.* 2, 109–119. (Xue Liang Li) **99a:90217** 90C35 (05C05, 05C12, 05C38, 90C27)

— (*with* Fortin, Dominique) Weak Monge arrays in higher dimensions. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 105–115. (Xiao Dong Hu) **99f:05021** 05B30 (90C35)

— On Monge sequences in d-dimensional arrays. (English summary) *Linear Algebra Appl.* **268** (1998), 59–70. (Summary) **99j:15041** 15A99

— (*with* Deĭneko, Vladimir G.; Woeginger, Gerhard J.) Sometimes travelling is easy: the master tour problem. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 81–93 (*electronic*). (Charles E. Blair) **99f:90159** 90C35 (68Q25, 68R05, 90C27)

Rudolph, Andreas A central limit theorem for random coefficient autoregressive models and ARCH/GARCH models. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 113–121. (Summary) **99a:60065** 60J05 (60F05, 62M10)

Rudolph, Daniel J. (*with* Kammeyer, Janet Whalen) Restricted orbit equivalence for ergodic $\mathbf{Z}^d$ actions. I. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1083–1129. (B. Kamiński) **99c:28057** 28D15

— (*with* Nogueira, Arnaldo C. R.) Topological weak-mixing of interval exchange maps. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1183–1209. (Pierre Arnoux) **99a:58126** 58F19 (54H20, 58F11)

— (*with* Bułatek, W.; Lemańczyk, Mariusz) Constructions of cocycles over irrational rotations. (English summary) *Studia Math.* **125** (1997), *no.* 1, 1–11. (S. I. Bezuglyĭ) **99b:28015** 28D05

— Residuality and orbit equivalence. (English summary) *Topological dynamics and applications (Minneapolis, MN, 1995)*, 243–254, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (B. Kamiński) **99d:28041** 28D15 (28D20)

— (*with* Feldman, Jacob[1]) Standardness of sequences of σ-fields given by certain endomorphisms. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 175–189. (G. R. Goodson) **99h:28033** 28D05 (60G07)

— Fully generic sequences and a multiple-term return-times theorem. (English summary) *Invent. Math.* **131** (1998), *no.* 1, 199–228. (Idris Assani) **99c:28055** 28D05

Rudolph, Gerd (*with* Matthes, Rainer; Wulkenhaar, Raimar) Graded Lie algebras with derivation and model building. (English summary) *Lie theory and its applications in physics (Clausthal, 1995)*, 149–158, *World Sci. Publishing, River Edge, NJ*, 1996. (Florian Scheck) **99f:58021** 58B30 (17B70, 81V22)

— (*with* Kijowski, Jerzy; Rudolph, Michael) On the algebra of gauge invariants for one-flavour chromodynamics. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 131–142. (C. A. Hurst) **99b:81267** 81V05 (58Z05)

— (*with* Kijowski, Jerzy) Lattice approximation of quantum electrodynamics. *New developments in quantum field theory (Zakopane, 1997)*, 113–126, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Giovanni Morchio) **99k:81206** 81T25 (81T05, 81T13, 81V10)

— (*with* Kijowski, Jerzy; Rudolph, Michael) Effective bosonic degrees of freedom for one-flavour chromodynamics. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 3, 285–313. (Summary) **99c:81268** 81V05

— (*with* Kijowski, Jerzy; Śliwa, C.) On the structure of the observable algebra for QED on the lattice. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 299–308. (Giovanni Morchio) **99e:81167** 81T25 (81R10, 81V10)

Rudolph, Günter Convergence rates of evolutionary algorithms for a class of convex objective functions. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 375–390. (*see* **99b:90008**) 90C25 (90C27)

Rudolph, Joachim (*with* Delaleau, Emmanuel) An intrinsic characterization of properness for linear time-varying systems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 18 *pp.* (*electronic*). (Summary) **99g:93007** 93A30 (93C05, 93C50)

— (*with* Fliess, Michel; Mounier, Hugues; Rouchon, Pierre) Systèmes linéaires sur les opérateurs de Mikusiński et commande d'une poutre flexible. (English and French summaries) [Linear systems involving Mikusiński operators and control of a flexible beam] *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 183–193 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Guenter Leugering) **99c:93057** 93C20 (35Q72, 73K05, 73K50)

— (*with* Mounier, Hugues; Fliess, Michel; Rouchon, Pierre) Tracking control of a vibrating string with an interior mass viewed as delay system. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 315–321 (*electronic*). (Enrique Zuazua) **99h:73057** 73K50 (73D30, 93B05)

— (*with* Delaleau, Emmanuel) Control of flat systems by quasi-static feedback of generalized states. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 745–765. (Zbigniew Bartosiewicz) **99j:93021** 93B18 (93B25, 93C10)

— (*with* Mounier, Hugues) Flatness-based control of nonlinear delay systems: a chemical reactor example. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 871–890. (Krishnan Balachandran) **99i:93028** 93C10 (93D15)

Rudolph, Michael (*with* Kijowski, Jerzy; Rudolph, Gerd) On the algebra of gauge invariants for one-flavour chromodynamics. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 131–142. (C. A. Hurst) **99b:81267** 81V05 (58Z05)

— (*with* Kijowski, Jerzy; Rudolph, Gerd) Effective bosonic degrees of freedom for one-flavour chromodynamics. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 3, 285–313. (Summary) **99c:81268** 81V05

Rudolph, Oliver Symmetries of history quantum theories and decoherence functionals. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5850–5855. (S. Gudder) **99k:81023** 81P05 (81P15)

— Temporal quantum theory. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1045–1055. (S. Gudder) **99m:81013** 81P05

Rudolphi, T. J. (*with* Muci-Küchler, K. H.; Miranda-Valenzuela, J. C.) Formulation of a new error indicator for adaptive meshing with Hermite boundary elements. (English summary) *Comput. Methods Appl. Mech. Engrg.* **173** (1999), *no.* 3-4, 419–431. 65N55

Rudra, P. Contact symmetry of time-dependent Schrödinger equation for a two-particle system: symmetry classification of two-body central potentials. (English summary) *J. Nonlinear Math. Phys.* **6** (1999), *no.* 1, 51–65. (Violeta V. Tretynyk) **99m:81080** 81R05 (22E70, 58G35)

Rudyak, Yu. B. ★ On Thom spectra, orientability, and cobordism. With a foreword by Haynes Miller. Springer Monographs in Mathematics. *Springer-Verlag, Berlin*, 1998. *xii+587 pp. ISBN* 3-540-62043-5 (Donald M. Davis) **99f:55001** 55–02 (55N22, 55P42, 57–02)

— On category weight and its applications. (English summary) *Topology* **38** (1999), *no.* 1, 37–55. (Aniceto Murillo) **99f:55007** 55M30 (55N20, 55S30)

Rudychev, I. (*with* Sezgin, Ergin) Superparticles in $D > 11$. (English summary) *Phys. Lett. B* **415** (1997), *no.* 4, 363–370. (Sergey Nikolaevich Roshchupkin) **99d:81132a** 81T30 (83E30)

— (*with* Sezgin, Ergin; Sundell, Per) Supersymmetry in dimensions beyond eleven. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 285–294. (Summary) **99e:81245** 81T60 (81T13)

— (*with* Sezgin, Ergin) Superparticles, p-form coordinates and the BPS condition. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 60–68. (Summary) **99a:81175** 81T60

— (*with* Sezgin, Ergin) Addendum: "Superparticles in $D > 11$". *Phys. Lett. B* **424** (1998), *no.* 3-4, 411–412. (Sergey Nikolaevich Roshchupkin) **99d:81132b** 81T30 (83E30)

Rudykh, G. A. (*with* Semënov, È. I.) New exact solutions of the one-dimensional nonlinear diffusion equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1130–1139, iv; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 978–987. (Qing Yi Chen) **99a:35021** 35C05 (35K55)

— Lax pairs for a one-dimensional nonlinear evolution equation, and the generalized Miura transformation. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 6, 749–751. 35Q58 (58F07)

— (*with* Semënov, È. I.) Exact nonnegative solutions of the multidimensional nonlinear diffusion equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1131–1140, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 977–985. (Qing Yi Chen) **99h:35095** 35K55 (35C05)

— (*with* Semënov, È. I.) On new exact solutions of the one-dimensional nonlinear diffusion equation with a source (sink). (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 971–977; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 930–936. (Summary) **99e:35102** 35K55 (35C05)

Rudzkis, R. (*with* Radavičius, M.) Purposeful projection in models of a mixture of Gaussian distributions that preserves information about the cluster structure. (Russian. Russian and Lithuanian summaries) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 550–563; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 416–425 (1998). (Kalev Pärna) **99h:62084** 62H30

Rue, Håvard (*with* Syversveen, Anne Randi) Bayesian object recognition with Baddeley's delta loss. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 64–84. (Arnoldo Frigessi) **99b:62149** 62M30 (60G35)

— (*with* Husby, Oddvar K.) Modern statistical methods: a first introduction. (English summary) *Normat* **47** (1999), *no.* 1, 20–33, 48. 62-01 (65U05)

— (*with* Hurn, Merrilee A.; Sheehan, Nuala A.) Block updating in constrained Markov chain Monte Carlo sampling. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 4, 353–361. (Summary) **99j:62138** 62M99

de la Rue, Thierry L'ergodicité induit un type spectral maximal équivalent à la mesure de Lebesgue. (English and French summaries) [Ergodicity induces a maximal spectral type that is equivalent to Lebesgue measure] *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 2, 249–263. (Nathaniel F. G. Martin) **99e:28028** 28D05 (47A35)

— Rang des systèmes dynamiques gaussiens. (English summary) [Rank of Gaussian dynamical systems] *Israel J. Math.* **104** (1998), 261–283. (Anzelm Iwanik) **99d:28038** 28D05 (60G15)

Rueda, Alfonso (*with* Haisch, Bernhard) Inertia as reaction of the vacuum to accelerated motion. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 115–126. (Summary) **99a:81018** 81P20 (70A05, 70H40)

Rueda, L. A. (*with* Abad, Manuel; Díaz Varela, J. Patricio; Suardíaz, A. M.) A note on the equational bases for subvarieties of linear symmetric Heyting algebras. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish) (Bahía Blanca, 1997)*, 119–126, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (*see* **99a:00040**) 06D20

Rueda, M. P. (*with* Aron, Richard M.) A problem concerning zero-subspaces of homogeneous polynomials. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 20–23. (Summary) **99e:13032** 13P99

Rueda, R. (*with* O'Reilly, F. J.) A note on the fit for the Levy distribution. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1811–1821. 62G10

Ruedin, A. M. C. (*with* Skigin, Diana C.; Vaillancourt, Rémi) Computer solution of the scattering problem for a groove in a metallic plane using the modal method. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 98–119. (Summary) **99d:78030** 78A45 (30D05, 78–08)

Ruegg, H. (*with* Lukierski, Jerzy; Tolstoĭ, V. N.) Quantum κ-Poincaré 1994. *Quantum groups (Karpacz, 1994)*, 359–378, *PWN, Warsaw*, 1995. (Alexei Zhedanov) **99h:81091** 81R50 (17B37)

— (*with* Lukierski, Jerzy; Zakrzewski, Wojciech J.) Classical and quantum mechanics of free κ-relativistic systems. (English summary) *Quantum groups (Karpacz, 1994)*, 539–554, *PWN, Warsaw*, 1995. (Alexei Zhedanov) **99g:81095** 81R50

Rueher, Michel (*with* Lhomme, Olivier; Gotlieb, Arnaud) Dynamic optimization of interval narrowing algorithms. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 165–183. (Summary) **99d:68042** 68N17 (68T20)

Ruehli, Albert E. (*with* Gristede, George Diedrich; Zukowski, Charles Albert) Convergence properties of waveform relaxation circuit simulation methods. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 726–738. (Summary) **99c:94067** 94C05

Ruehr, O. G. (*with* Alzer, Horst) A submultiplicative property of the psi function. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 53–60. (Summary) **99j:33002** 33B15 (26D15)

pineda Ruelas, Mario *see* **Pineda Ruelas, Mario**

Ruelle, David Zeta functions and sharp determinants for interval maps. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 226–232, *World Sci. Publishing, River Edge, NJ*, 1995. (Alexander Fel'shtyn) **99b:58188** 58F20

— The impact of chaos on mathematics. (English summary) *The impact of chaos on science and society* (*Tokyo*, 1991), 97–109, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 00A05 (58F13, 82C03)

— (*with* Gallavotti, Giovanni M.) SRB states and nonequilibrium statistical mechanics close to equilibrium. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 279–285. (Oliver Knill) **99a:82057** 82C05 (58F11)

— (*with* Baladi, V.; Kitaev, A. Yu.; Semmes, Stephen) Sharp determinants and kneading operators for holomorphic maps. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 193–235. (Alexander Fel'shtyn) **99f:58163** 58F19 (58F20)

— Henri Poincaré's *Science et méthode. Les relations entre les mathématiques et la physique théorique*, 179–181, *Inst. Hautes Études Sci., Bures-sur-Yvette*, 1998. (*see* **99h:00038**) 01A55

— (*with* Hut, Piet; Traub, Joseph) Varieties of limits to scientific knowledge. (English summary) *Complexity* **3** (1998), *no.* 6, 33–38. 00A30 (00A35)

— General linear response formula in statistical mechanics, and the fluctuation-dissipation theorem far from equilibrium. (English summary) *Phys. Lett. A* **245** (1998), *no.* 3-4, 220–224. (Summary) **99d:82041** 82C05

Ruelle, P. (*with* Gannon, T.; Walton, Mark A.) Spectra of conformal field theories with current algebras. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 49–57, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 81T40 (81R10)

— (*with* Verhoeven, O.) Discrete symmetries of unitary minimal conformal theories. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 650–680. (Matthias Dörrzapf) **99m:81225** 81T40

Ruess, W. M. (*with* Aron, Richard M.; Lindström, Mikael; Ryan, Raymond A.) Uniform factorization for compact sets of operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1119–1125. (Introduction) **99f:46025** 46B28 (46G20, 47A68)

Ruet, Paul (*with* Fages, François; Soliman, Sylvain) Phase semantics and verification of concurrent constraint programs. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 141–152, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10 (68T20)

Ruf, Bernhard Bounds on the number of solutions for elliptic equations with polynomial nonlinearities. (English summary) *J. Differential Equations* **151** (1999), *no.* 1, 111–133. (Gianni Arioli) **99m:35065** 35J60 (35B45, 47H15, 47N20)

Ruf, Jürgen (*with* Heiligers, Berthold) Stochastic models for the return of used devices. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 113–123, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 90B25 (62N05)

Ruffing, A. (*with* Lorek, A.; Wess, Julius) A q-deformation of the harmonic oscillator. (English summary) *Z. Phys. C* **74** (1997), *no.* 2, 369–377. (Summary) **99a:81076** 81R50

Ruffo, Stefano (*with* Poggi, Pietro) Exact solutions in the FPU oscillator chain. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 251–272. (Summary) **99b:82063** 82C05 (58F40, 70K40)

— (*with* Bonelli, Antonio) Modular transformations, order-chaos transitions and pseudo-random number generation. (English summary) *Internat. J. Modern Phys. C* **9** (1998), *no.* 7, 987–997. (Geon Ho Choe) **99k:65013** 65C10

— (*with* Izrailev, F. M.; Tessieri, L.) Classical representation of the one-dimensional Anderson model. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5263–5270. (Summary) **99c:82037** 82B44

Rufián-Lizana, A. (*with* Osuna-Gómez, R.; Ruiz-Canales, P.) Invex functions and generalized convexity in multiobjective programming. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 651–661. (Summary) **99f:90112** 90C29

Škapin-Rugelj, Meta *see* **Škapin-Rugelj, Meta**

Ruge-murcia, Francisco J. (*with* Pesaran, M. Hashem) Analysis of exchange-rate target zones using a limited-dependent rational-expectations model with jumps. (English summary) *J. Bus. Econom. Statist.* **17** (1999), *no.* 1, 50–66. (Summary) **99i:62255** 62P20

Ruggeri, Tommaso (*with* Müller, Ingo) ★ Rational extended thermodynamics. (English summary) Second edition. With supplementary chapters by H. Struchtrup and Wolf Weiss. Springer Tracts in Natural Philosophy, 37. *Springer-Verlag, New York*, 1998. *xvi+396 pp. ISBN* 0-387-98373-2 (Vittorio Romano) **99h:80001** 80-02 (73-02, 73B30, 76-02, 76A02)

— (*with* Boillat, Guy) Maximum wave velocity in the moments system of a relativistic gas. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 2, 107–111. (Summary) **99m:82038** 82C40 (76P05, 76Y05)

Ruggieri, Salvatore Termination of constraint logic programs. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 838–848, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **99b:68035** 68N17 (68T20)

— (*with* Pedreschi, Dino) Weakest preconditions for pure Prolog programs. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 145–150. (Summary) **99c:68046** 68N17 (68Q60)

— (*with* Pedreschi, Dino) Verification of logic programs. (English summary) *J. Logic Programming* **39** (1999), *no.* 1-3, 125–176. (Summary) **99k:68110** 68Q60 (68N17)

Ruggiero, Katya (*with* John, J. A.) Resolvable block designs for factorial experiments. (English summary) *J. Statist. Plann. Inference* **77** (1999), *no.* 2, 293–299. 62K10

gomes-Ruggiero, Márcia A. *see* **Gomes-Ruggiero, Márcia A.**

Ruggiero, V. (*with* Galligani, E.; Zanni, L.) Splitting methods and parallel solution of constrained quadratic programs. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 121–136. (Nikolai K. Krivulin) **99e:90062** 90C20 (65K05, 65Y05, 90C33)

— (*with* Galligani, E.; Zanni, L.) A minimization method for the solution of large symmetric eigenproblems. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 99–115. (Summary) **99j:65058** 65F15 (65F50)

Rugh, Hans Henrik A geometric, dynamical approach to thermodynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7761–7770. (Summary) **99h:80004** 80A10

Rugh, Wilson J. (*with* Tan, Hualin) Pseudolinearization and nonlinear optimal control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 386–391. (Ülle Kotta) **99c:93024** 93B18 (93B40)

— (*with* Tan, Hualin) Nonlinear overtaking optimal control: sufficiency, stability, and approximation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1703–1718. (Arie Leizarowitz) **99j:49061** 49L20 (49M30, 93E20)

— (*with* Stilwell, Daniel J.) Interpolation of observer state feedback controllers for gain scheduling. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1225–1229. 93B52 (93B36)

alexandru Rugina, D. *see* **Alexandru Rugina, D.**

Ruhl, Matthias (*with* Saupe, Dietmar) Animation of algebraic surfaces. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 83–92, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)

Rühl, W. Double scaling limits and Airy functions for O(N) vector sigma models with elementary catastrophes or the catastrophe X_9. (English summary) *Ann. Physics* **247** (1996), *no.* 2, 414–444. (From the introduction) **99c:81156** 81T27 (58C28)

— (*with* Balaska, S.; Maeder, Joachim) The continuous series of critical points of the two-matrix model at $N \to \infty$ in the double scaling limit. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 411–432. (Summary) **99b:81167** 81T27 (81T40)

Ruhlig, K. (*with* Albert, T.-D.; Flume, R.) Multimagnon scattering in the ferromagnetic XXX-model with inhomogeneities. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1667–1683. (Summary) **99e:82012** 82B20

Rui, Changxiang Lattice of idempotent separating congruences in a weakly P-regular semigroup. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 13–17. (J. L. Chrislock) **99j:20069** 20M17

— Weakly regular $*$-semigroups. *Semigroup Forum* **58** (1999), *no.* 3, 463–465. 20M17

Rui, Hebing (*with* Du, Jie) Based algebras and standard bases for quasi-hereditary algebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3207–3235. (Steffen König) **99b:16027** 16G99 (16S15, 20C99)

Rui, Hong Xing Characteristic difference methods for two-phase displacement in naturally fractured reservoirs. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **4** (1995), *no.* 2, 133–146. (Jaroslaw Jelen) **99d:76070** 76M20 (76S05, 76T05)

— A domain decomposition method with a characteristic finite difference procedure for miscible displacement problems in porous media. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 378–383. (Summary) **99h:76061** 76M10 (65M55, 76M20, 76S05)

— (*with* Yang, Danping) Schwarz type domain decomposition algorithms for parabolic equations and error estimates. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 3, 300–313. (Beny Neta) **99h:65165** 65M55 (65M12)

— Overlapping domain decomposition and mixed finite element methods for elliptic equations. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 140–146. (Summary) **99e:65177** 65N55 (65N30)

— Domain decomposition parallel algorithms with corrections along characteristics for convection-diffusion problems. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 2, 121–127. 65M25 (65Y05)

Rui, Jia Gao (*with* Liu, Yi Rong; Wang, Yu Xiang; Yang, Qing Hua) The problem of the values of singular points for a class of cubic systems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 26–28. (Xiang Sheng Xie) **99k:34060** 34C05

Ruina, Andy (*with* Wirkus, Stephen; Rand, Richard H.) How to pump a swing. *College Math. J.* **29** (1998), *no.* 4, 266–275. (Albert D. Morozov) **99i:70026** 70K05 (34C15, 70K40)

— Nonholonomic stability aspects of piecewise holonomic systems. (English summary) Pacific Institute of Mathematical Sciences Workshop on Nonholonomic Constraints in Dynamics (Calgary, AB, 1997). *Rep. Math. Phys.* **42** (1998), *no.* 1-2, 91–100. (Summary) **99k:70017** 70F25 (70E15, 70K20)

Ruini, Beatrice Crystallizations of Seifert fibered 3-manifolds. *Demonstratio Math.* **31** (1998), *no.* 2, 445–466. (G. Burde) **99k:57043** 57N10 (57M12, 57M15, 57M25)

— (*with* Cavicchioli, Alberto; Meschiari, M.; Spaggiari, Fulvia) A survey on snarks and new results: products, reducibility and a computer search. (English summary) *J. Graph Theory* **28** (1998), *no.* 2, 57–86. (Martin Kochol) **99d:05031** 05C15 (05C38, 05C40)

hernández Ruipérez, Daniel *see* **Hernández Ruipérez, Daniel**

Ruipérez, Daniel Hernández *see* **Hernández Ruipérez, Daniel**

Ruiz, A. *see* **Ruiz, Alberto[1]**

Ruiz, Alberto *see* **Ruiz, Alberto[2]**

Ruiz, Alberto[1] (*with* Barcelo, J. A.; Vega, Luis) Weighted estimates for the Helmholtz equation and some applications. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 356–382. (Marco Bramanti) **99a:35033** 35J05 (35B45, 35J10)

Ruiz, Alberto[2] (*with* López-de-Teruel, Pedro E.; Garrido, M. Carmen) Probabilistic inference from arbitrary uncertainty using mixtures of factorized generalized Gaussians. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 167–217 (*electronic*). 68T10

Ruiz, Ángel *see* **Ruiz Zúñiga, Ángel**

Ruiz, Carolina (*with* Seipel, Dietmar; Minker, Jack) A characterization of the partial stable models for disjunctive deductive databases. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 245–259, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68030** 68P15 (68N17)

— (*with* Minker, Jack) Combining closed world assumptions with stable negation. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 163–181. (Neculai Curteanu) **99j:68016** 68N17 (03B70, 68T27, 68T30)

— (*with* Minker, Jack) Logic knowledge bases with two default rules. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 333-361. (Neculai Curteanu) **99i:68020** 68N17 (03B70, 68Q55, 68T27)

— *see also* **Proceedings: Workshop on Deductive Databases and Logic Programming, 99g:68052**

Ruiz, César On the structure of Rosenthal's space X_φ in Orlicz function spaces. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1223–1238. (Luboš Pick) **99g:46035** 46E30 (46A45)

pita Ruiz, Claudio *see* **Pita Ruiz, Claudio**

Ruiz, Eduardo (*with* Manko, Vladimir S.) Extended multi-soliton solutions of the Einstein field equations. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 2007–2016. (Nora Bretón Báez) **99m:83045** 83C20 (83C15)

— (*with* Hernández-Pastora, J. L.; Martín, Jésus) Approaches to the monopole-dynamic dipole vacuum solution concerning the structure of its Ernst potential on the symmetry

axis. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 7, 999–1023. (Summary) **99f:83011** 83C15 (83C25)

ruiz Ruiz, F. *see* **Ruiz Ruiz, F.**

Ruiz, Francisco (*with* Caballero Fernández, Rafael E.; Gómez, Trinidad; González, Mercedes; Rey, Lourdes) The static approach to quadratic dynamic goal programming. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 138–148, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C20 (90C39)

Ruíz, I. A. *see* **Ruiz Chaveco, Antonio Iván**

Ruiz, J. *see* **Ruiz, Jean**

tinoco-Ruiz, J. G. *see* **Tinoco-Ruiz, J. G.**

arredondo Ruiz, J. H. *see* **Arredondo Ruiz, J. H.**

Ruiz, J. M. *see* **Ruiz Gómez, José María**

Ruiz, Jean (*with* Bleher, P. M.; Zagrebnov, V. A.) On the phase diagram of the random field Ising model on the Bethe lattice. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 33–78. (Summary) **99h:82043** 82B44 (82B26)

Ruiz, Jesús M. (*with* Outerelo Domínguez, Enrique) ★ Topología diferencial. (Spanish. Spanish summary) [Differential topology] Variedades con borde. Transversalidad. Aproximación [Manifolds with boundary. Transversality. Approximation]. *Addison-Wesley Iberoamericana España S.A., Madrid*, 1998. *x*+162 *pp. ISBN* 0-201-65330-3 (Luis Ugarte) **99h:57001** 57–01 (57Rxx, 58–01)

sánchez-Ruiz, Jorge *see* **Sánchez-Ruiz, Jorge**

Ruiz, José *see* **Ruiz Ochando, José**

Ruiz, José M. *see* **Ruiz Gómez, José María**

sánchez Ruiz, L. M. *see* **Sánchez Ruiz, L. M.**

Ruiz, Luis M. (*with* Valenciano Llovera, Federico; Zarzuelo Zarzosa, José Manuel) The family of least square values for transferable utility games. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 109–130. (Milan Mareš) **99j:90126** 90D12

— (*with* Valenciano Llovera, Federico; Zarzuelo Zarzosa, José Manuel) Some new results on least square values for TU games. (English summary) *Top* **6** (1998), *no.* 1, 139–158. (Summary) **99e:90119** 90D12

martín Ruiz, Sebastián *see* **Martín Ruiz, Sebastián**

Ruiz-Altaba, Martí The quantum group of Seiberg-Witten theory. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields* (*Mérida*, 1996), 555–558, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99e:81103** 81R50 (14D05, 81T60)

— *see also* **Particles and fields, 99h:81003**

Ruíz-Canales, P. (*with* Beato-Moreno, A.; Luque-Calvo, P.-L.; Blanquero-Bravo, R.) Multiobjective quadratic problem: characterization of the efficient points. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 425–438, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:90103** 90C29 (90C20)

— (*with* Osuna-Gómez, R.; Rufián-Lizana, A.) Invex functions and generalized convexity in multiobjective programming. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 651–661. (Summary) **99f:90112** 90C29

Ruiz Chaveco, Antonio Iván (*with* Repilado Ramírez, José Antonio; Bernal, A.) Analysis and identification of a mathematical model of the transmission of infectious diseases. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 1, 65–69. (Summary) **99i:92024** 92D25 (34C99)

— (*with* Nápoles Valdés, Juan E.) On the case of a unique stable limit cycle in a two-dimensional system. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 1, 79–82. 34C05

Ruiz de Chávez, Juan (*with* León, Jorge A.; Tudor, Constantin) On equivalence of solutions to anticipating semilinear stochastic equations on the Poisson space. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 649–661. (Rainer Buckdahn) **99f:60100** 60H05 (60H10)

— (*with* Gordienko, Evgueni I.) New estimates of continuity in $M/GI/1/\infty$ queues. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 175–188. (Vladimir V. Kalashnikov) **99j:60141** 60K25

Ruíz del Portal, F. R. (*with* Cuchillo-Ibáñez, E.; Morón, M. A.) A note on isomorphic groups and nonhomeomorphic spaces. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 4, 297–300. (Summary) **99m:54028** 54H15 (54B20, 57N20)

Ruíz Espejo, Mariano Covariance of sample moments for finite populations. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 163–167. 62D05

— A geometric interpretation of equilibrium for the usual random variables. (Spanish. English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat.* (*Esp.*) **91** (1997), *no.* 1, 13–16. (From the summary) **99g:60029** 60E05

— (*with* Singh, Rajesh[1]; Singh, Housila Prasad) The efficiency of an alternative to ratio estimator under a super population model. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 287–301. 62D05

— (*with* Sahoo, L. N.; Sahoo, J.) On some strategies using auxiliary information for estimating finite population mean. (English summary) *Qüestiió* (2) **22** (1998), *no.* 2, 243–252. 62D05

— Comparison of the efficiency of randomized response models. (Spanish. English summary) *Rev. Acad. Cienc. Zaragoza* (2) **53** (1998), 199–202. 62D05

— Optimal subsample allocation and cost in the presence of nonresponse. (Spanish. English summary) *Rev. Acad. Cienc. Zaragoza* (2) **53** (1998), 203–206. 62D05

— UMV linear unbiased integration of two uncorrelated sample means of a finite population. (Spanish. English summary) *Rev. Acad. Cienc. Zaragoza* (2) **53** (1998), 215–217. 62D05

Ruiz Galán, Manuel (*with* Acosta, María D.) New characterizations of the reflexivity in terms of the set of norm attaining functionals. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 279–289. (G. J. O. Jameson) **99j:46015** 46B10 (46B22)

— (*with* Acosta, María D.) A version of James' theorem for numerical radius. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 67–74. (P. Saphar) **99k:47009** 47A12 (46B10)

Ruiz Gómez, José María (*with* Guillamón, Antonio; Navarro, Jorge) Kernel density estimation using weighted data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2123–2135. (Summary) **99g:62040** 62G05

— (*with* Navarro, Jorge; Zoroa Alonso, Noemí) A unified approach to characterization problems using conditional expectations. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 193–207. (Paweł J. Szabłowski) **99e:62015** 62E10

— (*with* Franco, Manuel) Characterization of discrete populations through conditional expectations of order statistics. (English summary) *Statist. Papers* **39** (1998), *no.* 3, 249–262. (Mir Masoom Ali) **99k:62026** 62E10 (62G30)

— (*with* Belzunce, Félix; Franco, Manuel) On aging properties based on the residual life of k-out-of-n systems. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 2, 193–199. (Summary) **99m:90078** 90B25 (62N05)

— (*with* Franco, Manuel) Characterization based on conditional expectations of adjacent order statistics: a unified approach. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 861–874. (A. H. Khan) **99f:62021** 62E10 (62G30)

Ruiz Jhones, Alina (*with* Ledesma Fiallo, Luis Angel) Solving constrained optimization problems using direct search methods: system UH-DISE. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 11–18. 90C30 (65K05)

Ruiz-Medina, M. D. (*with* Angulo Ibañez, J. M.) A series expansion approach to the inverse problem. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 371–382. 60G60

— (*with* Valderrama Bonnet, Mariano J.) Two-parameter diffusions random fields. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 391–402. (Gheorghe Stoica) **99e:60179** 60J60 (60G60, 60H05)

Ruiz Ochando, José (*with* España, Salvador; García Pérez, Pedro Luis) Locally threshold testable languages in strict sense: application to the inference problem. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 150–161, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68Q45 (68T10)

Ruiz Ruiz, F. (*with* van Nieuwenhuizen, Peter) BRS symmetry versus supersymmetry in Yang-Mills–Chern-Simons theory. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 443–465. (Summary) **99b:81152** 81T15 (81T13)

Ruiz-Shulcloper, José ★ Algunas cuestiones de los problemas de reconocimiento de patrones con clases no disjuntas. (Spanish. English and Spanish summaries) [Some questions associated with pattern recognition problems with nondisjoint classes] *Editorial Academia, Havana*, 1995. *iv*+32 *pp. ISBN* 959-02-0064-8 (Summary) **99k:68170** 68T10

— (*with* Carrasco-Ochoa, Jesús Ariel) Sensitivity of the set of typical testers of a Boolean matrix. (Spanish. Spanish summary) *III Ibero-American Workshop on Pattern Recognition* (*Spanish*) (*México City*, 1998), 257–266, *Inst. Cibern. Mat. Fís., Havana*, 1998. (*see* **99k:68016**) 68T10

— (*with* Carrasco-Ochoa, Jesús Ariel; De la Vega-Doria, Lucía A.) A model of supervised classification based on sets of representatives. (Spanish. Spanish summary) *III Ibero-American Workshop on Pattern Recognition* (*Spanish*) (*México City*, 1998), 267–278, *Inst. Cibern. Mat. Fís., Havana*, 1998. (*see* **99k:68016**) 68T10

— (*with* Lazo Cortés, Manuel) Mathematical algorithms for the supervised classification based on fuzzy partial precedence. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 4, 111–119. 68T10

— *see also* **Workshop: Pattern Recognition, 99k:68016**

Ruiz Zúñiga, Ángel (*with* Barrantes Campos, Hugo) ★ La historia del Comité Interamericano de Educación Matemática. (Spanish) [The history of the Inter-American Committee on Mathematics Education] With an introduction by Ubiratán D'Ambrosio. Colección Enrique Pérez Arbeláez [Enrique Pérez Arbeláez Collection], 13. *Academia Colombiana de Ciencias Exactas, Físicas y Naturales, Bogotá*, 1998. *x*+92 *pp. ISBN* 958-9205-31-3 01A74

Rukhadze, R. (*with* Burchuladze, Tengiz) Fourier method in three-dimensional boundary-contact dynamic problems of moment elasticity theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 352–355. (Summary) **99h:73069** 73T05 (73C99, 73D99)

— (*with* Burchuladze, Tengiz) The Fourier method in three-dimensional dynamic problems of the linear theory of elasticity of mixtures. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 1, 31–36. (Summary) **99g:73021** 73C02 (35Q72, 73B99, 73D99)

— (*with* Burchuladze, Tengiz) Asymptotic distribution of eigen-functions and eigen-values of the basic boundary-contact oscillation problems of elasticity. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 3, 377–380. 35P20 (35Q72, 73C02, 73T05)

— (*with* Burchuladze, Tengiz) Asymptotic distribution of eigenfunctions and eigenvalues of the basic boundary-contact oscillation problems of couplestress elasticity theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 1, 18–22. (Summary) **99g:73034** 73C99 (73D99)

Rukhadze, V. Realcompact like mappings. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 1, 31–34 (1996). (From the text) **99g:54016** 54C99

— On mesocompact spaces. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 1, 21–23. 54D20

Rukhin, Andrew L. (*with* Plakhki, D.) Lehmann-unbiased statistical procedures: admissibility and invariance. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **228** (1996), *Veroyatn. i Stat.* 1, 284–293, 362; *translation in J. Math. Sci.* (*New York*) **93** (1999), *no.* 3, 436–442. (Summary) **99g:62026** 62F10 (62C15)

— Adaptive multiple decision procedures for exponential families. (English summary) *Advances in statistical decision theory and applications*, 99–118, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Sam Gutmann) **99d:62006** 62C25 (62E15)

— (*with* Vajda, Igor) Change-point estimation as a nonlinear regression problem. (English summary) *Statistics* **30** (1997), *no.* 3, 181–200. (Summary) **99a:62084** 62J02 (62F10)

— Statistical estimation of a subspace in a complex space. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 95–103. (N. Giri) **99d:62018** 62F10 (62C15, 62H12)

— Decision-making with a no-decision option. (English summary) *Statist. Decisions* **16** (1998), *no.* 3, 259–272. (Stig I. Rosenlund) **99m:62023** 62F03 (62C05)

Rukhovets, L. A. (*with* Astrakhantsev, G. P.) Fictitious component method of solving the schemes of the finite element method for elliptic boundary value problems with nonlocal boundary conditions in multiply connected domains. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 2, 93–105. (Summary) **99c:65196** 65N30 (76M10)

Rullo, Pasquale (*with* Buccafurri, Francesco; Leone, Nicola) Strong and weak constraints in disjunctive Datalog. (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl, 1997)*, 2–17, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68026** 68N17 (68P15)

Rulnick, John M. (*with* Shapley, Lloyd S.) Convex covers of symmetric games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 561–577. (Tatsuro Ichiishi) **99b:90120** 90D06

Rumberger, Matthias Finitely differentiable invariants. *Math. Z.* **229** (1998), *no.* 4, 675–694. (Michel Brion) **99j:58023** 58C25 (57S20)

Rumchev, Ventseslav G. (*with* Foulds, Leslie R.) On the combinatorial properties of reachable positive single-input systems. (English summary) *Systems Sci.* **23** (1997), *no.* 1, 13–24. (Boris G. Zaslavskiĭ) **99e:93049** 93C55 (93B05)

— (*with* Anstee, Richard P.) Asymptotic reachable sets for discrete-time positive linear systems. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 41–47. 93B03 (93C55)

Rump, Siegfried M. Theorems of Perron-Frobenius type for matrices without sign restrictions. (English summary) *Linear Algebra Appl.* **266** (1997), 1–42. (Zdeněk Dostál) **99b:15019** 15A42 (15A48)

— Almost sharp bounds for the componentwise distance to the nearest singular matrix. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 2, 93–107. (Summary) **99b:15024** 15A45

— The sign-real spectral radius and cycle products. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 177–180. (Summary) **99k:15018** 15A18

— (*with* Dennis, David; Kreinovich, Vladik) Intervals and the origins of calculus. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 191–197. (Niccolò Guicciardini) **99d:01016** 01A45 (01A99)

— A note on epsilon-inflation. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 371–375. (Summary) **99f:65072** 65G10

— Ill-conditionedness need not be componentwise near to ill-posedness for least squares problems. (English summary) *BIT* **39** (1999), *no.* 1, 143–151. (Summary) **99m:65091** 65F35

— Ill-conditioned matrices are componentwise near to singularity. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 102–112 (*electronic*). (George D. Poole) **99k:15008** 15A12 (65F35)

Rump, Wolfgang Green walks in a hypergraph. *Colloq. Math.* **78** (1998), *no.* 1, 133–147. (M. Stefănescu) **99k:05125** 05C65 (16E60)

Rumpf, M. On equilibria in the interaction of fluids and elastic solids. (English summary) *Theory of the Navier-Stokes equations*, 136–158, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Introduction) **99g:73090** 73K70 (35Q72, 76D99)

— (*with* Dörfler, W.) An adaptive strategy for elliptic problems including a posteriori controlled boundary approximation. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1361–1382. (Pieter W. Hemker) **99b:65141** 65N30

Rumyantsev, V. V. General equations of analytical dynamics. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 917–928; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 899–909. (Summary) **99b:70013** 70F20 (70F25)

— On the Poincaré and Chetaev equations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 531–538; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 495–502. (Summary) **99m:70006** 70E15 (70F20)

Rundell, William (*with* Kress, Rainer) Inverse obstacle scattering with modulus of the far field pattern as data. *Inverse problems in medical imaging and nondestructive testing (Oberwolfach, 1996)*, 75–92, *Springer, Vienna*, 1997. (P. A. Mishnayevskiy) **99b:35215** 35R30 (35J05, 65N45)

— (*with* Hettlich, Frank) The determination of a discontinuity in a conductivity from a single boundary measurement. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 67–82. (Yongzhi Xu) **99b:35210** 35R30 (35J25)

— (*with* Kress, Rainer) Inverse obstacle scattering using reduced data. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 442–454 (*electronic*). (Summary) **99h:35029** 35J05 (35R30, 65R30, 76Q05)

Runggaldier, Wolfgang J. Concepts and methods for discrete and continuous time control under uncertainty. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 25–39. (Summary) **99b:93052** 93E20 (49K45)

— (*with* Dai Pra, Paolo; Meneghini, L.) Explicit solutions for multivariate, discrete-time control problems under uncertainty. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 169–176. (Summary) **99e:49029** 49K45 (49K35, 93C55, 93E03)

— *see also* **Biais, Bruno et al., 99a:90033**

Runkler, Thomas A. (*with* Bezdek, James C.) Function approximation with polynomial membership functions and alternating cluster estimation. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 207–218. (*see* **99k:93004**) 65D15 (41A10)

Runovskiĭ, K. V. (*with* Sickel, Winfried) Marcinkiewicz-Zygmund-type inequalities—trigonometric interpolation on non-uniform grids and unconditional Schauder bases in Besov spaces on the torus. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 669–687. (Bui Huy Qui) **99b:46047** 46E35 (41A25, 42A05, 42A15)

— (*with* Schmeisser, H. J.) On Marcinkiewicz-Zygmund type inequalities for irregular knots in L_p-spaces, $0 < p \leq +\infty$. (English summary) *Math. Nachr.* **189** (1998), 209–220. (Eduard Belinskii) **99b:42004** 42A05

Runst, Thomas (*with* Johnsen, Jon) Semi-linear boundary problems of composition type in L_p-related spaces. *Comm. Partial Differential Equations* **22** (1997), *no.* 7-8, 1283–1324. (Michael Wiegner) **99c:35073** 35J65

— (*with* Youssfi, Abdellah) The Jacobian-determinant equation on Besov and Triebel-Lizorkin spaces. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 267–282. (Maria A. Ragusa) **99c:46029** 46E35 (35A07, 35J25)

— (*with* Robinson, Stephen B.) Solvability conditions for semilinear elliptic boundary value problems at resonance with bounded and unbounded nonlinear terms. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 4, 595–624. (Vitaly B. Moroz) **99m:35081** 35J65 (46N20, 47H15, 47N20)

Ruoff, Dieter (*with* Fisher, J. Chris) A hyperbolic concurrency theorem. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 46–52. (Gary L. Ebert) **99b:51013** 51M09 (51A99)

Ruohonen, Keijo Decidability and complexity of event detection problems for ODEs. (English summary) *Complexity* **2** (1997), *no.* 6, 41–53. (Summary) **99h:68046** 68Q05 (03D15, 03D80, 34A99, 68Q25)

Ruokonen, P. (*with* Haukkanen, Pentti) On an analogue of completely multiplicative functions. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 407–420. (Jean-Marie De Koninck) **99h:11007** 11A25

Rupp, Christian (*with* Erdmenger, Johanna; Sibold, Klaus) Conformal transformation properties of the supercurrent in four-dimensional supersymmetric theories. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 501–533. (Sergey Nikolaevich Roshchupkin) **99i:81233** 81T60

Ruppeiner, George Riemannian geometric approach to critical points: general theory. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5135–5145. (Ryszard Mrugała) **99d:80001** 80A10 (53B50)

Ruppen, Hans-Jörg Multiple TE-modes for planar, self-focusing wave guides. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 323–377. (Youri G. Smirnov) **99f:35202** 35Q60 (34B15, 34L30, 78A50)

— Multiplicity results for a semilinear, elliptic differential equation with conflicting nonlinearities. *J. Differential Equations* **147** (1998), *no.* 1, 79–122. (Patricio L. Felmer) **99f:35053** 35J60 (35B99, 35P30, 47H12, 58E05)

Ruppert, David (*with* Carroll, Raymond J.; Welsh, Alan H.) Local estimating equations. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 214–227. (Summary) **99c:62171** 62J02 (62G05)

— (*with* Opsomer, Jean D.) A fully automated bandwidth selection method for fitting additive models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 605–619. (Summary) **99b:62066** 62G05

— (*with* Chen, Victoria C. P.; Shoemaker, Christine A.) Applying experimental design and regression splines to high-dimensional continuous-state stochastic dynamic programming. (English summary) *Oper. Res.* **47** (1999), *no.* 1, 38–53. 90C15 (90C39)

Ruppert, Wolfgang M. Small generators of number fields. (English summary) *Manuscripta Math.* **96** (1998), *no.* 1, 17–22. (W. Narkiewicz) **99d:11114** 11R04 (11R47, 11Y40)

— Reducibility of polynomials $a_0(x) + a_1(x)y + a_2(x)y^2$ modulo p. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 1, 47–55. (Laurentiu Panaitopol) **99j:11025** 11C08 (12E05)

— Two-dimensional complex tori with multiplication by $\sqrt{d}$. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 4, 278–281. (Antoine Chambert-Loir) **99m:14081** 14K22 (11G15)

Ruprecht, Detlef (*with* Müller, Heinrich Augustinus) A scheme for edge-based adaptive tetrahedron subdivision. (English summary) *Mathematical visualization (Berlin, 1997)*, 61–70, *Springer, Berlin*, 1998. (*see* **99k:65005**) 52B55

Rupright, M. E. (*with* Abrahams, Andrew M.; Rezzolla, L.) Cauchy-perturbative matching and outer boundary conditions: methods and tests. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044005, 9 *pp.* (Summary) **99k:83001** 83–08 (83C05)

garcía Rus, Eulalia *see* **García Rus, Eulalia**

Rus, Ioan A. *see* **Szilágyi, Paul, 99k:01077**

Rus, Teodor Algebraic processing of programming languages. (English summary) AMiLP '95 (Enschede). *Theoret. Comput. Sci.* **199** (1998), *no.* 1-2, 105–143. (Summary) **99c:68053** 68N20

— (*with* Jones, James S.) PHRASE parsers from multi-axiom grammars. (English summary) AMiLP '95 (Enschede). *Theoret. Comput. Sci.* **199** (1998), *no.* 1-2, 199–229. (Summary) **99c:68164** 68Q52

Rusak, V. N. (*with* Rovba, E. A.) On the rate of approximation by interpolation rational operators with specified poles. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 21–24, 123. (Alekos Vidras) **99m:30076** 30E05 (41A20)

Rusak, Z. (*with* Wang, Shixiao; Whiting, C. H.) The evolution of a perturbed vortex in a pipe to axisymmetric vortex breakdown. (English summary) *J. Fluid Mech.* **366** (1998), 211–237. (Summary) **99c:76020** 76C05 (76D99, 76E99)

— The interaction of near-critical swirling flows in a pipe with inlet azimuthal vorticity perturbations. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1672–1684. (Summary) **99d:76019** 76C05 (76E99)

— (*with* Wang, Chun-Wei) Similarity solutions of $\varphi_x^3\varphi_{xx} = \varphi_{yy}$ with applications to transonic aerodynamics of dense gases. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 514–528 (*electronic*). (Peter A. Vel′misov) **99k:76087** 76H05 (34A34, 35Q35, 76N10)

Rusakov, A. I. A partial Bayesian approach to the acceptance control of technological objects. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 166–172; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 593–598. 90B25

Rusakov, S. A. Existence of n-ary rs-groups. (Russian. Russian summary) *Problems in algebra, No. 6 (Russian)*, 80–89, 104, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20N15

Rusanov, V. A. (*with* Daneev, A. V.) On methods of the qualitative theory of the identification of complex dynamical systems. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 2, 174–177. 93B30

Rusås, Per-Olav (*with* Grue, John; Jensen, Atle; Sveen, J. Kristian) Properties of large-amplitude internal waves. (English summary) *J. Fluid Mech.* **380** (1999), 257–278. 76C10 (76–05)

Rüschendorf, Ludger (*with* Uckelmann, Ludger) On optimal multivariate couplings. (English summary) *Distributions with given marginals and moment problems (Prague, 1996)*, 261–273, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:90234** 90C48 (49K45, 60E05, 62H05)

— (*with* Ramachandran, D.) Duality theorems for assignments with upper bounds. *Distributions with given marginals and moment problems (Prague, 1996)*, 283–290, *Kluwer Acad. Publ., Dordrecht*, 1997. (Vladimir L. Levin) **99h:28009** 28A35 (60A10)

— Stochastik—eine interdisziplinäre Wissenschaft. [Stochastics—an interdisciplinary science] *Überblicke Mathematik* 1998, 108–127, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99a:00018**) 00A69

— (*with* Feldman, Philip M.; Rachev, Svetlozar T.) Limiting distribution of the collision resolution interval. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 1, 1–22. (Pavel P. Bocharov) **99a:60111** 60K30 (60F05, 94A05)

— (*with* Thomsen, Wolfgang) Closedness of sum spaces and the generalized Schrödinger problem. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 576–590;

reprinted in Theory Probab. Appl. **42** (1997), *no.* 3, 483–494 (1998). (Anton Wakolbinger) **99j:60044** 60F25 (28A20, 28A35, 60A10)
— (*with* Rachev, Svetlozar T.) ★ Mass transportation problems. Vol. I. (English summary) Theory. Probability and its Applications. *Springer-Verlag, New York*, 1998. *xxvi*+508 *pp. ISBN* 0-387-98350-3 (Vladimir L. Levin) **99k:28006** 28A35 (28C15, 49K27, 60B05, 90B15)
— (*with* Rachev, Svetlozar T.) ★ Mass transportation problems. Vol. II. (English summary) Applications. Probability and its Applications. *Springer-Verlag, New York*, 1998. *xxvi*+430 *pp. ISBN* 0-387-98352-X (Vladimir L. Levin) **99k:28007** 28A35 (28C15, 49K27, 60B05, 60B10, 90C48)
— (*with* Hutchinson, John E.) Random fractal measures via the contraction method. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 471–487. (Ben Hambly) **99j:60019** 60D05 (28A80, 60G18, 60G57)
Ruscheweyh, Stephan (*with* Arango, Juan H.; Mejía, Diego) Exponentially convex univalent functions. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 33–50. (Summary) **99a:30014** 30C45
— (*with* Fournier, Richard; Ma, Jinxi) Convex univalent functions and omitted values. (English summary) *Approximation theory*, 225–241, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Roger W. Barnard) **99i:30018** 30C45
— (*with* Andrievskiĭ, Vladimir V.) Complex polynomials and maximal ranges: background and applications. (English summary) *Recent progress in inequalities (Niš*, 1996), 31–54, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Stephen M. Zemyan) **99i:30007** 30C10 (30A10, 41A10)
— (*with* Mocanu, Petru T.) On a majorization-subordination problem for univalent functions. (English summary) *J. Anal.* **6** (1998), 43–48. (Dov Aharonov) **99m:30023** 30C45 (30C55)
di Ruscio, David *see* **Di Ruscio, David**
Rusek, Kamil (*with* Kucharz, Wojciech) Approximation of smooth maps by real algebraic morphisms. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 456–463. (Digen Zhang) **99b:14062** 14P99 (14G27)
Rusev, Pet'r K. Complete systems of Gauss hypergeometric functions in spaces of holomorphic functions. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 23–32. (Summary) **99h:33008** 33C05 (30B60)
— Nikola Obreshkoff (1896–1963). *Transform methods & special functions, Varna* '96, 541–550, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 01A70
— Obreshkoff's generalization of Descartes rule. (English summary) *Transform methods & special functions, Varna* '96, 551–556, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 01A60
— On the asymptotics of the Weber-Hermite function in the complex plane. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 2, 151–166. (T. Erber) **99k:33009** 33C15 (33C45)
— Complete systems of Gegenbauer polynomials in spaces of holomorphic functions. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 1-2, 171–178. (K. Pan) **99k:33034** 33C45 (46E15)
— *see also* **Transform methods & special functions, 99i:00031**
Rush, David E. The conditions $\mathrm{Int}(R) \subseteq R_S[X]$ and $\mathrm{Int}(R_S) = \mathrm{Int}(R)_S$ for integer-valued polynomials. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 287–303. (Jean-Luc Chabert) **99a:13010** 13F20 (13F05)
Rushchits'kiĭ, Ya. Ya. (*with* Mīlovanov, T. S.) A modified Philips-Lorentz model for an economic system (a corporation of firms) with a stable capital stock. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 12, 36–40. 90A09
Rushton, J. Nelson (*with* Kannan, D.; Zhang, Qing[1]) Finite-dimensional exact filters for linear systems in mixed time. I. Filters. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 145–163. (Alexander I. Matasov) **99e:93080** 93E11 (60G35)
— (*with* Kannan, D.; Zhang, Qing[1]) Finite-dimensional exact filters for linear systems in mixed time. II. Parameter estimation. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 165–185. (Alexander I. Matasov) **99e:93081** 93E11 (60G35)
— (*with* Kannan, D.) Filtering for hybrid systems with Markovian and deterministic switching parameters. (English summary) *Stochastic Anal. Appl.* **17** (1999), *no.* 2, 191–217. (Fred Espen Benth) **99m:93103** 93E11 (60G35)
Rusinek, Jan p-analytic and p-quasi-analytic vectors. (English summary) *Studia Math.* **127** (1998), *no.* 3, 233–250. (Miroslav Lvovich Gorbachuk) **99a:47034** 47B25 (40A05, 40A20, 47A99, 47B37)
Rusinowitch, Michael (*with* Verma, Rakesh M.; Lugiez, Denis) Algorithms and reductions for rewriting problems. (English summary) *Rewriting techniques and applications (Tsukuba*, 1998), 166–180, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99g:68107** 68Q42
— (*with* Comon, Hubert; Narendran, Paliath; Nieuwenhuis, Robert) Decision problems in ordered rewriting. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN*, 1998), 276–286, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68070** 68Q42
Ruskai, Mary Beth (*with* Brummelhuis, Raymond) A simple one-dimensional model for atoms in strong magnetic fields. (English summary) *Advances in differential equations and mathematical physics (Atlanta, GA*, 1997), 109–119, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Giorgio Cattapan) **99b:81279** 81V45
— (*with* Petz, Dénes) Contraction of generalized relative entropy under stochastic mappings on matrices. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 83–89. (Matthew J. Donald) **99b:82015** 82B10 (46L60)
Ruskey, Frank A survey of Venn diagrams. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Dynamic Survey* 5, 10 *HTML documents* (*electronic*). (Theodore C. Enns) **99k:05001** 05–01 (05C30, 05C45)
— (*with* Bultena, Bette) An Eades-McKay algorithm for well-formed parentheses strings. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 5, 255–259. (Summary) **99h:68127** 68R05
— (*with* Proskurowski, Andrzej; Smith, Malcolm James) Analysis of algorithms for listing equivalence classes of k-ary strings. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 94–109 (*electronic*). (Peter B. Gibbons) **99b:68100** 68Q25 (05A15, 05C30, 68R05, 68R15)
Ruškuc, N. (*with* Howie, John M.; Higgins, Peter M.) On relative ranks of full transformation semigroups. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 733–748. (Inessa Levi) **99b:20099** 20M20
— (*with* Thomas, Richard M.) Syntactic and Rees indices of subsemigroups. (English summary) *J. Algebra* **205** (1998), *no.* 2, 435–450. (E. F. Robertson) **99g:20101** 20M05 (20F05)
— (*with* Linton, Stephen; Pfeiffer, Götz; Robertson, Edmund) Groups and actions in transformation semigroups. (English summary) *Math. Z.* **228** (1998), *no.* 3, 435–450. (K. S. S. Nambooripad) **99e:20078** 20M20 (20B40)
— A note on maximal group homomorphic images of completely simple semigroups. *Semigroup Forum* **58** (1999), *no.* 3, 466–467. 20M05
Russakovskiĭ, A. M. (*with* Logvinenko, Vladimir) Quasi-sampling sets for analytic functions in a cone. (English summary) *J. Approx. Theory* **96** (1999), *no.* 1, 33–45. (Antonio Bonilla-Ramirez) **99m:32003** 32A15 (41A30)
Russakovskiĭ, E. M. The matrix Sturm-Liouville problem with a spectral parameter in the boundary conditions. Algebraic and operator aspects. (Russian) *Tr. Mosk. Mat. Obs.* **57** (1996), 171–198; *translation in Trans. Moscow Math. Soc.* **1996**, 159–184 (1997). (Björn Textorius) **99b:34054** 34B24 (34L05, 47A56, 47B50, 47E05)
Russell, Alexander (*with* Klugerman, Michael; Sundaram, Ravi) On embedding complete graphs into hypercubes. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 289–293. (Summary) **99c:05054** 05C10
— (*with* Sundaram, Ravi) A note on the asymptotics and computational complexity of graph distinguishability. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 23, 7 *pp.* (*electronic*). (Summary) **99b:05136** 05C85 (68Q15)
— (*with* Kumar, S. Ravi; Sundaram, Ravi) Approximating Latin square extensions. (English summary) *Algorithmica* **24** (1999), *no.* 2, 128–138. (Summary) **99m:68088** 68Q25 (05B15)
Russell, Bertrand A. W. *see* **Ettari, Dario**
Russell, Craig L. (*with* Blennerhassett, P. J.; Stiles, P. J.) Strongly nonlinear vortices in magnetized ferrofluids. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998), *no.* 2, 146–170. (Summary) **99j:76143** 76W05 (76C05, 76E25)
Russell, David L. (*with* Gao, David Yang) An extended beam theory for smart materials applications. II. Static formation problems. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 1, 69–94. (Summary) **99a:73079** 73K05 (35Q72, 93C20)
— (*with* Huang, Guowei) Asymptotic properties of solutions of a KdV-Burgers equation with localized dissipation. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 38 *pp.* (*electronic*). (Vladislav G. Dubrovsky) **99m:35207** 35Q53
— Approximate boundary formability with volume actuation. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1243–1250. (Werner Horn) **99j:93010** 93B05 (73C99, 73K50, 93C20)
Russell, Jeffrey R. (*with* Engle, Robert F.) Autoregressive conditional duration: a new model for irregularly spaced transaction data. (English summary) *Econometrica* **66** (1998), *no.* 5, 1127–1162. 62M10 (62P20)
march-Russell, John *see* **March-Russell, John**
Russell, Lee (*with* Martin, Stuart) Defect 3 blocks of symmetric group algebras. *J. Algebra* **213** (1999), *no.* 1, 304–339. (Alexander Kleshchev) **99k:20028** 20C30 (20C20)
Russell, Matasha L. (*with* Mickens, Ronald E.; Brewley, Denise N.) A model of dieting. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 667–672 (*electronic*). (Summary) **99d:92004** 92B05 (34C99, 34D99)
Russell, Peter (*with* Koras, M.) Contractible threefolds and $\mathbf{C}^*$-actions on $\mathbf{C}^3$ (English summary) *J. Algebraic Geom.* **6** (1997), *no.* 4, 671–695. (M. Miyanishi) **99e:14057** 14L30 (14J30)
Russell, Raymond P. (*with* Lewis, John T.; Pfister, Charles E.; Sullivan, Wayne G.) Reconstruction sequences and equipartition measures: an examination of the asymptotic equipartition property. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1935–1947. (Robert M. Gray) **99b:94013** 94A15 (60G10)
Russell, Robert D. (*with* Sun, Wei Wei) Spline collocation differentiation matrices. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2274–2287. (Bruce A. Finlayson) **99a:65166** 65N35 (65F15)
— (*with* Cao, Wei-ming; Huang, Wei Zhang[1]) An r-adaptive finite element method based upon moving mesh PDEs. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 221–244. 65N30 (65N55)
— (*with* Huang, Wei Zhang[1]) Moving mesh strategy based on a gradient flow equation for two-dimensional problems. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 998–1015 (*electronic*). (Bruno Scheurer) **99m:65179** 65M50 (65N40)
Russell, Stuart (*with* Dearden, Richard; Friedman, Nir) Bayesian Q-learning. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 761–768, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T05 (62F15)
Russell, Thomas (*with* Farris, Frank) Integrability, Gorman systems, and the Lie bracket structure of the real line. (English summary) With an appendix by Robert L. Bryant. *J. Math. Econom.* **29** (1998), *no.* 2, 183–209. (V. V. Obukhovskiĭ) **99f:90029** 90A40 (34A26, 34A34)
Russinoff, David M. A mechanically checked proof of IEEE compliance of the floating point multiplication, division and square root algorithms of the AMD-K7™ processor. (English summary) Appendices A and B available to subscribers electronically (http://www.lms.ac.uk/jcm/1/lms98001/appendix-a/ and http://www.lms.ac.uk/jcm/1/lms98001/appendix-b/). *LMS J. Comput. Math.* **1** (1998), 148–200 (*electronic*). (J. Michel Muller) **99m:68015** 68M07 (65Y99, 68T15)
Russinov, I. K. Investigation of the stability of p-integral manifold of nonlinear system. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 9–16. (Rong Yuan) **99e:34070** 34D35 (34C30)
— Polystability of the flag of integral manifolds and Lyapunov matrix function. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 17–24. (Rong Yuan) **99e:34071** 34D35 (34C30)
Russo, A. *see* **Russo, Alessandro**
Russo, Alessandra (*with* D'Agostino, Marcello; Gabbay, Dov M.) Grafting modalities onto substructural implication systems. (English summary) *Studia Logica* **59** (1997), *no.* 1, 65–102. (Jerzy Kotas) **99a:03024** 03B45 (03B50)

Russo, Alessandro (*with* Brezzi, Franco; Franca, Leopoldo P.; Hughes, Thomas J. R.) Stabilization techniques and subgrid scales capturing. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 391–406, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (I. Norman Katz) **99f:65162** 65N30

— (*with* Brezzi, Franco; Franca, Leopoldo P.) Further considerations on residual-free bubbles for advective-diffusive equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 25–33. (Martin Stynes) **99j:65197** 65N30 (65N12, 76M10, 76Rxx)

— (*with* Brezzi, Franco; Marini, Donatella) Applications of the pseudo residual-free bubbles to the stabilization of convection-diffusion problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 51–63. (Martin Stynes) **99j:65198** 65N30 (65N12, 76M10, 76Rxx)

— (*with* Canuto, Claudio; van Kemenade, Vincent) Stabilized spectral methods for the Navier-Stokes equations: residual-free bubbles and preconditioning. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 65–83. (Summary) **99i:76107** 76M25 (76D05)

Russo, Barbara (*with* Ballico, Edoardo) On the rationality of the moduli schemes of vector bundles on curves. *Rend. Sem. Mat. Univ. Padova* **97** (1997), 23–27. (Montserrat Teixidor i Bigas) **99a:14014** 14D20 (14H60, 14M20)

— (*with* Ballico, Edoardo; Brambila Paz, Leticia) Exact sequence of stable vector bundles on projective curves. (English summary) *Math. Nachr.* **194** (1998), 5–11. (Atsushi Noma) **99j:14035** 14H60 (14D20)

— (*with* Ballico, Edoardo; Giovanetti, F.) On the projective geometry of strange plane curves invariant by a finite group. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 107–114. (Victor Zvonilov) **99e:14034** 14H45 (14H20)

Russo, Bernard (*with* Li, Song-Ying) Schatten class composition operators on weighted Bergman spaces of bounded symmetric domains. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 379–394. (Barbara D. MacCluer) **99h:47037** 47B38 (32A37, 47B10)

Russo, Elvira (*with* Crisci, Maria Rosaria; Vecchio, Antonia) Discrete-time waveform relaxation Volterra-Runge-Kutta methods: convergence analysis. (English summary) *J. Comput. Appl. Math.* **86** (1997), *no.* 2, 359–374. (Gustaf Gripenberg) **99c:65244** 65R20 (45D05, 45L10)

— (*with* Crisci, Maria Rosaria; Kolmanovskii, Vladimir B.; Vecchio, Antonia) Boundedness of discrete Volterra equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 106–130. (Sheldon P. Gordon) **99e:39010** 39A10 (34D10, 93D10)

— (*with* Crisci, Maria Rosaria; Vecchio, Antonia) Time point relaxation methods for Volterra integro-differential equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 9, 59–70. (Gustaf Gripenberg) **99j:65235** 65R20 (45L05)

— (*with* Crisci, Maria Rosaria; Kolmanovskii, Vladimir B.; Vecchio, Antonia) Stability of difference Volterra equations: direct Liapunov method and numerical procedure. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 77–97. (Fozi M. Dannan) **99k:39053** 39A11 (65R20)

Russo, F. *see* **Russo, Francesco**

Russo, Fabrizio FIRE operators for image processing. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 2, 265–275. 68U10

Russo, Francesco (*with* Albeverio, Sergio; Gielerak, R.) Constructive approach to the global Markov property in Euclidean quantum field theory. I. Construction of transition kernels. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 275–322. (A. L. Rebenko) **99c:60105** 60G60 (60H15, 81T08)

— (*with* Oberguggenberger, Michael) Nonlinear SPDEs: Colombeau solutions and pathwise limits. *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 319–332, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (From the introduction) **99i:35185** 35R60 (35D05, 46F10, 60G20, 60H15)

— (*with* Errami, Mohammed) Covariation de convolution de martingales. (English and French summaries) [Covariation of martingale convolution] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 601–606. (Dominique Lépingle) **99i:60096** 60G48

— (*with* Oberguggenberger, Michael) Nonlinear stochastic wave equations. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 71–83. (Summary) **99d:60071** 60H15 (35L99, 35R60, 46F10)

— (*with* Vallois, Pierre) Product of two multiple stochastic integrals with respect to a normal martingale. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 47–68. (Constantin Tudor) **99b:60071** 60H05 (60G44)

Russo, Francesco M. On lattice gas models for disordered systems. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 17–20. (Summary) **99a:82053** 82B44 (82B20)

Russo, Giovanni A remark on: "The parameter dependence of the coefficient in a model for constant pressure steam injection in soil" [Math. Models Methods Appl. Sci. **7** (1997), no. 5, 593–612; MR 98b:76070] by B. H. Gilding and S. Li. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1317–1321. (Summary) **99j:76126** 76S05 (76M25)

— (*with* Recchioni, Maria Cristina) Hamilton-based numerical methods for a fluid-membrane interaction in two and three dimensions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 861–892 (*electronic*). (From the text) **99a:76119** 76M25 (76C05)

— (*with* Mathew, T. P.; Polyakov, P. L.; Wang, Jun Ping[1]) Domain decomposition operator splittings for the solution of parabolic equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 912–932 (*electronic*). (Lutz Tobiska) **99j:65158** 65M55 (65F30)

— (*with* Degond, Pierre; Peyrard, Pierre-François; Villedieu, Philippe) Polynomial upwind schemes for hyperbolic systems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 6, 479–483. (Summary) **99k:65071** 65M06 (35L65)

Russo, Jorge G. (*with* Tseytlin, Arkady A.) Green-Schwarz superstring action in a curved magnetic Ramond-Ramond background. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 14, 11 *pp.* (*electronic*). (Marco Cavaglià) **99c:81208** 81T30 (83E30, 83E50)

— Construction of SL(2, **Z**)-invariant amplitudes in type IIB superstring theory. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 116–138. (Summary) **99i:81203** 81T30

— Einstein spaces in five and seven dimensions and non-supersymmetric gauge theories. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 284–290. (Summary) **99g:81182** 81T30 (53C25, 53C80, 81T13)

— (*with* Lombardo, Fernando C.; Mazzitelli, Francisco D.) Energy-momentum tensor for scalar fields coupled to the dilaton in two dimensions. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064007, 8 *pp.* 83C45 (83C47)

— (*with* Csáki, Csaba; Oz, Yaron; Terning, John) Large N QCD from rotating branes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065012, 12 *pp.* (Summary) **99k:81229** 81T30 (83E50)

Russo, Lucio ★ La rivoluzione dimenticata. (Italian) [The forgotten revolution] Il pensiero scientifico greco e la scienza moderna. [Greek scientific thought and modern science] With a preface by Marcello Cini. Campi del Sapere/Filosofia. [Fields of Knowledge/Philosophy] *Giangiacomo Feltrinelli Editore, Milan*, 1997. 384 *pp. ISBN* 88-07-10210-2 (Victor V. Pambuccian) **99g:01005** 01A20 (00A71, 01A45, 51–03, 70–03, 85–03)

— The definitions of fundamental geometric entities contained in Book I of Euclid's *Elements*. (English summary) *Arch. Hist. Exact Sci.* **52** (1998), *no.* 3, 195–219. (B. Artmann) **99d:01011** 01A20

Russo, M. G. (*with* Capobianco, M. R.; Mastroianni, Giuseppe) Pointwise and uniform approximation of the finite Hilbert transform. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 45–66, *Transilvania, Cluj-Napoca*, 1997. (B. P. Parashar) **99b:65168** 65R10 (41A05)

— (*with* Mastroianni, Giuseppe) Lagrange interpolation in some weighted uniform spaces. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 185–201. (Kewal Krishna Mathur) **99m:41004** 41A05

Russo, R. *see* **Russo, Rodolfo**

Russo, Ralph P. (*with* Appel, Martin J. B.) The maximum vertex degree of a graph on uniform points in $[0, 1]^d$. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 567–581. (David A. Grable) **99c:05174** 05C80 (60C05, 60D05)

— (*with* Appel, Martin J. B.) The minimum vertex degree of a graph on uniform points in $[0, 1]^d$. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 582–594. (David A. Grable) **99c:05175** 05C80 (60C05, 60D05)

— (*with* Rothmann, Mark D.) Some further results on the limiting proportion of types. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 639–646, *North-Holland, Amsterdam*, 1998. (Moshe Shaked) **99j:60134** 60K05 (60F05)

Russo, Remigio (*with* Maremonti, Paolo) On existence and uniqueness of classical solutions to the stationary Navier-Stokes equations and to the traction problem of linear elastostatics. *Classical problems in mechanics*, 171–251, *Quad. Mat.*, 1, *Aracne, Rome*, 1997. (Vladimir V. Shelukhin) **99e:35177** 35Q30 (73C02, 76D05)

— *see also* **Classical problems in mechanics, 99d:35001**

Russo, Rodolfo (*with* Billó, M.; Di Vecchia, P.; Frau, M.; Lerda, A.; Sciuto, S.) The Lorentz force between D0 and D6 branes in string and M(atrix) theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2977–2990. (Summary) **99h:81152** 81T30

Russu, A. G. On the cardinality of formula bases and the absence of residual finiteness with respect to completeness in propositional provability logic. (Russian. English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1992**, *no.* 2, 6–14. (Summary) **99m:03037** 03B45 (03F40)

Rust, Imke (*with* Scheja, Ortwin) A guide to explicit class field theory in global function fields. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 44–65, *World Sci. Publishing, River Edge, NJ*, 1997. (Bruno Anglès) **99j:11136** 11R58 (11G09, 11R37)

Rustem, Berç (*with* Tanyi, B. A.; Darlington, J.; Pantelides, C. C.) Robust optimisation of nonlinear systems under parametric uncertainty. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 43–48, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C15 (90C30)

— ★ Algorithms for nonlinear programming and multiple-objective decisions. (English summary) Wiley-Interscience Series in Systems and Optimization. *John Wiley & Sons, Ltd., Chichester*, 1998. *xvi*+304 *pp. ISBN* 0-471-97850-7 (Johannes Jahn) **99e:90082** 90C29 (90–02, 90C08)

— (*with* Pinto, R. L. V.) Solving a mixed-integer multiobjective bond portfolio model involving logical conditions. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 497–513. (*see* **99b:90006**) 90C29 (90A09)

— (*with* Nguyen, Quoc) An algorithm for the inequality-constrained discrete min-max problem. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 265–283 (*electronic*). (G. M. Ostrovsky) **99d:90094** 90C27 (65K05)

Rustichini, Aldo (*with* Modica, S.) Awareness and partitional informational structures [MR 95b:90187]. *Epistemic logic and the theory of games and decisions*, 151–168, *Theory Decis. Lib. Ser. C Game Theory Math. Program. Oper. Res.*, 20, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **99k:00028**) 90D35 (03B45, 90A05)

— Dynamic programming solution of incentive constrained problems. (English summary) *J. Econom. Theory* **78** (1998), *no.* 2, 329–354. (Alfred Müller) **99f:90176** 90C39 (90A70)

— Lagrange multipliers in incentive-constrained problems. (English summary) *J. Math. Econom.* **29** (1998), *no.* 4, 365–380. (Summary) **99d:90139** 90C48 (90A14)

Rusu, Dănuț Density-type topologies. *An. Ştiinț. Univ. Al. I. Cuza Iași Secț. I a Mat.* **41** (1995), *no.* 2, 269–285 (1997). (Władysław Wilczyński) **99c:26003** 26A21 (26A30, 28A05, 54A10)

Rusu, Irena Building counterexamples. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 213–227. (E. Olaru) **99c:05071** 05C15

Rusyn, B. P. Criteria for the construction of systems of optimal features in the recognition of images. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 2, 36–40, 153. 68T10

— (*with* Kachmar, V. S.; Shmoĭlov, V. I.) Algorithms for computing the values of continued fractions. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1436–1451. (M. Znojil) **99m:65026** 65D15 (11Y65, 30B70, 40A15)

Ruszczyński, Andrzej (*with* Pflug, Georg Ch.; Schultz, Rüdiger) On the Glivenko-Cantelli problem in stochastic programming: linear recourse and extensions. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 204–220. (Vlasta Kaňková) **99c:90084** 90C15 (60F99)

— (*with* Norkin, Vladimir I.; Pflug, Georg Ch.) A branch and bound method for stochastic global optimization. (English summary) *Math. Programming* **83** (1998), *no.* 3, *Ser. A*, 425–450. (C. Bergthaller) **99j:90055** 90C15

Ruszinkó, Miklós (*with* Füredi, Zoltán) An improved upper bound of the rate of Euclidean superimposed codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 799–802. (Summary) **99k:94069** 94B65

Ruta, Giuseppe C. (*with* dell'Isola, Francesco; Batra, R. C.) A second-order solution of Saint-Venant's problem for an elastic pretwisted bar using Signorini's perturbation method. (English summary) *J. Elasticity* **49** (1997/98), *no.* 2, 113–127. (Summary) **99e:73037** 73C50

— (*with* Andreaus, Ugo A.) A review of the problem of the shear centre(s). (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 6, 369–380. (Summary) **99j:73034** 73C99 (73K99)

Rutkas, A. G. (*with* Vlasenko, L. A.) Uniqueness and approximation theorems for a degenerate operator-differential equation. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 597–601; *translation in Math. Notes* **60** (1996), *no.* 3-4, 445–449 (1997). (Valentina Ivanivna Gorbachuk) **99c:34129** 34G10 (35G15)

Rutkauskas, S. Harnack's theorem for elliptic systems degenerate at the inner point. (Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 2, 260–264; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 2, 201–204 (1999). 35J45 (35B45)

Rutkevich, S. B. The Landau-Lifshitz equation describes the Ising spin correlation function in the free-fermion model. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6189–6207. (Summary) **99c:82020** 82B21

Rutkowski, M. Optimality of replication in the CRR model with transaction costs. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 1, 29–53. (Angelos Dassios) **99e:90015** 90A09 (60G42)

Rutman, Yaakov (*with* Dana, Itzhack; Feingold, Mario) Band Husimi distributions and the classical-quantum correspondence on the torus. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5655–5667. (Summary) **99g:81053** 81Q50

Ruts, Ida (*with* Rousseeuw, Peter J.) Constructing the bivariate Tukey median. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 827–839. 62G99 (62F35, 62H05)

Rutten, Jan (*with* Turi, Daniele) On the foundations of final coalgebra semantics: non-well-founded sets, partial orders, metric spaces. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 5, 481–540. (Summary) **99j:68079** 68Q55 (18B99)

— *see also* **Workshop: Coalgebraic Methods in Computer Science, 99e:68002**

Rutter, John W. (*with* Llerena, Irene) The group of homotopy self-equivalences of a union of $(n-1)$-connected $2n$-manifolds. (English summary) *Kodai Math. J.* **21** (1998), *no.* 3, 330–349. (Summary) **99j:55005** 55P10 (57N65)

Rüttimann, Gottfried T. (*with* Edwards, C. Martin) The lattice of weak*-closed inner ideals in a W^*-algebra. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 1, 131–166. (J. D. Maitland Wright) **99i:46053** 46L70 (46L10)

— (*with* Krause, M. Lynn) States on partial rings. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 609–621. (C. Martin Edwards) **99g:46101** 46L70 (17C50, 46L30, 81P10)

— (*with* Edwards, C. Martin) Exposed faces of the unit ball in a JBW*-triple. (English summary) *Math. Scand.* **82** (1998), *no.* 2, 287–304. (Yaakov Friedman) **99k:46124** 46L70 (46B20)

Ruttkay, Zsófia Constraint satisfaction—a survey. (English summary) *CWI Quarterly* **11** (1998), *no.* 2-3, 123–161. (Summary) **99j:68129** 68T20

Rutz, Solange F. Theorems of Birkhoff type in Finsler spaces. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 300–315. (Summary) **99k:83107** 83D05 (53B40, 53B50, 83-04)

Ruuth, Steven J. Efficient algorithms for diffusion-generated motion by mean curvature. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 603–625. (Summary) **99f:73088** 73V20 (73B30, 76M25, 80-08)

— A diffusion-generated approach to multiphase motion. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 166–192. (Summary) **99g:73115** 73V20 (65N99, 73B30, 80A22)

Ruyer, Dominique Extensions résolubles des corps de nombres algébriques (d'après K. Iwasawa). [Solvable extensions of algebraic number fields (after K. Iwasawa)] *Séminaire Bourbaki, Vol. 3, Exp. No.* 128, 305–314, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 11R32

Ruymgaart, Frits H. (*with* Dey, Aswini K.; Mair, B. A.) Cross-validation for parameter selection in inverse estimation problems. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 609–620. (Summary) **99b:62051** 62G05

— (*with* van Rooij, Arnoud C. M.) Convergence in the Hausdorff metric of estimators of irregular densities, using Fourier-Cesàro approximation. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 179–184. (Somnath Datta) **99m:62064** 62G07 (42A10, 62G20)

Ruys, Pieter H. M. (*with* Gilles, Robert P.; Haller, Hans H.) Semi-core equivalence. (English summary) *Econom. Theory* **11** (1998), *no.* 1, 101–127. (G. van der Laan) **99c:90029** 90A14 (90A80, 90D12)

Ruzhansky, Michael Analytic Fourier integral operators, Monge-Ampère equation and holomorphic factorization. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 1, 68–76. (Luigi Rodino) **99k:58178** 58G15 (35A20, 35S30, 43A99, 47G30)

Ruzhitskaya, E. A. An optimality criterion for a linear semi-infinite extremal problem. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 1, 44–47, 75. (Andrzej Nowakowski) **99d:49038** 49K15 (90C34)

— Stabilization of dynamical control systems that are bounded with respect to values and derivatives. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 2, 61–65, 80. (Summary) **99b:93040** 93D15 (58F40)

— (*with* Gabasov, R.) Robust stabilization of dynamical systems by bounded controls. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 778–786; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 721–728 (1999). (Summary) **99m:93090** 93D21

— Stabilization of dynamical systems under constantly acting perturbations by bounded inertial controls. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 3, 12–17, 78. 93D15 (49K15)

Růžička, Michael A note on steady flow of fluids with shear dependent viscosity. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3029–3039. (Adélia Sequeira) **99g:76005** 76A05 (35Q35, 76A10)

— (*with* Frehse, Jens) Regularity for steady solutions of the Navier-Stokes equations. (English summary) *Theory of the Navier-Stokes equations*, 159–178, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99e:35179** 35Q30 (76D05)

Růžička, Pavel (*with* Trlifaj, Jan; Žemlička, Jan) Criteria of steadiness. (English summary) *Abelian groups, module theory, and topology (Padua*, 1997), 359–371, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Riccardo Colpi) **99k:16005** 16D10 (03C60, 13E10)

Ružička, Peter (*with* Diks, Krzysztof; Dobrev, Stefan; Kranakis, Evangelos; Pelc, Andrzej) Broadcasting in unlabeled hypercubes with a linear number of messages. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 181–186. (Summary) **99b:68013** 68M10

— (*with* Dobrev, Stefan) On the communication complexity of strong time-optimal distributed algorithms. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 87–104. (Summary) **99f:68090** 68Q25

— *see also* **Mathematical foundations of computer science, 99d:68009**

Růžičková, M. (*with* Špániková, E.) Comparison theorems for differential equations of neutral type. (English summary) *Fasc. Math. No.* 28 (1998), 141–148. (Narahari Parhi) **99i:34103** 34K15 (34C10, 34K40)

Ruziev, M. Kh. A boundary value problem of Bitsadze-Samarskiĭ type in an unbounded domain for an equation of mixed type with singular coefficients. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1998), 80–90. 35M10

Ruzsa, Imre Z. Absolute convergence of an infinite convolution. *Period. Math. Hungar.* **33** (1996), *no.* 2, 115–120. (Wilfried Hazod) **99i:60016** 60B15 (43A05, 60B10, 60F05)

— (*with* Balog, Antal) On an additive property of stable sets. *Sieve methods, exponential sums, and their applications in number theory (Cardiff*, 1995), 55–63, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (G. Greaves) **99f:11014** 11B05 (11N25)

— The Brunn-Minkowski inequality and nonconvex sets. (English summary) *Geom. Dedicata* **67** (1997), *no.* 3, 337–348. (Daniel Hug) **99b:52016** 52A40 (28A75, 28C10, 52A38)

— (*with* Harcos, Gergely) A problem on zero subsums in abelian groups. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 31–34. (Vsevolod F. Lev) **99f:11025** 11B75 (11P99, 20K99)

— On the additive completion of primes. *Acta Arith.* **86** (1998), *no.* 3, 269–275. (Mihail N. Kolountzakis) **99j:11121** 11P32 (11B75)

— An infinite Sidon sequence. (English summary) *J. Number Theory* **68** (1998), *no.* 1, 63–71. (Georges Grekos) **99a:11014** 11B13

— (*with* Hegedüs, Pál; Piroska, Gábor) On the Schnirelmann densisty of sumsets. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 333–345. (Georges Grekos) **99k:11019** 11B05

— A small maximal Sidon set. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 55–58. (Mihail N. Kolountzakis) **99g:11026** 11B75 (05B10)

Ruzzo, Walter L. (*with* Chandra, Ashok K.; Raghavan, Prabhakar; Smolensky, Roman; Tiwari, Prasoon) The electrical resistance of a graph captures its commute and cover times. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 312–340. (Mark R. Jerrum) **99h:60140** 60J15 (05C90, 94C05)

— (*with* Barnes, Greg; Buss, Jonathan F.; Schieber, Baruch) A sublinear space, polynomial time algorithm for directed s-t connectivity. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1273–1282 (*electronic*). (Marek Kubale) **99e:68117** 68R10 (05C40, 05C85, 68Q25)

— (*with* Beame, Paul; Borodin, Allan; Raghavan, Prabhakar; Tompa, Martin) A time-space tradeoff for undirected graph traversal by walking automata. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1051–1072 (*electronic*). (From the text) **99m:68077** 68Q25 (05C40, 68Q05, 68R10)

Rvachev, V. L. (*with* Eremenko, S. Yu.) A survey of variants of the structural finite-element method. I. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 2, 1917–1922. 65N30 (73V05)

Ryabchenko, V. N. (*with* Bukov, V. N.; Maksimenko, I. M.) Control of multi-coupled systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 6, 97–110; *translation in Automat. Remote Control* **59** (1998), *no.* 6, *part* 1, 832–842. (Summary) **99k:93058** 93C35 (93B52, 93D15)

Ryaben'kiĭ, V. S. (*with* Veĭtsman, R. I.) Difference simulation problems. (Russian. Russian summary) *Tr. Mosk. Mat. Obs.* **58** (1997), 268–277; *translation in Trans. Moscow Math. Soc.* **1997**, 239–248. (Dumitru Acu) **99f:39024** 39A11

Ryabinin, A. A. On the zeros of the Fourier transforms on Cantor-Lebesgue measures. (Russian summary) *Anal. Math.* **22** (1996), *no.* 3, 213–228. (R. B. Burckel) **99f:42015** 42A38 (30C15)

— On the mean-periodic continuation problem. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 5, 597–599. (F. Móricz) **99m:42014** 42A75

Ryabinin, I. A. (*with* Parfenov, Yu. M.) Boolean differences for monotone truth functions. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 10, 193–204; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 2, 1712–1721 (1998). (S. Rudeanu) **99h:06007** 06E30 (94C10)

Ryabinin, O. V. A fast direct method for solving a variational-difference analogue of the Poisson equation on a triangulation with condensation toward a part of the boundary. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1478–1481; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1433–1436. (Summary) **99b:65184** 65T20

Ryabitskiĭ, E. A. (*with* Andreev, V. K.) On the stability of a spherical layer of a viscous fluid. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 1, 93–109. 76E99

Ryabko, B. Ya. (*with* Fionov, A. N.) A fast and efficient homophonic coding algorithm. (English summary) *Algorithms and computation (Osaka*, 1996), 427–435, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **99c:94034** 94A60

— Data compression by "an imaginary sliding window". (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 2, 22–30; *translation in Problems Inform. Transmission* **32** (1996), *no.* 2, 156–163. (Summary) **99b:94018** 94A29

— (*with* Fionov, A. N.) Homophonic coding with logarithmic memory size. (English summary) *Algorithms and computation (Singapore*, 1997), 253–262, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 94A60

Ryabogin, Dmitri (*with* Rubin, Boris; Shamir, Eliahu) Fractional integrals and wavelet transforms. (English summary) *Transform methods & special functions, Varna '96*, 377–385, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 26A33 (42C15)

Ryabov, P. E. (*with* Kharlamov, M. P.) Bifurcations of first integrals in the Kovalevskaya-Yehia case. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 25–40. (Igor Gashenenko) **99k:70005** 70E15 (58F05, 70H05)

Ryan, E. P. An integral invariance principle for differential inclusions with applications in adaptive control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 960–980 (*electronic*). (Vladimir G. Sragovich) **99b:93033** 93C40 (34A60, 34H05)

— (*with* Logemann, Hartmut; Townley, Stuart) Integral control of infinite-dimensional linear systems subject to input saturation. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1940–1961 (*electronic*). (R. F. Datko) **99f:93078** 93C20 (93D15)

— (*with* Logemann, Hartmut; Townley, Stuart) Integral control of linear systems with actuator nonlinearities: lower bounds for the maximal regulating gain. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1315–1319. 93B51 (93D15)

Ryan, John (*with* Franks, Edwin) Bounded monogenic functions on unbounded domains. (English summary) *Operator theory for complex and hypercomplex analysis (Mexico City, 1994)*, 71–79, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Wolfgang Sprössig) **99a:30043** 30G35 (35C99)

— The Fourier transform on the sphere. (English summary) *Quaternionic structures in mathematics and physics (Trieste, 1994)*, 247–258 (*electronic*), *Int. Sch. Adv. Stud. (SISSA), Trieste*, 1998. (Summary) **99h:42012** 42A38 (30D55, 30G25)

— Dirac operators, conformal transformations and aspects of classical harmonic analysis. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 67–82. (Tao Qian) **99h:42029** 42B20 (47G10, 58G03)

— A decomposition theorem in Clifford analysis. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 297–308. (Wolfgang Sprössig) **99f:30071** 30G35

Ryan, Joseph (*with* Branković, Ljiljana; Miller, Mirka; Plesník, Ján; Širáň, Jozef) Large graphs with small degree and diameter: a voltage assignment approach. (English summary) *Australas. J. Combin.* **18** (1998), 65–76. (Summary) **99h:05063** 05C35

— (*with* Miller, Mirka; Slamin; Smyth, William F.) Labelling wheels for minimum sum number. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 289–297. (Summary) **99j:05168** 05C78

— (*with* Miller, Mirka; Slamin) Integral sum numbers of cocktail party graphs and symmetric complete bipartite graphs. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 23–28. (Summary) **99k:05143** 05C78

— (*with* Sutton, Martin; Miller, Mirka; Slamin) Connected graphs which are not mod sum graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 287–293. (Summary) **99h:05104** 05C78 (05C40, 05C75)

Ryan, M. P., Jr. (*with* Obregón, O.) Quantum Planck size black hole states without a horizon. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 40, 3251–3258. (Orfeu Bertolami) **99m:83079** 83C45 (83C57)

Ryan, Øyvind On the limit distributions of random matrices with independent or free entries. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 595–626. (Dimitri Y. Shlyakhtenko) **99d:46085** 46L50

— On the construction of free random variables. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 291–322. (Dimitri Y. Shlyakhtenko) **99e:46088** 46L50

Ryan, Patrick J. (*with* Niebergall, Ross) Semi-parallel and semi-symmetric real hypersurfaces in complex space forms. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 227–234. (Jürgen Berndt) **99d:53058** 53C40

Ryan, R. *see* **Ryan, Robert D.**

Ryan, Raymond A. (*with* Boyd, Christopher) Bounded weak continuity of homogeneous polynomials at the origin. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 3, 211–218. (Richard M. Aron) **99k:46076** 46G20 (46E50)

— (*with* Turett, Barry) Geometry of spaces of polynomials. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 698–711. (Ignacio Zalduendo) **99g:46015** 46B28 (46E50, 46G20)

— (*with* Aron, Richard M.; Lindström, Mikael; Ruess, W. M.) Uniform factorization for compact sets of operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1119–1125. (Introduction) **99f:46025** 46B28 (46G20, 47A68)

Ryan, Robert D. *see* **Gasquet, C., 99h:42003**

Ryang, Shijong Membrane, four-brane and dual coordinates in the M(atrix) theory compactified on tori. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1463–1471. (Summary) **99b:81210** 81T30

— BPS spectrum and Nahm duality of Matrix theory compactifications. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 279–286. (Summary) **99f:81177** 81T30

— Covariant gauge fixing for super IIA D-branes. (English summary) *Phys. Lett. B* **451** (1999), *no.* 1-2, 46–52. (Summary) **99m:81260** 81T60 (81T30)

Ryazanov, Vladimir I. (*with* Gutlyanskiĭ, V. Ya.) On equivalent conditions for asymptotic conformity of quasiconformal curves. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 2, 153–154. (D. M. Israfilov) **99b:30026** 30C62

— (*with* Gutlyanskiĭ, V. Ya.; Martio, Olli; Vuorinen, Matti K.) On the asymptotic behavior of quasiconformal mappings in space. (English summary) *Quasiconformal mappings and analysis (Ann Arbor, MI, 1995)*, 159–180, *Springer, New York*, 1998. (Summary) **99i:30036** 30C65

— (*with* Potemkin, V. L.) On the noncompactness of David classes. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 191–204. (Gaven J. Martin) **99d:30026** 30C62

— (*with* Gutlyanskiĭ, V. Ya.; Martio, Olli; Vuorinen, Matti K.) On convergence theorems for space quasiregular mappings. (English summary) *Forum Math.* **10** (1998), *no.* 3, 353–375. (M. Yu. Vasil'chik) **99f:30035** 30C65

— (*with* Potemkin, V. L.) On mappings with measure restrictions on dilatation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 405–408, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 354–357. (Summary) **99c:30040** 30C62

— (*with* Gutlyanskiĭ, V. Ya.; Martio, Olli; Vuorinen, Matti K.) On local injectivity and asymptotic linearity of quasiregular mappings. (English summary) *Studia Math.* **128** (1998), *no.* 3, 243–271. (Susan G. Staples) **99c:30044** 30C65

Ryazantseva, I. P. On pseudo-solutions of monotone equations with an approximately specified operator. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 718–723; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 688–693. (Summary) **99d:65187** 65J15 (47H17)

Ryazhs'ka, V. A. Spectral properties of functions of commuting unbounded operators. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 2, 1930–1932. (F.-H. Vasilescu) **99k:47011** 47A13

Ryba, A. J. E. (*with* Griess, Robert L., Jr.) Finite simple groups which projectively embed in an exceptional Lie group are classified! (English summary) *Bull. Amer. Math. Soc. (N.S.)* **36** (1999), *no.* 1, 75–93. (D. Wales) **99g:20085** 20G20 (20C15, 20E32, 20G05)

Rybak, J. M. (*with* Leyendekkers, J. V.; Shannon, Anthony G.) The characteristics of primes and other integers within the modular ring Z_4 and in class $\bar{1}$. (English summary) *Notes Number Theory Discrete Math.* **4** (1998), *no.* 1, 1–17. (G. L. Alexanderson) **99g:11044** 11D85

— (*with* Leyendekkers, J. V.; Shannon, Anthony G.) The characteristics of primes and other integers within the modular ring Z_4 and in class 3. (English summary) *Notes Number Theory Discrete Math.* **4** (1998), *no.* 1, 18–37. (G. L. Alexanderson) **99g:11045** 11D85

Rybakov, V. V. (*with* Terziler, M.; Gencer, C.) Description of self-admissible quasi-characterizing inference rules. (English summary) *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 4, 164–171. 03B55 (03B45)

Rybakowski, Krzysztof P. (*with* Prizzi, Martino) Complicated dynamics of parabolic equations with simple gradient dependence. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3119–3130. (Björn Sandstede) **99a:35125** 35K55 (35B40)

— (*with* Prizzi, Martino) Some recent results on chaotic dynamics of parabolic equations. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 231–235. (*see* **99f:58002**) 35K60 (58F39)

Rybalov, Alexander (*with* Yager, Ronald R.) Understanding the median as a fusion operator. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 3, 239–263. (Summary) **99k:68184** 68T27 (68T30)

Rybárik, Ján (*with* Mesiar, Radko) Entropy of fuzzy partitions: a general model. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 73–79. 28E10

Rybáriková, Eva (*with* Chovanec, Ferdinand) Ideals in D-posets of fuzzy sets. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 191–199. (R. Gylys) **99h:03039** 03G12 (03G20, 06D30, 81P10)

— (*with* Chovanec, Ferdinand) Ideals and filters in D-posets. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 17–22. (Miklós Bóna) **99i:06001** 06A06 (81P10)

Rybicki, Sławomir On bifurcation from infinity for S^1-equivariant potential operators. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 343–361. (Norman Dancer) **99b:58053** 58E09 (47H11, 47H15)

— On periodic solutions of autonomous Hamiltonian systems via degree for S^1-equivariant gradient maps. *Nonlinear Anal.* **34** (1998), *no.* 4, 537–569. (Vittorio Coti Zelati) **99h:58032** 58E05 (34C25, 58E40, 58F22, 70H05)

— (*with* Maciejewski, Andrzej J.) Global bifurcations of periodic solutions of Hénon-Heiles system via degree for S^1-equivariant orthogonal maps. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 8, 1125–1146. (Maciej Błaszak) **99k:58128** 58F14 (34C23, 34C25, 47H11, 58C99, 58F05, 58F22)

Rybicki, Tomasz Remarks on automorphisms of Nambu-Poisson structures. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 73–91 (1998). (Raúl Ibáñez) **99h:58068** 58F05 (53C15, 70H05)

— On automorphisms of a Poisson manifold. (English summary) *Soochow J. Math.* **23** (1997), *no.* 3, 329–337. (C. J. Atkin) **99g:58016** 58D05 (17B66, 22E65, 58F05)

— A note on generalized flag structures. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 89–97. (Summary) **99b:57057** 57R30

— On the group of diffeomorphisms preserving a submanifold. *Demonstratio Math.* **31** (1998), *no.* 1, 103–110. (Janusz Grabowski) **99c:58021** 58D05 (22E65)

— On the group of Poisson diffeomorphisms of the torus. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 1, 103–129. (Janusz Grabowski) **99i:58021** 58D05 (22E65, 57S05, 58F05)

Rybin, Andrei (*with* Kastelewicz, Georg; Timonen, Jussi; Bogolyubov, N. M.) The su(1, 1) Tavis-Cummings model. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4705–4723. (K. Wódkiewicz) **99e:81277** 81V80 (81R30)

Rybiński, Longin E. (*with* Michta, Mariusz) Selections of set-valued stochastic processes. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 73–78. (Christian Hess) **99h:60038** 60E99 (28B20, 60D05)

Rybka, Piotr Crystalline version of the Stefan problem with Gibbs-Thompson law and kinetic undercooling. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 5, 687–713. (Toyohiko Aiki) **99k:35199** 35R35 (35K99, 73B30, 73B40, 80A22)

— (*with* Hoffmann, Karl-Heinz[1]) Convergence of solutions to the equation of quasi-static approximation of viscoelasticity with capillarity. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 61–81. (Ming Mei) **99h:35146** 35L75 (35Q72, 73F15)

Rybkin, A. V. On a trace formula of the Buslaev-Faddeev type for a long-range potential. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1334–1343. (Mayumi Ohmiya) **99k:34188** 34L40 (34L25, 47A55, 47E05, 81Q10)

Rybytska, Olga *see* **Ribits'ka, O. M.**

Rychagov, V. G. (*with* Samarskiĭ, Aleksandr Andreevich; Mazhukin, V. I.; Matus, Petr P.; Smurov, I.) Invariant difference schemes for parabolic equations with transformations of independent variables. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 93–110. (Meng Zhao Qin) **99m:65166** 65M06 (65M12, 65M15)

Rychenkova, P. (*with* Gibbons, Gary W.) Cones, tri-Sasakian structures and superconformal invariance. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 138–142. (Roger Bielawski) **99m:53089** 53C25 (83C99)

Rychert, Joshua T. *see* **Maximum entropy and Bayesian methods, 99k:62005**

Rychkov, V. S. On weighted estimates for a class of Volterra integral operators. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 455–457. (Luboš Pick) **99g:47116** 47G10 (45P05, 46E35, 47B38)

— Splitting of Volterra integral operators with degenerate kernels. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 267–285. (Luboš Pick) **99g:47117** 47G10 (45P05, 46E35, 47B38)

Rychlewski, Jan (*with* Blinowski, Andrzej) Pure shears in the mechanics of materials. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 4, 471–503. (Summary) **99h:73014** 73B99 (73C99)

Rychlik, Marek (*with* Torgerson, Mark) Algebraic non-integrability of the Cohen map. (English summary) *New York J. Math.* **4** (1998), 57–74 (*electronic*). (Dov Aharonov) **99c:39025** 39B12

Rychlik, Tomasz (*with* Anastassiou, George A.) Moment problems on random rounding rules subject to two moment conditions. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 9–19. (Summary) **99b:60026** 60E15 (44A60)

— (*with* Gajek, Lesław) Projection method for moment bounds on order statistics from restricted families. II. Independent case. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 2, 156–182. (Erich Haeusler) **99h:62065** 62G30

Rychlik, Zdzisław (*with* Kowalski, Piotr) On the weak law of large numbers for randomly indexed partial sums for arrays. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 109–119. (Allan Gut) **99e:60063** 60F05

— (*with* Kowalski, Piotr) Limit theorems for maximal random sums. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 13–29, *North-Holland, Amsterdam*, 1998. (Lajos Horváth) **99j:60033** 60F05 (60B10)

Rydalevskaya, M. A. (*with* Malozëmov, V. N.; Omel'chenko, Aleksandr Vladimirovich) On entropy maximization under linear constraints. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1509–1513. (Summary) **99k:82030** 82B30 (90C90)

Rydberg, Tina Hviid ★ Some modelling results in the area of interplay between statistics, mathematical finance, insurance and econometrics. (English summary) Memoirs, 14. *University of Aarhus, Department of Theoretical Statistics, Aarhus*, 1998. *xxii*+176 *pp.* (Editors) **99g:62001** 62–01 (62P20, 90A09)

— (*with* Bladt, Mogens) An actuarial approach to option pricing under the physical measure and without market assumptions. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 65–73. (Summary) **99b:90020** 90A09

Rydén, Tobias (*with* Bickel, Peter J.; Ritov, Ya'acov) Asymptotic normality of the maximum-likelihood estimator for general hidden Markov models. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1614–1635. (Tobias Rydén) **99j:62120** 62M09 (62F12)

— (*with* Titterington, D. Michael) Computational Bayesian analysis of hidden Markov models. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 2, 194–211. 62F15

Ryder, Lewis H. (*with* Varjú, Katalin) The effect of Schwarzschild field on spin 1/2 particles compared to the effect of a uniformly accelerating frame. (English summary) *Phys. Lett. A* **250** (1998), *no.* 4-6, 263–269. (Summary) **99i:81162** 81T20

Ryff, L. C. Neither particle-like nor wave-like behaviour of a photon. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 203–207, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05

Rygaard-Hjalsted, Camilla (*with* Mosegaard, Klaus) Probabilistic analysis of implicit inverse problems. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 573–583. (Summary) **99m:86016** 86A22 (86A60)

Ryhming, Inge L. *see* **Computation of three-dimensional complex flows, 99c:76064**

Ryjáček, Zdeněk (*with* Favaron, Odile; Flandrin, Evelyne) Factor-criticality and matching extension in DCT-graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 271–278. (Summary) **99b:05110** 05C70

— (*with* Schiermeyer, Ingo) 2-factors and Hamiltonicity. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 171–177. (Summary) **99g:05146** 05C70 (05C45)

— (*with* Brousek, Jan; Favaron, Odile) Forbidden subgraphs, Hamiltonicity and closure in claw-free graphs. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 29–50. (Ralph Faudree) **99m:05099** 05C45 (05C38)

— (*with* Brousek, Jan; Schiermeyer, Ingo) Forbidden subgraphs, stability and Hamiltonicity. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 143–155. (Summary) **99j:05158** 05C75 (05C45)

Rykhlov, V. (*with* Freiling, Gerhard) Pointwise convergence of eigenfunction expansions for a general class of regular eigenvalue problems. (English summary) *Methods Funct. Anal. Topology* **3** (1997), *no.* 2, 27–45. (Christiane Tretter) **99d:34160** 34L10 (34B27)

Rykken, E. (*with* Franks, J.) Pseudo-Anosov homeomorphisms with quadratic expansion. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2183–2192. (Romeo F. Thomas) **99j:58151** 58F15

Rykov, V. A. (*with* Larina, I. N.) A numerical method for computing axisymmetric flows of a rarefied gas. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1391–1403. (Summary) **99k:76102** 76M20 (65M55, 76P05)

— (*with* Larina, I. N.) A method for computing axisymmetric rotational flows of a rarefied gas at small Knudsen numbers. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1936–1942; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1859–1865. (Summary) **99i:76098** 76M20 (76N99, 76P05, 76U05)

Ryl, Isabelle (*with* Roos, Yves; Clerbout, Mireille) Partial characterization of synchronization languages. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 209–218, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q10 (68Q55)

Rylands, L. J. (*with* Taylor, D. E.) Matrix generators for the orthogonal groups. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 3, 351–360. (A. G. Earnest) **99d:20078** 20G40

Rylko, Natalia (*with* Żebrowski, Andrzej) Boundary value problems for the Laplace equation, the Poincare series and the method of Schwarz. *Shup. Pr. Mat. Przyr. Fiz. A* **11** (1997), 229–239. 35J05 (35C10)

Ryll-Nardzewski, C. (*with* Morayne, Michał) Errata: "Superpositions with differences of semicontinuous functions" [Houston J. Math. **22** (1996), no. 4, 719–735; MR 98g:26004]. *Houston J. Math.* **23** (1997), *no.* 2, 384. 26A15 (26A16, 26A21, 54C08)

Rylov, A. I. Monotonicity of solutions of homogeneous elliptic systems, the transformation of nonhomogeneous systems into homogeneous systems, and related problems in hydromechanics. (Russian) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 182–183, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (*see* **99a:00019**) 76B99 (35Q35)

— On the monotonicity properties of some axisymmetric subsonic flows. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 167–171; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 165–168. (Summary) **99b:76074** 76N15 (76G25)

— On new properties of the Busemann ellipse. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 947–951; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 917–920 (1998). (Summary) **99c:76061** 76J20

Rylov, Yu. A. Dynamics and interpretation in quantum theory. (English and French summaries) *Ann. Fond. Louis de Broglie* **22** (1997), *no.* 3, 303–332. (Dan Radu Grigore) **99g:81120** 81S99 (81P99)

— Quantum mechanics as a dynamic construction. (English summary) *Found. Phys.* **28** (1998), *no.* 2, 245–272. (Valery P. Karassiov) **99i:81134** 81S99 (81P05)

— Spin and wave function as attributes of ideal fluid. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 256–278. (Hiroshi Kuratsuji) **99j:76149** 76Y05 (76A99)

Rymarz, C. Barotropic instabilities of the type of self-organization in zonal westerly flow. (English summary) *J. Tech. Phys.* **36** (1995), *no.* 4, 501–516. (Summary) **99c:76049** 76E20 (86A10)

Rynio, R. (*with* Okniński, A.) Symmetry breaking and fractal dependence on initial conditions in dynamical systems: ordinary differential equations of thermal convection. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1723–1732. 76E15 (34D45)

Rynne, Bryan P. (*with* Bari, Rehana) The structure of Rabinowitz' global bifurcating continua for problems with weak nonlinearities. (English summary) *Mathematika* **44** (1997), *no.* 2, 419–433. (Norman Dancer) **99a:58036** 58E07 (35B32, 35J65, 47H15, 47N20)

— Hausdorff dimension and generalized simultaneous Diophantine approximation. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 4, 365–376. (Henrietta Dickinson) **99c:11093** 11J83 (11K55, 28A78)

— The fractal dimension of quasi-periodic orbits. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1467–1471. (Henrietta Dickinson) **99k:58161** 58F27 (28A80, 58F11)

— Bifurcation from zero or infinity in Sturm-Liouville problems which are not linearizable. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 141–156. (Miguel Ramos) **99m:34044** 34B15 (34A47, 34C10, 47H15)

— The Hausdorff dimension of sets arising from Diophantine approximation with a general error function. (English summary) *J. Number Theory* **71** (1998), *no.* 2, 166–171. (R. C. Baker) **99f:11090** 11J83

— The structure of Rabinowitz' global bifurcating continua for generic quasilinear elliptic equations. *Nonlinear Anal.* **32** (1998), *no.* 2, 167–181. (Jolanta Przybycin) **99a:35095** 35J65 (35B32, 58E07)

— Global bifurcation in generic systems of nonlinear Sturm-Liouville problems. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 155–165. (Jolanta Przybycin) **99f:34030** 34B15 (34A47, 34L30)

Ryoo, Cheon Seoung A computational verification method of solution with uniqueness for obstacle problems. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 133–144. (Bernd Luderer) **99d:65198** 65K10 (49J40)

— (*with* Nakao, Mitsuhiro T.) Numerical verification of solutions for variational inequalities. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 305–320. (Joakim Petersson) **99m:65219** 65N30 (49J40, 65K10)

— (*with* Nakao, Mitsuhiro T.) Numerical verifications of solutions for variational inequalities using Newton-like method. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 27–35. (*see* **99h:65005**) 49J40 (65J15)

Ryshkov, S. S. On the structure of a primitive parallelohedron and Voronoĭ's last problem. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 161–162; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 403–405. (E. Hertel) **99k:52020** 52B12

Ryssel, E. (*with* Brunn, P. O.) Steady non-swirling axisymmetric flows: flow classification and rheological consequences. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 6, 349–357. (Summary) **99i:76010** 76A99 (76A05)

Rystsov, I. K. (*with* Rystsova, A. Yu.) Construction of Gröbner bases for the investigation of systems of polynomial equations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 5, 134–141, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 718–723 (1998). 65H10 (13P10)

Rystsova, A. Yu. (*with* Rystsov, I. K.) Construction of Gröbner bases for the investigation of systems of polynomial equations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 5, 134–141, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 718–723 (1998). 65H10 (13P10)

Rytchkov, O. A. (*with* Aref'eva, Irina Ya.; Medvedev, P. B.; Volovich, I. V.) Chaos in D0 brane dynamics. (English summary) *Quantum probability* (*Gdańsk*, 1997), 41–51, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Christophe Grojean) **99j:81177** 81T60 (58F40, 81Q60, 81T30)

— (*with* Aref'eva, Irina Ya.; Ivanov, M. G.) Properties of intersecting p-branes in various dimensions. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 25–41, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81214** 81T30 (83E30)

— (*with* Aref'eva, Irina Ya.; Ivanov, M. G.; Volovich, I. V.) Non-extremal localized branes and vacuum solutions in M-theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 2923–2936. (C. Gauthier) **99m:81165** 81T30

— (*with* Gal'tsov, D. V.) Generating branes via sigma models. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 122001, 13 *pp.* (Summary) **99m:81186** 81T30 (83E30)

— (*with* Koshelev, Alexey S.) Note on the massive Rarita-Schwinger field in the AdS/CFT correspondence. (English summary) *Phys. Lett. B* **450** (1999), *no.* 4, 368–376. (Summary) **99m:83190** 83E30 (81T30, 81T40, 83E50)

Rytter, Wojciech (*with* Karpinski, Marek; Shinohara, Ayumi) An efficient pattern-matching algorithm for strings with short descriptions. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 2, 172–186. (Summary) **99f:68080** 68Q20 (68Q25)

— (*with* Bradford, Phillip G.; Golin, Mordecai J.; Larmore, Lawrence L.) Optimal prefix-free codes for unequal letter costs: dynamic programming with the Monge property. (English summary) *Algorithms—ESA '98* (*Venice*), 43–54, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 94A45 (68P10, 68Q25)

— (*with* Karpinski, Marek) On a sublinear time parallel construction of optimal binary search trees. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 387–397. (Summary) **99h:68035** 68P05

— (*with* Crochemore, Maxime; Gąsieniec, Leszek; Hariharan, Ramesh; Muthukrishnan, S.) A constant time optimal parallel algorithm for two-dimensional pattern matching. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 668–681 (*electronic*). (Katsushi Inoue) **99g:68092** 68Q25 (68Q22)

— (*with* Larmore, Lawrence L.) Almost optimal sublinear time parallel recognition algorithms for three subclasses of context free languages. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 189–201. (Maxime Crochemore) **99f:68120** 68Q45 (68Q22, 68Q52)

Ryu, Bo (*with* Lowen, Steven B.) Point process models for self-similar network traffic, with applications. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 735–761. (Summary) **99a:60050** 60G55 (60G18, 90B12)

Ryu, Dong Neun (*with* Lee, Dong-Soo[1]) Profinite topological BCK-algebra. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 575–582. (Summary) **99h:54053** 54H10 (06F35, 22A30)

Ryu, Hang K. (*with* Slottje, Daniel J.) ★ Measuring trends in U. S. income inequality. Theory and applications. Lecture Notes in Economics and Mathematical Systems, 459. *Springer-Verlag, Berlin*, 1998. *xii+195 pp. ISBN* 3-540-64229-3 (From the foreword) **99g:62156** 62P20 (62–02)

Ryu, Hyun Sook (*with* Gu, Yoon Hoe) Attractivity and asymptotic stability in dynamical polysystems. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **3** (1996), *no.* 2, 117–122. 54H20

— (*with* Goo, Yoon Hoe) A note on the existence of a Lyapunov function. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 143–147. (Richard C. Churchill) **99k:34096** 34C35 (34D05, 54H20, 58F25)

Ryu, Jai Yon (*with* Hu, G. Y.; O'Connell, R. F.) Analytical solution of the generalized discrete Poisson equation. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9279–9282. (Summary) **99h:65077** 65F30 (65N30)

Ryu, Kun Sik (*with* Kim, Bong Jin) An operator valued function space integral of functionals involving double integrals. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 293–303. (V. A. Romanov) **99g:28028** 28C20 (46G12)

Ryu, W. (*with* Kim, D. W.; Jun, K. P.; Park, Byeong U.; Bae, H. D.) Waiting times in polling systems with Markov-modulated Poisson process arrival. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 355–363. (Summary) **99c:60204** 60K25

Ryż, Alicja (*with* Misiak, Aleksander) Generalized φ-functions. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 189–194. (Summary) **99a:46052** 46E30 (26D15)

— (*with* Misiak, Aleksander) φ-functions of N variables. *Demonstratio Math.* **31** (1998), *no.* 2, 387–393. (J. Musielak) **99i:26015** 26B25 (46E30)

Ryzhak, E. I. Estimates for the frequencies of natural oscillations of homogeneous anisotropic bodies with a fixed boundary. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 679–691; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 659–669. (Igor Yu. Chudinovich) **99g:73044** 73D30

Ryzhik, I. N. (*with* Skiba, A. N.) On metanilpotent local formations. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 104–108, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20D10

Ryzhik, Leonid (*with* Papanicolaou, George C.; Keller, Joseph B.) Transport equations for waves in a half space. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1869–1910. (Vadim D. Kryakvin) **99e:35229** 35Q99 (35A25, 76Q05)

— (*with* Fannjiang, Albert; Papanicolaou, George C.) Evolution of trajectory correlations in steady random flows. (English summary) *Recent advances in partial differential equations, Venice* 1996, 105–130, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (W. A. Woyczyński) **99e:76058** 76F05 (60F05, 76M35)

— (*with* Papanicolaou, George C.) Waves and transport. *Hyperbolic equations and frequency interactions* (*Park City, UT*, 1995), 305–382, *IAS/Park City Math. Ser.*, 5, *Amer. Math. Soc., Providence, RI*, 1999. (Jean-François Clouet) **99k:73063** 73D70 (35Q72, 76Q05, 78A40, 86A15)

Ryzhik, V. N. On formations with the Vedernikov condition. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 137–140, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20D10

— (*with* Skiba, A. N.) Factorizations of p-local formations. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 76–89, *Gomel. Gos. Univ., Gomel'*, 1997. (İ. Ya. Subbotin) **99i:20046** 20F17

— On p-local formations with systems of hereditary subformations. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 143–150, *Gomel. Gos. Univ., Gomel'*, 1997. (Summary) **99h:20032** 20D10

Ryzhikov, G. A. (*with* Troyan, V. N.) Diffraction tomography: construction and interpretation of tomographic functionals. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **218** (1994), *Mat. Vopr. Teor. Rasprostr. Voln.* 24, 176–196, 225; *translation in J. Math. Sci.* (*New York*) **86** (1997), *no.* 3, 2773–2786. (Valeri G. Yakhno) **99m:73032** 73D50 (35R30, 44A12, 73D25, 86A15, 86A22)

Ryzhikov, V. V. (*with* Goodson, Geoffrey R.) Conjugations, joinings, and direct products of locally rank one dynamical systems. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 3, 321–341. (Cesar E. Silva) **99b:28016** 28D05

— Wreath products of tensor products, and a stochastic centralizer of dynamical systems. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 2, 67–94; *translation in Sb. Math.* **188** (1997), *no.* 2, 237–263. (S. I. Bezuglyĭ) **99e:28029** 28D05 (58F11)

— On the asymmetry of cascades. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 154–157. (Paweł Gora) **99f:58131** 58F11 (28D05)

— Transformations having homogeneous spectra. (English summary) *J. Dynam. Control Systems* **5** (1999), *no.* 1, 145–148. (Summary) **99m:28038** 28D05 (47A35)

Ryzhkov, A. A. (*with* Chernousov, Vladimir I.) On the classification of maximal arithmetic subgroups of simply connected groups. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 9, 127–156; *translation in Sb. Math.* **188** (1997), *no.* 9, 1385–1413. (B. Sury) **99f:22018** 22E40 (11E57, 20H05)

Ryzhov, Oleg S. (*with* Terent'ev, E. D.) Streamwise absolute instability of a three-dimensional boundary layer at high Reynolds numbers. (English summary) *J. Fluid Mech.* **373** (1998), 111–153. (Sharon O. Seddougui) **99k:76065** 76E99 (76D10, 76N20)

Ryzhov, V. A. On a singular and an absolutely continuous subspace of a nonselfadjoint operator whose characteristic function has boundary values on the real axis. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 3, 83–87; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 3, 208–212 (1999). (Alexei V. Rybkin) **99k:47007** 47A10 (47A45)

Ryzhov, V. N. (*with* Irz, D. Yu.; Tareeva, E. E.) Statistical mechanics of a vortex system in a thin superconducting film in a ring approximation. II. Allowance for the finite thickness of the film and the bending of vortices. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 337–347; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 1035–1042 (1996). (Tatiana Allen) **99f:82062** 82D55

— (*with* Irz, D. Yu.; Tareeva, E. E.) Statistical mechanics of a vortex system in a thin superconducting film in a ring approximation. III. Allowance for the finite size of the vortex core. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **107** (1996), *no.* 1, 100–114; *translation in Theoret. and Math. Phys.* **107** (1996), *no.* 1, 499–510. (Tatiana Allen) **99f:82063** 82D55

Ryznar, Michał (*with* LePage, Raoul; Podgórski, Krzysztof; White, Alex) Bootstrapping signs and permutations for regression with heavy-tailed errors: a robust resampling. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 339–358, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62G09

— (*with* Żak, Tomasz) Uniform upper bound for a stable measure of a small ball. (English summary) *Electron. Comm. Probab.* **3** (1998), 75–78 (*electronic*). (Aleksandr Koldobsky) **99g:60034** 60E07 (46B20, 46G12)

Rzaev, R. M. A multidimensional singular integral operator in the spaces $BMO_{\varphi,\beta}$ and $H_{\varphi,\beta}$. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 52–60; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 3, 51–59. (Bi Yun Yao) **99a:42008** 42B20 (47G10)

Rzedowski-Calderón, Martha (*with* Villa-Salvador, Gabriel Daniel) Solitary fields of low degree over **Q**. (English summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 179–192, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Helmut Völklein) **99k:11181** 11R42

Rzepka, Beata (*with* Banaś, Józef) Functions related to convexity and smoothness of normed spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 395–424. (Summary) **99c:46007** 46B20

–S–

de Sá, Eduardo Marques ★ Interlacing problems for invariant factors. (English summary) Textos de Matemática. Série B [Texts in Mathematics. Series B], 2. *Universidade de Coimbra, Departamento de Matemática, Coimbra*, 1998. *iv*+44 *pp.* (Ion Zaballa) **99h:15001** 15–02 (13F10, 15A18, 15A33)

Sá, Paulo M. (*with* Lemos, José P. S.) Stationary black holes in a generalized three-dimensional theory of gravity. (English summary) *Phys. Lett. B* **423** (1998), *no.* 1-2, 49–53. (Michael O. Katanaev) **99c:83059** 83C57

Saa, Alberto (*with* Schiffer, Marcelo) The gravitational Vavilov-Cherenkov effect. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1557–1564. (Summary) **99c:83060** 83C57

— Comment on: "Theorem for nonrotating singularity-free universes" [Phys. Rev. Lett. **80** (1998), no. 4, 654–655; MR 98j:83110] by A. K. Raychaudhuri. *Phys. Rev. Lett.* **81** (1998), *no.* 22, 5031. 83F05

— *see also* **Raychaudhuri, A. K.**

Saab, Elias (*with* Randrianantoanina, Narcisse) The near Radon-Nikodým property in Lebesgue-Bochner function spaces. *Illinois J. Math.* **42** (1998), *no.* 1, 40–57. (K. Musiał) **99e:46050** 46E40 (46B22, 46G10)

Saab, Paulette (*with* Robdera, Mangatiana A.) Convolution operators associated with vector measures. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 3, 367–384. (Françoise Lust-Piquard) **99k:47068** 47B38 (43A20, 46E40, 47B10)

Saad, Mazen (*with* Zhang, Huilong) Adaptive mesh for two-phase flow in porous media. (English summary) *Recent advances in problems of flow and transport in porous media (Marrakech*, 1996), 179–193, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 76M25 (76S05, 76T05)

Saad, Nasser (*with* Hall, Richard L.; von Keviczky, Attila B.) Matrix elements for a generalized spiked harmonic oscillator. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6345–6352. (Luciano Canton) **99m:81043** 81Q05 (34L40)

— (*with* Hall, Richard L.) Eigenvalue bounds for a class of singular potentials in N dimensions. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 133–138. 81Q05

Saad, Youcef (*with* Chow, Edmond Ten-Fu) Approximate inverse techniques for block-partitioned matrices. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1657–1675. (A. Barraud) **99c:65086** 65F50 (65F10)

— Preconditioned Krylov subspace methods. (English summary) *Algorithms for large scale linear algebraic systems (Gran Canaria*, 1996), 131–149, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F35

— (*with* Sosonkina, Maria; Zhang, Jun^2) Domain decomposition and multi-level type techniques for general sparse linear systems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 174–190, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65057** 65F10 (65N22, 65N55)

— (*with* Stathopoulos, Andreas) Restarting techniques for the (Jacobi-)Davidson symmetric eigenvalue methods. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 163–181 (*electronic*). (Summary) **99j:65062** 65F15 (65F10)

— (*with* Wu, Kesheng; Stathopoulos, Andreas) Inexact Newton preconditioning techniques for large symmetric eigenvalue problems. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 202–214 (*electronic*). (Summary) **99i:65042** 65F15

— (*with* Castillo, Paul E.) Preconditioning the matrix exponential operator with applications. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 275–302. (Summary) **99g:65080** 65L06

— (*with* Stathopoulos, Andreas; Wu, Kesheng) Dynamic thick restarting of the Davidson, and the implicitly restarted Arnoldi methods. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 227–245 (*electronic*). (C. Ilioi) **99d:65135** 65F30

— (*with* Chow, Edmond Ten-Fu) Approximate inverse preconditioners via sparse-sparse iterations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 995–1023 (*electronic*). (Derek S. Henderson) **99d:65104** 65F10 (65F50)

— (*with* Chan, Tony F. C.; Chow, Edmond Ten-Fu; Yeung, M. C.) Preserving symmetry in preconditioned Krylov subspace methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 568–581 (*electronic*). (Summary) **99d:65102** 65F10 (65F50)

— *see also* **Parallel algorithms for irregularly structured problems, 99g:65007**

Saada, E. (*with* Kipnis, C.) Un lien entre réseaux de neurones et systèmes de particules: un modèle de rétinotopie. (French summary) [A connection between neural networks and particle systems: a model of retinotopy] *Séminaire de Probabilités, XXX*, 55–67, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Dominikus Noll) **99h:92013** 92C50 (92C30)

Saadi, A. (*with* Pichon, L.) Analysis of 3D scattering problems using finite elements and exact boundary conditions. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford*, 1995), 113–121, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (78A45)

Saadoune, M. A new extension of Komlós' theorem in infinite dimensions. Application: weak compactness in L^1_X. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 113–128. (R. Anantharaman) **99g:46051** 46E40

el-Saady, K. *see* **El-Saady, K.**

Saakyan, A. A. *see* **Sahakian, Artur A.**

Saakyan, A. V. A numerical method for solving singular integral equations of the second kind with a complex coefficient. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 4, 32–36 (1998). 65R20 (45E05, 45L05)

Saakyan, L. S. On the optimal control of the oscillations of an orthotropic rectangular plane when its full energy is at a minimum. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **46** (1993), *no.* 1-2, 18–25. 73K50 (73K10)

— On the optimal control of the oscillations of a circular plate. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **46** (1993), *no.* 3-4, 42–47. 73K50 (73K10)

Saakyan, R. Sh. The maximum principle for subharmonic functions. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 5, 87–93 (1995); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 5, 74–79. (Vladimir S. Azarin) **99h:31002** 31A05

Saakyan, S. G. The Green function for an elastic inhomogeneous acoustic half-space. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 2, 25–29. (From the text) **99g:73048** 73D99 (73C02)

Saal, L. The automorphism group of a Lie algebra of Heisenberg type. (English summary) *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 2, 101–113. (Saïd Benayadi) **99c:17033** 17B40 (17B30)

Saar, Rein (*with* Loide, R.-K.; Ots, I.) De Sitter group and relativistic wave equations. (English summary) *Hadronic J.* **20** (1997), *no.* 5, 503–521. (Jorge Goncalves Cardoso) **99m:81086** 81R20

— (*with* Kiiranen, Kalle) General form of β-matrices of the first-order wave equations in 16-dimensional representation. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 2, 110–127. (Jorge Goncalves Cardoso) **99h:81072** 81R20

Saari, Donald G. (*with* Liao, Xinhao; Xia, Zhihong) Instability and diffusion in the elliptic restricted three-body problem. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 1, 23–39. (Ugo Locatelli) **99m:70007** 70F07 (58F05, 70H05, 70K20)

— Connecting and resolving Sen's and Arrow's theorems. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 239–261. (Maurice Salles) **99g:90024** 90A08

Saaryan, A. A. Higher-loop string cosmology with moduli and antisymmetric tensor field. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1951–1970. (Summary) **99d:83099** 83E30 (81T30)

Saaty, T. L. (*with* Hu, Gang) Ranking by eigenvector versus other methods in the analytic hierarchy process. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 121–125. (Summary) **99b:90012** 90A05

Saavedra, J. (*with* Cárdenas, V.; Lepe, S.) Current algebra in the path integral framework. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 27, 2193–2198. (Summary) **99e:81073** 81R10 (81S40, 81T40)

Saba, Farrokh (*with* Kountanis, Dionysios; Ichishima, Rikio) Connectivity and topological properties of the Z-cube architecture. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 163–173. (Qiao Li) **99m:68153** 68R10

Şabac, Florin (*with* Mitrea, Marius) Pompeiu's integral representation formula. History and mathematics. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 211–226. (S. D. Chatterji) **99k:30001** 30–03 (01A60)

Şabac, Mihai (*with* Beltiţă, Daniel) An asymptotic formula for the commutators. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 262–275. (Enrico Carlos Boasso) **99b:47009** 47A13 (47A60, 47D99)

— Taylor type formula for commutators of analytic functional calculus in a complex Banach algebra. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 231–234. (Summary) **99h:46089** 46H30

Sabadini, Irene (*with* Struppa, Daniele C.) Some open problems on the analysis of the Cauchy-Fueter system in several variables. Exact WKB analysis and Fourier analysis in the complex domain (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1001 (1997), 1–21. (Michael V. Shapiro) **99e:30039** 30G35

— (*with* Colombo, Fabrizio; Loustaunau, Philippe; Struppa, Daniele C.) Regular functions of biquaternionic variables and Maxwell's equations. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 183–201. (Igor M. Mitelman) **99g:32021** 32D20 (30G35, 78A25)

Sabadini, N. (*with* Bertoni, Alberto; Mauri, Giancarlo; Pighizzini, Giovanni) Algebraic and informational aspects of Zielonka's theorem. (English summary) *Semigroups (Luino*, 1992), 17–26, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 68Q45 (20M35, 68Q70)

Sabapathy, S. (*with* Ponnusamy, S.) Geometric properties of generalized hypergeometric functions. (English summary) *Ramanujan J.* **1** (1997), *no.* 2, 187–210. (Shusen Ding) **99d:33005** 33C20 (30C45)

Sabar, H. (*with* Lemoine, X.; Berveiller, M.; Morreale, J.) Plastic inclusion with moving boundary. Application to dislocation cell structures. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 4, 757–789. 73E99 (73S10)

Sá Barreto, Antônio (*with* Melrose, Richard B.; Zworski, Maciej) Semi-linear diffraction of conormal waves. (English and French summaries) *Astérisque* **1996**, *no.* 240, *vi*+132 *pp.* (1997). (Jean-Marc Delort) **99f:35136** 35L70 (58G17)

— (*with* Joshi, Mark S.) The generation of semilinear singularities by a swallowtail caustic. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 529–550. (Jean-Marc Delort) **99c:58155** 58G17 (35B99, 35L70)

— (*with* Joshi, Mark S.) Recovering asymptotics of short range potentials. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 197–208. (Piotr G. Grinevich) **99e:58195** 58G25 (35P25, 58G15)

Sabata, Hideki The octonion algebra in quantum mechanics. (English and Japanese summaries) *Mem. Osaka Kyoiku Univ. III Natur. Sci. Appl. Sci.* **45** (1997), *no.* 2, 223–230. (Waldyr Alves Rodrigues, Jr.) **99c:81060** 81R05 (17A35)

— Hausdorff transformation and the origin of brackets. (English and Japanese summaries) *Mem. Osaka Kyoiku Univ. III Natur. Sci. Appl. Sci.* **46** (1998), *no.* 2, 161–166. (Michael Wüstner) **99b:17044** 17D25 (17B81)

Sabatier, Jocelyn (*with* Oustaloup, Alain; Lanusse, Patrick) From fractal robustness to the CRONE control. (English summary) *Fract. Calc. Appl. Anal.* **2** (1999), *no.* 1, 1–30. 93D09 (26A33)

Sabatier, Pierre C. On multidimensional Darboux transformations. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 355–366. (J. Chrastina) **99c:35012** 35A30 (58G37)

— On local inverse transforms. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5396–5405. (Summary) **99e:35204** 35Q53 (34A55, 34L25, 35A25, 81U40)

Sabatier, Robert (*with* Durand, Jean-François) Additive splines for partial least squares regression. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1546–1554. (Summary) **99a:62045** 62G05

— (*with* Leibovici, Didier) A singular value decomposition of a k-way array for a principal component analysis of multiway data, PTA-k. (English summary) *Linear Algebra Appl.* **269** (1998), 307–329. (Adam Marlewski) **99b:15039** 15A72 (65F15)

Sabatini, M. Dynamics of commuting systems on two-dimensional manifolds. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 213–232. (Gary H. Meisters) **99f:34071** 34C35 (34C40, 58F25)

— Characterizing isochronous centres by Lie brackets. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 91–99. (Douglas S. Shafer) **99g:34065** 34C05 (34C15, 58F21)

— Qualitative analysis of commuting flows on two-dimensional manifolds. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 494–497, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C35 (34C05, 58F25)

— A connection between isochronous Hamiltonian centres and the Jacobian conjecture. *Nonlinear Anal.* **34** (1998), *no.* 6, 829–838. (Pere Gutiérrez) **99e:34033** 34C05 (14E09, 34C25, 58F21)

— On the period function of Liénard systems. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 467–487. (Pavao Mardešić) **99m:34070** 34C05 (34C25)

Sabău, Vasile Sorin (*with* Shimada, Hideo) Higher order Miron-Tavakol metric. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 813–821. (László Kozma) **99k:53032** 53B40

Sabbadin, Régis (*with* Dubois, Didier; Le Berre, Daniel; Prade, Henri) Logical representation and computation of optimal decisions in a qualitative setting. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 588–593, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (90A05)

— (*with* Fargier, Hélène; Lang, Jérôme) Towards qualitative approaches to multi-stage decision making. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 441–471. (Summary) **99g:90017** 90A05 (90C90)

Sabbaghan, Masoud (*with* Shirazi, Fatemah Ayatollahzadeh; Wu, Ta-Sun) *a*-minimal sets. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **2** (1997), *no.* 1, 1–12. (Summary) **99a:54027** 54H20

Sabbah, C. *see* **Sabbah, Cyril**

Sabbah, Claude Introduction to algebraic theory of linear systems of differential equations. *Éléments de la théorie des systèmes différentiels. $\mathscr{D}$-modules cohérents et holonomes (Nice, 1990)*, 1–80, *Travaux en Cours*, 45, *Hermann, Paris*, 1993. (Orlando Neto) **99f:32017** 32C38 (34A20)

— Monodromy at infinity and Fourier transform. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 4, 643–685. (From the introduction) **99f:14011** 14D07 (32S40)

— Frobenius manifolds: isomonodromic deformations and infinitesimal period mappings. *Exposition. Math.* **16** (1998), *no.* 1, 1–57. (Ralph Martin Kaufmann) **99k:32031** 32G07 (14D05, 32G20, 32S30)

Sabbah, Cyril (*with* Borchers, W.; Forestier, M. Y.; Kräutle, S.; Pasquetti, R.; Peyret, R.; Rautmann, R.; Ross, Nicole) A parallel hybrid highly accurate elliptic solver for viscous flow problems. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 3–24, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76104** 76M25 (65N55)

de Sabbata, Venzo (*with* Datta, Bidyut Kumar; Datta, Renuka) Einstein field equations in spinor formalism: a Clifford-algebra approach. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 1, 83–93. (Stefano De Leo) **99d:83072** 83C60

— *see also* **Quantum gravity, 99f:83004**

Sabelfeld, K. K. (*with* Shalimova, I. A.) ★ Spherical means for PDEs. *VSP, Utrecht*, 1997. *viii+188 pp. ISBN* 90-6764-211-8 (Cornelius O. Horgan) **99f:35067** 35J99 (35Q72, 45A05, 73C02)

— (*with* Kolodko, Anastasya A.) Monte Carlo simulation of the coagulation processes governed by Smoluchowski equation with random coefficients. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 4, 275–311. (Sergei A. Nemnyugin) **99a:82089** 82C80 (65C05)

— (*with* Kurbanmuradov, O.) One-particle stochastic Lagrangian model for turbulent dispersion in horizontally homogeneous turbulence. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 2, 127–140. (Summary) **99e:76072** 76F99 (76M35, 76R50)

— (*with* Dreyer, Wolfgang; Kunik, Matthias; Simonov, Nikolai A.; Wilmański, Krzysztof) Iterative procedure for multidimensional Euler equations. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 3, 253–271. (Sergei A. Nemnyugin) **99m:65206** 65N22 (65C05)

Sabel'nikov, V. A. (*with* Corvellec, C.; Bruel, P.) A time-accurate scheme for the calculations of unsteady reactive flows at low Mach number. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 2, 207–227. (Summary) **99i:80013** 80A25 (76F99, 76M25, 80–08)

Saberi, Ali (*with* Lin, Zongli) Low-and-high gain design technique for linear systems subject to input saturation—a direct method. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1071–1101. (Dieter Franke) **99a:93043** 93B51 (93B52, 93D09, 93D20)

— (*with* Hou, Ping; Lin, Zongli) On l_p-stabilization of strictly unstable discrete-time linear systems with saturating actuators. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 14, 1227–1236. (Michael I. Gil') **99k:93077** 93D15 (93C55)

— (*with* Lin, Zongli; Sannuti, P.; Shamash, Y. A.) Direct method of constructing H_2-suboptimal controllers: continuous-time systems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 585–616. (Abdelmoula El Bouhtouri) **99j:93033** 93B36 (93C60, 93D21)

— (*with* Lin, Zongli; Sannuti, P.; Shamash, Y. A.) Direct method of constructing H_2-suboptimal controllers: discrete-time systems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 617–653. (Abdelmoula El Bouhtouri) **99j:93034** 93B36 (93C55, 93D21)

Sabharwal, Ashutosh (*with* Potter, Lee C.) Convexly constrained linear inverse problems: iterative least-squares and regularization. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2345–2352. (Summary) **99h:65117** 65J10

Sabidussi, Gert *see* **Representation theories and algebraic geometry, 99e:00028**

Sabin, Malcolm Two-sided patches suitable for inclusion in a B-spline surface. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 409–416, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 41A15 (65D07)

Sabina, José C. (*with* García Melián, J.) Boundary layers, dead nuclei and comparison principle in nonlinear scattering problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 441–446, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35J65 (35B05)

— (*with* López-Gómez, Julián) First variations of principal eigenvalues with respect to the domain and point-wise growth of positive solutions for problems where bifurcation from infinity occurs. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 47–64. (Xi Ting Liang) **99f:35033** 35J20 (35B05)

— (*with* García Melián, J.) Maximum and comparison principles for operators involving the p-Laplacian. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 49–65. (David L. Finn) **99b:35054** 35J60 (35B05)

— (*with* Lacey, Andrew A.; Ockendon, J. R.) Multidimensional reaction diffusion equations with nonlinear boundary conditions. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1622–1647 (*electronic*). (Si Ning Zheng) **99g:35066** 35K57 (35C20, 41A60)

Sabinin, Lev V. On the infinitesimal theory of reductive loops. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 1, 26–28. 22A30

— Quasigroups, geometry and nonlinear geometric algebra. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 45–66. (Summary) **99h:20106** 20N05 (53A60)

— (*with* Sabinina, L. L.; Sbitneva, Larissa V.) On the notion of gyrogroup. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 11–17. (Abraham A. Ungar) **99i:83004** 83A05 (20N99)

Sabinina, L. L. (*with* Sabinin, Lev V.; Sbitneva, Larissa V.) On the notion of gyrogroup. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 11–17. (Abraham A. Ungar) **99i:83004** 83A05 (20N99)

Sabitov, I. Kh. An integral analogue of Darboux equations for immersions of two-dimensional metrics. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 9, 49–56; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 9, 46–53 (1998). (J. S. Joel) **99c:53071** 53C45

— A proof of the "bellows" conjecture for polyhedra of low topological genus. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 6, 743–746. (Z. Nádeník) **99k:52036** 52C25 (52A38)

— Isometric transformations of a surface that generate conformal mappings of it on itself. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 119–132; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 115–127. (V. Oproiu) **99b:53009** 53A05

Sabitov, K. B. (*with* Isyangil'din, A. Kh.) On the theory of the Tricomi problem with a nonlocal conjugation condition for equations of mixed type. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 305–307. (Megumi Saigo) **99d:35111** 35M10

Sablik, Maciej ★ Basic sets for functional equations. (French and Polish summaries) Prace Naukowe Uniwersytetu Śląskiego w Katowicach [Scientific Publications of the University of Silesia], 1578. *Wydawnictwo Uniwersytetu Śląskiego, Katowice*, 1996. 76 *pp. ISBN* 83-226-0692-3 (Wazir Hasan Abdi) **99a:39061** 39B52

— On an iterative functional equation. (English summary) *Iteration theory (ECIT 94) (Opava)*, 227–232, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 39B12

— (*with* Ger, Joanna) The law of large numbers and a functional equation. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 165–175. (Summary) **99b:39026** 39B22

— (*with* Riedel, Thomas) Characterizing polynomial functions by a mean value property. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 597–609. (Wolfgang Sander) **99k:39071** 39B52 (26A24, 39A10)

Sablonnière, Paul B-splines on uniform meshes of the plane. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 323–338, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41044** 41A63 (41A15)

— (*with* Lorente-Pardo, Jerónimo; Serrano-Pérez, M. Carmen) On convexity and subharmonicity of some functions on triangles. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 271–278, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (W. W. Breckner) **99m:26022** 26B25 (41A29)

— (*with* Dubuc, Serge; Merrien, Jean-Louis) The length of the de Rham curve. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 182–195. (G. Maess) **99f:65013** 65D05

— (*with* Tijini, Ahmed) Approximation de contours convexes par des splines paramétrées périodiques convexes C^1, quadratiques ou cubiques. (English and French summaries) [Approximation of convex contours by quadratic or cubic convex periodic parameterized C^1-splines] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 729–746. (A. Bultheel) **99m:65023** 65D05 (65D07)

— (*with* Lorente-Pardo, Jerónimo; Serrano-Pérez, M. Carmen) On the convexity of Powell-Sabin finite elements. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 395–404, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65029** 65D17

— New families of B-splines on uniform meshes of the plane. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 89–100, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 41A15 (41A63)

Šabo, Michal On many valued implications. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 161–167. (Summary) **99g:03024** 03B52

Sabogal, Sonia (*with* Ardila de la Peña, Victor Manuel) On the reciprocal of Schur's lemma. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **3** (1996), *no.* 1, 51–54. 16D10

Sabourian, Hamid Repeated games with M-period bounded memory (pure strategies). (English summary) *J. Math. Econom.* **30** (1998), *no.* 1, 1–35. (James Bergin) **99m:90164** 90D06 (90D20)

Sabra, A. I. Thābit ibn Qurra on the infinite and other puzzles: edition and translation of his discussions with Ibn Usayyid. (Arabic summary) *Z. Gesch. Arab.-Islam. Wiss.* **11** (1997), 1–33, 7 (*Arabic paging*). (Mohamed Amer) **99k:01007** 01A30 (00A30)

Sabra, Ramadan Linear and bilinear operations in the $L(E)$ space. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **8** (1997), *no.* 2, 81–86. (Bl. P. Damyanov) **99b:46060** 46F10

Sabra, Wafic A. General BPS black holes in five dimensions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 239–252. (Marco Spaans) **99j:83071** 83E30 (32J81, 83C57)

— Black holes in $N = 2$ supergravity theories and harmonic functions. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 247–263. (Summary) **99c:83101** 83E50 (53C25, 53C80, 83C57)

— (*with* Behrndt, Klaus; Lüst, Dieter) Stationary solutions of $N = 2$ supergravity. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 264–288. (Sergey Nikolaevich

Roshchupkin) **99a:83068** 83E50 (32J81, 83C57)
— (*with* Behrndt, Klaus; Chamseddine, Ali H.) BPS black holes in $N = 2$ five-dimensional ADS supergravity. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 97–101. (Summary) **99h:83052** 83E30 (83C57)
— (*with* Behrndt, Klaus; Cvetič, Mirjam) Entropy of near-extreme $N = 2$ black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084018, 7 *pp.* (Summary) **99m:83097** 83C57 (83E30)
Sabuncuoğlu, Arif (*with* Onat, Leyla) Infinitesimal rigidity of small spheres of ellipsoid. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 39–49. 53C40
Saccà, Domenico (*with* Greco, Sergio; Zaniolo, Carlo) DATALOG queries with stratified negation and choice: from P to D^P. (English summary) *Database theory—ICDT '95 (Prague)*, 82–96, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68073** 68P15 (68N17)
— Deterministic and non-deterministic stable model semantics for unbound DATALOG queries. (English summary) *Database theory—ICDT '95 (Prague)*, 353–367, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68N17)
— (*with* Greco, Sergio) NP optimization problems in Datalog. (English summary) *Logic programming (Port Washington, NY, 1997)*, 181–195, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68020** 68N17 (68P15)
Sacchetti, Andrea (*with* Grecchi, Vincenzo) Wannier-Bloch oscillators. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 3, 553–569. (Alain Joye) **99h:81041** 81Q10 (34L40, 47E05)
— (*with* Maioli, Marco) Erratum: "Absence of the absolutely continuous spectrum for Stark-Bloch operators with strongly singular periodic potentials" [J. Phys. A **28** (1995), no. 4, 1101–1106; MR 96e:81036]. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1115–1119. (Summary) **99c:81038** 81Q10 (34L40)
— (*with* Losi, Alessandra) First-kind Fredholm integral equations with kernel of Hankel type. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 281–290. (Summary) **99k:45004** 45B05 (45L05)
Sacchi, Mauricio D. (*with* Ulrych, Tadeusz J.; Walker, Colin J.) Interpolation and extrapolation using a high-resolution discrete Fourier transform. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 1, 31–38. 65T20 (65D15)
Sacchiero, Gianni (*with* Ellia, Philippe) Smooth surfaces of $\mathbf{P}^4$ ruled in conics. *Algebraic geometry (Catania, 1993/Barcelona, 1994)*, 49–62, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (James E. Alexander) **99j:14038** 14J26 (14J25)
— (*with* Brundu, Michela) On the varieties parametrizing trigonal curves with assigned Weierstrass points. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3291–3312. (Montserrat Teixidor i Bigas) **99g:14040** 14H55 (14H10)
Sacco, Elio (*with* Luciano, R.) Variational methods for the homogenization of periodic heterogeneous media. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 599–617. (Summary) **99c:73003** 73B27 (73K20)
— (*with* Point, Nelly) Mathematical properties of a delamination model. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 359–371. (Summary) **99g:73087** 73K20 (49J40, 73C99, 73V25)
— (*with* Point, Nelly) A delamination model. Mathematical properties. (English summary) *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 151–162, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73058** 73M25 (73K20, 73V25)
Sacco, Riccardo (*with* Saleri, Fausto) Stabilization of mixed finite elements for convection-diffusion problems. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 301–315. (Summary) **99d:65326** 65N30 (76M10, 76Rxx)
— (*with* Gatti, E.; Micheletti, S.) A new Galerkin framework for the drift-diffusion equation in semiconductors. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 2, 101–135. (J. W. Jerome) **99j:65207** 65N30 (65N15, 82D99)
Saccoman, J. T. (*with* Gross, Daniel) Uniformly optimally reliable graphs. (English summary) *Networks* **31** (1998), *no.* 4, 217–225. (A. A. Chernyak) **99h:68131** 68R10 (05C90, 90C35, 94C15)
Saccomandi, Giuseppe (*with* Pucci, Edvige) Universal generalized plane deformations in constrained elasticity. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 201–216. (Marian Aron) **99d:73030** 73C50 (73G05)
— (*with* Marino, Luca; Valente, Chiara) A note about three-dimensional exact dynamical solutions for neo-Hookean materials. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 1–4. (From the introduction) **99h:73023** 73C50 (73D15, 73D35, 73G05)
— (*with* Pucci, Edvige) Universal motions for constrained simple materials. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 3, 469–484. (Henry W. Haslach, Jr.) **99m:73002** 73B05 (73B99, 73C50, 73G05)
— A nonlinear Boltzmann-like model of outgassing and contamination. (English summary) *Transport Theory Statist. Phys.* **28** (1999), *no.* 2, 157–170. (Summary) **99m:82043** 82C40 (45K05, 76P05)
Saccon, Claudio (*with* Marino, Antonio) Some variational theorems of mixed type and elliptic problems with jumping nonlinearities. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 631–665 (1998). (Jianfu Yang) **99m:35063** 35J60
— (*with* Marino, Antonio) Some mixed variational theorems and an asymptotically asymmetric elliptic problem. (Italian) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 225–239. (Gianni Arioli) **99j:35051** 35J60 (35J20)
— Multiplicity of bifurcation points for variational inequalities via Conley index. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 83–102. (Marco Degiovanni) **99j:58059** 58E35 (49J40, 58E07)
phạm hữ'u Sách *see* **Phạm Hữ'u Sách**
Sach, Pham Huu *see* **Phạm Hữ'u Sách**
Sachan, M. P. (*with* Shukla, M. K.) On the strong summability of a Fourier series by (A, λ) means. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), *no.* 3, 167–177. 42A24
Sachdev, P. L. *see* **Recent advances in differential equations, 99a:00045**
Sachdeva, Nidhi Fixed point theorem for densifying mappings in complete metric space. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 341–343. 54H25
Sachkov, V. N. Probability distributions on a linear vector space over a Galois field and on sets of permutations. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 20–35. (Summary) **99c:11105** 11K99 (05A16, 60C05)
Sachkov, Yu. L. Controllability of affine right-invariant systems on solvable Lie groups. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 239–246. (F. Silva Leite) **99f:93015** 93B05 (22E25, 93B25)
— Survey on controllability of invariant systems on solvable Lie groups. (English summary) *Differential geometry and control (Boulder, CO, 1997)*, 297–317, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Anna Maria Perdon) **99m:93010** 93B05 (22E25, 93B25)
Sachs, Ekkehard W. (*with* Fahl, M.) Modern optimization methods for structural optimization under flutter constraints. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 137–150, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 90C90 (49N55, 73K40)
— (*with* King, Belinda B.) Optimization techniques for stable reduced order controllers for partial differential equations. (English summary) *Optimal control (Gainesville, FL, 1997)*, 278–297, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:93038** 93C20 (90C90, 93B51)
— Semi-infinite programming in control. (English summary) *Semi-infinite programming*, 389–411, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99b:90141**) 90C34 (93B40)
— (*with* Kelley, C. T.) Local convergence of the symmetric rank-one iteration. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 1, 43–63. (A. M. Galperin) **99c:65103** 65H10
Sachs, H. *see* **Sachs, Horst**
Sachs, Hans (*with* Karáné, G. S.) Schallfronten an ebenen Kurven. II. (English summary) [Sonic wave fronts at plane curves. II] *Math. Pannon.* **9** (1998), *no.* 1, 17–31. (Z. Nádeník) **99e:53003** 53A04
Sachs, Horst (*with* Deuber, Walter A.; Kostochka, A. V.) A very short proof of Dirac's theorem on the number of edges in chromatically critical graphs. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 4, 28–34, 95. (Marek Kubale) **99d:05032** 05C15
— *see also* **Schmidt, Vasco Alexander, 99b:01023** *and* **Graph theory, 99c:05002**
Sachs, I. *see* **Sachs, Ivo**
bjorling-Sachs, Iliana *see* **Bjorling-Sachs, Iliana**
Sachs, Ivo (*with* Flume, R.; Magro, M.; O'Raifeartaigh, Lochlainn; Schnetz, O.) Uniqueness of the Seiberg-Witten effective Lagrangian. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 331–345. (Michael A. I. Flohr) **99b:81234** 81T60 (81T13)
— (*with* Ford, Christopher) Canonical equivalence of Liouville and free fields. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 149–154. (Kazuto Oshima) **99f:81124** 81T10
— (*with* Birmingham, Danny; Sen, Siddhartha[1]) Entropy of three-dimensional black holes in string theory. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 275–280. (Marco Cavaglià) **99f:83061** 83E30 (83C57)
— (*with* Emparan, Roberto) Quantization of AdS_3 black holes in external fields: semiclassical results from pure gravity. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 12, 2408–2411. (Summary) **99d:83056** 83C57 (83C45)
Sachs, Mendel (*with* Harada, Minoru[2]) Reinterpretation of the Fitzgerald-Lorentz contraction. (English summary) *Phys. Essays* **11** (1998), *no.* 4, 521–523. 83A05
Sacks, Gerald E. Effective forcing versus proper forcing. (English summary) Dedicated to the late Stephen Cole Kleene. *Ann. Pure Appl. Logic* **81** (1996), *no.* 1-3, 171–185. (Summary) **99f:03063** 03D60
— Recursion theory. (Italian) *Rend. Sem. Mat. Univ. Politec. Torino* **55** (1997), *no.* 1, 1–17. 03Dxx
Sacks, Paul E. (*with* McLaughlin, Joyce R.; Somasundaram, M.) Inverse scattering in acoustic media using interior transmission eigenvalues. *Inverse problems in wave propagation (Minneapolis, MN, 1995)*, 357–374, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (I. Kay) **99b:35217** 35R30 (34A55, 34L25, 35J05, 76Q05)
— (*with* Yakhno, V. G.) The inverse problem for a layered anisotropic half space. *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 377–398. (George Dassios) **99m:35266** 35R30 (35Q72, 73B40, 73D50, 86A22)
Saçhoğlu, Cihan (*with* Nergiz, Serdar) Seiberg-Witten monopole equations and Riemann surfaces. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 675–687. (Steven B. Bradlow) **99c:53019** 53C07 (57R57, 58D27, 58E15)
Sacripante, Laura (*with* Chongdar, A. K.; Pittaluga, Giovanna) On generating functions of modified Laguerre polynomials by Lie algebraic method. (English summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 41–52. (David K. Maslen) **99c:33015** 33C45 (33C80)
— (*with* Pittaluga, Giovanna; Venturino, Ezio) Higher order lacunary interpolation. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 15–22. (Summary) **99d:41009** 41A10
— (*with* Chongdar, A. K.; Pittaluga, Giovanna) Weisner's methodic survey of modified Laguerre polynomials. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 23–32. (Summary) **99h:33033** 33C45
Sacristan, V. (*with* Arkin, Esther M.; Chiang, Yi-Jen; Held, Martin; Mitchell, Joseph S. B.; Skiena, Steven S.; Yang, Tae-Cheon) On minimum-area hulls. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 119–136. (Evangelos Kranakis) **99c:68243** 68U05 (52B55)
Sadaka, H. A. (*with* Malyutov, M. B.) Non-parametric search for significant variables of a linear model. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design (Marseilles, 1998)*, 187–194, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99i:62162** 62J99 (62G99)
Sadallah, Boubaker-Khaled Existence of a solution of parabolic equation in a disc. (Arabic. English and Arabic summaries) *Arab Gulf J. Sci. Res.* **15** (1997), *no.* 3, 825–835. (Summary) **99c:35094** 35K35
— Singularities of the solution of a $2m$-parabolic problem in a polygonal domain. (English summary) *Arab J. Math. Sci.* **4** (1998), *no.* 2, 31–41. (Summary) **99i:35059** 35K25
— Existence de la solution de l'équation de la chaleur dans un disque. (English and French summaries) [Existence of the heat equation solution in a disc] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 813–816. (Summary) **99i:35060** 35K25 (35K05)

Sadarangani, Kishin B. (*with* Banaś, Józef; Martinón, Antonio) Set quantities related to the Hausdorff distance in Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1421–1433. (S. Cobzaş) **99b:46010** 46B20 (46B45, 47H09)

— On the modulus of noncompact smoothness of a Banach space. *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 99–101. (Józef Banaś) **99k:46020** 46B20

— (*with* Cabrera, I. J.) A measure of weak noncompactness in $L^1(\Omega, \Sigma, \lambda)$. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 9–13. (Henryk Hudzik) **99j:46033** 46E30 (46B20)

— (*with* Cabrera, I. J.) On the modulus of noncompact convexity in Banach sequence spaces. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 21–24. (Józef Banaś) **99m:46052** 46B45

Sadayappan, P. (*with* Ercal, F.; Ramanujam, J.) Partitioning graphs on message-passing machines by pairwise mincut. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 223–237. (Summary) **99g:68020** 68M10

Sadegh, Nader (*with* Finney, John D.; Heck, Bonnie S.) An explicit method for computing the positive real lemma matrices. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1057–1069. (Frank Uhlig) **99b:93019** 93B25 (65F30, 93–01)

Sadegh, Payman (*with* Spall, James C.) Optimal random perturbations for stochastic approximation using a simultaneous perturbation gradient approximation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1480–1484. 93E15 (93E23)

— (*with* Hansen, Lars H.; Madsen, Henrik; Holst, Jan) Input design for linear dynamic systems using maxmin criteria. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 223–240. 93B51 (93B30)

— (*with* Spall, James C.) Correction to: "Optimal random perturbations for stochastic approximation using a simultaneous perturbation gradient approximation" [IEEE Trans. Automat. Control **43** (1998), no. 10, 1480–1484]. *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 231–232. 93E15 (93E23)

Sadeghi, Ali A. Asymptotic behavior of self-organizing maps with nonuniform stimuli distribution. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 281–299. (M. Iosifescu) **99d:60076** 60J05 (60K30, 92B20)

Sadeghi, E. (*with* Dehghan, Y. N.) Topological vector spaces that admit support sets. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 473–476, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:46002** 46A22

Sadeghnezhad, N. (*with* Shirzad, A.) Lagrangian and Hamiltonian constraint structure coefficients. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7403–7413. (Juan Carlos Marrero Gonzalez) **99j:58081** 58F05 (70G99, 70H05, 70H35)

Sadeh, Ilan (*with* Keizelman, Alexander; Zak, Michael) Universal voice compression algorithms based on approximate string matching. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 659–675. (Summary) **99c:68263** 68U30 (68P99)

— Bounds on data compression ratio with a given tolerable error probability. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 2, 189–210. (Summary) **99d:94014** 94A29

Sadek, A. I. (*with* Abou-El-Ela, A. M. A.) On the boundedness of a certain system of fifth-order differential equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 1–10. (Narahari Parhi) **99f:34046** 34C11 (34D40)

Sadek, Ibrahim S. (*with* Cherid, Ali) Optimal active pointwise control of distributed parameter systems with time delays. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 173–193. (Tzanko D. Donchev) **99d:49042** 49K20 (93C20)

— (*with* Sloss, J. M.; Bruch, J. C., Jr.; Adali, Sarp) Maximum principle for optimal boundary control of vibrating structures with applications to beams. (English summary) *Dynam. Control* **8** (1998), *no.* 4, 355–375. (L. P. Lebedev) **99k:49055** 49K20 (73K12, 73K50, 93D15)

— (*with* Jamiiru, L.; Al-Mohamad, H. A.) Optimal boundary control of one-dimensional multi-span vibrating systems. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 1, 39–54. (S. Bhargava) **99h:49052** 49N55 (49K20, 73K50)

— (*with* Bianco, Steven A.; Kambule, Matthew T.) Optimal control of a class of time-delayed distributed systems by orthogonal functions. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 8, 1477–1492. 49K20 (49M25, 93C20)

— (*with* Sloss, J. M.; Adali, Sarp; Bruch, J. C., Jr.) A maximum principle for optimal control using spatially distributed pointwise controllers. (English summary) *J. Vib. Control* **4** (1998), *no.* 4, 445–462. (Vadim Komkov) **99d:49043** 49K20 (73K50)

— (*with* Bokhari, M. A.) Optimal control of a parabolic distributed parameter system via orthogonal polynomials. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 205–213. 49K20 (49M30)

Sadhukhan, Debashis (*with* Collins, Emmanuel G., Jr.) A comparison of descent and continuation algorithms for H_2 optimal, reduced-order control designs. (English summary) *Internat. J. Control* **69** (1998), *no.* 5, 647–662. 93B36 (93B40)

Sadighi Firozabadi, Babak (*with* Tan, Yao-Hua; Lee, Ronald M.) Formal definitions of fraud. (English summary) *Norms, logics and information systems* (*Bologna*, 1998), 275–287, *Frontiers Artificial Intelligence Appl.*, 49, *IOS, Amsterdam*, 1999. (*see* **99k:03014**) 68T27 (90A15)

Sadikou, A. (*with* Pan, Victor Y.; Tabanjeh, M. Abu; Chen, Zhao Qin; Providence, S.) Transformations of Cauchy matrices, Trummer's problem and a Cauchy-like linear solver. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 274–284, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F30 (65Y25)

— (*with* Pan, Victor Y.; Tabanjeh, M. Abu; Chen, Zhao Qin; Landowne, E. I.) New transformations of Cauchy matrices and Trummer's problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 1–5. (Summary) **99c:65078** 65F30

Sadikova, R. Kh. A general class of inequalities with mixed means. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 864–872; *translation in Math. Notes* **61** (1997), *no.* 5-6, 724–730. (Peter Boyadjiev) **99f:26037** 26D15 (28A99)

— Inequalities for sourcewise-representable functions and their applications. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 564–576; *translation in Math. Notes* **62** (1997), *no.* 3-4, 469–479 (1998). (L. Losonczi) **99e:26017** 26D10

Sadin, D. V. A method for computing heterogeneous wave flows with intense interphase interaction. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 1033–1039; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 987–993. (Summary) **99f:76093** 76M20 (76T05)

Sadjadi, Seyed Jafar (*with* Ponnambalam, K.) Advances in trust region algorithms for constrained optimization. (English summary) Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96) (Delft). *Appl. Numer. Math.* **29** (1999), *no.* 3, 423–443. (Summary) **99k:90162** 90C30 (90–02)

Sadkane, Miloud (*with* Heuveline, Vincent; Philippe, Bernard) Parallel computation of spectral portrait of large matrices by Davidson type methods. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 55–75 (1998). (Summary) **99c:65071** 65F15 (65Y05)

— (*with* Lavallée, P.-F.) Pseudospectra of linear matrix pencils by block diagonalization. (English summary) *Computing* **60** (1998), *no.* 2, 133–156. (Dao Sheng Zheng) **99e:65062** 65F15 (15A22, 65F30)

— (*with* Godunov, S. K.) Computation of pseudospectra via spectral projectors. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 163–175. (J. Segethová) **99i:65046** 65F20 (65F15)

— (*with* Malyshev, A. N.) On the stability of large matrices. (English summary) *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 303–313. (Mihail Voicu) **99m:34113** 34D20 (15A18, 15A45, 15A60)

Sadkowski, Wawrzyniec (*with* Kowalski, Tadeusz) Applications of C-groups to existence of solutions of some mixed problems. *Demonstratio Math.* **31** (1998), *no.* 2, 477–484. (Uljana A. Anufrieva) **99h:47047** 47D06 (34Gxx, 47N20)

Sadler, Brian M. (*with* Swami, Ananthram) Analysis of multiscale products for step detection and estimation. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 1043–1051. 94A13 (94A11)

Sadofsky, Hal (*with* Wilson, W. Stephen) Commutative Morava homology Hopf algebras. (English summary) *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 367–373, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Björn Schuster) **99i:55004** 55N20 (16W30, 55P45, 57T05)

— (*with* Ando, Matthew; Morava, Jack) Completions of $\mathbf{Z}/(p)$-Tate cohomology of periodic spectra. (English summary) *Geom. Topol.* **2** (1998), 145–174 (*electronic*). (Edgar H. Brown, Jr.) **99e:55016** 55P60 (14L05, 55N22)

Sadok, H. (*with* Brezinski, Claude; Redivo-Zaglia, M.) Problems of breakdown and near-breakdown in Lanczos-based algorithms. *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 255–270, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (Guo Liang Chen) **99g:65052** 65F30

Sadosky, Cora Liftings of kernels shift-invariant in scattering systems. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 303–336, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Pedro Alegría) **99e:47034** 47B35 (42A70, 47–02, 47A20, 47A40, 47A57)

— (*with* Alpay, Daniel; Bolotnikov, Vladimir; Dijksma, Aad; Rovnyak, James) Espaces de Hilbert inclus contractivement dans l'espace de Hardy du bi-disque. (English and French summaries) [Hilbert spaces contractively included in the Hardy space of the bidisk] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1365–1370. (Emil Straube) **99g:46029** 46E22 (32A35, 46J15, 47A45)

— (*with* Christ, Michael; Kenig, Carlos E.; Weiss, Guido) Alberto Pedro Calderón (1920–1998). *Notices Amer. Math. Soc.* **45** (1998), *no.* 9, 1148–1153. (Editors) **99k:01054** 01A70

Sadov, S. Yu. Computation of quasiperiodic fundamental solution of Helmhol[t]z equation. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 551–558, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:65180** 65N99 (35J05, 78–08, 78A45)

— Functions that determine stability of rational rotations of a near symmetric satellite. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 465–484. (Summary) **99a:70042** 70M20 (34D99, 70–08, 70K20)

Sadov, V. *see* **Sadov, Vladimir**

Sadov, V. S. (*with* Pavlov, S. A.) An adaptive method for the compression of fixed images. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 127–130, 144. 68U10 (94A29)

Sadov, Vladimir (*with* Bershadsky, Michael; Johansen, Andrei; Pantev, Tony G.; Vafa, Cumrun) F-theory, geometric engineering and $N = 1$ dualities. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 153–164. (Gonzalo Violero) **99b:81178** 81T30 (14J32, 14J60, 32J18, 32J81)

— (*with* Bershadsky, Michael; Johansen, Andrei; Pantev, Tony G.) On four-dimensional compactifications of F-theory. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 165–201. (Gonzalo Violero) **99d:81107** 81T30 (14J32, 14J60, 32J18, 32J81)

— (*with* Bershadsky, Michael) F-theory on $K3 \times K3$ and instantons on 7-branes. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 232–246. (Gonzalo Violero) **99f:81149** 81T30 (14J28, 32J81)

Sadovnichiĭ, V. A. (*with* Vinogradova, I. A.; Lupanov, O. B.; Mel'nikov, I. I.; Potapov, M. K.; Sergeev, I. N.) In memory of Slav Nikolaevich Olekhnik [1945–1995]. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 108–109. 01A70

— (*with* Dubrovskiĭ, V. V.; Kadchenko, S. I.; Kravchenko, V. F.) Computation of the first eigenvalues of a boundary value problem of the hydrodynamic stability of a flow between two parallel planes for small Reynolds numbers. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 600–604. (Adelina Georgescu) **99i:76050** 76E05 (34B99, 34L15)

— (*with* Dubrovskiĭ, V. V.; Kadchenko, S. I.; Kravchenko, V. F.) Computation of the first eigenvalues of a boundary value problem on the hydrodynamic stability of a Poiseuille flow in a circular tube. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 50–53, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 49–53. (Summary) **99i:76051** 76E05 (34B99, 34L40)

— (*with* Vinokurov, V. A.) Asymptotics of the Sturm-Liouville boundary value problem on an interval with an integrable potential. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 298–301. (Petru A. Kozhukhar') **99c:34195** 34L20 (34B24, 34L40)

— (*with* Podol'skiĭ, V. E.) A class of Sturm-Liouville operators and the approximate computation of first eigenvalues. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 133–148; *reprinted in Sb. Math.* **189** (1998), *no.* 1-2, 129–145. (Boris M. Levitan) **99b:34055** 34B24 (34L20, 35L40, 65L15)

Sadovnichiĭ, V. I. (*with* Gorlov, V. V.; Tittmann, Peter) On the reliability polynomials of some communication systems. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 3, 3–9, 78. 94C12 (90B25)

Sadovnichiĭ, Yu. V. (*with* Fedorchuk, V. V.) On some categorical properties of uniform spaces of probability measures. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 131–151. (Z. Semadeni) **99b:46031** 46E27 (46M15, 54E15)

Sadovnichuk, S. G. (*with* Romanovskiĭ, R. K.) A special addition theorem for theta functions, and soliton equations. (Russian) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 181, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (*see* **99a:00019**) 14K25 (58F07)

— A direct method for constructing three-gap solutions of nonlinear equations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1140–1145, iv; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 988–992. (Vasily A. Chernecky) **99c:58079** 58F07 (14H42, 35Q53)

Sadovnichy, Yury V. *see* **Sadovnichiĭ, Yu. V.**

Sadovnikov, B. I. (*with* Inozemtseva, N. G.) On exact solutions for some matrix equations. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 78–85. (Summary) **99g:34019** 34A20 (34A05)

Sadovnikov, D. V. (*with* Krechet, V. G.) Cosmological aspects of the gravitational interaction of a scalar field in the affine-metric theory of gravity. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 5, 39–50; *translation in Russian Phys. J.* **41** (1998), *no.* 5, 433–441. 83D05 (83F05)

Sadovskaia, Natalia *see* **Arnol'd, Vladimir Igorevich**, **99m:00018**

Sadovskiĭ, A. P. Solution of the center and focus problem for a cubic system of nonlinear oscillations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 236–244, 286; *translation in Differential Equations* **33** (1997), *no.* 2, 236–244. (Henryk Żołądek) **99a:34088** 34C05

— (*with* Detchenya, L. V.) Local phase portraits of two-dimensional analytical systems principal parts of which do not contain parameters. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 145–149, 152, 155. (Summary) **99j:34031** 34C05

— (*with* Fronville, Alexandra; Żołądek, Henryk) Solution of the 1:−2 resonant center problem in the quadratic case. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 191–207. (Summary) **99g:34063** 34C05 (58F21)

Sadovskiĭ, B. N. (*with* Drobchenko, E. Yu.) Systems with monotone and continuous nonmonotone elements. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 6, 111–116; *translation in Automat. Remote Control* **59** (1998), *no.* 6, *part* 1, 843–847. (Summary) **99k:34031** 34A60

Sadovskiĭ, V. M. (*with* Bychek, O. V.) On the investigation of the dynamic contact interaction of deformable bodies. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 4, 167–173; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 4, 628–633 (1999). (Summary) **99i:73062** 73T05 (73V20, 73V25)

Sadowskaia, Natalia *see* **Sadovskaia, Natalia**

blanchet-Sadri, F. *see* **Blanchet-Sadri, F.**

Sadritdinova, G. D. (*with* Aleksandrov, I. A.) Mappings with rotation symmetry. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 10, 3–6. (Kazimierz Włodarczyk) **99j:30007** 30C45

Sadullaev, A. (*with* Yarmetov, Zh. R.) Removable singularities of subharmonic functions in the class Lip_α. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 131–148; *translation in Sb. Math.* **186** (1995), *no.* 1, 133–150. (Alexander I. Kheyfits) **99e:31007** 31B05

Sadun, Lorenzo Simple type is not a boundary phenomenon. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 233–244, *de Gruyter, Berlin*, 1997. (Vaughn W. Anderson) **99e:57045** 57R57 (58D27)

— Some generalizations of the pinwheel tiling. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 79–110. (Elizaveta Zamorzaeva) **99e:52029** 52C20 (05B45)

— (*with* Radin, Charles) An algebraic invariant for substitution tiling systems. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 21–37. (Elizaveta Zamorzaeva) **99j:52027** 52C22 (52C20)

— (*with* Radin, Charles) Subgroups of SO(3) associated with tilings. (English summary) *J. Algebra* **202** (1998), *no.* 2, 611–633. (Richard Kenyon) **99c:20064** 20G20 (20E06, 52C22)

— (*with* Speight, J. M.) Geodesic incompleteness in the $\mathbf{CP}^1$ model on a compact Riemann surface. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 329–334. (Gil Bor) **99m:58039** 58D27 (58E50)

Sady, F. Relations between Banach function algebras and Fréchet function algebras. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 79–88. (W. A. Feldman) **99g:46072** 46J10 (46J30, 54C40)

Sadykhov, R. Kh. (*with* Belov, D. I.) An algorithm for removing invisible surfaces for layered models of three-dimensional objects in the case of approximation by simple polyhedra. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 107–110, 143. 68U10

Sadykov, M. F. (*with* Bil'chenko, G. G.; Kayumov, I. R.; Nasyrov, S. R.) Branched coverings of nonorientable surfaces by orientable ones with a given projection of the boundary. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 292–294; *translation in Math. Notes* **63** (1998), *no.* 1-2, 252–255. (A. N. Bezen) **99g:57002** 57M12

Sadyrbaev, F. Zh. (*with* Klokov, Yu. A.) On the number of solutions of second-order boundary value problems with nonlinear asymptotics. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 471–479, 573; *translation in Differential Equations* **34** (1998), *no.* 4, 469–477. (Andrey Ponomaryov) **99m:34036** 34B15 (34L30)

— (*with* Henrard, Marc) Multiplicity results for fourth order two-point boundary value problems with asymmetric nonlinearities. *Nonlinear Anal.* **33** (1998), *no.* 3, 281–302. (A. I. Perov) **99d:34035** 34B15 (34C10, 47H11)

— Ważewski method and upper and lower functions for higher order ordinary differential equations. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 165–170. (Josef Diblík) **99j:34027** 34B15 (34D20)

Sa Earp, Ricardo (*with* Brito, Fabiano Gustavo Braga) On the structure of certain Weingarten surfaces with boundary a circle. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 243–255. (Luis J. Alias) **99a:53005** 53A05 (53A10)

— (*with* Barbosa, J. Lucas M.) Prescribed mean curvature hypersurfaces in $H^{n+1}(-1)$ with convex planar boundary. I. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 61–74. (Luis J. Alias) **99d:53064** 53C42 (35J65, 53A07)

le Saëc, B. *see* **Le Saëc, B.**

Saeger, L. A. (*with* Aldrovandi, R.) Projective Fourier duality and Weyl quantization. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 3, 573–612. (Nicolaas P. Landsman) **99b:81123** 81S30 (43A40, 46L05)

— (*with* Madore, J.) Topology at the Planck length. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 811–826. (Martin Schlichenmaier) **99e:58014** 58B30 (81S10, 81T30, 83E30)

Saeki, Osamu The present state and prospects of the global theory of singularities of differentiable mappings. (Japanese) *Sūgaku* **48** (1996), *no.* 4, 385–399. (Toshizumi Fukui) **99h:58020** 58C27 (57R45)

— (*with* Kearton, C.; Wilson, S. M. J.) Finiteness results for knots and singularities. (English summary) *Kobe J. Math.* **14** (1997), *no.* 2, 197–206. (J. P. Levine) **99e:57037** 57Q45 (32S55)

— On topological invariance of weights for quasihomogeneous polynomials. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 207–214, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Jan Stevens) **99b:32052** 32S15

— (*with* Sakuma, Kazuhiro) Maps with only Morin singularities and the Hopf invariant one problem. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 501–511. (Summary) **99h:57058** 57R45 (55Q25, 58C27)

— (*with* Sakuma, Kazuhiro) On special generic maps into $\mathbf{R}^3$. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 175–193. (Jože Vrabec) **99h:57059** 57R45 (57R70)

— (*with* Biasi, Carlos) On transversality with deficiency and a conjecture of Sard. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5111–5122. (Georges Comte) **99b:57062** 57R45 (57N75, 57R70)

Sáenz, A. W. Lie-series approach to the evolution of resonant and nonresonant anharmonic oscillators in quantum mechanics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1887–1909. (Peter N. Zhevandrov) **99d:81037** 81Q15 (58F36, 81Q05)

Sáenz, Corina *see* **Sáenz Valadez, E. Corina**

Sáenz Cetina, José Leonardo Asymptotes. (Spanish) *Miscelánea Mat. No.* 18 (1989), 55–77. 26–01

— Identities for the solution of cubic and quartic equations. (Spanish) *Miscelánea Mat. No.* 24 (1996), 39–43. 12E10

Sáenz Valadez, E. Corina Quotients of quasihereditary algebras. (Spanish) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 241–244, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 16G10

— Quasi-hereditary algebras related to local algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 1, 73–82. (Steffen König) **99b:16018** 16G10

Sævareid, Ove (*with* Ewing, Richard E.; Shen, Jian[1]) Discretization schemes on triangular grids. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 219–238. (D. Schultz) **99d:65297** 65N06

Sáez, Juan Antonio (*with* Ferrando, Joan Josep) An intrinsic characterization of the Schwarzschild metric. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1323–1330. (Volker Perlick) **99d:83022** 83C20 (83C15)

Sáez-Martí, María On the asymptotic convergence to mixed equilibria in 2×2 asymmetric games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 549–559. (Summary) **99a:90263** 90D46

Safarov, Yu. (*with* Laptev, A.; Robert, Didier) Remarks on the paper of V. Guillemin and K. Okikiolu: "Subprincipal terms in Szegő estimates" [Math. Res. Lett. **4** (1997), no. 1, 173–179; MR 97k:58169]. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 57–61. (Leonid Friedlander) **99g:58126** 58G25 (35P20, 58G15, 58G18)

Safavi-Naini, Reihaneh (*with* Bakhtiari, S.; Pieprzyk, Josef) On the weaknesses of Gong's collisionful hash function. (English summary) *J.UCS* **3** (1997), *no.* 3, 185–196 (*electronic*). 68P10

— (*with* Ghodosi, Hossein; Pieprzyk, Josef) Secret sharing in multilevel and compartmented groups. (English summary) *Information security and privacy* (*Brisbane*, 1998), 367–378, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94044** 94A60

— (*with* Ghodosi, Hossein; Pieprzyk, Josef; Wang, Huaxiong) On construction of cumulative secret sharing schemes. (English summary) *Information security and privacy* (*Brisbane*, 1998), 379–398, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60

Safer, Taoufik Radix representations of algebraic number fields and finite automata. (English summary) *STACS* 98 (*Paris*, 1998), 356–365, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99g:68119** 68Q45 (11Y40)

— Polygonal radix representations of complex numbers. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 1, 159–171. (Jeffrey O. Shallit) **99h:11010** 11A63

Saff, Edward B. (*with* Totik, Vilmos) ★ Logarithmic potentials with external fields. Appendix B by Thomas Bloom. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 316. *Springer-Verlag, Berlin*, 1997. xvi+505 *pp. ISBN* 3-540-57078-0 (D. S. Lubinsky) **99h:31001** 31–02 (30C10, 41A10, 42C05)

— (*with* Stahl, Herbert) Ray sequences of best rational approximants for $|x|^\alpha$. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 1034–1065. (Ralitza Kovacheva) **99c:41031** 41A20 (41A44)

— (*with* Dragnev, P. D.) Constrained energy problems with applications to orthogonal polynomials of a discrete variable. (English summary) *J. Anal. Math.* **72** (1997), 223–259. (V. Totik) **99f:42048** 42C05 (31B15)

— (*with* Papamichael, N.; Pritsker, I. E.) Asymptotic zero distribution of Laurent-type rational functions. (English summary) *J. Approx. Theory* **89** (1997), *no.* 1, 58–88. (H.-J. Runckel) **99a:30007** 30C15 (30C85)

— (*with* Rakhmanov, E. A.; Simeonov, P. C.) Rational approximation with varying weights. II. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 331–338. (D. J. Leeming) **99a:41015** 41A20

— (*with* Baratchart, L.; Leblond, Juliette; Mandréa, F.) How can the meromorphic approximation help to solve some 2D inverse problems for the Laplacian? (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 79–90. (Summary) **99j:35228** 35R30 (30E10, 35J05, 41A30)

Saffin, P. M. (*with* Mazumdar, Anupam; Copeland, Edmund J.) Instantons from low energy string actions. (English summary) *Phys. Lett. B* **435** (1998), *no.* 1-2, 19–24. (Summary) **99d:83100** 83E30 (81T30)

Saffiotti, A. (*with* Benferhat, Salem; Smets, P.) Belief functions and default reasoning. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ, 1995)*, 19–26, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T27 (03B70)

— (*with* Benferhat, Salem; Dubois, Didier; Lang, Jérôme; Prade, Henri; Smets, P.) Reasoning under inconsistency based on implicitly-specified partial qualitative probability relations: a unified framework. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 121–126, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B70)

Saffman, P. G. (*with* Pullin, D. I.) Vortex dynamics in turbulence. (English summary) *Annual review of fluid mechanics, Vol. 30*, 31–51, *Annu. Rev. Fluid Mech., 30, Annual Reviews, Palo Alto, CA*, 1998. (From the introduction) **99a:76072** 76F99 (76C05, 76D99)

Safjan, Andrzej J. Highly accurate non-reflecting boundary conditions for finite element simulations of transient acoustics problems. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 175–193. (Summary) **99j:76114** 76Q05 (76M10)

Safonov, Mikhail (*with* Fabes, Eugene B.) Behavior near the boundary of positive solutions of second order parabolic equations. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 871–882. (W. Watzlawek) **99d:35071** 35K20 (35B40)

— Estimates near the boundary for solutions of second order parabolic equations. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 637–647 (*electronic*). (Summary) **99h:35079** 35K10 (35B45)

Safonov, V. F. (*with* Tuĭchiev, O. D.) Regularization of singularly perturbed integral equations with rapidly varying kernels and their asymptotics. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1199–1210, 1294; *translation in Differential Equations* **33** (1997), *no.* 9, 1203–1215 (1998). (Nicolay A. Magnitskiĭ) **99i:45004** 45D05 (45M05)

Safonov, V. G. On minimal multiply local non-$\mathfrak{H}$-formations of finite groups. (Russian. English summary) *Problems in algebra, No. 8 (Russian)*, 109–138, *Gomel. Gos. Univ., Gomel'*, 1995. (From the text) **99h:20033** 20D10

— On critical multiply local formations of finite groups. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 57–61, 140. (Alexander N. Skiba) **99j:20026** 20D10

Safonov, V. L. (*with* Shi, Q.; Mino, M.; Yamazaki, Hitoshi) Unitary transformations in weakly nonideal Bose gases. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 258–264. (Summary) **99a:82024** 82B20 (81V70)

Safonova, I. N. On minimal ω-local nonsupersolvable formations. (Russian. English summary) *Problems in algebra, No. 12 (Russian)*, 123–130, *Gomel. Gos. Univ., Gomel'*, 1998. (From the text) **99k:20066** 20F17 (20D10)

Safouhi, H. (*with* Hoggan, P. E.) Efficient evaluation of Coulomb integrals: the nonlinear D- and $\overline{D}$-transformations. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8941–8951. (Summary) **99h:65022** 65D15 (81V55)

Safra, Shmuel (*with* Goldreich, Oded) A combinatorial consistency lemma with application to proving the PCP theorem. (English summary) *Randomization and approximation techniques in computer science (Bologna, 1997)*, 67–84, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **99a:68073** 68Q15

— (*with* Arora, Sanjeev) Probabilistic checking of proofs: a new characterization of NP. (English summary) *J. ACM* **45** (1998), *no.* 1, 70–122. (Oded Goldreich) **99d:68077a** 68Q15 (03B35, 03D15, 68Q25)

— (*with* Miltersen, Peter Bro; Nisan, Noam; Wigderson, Avi) On data structures and asymmetric communication complexity. (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 37–49. (Ricardo Baeza-Yates) **99i:68064** 68Q25 (68P05)

Safronov, O. L. The discrete spectrum in the gaps of the continuous one for non-signdefinite perturbations with a large coupling constant. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 233–243. (Alexander A. Kiselev) **99b:47020** 47A55 (35P15, 35P20, 47B25, 47N50)

Safronov, S. I. (*with* Zakharov, E. V.; Tarasov, R. P.) Numerical solution of boundary integral equations by reduction to a problem with a finite nonabelian symmetry group. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1227–1232, 1295; *translation in Differential Equations* **33** (1997), *no.* 9, 1233–1238 (1998). (Summary) **99e:65186** 65R20 (45L05)

— (*with* Zakharov, E. V.; Tarasov, R. P.) Iterative methods for solving boundary equations of canonical form in boundary value problems with symmetries. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 734–739; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 704–710. (Summary) **99d:65373** 65R20 (65N99)

el-Safty, Abdalla *see* **El-Safty, Abdalla**

Sagan, Bruce E. Unimodality and the reflection principle. (English summary) *Ars Combin.* **48** (1998), 65–72. (Ira Gessel) **99g:05013** 05A20 (05A10, 05A15)

— (*with* Blass, Andreas) Characteristic and Ehrhart polynomials. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 2, 115–126. (Godofredo Iommi Amunátegui) **99c:05204** 05E15 (05A15)

— *see also* **Mathematical essays in honor of Gian-Carlo Rota, 99a:00055**

Sagara, Setsuo (*with* Yang, Zi-Jiang; Tsuji, Teruo) Multiresolution approach to identification of system impulse response. *Statistical methods in control and signal processing*, 149–177, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E12 (93C57)

Sagastabeitia, I. (*with* Sandoval, J.; de la Sen, Manuel) Discrete optimal control in the presence of input and state delays. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 16+*iii* pp. (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 49J30 (93C55)

Sagastizábal, Claudia (*with* Bonnans, J. Frédéric; Gilbert, Jean Charles; Lemaréchal, Claude) ★ Optimisation numérique. (French. French summary) [Numerical optimization] Aspects théoriques et pratiques. [Theoretical and applied aspects] Mathématiques & Applications [Mathematics & Applications], 27. *Springer-Verlag, Berlin*, 1997. *xii*+324 *pp. ISBN* 3-540-63183-6 (Marlies Borchardt) **99f:90001** 90-01 (49M37, 65-01, 65K05, 90C30)

Sagdeev, R. Z. (*with* Kabanikhin, S. I.; Koptyug, I. V.; Iskakov, K. T.) Inverse problem for a quasi-linear equation of diffusion. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 335–351. (Hong Ming Yin) **99k:65085** 65M30 (35R30, 76R50)

Sağel, M. Kemal Some properties preserved under the mercator projection. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 2, 141–144. 53A07

Sågfors, Mats F. (*with* Toivonen, Hannu T.) The sampled-data H_∞ problem: a unified framework for discretization-based methods and Riccati equation solution. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 289–309. 93B36 (93C57)

— (*with* Toivonen, Hannu T.; Lennartson, Bengt) H_∞ control of multirate sampled-data systems: a state-space approach. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 415–428. (Anton A. Stoorvogel) **99e:93030** 93B36 (93C57)

Saghafi, S. (*with* Sheppard, C. J. R.) Near field and far field of elegant Hermite-Gaussian and Laguerre-Gaussian modes. (English summary) *J. Modern Opt.* **45** (1998), *no.* 10, 1999–2009. (Summary) **99i:78020** 78A40

Sagher, Yoram (*with* Xiang, Niandi) Limits of sequences of operators on spaces of vector valued functions. (English summary) Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 959–970. (Oscar Blasco) **99c:42034** 42B25 (46E40)

— (*with* Kenig, Carlos E.) Eugene B. Fabes 1937–1997. *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, *viii–xii*. (Editors) **99k:01064** 01A70

— (*with* Shvartsman, Pavel) On the John-Strömberg-Torchinsky characterization of BMO. *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 521–548. (Da Chun Yang) **99k:46047** 46E30 (41A10, 42C15, 46E35)

Sági, Gábor Defining relations for non-permutational finite transformations. (English summary) *Semigroup Forum* **58** (1999), *no.* 1, 94–105. (Inessa Levi) **99k:20118** 20M20 (03G25)

Saginashvili, A. Singular integral operators with shift outside the integration contour. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **114** (1997), 89–98. (Sergeĭ Grudskiĭ) **99g:47118** 47G10 (45E05, 45P05)

Sagis, Leonard M. C. The Maxwell-Stefan equations for diffusion in multiphase systems with intersecting dividing surfaces. (English summary) *Phys. A* **254** (1998), *no.* 3-4, 365–376. (Summary) **99e:76113** 76R50 (76T05, 80A22)

Sagitov, S. (*with* Kaj, I.) Superprocess approximation for a spatially homogeneous branching walk. (English summary) *Electron. Comm. Probab.* **2** (1997), 59–70 (*electronic*). (Luis G. Gorostiza) **99a:60094** 60J85 (60J80)

— (*with* Kaj, I.) Limit processes for age-dependent branching particle systems. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 225–257. (Anton Wakolbinger) **99c:60189** 60J80 (60G57)

Sagiv, Mooly (*with* Francez, Nissim; Rodeh, Michael; Wilhelm, Reinhard) A logic-based approach to program flow analysis. (English summary) *Acta Inform.* **35** (1998), *no.* 6, 457–504. (Summary) **99b:68123** 68Q60

Sagnotti, Augusto (*with* Ferrara, Sergio; Riccioni, Fabio) Tensor and vector multiplets in six-dimensional supergravity. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 115–140. (Sergiu I. Vacaru) **99g:83082** 83E50 (83E30)

— (*with* Riccioni, Fabio) Some properties of tensor multiplets in six-dimensional supergravity. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 68–73. (Sergiu I. Vacaru) **99g:83083** 83E50 (83E30)

— (*with* Riccioni, Fabio) Consistent and covariant anomalies in six-dimensional supergravity. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 298–305. (C. Gauthier) **99i:81218** 81T50 (83E50)

Sagot, Marie-France (*with* Viari, Alain) Flexible identification of structural objects in nucleic acid sequences: palindromes, mirror repeats, pseudoknots and triple helices. (English summary) *Combinatorial pattern matching (Aarhus, 1997)*, 224–246, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99b:92033** 92D20

— (*with* Viari, Alain; Soldano, Henri) Multiple sequence comparison—a peptide matching approach. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 115–137. (Juraj Hromkovič) **99e:92023** 92D20 (68Q20, 68Q25)

— Spelling approximate repeated or common motifs using a suffix tree. (English summary) *LATIN'98: theoretical informatics (Campinas, 1998)*, 374–390, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68Q20 (68Q25, 92D20)

del Sagrado, José (*with* Moral, Serafín) Aggregation of imprecise probabilities. (English summary) *Aggregation and fusion of imperfect information*, 162–188, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 90C70

presa Sagué, Arturo *see* **Presa Sagué, Arturo**

Saguez, Christian (*with* Chargy, Didier) Applications récentes en mécanique des fluides. (English and French summaries) [Recent applications in fluid mechanics] *Équations aux dérivées partielles et applications*, 327–344, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 73V20 (73K70, 76M25)

Sagüillo, Jose-Miguel Logical consequence revisited. *Bull. Symbolic Logic* **3** (1997), *no.* 2, 216–241. (Sriram Nambiar) **99e:03007a** 03A05 (01A60, 03–03)

— Erratum: "Logical consequence revisited". *Bull. Symbolic Logic* **3** (1997), *no.* 4, 537. (Sriram Nambiar) **99e:03007b** 03A05 (01A60, 03–03)

— (*with* Martínez Vidal, C.; Vilanova Arias, Javier) Fitch's problem and the knowability paradox: logical and philosophical remarks. (English summary) *Log. Trianguli* **1** (1997), 73–91. (Torben Braüner) **99g:03005** 03A05 (03B45)

Sah, Chih-Han *see* **Dupont, Johan L.**

Sah, Raaj (*with* Zhao, Jingang) Some envelope theorems for integer and discrete choice variables. (English summary) *Internat. Econom. Rev.* **39** (1998), *no.* 3, 623–634. (J. M. Gutiérrez) **99m:90008** 90Axx (90C31)

Saha, A. K. (*with* Roberts, M. G.) The asymptotic behaviour of a logistic epidemic model with stochastic disease transmission. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 37–41. (Summary) **99g:92039** 92D30 (60J85)

Saha, Bijan (*with* Shikin, G. N.) Nonlinear spinor field in Bianchi type-I universe filled with perfect fluid: exact self-consistent solutions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5305–5318. (Wathek Talebaoui) **99a:83022** 83C20 (83C10)

Saha, Jayanti (*with* Khanduja, Sudesh K.) The prime and maximal ideals in $R[X]$, R a one-dimensional Prüfer domain. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 12, 1275–1279. (R. K. Markanda) **99m:13041** 13F20 (13F05)

Saha, N. K. (*with* Kundu, Prabir Kumar) On the scattering of water waves by a submerged slender barrier. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998), *no.* 2, 171–189. (Summary) **99j:76010** 76B15

Sahadevan, R. (*with* Sarlet, W.; Cantrijn, F.) Symmetries, separability and volume forms. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5908–5924. (Manuel de León) **99m:58098** 58F05 (70H05, 70H33)

Sahai, Amit (*with* Bellare, Mihir; Halevi, Shai; Vadhan, Salil) Many-to-one trapdoor functions and their relation to public-key cryptosystems. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 283–298, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94038** 94A60

— (*with* Dwork, Cynthia) Concurrent zero-knowledge: reducing the need for timing constraints. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 442–457, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94043** 94A60 (68Q10, 68Q15)

— (*with* Bern, Marshall) Pushing disks together—the continuous-motion case. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 499–514. (Summary) **99i:52009** 52A40 (51M16)

— (*with* Vadhan, Salil) Manipulating statistical difference. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 251–270, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68099** 68Q25 (60E05, 68Q15)

Sahai, Anant (*with* Mitter, Sanjoy K.) Information and control: Witsenhausen revisited. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 281–293, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B30

Sahai, Hardeo (*with* Khurshid, Anwer) On confidence intervals for the probability of success when sampling is without replacement. *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 904–911. 62D05

Sahai, Vivek q-representations of the Lie algebras $\mathcal{G}(a, b)$. (English summary) *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 83–98. (Alexei Zhedanov) **99k:33058** 33D80 (17B37)

— On models of $U_q(\mathrm{sl}(2))$ and q-Euler integral transformation. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 819–827. (Introduction) **99h:33062** 33D80 (17B37, 39A70)

— (*with* Johal, Ramandeep S.; Gupta, Raj K.) On the classical limit of the generalized q-deformed $\mathrm{SU}_q(2)$ and $\mathrm{SU}_q(1,1)$ algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 91–98. (Marcelo R. Ubriaco) **99g:81090** 81R50 (17B37)

— (*with* Johal, Ramandeep S.; Gupta, Raj K.) Squeezed states and two-parameter quantum groups. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 887–891. (Summary) **99d:81056** 81R50 (81R30)

Sahakian, Artur A. (*with* Gevorgyan, O. V.; Akopyan, A. A.) Numerical curves and their applications to algebraic curves. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 97–111, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (65D17)

— On a class of $(0,1)$-matrices associated with partitions of subsets of E^n. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 2, 12–16. (Konrad Engel) **99m:05010** 05A18

— (*with* Lorentz, Rudolph Alexander; Madych, W. R.) Translation and dilation invariant subspaces of $L^2(\mathbf{R})$ and multiresolution analyses. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 375–388. (Sergio A. Tozoni) **99h:42062** 42C15 (42B10)

— (*with* Lorentz, Rudolph Alexander) On subspaces generated by wavelet systems. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 299–302; *translation in Math. Notes* **63** (1998), *no.* 1-2, 260–263. (I. Ya. Novikov) **99d:42066** 42C15 (46E30)

Sahakyan, D. A. (*with* Apikyan, S. A.) Superconformal field theory with boundary: fermionic model. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 22, 1781–1790. (Christophe Grojean) **99e:81217** 81T40 (81T60)

Saharian, Aram A. *see* **Saaryan, A. A.**

Saharova, V. P. *see* **Sakharova, V. P.**

Sahbani, Jaouad The conjugate operator method for locally regular Hamiltonians. (English summary) *J. Operator Theory* **38** (1997), *no.* 2, 297–322. (Hiroshi Isozaki) **99a:47035** 47B25 (47A10, 47A40, 47N50, 81Q10)

— (*with* Boutet de Monvel-Berthier, Anne-Marie) On the spectral properties of discrete Schrödinger operators. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1145–1150. (M. Krishna) **99g:47073** 47B39 (47N50, 81Q10)

Saheb, N. (*with* Mosbah, Mohamed) A syntactic approach to random walks on graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 258–272, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (05C85, 68Q45)

Saheb-Djahromi, N. (*with* Alvarez-Manilla, M.; Edalat, Abbas) An extension result for continuous valuations. (English summary) *Third Workshop on Computation and Approximation* (*Comprox III*) (*Birmingham*, 1997), 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 13, *Elsevier, Amsterdam*, 1998. (*see* **99i:00013**) 06B35 (28A99)

Sahel, Amina (*with* Heibig, Arnaud) A method of characteristics for some systems of conservation laws. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1467–1480 (*electronic*). (Zi Ping Li) **99g:35079** 35L65

Sahi, Siddhartha Interpolation, integrality, and a generalization of Macdonald's polynomials. *Internat. Math. Res. Notices* **1996**, *no.* 10, 457–471. (Mark D. Haiman) **99j:05189b** 05E05 (33C80, 33D80)

— (*with* Knop, Friedrich) Difference equations and symmetric polynomials defined by their zeros. *Internat. Math. Res. Notices* **1996**, *no.* 10, 473–486. (From the introduction) **99d:05086** 05E05 (39A10)

— The binomial formula for nonsymmetric Macdonald polynomials. *Duke Math. J.* **94** (1998), *no.* 3, 465–477. (V. L. Deshpande) **99k:33041** 33C50 (33C80)

— (*with* Dvorsky, Alexander) Tensor products of singular representations and an extension of the θ-correspondence. (English summary) *Selecta Math. (N.S.)* **4** (1998), *no.* 1, 11–29. (Jing-Song Huang) **99e:22028** 22E46

Sahimi, Muhammad Non-linear and non-local transport processes in heterogeneous media: from long-range correlated percolation to fracture and materials breakdown. (English summary) *Phys. Rep.* **306** (1998), *no.* 4-6, 213–395. (Summary) **99h:82065** 82C43 (73M25, 76S05, 82D99)

Şahin, Ayşe Arzu (*with* Johnson, Aimee S. A.) Finite rank $\mathbf{Z}^d$ actions and the loosely Bernoulli property. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 125–134 (*electronic*). (N. N. Ganikhodzhaev) **99b:28020** 28D15 (28D20)

— Tiling representations of $\mathbf{R}^2$ actions and α-equivalence in two dimensions. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1211–1255. (Mariusz Lemańczyk) **99k:28020** 28D05

Şahinalp, Süleyman Cenk (*with* Matias, Yossi; Muthukrishnan, S.; Ziv, Jacob) Augmenting suffix trees, with applications. (English summary) *Algorithms—ESA '98* (*Venice*), 67–78, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q20 (68P20)

Şahiner Yilmaz, Y. (*with* Zafer, A.) Oscillation of even order nonlinear neutral differential equations with damping. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 445–451. (Summary) **99c:34165** 34K15

Sahinidis, Nikolaos V. (*with* Shectman, J. Parker) A finite algorithm for global minimization of separable concave programs. (English summary) *J. Global Optim.* **12** (1998), *no.* 1, 1–35. (Summary) **99c:90092** 90C26

Sahleh, A. (*with* Pourabdollah, Mohammad Ali) Flows and universal compactifications. (English summary) *J. Sci. Islam. Repub. Iran* **8** (1997), *no.* 4, 269–273. (Summary) **99f:54049** 54H15 (54D35, 54H20)

Sahm, Michael (*with* Dette, Holger) Standardized optimal designs for binary response experiments. (English summary) *South African Statist. J.* **31** (1997), *no.* 2, 271–298. (Summary) **99a:62104** 62K05

— (*with* Dette, Holger) E-optimal designs for the double exponential model. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 11–20, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62088** 62K05

— (*with* Dette, Holger) Minimax optimal designs in nonlinear regression models. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1249–1264. (Summary) **99i:62166** 62K05

Sahni, Sartaj (*with* Cho, Seonghun) Weight-biased leftist trees and modified skip lists. (English summary) *ACM J. Exp. Algorithmics* **3** (1998), *approx.* 27 *pp.* (*electronic*). 68P05

Sahoo, A. K. Absolute N_{α_n}-summability of the series conjugate to a Fourier series. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 3, 251–271. (G. U. Brauer) **99k:42009** 42A28 (40F05, 40G05)

Sahoo, D. K. (*with* Basu, A. K.) On consistency of nonparametric estimates of density, its derivative and mode for exchangeable sequences. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 43–61. (Summary) **99b:62083** 62G20 (62G05)

— (*with* Basu, A. K.) On Berry-Esseen theorem for nonparametric density estimation in Markov sequences. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 25–39. (G. Roussas) **99i:62063** 62G05 (60F05, 60J05)

Sahoo, J. (*with* Sahoo, L. N.; Ruíz Espejo, Mariano) On some strategies using auxiliary information for estimating finite population mean. (English summary) *Qüestiió* (2) **22** (1998), *no.* 2, 243–252. 62D05

Sahoo, L. N. (*with* Sahoo, J.; Ruíz Espejo, Mariano) On some strategies using auxiliary information for estimating finite population mean. (English summary) *Qüestiió* (2) **22** (1998), *no.* 2, 243–252. 62D05

— (*with* Panda, Pournamasi) Predictive estimation of finite population mean using a product estimator for two-stage sampling. (English summary) *Biom. J.* **41** (1999), *no.* 1, 93–97. 62D05

Sahoo, Prasanna K. (*with* Riedel, Thomas) On two functional equations connected with the characterizations of the distance measures. (English summary) *Aequationes Math.* **54** (1997), *no.* 3, 242–263. (Valeri Kaliaguine) **99g:39029** 39B22 (39B52)

— (*with* Riedel, Thomas) A functional equation characterizing low degree polynomials in two variables. *Demonstratio Math.* **30** (1997), *no.* 1, 85–94. (J. Aczél) **99b:39029** 39B22

— (*with* Kannappan, Palaniappan) Sum from distance measures between probability distributions and functional equations. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 1, 91–105. (Wolfgang Sander) **99a:94011** 94A17 (39B22, 62B10)

— (*with* Kannappan, Palaniappan; Riedel, Thomas) On a functional equation associated with Simpson's rule. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 115–126. (Summary) **99g:39028** 39B22 (65D15, 65Q05)

— (*with* Deeba, Elias Y.; Koh, E. L.; Xie, Shishen) On a distributional analog of a sum form functional equation. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 333–344. (Summary) **99a:39054** 39B22 (46F10)

— (*with* Zhong, Ju Kang; Kannappan, Palaniappan) On second differences in product form. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 44–60. (Shigeru Haruki) **99a:39063** 39B52

— (*with* Zhong, Ju Kang; Kannappan, Palaniappan) Corrigendum to: "On trigonometric functional equations of rectangular type" [Aequationes Math. **53** (1997), no. 1-2, 36–53; MR 98i:39009]. *Aequationes Math.* **56** (1998), *no.* 1-2, 199–200. (From the text) **99c:39038** 39B52

— (*with* Kannappan, Palaniappan) On generalizations of the Popeiu functional equation. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 117–124. (John A. Baker) **99b:39028** 39B22

— (*with* Deeba, Elias Y.; Xie, Shishen) On a class of functional equations in distribution. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 334–346. (Ioana Ciorănescu) **99g:39026** 39B22 (46F10)

— (*with* Powers, R. C.; Riedel, Thomas) Limit properties of differential mean values. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 216–226. (Mihai Turinici) **99k:26003** 26A24

Sahoo, Trilochan (*with* Chakrabarti, Aloknath) Reflection of waterwaves by a porous nearly vertical wall. (English summary) Proceedings of International Symposium on

Mathematical Physics with Special Sessions on Bose's Works, Part I (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **3** (1995), *no.* 1-2, 31–42. (*see* **99b:00016**) 76B15

— (*with* Chakrabarti, Aloknath) On reflection of water waves by a vertical wall in the presence of surface tension. (English summary) Proceedings of the Seminar on Continuum Mechanics (Calcutta, 1996). *Rev. Bull. Calcutta Math. Soc.* **5** (1997), *no.* 2, 95–100. (*see* **99k:00035**) 76B15

— On three unified approaches in problems of scattering of water waves by vertical barriers. (English summary) *Special functions and differential equations* (*Madras*, 1997), 449–455, *Allied Publ., New Delhi*, 1998. (Summary) **99i:76020** 76B15 (45Exx)

— (*with* Chakrabarti, Aloknath) The effect of surface tension in porous wave maker problems. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 539–556. (Summary) **99a:76012** 76B15 (76B45)

— On the scattering of water waves by porous barriers. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 5, 364–370. (Summary) **99a:76016** 76B15 (45E05, 76S05)

Sahota, M. S. (*with* O'Rourke, P. J.) A variable explicit/implicit numerical method for calculating advection on unstructured meshes. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 312–345. (Summary) **99b:76058** 76M20

jankowska-Sahraoui, Emilia *see* **Jankowska-Sahraoui, Emilia**

Sahu, Daya Ram (*with* Sharma, Birendra Kumar) Hybrid D-compatibility for solution of functional equations. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 1, 101–114. (S. A. Naimpally) **99c:39037** 39B52

— (*with* Jung, Jong Soo; Thakur, Balwant Singh) Strong convergence theorems for asymptotically nonexpansive mappings in Banach spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 53–69. (Behzad Djafari-Rouhani) **99g:47127** 47H09 (47H10)

— (*with* Jung, Jong Soo; Thakur, Balwant Singh) Fixed points of a certain class of mappings in spaces with uniformly normal structure. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 677–680. (Louis A. Talman) **99i:47105** 47H10 (54H25)

— (*with* Jung, Jong Soo) Approximating fixed points of asymptotically nonexpansive mappings. (English summary) *Nonlinear Anal. Forum* **3** (1998), 41–52. (Tomás Domínguez Benavides) **99f:47071** 47H09 (47H10, 47H17)

Sahu, Gokul (*with* Das, A. G.; Nath, Mahadev Chandra) Generalized Henstock Stieltjes integral. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 61–75. (J. Jarník) **99b:26011** 26A39 (26A42)

Sahu, H. K. On a fixed point theorem in quasi-metric space. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 259–260. 54H25

Saia, Marcelo José (*with* Ruas, Maria Aparecida Soares) The polyhedron of equisingularity of germs of hypersurfaces. *Real and complex singularities* (*São Carlos*, 1994), 37–48, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (Mihai Tibăr) **99a:32054** 32S15 (14B07, 32S25)

— (*with* Nuno Ballesteros, Juan J.) Multiplicity of Boardman strata and deformations of map germs. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 1, 21–32. (Leslie Charles Wilson) **99a:58016** 58C27 (32S05, 58C28)

— (*with* Fukui, Toshizumi; Nuno Ballesteros, Juan J.) On the number of singularities in generic deformations of map germs. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 141–152. (Kevin Houston) **99m:32046** 32S30 (58C27)

— Pre-weighted homogeneous map germs—finite determinacy and topological triviality. (English summary) *Nagoya Math. J.* **151** (1998), 209–220. (Leslie Charles Wilson) **99j:58027** 58C27

Saias, Eric Applications des entiers à diviseurs denses. [Applications of integers with dense divisors] *Acta Arith.* **83** (1998), *no.* 3, 225–240. (A. J. Hildebrand) **99g:11112** 11N25 (05C38, 11N35)

— (*with* Balazard, Michel) Notes sur la fonction ζ de Riemann. 1. [Notes on the Riemann ζ-function. 1] *Adv. Math.* **139** (1998), *no.* 2, 310–321. (Nigel Watt) **99k:11133** 11M26

Saias, Isaac (*with* Mücke, Ernst P.; Zhu, Binhai) Fast randomized point location without preprocessing in two- and three-dimensional Delaunay triangulations. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 63–83. (Summary) **99k:68197** 68U05 (65Y25)

Saichev, A. I. (*with* Zhukova, I. S.) Statistics of the Euler density field of a passive tracer in incompressible and compressible media. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 788–797; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 765–773 (1998). (Summary) **99c:76057** 76F99 (76M35, 76R50)

— (*with* Zhukova, I. S.) The arising and evolution of the passive tracer clusters in compressible random media. *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 353–371, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 82D30 (76F99, 76M35)

al-Said, Eisa A. *see* **Al-Said, Eisa A.**

Saidak, F. Erdős conjecture. I. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 106–112. (J. Sándor) **99h:11005** 11A07 (11N25)

Saĭdamatov, È. M. (*with* Umarov, S. R.) On conditions for the discreteness of the spectrum for a general pseudo-differential operator. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 133–135, 144; *translation in Differential Equations* **33** (1997), *no.* 1, 136–138. (Viorel Iftimie) **99f:35145** 35P05 (35S15, 47G30)

Saidan, Ahmad S. Numeration and arithmetic. *Encyclopedia of the history of Arabic science, Vol.* 1–3, 331–348, *Routledge, London*, 1996. (*see* **99k:01001**) 01A30

Saidi, Abdelkader (*with* Destuynder, Philippe) Smart materials and flexible structures. (English summary) *Control Cybernet.* **26** (1997), *no.* 2, 161–205. (Summary) **99i:73054** 73K50 (73K40, 73R05, 93C20)

Saidi, Fathi (*with* Younis, Rahman) On some reverse integral inequalities. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 624–629. (Alberto Fiorenza) **99f:26038** 26D15

Saïdi, Mohamed Moduli schemes of Drinfeld modules. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 17–31, *World Sci. Publishing, River Edge, NJ*, 1997. (Akio Tamagawa) **99g:11076** 11G09 (14D20)

— Revêtements modérés et groupe fondamental de graphe de groupes. (English summary) [Tame coverings and fundamental group of graphs of groups] *Compositio Math.* **107** (1997), *no.* 3, 319–338. (Qing Liu) **99f:14025** 14G20 (11G20, 14H30)

— p-rank and semi-stable reduction of curves. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 63–68. (Akio Tamagawa) **99j:14029** 14H30 (11G20, 14E20)

— p-rank and semi-stable reduction of curves. II. *Math. Ann.* **312** (1998), *no.* 4, 625–639. (Akio Tamagawa) **99m:14054** 14H30 (11G20, 14G40)

Saido, Hajime (*with* Kurosawa, Kaoru; Okada, Koji; Stinson, Douglas R.) New combinatorial bounds for authentication codes and key predistribution schemes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 87–100. (Andrea Sgarro) **99m:94032** 94A60 (05B05, 05B15)

Saidova, O. (*with* Mirakhmedov, Sh. A.) A Berry-Esseen bound for empty boxes statistic on the scheme an allocations of several type balls. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 47–52. (M. P. Quine) **99c:60049** 60F05 (60C05)

Saied, Effat A. The non-classical solution of the inhomogeneous non-linear diffusion equation. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 103–108. (Summary) **99h:35096** 35K55 (34A05, 35A30)

Saif, Mehrdad (*with* Yang, Hanlong) State observation, failure detection and isolation (FDI) in bilinear systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 901–920. 93B07 (93C10)

— (*with* Busawon, K. K.) An observer for a class of disturbance driven nonlinear systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 109–113. 93E10 (93B07)

Saigo, Megumi (*with* Kilbas, A. A.) Compositions of generalized fractional integration operators with the Fox H-function and a differential operator in axisymmetric potential theory. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 6, 12–17, 122. (V. S. Kiryakova) **99g:26016** 26A33 (33C60, 44A20, 47G10)

— (*with* Kilbas, A. A.) On generalized fractional integration operators with Fox's H-function on spaces $F_{p,\mu}$ and $F'_{p,\mu}$. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 103–114. (P. G. Rooney) **99d:44001** 44A20 (26A33, 33C60)

— (*with* Kilbas, A. A.) On Mittag-Leffler type function, fractional calculus operators and solutions of integral equations. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 4, 355–370. (V. S. Kiryakova) **99g:33058** 33E20 (26A33, 45D05, 45E05)

— (*with* Kiryakova, Virginia S.; Owa, Shigeyoshi) Distortion and characterization theorems for starlike and convex functions related to generalized fractional calculus. New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 25–46. (H. M. Srivastava) **99f:30023** 30C45 (26A33)

— (*with* Maeda, Nobuyuki) More generalization of fractional calculus. (English summary) *Transform methods & special functions, Varna* '96, 386–400, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99i:26009** 26A33 (33C45)

— (*with* Kiryakova, Virginia S.; Srivastava, Hari M.) Some criteria for univalence of analytic functions involving generalized fractional calculus operators. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 1, 79–104. (R. K. Raina) **99k:30021** 30C45 (26A33)

— (*with* Choi, Jae Ho) Starlike and convex functions of complex order involving a certain fractional integral operator. (English summary) *Fukuoka Univ. Sci. Rep.* **28** (1998), *no.* 2, 29–40. (Summary) **99k:30017** 30C45

— (*with* Kilbas, A. A.) Fractional calculus of the H-function. (English summary) *Fukuoka Univ. Sci. Rep.* **28** (1998), *no.* 2, 41–51. (Summary) **99h:26015** 26A33

— (*with* Kilbas, A. A.) On Mittag-Leffler type function and applications. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 97–112. (Summary) **99i:26010** 26A33 (30D20, 33E20, 34A05)

— (*with* Saxena, Ram Kishore) Fractional integral formula for the H-function. II. (English summary) *J. Fract. Calc.* **13** (1998), 37–41. (Summary) **99d:26010** 26A33 (33C60)

— (*with* Goyal, S. P.; Saxena, Sunil) A theorem relating a generalized Weyl fractional integral, Laplace and Varma transforms with applications. (English summary) *J. Fract. Calc.* **13** (1998), 43–56. (Summary) **99a:44001** 44A10 (26A33, 44A15)

— (*with* Raina, Ravinder Krishna; Choi, Jae Ho) A note on a certain linear operator and its applications to certain subclasses of analytic functions. (English summary) *J. Fract. Calc.* **14** (1998), 45–51. (Summary) **99j:30014** 30C45 (26A33)

— (*with* Saxena, Ram Kishore) Application of generalized fractional calculus operators in the solution of an integral equation. (English summary) *J. Fract. Calc.* **14** (1998), 53–63. (Summary) **99j:26009** 26A33 (45A05)

— (*with* Saxena, Ram Kishore) Expansions of ${}_4F_3$ when the upper parameters differ by integers. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 293–299. (Summary) **99j:33009** 33C20

— (*with* Kilbas, A. A.) On solution of nonlinear Abel-Volterra integral equation. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 41–60. (N. K. Karapetyants) **99m:45007** 45G05

— (*with* Vũ Kim Tuấn) Modified fractional integral operators in L_p space with power-logarithmic weight. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 145–150. (Summary) **99k:47124** 47G10 (26A33)

Saillard, Marc (*with* Guérin, Charles-Antoine; Holschneider, Matthias) Characterization of multi-scale rough surfaces. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 174–178, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A45

Sain, Ildikó (*with* Gyuris, Viktor) Finite schematizable algebraic logic. (English summary) *Log. J. IGPL* **5** (1997), *no.* 5, 699–751 (*electronic*). (Mohamed Amer) **99d:03061** 03G15 (03B10, 03B45, 03G25)

Saïne, M. (*with* Laubie, F.) Ramification of some automorphisms of local fields. (English summary) *J. Number Theory* **72** (1998), *no.* 2, 174–182. (Gabriel D. Villa-Salvador) **99h:11135** 11S15 (11S20)

Sainfort, François (*with* Deichtmann, Jean M.) On the difference between the cardinalities of measurable value functions and von Neumann-Morgenstern utility functions. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 307–308. (Summary) **99f:90020** 90A10 (90D10)

Sainsaulieu, Lionel (*with* Bedjaoui, Nabil) Analysis of a non-hyperbolic system modelling two-phase fluid flows: the effects of surface tension. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 16, 1519–1542. (Summary) **99h:76087** 76T05 (35Q35, 76D45)

Saint-Aubin, Yvan (*with* Langlands, Robert P.) Aspects combinatoires des équations de Bethe. [Combinatorial aspects of the Bethe equations] *Advances in mathematical*

sciences: CRM's 25 years (*Montreal, PQ*, 1994), 231–301, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (V. A. Golubeva) **99h:32025** 32G34 (14E05, 82B23)

Saint Jean Paulin, Jeannine (*with* Vanninathan, Muthusamy) Vibrations of thin elastic structures and exact controllability. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 6, 765–803. (Guenter Leugering) **99c:93010** 93B05 (73K10, 73K12, 73K50)

— (*with* Ene, H. I.; Mascarenhas, M. L.) Fading memory effects in elastic-viscoelastic composites. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 7, 927–952. (Gérard Michaille) **99f:73005** 73B27 (73F15, 73K20)

— (*with* Kesavan, Srinivasan) Optimal control problems in homogenization. (English summary) *Équations aux dérivées partielles et applications*, 597–609, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Stanisław Migórski) **99h:49031** 49K20 (35B27, 49J20, 49J45)

Saint Loubert Bié, Erwan Étude d'une EDPS conduite par un bruit poissonnien. (English and French summaries) [Study of an SPDE driven by a Poisson noise] *Probab. Theory Related Fields* **111** (1998), *no.* 2, 287–321. (Samy Tindel) **99j:60096** 60H15 (35R60)

moreau de Saint-Martin, François *see* **Moreau de Saint-Martin, François**

Saint-Pierre, Patrick (*with* Quincampoix, Marc) An algorithm for viability kernels in Hölderian case: approximation by discrete dynamical systems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 13 *pp.* (*electronic*). (Vladimir Veliov) **99j:49007** 49J24 (34A60)

— (*with* Bonneuil, Noël) Domaine de victoire et stratégies viables chez les pêcheurs décrits par l'anthropologue Fredrik Barth. (English and French summaries) [Viable strategies among fishermen analyzed by the anthropologist Fredrik Barth] *Math. Inform. Sci. Humaines No.* 142 (1998), 43–66. (Summary) **99h:49002** 49J15 (90A16, 93B03)

Saint Raymond, J. (*with* Debs, G.) Some applications of game determinacy. 24th Winter School on Abstract Analysis (Benešova Hora, 1996). *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 2, 7–23. (Xie Ping Ding) **99c:90180** 90D44 (03E60, 54H05)

— On a conjecture of L. Veselý. (English summary) 24th Winter School on Abstract Analysis (Benešova Hora, 1996). *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 2, 83–87. (Mikhail Ostrovskiĭ) **99a:46017** 46B10

— (*with* Debs, G.) Compact-covering-properties of finite-to-one mappings. (English summary) *Topology Appl.* **81** (1997), *no.* 1, 55–84. (J. M. Aarts) **99e:54009** 54C10 (54E40, 54H05)

Saint-Raymond, Laure Approximation isentropique du système d'Euler compressible en dimension 1. (English and French summaries) [Isentropic approximation of the compressible Euler system in one space dimension] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 613–616. (Philippe G. LeFloch) **99g:76123** 76N10 (35L99, 35Q30)

Saints, Keith (*with* Little, John B.; Heegard, Chris) On the structure of Hermitian codes. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 293–314. (Shojiro Sakata) **99a:94054** 94B27 (94B15)

Sainz de la Maza, E. (*with* Maeztu, J. I.) Obtaining cubature formulas for the tetrahedron. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 4 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65D32

Saïs, Lakhdar (*with* Mazure, Bertrand; Grégoire, Éric) Boosting complete techniques thanks to local search methods. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 319–331. (Summary) **99g:68183** 68T15 (03B05, 03B35, 03B70, 68N17)

Saisho, Yasumasa Approximation of SDEs with reflecting barriers using the penalty method. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 13–20. (*see* **99f:65007**) 65U05 (60H10)

Saita, Fernando A. (*with* Giavedoni, María D.) The rear meniscus of a long bubble steadily displacing a Newtonian liquid in a capillary tube. (English summary) *Phys. Fluids* **11** (1999), *no.* 4, 786–794. (Summary) **99k:76050** 76D45 (76M25)

Saito, Hiroshi[1] Base change for $GL(N)$—a historical survey. (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 1–18. (*see* **99a:11005**) 11F70 (22E55)

— (*with* Ibukiyama, Tomoyoshi) On the "simple" zeta-functions. (Japanese. Japanese summary) *Sūgaku* **50** (1998), *no.* 1, 1–11. (Hiroshi Saito) **99e:11120** 11M41 (11E12, 11F46)

Saito, Hiroyuki (*with* Sasabuchi, Syoichi; Kulatunga, D. D. Sarath) Comparison of powers of some tests for testing homogeneity under order restrictions in multivariate normal means. (English summary) MSI-2000, Vol. IV (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **18** (1998), *no.* 1-2, 131–158. (*see* **99f:62009**) 62F30 (62H15)

Saitô, Kazuyuki (*with* Bunce, L. J.; Wright, J. D. Maitland) Completely additive measures on von Neumann algebras. *Exposition. Math.* **16** (1998), *no.* 2, 185–189. (Sh. A. Ayupov) **99e:46086** 46L50 (46L10)

— (*with* Bunce, L. J.; Wright, J. D. Maitland) A Dixmier-Schafer-Zhang theorem for operator algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 10, 2975–2979. (C. J. K. Batty) **99m:46147** 46L30 (28C15, 46A55)

Saito, Ken Mathematical reconstructions out, textual studies in: 30 years in the historiography of Greek mathematics. *Rev. Histoire Math.* **4** (1998), *no.* 1, 131–142. 01A99 (01A20)

Saito, Kichi-Suke (*with* Ji, Guoxing; Ohwada, Tomoyoshi) Triangular forms of subdiagonal algebras. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 545–552. (Edward Azoff) **99m:47053** 47D25 (46L10)

— (*with* Ji, Guoxing) Factorization in subdiagonal algebras. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 1, 191–202. (Paul Jolissaint) **99k:46106** 46L10

— (*with* Ji, Guoxing; Ohwada, Tomoyoshi) Certain structure of subdiagonal algebras. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 309–317. (Summary) **99b:46093** 46L10 (47D25)

Saitô, Kimiaki A C_0-group generated by the Lévy Laplacian. II. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 425–437. (Evgeniĭ Mel'nikov) **99k:46074** 46G05 (35R15, 46F25, 47D06, 60H99)

— A (C_0)-group generated by the Lévy Laplacian. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 567–584. (Evgeniĭ Mel'nikov) **99g:60109** 60H99 (46F25, 46G05, 47D06)

Saito, Kyoji Character variety of representations of a finitely generated group in SL_2. *Topology and Teichmüller spaces* (*Katinkulta*, 1995), 253–264, *World Sci. Publishing, River Edge, NJ*, 1996. (George F. Seelinger) **99k:20011** 20C12 (14L30, 20G05)

— Duality for regular systems of weights: a précis. *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 379–426, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (I. Dolgachev) **99i:32043** 32S30 (14J17, 14J28, 20F36)

— *see also* **Topological field theory, primitive forms and related topics**, **99e:00029** *and* **Topology and Teichmüller spaces**, **99g:00051**

Saitô, Masa-Hiko (*with* Ogata, Shoetsu) Signature defects and eta functions of degenerations of abelian varieties. *Japan. J. Math.* (*N.S.*) **23** (1997), *no.* 2, 319–364. (V. Kumar Murty) **99c:14059** 14K10 (11M41, 14D05, 58G10)

— On Shioda's Mordell-Weil lattices of higher genus fibrations. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 227–230, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 14J40 (14K05)

— *see also* **Integrable systems and algebraic geometry**, **99i:14002**

Saito, Masahico (*with* Carter, J. Scott; Kauffman, Louis H.) Diagrammatics, singularities, and their algebraic interpretations. (English summary) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 21–115. (Summary) **99d:57016** 57Q45 (57Q15)

— (*with* Carter, J. Scott) Surfaces in 3-space that do not lift to embeddings in 4-space. (English summary) *Knot theory* (*Warsaw*, 1995), 29–47, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Seiichi Kamada) **99h:57047** 57Q45

— (*with* Jonoska, Nataša; Karl, Stephen A.) Creating 3-dimensional graph structures with DNA. (English summary) *DNA based computers III* (*Philadelphia, PA*, 1997), 123–135, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05 (92E10)

Saito, Morihiko (*with* Bressler, Paul; Youssin, Boris) Filtered perverse complexes. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 119–136. (Stéphane Guillermou) **99i:14022** 14F32 (14D07, 14F40, 32C38)

Saito, Osami (*with* Xu, Li; Abe, Kenichi) Design of practically stable n-dimensional feedback systems: a state-space approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 29–39. 93D09 (93B51)

— (*with* Xu, Li; Abe, Kenichi) nD control systems in a practical sense. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 907–941. (Summary) **99c:93066** 93C30 (93B50)

— (*with* Yamada, Minoru; Xu, Li) 2D model-following servo system. (English summary) *Multidimens. Systems Signal Process.* **10** (1999), *no.* 1, 71–91. (Summary) **99j:93058** 93C30 (93C85)

Saito, Sachiko Classification of involutions of lattices with conditions and real algebraic curves on a hyperboloid. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 1–21. (Grigory B. Mikhalkin) **99f:14072** 14P25 (14J28)

Saito, Satoru Discrete integrable systems and the Moyal symmetry. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 336–342, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Rinat M. Kashaev) **99c:58080** 58F07

— A dual resonance model solves the Yang-Baxter equation. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8289–8296. (Rinat M. Kashaev) **99e:81254** 81U40 (82B23)

Saito, Shuji[1] Algebraic cycles and Hodge theory (about higher dimensionalization of abelian theory). (Japanese) *Sūgaku* **49** (1997), *no.* 2, 113–120. (Syoji Tsuboi) **99e:14004** 14C25 (14C15, 14C17, 14C30)

Saito, T. *see* **Saito, Takesi**

Saito, Takayuki Line structure derived from decomposition of asymmetric matrix. (English summary) *J. Japanese Soc. Comput. Statist.* **10** (1997), *no.* 1, 47–57. (Summary) **99c:62169** 62H99

Saito, Takeshi Automorphic forms and p-adic Hodge theory. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 126–131. (*see* **99a:11003**) 11F85 (11F80, 14F30)

— Determinant of l-adic cohomology. Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 39–43. (Adolfo Quirós) **99g:14019** 14F20 (11G25, 14F40, 14G15)

Saito, Takesi (*with* Arimitsu, Toshihico) Systems of quantum stochastic differential equations—a gap between physics and mathematics. Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 225–255. (Franco Fagnola) **99c:81114** 81S25 (60H99)

— (*with* Uehara, Kunihiko) Parallel transport in gauge theory on $M_4 \times Z_2$ geometry. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2390–2395. (Kamran Kaviani) **99c:81139** 81T13 (58B30, 81V15)

— (*with* Arimitsu, Toshihico) A microscopic derivation of quantum stochastic differential equations for a non-linear damped oscillator. Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 65–75. (John E. Gough) **99g:81116** 81S25

— (*with* Imagire, T.; Nemoto, Kae; Arimitsu, Toshihico) A comment on the Shibata-Hashitsume Langevin equation: is it of the Stratonovich type or of the Itô type? (English summary) *Phys. A* **256** (1998), *no.* 1-2, 129–148. (Kalyanapuram R. Parthasarathy) **99j:82059** 82C31 (81S25, 82C10)

— (*with* Kokado, Akira; Konisi, Gaku; Tada, Yutaka) Brans-Dicke theory from $M_4 \times Z_2$ geometry. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 2, 293–303. (Jürgen Tolksdorf) **99d:83083** 83D05 (58B30)

— (*with* Kubo, Masahiro; Maki, Ziro; Nakahara, Mikio) Grand unification from gauge theory in $M_4 \times Z_N$. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 1, 165–177. (Andrzej Sitarz) **99m:81286** 81V22 (46L87, 58B30, 81P99, 81T13)

— (*with* Kubo, Reijiro; Ogura, Waichi; Yasui, Yukinori) The Gauss-Knörrer map for the Rosochatius dynamical system. (English summary) *Phys. Lett. A* **251** (1999), *no.* 1, 6–12. (Jair Koiller) **99m:58111** 58F07 (58F05, 70H05, 70H15)

Saito, Tatsuhiko $\mathcal{J}$-trivial subsemigroups of finite full transformation semigroups. *Semigroup Forum* **57** (1998), *no.* 1, 60–68. (Peter Puusemp) **99d:20103** 20M20

— Remarks on maximal $\mathcal{J}$-trivial transformation semigroups on finite sets. *Semigroup Forum* **58** (1999), *no.* 1, 152–155. (Vladimir S. Mazorchuk) **99h:20098** 20M20

Saito, Tomokatsu (*with* Kai, Hiroshi; Noda, Matu-Tarow) A relation between approximate-GCD and error of hybrid rational function approximation. (Japanese. English summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 139–145. (*see* **99h:00034**) 65D15 (41A20)

— (*with* Shiraishi, Kei-ichi; Kai, Hiroshi; Noda, Matu-Tarow) An algebraic solution method for certain types of nonlinear programming problems. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 146–153. (*see* **99h:00034**) 90C30 (65K05)

Saito, Y. *see* **Saito, Yoshihisa**

Saito, Yoshihia *see* **Saito, Yoshihisa**

Saito, Yoshihiro[2] (*with* Shingu, Kohei; Mitsui, Taketomo) A numerical solution method for Langevin diffusion equations (equations of KPZ types). (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 86–100. (*see* **99f:65007**) 65M06 (65U05, 82C31)

Saito, Yoshihisa (*with* Kashiwara, Masaki) Geometric construction of crystal bases. *Duke Math. J.* **89** (1997), *no.* 1, 9–36. (Kailash C. Misra) **99e:17025** 17B37

— Geometric construction of crystal bases. Representation theory of groups and homogeneous spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1008 (1997), 21–39. (Toshiyuki Tanisaki) **99h:17022** 17B37 (20G05)

— Quantum toroidal algebras and their vertex representations. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 2, 155–177. (Mirko Primc) **99d:17022** 17B37 (17B69)

— (*with* Takemura, Kouichi; Uglov, D.) Toroidal actions on level 1 modules of $U_q(\widehat{\mathrm{sl}}_n)$. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 75–102. (Anjan Kundu) **99b:17015** 17B37 (17B10)

Saito, Yoshio[1] (*with* Kaminaga, Yasuhito; Yahiro, Masanobu) Gauge invariant description of chaos in 2D scalar-electrodynamics. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 301–305. (Summary) **99d:78014** 78A25 (58F13, 58F40)

Saitoh, Hitoshi Application of convolution to the theory of univalent functions. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 143–163. (*see* **99a:00033**) 30C55

— On certain subclasses of analytic functions involving a linear operator. (English summary) *Transform methods & special functions, Varna* '96, 401–411, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:30015** 30C45

Saitoh, Ichiroh (*with* Konno, Hiroshi; Gao, Chenggang) Cutting plane/tabu search algorithms for low rank concave quadratic programming problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 225–240. (Summary) **99g:90080** 90C20 (90C26)

Saitoh, Kayo (*with* Tomizawa, Sadao) Generalized measure of departure from global symmetry for square contingency tables with ordered categories. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 3, 289–303. 62H17

Saitoh, Saburou Norm inequalities in nonlinear transforms. (English summary) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 75–85. (Summary) **99h:46041** 46E22 (47H99)

Saitoh, Tsuyoshi (*with* Kuroda, Mitsuru[2]; Higashi, Masatake; Watanabe, Yumiko; Kuragano, Tetsuzou) Interpolating curve with B-spline curvature function. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 303–310, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65048** 65D17 (65D05, 65D07)

Saitou, Kazuhiro (*with* Jakiela, Mark J.) On classes of one-dimensional self-assembling automata. (English summary) *Complex Systems* **10** (1996), *no.* 6, 391–416. (E. Pessa) **99k:92004** 92B05 (68Q68)

Saje, M. (*with* Vratanar, B.) On the analytical solution of the brachistochrone problem in a non-conservative field. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 3, 489–505. (Summary) **99a:70028** 70H35 (49J05, 70D05)

Sajjadi, S. G. On the growth of a fully nonlinear Stokes wave by turbulent shear flow. II. Rapid distortion theory. (English summary) *Math. Engrg. Indust.* **6** (1998), *no.* 4, 247–260. (Summary) **99c:76051** 76F10

Sajko, William N. (*with* Wesson, Paul S.; Liu, Hong Ya) Gauge conditions in modern Kaluza-Klein theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2193–2200. (Alfredo Macías) **99a:83062** 83E15

Šajna, Mateja Half-transitivity of some metacirculants. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 117–136. (Brian Alspach) **99e:05070** 05C25

Sakabe, Toshiki (*with* Yuen, Shoji; Inagaki, Yasuyoshi) Symbolic alternative characterizations of testing preorder for regular timed processes. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 5–22. (Summary) **99b:68078** 68Q10 (68Q55, 68Q60)

Sakagami, Masa-aki (*with* Kawai, Shinsuke; Soda, Jiro) Instability of 1-loop superstring cosmology. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 284–290. (Summary) **99f:83068** 83E30

Sakaguchi, Fuminori Operator measures related to simultaneous measurement of "location" and "rational functions of momentum". (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 236–241. (*see* **99b:00018**) 81P15

Sakaguchi, Hide (*with* Mühlhaus, H.-B.; Hobbs, B. E.) Evolution of three-dimensional folds for a non-Newtonian plate in a viscous medium. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3121–3143. (From the summary) **99i:76004** 76A05 (73H05)

Sakaguchi, Hideo (*with* Ali, Zulfikar; Shinohara, Yoshitane; Imai, Hitoshi; Okamoto, Kuniya) Existence and uniqueness of quasiperiodic solutions to perturbed nonlinear oscillators. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 279–293. (Jialin Hong) **99c:34085** 34C27

Sakaguchi, Hidetsugu Localized states in a simple dynamical model for coevolution. (English summary) *Phys. Lett. A* **238** (1998), *no.* 6, 375–378. (Summary) **99d:92019** 92D15

Sakaguchi, Makoto (0, 2) Calabi-Yau sigma models and their duality. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 5, 779–796. (Gerardo Marcelo Aldazabal) **99a:81152** 81T30 (14J32, 32J81, 81T40)

Sakaguchi, Minoru (*with* Mazalov, Vladimir V.) Two person hi-lo poker—stud and draw. II. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 151–164. (Victor J. Baston) **99h:90130** 90D60 (90D05)

— A non-zero-sum repeated game—criminal vs police. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 250–257. (*see* **99h:90006**) 90D20

Sakaguchi, Shigeru Spatial critical points not moving along the heat flow and a balance law. (English summary) *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon, 1996)*, 9 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Peter G. Danilaev) **99a:35106** 35K05 (35B99)

— Spatial critical points of nonnegative solutions of the evolution p-Laplacian equation: the fast diffusion case. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1049–1063. (Summary) **99a:35073** 35J60 (35B05)

— (*with* Magnanini, Rolando) The spatial critical points not moving along the heat flow. (English summary) *J. Anal. Math.* **71** (1997), 237–261. (Ben Andrews) **99e:35087** 35K05 (35B99, 58G11)

— (*with* Suzuki, Takashi[1]) Interior imperfect ignition cannot occur on a set of positive measure. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 2, 143–153. (Vitaly A. Volpert) **99d:35072** 35K20 (35Q99, 35R45, 80A25)

— (*with* Suzuki, Takashi[1]) Nonexistence of solutions for a degenerate parabolic equation describing imperfect ignition. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 665–669. (Xiang Sheng Xu) **99d:35079** 35K55 (35B05, 35K65)

Sakai, Akemi (*with* Inoue, Katsumi[2]) Testing the satisfiability of a clause set by SATCHMO with symmetry. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2084–2092. 68T15 (03B35)

Sakai, Akira (*with* Jimbo, Toshiya) Polynomially convex hulls of graphs on the sphere. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2697–2702. (Anders V. Fällström) **99m:32017** 32E20

Sakai, H. *see* **Sakai, Hidetaka**

Sakai, Hideaki (*with* Ohno, Shyuichi) Theory of cyclostationary processes and its applications. *Statistical methods in control and signal processing*, 327–354, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 94A12

Sakai, Hidetaka (*with* Grammaticos, B.; Ohta, Yasuhiro; Ramani, A.) Degeneration through coalescence of the q-Painlevé VI equation. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3545–3558. (Kuppuswamy Porsezian) **99g:39007** 39A10 (39A12, 58F07)

— Casorati determinant solutions for the q-difference sixth Painlevé equation. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 823–833. (Hélène Airault) **99k:39035** 39A10 (39A12)

Sakai, Katsuro (*with* Uehara, Shigenori) A Hilbert cube compactification of the Banach space of continuous functions. (English summary) *Topology Appl.* **92** (1999), *no.* 2, 107–118. (Taras Banakh) **99m:57018** 57N20 (46E15)

Sakai, Kazuhiro Continuum-wise expansive diffeomorphisms. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 375–382. (Romeo F. Thomas) **99a:58120** 58F15 (54H20)

— The **OE**-property of diffeomorphisms. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 581–591. (S. Yu. Pilyugin) **99b:58135** 58F10 (58F15)

— Non-expansive derived horseshoes. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 3, 405–415. (Jerzy Ombach) **99k:58139** 58F15 (54H20)

Sakai, Kazumitsu (*with* Kuniba, Atsuo; Suzuki, Junji) Continued fraction TBA and functional relations in XXZ model at root of unity. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 597–626. (Rinat M. Kashaev) **99k:82022** 82B23 (17B37, 81R50)

Sakai, Koukichi On graphs having exact two vertices with the same degree. (English summary) *Rep. Fac. Sci. Kagoshima Univ. No.* 30 (1997), 1–5. 05C75

— (*with* Yukino, Yuko) Construction and enumeration of graphical sequences corresponding to graphs having exact three vertices with the same degree. (English summary) *Rep. Fac. Sci. Kagoshima Univ. No.* 30 (1997), 7–11. 05C75

Sakai, M. *see* **Sakai, Manabu**

Sakai, Makoto (*with* Gustafsson, Björn; Shapiro, Harold S.) On domains in which harmonic functions satisfy generalized mean value properties. (English summary) *Potential Anal.* **7** (1997), *no.* 1, 467–484. (Hiroaki Aikawa) **99b:31002** 31B05 (31A05, 31C35)

— Sharp estimates of the distance from a fixed point to the frontier of a Hele-Shaw flow. (English summary) *Potential Anal.* **8** (1998), *no.* 3, 277–302. (Heinrich Begehr) **99e:31008** 31B05 (35Q35, 76D99, 76S05)

Sakai, Manabu Inflection points and singularities on planar rational cubic curve segments. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 3, 149–156. (Summary) **99k:65022** 65D17 (65Y25)

Sakai, Masahiko (*with* Toyama, Yoshihito) Semantics and strong sequentiality of priority term rewriting systems. (English summary) Rewriting techniques and applications (New Brunswick, NJ, 1996). *Theoret. Comput. Sci.* **208** (1998), *no.* 1-2, 87–110. (Editors) **99h:68099** 68Q42

Sakai, Masami (*with* Tamano, Kenichi; Yajima, Yukinobu) Regular networks for metrizable spaces and Lašnev spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 121–133. (Hans-Christian Reichel) **99g:54028** 54E35 (54E40)

Sakai, Norisuke (*with* Oda, Hodaka; Tomizawa, Shigemitsu; Sakai, Tadakatsu) M theory and the "integrating in" method with an antisymmetric tensor. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066002, 7 *pp.* (Summary) **99k:81266** 81T30 (81T13, 81T60)

Sakai, Ryozi Lagrange interpolation based at the zeros of orthonormal polynomials with Freud weights. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 116–127. (D. S. Lubinsky) **99h:41004** 41A05 (42C05)

— Convergence of modified Lagrange interpolation to L_p-functions based on the zeros of orthonormal polynomials with Freud weights. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 441–449. (Kazaros Kazarian) **99d:41006** 41A05 (41A10)

Sakai, Shôichirô KMS states and phase transitions. II. *Operator algebras and their applications (Waterloo, ON, 1994/1995)*, 283–290, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (H. Araki) **99h:46125** 46L55 (46L60)

Sakai, Tadakatsu (*with* Oda, Hodaka; Tomizawa, Shigemitsu; Sakai, Norisuke) M theory and the "integrating in" method with an antisymmetric tensor. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066002, 7 *pp.* (Summary) **99k:81266** 81T30 (81T13, 81T60)

Sakai, Yoshifumi (*with* Takimoto, Eiji; Miyashiro, Akira; Maruoka, Akira) Learning orthogonal F-Horn formulas. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 177–190. (John Shawe-Taylor) **99f:68174** 68T05 (03B05, 68Q25)

Sakai, Yutaka (*with* Takahashi, Yoshitaka; Takahashi, Yutaka[3]; Hasegawa, Toshiharu) A composite queue with vacation/set-up/close-down times for SVCC in IP over ATM networks. (English summary) Performance evaluation of information communication

networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 68–80. (*see* **99a:90008**) 90B22 (60K25)

— (*with* Takahashi, Yutaka[3]; Hasegawa, Toshiharu) Discrete time multi-class feedback queue with vacations and close time under random order of service discipline. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 589–613. (Jian-Min Li) **99k:90079** 90B22 (60K25)

Sakajo, Takashi (*with* Okamoto, Hisashi) The application of PVM to the computation of vortex sheet motion. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 160–170, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 76M25 (76C05)

— Interactions of two vortex sheets. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 631–662. (Summary) **99i:76029** 76C05 (76M25)

Sakaki, Makoto Hamiltonian stationary normal bundles. Geometry of homogeneous spaces and submanifolds (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1044 (1998), 49–52. (*see* **99i:53001**) 53C15 (53C40)

— Hamiltonian stationary normal bundles of surfaces in $\mathbf{R}^3$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1509–1515. (Knut Smoczyk) **99h:53086** 53C42

Sakakibara, Yasubumi (*with* Ferretti, Claudio) Splicing on tree-like structures. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 227–243. (Summary) **99g:68123** 68Q50 (68Q05, 68Q45)

Sakakihara, Michio Iterative estimation of Perron root and generalized diagonally dominance. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 71–75. (*see* **99h:65005**) 65F30 (65F10)

Sakalauskaitė, Jūratė Prefixed tableaus for three-valued modal propositional logics. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 3, 174–185. (Summary) **99e:03019** 03B45 (03B50)

Sakallah, Karem A. (*with* Marques-Silva, João P.) GRASP: a search algorithm for propositional satisfiability. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 5, 506–521. 68T20 (03B35, 90C08)

Sakallıoğlu, S. (*with* Akdeniz, F.) Generalized inverse estimator and comparison with least squares estimator. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 77–84. (Goetz Trenkler) **99f:62083** 62J05 (62J07)

Sakama, Chiaki (*with* Inoue, Katsumi[2]) Negation as failure in the head. (English summary) *J. Logic Programming* **35** (1998), *no.* 1, 39–78. (Summary) **99b:68030** 68N17

Sakamori, Yasuhiro (*with* Kitahara, Kazuaki; Kuri, Ken-ichi) On a characterization of Chebyshev polynomials. (English summary) *East J. Approx.* **4** (1998), *no.* 4, 565–568. 41A10

Sakamoto, Hiroshi[2] Finding a one-variable pattern from incomplete data. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 234–246, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q45)

— The learnability of simple deterministic finite-memory automata via queries. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 93–108. (Summary) **99c:68217** 68T05 (68Q68)

Sakamoto, Kenji (*with* Shiraishi, Kiyoshi) Boson stars with large self-interaction in $(2+1)$ dimensions: an exact solution. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 15, 12 *pp.* (*electronic*). (Michael O. Katanaev) **99k:83104** 83C99

— (*with* Shiraishi, Kiyoshi) Exact solutions for boson-fermion stars in $2+1$ dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124017, 8 *pp.* (Summary) **99m:83164** 83C99

Sakamoto, Kunimochi Dynamic reductions in a reaction-diffusion system—an invariant manifold approach. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 134–141, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35K57 (35B99)

— Asymptotic expansion of interface equation for a reaction-diffusion system. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 149–158, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35C20 (35K57)

— Internal layers in high-dimensional domains. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 359–401. (Dietrich Göhde) **99g:35015** 35B25 (35J65, 35R35)

Sakamoto, Kunio On the curvature of minimal 2-spheres in spheres. *Math. Z.* **228** (1998), *no.* 4, 605–627. (G. Tóth) **99f:53065** 53C42 (53C20)

Sakamoto, Michihiko (*with* Hotta, Kenji; Kikkawa, Keiji) T duality and time development of a $(2+1)$-dimensional string universe. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1709–1721. (Summary) **99c:83091** 83E30 (81T30)

Sakamoto, Naoshi Information about network size related to stochastic decomposition algorithms. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 35–38. (*see* **99i:65003**) 68Q10

Sakamoto, Noboru (*with* Hodaka, Ichijyo; Suzuki, Masayuki) Loopshaping by quadratic constraints on open-loop transfer functions. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 416–431, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93C80)

Sakamoto, Takanori Countably recognizable classes of Lie algebras. *Bull. Fukuoka Univ. Ed. III* **46** (1997), 1–9. (Darin R. Stephenson) **99g:17044** 17B65

Sakamoto, Takashi Amalgamated products of finite-dimensional matrix algebras. (Japanese) Exact C^*-algebras and related topics (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1046 (1998), 65–69. (*see* **99i:46001**) 46L05

— Some remarks on the real rank of non-unital C^*-algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 205–210. (Summary) **99b:46088** 46L05

Sakamoto, Yosiyuki (*with* Ishiguro, Makio; Kitagawa, Genshiro) Bootstrapping log likelihood and EIC, an extension of AIC. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 411–434. (Summary) **99c:62040** 62F03 (62G09)

Sakane, Eisaku (*with* Kawai, Toshiharu) Distributional energy-momentum densities of Schwarzschild space-time. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 1, 69–86. (Michael Kunzinger) **99h:83018** 83C40 (83C15)

— (*with* Kawai, Toshiharu; Tojo, Takashi) Schwarzschild space-time in gauge theories of gravity. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 6, 971–992. (Gheorghe Zet) **99g:83068** 83D05

Sakaniwa, Kohichi (*with* Shibuya, Tomoharu; Mizutani, Jiro) On generalized Hamming weights of codes constructed on affine algebraic sets. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 311–320, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99h:94068** 94B27 (13P10, 94B65)

— (*with* Yamada, Isao; Kurosawa, Kaoru; Hasegawa, Hiroshi) Algebraic multidimensional phase unwrapping and zero distribution of complex polynomials—characterization of multivariate stable polynomials. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1639–1664. (Summary) **99m:93045** 93B60 (93D09, 94A12)

— (*with* Yamada, Isao; Ogura, Nobuhiko; Yamashita, Yukihiko) Quadratic optimization of fixed points of nonexpansive mappings in Hilbert space. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 165–190. (Gérard Lebourg) **99b:90087** 90C20 (47H09, 47N10)

Sakarovitch, Jacques (*with* Frougny, Christiane) Synchronisation déterministe des automates à délai borné. (English and French summaries) [Deterministic synchronization of automata with bounded delay] *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 61–77. (J.-M. Autebert) **99a:68126** 68Q68 (68Q10, 68Q45)

— A construction on finite automata that has remained hidden. (English and French summaries) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 205–231. (I. Meznik) **99j:68087** 68Q70 (68Q45)

Sakata, Hiroshi[2] Construction of Jacobi cusp forms. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 7, 117–119. (Henry H. Kim) **99m:11057** 11F55 (11F25)

Sakata, Shojiro A vector version of the BMS algorithm for implementing fast erasure-and-error decoding of one-point AG codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 291–310, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99h:94071** 94B35 (94B27)

— (*with* Leonard, Douglas A.; Jensen, Helge Elbrønd; Høholdt, Tom) Fast erasure-and-error decoding of algebraic geometry codes up to the Feng-Rao bound. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1558–1564. (Summary) **99h:94072** 94B35 (94B27)

Sakawa, Masatoshi (*with* Yano, Hitoshi) A fuzzy decomposition method by right-hand-side allocation for large-scale multiobjective nonlinear programming problems. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 237–246, *Springer, Berlin*, 1997. (*see* **99d:90006**) 90C29 (90C06, 90C30, 90C70)

— (*with* Nishizaki, Ichiro) n-person cooperative games with multiple scenarios. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 347–355, *Springer, Berlin*, 1997. (Summary) **99d:90151** 90D12 (90D06)

— Fuzzy nonlinear programming with single or multiple objective functions. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 215–248, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C70 (04A72, 90C30)

— (*with* Nishizaki, Ichiro; Uemura, Yoshiki) Interactive fuzzy programming for multilevel linear programming problems. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 71–86. 90C70 (90C08)

— (*with* Inuiguchi, Masahiro) Robust optimization under softness in a fuzzy linear programming problem. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 21–34. 90C70

— (*with* Nishizaki, Ichiro) A computational method for solutions to multiobjective linear production programming games. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 230–236. (*see* **99h:90006**) 90C90 (90D80)

— (*with* Inuiguchi, Masahiro; Kato, Kosuke; Ikeda, Tomohiro) An interactive fuzzy satisficing method for multiobjective optimal control problems in linear distributed-parameter systems. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 237–246. 90C70 (93C42)

— (*with* Nishizaki, Ichiro) A fuzzy programming method for a 2-level linear programming problem. (Japanese) *Systems Control Inform.* **43** (1999), *no.* 5, 236–243. 90C70 (90D65)

Sakawa, Yoshiyuki Optimal control of overhead traveling cranes. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 569–583. (*see* **99g:49003**) 49N55 (70Q05, 93C95)

— (*with* Sano, Hideki) $\mathscr{H}_\infty$ control of diffusion systems by using a finite-dimensional controller. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 409–428 (*electronic*). (Yuri V. Zaika) **99h:93040** 93B36 (93C25)

Sakazaki, Hisao (*with* Okamoto, Eiji; Mambo, Masahiro) ID-based key distribution system over an elliptic curve. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 215–224, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99k:94041** 94A60 (11G20)

Sakellariadou, M. (*with* Durrer, R.; Gasperini, Maurizio; Veneziano, Gabriele) Seeds of large-scale anisotropy in string cosmology. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 043511, 21 *pp.* 83F05 (83E30)

Sakhaev, I. I. (*with* Khakmi, Kh. I.) On strongly regular modules and rings. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 60–63; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 2, 57–60. (Iuliu Crivei) **99e:16015** 16E50

Sakhanenko, A. I. (*with* Borovkov, A. A.; Mogul'skiĭ, A. A.) Limit theorems for random processes. (Russian. Russian summary) *Probability theory*, 7 (*Russian*), 5–199, *Itogi Nauki i Tekhniki, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform.* (*VINITI*), *Moscow*, 1995. (Anatoliĭ A. Pukhal'skiĭ) **99d:60021b** 60Fxx

— Estimates for the accuracy of constructions on a probability space in the central limit theorem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 919–931, *iv*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 811–823. (Lothar Heinrich) **99k:60066** 60F05 (60F10, 60F25, 60G50)

— (*with* Chumachenko, K. V.) On conditions for the convergence of densities of smoothed distributions in the central limit theorem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 932–939, *iv*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 824–831. (Dalibor Volný) **99h:60044** 60F05

Sakharchuk, A. S. (*with* Mazhorova, O. S.; Popov, Yu. P.) Stability of a difference problem for a system of parabolic equations with nonstandard boundary conditions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 946–954, 1006; *translation in Differential Equations* **33** (1997), *no.* 7, 950–958 (1998). (W. Govaerts) **99c:65168** 65M12

Sakharov, A. D. *see* **Proceedings: A. D. Sakharov Conference on Physics**, **99h:81006** *and* **Gorelik, G. E.**

Sakharova, V. P. *see* **Probability theory, 99d:60021a; Complex analysis and representation theory, 99h:00041** *and* **Algebra, 99m:16001**

Sakhnenko, V. P. (*with* Chechin, G. M.) Interactions between normal modes in nonlinear dynamical systems with discrete symmetry. Exact results. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 43–76. (Vincent Naudot) **99k:70020** 70H05 (34C15, 58F05, 70H33, 70K99)

Sakhnovich, A. L. (*with* Gohberg, Israel; Kaashoek, M. A.) Sturm-Liouville systems with rational Weyl functions: explicit formulas and applications. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 338–377. (Hendrik S. V. de Snoo) **99m:34195** 34L30 (34A55, 35Q53, 93B15)

— (*with* Gohberg, Israel; Kaashoek, M. A.) Canonical systems with rational spectral densities: explicit formulas and applications. (English summary) *Math. Nachr.* **194** (1998), 93–125. (Aad Dijksma) **99j:34118** 34L05 (34A55, 35Q55, 47A99)

Sakhnovich, L. A. ★ Interpolation theory and its applications. (English summary) Mathematics and its Applications, 428. *Kluwer Academic Publishers, Dordrecht*, 1997. *xviii+197 pp. ISBN* 0-7923-4830-3 (J. Rovnyak) **99j:47016** 47A57 (30E05, 39A10, 42A82, 47A45, 47A48, 58F07)

— Spectral problems on the line for canonical systems of finite-difference equations. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 779–788; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 871–882 (1998). (A. N. Kochubei (Zbl 888.39009)) **99i:39034** 39A70 (34L05, 39A12, 47B39)

— Classic spectral problems. (English summary) *Differential and integral operators (Regensburg*, 1995), 243–254, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Summary) **99e:34117** 34L05 (34A55, 47E05)

— Spectral analysis of a class of canonical differential systems. (Russian) *Algebra i Analiz* **10** (1998), *no.* 1, 187–201; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 147–158. (M. M. Malamud) **99j:34120** 34L05 (34A55, 47A45, 47A48)

— On a class of canonical systems on half-axis. *Integral Equations Operator Theory* **31** (1998), *no.* 1, 92–112. (M. M. Malamud) **99j:34119** 34L05 (34A55, 47E05)

Saki, Yoshinori (*with* Sugihara, Yuji; Honji, Hiroyuki) Nonlinear evolution of 2-dimensional decaying turbulence on a rotating sphere. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 1–9. (*see* **99k:76004**) 76F99 (76U05)

Sakka, A. (*with* Muğan, U.) Second-order second-degree Painlevé equations related to Painlevé IV, V, VI equations. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2471–2490. (Andrei A. Kapaev) **99e:34005** 34A25 (34C20)

Sakkalis, Takis (*with* Maekawa, Takashi; Patrikalakis, Nicholas M.; Yu, Guoxin) Analysis and applications of pipe surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 437–458. (Summary) **99c:68254** 68U07 (65D17, 68U05)

el-Sakkout, Hani *see* **El-Sakkout, Hani**

Sakolchik, P. P. (*with* Minchenko, Leonid I.) Epiderivatives of marginal functions in nonlinear programming problems. (Belorussian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997,** *no.* 3, 127–131, 143. 90C31 (49K40)

Sakovich, S. Yu. On integrability of a $(2+1)$-dimensional perturbed KdV equation. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 3, 230–233. 35Q53 (58F07)

Sákovics, József (*with* Ponsati-Obiols, Clara) Rubinstein bargaining with two-sided outside options. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 667–672. (Summary) **99b:90175** 90D12

Saks, Michael E. (*with* Zhou, Shiyu) RSPACE(S) $\subseteq$ DSPACE($S^{3/2}$). (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI*, 1995), 344–353, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15

— (*with* Linial, Nathan; Luby, Michael G.; Zuckerman, David) Efficient construction of a small hitting set for combinatorial rectangles in high dimension. (English summary) *Combinatorica* **17** (1997), *no.* 2, 215–234. (E. Rodney Canfield) **99d:68115** 68Q25 (68Q15)

— (*with* Linial, Nathan; Magen, Avner) Low distortion Euclidean embeddings of trees. (English summary) *Israel J. Math.* **106** (1998), 339–348. (Summary) **99i:46009** 46B20 (05C05, 46B07, 54E99)

— (*with* Srinivasan, Aravind; Zhou, Shiyu) Explicit OR-dispersers with polylogarithmic degree. (English summary) *J. ACM* **45** (1998), *no.* 1, 123–154. (Ralf Klasing) **99c:68099** 68Q15 (68Q25, 68R05, 68R10)

— (*with* Nisan, Noam; Rudich, Steven) Products and help bits in decision trees. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1035–1050 (*electronic*). (Summary) **99m:68089** 68Q25 (68Q05, 68Q99)

Saks, R. S. On the properties of generalized elliptic pseudodifferential operators on closed manifolds. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 215–269, 342. (Ya. A. Roĭtberg) **99g:58121** 58G15 (35S05, 47G30)

Saksman, Eero (*with* Liu, Pei De; Tylli, Hans-Olav) Small composition operators on analytic vector-valued function spaces. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 295–309. (Andreas Haldimann) **99e:47036** 47B38 (46E15)

— (*with* Luukkainen, Jouni) Every complete doubling metric space carries a doubling measure. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 531–534. (Guozhen Lu) **99c:28009** 28A12

Sakthivel, R. (*with* Balachandran, Krishnan) Controllability of delay integrodifferential systems in Banach spaces. (English summary) *Libertas Math.* **18** (1998), 119–127. (Stanisław Walczak) **99j:93006** 93B05 (34K35, 93C25)

Sakthivel, S. (*with* Naganathan, E. R.) A ratio multiplex algorithm to solve linear fractional programming problems. (English summary) *Opsearch* **35** (1998), *no.* 3, 214–225. 90C32 (90C08)

Sakuma, Kazuhiro Homotopy invariant of smooth maps of rational homology 3-sphere into S^2. (Japanese) Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 96–105. (*see* **99a:00050**) 57R35 (55Q99, 57N10)

— (*with* Saeki, Osamu) Maps with only Morin singularities and the Hopf invariant one problem. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 501–511. (Summary) **99h:57058** 57R45 (55Q25, 58C27)

— (*with* Saeki, Osamu) On special generic maps into $\mathbf{R}^3$. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 175–193. (Jože Vrabec) **99h:57059** 57R45 (57R70)

Sakuma, Makoto (*with* Akiyoshi, Hirotaka; Nakagawa, Yoshiyuki) Shortest vertical geodesics of manifolds obtained by hyperbolic Dehn surgery on the Whitehead link. (English summary) *KNOTS '96 (Tokyo)*, 433–448, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57034** 57M50 (57N10)

— The topology, geometry and algebra of unknotting tunnels. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 739–748. (Lawrence J. Smolinsky) **99h:57018** 57M25

Sakuma, Yusuke (*with* Ihara, Shunsuke) Signal detection in continuous time white Gaussian channel. (English summary) *Probability theory and mathematical statistics (Tokyo*, 1995), 147–156, *World Sci. Publishing, River Edge, NJ*, 1996. (H. Vincent Poor) **99c:94012** 94A13 (60G35)

Sakurada, Kuninori (*with* Nakanishi, Shizu) Equivalence of the McShane and Bochner integrals for functions with values in Hilbertian (UCs-N) spaces endowed with nuclearity. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 261–272. (Ralph Henstock) **99i:28018** 28B05 (26A39, 26A42, 46G10)

Sakuragi, Takeshi On derived radicals and derived prime quasi-ideals in a commutative BCK-algebra. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 727–742. (Summary) **99e:06011** 06F35 (03G25)

— On prime fuzzy quasi-ideals and primary fuzzy quasi-ideals, in a commutative BCK-algebra. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 437–445. (Summary) **99h:06012** 06F35 (03G25)

Sakurai, Akira (*with* Takayama, Fumio) Calculation of compressibility turbulence based on molecular gas theory. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 40–48. (*see* **99k:76004**) 76F99 (76N99, 76P05)

Sakurai, Kouichi (*with* Dannoura, Eisuke) On-line versus off-line in money-making strategies with brokerage. (English summary) *Algorithms and computation (Singapore*, 1997), 173–182, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 90A09

— (*with* Di Crescenzo, Giovanni; Yung, Moti) Result-indistinguishable zero-knowledge proofs: increased power and constant-round protocols. (English summary) *STACS 98 (Paris*, 1998), 511–521, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q15 (94A60)

— (*with* Shizuya, Hiroki) A structural comparison of the computational difficulty of breaking discrete log cryptosystems. (English summary) *J. Cryptology* **11** (1998), *no.* 1, 29–43. (Summary) **99i:94055** 94A60

Sakuramoto, Atsushi Periodic commuting squares. Theory of paragroups and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 956 (1996), 42–52. (Vladimir A. Stukopin) **99d:46081** 46L37

Salaff, Stephen (*with* Yau, Shing-Tung) ★ Ordinary differential equations. Second edition. *International Press, Cambridge, MA*, 1998. *vi+72 pp. ISBN* 1-57146-065-9 34-01

Salagean, Grigore Stefan (*with* Aouf, M. K.) On certain class of analytic functions with negative coefficients. II. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 21–40. (Herb Silverman) **99j:30008** 30C45

— (*with* Aouf, M. K.) On the coefficients of some meromorphic subclasses of order α and type β. *Mathematica* **39(62)** (1997), *no.* 1, 7–15. (Johnny E. Brown) **99f:30018** 30C45 (30C50)

— (*with* Hossen, H. M.; Aouf, M. K.) Notes on certain classes of analytic functions with negative coefficients. *Mathematica* **39(62)** (1997), *no.* 2, 165–179. (D. E. Tepper) **99g:30011** 30C45

— (*with* Owa, Shigeyoshi) On an open problem of S. Owa. New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 110–114. (*see* **99a:00033**) 30C45

ben Salah, M. *see* **Ben Salah, M.**

Salakhitdinov, M. S. (*with* Mirsaburov, M.) An analogue of the Bitsadze-Samarskiĭ problem for a class of hyperbolic-type equations. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1998), 91–100. 35L80 (35M10)

Salam, A. *see* **Salam, Ahmed**

Salam, Abdus *see* **Salvini, Giorgio**

Salam, Ahmed Formal vector orthogonal polynomials. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 3, 267–289. (A. Bultheel) **99e:42040** 42C05 (15A66, 41A21)

— What is a vector Hankel determinant. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 147–161. (Jacques Dubois) **99f:15008** 15A15 (15A06, 15A66)

— Vector Padé-type approximants and vector Padé approximants. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 92–112. (Constantin Zălinescu) **99m:41024** 41A21 (41A10)

Salam, M. Abdus Schur's Q-functions, spin characters and the Kronecker products of the spin irreducible representations of symmetric groups. (English summary) *Util. Math.* **51** (1997), 73–88. (Summary) **99c:05199** 05E05

al-Salam, Waleed *see* **Al-Salam, Waleed**

Salama, Mihra M. New iterative schemes for the transformation matrices for block diagonalization of large scale systems. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **9** (1998), *no.* 2, 71–83. 93C55 (65F30)

— Convergence of the solution of nonlinear matrix equations. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **9** (1998), *no.* 2, 97–104. 65F30 (65H10)

Salamanca-Miño, Begoña (*with* López-Blázquez, Fernando) An upper bound for the correlation ratio of records. (English summary) *Metrika* **47** (1998), *no.* 2, 165–174. (H. L. Harter) **99g:62068** 62G30

Salamon, Peter (*with* Pathria, Raj K.; Nulton, James D.) Optimal operation of finite-time tricycles with heat conduction losses. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3171–3183. (Summary) **99a:80002** 80A10 (49N55)

Salani, Paolo (*with* Colesanti, Andrea) Generalized solutions of Hessian equations. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 459–466. (John Urbas) **99f:35044** 35J60 (53C65)

— Boundary blow-up problems for Hessian equations. (English summary) *Manuscripta Math.* **96** (1998), *no.* 3, 281–294. (Summary) **99e:35071** 35J65 (35B40, 35D05)

Salanova, M. A. (*with* Hernández Verón, Miguel A.) Relaxing convergence conditions for the Jarratt method. (English summary) *Southwest J. Pure Appl. Math.* **1997,** *no.* 2, 16–19 (*electronic*). (Summary) **99d:65185** 65J15 (47H17)

— (*with* Hernández Verón, Miguel A.) An acceleration procedure of regula falsi method. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 67–77. (Zhong Wu Chu) **99c:65097** 65H05

— (*with* Ezquerro, J. A.; Gutiérrez, José Manuel; Hernández Verón, Miguel A.) The super-Halley method and partial differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 713–718, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65J20 (47H17)

— (*with* Ezquerro, J. A.; Gutiérrez, José Manuel; Hernández Verón, Miguel A.) A multipoint method applied to the solution of Hammerstein integral equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 719–724, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65J20 (45G10, 47H17, 65R20)

— (*with* Hernández Verón, Miguel A.) Chebyshev method and convexity. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 51–62. (Gerd Pönisch) **99g:65063** 65H05 (47H17, 65J15)

— (*with* Ezquerro, J. A.; Gutiérrez, José Manuel; Hernández Verón, Miguel A.) The application of an inverse-free Jarratt-type approximation to nonlinear integral equations of Hammerstein-type. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 9–20. (V. V. Vasin) **99f:65201** 65R20 (45L05, 65J15)

— (*with* Ezquerro, J. A.; Hernández Verón, Miguel A.) Construction of iterative processes with high order of convergence. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 191–201. (Summary) **99f:65073** 65H05 (26A18, 26A51)

— (*with* Ezquerro, J. A.; Hernández Verón, Miguel A.) Remark on the convergence of the midpoint method under mild differentiability conditions. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 305–309. (Summary) **99f:65085** 65J15 (47H17)

— (*with* Ezquerro, J. A.; Hernández Verón, Miguel A.) A new family of multipoint methods of second order. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 499–512. (A. M. Galperin) **99g:47147** 47H17 (65J15)

— (*with* Hernández Verón, Miguel A.) A family of Chebyshev type methods in the complex plane. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 11–21. (Summary) **99g:65032** 65E05 (65H05)

Salapaka, Murti V. (*with* Dahleh, Mohammed A.; Voulgaris, Petros G.) MIMO optimal control design: the interplay between the $\mathcal{H}_2$ and the l_1 norms. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1374–1388. (Jacob Hammer) **99i:93020** 93B36

Salarian, Sh. (*with* Khashyarmanesh, K.; Zakeri, H.) Characterizations of filter regular sequences and unconditioned strong d-sequences. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 39–50. (Liam O'Carroll) **99a:13014** 13H10 (13D25, 13D45)

— (*with* Khashyarmanesh, K.; Zakeri, H.) On the flat dimension of certain modules of generalized fractions. (English summary) *Math. J. Toyama Univ.* **20** (1997), 79–90. (H. F. Kreimer) **99d:13009** 13B30 (13D05, 13D25)

— (*with* Khashyarmanesh, K.) General local cohomology modules and Koszul homology modules. *Colloq. Math.* **77** (1998), *no.* 2, 305–313. (Ngô Viêt Trung) **99f:13018** 13D45 (13D03)

— (*with* Khashyarmanesh, K.) Filter regular sequences and the finiteness of local cohomology modules. *Comm. Algebra* **26** (1998), *no.* 8, 2483–2490. (Michinori Sakaguchi) **99h:13021** 13D45

— (*with* Khashyarmanesh, K.; Zakeri, H.) Characterizations of filter regular sequences and unconditioned strong d-sequences. (English summary) *Nagoya Math. J.* **151** (1998), 37–50. (Editors) **99h:13030** 13H10 (13D25, 13D45)

sancho de Salas, F. *see* **Sancho de Salas, F.**

navarro-Salas, J. *see* **Navarro-Salas, J.**

Salas, Jesús (*with* Sokal, Alan D.) Logarithmic corrections and finite-size scaling in the two-dimensional 4-state Potts model. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 567–615. (Emilio N. M. Cirillo) **99a:82043** 82B27 (82B05, 82B20, 82B26)

— The 3-state Potts antiferromagnet on the hexagonal lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5969–5980. (Summary) **99c:82016** 82B20 (82B80)

sancho de Salas, P. *see* **Sancho de Salas, P.**

Salasnich, Luca (*with* Morandi Cecchi, Maria) Shallow water theory and its application to the Venice lagoon. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 63–74. (*see* **99b:76003**) 86–08

— Classical and quantum perturbation theory for two non-resonant oscillators with quartic interaction. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 4, 397–405. (Summary) **99e:81052** 81Q15 (70K99)

Salat, A. (*with* Tataronis, J. A.; Torasso, R.) The ideal magnetohydrodynamic continuous spectra of a cylindrical plasma: solution of the initial value problem. (English summary) *Phys. Plasmas* **5** (1998), *no.* 10, 3789–3792. (Summary) **99g:76153** 76W05

Šalát, Tibor (*with* Drahovský, Štefan) On functions that preserve convergence of continued fractions. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 61–65. (L. J. Lange) **99a:40002** 40A15

— (*with* Bukor, Jozsef; Erdős, Paul[1]; Tóth, János T.) Remarks on the (R)-density of sets of numbers. II. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 517–526. (W. Narkiewicz) **99e:11013** 11B05 (11K16)

— *see also* **Real functions, 99f:00022**

Salaün, Michel (*with* Arregui, Iñigo; Destuynder, Philippe) Large displacements of thin sheets. Approximation of unstable motions. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)*(*Vic*, 1995), 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 73K10 (73C50)

— (*with* Destuynder, Philippe; Collot, M.) A mathematical framework for the P. Ladevèze a posteriori error bounds in finite element methods. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 65–78, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N30 (73V05)

— (*with* Destuynder, Philippe) Approximation of shell geometry for nonlinear analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 111–148. (Veronique Lods) **99d:73062** 73K15 (73V05)

Salazar-Anaya, Gelasio (*with* Urías, Jesús) Internal symmetries of cellular automata via their polynomial representation. (English summary) *Chaos* **8** (1998), *no.* 3, 711–716. (Summary) **99d:68171** 68Q80

— (*with* Urías, Jesús; Ugalde, Edgardo) Synchronization of cellular automaton pairs. (English summary) *Chaos* **8** (1998), *no.* 4, 814–818. (Jean-Paul Allouche) **99j:68092** 68Q80 (58F08)

— On the intersections of systems of curves. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 56–60. (Ákos Seress) **99m:05157** 05D05

Salazar González, Juan José (*with* Fischetti, Matteo; Toth, Paolo) A branch-and-cut algorithm for the symmetric generalized traveling salesman problem. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 378–394. (Summary) **99f:90091** 90C27 (90C35)

— (*with* Fischetti, Matteo; Toth, Paolo) Solving the orienteering problem through branch-and-cut. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 133–148. (Anton Volgenant) **99f:90092** 90C27 (90C35)

Salazar Ibargüen, Humberto (*with* Aleksandrov, Vladimir Vasil'evich; Guerra, Francisco; Aguilar Andrade, Filadelfo) Stability and stabilization of a active surface. *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 10 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 93D15 (93C95)

Salca, Horia (*with* Marin, Marin) A relation of Knopoff-de Hoop type in thermoelasticity of dipolar bodies with voids. (English and Serbian summaries) *Theoret. Appl. Mech.* **24** (1998), 99–110. (Summary) **99f:73012** 73B30 (73B25)

Salce, Luigi Adalberto Orsatti's contribution to abelian group theory. *Abelian groups, module theory, and topology* (*Padua*, 1997), 3–8, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (R. Göbel) **99j:01024** 01A70 (01A60, 20-03, 20K45)

— (*with* Fuchs, László[1]; Zanardo, Paolo) Note on the transitivity of pure essential extensions. *Colloq. Math.* **78** (1998), *no.* 2, 283–291. (Daniel Simson) **99m:13036** 13F05 (16E60, 18E15, 18G25)

— (*with* Zanardo, Paolo) Presentations of modules over local domains. *J. Algebra* **207** (1998), *no.* 1, 182–204. (Kwangil Koh) **99e:13012** 13C05 (13H99)

— *see also* **Abelian groups, module theory, and topology, 99f:00028**

Salcedo, L. L. (*with* de la Plata, M. J.) Feynman diagrams with the effective action. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4021–4035. (Introduction) **99e:81162** 81T18

— Temperature dependence of the anomalous effective action of fermions in two and four dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125007, 11 *pp.* 81T50 (81T15)

Salch, John (*with* Staniswalis, Joan G.; Thall, Peter F.) Semiparametric regression analysis for recurrent event interval counts. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1334–1353. (Summary) **99c:62114** 62G05 (62P10)

Salcudean, S. E. (*with* Hu, Zhongzhi; Loewen, P. D.) A numerical solution of multiobjective control problems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 6, 411–422. (Summary) **99k:49071** 49M30 (90C29, 93B51)

Saldaña, Joan (*with* Calsina Ballesta, Ángel) Asymptotic behaviour of a model of hierarchically structured population dynamics. (English summary) *J. Math. Biol.* **35** (1997), *no.* 8, 967–987. (Ying Guo Lei) **99d:92021** 92D25 (35Q80)

Saldanha, Nicolau C. (*with* Malta, Iaci; Tomei, Carlos) Critical sets of proper Whitney functions in the plane. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 181–228. (Robert Roussarie) **99g:58011** 58C27 (57R45)

— (*with* Malta, Iaci; Tomei, Carlos) Morin singularities and global geometry in a class of ordinary differential operators. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 137–169. (P. T. Church) **99f:34029** 34B15 (34A26, 47H15, 58C27)

— (*with* Tomei, Carlos) Spectra of semi-regular polytopes. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 1, 25–51. (J. Böhm) **99f:52013** 52B11 (05C50, 15A18, 51M20)

Salden, Alfons H. (*with* ter Haar Romeny, Bart M.; Viergever, Max A.) Differential and integral geometry of linear scale-spaces. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 5–27. (Henk J. A. M. Heijmans) **99g:68216** 68U10 (53C65)

— (*with* ter Haar Romeny, Bart M.; Viergever, Max A.) Linear scale-space theory from physical principles. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 2, 103–139. (Summary) **99h:68177** 68U10 (00A79, 35A30)

— (*with* Kalitzin, Stilyan; ter Haar Romeny, Bart M.; Nacken, Peter FM; Viergever, Max A.) Topological numbers and singularities in scalar images: scale-space evolution properties. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 3, 253–269. (Jayant M. Shah) **99m:68222** 68U10

Saleeby, Elias G. (*with* Akeroyd, John) A class of $P^t(d\mu)$ spaces whose point evaluations vary with t. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 537–542. (Summary) **99c:46020** 46E15 (30E10)

Saleem, Muhammad (*with* Munir, M.) The projective characters of the hyperoctahedral group. *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 81–98. (Sait Halıcıoğlu) **99h:20012** 20C25

Saleh, A. (*with* Adeli, H.) Integrated structural/control optimization of large adaptive/smart structures. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 28-29, 3815–3830. 93C85 (90C90)

Saleh, A. K. Md. Ehsanes (*with* Haq, M. Safiul) Donald A. S. Fraser. *J. Statist. Res.* **30** (1996), *no.* 2, 121–123. 01A70

— (*with* Khan, Shahjahan) Comparison of estimators of means based on p-samples from multivariate Student-t population. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 193–210. (Summary) **99a:62023** 62F10 (62C15)

— *see also* **Applied statistical science, 99j:62001**

Saleh, Heba A. (*with* Sherief, Hany H.) A problem for an infinite thermoelastic body with a spherical cavity. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 473–487. (Summary) **99a:73029** 73B30

Saleh, Mohammad A. (*with* Yousef, Hasan; Abu Hlail, J.) The number of homomorphisms from $\mathbf{Z}_{m_1} \times \mathbf{Z}_{m_2} \times \cdots \times \mathbf{Z}_{m_r}$ into $\mathbf{Z}_{k_1} \times \mathbf{Z}_{k_2} \times \cdots \times \mathbf{Z}_{k_s}$. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **25** (1998), *no.* 2, 326–329. 20K30 (13A99)

— A note on weak injectivity and weak projectivity (research note). (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **25** (1998), *no.* 3, 507–509. 16D40 (16D50)

— Almost continuity implies closure continuity. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 263–264. (Summary) **99c:54016** 54C08

— A note on tightness. (English summary) *Glasg. Math. J.* **41** (1999), *no.* 1, 43–44. 16P20

— *see also* **Dontchev, Julian, 99j:54016**

al-Saleh, Norah *see* **Al-Saleh, Norah**

Saleh, S. A. *see* **Salekh, S. A.**

Salehi, Ebrahim (*with* Chartrand, Gary; Zhang, Ping[6]) On the partition dimension of a graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 157–168. (Summary) **99j:05150** 05C70

Salehi, H. *see* **Salehi, Hadi**

Salehi, Habib (*with* Abrouk, Nacer E.; Yen, David H. Y.) Approximation of distribution laws in population genetics governed by Fokker-Planck equations. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 3–15. (Dominique Lépingle) **99b:60075** 60H10 (60J70, 92D10, 92D25)

Salehi, Hadi Conformal invariance and gravitational coupling in quantum field theory. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 4, 1253–1263. (Summary) **99c:81152** 81T20 (83C47)

— (*with* Ghafarnejad, H.) Erratum: "Hadamard renormalization, conformal anomaly, and cosmological event horizons" [Phys. Rev. D (3) **56** (1997), no. 8, 4633–4639; MR 98g:81143]. *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5311. 81T20 (81T15, 83C47, 83C57)

Salein, François Variétés anti-de Sitter de dimension 3. (French summary) [Anti-de Sitter manifolds of dimension three] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 37–42, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (*see* **99b:53003**) 53C50

Salekh, S. A. Regularized sum for eigenfunctions of multi-point problem in the commensurable case. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 519–532. (Victor S. Rykhlov) **99a:34039** 34B05 (34L20, 34L40)

Salem, Éliane (*with* Mattei, Jean-François) Classification formelle de feuilletages singuliers de $(\mathbf{C}^2, 0)$. (English and French summaries) [Formal classification of singular foliations of $(\mathbf{C}^2, 0)$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 773–778. (J. S. Joel) **99c:32059** 32S70 (32S30, 58F18)

Salem, Jerome S. (*with* Leete, Thomas H.; Schwartz, Matthew D.; Williams, Robert M.; Wood, David Harlan; Rubin, Harvey) Massively parallel DNA computation: expansion of symbolic determinants. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 45–58, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, **44**, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (68Q40, 92D20)

ben Salem, N. *see* **Ben Salem, N.**

Salem, Shaban Hardy's inequality in two independent variables. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 245–250. (Maria J. Carro) **99m:26033** 26D15

Salemi, A. (*with* Radjabalipour, M.) Partial multiplicities and perturbation. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol.* 2 (*Kerman*, 1995), 319–323, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Summary) **99b:15013** 15A18 (47A55)

Salemi, F. (*with* Mulone, G.; Wang, Wen Di) Permanence of population models with toxicant input and diffusion. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 4, 16–29. (Summary) **99h:92041** 92D40 (92D25)

— (*with* Salone, V.; Wang, Wen Di) Stability of a competition model with two-stage structure. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 221–231. (Summary) **99m:92037** 92D25

Salemi, Sergio (*with* Mignosi, Filippo; Restivo, Antonio) Periodicity and the golden ratio. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 153–167. (Valérie Berthé) **99h:68140** 68R15 (11B85)

Salemkar, Ali Reza (*with* Moghaddam, Mohammad Reza R.) Some remarks on generalized Schur pairs. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 12–16. (Dennis Spellman) **99f:20056** 20F10 (20E05)

Salenger, Gary (*with* Vakakis, Alexander F.) Generation of localization in a discrete chain with periodic boundary conditions: numerical and analytical results. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1730–1747 (*electronic*). (Summary) **99d:70033** 70K25 (70–08)

— (*with* Boeckle, G.; Vakakis, Alexander F.) Exact solutions for transient wave propagation in a two-dimensional array of particles. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 759–770. (Summary) **99i:70025** 70J99 (73D30)

Saleri, Fausto (*with* Sacco, Riccardo) Stabilization of mixed finite elements for convection-diffusion problems. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 301–315. (Summary) **99d:65326** 65N30 (76M10, 76Rxx)

— (*with* Gervasio, P.) Stabilized spectral element approximation for the Navier-Stokes equations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 115–141. (Tomás Chacón Rebollo) **99c:65183** 65M60 (65M12, 65M15, 76D05, 76M10)

Salerno, Mario On regular Bethe states and SO(4) invariance of the 1D Hubbard model. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 206–210. (Marek Biskup) **99c:82017** 82B20 (82B23)

— On the link between SO(4) invariance and Bethe states of the 1D Hubbard model. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 200–204. (Summary) **99e:82019** 82B20

Salerno, N. (*with* Alfonzetti, S.; Borzi, G.) Iteratively-improved Robin boundary conditions for the finite element solution of scattering problems in unbounded domains. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 4, 601–629. (Summary) **99b:78001** 78–08 (76Q05, 78A45)

Sales, D. M. (*with* Corrêa, G. O.; Soares, T. M.) Approximate solutions to H_2/H_∞ problems via sequences of H_2-cost/H_2-constraint optimization problems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 333–353. 93B36 (90C90, 93B40)

puerta Sales, Fernando *see* **Puerta Sales, Fernando**

Salesi, Giovanni (*with* Recami, Erasmo) Kinematics and hydrodynamics of spinning particles: some simple considerations. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 253–268. (Jayme Vaz, Jr.) **99b:81087** 81R25

— (*with* Recami, Erasmo) The velocity operator for spinning particles in quantum mechanics. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 269–278. (Jayme Vaz, Jr.) **99b:81088** 81R25

Saletan, Eugene J. (*with* José, Jorge V.) ★Classical dynamics. (English summary) A contemporary approach. *Cambridge University Press, Cambridge*, 1998. *xxvi*+670 *pp. ISBN* 0-521-63636-1 (Steve Shkoller) **99g:70001** 70–02 (58F05, 58F27, 70–01, 70Fxx, 70Hxx)

Saleur, Hubert (*with* Affleck, Ian; Oshikawa, Masaki) Boundary critical phenomena in the three-state Potts model. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5827–5842. (Summary) **99d:82026** 82B27 (82B20, 82B28)

— (*with* Lesage, F.) Boundary conditions changing operators in non-conformal theories. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 3, 563–593. (Konstantin G. Selivanov) **99h:81131** 81T10 (81T40, 82B23)

— (*with* Simonetti, P.) Multiparameter integrable QFT's with N bosons. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 596–620. (Mathias Pillin) **99j:81117** 81T10

— (*with* Lesage, F.; Simonetti, P.) Boundary flows in minimal models. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 85–92. (Summary) **99b:81218** 81T40

— *see also* **Strings '95, 99h:81008**

Salgado, J. F. J. (*with* Boyanovsky, D.; de Vega, H. J.; Holman, Richard) Preheating and reheating in inflationary cosmology: a pedagogical survey. (English summary) *String theory in curved space times* (*Paris*, 1996), 260–280, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83F05

Salgado, Marcelo General relativistic hydrodynamics: a new approach. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 1, 1–8. (Gh. Procopiuc) **99b:83044** 83C55 (76Y05, 83C40)

Salgado, Patricio (*with* Cataldo M., Mauricio) Three-dimensional extreme black hole with self (anti-self) dual Maxwell field. (English summary) *Phys. Lett. B* **448** (1999), *no.* 1-2, 20–25. (Summary) **99k:83062** 83C57

blanco Salgueiro, Antonio *see* **Blanco Salgueiro, Antonio**

Salguero Lamillar, Francisco J. (*with* Nepomuceno Fernández, Ángel) Word meaning, logic and the informative entailment relation. *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 159–169, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (03B65)

Sali, Attila (*with* Bannai, Eiichi) On association schemes of balanced property with $m_1 = 4$. (English summary) Group theory and combinatorial mathematics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 991 (1997), 80–92. (Jaume Pujol) **99g:05183** 05E30 (05C50)

— (*with* Demetrovics, János; Katona, Gyula O. H.) Design type problems motivated by database theory. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 149–164. (Summary) **99h:68037** 68P15 (05D05, 68R05)

Salibra, Antonino (*with* Pigozzi, Don L.) Lambda abstraction algebras: coordinatizing models of lambda calculus. (English summary) *Fund. Inform.* **32** (1997), *no.* 1, 47–90. (Summary) **99c:03016** 03B40 (03G25)

Salikhov, N. P. On an absolute significance test for a multinomial distribution. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 731–746. (J. A. Melamed) **99d:62053** 62G10 (62H15)

Salillas, J. (*with* García-Roig, J.-L.) On a conditional Cauchy functional equation involving powers of finite and number fields. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 257–263. (S. L. Segal) **99d:39028** 39B52 (11R99, 11T99)

Salim, J. M. (*with* Sautú, S. L.) Geometrized dilaton as gravity theory. *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 526–530, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83D05

— (*with* Sautú, S. L.; Martins, Roberto Cintra) Dilaton electromagnetic Bianchi-I cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1521–1526. (Sunil D. Maharaj) **99f:83020** 83C22 (83C15)

— (*with* Fabris, Júlio C.; Sautú, S. L.) Inflationary cosmological solutions in Weyl integrable geometry. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 953–959. 83C15 (83D05, 83F05)

Salim, Tariq O. Some integral formulas for the product of generalized polynomials sets and the multivariable H-function with applications. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 93–102. 33C60

— (*with* Goyal, S. P.) A class of convolution integral equations involving a generalized polynomial set. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 55–62. (Summary) **99b:45003** 45E10 (33C60)

Salimov, Arif A. (*with* Mağden, Abdullah; Kamali, Muhammet) The Tachibana operator and transfer of lifts. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 109–117. (Vadim V. Shurygin) **99f:53017** 53B20

Salimov, F. I. Finite generability of distribution algebras. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 2, 43–50, 115. (János Demetrovics) **99c:03036** 03B50

— *see also* **Probabilistic methods and cybernetics, 99h:00017**

Salimov, R. B. (*with* Nasyrova, E. V.; Shabalin, P. L.) Unique solvability of an inverse mixed boundary value problem. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 78–82; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 4, 76–80. (Irina Yu. Dmitrieva) **99i:30061** 30E25

Salimova, O. P. (*with* Beletskiĭ, V. V.) The Hill problem as a dynamic billiard. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 47–58. (Summary) **99e:70034** 70F15 (58F40, 70K99)

rodríguez-Salinas, Baltasar *see* **Rodríguez-Salinas, Baltasar**

Salinas, Norberto (*with* Martin, Mircea) Flag manifolds and the Cowen-Douglas theory. (English summary) *J. Operator Theory* **38** (1997), *no.* 2, 329–365. (Harald Upmeier) **99f:47008** 47A13 (46L99, 47B20, 58B25)

— (*with* Martin, Mircea) The canonical complex structure of flag manifolds in a C^*-algebra. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 173–187, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Gustavo Corach) **99k:46129** 46L99 (58B20)

Salinas, S. R. (*with* Alcaraz, F. C.; Wreszinski, W. F.) Quantum domains in ferromagnetic anisotropic Heisenberg chains. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 13–19, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— (*with* de Magalhães, A. C. N.; Tsallis, Constantino) Aperiodic interactions on hierarchical lattices: an exact criterion for the Potts ferromagnet criticality. (English summary) *J. Phys. A* **31** (1998), *no.* 33, *L567–L573.* (Summary) **99d:82016** 82B20

Salinas de Romero, Susana (*with* Srivastava, Hari M.) Some applications of fractional calculus involving summation of infinite series. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 2-3, 129–142. (R. K. Raina) **99c:40002** 40A25 (26A33)

Salinelli, Ernesto (*with* Carota, Cinzia) A note on principal components and Morse theorem. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 95–102. (Summary) **99c:62164** 62H25

— Nonlinear principal components. I. Absolutely continuous random variables with positive bounded densities. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 596–616. (Jacques Dauxois) **99i:62138** 62H25 (35J99)

Salinetti, G. (*with* Perone Pacifico, M.; Tardella, Luca) A note on the geometry of Bayesian global and local robustness. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 51–64. (Marek Męczarski) **99h:62025** 62F15 (62F35)

Salinger, David L. (*with* Stegeman, Jan D.) On some properties of the difference spectrum. (English summary) *Banach algebras '97 (Blaubeuren)*, 431–439, *de Gruyter, Berlin*, 1998. (Krishnan Parthasarathy) **99m:46125** 46J10 (43A15)

— (*with* Gatesoupe, Michel; Stegeman, Jan D.) Deux analyses de Fourier sur l'ensemble de Cantor. (English and French summaries) [Two Fourier analyses on the Cantor set] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1311–1316. (Satoru Igari) **99i:43006** 43A25 (42B05, 43A15)

Salinier, A. (*with* Cohen, Stephen D.; Movahhedi, A.) Double transitivity of Galois groups of trinomials. *Acta Arith.* **82** (1997), *no.* 1, 1–15. (Núria Vila) **99c:11139** 11R32 (11S15, 12E10, 12F10)

Salisbury, D. C. Classical canonical general coordinate and gauge symmetries. (English summary) Parametrized relativistic quantum theory, Part 1 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 9, 1425–1431. (Hans P. Künzle) **99m:58071** 58E30 (70G50)

— A classical and quantum relativistic interacting variable-mass model. (English summary) Parametrized relativistic quantum theory, Part 1 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 9, 1433–1442. (*see* **99k:81005**) 81S99

— (*with* Pons, Josep M.; Shepley, L. C.) Reduced phase space: quotienting procedure for gauge theories. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 419–430. (Narciso Román-Roy) **99k:58076** 58F05 (70G99, 70H05, 70H35)

Salisbury, Thomas S. (*with* Burdzy, Krzysztof) On minimal parabolic functions and time-homogeneous parabolic h-transforms. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3499–3531. (Mamoru Kanda) **99m:60113** 60J45 (31B25, 60J50, 60J65)

Saliu, S. O. (*with* Bizdadea, C.; Tîmneanu, E. N.) On the irreducible BRST quantization of spin-$\frac{5}{2}$ gauge fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 501–507. (Jan Sładkowski) **99a:81181** 81T70 (81T13)

— (*with* Bizdadea, C.; Iordache, Mihai; Tîmneanu, E. N.) An irreducible BRST approach of topological Yang-Mills theory. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 3, 262–273. (Bani Mitra Södermark) **99e:81248** 81T70 (81T13)

— (*with* Bizdadea, C.) Irreducible antifield analysis of p-form gauge theories. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 97–103. (Ion V. Vancea) **99m:81269** 81T70

— (*with* Bizdadea, C.; Negru, I.) Irreducible Hamiltonian BRST analysis of Stueckelberg coupled p-form gauge theories. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 225–243. (Mohamed Kachkachi) **99k:81320** 81T70 (81T13)

Saller, Heinrich Realizations of causal manifolds by quantum fields. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2783–2826. (Valdir B. Bezerra) **99j:81075** 81R99 (81S99, 81T10)

— (*with* Baugh, James; Finkelstein, David Ritz; Tang, Zhong) General covariance is Bose-Einstein statistics. (English summary) *On Einstein's path (New York*, 1996), 67–80, *Springer, New York*, 1999. (Sebastiano Sonego) **99m:83065** 83C45 (81P99)

Salles, Danielle Dimension faible negative globale des anneaux commutatifs. (English summary) [Global negative weak dimension of commutative rings] *Comm. Algebra* **26** (1998), *no.* 11, 3511–3525. (Chr. U. Jensen) **99i:13027** 13D05

Salles, Maurice (*with* Barrett, C. R.) On three classes of differentiable inequality measures. (English summary) *Internat. Econom. Rev.* **39** (1998), *no.* 3, 611–621. (Summary) **99k:90020** 90A09

Sallet, Gauthier (*with* Bernard, Olivier; Sciandra, Antoine) Nonlinear observers for a class of biological systems: application to validation of a phytoplanktonic growth model. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1056–1065. (Summary) **99h:92021** 92D25 (93B07)

— (*with* Outbib, Rachid) A reduction principle for global stabilization of nonlinear systems. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 5, 595–607. (Daoyi Xu) **99j:93085** 93D15 (93C10)

Sally, Paul J., Jr. An introduction to p-adic fields, harmonic analysis and the representation theory of SL_2. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 1, 1–47. (Marko Tadić) **99m:22007** 22E35 (11E95, 11S80, 22–01, 22E50)

Salman, T. M. (*with* Hanafy, I. M.) Fuzzy faint continuity and weak forms of fuzzy faint continuity. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 75–83. 54A40 (54C08)

Salmanov, Yu. D. On the smoothness of the generalized solution of a boundary value problem for some degenerate nonlinear ordinary differential equations. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 6, 882–890. (Summary) **99k:34050** 34B15

Salmassi, Mohammad (*with* Merkes, E. P.) On univalence of certain infinite products. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 207–215. (Summary) **99b:30023** 30C55 (33B15, 33C10)

Salmerón, Antonio (*with* Hernández, Luis D.; Moral, Serafín) A Monte Carlo algorithm for probabilistic propagation in belief networks based on importance sampling and stratified simulation techniques. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 53–91. (Maria-Teresa Lamata) **99m:68194** 68T30 (65C05)

Salmerón, Leonardo (*with* Larrión, Francisco; Raggi-Cárdenas, Alberto) ★ Rudimentos de mansedumbre y salvajismo en teoría de representaciones. (Spanish. Spanish summary) [Rudiments of tameness and wildness in representation theory] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 5. *Sociedad Matemática Mexicana, México*, 1995. x+239 *pp. ISBN* 968-36-4618-2 (Flávio Ulhoa Coelho) **99j:16006** 16G20

— Special biserial algebras and ultimate closure. (English summary) *XXVIII National Congress of the Mexican Mathematical Society (Spanish) (Colima*, 1995), 193–201, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Shi Ping Liu) **99i:16017** 16E10

Salmhofer, Manfred Continuous renormalization for fermions and Fermi liquid theory. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 2, 249–295. (A. L. Rebenko) **99d:81093** 81T17

— Improved power counting and Fermi surface renormalization. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 4, 553–578. (Henryk Arodź) **99m:82020** 82B28 (81T15)

— ★ Renormalization. (English summary) An introduction. Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1999. x+231 *pp. ISBN* 3-540-64666-3 (R. Delbourgo) **99j:81122** 81T15 (81–02, 81T18)

Salmon, George *see* **Gow, Rod**, **99b:01020**

Salmon, Nathan Wholes, parts, and numbers. *Mind, causation, and world*, 1997, 1–15, *Philos. Perspect.*, 11, *Blackwell, Cambridge, MA*, 1997. (*see* **99f:00011**) 00A30 (03A05)

Sal'nikov, A. A. (*with* Logachev, O. A.; Yashchenko, V. V.) Bent functions on a finite abelian group. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 3–20; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 547–564. (Kanat S. Abdukhalikov) **99e:94030** 94A55 (20K01)

Sal'nikov, S. G. On the maximal t-packing of a complete multipartite graph. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 1, 73–81; *translation in Discrete Math. Appl.* **8** (1998), *no.* 2, 143–151. (Stanislav Jendrol') **99m:05128** 05C70

Sal'nikova, N. G. Solution of the problem of observing the states of linear dynamical systems by the ellipsoid method with incomplete step. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 44–51, 156. 93B07 (93E12)

— (*with* Voloshin, A. F.) On the solution of the problem of the observation of the states of linear discrete systems in the class of fuzzy ellipsoidal estimates. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 70–80, 150. 93B07 (93C41)

Sal'nikova, T. V. On periodic solutions of the three-dimensional restricted three-body problem. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 73–77, 112. (Summary) **99e:70032** 70F07 (70K50)

Saloff-Coste, Laurent Inequalities for p-superharmonic functions on networks. (English summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 139–158 (1997). (Maretsugu Yamasaki) **99b:31009** 31C99 (26D20)

— Lectures on finite Markov chains. *Lectures on probability theory and statistics (Saint-Flour*, 1996), 301–413, *Lecture Notes in Math.*, 1665, *Springer, Berlin*, 1997. (James Allen Fill) **99b:60119** 60J27 (15A60, 47D07, 60J10)

— (*with* Bendikov, A. D.) Elliptic diffusions on infinite products. (English summary) *J. Reine Angew. Math.* **493** (1997), 171–220. (G. Leha) **99k:58173** 58G11 (22E30, 31D05, 47D07)

— (*with* Woess, Wolfgang) Transition operators, groups, norms, and spectral radii. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 333–367. (Donald I. Cartwright) **99g:43005** 43A15 (60J15)

Salomaa, Arto Developmental models for artificial life: basics of L systems. *Artificial life: grammatical models (Mangalia*, 1994), 22–32, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (92B20)

— Stagnation and malignancy: growth patterns in artificial life. *Artificial life: grammatical models (Mangalia*, 1994), 104–115, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (92B05)

— (*with* Csuhaj-Varjú, Erzsébet; Păun, Gheorghe) Conditional tabled eco-grammar systems. (English summary) *Artificial life: grammatical models (Mangalia*, 1994), 227–239, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (92B05, 92D40)

— ★ Public-key cryptography. (English summary) Second edition. Texts in Theoretical Computer Science. An EATCS Series. *Springer-Verlag, Berlin*, 1996. x+271 *pp. ISBN* 3-540-61356-0 (From the preface) **99c:94035** 94A60 (68P25)

— (*with* Vicolov-Dumitrescu, Sorina; Păun, Gheorghe) Languages associated to finite and infinite sets of patterns. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 607–625. (Rani Siromoney) **99g:68122** 68Q45

— (*with* Nishida, Taishin Y.) Slender 0L languages. (English summary) *Theoret. Comput. Sci.* **158** (1996), *no.* 1-2, 161–176. (Juhani Karhumäki) **99k:68100** 68Q45

— (*with* Kari, Lila; Rozenberg, Grzegorz) L systems. *Handbook of formal languages, Vol.* 1, 253–328, *Springer, Berlin*, 1997. (From the introduction) **99h:68105** 68Q45 (03D05, 68Q50)

— (*with* Martín-Vide, Carlos; Miquel-Vergés, Joan; Păun, Gheorghe) Attempting to define the ambiguity of internal contextual languages. (English summary) *Mathematical and computational analysis of natural language (Tarragona*, 1996), 59–81, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (Summary) **99i:68100** 68S05 (68Q45)

— Turing, Watson-Crick and Lindenmayer. Aspects of DNA complementarity. (English summary) *Unconventional models of computation (Auckland*, 1998), 94–107, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05 (92D20)

— (*with* Csuhaj-Varjú, Erzsébet) Networks of language processors: parallel communicating systems. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 122–138. 68Q45 (68Q10)

— (*with* Păun, Gheorghe; Rozenberg, Grzegorz) Complementarity versus universality: keynotes of DNA computing. (English summary) *Complexity* **4** (1998), *no.* 1, 14–19. (Robert M. Baer) **99k:68057** 68Q05 (68Q75)

— (*with* Mateescu, Alexandru; Păun, Gheorghe; Rozenberg, Grzegorz) Simple splicing systems. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 145–163. (Summary) **99d:68150** 68Q45 (92D20)

— (*with* Ilie, Lucian) 2-testability and relabelings produce everything. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 3, 253–262. (Juhani Karhumäki) **99m:68106** 68Q45

— (*with* Mateescu, Alexandru; Rozenberg, Grzegorz) Shuffle on trajectories: syntactic constraints. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 1–56. (Jetty Kleijn) **99c:68156** 68Q45

— (*with* Ilie, Lucian) On well quasi orders of free monoids. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 131–152. (Dong Yang Long) **99g:68114** 68Q45 (20M05)

— (*with* Martín-Vide, Carlos; Păun, Gheorghe) Characterizations of recursively enumerable languages by means of insertion grammars. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 195–205. (Summary) **99d:68149** 68Q45 (03D05)

— *see also* **Structures in logic and computer science, 99b:68008** *and* **J.UCS. The Journal of Universal Computer Science, 99k:68011**

Salomaa, Kai (*with* Yu, Sheng) EDT0L structural equivalence is decidable. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 363–375, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:68077** 68Q40 (68Q45)

— (*with* Yu, Sheng) Rewriting rules for synchronization languages. (English summary) *Structures in logic and computer science*, 322–338, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99d:68154** 68Q45 (68Q10)

— (*with* Ehrenfeucht, Andrzej; Rozenberg, Grzegorz) Semantics of nonsequential tree-based computation schemes. (English summary) *Fund. Inform.* **29** (1997), *no.* 4, 305–324. (K. G. Subramanian) **99c:68078** 68Q05 (68Q55)

— (*with* Yu, Sheng) Synchronization expressions with extended joint operation. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 73–88. (Summary) **99g:68106** 68Q42 (68Q10)

Salomatov, A. P. On the equilibrium shape of crystals. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1135–1144, *iii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 1000–1008. (Igor Albertovich Brigadnov) **99i:73027** 73C50 (49J99, 58E50, 73V25)

Salomé, D. (*with* de Bruin, R.; Schaafsma, W.) A semi-Bayesian method for nonparametric density estimation. (English summary) *Comput. Statist. Data Anal.* **30** (1999), *no.* 1, 19–30. (Summary) **99m:62055** 62G07

Salomon, Gregory (*with* Zhou, Kemin; Wu, Eva) Balanced realization and model reduction for unstable systems. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 183–198. (*see* **99k:93005**) 93B15 (93B11)

Salomon, Marc (*with* Kroon, Leo G.; Van Wassenhove, Luk N.) Exact and approximation algorithms for the tactical fixed interval scheduling problem. (English summary) *Oper. Res.* **45** (1997), *no.* 4, 624–638. (Summary) **99g:90059** 90B35 (90C27)

Salomonsen, Gorm Geometric heat kernel coefficients for APS-type boundary conditions. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1998), *Exp. No. XI*, 19 *pp., Univ. Nantes, Nantes*, 1998. (Gilles Carron) **99h:58180** 58G10 (58G11)

Salone, V. (*with* Salemi, F.; Wang, Wen Di) Stability of a competition model with two-stage structure. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 221–231. (Summary) **99m:92037** 92D25

Salonen, Hannu (*with* Kultti, Klaus) Iterated dominance in quasisupermodular games with strict single crossing property. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 305–309. (Summary) **99j:90118** 90D06

— Egalitarian solutions for n-person bargaining games. (English summary) *Math. Social Sci.* **35** (1998), *no.* 3, 291–306. (Akira Okada) **99k:90220** 90D12 (90A08)

Salopek, D. S. Hamilton-Jacobi solutions for strongly coupled gravity and matter. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1185–1206. (Summary) **99a:83037** 83C47

Salowe, Jeffrey S. (*with* Ganley, Joseph L.) The power-p Steiner tree problem. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 115–127. (András Faragó) **99e:90076** 90C27 (68Q35)

Salsa, Sandro Regularity in free boundary problems. *Conf. Semin. Mat. Univ. Bari No.* 270 (1997), 1–23. (Mahdi Boukrouche) **99i:35183** 35R35 (35B65)

— (*with* Athanasopoulos, I.; Caffarelli, Luis A.) Phase transition problems of parabolic type: flat free boundaries are smooth. *Comm. Pure Appl. Math.* **51** (1998), *no.* 1, 77–112. (Lisa Santos) **99b:35220** 35R35 (35K10, 80A22)

— Regularity in parabolic phase transition problems. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 549–564. (Toyohiko Aiki) **99j:35236** 35R35 (35D10, 35K99, 49L25, 80A22)

Saltini, Luís Eduardo The algebras of higher order currents of the fermionic Gross-Neveu model. *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 513–519, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 81T10

Saltman, David J. H^3 and generic matrices. (English summary) *J. Algebra* **195** (1997), *no.* 2, 387–422. (B. Fein) **99b:12003** 12G05 (14L30)

— Ramification and lattices. *J. Algebra* **195** (1997), *no.* 2, 423–464. (B. Fein) **99b:12004** 12G05 (14L30)

— (*with* Rowen, Louis H.) Normalized Brauer factor sets. (English summary) *J. Algebra* **198** (1997), *no.* 2, 446–468. (Patrick J. Morandi) **99f:16019** 16K20 (16S35)

— Correction to: "Division algebras over p-adic curves" [J. Ramanujan Math. Soc. **12** (1997), no. 1, 25–47; MR 98d:16032]. *J. Ramanujan Math. Soc.* **13** (1998), *no.* 2, 125–129. (Timothy J. Ford) **99k:16036** 16H05 (12E15, 13A20, 16K20)

Salto, Francisco (*with* Mendez, José M.) A natural negation completion of Urquhart's many-valued logic C^1. *J. Philos. Logic* **27** (1998), *no.* 1, 75–84. (Walter Alexandre Carnielli) **99j:03021** 03B50

Saltz, David (*with* Chen, Yupin; Glimm, James; Sharp, David H.; Zhang, Qiang[1]) A two-phase flow formulation for the Rayleigh-Taylor mixing zone and its renormalization group solution. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 23–32, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76144** 76T05 (76E99, 76M35)

— (*with* Glimm, James; Sharp, David H.) Two-phase modelling of a fluid mixing layer. (English summary) *J. Fluid Mech.* **378** (1999), 119–143. (Summary) **99j:76060** 76F99 (76E99, 76T05)

Saltzwedel, Martin On characterizing injective lineations in Desarguesian affine spaces. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2* (*Aachen*, 1995), 287–296, *Brepols, Turnhout*, 1998. (Summary) **99m:51001** 51A10 (51A25, 51A30)

Saludes i Closa, Jordi (*with* Dalmau, M.; Quintanilla, Ramón) Bolzano's theorem implies the supremum axiom. (Catalan) *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 1, 39–40. 26A03

Saluja, Sanjeev (*with* Gunopulos, Dimitris; Mannila, Heikki) Discovering all most specific sentences by randomized algorithms (extended abstract). (English summary) *Database theory—ICDT '97* (*Delphi*), 215–229, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68T05)

Salukvadze, M. (*with* Bardin, Alexandr E.) Vector-values risk in multicriteria problems. *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 235–244, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90A05)

Salupere, Andrus (*with* Engelbrecht, Jüri; Peipman, Tõnu; Maugin, Gérard A.) Spectral analysis of soliton formation. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 216–222, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 65M70 (35Q53)

Salut, G. (*with* Del Moral, Pierre) Particle interpretation of nonlinear filtering and optimization. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 3, 355–372 (1998). (George Yin) **99a:93098** 93E11 (90C15)

villa-Salvador, Gabriel Daniel *see* **Villa-Salvador, Gabriel Daniel**

ortega Salvador, Pedro *see* **Ortega Salvador, Pedro**

Salvadori, Anna (*with* Brandi, Primo; Kamont, Z.) Difference methods for nonlinear first order partial differential equations with mixed initial boundary conditions. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 2-3, 249–269. (V. D. Glushenkov) **99c:65154** 65M06 (65M12)

— (*with* Marcelli, Cristina) Equivalence of different hereditary structures in ordinary differential equations. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 52–68. (Sjoerd M. Verduyn Lunel) **99i:34102** 34K15 (34C99, 34K25)

Salvadori, Neri (*with* Bidard, Christian) Solutions to linear equations depending on a parameter. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 103–112. (F. Szidarovszky) **99c:15005** 15A06

Salvai, Marcos Spectra of unit tangent bundles of compact hyperbolic Riemann surfaces. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 4, 357–370. (Zhiqin Lu) **99e:58197** 58G25 (53C25)

Salvail, Louis Quantum bit commitment from a physical assumption. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 338–353, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94059** 94A60

Salvati, Simonetta (*with* Beran, Ladislav) Boolean algebras revisited. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 895–901. (M. J. Mączyński) **99e:06008** 06E05 (06C15)

— Convergence theorems in noncommutative measure theory. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 145–148. 28A20 (46G99)

Salvatore, A. (*with* Capozzi, A.) Subharmonic solutions of nonlinear wave equations on S^n. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 359–372. (Huicheng Yin) **99e:35146** 35L70 (35C99)

— (*with* Candela, A. M.) Multiplicity results of an elliptic equation with non-homogeneous boundary conditions. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 1–18. (Elvira Mascolo) **99i:35045** 35J65 (35B40)

Salvatori, M. *see* **Salvatori, Maura**

Salvatori, M. Cesarina (*with* Vitillaro, Enzo) Decay and stability for some nonlinear quasi-variational systems. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 937–949. (Mitsuhiro Nakao) **99h:34071** 34D05 (34D20, 34L30)

Salvatori, Maura (*with* Rigoli, Marco; Vignati, Marco) Subharmonic functions on graphs. (English summary) *Israel J. Math.* **99** (1997), 1–27. (Fausto Di Biase) **99a:31006** 31C20 (31C12)

— (*with* Rigoli, Marco; Vignati, Marco) Geometry of graphs and manifolds. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 243–268. (Fei-Tsen Liang) **99c:53032** 53C21 (05C99, 31C05, 58G03)

— (*with* Casini, Emanuele) Complex interpolation and (n,δ)-convexity. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 1–4 (1998). (Irina U. Asekritova) **99f:46107** 46M35 (46B70)

— (*with* Rigoli, Marco; Vignati, Marco) Volume growth and p-subharmonic functions on complete manifolds. *Math. Z.* **227** (1998), *no.* 3, 367–375. (Alberto G. Setti) **99h:58177** 58G03 (35J60, 53C21)

Salvesen, Hans-Christen (*with* Teigland, Rune) Non-reflecting boundary conditions applicable to general purpose CFD simulators. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 523–540. (Summary) **99e:76094** 76M25 (76L05)

zagaglia Salvi, Norma *see* **Zagaglia Salvi, Norma**

Salvini, Giorgio Commemoration of Abdus Salam (1926–1996). (Italian) *Rend. Accad. Naz. Sci. XL Mem. Sci. Fis. Natur.* (5) **21** (1997), *no.* 1, 41–50 (1998). 01A70

Salvo, Ivano (*with* Bucciarelli, Antonio) Totality, definability and Boolean circuits. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 808–819, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q55 (68N15)

Salvy, Bruno (*with* Flajolet, Philippe) Euler sums and contour integral representations. (English summary) *Experiment. Math.* **7** (1998), *no.* 1, 15–35. (Bruce C. Berndt) **99c:11110** 11M41 (11Y60)

— (*with* Chyzak, Frédéric) Non-commutative elimination in Ore algebras proves multivariate identities. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 2, 187–227. (A. N. Philippou) **99g:68103** 68Q40 (05A19)

Salwa, Arkadiusz Representing idempotents as a sum of two nilpotents—an approach via matrices over division rings. *Colloq. Math.* **77** (1998), *no.* 1, 59–83. (Andrei Kelarev) **99d:16038** 16U99

— On free subgroups of units of rings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2569–2572. (Victor Bovdi) **99m:16049** 16U60

Salwen, Nathan (*with* Rubin, Ron) A canonical quantization of the baker's map. (English summary) *Ann. Physics* **269** (1998), *no.* 2, 159–181. (N. L. Balazs) **99m:81066** 81Q50 (58F13)

— (*with* Leśniewski, Andrzej; Rubin, Ron) Classical limits for quantum maps on the torus. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1835–1847. (Albert Jeu-Liang Sheu) **99b:81116** 81S10 (46L60, 58F06, 70K50, 81Q50)

Salyga, Valeriĭ (*with* Zaripov, M. N.) Analysis of the sufficiency of experimental and a priori information in the problem of the identification of a dynamical system. (Russian.

Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 5–10. 93B30 (93E12)

Salza, Silvio (*with* Barone, Giovanni; Morzy, Tadeusz) Distributed query optimization in loosely coupled multidatabase systems. (English summary) *Database theory—ICDT '95* (*Prague*), 40–53, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68Q10)

Salzano, Marcia (*with* Schonmann, Roberto H.) A new proof that for the contact process on homogeneous trees local survival implies complete convergence. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1251–1258. (Yu Zhang) **99g:60192** 60K35

Salzberg, Steven (*with* Kasif, Simon; Waltz, David; Rachlin, John; Aha, David W.) A probabilistic framework for memory-based reasoning. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 287–311. 68T30 (68T27)

Salzer, Gernot (*with* Hermann, Miki) On the word, subsumption, and complement problem for recurrent term schematizations (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 257–266, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68T15 (03B35, 68Q42)

— (*with* Baaz, Matthias; Fermüller, Christian G.; Zach, Richard) Labeled calculi and finite-valued logics. (English summary) Many-valued logics. *Studia Logica* **61** (1998), *no.* 1, 7–33. (Radim Bělohlávek) **99m:03043** 03B50 (03B22, 03F05)

Salzmann, Helmut R. Characterization of 16-dimensional Hughes planes. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 249–256. (A. Schleiermacher) **99i:51013** 51H10 (51H25)

— (*with* Priwitzer, Barbara) Large automorphism groups of 16-dimensional planes are Lie groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 83–93. (Rainer Löwen) **99f:51027** 51H10 (22E99)

Samaddar, S. N. Some integrals associated with diffraction of single-cycle sinusoids by a circular conducting disk. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 113–122. (Summary) **99h:33018** 33C10

Samaké, Karim Les zéros de certaines suites récurrentes linéaires. (English and French summaries) [The zeros of certain linear recurrent sequences] *Afrika Mat.* (3) **8** (1997), 61–79. (Alain Faisant) **99a:11091** 11J86 (11B37)

Samal, Manoj K. (*with* Gupta, Anshu; Mohanty, Subhendra) Čerenkov radiation emitted by charged particles in a gravitational field. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 291–298. 83C30

Šámal, Martin (*with* Kárný, Miroslav; Böhm, Josef) Rotation to physiological factors revised. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 2, 171–179. (Summary) **99c:92024** 92C55

Samanta, Hora Krishna On maximum principle in locally convex linear topological spaces. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 209–216. (M. Margarida Amorim Ferreira) **99g:49025** 49K27 (46N10, 47N10)

Samanta, M. (*with* Thavaneswaran, A.) On a test of independence in a multivariate exponential distribution. (English summary) *Quality improvement through statistical methods* (*Cochin*, 1996), 381–389, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62011**) 62F03 (62N05)

Samanta, S. K. *see* **Samanta, Syamal Kumar**

Samanta, Sisir Kumar (*with* Chatterjee, Shoutir Kishore) Variable selection for discrimination among several populations. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2565–2582. (Yasunori Fujikoshi) **99h:62081** 62H30

Samanta, Syamal Kumar (*with* Chattopadhyay, K. C.; Mukherjee, U. K.) A note on fuzzy ultrafilters. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 695–704. (Summary) **99d:04005** 04A72

— (*with* Mondal, Tapas Kumar) Topology of interval-valued fuzzy sets. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 1, 23–38. 54A40

Samarin, V. A. On a nonlocal problem for a fourth-order degenerate local-evolution equation. (Russian) *Algebra and mathematical analysis* (*Russian*), 50–55, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 35K65 (35K25)

Samarskaya, E. A. (*with* Kryazhimskii, Arkadii V.; Maksimov, V. I.) On the reconstruction of inputs in parabolic systems. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 3, 51–72. (Summary) **99i:93034** 93C20 (35R30, 65M30, 76S05)

Samarskiĭ, Aleksandr Andreevich (*with* Mazhukin, V. I.; Kastel'yanos, Orlando; Shapranov, A. V.) The dynamic adaptation method for nonstationary problems with large gradients. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 4, 32–56. 65M55

— (*with* Vabishchevich, Petr N.; Matus, Petr P.) Difference schemes of increased order of approximation on nonuniform grids for elliptic equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 9–14, 124. (Summary) **99a:65130** 65N06

— (*with* Vabishchevich, Petr N.) Operator-difference schemes for problems in mathematical physics. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 363–371, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M06 (65N06)

— (*with* Vabishchevich, Petr N.; Vasil'ev, Vasiliĭ Ivanovich) Iterative solution of a retrospective inverse problem of heat conduction. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 372–376, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M70

— (*with* Vabishchevich, Petr N.) Factorized domain decomposition difference schemes for convection-diffusion problems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 967–974, 1006; *translation in Differential Equations* **33** (1997), *no.* 7, 972–980 (1998). (Włodzimierz Proskurowski) **99d:65274** 65M55 (65M12, 65M15, 76M20, 76R50)

— (*with* Jovanović, Boško S.; Matus, Petr P.; Shcheglik, V. S.) Difference schemes on time-adaptive grids for parabolic equations with generalized solutions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 975–984, 1007; *translation in Differential Equations* **33** (1997), *no.* 7, 981–990 (1998). (Summary) **99e:65117** 65M06

— (*with* Mazhukin, V. I.; Matus, Petr P.; Mikhaĭlik, I. A.) L_2-conservative schemes for the Korteweg-de Vries equation. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 458–461. (Michael Fröhner) **99h:65150** 65M06 (35Q53, 65M12)

— (*with* Chetverushkin, B. N.; Tishkin, V. F.; Gol'din, V. Ya.; Kalitkin, N. N.; Sobol', I. M.) Boris Leonidovich Rozhdestvenskiĭ (on the occasion of his seventieth birthday). (Russian) *Mat. Model.* **10** (1998), *no.* 9, 123–124. 01A70

— (*with* Matus, Petr P.; Vabishchevich, Petr N.) Stability and convergence of two-level difference schemes in integral with respect to time norms. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1055–1070. (Mohammad Asadzadeh) **99i:65094** 65M12 (65M06)

— (*with* Vabishchevich, Petr N.; Lemeshevskiĭ, S. V.; Matus, Petr P.) Difference schemes for the problem of the conjugation of equations of hyperbolic and parabolic types. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 954–962, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 825–833. (Sui Yang Chen) **99j:65148** 65M12 (35M10, 65M06)

— (*with* Vabishchevich, Petr N.) Difference schemes for nonstationary convection-diffusion problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 207–219; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 2, 199–210. (V. D. Glushenkov) **99h:65153** 65M06 (76M20)

— (*with* Vabishchevich, Petr N.; Matus, Petr P.) Difference schemes of second-order accuracy on nonuniform grids. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 413–424; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 399–410. (V. D. Glushenkov) **99h:65182** 65N06 (65N15)

— (*with* Mazhukin, V. I.; Matus, Petr P.; Rychagov, V. G.; Smurov, I.) Invariant difference schemes for parabolic equations with transformations of independent variables. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 93–110. (Meng Zhao Qin) **99m:65166** 65M06 (65M12, 65M15)

— *see also* **Numerical methods and their applications, 99a:65005; Birthday: Samarskiĭ, Aleksandr Andreevich**

Sambandham, M. (*with* Farahmand, K.) On the expected number of real zeros of random trigonometric polynomials. (English summary) *Analysis* **17** (1997), *no.* 4, 345–353. (Natesan Renganathan) **99b:60065** 60G99

— (*with* Agarwal, Ravi P.) Multipoint boundary value problems for general discrete systems. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 469–492. (P. W. Eloe) **99b:39001** 39A10

— (*with* Gore, Henry; Farahmand, K.) The average number of point [points] of inflection of random algebraic polynomials. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 721–731. (V. Thangaraj) **99g:60094** 60G99

Sambin, Giovanni (*with* Faggian, Claudia) From basic logic to quantum logics with cut-elimination. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 31–37. (R. Gylys) **99f:03026** 03B60 (03F05, 03G12, 81P10)

de Samblanx, Gorik *see* **De Samblanx, Gorik**

Sambucini, Anna Rita (*with* Boccuto, Antonio) The Burkill-Cesari integral for Riesz spaces. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 33–47 (1997). (Summary) **99c:28034** 28B15 (26A39)

Sambusetti, Andrea An obstruction to the existence of Einstein metrics on 4-manifolds. *Math. Ann.* **311** (1998), *no.* 3, 533–547. (Jongsu Kim) **99k:53101** 53C25

— Einstein manifolds and obstructions to the existence of Einstein metrics. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 1, 131–149. (Thalia D. Jeffres) **99g:53053** 53C25

Sameh, Ahmed H. (*with* Tong, Zhanye) On an iterative method for saddle point problems. (English summary) *Numer. Math.* **79** (1998), *no.* 4, 643–646. (Summary) **99f:65054** 65F10

— (*with* Sarin, Vivek) An efficient iterative method for the generalized Stokes problem. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 206–226 (*electronic*). (Summary) **99b:65132** 65N22 (65F10, 65N30, 76D07, 76M20)

— (*with* Grama, Ananth; Kumar, Vipin) Parallel hierarchical solvers and preconditioners for boundary element methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 337–358 (*electronic*). (Summary) **99e:65165** 65N38 (65F35, 65Y05)

— *see also* **High performance algorithms for structured matrix problems, 99k:65004**

Samei, K. (*with* Mehrvarz, A. A.) Dependent prime ideals in continuous functions rings. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 371–373, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 54C35

Samejima, Fumiko Efficient nonparametric approaches for estimating the operating characteristics of discrete item responses. (English summary) *Psychometrika* **63** (1998), *no.* 2, 111–130. (Summary) **99a:62155** 62P15 (62G05)

Samelson, K. *see* **Bauer, Friedrich L., 99c:68003**

Samelson, R. M. (*with* Temam, Roger; Wang, Shou Hong) Some mathematical properties of the planetary geostrophic equations for large-scale ocean circulation. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 147–173. (Summary) **99i:86010** 86A05 (35Q99, 76U05)

— Note on a baroclinic analogue of vorticity defects in shear. (English summary) *J. Fluid Mech.* **382** (1999), 367–373. (Summary) **99m:76039** 76C05 (76E20, 86A10)

Samelson, Sandra Lee Asymptotic stabilization of a class of three-dimensional homogeneous control systems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 1, 12 *pp.* (*electronic*). (Summary) **99e:93069** 93D15 (34H05, 93B17)

Sameripour, A. (*with* Seddighi, Karim) On the distribution of the eigenvalues of non-selfadjoint elliptic systems of differential operators degenerated on the boundary of domain. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 481–487, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99c:35178** 35P20 (35J25, 47F05)

— (*with* Seddighi, Karim) Distribution of the eigenvalues of nonselfadjoint elliptic systems that degenerate on the domain boundary. (Russian) *Mat. Zametki* **61** (1997), *no.* 3, 463–467; *translation in Math. Notes* **61** (1997), *no.* 3-4, 379–384. (Günter Berger) **99d:35116** 35P20 (35J55)

Samet, Dov (*with* Heifetz, Aviad) Knowledge spaces with arbitrarily high rank. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 2, 260–273. (Irving H. LaValle) **99c:90035** 90A35

— Iterated expectations and common priors. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 131–141. (Françoise Forges) **99j:90119** 90D06 (90D40)

— Common priors and separation of convex sets. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 172–174. (Summary) **99h:90125** 90D10 (90A14)

Saminy, Mo (*with* Arnette, Stephen A.; Elliott, Gregory S.) The effects of expansion on the turbulence structure of compressible boundary layers. (English summary) *J. Fluid Mech.* **367** (1998), 67–105. 76F99 (76N20)

Samiripur, A. *see* **Sameripour, A.**

Samiuddin, M. (*with* Jones, Michael C.; Al-Harbey, A. H.; Maatouk, T. A. H.) The edge frequency polygon. (English summary) *Biometrika* **85** (1998), *no.* 1, 235–239. (Summary) **99b:62058** 62G05

Samiuddin, S. (*with* Al-Harbey, A. H.; Jones, Michael C.; Maatouk, T. A. H.) Simple smoothed histograms. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 113–129. (Summary) **99m:62065** 62G07

Samko, Stefan G. (*with* Gorenflo, Rudolf) On the dependence of asymptotics of S-numbers of fractional integration operators on weight functions. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 191–212. (B. S. Rubin) **99b:47073** 47G10 (26A33, 44A35, 45E10, 47B06)

— (*with* Miller, Kenneth S.) A note on the complete monotonicity of the generalized Mittag-Leffler function. *Real Anal. Exchange* **23** (1997/98), *no.* 2, 753–755. 33E20

— Differentiation and integration of variable order and the spaces $L^{p(x)}$. *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 203–219, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Vanna Zanelli) **99c:26005** 26A33

— Convolution type operators in $L^{p(x)}$. *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 123–144. (From the introduction) **99i:47059** 47B38 (46E30)

de Sam Lazaro, José *see* **De Sam Lazaro, José**

Samman, M. S. (*with* Meldrum, J. D. P.) On free d.g. seminear-rings. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 93–102 (1998). (Hubert Kiechle) **99g:16059** 16Y30

Sammartino, Marco (*with* Caflisch, Russel E.) Zero viscosity limit for analytic solutions, of the Navier-Stokes equation on a half-space. I. Existence for Euler and Prandtl equations. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 433–461. (Zhi Min Chen) **99d:35129a** 35Q30 (76C99, 76D05)

— (*with* Caflisch, Russel E.) Zero viscosity limit for analytic solutions of the Navier-Stokes equation on a half-space. II. Construction of the Navier-Stokes solution. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 463–491. (Zhi Min Chen) **99d:35129b** 35Q30 (76C99, 76D05)

Samoĭlenko, Anatoliĭ Mikhaĭlovich (*with* Kulik, V. L.) On the properties of matritsants that affect the regularity of linear extensions of dynamical systems on a torus. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 684–688, 719; *translation in Differential Equations* **33** (1997), *no.* 5, 687–691 (1998). (Rimma A. Prokhorova) **99d:34078** 34C35 (34D99)

— (*with* Petrishin, Ya. R.) Boundary value problems with parameters for multifrequency oscillatory systems. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 581–589; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 643–652 (1998). (Summary) **99e:34042** 34C15 (34B15, 34C29)

— (*with* Mitropol′skiĭ, Yuriĭ Alekseevich; Kalinovich, V. N.; Onishchenko, S. M.; Polishchuk, A. N.) On the work of V. N. Koshlyakov in mechanics and its applications. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1444–1453; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1622–1631 (1998). 70E15 (01A70)

— (*with* Stanzhitskiĭ, A. N.) On invariant sets of differential equations with small random perturbations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 54–58, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 54–58. (Summary) **99i:34065** 34C30 (34F05, 60H99)

— (*with* Ilolov, M.) Invariant tori of differential equations in a Banach space. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **50** (1998), *no.* 1, 13–21; *translation in Ukrainian Math. J.* **50** (1998), *no.* 1, 13–23. (From the text) **99m:34064** 34C05 (34G20)

— *see also* **Boĭchuk, A. A. et al., 99k:01046** *and* **Berezanskiĭ, Yuriĭ Makarovich**

Samoĭlenko, L. I. (*with* Ladikov, Yu. P.) Structural optimization of controlling media. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 101–108, 297. 49N55 (90C90)

— The problem of synthesis and computation of active distributed feedback. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 26–34, 153. 93B51 (93B40)

— The influence of the structure of generalized forces on the stability of motion of a linear periodically time-dependent system. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 19–24, 156. (Summary) **99d:34117** 34H05 (34D99, 93D05)

Samoĭlenko, V. G. (*with* Elgondyev, K. K.) On periodic solutions of linear differential equations with impulse action. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 1, 141–148; *translation in Ukrainian Math. J.* **49** (1997), *no.* 1, 156–164. (V. G. Zadorozhniĭ) **99c:34016** 34A37 (34C25, 34H05)

— *see also* **Asymptotic and qualitative methods in the theory of nonlinear oscillations, 99g:00030**

Samoĭlenko, Yu. I. A model representation of the dynamics of the control of the configurations of an ice proton subsystem. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 46–59, 296. 93A30 (81V55)

— A fiber bundle model of the ice I_h structure. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 279–286, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:82070** 82D25

Samoĭlenko, Yuriĭ S. (*with* Ostrovs′kiĭ, V. L.) Pairs of bounded selfadjoint operators connected by a quadratic relation. (Ukrainian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 98–114, "*Vishcha Shkola*", *Kiev*, 1993. (Yu. M. Arlins′kiĭ) **99f:47030** 47B25

— (*with* Turovskaya, Lyudmila) Semilinear relations and $*$-representations of deformations of so(3). (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 21–40, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Fang Li) **99a:17024** 17B37 (47B15, 47B25, 47D40, 81R50)

— (*with* Turovskaya, Lyudmila; Popovych, Stanislav) Representations of a cubic deformation of su(2) and parasupersymmetric commutation relations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 372–383, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Marcelo R. Ubriaco) **99c:81105** 81S05 (81Q60, 81R50)

— (*with* Turovskaya, Lyudmila) On representations of $*$-algebras by unbounded operators. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 80–83; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 289–291 (1998). (W. Timmermann) **99b:46080** 46K10 (47D40)

Samokhin, A. B. A method for solving interior problems of electrodynamics. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1291–1292, 1296; *translation in Differential Equations* **33** (1997), *no.* 9, 1303–1304 (1998). (Summary) **99e:78020** 78A25 (35Q60, 78–08)

— (*with* Il′inskiĭ, A. S.; Kapustin, Yu. Yu.) A mathematical model of the problem of diffraction by a nonhomogeneous cylindrical body. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1563–1571. (Summary) **99j:78022** 78A45 (78–08)

Samokhin, K. Winding of a two-dimensional Brownian particle in a random environment. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9455–9468. 82C31

Samokhin, V. N. (*with* Oleĭnik, Ol′ga Arsen′evna) ★ Математические методы в теории пограничного слоя. (Russian. Russian summary) [Mathematical methods in boundary-layer theory] *Fizmatlit* "*Nauka*", *Moscow*, 1997. 512 *pp. ISBN* 5-02-015202-1 (P. C. Fife) **99j:76033** 76D10 (35Q35)

— Equations of a magnetohydrodynamic boundary layer with diffraction conditions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1106–1113, 1151; *translation in Differential Equations* **33** (1997), *no.* 8, 1113–1120 (1998). (Summary) **99d:76026** 76D10 (35Q35, 76W05)

Samorodnitsky, Gennady (*with* Resnick, Sidney I.) Performance decay in a single server exponential queueing model with long range dependence. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 235–243. (Summary) **99d:90054** 90B22

— Tail behavior of some shot noise processes. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 473–486, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 60G55 (60K99, 90A09)

— Lower tails of self-similar stable processes. (English summary) *Bernoulli* **4** (1998), *no.* 1, 127–142. (Piotr Kokoszka) **99e:60105** 60G18

— (*with* Cohen, Jason; Resnick, Sidney I.) Sample correlations of infinite variance time series models: an empirical and theoretical study. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 255–282. 62M10 (60E07, 60G70)

— (*with* Braverman, Michael) Distribution tails of sample quantiles and subexponentiality. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 1, 45–60. (Angelos Dassios) **99i:60033** 60E07 (60G70)

— (*with* Braverman, Michael) Symmetric infinitely divisible processes with sample paths in Orlicz spaces and absolute continuity of infinitely divisible processes. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 1, 1–26. (Rimas Norvaiša) **99h:60009** 60B11 (60E07, 60G17)

Samotij, K. (*with* Hallenbeck, D. J.) On properties of Cauchy transforms. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 2, 189–193. (Summary) **99f:30062** 30E20

— (*with* Hallenbeck, D. J.) On properties of multipliers of Cauchy transforms. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 223–235. (N. V. Rao) **99g:30051** 30E20 (46E15)

Samovol, Vladimir Local smooth linearization of systems of ordinary differential equations. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 371–373, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 34C20 (58F36)

Sampaio, Augusto (*with* Cavalcanti, Ana; Woodcock, Jim) An inconsistency in procedures, parameters, and substitution in the refinement calculus. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 1, 87–96. 68N05

Sampaio, Marcos (*with* Mansfield, Paul; Pachos, Jiannis) Short distance properties from large distance behavior. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4101–4122. (Summary) **99e:81157** 81T15

de Sampaio, P. A. B. (*with* Coutinho, A. L. G. A.) Simulation of free and forced convection incompressible flows using an adaptive parallel/vector finite element procedure. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 289–309. 76M10

de Sampaio, Raimundo J. B. (*with* Sun, Wen Yu; Yuan, Jin Yun) Unified superlinear convergence of some algorithms for LC^1 optimization. (English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 79–85 (1997). 90C30 (49J52, 65K05)

Sampalmieri, Rosella Weak solutions of a conservation law with memory in several space variables. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 1, 99–116. (Fumioki Asakura) **99k:35119** 35L67 (35D05, 35F25)

— (*with* Antonacci, Flavia) Closed geodesics on compact Lorentzian manifolds of splitting type. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 447–462. (Paolo Piccione) **99h:58037** 58E10 (53C22, 53C50)

Sampath, Meera (*with* Lafortune, Stéphane; Teneketzis, Demosthenis) Active diagnosis of discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 908–929. (Li Yi Dai) **99j:90035** 90B25 (93E03)

Sampath, S. (*with* Uthayakumaran, N.) Markov systematic sampling. (English summary) *Biom. J.* **40** (1998), *no.* 7, 883–895. (Summary) **99k:62023** 62D05

Sampathkumar, E. (*with* Pushpa Latha, L.) Complement of a graph: a generalization. (English summary) *Graphs Combin.* **14** (1998), *no.* 4, 377–392. (A. Vijayakumar) **99k:05142** 05C75

— (*with* Pushpa Latha, L.; Venkatachalam, C. V.; Bhat, Pradeep) Generalized complements of a graph. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 625–639. (A. Vijayakumar) **99f:05097** 05C75

Sampathkumar, R. (*with* Balakrishnan, Rangaswami; Yegnanarayanan, V.) Extremal graphs in some coloring problems. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 15–24. (Summary) **99a:05067** 05C35 (05C15)

Sampath Kumar, S. β-open sets, β-continuity and β-open mappings in bitopological spaces. *J. Indian Math. Soc.* (*N.S.*) **62** (1996), *no.* 1-4, 187–195. 54E55

— On a decomposition of pairwise continuity. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 6, 441–446. 54E55 (54C08)

— θ-connectedness and δ-connectedness in fuzzy bitopological spaces. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 535–540. 54A40 (54E55)

cruz-Sampedro, J. *see* **Cruz-Sampedro, J.**

Sampoli, Maria Lucia (*with* Costantini, Paolo) Abstract schemes and constrained curve interpolation. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 121–130, *Teubner, Stuttgart*, 1998. (Summary) **99h:65026** 65D17 (41A29)

— (*with* Manni, Carla) Comonotone parametric Hermite interpolation. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 343–350, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41034** 41A29

Sampson, Allan R. (*with* Block, H. W.; Chhetry, D.; Fang, Zhao Ben) Metrics on permutations useful for positive dependence. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 219–234. (Ram Shanmugam) **99k:62106** 62H05

— (*with* Olkin, Ingram) Comparison of meta-analysis versus analysis of variance of individual patient data. (English and French summaries) *Biometrics* **54** (1998), *no.* 1, 317–322. (Summary) **99d:62094** 62P10

Sampson, Gary L^2 estimates for oscillatory integrals. *Colloq. Math.* **76** (1998), *no.* 2, 201–211. (Shan Zhen Lu) **99e:42014** 42A50 (42B20)

— (*with* Pan, Yi Biao) The complete (L^p, L^p) mapping properties for a class of oscillatory integrals. *J. Fourier Anal. Appl.* **4** (1998), *no.* 1, 93–103. (Steen Pedersen) **99i:42011** 42A50 (42B20, 47G10)

Samsó, Julio (*with* Vernet Ginés, Juan) The development of Arabic science in Andalusia. *Encyclopedia of the history of Arabic science, Vol.* 1–3, 243–275, *Routledge, London*, 1996. (*see* **99k:01001**) 01A30

— "Al-Bīrūnī" in al-Andalus. *From Baghdad to Barcelona/De Bagdad a Barcelona, Vol. I, II (Zaragoza*, 1993), 583–612, *Anu. Filol. Univ. Barc., XIX B-2, Univ. Barcelona, Barcelona*, 1996. (George Saliba) **99g:01010** 01A30

— (*with* Millás, Eduardo) The computation of planetary longitudes in the zīj of Ibn al-Bannā'. (English and French summaries) *Arabic Sci. Philos.* **8** (1998), *no.* 2, 165, 167, 259–286. (George Saliba) **99h:01012** 01A30

Samson, C. (*with* De Luca, Alessandro; Oriolo, Giuseppe) Feedback control of a nonholonomic car-like robot. *Robot motion planning and control*, 171–253, *Lecture Notes in Control and Inform. Sci.*, 229, *Springer, London*, 1998. (From the introduction) **99a:70044** 70Q05 (70B15, 70F25, 93B52, 93C85)

Samson, J. H. (*with* Evans, G. A.) Symmetry reduction of Fourier kernels. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 109–122. (Summary) **99d:65075** 65D30 (42B10, 44A15)

Samsonadze, G. T. On the *ZD*-class of representations of groups. (Georgian. English and Russian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 1, 28–30 (1996). 20C15

Samsoniya, Z. V. On closeness of kernels of potential type integral equation. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 327–328. 31B10 (45E05)

— On quasiconformal mapping of close domains. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 330–332 (1997). 30C62

Samsonov, A. M. On exact quasistationary solutions to a nonlinear reaction-diffusion equation. (English summary) *Phys. Lett. A* **245** (1998), *no.* 6, 527–536. 35K57 (35C05)

— (*with* Porubov, A. V.; Velarde, M. G.; Bukhanovsky, A. V.) Strain solitary waves in an elastic rod embedded in another elastic external medium with sliding. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part B*, 3854–3864. 73D35 (73K05)

Samsonov, Boris F. (*with* Bagrov, V. G.) Holomorphic representation of coherent states of a singular oscillator and their Darboux transformation. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 2, 46–53; *translation in Russian Phys. J.* **41** (1998), *no.* 2, 129–136. (Summary) **99c:81075** 81R30

— (*with* Shekoyan, L. A.) Investigation of a class of Bergman-type potentials. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 5, 34–39; *translation in Russian Phys. J.* **41** (1998), *no.* 5, 428–432. (Summary) **99j:81037** 81Q05 (34L40)

— Distortion of a phase space under the Darboux transformation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 967–975. (Constantin Brif) **99c:81079** 81R30 (58F05, 81S10)

Samtaney, R. S. (*with* Zabusky, Norman J.; Ray, Jaideep) Vortex models for Richtmyer-Meshkov fast/slow environments: scaling laws for interface growth rates. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY*, 1995), 89–97, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99

— (*with* Ray, Jaideep; Zabusky, Norman J.) Baroclinic circulation generation on shock accelerated slow/fast gas interfaces. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1217–1230. (Summary) **99b:76048** 76L05 (76N99)

Samtani, R. K. (*with* Bhatt, R. C.) Reducible cases for triple hypergeometric functions. (English summary) *Ganita Sandesh* **10** (1996), *no.* 1, 45–48. (Summary) **99g:33042** 33C70

— (*with* Bhatt, R. C.) Certain symbolic relations and expansions associated with hypergeometric function of three variables. *Math. Ed. (Siwan)* **32** (1998), *no.* 1, 22–25. 33C70

Samtleben, H. (*with* Nicolai, Hermann; Korotkin, D. A.) Integrable classical and quantum gravity. *Quantum fields and quantum space time (Cargèse*, 1996), 203–243, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Guillermo A. Mena Marugán) **99b:83038** 83C45 (58F07, 83E50)

— (*with* Korotkin, D. A.) Quantization of coset space σ-models coupled to two-dimensional gravity. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 411–457. (Martin Schlichenmaier) **99e:81224** 81T40 (58D27)

— (*with* Korotkin, D. A.) Yangian symmetry in integrable quantum gravity. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 657–689. (Marco Cavaglià) **99g:83038** 83C45 (81R10, 83C47)

— (*with* Nicolai, Hermann) Integrability and canonical structure of $d = 2$, $N = 16$ supergravity. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 210–242. (Piet Termonia) **99m:83205** 83E50 (81R10, 81T30, 81T60)

Samuel, Pierre La théorie des correspondances birationnelles selon Zariski. [The theory of birational correspondences according to Zariski] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 6, 33–37, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 14E05

— Anneaux locaux; introduction à la géométrie algébrique. [Local rings; introduction to algebraic geometry] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 22, 141–145, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 13H15

— Théorie du corps de classes local selon G. P. Hochschild. [Local class field theory according to G. P. Hochschild] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 42, 349–353, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 11R37

— Sections hyperplanes des variétés normales (d'après A. Seidenberg et W. Krull). [Hyperplane sections of normal varieties (after A. Seidenberg and W. Krull)] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 49, 419–422, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 13B22 (14A10)

— Modèles booléiens et hypothèse du continu (résultats de Paul Cohen par la méthode de D. Scott et R. Solovay). [Boolean-valued models and the continuum hypothesis (results of Paul Cohen using the method of D. Scott and R. Solovay)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 317, 61–72, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 03E35 (03C90, 03E50)

— Variété de Picard et groupe de Severi (d'après A. Néron). [Picard variety and Severi group (after A. Néron)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 53, 31–35, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 14K05 (14H40)

— Les fonctions holomorphes abstraites de Zariski. [The abstract holomorphic functions of Zariski] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 86, 335–343, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 14E99

— Travaux de Zariski sur le 14e problème de Hilbert. [Works of Zariski on Hilbert's fourteenth problem] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 99, 441–446, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 13E15 (14E99)

— La jacobienne d'une courbe algébrique (d'après W. L. Chow). [The Jacobian of an algebraic curve (after W. L. Chow)] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 106, 51–59, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 14H40

— Travaux de Shimura et Taniyama sur la multiplication complexe. [Works of Shimura and Taniyama on complex multiplication] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 129, 315–322, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 11G15

— Travaux de Rosenlicht sur les groupes algébriques. [Works of Rosenlicht on algebraic groups] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 145, 111–123, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 20G15

— Invariants arithmétiques des courbes de genre 2 (d'après Jun Ichi Igusa). [Arithmetical invariants of curves of genus 2 (after Jun-ichi Igusa)] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 228, 81–93, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 14H45

— Travaux d'Igusa sur les formes modulaires de genre 2 [MR **30** #4758]. [Works of Igusa on modular forms of genus 2] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 267, 365–372, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 11F46

— La conjecture de Mordell pour les corps de fonctions (d'après H. Grauert). [The Mordell conjecture for function fields (after H. Grauert)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 287, 149–167, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 14G25

Samuel-Cahn, Ester (*with* Assaf, David; Goldstein, Larry Mark) A statistical version of prophet inequalities. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1190–1197. (Frans Boshuizen) **99h:62105** 62L15 (60G40)

— (*with* Assaf, David) Optimal cooperative stopping rules for maximization of the product of the expected stopped values. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 89–99. (Summary) **99b:60055** 60G40

Samuelides, Y. (*with* Fouque, Jean-Pierre; Papanicolaou, George C.) Forward and Markov approximation: the strong-intensity-fluctuations regime revisited. (English summary) *Waves Random Media* **8** (1998), *no.* 3, 303–314. (Summary) **99d:35192** 35R60 (35J10, 35Q99)

Samuels, Richard Evolutionary psychology and the massive modularity hypothesis. (English summary) *British J. Philos. Sci.* **49** (1998), *no.* 4, 575–602. 92J10

Samuelson, Larry (*with* Binmore, Ken; Piccione, Michele) Evolutionary stability in alternating-offers bargaining games. (English summary) *J. Econom. Theory* **80** (1998), *no.* 2, 257–291. (Summary) **99f:90201** 90D12

Samulyak, R. V. (*with* Kopych, M.; Prykarpatsky, Y. A.) Adiabatic invariants of a generalized Hénon-Heiles Hamiltonian system and the structure of chaotic motion. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 2, 32–36. (Jean-Pierre Marco) **99a:58136** 58F30 (58F05, 58F13, 70H05, 70K50)

— (*with* Blackmore, D. L.; Prykarpatsky, Y. A.) The integrability of Lie-invariant geometric objects generated by ideals in the Grassmann algebra. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 54–67. (Summary) **99a:58005** 58A15 (58F35)

Samusenko, P. F. On asymptotic solutions of a system of linear differential equations with a singular matrix multiplying the derivatives. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 44–50. (Vasiliy Ilyich Fomin) **99a:34001** 34A09 (34A30, 34E05)

Sanabria-Gómez, J. D. (*with* Manko, O. V.; Manko, Vladimir S.) Charged, magnetized Tomimatsu-Sato $\delta = 2$ solution. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 3, 671–673. (B. D. Muratori) **99k:83023** 83C22 (83C15)

Sánchez, A. *see* **Sánchez, Ana B.**

Sánchez, Alberto (*with* Núñez, Darío; Quevedo, Hernando) Einstein's equations as functional geodesics. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 5, 440–448. (Maciej Przanowski) **99k:83007** 83C05 (83C15, 83C20)

Sánchez, Ana B. (*with* Vivas, Z.) Calibration of objective functions in stochastic linear models of production networks. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 47–54. 90C15 (90B15)

Sánchez, Angel (*with* Bishop, A. R.) Collective coordinates and length-scale competition in spatially inhomogeneous soliton-bearing equations. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 579–615 (*electronic*). (Marco Pedroni) **99k:35160** 35Q53 (35B20, 35B27)

elipe Sánchez, Antonio C. *see* **Elipe Sánchez, Antonio C.**

Sánchez, Ariel (*with* De Pablo, Arturo) Travelling waves in a nonlinear Fisher equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 413–418, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Arnaldo do Nascimento) **99f:35084** 35K55

— (*with* De Pablo, Arturo) Travelling wave behaviour for a porous-Fisher equation. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 285–304. (Summary) **99f:35091** 35K57 (35B40, 35Q80, 92C15, 92D25)

Sánchez, Clara Helena The founding of the department of mathematics and statistics of the National University. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **4** (1997), *no.* 1, 57–71. 01A73

durán Sánchez, Claudia *see* **Durán Sánchez, Claudia**

Sánchez, Cristián U. The holomorphic 2-number of a Hermitian symmetric space. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 69–81. (José Carmelo González-Dávila) **99i:53053** 53C35 (53C55)

— (*with* Dal Lago, Walter; García, Alicia) Projective subspaces in the variety of normal sections and tangent spaces to a symmetric space. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 415–428. (Anna M. Fino) **99h:53066** 53C30 (53C35)

Sánchez, E. *see* **Sánchez, Eva**

Sanchez, Edgar N. (*with* Poznyak, A. S.; Yu, Wen; Sira-Ramírez, Hebertt) Robust identification by dynamic neural networks using sliding mode learning. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 135–144. (*see* **99a:93003**) 93B30 (93C83)

Sánchez, Elena (*with* Estruch, Vicente D.; Hernández, Vicente G.; Coll, Carmen) Forward/backward periodic realizations of nonproper rational matrices. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 4, 21 *pp.* (*electronic*). (Summary) **99e:93016** 93B15 (65F30)

— (*with* Estruch, Vicente D.; Hernández, Vicente G.; Coll, Carmen) Forward/backward periodic realizations of nonproper rational matrices. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 155–175. (John Maroulas) **99f:93021** 93B15 (49N20)

Sánchez, Eva (*with* Arino, Ovide; Webb, G. F.) Polynomial growth dynamics of telomere loss in a heterogeneous cell population. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 3, 263–282. (S. K. Chatterjea) **99c:92032** 92D25 (47D06, 47N60, 92C40)

— (*with* Arino, Ovide; Webb, G. F.) Necessary and sufficient conditions for asynchronous exponential growth in age structured cell populations with quiescence. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 499–513. (Hassan Emamirad) **99c:92033** 92D25 (35Q80, 47D06, 47N20)

— (*with* Bravo de la Parra, Rafael) Aggregation methods in population dynamics discrete models. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 23–39. (Arthur I. Csetényi) **99f:92017** 92D25 (92D40)

— (*with* Auger, Pierre M.; Bravo de la Parra, Rafael) Hawk-dove game and competition dynamics. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 89–98. (Summary) **99b:92035** 92D25

— (*with* Arino, Ovide; Bravo de la Parra, Rafael) A model of an age-structured population in a multipatch environment. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 137–150. (Summary) **99c:92034** 92D25 (35K05, 35Q80)

fernández-Sánchez, F. *see* **Fernández-Sánchez, F.**

Sánchez, F. J. Application of a first-order operator splitting method to Bingham fluid flow simulation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 71–86. (Summary) **99e:76097** 76M30 (73E60, 76A05, 76M25)

cabello Sánchez, Félix *see* **Cabello Sánchez, Félix**

Sánchez, Francisco *see* **Sánchez Martínez, Francisco**

galeana-Sánchez, Hortensia *see* **Galeana-Sánchez, Hortensia**

Sánchez, I. (*with* Winter Althaus, Gabriel; Périaux, Jacques; Galán, Manuel J.; Mantel, B.) An introduction on global optimization by genetic algorithms. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 343–367, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65K05 (90C99)

aguilar Sánchez, J. *see* **Aguilar Sánchez, J.**

mondragón-Sánchez, J. A. *see* **Mondragón-Sánchez, J. A.**

gutiérrez Sánchez, José Luis *see* **Gutiérrez Sánchez, José Luis**

prada-Sánchez, José M. *see* **Prada-Sánchez, José M.**

torregrosa Sánchez, Juan Ramón *see* **Torregrosa Sánchez, Juan Ramón**

Sanchez, L. *see* **Sanchez, Luis**

Sánchez, Luciano A random sets-based method for identifying fuzzy models. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 343–354. 93C41 (93B30)

Sanchez, Luis (*with* Dias, João-Paulo; Figueira, Mário) Formation of singularities for the solutions of some quasilinear wave equations. (English summary) *Équations aux dérivées partielles et applications*, 453–460, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99h:35138** 35L70

— (*with* Dias, João-Paulo; Figueira, Mário) On the existence of shock fronts for a Burgers equation with a singular source term. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 12, 1107–1113. (Summary) **99e:35196** 35Q53 (35L67, 76L05)

— *see also* **Conference: Differential Equations, 99d:00015**

Sánchez, Luisa (*with* Ullán de Celis, Antonio) Some properties of Gurarii's modulus of convexity. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 5, 399–406. (Stephen J. Dilworth) **99j:46021** 46B20

— (*with* Bárcenas, Diómedes) Some notes about the convexity module. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 21–29. (Ioan Şerb) **99f:46017** 46B20

Sánchez, M. *see* **Sánchez García, Miguel**

Sánchez, M. Carmen (*with* Peris, Josep E.; Subiza, Begoña) Numerical representation of choice functions. (English summary) *Ann. Oper. Res.* **80** (1998), 1–10. (Summary) **99g:90023** 90A08 (90A10)

— (*with* Peris, Josep E.; Subiza, Begoña) Revealed preference axioms for continuous rational choice. (English summary) *J. Math. Econom.* **30** (1998), *no.* 3, 275–284. (Fouad T. Aleskerov) **99j:90016** 90A09

— Rational choice on non-finite sets by means of expansion-contraction axioms. (English summary) *Theory and Decision* **45** (1998), *no.* 1, 1–17. (Maurice Salles) **99m:90035** 90A10

— (*with* Peris, Josep E.) Veto in fixed agenda social choice correspondences. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 81–97. (Summary) **99m:90020** 90A08

reyes Sanchez, M. V. *see* **Reyes Sanchez, M. V.**

Sánchez, Mabel C. (*with* Ponzoni, Ignacio; Brignole, Nélida B.) Permutation of sparse matrices to a specific lower BTF using graph decompositions. (English summary) *Electron. J. SADIO* **1** (1998), *no.* 1, 76–87 (*electronic*). 65F50

Sánchez, Miguel Lorentzian manifolds admitting a Killing vector field. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 643–654. (Luis J. Alías) **99h:53092** 53C50 (53C22)

— (*with* Alías, Luis J.; Romero, Alfonso) Spacelike hypersurfaces of constant mean curvature in certain spacetimes. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 655–661. (Ramesh Sharma) **99c:53058** 53C42 (53C50)

— On the geometry of generalized Robertson-Walker spacetimes: geodesics. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 915–932. (Jaume J. Carot) **99d:83023** 83C20 (53C22, 53C50, 53C80, 83C75)

— Geodesics in static spacetimes and t-periodic trajectories. *Nonlinear Anal.* **35** (1999), *no.* 6, *Ser. A: Theory Methods*, 677–686. (Anna Maria Candela) **99j:53053** 53C22 (53C50, 58E10)

Sanchez, N. *see* **Sánchez, Norma**

Sanchez, N. E. (*with* Nayfeh, Ali Hasan) Global behavior of a biased non-linear oscillator under external and parametric excitations. (English summary) *J. Sound Vibration* **207** (1997), *no.* 2, 137–149. (Summary) **99a:70034** 70K40 (70K28)

Sánchez, Norma (*with* Larsen, Arne Lykke) Strings and multi-strings in black hole and cosmological spacetimes. (English summary) *Quantum gravity* (*Erice*, 1995), 303–341, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:83079** 83E30 (83C57)

— (*with* de Vega, H. J.) String theory in cosmological spacetimes. (English summary) *String theory in curved space times* (*Paris*, 1996), 1–48, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30)

— (*with* de Vega, H. J.; Ramón Medrano, M.) Particle transmutation and fermion number violation from the scattering of strings and superstrings in curved spacetimes. (English summary) *String theory in curved space times* (*Paris*, 1996), 68–135, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30)

— (*with* Lousto, C. O.) Particle and string scattering at the Planck scale. (English summary) *String theory in curved space times* (*Paris*, 1996), 136–167, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30, 83C45)

— (*with* Larsen, Arne Lykke) Strings and multi-strings in black hole and cosmological spacetimes. (English summary) *String theory in curved space times* (*Paris*, 1996), 175–213, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (83C15, 83C57)

— (*with* de Vega, H. J.; Larsen, Arne Lykke) Circular strings and multi-strings in de Sitter and anti-de Sitter spacetimes. (English summary) *String theory in curved space times* (*Paris*, 1996), 281–300, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30)

— (*with* de Vega, H. J.; Ramírez Mittelbrunn, J.; Ramón Medrano, M.) The two-dimensional stringy black-hole: a new approach and a new effect. (English summary) *String theory in curved space times* (*Paris*, 1996), 301–332, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83C57 (83E30)

— (*with* de Vega, H. J.; Ramírez Mittelbrunn, J.; Ramón Medrano, M.) Classical splitting of fundamental strings. (English summary) *String theory in curved space times* (*Paris*, 1996), 366–393, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 81T30

— (*with* Lousto, C. O.) String dynamics in cosmological and black hole backgrounds: the null string expansion. (English summary) *String theory in curved space times* (*Paris*, 1996), 444–460, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (83C57)

— The black hole: scatterer, absorber and emitter of particles. (English summary) *String theory in curved space times* (*Paris*, 1996), 461–479, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83C57

— (*with* de Vega, H. J.; Larsen, Arne Lykke) Quantum string dynamics in the conformal invariant SL(2, **R**) WZWN background: anti-de Sitter space with torsion. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026001, 13 *pp.* (Summary) **99m:81211** 81T30 (81T20, 83E30)

— (*with* Larsen, Arne Lykke) From the WZWN model to the Liouville equation: exact string dynamics in a conformally invariant AdS background. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 126002, 8 *pp.* (Summary) **99m:81222** 81T40 (81T30)

— *see also* **String theory in curved space times, 99m:83197**

arenas-Sánchez, P. *see* **Arenas-Sánchez, P.**

barrera Sánchez, Pablo *see* **Barrera Sánchez, Pablo**

garcía-Sánchez, Pedro A. *see* **García-Sánchez, Pedro A.**

Sánchez, Rafael (*with* Manji, Imtiaz) A note on the homology of the Schur complex. *J. Algebra* **211** (1999), *no.* 2, 514–523. (Jonathan Brundan) **99m:13029** 13D25 (20G05)

hidalgo Sánchez, Ramón *see* **Hidalgo Sánchez, Ramón**

Sanchez, Richard An analysis of the stochasticity of the transport equation. (English summary) Proceedings of the International Conference on Latest Developments and Fundamental Advances in Radiative Transfer (Los Angeles, CA, 1996). *Transport Theory Statist. Phys.* **26** (1997), *no.* 4-5, 469–505. (Luisa Arlotti) **99a:82085** 82C70 (82D75)

— Duality, Green's functions and all that. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 445–476. (Edward W. Larsen) **99j:82068** 82C70 (82D75)

Sánchez Ávila, Carmen (*with* Cobos Arribas, Pablo) Scattered deconvolution using the Wiener solution. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65U05 (94A12)

Sánchez B., Clara Helena *see* **Sánchez, Clara Helena**

Sánchez Bringas, F. *see* **Congress: Mexican Mathematical Society, 99h:00025**

Sánchez Campos, Esperanza (*with* Fortes Escalona, Miguel Angel; De Las Peñas Cabrera, Inmaculada) Elementary proofs of the Wedderburn-Artin theorems for associative pairs. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 2-3, 107–114. (Antonio Fernández López) **99k:17003** 17A40 (16N20)

Sánchez de Santos, J. M. (*with* Camino, J. M.; Ramallo, A. V.) Graded parafermions. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 715–741. (Mark A. Walton) **99k:81090** 81R10

Sánchez-Fernández, Rafael (*with* Muñoz-Delgado, Francisco-Javier) Korovkin-type theorems for convex polygons in $\mathbf{R}^2$ with five or more vertices. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 127–135, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (D. E. Wulbert) **99g:41037** 41A36

Sanchez-Flores, Adolfo On tournaments free of large transitive subtournaments. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 181–200. (Yubao Guo) **99f:05047** 05C20

Sánchez García, Miguel (*with* Sobrón Fernández, Ma. Inés) A necessary and sufficient condition to a Pareto optimal without optimizing the weighting criterion. (English summary) *Top* **5** (1997), *no.* 2, 307–311. (Summary) **99a:90177** 90C29
— (*with* Sobrón Fernández, Ma. Inés; Vitoriano Villanueva, B.) On the set covering polytope: facets with coefficients in {0, 1, 2, 3}. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 343–356. (*see* **99b:90006**) 90C35 (90C27)
Sánchez Garduño, Faustino (*with* Miramontes, Pedro) Elegant variables: a method for determining the parameters of simple mathematical models in biology. (Spanish) *Miscelánea Mat. No.* 23 (1996), 27–38. 92B05 (34C35)
— (*with* Maini, Philip K.) Travelling wave phenomena in non-linear diffusion degenerate Nagumo equations. (English summary) *J. Math. Biol.* **35** (1997), *no.* 6, 713–728. (Steven Matthysse) **99a:92006** 92C20 (34C23, 34C37, 35K55, 35Q80, 58F39, 92D25)
— (*with* Gutiérrez Sánchez, José Luis) ★ Matemáticas para las ciencias naturales. (Spanish. Spanish summary) [Mathematics for the natural sciences] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 11. *Sociedad Matemática Mexicana, México*, 1998. *viii+590 pp. ISBN* 968-36-5769-9 00A06
Sánchez-Giralda, T. (*with* Carriegos, M.; Hermida-Alonso, J. A.) The pointwise feedback relation for linear dynamical systems. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 119–134. (Summary) **99f:93025** 93B25 (13C11, 93B10)
Sánchez Guillén, Joaquín (*with* Fernández-Pousa, Carlos R.; Gallas, M. V.; Miramontes, J. Luis) Integrable systems and W-algebras. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields (Rio de Janeiro, 1995)*, 475–479, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 58F07 (17B68)
— (*with* Alvarez, Orlando; Ferreira, Luiz A.) A new approach to integrable theories in any dimension. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 689–736. (Henrik Aratyn) **99e:58089** 58F07 (81T40)
Sánchez-Guzmán, R. A. (*with* Fernández Anaya, Guillermo; Muñoz Gutiérrez, Stalin; Mayol Cuevas, Walterio) Simultaneous stabilization using evolutionary strategies. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1417–1435. 93D15
Sánchez Martínez, Francisco *see* **Universe at large, 99e:85001**
garcía-carpintero Sánchez-Miguel, Manuel *see* **García-Carpintero Sánchez-Miguel, Manuel**
Sánchez Morgado, Héctor (*with* Garnica Vigil, Eugenio) $\bar{\partial}$-torsion and compact orbits of Anosov actions on complex 3-manifolds. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 131–145. (Alexander Fel'shtyn) **99g:58129** 58G26 (32L30, 58F20)
— (*with* Contreras-Barandiarán, Gonzalo; Iturriaga, R.) On the creation of conjugate points for Hamiltonian systems. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 355–361. (Gabriel P. Paternain) **99a:58063** 58F05 (58F15, 58F17)
Sánchez Muñoz, Isabel (*with* Chacón Rebollo, Tómas; Franco Coronil, Daniel; Ortegón Gallego, Francisco) Modelling of compressible flows with highly oscillating initial data by homogenization. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 4, 435–464. (Roland Schiestel) **99a:76066** 76F10 (35B27, 35Q35, 76M25, 76N10)
Sanchez-Palencia, Évariste Sur certains problèmes de couplage de plaques et de barres. (French summary) [Some problems of the coupling of plates and rods] *Équations aux dérivées partielles et applications*, 725–744, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Juan M. Viaño Rey) **99j:73038** 73C99 (35Q72, 73B27, 73K05, 73K10)
— (*with* Brezzi, Franco; Gérard, Patrick) Remarks on ellipticity and regularity for non-inhibited shells and other constrained systems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1155–1162. (Peter R. Popivanov) **99i:73046** 73K15 (35J99, 73C99, 73K10)
— (*with* Choï, Daniel; Palma Molina, Francisco José; Vilariño, M. A.) Membrane locking in the finite element computation of very thin elastic shells. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 131–152. (Summary) **99c:73048** 73K15 (73V05)
— (*with* Lions, Jacques-Louis) Instabilities produced by edges in thin shells. (English summary) *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 277–284, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73049** 73K15
Sánchez Peña, Ricardo S. (*with* Anigstein, Pablo A.) An extension of the small gain theorem in $\mathscr{L}_\infty$. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 771–789. 93B36
— (*with* Parrilo, Pablo A.; Sznaier, Mario) A parametric extension of mixed time/frequency robust identification. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 364–369. 93B30 (93B36)
Sánchez Pérez, Enrique A. (*with* López Molina, J. A.) The associated tensor norm to (q, p)-absolutely summing operators on $\mathscr{C}(K)$-spaces. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 627–631. (Andreas Defant) **99c:47022** 47B10 (47D50)
— (*with* Del Campo Cañizares, S.) An estimate of the Banach-Mazur distances between Hilbert spaces and Banach spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 465–476. (Anatolij M. Plichko) **99a:46016** 46B03 (46C15)
— The α-approximation property and the weak topology in tensor products of Banach spaces. (English summary) *Rend. Sem. Mat. Univ. Padova* **97** (1997), 81–88. (Andreas Defant) **99d:46024** 46B28 (46M05)
Sánchez Quintana, Ana María Mathematics and reality: the importance of a historical perspective. (Spanish. Spanish summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 193–204. 00A30
Sánchez-Reyes, Javier Harmonic rational Bézier curves, p-Bézier curves and trigonometric polynomials. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 909–923. (Summary) **99h:65033** 65D17
Sánchez-Ruiz, Jorge Position and momentum information entropies of the harmonic oscillator and logarithmic potential of Hermite polynomials. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics (Leganés, 1996)*, 143–152, *Univ. Carlos III Madrid, Leganés*, 1997. (Walter Van Assche) **99c:81030** 81Q05 (33C45)
— Logarithmic potential of Hermite polynomials and information entropies of the harmonic oscillator eigenstates. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5031–5043. (Walter Van Assche) **99c:81031** 81Q05 (33C45)
— (*with* Dehesa, Jesús S.) Expansions in series of orthogonal hypergeometric polynomials. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 155–170. (Summary) **99i:33012** 33C45
— (*with* Artés, P. L.; Dehesa, Jesús S.; Martínez-Finkelshtein, Andrei) Linearization and connection coefficients for hypergeometric-type polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 15–26. (Harold Exton) **99k:33006** 33C05
Sánchez Ruiz, L. M. (*with* Saxon, Stephen A.) Weak barrelledness conditions. *Functional analysis with current applications in science, technology and industry (Aligarh, 1996)*, 20–36, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Jan H. Fourie) **99e:46002** 46A08
— Topological vector spaces without local convexity conditions. *Functional analysis with current applications in science, technology and industry (Aligarh, 1996)*, 37–48, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Jan H. Fourie) **99e:46004** 46A16 (46A08)
— (*with* Saxon, Stephen A.) Mackey weak barrelledness. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3279–3282. (P. Pérez Carreras) **99a:46006** 46A08
Sánchez-Soriano, J. (*with* Meca-Martínez, Ana; García-Jurado, Ignacio; Tijs, Stef) Strong equilibria in claim games corresponding to convex games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 211–217. (Milan Mareš) **99k:90218** 90D12
Sánchez Umbría, Juan Jose (*with* Antonijoan, J.; Marquès, F.) Spirals and secondary instabilities in the Taylor-Couette flow. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 12 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76E10 (76M25)
— (*with* Meseguer, A.; Marquès, F.) Period doubling scenario in low-dimensional models for the regularized cavity flow. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 18 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76D05 (58F40, 76F20)
Sánchez Valencia, Víctor Head or tail? De Morgan on the bounds of traditional logic. (English summary) *Hist. Philos. Logic* **18** (1997), *no.* 3, 123–138. (Jean-Pierre Ginisti) **99c:03002** 03–03 (01A55, 03B20)
Sánchez-Valenzuela, O. A. (*with* Monterde, J.; Muñoz Masqué, Jaime) Geometric properties of involutive distributions on graded manifolds. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 217–246. (Frans Cantrijn) **99c:58007** 58A50 (58A30)
Sánchez Vásquez, Alejandra Romanticism and mathematics. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **3** (1996), *no.* 2, 97–112. (Jaime Nubiola) **99i:01018** 01A55 (00A30, 04–03)
Sánchez-Velasco, Eduardo A simple derivation of a result in electrostatics. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 915–917 (*electronic*). (Summary) **99g:78015** 78A30
Sanchis, Francisco J. (*with* Hervás, Antonio; Soler Fernández, David) An approximate algorithm for the mixed rural postman problem. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 90C27 (90C35)
Sanchis, Laura (*with* Hart, Evelyn L.) On the occurrence of F_n in the Zeckendorf decomposition of nF_n. *Fibonacci Quart.* **37** (1999), *no.* 1, 21–33. (Peter J. Grabner) **99k:11016** 11A63 (11B39)
Sanchis, Manuel (*with* Eckertson, F. W.; García-Ferreira, S.; Watson, W. Stephen) An isocompact Tychonoff space whose square is not isocompact. (English summary) *Topology Proc.* **22** (1997), 181–190. (Jack R. Porter) **99m:54011** 54D20 (54B10)
— A note on Ascoli's theorem. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 739–748. (Vesko Valov) **99m:46063** 46E10 (54C35)
— Continuous functions on locally pseudocompact groups. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 5–23. (Michael Tkačenko) **99d:22006** 22A10 (54C45, 54H11)
Sanchis-Lozano, Miguel Angel Simple connections between generalized hypergeometric series and dilogarithms. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 2, 325–331. (Hukum Chand Agrawal) **99d:33007** 33C20
Sancho de Salas, F. (*with* Sancho de Salas, P.) Absolutely isolated singularities of a differential equation. (English summary) *Compositio Math.* **106** (1997), *no.* 2, 235–246. (J.-P. Brasselet (Zbl 889.32036)) **99d:32050** 32S65 (14B05)
Sancho de Salas, P. (*with* Sancho de Salas, F.) Absolutely isolated singularities of a differential equation. (English summary) *Compositio Math.* **106** (1997), *no.* 2, 235–246. (J.-P. Brasselet (Zbl 889.32036)) **99d:32050** 32S65 (14B05)
van de Sand, Gerd (*with* Rost, Jan-Michael) Semiclassical time-dependent propagation in three dimensions for a Coulomb potential. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 3, *R1723–R1726*. (Summary) **99m:81061** 81Q20
Sand, Jan-Åke Zeros of discrete-time spectral factors, and the internal part of a Markovian splitting subspace. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 30 *pp.* (*electronic*). (Summary) **99h:93099** 93E03 (93B29, 93B52)
Sand, Jørgen On some stability bounds subject to Hille-Yosida resolvent conditions. (English summary) *BIT* **36** (1996), *no.* 2, 378–386. (Klaus Ulrich) **99c:65169** 65M12
Sandal, Leif K. (*with* Steinshamn, Stein Ivar) A stochastic feedback model for optimal management of renewable resources. (English summary) *Natur. Resource Modeling* **10** (1997), *no.* 1, 31–52. (Summary) **99c:90032** 90A16 (90A11)
Sandberg, Daniel (*with* Helleseth, Tor) Some power mappings with low differential uniformity. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 363–370. (Kaisa Nyberg) **99f:11158** 11T71 (94A60)
Sandberg, Irwin W. Separation conditions and approximation of discrete-time and discrete-space systems. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 3, 305–320. (M. G. Frost) **99f:93093** 93C55 (93C10)
— (*with* Dingankar, Ajit T.) A note on error bounds for function approximation using nonlinear networks. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 4, 449–457. (Summary) **99c:41039** 41A30
— Time-delay neural networks, Volterra series, and rates of approximation. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 5, 653–665. (C. Ilioi) **99k:93043** 93B30 (92B20, 93C30)
— (*with* Johnson, Kelly K.) On the stability of bilinear filters. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 691–702. (Zoran Gajic) **99k:93090** 93E11 (94A12)
— A note on representation theorems for linear discrete-space systems. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 703–708. (T. Kaczorek) **99j:93064**

93C55 (93D25)

— The superposition scandal. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 733–735. (From the text) **99k:94001** 94A05 (93E11, 94C05)

— A representation theorem for linear systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 578–580. (K. Amborski) **99c:93021** 93B15

— Notes on uniform approximation of time-varying systems on finite time intervals. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 8, 863–865. (Summary) **99h:94082** 94C05

— (*with* Xu, Lilian) Approximation of myopic systems whose inputs need not be continuous. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 2, 207–225. (Valery I. Korobov) **99b:93006** 93A30

— *see also* **Memorial Issue: Darlington, Sidney**, **99m:94001**

Sandboge, Robert Adaptive finite element methods for systems of reaction-diffusion equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 3-4, 309–328. (Reinhard Redlinger) **99j:65159** 65M55

fearnley-Sander, Desmond *see* **Fearnley-Sander, Desmond**

Sander, Evelyn Hyperbolic sets for noninvertible maps and relations. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 339–357. (Michael Hurley) **99j:58154** 58F15

Sander, J. W. On the value distribution of arithmetic functions. (English summary) *J. Number Theory* **66** (1997), *no.* 1, 51–69. (Jean-Marie De Koninck) **99c:11122** 11N64 (11A25)

Sander, Johannes Dynamical equations and turbulent closures in geophysics. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 1, 1–28. (Radyadour Kh. Zeytounian) **99b:76044** 76F99 (76U05, 76V05, 86A05, 86A10)

Sander, Leonard M. (*with* Davidovitch, Benny; Hentschel, H. George E.; Olami, Zeev; Procaccia, Itamar; Somfai, Ellak) Diffusion limited aggregation and iterated conformal maps. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1368–1378. (Summary) **99m:82048** 82D99 (58F40)

Sander, Wolfgang (*with* Járai, Antal) A regularity theorem in information theory. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 339–357. (J. Aczél) **99c:39029** 39B22 (26A21, 28A20)

Sanders, Barry C. (*with* Rice, Dien A.) Complementarity and entangled coherent states. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 3, *L*41–*L*47. (K. Wódkiewicz) **99e:81088** 81R30

Sanders, Beverly A. Data refinement of mixed specifications. A generalization of UNITY. (English summary) *Acta Inform.* **35** (1998), *no.* 2, 91–129. (Annabelle McIver) **99b:68124** 68Q60

Sanders, Daniel P. (*with* Zhao, Yue[1]) On simultaneous edge-face colorings of plane graphs. (English summary) *Combinatorica* **17** (1997), *no.* 3, 441–445. (O. V. Borodin) **99b:05064** 05C15

— (*with* Ding, Guoli; Oporowski, Bogdan; Vertigan, Dirk) Partitioning graphs of bounded tree-width. (English summary) *Combinatorica* **18** (1998), *no.* 1, 1–12. (Peter Mihók) **99i:05162** 05C70 (90C35)

— (*with* Zhao, Yue[1]) On d-diagonal colorings of embedded graphs of low maximum face size. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 81–94. (O. V. Borodin) **99j:05075** 05C15 (05C10)

— (*with* Zhao, Yue[1]) On 2-connected spanning subgraphs with low maximum degree. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 64–86. (R. Bruce Richter) **99h:05077** 05C40

Sanders, Jan A. (*with* Wang, Jing Ping) Classification of conservation laws for KdV-like equations. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 5, 471–481. (Elena Medina Reus) **99d:35100** 35L65 (35-04, 35Q53, 58F07)

— (*with* Wang, Jing Ping) Hodge decomposition and conservation laws. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 5, 483–493. (Elena Medina Reus) **99d:35101** 35L65 (35-04, 35A30)

— (*with* Wang, Jing Ping) On the classification of integrable systems. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 393–397, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q58 (58F07)

— (*with* Wang, Jing Ping) Combining Maple and Form to decide on integrability questions. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 447–459. (Summary) **99j:65233** 65Q05 (65-04)

— (*with* Beukers, Frits; Wang, Jing Ping) One symmetry does not imply integrability. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 251–260. (Naruyoshi Asano) **99i:35005** 35A30 (11Z05, 35Q58, 58G35)

— (*with* Wang, Jing Ping) On the integrability of homogeneous scalar evolution equations. (English summary) *J. Differential Equations* **147** (1998), *no.* 2, 410–434. (Mehmet Can) **99g:35058** 35K55 (58F07)

Sanders, Peter (*with* Meyer, Ulrich) Δ-stepping: a parallel single source shortest path algorithm. (English summary) *Algorithms—ESA '98* (*Venice*), 393–404, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q22 (68R10)

— (*with* Crauser, A.; Mehlhorn, Kurt; Meyer, Ulrich) A parallelization of Dijkstra's shortest path algorithm. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 722–731, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q22)

— Random permutations on distributed, external and hierarchical memory. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 305–309. (Summary) **99e:68060** 68Q22

— (*with* Rathe, U. W.; Knight, Peter L.) A case study in scalability: an ADI method for the two-dimensional time-dependent Dirac equation. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 525–533. 65F30 (65Y05)

Sanders, Richard (*with* Amundson, N. R.; Morano, Eric) Techniques for the numerical solution of steady reaction-diffusion systems employing Stefan-Maxwell diffusion. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 1, 9–25. (Reinhard Redlinger) **99f:65140** 65M60 (76M25, 80A32)

— (*with* Morano, Eric; Druguet, Marie-Claude) Multidimensional dissipation for upwind schemes: stability and applications to gas dynamics. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 511–537. (Summary) **99g:76095** 76M20 (65M06, 76K05, 80A32)

Sanders, Robin Sue (*with* George, John C.) Basic results concerning the automorphism group of the tensor product of two graphs. (English summary) *Util. Math.* **51** (1997), 55–63. (Peter Rowlinson) **99d:05041** 05C25 (20B25)

Sanderson, Warren C. (*with* Gragnani, Alessandra; Milik, Alexandra; Prskawetz, Alexia) Persistent unstable equilibria and the grace period in dynamic models of environmental change. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 1, 3–25. (Bing Hong Wang) **99g:92043** 92D40 (34C23, 34E15, 90A30, 92D25)

Sandewall, Erik Logic-based modelling of goal-directed behavior. (English summary) Commentary is available at http://www.ida.liu.se/ext/etai/received/rac/006/aip.html. *Electron. Trans. Artif. Intell.* **1** (1997), *no.* 4, 105–128 (*electronic*). (Summary) **99f:68192** 68T27

Sandham, N. D. (*with* Yee, H. C.; Djomehri, M. J.) Low-dissipative high-order shock-capturing methods using characteristic-based filters. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 199–238. (Summary) **99k:76104** 76M20

Sandholm, Tuomas (*with* Larson, Kate; Andersson, Martin; Shehory, Onn; Tohmé, Fernando) Anytime coalition structure generation with worst case guarantees. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 46–53, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90B12

Sandholm, William H. Simple and clever decision rules for a model of evolution. (English summary) *Econom. Lett.* **61** (1998), *no.* 2, 165–170. (Summary) **99i:92011** 92D15

— (*with* Pauzner, Ady) Evolution, population growth, and history dependence. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 1, 84–120. (Summary) **99a:92019** 92D15 (90D10)

Sandhya, E. (*with* Pillai, R. N.) Geometric sums and Pareto law in reliability theory. (English summary) *IAPQR Trans.* **21** (1996), *no.* 2, 137–142. (Summary) **99j:62142** 62N05

— (*with* Satheesh, S.) On exponential mixtures, mixed Poisson processes and generalized Weibull and Pareto models. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 45–50. 62E10

Sandier, Etienne Lower bounds for the energy of unit vector fields and applications. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 2, 379–403. (Monica Lazzo) **99b:58056** 58E15 (35J60, 35Q99)

— Locally minimising solutions of $-\Delta u = u(1-|u|^2)$ in $\mathbf{R}^2$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 349–358. (Summary) **99a:35074** 35J60 (35B99, 58E15)

Sandiford, K. J. (*with* Rogerson, Graham A.) Flexural waves in incompressible pre-stressed elastic composites. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 4, 597–624. (Piotr Borejko) **99c:73021** 73D15 (73K20)

Sändig, Anna-Margarete Boundary integral equations for coupled structures in solid mechanics—the direct method. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 133–151. (Summary) **99a:35254** 35Q72 (73C02, 73V10)

— (*with* Wendland, Wolfgang L.) Asymptotic expansions of elastic fields in domains with boundary and structural singularities. *Boundary element topics* (*Stuttgart*, 1995), 419–444, *Springer, Berlin*, 1997. (Igor Yu. Chudinovich) **99k:73041** 73C35 (35C20, 65N38, 73V99)

Sandler, R. On asymptotic annihilators of entire functions. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 1, 11–18. (Summary) **99d:30028** 30D10

Sandling, Robert (*with* Coleman, Donald B.) Mod 2 group algebras with metabelian unit groups. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 25–36. (Alexander Zimmermann) **99j:16021** 16U60 (16S34, 20C05)

Sandmann, Gleb (*with* Koopman, Siem Jan) Estimation of stochastic volatility models via Monte Carlo maximum likelihood. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 271–301. 62P20

Sándor, Csaba On the equation $a^3+b^3+c^3=d^3$. *Period. Math. Hungar.* **33** (1996), *no.* 2, 121–134. (Nikos Tzanakis) **99c:11031** 11D25

Sándor, József (*with* Dragomir, Sever Silvestru) On Bessel's and Gram's inequalities in pre-Hilbertian spaces. *Mathematica* **37(60)** (1995), *no.* 1-2, 93–102. (P. Miličić) **99a:46035** 46C05 (26D15)

— On a functional equation. *Octogon Math. Mag.* **4** (1996), *no.* 2, 56–58. (From the text) **99a:39057** 39B22

— On an exponential totient function. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 91–94. (Štefan Porubský) **99f:11009** 11A25 (11N37)

— On the irrationality of certain alternative Smarandache series. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 122–123, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11B83

— On the gamma function. II. *Publications du Centre de Recherches en Mathématiques Pures. Sér. I, Fasc.* 28, 10–12, *Publ. Cent. Rech. Math. Pures Sér. I*, 28, *Univ. Neuchâtel, Neuchâtel*, 1997. (*see* **99e:00013**) 33B15

— (*with* Tóth, László) On certain arithmetic functions associated with the unitary divisors of a number. *Notes Number Theory Discrete Math.* **3** (1997), *no.* 1, 1–8. (Jean-Marie De Koninck) **99c:11006** 11A25

— On certain integral inequalities. *Octogon Math. Mag.* **5** (1997), *no.* 1, 29–34. 26D15

— On the irrationality of certain constants related to the Smarandache function. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 97–99. 11J72 (11A25)

Sandoval, J. (*with* Sagastabeitia, I.; de la Sen, Manuel) Discrete optimal control in the presence of input and state delays. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 16+*iii pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 49J30 (93C55)

Sandquist, Erik J. (*with* Godbole, Anant P.; Potter, Laura K.) Sign-balanced covering matrices. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 79–93. (Charles J. Colbourn) **99g:05038** 05B20 (05B40)

Sandqvist, Allan (*with* Andersen, Kurt Munk) A necessary and sufficient condition for a linear differential system to be strongly monotone. *Bull. London Math. Soc.* **30** (1998), *no.* 6, 585–588. (Janusz Mierczyński) **99g:34098** 34C35 (34A30, 34C11)

— (*with* Andersen, Kurt Munk) Existence of closed solutions of an equation $\dot{x} = f(t,x)$, where $f'_x(t,x)$ is weakly convex or concave in x. *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 480–500. (Armengol Gasull) **99m:34086** 34C25 (34A12)

Sandrakov, G. V. Averaging of nonstationary equations with contrast coefficients. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 605–608. (Alexander A. Kovalevsky) **99a:35018** 35B27

— Averaging of nonstationary problems in the theory of strongly nonhomogeneous elastic media. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 308–311. (Alexander G. Kolpakov) **99c:73005** 73B27 (35B27)

— Influence of viscosity on acoustic phenomena in porous media. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 3, 245–264. (Zhangxin Chen) **99f:76126** 76S05 (35B27, 35Q35, 76D30, 76Q05)

Sandri, D. A posteriori estimators for mixed finite element approximations of a fluid obeying the power law. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 3-4, 329–340. (Summary) **99k:76094** 76M10 (76A05)

Sandri, Giorgio Carnap, Montague and natural language. (Italian) *The legacy of Rudolf Carnap* (*Italian*) (*Cesena*, 1992), 391–412, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (Marcus Kracht) **99a:03033** 03B65 (68S05)

Sandri, M. (*with* Bonivento, C.; Zanasi, Roberto[2]) Discrete variable-structure integral controllers. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 355–361. (Summary) **99a:93039** 93B51 (93B12, 93C55)

Şandru, Ovidiu-Ilie Cartan spaces with vector field metrics. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 35–39. (Introduction) **99k:53030** 53B40

— Some particular cases of the spaces with local Finsler structure having 1-form metric. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 40–47. (Introduction) **99k:53031** 53B40

— (*with* Udrişte, Constantin; Dumitrescu, Constantin A.; Zlătescu, A.) Ţiţeica indicatrix and figuratrix. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 117–124, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Makoto Matsumoto) **99i:53020** 53B40

Sands, A. D. (*with* Mlitz, R.; Wiegandt, Richárd) Radicals coinciding with the von Neumann regular radical on Artinian rings. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 229–239. (Andrei Kelarev) **99d:16025** 16N80

Sands, Duncan Misiurewicz maps are rare. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 1, 109–129. (Alexander Loskutov) **99m:58083** 58F03 (58F08)

— (*with* Ishii, Yutaka) Monotonicity of the Lozi family near the tent-maps. (English summary) *Comm. Math. Phys.* **198** (1998), *no.* 2, 397–406. (Volker Matthias Gundlach) **99j:58065** 58F03 (58F13)

— (*with* Nowicki, Tomasz) Quasisymmetric invariance of the Collet-Eckmann condition. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 703–715. (Thomas Bogenschütz) **99f:58071** 58F03 (58F15)

— (*with* Nowicki, Tomasz) Non-uniform hyperbolicity and universal bounds for S-unimodal maps. (English summary) *Invent. Math.* **132** (1998), *no.* 3, 633–680. (Grzegorz Świątek) **99c:58122** 58F15 (58F03)

Sandstede, Björn (*with* Peterhof, Daniela; Scheel, Arnd) Exponential dichotomies for solitary-wave solutions of semilinear elliptic equations on infinite cylinders. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 266–308. (Junjie Tang) **99b:35057** 35J60 (34D99, 34G20, 35B32, 58F39)

— (*with* Scheel, Arnd; Wulff, Claudia) Dynamics of spiral waves on unbounded domains using center-manifold reductions. (English summary) *J. Differential Equations* **141** (1997), *no.* 1, 122–149. (P. W. Bates) **99d:34114** 34G20 (35K57, 47H20, 58F15, 58F39)

— (*with* Balasuriya, Sanjeeva; Jones, Christopher K. R. T.) Viscous perturbations of vorticity-conserving flows and separatrix splitting. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 47–77. (Yuri N. Skiba) **99a:76018** 76C05 (34C37, 58F39, 76F20, 86A05)

— (*with* Kapitula, Todd) Stability of bright solitary-wave solutions to perturbed nonlinear Schrödinger equations. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 58–103. (Summary) **99h:35199** 35Q55 (35B35, 78A60)

— Stability of N-fronts bifurcating from a twisted heteroclinic loop and an application to the FitzHugh-Nagumo equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 183–207 (*electronic*). (Yoram Schiffmann) **99b:35012** 35B32 (34C37, 35Q80, 58F39, 92C20)

Sandu, Adrian (*with* Bamberger, Alain; Benjelloun-Dabaghi, Zakia; Billette, Emmanuel; Jaecker-Voirol, Anne; Quandalle, Philippe) Mathematical and numerical studies to improve CPU time in a transport-convection atomospheric problem. (English summary) *Équations aux dérivées partielles et applications*, 81–105, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 86A10 (86–08)

Sandu, Gabriel (*with* Hintikka, Jaakko) A revolution in logic? *Nordic J. Philos. Logic* **1** (1996), *no.* 2, 169–183 (*electronic*). (Stewart Shapiro) **99b:03008** 03A05 (01A60, 03–03)

— Jeux et compositionnalité. [Games and compositionality] Translated by François Rivenc. *Jaakko Hintikka* (*Paris*, 1994), 170–184, *Probl. Controv., Vrin, Paris*, 1998. (*see* **99f:03005**) 03B65

— IF-logic and truth-definition. (English summary) *J. Philos. Logic* **27** (1998), *no.* 2, 143–164. (Michał Krynicki) **99f:03003** 03A05 (03C80)

— *see also* **Hintikka, Jaakko**, (**99f:03005**)

Sandu, N. I. On the length of the lower central series (derived series) of a commutative Moufang loop. (Russian) *Mat. Zametki* **62** (1997), *no.* 3, 475–478; *translation in Math. Notes* **62** (1997), *no.* 3-4, 396–399 (1998). (Ján Duplák) **99e:20083** 20N05

Saneblidze, S. (*with* Berikashvili, N.; Kadeishvili, T.; Khazhomiya, S. M.; Makalatia, D.; Mikiashvili, M.) On the obstruction functor. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 172–176. 55S35

— Obstructions in a fibration with a weak formal base. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 199–200. 55S35

— (*with* Kadeishvili, T.) On a multiplicative model of a fibration. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 345–346. 55R05

— Lusternik-Schnirelmann category of a weak formal space. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 7–8. 55M30

— (*with* Kadeishvili, T.) On the iterated bar construction. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 338–340 (1997). 55N99 (18G99)

— The formula determining an A_∞-coalgebra structure on a free algebra. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 351–352 (1997). 16W30

— On the homotopy classification of spaces with a fixed Pontrjagin algebra. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 1, 11–13. (From the text) **99i:55020** 55P62

— (*with* Kadeishvili, T.) Iterating the bar construction. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 441–452. (Summary) **99f:55014** 55P35 (57T30)

Sanfeliu, Alberto (*with* Alquézar, René; Serratosa, Francesc) Synthesis of function-described graphs. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 112–121, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68R10 (68T10)

— Automatic learning in computer vision for science and technology. (Spanish. Spanish summary) *III Ibero-American Workshop on Pattern Recognition* (*Spanish*) (*México City*, 1998), 19–40, *Inst. Cibern. Mat. Fis., Havana*, 1998. (*see* **99k:68016**) 68T10 (68T05)

Sangalli, Arturo ★ The importance of being fuzzy. (English summary) And other insights from the border between math and computers. *Princeton University Press, Princeton, NJ*, 1998. *xx*+173 *pp. ISBN* 0-691-00144-8 (From the preface) **99g:68163** 68T01 (00A35, 00A69, 68Q05)

Sanghare, M. (*with* Barry, Mamadou; Gueye, C. T.) On commutative FGI-rings. *Extracta Math.* **12** (1997), *no.* 3, 255–259. (Daniel D. Anderson) **99g:13011** 13C13

Sangi, D. (*with* Steck, E. A.; Bross, Sebastian) Simulation of self-organised dislocation structures in f.c.c. and b.c.c. single crystals. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 93–112. (Summary) **99g:73059** 73E99 (73S10, 73V20)

pardo San Gil, Rosa *see* **Pardo San Gil, Rosa**

San Gil Jutuca, L. P. (*with* Clark, Haroldo R.; Milla Miranda, Manuel) On a mixed problem for a linear coupled system with variable coefficients. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 4, 20 *pp.* (*electronic*). (Ya. A. Roĭtberg) **99a:35163** 35L55

Sanginov, M. B. (*with* Mukhamedzhanov, K. M.) A local limit theorem for densities in the case of regular variation of the tail. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 45–53. (M. Iosifescu) **99h:60057** 60F10

Sangiorgi, Davide (*with* Merro, Massimo) On asynchrony in name-passing calculi. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 856–867, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q10 (68Q55, 68Q60)

— (*with* Boreale, Michele) Bisimulation in name-passing calculi without matching. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 165–175, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10

— (*with* Boreale, Michele) A fully abstract semantics for causality in the π-calculus. (English summary) *Acta Inform.* **35** (1998), *no.* 5, 353–400. (Summary) **99c:68084** 68Q10 (68Q55)

— An interpretation of typed objects into typed π-calculus. (English summary) *Inform. and Comput.* **143** (1998), *no.* 1, 34–73. (Summary) **99k:68064** 68Q10 (03B40, 03B70, 68Q55, 68Q60)

— On the bisimulation proof method. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 5, 447–479. (Rüdiger Valk) **99i:68037** 68Q10 (68Q55)

— (*with* Boreale, Michele) Some congruence properties for π-calculus bisimilarities. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 159–176. (Gheorghe Ştefănescu) **99d:68072** 68Q10 (03B70, 68Q55, 68Q60)

— *see also* **CONCUR'98: concurrency theory**, **99k:68006**

Sangiovanni-Vincentelli, Alberto L. (*with* Oliveira, Arlindo L.; Carloni, Luca P.; Villa, Tiziano) Exact minimization of binary decision diagrams using implicit techniques. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1282–1296. (Summary) **99h:68083** 68Q25 (94C10)

— (*with* Balluchi, A.; Di Benedetto, M. D.; Pinello, C.) Hybrid control in automotive applications. *Dynamical systems, control, coding, computer vision* (*Padova*, 1998), 449–479, *Progr. Systems Control Theory*, 25, *Birkhäuser, Basel*, 1999. (*see* **99k:93006**) 93C95 (93B30)

Sango, Mamadou A spectral problem with an indefinite weight for an elliptic system. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 21, 14 *pp.* (*electronic*). (Kamoliddin Kh. Boimatov) **99d:47045** 47F05 (35J45, 35P05)

— Completeness of root vectors for a Douglis-Nirenberg elliptic problem with an indefinite weight in L_p spaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 703–708. (Günter Berger) **99i:35117** 35P10 (35J55, 47F05)

— On a nonselfadjoint problem with an indefinite weight for elliptic systems with a parameter. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 4, 97–102. (Ya. A. Roĭtberg) **99m:35176** 35P10 (35J45, 35P20, 47F05)

Sangroniz, Josu Conjugacy classes and characters in some quotients of the Nottingham group. *J. Algebra* **211** (1999), *no.* 1, 26–41. (P. P. Pálfy) **99k:20017** 20C15 (20D15)

Sangüesa, Carmen (*with* Adell, José A.) Direct and converse inequalities for positive linear operators on the positive semi-axis. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 90–103. (J. Szabados) **99k:41033** 41A35 (41A25)

— (*with* Adell, José A.) Rates of uniform convergence in the real inversion theorem for Laplace transforms. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 139–149. (Wolfgang Preuss) **99j:60045** 60F99 (44A10)

Sangüesa, Ramón (*with* Cabós, Joan; Cortés, Ulises) Possibilistic conditional independence: a similarity-based measure and its application to causal network learning. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 145–167. 68T30

— (*with* Cortés, Ulises; Gisolfi, Antonio) A parallel algorithm for building possibilistic causal networks. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 251–270. (Summary) **99h:68165** 68T30

Sanguineti, M. (*with* Parisini, T.; Zoppoli, R.) Nonlinear stabilization by receding-horizon neural regulators. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 341–362. (Summary) **99a:93087** 93D15

Sanguinetti, Guido (*with* Bruzzo, Ugo) Mirror symmetry on $K3$ surfaces as a hyper-Kähler rotation. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 4, 295–301. (Mark Gross) **99k:14064** 14J32 (14J28, 32J27, 53C25)

Saniga, Metod On a remarkable relation between future and past over quadratic Galois fields. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1769–1771. (Summary) **99j:11143** 11T30

Sanikidze, D. G. (*with* Khubedzhashvili, Sh. S.; Mirianashvili, M. G.; Emel'yanenko, G. A.; Machavariani, A. I.) On a numerical solution of Lippman-Schwinger singular integral equations. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 261–263 (1991). 65R20

— On the justification of the method of boundary integral equations in the case of domains with nonsmooth boundaries. (Russian. Russian summary) *Differ. Uravn.* **32** (1996),

no. 9, 1265–1271, 1295; *translation in Differential Equations* **32** (1996), *no.* 9, 1265–1271 (1997). (Anna-Margarete Sändig) **99b:65177** 65R20

Sanikidze, Z. On approximate solution of one first kind integral equation by regularization method. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 1, 31–33. 45L05 (65R20)

— On approximate representation of one integral operator and its application. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 335–337. 45L05 (65R20)

Sanjari Farsipour, N. Estimating the normal dispersion matrix and the precision matrix under a symmetric loss function. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 489–493, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 62H12

— (*with* Parsian, A.) Estimation of the Pareto parameter under entropy loss. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 187-188, 153–166. (Summary) **99j:62030** 62F10 (62C15)

SanJuan, Eric (*with* Iturrioz, Luisa) Duality and informational representability of some information algebras. *Rough sets in knowledge discovery*, 1, 233–247, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 68T30 (03G25)

San Juan, J. F. (*with* Ferrer, S.; Lara, Martín; Palacián, J.; Viartola, A.; Yanguas, P.) The Hénon and Heiles problem in three dimensions. I. Periodic orbits near the origin. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1199–1213. (Summary) **99k:58155a** 58F22 (58F05, 70F15, 70H05, 70K99)

— (*with* Ferrer, S.; Lara, Martín; Palacián, J.; Viartola, A.; Yanguas, P.) The Hénon and Heiles problem in three dimensions. II. Relative equilibria and bifurcations in the reduced system. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1215–1229. (Summary) **99k:58155b** 58F14 (58F05, 70F15, 70H05, 70K99)

— (*with* Abad, A.; Elipe Sánchez, Antonio C.; Palacián, J.) ATESAT: a symbolic processor for artificial satellite theory. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 497–510. (Summary) **99a:70003** 70–08 (70–04, 70F15)

Sanjuán, Miguel A. F. *see* **Fernández Sanjuán, Miguel Angel**

fernández Sanjuán, Miguel Angel *see* **Fernández Sanjuán, Miguel Angel**

novo-Sanjurjo, Vicente *see* **Novo-Sanjurjo, Vicente**

Sankar, Arvind (*with* Vishwanathan, Sundar) Multilinear polynomials and a conjecture of Frankl and Füredi. (English summary) *J. Combin. Theory Ser. A* **86** (1999), *no.* 1, 182–186. (Summary) **99m:05158** 05D05

Sankaran, Chandrasekar (*with* Ephremides, Anthony) Solving a class of optimum multiuser detection problems with polynomial complexity. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1958–1961. 94A13

Sankaran, G. K. Moduli of polarised abelian surfaces. (English summary) *Math. Nachr.* **188** (1997), 321–340. (Jae-Hyun Yang) **99c:14060** 14K10 (11F46)

Sankaran, Parameswaran (*with* Zvengrowski, Peter) Stable parallelizability of partially oriented flag manifolds. II. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1323–1339. (R. E. Stong) **99a:57024** 57R15 (55N15, 57R25)

— (*with* Raghavan, K. N.) A new approach to standard monomial theory for classical groups. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 57–73. (Venkatramani Lakshmibai) **99d:17012** 17B10 (20G05)

Sankaranarayanan, Ayyadurai (*with* Ramachandra, Kanakanahalli) Vinogradov's three primes theorem. *Math. Student* **66** (1997), *no.* 1-4, 27–72. (G. Greaves) **99f:11131** 11P32 (11–03)

— (*with* Srinivas, Kotyada) On a method of Balasubramanian and Ramachandra (on the abelian group problem). (English summary) *Rend. Sem. Mat. Univ. Padova* **97** (1997), 135–161. (Werner Georg Nowak) **99a:11109** 11N45 (11N37)

Sankoff, David (*with* Parent, Marie-Noelle; Marchand, Isabelle; Ferretti, Vincent) On the Nadeau-Taylor theory of conserved chromosome segments. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 262–274, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99b:92025** 92D10 (92D20)

Sanlaville, Eric (*with* Schmidt, Günter) Machine scheduling with availability constraints. (English summary) *Acta Inform.* **35** (1998), *no.* 9, 795–811. (Summary) **99f:90050** 90B35 (68M20, 68Q25)

San Luis Fernández, Ana María ★ Estabilidad transversal de gérmenes representables infinitesimalmente. (Spanish) [Transverse stability of infinitesimally represented germs] Álxebra [Algebra], 62. *Universidad de Santiago de Compostela, Departamento de Álgebra, Santiago de Compostela*, 199?. iv+136 *pp. ISBN* 84-920826-4-2 (Editors) **99b:58008** 58A05 (03F55, 03H05, 18B99)

San Martín, Bernardo Saddle-focus singular cycles and prevalence of hyperbolicity. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 5, 623–649. (Michael Hurley) **99f:58151** 58F14 (58F12)

— Contracting singular cycles. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 5, 651–659. (Michael Hurley) **99f:58152** 58F14

San Martín, Jaime (*with* Martínez, Servet A.; Picco, Pierre) Domain of attraction of quasi-stationary distributions for the Brownian motion with drift. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 385–408. (F. B. Knight) **99i:60156** 60J65 (60J60)

— (*with* Dellacherie, C.; Taïbi, D.; Martínez, Servet A.) Noyaux potentiels associés à une filtration. (English and French summaries) [Potential kernels associated with a filtration] *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 6, 707–725. (Ivor E. McGillivray) **99k:60114** 60G42 (60G44, 60H05, 60J45)

— (*with* Ma, Jin; Protter, Philip) Anticipating integrals for a class of martingales. (English summary) *Bernoulli* **4** (1998), *no.* 1, 81–114. (David Nualart) **99j:60071** 60H05 (60H07)

— (*with* Lepeltier, J.-P.) Existence for BSDE with superlinear-quadratic coefficient. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 227–240. (Introduction) **99j:60087** 60H10

San Martin, Luiz A. B. (*with* Braga Barros, Carlos José) On the action of semigroups in fiber bundles. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 1–19. (Summary) **99d:93017** 93B27 (54H15, 55R91, 58E25, 93C25)

— (*with* Colonius, Fritz; Kliemann, Wolfgang) Asymptotic problems—from control systems to semigroups. *Positivity in Lie theory: open problems*, 21–43, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Kevin A. Grasse) **99k:58027** 58D07 (34C35, 34D05, 93D05)

— Homogeneous spaces admitting transitive semigroups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 111–128. (F. Silva Leite) **99f:22026** 22E46 (93B05)

— Order and domains of attraction of control sets in flag manifolds. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 335–350. (Yuri L. Sachkov) **99j:93024** 93B25 (20M20, 54H15)

— (*with* Tonelli, Pedro A.) Transitive actions of semigroups in semi-simple Lie groups. (English summary) *Semigroup Forum* **58** (1999), *no.* 1, 142–151. (Ivan V. Arzhantsev) **99j:22010** 22E15 (22A15)

Sanmatías, Susana (*with* León, Teresa; Vercher, Enriqueta) A primal semi-infinite programming method for the uniform approximation problem. (Spanish. English and Spanish summaries) *Qüestiió* (2) **22** (1998), *no.* 2, 313–335. 90C34

— (*with* León, Teresa; Vercher, Enriqueta) A multi-local optimization algorithm. (English summary) *Top* **6** (1998), *no.* 1, 1–18. 90C30 (65K05)

San Miguel, Rosario Rubio (*with* Gutierrez, Jaime) Reduced Gröbner bases under composition. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 4, 433–444. (Joachim Apel) **99k:13037** 13P10 (68Q40)

Sannigrahi, Ashis Kr. (*with* Chakravarty, Santabrata) An analytical estimate of the flow-field in a porous stenotic artery subject to body acceleration. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 10, 1083–1102. (Summary) **99d:92013** 92C35 (76Z05, 92C05)

Sannikov, V. F. Improving the convergence of the expansion in internal-wave modes generated by a moving dipole. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 796–802; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 737–742 (1999). (Summary) **99m:76042** 76C10 (76V05)

Sannuti, P. (*with* Lin, Zongli; Saberi, Ali; Shamash, Y. A.) Direct method of constructing H_2-suboptimal controllers: continuous-time systems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 585–616. (Abdelmoula El Bouhtouri) **99j:93033** 93B36 (93C60, 93D21)

— (*with* Lin, Zongli; Saberi, Ali; Shamash, Y. A.) Direct method of constructing H_2-suboptimal controllers: discrete-time systems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 617–653. (Abdelmoula El Bouhtouri) **99j:93034** 93B36 (93C55, 93D21)

Sano, Akira (*with* Yamanaka, Osamu; Ohmori, Hiromitsu) Design method of exact model matching control for finite Volterra series systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 107–124. 93B30 (93B51)

— Recent work on identification of model sets. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 6, 312–318. 93B30 (93E12)

Sano, Hideki (*with* Kunimatsu, Noboru) Stability analysis of heat-exchanger equations with boundary feedbacks. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 317–330. (Summary) **99i:93060** 93D20 (35K99)

— (*with* Sakawa, Yoshiyuki) $\mathscr{H}_\infty$ control of diffusion systems by using a finite-dimensional controller. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 409–428 (*electronic*). (Yuri V. Zaika) **99h:93040** 93B36 (93C25)

Sano, Takasi (*with* Izumiya, Shyuichi) Affine differential geometry of space curves and singularity theory. (English summary) Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 106–113. (I. R. Porteous) **99m:53022** 53A15 (58C27)

— Bifurcations of affine invariants for isotopies of generic convex plane curves. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 114–120. (Peter Giblin) **99h:53012b** 53A15 (58C27)

— (*with* Izumiya, Shyuichi) Generic affine differential geometry of plane curves. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 315–324. (Peter Giblin) **99h:53012a** 53A15 (58C27)

— (*with* Izumiya, Shyuichi) Generic affine differential geometry of space curves. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 301–314. (Maria Carmen Romero-Fuster) **99f:53009** 53A15 (58C27)

Sano, Takeshi² (*with* Smith, Cassandra L.; Broude, Natalia E.; Cantor, Charles R.) Parallel strategies for DNA manipulation and analysis. (English summary) *Mathematical support for molecular biology*, 199–212, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92023** 92D20

Sanossian, Hermineh Y. Y. A comparative study for character recognition using neural networks. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 47–55. 90B35 (65Y25)

Sanpera, Anna (*with* Tarrach, Rolf; Vidal, Guifré) Local description of quantum inseparability. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 826–830. (S. Gudder) **99f:81024** 81P10 (81P15)

— (*with* Życzkowski, Karol; Horodecki, Paweł; Lewenstein, Maciej) Volume of the set of separable states. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 883–892. (Summary) **99d:81011** 81P05

Sanromà, M. *see* **Proceedings: Catalan Days of Applied Mathematics, 99a:00038**

pascual de Sans, Pedro *see* **Pascual de Sans, Pedro**

Sansó, F. (*with* Barzaghi, R.) The integrated inverse gravimetric-tomographic problem: a continuous approach. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 499–520. (Alexander S. Denisjuk) **99e:86007** 86A22 (44A12)

Santa-Clara, Catarina (*with* Silva, Fernando C.) On infinite Goldie dimension. (English summary) *J. Algebra* **205** (1998), *no.* 2, 617–625. (Edmund R. Puczyłowski) **99h:16039** 16P99 (05B35, 06A07)

— Extending modules with injective or semisimple summands. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 193–203. (Robert Wisbauer) **99c:16004** 16D50 (16D60)

Santagati, G. (*with* Pulvirenti, G.; Villani, Alfonso) Distributed-parameter control processes in unbounded sets. Control problems. (Italian. English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 2, 413–443 (1997). (Florin Iacob) **99a:49011** 49J20 (35L10, 93B03, 93B05, 93C20)

Santaló, Luis A. *see* **de Guzmán, Miguel**

Santambrogio, A. (*with* Penati, Silvia; Zanon, Daniela) Gravitational dressing of sigma-model beta-functions. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 552–557, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C45

Santana, A. E. (*with* Khanna, F. C.; Takahashi, Yasushi) Galilei covariance and (4, 1)-de Sitter space. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 3, 327–336. (Summary) **99f:83029** 83C40

Santander, Mariano (*with* Ballesteros, Angel; Celeghini, Enrico; Herranz, Francisco J.; del Olmo, Mariano A.) Non-quasitriangular Hopf algebras and quantum (1 + 1) affine orthogonal groups. (English summary) *Quantum groups* (*Karpacz*, 1994), 319–324, *PWN, Warsaw*, 1995. (Michèle Irac-Astaud) **99f:81088** 81R50 (16W60, 17B37)
— (*with* Ballesteros, Angel; Herranz, Francisco J.; Gromov, N. A.; del Olmo, Mariano A.) Quantum algebras for non-semisimple quasi-orthogonal groups. (English summary) *Quantum groups* (*Karpacz*, 1994), 325–335, *PWN, Warsaw*, 1995. (Summary) **99h:81082** 81R50 (17B37)
— (*with* Ballesteros, Angel; Herranz, Francisco J.; del Olmo, Mariano A.) The "null-plane" quantum Poincaré algebra. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 79–91, *PWN, Warsaw*, 1997. (Mathias Pillin) **99e:81104** 81R50 (17B81)
— (*with* Nieto, Luis Miguel; Cordero, Nicolás A.) A curvature-based derivation of the Schwarzschild metric. (English summary) *Amer. J. Phys.* **65** (1997), *no.* 12, 1200–1209. (Patrick Dolan) **99d:83016** 83C15
— (*with* Herranz, Francisco J.) Geometries of orthogonal groups and their contractions: a unified classical deformation viewpoint. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 99–107. (Summary) **99k:81085** 81R05 (22E45, 22E70)
— (*with* de Azcárraga, J. A.; Herranz, Francisco J.; Pérez Bueno, J. C.) Central extensions of the quasi-orthogonal Lie algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1373–1394. (Saïd Benayadi) **99d:17004** 17B05 (17B56)
— (*with* Herranz, Francisco J.; Pérez Bueno, J. C.) Central extensions of the families of quasi-unitary Lie algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5327–5347. (Michael Wüstner) **99i:17007** 17B05
Sant'Anna, Adonai S. The Atiyah-Singer fixed point theorem and the gauge field copy problem. (English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 59–62 (1997). (Xiaonan Ma) **99j:58194** 58G10 (81T13)
— (*with* da Costa, Newton C. A.; Doria, Francisco Antonio) The Atiyah-Singer index theorem and the gauge field copy problem. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5511–5516. (Mattias Dahl) **99b:58223** 58G10 (58Z05, 81T13)
— Some remarks about indistinguishability and elementary particles. (English summary) Contemporary Brazilian research in logic, Part II. *Logique et Anal.* (*N.S.*) **40** (1997), *no.* 157, 45–66. (Jos Uffink) **99m:81014** 81P05 (03B30)
Santarsiero, M. (*with* Gori, Franco[1]; Vicalvi, S.; Frezza, F.; Schettini, G.; Ambrosini, S.; Borghi, Riccardo) An elementary approach to spinors. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 256–262. (Summary) **99c:81073** 81R25 (15A66, 53A50)
Santen, L. (*with* Rajewsky, N.; Schadschneider, A.; Schreckenberg, Michael) The asymmetric exclusion process: comparison of update procedures. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 151–194. (Summary) **99e:82092** 82C80 (82C20)
Santha, Miklos (*with* Dürr, Christoph; LêThanh, Huong) A decision procedure for well-formed linear quantum cellular automata. (English summary) Proceedings of the Workshop on Randomized Algorithms and Computation (Berkeley, CA, 1995). *Random Structures Algorithms* **11** (1997), *no.* 4, 381–394. (T. C. Mohan) **99b:68063** 68Q05 (68Q80)
— (*with* Bazgan, Cristina; Tuza, Zsolt) Efficient approximation algorithms for the subset-sums equality problem. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 387–396, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q25
— (*with* Bazgan, Cristina; Tuza, Zsolt) On the approximation of finding a(nother) Hamiltonian cycle in cubic Hamiltonian graphs (extended abstract). (English summary) *STACS* 98 (*Paris*, 1998), 276–286, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q25
— (*with* Bazgan, Cristina; Tuza, Zsolt) On the approximation of finding a(nother) Hamiltonian cycle in cubic Hamiltonian graphs. (English summary) *J. Algorithms* **31** (1999), *no.* 1, 249–268. (A. G. Thomason) **99m:05146** 05C85 (05C45, 68Q25, 68R10)
Santhanam, T. S. Finite-space quantum mechanics and Krawtchuk functions. (English summary) *Special functions and differential equations* (*Madras*, 1997), 192–198, *Allied Publ., New Delhi*, 1998. (Summary) **99i:81065** 81R05 (33C45, 39A12)
Santharoubane, L. (*with* Favre, G.) Nilpotent Lie algebras of classical simple type. *J. Algebra* **202** (1998), *no.* 2, 589–610. (Rolf Farnsteiner) **99b:17006** 17B30 (17B05)
Santi, Elisabetta (*with* Dagnino, Catterina) Quadratures based on quasi-interpolating spline-projectors for product singular integration. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 35–47. (Summary) **99a:65033** 65D32
— (*with* Dagnino, Catterina; Perotto, Simona) Product formulas based on spline approximation for the numerical evaluation of certain 2-D CPV integrals. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 241–250, *Transilvania, Cluj-Napoca*, 1997. (M. I. Israilov) **99b:65027** 65D32 (65D07)
— (*with* Gori Nicolò-Amati, Laura; Cimoroni, M. G.) Projector-splines in the numerical solution of integro-differential equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 107–116. (Wojciech Mydlarczyk) **99f:65202** 65R20 (45E05, 45L05, 65D07, 65D30)
— (*with* Dagnino, Catterina; Perotto, Simona) Convergence of rules based on nodal splines for the numerical evaluation of certain 2D Cauchy principal value integrals. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 225–235. (S. Dubuc) **99f:65040** 65D32 (65D07)
Santiago, David I. (*with* Kalligas, Dimitri; Wagoner, Robert V.) Scalar-tensor cosmologies and their late time evolution. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124005, 9 *pp.* 83D05
Santiago, M. L. (*with* Xavier, D. Antony; Jose, Magie) Open mapping theorem in fuzzy normed spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 1009–1013. (Athanasios K. Katsaras) **99k:46008** 46A30 (46B99, 46S40)
Santiapillai, C. (*with* Murukesapillai, K.) Srinivasa Ramanujan: a different perception of his life and times. *Current Sci.* **75** (1998), *no.* 3, 326–327. 01A70 (01A80)
— *see also* **Tiwari, Suresh Chandra**
Santibáñez, Víctor (*with* Kelly, Rafael) Global regulation of elastic joint robots based on energy shaping. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1451–1456. 93C85 (93D21)
Santilli, Ruggero Maria Isotopies of local-differential geometries. (English summary) *Indian J. Math.* **38** (1996), *no.* 2, 171–194. (Thomas N. Vougiouklis) **99b:53034** 53B50 (53B99)
— Isotopic liftings of the Pythagorean theorem, trigonometric and hyperbolic functions. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 83–94, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (*see* **99e:53001**) 51F99 (33B10)
— Relativistic hadronic mechanics: nonunitary, axiom-preserving completion of relativistic quantum mechanics. (English summary) *Found. Phys.* **27** (1997), *no.* 5, 625–729. (Summary) **99a:81091** 81S99 (81P99)
— Invariant Lie-admissible formulation of quantum deformations. (English summary) *Found. Phys.* **27** (1997), *no.* 8, 1159–1177. (J. Lõhmus) **99a:81078** 81R50 (17D25)
— Classical and operator isospecial relativity for matter and its isodual for antimatter. (English summary) *Hadronic J. Suppl.* **12** (1997), *no.* 2, 123–170. (Summary) **99k:83005** 83A05 (83C99)
— Isotopies of differential calculus and its application to mechanics and geometries. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 61–104, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Summary) **99i:58044** 58E30 (58A99, 58F05, 70A05, 70Gxx)
— Iso-Minkowskian geometry for the gravitational treatment of matter and its isodual for antimatter. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 3, 351–407. (Sergiu I. Vacaru) **99j:83061** 83D05
— Origin, problematic aspects and invariant formulation of q-, k- and other quantum deformations. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 4, 327–335. 81R50
— *see also* **Miron, Radu, 99e:53022**
Santini, Paolo Maria (*with* Cieśliński, Jan; Doliwa, Adam) The integrable discrete analogues of orthogonal coordinate systems are multi-dimensional circular lattices. (English summary) *Phys. Lett. A* **235** (1997), *no.* 5, 480–488. (Summary) **99d:58149** 58F35 (39A12)
— (*with* Gasbarri, P.) Lifting surface in subsonic unsteady regime. (English and Italian summaries) *Meccanica* **34** (1999), *no.* 1, 1–27. 76G25 (73K70, 76B05)
de Santis, Alfredo *see* **De Santis, Alfredo**
de Santis, Elena *see* **De Santis, Elena**
de Santis, Fulvio *see* **De Santis, Fulvio**
Santner, Thomas J. (*with* Pan, Guohua) Selection and screening procedures to determine optimal product designs. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 311–330. (S. Panchapakesan) **99h:62097** 62K05 (62F07)
del Santo, Daniele *see* **Del Santo, Daniele**
Santone, Antonella (*with* De Francesco, Nicoletta) A transformation system for concurrent processes. (English summary) *Acta Inform.* **35** (1998), *no.* 12, 1037–1073. (Summary) **99k:68061** 68Q10 (03B70, 68N15)
— (*with* Barbuti, Roberto; De Francesco, Nicoletta; Mancarella, Paolo) Towards a logical semantics for pure Prolog. (English summary) 6th European Symposium on Programming (Linköping, 1996). *Sci. Comput. Programming* **32** (1998), *no.* 1-3, 145–176. (Summary) **99e:68013** 68N17 (03B70)
Santopinto, E. (*with* Bijker, Roelof; Iachello, F.) Algebraic treatment of the hyper-Coulomb problem. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9041–9054. (A. Ventura) **99j:81206** 81V25 (81R05)
Santoro, Giulio Measurability of the family of systems consisting of a parabolic cylinder, a point and a plane in A_3. (Italian. English summary) *Matematiche* (*Catania*) **51** (1996), *suppl.*, 197–203 (1997). (M. Stoka) **99c:53084** 53C65
Santoro, Nicola (*with* Flocchini, Paola; Roncato, Alessandro) Symmetries and sense of direction in labeled graphs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 99–115. (Jozef Širáň) **99i:05194** 05C99 (05C78, 68R10)
— (*with* Feuerstein, Esteban; Leonardi, Stefano; Marchetti-Spaccamela, Alberto) Efficient token-based control in rings. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 175–180. (Summary) **99b:68014** 68M10
— (*with* Flocchini, Paola; Mans, Bernard) Sense of direction: definitions, properties, and classes. (English summary) *Networks* **32** (1998), *no.* 3, 165–180. (Qiao Li) **99j:68104** 68R10 (90B12, 94C15)
moura Santos, A. *see* **Moura Santos, A.**
dos Santos, A. F. (*with* Câmara, M. C.) A nonlinear approach to generalized factorization of matrix functions. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 21–37, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Sergeĭ Grudskiĭ) **99g:47035** 47A68 (30E25)
— (*with* Bastos, M. A.; Karlovich, Yu. I.; Tishin, P. M.) The corona theorem and the existence of canonical factorization of triangular AP-matrix functions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 494–522. (A. Böttcher) **99f:47022a** 47A68 (15A23, 39A10, 45E10, 47A75, 47B35)
— (*with* Bastos, M. A.; Karlovich, Yu. I.; Tishin, P. M.) The corona theorem and the canonical factorization of triangular AP matrix functions—effective criteria and explicit formulas. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 523–550. (A. Böttcher) **99f:47022b** 47A68 (15A23, 39A10, 45E10, 47A75, 47B35)
rocha dos Santos, Angela *see* **Rocha dos Santos, Angela**
Santos, C. H. (*with* Silva, B. P. B.; Yuan, Jin Yun) Block SOR methods for rank-deficient least-squares problems. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 1–9. (Summary) **99j:65050** 65F10
romo Santos, Concepción *see* **Romo Santos, Concepción**
Santos, Ernesto Perini F. da Mota Absolute terms in Ockham and rigid designators in Kripke and Putnam. (Portuguese. English and Portuguese summaries) *Cad. Hist. Filos. Ciênc.* (3) **7** (1997), *no.* 2, 121–148. 03-03 (01A35, 03A05)
Santos, F. (*with* de Loera, J. A.; Urrutia, Jorge) The number of geometric bistellar neighbors of a triangulation. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 131–142. (Joseph Gubeladze) **99k:52025** 52B70
Santos, F. C. (*with* Cougo-Pinto, M. V.; Farina de Souza, Carlos; Tort, A. C.) QED vacuum between a conducting and a permeable plate. (English summary) *J. Phys. A* **32** (1999), *no.* 24, 4463–4474. 81V10
Santos, Francisco Optimal degree construction of real algebraic plane nodal curves with prescribed topology. I. The orientable case. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 291–310. (Maria J. de la Puente) **99a:14081** 14P05 (14P25, 14Q05)

Santos, J. E. *see* **Santos, Jaime Eduardo**

sánchez de Santos, J. M. *see* **Sánchez de Santos, J. M.**

Santos, Jaime Eduardo (*with* Stinchcombe, R. B.; Grynberg, M. D.) Non-universal dynamics of staggered non-equilibrium particle systems and Ising chains. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 541–549. (Summary) **99b:82070** 82C20 (82C26)

— (*with* Mussawisade, K.; Schütz, Gunter M.) Branching-annihilating random walks in one dimension: some exact results. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4381–4394. (Summary) **99b:82040** 82B41

Santos, João P. (*with* Fernandes, Rui Loja) Integrability of the periodic KM system. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 475–484. (Roman G. Smirnov) **99a:58089** 58F07 (70H05)

Santos, José Carlos de Sousa Oliveira Foncteurs de Zuckerman pour les superalgèbres de Lie. (English summary) [Zuckerman functors for Lie superalgebras] *J. Lie Theory* **9** (1999), *no.* 1, 69–112. (William M. McGovern) **99m:17011** 17B10

Santos, Juan E. Global and domain-decomposed mixed methods for the solution of Maxwell's equations with application to magnetotellurics. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 4, 407–437. (Summary) **99d:78005** 78–08 (65N30, 65N55, 86–08, 86A25)

Santos, Lisa (*with* Rodrigues, José-Francisco) Some free boundary problems in theoretical glaciology. *The mathematics of models for climatology and environment* (*Puerto de la Cruz*, 1995), 337–364, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (Jiří Nedoma) **99h:86016** 86A40 (35Q80, 73N20)

dos Santos, Lucio Tunes *see* **Dos Santos, Lucio Tunes**

almeida Santos, M. H. *see* **Almeida Santos, M. H.**

Santos, Manuel S. (*with* Vigo-Aguiar, Jesús) Analysis of a numerical dynamic programming algorithm applied to economic models. (English summary) *Econometrica* **66** (1998), *no.* 2, 409–426. (Summary) **99b:90155** 90C39 (90A16)

Santos, N. O. (*with* Bonnor, W. B.; MacCallum, Malcolm A. H.) An exterior for the Gödel spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 357–366. (Patrick Dolan) **99d:83010** 83C15

— (*with* MacCallum, Malcolm A. H.) Stationary and static cylindrically symmetric Einstein spaces of the Lewis form. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1627–1636. (Mihai Vişinescu) **99d:83013** 83C15 (83C20)

— (*with* Herrera, L.) Geodesics in Lewis space-time. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3817–3827. (W. B. Bonnor) **99d:83008** 83C10 (83C15)

Santos, Sandra Augusta (*with* Martínez, José Mario; Dos Santos, Lucio Tunes) A minimax method with application to the initial vector coding problem. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 273–284. (Summary) **99f:65095** 65K05

— (*with* Kozakevich, D. N.; Martínez, José Mario) Solving nonlinear systems of equations with simple constraints. (English and Portuguese summaries) *Mat. Apl. Comput.* **16** (1997), *no.* 3, 215–235. (E. Spedicato) **99m:65113** 65H10 (90C08)

— (*with* Dostál, Zdeněk; Friedlander, Ana) Solution of coercive and semicoercive contact problems by FETI domain decomposition. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 82–93, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99f:65163** 65N30 (90C20)

Santos, Vasco (*with* Arvan, Lanny; Cabral, Luis) Meaningful cheap talk must improve equilibrium payoffs. (English summary) *Math. Social Sci.* **37** (1999), *no.* 1, 97–106. (Summary) **99i:90123** 90D12 (90A14)

Santosa, Fadil (*with* Coleman, Thomas F.; Verma, Arun^2) Semi-automatic differentiation. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 113–126, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:65031** 65D25

— (*with* Rudnaya, Svetlana; Chiareli, Alessandra) Optimal design of a diffractive optical element. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 44–53, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A55 (49Q10)

— (*with* Dobson, David C.) Nondestructive evaluation of plates using eddy current methods. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 395–409. (Summary) **99a:78017** 78A30 (78–08)

— (*with* Litman, Amélie; Lesselier, D.) Reconstruction of a two-dimensional binary obstacle by controlled evolution of a level-set. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 685–706. (Summary) **99e:78032** 78A45 (35R30, 78–08)

— (*with* Luong, Bruno) Quantitative imaging of corrosion in plates by eddy current methods. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1509–1531 (*electronic*). (Giovanni Crosta) **99e:78036** 78A55 (35R30)

— (*with* Vogelius, Michael; Xu, Jian-Ming) An effective nonlinear boundary condition for a corroding surface. Identification of the damage based on steady state electric data. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 656–679. (Viatcheslav I. Priĭmenko) **99h:35232** 35R30 (35J99, 35Q99, 78A55)

dos Santos Gromicho, Jaoquim António (*with* Frenk, J. B. G.) An elementary rate of convergence proof for the deep cut ellipsoid algorithm. (English summary) *Recent advances in nonsmooth optimization*, 106–120, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99f:90121** 90C30 (90C08)

— ★ Quasiconvex optimization and location theory. Applied Optimization, 9. *Kluwer Academic Publishers, Dordrecht*, 1998. xxii+218 *pp. ISBN* 0-7923-4694-7 (Gert Wanka) **99c:90091** 90C25 (90–02, 90B80, 90B85, 90C26)

Santos-León, J. C. Asymptotic expansions for trapezoidal type product integration rules. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 219–230. (Summary) **99d:65076** 65D30 (41A60, 65D32)

Santosuosso, Kevin (*with* Pollney, Denis; Pelavas, Nicos; Musgrave, Peter; Lake, Kayll) Invariants of the Riemann tensor for class B warped product space-times. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 381–394. (Emil Zakhary) **99k:83021** 83C20 (83–04)

de los Santos Villodres, R. *see* **De Los Santos Villodres, R.**

Santra, K. C. (*with* Das, A.) Inhomogeneous confluent hypergeometric equation and its application in an electromechanical problem. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 131–139. (Summary) **99g:33009** 33C15

Santucci, P. (*with* Grande, R.) Anisotropic Sobolev-Besicovitch spaces and a semielliptic differential equation. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 53–67. (Da Chun Yang) **99a:46059** 46E35 (35H05, 35P20, 46N20, 47F05)

— (*with* Iannacci, R.; Bersani, A. M.; Dell'Acqua, G.) Embedding theorems for Sobolev-Besicovitch spaces of almost periodic functions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 443–457. (J. Musielak) **99e:46041** 46E35 (42A75)

Sanus, Lucia (*with* Navarro, Gabriel) Partial characters with respect to a normal subgroup. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 104–124. (I. M. Isaacs) **99j:20013** 20C15

Sanyal, Amitabha (*with* Babu, S. Ramesh; Venkatesh, G.) Proof of correctness of a direct construction of DFA from regular expression. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 191–210. (Summary) **99d:68142** 68Q45 (68N20)

Sanz, Ana M. (*with* Hong, Jialin; Obaya García, Rafael) Exponential trichotomy and a class of ergodic solutions of differential equations with ergodic perturbations. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 7–13. (Wei Nian Zhang) **99k:34102** 34D05 (34C11, 58F11)

Sanz, Fernando Non-oscillating solutions of analytic gradient vector fields. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 4, 1045–1067. (Coraci P. Malta) **99k:32071** 32S65 (32S45, 34C99)

Sanz, Luis (*with* Gómez-Villegas, Miguel A.) Reconciling Bayesian and frequentist evidence in the point null testing problem. (English summary) *Test* **7** (1998), *no.* 1, 207–216. (Christian P. Robert) **99k:62039** 62F03 (62F15)

Sanz Alix, Miguel A. (*with* Martínez Carracedo, Celso) Spectral mapping theorem for fractional powers in locally convex spaces. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 4, 685–702 (1998). (Alberto Venni) **99g:47031** 47A60 (47A10)

— (*with* Martínez Carracedo, Celso; Pastor, Javier) Fractional powers of multivalued linear operators. Generation of analytic semigroups. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 507–512, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 47D06 (34G10)

— (*with* Martínez Carracedo, Celso; Periago, Francisco) Imaginary powers of nonnegative operators and their applications to PDEs. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 513–518, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34G10 (35J15, 47D06)

Sanz Gil, Javier (*with* Galindo Soto, Félix) Filtering of multidimensional semiperiodic processes. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 94A12

Sanzo, Ubaldo Against ontology: Poincaré and scientific hypotheses. (Italian. English and Italian summaries) *Physis Riv. Internaz. Storia Sci.* (*N.S.*) **34** (1997), *no.* 3, 627–641 (1998). (I. Grattan-Guinness) **99e:00006** 00A30 (00A79, 01A99)

Sanz Serna, J. M. (*with* López Marcos, M. A.; Skeel, Robert D.) Some problems of molecular dynamics. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65L06 (70–08)

— (*with* Cano, B.) Asymptotic behavior of reversible numerical methods when periodic orbits are integrated. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65L05 (34A45, 34C25)

— Geometric integration. *The state of the art in numerical analysis* (*York*, 1996), 121–143, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Werner M. Seiler) **99f:34014** 34A45 (58F05, 65L99, 70–08, 70H05)

— (*with* Araújo, A. L.; Murua, Ander) Symplectic methods based on decompositions. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1926–1947. (Sándor Frivaldszky) **99a:65085** 65L06 (34A45, 70–08)

— (*with* Araújo, A. L.) Symplectic additive Runge-Kutta methods for Hamiltonian systems. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 239–246, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 65L06 (58F05)

— (*with* García-Archilla, Bosco; Skeel, Robert D.) Long-time step methods for oscillatory differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 111–123, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65107** 65L06

— (*with* Durán Martín, Angel) Error propagation in the numerical integration of relative equilibria. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 93–100, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L70 (58F05, 70–08, 70H05)

— (*with* Calvo, Mari Paz; López Marcos, M. A.) Variable step implementation of geometric integrators. (English summary) *Appl. Numer. Math.* **28** (1998), *no.* 1, 1–16. (Summary) **99d:65236** 65L99 (58F05, 70–08, 70H05)

— (*with* Cano, B.) Error growth in the numerical integration of periodic orbits by multistep methods, with application to reversible systems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 1, 57–75. (Ram Krishan Sharma) **99d:65237** 65L99 (34A45, 34C25, 65L70)

— (*with* Larsson, Stig) A shadowing result with applications to finite element approximation of reaction-diffusion equations. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 55–72. (Chuan Miao Chen) **99f:65142** 65M60 (58F39)

— (*with* García-Archilla, Bosco; Skeel, Robert D.) Long-time-step methods for oscillatory differential equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 930–963 (*electronic*). (David E. Stewart) **99g:65087** 65L99 (65L70, 70–08)

Sanz-Solé, Marta (*with* Sarrà, Mònica) Logarithmic estimates for the density of an anticipating stochastic differential equation. (English summary) *Stochastic Process. Appl.* **79** (1999), *no.* 2, 301–321. (Jorge A. León) **99m:60092** 60H10 (60H07)

Saorín Castaño, M. (*with* Krause, Henning) On minimal approximations of modules. *Trends in the representation theory of finite-dimensional algebras* (*Seattle, WA*, 1997), 227–236, *Contemp. Math.*, 229, *Amer. Math. Soc., Providence, RI*, 1998. (Iuliu Crivei) **99m:16002** 16D10 (18E10)

— (*with* Rada, Juan) Rings characterized by (pre)envelopes and (pre)covers of their modules. *Comm. Algebra* **26** (1998), *no.* 3, 899–912. (Pham Ngoc Anh) **99f:16002**

16D10
— (*with* Rada, Juan) On two open problems about embedding of modules in free modules. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 105–118. (J. L. Gómez Pardo) **99m:16033** 16L60 (16E50, 16L30)
Sapanci, Mehmet (*with* Nakajima, Atsushi) Left derivations on skew polynomial rings. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 113–119. (Andrzej Nowicki) **99e:16044** 16W25 (16S36)
— (*with* Voskoglou, Michael G.) Principal ideals in skew polynomial rings. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 133–137. (Summary) **99d:16031** 16S36
— (*with* Öztürk, M. A.) Orthogonal symmetric bi-derivation on semi-prime gamma rings. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 31–46. (Stefan Veldsman) **99e:16063** 16Y99 (16W25)
Saparbaev, A. D. (*with* Uteuliev, N. U.) An algorithm for solving a stochastic problem. (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1997**, *no.* 3, 68–72. 90C15
Sapatinas, T. (*with* Abramovich, F.; Silverman, B. W.) Wavelet thresholding via a Bayesian approach. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 725–749. (P. A. Morettin) **99i:62080** 62G07
Saper, Leslie Tilings and finite energy retractions of locally symmetric spaces. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 2, 167–202. (Raul Quiroga) **99a:22019** 22E40 (53C35)
Saphar, Pierre David Projections from $L(E, F)$ onto $K(E, F)$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1127–1131. (G. J. O. Jameson) **99f:46026** 46B28
Sapidis, Nickolas S. (*with* Sarantidis, Ilias; Kaklis, Panagiotis D.) A spline-in-tension with a parabolic limit-curve. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 109–119, *Teubner, Stuttgart*, 1998. (Summary) **99h:65034** 65D17 (65D07)
— *see also* **Geometric modelling techniques, 99i:65004**
Sapir, Luba The optimality of the expert and majority rules under exponentially distributed competence. (English summary) *Theory and Decision* **45** (1998), *no.* 1, 19–35. (Summary) **99i:90034** 90A28 (90A05)
Sapir, Mark V. (*with* Margolis, Stuart W.; Meakin, J.) Algorithmic problems in groups, semigroups and inverse semigroups. *Semigroups, formal languages and groups* (*York*, 1993), 147–214, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Václav Koubek) **99e:20043** 20F10 (03D40, 08A50, 20M05, 20M35)
— (*with* Guba, V. S.) On Dehn functions of free products of groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1885–1891. (Stephen G. Brick) **99j:20044** 20F32
Sapiro, Guillermo (*with* Giblin, Peter J.) Affine-invariant symmetry sets. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 152–168, *Springer, Berlin*, 1997. (Allen Tannenbaum) **99k:53007** 53A15 (65Y25, 68U05)
— (*with* Giblin, Peter J.) Affine-invariant distances, envelopes and symmetry sets. (English summary) *Geom. Dedicata* **71** (1998), *no.* 3, 237–261. (Farid Tari) **99e:53002** 53A04 (53A15, 58C27, 68U10)
— (*with* Angenent, Sigurd; Tannenbaum, Allen R.) On the affine heat equation for non-convex curves. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 601–634. (Anders Linnér) **99d:58039** 58E10 (58G11)
— (*with* Teo, Patrick C.; Wandell, Brian A.) Anisotropic smoothing of posterior probabilities. *Dynamical systems, control, coding, computer vision* (*Padova*, 1998), 419–432, *Progr. Systems Control Theory*, 25, *Birkhäuser, Basel*, 1999. (*see* **99k:93006**) 68U10
Šapkarev, Ilija A. Existenz und Konstruktion der Lösungen einer linearen Differentialgleichung der zweiten Ordnung. (German and Macedonian summaries) [Existence and construction of a linear differential equation of second order] *Makedon. Akad. Nauk. Umet. Oddel. Mat.-Tehn. Nauk. Prilozi* **15** (1994), *no.* 2, 23–31 (1996). 34A05
Sapna, K. P. (*with* Kalpakam, S.) An (s, S) perishable system with arbitrarily distributed leadtimes. (English summary) *Opsearch* **33** (1996), *no.* 1, 1–19. (Summary) **99a:90087** 90B05 (90B22)
Sapogin, L. G. (*with* Barashenkov, V. S.) Soliton-like solutions of linear differential equations. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 91–94, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 35Q51
Saporta, Gilbert *see* **Experimental designs, 99a:62101** *and* **Ghorbanzadeh, D., 99m:60001**
Sapozhenko, A. A. On the number of connected sets with given cardinality of a neighborhood in a graph. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 3, 18–34, 81. (Jozef Širáň) **99a:05043** 05C12
Sapozhnikov, P. N. Shift families that admit nontrivial sufficient statistics. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 848–855. (Dieter Mussmann) **99h:62004** 62B05
Saprikin, S. (*with* Storozhenko, È. A.) On some analogs of converse Bernstein inequalities in L_0. Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 111–119. (Jia-Ding Cao) **99b:41006** 41A17 (41A44)
Sapronov, Yu. I. (*with* Darinskiĭ, B. M.) Bifurcations of extremals near a singularity of a multidimensional fold. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 35–46; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 2, 32–42. (Hubertus Th. Jongen) **99a:90200** 90C31 (58E15)
al-Saqabi, Bader *see* **Al-Saqabi, Bader**
Saquib, S. S. (*with* Hanson, K. M.; Cunningham, G. S.) Inversion based on computational simulations. (English summary) *Maximum entropy and Bayesian methods* (*Boise, ID*, 1997), 121–135, *Fund. Theories Phys.*, 98, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99k:62005**) 65C20 (65–02)
Sarabia, José The Rathie's distribution. (Spanish. English and Spanish summaries) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 75–88. (Summary) **99h:33006** 33B15
— (*with* Montes de Oca, Francisco) Some results on the logistic equation with harvesting. (Spanish. English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 2, 131–137. (Summary) **99h:92040** 92D40 (34C11, 90A30)
Sarabia, José María (*with* Castillo, Enrique F.; Hadi, Ali S.) A method for estimating Lorenz curves. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2037–2063. 62F35
Sarabia R., José *see* **Sarabia, José**
Saradha, N. On perfect powers in products with terms from arithmetic progressions. *Acta Arith.* **82** (1997), *no.* 2, 147–172. (Nikos Tzanakis) **99d:11030** 11D61
— (*with* Shorey, T. N.; Tijdeman, R.) Corrections to the paper: "On values of a polynomial at arithmetic progressions with equal products" [Acta Arith. **72** (1995), no. 1, 67–76; MR 96j:11041]. *Acta Arith.* **84** (1998), *no.* 4, 385–386. (István Gaál) **99g:11043** 11D75 (11C08, 11D41)
— Squares in products with terms in an arithmetic progression. *Acta Arith.* **86** (1998), *no.* 1, 27–43. (Yuri Bilu) **99f:11044** 11D61 (11B25, 11B57, 11D41)
— (*with* Shorey, T. N.) The equation $(x^n - 1)/(x - 1) = y^q$ with x square. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 1–19. (Yann Bugeaud) **99h:11037** 11D61 (11J86)
Saraiva, Luis M. R. Laplace, Lavoisier and the quantification of heat. (English summary) *Physis Riv. Internaz. Storia Sci.* (*N.S.*) **34** (1997), *no.* 1-2, 99–137. (Summary) **99a:01012** 01A50 (80–03)
Saralegi Aranguren, Martin Cohomologie d'intersection des actions toriques simples. [Intersection cohomology of simple torus actions] *Indag. Math.* (*N.S.*) **7** (1996), *no.* 3, 389–417. (Yuli B. Rudyak) **99d:57027** 57S15 (55N33, 55T99)
Saramago, S. F. P. (*with* Steffen, V., Jr.) Optimization of the trajectory planning of robot manipulators taking into account the dynamics of the system. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 7, 883–894. (Summary) **99f:70013** 70B15 (70Q05)
Saramito, Bernard Some problems related to MHD stability of fusion plasmas. (English summary) *Équations aux dérivées partielles et applications*, 745–758, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99g:76151** 76W05 (76E25, 76X05)
— (*with* Boussari, A.; Maschke, Erich K.) Bifurcations of stationary tearing modes with a resistivity depending on a flux function. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 61–68. (Summary) **99c:76114** 76W05 (35B32, 35Q35, 76E25, 76M25)
— (*with* Berroukeche, Mostefa; Maschke, Erich K.) Convergence of an unconditionally stable semi-implicit scheme for linear incompressible MHD equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 81–86. (Summary) **99k:76097** 76M20 (76W05)
Saran, Huzur (*with* Vazirani, Vijay V.; Rajan, B. Sundar) An efficient algorithm for constructing minimal trellises for codes over finite abelian groups. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1839–1854. (Piroska Lakatos) **99a:94048** 94B05 (94B12, 94B15, 94B60)
Saran, Jagdish (*with* Pushkarna, Narinder) Some identities for moments of order statistics and their applications in combinatorial identities. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 11–20. 62G30 (05A19, 62E15)
— (*with* Pushkarna, Narinder) Some new identities for single moments of order statistics. (English summary) *Statistics* **30** (1998), *no.* 4, 345–355. (Summary) **99k:62104** 62G30
— (*with* Pushkarna, Narinder) Correction to a recurrence relation between moments of order statistics. (English summary) *Statistics* **31** (1998), *no.* 1, 79–81. (Barry C. Arnold) **99i:62118** 62G30
Sarana, O. A. (*with* Tamrazov, Promarz) Contour-solid properties of finely hypoharmonic functions. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 8, 1114–1125; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1252–1265 (1998). (Eugen Popa) **99c:31003** 31A05 (31C40)
Saranen, J. On local residual-type error estimates for boundary element methods. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 149–154. (Summary) **99b:65158** 65N38
— (*with* Vainikko, Gennadi) Fast solvers of integral and pseudodifferential equations on closed curves. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1473–1491. (A. V. Dzhishkariani) **99f:65206** 65R20 (45E10, 45L05, 47G30)
Sarangi, S. M. (*with* Uralegaddi, Suguna B.) On generalisation of meromorphic univalent functions with negative coefficients. *Mathematica* **38(61)** (1996), *no.* 1-2, 189–197. (K. S. Padmanabhan) **99a:30020** 30C45
Sarans, Jagdish *see* **Saran, Jagdish**
Sarantidis, Ilias (*with* Sapidis, Nickolas S.; Kaklis, Panagiotis D.) A spline-in-tension with a parabolic limit-curve. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 109–119, *Teubner, Stuttgart*, 1998. (Summary) **99h:65034** 65D17 (65D07)
Sarantopoulos, Yannis (*with* Benítez, Carlos; Tonge, Andrew) Lower bounds for norms of products of polynomials. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 395–408. (Ignacio Zalduendo) **99h:46077** 46G20
Sarapa, Nikola (*with* Jardas, Cvetan; Pečarić, Josip; Roki, Rajko) On an inequality of Hardy-Littlewood-Pólya and some applications to entropies. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 201–206. (Lars Erik Persson) **99c:26017** 26D15 (94A17)
— (*with* Jardas, Cvetan) A summability method in some strong laws of large numbers. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 2, 107–124. (Summary) **99c:28047** 28D05 (60B12, 60F15)
— (*with* Jardas, Cvetan; Pečarić, Josip) On summability of pairs of convolution sequences of probability measures on locally compact semigroups. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 481–492. (Uwe Franz) **99m:60011** 60B10 (43A05, 60B05)
Sarason, Donald ★ Notes on complex function theory. (English summary) Corrected reprint of the 1994 original. Texts and Readings in Mathematics, 5. *Hindustan Book Agency, New Delhi*, 1998. *xii*+184 *pp. ISBN* 81-85931-19-4 30–01
— (*with* Lotto, Benjamin A.) Multipliers of de Branges-Rovnyak spaces. II. *Harmonic analysis and hypergroups* (*Delhi*, 1995), 51–58, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (J. Rovnyak) **99c:46022** 46E22 (30H05, 46J15, 47B38)
— Holomorphic spaces: a brief and selective survey. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 1–34, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Håkan Hedenmalm and S. Jakobsson) **99k:47069** 47B38 (46–03, 46E99, 47A15, 47B35)
— Harmonically weighted Dirichlet spaces associated with finitely atomic measures. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 2, 186–213. (Editors) **99i:46015** 46E20 (30H05, 47A15, 47B38)
— *see also* **Holomorphic spaces, 99a:00028**
Saraswat, Vijay (*with* Dalrymple, Mary; Lamping, John; Pereira, Fernando) A deductive account of quantification in LFG. *Quantifiers, deduction, and context* (*Stanford, CA*, 1993), 33–57, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03B65

— (*with* Motwani, Rajeev; Torng, Eric) Online scheduling with lookahead: multipass assembly lines. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 331–340. (Summary) **99f:90049** 90B35

Sarathi, M. R. M. (*with* Agrawal, B. D.) Some generating functions for discrete double hypergeometric functions. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 395–398. (Summary) **99c:33023** 33C70

gamboa Saraví, Ricardo E. *see* **Gamboa Saraví, Ricardo E.**

Sarazin, Y. (*with* Ghendrih, Ph.) Intermittent particle transport in two-dimensional edge turbulence. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4214–4228. 76X05 (76F99)

Sardanashvili, G. A. Universal spin structure. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 4, 1265–1287. (Jayme Vaz, Jr.) **99j:53100** 53C80 (53A50, 83C60)

— Hamiltonian time-dependent mechanics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2714–2729. (Narciso Román-Roy) **99f:58081** 58F05 (70H05, 70H33, 70H40)

— Covariant spin structure. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4874–4890. (Jayme Vaz, Jr.) **99f:83055** 83C60 (53C80)

Sardella, Mirko (*with* Gazzola, Filippo) Attractors for families of processes in weak topologies of Banach spaces. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 455–466. (Igor D. Chueshov) **99b:47098** 47H20 (34G20, 35K55, 35Q30, 58F39)

Sarfatti, Jack Beyond Bohm/Vigier quantum mechanics. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 403–410, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Martin Daumer) **99m:81015** 81P05 (81P10)

Sarfraz, Muhammad (*with* Butt, Sohail; Hussain, Malik Zawwar) Locally constructed C^2 spline. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **29** (1996), 73–79. (Zygmunt Wronicz) **99d:41014** 41A15 (41A20)

Sargent, R. W. H. (*with* Bell, M. L.; Vinter, R. B.) Existence of optimal controls for continuous time infinite horizon problems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 887–896. 49J15

Sargenti, Giulia Continuity results for solutions of certain degenerate parabolic equations. (English summary) *Rend. Sem. Mat. Univ. Padova* **99** (1998), 105–131. (Alexander L. Gladkov) **99i:35083** 35K65 (35B65, 35K55)

Sargos, P. (*with* Denef, Jan; Laeremans, Ann) On the largest nontrivial pole of the distribution $|f|^s$. Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 1–9. (Willem Veys) **99g:11101** 11M41

Sargsyan, O. G. On convergence and the Gibbs phenomenon of double Fourier-Walsh series of functions of bounded harmonic variation. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 5, 41–59; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 5, 30–46 (1996). (P. Simon) **99h:42053** 42C10

Sargsyan, V. V. (*with* Brutyan, V. K.) Some generalizations of the theory of linear synthesis of controlled systems. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 1, 24–31. (Valery I. Korobov) **99k:49081** 49N35 (93C15)

Sarhangi, Reza (*with* Najafi, Mahmoud) Boundary stabilization of coupled wave equations. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 479–494. (Kenneth B. Hannsgen) **99d:93059** 93D15 (35B37, 35L05, 73D30, 73K05)

Sari, Tewfik (*with* Lobry, Claude; Touhami, Sefiane) On Tykhonov's theorem for convergence of solutions of slow and fast systems. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 19, 22 *pp.* (*electronic*). (Antoine Delcroix) **99g:34108** 34D15 (03H05, 34E15)

— (*with* Boudjellaba, Hafida) Stability loss delay in harvesting competing populations. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 394–408. (Summary) **99m:92024** 92D25 (34C23, 34E15, 90A30)

Saric, William S. (*with* Carrillo, Ruben B., Jr.; Reibert, Mark S.) Nonlinear stability and transition in 3-D boundary layers. (English and Italian summaries) Topics in fluid mechanics (Turin, 1998). *Meccanica* **33** (1998), *no.* 5, 469–487. (*see* **99h:76005**) 76E30 (76D10, 76F99, 76N20)

Saridis, George N. (*with* Beard, Randal W.; Wen, John T.) Galerkin approximations of the generalized Hamilton-Jacobi-Bellman equation. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2159–2177. (G. W. Hedstrom) **99b:65077** 65K10 (49L20, 65M60)

— (*with* Beard, Randal W.; Wen, John T.) Approximate solutions to the time-invariant Hamilton-Jacobi-Bellman equation. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 589–626. (Viorel Arnautu) **99d:49051** 49L20 (49M15)

Sarie, T. H. Stability analysis of second order finite difference schemes for parabolic and hyperbolic equations. (English and Arabic summaries) *Dirasat Pure Sci.* **26** (1999), *no.* 1, 39–48. 65M06 (65M12)

Sarih, M. (*with* Berkani, M.) Extension de certaines inegálités dans les algébres de Banach. [Extension of certain inequalities in Banach algebras] *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 56–69, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Thomas Ransford) **99a:46087** 46H05 (46J05)

Sarin, Vivek (*with* Sameh, Ahmed H.) An efficient iterative method for the generalized Stokes problem. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 206–226 (*electronic*). (Summary) **99b:65132** 65N22 (65F10, 65N30, 76D07, 76M20)

— *see also* **High performance algorithms for structured matrix problems**, **99k:65004**

Sarioğlugil, Ayhan (*with* Kuruoğlu, Nuri) On the characteristic properties of the hyperpedal surfaces in the $(n+1)$-dimensional Euclidean space E^{n+1}. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 23–29. (Hans Sachs) **99g:53009** 53A07 (51N20)

Sariri, Kamran (*with* Tekin, Bayram; Hosotani, Yutaka) Complex monopoles in the Georgi-Glashow-Chern-Simons model. (English summary) *Nuclear Phys. B* **539** (1999), *no.* 3, 720–738. 81V05

abu-Saris, Raghib *see* **Abu-Saris, Raghib**

Sarkar, A. K. *see* **Sarkar, Ashis Kumar**

Sarkar, Anish Co-existence of the occupied and vacant phase in Boolean models in three or more dimensions. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 4, 878–889. (Mathew D. Penrose) **99a:60007** 60D05

— (*with* Roy, Rahul; White, Damien G.) Backbends in directed percolation. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 889–908. (Yasunari Higuchi) **99j:60158** 60K35 (82B43)

Sarkar, Ashis Kumar (*with* Chattopadhyay, J.) Hopf-bifurcating spatially heterogeneous solution during embryogenesis. (English summary) *Cybernetica* **40** (1997), *no.* 4, 319–328 (1998). (Summary) **99h:92008** 92C15 (35B32, 35K57)

— (*with* Kesh, Dipak; Mukherjee, Debasis; Roy, Amiya Bhusan) Ratio dependent predation: a bifurcation analysis. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 295–305. (Summary) **99c:92041** 92D25 (34K15)

— (*with* Das, Kalyan) Effect of time delay in an autotroph-herbivore system with nutrient cycling. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 507–516. (Summary) **99k:92045** 92D40 (34K20, 92D25)

Sarkar, Debasis On fuzzy local functions, fuzzy semiregularizations and fuzzy mappings. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 735–744. 54A40

— (*with* Ghosh, Sibasish; Kar, G.) Hardy's nonlocality for entangled states of three spin-$\frac{1}{2}$ particles. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 249–255. (Summary) **99b:81011** 81P05

Sarkar, Gobinda Chandra On the curvature tensor of a semi-symmetric semi-metric connection. (English summary) *J. Pure Math.* **14** (1997), 42–46. 53B05

Sarkar, Jyotirmoy (*with* De, Moloy) Estimation of the common mean of two normal populations using two stage sampling. (English summary) *Calcutta Statist. Assoc. Bull.* **48** (1998), *no.* 189-190, 73–81. 62L10

— (*with* Chaudhuri, Gopal) Availability of a system with gamma life and exponential repair time under a perfect repair policy. (English summary) *Statist. Probab. Lett.* **43** (1999), *no.* 2, 189–196. 62N05

Sarkar, Palash σ^+-automata on square grids. (English summary) *Complex Systems* **10** (1996), *no.* 2, 121–141. (Summary) **99j:68090** 68Q80 (90D46)

— (*with* Barua, Rana) The set of reversible 90/150 cellular automata is regular. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 199–213. (Summary) **99b:68135** 68Q80

— (*with* Barua, Rana) Multidimensional σ-automata, π-polynomials and generalised S-matrices. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 111–138. (János Bagyinszki) **99c:68182** 68Q80 (15A57, 68Q70)

Sarkar, Rudra P. Wiener Tauberian theorem for rank one symmetric spaces. (English summary) *Pacific J. Math.* **186** (1998), *no.* 2, 349–358. (Fabio Scarabotti) **99k:43004** 43A45 (22E40, 43A30, 43A85)

Sarkar, Sahadeb (*with* Shin, Dong Wan) Regression with integrated regressors. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 325–340. (Alexander G. Kukush) **99i:62218** 62M10

— (*with* Jeong, Dong-Bin) Testing for a unit root in an AR(p) signal observed with MA(q) noise when the MA parameters are unknown. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 2, 165–187. (Summary) **99k:62166** 62M10

— (*with* Shin, Dong Wan) Testing for a unit root in autoregressive moving-average models with missing data. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 5, 601–608. (Summary) **99i:62219** 62M10

Sarkar, Sahotra "The boundless ocean of unlimited possibilities": logic in Carnap's *Logical syntax of language*. *Logical empiricism at its peak*, 355–401, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006a**) 00A30

— *see also* **Logical empiricism at its peak**, **99a:00006a** *and* **Decline and obsolescence of logical empiricism**, **99a:00006b**

Sarkar, Sanat K. (*with* Chang, Chung-Kuei) The Simes method for multiple hypothesis testing with positively dependent test statistics. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1601–1608. (Summary) **99a:62027** 62F10

— Some probability inequalities for ordered MTP_2 random variables: a proof of the Simes conjecture. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 494–504. (J. Glaz) **99m:62024** 62F03 (60E15)

Sarkar, Sarben (*with* Miller, Paul A.) Entropy production, dynamical localization and criteria for quantum chaos in the open quantum kicked rotor. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 419–442. 81Q50

Sarkar, Tapobrata (*with* Das, Saurya; Dasgupta, Arundhati; Ramadevi, P.) Planckian scattering of D-branes. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 51–58. (Summary) **99b:81184** 81T30

Sarkaria, Karanbir S. (*with* Björner, Anders) The zeta function of a simplicial complex. (English summary) *Israel J. Math.* **103** (1998), 29–40. (Volkmar Welker) **99f:52017** 52B20 (11G25, 11G40)

Sarkhel, D. N. Variational characterisation of functions having Lebesgue integrable derivatives. (English summary) *Indian J. Math.* **38** (1996), *no.* 3, 223–235. (Brian S. Thomson) **99d:26014** 26A45 (26A24)

— On the approximately continuous integrals of Burkill and Kubota. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 735–742. (S. Foglio) **99g:26021** 26A39 (26A45, 26A46, 54C50)

Sarkis, Marcus V. (*with* Cai, Xiao-Chuan; Farhat, Charbel) A minimum overlap restricted additive Schwarz preconditioner and applications in 3D flow simulations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 479–485, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76106** 76M25 (65M55, 76H05, 76J20)

— (*with* Cai, Xiao-Chuan) Local multiplicative Schwarz algorithms for steady and unsteady convection-diffusion equations. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 1, 27–41. (Summary) **99c:65197** 65N30 (65F10)

Sarkisyan, G. V. (*with* Asratyan, A. S.) Some Hamiltonian properties of graphs with local Ore-type conditions. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 5, 274–276 (1994). 05C45

Sarkisyan, R. E. Compatibility criteria and procedures for correcting subjective models. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 1, 32–36 (1997). 90C29 (90A05)

— On the convergence of adaptive interactive procedures that are based on methods of directional derivatives. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 2-4, 68–72 (1997). 90C30 (65K05)

Sarkisyan, Vladimir Sarkisovich (*with* Keropyan, A. V.) On the solution of problems for elastic infinite bodies whose boundaries are reinforced by piecewise-homogeneous stringers glued to the bodies. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 1, 42–48. 73T05

— New classes of problems in the theory of the elasticity of an anisotropic inhomogeneous body. (Russian) *Proceedings of the N. I. Lobachevskiĭ Mathematical Center. Kazan' Mathematical Society (Russian) (Kazan', 1998)*, 28–49, *Izdat. "UNIPRESS", Kazan'*, 1998. (*see* **99m:00022**) 73C02
— *see also* **Birthday: Sarkisyan, Vladimir Sarkisovich**
Sarkowski, Heinz ★ Springer-Verlag. History of a scientific publishing house. Part 1. 1842–1945. Foundation. Maturation. Adversity. Translated from the 1992 German original and with a foreword by Gerald Graham. *Springer-Verlag, Berlin*, 1996. *xviii+449 pp. ISBN* 3-540-61560-1 01A99 (01A74, 01A80)
Sárközy, András (*with* Elliott, P. D. T. A.) The distribution of the number of prime divisors of numbers of form $ab + 1$. (English summary) *New trends in probability and statistics, Vol. 4 (Palanga*, 1996), 313–321, *VSP, Utrecht*, 1997. (G. Greaves) **99j:11112** 11N60 (11N36)
— (*with* Mauduit, Christian) On the arithmetic structure of the integers whose sum of digits is fixed. *Acta Arith.* **81** (1997), *no.* 2, 145–173. (Gérald Tenenbaum) **99a:11096** 11K65 (11A63)
— (*with* Mauduit, Christian) On finite pseudorandom binary sequences. I. Measure of pseudorandomness, the Legendre symbol. *Acta Arith.* **82** (1997), *no.* 4, 365–377. (Peter J. Hellekalek) **99g:11095** 11K45 (11K36)
— (*with* Nicolas, Jean-Louis) On two partition problems. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 95–121. (Wolfgang Schwarz) **99a:11117** 11P82
— (*with* Erdős, Paul[1]; Pomerance, Carl) On locally repeated values of certain arithmetic functions. IV. (English summary) *Ramanujan J.* **1** (1997), *no.* 3, 227–241. (Jean-Marie De Koninck) **99c:11119** 11N25 (11A25, 11N37)
— (*with* Erdős, Paul[1]; Mauduit, Christian) On arithmetic properties of integers with missing digits. I. Distribution in residue classes. (English summary) *J. Number Theory* **70** (1998), *no.* 2, 99–120. (Yuri Bilu) **99e:11127** 11N69 (11K36, 11L07, 11L26, 11N36, 11N60, 11P55)
— (*with* Mauduit, Christian) On finite pseudorandom binary sequences. II. The Champernowne, Rudin-Shapiro, and Thue-Morse sequences, a further construction. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 256–276. (Peter J. Hellekalek) **99m:11084** 11K31 (11K45)
— (*with* Erdős, Paul[1]; Nicolas, Jean-Louis) On large values of the divisor function. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 225–245. (D. R. Heath-Brown) **99h:11108** 11N56 (11N37)
— (*with* Rivat, Joël; Stewart, C. L.) Congruence properties of the Ω-function on sumsets. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 1–18. (Y.-F. S. Pétermann) **99m:11112** 11N64 (11N36)
Sárközy, Gábor N. (*with* Komlós, János; Szemerédi, Endre) On the square of a Hamiltonian cycle in dense graphs. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 193–211. (Günter Schaar) **99f:05073** 05C45 (05C12)
— (*with* Komlós, János; Szemerédi, Endre) Blow-up lemma. (English summary) *Combinatorica* **17** (1997), *no.* 1, 109–123. (Lane Clark) **99b:05083** 05C35
— (*with* Komlós, János; Szemerédi, Endre) On the Pósa-Seymour conjecture. (English summary) *J. Graph Theory* **29** (1998), *no.* 3, 167–176. (Ralph Faudree) **99g:05125** 05C45 (05C35)
— (*with* Komlós, János; Szemerédi, Endre) An algorithmic version of the blow-up lemma. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 3, 297–312. (Mirosław Truszczyński) **99h:05113** 05C85 (68R10)
— (*with* Atkins, Aron C.; Selkow, Stanley M.) Counting irregular multigraphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 235–237. (Summary) **99h:05059** 05C30
estrada Sarlabous, J. *see* **Estrada Sarlabous, J.**
Sarlet, W. (*with* Crampin, M.; Martínez, Eduardo) The integrability conditions in the inverse problem of the calculus of variations for second-order ordinary differential equations. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 3, 233–273. (Frans Cantrijn) **99m:58072** 58E30 (34A26, 49N45, 58F05, 70H35)
— (*with* Sahadevan, R.; Cantrijn, F.) Symmetries, separability and volume forms. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5908–5924. (Manuel de León) **99m:58098** 58F05 (70H05, 70H33)
Sarma, G. V. The transportation problem with objective of simultaneous minimization of total transportation cost and transportation time to each destination. (English summary) *Opsearch* **35** (1998), *no.* 3, 238–260. 90C08 (90B06)
Sarma, Jnanjyoti (*with* Das, G. C.) A new mathematical approach for finding the solitary waves in dusty plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3918–3923. (Summary) **99h:76097** 76X05
Sarma, K. V. *see* **Somayāji, Nīlakaṇṭha**, **99f:01008**; **99b:01017** *and* **99h:01018**
Sarma, M. S. (*with* Nageswara Rao, B.) Heat transfer in a viscoelastic fluid over a stretching sheet. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 268–275. (Summary) **99b:76005** 76A10 (80A20)
— (*with* Govindan Potti, P. K.; Nageswara Rao, B.) On the exact periodic solution for $\ddot{x} + \text{sign}(x) = 0$. *J. Sound Vibration* **220** (1999), *no.* 2, 378–381. 34C15 (34C25)
— *see also* **Mickens, Ronald E.**
Sarma, Sreeramula Rajeswara Some medieval arithmetical tables. (English summary) *Indian J. Hist. Sci.* **32** (1997), *no.* 3, 191–198. (Takao Hayashi) **99e:01009** 01A32
Sarmadi, M. H. (*with* Gava, E.; Narain, K. S.) On the bound states of p- and $(p+2)$-branes. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 214–238. (Ion V. Vancea) **99b:81191** 81T30
Sarmah, Pranita (*with* Dey, Sanku) Robustness of posteriors, the Bayes estimators and reliability under a class of priors in an I.F.R. distribution. (English summary) *IAPQR Trans.* **23** (1998), *no.* 2, 107–116. 62N05
Sarman, Sten S. (*with* Evans, Denis J.; Cummings, Peter T.) Recent developments in non-Newtonian molecular dynamics. (English summary) *Phys. Rep.* **305** (1998), *no.* 1-2, 92 *pp.* (Summary) **99h:82073** 82D15 (76A05, 76A15, 76M35, 82D30)
Sarmiento, Irasema A characterisation of jointless Dowling geometries. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 713–731. (Summary) **99m:51020** 51E25 (05B35)
Sarna, Marian Fuzzy relation of fuzzy and non-fuzzy numbers—fast computational formulas. II. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 63–74. (Summary) **99c:04008** 04A72
Sarnak, Peter (*with* Rudnick, Zeév) The pair correlation function of fractional parts of polynomials. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 61–70. (John B. Friedlander) **99g:11088** 11J54 (11J71)
— A sample of Lax's contributions to classical analysis, linear partial differential equations and scattering theory. *Differential equations: La Pietra* 1996 (*Florence*), 169–179, *Proc. Sympos. Pure Math., 65, Amer. Math. Soc., Providence, RI*, 1999. (Yu. V. Egorov) **99m:35001** 35-03 (01A60, 35P25, 47-03, 58-03)
Sarnath, Ramnath *see* **Ramnath, Sarnath**
Sarnowsky, Jürgen Place and space in Albert of Saxony's commentaries on the *Physics*. (English and French summaries) *Arabic Sci. Philos.* **9** (1999), *no.* 1, 3, 5, 25–45. 01A35 (01A20)
Sarocka, David C. (*with* Bernoff, Andrew J.; Rossi, Louis F.) Large-amplitude solutions to the Sivashinsky and Riley-Davis equations for directional solidification. (English summary) *Phys. D* **127** (1999), *no.* 3-4, 146–176. (Summary) **99m:80015** 80A22 (76T05)
Saroldi, M. (*with* Kamynin, V. L.) A nonlinear inverse problem for a higher-order parabolic equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1683–1691; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1615–1623. (Peter G. Danilaev) **99m:35265** 35R30 (35K55)
Sarrà, Mònica (*with* Sanz-Solé, Marta) Logarithmic estimates for the density of an anticipating stochastic differential equation. (English summary) *Stochastic Process. Appl.* **79** (1999), *no.* 2, 301–321. (Jorge A. León) **99m:60092** 60H10 (60H07)
Sarrafzadeh, Majid (*with* Cho, Jun-Dong; Raje, Salil) Fast approximation algorithms on maxcut, k-coloring, and k-color ordering for VLSI applications. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1253–1266. 68Q35 (65Y10)
— (*with* Nicoloso, S.; Song, Xiaoyu) On the sum coloring problem on interval graphs. (English summary) *Algorithmica* **23** (1999), *no.* 2, 109–126. (Summary) **99j:68110** 68R10 (05C15, 05C85, 68Q25)
— (*with* Farrahi, A. H.; Lee, Der Tsai) Two-way and multiway partitioning of a set of intervals for clique-width maximization. (English summary) *Algorithmica* **23** (1999), *no.* 3, 187–210. (Xiao Tie Deng) **99j:05176** 05C85
Sarraga, Ramon F. Recent methods for surface shape optimization. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 417–436. (Summary) **99b:65020** 65D17 (65K99)
Sarreira, Mário (*with* Sousa Ramos, J.) Markov shifts in complex dynamical systems. (English summary) *International Conference on Differential Equations (Lisboa*, 1995), 498–505, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 58F03 (28D15, 30D05, 58F23)
Sarrico, C. O. R. On the explicit solution of the linear first order Cauchy problem with distributional coefficients. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 477–483. (Vyacheslav V. Chistyakov) **99a:35023** 35F10 (46F10)
— Distributional products and differential equations. (English summary) *International Conference on Differential Equations (Lisboa*, 1995), 506–510, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 46F10 (35D05)
Sarrión Gavilán, María Dolores (*with* Martín-Reyes, F. J.; Ortega Salvador, Pedro) Boundedness of operators of Hardy type in Λ^{pq} spaces and weighted mixed inequalities for singular integral operators. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 1, 157–170. (B. Muckenhoupt) **99d:42025** 42B20 (26D15, 46E30, 47B38, 47G10)
— Weighted Lorentz norm inequalities for general maximal operators associated with certain families of Borel measures. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 403–424. (Petr Gurka) **99h:42036** 42B25 (26D10, 47B38)
Sartabanov, Zh. Local reducibility of linear systems with quasiperiodic coefficients. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 5, 49–56. (V. M. Zakalyukin) **99f:34052** 34C20 (34A30)
Sartoretto, Flavio (*with* Spigler, Renato; Pérez Vicente, Conrado J.) Numerical solution of the Kuramoto-Sakaguchi equation governing populations of coupled oscillators. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1023–1038. (Summary) **99e:65137** 65M70 (34C99, 65C05, 65R20, 70K99, 92B05)
— (*with* Costantini, Cristina; Pacchiarotti, B.) Numerical approximation for functionals of reflecting diffusion processes. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 73–102 (*electronic*). (Summary) **99a:60034** 60F17 (60H30, 60J60, 65C05)
Sartori, C. (*with* Rampazzo, Franco) The minimum time function with unbounded controls. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 34 *pp.* (*electronic*). (Peter R. Wolenski) **99h:49044** 49L25 (49K45)
— (*with* Motta, Monica) Exit time problems for nonlinear unbounded control systems. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 137–156. (N. N. Petrov) **99j:49006** 49J24 (34A60, 34H05, 49L25)
Sartori, G. (*with* Talamini, V.) Orbit spaces of compact coregular simple Lie groups with 2, 3 and 4 basic polynomial invariants: effective tools in the analysis of invariant potentials. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2367–2401. (Pavle Pandžić) **99g:22021** 22E70 (81R05)
Sartoris, Guido E. A 3D rectangular mixed finite element method to solve the stationary semiconductor equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 387–403 (*electronic*). (Summary) **99b:65147** 65N30 (82D99)
Sarukhanyan, A. G. Complementary parametric block sequences. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 2-4, 29–31 (1997). (Bronisław Ceranka) **99k:05044** 05B20
— Decomposition of Hadamard matrices into orthogonal $(-1, +1)$-vectors and an algorithm for the fast Hadamard transform. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 2, 3–6. (Krystyna Katulska) **99k:05045** 05B20
Sarvanov, V. (*with* Mel'nikov, O. I.; Tyshkevich, Regina I.; Emelichev, V. A.; Zverovich, Igor E.) ★ Exercises in graph theory. (English summary) Translated from the Russian by Nikolai Korneenko. Kluwer Texts in the Mathematical Sciences, 19. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *viii+354 pp. ISBN* 0-7923-4906-7 (From the introduction) **99c:05001** 05-01
Sarvate, Dinesh G. (*with* Francel, Margaret) One- and two-block configurations in balanced ternary designs. (English summary) *Ars Combin.* **49** (1998), 217–224. (Summary) **99c:05023** 05B05

— (*with* Golightly, W. L.; Haynsworth, W. H.) A symmetric difference construction of strongly regular graphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 51–56. (Summary) **99g:05189** 05E30

— (*with* Limaye, Nirmala B.) $(D;n)$-cages with $|D| = 2, 3, 4$. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 7–20. (Summary) **99j:05111** 05C35

— (*with* Greig, Malcolm) Some constructions of block designs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 149–159. (Summary) **99i:05029** 05B05

— (*with* Seberry, Jennifer) Group divisible designs, GBRSDS and generalized weighing matrices. (English summary) *Util. Math.* **54** (1998), 157–174. (Summary) **99j:05024** 05B05 (05B20)

— (*with* Golightly, W. L.; Haynsworth, W. H.; Logan, Roger) Nontransitive semi-standard orthogonal Latin squares. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 88–94. (Summary) **99i:05040** 05B15

Sarychev, Andrei V. (*with* Collaço, M. Paula S. Oliveira) An example of a contractive mapping without fixed point. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 47–54. (Summary) **99k:54036** 54H25 (47H10)

— (*with* Agrachev, Andrei) On abnormal extremals for Lagrange variational problems. *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 87–118. (Heinz Schättler) **99k:49041** 49K15 (93B29)

Sasa, Narimasa (*with* Yu, Song-Ju; Toda, Kouichi; Fukuyama, Takeshi) N soliton solutions to the Bogoyavlenskii-Schiff equation and a quest for the soliton solution in $(3+1)$ dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3337–3347. (Summary) **99b:35188** 35Q53

— (*with* Masuda, Tetsu; Fukuyama, Takeshi) Neugebauer-Kramer solutions of the Ernst equation in Hirota's direct method. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5717–5731. (Dmitri Korotkin) **99i:83015** 83C15

— (*with* Ohta, Yasuhiro; Matsukidaira, Junta) Bilinear form approach to the self-dual Yang-Mills equations and integrable systems in $(2+1)$-dimension. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 1, 83–86. (Ian A. B. Strachan) **99f:58105** 58F07 (58E15, 81T13)

Sasabuchi, Syoichi (*with* Kulatunga, D. D. Sarath; Saito, Hiroyuki) Comparison of powers of some tests for testing homogeneity under order restrictions in multivariate normal means. (English summary) MSI-2000, Vol. IV (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **18** (1998), *no.* 1-2, 131–158. (*see* **99f:62009**) 62F30 (62H15)

Sasaki, C. A. G. (*with* Sorella, S. P.; Vilar, L. C. Q.; Ventura, O. S.) Algebraic characterization of vector supersymmetry in topological field theories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 848–866. (Noriaki Ano) **99d:81166** 81T70 (58D29, 81T60)

Sasaki, James T. A type theory with mixed constructivity and assignments. (English summary) *Log. J. IGPL* **5** (1997), *no.* 3, 375–411 (*electronic*). (Summary) **99b:68125** 68Q60 (03B15)

Sasaki, Katsumi The Lindenbaum algebra of intuitionistic propositional logic. (Japanese) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 81–88. (*see* **99a:03003**) 03B20 (03G05)

Sasaki, Masato (*with* Niizeki, Syôzô; Srivastava, Hari M.) Further remarks on the integral of $\exp(-x^2)$ over **R**. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 97–102. (Summary) **99d:33001** 33B10 (33B15, 33C60)

Sasaki, Norihito (*with* Yasui, Yukinori) Differential geometry of the vortex filament equation. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 195–207. (Anders Linnér) **99m:58119** 58F07 (58F40, 76C05)

Sasaki, Ryu (*with* Fu, Hong-Chen) Probability distributions and coherent states of B_r, C_r and D_r algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 901–925. (Massimo Blasone) **99f:81085** 81R30 (22E60)

— (*with* Yue, Ruihong) Lax pair for SU(n) Hubbard model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 9, 2967–2969. (Summary) **99g:82022** 82B23 (58F07, 82B20)

— (*with* Bordner, Andrew J.; Corrigan, E.) Calogero-Moser models. I. A new formulation. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 6, 1107–1129. (Henrik Aratyn) **99m:58107** 58F07 (17B20, 17B81)

Sasaki, Tateaki (*with* Terui, Akira) Upper bounds for the error of the root of a single variable polynomial with an error term. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 106–110. (*see* **99h:00034**) 65H05 (65F15)

— (*with* Nagasaka, Kosaku) Approximate factorization of multivariable polynomials and its computational complexity. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 111–118. (*see* **99h:00034**) 65H10 (13P10, 68Q25, 68Q40)

— (*with* Yamaguchi, Satoshi) Error analysis for the Hensel construction of multivariable polynomials with floating point coefficients. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 119–126. (*see* **99h:00034**) 65H10

— (*with* Sato, Tomoyuki) Cancellation of errors in computing resultants of multivariable polynomials with floating point coefficients. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 127–134. (*see* **99h:00034**) 65H10

Sasaki, Toru² (*with* Masuda, Takahiro; Suzuki, Hisao) Seiberg-Witten theory of rank two gauge groups and hypergeometric series. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3121–3144. (Summary) **99i:81248** 81T60 (14H45, 33C80, 81T13)

Sasakura, Naoki (*with* Kishimoto, Isao) M-theory description of BPS string in 7-brane background. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 305–309. (Summary) **99d:81122** 81T30 (53C80, 83E30)

Sasamoto, Tomohiro (*with* Wadati, Miki) Exact results for one-dimensional totally asymmetric diffusion models. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6057–6071. (Summary) **99e:83006** 83C05 (82C20)

— (*with* Wadati, Miki) Determinant form solution for the derivative nonlinear Schrödinger type model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 3, 784–790. (M. Lawrence Glasser) **99c:82047** 82C21 (35Q40, 35Q55)

Sasanabe, Morito (*with* Sawami, Hideo; Niki, Hiroshi) A new method for deciding whether a matrix is generalized superdiagonal. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 172–179. (*see* **99i:00028**) 65F30 (15A57)

Sasao, Seiya On the set of homotopy classes $[\Sigma X, Y]$. (English summary) *Math. J. Toyama Univ.* **20** (1997), 91–97. (Saïd Zarati) **99b:55010** 55P15 (55Q05, 55Q52)

Sasao, Tetsuo (*with* Molodenskiĭ, S. M.) On a new approach to the theory of Earth's nutation. I. Fundamental equations. (Russian. Russian summary) *Fiz. Zemli* **1995**, *no.* 12, 24–38. (Summary) **99f:86006** 86A17 (86A60)

— (*with* Molodenskiĭ, S. M.) On a new approach to the theory of Earth's nutation. II. Numerical results. (Russian. Russian summary) *Fiz. Zemli* **1995**, *no.* 12, 39–47. (Summary) **99f:86007** 86A17 (86A60)

Sasao, Tsutomu (*with* Butler, Jon T.) On the properties of multiple-valued functions that are symmetric in both variable values and labels. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka, 1998)*, 83–88, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Sasayama, Hiroyoshi Generalized Cauchy-Riemann equations and power series in non-commutative hypercomplex n-tuple spaces. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv, 1994)*, 175–184, *Sci. Cult. Technol. Publ., Singapore*, 1995. (Michael V. Shapiro) **99k:30078** 30G35 (35A20, 46G20, 46N20)

Sasin, Wiesław (*with* Heller, Michael) Rigorous model of classical spacetime foam. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1441–1455. (Summary) **99c:58002** 58A05 (83C99)

Sasorova, Elena V. (*with* Pelinovskiĭ, E. N.; Razin, Andrey V.) Berkhoff approximation in a problem on surface gravity wave propagation in a basin with bottom irregularities. (English summary) *Waves Random Media* **8** (1998), *no.* 2, 255–268. (Summary) **99a:76015** 76B15

Sass, István Huba Atilla The connection between the relativistic equation of the hydrostatical balance and the u^0 component of the space-time quadri velocity. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 1, 15–20. 83C99

Sassano, Antonio (*with* Nobili, Paolo) $(0, \pm 1)$ ideal matrices. (English summary) *Math. Programming* **80** (1998), *no.* 3, *Ser. A*, 265–281. (Winfried Hochstättler) **99c:90096** 90C27 (15A36)

Sassen, Simone Annetta Everdina ★ Multi-server feedback queues for optimistic concurrency control. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1998. *Eindhoven University of Technology, Department of Mathematics and Computing Science, Eindhoven*, 1998. $x+213$ *pp. ISBN* 90-386-0651-6 (From the introduction) **99h:90004** 90–02 (60K25, 68P15, 90B22, 90B25)

Sassi, Taoufik (*with* Pousin, J.) Domain decomposition with nonmatching grids and mixed formulation in the spaces $W_0^{1,p}(\Omega)$, $W_0^{1,q}(\Omega)$. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 9, 639–644. (E. G. D'yakonov) **99g:65121** 65N55

— (*with* Lhalouani, Khalid) Méthode d'éléments finis hybrides en décomposition de domaines pour des problèmes de contact unilatéral. (English and French summaries) [Mixed finite element method and domain decomposition for unilateral contact problems] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 10, 901–905. (Summary) **99j:73097** 73V05 (49J40, 65N55, 73T05)

Sasson, Ori (*with* Linial, Nathan) Non-expansive hashing. (English summary) *Combinatorica* **18** (1998), *no.* 1, 121–132. (Summary) **99g:68046** 68P10

Sassone, Vladimiro An axiomatization of the category of Petri net computations. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 2, 117–151. (Wolfgang Reisig) **99d:68175** 68Q90 (68Q10)

Sastre, Jorge (*with* Jódar, Lucas) On Laguerre matrix polynomials. (English summary) *Util. Math.* **53** (1998), 37–48. (C. M. Joshi) **99h:33040** 33C45 (33C10, 33C50)

Sastri, K. S. (*with* Sundar, Subbiah; Bhagavan, B. K.) Comparison of Lanczos and CGS solvers for solving numerical heat transfer problems. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 8, 107–117. 65M06 (65F30)

Sastry, K. P. R. (*with* Panda, S. N.) On the arithmetical functions $\sigma_k^*(n)$ and $\varphi_k^*(n)$. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 497–502. (Jean-Marie De Koninck) **99e:11008** 11A25

— (*with* Ravindranadh Babu, G. V.) Fixed point theorems in metric spaces by altering distances. (English summary) *Bull. Calcutta Math. Soc.* **90** (1998), *no.* 3, 175–182. 54H25

Sastry, K. R. S. More routes to Urquhart. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 5, 253–257. 51M04

narasimha Sastry, N. S. *see* **Narasimha Sastry, N. S.**

Sastry, N. S. Narasimha *see* **Narasimha Sastry, N. S.**

Sastry, Ramchander R. (*with* Klauder, John R.) Discontinuous perturbations. (English summary) *Found. Phys.* **27** (1997), *no.* 1, 81–91. (Summary) **99b:81050** 81Q15

Sastry, S. Shankar (*with* Tomlin, Claire) Bounded tracking for non-minimum phase nonlinear systems with fast zero dynamics. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 819–847. 93D15

— (*with* Pappas, George J.; Lygeros, John; Tilbury, Dawn) Exterior differential systems in control and robotics. *Essays on mathematical robotics (Minneapolis, MN*, 1993), 271–372, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Irl Bivens) **99j:58012** 58A15 (58A17, 70B15, 70Q05, 93C85)

— (*with* Tomlin, Claire; Pappas, George J.) Conflict resolution for air traffic management: a study in multiagent hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 509–521. (*see* **99a:93006**) 93C95 (90D26)

— (*with* Lygeros, John; Godbole, Datta N.) Verified hybrid controllers for automated vehicles. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 522–539. (*see* **99a:93006**) 93C95 (93C10)

— (*with* Pappas, George J.) Straightening out rectangular differential inclusions. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 79–85. (Marc Quincampoix) **99i:93030** 93C15 (34A60, 34H05)

— *see also* **Essays on mathematical robotics, 99e:70001**

Sastry, S. Trilochan (*with* Chopra, Sunil; Gilboa, Itzhak) Source sink flows with capacity installation in batches. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 3, 165–192. (Summary) **99d:90134** 90C35 (90B10)

Sastry, Shankar *see* **Sastry, S. Shankar**

Sastry, Shankar S. *see* **Sastry, S. Shankar**

Sastry, Srikanth (*with* Corti, David S.; Debenedetti, Pablo G.; Stillinger, Frank H.) Statistical geometry of particle packings. I. Algorithm for exact determination of connectivity, volume, and surface areas of void space in monodisperse and polydisperse sphere packings. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5524–5532. (Summary) **99a:82055** 82B99 (52C17)

— (*with* Debenedetti, Pablo G.; Stillinger, Frank H.) Statistical geometry of particle packings. II. "Weak spots" in liquids. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5533–5543. (Summary) **99a:82056** 82B99 (52C17, 82B80)

Sasvári, Zoltán (*with* Bisgaard, Torben Maack) On the positive definiteness of certain functions. (English summary) *Math. Nachr.* **186** (1997), 81–99. (Aleksandr Koldobsky) **99c:42009** 42A82 (43A35)

— An elementary proof of Binet's formula for the gamma function. *Amer. Math. Monthly* **106** (1999), *no.* 2, 156–158. (Aurelio Cannizzo) **99m:33002** 33B15 (39A10)

— (*with* Gneiting, Tilmann) The characterization problem for isotropic covariance functions. (English summary) *Math. Geol.* **31** (1999), *no.* 1, 105–111. (Summary) **99j:86016** 86A32

Satake, Ichiro Equivariant holomorphic embeddings of symmetric domains and applications. Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 19–31. (Rolf Berndt) **99f:32056** 32M15 (22E46, 32M15)

Satake, Ikuo Flat structure and the prepotential for the elliptic root system of type $D_4^{(1,1)}$. *Topological field theory, primitive forms and related topics (Kyoto, 1996)*, 427–452, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (I. Dolgachev) **99k:32062** 32S30 (11F55, 14J17, 58D29, 58F07)

— *see also* **Topological field theory, primitive forms and related topics, 99e:00029**

Sathe, Y. S. (*with* Ravi, Sreenivasan) A characterization of negative binomial distribution. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 31–32. 62E10

Satheesh, S. (*with* Sandhya, E.) On exponential mixtures, mixed Poisson processes and generalized Weibull and Pareto models. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 45–50. 62E10

Sathiapalan, B. (*with* Hari Dass, N. D.) Interaction of F- and D-strings in the Matrix model. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 921–936. (Summary) **99c:81185** 81T30

— The Hagedorn transition and the Matrix model for strings. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2085–2094. (Summary) **99e:81207** 81T30

— (*with* Rama, S. Kalyana) The Hagedorn transition, deconfinement and the AdS/CFT correspondence. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3137–3143. (Summary) **99m:83194** 83E30 (81T30)

Sathyamurthy, T. V. Svayambhu: the life and work of Srinivasa Ramanujan. *Historia Sci.* (2) **7** (1998), *no.* 3, 235–241. (Jeremy Gray) **99e:01030** 01A70

Satija, Indubala I. (*with* Ketoja, Jukka A.) Harper equation, the dissipative standard map and strange nonchaotic attractors: relationship between an eigenvalue problem and iterated maps. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 70–80. (Summary) **99d:58123** 58F13 (39A10, 58F08)

Satimov, N. Yu. (*with* Ibragimov, Gafurzhan I.) The structure of optimal strategies in simultaneous pursuit games in Hilbert spaces. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 51–61. (A. M. Tarasyev) **99m:90180** 90D26

— (*with* Kuchkarov, A. Sh.) On the oscillation of solutions of a class of hyperbolic equations. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1998), 50–54. 35L10 (35B05)

Satır, Ahmet Lie point symmetries of Duff-Inami-Pope-Sezgin-Stelle bosonic membrane equations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 10, 1933–1942. (Tze-Dan Chung) **99b:81211** 81T30 (83E30)

— Differential constraints compatible with linearized equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 4, 364–370. (Summary) **99h:35217** 35Q99 (35A30, 58G35)

— Classification of $q_t = P(x, t, q, q_x, q_{xx})$. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 2, 205–219. 35A30

Satish, M. G. (*with* Rahman, Matiur; Bora, S. N.) A note on second-order wave forces on a circular cylinder in finite water depth. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 63–70. 76B15

Satko, Ladislav (*with* Grošek, Otokar; Nemoga, Karol) Remarks to short RSA public exponents. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 65–74. (Summary) **99m:94031** 94A60 (68P25)

— (*with* Grošek, Otokar) Professor Robert Šulka is 70. *Math. Slovaca* **48** (1998), *no.* 1, 101–104. (Editors) **99m:01062** 01A70

Satnoianu, Razvan A. (*with* Merkin, John H.; Scott, Stephen K.) Travelling waves in a differential flow reactor with simple autocatalytic kinetics. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 2, 157–174. (Yoram Schiffmann) **99d:92053** 92E20 (35K57)

— (*with* Merkin, John H.; Scott, Stephen K.) Spatio-temporal structures in a differential flow reactor with cubic autocatalator kinetics. (English summary) *Phys. D* **124** (1998), *no.* 4, 345–367. (Vitaly A. Volpert) **99k:76057** 76E15 (80A32, 92E20)

Sato, Chifumi (*with* Okamoto, Miyuki) Turaev-Viro-Ocneanu invariants seen from the TQFT standpoint and examples of their computation. (Japanese) Research on the theory of topological quantum fields induced by $6j$-symbols (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1053 (1998), 63–85. (*see* **99k:00036**) 57M25 (57N10)

Sato, Eiichi (*with* Fujimoto, Yoshio) On smooth projective threefolds with non-trivial surjective endomorphisms. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 10, 143–145. (Sándor J. Kovács) **99m:14072** 14J30

Sato, Enji (*with* Kaneko, Makoto) Notes on transference of continuity from maximal Fourier multiplier operators on $\mathbf{R}^n$ to those on T^n. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 1, 97–107. (Nakhlé Asmar) **99j:42016** 42B15 (43A20)

Sato, Fumihiro Zeta functions of prehomogeneous vector spaces and weakly spherical homogeneous spaces. Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 31–38. (Margaret M. Robinson) **99e:11121** 11M41 (11E57)

— Eisenstein series on weakly spherical homogeneous spaces of GL(n). (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 1, 23–69. (Martin L. Karel) **99e:11058** 11F55 (11F66)

Sato, Hajime[1] (*with* Yoshikawa, Atsuko Yamada) Third order ordinary differential equations and Legendre connections. (English summary) *J. Math. Soc. Japan* **50** (1998), *no.* 4, 993–1013. (Mark E. Fels) **99f:53015** 53B15 (34A26)

Sato, Haru-Tada (*with* Aizawa, Naruhiko; Kobayashi, Tatsuo) Notes on Curtright-Zachos deformations of osp(1, 2) and super Virasoro algebras. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32, 5867–5883. (Summary) **99i:81086** 81R50 (17B68, 81R10)

— Deformation of super Virasoro algebra in noncommutative quantum superspace. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 170–174. (Peter Prešnajder) **99e:81081** 81R10 (17B68, 81R50)

— (*with* Aizawa, Naruhiko) Isospectral Hamiltonians and $W_{1+\infty}$ algebra. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 3, 707–718. (Josep Herrero) **99e:81071** 81R10 (17B68, 81Q60)

— (*with* Roland, Kaj) Multiloop Φ^3 amplitudes from bosonic string theory. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 488–508. (Summary) **99a:81151** 81T30

Sato, Hiroki The elementary Kleinian groups and three-manifolds. Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 100–112. (Martin J. Bridgeman) **99i:30064** 30F40

— Classical Schottky groups of real type of genus two. III. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 485–502. (Summary) **99h:32023** 32G15 (14H15, 30F40)

— Jørgensen's inequality for classical Schottky groups of real type. (English summary) *J. Math. Soc. Japan* **50** (1998), *no.* 4, 945–968. (David Singerman) **99h:30041** 30F40 (20H10)

Satô, Hiroshi[1] (*with* Mizumachi, Hitoshi) Absolute continuity of a two-valued random translation of a Gaussian sequence. *Trends in probability and related analysis (Taipei, 1996)*, 233–246, *World Sci. Publishing, River Edge, NJ*, 1997. (M. P. Eršov) **99m:60068** 60G30

— (*with* Fukuda, Ryoji) Φ-density theorem on a metric space. *Kyushu J. Math.* **51** (1997), *no.* 1, 89–100. (W. P. Ziemer) **99c:28010** 28A15 (28A75)

— (*with* Mizumachi, Hitoshi) Absolute continuity of two-valued stochastic parallel translations of a Gaussian measure. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 95–110. (*see* **99i:00029**) 28C20 (46G12, 60G15)

Sato, Hiroyuki A calculus of parallel continuations and its monad models. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 143–157. (Summary) **99b:68074** 68Q10

Sato, Hisayoshi Kummer expansions and Mordell-Weil rank of elliptic curves. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 76–80. (*see* **99d:11001**) 11G40 (11G05)

Sato, Hitoshi Mirror symmetry and the web of Landau-Ginzburg string vacua. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 660–678. (Bruce Hunt) **99a:32039** 32J81 (14J32, 32G81, 81T30)

Sato, Iwao[2] (*with* Okabe, Akira; Matsuda, Ryûki) Note on multiplicative ideal theory of semigroups. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields (Mito, 1996)*, 39–42, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M12

Sato, Kanetomo Injectivity of the cycle maps of codimension 2 of nonsingular complete varieties with semistable rings over p-adic fields. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 132–140. (*see* **99a:11003**) 14C25

Sato, Kazuya (*with* Watanabe, Keigo; Nomiyama, Akira) Stability analysis of fuzzy systems as periodically time-varying systems. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 4, 419–434 (1998). 93C42 (93D05)

Sato, Ken-ichi[1] On the theory of regular polygons in traditional Japanese mathematics: reconstruction of the process for the calculation of the degree of *Kaihōshiki* appearing in the *Taisei Sankei* by Seki and Takebe brothers. *Historia Sci.* (2) **8** (1998), *no.* 1, 71–85. (Andrea Bréard) **99k:01006** 01A27

Sato, Ken-iti Criteria of weak and strong transience for Lévy processes. *Probability theory and mathematical statistics (Tokyo, 1995)*, 438–449, *World Sci. Publishing, River Edge, NJ*, 1996. (D. V. Gusak) **99c:60157** 60J30

— Time evolution of Lévy processes. (English summary) *Trends in probability and related analysis (Taipei, 1996)*, 35–82, *World Sci. Publishing, River Edge, NJ*, 1997. (M. G. Shur) **99f:60135** 60J30

— (*with* Yamamuro, Kouji) On selfsimilar and semi-selfsimilar processes with independent increments. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 207–224. (Loïc Chaumont) **99h:60086** 60G18 (60J30)

Sato, Ken'ichi *see* **Sato, Ken-ichi**[1]

Satô, Kenzi Free groups acting without fixed points on rational spheres. *Acta Arith.* **85** (1998), *no.* 2, 135–140. (Andrzej Składek) **99g:20044** 20E05 (20H20)

Sato, Masa-aki (*with* Ishii, Shin) Associative memory based on parametrically coupled chaotic elements. (English summary) *Phys. D* **121** (1998), *no.* 3-4, 344–366. (Summary) **99g:92048** 92J40 (58F13, 58F40)

Sato, Masahiko Classical Brouwer-Heyting-Kolmogorov interpretation. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 28–47. (*see* **99d:03003**) 03F30 (03F07)

— (*with* Kameyama, Yukiyoshi) A classical catch/throw calculus with tag abstractions and its strong normalizability. (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 42–56. (Summary) **99e:68011** 68N15

— *see also* **Symposium: Functional and Logic Programming, 99g:68008**

Sato, Masako (*with* Mukouchi, Yasuhito; Zheng, Dao) Characteristic sets for unions of regular pattern languages and compactness. (English summary) *Algorithmic learning theory (Otzenhausen, 1998)*, 220–233, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68Q45 (68T05)

— (*with* Terada, Mikiharu; Mukouchi, Yasuhito) Prefix free generating sets of formal languages. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 143–150. (*see* **99i:65003**) 68Q45

— (*with* Takeuchi, Masayuki) Polynomial-time inference of regular pattern languages that include erroneous information. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 151–158. (*see* **99i:65003**) 68Q45 (68T05)

— (*with* Yamaue, Ikuyo; Mukouchi, Yasuhito) Inferring families that are generated by a rewriting system. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 159–166. (*see* **99i:65003**) 68Q42 (68T05)

Sato, Masatoshi (*with* Aoyama, Hideaki; Kikuchi, Hisashi; Okouchi, Ikuo; Wada, Shinya) Valleys in quantum mechanics. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 93–100. (Summary) **99b:81067** 81Q99 (81–08)

Sato, Michikazu On the rates of convergence of consistent estimators: an extreme phenomenon. (English summary) *Statist. Decisions* **15** (1997), *no.* 4, 349–355. (Stavros Kourouklis) **99b:62035** 62F12 (62F10)

— The log utility and the Petersburg paradox. (English summary) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 91–114. (*see* **99a:62005**) 62C05

Sato, Mika (*with* Sato, Yoshiharu) A generalized fuzzy clustering model based on aggregation operators and its applications. (English summary) *Aggregation and fusion of imperfect information*, 261–278, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 04A72

Sato, Mitsuo (*with* Honma, Noriyasu; Abe, Kenichi; Takeda, Hiroshi[1]) Adaptive evolution of holon networks by an autonomous decentralized method. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 1, 43–61. (From the summary) **99a:93024** 93B30 (93A14)

Sato, N. (*with* Tanaka, Shōtarō; Kubo, A.) The fan problem and its history in the Japanese mathematics. (English summary) *Gurukula Kangri Vijñāna Patrikā Āryabhaṭa* **1** (1998), 15–24. (Andrea Bréard) **99m:01008** 01A27

Sato, Naoki (*with* Aiki, Toyohiko) ω-limit sets for solutions to phase field equations with constraints under nonlinear dynamic boundary conditions. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 253–256, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35Q99

Sato, Naonobu (*with* Tateoka, Jun) On the old mathematical problems in Akita Prefecture. (Japanese. English summary) *Mem. College Ed. Akita Univ. Natur. Sci. No.* 53 (1998), 25–45. (Summary) **99m:01007** 01A27

Sato, Nobuya Two subfactors arising from a non-degenerate commuting square. II. Tensor categories and TQFT's. (English summary) *Internat. J. Math.* **8** (1997), *no.* 3, 407–420. (Carl Winsløw) **99c:46074** 46L37

— Constructing a nondegenerate commuting square from equivalent systems of bimodules. *Internat. Math. Res. Notices* **1997**, *no.* 19, 967–981. (Carl Winsløw) **99c:46075** 46L37

— Two subfactors arising from a non-degenerate commuting square. An answer to a question raised by V. F. R. Jones. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 369–376. (Carl Winsløw) **99c:46073** 46L37

— Fourier transform for paragroups and its application to the depth two case. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 2, 189–222. (Carl Winsløw) **99a:46113** 46L37

— Constructing a non-degenerate commuting square from equivalent systems of bimodules. (Japanese) Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 40–47. (*see* **99d:46001**) 46L37

Sato, Noriaki On pseudo-umbilical surfaces with nonzero parallel mean curvature vector in $\mathbf{CP}^3(\tilde{c})$. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 91–96. (Hiroo Naitoh) **99d:53059** 53C40 (53C42)

— Pseudo-umbilical surfaces with nonzero parallel mean curvature vector in $\mathbf{CP}^4$. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 2, 97–104. (Bang-yen Chen) **99d:53060** 53C40

Sato, Ryotaro (*with* Hasegawa, Shigeru) On a d-parameter ergodic theorem for continuous semigroups of operators satisfying norm conditions. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 453–462. (Sen-Yen Shaw) **99h:47014** 47A35 (47D06)

— Vector valued differentiation theorems for multiparameter additive processes in L_p spaces. (English summary) *Positivity* **2** (1998), *no.* 1, 1–18. (Wojciech Bartoszek) **99m:47005** 47A35 (28D99, 46G12)

— Vector-valued ergodic theorems for multiparameter additive processes. (English summary) *Colloq. Math.* **79** (1999), *no.* 2, 193–202. (Wojciech Bartoszek) **99m:47007** 47A35 (28D15)

— On a vector-valued local ergodic theorem in L_∞. (English summary) *Studia Math.* **132** (1999), *no.* 3, 285–298. (Wojciech Bartoszek) **99m:47006** 47A35 (28D15, 47D03)

Sato, S. *see* **Sato, Shunsuke**

Sato, Sadao (*with* Yor, Marc) Computations of moments for discounted Brownian additive functionals. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 475–486. (John Verzani) **99k:60198** 60J55 (60J60, 60J65)

Sato, Shuichi[1] Some weighted weak type estimates for rough operators. (English summary) *Math. Nachr.* **187** (1997), 211–240. (Gary Sampson) **99d:42027** 42B20 (42B25)

— Remarks on square functions in the Littlewood-Paley theory. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 199–211. (William T. Sledd) **99g:42024** 42B25

Sato, Shunsuke (*with* Inoue, Junko[2]; Ricciardi, Luigi M.) A note on the moments of the first-passage time of the Ornstein-Uhlenbeck process with a reflecting boundary. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 87–99. (Summary) **99c:60184** 60J70 (92C20, 92D25)

— (*with* Yoshino, Kohzo; Nomura, T.; Pakdaman, K.) Synthetic analysis of periodically stimulated excitable and oscillatory membrane models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 956–969. (Summary) **99h:92005** 92C05 (92C20)

Sato, Tadakazu Surjective linear cellular automata over $\mathbf{Z}_m$. *Inform. Process. Lett.* **66** (1998), *no.* 2, 101–104. (Introduction) **99c:68183** 68Q80

Sato, Takeshi[1] The spacetime superalgebras from M-branes in M-brane backgrounds. (English summary) *Phys. Lett. B* **439** (1998), *no.* 1-2, 12–22. (Summary) **99g:81183** 81T30

— The spacetime superalgebras in a massive IIA background via brane probes. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 105–115. (Summary) **99j:81155** 81T30

Sato, Tetsuya (*with* Kageyama, Akira) Dynamo efficiency and Beltrami flows in rectangular cells. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 771–776. (Summary) **99k:76152** 76W05 (76M25)

— (*with* Ochi, Márcia M.; Kageyama, Akira) Dipole and octapole field reversals in a rotating spherical shell: magnetohydrodynamic dynamo simulation. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 777–787. 76W05

Sato, Tomoyuki (*with* Sasaki, Tateaki) Cancellation of errors in computing resultants of multivariable polynomials with floating point coefficients. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 127–134. (*see* **99h:00034**) 65H10

Sato, Toshiro[2] (*with* Ikemori, Hitoshi; Kitakado, Shinsaku; Nakatani, Hajime; Otsu, Hideharu) Quantum mechanics on S^n and meron solution. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 1, 15–21. (Bernd J. Schroers) **99h:81101** 81S10 (81T10)

Sato, Toshiyuki (*with* Kakizawa, Yoshihide; Taniguchi, Masanobu) Large deviation results for statistics of short- and long-memory Gaussian processes. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 17–29. (Gutti J. Babu) **99k:62181** 62M99 (60F10)

Sato, Yoshiharu (*with* Sato, Mika) A generalized fuzzy clustering model based on aggregation operators and its applications. (English summary) *Aggregation and fusion of imperfect information*, 261–278, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 04A72

Sato, Yoshihisa 3-dimensional homology handles and minimal second Betti numbers of 4-manifolds. *Osaka J. Math.* **35** (1998), *no.* 3, 509–527. (Charles Livingston) **99j:57022** 57N10 (57M25, 57N13, 57N70, 57Q20)

Sato, Yosuke Gröbner bases in polynomial rings over von Neumann regular rings. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 40–48. (*see* **99h:00034**) 16E50

Sato, Yutaka (*with* Isobe, Yoshinao; Nakada, Hidemoto; Ohmaki, Kazuhito) Stepwise synthesis of partial specifications preserving strong (Ω_1, Ω_2)-equivalence. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 39–53. (Summary) **99c:68172** 68Q60 (68Q10)

Sato, Yuzuru (*with* Taiji, Makoto; Ikegami, Takashi) Self-similar sets as satisfiable Boolean expressions. (English summary) *Unconventional models of computation (Auckland, 1998)*, 352–370, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99h:68058** 68Q15 (03B05, 03D15, 68Q05)

Satofuka, N. *see* **Parallel computational fluid dynamics, 99d:76002**

Satoh, Ichiro Speed-sensitive orders for communicating processes. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 23–38. (*see* **99a:68004**) 68Q10 (68Q55, 68Q60)

Satoh, Junya Sums of products of two q-Bernoulli numbers. (English summary) *J. Number Theory* **74** (1999), *no.* 2, 173–180. (L. Skula) **99m:11019** 11B68 (11B65)

Satoh, Kenichi (*with* Fujikoshi, Yasunori) Modified AIC and C_p in multivariate linear regression. (English summary) *Biometrika* **84** (1997), *no.* 3, 707–716. (Khursheed Alam) **99b:62101** 62J05 (62H12)

Satoh, Shin Sphere-slice links with at most five components. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 2, 217–230. (Daniel Matignon) **99f:57011** 57M25

Satoh, Takakazu (*with* Araki, Kiyomichi) Fermat quotients and the polynomial time discrete log algorithm for anomalous elliptic curves. *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 1, 81–92. (José Felipe Voloch) **99e:11083** 11G20 (11G07, 11T71)

— (*with* Uchino, Yukiko) Function field modular forms and higher-derivations. *Math. Ann.* **311** (1998), *no.* 3, 439–466. (Thomas R. Shemanske) **99j:11044** 11F25 (11F55)

— (*with* Araki, Kiyomichi) Fermat quotients and polynomial time algorithms for finding discrete logarithms of anomalous elliptic curves. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 139–150. (Toshihiro Hadano) **99m:11067** 11G07 (11Y16, 94A60)

Satoh, Takashi (*with* Kurosawa, Kaoru) Generalization of higher order SAC to vector output Boolean functions. (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 218–231, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99h:94048** 94A60

— (*with* Kurosawa, Kaoru; Yamamoto, Kentaro) Highly nonlinear t-resilient functions. (English summary) *J.UCS* **3** (1997), *no.* 6, 721–729 (*electronic*). (Summary) **99h:94049** 94A60

Satoh, Toshiyuki (*with* Ishihara, Tadashi; Inooka, Hikaru) Characterization of matched systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 449–456. (Summary) **99j:93041** 93B51 (93C15)

Satoh, Yuji (*with* Natsuume, Makoto) String theory on three-dimensional black holes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1229–1262. (Marco Spaans) **99i:83092** 83E30 (81T30, 83C57)

— Propagation of scalars in nonextremal black hole and black p-brane geometries. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044004, 13 *pp.* (Summary) **99k:83128** 83E30 (81T40, 83C57)

Satorra, Albert (*with* Neudecker, Heinz) Compact matrix expressions for generalized Wald tests of equality of moment vectors. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 259–276. (Tõnu Kollo) **99e:62097** 62H10 (62H15)

pastor-Satorras, R. *see* **Pastor-Satorras, R.**

Satou, Takafumi Conformal flatness of circle bundle metric. *Tsukuba J. Math.* **22** (1998), *no.* 2, 349–355. (Chuan Yu Ma) **99j:53041** 53C20 (53C21)

Satsuma, Junkichi (*with* Ohta, Yasuhiro; Kajiwara, Kenji) Bilinear structure and exact solutions of the discrete Painlevé I equation. *Symmetries and integrability of difference equations (Estérel, PQ, 1994)*, 265–268, *CRM Proc. Lecture Notes*, 9, *Amer. Math. Soc., Providence, RI*, 1996. (From the text) **99a:39048** 39A12

— (*with* Matsukidaira, Junta; Takahashi, Daisuke; Tokihiro, Tetsuji; Torii, M.) Toda-type cellular automaton and its N-soliton solution. (English summary) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 1–15. (Fernanda Botelho) **99k:58104** 58F08 (68Q80)

— (*with* Nagai, Atsushi; Tokihiro, Tetsuji; Willox, Ralph; Kajiwara, Kenji) Two-dimensional soliton cellular automaton of deautonomized Toda-type. (Japanese summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 15–27. (*see* **99c:00013**) 68Q80 (58F08)

— (*with* Ramani, A.; Ohta, Yasuhiro; Grammaticos, B.) Self-duality and Schlesinger chains for the asymmetric d-P_{II} and q-P_{III} equations. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 67–76. (I. P. Stavroulakis) **99f:39029** 39A12
— (*with* Willox, Ralph; Tokihiro, Tetsuji; Loris, Ignace) The fermionic approach to Darboux transformations. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 745–762. (Alexander V. Shapovalov) **99h:58175** 58F37 (35A30)
— (*with* Yoshida, Naoki; Nishinari, Katsuhiro; Abe, Kanji) Dromion can be remote-controlled. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3325–3336. (Summary) **99a:35245** 35Q55 (76M25, 76X05)
— (*with* Nagai, Atsushi; Tokihiro, Tetsuji) The Toda molecule equation and the ε-algorithm. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1565–1575. (Gh. Adam) **99d:65010** 65B10 (41A21, 58F07, 65D99)
— (*with* Nagai, Atsushi; Tokihiro, Tetsuji) Ultra-discrete Toda molecule equation. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 383–388. (Sen Yue Lou) **99h:58058** 58F03 (58F08)
— (*with* Tamizhmani, K. M.; Grammaticos, B.; Ramani, A.) Nonlinear integrodifferential equations as discrete systems. (English summary) *Inverse Problems* **15** (1999), *no.* 3, 787–791. 35Q99 (45K05)
— (*with* Willox, Ralph; Ohta, Yasuhiro; Gilson, Claire R.; Tokihiro, Tetsuji) Quadrilateral lattices and eigenfunction potentials for N-component KP hierarchies. (English summary) *Phys. Lett. A* **252** (1999), *no.* 3-4, 163–172. (Reda A. Zait) **99m:58118** 58F07 (35Q53)
Satta, Giorgio Trading independent for synchronized parallelism in finite copying parallel rewriting systems. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 27–45. (I. Meznik) **99a:68101** 68Q42 (68Q10, 68Q50)
Sattar, Abdul (*with* Wetprasit, Rattana; Khatib, L.) A generalised framework for reasoning with multi-point events. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 121–135, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68T27 (03B45)
— (*with* Wetprasit, Rattana) Temporal reasoning with qualitative and quantitative information about points and durations. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 656–663, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30 (68T27)
— (*with* Krishna Rao, M. R. K.) Learning from entailment of logic programs with local variables. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 143–157, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68N17)
Sattayatham, Pairote (*with* Kvasov, Boris I.) Generalized tension B-splines. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 247–254, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D07 (65D10)
— (*with* Kvasov, Boris I.) GB-splines of arbitrary order. (English summary) *J. Comput. Appl. Math.* **104** (1999), *no.* 1, 63–88. (Peter Alfeld) **99m:41013** 41A15 (41A29)
Satten, Glen A. (*with* Datta, Somnath) Kaplan-Meier representation of competing risk estimates. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 3, 299–304. (Summary) **99m:62050** 62G05 (62N05, 62P05)
Sattinger, David H. (*with* Beals, Richard William; Szmigielski, Jacek) Acoustic scattering and the extended Korteweg-de Vries hierarchy. (English summary) *Adv. Math.* **140** (1998), *no.* 2, 190–206. (Mayumi Ohmiya) **99i:34120** 34L25 (34A55, 35Q53)
— (*with* Hărăguş-Courcelle, Mariana) Inversion of the linearized Korteweg-de Vries equation at the multi-soliton solutions. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 436–469. (Vladislav G. Dubrovsky) **99e:35198** 35Q53 (35R30)
— (*with* Beals, Richard William; Szmigielski, Jacek) Multi-peakons and a theorem of Stieltjes. (English summary) *Inverse Problems* **15** (1999), *no.* 1, *L1–L4*. 35Q51 (35Q53)
— *see also* **Levinson, Norman**, **99d:01039a** *and* **99d:01039b**
Sattler-Klein, Andrea (*with* Otto, Friedrich) FDT is undecidable for finitely presented monoids with solvable word problems. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 388–399, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **99b:68109** 68Q42 (03D35, 03D40)
— New undecidability results for finitely presented monoids. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 68–82, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (L. Bokut') **99f:20094** 20M05 (03D10, 03D20, 03D35, 68Q42)
— (*with* Otto, Friedrich; Madlener, Klaus) Automatic monoids versus monoids with finite convergent presentations. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 32–46, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68140** 68Q42 (20M05)
Satyanarayana, B. (*with* Raju, P. S. N.; Raju, K. V. L. P.) Facility location problems in the presence of two-circular forbidden regions with Euclidean distance norm. (English summary) *Opsearch* **35** (1998), *no.* 4, 360–372. 90B85 (90C30)
Satyanarayana, Bavanari (*with* Lahiri, Maya) Discrete and pseudo orthogonality for a class of generalized hypergeometric functions. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 325–332. (Summary) **99e:33010** 33C45 (33C20, 39A12)
Satyanarayana, M. Uniformly synchronous prefix codes. (English summary) *Semigroups* (*Luino*, 1992), 256–271, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M05
Saubion, Frédéric (*with* Richard, Gilles) A rewrite approach to transform constraint logic programs. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 184–200 (*electronic*). (*see* **99d:68010**) 68N17 (68Q42, 68T20)
Saucez, P. (*with* Vande Wouwer, A.; Schiesser, W. E.) An adaptive method of lines solution of the Korteweg-de Vries equation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 13–25. (Summary) **99a:65170** 65N40
Sauer, Norbert Edge partitions of the countable triangle free homogeneous graph. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 137–181. (Stanislav Jendrol') **99a:05124** 05C75 (05C15)
Sauer, R. (*with* Gruttmann, F.; Wagner, Werner) A geometrical nonlinear eccentric 3D-beam element with arbitrary cross-sections. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 383–400. 73V05 (73K05)
Sauer, Thomas (*with* Micchelli, Charles A.) Sobolev norm convergence of stationary subdivision schemes. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 245–260, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65230** 65T99 (65J05)
— (*with* Micchelli, Charles A.) Regularity of multiwavelets. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 4, 455–545. (Peter A. McCoy) **99d:42067** 42C15 (39B12, 65T20)
— Polynomial interpolation of minimal degree. (English summary) *Numer. Math.* **78** (1997), *no.* 1, 59–85. (Summary) **99f:41042** 41A63 (65D15)
— (*with* Micchelli, Charles A.; Xu, Yuesheng) A construction of refinable sets for interpolating wavelets. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 359–372. (I. Ya. Novikov) **99h:42063** 42C15 (65D15)
Sauer, Tilman The relativity of discovery: Hilbert's first note on the foundations of physics. *Arch. Hist. Exact Sci.* **53** (1999), *no.* 6, 529–575. (H. Treder) **99k:01039** 01A60 (83–03)
Sauerhoff, Martin Lower bounds for randomized read-k-times branching programs (extended abstract). (English summary) *STACS 98* (*Paris*, 1998), 105–115, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q05 (68Q15)
— (*with* Bollig, Beate; Sieling, Detlef; Wegener, Ingo) Hierarchy theorems for kOBDDs and kIBDDs. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 45–60. (Christoph Meinel) **99i:68031** 68Q05 (68Q15)
Sauermann, Herwig (*with* Just, Wolfram; Matthäus, Frank) On the degenerated soft-mode instability. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5925–5938. (Summary) **99e:76049** 76E30 (35B32, 35Q35)
Sau Fa, Kwok *see* **Kwok, Sau Fa**
Saukhanova, Zh. S. Construction of quadrature formulas that are optimal on solutions of differential equations. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 182–188, 254–255, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 65D32
Saul, Jennifer M. The pragmatics of attitude ascription. *Philos. Stud.* **92** (1998), *no.* 3, 363–389. 03A05 (03B45)
Saunders, D. J. Connections in classical mechanics. (English summary) Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 4, 393–404. (Manuel de León) **99e:58076** 58F05 (53C05, 70F25)
Saunders, Michael A. (*with* Chen, Scott Shaobing; Donoho, David L.) Atomic decomposition by basis pursuit. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 33–61 (*electronic*). (Summary) **99h:94013** 94A12 (41A45, 65K05)
Saupe, Dietmar (*with* Ruhl, Matthias) Animation of algebraic surfaces. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 83–92, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)
Saurais, O. (*with* Siskos, Yannis; Grigoroudis, E.; Zopounidis, C.) Measuring customer satisfaction using a collective preference disaggregation model. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 175–195. (*see* **99a:90011**) 90C29 (90A05)
Saurel, Richard (*with* Daniel, E.; Loraud, J. C.) Modeling of axisymmetric two-phase dilute flows. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 4, 301–313. 76M20 (76T05)
— (*with* Abgrall, Rémi) A multiphase Godunov method for compressible multifluid and multiphase flows. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 425–467. (Summary) **99m:76097** 76M25 (76N10, 76T05)
— (*with* Massoni, J.; Baudin, G.; Demol, G.) A mechanistic model for shock initiation of solid explosives. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 710–736. (Summary) **99j:76068** 76L05 (80A25)
Sauren, M. (*with* Bücker, H. M.) On deriving the quasi-minimal residual method. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 922–926 (*electronic*). (Summary) **99g:65043** 65F10
Saurer, Gerhard Eine kinematische Abbildung der ebenen euklidischen Bewegungen. [A kinematic mapping of plane Euclidean motions] *Beiträge zur Geometrie*, 15–32, *Grazer Math. Ber.*, 332, *Karl-Franzens-Univ. Graz, Graz*, 1997. (Hans Sachs) **99f:53011** 53A17 (51N20)
Saurer, J. (*with* Adamyan, V. M.; Mennicken, R.) On the discrete spectrum of some selfadjoint operator matrices. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 3–41. (M. M. Malamud) **99g:47046** 47B25 (34L05, 47A10, 47E05)
Saussol, Benoit (*with* Liverani, Carlangelo; Vaienti, Sandro) Conformal measure and decay of correlation for covering weighted systems. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1399–1420. (Nikolai Chernov) **99j:58127** 58F11 (58F19)
Saut, Jean-Claude (*with* Albert, John P.; Bona, Jerry L.) Model equations for waves in stratified fluids. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1233–1260. (Shu Ming Sun) **99g:76013** 76B15 (35Q35, 76B25, 76V05)
— (*with* de Bouard, Anne) Symmetries and decay of the generalized Kadomtsev-Petviashvili solitary waves. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1064–1085. (Naruyoshi Asano) **99c:35208** 35Q53 (35B05, 35B40)
Sauter, Dominique (*with* Hamelin, Frédéric) Frequency-domain optimization for robust fault detection and isolation in dynamic systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 878–882. 93D15 (90C90)
Sauter, Stefan A. (*with* Hackbusch, Wolfgang; Lage, C.) On the efficient realization of sparse matrix techniques for integral equations with focus on panel clustering, cubature and software design aspects. *Boundary element topics* (*Stuttgart*, 1995), 51–75, *Springer, Berlin*, 1997. (From the introduction) **99h:65204** 65N38
— (*with* Schwab, Christoph) Quadrature for hp-Galerkin BEM in $\mathbf{R}^3$. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 211–258. (Summary) **99f:65207** 65R20 (45L05, 65N38, 73V10)
— (*with* Babuška, Ivo M.) Is the pollution effect of the FEM avoidable for the Helmholtz equation considering high wave numbers? (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2392–2423. (Mark Ainsworth) **99b:65135** 65N30
— (*with* Hayami, Ken) Cost estimation of the panel clustering method applied to 3-D elastostatics. (English summary) *Boundary element research in Europe* (*Southampton*, 1998), 33–42, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 73V10 (73C02)
— (*with* Hackbusch, Wolfgang) A new finite element approach for problems containing small geometric details. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math.* (*Brno*) **34** (1998), *no.* 1, 105–117. (K. Najzar) **99e:65156** 65N30 (65N50)

— (*with* Erichsen, Stefan) Efficient automatic quadrature in 3-d Galerkin BEM. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 215–224. (Summary) **99e:65163** 65N38

du Sautoy, M. P. F. (*with* Everest, G. R.) Integrating on p-adic Lie groups. (English summary) *Israel J. Math.* **103** (1998), 207–235. (Daniel Segal) **99k:11185** 11S80 (11S40, 22E35)

Sautú, S. L. (*with* Salim, J. M.) Geometrized dilaton as gravity theory. *VIII J. A. Swieca Summer School on Particles and Fields (Rio de Janeiro, 1995)*, 526–530, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83D05

— (*with* Salim, J. M.; Martins, Roberto Cintra) Dilaton electromagnetic Bianchi-I cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1521–1526. (Sunil D. Maharaj) **99f:83020** 83C22 (83C15)

— (*with* Fabris, Júlio C.; Salim, J. M.) Inflationary cosmological solutions in Weyl integrable geometry. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 953–959. 83C15 (83D05, 83F05)

Sauvageot, Jean-Luc Strong Feller noncommutative kernels, strong Feller semigroups and harmonic analysis. *Operator algebras and quantum field theory (Rome, 1996)*, 105–110, *Internat. Press, Cambridge, MA*, 199?. (Alain Valette) **99c:46079** 46L50 (22D25, 46L57)

Sauvigny, Friedrich (*with* Hildebrandt, Stefan) Minimal surfaces in a wedge. II. The edge-creeping phenomenon. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 2, 164–176. (Roger Chen) **99e:58044** 58E12 (35J60, 49Q05, 53A10)

Saux Picart, Ph. The Schur-Cohn algorithm revisited. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 4, 387–408. (Nikolay Vesselinov Kyurkchiev) **99m:65110** 65H05

Sauzet, O. Théorie d'Iwasawa des corps p-rationnels et p-birationnels. (English summary) [Iwasawa theory of p-rational and p-birational fields] *Manuscripta Math.* **96** (1998), *no.* 3, 263–273. (Thống Nguyễn-Quang-Đỗ) **99h:11123** 11R23

Sauzin, David (*with* Bonet, Carles; Seara, Tere; València, Marta) Adiabatic invariant of the harmonic oscillator, complex matching and resurgence. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1335–1360 (*electronic*). (Jian Gong You) **99h:34058** 34C15 (34A20, 34E05, 70H05, 70K99)

Savage, Carla D. (*with* Canfield, E. Rodney; Corteel, Sylvie) Durfee polynomials. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 32, 21 *pp.* (*electronic*). (Summary) **99h:05007** 05A17 (05A16, 05A20, 11P81)

— (*with* Nolan, Jennifer M.; Sivaraman, Vijay; Tiwari, Pranav K.) Graphical basis partitions. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 241–261. (C. C. Rousseau) **99j:05014** 05A17 (05C99, 11Y55)

— (*with* Corteel, Sylvie; Wilf, Herbert S.; Zeilberger, Doron) A pentagonal number sieve. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 186–192. (David M. Bressoud) **99d:11111** 11P81 (05A15)

— (*with* Corteel, Sylvie; Venkatraman, Radhika) A bijection for partitions with all ranks at least t. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 2, 202–220. (David M. Bressoud) **99f:11135** 11P81 (05A17)

— (*with* Chinburg, Ted; Wilf, Herbert S.) Combinatorial families that are exponentially far from being listable in Gray code sequence. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 379–402. (Jean-Paul Allouche) **99c:11024** 11C08 (11L03, 68R15)

Savage, Craig M. *see* **Computational physics, 99f:00012**

Savage, S. B. Modeling and granular material boundary value problems. (English summary) *Physics of dry granular media (Cargèse, 1997)*, 25–95, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:73028** 73B99 (73E99, 76A99)

— Analyses of slow high-concentration flows of granular materials. (English summary) *J. Fluid Mech.* **377** (1998), 1–26. (Summary) **99j:76005** 76A99 (73E99)

Savaré, Giuseppe (*with* Tomarelli, Franco) Superposition and chain rule for bounded Hessian functions. (English summary) *Adv. Math.* **140** (1998), *no.* 2, 237–281. (Alexander A. Pankov) **99k:35005** 35A15 (49Q20)

— (*with* Nochetto, Ricardo H.; Verdi, Claudio) Error control of nonlinear evolution equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1437–1442. (Summary) **99e:65126** 65M15 (34G20, 65J15)

Savaresi, Sergio M. (*with* Guardabassi, Guido O.) System linearization via feedback: a control engineering perspective. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 391–431 (1998). 93B18 (93B52)

— (*with* Händel, Peter; Tichavský, Petr) Large error recovery for a class of frequency tracking algorithms. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 417–436. 93E35 (93E10)

— (*with* Guardabassi, Guido O.) Invertible nonlinear parametric functions for systems identification and control. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 9, 741–762. (Summary) **99e:93084** 93E12 (93B30)

Savas, Ekrem The space of sequence of which strong almost A-transformations in $\mathrm{Ces}(p)$. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 27–30. (Summary) **99g:40006** 40H05

— On almost summable sequences and core of a sequence in non-Archimedean spaces. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 1-2, 25–30. (M. S. Rangachari) **99e:40009** 40J05 (46A45, 46S10)

— On some sequence spaces. (English summary) *Transform methods & special functions, Varna '96*, 412–416, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99i:40012** 40H05 (46A45)

Savaş, Ö. (*with* Chen, Amy Laguna; Jacob, J. D.) Dynamics of corotating vortex pairs in the wakes of flapped airfoils. (English summary) *J. Fluid Mech.* **382** (1999), 155–193. 76C05

Savchenko, S. V. On the spectra of finite submatrices of infinite indecomposable matrices. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 175–176; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 619–620. (Karl-Heinz Förster) **99e:47005** 47A10 (15A48, 47B37)

— Special flows constructed from countable topological Markov chains. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 40–53, 96; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 32–41. (Zuo Ling Zhou) **99m:28040** 28D10 (58F11)

— On the probability of the existence of a localized ground state for the discrete Schrödinger equation with a random potential perturbed by a compact operator. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **43** (1998), *no.* 1, 166–171. (Summary) **99k:82043** 82B44

— Stability of the upper bound of the spectrum under perturbations by diagonal matrices for a class of selfadjoint operators. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 163–164; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 406–407. 47A55 (47B25)

Savchenko, V. S. (*with* Pashko, A. A.) Projection operation for multidimensional geometric modeling with real functions. (English summary) *Geometric modeling: theory and practice (Blaubeuren, 1996)*, 197–205, *Focus Comput. Graph., Springer, Berlin*, 1997. (*see* **99d:65003**) 65Y25 (65D17)

Save, M. A. (*with* Massonnet, C. E.; De Saxcé, G.) ★ Plastic limit analysis of plates, shells and disks. Translated from the French by Save. Second edition. North-Holland Series in Applied Mathematics and Mechanics, 43. *North-Holland Publishing Co., Amsterdam*, 1997. xxii+580 *pp. ISBN* 0-444-89479-9 (V. K. Arya) **99g:73050** 73E20 (73E05, 73K10, 73K15)

Savel'ev, L. Ya. Complex numbers. (Russian) *Mathematics today '97, No.* 11 (*Russian*), 10–27, *Nauchn. Izdat. "TViMS", Kiev*, 1997. (*see* **99d:00010**) 30–01

— Newton and Cardano formulas. (Russian) *Mathematics today '97, No.* 11 (*Russian*), 105–115, *Nauchn. Izdat. "TViMS", Kiev*, 1997. (Valery V. Karachik) **99g:05003** 05A10 (26C10)

— Operator and recursion equations for runs in random sequences. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 65–86, *VSP, Utrecht*, 1997. (M. Iosifescu) **99k:60177** 60J10

— Spaces with measures. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 3, 310–312. (From the text) **99d:28023** 28C20 (28A12, 46G12)

— (*with* Kostochka, A. V.; Mazurov, Viktor Danilovich) The number of q-ary words with restrictions on the length of a maximal series. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 1, 10–19; *translation in Discrete Math. Appl.* **8** (1998), *no.* 2, 109–118. (Nikolai Volodin) **99k:05009** 05A15

Savel'ev, M. V. (*with* Razumov, A. V.) On some class of multidimensional nonlinear integrable systems. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 547–551, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 58F07

Savel'ev, V. M. On the Grassmannian image of the submanifolds $F^n \subset E^{n+m}$ whose codimension does not exceed the dimension. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 125–133. (V. Cruceanu) **99g:53041** 53C20 (53C35)

Savel'eva, N. V. (*with* Ikramov, Khakim D.; Chugunov, V. N.) Rational criteria for the existence of common eigenvectors or invariant subspaces. (Russian. Russian summary) *Programmirovanie* **1997**, *no.* 3, 43–57; *translation in Program. Comput. Software* **23** (1997), *no.* 3, 153–163. (Vladimir Rakočević) **99e:15011** 15A18 (15A21)

— (*with* Ikramov, Khakim D.; Chugunov, V. N.) On computer-algebra procedures that check for common eigenvectors or invariant subspaces. (English summary) Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 4, 269–282. (Jin Yun Yuan) **99j:15015** 15A18 (65F15)

— (*with* Ikramov, Khakim D.) Efficient computer algebra implementation of the Schur-Cohn-Fujiwara criterion. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 9–14, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 9–14. (Summary) **99d:65156** 65H05 (12D10)

— (*with* Ikramov, Khakim D.) On some quasi-diagonalizable families of matrices. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1075–1084; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1026–1035. (V. V. Sergeĭchuk) **99e:15015** 15A21

— (*with* Ikramov, Khakim D.) Computer-algebra procedures for verifying the definiteness of a matrix on a subspace. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 3, 357–370. (Summary) **99m:65099** 65F99 (15A48)

Saveliev, A. V. (*with* Kennedy, Lawrence A.; Fridman, A. A.) Superadiabatic combustion in porous media: wave propagation, instabilities, new type of chemical reactor. (English summary) *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 2, 1–26. 80A25 (76S05, 80A32)

Saveliev, M. V. *see* **Savel'ev, M. V.**

Saveliev, Nikolai On the homology cobordism group of homology 3-spheres. (English summary) *Geometry, topology and physics (Campinas, 1996)*, 245–257, *de Gruyter, Berlin*, 1997. (Ricardo F. Vila Freyer) **99d:57025** 57R80 (57M25, 57N10, 57R55, 57R57)

— Floer homology and invariants of homology cobordism. (English summary) *Internat. J. Math.* **9** (1998), *no.* 7, 885–919. (Paul A. Kirk) **99h:57064** 57R80 (57M25, 57R55, 57R57)

— Dehn surgery along torus knots. (English summary) *Topology Appl.* **83** (1998), *no.* 3, 193–202. (Paul A. Kirk) **99a:57030** 57R80 (57M25, 57N13)

Savelsbergh, Martin W. P. (*with* Uma, R. N.; Wein, Joel) An experimental study of LP-based approximation algorithms for scheduling problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 453–462, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35 (68M20, 68Q25)

— (*with* Gu, Zonghao; Nemhauser, George L.) Lifted cover inequalities for 0 – 1 integer programs: computation. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 4, 427–437. 90C09 (90–04)

— (*with* Barnhart, Cynthia; Johnson, Ellis L.; Nemhauser, George L.; Vance, Pamela H.) Branch-and-price: column generation for solving huge integer programs. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 316–329. (Summary) **99g:90074** 90C10 (90–04)

Savelyev, L. Ya. *see* **Savel'ev, L. Ya.**

Savev, Emil Simeonov (*with* Mahaffy, Joseph M.) Stability analysis for a mathematical model of the lac operon. (English summary) *Quart. Appl. Math.* **57** (1999), *no.* 1, 37–53. (Summary) **99m:92009** 92C40 (92D10)

Savicki, Joseph P. (*with* McIlroy, M. Douglas) Isomorphism of classical rearrangeable networks. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 147–155, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C10

Savický, Petr (*with* Jukna, Stasys; Razborov, A. A.; Wegener, Ingo) On P versus NP ∩ co-NP for decision trees and read-once branching programs. (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 319–326, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68053** 68Q15 (03D15, 68Q05)

— (*with* Žák, Stanislav) A hierarchy for $(1, +k)$-branching programs with respect to k. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 478–487, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99f:68057** 68Q05

— (*with* Lefmann, Hanno; Pudlák, Pavel) On sparse parity check matrices. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 2, 107–130. (L. R. Vermani) **99c:94063** 94B65 (94B05)

Savin, A. V. (*with* Christiansen, Peter Leth; Zolotaryuk, A. V.) Solitons in an isolated helix chain. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part B*, 877–889. (George Rowlands) **99a:92020** 92D20 (82C20)

Savin, A. Yu. Branching of terms for the one-dimensional Schrödinger equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1049–1056, 1150; *translation in Differential Equations* **33** (1997), *no.* 8, 1055–1062 (1998). (M. Znojil) **99g:81051** 81Q20 (34E15, 34L40)

Savin, Gordan (*with* Huang, Jing-Song; Magaard, Kay) Unipotent representations of G_2 arising from the minimal representation of D_4^E. *J. Reine Angew. Math.* **500** (1998), 65–81. (Dihua Jiang) **99j:22025** 22E50

Savin, N. E. (*with* Lobato, Ignacio N.) Real and spurious long-memory properties of stock-market data. (English summary) With comments and a reply by the authors. *J. Bus. Econom. Statist.* **16** (1998), *no.* 3, 261–283. (Summary) **99e:62160** 62M10

Savini, Sonia (*with* Monteiro, Luiz F.; Abad, Manuel; Sewald, Julio) Finite free generating sets. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 177–189. (S. Comer) **99i:08004** 08B20 (03Gxx, 06D25, 06D30)

Savioli, Gabriela B. (*with* Jacovkis, Pablo M.; Bidner, M. Susana) On some numerical methods for solving 2D radial flow towards an oil well. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 1, 17–36. 76M25 (65M06, 76S05)

Savkin, Andrey V. (*with* Petersen, Ian R.) A method for robust stabilization related to the Popov stability criterion. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1105–1115. 93D21 (93D10)

— (*with* Petersen, Ian R.) Robust state estimation for uncertain systems with averaged integral quadratic constraints. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 923–939. 93E12

— (*with* Petersen, Ian R.) Robust H^∞ control of uncertain systems with structured uncertainty. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 14 *pp.* (*electronic*). (Summary) **99h:93041** 93B36 (93D21)

— (*with* Evans, Robin J.) A new approach to robust control of hybrid systems over infinite time. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1292–1296. 93B36 (93C57)

— (*with* Moheimani, S. O. Reza; Petersen, Ian R.) Robust filtering, prediction, smoothing, and observability of uncertain systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 446–457. (Jacob Hammer) **99f:93134** 93E11 (93B35)

— (*with* Bartolini, Giorgio; Ferrara, Antonella) Reduced-order adaptive control based on the concept of robust strictly positive realness. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 363–378. (Summary) **99i:93037** 93C40 (93B35, 93C70)

— (*with* Petersen, Ian R.) Robust stabilization of discrete-time uncertain nonlinear systems. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 87–107. (Vladimir G. Sragovich) **99b:93044** 93D21 (93C41, 93C55)

— Simultaneous H^∞ control of a finite collection of linear plants with a single nonlinear digital controller. (English summary) *Systems Control Lett.* **33** (1998), *no.* 5, 281–289. (Pierre Bernhard) **99c:93038** 93B36

— The problem of simultaneous H^∞ control. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 53–56. 93B36

Savoia, Marco (*with* Ferrari, Paola) Fuzzy number theory to obtain conservative results with respect to probability. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 205–222. 60E99 (04A72, 28E10, 73K99)

— (*with* Tullini, N.; Horgan, Cornelius O.) End effects for anti-plane shear deformations of periodically laminated strips with imperfect bonding. (English summary) *J. Elasticity* **50** (1998), *no.* 3, 227–244. (Summary) **99f:73028** 73C10 (73B40)

Savoie, Denis Ptolémée et la "variation" de la lune. [Ptolemy and lunar "variation"] *Arch. Internat. Hist. Sci.* **48** (1998), *no.* 140, 3–10. 01A30 (01A20)

Savoie, Jean (*with* Dubeau, François) More on the roots of Euler-Frobenius polynomials. (English and French summaries) *Ann. Sci. Math. Québec* **22** (1998), *no.* 1, 31–42. (Andrea Laforgia) **99i:33006** 33C45 (65H05)

— (*with* Dubeau, François) On best error bounds for deficient splines. *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 33–39, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 41A15 (41A44, 65D07)

— (*with* Dubeau, François) Optimal error bounds for spline interpolation on a uniform partition. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 41–50, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:41045** 41A44 (41A15, 41A25, 65D07)

Savova, R. (*with* Ivanov, Ts. P.) Stability of relative equilibria of an elastic body. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 5, 823–832. (Summary) **99d:73049** 73H10 (73C50)

Savsar, Mehmet (*with* Allahverdi, Ali) Algorithms for scheduling jobs on two serial duplicate stations. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 4, 411–422. 93B35

Savurbaev, A. S. (*with* Abdullaev, Ugur G.) On the regularity of relaxation perturbations in nonstationary filtration theory. (Russian. English and Azerbaijani summaries) *Dokl. Akad. Nauk Azerbaĭdzhana* **51(52)** (1995/96), *no.* 1-12, 33–36 (1997). 76S05 (35Q35)

Savushkina, A. G. The center of a colored braid group. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 1, 32–36, 103; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 1, 27–30. (Vitaly A. Roman'kov) **99e:20049** 20F36

Savva, Andreas (*with* Nanya, Takashi) A gracefully degrading massively parallel system using the BSP model, and its evaluation. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 1, 38–52. 68Q05

Savvidou, K. (*with* Isham, Chris J.; Linden, N.; Schreckenberg, S.) Continuous time and consistent histories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1818–1834. (Władysław Adam Majewski) **99d:81005** 81P05

Savvidy, George (*with* Ambjørn, Jan; Nielsen, Jakob L.; Rolf, Juri) Spikes in quantum Regge calculus. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3225–3241. (Annalisa Marzuoli) **99f:83023** 83C27 (83C45)

— (*with* Savvidy, K. G.) Gonihedric string equation. I. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 8, 33 *pp.* (*electronic*). (Summary) **99c:81209** 81T30

— Gonihedric string equation. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2, 69–79. (Summary) **99f:81178** 81T30

— (*with* Ambjørn, Jan; Koutsoumbas, G.) Four-dimensional gonihedric gauge spin system. (English summary) *Europhys. Lett.* **46** (1999), *no.* 3, 319–325. (Summary) **99m:81272** 81T80 (82B80)

Savvidy, K. G. (*with* Savvidy, George) Gonihedric string equation. I. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 8, 33 *pp.* (*electronic*). (Summary) **99c:81209** 81T30

Savvin, A. A. (*with* Dorfmann, A. A.) Water waves diffraction by a submerged sphere and dual integral transforms. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 1–30. (Summary) **99f:76024** 76B15

— (*with* Dorfmann, A. A.) Diffraction of water waves by a horizontal plate. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 805–826. (Summary) **99f:76025** 76B15

Sawabe, Masato 2-radical subgroups of the Conway simple group Co_1. *J. Algebra* **211** (1999), *no.* 1, 115–133. (Mohammad-Reza Darafsheh) **99k:20038** 20D08

el-Sawaby, Sh. M. *see* **El-Sawaby, Sh. M.**

Sawada, Ken (*with* Watanabe, Nobuya; Togawa, Yoshio) Stable and unstable manifolds of periodic points of Kupka-Smale systems. *Nonlinear Anal.* **33** (1998), *no.* 6, 611–615. (Michael Hurley) **99d:58138** 58F20 (58F09, 58F22)

Sawaguri, T. (*with* Koshigoe, H.; Kawarada, Hideo) Surface density of current observed on supraconductive boundary by domain embedding method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 276–286, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99i:78013** 78A25 (35Q60, 47N20)

Sawami, Hideo (*with* Sasanabe, Morito; Niki, Hiroshi) A new method for deciding whether a matrix is generalized superdiagonal. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 172–179. (*see* **99i:00028**) 65F30 (15A57)

Sawamura, Hajime (*with* Asanuma, Daisaku) Mechanizing relevant logics with HOL. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 443–460, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (Summary) **99m:03040** 03B46 (03B35, 68T15)

Sawasaki, Yoichi (*with* Kimura, Yutaka; Tanaka, Kensuke) Weak convergence for nonexpansive set-valued mappings. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 88–93. (*see* **99b:90009**) 49J52 (47H05)

— (*with* Kimura, Yutaka; Tanaka, Kensuke) A non-cooperative equilibrium of n-person game with fractional loss functions. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 215–220. (*see* **99h:90006**) 90D06

Sawicki, Jerzy T. (*with* Padovan, Joe) Nonlinear vibrations of fractionally damped systems. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 4, 321–336. 70K99

Sawicki, Pawel Hubbard model with Lüscher fermions. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 3, 665–698. (Summary) **99a:82023** 82B20 (82B80)

Sawik, T. Simultaneous loading, routing, and assembly plan selection in a flexible assembly system. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 19–29. 90B30 (90B35)

Sawin, Stephen (*with* Baez, John C.) Diffeomorphism-invariant spin network states. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 253–266. (José A. Zapata) **99h:58022** 58D20 (83C27, 83C45)

— (*with* Kauffman, Louis H.; Radford, David E.) Centrality and the KRH invariant. *J. Knot Theory Ramifications* **7** (1998), *no.* 5, 571–624. (Vyacheslav S. Krushkal) **99k:57017** 57M25 (16W30, 57N10)

Sawollek, Jörg Embeddings of 4-regular graphs into 3-space. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 5, 727–749. (Kerry N. Jones) **99c:57007** 57M15 (57M25)

Saworotnow, Parfeny P. Hilbert algebras and Hilbert modules. *Inner product spaces and applications*, 241–260, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (T. W. Palmer) **99a:46100** 46K15 (46H25)

— Banach algebras with commuting idempotents, no identity. *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 97–99. (Summary) **99i:46038** 46J10 (46J40)

Sawyer, Eric (*with* Guan, Pengfei) The oblique derivative problem. *Partial differential equations and their applications* (*Toronto, ON*, 1995), 145–158, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (From the introduction) **99g:35031** 35J25

— (*with* Iosevich, Alex) Maximal averages over surfaces. (English summary) *Adv. Math.* **132** (1997), *no.* 1, 46–119. (Michael Cowling) **99b:42023** 42B25 (42B10)

Sawyer, Stanley A. Estimating selection and mutation rates from a random field model for polymorphic sites. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 193–205, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D15 (92D20)

de Saxcé, G. *see* **De Saxcé, G.**

Saxe, Karen On complex interpolation and spectral continuity. (English summary) *Studia Math.* **130** (1998), *no.* 3, 223–229. (Summary) **99d:46099** 46M35 (47A10, 47B99)

Saxena, Anjula (*with* Venturino, Ezio) Smoothing the solutions of history-dependent dynamical systems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 647–666. (Summary) **99f:45020** 45L05 (34K05, 45J05, 65L05, 65R20)

Saxena, Ashok (*with* Singh, Vijay Kumar[1]) Some results on unique fixed points for mappings on Hausdorff space. (English summary) *Ganita* **49** (1998), *no.* 2, 121–125. 54H25

Saxena, P. K. (*with* Singh, Preetvanti) Total shipping cost/completion-date trade-off in transportation problem with additional restriction. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 2-3, 161–174. 90C08 (90B06)

Saxena, Poonam (*with* Roy, Arati; Yadava, R. N.) On the Walsh transforms. *J. Maulana Azad College Tech.* **31** (1998), 145–151. 42C10 (44A15, 94A12)

Saxena, R. K. *see* **Saxena, Rajendra Kumar**

Saxena, R. P. (*with* Jassal, H. K.; Mukherjee, Amitabha) Duality and cosmological compactification of superstrings with unbroken supersymmetry. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1035–1047. 83E30 (81T30, 83F05)

Saxena, Rajendra Kumar (*with* Panchal, D. K.; Parihar, C. L.) The generalized Hankel transform of generalized functions and analyticity theorem. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 239–251. (Gopi Ahuja) **99k:44009** 44A15 (33C60)

— (*with* Panchal, D. K.; Parihar, C. L.) A convolution transformation and its inversion. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 33–47. (S. I. Grozdev) **99j:44014** 44A35 (44A15)

Saxena, Ram Kishore (*with* Gupta, Neelmani) On the asymptotic expansion of generalized Stieltjes transform. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 51–56 (1996). (Summary) **99b:44008** 44A15

— (*with* Dave, O. P.) Composition of fractional integration operators involving multivariable H-function. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 315–329. (S. L. Kalla) **99c:26006** 26A33 (33C60, 47G10)

— (*with* Gupta, Neelmani) On distributional generalized H-transformation. (English summary) *Math. Student* **66** (1997), *no.* 1-4, 249–259. (Dmitriy Karp) **99k:33043** 33C60 (44A15, 46F12)

— (*with* Saigo, Megumi) Fractional integral formula for the H-function. II. (English summary) *J. Fract. Calc.* **13** (1998), 37–41. (Summary) **99d:26010** 26A33 (33C60)

— (*with* Saigo, Megumi) Application of generalized fractional calculus operators in the solution of an integral equation. (English summary) *J. Fract. Calc.* **14** (1998), 53–63. (Summary) **99j:26009** 26A33 (45A05)

— (*with* Saigo, Megumi) Expansions of ${}_4F_3$ when the upper parameters differ by integers. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 293–299. (Summary) **99j:33009** 33C20

Saxena, Ratnesh R. (*with* Arora, Savita) Linearization approach to multi-objective quadratic set covering problem. (English summary) *Optimization* **43** (1998), *no.* 2, 145–156. (Summary) **99d:90104** 90C29 (90C20)

Saxena, Ravi R. (*with* Misra, B. L.) Construction of block designs and arrays through 2^n-factorial experiment. (English summary) *J. Statist. Res.* **31** (1997), *no.* 2, 49–54. (Summary) **99b:62114** 62K10 (05B05)

Saxena, Sunil Integrals involving hypergeometric function, general classes of polynomials and the H-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 159–166. (Summary) **99d:33017** 33C60

— (*with* Goyal, S. P.) On a general fractional integral operator, generalized polynomials and the H-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 180–187. (Summary) **99e:33015** 33C60

— Inverse Laplace transform of the product of a general class of polynomials and the multivariable H-function. (English summary) *Ganita Sandesh* **10** (1996), *no.* 1, 35–44. (Summary) **99h:33055** 33C70 (44A10)

— (*with* Saigo, Megumi; Goyal, S. P.) A theorem relating a generalized Weyl fractional integral, Laplace and Varma transforms with applications. (English summary) *J. Fract. Calc.* **13** (1998), 43–56. (Summary) **99a:44001** 44A10 (26A33, 44A15)

Saxena, Vinod P. Fourier series-finite element approach to physiological thermal problems. (English summary) *Fourier analysis, approximation theory and applications (Aligarh, 1993)*, 237–242, *New Age, New Delhi*, 1997. (*see* **99d:00019**) 92C30 (65N30)

— (*with* Misra, O. P.; Sinha, P.) On the stability of an egg-eating predator-prey system with an age-structured predator population. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 879–888. (Summary) **99k:92036** 92D25 (34K20, 45J05)

Saxena, Vivek (*with* Leibovich, Sidney; Berkooz, Gal) Enhancement of three-dimensional instability of free shear layers. (English summary) *J. Fluid Mech.* **379** (1999), 23–38. (Summary) **99j:76055** 76E99

Saxl, Jan (*with* Guralnick, Robert M.; Penttila, Tim; Praeger, Cheryl E.) Linear groups with orders having certain large prime divisors. (English summary) *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 167–214. (Jean Michel) **99m:20113** 20G40 (20C33, 20E28, 20E34)

— *see also* **Algebraic groups and their representations, 99i:20002**

Saxon, Stephen A. (*with* Sánchez Ruiz, L. M.) Weak barrelledness conditions. *Functional analysis with current applications in science, technology and industry (Aligarh, 1996)*, 20–36, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Jan H. Fourie) **99e:46002** 46A08

— (*with* Sánchez Ruiz, L. M.) Mackey weak barrelledness. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3279–3282. (P. Pérez Carreras) **99a:46006** 46A08

albert of Saxony *see* **Albert of Saxony**

Sayari, Nabil The reducibility of surgered 3-manifolds and homology 3-spheres. (English summary) *Topology Appl.* **87** (1998), *no.* 1, 73–78. (Ying Qing Wu) **99d:57012** 57N10 (57M25)

Sayas, Francisco Javier Integration of an exterior problem for the Laplace equation using a boundary element method. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 5 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65N38

— (*with* Celorrio, Ricardo; Lisbona, Francisco J.) Integral models and their discretizations for unsaturated fluids around a tunnel. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 655–660, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25 (76S05)

— Numerical approximation of hypersingular equations by Galerkin methods. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 873–877, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65R20

— A generalized Euler-Maclaurin formula on triangles. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 2, 89–93. (Sarjoo Prasad Yadav) **99j:65004** 65B15 (41A80, 65D32)

— (*with* Crouzeix, Michel) Asymptotic expansions of the error of spline Galerkin boundary element methods. (English summary) *Numer. Math.* **78** (1998), *no.* 4, 523–547. (Wojciech Mydlarczyk) **99c:65245** 65R20 (65N15)

el-Sayed, Ahmed M. A. *see* **El-Sayed, Ahmed M. A.**

Sayed, Ali H. (*with* Boros, Tibor; Lev-Ari, H.; Kailath, Thomas) A generalized Schur-type algorithm for the joint factorization of a structured matrix and its inverse. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 131–145 (1998). (Wen Yu Sun) **99f:65042** 65F05 (15A23)

— (*with* Nascimento, V. H.; Chandrasekaran, S.) Estimation and control with bounded data uncertainties. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 259–306. (B. I. Anan'ev) **99k:93098** 93E24 (93C41)

— (*with* Chandrasekaran, S.; Golub, Gene H.; Gu, Ming) Parameter estimation in the presence of bounded data uncertainties. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 235–252 (*electronic*). (George Yin) **99a:93094** 93E10 (65U05, 93E24)

— (*with* Boros, Tibor; Kailath, Thomas) A recursive method for solving unconstrained tangential interpolation problems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 454–470. (Summary) **99m:93018** 93B17 (65F30, 93B40)

— (*with* Chandrasekaran, S.; Gu, Ming) A stable and efficient algorithm for the indefinite linear least-squares problem. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 354–362 (*electronic*). (Jin Yun Yuan) **99f:65064** 65F30 (15A06, 65G05)

— *see also* **Symposium: Fast Algorithms for Control, Signals and Image Processing, 99f:00025**

el-Sayed, M. A. *see* **El-Sayed, M. A.**

Sayed, O. R. (*with* Khedr, F. H.; Zeyada, F. M.) Fuzzy semi-continuity and fuzzy csemi-continuity in fuzzifying topology. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 105–124. 54A40

el-Sayed, Salah M. *see* **El-Sayed, Salah M.**

el-Sayed, Wagdy G. *see* **El-Sayed, Wagdy G.**

Saygili, K. Hamilton-Jacobi approach to pre-big bang cosmology at long wavelengths. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 2, 225–239. (Summary) **99j:83059** 83C99 (83F05)

Saygınsoy, Özgen (*with* Yürekli, Osman) A theorem on a Laplace-type integral transform and its applications. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 4, 561–567. (Summary) **99c:44002** 44A10

Sayward, Charles (*with* Hugly, Philip) A Fregean principle. (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 3, 125–135. (Summary) **99g:03004** 03A05 (03B65)

Sayyed, K. A. M. (*with* Metwally, M. S.; Mahmoud, M. T.) Effectiveness of equivalent sets of polynomials in Faber regions. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 485–496. (Stephen M. Zemyan) **99h:30015** 30C45

Sazhin, M. V. (*with* Alexeyev, S. O.) Four-dimensional dilatonic black holes in Gauss-Bonnet extended string gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1187–1201. (Summary) **99c:83081** 83E30 (83C57)

Sazonov, V. V. *see* **Sazonov, Vyacheslav Vasil'evich**

Sazonov, Vladimir (*with* Lisitsa, Alexei) Δ-languages for sets and sub-PTIME graph transformers. (English summary) *Database theory—ICDT '95 (Prague)*, 125–138, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68075** 68P15 (68Q25)

Sazonov, Vyacheslav Vasil'evich (*with* Regazzini, Eugenio) On the central limit problem for partially exchangeable random variables with values in a Hilbert space. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 796–812. (Alfredas Račkauskas) **99i:60010** 60B12 (62F05)

Sazonova, Vera (*with* Denardo, Bruce; Earwood, John) Parametric instability of two coupled nonlinear oscillators. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 3, 187–195. (Summary) **99j:70027** 70K20 (70K28)

Sbano, L. The topology of the planar three-body problem with zero total angular momentum and the existence of periodic orbits. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 641–658. (Christopher K. McCord) **99h:70018** 70F07 (34C25, 58F22, 70H25)

Sbi, A. (*with* Erraoui, M.; Ouknine, Youssef) Backward stochastic differential equations with distribution as terminal condition. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 4, 349–356. (Xue Rong Mao) **99a:60057** 60H10

— (*with* Erraoui, M.; Ouknine, Youssef) Reflected solutions of backward stochastic differential equations with distribution as terminal condition. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 1–16. (Summary) **99e:60132** 60H10

Sbitneva, Larissa V. (*with* Sabinin, Lev V.; Sabinina, L. L.) On the notion of gyrogroup. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 11–17. (Abraham A. Ungar) **99i:83004** 83A05 (20N99)

Sbordone, Carlo Nonlinear elliptic equations with right hand side in nonstandard spaces. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 361–368. (*see* **99d:00031**) 35J60

— (*with* Iwaniec, Tadeusz) Div-curl fields of finite distortion. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 729–734. (Summary) **99h:35076** 35J99 (35B65)

— (*with* Iwaniec, Tadeusz) Riesz transforms and elliptic PDEs with VMO coefficients. (English summary) *J. Anal. Math.* **74** (1998), 183–212. (Giuseppe Di Fazio) **99e:35034** 35J15 (47F05)

Scafati Tallini, Maria (*with* Rajola, Sandro) Blocking sets of small size and colourings in finite affine planes. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 2, 417–429 (1998). (Tamás Szőnyi) **99m:51014** 51E21 (05C65, 51E15)

Scaglione, Anna (*with* Barbarossa, Sergio) Statistical analysis of the product high-order ambiguity function. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 343–356. 94A12

— (*with* Barbarossa, Sergio; Giannakis, Georgios B.) Filterbank transceivers optimizing information rate in block transmissions over dispersive channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 1019–1032. 94A05 (94A40)

Scaillet, Olivier (*with* Broze, Laurence; Zakoïan, Jean-Michel) Quasi-indirect inference for diffusion processes. (English summary) *Econometric Theory* **14** (1998), *no.* 2, 161–186. (Summary) **99d:62083** 62M10 (62P20)

— (*with* Dhaene, Geert; Gouriéroux, Christian) Instrumental models and indirect encompassing. (English summary) *Econometrica* **66** (1998), *no.* 3, 673–688. (Kajal Lahiri) **99h:62136** 62P20

la Scala, Massimo *see* **La Scala, Massimo**

la Scala, Roberto *see* **La Scala, Roberto**

Scalari, Alberto (*with* Manfrin, Renato; Zampieri, Giuseppe) Propagation along complex curves on a hypersurface. *Kyushu J. Math.* **52** (1998), *no.* 1, 15–22. (Dmitri Zaitsev) **99c:32013** 32D15 (32D20, 32F25)

Scales, John (*with* Morey, Chris; Van Vleck, Erik S.) A feedback algorithm for determining search parameters for Monte Carlo optimization. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 263–281. (Summary) **99g:90076** 90C15 (65C05)

Scalia, A. (*with* Ieşan, D.) On Saint-Venant's principle for microstretch elastic bodies. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 14, 1277–1290. (E. S. Şuhubi) **99a:73037** 73C10 (73B25)

— A Phragmén-Lindelöf theorem for porous elastic cylinders. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 8, 571–576. (Themistocles M. Rassias) **99i:73021** 73C02 (73C15)

Scalia-Tomba, Gianpaolo (*with* Ball, Frank; Mollison, Denis) Epidemics with two levels of mixing. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 46–89. (Andrew D. Barbour) **99a:92033** 92D30

Scanlon, Thomas Warren The *abc* theorem for commutative algebraic groups in characteristic *p*. *Internat. Math. Res. Notices* **1997**, *no.* 18, 881–898. (Alexandru Buium) **99b:11062** 11G10 (11U09, 14G25)

— *p*-adic distance from torsion points of semi-abelian varieties. (English summary) *J. Reine Angew. Math.* **499** (1998), 225–236. (Alexandru Buium) **99h:14027** 14G20 (11G25, 14K15)

Scannapieco, Evan (*with* Levin, Janna; Silk, Joseph) The topology of the universe: the biggest manifold of them all. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2689–2697. (Summary) **99f:83085** 83F05 (85A40)

Scapellato, Raffaele (*with* Lauri, Josef) A note on graphs all of whose edges are pseudosimilar. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 11–13. (*see* **99i:05002**) 05C60

— (*with* Marušič, Dragan) Permutation groups, vertex-transitive digraphs and semiregular automorphisms. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 707–712. (Arthur T. White) **99g:05101** 05C25 (05C20)

Scarabotti, Fabio Radon transforms on the symmetric group and harmonic analysis of a class of invariant Laplacians. (English summary) *Forum Math.* **10** (1998), *no.* 4, 407–411. (David K. Maslen) **99k:44005** 44A12 (20C30, 43A85)

Scarano, Gaetano Comments on: "Invariance property of Gaussian signals: a new interpretation, extension and applications" [Circuits Systems Signal Process **16** (1997), no. 5, 523–536; MR 99b:94008] by L. Cheded. With a reply by Cheded. *Circuits Systems Signal Process.* **18** (1999), *no.* 1, 85–88. 94A12

Scarcello, Francesco (*with* Gottlob, Georg; Leone, Nicola) On the complexity of some inductive logic programming problems. (English summary) *Inductive logic programming* (*Prague*, 1997), 17–32, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (Summary) **99e:68019** 68N17 (68Q25)

— (*with* Greco, Sergio; Leone, Nicola) DATALOG with nested rules. (English summary) *Logic programming and knowledge representation* (*Port Jefferson, NY*, 1997), 52–65, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99m:68031** 68N17 (68P15)

Scardovelli, Ruben (*with* Zaleski, Stéphane) Direct numerical simulation of free-surface and interfacial flow. *Annual review of fluid mechanics, Vol.* 31, 567–603, *Annu. Rev. Fluid Mech.*, 31, *Annual Reviews, Palo Alto, CA*, 1999. (Nikolay P. Moshkin) **99m:76002** 76–02 (76D05)

azevedo Scárdua, B. *see* **Azevedo Scárdua, B.**

Scarf, H. E. (*with* Bárány, Imre; Shallcross, D. F.) The topological structure of maximal lattice free convex bodies: the general case. (English summary) *Math. Programming* **80** (1998), *no.* 1, *Ser. A*, 1–15. (Summary) **99h:90069** 90C10

Scarfone, A. M. (*with* Kaniadakis, G.; Quarati, P.) Nonlinear canonical quantum system of collectively interacting particles via an exclusion-inclusion principle. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5574–5585. (Summary) **99g:81118** 81S30

Scărlătescu, Silvia Vector bundles and *K*-theory over non-Archimedean topological algebras. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 257–265. (L. Narici) **99m:46170** 46M20 (19K99, 46H05, 46S10)

— A fixed-point theorem for ultrametric fields. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **49** (1997), *no.* 5-6, 407–410. (Summary) **99j:12005** 12J05

Scarlatti, Sergio (*with* Albeverio, Sergio; Jost, Jürgen; Paycha, Sylvie) ★ A mathematical introduction to string theory. (English summary) Variational problems, geometric and probabilistic methods. London Mathematical Society Lecture Note Series, 225. *Cambridge University Press, Cambridge*, 1997. viii+135 *pp. ISBN* 0-521-55610-4 (Steven Rosenberg) **99d:58178** 58G26 (14C40, 32G15, 58D30, 81T30)

— (*with* Piccioni, Mauro; Trouvé, Alain) A variational problem arising from speech recognition. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 753–771 (*electronic*). (Ilya S. Molchanov) **99c:49038** 49N55 (68T10)

Scarpalézos, D. (*with* Nedeljkov, Marko; Pilipović, Stevan S.) ★ The linear theory of Colombeau generalized functions. (English summary) Pitman Research Notes in Mathematics Series, 385. *Longman, Harlow*, 1998. *x*+156 *pp. ISBN* 0-582-35683-0 (P. Szeptycki) **99m:46096** 46Fxx (35D05, 35S05)

— (*with* Delcroix, A.) Asymptotic scales–asymptotic algebras. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 181–190. (Summary) **99d:46055** 46F10 (35D99)

— Some remarks on functoriality of Colombeau's construction; topological and microlocal aspects and applications. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 295–307. (Summary) **99e:46053** 46F10 (46F05)

— (*with* Đapić, N.; Pilipović, Stevan S.) Microlocal analysis of Colombeau's generalized functions: propagation of singularities. (English summary) *J. Anal. Math.* **75** (1998), 51–66. (Todor Dimitrov Todorov) **99k:35007** 35A27 (46F10, 58G07)

Scarpati, L. (*with* Gerla, G.) Extension principles for fuzzy set theory. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 49–69. (Summary) **99e:04002** 04A72

Scarpellini, Bruno (*with* Escher, Joachim) Stability properties of parabolic equations in unbounded domains. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 1, 31–45. (Yoshio Yamada) **99d:35090** 35K60 (35B35)

— (*with* Escher, Joachim) On the asymptotics of solutions of parabolic equations on unbounded domains. *Nonlinear Anal.* **33** (1998), *no.* 5, 483–507. (Eduard Feireisl) **99e:35116** 35K60 (35B40)

— (*with* von Wahl, Wolf) Stability properties of the Boussinesq equations. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 294–321. (Guido Schneider) **99d:76037** 76E15 (35B35, 35Q35, 76D05)

Scarpetta, E. On well-posedness for non-linear problems in the theory of elastic materials with voids. (English and German summaries) *Z. Angew. Math. Mech.* **76** (1996), *no.* 10, 573–582. (Rouben Rostamian) **99e:73034** 73C15 (35Q72, 73C50, 73S10)

Scarr, Tzvi (*with* Megrelishvili, Michael G.) Constructing Tychonoff *G*-spaces which are not *G*-Tychonoff. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 291–302 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54H15 (22A99, 22D05)

— (*with* Megrelishvili, Michael G.) Constructing Tychonoff *G*-spaces which are not *G*-Tychonoff. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 69–81. (Helmut Ludescher) **99g:54034** 54H15 (54D35)

Scarsini, Marco (*with* Shaked, Moshe) Fréchet classes and nonmonotone dependence. *Distributions with given marginals and moment problems* (*Prague*, 1996), 59–71, *Kluwer Acad. Publ., Dordrecht*, 1997. (Ludger Rüschendorf) **99b:60023** 60E05

— (*with* Letac, Gérard) Random nested tetrahedra. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 619–627. (Hui Ling Le) **99k:60023** 60D05 (52A22)

— (*with* Bassan, Bruno) Finite row-column exchangeable arrays. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 137–145. (Eugenio Regazzini) **99i:60083** 60G09

— Multivariate convex orderings, dependence, and stochastic equality. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 93–103. (Nicole Bäuerle) **99d:60018** 60E15 (62H99)

Ščepanović, Radoje (*with* Lavrent'ev, I. M.) On the solvability of nonlinear equations in a Banach space. (Russian. Russian summary) *Math. Montisnigri* **8** (1997), 95–100. (Yu. V. Trubnikov) **99d:47063** 47H15

— On the solvability of nonlinear equations in a Hilbert space. (Russian. Russian summary) *Math. Montisnigri* **9** (1998), 121–126. (Andrey Ponomaryov) **99i:47112** 47H15 (47H17)

Ščepin, Evgenij *see* **Shchepin, E. V.**

Ščepin, Evgenij V. *see* **Shchepin, E. V.**

Scerri, Eric R. (*with* Kreinovich, Vladik; Wojciechowski, Piotr; Yager, Ronald R.) Ordinal explanation of the periodic system of chemical elements. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 387–399. 81V55

Scevenels, Dirk On the Mislin genus of a certain class of nilpotent groups. *Comm. Algebra* **26** (1998), *no.* 5, 1367–1376. (Carles Casacuberta) **99i:20047** 20F18 (55P60)

Schaaf, Renate (*with* Armstrong, Seth) Solution surfaces for semilinear elliptic equations on rotated domains. (English summary) *Adv. Differential Equations* **4** (1999), *no.* 2, 251–274. (Summary) **99k:35056** 35J65 (34B15, 47H15)

Schaafsma, W. (*with* de Bruin, R.; Salomé, D.) A semi-Bayesian method for nonparametric density estimation. (English summary) *Comput. Statist. Data Anal.* **30** (1999), *no.* 1, 19–30. (Summary) **99m:62055** 62G07

Schaal, Daniel Upper and lower bounds for some Rado numbers for inequalities. (English summary) *Util. Math.* **53** (1998), 63–69. (Summary) **99a:05141** 05D10

van der Schaar, Jan Pieter (*with* de Roo, Mees; Panda, Sudhakar) Intersecting branes in matrix theory. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 50–56. (Summary) **99b:81209** 81T30

— (*with* Bergshoeff, E. A.; Papadopoulos, George J.) Domain walls on the brane. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 63–70. (Summary) **99c:81163** 81T30

— (*with* Bergshoeff, E. A.) On M-9-branes. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 23–39. (Summary) **99k:81220** 81T30 (83E30)

Schaback, Robert On the efficiency of interpolation by radial basis functions. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 309–318, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 41A30 (65D05)

— Optimal geometric Hermite interpolation of curves. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 417–428, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41060** 41A63

— (*with* Franke, Carsten) Convergence order estimates of meshless collocation methods using radial basis functions. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 4, 381–399. (Bruce A. Finlayson) **99j:65213** 65N35 (65R20)

— Improved error bounds for scattered data interpolation by radial basis functions. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 201–216. (Mircea Ivan) **99d:41037** 41A30 (41A63, 65D10)

Schabes, Yves (*with* Joshi, Aravind K.) Tree-adjoining grammars. *Handbook of formal languages, Vol.* 3, 69–123, *Springer, Berlin*, 1997. (From the introduction) **99h:68109** 68Q50 (03D05, 68Q45, 68S05)

Schacher, Murray (*with* Fein, Burton) Relative Brauer groups of discrete valued fields. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 677–684. (Ido Efrat) **99f:13001** 13A20 (12E15)

Schachermayer, Walter (*with* Delbaen, Freddy) The fundamental theorem of asset pricing for unbounded stochastic processes. *Math. Ann.* **312** (1998), *no.* 2, 215–250. (Martin Schweizer) **99k:60117** 60G44 (60G05, 90A09)

— (*with* Delbaen, Freddy) A simple counterexample to several problems in the theory of asset pricing. (English summary) *Math. Finance* **8** (1998), *no.* 1, 1–11. (Angelos Dassios) **99i:90014** 90A09 (60G35, 60G44, 60J60)

— (*with* Deistler, M.) The set of observationally equivalent errors-in-variables models. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 101–104. (Summary) **99c:93099** 93E03 (93E12)

Schachte, Peter (*with* Armstrong, Tania; Marriott, Kim; Søndergaard, Harald) Two classes of Boolean functions for dependency analysis. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 3–45. (Summary) **99c:68050** 68N20 (68N17, 68P15)

Schade, Tilla Antipodal distance-regular graphs of diameter four and five. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 69–77. (John van Bon) **99i:05209** 05E30 (05C12)

Schaden, Martin (*with* Baulieu, Laurent) Gauge group TQFT and improved perturbative Yang-Mills theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 6, 985–1012. (Bani Mitra Södermark) **99j:81190** 81T70 (81T13)

Schader, Martin *see* **Classification, data analysis, and data highways, 99g:62002**

Schadschneider, A. (*with* Rajewsky, N.; Santen, L.; Schreckenberg, Michael) The asymmetric exclusion process: comparison of update procedures. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 151–194. (Summary) **99e:82092** 82C80 (82C20)

Schaeben, Helmut (*with* Nikolayev, Dmitry I.) The central limit theorem in texture component fit methods. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 1, 59–87. (Summary) **99e:60071** 60F05 (60B15, 60J15)

Schaefer, Edward F. Computing a Selmer group of a Jacobian using functions on the curve. *Math. Ann.* **310** (1998), *no.* 3, 447–471. (Kenneth Kramer) **99h:11063** 11G10 (11G30, 14H40)

Schaefer, Guido (*with* Frigioni, Daniele; Miller, Tobias; Nanni, Umberto; Pasqualone, Giulio; Zaroliagis, Christos D.) An experimental study of dynamic algorithms for directed graphs. *Algorithms—ESA '98 (Venice)*, 368–380, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q25 (68R10)

Schaefer, Joe Covariant path integrals on hyperbolic surfaces. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5653–5662. (Christian Grosche) **99b:81131** 81S40 (58D30)

Schaefer, Martin (*with* Imhof, L.; Krafft, O.) *D*-optimal designs for polynomial regression with weight function $x/(1+x)$. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1271–1274. (Summary) **99i:62168** 62K05

Schaefer, Philip W. (*with* Horgan, Cornelius O.) In recognition of the seventy-fifth birthday of Lawrence E. Payne. *J. Elasticity* **49** (1997/98), *no.* 2, 89–99. (Editors) **99k:01061** 01A70

— (*with* Payne, Lawrence E.; Song, Jong Chul) Growth and decay results in heat conduction problems with nonlinear boundary conditions. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 269–286. (I. Łojczyk-Królikiewicz) **99h:35113** 35K60 (35B05)

Schaeffer, David G. (*with* Hayes, Brian T.) Plane shear waves under a periodic boundary disturbance in a saturated granular medium. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 193–212. (Anne Nouri) **99g:73052** 73E50 (35Q72, 73E60, 76A99)

— (*with* Shearer, Michael) A simple model for stress fluctuations in plasticity with application to granular materials. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1791–1807 (*electronic*). 73E99 (73Q05)

— (*with* Howle, Laurens; Shearer, Michael; Zhong, Pei) Lithotripsy: the treatment of kidney stones with shock waves. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 356–371 (*electronic*). (Summary) **99d:92009** 92C05 (76Q05, 76Z99, 92C50)

Schaeffer, Gilles (*with* Cherix, Pierre-Alain) An asymptotic Freiheitssatz for finitely generated groups. (English summary) *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 9–22. (Thomas Delzant) **99m:20066** 20F05

— (*with* Goupil, Alain) Factoring n-cycles and counting maps of given genus. (English and French summaries) *European J. Combin.* **19** (1998), *no.* 7, 819–834. (K. S. Sarkaria) **99m:05071** 05C30 (05C10, 05C38, 57M99)

— (*with* Jacquard, Benjamin) A bijective census of nonseparable planar maps. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 1–20. (W. G. Brown) **99f:05054** 05C30 (05C05, 05C10, 68P10, 68R10)

Schaeffer, Jack (*with* Glassey, Robert T.) The relativistic Vlasov-Maxwell system in two space dimensions. I, II. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 4, 331–354, 355–374. (Gerhard Rein) **99d:82071** 82D10 (35Q99, 76X05)

— Convergence of a difference scheme for the Vlasov-Poisson-Fokker-Planck system in one dimension. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1149–1175 (*electronic*). (Jennifer Zhao) **99e:65124** 65M12 (65M06, 76M20, 76X05, 82D10)

Schaeffer, Jonathan (*with* Culberson, Joseph C.) Pattern databases. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 318–334. 68T20

Schaeffer, R. (*with* Moschella, Ugo) Quantum fluctuations in curved space. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 7, 1927–1939. (Enric Verdaguer) **99k:83049** 83C47 (81T20)

Schaerf, Andrea (*with* Buchheit, M.; Donini, Francesco M.; Nutt, Werner) A refined architecture for terminological systems: terminology=schema+views. (English summary) *Artificial Intelligence* **99** (1998), *no.* 2, 209–260. (Summary) **99a:68161** 68T30 (68Q15)

— Scheduling sport tournaments using constraint logic programming. (English summary) *Constraints* **4** (1999), *no.* 1, 43–65. 68T20

Schaerf, Marco (*with* Cadoli, Marco; Giovanardi, Andrea) An algorithm to evaluate quantified Boolean formulae. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 262–267, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68Q25 (03B05, 03B70, 03D15)

Schäfer, Andreas (*with* Belitsky, A. V.; Müller, Dieter[1]) Implications of $\mathcal{N}=1$ supersymmetry for QCD conformal operators. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 126–135. (Summary) **99k:81291** 81T60 (81T13, 81V05)

Schäfer, Gerhard (*with* Jaranowski, Piotr) Third post-Newtonian higher order ADM Hamilton dynamics for two-body point-mass systems. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7274–7291. 83C25

Schäfer, Jörg Abstract Markov property and local operators. *J. Funct. Anal.* **138** (1996), *no.* 1, 137–169. (V. Parkhomenko (Zbl 868.60044)) **99a:60043** 60G20 (60G60)

— (*with* Iwata, Koichiro) Markov property and cokernels of local operators. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 657–672. (Isamu Dôku) **99h:60087** 60G20 (60G60)

Schäfer, Lothar *see* **Duhem, Pierre, 99g:01043**

Schäfer, M. *see* **Schäfer, Michael**

Schäfer, Mary *see* **Götze, Heinz, 99k:01009**

Schäfer, Michael Large-scale scientific flow computations. (English summary) *Large-scale scientific computations of engineering and environmental problems (Varna, 1997)*, 98–110, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 76Mxx

— (*with* Bernsdorf, J.; Durst, F.) Comparison of cellular automata and finite volume techniques for simulation of incompressible flows in complex geometries. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 251–264. 76M25 (65M60)

Schäfer, Thomas[2] (*with* Shuryak, E. V.) Instantons in QCD. (English summary) *Rev. Modern Phys.* **70** (1998), *no.* 2, 323–425. (Summary) **99b:81268** 81V05 (81T13)

Schaffer, Steve A semicoarsening multigrid method for elliptic partial differential equations with highly discontinuous and anisotropic coefficients. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 228–242 (*electronic*). (Summary) **99d:65355** 65N55 (76M25)

Schaffer, W. M. (*with* Kendall, Bruce E.; Tidd, C. W.; Olsen, Lars F.) The impact of chaos on biology: promising directions for research. (English summary) *The impact of chaos on science and society (Tokyo, 1991)*, 190–218, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92B05 (58F13)

Schäffler, Meike Partition regular systems of linear inequalities. *Doc. Math.* **3** (1998), 149–187 (*electronic*). (S. Zlobec) **99i:05199** 05D10 (04A20, 15A39)

Schäffter, Markus W. (*with* Hartmann, Stephan; Schulz, Andreas S.) Switchbox routing in VLSI design: closing the complexity gap. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 31–49. (Summary) **99d:68126** 68Q35

— (*with* Möhring, Rolf H.) Scheduling series-parallel orders subject to 0/1-communication delays. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 23–40. (Summary) **99m:68023** 68M20 (90B12)

Schafgans, Marcia M. A. (*with* Andrews, Donald W. K.) Semiparametric estimation of the intercept of a sample selection model. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 3, 497–517. (M. Hušková) **99j:62041** 62G05

Schafir, R. L. Comment on: "Entangled entanglement" [Phys. Rev. A (3) **54** (1996), no. 3, 1793–1797; MR 99b:81019] by G. Krenn and A. Zeilinger. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 5, 4335. (Summary) **99b:81021** 81P15

— *see also* **Krenn, Günther, 99b:81022**

Schäfke, Reinhard (*with* Lutz, D. A.) On the reduction of a class of nonhomogeneous linear difference equations. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 423–436. (E. Thandapani) **99e:39030** 39A10 (34A20)

— (*with* Benoît, Eric; Fruchard, Augustin; Wallet, Guy) Overstability: towards a global study. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 873–878. (B. L. J. Braaksma) **99k:34120** 34E15 (34A20)

— Confluence of several regular singular points into an irregular singular one. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 3, 401–424. (Donald A. Lutz) **99g:34023** 34A20

Schaflinger, U. (*with* Plaschko, P.) Absolute instabilities in two-layer gravity driven film flow with a free surface. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 194–204. (Summary) **99c:73027** 73E05 (76D05, 76T05, 76V05)

van der Schaft, Arjan (*with* Schumacher, J. M.) Complementarity modeling of hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 483–490. (Kirsten Anna Morris) **99f:93006** 93A30 (93C10)

— (*with* Dalsmo, Morten) On representations and integrability of mathematical structures in energy-conserving physical systems. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 54–91 (*electronic*). (Mircea Lupu) **99f:93071** 93C10 (58F05, 70F25, 70Q05)

Schaible, Siegfried Criteria for generalized monotonicity. (English summary) *New trends in mathematical programming*, 277–288, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99f:90151** 90C33 (26A16, 47H05, 47N10, 49J52)

— (*with* Jeyakumar, V.; Đinh Thế Lục) Characterizations of generalized monotone nonsmooth continuous maps using approximate Jacobians. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 119–132. (V. F. Dem'yanov) **99j:49027** 49J52 (47N10, 90C31)

— (*with* Hadjisavvas, N.) From scalar to vector equilibrium problems in the quasimonotone case. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 297–309. (Julian Revalski) **99d:49023** 49J40 (47H19, 90C29, 90C48)

Schäl, Manfred On piecewise deterministic Markov control processes: control of jumps and of risk processes in insurance. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 75–91. (Summary) **99c:93115** 93E20 (49L20, 90A20)

schmutz Schaller, Paul *see* **Schmutz Schaller, Paul**

Schalm, Koenraad (*with* Hatzinikitas, Agapitos; van Nieuwenhuizen, Peter) Trace and chiral anomalies in string and ordinary field theory from Feynman diagrams for non-linear sigma models. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 424–454. (Summary) **99b:81223** 81T50 (81T18, 81T30)

— (*with* Bastianelli, Fiorenzo; van Nieuwenhuizen, Peter) Mode regularization, time slicing, Weyl ordering, and phase space path integrals for quantum-mechanical nonlinear sigma models. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044002, 9 *pp.* (Summary) **99k:81173** 81T10 (81S40)

— (*with* Gonzalez-Rey, Francisco; Park, Inyong) A note on four-point functions of conformal operators in $N=4$ super-Yang Mills. (English summary) *Phys. Lett. B* **448** (1999), *no.* 1-2, 37–40. (Summary) **99k:81309** 81T60 (81T13, 81T15)

Schanuel, Stephen H. (*with* Lawvere, F. William) ★ Conceptual mathematics. (English summary) A first introduction to categories. Reprint of the 1991 original. *Cambridge University Press, Cambridge*, 1997. xvi+358 *pp. ISBN* 0-521-47249-0; 0-521-47817-0 (Andreas Blass) **99e:18001** 18-01

Schanz, M. (*with* Gaul, L.; Wenzel, Wolfgang; Zastrau, B.) A boundary element formulation for generalized viscoelastic solids in time domain. *Boundary element topics (Stuttgart, 1995)*, 31–50, *Springer, Berlin*, 1997. (*see* **99e:00017**) 73V10 (65N38, 73F15)

Schanz, Michael (*with* Starke, Jens) Dynamical system approaches to combinatorial optimization. (English summary) *Handbook of combinatorial optimization, Vol. 2*, 471–524, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (58F40, 90–02, 90C35)

Schanz, Ulrich (*with* Craig, Walter; Sulem, Catherine) The modulational regime of three-dimensional water waves and the Davey-Stewartson system. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 5, 615–667. (C. Eugene Wayne) **99i:35144** 35Q55 (35Q53, 76B15)

Schanz, W. (*with* Kani, E.) Modular diagonal quotient surfaces. *Math. Z.* **227** (1998), *no.* 2, 337–366. (Yoshinori Hamahata) **99a:14031** 14G35 (11F41, 11G18)

Schapira, Pierre (*with* Hindry, Marc; Duby, Jean-Jacques; Laumond, Jean-Paul; Châtelet, Gilles; Risler, Jean-Jacques; Bourguignon, Jean Pierre) Le rôle des mathématiques. [The role of mathematics] *Gaz. Math. No.* 74 (1997), 5–25. (Editors) **99g:00021** 00A30 (01A80)

— Boundary values, Fourier-Sato transform and Laplace transform. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 75–87. (Andrea D'Agnolo) **99d:32040** 32L25 (32C38, 58G07)

Schapire, Robert E. (*with* Auer, Peter; Cesa-Bianchi, Nicolò; Freund, Yoav) Gambling in a rigged casino: the adversarial multi-armed bandit problem. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 322–331, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 90D05 (68Q99, 90D20)

— (*with* Freund, Yoav; Kearns, Michael; Mansour, Yishay; Ron, Dana; Rubinfeld, Ronitt) Efficient algorithms for learning to play repeated games against computationally bounded adversaries. 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 332–341, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05 (90D20)

— (*with* Freund, Yoav; Kearns, Michael; Ron, Dana; Rubinfeld, Ronitt; Sellie, Linda) Efficient learning of typical finite automata from random walks. (English summary) *Inform. and Comput.* **138** (1997), *no.* 1, 23–48. (Rani Siromoney) **99f:68118** 68Q45 (68T05)

— (*with* Freund, Yoav) A decision-theoretic generalization of on-line learning and an application to boosting. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 119–139. (Summary) **99g:68172** 68T05

— *see also* **Workshop: Computational Learning Theory, 99a:68019**

Schaposnik, Fidel A. (*with* Fosco, C. D.; Núñez, Carlos) Loop corrections and bosonization formulae. (English summary) *Ann. Physics* **271** (1999), *no.* 1, 31–45. (Summary) **99i:81152** 81T15

— (*with* Gonorazky, S.; Silva, Guillermo) Supersymmetric non-abelian Born-Infeld theory. (English summary) *Phys. Lett. B* **449** (1999), *no.* 3-4, 187–193. (Summary) **99k:81308** 81T60

— *see also* **Trends in theoretical physics, 99e:81005**

Schappacher, Norbert On the history of Hilbert's twelfth problem: a comedy of errors. (English and French summaries) *Matériaux pour l'histoire des mathématiques au XX^e siècle* (*Nice*, 1996), 243–273, *Sémin. Congr.*, 3, *Soc. Math. France, Paris*, 1998. (Martha Rzedowski-Calderón) **99e:11002** 11–03 (01A60, 11G15, 11R37)

— Gotthold Eisenstein. 16 April 1823–11 October 1852. *Mathematics in Berlin*, 55–60, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70

— The Nazi era: the Berlin way of politicizing mathematics. *Mathematics in Berlin*, 127–136, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A80

— *see also* **Hilbert, David[1], 99j:01027** *and* **Mathematics in Berlin, 99k:01080**

Schaps, Mary (*with* Dana-Picard, Thierry) Non-reduced components of Alg_n. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 111–120, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Claude Cibils) **99j:16019** 16S80 (16E40)

— (*with* Shapira, Dana; Shlomo, Orly) Quivers of blocks with normal defect group. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 497–510, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (David Benson) **99f:20015** 20C20

Scharaschkin, Victor The Hasse principle modulo nth powers. *Acta Arith.* **87** (1999), *no.* 3, 269–285. (Yoshihiro Koya) **99k:11179** 11R37 (11R34)

Scharbrodt, Mark (*with* Mutzel, Petra; Odenthal, Thomas) The thickness of graphs: a survey. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 59–73. (Joan Hutchinson) **99g:05065** 05C10 (68R10)

— (*with* Murota, Kazuo) Computing the combinatorial canonical form of a layered mixed matrix. Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 125–134. (*see* **99i:00028**) 65F30 (15A21)

Scharein, Robert G. (*with* Katritch, Vsevolod; Bednar, Jan; Michoud, Didier; Dubochet, Jacques; Stasiak, Andrzej) Geometry and physics of knots. (English summary) *Nature* **384** (1996), *no.* 6605, 142–145. (Summary) **99b:92032** 92D20 (57M25)

Scharf, G. Microcanonical quantum statistics of Schwarzschild black holes. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 6, 821–824. (Summary) **99d:83066** 83C57

Scharf, Louis L. (*with* Goldstein, J. Scott; Reed, Irving S.) A multistage representation of the Wiener filter based on orthogonal projections. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2943–2959. 94A12

Scharff, Christelle (*with* Lynch, Christopher) Basic completion with E-cycle simplification. (English summary) *Artificial intelligence and symbolic computation* (*Plattsburgh, NY*, 1998), 209–221, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 68T15 (03B35)

Scharfstein, Daniel O. (*with* Rotnitzky, Andrea; Robins, James M.) Semiparametric regression for repeated outcomes with nonignorable nonresponse. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1321–1339. (Summary) **99j:62050** 62G05

Scharlau, Rudolf (*with* Schulze-Pillot, Rainer) Extremal lattices. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 139–170, *Springer, Berlin*, 1999. (Gabriele Nebe) **99m:11074** 11H55 (11F11)

— (*with* Tiep, Pham Huu) Symplectic group lattices. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 2101–2139. (Gerhard Hiss) **99k:20010** 20C10 (11E12, 11H06, 20C15)

Scharlau, W. *see* **Killing, Wilhelm, 99e:01017**

Scharlemann, Martin Crossing changes. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 693–704. (Summary) **99b:57022** 57M25

— Local detection of strongly irreducible Heegaard splittings. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 135–147. (Athanase Papadopoulos) **99h:57040** 57N10 (57M50)

Scharstein, Robert W. (*with* Davis, Anthony M. J.) Time-domain three-dimensional diffraction by the isorefractive wedge. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 8, 1148–1158. (Summary) **99d:78031** 78A45

Schassberger, R. (*with* Last, Günter) On the distribution of the spherical contact vector of stationary germ-grain models. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 36–52. (M. Zähle) **99d:60009** 60D05 (60G57)

Schatte, P. On Benford's law to variable base. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 391–397. (Theodore P. Hill) **99e:60072** 60F05 (60E15)

Schättler, Heinz Time-optimal feedback control for nonlinear systems: a geometric approach. (English summary) *Geometry of feedback and optimal control*, 383–421, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 49J15 (93B29)

— (*with* Łędzewicz-Kowalewska, Urszula) High-order extended maximum principles for optimal control problems with non-regular constraints. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 298–325, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Andrei V. Dmitruk) **99j:49039** 49K15 (47H15, 49K27, 58E25)

— (*with* Łędzewicz-Kowalewska, Urszula) A high-order generalization of the Lyusternik theorem. *Nonlinear Anal.* **34** (1998), *no.* 6, 793–815. (Andrei V. Dmitruk) **99k:47158** 47H15 (47H17, 49K27, 58C15)

— (*with* Łędzewicz-Kowalewska, Urszula) Analysis of abnormal extremals in optimal control. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 223–239, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Andrei V. Dmitruk) **99m:49036** 49K15 (47H15, 49K27, 58E25)

Schattschneider, Doris Escher's combinatorial patterns. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 17, *approx.* 31 *pp.* (*electronic*). (Marjorie Senechal) **99b:52051** 52C20

— (*with* Dolbilin, Nikolai) The local theorem for tilings. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 193–199, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99d:52020** 52C22

— (*with* Dolbilin, Nikolai) One corona is enough for the Euclidean plane. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 207–246, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (George E. Martin) **99k:52034** 52C22 (52C20)

Schatz, A. H. (*with* Thomée, V.; Wahlbin, Lars B.) Stability, analyticity, and almost best approximation in maximum norm for parabolic finite element equations. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1349–1385. (Erwin Schechter) **99h:65171** 65M60

Schätzle, Reiner (*with* Elliott, Charles M.; Gardiner, Andrew R.) Crystalline curvature flow of a graph in a variational setting. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 425–460. (Shiah-Sen Wang) **99e:35227** 35Q99 (35K55, 73B30)

Schatzman, Michelle (*with* Rubinstein, Jacob) On multiply connected mesoscopic superconducting structures. *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 207–220, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Summary) **99c:82077** 82D55 (35Q99)

— On the eigenvalues of the Laplace operator on a thin set with Neumann boundary conditions. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 293–306. (Summary) **99e:35041a** 35J25

— Erratum: "On the eigenvalues of the Laplace operator on a thin set with Neumann boundary conditions". *Appl. Anal.* **62** (1996), *no.* 3-4, 405. (Editors) **99e:35041b** 35J25

— (*with* Rubinstein, Jacob) Spectral and variational problems on multiconnected strips. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 377–382. (John Albert) **99b:35194** 35Q55 (35A15, 82D55)

— (*with* Descombes, Stéphane) On Richardson extrapolation of Strang formula for reaction-diffusion equations. (English summary) *Équations aux dérivées partielles et applications*, 429–452, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Zhangxin Chen) **99i:65006** 65B05 (35K57, 65M12)

— (*with* Rubinstein, Jacob) Asymptotics for thin superconducting rings. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 8, 801–820. (J. R. Ockendon) **99k:82079** 82D55 (49S05, 58E50)

— Uniqueness and continuous dependence on data for one-dimensional impact problems. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 1–18. (Manuel D. P. Monteiro Marques) **99i:73065** 73T05 (34A60, 70F35)

— (*with* Paoli, Laetitia) Resonance in impact problems. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 385–406. (David E. Stewart) **99g:73074; EA 99m** 73K12 (34A60, 73D05)

Schaub, Daniel Courbes spectrales et compactifications de jacobiennes. [Spectral curves and compactifications of Jacobians] *Math. Z.* **227** (1998), *no.* 2, 295–312. (Nitin Nitsure) **99h:14011** 14D20 (14H40, 14H60)

Schaub, Hanspeter (*with* Junkins, John L.) An instantaneous eigenstructure quasivelocity formulation for nonlinear multibody dynamics. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 3, 279–295. (Summary) **99a:70014** 70E99

Schaub, Torsten H. (*with* Brüning, Stefan) Prolog technology for default reasoning: proof theory and compilation techniques. (English summary) *Artificial Intelligence* **106** (1998), *no.* 1, 1–75. (Summary) **99j:68135** 68T27 (68N17)

— (*with* Besnard, Philippe) Signed systems for paraconsistent reasoning. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 191–213. (Décio Krause) **99g:03028** 03B53 (03B22, 68T30)

Schaudt, Urs M. On the Dirichlet problem for the stationary and axisymmetric Einstein equations. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 509–540. (Norbert Noutchegueme) **99b:83010** 83C05 (35Q75, 58G16, 58G20)

Schauenburg, Peter ★ Tannaka duality for arbitrary Hopf algebras. Algebra Berichte [Algebra Reports], 66. *Verlag Reinhard Fischer, Munich*, 1992. *ii*+57 *pp. ISBN* 3-88927-100-6 (From the introduction) **99c:18005** 18D10 (16W30, 18F99)

— Face algebras are $\times_R$-bialgebras. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 275–285, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Yvette Kosmann-Schwarzbach) **99k:16086** 16W30

— Bialgebras over noncommutative rings and a structure theorem for Hopf bimodules. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 193–222. (Mitsuhiro Takeuchi) **99h:16065** 16W30 (18D10)

— Galois correspondences for Hopf bi-Galois extensions. (English summary) *J. Algebra* **201** (1998), *no.* 1, 53–70. (George Szeto) **99b:16062** 16W30

— (*with* Neuchl, Martin) Reconstruction in braided categories and a notion of commutative bialgebra. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 241–259. (R. H. Street) **99b:18012** 18D10 (16B50, 16W30)

— On the braiding on a Hopf algebra in a braided category. (English summary) *New York J. Math.* **4** (1998), 259–263 (*electronic*). (Sorin Dăscălescu) **99j:18008** 18D10 (16W30, 18D35)

— Examples of equivalences of Doi-Koppinen Hopf module categories, including Yetter-Drinfeld modules. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **6**

(1999), *no.* 1, 91–98. (Saïd Benayadi) **99m:16066** 16W30 (18D10)

Schaumburg, Ernst (*with* Johansen, Søren) Likelihood analysis of seasonal cointegration. (English summary) *J. Econometrics* **88** (1999), *no.* 2, 301–339. (Christiaan Heij) **99k:62206** 62P20 (62E20)

schmidt-Schauß, Manfred *see* **Schmidt-Schauß, Manfred**

Schay, Geza A new formulation of the equations of dynamics. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 3, 295–301. (A. Sumbatov) **99c:70020** 70F20 (70F25)

Schechter, Bruce ★ My brain is open. (English summary) The mathematical journeys of Paul Erdős. *Simon & Schuster, New York*, 1998. 224 *pp. ISBN* 0-684-84635-7 (J. Spencer) **99h:01038** 01A70

Schechter, Martin Type (II) regions between curves of the Fucik spectrum. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 4, 459–476. (Jesús Hernández) **99b:35071** 35J65 (47H12, 58E05)

— Eigenvalue problems for semilinear equations. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 157–175, *Plenum, New York*, 1998. (Wen Xiong Chen) **99e:35072** 35J65

— Critical point theory with weak-to-weak linking. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1247–1254. (Miguel Ramos) **99h:58033** 58E05 (35J60, 47H15)

— Infinite-dimensional linking. *Duke Math. J.* **94** (1998), *no.* 3, 573–595. (Miguel Ramos) **99h:58034** 58E05 (35J60, 47H15)

— (*with* Perera, Kanishka) Morse index estimates in saddle point theorems without a finite-dimensional closed loop. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 1083–1095. (Maria Letizia Bertotti) **99j:58043** 58E05 (35J65)

— New linking theorems. (English summary) *Rend. Sem. Mat. Univ. Padova* **99** (1998), 255–269. (Jean Mawhin) **99h:58035** 58E05 (35J65, 47H15)

Schechter, Murray Integration over a polyhedron: an application of the Fourier-Motzkin elimination method. *Amer. Math. Monthly* **105** (1998), *no.* 3, 246–251. (F. Szidarovszky) **99d:15014** 15A39 (26B15)

Schechtman, E. (*with* Spiegelman, Clifford; Moran, N.) Interval estimate for the X-intercept of a straight line: a nonlinear approach. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 1093–1115. 62F25

Schechtman, Gideon (*with* Schlumprecht, Thomas; Zinn, Joel) On the Gaussian measure of the intersection. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 346–357. (Werner Linde) **99c:60032** 60E15 (28C20)

— (*with* Hitczenko, Paweł; Kwapień, Stanisław; Li, Wenbo V.; Schlumprecht, Thomas; Zinn, Joel) Hypercontractivity and comparison of moments of iterated maxima and minima of independent random variables. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 2, 26 *pp.* (*electronic*). (From the text) **99k:60008** 60B11 (52A21, 60E07, 60E15, 60G15)

Schechtman, Vadim (*with* Finkelberg, M.) Localization of modules over small quantum groups. Algebraic geometry, 5. *J. Math. Sci.* **82** (1996), *no.* 1, 3127–3164. (From the introduction) **99c:17025** 17B37

— (*with* Khoroshkin, Sergei) Factorizable $\mathscr{D}$-modules. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 239–257. (Andy R. Magid) **99a:17020** 17B37 (18D99)

— (*with* Ginzburg, Victor) Screenings and a universal Lie-de Rham cocycle. *Kirillov's seminar on representation theory*, 1–34, *Amer. Math. Soc. Transl. Ser.* 2, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Alberto Medina) **99e:17031** 17B55 (17B68)

Scheck, F. The standard model within noncommutative geometry: a comparison of models. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 189–201, *PWN, Warsaw*, 1997. (Jacek Brodzki) **99m:81288** 81V22 (58B30, 81T13)

Scheel, Arnd (*with* Peterhof, Daniela; Sandstede, Björn) Exponential dichotomies for solitary-wave solutions of semilinear elliptic equations on infinite cylinders. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 266–308. (Junjie Tang) **99b:35057** 35J60 (34D99, 34G20, 35B32, 58F39)

— (*with* Sandstede, Björn; Wulff, Claudia) Dynamics of spiral waves on unbounded domains using center-manifold reductions. (English summary) *J. Differential Equations* **141** (1997), *no.* 1, 122–149. (P. W. Bates) **99d:34114** 34G20 (35K57, 47H20, 58F15, 58F39)

— (*with* Fiedler, Bernold; Vishik, Mark I.) Large patterns of elliptic systems in infinite cylinders. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 9, 879–907. (Alan V. Lair) **99m:35053** 35J55 (34G20, 47H20, 58F39)

— Bifurcation to spiral waves in reaction-diffusion systems. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1399–1418 (*electronic*). (Qi Xiao Ye) **99j:35110** 35K57 (35B32, 58F39)

Scheel, Hans-Helmut (*with* Blasum, Ulrich; Bussieck, Michael R.; Hochstättler, Winfried; Moll, Christoph; Winter, Thomas) Scheduling trams in the morning. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 137–148. (Summary) **99m:90083** 90B35 (90C27)

Scheel, Mark A. (*with* Baumgarte, Thomas W.; Cook, Gregory B.; Shapiro, Stuart L.; Teukolsky, Saul A.) General relativistic models of binary neutron stars in quasiequilibrium. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7299–7311. 83F05

— (*with* Baumgarte, Thomas W.; Cook, Gregory B.; Shapiro, Stuart L.; Teukolsky, Saul A.) Treating instabilities in a hyperbolic formulation of Einstein's equations. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044020, 12 *pp.* (Summary) **99k:83002** 83–08 (83C57)

Scheepers, Marion Large open covers and a polarized partition relation. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 707–714. (Judith Roitman) **99h:54035** 54D20 (03E05)

— Strong measure zero sets, filters, and pointwise convergence. *East-West J. Math.* **1** (1998), *no.* 1, 109–116. (Klaas Pieter Hart) **99k:54030** 54H05 (03E05, 03E15, 54D35)

— (*with* Nowik, Andrzej; Weiss, Tomasz) The algebraic sum of sets of real numbers with strong measure zero sets. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 301–324. (D. H. Fremlin) **99c:54049** 54H05 (03E20, 28A12)

— Combinatorics of open covers. IV. Subspaces of the Alexandroff double of the unit interval. (English summary) *Topology Appl.* **83** (1998), *no.* 1, 63–75. (J. M. Aarts) **99k:90234** 90D44 (54C65, 54D30)

— $C_p(X)$ and Arhangel'skiĭ's α_i-spaces. (English summary) *Topology Appl.* **89** (1998), *no.* 3, 265–275. (Judith Roitman) **99g:54018** 54D20 (03E35)

— Lusin sets. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 251–257. (N. H. Williams) **99b:03066** 03E20 (03E35, 54H05, 90D44)

— Open covers and partition relations. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 577–581. (R. Grant Woods) **99c:54033** 54D20 (04A20)

Scheerer, Hans (*with* Tanré, D.) Lusternik-Schnirelmann category and algebraic R-local homotopy theory. (English summary) *Canad. J. Math.* **50** (1998), *no.* 4, 845–862. (Aniceto Murillo) **99h:55010** 55P50 (55P62)

— (*with* Arkowitz, Martin) The cohomology flat product and the Berstein algebra of a co-H-space. (English summary) *Higher homotopy structures in topology and mathematical physics* (*Poughkeepsie, NY*, 1996), 17–20, *Contemp. Math.*, 227, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:55011** 55P45 (55S99)

Scheeres, D. J. The restricted Hill four-body problem with applications to the Earth-Moon-Sun system. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 2, 75–98. (Sergei G. Zhuravlev) **99h:70019** 70F15 (70F07, 70F10)

Scheerhorn, Alfred Dickson polynomials and completely normal elements over finite fields. (English summary) *Applications of finite fields* (*Egham*, 1994), 47–55, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Summary) **99a:11139** 11T06

Scheffé, Henry ★ The analysis of variance. Reprint of the 1959 original. Wiley Classics Library. A Wiley Publication in Mathematical Statistics. *John Wiley & Sons, Inc., New York*, 1999. *xvi*+477 *pp. ISBN* 0-471-34505-9 (Editors) **99k:62002** 62–01

Scheffel, P. (*with* von Weizsäcker, Heinrich) On risk rates and large deviations in finite Markov chain experiments. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 3, 293–312. (Arnold Janssen) **99a:62009** 62B15 (60F10, 60J10)

Scheffel, Roberto M. (*with* de Camargo, Murilo S.; Martins, Ricardo F.) Formal specification, verification and simulation of time-dependent systems: a timed process algebra approach. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems* (*Rio de Janeiro*, 1997/*New Orleans, LA*, 1997), 24 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q60 (68Q10)

Scheffler, Hans-Peter (*with* Hazod, W.; Hofmann, Karl H.; Wüstner, Michael; Zeuner, Hansmartin) Normalizers of compact subgroups, the existence of commuting automorphisms, and applications to operator semistable measures. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 189–209. (Aleksy Tralle) **99j:22008** 22E15 (22E30, 60B15)

— Series representation for operator semistable laws and domains of normal attraction. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 4062–4084. (Mark M. Meerschaert) **99k:60090** 60F15 (60F05, 62G30)

— (*with* Meerschaert, Mark M.) Convergence of semitypes. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 119–131. (Lajos Horváth) **99k:60061** 60F05 (60E07)

Scheffold, Egon Über die Arens-Triadjungierte Abbildung von Bimorphismen. (English summary) [On the Arens tri-adjoint mapping of bimorphisms] *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 697–701. (Summary) **99f:46012** 46A40

— Über symmetrische Operatoren auf Banachverbänden und Arens-Regularität. [On symmetric operators on Banach lattices and Arens regularity] *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 747–753. (Gerard Buskes) **99i:47068** 47B60 (46B42, 46J99, 47B65)

Schei, Tor Steinar A finite-difference method for linearization in nonlinear estimation algorithms. (English summary) *MIC—Model. Identif. Control* **19** (1998), *no.* 3, 141–152. 93E12 (93B40)

Scheibe, Erhard On limitations of physical knowledge. Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 41–57. (*see* **99g:00024**) 00A30 (00A79)

— *see also* **Weidenmüller, Hans A.**, (**99g:00024**)

Scheiber, Ernest (*with* Lupu, Mircea) Study of some inverse limit problems in the case of incompressible fluid jets. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 197–209. (Adrian Carabineanu) **99k:76019** 76B10

— (*with* Lupu, Mircea) On the integral equation for airfoil design in the case of inverse fluid jet problem. (English summary) *Libertas Math.* **18** (1998), 107–118. (Summary) **99i:76011** 76B05 (45E05)

Scheiber, Ernö *see* **Phạm Kỳ Anh**, **99m:65142**

Scheiblechner, Hartmann Correction of theorems in Scheiblechner's treatment of ISOP models: "Isotonic ordinal probabilistic models (ISOP)" [Psychometrika **60** (1995), no. 2, 281–304; MR 96m:62181] and comments on B. W. Junker's remarks: "Some remarks on H. Scheiblechner's treatment of ISOP models: 'Isotonic ordinal probabilistic models (ISOP)' " [ibid. **63** (1998), no. 1, 73–85; MR 99h:62131]. *Psychometrika* **63** (1998), *no.* 1, 87–91. (Fumiko Samejima) **99h:62132** 62P15

— *see also* **Junker, Brian W.**, **99h:62131**

Scheibling, Elvire Generalization of Arnold's invariants of plane curves. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 7, 967–980. (S. V. Duzhin) **99j:57009** 57M25

Scheicher, Klaus Kanonische Ziffernsysteme und Automaten. (English summary) [Canonical number systems and automata] *Grazer Mathematische Berichte*, 333, 1–17, *Grazer Math. Ber.*, 333, *Karl-Franzens-Univ. Graz, Graz*, 1997. (Jean-Paul Allouche) **99m:11119** 11R04 (11A63, 68Q45, 68Q68)

— (*with* Tichy, Robert F.; Tomantschger, K. W.) Elementary inequalities in hypercomplex numbers. (English summary) *Anz. Österreich. Akad. Wiss. Math.-Natur. Kl.* **134** (1997), 3–10 (1998). (J. Lõhmus) **99j:30053** 30G35 (26D20)

Scheid, Harald ★ Folgen und Funktionen. (German. German summary) [Sequences and functions] Einführung in die Analysis. [Introduction to analysis] Mathematische Texte. [Mathematical Texts] *Spektrum Akademischer Verlag GmbH, Heidelberg*, 1997. 220 *pp. ISBN* 3-8274-0188-7 (D. H. Armitage) **99h:26001** 26–01 (00–01, 40–01)

Scheid, J. F. (*with* Abergel, F.; Hilhorst, D.; Issard-Roch, Françoise) Local existence and uniqueness of a Stefan problem with surface tension. *Appl. Anal.* **60** (1996), *no.* 3-4, 219–240. 35R35 (80A32)

Scheid, Werner (*with* Eberspächer, Matthias) The modified Newton-Sabatier method for the coupled channel inverse scattering problem with charged particles at fixed energy. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3061–3072. (Tuncay Aktosun) **99h:81223** 81U40

Scheideler, C. (*with* Vöcking, B.) Universal continuous routing strategies. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 425–449. (Summary) **99b:68020** 68M10

Scheiderer, Claus (*with* Flicker, Yuval Z.; Sujatha, R.) Grothendieck's theorem on non-abelian H^2 and local-global principles. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 731–750. (Philippe Gille) **99a:11129** 11R34 (11E10, 14F20, 20G10)
— The structure of some virtually free pro-p groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 695–700. (L. Ribes) **99f:20049** 20E18 (20E06)
Scheidl, Rudolf (*with* Schlacher, Kurt; Kugi, Andreas) Tensor analysis based symbolic computation for mechatronic systems. (English summary) 2nd IMACS Symposium on Mathematical Modelling (Vienna, 1997). *Math. Comput. Simulation* **46** (1998), *no.* 5-6, 517–525. (Summary) **99d:70001** 70–04 (70E15, 70F25, 78A55, 94C05)
Scheidler, R. A public-key cryptosystem using purely cubic fields. (English summary) *J. Cryptology* **11** (1998), *no.* 2, 109–124. (Thomas W. Cusick) **99g:94017** 94A60 (11T71)
Scheidt, Stefan (*with* Balke, Ludwig; Kaess, Alexandra; Neuschäfer, Uta; Rothenhäusler, Frank) Polyhedral fundamental domains for discrete subgroups of PSL(2, **R**). (English summary) *Topology* **37** (1998), *no.* 6, 1247–1264. (I. Dolgachev) **99j:22017** 22E40 (14B05, 30F35, 32S25, 51M20, 57S30)
Scheike, Thomas H. (*with* Zhang, Mei-Jie) Cumulative regression function tests for regression models for longitudinal data. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1328–1355. (Somnath Datta) **99i:62217** 62M10 (62G10)
Scheimberg, Susana (*with* de Moraes, Patricia Erthal) Note on a sufficient condition for a local minimum of a class of nonconvex quadratic programs. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 401–405. (Summary) **99a:90146** 90C20 (90C26)
Schein, Boris M. Coincidence relations in inverse semigroups. (English summary) *Semigroups* (*Luino*, 1992), 272–283, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M18
— (*with* Teclezghi, Beimnet) Endomorphisms of finite symmetric inverse semigroups. (English summary) *J. Algebra* **198** (1997), *no.* 1, 300–310. (Karl Byleen) **99c:20089** 20M18 (20M20)
— (*with* Teclezghi, Beimnet) Endomorphisms of symmetric semigroups of functions on a finite set. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 3921–3938. (I. S. Ponizovskiĭ) **99k:20114** 20M15 (20M20)
— (*with* Teclezghi, Beimnet) Endomorphisms of finite full transformation semigroups. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2579–2587. (P. G. Trotter) **99b:20093** 20M15 (20M20)
Schein, F. (*with* Aichelburg, P. C.) Wormholes and timetravel. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1025–1032. (Summary) **99k:83108** 83E05 (83C99)
Schein, O. (*with* Denk, Georg) Numerical solution of stochastic differential-algebraic equations with applications to transient noise simulation of microelectronic circuits. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 77–92. (Summary) **99i:65076** 65L06 (34A09, 34F05, 94C05)
Scheinberg, Katya (*with* Conn, Andrew R.; Toint, Philippe L.) On the convergence of derivative-free methods for unconstrained optimization. (English summary) *Approximation theory and optimization* (*Cambridge*, 1996), 83–108, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99c:90115** 90C30 (65K05)
— (*with* Goldfarb, Donald) Interior point trajectories in semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 871–886 (*electronic*). (Alexander Shapiro) **99g:90119** 90C30 (90C25)
Scheinerman, Edward R. Geometry. (English summary) *Graph connections*, 141–154, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 05C75 (51–01)
— (*with* Fiduccia, Charles M.; Trenk, Ann N.; Zito, Jennifer S.) Dot product representations of graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 113–138. (Michael Jacobson) **99c:05161** 05C75
Scheinhardt, W. R. W. (*with* Adan, I. J. B. F.; van Doorn, Erik A.; Resing, J. A. C.) Analysis of a single-server queue interacting with a fluid reservoir. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 313–336. (Walter M. Böhm) **99j:60135** 60K20 (60K25, 90B22)
Scheinkman, José Alexandre (*with* Hansen, Lars Peter; Touzi, Nizar) Spectral methods for identifying scalar diffusions. (English summary) *J. Econometrics* **86** (1998), *no.* 1, 1–32. (Yuzo Hosoya) **99m:62136** 62M10 (62P20)
Scheithauer, Guntram LP-bounds for the container and multi-container loading problem. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 123–128, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C27 (90C90)
— LP-based bounds for the container and multi-container loading problem. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 2, 199–213. 90C27 (90C08)
Scheithauer, Nils R. Vertex algebras, Lie algebras, and superstrings. (English summary) *J. Algebra* **200** (1998), *no.* 2, 363–403. (Dražen Adamović) **99e:17040** 17B69 (81R10)
Scheja, Günter (*with* Scheja, Ortwin; Storch, Uwe) On regular sequences of binomials. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 115–132. (Aldo Conca) **99k:13017** 13C99 (20M99)
Scheja, Ortwin (*with* Rust, Imke) A guide to explicit class field theory in global function fields. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 44–65, *World Sci. Publishing, River Edge, NJ*, 1997. (Bruno Anglès) **99j:11136** 11R58 (11G09, 11R37)
— (*with* Scheja, Günter; Storch, Uwe) On regular sequences of binomials. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 115–132. (Aldo Conca) **99k:13017** 13C99 (20M99)
Schek, H.-J. (*with* Vingralek, Radek; Ye, Haiyan; Breitbart, Yuri) Unified transaction model for semantically rich operations. (English summary) *Database theory—ICDT '95* (*Prague*), 148–161, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15
Schellekens, A. N. (*with* van Ritbergen, T.; Vermaseren, J. A. M.) Group theory factors for Feynman diagrams. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 1, 41–96. (Summary) **99j:81126** 81T18
— *see also* **Strings '97, 99d:81003**
Schellekens, Michel Complexity spaces revisited (extended abstract). (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 337–348 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54E15 (54C35, 54E35)
— (*with* Romaguera, Salvador) On the structure of the dual complexity space: the general case. *Extracta Math.* **13** (1998), *no.* 2, 249–253. 54E15 (54E50)
Scheller-Wolf, Alan (*with* Sigman, Karl) Moments in tandem queues. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 378–380. 90B22
Schellhaas, Helmut (*with* Friedrich, Thomas) Computation of the percentage points and the power for the two-sided Kolmogorov-Smirnov one sample test. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 361–375. (Summary) **99e:62078** 62G10
Schelling, F. W. J. *see* **Bonsiepen, Wolfgang, 99e:00008**
Schelliix, Harold (*with* Puite, Quintijn) On the Jordan-Hölder decomposition of proof nets. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 1, 59–65. (R. Gylys) **99c:03098** 03F50 (03B20, 03F07, 18G99)
— (*with* Danos, Vincent; Joinet, Jean-Baptiste) A new deconstructive logic: linear logic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 755–807. (Henry Africk) **99b:03076** 03F50 (03B35, 03F05, 03F55)
Schellnhuber, H. J. Earth system analysis—the scope of the challenge. *Earth system analysis* (*Potsdam*, 1994), 3–195, *Springer, Berlin*, 1998. (John Adam) **99m:00017** 00A69 (34C35, 86–01, 86A99, 93B05)
— *see also* **Earth system analysis, 99f:00016**
Schelp, Richard H. (*with* Burris, A. C.) Vertex-distinguishing proper edge-colorings. (English summary) *J. Graph Theory* **26** (1997), *no.* 2, 73–82. (Summary) **99g:05073** 05C15
— (*with* Thomason, Andrew) A remark on the number of complete and empty subgraphs. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 217–219. (Summary) **99b:05084** 05C35
— (*with* Gyárfás, András) A communication problem and directed triple systems. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 2, 139–147. (Pranava K. Jha) **99f:05090** 05C70
— (*with* Chen, Guantao; Gyárfás, András) Vertex colorings with a distance restriction. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 65–82. (Mirko Horňák) **99j:05067** 05C15
Schelten, Annette (*with* Schelten, Uwe) Neighborhood conditions for graphs with induced claws. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 179–189. (Summary) **99d:05053** 05C38 (05C45)
— (*with* Schiermeyer, Ingo) Ramsey numbers $r(K_3, G)$ for $G \cong K_7 - 2P_2$ and $G \cong K_7 - 3P_2$. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 191–196. (Summary) **99d:05064** 05C55
Schelten, Uwe (*with* Schelten, Annette) Neighborhood conditions for graphs with induced claws. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 179–189. (Summary) **99d:05053** 05C38 (05C45)
Schempp, Walter Johannes Zu Kepplers Conchoid-Konstruktion. (English summary) [On Keppler's conchoid construction] *Results Math.* **32** (1997), *no.* 3-4, 352–390. (A. G. Molland) **99f:01009** 01A45 (51–03)
— ★ Magnetic resonance imaging. (English summary) Mathematical foundations and applications. With a foreword by George L. Farre. *Wiley-Liss, Inc., New York*, 1998. *xxxii*+288 *pp. ISBN* 0-471-16736-3 (L. A. Shepp) **99h:78022** 78A55 (22E99, 44A12, 92C55)
— Wavelet modelling of clinical magnetic resonance tomography: an ensemble quantum computing approach. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 129–176, *Plenum, New York*, 1998. (*see* **99a:00030**) 81P99 (22E70, 92C55)
— Quantum teleportation and spin echo. (English summary) *Acta Polytech. Scand. Math. Comput. Manage. Eng. Ser.* **1998**, *no.* 91, 99–121. (Summary) **99g:81121** 81S99 (81P99)
— Coherent wavelet modelling of high resolution radar imaging and clinical magnetic resonance tomography. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 229–251. (*see* **99g:00043**) 92C55 (78A45)
— Wavelet modelling of high resolution radar imaging and clinical magnetic resonance tomography. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 125–140. (Summary) **99h:78021** 78A45 (42C15, 78A55, 81P99, 92C55)
— Quantum holography and magnetic resonance tomography: an ensemble quantum computing approach. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 257–285. (Summary) **99k:92014** 92C55 (81P99, 81R05)
Schena, Irene Pomset logic and variants in natural languages. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 386–405, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 03B65 (03F50)
Schenck, Henry K. (*with* Stillman, Michael) Local cohomology of bivariate splines. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 535–548. (Summary) **99d:13011** 13C10 (13D40, 52B70, 55N35, 55U99)
— (*with* Geramita, Anthony V.) Fat points, inverse systems, and piecewise polynomial functions. (English summary) *J. Algebra* **204** (1998), *no.* 1, 116–128. (Martin Kreuzer) **99d:13019** 13D40 (13C13, 65D07)
Schenke, Michael (*with* Olderog, Ernst-Rüdiger) Transformational design of real-time systems. I. From requirements to program specifications. (English summary) *Acta Inform.* **36** (1999), *no.* 1, 1–65. 68Q60
— Transformational design of real-time systems. II. From program specifications to programs. (English summary) *Acta Inform.* **36** (1999), *no.* 1, 67–96. 68Q60
Schenker, Daniel (*with* Graf, Gian Michele) Classical action and quantum N-body asymptotic completeness. (English summary) *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 103–119, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Fumio Hiroshima) **99c:81035** 81Q10 (47N50, 81U10)
— (*with* Graf, Gian Michele) 2-magnon scattering in the Heisenberg model. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 1, 91–107. (Hiroshi Isozaki) **99a:82018** 82B20 (47A40, 47N55, 81U99)
Schenker, Jeffrey H. (*with* Swift, James W.) Observing the symmetry of attractors. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 315–337. (Ian Melbourne) **99i:58114** 58F14 (34C35, 34D45, 58F12)
Schenzel, Peter On the use of local cohomology in algebra and geometry. *Six lectures on commutative algebra* (*Bellaterra*, 1996), 241–292, *Progr. Math.*, 166, *Birkhäuser, Basel*, 1998. (Gennady Lyubeznik) **99k:13025** 13D45 (14B15)

— (*with* Bresinsky, Henrik; Stückrad, J.) Quasi-complete intersection ideals of height 2. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 137–145. (R. A. Wiegand) **99d:13014** 13C40 (14M05)

— (*with* Nagel, Uwe) Degree bounds for generators of cohomology modules and Castelnuovo-Mumford regularity. (English summary) *Nagoya Math. J.* **152** (1998), 153–174. (Vincenzo Di Gennaro) **99m:13026** 13D02 (14B15, 14M05)

Schep, T. J. (*with* Lakhin, V. P.; Westerhof, E.) Current-vortex filament model of nonlinear Alfvén perturbations in a finite-pressure plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3833–3848. (Summary) **99f:76135** 76X05

— (*with* Kuvshinov, B. N.; Pegoraro, F.; Rem, J.) Drift-Alfvén vortices with finite ion gyroradius and electron inertia effects. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 713–728. (Summary) **99k:76163** 76X05

Schepers, Jörg An exact algorithm for general orthogonal n-dimensional knapsack problems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 129–133, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C27

de Schepper, Ann *see* **De Schepper, Ann**

de Schepper, H. *see* **De Schepper, H.**

Scherer, Rudolf (*with* Burnton, Christopher) Gauss-Runge-Kutta-Nyström methods. (English summary) *BIT* **38** (1998), *no.* 1, 12–21. (Masaharu Nakashima) **99d:65209** 65L06 (65L20)

Scherer, Wolfgang Quantum averaging. III. Time-dependent systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2597–2634. (M. Combescure) **99e:81053** 81Q15 (47N50)

Scherf, O. (*with* Wriggers, P.) Different a posteriori error estimators and indicators for contact problems. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 437–447. (Summary) **99f:73079** 73T05 (73V05)

Scherpen, Jacquelien M. A. (*with* Verhaegen, Michel H. G.) $\mathscr{H}_\infty$ output feedback control for linear discrete time-varying systems via the bounded real lemma. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 963–993. 93B36 (93C55)

Scherrer, Wolfgang (*with* Heij, C.; Deistler, M.) System identification by dynamic factor models. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1924–1951. (Bożenna Pasik-Duncan) **99c:93016** 93B11 (93E12)

— (*with* Deistler, M.) A structure theory for linear dynamic errors-in-variables models. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2148–2175 (*electronic*). (George Yin) **99f:93131** 93E10 (62H25)

Schertz, Reinhard Construction of ray class fields by elliptic units. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 383–394. (Ernst Kleinert) **99c:11073** 11G16 (11R37)

Scherzer, Otmar (*with* Nashed, M. Zuhair) Stable approximations of a minimal surface problem with variational inequalities. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 137–161. (Michael M. Dediu) **99b:65019** 65D17 (65K10)

— A modified Landweber iteration for solving parameter estimation problems. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 1, 45–68. (Mihail Yu. Kokurin) **99d:65194** 65J20 (47H17)

— Denoising with higher order derivatives of bounded variation and an application to parameter estimation. (English summary) *Computing* **60** (1998), *no.* 1, 1–27. (Julio Guacaneme Dix) **99a:65114** 65M30 (26A45, 65J10)

— (*with* Deuflhard, Peter; Engl, Heinz W.) A convergence analysis of iterative methods for the solution of nonlinear ill-posed problems under affinely invariant conditions. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1081–1106. (Andreas Rieder) **99j:65105** 65J20 (35R25, 47H17)

— (*with* Hofmann, Bernd) Local ill-posedness and source conditions of operator equations in Hilbert spaces. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1189–1206. (V. V. Vasin) **99j:65106** 65J20 (47H17, 65J15)

— (*with* Kabanikhin, S. I.; Kowar, R.) On the Landweber iteration for the solution of a parameter identification problem in a hyperbolic partial differential equation of second order. (English summary) Inverse problems of mathematical physics (Novosibirsk, 1998). *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 5, 403–430. (Wen Huan Yu) **99k:35192** 35R30 (35L10, 65M30, 93B30)

— (*with* Neubauer, Andreas) Regularization for curve representations: uniform convergence for discontinuous solutions of ill-posed problems. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1891–1900 (*electronic*). (Summary) **99d:65376** 65R30 (65J10)

— (*with* Hanke, Martin) Error analysis of an equation error method for the identification of the diffusion coefficient in a quasi-linear parabolic differential equation. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 1012–1027 (*electronic*). (Ulrich Tautenhahn) **99m:65176** 65M30 (35K55, 35R30)

Scherzinger, W. (*with* Triantafyllidis, N.) Asymptotic analysis of stability for prismatic solids under axial loads. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 6, 959–1007. (Summary) **99b:73027** 73H05 (73E99, 73K05)

maggiolo-Schettini, Andrea *see* **Maggiolo-Schettini, Andrea**

Schettini, G. (*with* Gori, Franco[1]; Vicalvi, S.; Santarsiero, M.; Frezza, F.; Ambrosini, S.; Borghi, Riccardo) An elementary approach to spinors. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 256–262. (Summary) **99c:81073** 81R25 (15A66, 53A50)

Schettling, Christian ★ Über das Verhalten gewisser Hecke'scher L-Reihen im Zentrum des kritischen Streifens. (German) [On the behavior of certain Hecke L-series in the center of the critical strip] Dissertation, Rheinische Friedrich-Wilhelms-Universität Bonn, Bonn, 1996. Bonner Mathematische Schriften [Bonn Mathematical Publications], 297. *Universität Bonn, Mathematisches Institut, Bonn*, 1997. 117 *pp.* (Alexey A. Panchishkin) **99h:11050** 11F67 (11F32)

Scheuermann, Gerik (*with* Hagen, Hans; Krüger, Heinz) An interesting class of polynomial vector fields. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 429–436, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65D17 (41A63)

Scheunert, M. (*with* Zhang, R. B.) Cohomology of Lie superalgebras and their generalizations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 5024–5061. (Elena Poletaeva) **99f:17025** 17B56

— (*with* Zhang, R. B.) The second cohomology of $\mathrm{sl}(m|1)$ with coefficients in its enveloping algebra is trivial. (English summary) *Lett. Math. Phys.* **47** (1999), *no.* 1, 33–48. (Daniel K. Nakano) **99k:17039** 17B56 (17B35)

Scheutzow, Michael K. R. (*with* Mohammed, Salah-Eldin A.) Lyapunov exponents of linear stochastic functional-differential equations. II. Examples and case studies. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1210–1240. (Summary) **99e:60134** 60H10 (34K50, 60H20, 60H25)

— (*with* Kager, Gerald) Generation of one-sided random dynamical systems by stochastic differential equations. (English summary) *Electron. J. Probab.* **2** (1997), *no.* 8, 17 *pp.* (*electronic*). (Xue Rong Mao) **99b:60080** 60H10 (28D10, 34C35, 34F05)

— (*with* Mohammed, Salah-Eldin A.) Spatial estimates for stochastic flows in Euclidean space. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 56–77. (Xue Rong Mao) **99d:60064** 60H10

— (*with* von Weizsäcker, Heinrich) Which moments of a logarithmic derivative imply quasiinvariance? (English summary) *Doc. Math.* **3** (1998), 261–272 (*electronic*). (Eddy Mayer-Wolf) **99i:60093** 60G30 (28C99, 28D10)

Schewe, Klaus-Dieter (*with* Thalheim, Bernhard) Limitations of rule triggering systems for integrity maintenance in the context of transition specifications. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 277–304. (Summary) **99h:68040** 68P15

castro-Schez, J. J. *see* **Castro-Schez, J. J.**

Schianchi, Rosanna (*with* Giachetti, Daniela; Leonetti, Francesco) Boundary regularity and uniqueness for very weak $\mathscr{A}$-harmonic functions. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 765–769. (Summary) **99g:35042** 35J65 (31B25, 35D05)

Schiappa, Ricardo Supersymmetric Yang-Mills theory and Riemannian geometry. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 462–484. (Sergey Nikolaevich Roshchupkin) **99k:81318** 81T60 (53C80, 81T13)

— (*with* Dilão, Rui) The dynamics of knotted strings attached to D-branes. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 26–32. (Summary) **99d:81133** 81T30

Schiavi, Emanuele (*with* Díaz Díaz, Jesús Ildefonso) On a degenerate evolution equation modelling large ice sheets dynamics. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 86A40 (35R35)

Schiavone, Peter (*with* Ru, Chong-Qing; Mioduchowski, A.) Uniformity of stresses within a three-phase elliptic inclusion in anti-plane shear. (English summary) *J. Elasticity* **52** (1998/99), *no.* 2, 121–128. (Summary) **99m:73015** 73C02

— (*with* Shen, Xiaofeng) On an integral solution of the antiplane shear problem. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 3, 319–330. (D. G. Natroshvili) **99e:73022** 73B40 (35Q72, 73C02)

— (*with* Ru, Chong-Qing) On Constanda's matrix of nonuniqueness in a theory of plates in asymmetric elasticity. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 1, 137–145. (Tomasz Lewiński) **99b:73029** 73K10 (73B25)

— (*with* Ru, Chong-Qing) Integral equation methods in plane-strain elasticity with boundary reinforcement. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2223–2242. (Summary) **99e:73035** 73C35 (45J05, 73V99)

Schichl, H. (*with* Michor, Peter W.) No slices on the space of generalized connections. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 221–228. (Jan Slovák) **99g:58018** 58D19 (53C05)

Schicho, Josef (*with* Hong, Hoon) Algorithms for trigonometric curves (simplification, implicitization, parameterization). (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 279–300. (Summary) **99d:65394** 65Y25

Schick, Anton $\sqrt{n}$-consistent estimation in a random coefficient autoregressive model. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 2, 155–160. (Summary) **99e:62162** 62M10

— (*with* Koul, Hira L.) Efficient estimation in nonlinear autoregressive time-series models. (English summary) *Bernoulli* **3** (1997), *no.* 3, 247–277. (Adhir K. Basu) **99a:62132** 62M10

— (*with* Koul, Hira L.) Testing for the equality of two nonparametric regression curves. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 293–314. (M. Hušková) **99g:62058** 62G10

— Estimating a shift in nonparametric regression via U-statistics. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 259–271. (Li-Xing Zhu) **99h:62038** 62G05

— An adaptive estimator of the autocorrelation coefficient in regression models with autoregressive errors. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 5, 575–589. (Summary) **99e:62163** 62M10

Schick, Irvin C. (*with* Krim, Hamid) Minimax description length for signal denoising and optimized representation. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 898–908. 94A12

Schick, Thomas (*with* Lück, Wolfgang; Thielmann, Thomas) Torsion and fibrations. (English summary) *J. Reine Angew. Math.* **498** (1998), 1–33. (Andrew W. Hassell) **99e:58203** 58G26 (57Q10)

— (*with* Hess, Eckehard) L^2-torsion of hyperbolic manifolds. (English summary) *Manuscripta Math.* **97** (1998), *no.* 3, 329–334. (Patrick T. McDonald) **99h:58200** 58G26 (58G12)

— A counterexample to the (unstable) Gromov-Lawson-Rosenberg conjecture. (English summary) *Topology* **37** (1998), *no.* 6, 1165–1168. (Ian Hambleton) **99j:53049** 53C21 (19K99, 57R65)

Schieber, Baruch (*with* Borodin, Allan; Raghavan, Prabhakar; Upfal, Eli) How much can hardware help routing? (English summary) *J. ACM* **44** (1997), *no.* 5, 726–741. (Luisa Gargano) **99b:68012** 68M10 (68Q22, 68R10)

— (*with* Bar-Noy, Amotz; Bhatia, Randeep; Naor, Joseph) Minimizing service and operation costs of periodic scheduling (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 11–20, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35 (68M20)

— Computing a minimum weight k-link path in graphs with the concave Monge property. (English summary) SODA '95 (San Francisco, CA). *J. Algorithms* **29** (1998), *no.* 2, 204–222. (Summary) **99k:68147** 68R10 (05C85)

— (*with* Bar-Noy, Amotz; Mayer, Alain; Sudan, Madhu) Guaranteeing fair service to persistent dependent tasks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1168–1189 (*electronic*). (H. T. Lau) **99c:90061** 90B35 (68M20, 68Q25)

— (*with* Barnes, Greg; Buss, Jonathan F.; Ruzzo, Walter L.) A sublinear space, polynomial time algorithm for directed s-t connectivity. (English summary) *SIAM J. Comput.* **27**

(1998), *no.* 5, 1273–1282 (*electronic*). (Marek Kubale) **99e:68117** 68R10 (05C40, 05C85, 68Q25)

Schiebold, Cornelia An operator-theoretic approach to the Toda lattice equation. (English summary) *Phys. D* **122** (1998), *no.* 1-4, 37–61. (Jörg Eschmeier) **99j:58101** 58F07 (35Q51, 47N20)

Schied, Alexander Moderate deviations and functional LIL for super-Brownian motion. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 1, 11–25. (Boualem Djehiche) **99d:60036** 60F10 (60F17, 60G17, 60G57)

— (*with* Djehiche, Boualem) Large deviations for hierarchical systems of interacting jump processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 1–24. (Anatolii A. Pukhal'skiĭ) **99e:60075** 60F10 (60J75, 60K35)

— Cramer's condition and Sanov's theorem. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 55–60. (Peter Eichelsbacher) **99g:60060** 60F10

Schief, W. K. (*with* Rogers, Colin; Winternitz, Pavel) Lie-theoretical generalization and discretization of the Pinney equation. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 246–264. (Summary) **99i:34011** 34A26 (34A34, 39A12)

— On the geometry of an integrable $(2+1)$-dimensional sine-Gordon system. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1963, 1671–1688. (R. Schimming) **99f:35179** 35Q53 (53A05)

— An integrable discretization of the characteristic equations associated with a gas dynamics system. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 278–282. (Summary) **99a:76130** 76N15 (35Q35)

— (*with* Rogers, Colin) Intrinsic geometry of the NLS equation and its auto-Bäcklund transformation. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 3, 267–287. (Xian Guo Geng) **99j:35211** 35Q55 (58F37)

Schiefermayr, Klaus (*with* Peherstorfer, Franz) Explicit generalized Zolotarev polynomials with complex coefficients. II. (English summary) *East J. Approx.* **3** (1997), *no.* 4, 473–483. (Andrei Martínez Finkelshtein) **99a:41025** 41A29 (33C45)

— (*with* Peherstorfer, Franz) Description of extremal polynomials on several intervals and their computation. I, II. (English summary) *Acta Math. Hungar.* **83** (1999), *no.* 1-2, 27–58, 59–83. (Allan Pinkus) **99m:41010** 41A10 (65D99)

Schiehlen, W. (*with* Nguyen Dong Anh) An extension to the mean square criterion of Gaussian equivalent linearization. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 2, 115–123. (Summary) **99m:34123** 34F05 (60H99, 70L05)

— (*with* Anh, N. D.) A technique for obtaining approximate solutions in Gaussian equivalent linearization. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 113–119. (Summary) **99j:65251** 65U05

Schielen, R. (*with* Doelman, Arjen) Modulation equations for spatially periodic systems: derivation and solutions. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1901–1930 (*electronic*). (Andrej T. Il'ichev) **99i:35156** 35Q55 (76E30)

Schiemann, Alexander (*with* Jagy, William C.; Kaplansky, Irving) There are 913 regular ternary forms. *Mathematika* **44** (1997), *no.* 2, 332–341. (Andrzej Sładek) **99a:11046** 11E12 (11E20)

— Classification of Hermitian forms with the neighbour method. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 4, 487–508. (Detlev W. Hoffmann) **99g:11053** 11E41 (11H50, 11H55)

Schier, Jan Inverse updated systolic RLS algorithm with regularized exponential forgetting. (English summary) *Kybernetika (Prague)* **32** (1996), *no.* 3, 209–234. (Summary) **99a:93106** 93E12 (65U05, 93B30)

Schiermeyer, Ingo (*with* Kratochvíl, Jan) On the computational complexity of $(\mathcal{O},\mathcal{P})$-partition problems. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 253–258. (Summary) **99b:05132** 05C85 (68Q15, 68Q25, 68R10)

— (*with* Böhme, Thomas; Harant, Jochen; Pruchnewski, A.) A planarity criterion for cubic bipartite graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 31–43. (Xiaoya Zha) **99h:05027** 05C10 (05C85)

— (*with* Ryjáček, Zdeněk) 2-factors and Hamiltonicity. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 171–177. (Summary) **99g:05146** 05C70 (05C45)

— (*with* Schelten, Annette) Ramsey numbers $r(K_3, G)$ for $G \cong K_7 - 2P_2$ and $G \cong K_7 - 3P_2$. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 191–196. (Summary) **99d:05064** 05C55

— (*with* Brousek, Jan; Ryjáček, Zdeněk) Forbidden subgraphs, stability and Hamiltonicity. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 143–155. (Summary) **99j:05158** 05C75 (05C45)

Schierz, Christoph (*with* Breinholt, Greg) Algorithm 781: generating Hilbert's space-filling curve by recursion. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 184–189. 65–04

Schiesse, P. Einige Bemerkungen zur Kettenregel bei Zeitableitungen isotroper Tensorfunktionen. (English and German summaries) [Some remarks on the chain rule on time derivatives of isotropic tensor functions] *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 6, 419–425. (Summary) **99d:73020** 73B99 (70G05, 73B05)

Schiesser, W. E. (*with* Saucez, P.; Vande Wouwer, A.) An adaptive method of lines solution of the Korteweg-de Vries equation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 13–25. (Summary) **99a:65170** 65N40

Schiestel, R. (*with* Souffland, D.; Grégoire, O.; Gauthier, S.) A multi-scale turbulence model for compressible mixing flows. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 78–82, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76078** 76F99 (76L05)

Schieve, W. C. (*with* Trump, M. A.) Classical scattering in the covariant two-body Coulomb potential. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1211–1236. (Summary) **99g:81227** 81U05

— (*with* Trump, M. A.) Perihelion precession in the special relativistic two-body problem. (English summary) Parametrized relativistic quantum theory, Part 1 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 9, 1407–1416. (Summary) **99k:70009** 70F05 (70H40, 83A05)

— (*with* Pitts, J. Brian) On parametrized general relativity. (English summary) Parametrized relativistic quantum theory, Part 1 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 9, 1417–1424. (Matej Pavšič) **99m:83020** 83C05

Schieweck, F. (*with* John, Volker; Matthies, G.; Tobiska, Lutz) A streamline-diffusion method for nonconforming finite element approximations applied to convection-diffusion problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 85–97. (Dennis C. Jespersen) **99h:65169** 65M60 (65N30, 76M10, 76Rxx)

lagasquie-Schiex, M.-C. *see* **Lagasquie-Schiex, M.-C.**

Schiex, Thomas (*with* Larrosa, Javier; Meseguer, Pedro; Verfaillie, Gérard) Reversible DAC and other improvements for solving Max-CSP. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 347–352, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C35

— (*with* Cayrol, C.; Lagasquie-Schiex, M.-C.) Nonmonotonic reasoning: from complexity to algorithms. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 207–236. (Summary) **99h:68160** 68T27 (03B45, 03B60, 03B70, 03D15, 68Q25)

— (*with* Larrosa, Javier; Meseguer, Pedro) Maintaining reversible DAC for Max-CSP. (English summary) *Artificial Intelligence* **107** (1999), *no.* 1, 149–163. 68T20

Schiff, Jeremy The Camassa-Holm equation: a loop group approach. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 24–43. (Mikhail Zaks) **99i:58082** 58F07 (35Q53, 58F37, 76B15)

— (*with* Devchand, Chandrashekar) Hidden symmetries of the principal chiral model and a nonstandard loop algebra. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 155–159. (Dmitri Korotkin) **99c:81065** 81R10 (81T40)

Schiffer, Marcelo (*with* Saa, Alberto) The gravitational Vavilov-Cherenkov effect. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1557–1564. (Summary) **99c:83060** 83C57

— (*with* Bekenstein, Jacob D.) The many faces of superradiance. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064014, 13 *pp.* (Summary) **99m:83053** 83C30

Schiffmann, Gérard Introduction aux travaux d'Harish-Chandra. [Introduction to the works of Harish-Chandra] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 323, 153–177, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 22E46

— Frontières de Furstenberg et formules de Poisson sur un groupe de Lie semi-simple (d'après Harry Furstenberg) [MR **31** #3982]. [Furstenberg boundaries and Poisson formulas on a semisimple Lie group (after Harry Furstenberg)] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 268, 373–384, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 31C99 (22E46, 60J50)

Schiffmann, Olivier Algèbres affines quantiques aux racines de l'unité et K-théorie équivariante. (English and French summaries) [Quantum affine algebras at roots of unity and equivariant K-theory] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 433–438. (Summary) **99j:17025** 17B37 (19E08)

— On classification of dynamical r-matrices. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 13–30. (Walter R. Ferrer Santos) **99j:17026** 17B37 (16W30, 81R50)

Schikhof, Wilhelmus H. (*with* Ochsenius, Maria H.) Norm Hilbert spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 233–247. (M. S. Rangachari) **99k:46132** 46S10 (46C05, 47S10)

— (*with* Pérez-García, Cristina) p-adic barrelledness and spaces of countable type. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1099–1109. (Dinamérico P. Pombo, Jr.) **99m:46179** 46S10 (46A08)

Schilling, Anne (*with* Berkovich, Alexander; McCoy, Barry M.) Rogers-Schur-Ramanujan type identities for the $M(p, p')$ minimal models of conformal field theory. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 325–395. (Mirko Primc) **99d:81047** 81R10 (11B65, 11Z05, 81T40, 82B23)

— (*with* Warnaar, S. Ole) A higher level Bailey lemma: proof and application. (English summary) *Ramanujan J.* **2** (1998), *no.* 3, 327–349. (David M. Bressoud) **99k:11028** 11B65 (05A19, 05A30, 11P82, 33D80)

Schilling, Kenneth Vanishing Borel sets. *J. Symbolic Logic* **63** (1998), *no.* 1, 262–268. (P. A. Loeb) **99i:03086** 03H05 (28E05)

Schilling, René L. On Feller processes with sample paths in Besov spaces. (English summary) *Math. Ann.* **309** (1997), *no.* 4, 663–675. (Kazuaki Taira) **99b:60117** 60J25 (35S99, 60G15, 60G17, 60J30)

— Subordination in the sense of Bochner and a related functional calculus. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 368–396. (Kazuaki Taira) **99e:47042** 47D03 (47A60, 60J35)

— Feller processes generated by pseudo-differential operators: on the Hausdorff dimension of their sample paths. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 303–330. (Niels Jacob) **99c:60082** 60G17 (35S05, 47D07, 47G30, 60J25)

— Conservativeness of semigroups generated by pseudo-differential operators. (English summary) *Potential Anal.* **9** (1998), *no.* 1, 91–104. (Vitali A. Liskevich) **99g:60132** 60J35 (35S05, 47D07, 47G30)

— Growth and Hölder conditions for the sample paths of Feller processes. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 4, 565–611. (Niels Jacob) **99m:60131** 60J75 (35S99, 47D07, 60F15, 60G17)

— (*with* Jacob, Niels) An analytic proof of the Lévy-Khinchin formula on $\mathbf{R}^n$. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 69–89. (Sergio A. Tozoni) **99j:42013** 42B10 (47D07)

Schiltz, Jang Malliavin calculus with time dependent coefficients applied to a class of stochastic differential equations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 6, 1073–1100. (Marta Sanz Solé) **99j:60077** 60H07 (60H10)

Schilz, Thomas (*with* Mehlhorn, Kurt; Näher, Stefan; Seel, Michael; Seidel, Raimund; Schirra, Stefan; Uhrig, Christian) Checking geometric programs or verification of geometric structures. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 85–103. (Summary) **99k:68196** 68U05 (52B55, 68Q60)

Schimek, M. (*with* Eubank, Randall L.; Kambour, E. L.; Kim, Jongtae; Klipple, K.; Reese, C. S.) Estimation in partially linear models. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 1, 27–34. (Li-Xing Zhu) **99k:62074** 62G05 (62J02)

Schimmel, Th. (*with* Friedrich, Rudolf; Galla, Th.; Naert, A.; Peinke, J.) Disordered structures analyzed by the theory of Markov processes. (English summary) *A perspective look at nonlinear media*, 313–326, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99g:76069** 76F20 (28A80, 60J20, 73B99, 76M35)

Schimmerling, E. Combinatorial set theory and inner models. (English summary) *Set theory (Curaçao, 1995; Barcelona, 1996)*, 207–212, *Kluwer Acad. Publ., Dordrecht*, 1998. (Philip D. Welch) **99a:03051** 03E45 (03E05, 03E50, 03E60)

— (*with* Steel, John R.) The maximality of the core model. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3119–3141. (A. Kanamori) **99m:03104** 03E45

Schinas, Christos (*with* Papaschinopoulos, Garyfalos) Invariants for systems of two difference equations of rational form with periodic coefficients. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 155–163 (1998). (Allan C. Peterson) **99b:39010** 39A10

— Invariants for some difference equations. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 281–291. (Sheldon P. Gordon) **99d:39012** 39A10 (93B55)

— Invariants for difference equations and systems of difference equations of rational form. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 164–179. (Jerzy Popenda) **99c:39007** 39A10

— Classification of invariants for certain third order difference equations. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 4, 25–36. (Summary) **99a:39029** 39A10

— (*with* Papaschinopoulos, Garyfalos) On the behavior of the solutions of a system of two nonlinear difference equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 2, 47–59. (Vladimir Sh. Burd) **99b:39011** 39A10

— (*with* Papaschinopoulos, Garyfalos) Existence of two nonlinear projections for a nonlinear differential equation with piecewise constant argument. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 277–289. (Wei Nian Zhang) **99e:34100** 34K15

— (*with* Papaschinopoulos, Garyfalos) Persistence, oscillatory behavior, and periodicity of the solutions of a system of two nonlinear difference equations. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 4, 315–323. (Summary) **99g:39011** 39A10

— (*with* Papaschinopoulos, Garyfalos) On a system of two nonlinear difference equations. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 415–426. (Summary) **99a:39024** 39A10

— (*with* Papaschinopoulos, Garyfalos) On the difference equation $x_{n+1} = \frac{bx_nx_{n-1}+ax_n+b-b^2}{x_n(x_nx_{n-1}-b)}$. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 2, 1–6. (Summary) **99c:39006** 39A10 (39A12)

Schinas, John (*with* Elaydi, Saber N.; Papaschinopoulos, Garyfalos) Asymptotic theory for noninvertible systems. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 155–164, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39016** 39A10

Schinazi, Rinaldo B. (*with* van den Berg, Jacob; Grimmett, Geoffrey R.) Dependent random graphs and spatial epidemics. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 317–336. (Olle Häggström) **99c:60212** 60K35

Schindelhauer, Christian (*with* Jakoby, Andreas; Reischuk, Rüdiger) The complexity of broadcasting in planar and decomposable graphs. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 179–206. (Summary) **99e:68006** 68M10 (05C85, 68R10, 90B12)

Schindler, Ian A nonlinear Schrödinger equation defined on the whole space. *Reaction diffusion systems* (*Trieste*, 1995), 319–333, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Introduction) **99b:35204** 35Q55 (35J10, 58E05)

Schindler, Ralf-Dieter On a Chang conjecture. (English summary) *Israel J. Math.* **99** (1997), 221–230. (Summary) **99d:03033** 03C57 (03E55)

Schinzel, Andrzej Hilbert's Ninth Problem. (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 119–122, *Polsk. Akad. Nauk, Warsaw*, 1997. (*see* **99b:01001**) 11–03 (01A60, 11A15)

— Hilbert's Twelfth Problem. (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 147–151, *Polsk. Akad. Nauk, Warsaw*, 1997. (*see* **99b:01001**) 11–03 (01A60, 11R47)

— On pseudosquares. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 213–220, *VSP, Utrecht*, 1997. (Matti Jutila) **99i:11071** 11L40

— (*with* Browkin, Jerzy; Filaseta, Michael; Greaves, G. R. H.) Squarefree values of polynomials and the *abc*-conjecture. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 65–85, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (D. R. Heath-Brown) **99d:11101** 11N32 (11D99)

— One hundred years of the prime number theorem. (Polish) *Wiadom. Mat.* **33** (1997), 91–98. (Ognian Trifonov) **99b:11001** 11–03 (01A55, 01A60)

— Jan Wójcik (1936–1994) and his work in number theory. (Polish) *Wiadom. Mat.* **33** (1997), 199–203. (Editors) **99m:01087** 01A70 (11–03)

— Reducibility of polynomials over Kroneckerian fields. *Number theory* (*Eger*, 1996), 473–477, *de Gruyter, Berlin*, 1998. (A. Pethő) **99i:11097** 11R09

— On Pythagorean triangles. Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 31–33. (Edward L. Cohen) **99k:11044** 11D09

— (*with* Aliev, Iskander; Kanemitsu, Shigeru) On the metric theory of continued fractions. *Colloq. Math.* **77** (1998), *no.* 1, 141–146. (Marc Deléglise) **99d:11087** 11K50

— A property of the unitary convolution. *Colloq. Math.* **78** (1998), *no.* 1, 93–96. (Aleksander Grytczuk) **99k:11010** 11A25

— (*with* Barsky, Daniel; Bézivin, Jean-Paul) Une caractérisation arithmétique de suites récurrentes linéaires. (French summary) [An arithmetical characterization of linear recurrence sequences] Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 73–84. (A. J. van der Poorten) **99j:11011** 11B37 (11R99)

— The Mahler measure of polynomials. *Number theory and its applications* (*Ankara*, 1996), 171–183, *Lecture Notes in Pure and Appl. Math.*, 204, *Dekker, New York*, 1999. (Toufik Zaïmi) **99k:11041** 11C08 (11R09)

Schinzinger, Roland (*with* Ekel, P. Ya.; Pedrycz, Witold) A general approach to solving a wide class of fuzzy optimization problems. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 49–66. (Summary) **99a:90236** 90C70

Schipp, Ferenc (*with* Baron, S.) Certain complementary spaces and multipliers for double Walsh series. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 125–144 (1997). (Sergei F. Lukomskiĭ) **99b:42032** 42C10 (42B08, 42B15)

— (*with* Fridli, Sándor) Strong summability, approximation and L_1-convergence. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 77–90, *New Age, New Delhi*, 1997. (Summary) **99d:42047** 42C10

— (*with* Bokor, József) Approximate identification in Laguerre and Kautz bases. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 463–468. (Summary) **99a:93022** 93B30

— (*with* Gianone, László; Bokor, József) Approximate $\mathscr{H}_\infty$ identification using partial sum operators in a disc algebra basis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1117–1122. 93B30 (93B36)

— (*with* Fridli, Sándor) Strong approximation via Sidon type inequalities. (English summary) *J. Approx. Theory* **94** (1998), *no.* 2, 263–284. (Francesco Altomare) **99e:41011** 41A17 (42A24)

— On the strong summability of Walsh series. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 611–633. (Sergei F. Lukomskiĭ) **99g:42035** 42C10 (40F05, 40G05, 43A55)

— (*with* Szabó, Zoltán István; Bokor, József) Identification of rational approximate models in H^∞ using generalized orthonormal basis. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 153–158. 93B36 (93B30)

— *see also* **Fridli, Sándor**

Schirmacher, Ernesto Log-concavity and the exponential formula. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 2, 127–134. (Edward A. Bender) **99k:05018** 05A20 (05A15, 05E05)

Schirn, Matthias On Frege's theory of non-extensional sentences. (Spanish. English and Spanish summaries) *Theoria* (*San Sebastián*) (2) **14** (1999), *no.* 34, 131–156. 03A05 (01A60, 03–03)

Schirotzek, W. (*with* Pühl, Heidrun; Weber, M. R.) On matrices satisfying a maximum principle with respect to a cone. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 337–356. (Richard D. Hill) **99h:15020** 15A48 (15A09, 15A39)

Schirra, Stefan (*with* Mehlhorn, Kurt; Müller, M.; Näher, Stefan; Seel, Michael; Uhrig, Christian; Ziegler, Joachim Rudolf) A computational basis for higher-dimensional computational geometry and applications. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 289–303. (*see* **99b:68003**) 68U05 (52B55)

— (*with* Mehlhorn, Kurt; Näher, Stefan; Seel, Michael; Seidel, Raimund; Schilz, Thomas; Uhrig, Christian) Checking geometric programs or verification of geometric structures. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 85–103. (Summary) **99k:68196** 68U05 (52B55, 68Q60)

Schirrmeister, N. (*with* Gao, S. C.; Pavel, N. H.) Optimal control of a functional equation associated with closed range operators. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 383–392. (Gabriel Dimitriu) **99c:49024** 49K27 (47N10)

Schittkowski, K. PDEFIT: a FORTRAN code for data fitting in partial differential equations. (English summary) *Optim. Methods Softw.* **10** (1999), *no.* 3, 539–582. 90–04 (65K10, 90C90)

Schlacher, Kurt (*with* Kugi, Andreas; Scheidl, Rudolf) Tensor analysis based symbolic computation for mechatronic systems. (English summary) 2nd IMACS Symposium on Mathematical Modelling (Vienna, 1997). *Math. Comput. Simulation* **46** (1998), *no.* 5-6, 517–525. (Summary) **99d:70001** 70–04 (70E15, 70F25, 78A55, 94C05)

— Mathematical strategies common to mechanics and control. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 723–730. (Summary) **99h:93002** 93–02 (70Q05, 73K50, 93B36)

Schlaeger, S. (*with* Eisenbiegler, J.; Gottlieb, Johannes; Löwe, Welf; Thül, M.; Zimmermann, Wolf D.) Parallel CG-methods—automatically optimized for PC- and workstation-clusters. (English summary) *High performance algorithms for structured matrix problems*, 181–197, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65Y05

Schlag, Karl H. (*with* Sela, Aner) You play (an action) only once. (English summary) *Econom. Lett.* **59** (1998), *no.* 3, 299–303. (Summary) **99d:90145** 90D06

— Why imitate, and if so, how? A boundedly rational approach to multi-armed bandits. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 130–156. (James Bergin) **99h:90121** 90D06 (90D10, 90D20)

Schlag, W. A geometric proof of the circular maximal theorem. *Duke Math. J.* **93** (1998), *no.* 3, 505–533. (Andreas Seeger) **99d:42039** 42B25

— A geometric inequality with applications to the Kakeya problem in three dimensions. *Geom. Funct. Anal.* **8** (1998), *no.* 3, 606–625. (Stephen Buckley) **99g:42025** 42B25

Schläger, Dirk (*with* Maugeri, Antonino; Oettli, Werner) A flexible form of Wardrop's principle for traffic equilibria with side constraints. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 185–193. (J. Černý) **99d:90043** 90B06

— (*with* Oettli, Werner) Generalized vectorial equilibria and generalized monotonicity. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 145–154, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Anton S. Mureşan) **99b:47106** 47N10 (47H19, 49J40, 90C48)

— (*with* Oettli, Werner) Existence of equilibria for monotone multivalued mappings. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 219–228. (Gérard Lebourg) **99k:47173** 47H19 (47H04, 47N10, 49J52, 90C29)

Schlather, M. (*with* Stoyan, Dietrich) The covariance of the Stienen model. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 157–174, *World Sci. Publishing, River Edge, NJ*, 1997. (Volker Schmidt) **99k:60027** 60D05

Schlatter, A. E. (*with* Struwe, Michael; Tahvildar-Zadeh, A. Shadi) Erratum: "Global existence of the equivariant Yang-Mills heat flow in four space dimensions" [Amer. J. Math. **120** (1998), no. 1, 117–128; MR 98k:58063]. *Amer. J. Math.* **120** (1998), *no.* 4, 690. 58E15 (53C07, 58G11)

Schlatter, Mark D. A many permutation group result for unstable theories. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 694–708. (Bruno Poizat) **99g:03035** 03C45

Schlechta, Karl ★ Nonmonotonic logics. (English summary) Basic concepts, results, and techniques. Lecture Notes in Computer Science, 1187. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. x+243 *pp. ISBN* 3-540-62482-1 (G. Mirkowska) **99f:03030** 03B60 (03B70, 68T27)

Schlechtendahl, E. G. Averaging invariance and its consequences for fluid dynamics. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 12, 841–854. (Michael Renardy) **99k:73015** 73B27 (35Q35, 76A99)

Schlee, Edward E. Corrigenda: "The sure thing principle and the value of information" [Theory and Decision **42** (1997), no. 1, 21–36; MR 98e:90011]. *Theory and Decision* **45** (1998), *no.* 2, 199–200. (Wulf Gaertner) **99m:90011** 90A05 (90A06, 90A10)

Schlegel, Christian (*with* Alexander, Paul D.; Roy, Sumit) Coded asynchronous CDMA and its efficient detection. (English summary) *IEEE Trans. Inform. Theory* **44** (1998),

no. 7, 2837–2847. 94A05

Schlegel, Sabine Ruin probabilities in perturbed risk models. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 93–104. (Angelos Dassios) **99i:90039** 90A46

Schlegel, V. (*with* Mahrenholtz, O.; Haack, C.) On the use of a BEM time-stepping procedure for nonlinear and unsteady wave-structure interaction. *Boundary element topics* (*Stuttgart*, 1995), 149–166, *Springer, Berlin*, 1997. (*see* **99e:00017**) 73V10 (65N38, 73K70, 76M15)

Schleich, W. P. (*with* Hug, M.; Menke, C.) How to calculate the Wigner function from phase space. (English summary) *J. Phys. A* **31** (1998), *no.* 11, *L*217–*L*224. (Summary) **99b:81124** 81S30

— (*with* Hug, M.; Menke, C.) Modified spectral method in phase space: calculation of the Wigner function. I. Fundamentals. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3188–3205. (Summary) **99c:81116a** 81S30

— (*with* Hug, M.; Menke, C.) Modified spectral method in phase space: calculation of the Wigner function. II. Generalizations. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3206–3224. (Summary) **99c:81116b** 81S30

Schleiermacher, A. Über einen Satz von Krasner. I. [On a theorem of Krasner. I] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **205** (1996), 111–140 (1997). (S. R. Kogalovskiĭ) **99h:08005** 08A35 (03C60, 03C85, 08A65)

Schlesinger, Enrico A new proof of a theorem of Beorchia on the genus of space curves. (English summary) *Math. Nachr.* **194** (1998), 197–203. (Luca Chiantini) **99i:14036** 14H50

— A speciality theorem for Cohen-Macaulay space curves. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2731–2743. (Pedro Gurrola) **99j:14033** 14H50 (14F17)

Schlesinger, Karl-Georg ★ Generalized manifolds. (English summary) A generalized manifold theory with applications to dynamical systems, general relativity and twistor theory. Pitman Research Notes in Mathematics Series, 372. *Longman, Harlow*, 1997. vi+116 *pp. ISBN* 0-582-32000-3 (Andreas Kriegl) **99k:58004** 58A05 (03H05, 32G05, 53C20)

— On topology and quantum mechanics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1441–1450. (Yu. N. Bespalov) **99g:81010** 81P05 (54H99, 81S99)

— Toward quantum mathematics. I. From quantum set theory to universal quantum mechanics. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1344–1358. (Frank Antonsen) **99m:81020** 81P10 (18B25)

Schlichenmaier, Martin *see* **Coherent states, differential and quantum geometry, 99k:81004**

Schlichtkrull, Christian The transfer map in topological Hochschild homology. (English summary) *J. Pure Appl. Algebra* **133** (1998), *no.* 3, 289–316. (Erik K. Pedersen) **99j:19003** 19D55 (19D10, 55R12)

Schlichtkrull, H. (*with* van den Ban, E. P.) The most continuous part of the Plancherel decomposition for a reductive symmetric space. *Ann. of Math.* (2) **145** (1997), *no.* 2, 267–364. (From the introduction) **99e:22021** 22E45

— (*with* Helgason, Sigurdur) The Paley-Wiener space for the multitemporal wave equation. *Comm. Pure Appl. Math.* **52** (1999), *no.* 1, 49–52. (R. Schimming) **99j:58208** 58G16 (53C35, 58G30)

Schlick, Moritz *see* **Logical empiricism at its peak, 99a:00006a**

Schlick, Tamar (*with* Zaslavskiĭ, L. Yu.) An adaptive multigrid technique for evaluating long-range forces in biomolecular simulations. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 237–250. 65M55

Schlickewei, Hans Peter The subspace theorem and applications. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 197–205 (*electronic*). (Damien Roy) **99h:11075** 11J25 (11B37, 11D57, 11D75)

— (*with* Schmidt, Wolfgang M.; Waldschmidt, Michel) Zeros of linear recurrence sequences. (English summary) *Manuscripta Math.* **98** (1999), *no.* 2, 225–241. (Damien Roy) **99m:11034** 11D61 (11B37, 11J13)

Schliecker, G. (*with* Grimm, Uwe; Römer, R. A.) Electronic states in topologically disordered systems. (English summary) *Ann. Phys.* (8) **7** (1998), *no.* 5-6, 389–393. 82B44 (82D30)

Schlifer, I. (*with* Hunter, Geoffrey[2]; Ecimovic, P.; Walker, I. M.; Beamish, D.; Donev, S.; Kowalski, Marian; Arslan, S.; Heck, S.) Fermion quasi-spherical harmonics. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 795–803. (Summary) **99j:81032** 81Q05 (33C55, 81R05)

Schlimbach, Frank (*with* Diekmann, Ralf; Walshaw, Chris) Quality balancing for parallel adaptive FEM. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 170–181, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65Y05)

Schlingemann, Dirk Construction of kink sectors for two-dimensional quantum field theory models—an algebraic approach. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 6, 851–891. (Gerald Hofmann) **99m:81126** 81T05 (46L60, 81–02, 81T08)

Schlipf, John (*with* Seitzer, Jennifer) Affordable classes of normal logic programs. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 92–111, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:68036** 68N17

Schlomiuk, Dana Basic algebro-geometric concepts in the study of planar polynomial vector fields. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 269–295. (Summary) **99c:58120** 58F14 (14C17, 34C35)

Schlosser, Michael Multidimensional matrix inversions and A_r and D_r basic hypergeometric series. (English summary) *Ramanujan J.* **1** (1997), *no.* 3, 243–274. (Christian Krattenthaler) **99b:33036** 33D20 (05A30, 11B65, 33C70, 33D65)

— Multidimensional matrix inversions and multiple basic hypergeometric series associated to root systems. (English summary) *Special functions and differential equations* (*Madras*, 1997), 25–30, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33024** 33D20 (15A09, 33D80)

Schlottmann, Martin Cut-and-project sets in locally compact abelian groups. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 247–264, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99f:52021** 52C07

— (*with* Baake, Michael; Moody, Robert V.) Limit-(quasi)periodic point sets as quasicrystals with p-adic internal spaces. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5755–5765. (Summary) **99f:82061** 82D25 (52C20)

Schlottmann, P. Integrable one-dimensional heavy fermion lattice model. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 697–720. (Summary) **99d:82018** 82B20 (82D40)

Schlüchtermann, Georg Perturbation of linear semigroups. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 263–277, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Walter Renger) **99e:47049** 47D06 (47A55)

— (*with* Kunze, Markus) Strongly generated Banach spaces and measures of noncompactness. (English summary) *Math. Nachr.* **191** (1998), 197–214. (Józef Banaś) **99d:46015** 46B20 (34G20, 47A99)

— (*with* Schwingenschlögl, Florian) On noncommutative vector-valued integration. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 765–780. (Serguey A. Malyugin) **99j:46078** 46L50 (46A32, 46L10)

— Hereditary properties for duals of Bochner L_p-function-spaces. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 369–391. (Pilar Cembranos) **99j:46042** 46E40 (46E10, 46G10)

Schlude, Konrad Bemerkung zu beschränkt homogenen Funktionen. (German summary) [Remark on bounded homogeneous functions] *Elem. Math.* **54** (1999), *no.* 1, 30–31. 26B35

Schlumprecht, Thomas (*with* Schechtman, Gideon; Zinn, Joel) On the Gaussian measure of the intersection. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 346–357. (Werner Linde) **99c:60032** 60E15 (28C20)

— (*with* Hitczenko, Pawel; Kwapień, Stanisław; Li, Wenbo V.; Schechtman, Gideon; Zinn, Joel) Hypercontractivity and comparison of moments of iterated maxima and minima of independent random variables. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 2, 26 *pp.* (*electronic*). (From the text) **99k:60008** 60B11 (52A21, 60E07, 60E15, 60G15)

— (*with* Odell, E.) A problem on spreading models. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 249–261. (G. J. O. Jameson) **99c:46006** 46B15

Schmale, Wiland Matrix cyclization over complex polynomials. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 551–562. (Jacek Kabziński) **99c:15051** 15A99 (93B25)

Schmalfuß, Björn The random attractor of the stochastic Lorenz system. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6, 951–975. (Bohdan Maslowski) **99b:58156** 58F12 (34D45, 34F05, 60H10, 76F20)

— (*with* Keller, Hannes) Attractors for stochastic differential equations with nontrivial noise. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 43–54, 150, 153–154. (Peter E. Kloeden) **99k:60151** 60H10 (58F12)

— A random fixed point theorem and the random graph transformation. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 91–113. (Tong Shan Lu) **99i:47118** 47H40 (28D99, 47H10, 60H25)

— (*with* Kloeden, Peter E.) Asymptotic behaviour of nonautonomous difference inclusions. (English summary) *Systems Control Lett.* **33** (1998), *no.* 4, 275–280. (Olusola Akinyele) **99d:39006** 39A10

Schmaltz, Martin (*with* Sundrum, Raman) $N = 1$ field theory duality from M theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6455–6463. (Summary) **99m:81261** 81T60 (81T13, 81T30)

— (*with* Csáki, Csaba; Skiba, Witold; Terning, John) Gauge theories with tensors from branes and orientifolds. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7546–7560. (Summary) **99k:81297** 81T60 (81T13)

— (*with* Arkani-Hamed, Nima) Field-theoretic branes and tachyons of the QCD string. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 92–98. (Summary) **99m:81237** 81T60 (81T30, 81V05)

Schmalz, Gerd (*with* Ezhov, Vladimir V.) A simple proof of Beloshapka's theorem on the parametrization of the automorphism group of CR-varieties. (Russian) *Mat. Zametki* **61** (1997), *no.* 6, 939–942; *translation in Math. Notes* **61** (1997), *no.* 5-6, 783–786. (Alexander V. Isaev) **99f:32013** 32C05 (32C16)

— Über die Automorphismen einer streng pseudokonvexen CR-Mannigfaltigkeit der Kodimension 2 im $\mathbf{C}^4$. (German summary) [On the automorphisms of a strictly pseudoconvex CR manifold of codimension 2 in $\mathbf{C}^4$] *Math. Nachr.* **196** (1998), 189–229. (Francine A. Meylan) **99k:32027** 32F25 (32C16)

Schmeelk, John (*with* Takači, Arpad) Wavelet transforms in generalized Fock spaces. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 657–672. (Gilbert Walter) **99a:46078** 46F12 (42C15, 44A15, 44A35)

— (*with* Takači, Arpad) Quasiasymptotics and the dual Fock space. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 309–319. (Summary) **99d:46053** 46F05

Schmeichel, Edward (*with* Mitchem, John; Morriss, Patrick) On the cost chromatic number of outerplanar, planar, and line graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 229–241. (R. J. Douglas) **99i:05086** 05C15 (05C10)

— (*with* Gocka, E.; Kirchherr, W.) A note on the road-coloring conjecture. (English summary) *Ars Combin.* **49** (1998), 265–270. (Summary) **99c:05062** 05C15

— (*with* Hakimi, S. Louis; Mitchem, John) Short proofs of theorems of Nash-Williams and Tutte. (English summary) *Ars Combin.* **50** (1998), 257–266. (Summary) **99i:05165** 05C70

— (*with* Bauer, Douglas; van den Heuvel, Jan; Morgana, Aurora) The complexity of toughness in regular graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 47–61. (Summary) **99j:05173** 05C85 (68Q25)

Schmeidel, Ewa (*with* Migda, Małgorzata) Asymptotic behaviour of solutions of higher order difference equations. *Demonstratio Math.* **31** (1998), *no.* 1, 71–80. (E. Thandapani) **99e:39034** 39A10

Schmeiser, B. W. (*with* Chen, Ming-Hui) Erratum: "General hit-and-run Monte Carlo sampling for evaluating multidimensional integrals" [Oper. Res. Lett. **19** (1996), no.

4, 161–169; MR 97k:65011]. *Oper. Res. Lett.* **21** (1997), *no.* 4, 209. (From the text) **99b:65001** 65C05 (65D30)

Schmeiser, Christian (*with* Degond, Pierre) Macroscopic models for semiconductor heterostructures. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4634–4663. (Carlo Cercignani) **99g:82069** 82C40 (76P05, 82D99)

— (*with* Zwirchmayr, Alexander) Elastic and drift-diffusion limits of electron-phonon interaction in semiconductors. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 37–53. (Summary) **99a:82102** 82D99 (45K05)

— (*with* Gasser, Ingenuin; Illner, R.; Markowich, Peter A.) Semiclassical, $t \to \infty$ asymptotics and dispersive effects for Hartree-Fock systems. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 699–713. (Peter E. Zhidkov) **99k:35164** 35Q55

— (*with* Zwirchmayr, Alexander) Convergence of moment methods for linear kinetic equations. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 74–88 (*electronic*). (Ester Gabetta) **99k:82065** 82C40 (65M99, 76M25, 76X05, 82–08)

Schmeisser, Gerhard (*with* Voss, Jürgen J.) A new interpretation of the sampling theorem and its extensions. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 275–288, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Gilbert Walter) **99a:94007** 94A12 (42A38)

— Orthogonal expansion and variations of sign of continuous functions. (English summary) *Approximation theory*, 465–476, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (N. K. Thakare) **99f:26019** 26C10 (30C15, 42C05)

— Inequalities for the zeros of an orthogonal expansion of a polynomial. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 381–396, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (A. K. Agarwal) **99f:30012** 30C15 (42C10)

Schmeisser, H. J. (*with* Runovskiĭ, K. V.) On Marcinkiewicz-Zygmund type inequalities for irregular knots in L_p-spaces, $0 < p \leq +\infty$. (English summary) *Math. Nachr.* **189** (1998), 209–220. (Eduard Belinskii) **99b:42004** 42A05

Schmersau, Dieter (*with* Koepf, Wolfram) Weinstein's functions and the Askey-Gasper identity. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 227–246. (Shusen Ding) **99d:30021** 30C50 (30C45, 33C45)

Schmets, Jean (*with* Valdivia, Manuel) Analytic extension of non-quasi-analytic Whitney jets of Beurling type. (English summary) *Math. Nachr.* **195** (1998), 187–197. (A. A. Borichev) **99m:46064** 46E10 (26E05, 26E10, 46F05, 47B38)

Schmick, Malte (*with* Markus, Mario; Böhm, Dominik) Simulation of vessel morphogenesis using cellular automata. (English summary) Epidemiology, cellular automata, and evolution (Sofia, 1997). *Math. Biosci.* **156** (1999), *no.* 1-2, 191–206. (*see* **99m:92001**) 92C15

Schmid, Hermann Ludwig *see* **Jehne, Wolfram, (99k:01080)**

Schmid, Joachim (*with* Becker, Eberhard) On the real Nullstellensatz. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 173–185, *Springer, Berlin*, 1999. (Thomas C. Craven) **99m:13048** 13P10 (14P05, 14Q20)

Schmid, Peter *see* **Schmid, Peter Paul**

Schmid, Peter J. (*with* Reddy, Satish C.; Baggett, Jeffrey S.; Henningson, Dan S.) On stability of streamwise streaks and transition thresholds in plane channel flows. (English summary) *J. Fluid Mech.* **365** (1998), 269–303. (Summary) **99e:76053** 76E99 (76D10, 76F99, 76N20)

Schmid, Peter Paul Subgroups permutable [commuting] with all Sylow subgroups. *J. Algebra* **207** (1998), *no.* 1, 285–293. (Gerhard Kowol) **99g:20037** 20D25 (20D20)

— (*with* Riese, Udo) Characters induced from Sylow subgroups. *J. Algebra* **207** (1998), *no.* 2, 682–694. (Gabriel Navarro) **99e:20013** 20C15 (20D05, 20D20)

Schmid, Rudolf (*with* Lu, Xiaowu) A numerical study of the Riemann solutions for gasdynamic combustion. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 143–160. (Summary) **99a:76129** 76N15 (76L05, 76M25, 80A25)

Schmid, Ulrich Hans On the approximation of positive functions by power series. II. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 486–501. (Summary) **99a:41046** 41A58

Schmid, W. *see* **Schmid, Wolfgang P.**

Schmid, Wolfgang Ch. Shift-nets: a new class of binary digital (t, m, s)-nets. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 369–381, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65023** 65C10 (11K45, 65C05)

Schmid, Wolfgang P. CUSUM control schemes for Gaussian processes. (English summary) *Statist. Papers* **38** (1997), *no.* 2, 191–217. (Peter R. Nelson) **99b:62154** 62N10

— (*with* Kramer, H. G.) On the average delay of control schemes. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 341–360, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 62N10

Schmidhuber, Christof Wrapped M-branes and three-dimensional topologies. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 217–232. (Jihad Mourad) **99g:81184** 81T30 (57N10)

— Wrapped branes and confined momentum. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 293–310. (Summary) **99i:83097** 83E30 (81T30)

Schmidli, Hanspeter Martingales and insurance risk. *8th International Summer School on Probability Theory and Mathematical Statistics* (*Varna*, 1994), 155–188, *Sci. Cult. Technol. Publ., Singapore*, 1996. (Paul Embrechts) **99c:62283** 62P05 (60G44)

Schmidmeier, Markus Endofinite modules over hereditary Artinian PI-rings. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 497–511, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (William H. Gustafson) **99i:16033** 16G70 (16R99)

— The local duality for homomorphisms and an application to pure semisimple PI-rings. *Colloq. Math.* **77** (1998), *no.* 1, 121–132. (J. L. Gómez Pardo) **99f:16009** 16D90 (16G10, 16R99)

— Auslander-Reiten theory for Artinian PI-rings. *J. Algebra* **207** (1998), *no.* 1, 72–81. (Henning Krause) **99k:16025** 16G10 (16G70, 16R10)

Schmidt, A. *see* **Schmidt, Alfred**

Schmidt, Alexandre G. M. (*with* Suzuki, Alfredo T.) Negative-dimensional integration: "lab testing" at two loops. (English summary) *J. High Energy Phys.* **1997**, *no.* 9, *Paper* 2, 9 *pp.* (*electronic*). (Dirk Kreimer) **99b:81162** 81T18

— (*with* Suzuki, Alfredo T.) Negative-dimensional integration revisited. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 8023–8039. (Summary) **99f:81135** 81T18

— (*with* Suzuki, Alfredo T.; Bentín, R.) Probing negative-dimensional integration: two-loop covariant vertex and one-loop light-cone integrals. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 549–560. (Summary) **99h:81144** 81T18

Schmidt, Alfred (*with* Nochetto, Ricardo H.; Verdi, Claudio) Adapting meshes and time-steps for phase change problems. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 4, 273–292. (E. G. D'yakonov) **99h:65170** 65M60 (65M15, 73B30)

— Approximation of crystalline dendrite growth in two space dimensions. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 57–68. (Giovanni Bellettini) **99k:80008** 80A22 (65C20)

— (*with* Nochetto, Ricardo H.; Verdi, Claudio) Error control for phase change problems. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 53–61, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 65M12 (80–08, 80A10)

Schmidt, B. *see* **Schmidt, Bernhard**

Schmidt, Bernd Gerhard Leon Lichtenstein's work on rotating fluids. *On Einstein's path* (*New York*, 1996), 435–441, *Springer, New York*, 1999. (Introduction) **99j:01019** 01A60 (01A70, 76–03, 76U05, 83–03)

Schmidt, Bernhard (*with* Pott, Alexander; Reuschling, Dirk) A multiplier theorem for projections of affine difference sets. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 63–67. (Summary) **99c:05032** 05B10

— Nonexistence results on Chen and Davis-Jedwab difference sets. (English summary) *J. Algebra* **202** (1998), *no.* 2, 404–413. (Siu Lun Ma) **99j:05034** 05B10

— (*with* Jungnickel, Dieter) Difference sets: a second update. (English summary) Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 89–118. (Otokar Grošek) **99k:05035** 05B10

Schmidt, Bettina E. On a nonlinear eigenvalue problem arising from climate modeling. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3645–3656. (K. S. Harinath) **99g:34056** 34B15 (86A10)

Schmidt, Carsten (*with* Prüfer, Martin) Parameter identification in robot control. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 377–399. (*see* **99b:70004**) 93C85 (70B15, 70Q05)

Schmidt, Darrell (*with* Cahlon, Baruch) Generic oscillations for delay differential equations. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 288–301. (István Györi) **99e:34095** 34K15

Schmidt, David A. (*with* Banerjee, Anindya[2]) Stackability in the simply-typed call-by-value lambda calculus. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 47–73. (E. Fehr) **99m:68026** 68N15 (03B15, 03B40, 03B70)

Schmidt, E. T. (*with* Grätzer, G.; Lakser, H.) Congruence representations of join-homomorphisms of distributive lattices: a short proof. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 363–369. (Thanjavur V. Swaminathan) **99e:06005** 06B10 (06D05)

— (*with* Grätzer, G.) Congruence-preserving extensions of finite lattices to sectionally complemented lattices. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1903–1915. (N. Prabhakara Rao) **99j:06004** 06B10 (08A05)

Schmidt, Erhard *see* **Baumgärtel, Hellmut, (99k:01080)**

Schmidt, G. *see* **Schmidt, Gunther W.**

Schmidt, George Synchronization of two pulse-coupled oscillators. (English summary) *Phys. Lett. A* **243** (1998), *no.* 4, 205–207. (Summary) **99b:34068** 34C15 (92B05)

Schmidt, Günter (*with* Sanlaville, Eric) Machine scheduling with availability constraints. (English summary) *Acta Inform.* **35** (1998), *no.* 9, 795–811. (Summary) **99f:90050** 90B35 (68M20, 68Q25)

Schmidt, Gunther (*with* Elschner, J.) Numerical solution of optimal design problems for binary gratings. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 603–626. (Summary) **99i:78023** 78A45 (49Q99, 78–08)

— (*with* Elschner, J.) Diffraction in periodic structures and optimal design of binary gratings. I. Direct problems and gradient formulas. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 14, 1297–1342. (Hideo Soga) **99j:78020** 78A45 (35J20, 65N30, 78–08)

— (*with* Khoromskiĭ, B. N.) A fast interface solver for the biharmonic Dirichlet problem on polygonal domains. (English summary) *Numer. Math.* **78** (1998), *no.* 4, 577–596. (Serge Nicaise) **99a:65132** 65N12 (31A30, 65N30)

Schmidt, Gunther W. *see* **Relational methods in computer science, 99f:68148**

Schmidt, H.-J. *see* **Schmidt, Heinz-Jürgen**

Schmidt, Hans-Jürgen A two-dimensional representation of four-dimensional gravitational waves. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 215–223. (Michael O. Katanaev) **99f:83026** 83C35 (83C20)

— (*with* Mignemi, S.) Classification of multidimensional inflationary models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 998–1010. (Alfredo Macías) **99e:53113** 53C80 (83E15, 83F05)

Schmidt, Heinz-Jürgen (*with* Schnack, J.) Investigations on finite ideal quantum gases. (English summary) *Phys. A* **260** (1998), *no.* 3-4, 479–489. (Summary) **99h:82007** 82B10

Schmidt, J. W. *see* **Schmidt, Jochen W.**

Schmidt, Jan Hendrik Classical universes are perfectly predictable! (English summary) *Stud. Hist. Philos. Sci.* **28** (1997), *no.* 4, 433–460. (Philip L. Quinn) **99b:70002** 70A05 (00A30, 00A79, 03A05, 70H40, 83A05)

— Predicting the motion of particles in Newtonian mechanics and special relativity. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 1, 81–122. (Victor G. LeBlanc) **99e:70005** 70A05 (03B30, 70D99, 70F10, 70H40, 83A05)

Schmidt, Jeanette P. (*with* Landau, Gad M.; Myers, Eugene W.) Incremental string comparison. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 557–582 (*electronic*). (Erkki Mäkinen) **99b:68087** 68Q20

— All highest scoring paths in weighted grid graphs and their application to finding all approximate repeats in strings. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 972–992 (*electronic*). (Summary) **99c:68059** 68P05 (68Q25)

Schmidt, Jochen W. Upper bounds for the second order derivatives convex spline interpolation. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 149–157. 41A30 (41A15)

— (*with* Hess, Walter Paul) Shape preserving C^3 data interpolation and C^2 histopolation with splines on threefold refined grids. (English and German summaries) *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 487–496. (Mariano Gasca) **99i:65010** 65D07
— (*with* Walther, M.) Tensor product splines on refined grids in S-convex interpolation. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 189–202, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Charles K. Chui) **99b:41023** 41A63 (41A15)
— Tridiagonally separable programs: unconstrained duals and applications in convex spline approximation. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 16 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 65D15 (41A15, 90C90)
— (*with* Hess, Walter Paul) Numerical methods in strip interpolations applying C^1, C^2, and C^3 splines on refined grids. (English summary) *Mitt. Math. Ges. Hamburg* **16** (1997), 107–135. (Ewald Quak) **99d:65032** 65D07 (65D05)
— (*with* Bastian-Walther, Marion) Shape preserving interpolation by tensor product splines on refined grids. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 201–217, *Teubner, Stuttgart*, 1998. (Summary) **99h:65024** 65D17 (41A29)
— (*with* Bastian-Walther, Marion) Algorithm for constructing range restricted histosplines. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 241–260. (Sheng Fu Wang) **99g:65017** 65D07 (41A15)
— (*with* Bastian-Walther, Marion) Range restricted interpolation using Gregory's rational cubic splines. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 221–237. (R. Franke) **99m:41011** 41A15 (65D07)
Schmidt, K. *see* **Schmidt, Klaus Horst**
Schmidt, Karl Michael (*with* Brown, B. Malcolm; Eastham, Michael S. P.; Hinz, Andreas M.; Kriecherbauer, Thomas; McCormack, Daniel K. R.) Welsh eigenvalues of radially periodic Schrödinger operators. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 347–357. (Carol Shubin) **99m:34196** 34L40 (35J10, 35P15)
— (*with* Yamada, Osanobu) Spherically symmetric Dirac operators with variable mass and potentials infinite at infinity. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 3, 211–227. (Takashi Ichinose) **99g:35093** 35P05 (34L40, 35Q40, 47F05, 81Q10)
— Oscillation of the perturbed Hill equation and the lower spectrum of radially periodic Schrödinger operators in the plane. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2367–2374. (Günter Stolz) **99j:34050** 34C10 (34B24, 34L40, 35J10, 35P15)
Schmidt, Klaus[1] (*with* Gabriel, Patrick; Lemańczyk, Mariusz) Extensions of cocycles for hyperfinite actions and applications. (English summary) *Monatsh. Math.* **123** (1997), *no.* 3, 209–228. (Mahesh Nerurkar) **99a:28015** 28D05 (28D15)
— (*with* Einsiedler, M.) Markov partitions and homoclinic points of algebraic $\mathbf{Z}^d$-actions. (English summary) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 265–284. (Thomas Ward) **99f:58065** 58F03 (22D40)
— (*with* Petersen, Karl E.) Symmetric Gibbs measures. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 7, 2775–2811. (B. M. Gurevich) **99a:28016** 28D05
— Tilings, fundamental cocycles and fundamental groups of symbolic $\mathbf{Z}^d$-actions. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1473–1525. (Thomas Ward) **99j:58068** 58F03 (28D05)
Schmidt, Klaus D. Non-optimal prediction by the chain ladder method. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 1, 17–24. (M. J. Goovaerts) **99b:62156** 62P05
— Bayesian models in actuarial mathematics. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 117–146. (Axel Reich) **99i:62246** 62P05 (62F15)
— Prediction in the linear model: a direct approach. (English summary) *Metrika* **48** (1998), *no.* 2, 141–147. (Summary) **99k:62128** 62J05
Schmidt, Klaus Horst (*with* Eilenberger, G.) Poincaré maps of Duffing-type oscillators and their reduction to circle maps. II. Methods and numerical results. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3903–3927. (Summary) **99c:34071** 34C15 (34D08, 58F13, 70K40)
Schmidt, M. *see* **Schmidt, Matthias**
Schmidt, M. R. (*with* Beckers, Marcel; Nielsen, A. H.; Rasmussen, Jens Juul; van Heijst, GertJan F.) On the interaction between two oppositely signed, shielded, monopolar vortices. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3099–3110. (Summary) **99g:76022** 76C05 (76-05, 76D05, 76M25)
Schmidt, Martin U. (*with* Müller, Werner[1]; Schrader, Robert) Theta functions for infinite period matrices. *Internat. Math. Res. Notices* **1996**, *no.* 12, 565–587. (Ch. Birkenhake (Zbl 872.14038)) **99a:14071** 14K25 (11F27, 14H15)
— (*with* Grinevich, P. G.) Conformal invariant functionals of immersions of tori into $\mathbf{R}^3$. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 51–78. (Iskander A. Taimanov) **99k:53112** 53C42 (35Q51, 58E12)
Schmidt, Matthias (*with* Stein, Erwin; Barthold, F. J.; Ohnimus, S.) Adaptive finite elements in elastoplasticity with mechanical error indicators and Neumann-type estimators. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 81–99, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73E99)
— Classification and partial ordering of reductive Howe dual pairs of classical Lie groups. (English summary) *J. Geom. Phys.* **29** (1999), *no.* 4, 283–318. (Tomasz Przebinda) **99m:22014** 22E45
Schmidt, Michael G. (*with* Schubert, Christian) Relativistic QFTH-couplings on the worldline. (English summary) *Path integrals: Dubna* '96, 171–176, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40
— (*with* Schubert, Christian) Multiloop Feynman integrals in the worldline approach. (English summary) *Path integrals: Dubna* '96, 177–180, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40
Schmidt, P. C. (*with* Bott, E.; Methfessel, M.; Krabs, Werner) Nonsingular Hankel functions as a new basis for electronic structure calculations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3393–3425. (Ashok Kumar Mishra) **99h:82075** 82D20 (33D55, 81-08, 81V55)
Schmidt, Paul Günter (*with* Layton, William J.; Meir, A. J.) A two-level discretization method for the stationary MHD equations. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 198–210 (*electronic*). (Magdi M. Shoucri) **99c:76067** 76M10 (65N50, 76W05)
Schmidt, Peter Joseph (*with* Qian, Hailong) The asymptotic equivalence between the iterated improved 2SLS estimator and the 3SLS estimator. (English summary) *Econometric Rev.* **16** (1997), *no.* 4, 441–457. (Summary) **99c:62291** 62P20
— (*with* Kim, Yangseon; Qian, Hailong) Efficient GMM and MD estimation of autoregressive models. (English summary) *Econom. Lett.* **62** (1999), *no.* 3, 265–270. (Summary) **99m:62137** 62M10
Schmidt, Ralf (*with* Berndt, Rolf) ★ Elements of the representation theory of the Jacobi group. (English summary) Progress in Mathematics, 163. *Birkhäuser Verlag, Basel*, 1998. *xiv*+213 *pp. ISBN* 3-7643-5922-6 (B. Ramakrishnan) **99i:11030** 11F55 (11F70, 14K25)
— Spherical representations of the Jacobi group. (English summary) *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 273–296. (B. Ramakrishnan) **99k:11073** 11F55
Schmidt, Renate A. (*with* Hustadt, Ullrich) Simplification and backjumping in modal tableau. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 187–201, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B45)
— E-unification for subsystems of S4. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 106–120, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99f:03017** 03B45 (03B25, 68Q40, 68T15)
Schmidt, Robert Comments on and bibliography of Berger's method in the nonlinear theory of plates. (English summary) *Indust. Math.* **47** (1997), *no.* 1, 19–36. (Summary) **99j:73069** 73K10
Schmidt, Thomas A. (*with* Crisp, David; Dziadosz, Susan; Garity, Dennis J.; Insel, Thomas; Wiles, Peter) Closed curves and geodesics with two self-intersections on the punctured torus. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 189–209. (Mark Sheingorn) **99b:11078** 11J06 (30F35, 57M50)
Schmidt, Tuija (*with* Shenoy, Prakash P.) Some improvements to the Shenoy-Shafer and Hugin architectures for computing marginals. (English summary) *Artificial Intelligence* **102** (1998), *no.* 2, 323–333. 68T30
Schmidt, Ulrich ★ Axiomatic utility theory under risk. Non-Archimedean representations and application to insurance economics. Lecture Notes in Economics and Mathematical Systems, 461. *Springer-Verlag, Berlin*, 1998. *xvi*+201 *pp. ISBN* 3-540-64319-2 (Yew-Kwang Ng) **99e:90018** 90A10 (90-02, 90A46)
— A measurement of the certainty effect. (English summary) *J. Math. Psych.* **42** (1998), *no.* 1, 32–47. (Summary) **99b:90013** 90A05
Schmidt, Vasco Alexander (*with* Ziegler, Günter M.) Lebensspuren in und nach der DDR. Interviews mit Konrad Gröger und Horst Martini. (German summary) [Life in and after the GDR. Interviews with Konrad Gröger and Horst Martini] *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 2, 28–33. (Summary) **99b:01022** 01A70 (01A80)
— (*with* Aigner, Martin) Lebensspuren in und nach der DDR. Interviews mit Horst Sachs und Gustav Burosch. (German summary) [Life in and after the GDR. Interviews with Horst Sachs and Gustav Burosch] *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 3, 23–33. (Summary) **99b:01023** 01A70
— *see also* **Wildenhain, Günther**, **99b:01024a**; **Franz, Uwe[2]**, **99b:01024b** *and* **Nollau, Volker**, **99b:01024c**
Schmidt, Volker *see* **Schmidt, Volker[2]**
Schmidt, Volker[1] (*with* Baccelli, François; Hasenfuss, Sven) Transient and stationary waiting times in (max, +)-linear systems with Poisson input. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 3-4, 301–342. (John P. Lehoczky) **99d:60099** 60K25 (90B22)
— (*with* Baccelli, François; Hasenfuss, Sven) Expansions for steady-state characteristics of (max, +)-linear systems. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 1–24. (Ravi Mazumdar) **99f:60154** 60K20 (60K25, 90B15)
Schmidt, Volker[2] (*with* Dierolf, Peter) A proof of the change of variable formula for d-dimensional integrals. *Amer. Math. Monthly* **105** (1998), *no.* 7, 654–656. 26B15
Schmidt, Wolfgang M. Heights of points on subvarieties of $\mathbf{G}_m^n$. *Number theory* (*Paris*, 1993–1994), 157–187, *London Math. Soc. Lecture Note Ser.*, 235, *Cambridge Univ. Press, Cambridge*, 1996. (Carlo Gasbarri) **99h:11070** 11G35 (11G25, 14G40, 14L40)
— The distribution of sublattices of $\mathbf{Z}^m$. (English summary) *Monatsh. Math.* **125** (1998), *no.* 1, 37–81. (Jeffrey Lin Thunder) **99c:11083** 11H06 (11H55)
— (*with* Schlickewei, Hans Peter; Waldschmidt, Michel) Zeros of linear recurrence sequences. (English summary) *Manuscripta Math.* **98** (1999), *no.* 2, 225–241. (Damien Roy) **99m:11034** 11D61 (11B37, 11J13)
Schmidt-Lainé, Claudine (*with* Ben Taïb, A.) Sur un algorithme en volumes finis non structurés pour la simulation des flammes turbulentes en chimie infiniment rapide. (English and French summaries) [A nonstructured finite volume algorithm for the simulation of turbulent flames in infinitely rapid chemistry] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 681–697. (Reinhard Redlinger) **99i:76101** 76M20 (65M06, 76F99, 80-08, 80A25)
— (*with* Brauner, Claude-Michel; Hulshof, Josephus) The saddle point property for focusing selfsimilar solutions in a free boundary problem. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 473–479. (Galina I. Bizhanova) **99c:35262** 35R35 (35C20, 35K05)
Schmidtmann, Olaf (*with* Feudel, Fred; Seehafer, Norbert) Nonlinear Galerkin methods based on the concept of determining modes for the magnetohydrodynamic equations. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7141–7155. (Summary) **99g:76114** 76M25 (76W05)
Schmidt-Schauß, Manfred (*with* Schulz, Klaus U.) On the exponent of periodicity of minimal solutions of context equations. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 61–75, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99e:03029** 03D35 (03B25, 68Q25, 68Q40, 68T15)
— A decision algorithm for distributive unification. (English summary) Rewriting techniques and applications (New Brunswick, NJ, 1996). *Theoret. Comput. Sci.* **208** (1998), *no.* 1-2, 111–148. (Summary) **99h:68095** 68Q40 (03B25, 03C05, 03D15, 68T15)
— Decidability of behavioural equivalence in unary PCF. (English summary) *Theoret. Comput. Sci.* **216** (1999), *no.* 1-2, 363–373. (Summary) **99m:03028** 03B40 (68N15)
Schmieder, Gerald Der Satz von Rolle im Komplexen. (German summary) [The theorem of Rolle in the complex domain] *Math. Semesterber.* **44** (1997), *no.* 2, 109–120.

(Wolfgang Gawronski) **99i:30009** 30C10 (30C15)

— (*with* Bruĭ, I. N.) Real trigonometric series of class BMO and $(C, 1)$-means. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 483–488. (Summary) **99i:42022** 42B25 (30D50)

— (*with* Shiba, Masakazu) One-parameter variations of the ideal boundary and compact continuations of a Riemann surface. (English summary) *Analysis (Munich)* **18** (1998), *no.* 2, 125–130. (M. Nakai) **99k:30073** 30F30 (30F25)

— (*with* Danielyan, Arthur A.) Topological properties of level-sets of entire functions. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 266–273. (Adam Janik) **99e:30028** 30E10 (30D99)

Schmiegel, Armin (*with* Eckhardt, Bruno; Marzinzik, Kerstin) Transition to turbulence in shear flows. (English summary) *A perspective look at nonlinear media*, 327–338, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99d:76045** 76F10

Schmiegel, Jürgen (*with* Greiner, Martin; Jouault, Bruno; Giesemann, Jens; Lipa, Peter; Eggers, Hans) Wavelets: from signal analysis to the analysis of complex processes. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fis.* **44** (1998), *suppl.* 2, 11–14. (*see* **99g:81002**) 42C15 (94A12)

Schmies, Markus (*with* Polthier, Konrad) Straightest geodesics on polyhedral surfaces. (English summary) *Mathematical visualization (Berlin, 1997)*, 135–150, *Springer, Berlin*, 1998. (*see* **99k:65005**) 53A04

Schmit, C. (*with* Bogomol'nyĭ, E. B.; Georgeot, B.; Giannoni, M.-J.) Arithmetical chaos. (English summary) *Phys. Rep.* **291** (1997), *no.* 5-6, 219–324. (Jens Bolte) **99c:11062** 11F72 (11F25, 81Q50)

Schmitendorf, W. E. (*with* Köse, İ. Emre; Jabbari, Faryar) A direct characterization of L_2-gain controllers for LPV systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1302–1307. 93B36 (93C60)

Schmitt, Alexander Quaternary cubic forms and projective algebraic threefolds. *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 253–270. (Ingrid Bauer) **99b:14037** 14J30 (32J17)

— On the classification of certain 6-manifolds and applications to algebraic geometry. *Topology* **36** (1997), *no.* 6, 1291–1315. (From the introduction) **99c:57056** 57R19 (14J30)

— Projective moduli for Hitchin pairs. *Internat. J. Math.* **9** (1998), *no.* 1, 107–118. (Daniel Huybrechts) **99e:14011** 14D20 (14H60)

— (*with* Okonek, Ch.; Teleman, Andrei Dumitru) Master spaces for stable pairs. *Topology* **38** (1999), *no.* 1, 117–139. (Jean-Marc Drezet) **99h:14010** 14D20

Schmitt, Andreas Existence of Skyrmions. (English summary) The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 147–151. (Maria J. Esteban) **99b:58076** 58E50 (53C80, 81T10)

Schmitt, Bernard Ergodic theory and thermodynamic of one-dimensional Markov expanding endomorphisms. *Dynamical systems (Temuco, 1991/1992)*, 93–123, *Travaux en Cours*, 52, *Hermann, Paris*, 1996. (Luis M. Barreira) **99c:58098** 58F11 (58F03)

— (*with* Kondah, Abdelaziz; Maume, Véronique) Vitesse de convergence vers l'état d'équilibre pour des dynamiques markoviennes non höldériennes. (English and French summaries) [Rate of convergence to equilibrium for non-Hölder Markov dynamics] *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 6, 675–695. (Manfred Denker) **99e:28032** 28D20 (58F11, 60F05)

— (*with* Collet, Pierre; Martínez, Servet A.) On the enhancement of diffusion by chaos, escape rates and stochastic instability. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2875–2897. (Viviane Baladi) **99j:58121** 58F11 (58F13, 60J10, 60J60)

Schmitt, Bernhard A. (*with* Podhaisky, H.; Weiner, Rüdiger) Numerical experiments with Krylov integrators. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 413–425. (*see* **99e:65002**) 65L05

— (*with* Weiner, Rüdiger) Polynomial preconditioning in Krylov-ROW-methods. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 427–437. (Summary) **99f:65106** 65L05

— (*with* Weiner, Rüdiger) Equilibrium attractivity of Krylov-W-methods for nonlinear stiff ODEs. (English summary) *BIT* **38** (1998), *no.* 2, 391–414. (Summary) **99k:65054** 65L05

— (*with* Weiner, Rüdiger) Order results for Krylov-W-methods. (English summary) *Computing* **61** (1998), *no.* 1, 69–89. (Summary) **99d:65222** 65L06 (65F10)

Schmitt, Burkhard J. (*with* von Wahl, Wolf) Mean values and non-periodic pressure in convection problems between plates or with stress-free boundaries. (English summary) *Pacific J. Math.* **185** (1998), *no.* 2, 347–362. (Benoît P. Desjardins) **99m:76055** 76D99 (35Q35, 76E15, 76R05)

Schmitt, D. *see* **Schmitt, Dominique**

Schmitt, Dieter On the stability of stationary flows in thin magnetic flux tubes. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 1-2, 75–143. (Summary) **99j:76046** 76E25 (76W05, 85A30)

Schmitt, Dominique (*with* Spehner, Jean-Claude) Angular properties of Delaunay diagrams in any dimension. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 17–36. (Jesús A. de Loera) **99j:68146** 68U05 (52B11)

Schmitt, Frédéric (*with* Baumann, Pierre) Classification of bicovariant differential calculi on quantum groups (a representation-theoretic approach). (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 71–86. (Axel Schüler) **99f:58012** 58B30 (16W30, 17B37, 81R50)

Schmitt, John (*with* Holmes, Philip J.; Domokos, Gábor) Constrained Euler buckling: line contact solutions. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 149–158, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 73H05

— (*with* Holmes, Philip J.; Domokos, Gábor; Szeberényi, Imre) Constrained Euler buckling: an interplay of computation and analysis. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 175–207. (Summary) **99m:73039** 73H05

Schmitt, Klaus (*with* Manásevich, Raúl) Boundary value problems for quasilinear second order differential equations. (English summary) *Non-linear analysis and boundary value problems for ordinary differential equations (Udine)*, 79–119, *CISM Courses and Lectures*, 371, *Springer, Vienna*, 1996. (Alexandra Kurepa) **99a:34059** 34B15 (34A47, 35J65, 47H15, 47N20, 58E07)

— (*with* Le, Vy Khoi) On boundary value problems for degenerate quasilinear elliptic equations and inequalities. *J. Differential Equations* **144** (1998), *no.* 1, 170–218. (Jun Yu Wang) **99c:35074** 35J65 (47H15)

— On boundary value problems for quasilinear elliptic equations. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 419–427, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (G. Albinus) **99j:35069** 35J65 (35B05)

— (*with* García-Huidobro, Marta; Manásevich, Raúl) Positive radial solutions of quasilinear elliptic partial differential equations on a ball. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 175–190. (Alexandra Kurepa) **99i:35048** 35J65 (34A12, 34B15, 35B05)

Schmitt, M. *see* **Schmitt, Michel**

Schmitt, Michael On the sample complexity for neural trees. (English summary) *Algorithmic learning theory (Otzenhausen, 1998)*, 375–384, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05

Schmitt, Michel Estimation of intensity and shape in a non-stationary Boolean model. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets (Fontainebleau, 1996)*, 251–267, *World Sci. Publishing, River Edge, NJ*, 1997. (Ilya S. Molchanov) **99j:62136** 62M30 (60D05)

— Digitization and connectivity. (English summary) *Mathematical morphology and its applications to image and signal processing (Amsterdam, 1998)*, 91–98, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:68178** 68U10 (54D05)

Schmitt, Peter Triples of prototiles (with prescribed properties) in space (a quasiperiodic triple in space). (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 143–152. (Summary) **99j:52028** 52C22

Schmitt, Stephan (*with* Kreitz, Christoph) Deleting redundancy in proof reconstruction. (English summary) *Automated reasoning with analytic tableaux and related methods (Oisterwijk, 1998)*, 262–276, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35

Schmitt, Thomas[1] Supergeometry and quantum field theory, or: what is a classical configuration? (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 8, 993–1052. (Anargyros Fellouris) **99c:58008** 58A50 (58C50, 81T60)

Schmitt, Vincent Stable trace automata vs. full trace automata. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 45–100. (Yves Metivier) **99c:68160** 68Q45 (68Q10)

Schmitt, William R. Hopf algebras in enumerative combinatorics. *Gian-Carlo Rota on combinatorics*, 345–356, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05A15 (05A40, 16W30)

Schmitter, J. (*with* Ghorai, J. K.) The asymptotic distribution of the suprema of the standardized empirical processes under the Koziol-Green model. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 303–313. (Summary) **99k:62188** 62N05 (62G15)

Schmitz, Carsten The theorem of Fáry and Milnor for Hadamard manifolds. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 83–90. (S. V. Duzhin) **99g:57012** 57M25 (53C21)

Schmitz, François Wittgenstein et les mathématiques. [Wittgenstein and mathematics] *Les philosophes et les mathématiques*, 243–263, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

Schmitz, Greg Dean (*with* Lewis, Mark A.) Biological invasion of an organism with separate mobile and stationary states: modelling and analysis. (English summary) *Forma* **11** (1996), *no.* 1, 1–25. (Summary) **99m:92031** 92D25 (35Q80)

Schmitz, Heinz (*with* Kosub, Sven; Vollmer, Heribert) Uniformly defining complexity classes of functions. (English summary) *STACS 98 (Paris, 1998)*, 607–617, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99j:68044** 68Q15

Schmitz, Henning (*with* Kimms, Alf) Branch & cut methods for capacitated lot sizing. (English summary) *Operations Research Proceedings 1997 (Jena)*, 486–491, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C10 (90C90)

Schmitz, Norbert (*with* Gebhard, Jens) Permutation tests—a revival?! I. Optimum properties. (English summary) *Statist. Papers* **39** (1998), *no.* 1, 75–85. (Arnold Janssen) **99d:62048** 62G10 (62F03)

— (*with* Gebhard, Jens) Permutation tests—a revival?! II. An efficient algorithm for computing the critical region. (English summary) *Statist. Papers* **39** (1998), *no.* 1, 87–96. (Arnold Janssen) **99d:62049** 62G10

Schmock, Uwe (*with* Eichelsbacher, Peter) Exponential approximations in completely regular topological spaces and extensions of Sanov's theorem. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 233–251. (Anatolii A. Pukhal'skiĭ) **99h:60052** 60F10 (60B05)

Schmoeger, Christoph On a class of generalized Fredholm operators. I. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 829–842. (Manuel González) **99d:47012** 47A53 (47A11)

— The punctured neighbourhood theorem in Banach algebras. II. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 161–175. (Robin Harte) **99j:46052** 46H05

— On operators T such that Weyl's theorem holds for $f(T)$. *Extracta Math.* **13** (1998), *no.* 1, 27–33. (F.-H. Vasilescu) **99h:47005** 47A10 (47A53)

— Remarks on commuting exponentials in Banach algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1337–1338. (Summary) **99h:46090** 46H30

Schmuckenschläger, Michael Martingales, Poincaré type inequalities, and deviation inequalities. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 303–323. (Elton Pei Hsu) **99h:60037** 60E15 (31C25, 60G46, 60G50)

Schmucker, Annett (*with* Czichowski, Günter) Symmetry algebras and normal forms of third order ordinary differential equations. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 129–137. (P. G. L. Leach) **99g:34081** 34C20 (34A25, 34A26, 58F36)

Schmüdgen, Konrad (*with* Klimyk, A. U.) ★ Quantum groups and their representations. (English summary) Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1997. xx+552 *pp. ISBN* 3-540-63452-5 (Ian M. Musson) **99f:17017** 17B37 (16W30, 17B81, 46L87, 58B30, 81R50)

— (*with* Heckenberger, I.) Classification of bicovariant differential calculi on the quantum groups $\mathrm{SL}_q(n+1)$ and $\mathrm{Sp}_q(2n)$. (English summary) *J. Reine Angew. Math.* **502** (1998), 141–162. (Tomasz Brzeziński) **99m:58022** 58B30 (16W30)

Schmutzer, Ernst Kosmologie ohne Urknall auf der Basis der projektiven einheitlichen Feldtheorie (mit einer Skizze der Relativitätstheorie). (English summary) [Cosmology without the big bang on the basis of projective unified field theory (with a sketch of relativity theory)] Forschungsbeiträge der Naturwissenschaftlichen Klasse, Band 19. *Schr. Sudet.dtsch. Akad. Wiss. Künste Forsch.beitr. Nat.wiss. Kl.* **19** (1998), 153–196. (Helmuth K. Urbantke) **99m:83213** 83F05 (83D05, 83E99)

Schmutz Schaller, Paul Geometry of Riemann surfaces based on closed geodesics. *Bull. Amer. Math. Soc. (N.S.)* **35** (1998), *no.* 3, 193–214. (Jack Quine) **99b:11098** 11M36 (11H99, 11J06, 30F99)

Schnabel, Robert B. (*with* Bouaricha, Ali) Algorithm 768: TENSOLVE: a software package for solving systems of nonlinear equations and nonlinear least-squares problems using tensor methods. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 174–195. 65Y15

— (*with* Bouaricha, Ali) Tensor methods for large sparse systems of nonlinear equations. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 377–400. (Summary) **99d:65160** 65H10

Schnack, E. (*with* Andrä, Heiko) Galerkin-type boundary element analysis for 3D elasticity problems. *Boundary element topics (Stuttgart, 1995)*, 221–242, *Springer, Berlin*, 1997. (Xiaoguang Allan Zhong) **99j:73104** 73V10 (65N38)

— (*with* Szikrai, Sz.) Parallel coupling of FEM and BEM for 3D elasticity problems. *Boundary element topics (Stuttgart, 1995)*, 243–264, *Springer, Berlin*, 1997. (Carsten Carstensen) **99j:73101** 73V05 (65N30, 65N38, 65Y05, 73V10)

— (*with* Türke, K.) Coupling of BEM and FEM for elastic structures. *Boundary element topics (Stuttgart, 1995)*, 265–289, *Springer, Berlin*, 1997. (Carsten Carstensen) **99j:73102** 73V05 (65N30, 65N38, 73V10)

— (*with* Türke, K.) New developments in the iterative solution of boundary element systems for 2D and 3D boundary value problems. (English summary) *Boundary element research in Europe (Southampton, 1998)*, 3–12, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 73V10 (65N38)

— (*with* Szikrai, Sz.; Türke, K.) Local effects in engineering with macro-elements. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 299–309. (*see* **99b:73001**) 73V05 (65N99, 73V10)

Schnack, J. (*with* Schmidt, Heinz-Jürgen) Investigations on finite ideal quantum gases. (English summary) *Phys. A* **260** (1998), *no.* 3-4, 479–489. (Summary) **99h:82007** 82B10

Schnaubelt, Roland (*with* Nguyễn Văn Minh; Räbiger, Frank) Exponential stability, exponential expansiveness, and exponential dichotomy of evolution equations on the half-line. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 332–353. (Wei Nian Zhang) **99j:34083** 34G10 (34D05, 47D06)

— (*with* Latushkin, Yu. D.; Randolph, T.) Exponential dichotomy and mild solutions of nonautonomous equations in Banach spaces. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 489–510. (Janusz Mierczyński) **99g:34123** 34G10 (34C35, 34D05, 47D06)

Schneeweiß, Hans *see* **Econometrics in theory and practice, 99f:62007**

Schneeweiss, Winfrid G. On the polynomial form of Boolean functions: derivations and applications. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 217–221. (Summary) **99c:94074** 94C10

Schneider, Dominique Théorèmes ergodiques perturbés. (English summary) [Perturbed ergodic theorems] *Israel J. Math.* **101** (1997), 157–178. (Joseph Max Rosenblatt) **99c:28056** 28D05 (42A05)

Schneider, Frank (*with* Freeden, Willi) Regularization wavelets and multiresolution. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 225–243. (Summary) **99b:65074** 65J20 (42C15, 86A30)

Schneider, Fred B. (*with* Gries, David) Adding the everywhere operator to propositional logic. (English summary) *J. Logic Comput.* **8** (1998), *no.* 1, 119–130. (A. Yu. Muravitsky) **99c:03019** 03B45

Schneider, Guido Nonlinear diffusive stability of spatially periodic solutions—abstract theorem and higher space dimensions. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 159–167, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57 (35B10)

— Nonlinear stability of Taylor vortices in infinite cylinders. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 2, 121–200. (Arjen Doelman) **99m:76062** 76E30 (35B35, 35Q35)

— Approximation of the Korteweg-de Vries equation by the nonlinear Schrödinger equation. (English summary) *J. Differential Equations* **147** (1998), *no.* 2, 333–354. (Xian Guo Geng) **99j:35192** 35Q53 (35Q55)

— Hopf bifurcation in spatially extended reaction-diffusion systems. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 1, 17–41. (Anibal Rodriguez-Bernal) **99k:35021** 35B32 (35K57, 35Q55, 58F14, 58F39)

— Justification of modulation equations for hyperbolic systems via normal forms. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 1, 69–82. (Linda M. Holt) **99m:35174** 35L99 (35Q55)

Schneider, H. *see* **Schneider, Hans**

Schneider, H.-J. *see* **Schneider, Hans-Jürgen[2]**

Schneider, Hans (*with* McDonald, Judith J.; Olesky, D. Dale; Tsatsomeros, Michael J.; van den Driessche, P.) *Z*-pencils. (English summary) *Electron. J. Linear Algebra* **4** (1998), 32–38 (*electronic*). (Ronald L. Smith) **99h:15013** 15A22 (05C50, 15A48)

— (*with* Weinberger, Hans F.) On matrices for which norm bounds are attained. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 563–577. (J. Parida) **99e:15025** 15A45

— Some personal reminiscences of Olga Taussky-Todd. Special issue in memory of Olga Taussky Todd. *Linear Algebra Appl.* **280** (1998), *no.* 1, 15–19. (*see* **99c:01028**) 01A70

— (*with* McDonald, Judith J.; Nabben, Reinhard; Neumann, Michael; Tsatsomeros, Michael J.) Inverse tridiagonal *Z*-matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 75–97. (Summary) **99i:15037** 15A57 (15A09)

— (*with* McDonald, Judith J.) Block *LU* factorizations of *M*-matrices. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 109–130. (Jin Xi Zhao) **99g:65036** 65F05

Schneider, Hans-Jürgen *see* **Schneider, Hans-Jürgen[2]**

Schneider, Hans-Jürgen[1] ★ Foundations of parallel algorithms. Arbeitsberichte des Instituts für Mathematische Maschinen und Datenverarbeitung (Informatik) [Reports of the Institute for Mathematical Machines and Data Processing (Information Science)], 31-3. *Friedrich-Alexander-Universität zu Erlangen-Nürnberg, Erlangen*, 1998. *iv*+97 *pp.* (From the introduction) **99h:68068** 68Q22 (68–01)

Schneider, Hans-Jürgen[2] ★ Lectures on Hopf algebras. Notes by Sonia Natale. Trabajos de Matemática [Mathematical Works], 31/95. *Universidad Nacional de Córdoba, Facultad de Matemática, Astronomía y Física, Córdoba*, 1995. 58 *pp.* (Stefaan Caenepeel) **99k:16087** 16W30

— (*with* Andruskiewitsch, Nicolás) Hopf algebras of order p^2 and braided Hopf algebras of order p. *J. Algebra* **199** (1998), *no.* 2, 430–454. (James Osterburg) **99c:16033** 16W30

— (*with* Andruskiewitsch, Nicolás) Lifting of quantum linear spaces and pointed Hopf algebras of order p^3. (English summary) *J. Algebra* **209** (1998), *no.* 2, 658–691. (Stefaan Caenepeel) **99k:16075** 16W30

Schneider, Jacques (*with* Palczewski, Andrzej; Bobylëv, A. V.) A consistency result for a discrete-velocity model of the Boltzmann equation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1865–1883. (Giuseppe Toscani) **99d:82068** 82C80 (11Z05, 65C20, 76P05, 82C40)

— (*with* Palczewski, Andrzej) Existence, stability, and convergence of solutions of discrete velocity models to the Boltzmann equation. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 307–326. (Luisa Arlotti) **99g:82072** 82C40

Schneider, Jodi (*with* Furstenberg, Eric; Li, Jie) Stick knots. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 561–568. (Sergei K. Lando) **99g:57007** 57M25

Schneider, Johannes (*with* Morgenstern, Ingo; Singer, Johannes Maria) Bouncing towards the optimum: improving the results of Monte Carlo optimization algorithms. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5085–5095. 65C05

Schneider, John B. (*with* Shlager, Kurt L.) A survey of the finite-difference time-domain literature. *Advances in computational electrodynamics*, 1–62, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (*see* **99c:78001**) 78–08 (65–00, 65M06)

Schneider, K. *see* **Schneider, Klaus R.**

Schneider, Kai (*with* Koster, F.; Griebel, Michael; Kevlahan, N. K.-R.; Farge, M.) Towards an adaptive wavelet-based 3D Navier-Stokes solver. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 339–364, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76123** 76M25 (76F99)

Schneider, Kim (*with* DeMeyer, Frank; Miranda, Rick) Examples of the failure of the local-global principle for similarity of matrices. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4179–4185. (Robert M. Guralnick) **99k:13016** 13C99 (15A21)

Schneider, Klaus R. (*with* Nguyễn Xuân Tấn) Some results on reduction principles, bifurcation and Hopf bifurcation of equations concerning Lipschitz continuous mappings. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 427–465. (N. Chafee) **99d:47065** 47H15 (34C23, 34G20, 58E07)

— (*with* Müller, Wolfdietrich) Feedback stabilization of nonlinear discrete-time systems. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 6, 579–596. (Jacob Hammer) **99m:93088** 93D15

— (*with* Kostadinov, St. I.; Venkova, M.) Existence of integral manifolds for impulsive differential equation with small parameter. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 299–308. (Yuri V. Rogovchenko) **99i:34020** 34A37 (34C30)

— (*with* Butuzov, V. F.; Nefëdov, N. N.) Singularly perturbed boundary value problems in case of exchange of stabilities. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 543–562. (Hideo Ikeda) **99k:34041** 34B15 (34E15)

Schneider, Manfred Friedrich (*with* Popivanov, N. I.) Nonlocal regularization of Protter problem for the 3-D Tricomi equation. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 373–378, *VSP, Utrecht*, 1998. (Summary) **99f:35139** 35M10 (65R30)

Schneider, Markus A note on the construction and upper bounds of correlation-immune functions. (English summary) *Cryptography and coding (Cirencester, 1997)*, 295–306, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (Summary) **99g:94018** 94A60

Schneider, Mike (*with* Hoschek, Josef) Interpolation and approximation with developable surfaces. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 185–202, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:65025** 65D17 (51N05)

— Interpolation with developable strip-surfaces consisting of cylinders and cones. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 437–444, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65056** 65D17

Schneider, Peter[1] Equivariant homology for totally disconnected groups. *J. Algebra* **203** (1998), *no.* 1, 50–68. (Andrzej Kozlowski) **99e:20066** 20J05 (16E40)

— Verdier duality on the building. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 205–218. (Summary) **99m:20097** 20G05 (20E42)

patel-Schneider, Peter F. *see* **Patel-Schneider, Peter F.**

Schneider, R. *see* **Schneider, Rudolf[2]**

Schneider, Reinhold (*with* Dahmen, Wolfgang; Kleemann, B.; Prössdorf, Siegfried) Multiscale methods for the solution of the Helmholtz and Laplace equations. *Boundary element topics (Stuttgart, 1995)*, 189–219, *Springer, Berlin*, 1997. (*see* **99c:00017**) 65N35 (65F50, 65T20)

— ★ Multiskalen- und Wavelet-Matrixkompression. (German. German summary) [Multiscale and wavelet matrix compression] Analysisbasierte Methoden zur effizienten Lösung großer vollbesetzter Gleichungssysteme. [Analysis-based methods for the efficient solution of large nonsparse systems of equations] Advances in Numerical Mathematics. *B. G. Teubner, Stuttgart*, 1998. 246 *pp. ISBN* 3-519-02739-9 (Heike Faßbender) **99f:65067** 65F30 (45L05, 65R20, 65T99, 65Y20, 68Q25)

— (*with* Dahmen, Wolfgang) Wavelets with complementary boundary conditions—function spaces on the cube. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 255–293. (Albert Cohen) **99h:42057** 42C15 (46E99)

— (*with* Dahmen, Wolfgang) Composite wavelet bases for operator equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1533–1567. (Andreas Rieder) **99m:65122** 65J20 (42C15, 45L05, 65T99)

Schneider, Rolf Intrinsic volumes in Minkowski spaces. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 355–373. (P. McMullen) **99a:52003** 52A21 (52A38, 52A39)

Schneider, Rudolf² (*with* Munz, Claus-Dieter; Sonnendrücker, Eric; Voss, Ursula) Maxwell's equations when the charge conservation is not satisfied. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 431–436. (Summary) **99k:35170** 35Q60 (78A25)

— (*with* Munz, Claus-Dieter; Sonnendrücker, Eric; Stein, E.; Voss, Ursula; Westermann, Thomas) A finite-volume particle-in-cell method for the numerical treatment of Maxwell-Lorentz equations on boundary-fitted meshes. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 4, 461–487. (Summary) **99i:78005** 78–08

Schneider, Wilhelm (*with* Noshadi, Valod) Natural convection flow far from a horizontal plate. (English summary) *J. Fluid Mech.* **387** (1999), 227–254. 76R10 (76M10)

— *see also* **Recent advances in boundary layer theory, 99h:76004**

Schneider, Wolfgang Manfred (*with* Kasch, Friedrich) Exchange properties and the total. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 161–174, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (John Dauns) **99c:16002** 16D10

Schneier, Bruce (*with* Hall, Christopher J.; Wagner, David A.; Kelsey, John) Building PRFs from PRPs. *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 370–389, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94047** 94A60

Schnell, Uwe (*with* Böröczky, Károly, Jr.) Asymptotic shape of finite packings. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 16–28. (Ren Ding) **99g:52035** 52C17 (05B40)

— (*with* Böröczky, Károly, Jr.) Wulff shape for nonperiodic arrangements. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 81–94. (Richard Kenyon) **99e:52024** 52C17 (52C07, 82D25)

Schnell, Wolfgang A non-local wave model for particles and fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 145–193. (Dan Radu Grigore) **99e:81035** 81P99 (33C10)

Schneps, Leila Grothendieck's "Long march through Galois theory". *Geometric Galois actions*, 1, 59–66, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Helmut Völklein) **99b:14017** 14E20 (14H10)

— The Grothendieck-Teichmüller group $\widehat{\mathrm{GT}}$: a survey. *Geometric Galois actions*, 1, 183–203, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Athanase Papadopoulos) **99a:14043** 14H55 (14F35, 14L30, 20F38)

— (*with* Harbater, David) Approximating Galois orbits of dessins. *Geometric Galois actions*, 1, 205–230, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Yasutaka Ihara) **99f:14031** 14H30 (12F12, 14F35, 14G25)

— (*with* Lochak, Pierre) The universal Ptolemy-Teichmüller groupoid. (English summary) *Geometric Galois actions*, 2, 325–347, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Hiroaki Nakamura) **99i:20052** 20F36 (20C15, 20E18)

— *see also* **Serre, Jean-Pierre, 99d:20081; Geometric Galois actions, 99f:14002** *and* **Lesne, Annick, 99h:58125**

Schnetz, O. (*with* Flume, R.; Magro, M.; O'Raifeartaigh, Lochlainn; Sachs, Ivo) Uniqueness of the Seiberg-Witten effective Lagrangian. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 331–345. (Michael A. I. Flohr) **99b:81234** 81T60 (81T13)

Schnitger, Georg (*with* Hromkovič, Juraj) Communication complexity and sequential computation. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 71–84, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68045** 68Q10 (68Q15, 68Q25)

Schnittger, J. Quantum group structure and local fields in the algebraic approach to 2D gravity. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 158–191; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 892–920 (1996). (Isabel P. Ennes) **99g:81205** 81T40 (17B37, 81R50)

— (*with* Balázs, L. K.; Balog, J.; Forgács, P.; Mohammedi, N.; Palla, László) Quantum equivalence of σ models related by non-abelian duality transformations. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3585–3594. (Summary) **99k:81191** 81T15

Schnitzer, Franz Josef (*with* Joó, István) On some problems concerning expansions by noninteger bases. *Anz. Österreich. Akad. Wiss. Math.-Natur. Kl.* **133** (1996), 3–10 (1997). (Yann Bugeaud) **99b:11008** 11A67

— (*with* Miller, Harry I.; Wyzinski, Henry L.) On a result of M. Kuczma. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 207–212. (Elżbieta Wagner) **99c:28003** 28A05 (39B05)

— *see also* **Generalized analytic functions, 99d:00020**

Schnitzer, Howard J. (*with* Nunes, João P.) Field strength correlators for two-dimensional Yang-Mills theories over Riemann surfaces. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 26, 4743–4768. (Summary) **99a:81184** 81T70 (58D29, 81S40, 81T40)

— (*with* Naculich, Stephen G.) Superconformal coset equivalence from level-rank duality. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 727–748. (Summary) **99g:81071** 81R10 (81T40)

— (*with* Ennes, Isabel P.; Naculich, Stephen G.; Rhedin, Henric) One-instanton predictions for non-hyperelliptic curves derived from M-theory. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 245–257. (Summary) **99h:81207** 81T60 (14H45, 81T13)

— (*with* Rhedin, Henric) The non-abelian Coulomb phase of the gauged vector model at large N. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 516–526. (Summary) **99h:81142** 81T17

Schnoebelen, Philippe (*with* Autant, C.; Pfister, W.) Place bisimulations for the reduction of labeled Petri nets with silent moves. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 230–246 (*electronic*). (*see* **99f:68006**) 68Q90

— (*with* Lugiez, Denis) The regular viewpoint on PA-processes. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 50–66, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10, 68Q45)

— (*with* Finkel, Alain) Fundamental structures in well-structured infinite transition systems. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 102–118, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68Q60 (68Q68)

— (*with* Demri, Stéphane) The complexity of propositional linear temporal logics in simple cases (extended abstract). (English summary) *STACS 98* (*Paris*, 1998), 61–72, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q60 (03B45, 03B70, 03D15)

Schnörr, Christoph A study of a convex variational diffusion approach for image segmentation and feature extraction. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 3, 271–292. (Gilbert Crombez) **99c:68261** 68U10

Schnorr, Claus Peter (*with* Vaudenay, Serge) The black-box model for cryptographic primitives. (English summary) *J. Cryptology* **11** (1998), *no.* 2, 125–140. (Summary) **99c:94036** 94A60

Schnürlein, Ludwig Christoph *see* **Maurer, Bertram, 99i:01035**

Schobbens, P.-Y. (*with* Henzinger, Thomas A.; Raskin, J.-F.) The regular real-time languages. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 580–591, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (68Q45)

— (*with* Raskin, J.-F.; Henzinger, Thomas A.) Axioms for real-time logics. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 219–236, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10)

— (*with* Raskin, J.-F.) The logic of "initially" and "next": complete axiomatization and complexity. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 5, 221–225. (Summary) **99m:03038** 03B45 (03B70, 68Q60, 68T15)

Schöbel, Anita (*with* Martini, Horst) Median hyperplanes in normed spaces—a survey. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 181–195. (Summary) **99h:65242** 65Y25 (52B55, 52C10)

Schöberl, J. Solving the Signorini problem on the basis of domain decomposition techniques. (English summary) *Computing* **60** (1998), *no.* 4, 323–344. (Summary) **99d:73099** 73V20 (65N35, 73T05, 73V25)

Schochet, Claude L. Correction to: "The UCT, the Milnor sequence, and a canonical decomposition of the Kasparov groups" [*K*-Theory **10** (1996), no. 1, 49–72; MR 97d:46088]. (English summary) *K-Theory* **14** (1998), *no.* 2, 197–199. (Summary) **99d:46095** 46L80 (19K35, 46L85, 55N10, 55U20)

Schochet, S. (*with* Métivier, Guy) Interactions trilinéaires résonantes. [Resonant trilinear interactions] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. VI*, 16 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Hermano Frid) **99m:35143** 35L60 (35L40, 35Q99, 76N10)

— (*with* Métivier, Guy) Trilinear resonant interactions of semilinear hyperbolic waves. *Duke Math. J.* **95** (1998), *no.* 2, 241–304. (Denis Serre) **99m:35144** 35L60 (35B30, 35L40)

Schochetman, Irwin E. (*with* Smith, Robert L.) Existence and discovery of average optimal solutions in deterministic infinite horizon optimization. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 416–432. (Jean B. Lasserre) **99d:90140** 90C48 (49L20, 90C39)

Schock, Eberhard Toying with Jordan matrices. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 1, 116–119. (From the text) **99b:47006** 47A10 (15A18, 47A50, 47D06)

Schoen, Chad Addendum to: "Hodge classes on self-products of a variety with an automorphism" [Compositio Math. **65** (1988), no. 1, 3–32; MR 89c:14013]. (English summary) *Compositio Math.* **114** (1998), *no.* 3, 329–336. (Fumio Hazama) **99m:14021** 14C30 (14K22)

— An integral analog of the Tate conjecture for one-dimensional cycles on varieties over finite fields. *Math. Ann.* **311** (1998), *no.* 3, 493–500. (Ben Moonen) **99e:14005** 14C25 (14G15)

— On the image of the l-adic Abel-Jacobi map for a variety over the algebraic closure of a finite field. *J. Amer. Math. Soc.* **12** (1999), *no.* 3, 795–838. (Ben Moonen) **99m:14018** 14C25 (14D10)

Schoen, Fabio Random and quasi-random linkage methods in global optimization. (English summary) Workshop on Global Optimization (Trier, 1997). *J. Global Optim.* **13** (1998), *no.* 4, 445–454. (*see* **99k:90005**) 90C15 (90C26)

Schoen, Richard M. (*with* Korevaar, Nicholas J.) Global existence theorems for harmonic maps to non-locally compact spaces. *Comm. Anal. Geom.* **5** (1997), *no.* 2, 333–387. (Raul Quiroga) **99b:58061** 58E20

— (*with* Wolfson, Jon G.) Minimizing volume among Lagrangian submanifolds. *Differential equations: La Pietra* 1996 (*Florence*), 181–199, *Proc. Sympos. Pure Math.*, 65, *Amer. Math. Soc., Providence, RI*, 1999. (Yong-Geun Oh) **99k:53130** 53C55 (49J10, 53C25, 53C42, 58E15)

Schoen, Tomasz (*with* Łuczak, Tomasz) Small bases for finite groups. *Colloq. Math.* **78** (1998), *no.* 1, 35–37. (Michael E. Mays) **99i:20036** 20D60 (11N45)

Schoenauer, Marc (*with* Michalewicz, Zbigniew) Evolutionary computation. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 307–338. (*see* **99b:90008**) 90–02 (90C27, 90C30)

— *see also* **Evolutionary computation, 99b:90008**

Schoenmaker, W. (*with* Magnus, W.) On the use of a new integral theorem for the quantum mechanical treatment of electric circuits. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6715–6719. (Vittorio Romano) **99k:82083** 82D99 (94C05)

Schofield, Norman Aggregation of smooth preferences. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 161–185. (Maurice Salles) **99g:90025** 90A08 (90A28)

Schoissengeier, J. (*with* Kühleitner, Manfred; Nowak, Werner Georg; Wooley, Trevor D.) On sums of two cubes: an Ω_+-estimate for the error term. *Acta Arith.* **85** (1998), *no.* 2, 179–195. (D. R. Heath-Brown) **99g:11119** 11P21

— A metrical result on the discrepancy of $(n\alpha)$. *Glasgow Math. J.* **40** (1998), *no.* 3, 393–425. (Robert F. Tichy) **99j:11087** 11K38 (11K31)

— (*with* Baxa, Christoph) On the discrepancy of the sequence $(\alpha\sqrt{n})$. *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 529–544. (Robert F. Tichy) **99k:11118** 11K31 (11K38)

Schölkopf, B. (*with* Smola, A. J.) On a kernel-based method for pattern recognition, regression, approximation and operator inversion. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 211–231. (Summary) **99f:68177** 68T10 (65K99)

Scholl, Holger R. Shannon optimal priors on independent identically distributed statistical experiments converge weakly to Jeffreys' prior. (English summary) *Test* **7** (1998), *no.* 1, 75–94. (Stig I. Rosenlund) **99m:62009** 62A15 (62F15)

Scholle, M. System symmetries and inverse variational problems in continuum theory. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 599–611. (Takayuki Nôno) **99j:73004** 73B10 (49S05, 70H33, 70H35)

Scholtes, Stefan (*with* Stöhr, Michael) Exact penalization of mathematical programs with equilibrium constraints. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 617–652 (*electronic*). (Stephan Dempe) **99k:90179** 90C33 (65K05)

Scholtz, F. G. (*with* Shabanov, Sergei V.) Supersymmetric quantization of Yang-Mills theory and possible applications. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 558–561, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81150** 81T13 (81V05)

Schomblond, Christiane (*with* Henneaux, Marc; Knaepen, Bernard) Characteristic cohomology of p-form gauge theories. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 137–165. (Henrik Aratyn) **99c:81255** 81T70 (58Z05, 81T13)

Schomerus, Henning (*with* Sieber, Martin) Bifurcations of periodic orbits and uniform approximations. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4537–4562. (Julio Espinoza Ortiz) **99a:81039** 81Q20 (34C35, 81Q50)

— Periodic orbits near bifurcations of codimension two: classical mechanics, semiclassics and Stokes transitions. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4167–4196. (San Vũ Ngọc) **99m:58140** 58F14 (34C23, 34E20, 58F36, 70H05, 81Q20)

Schomerus, Volker (*with* Alekseev, Anton Yu.) The Chern-Simons theory and quantized moduli spaces of flat connections. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 1–26, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Ruth Lawrence) **99e:58031** 58D29 (57M25, 57R57, 81R50)

— (*with* Alekseev, Anton Yu.) Non-commutative gauge fields from quantum groups. (English summary) *Quantum fields and quantum space time* (*Cargèse*, 1996), 1–19, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Mathias Pillin) **99a:81119** 81T25 (17B37, 58B30, 81R50)

— (*with* Alekseev, Anton Yu.; Faddeev, Lyudvig Dmitrievich; Fröhlich, Jürg) Representation theory of lattice current algebras. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 31–60. (Stephen J. Summers) **99b:81072** 81R10 (18D10, 81R50, 81T40)

— (*with* Bytsko, Andrei G.) Vertex operators—from a toy model to lattice algebras. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 87–136. (Kilian Koepsell) **99g:17049** 17B69 (81R10, 81T40)

Schönauer, Willi (*with* Weiss, Rüdiger; Häfner, Hartmut) Overview on solvers for linear equations. (English summary) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 154–161. (*see* **99i:00028**) 65F10 (65–02)

— *see also* **Iterative methods and preconditioners, 99m:65005**

Schonbek, M. E. Decay of non-oscillating solutions to the magneto-hydrodynamic equations. (English summary) *Theory of the Navier-Stokes equations*, 179–184, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99e:35189** 35Q35 (76W05)

Schönemann, Hans Algorithms in singular. (English summary) *Comput. Sci. J. Moldova* **4** (1996), *no.* 3, 315–341. 68Q40 (13P10)

Schönherr, Sven (*with* Gärtner, Bernd) Exact primitives for smallest enclosing ellipses. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 33–38. (Summary) **99j:68142** 68U05 (65Y25)

Schöning, Uwe Resolution proofs, exponential bounds, and Kolmogorov complexity. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 110–116, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99g:03061** 03F20 (68Q30)

Schonlau, Matthias (*with* Jones, Donald R.; Welch, William J.) Efficient global optimization of expensive black-box functions. (English summary) Workshop on Global Optimization (Trier, 1997). *J. Global Optim.* **13** (1998), *no.* 4, 455–492. (*see* **99k:90005**) 90C26 (90C30)

Schonmann, Roberto H. (*with* Dehghanpour, Pouria) Metropolis dynamics relaxation via nucleation and growth. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 89–119. (Summary) **99b:82060** 82C05 (60K35, 82C20)

— (*with* Tanaka, Nelson I.) Lack of monotonicity in ferromagnetic Ising model phase diagrams. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 234–245. (Yvan Velenik) **99b:60171** 60K35 (82B20, 82B26)

— (*with* Salzano, Marcia) A new proof that for the contact process on homogeneous trees local survival implies complete convergence. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1251–1258. (Yu Zhang) **99g:60192** 60K35

— (*with* Shlosman, S. B.) Wulff droplets and the metastable relaxation of kinetic Ising models. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 2, 389–462. (Aernout C. D. van Enter) **99d:60113** 60K35 (82B20, 82C22)

— Metastability and the Ising model. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 173–181 (*electronic*). (Emilio N. M. Cirillo) **99j:60159** 60K35 (82C22)

— The triangle condition for contact processes on homogeneous trees. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1429–1440. (Rinaldo Schinazi) **99e:60219** 60K35 (82C22)

— Stability of infinite clusters in supercritical percolation. (English summary) *Probab. Theory Related Fields* **113** (1999), *no.* 2, 287–300. (Ronald Meester) **99k:60252** 60K35

Schoof, René (*with* de Smit, Bart; Rubin, Karl) Criteria for complete intersections. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 343–356, *Springer, New York*, 1997. (*see* **99k:11004**) 11F25 (13C40)

Schoofs, A. J. G. (*with* Etman, L. F. P.; van Campen, D. H.) Design optimization of multibody systems by sequential approximation. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 4, 393–415. 70E99 (90C90)

Schöpf, Peter Flächentreue C^1-Abbildungen sind Isometrien. (German summary) [Area-preserving C^1-mappings are isometries] *Elem. Math.* **52** (1997), *no.* 3, 118–121. (Franz B. Kalhoff) **99b:58035** 58C35 (51M25)

— (*with* Ring, Wolfgang; Schwaiger, Jens) On functions continuous on certain classes of "thin" sets. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 205–224. (M. Laczkovich) **99b:26019** 26B05

Schoppa, W. (*with* Hussain, Fazle) New aspects of vortex dynamics relevant to coherent structures in turbulent flows. (English summary) *Eddy structure identification* (*Udine*, 1994), 61–143, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (Rupert Klein) **99a:76028** 76C05 (76D99, 76F10)

— (*with* Hussain, Fazle) Genesis of longitudinal vortices in near-wall turbulence. (English and Italian summaries) Topics in fluid mechanics (Turin, 1998). *Meccanica* **33** (1998), *no.* 5, 489–501. (*see* **99h:76005**) 76F99 (76C05, 76D99)

Schor, Ricardo (*with* Faria da Veiga, Paulo A.; O'Carroll, Michael L.) A classical large N hierarchical vector model in three dimensions: a nonzero fixed point and canonical decay of correlation functions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1501–1516. (Christof Külske) **99a:82044** 82B28 (82B20)

— (*with* Faria da Veiga, Paulo A.; O'Carroll, Michael L.) On the large-distance behavior of correlations for a hierarchical N-component classical vector model in three dimensions. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 47–55. (Summary) **99h:82031** 82B28 (82B05)

— (*with* Barata, João C. A.; Faria da Veiga, Paulo A.; Pereira, Emmanuel) Spectral properties of weakly coupled Landau-Ginzburg stochastic models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 2689–2694. (Summary) **99m:81063** 81Q40 (82C20)

Schörghofer, Norbert (*with* Constantin, Peter; Nie, Qing) Nonsingular surface quasi-geostrophic flow. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 168–172. (Summary) **99a:76031** 76C15 (86A10)

Schormann, C. (*with* Hohage, Thorsten) A Newton-type method for a transmission problem in inverse scattering. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1207–1227. (Ulrich Tautenhahn) **99j:65232** 65N99 (35P30, 35R30, 65J20)

Schörnig, M. (*with* Daberkow, M.; Fieker, C.; Klüners, Jürgen; Pohst, Michael E.; Roegner, K.; Wildanger, K.) KANT V4. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 267–283. (Wieb Bosma) **99g:11150** 11Y40 (12Y05, 68Q40)

Schott, Dieter Weak convergence of iterative methods generated by strongly Fejér monotone mappings. (English summary) *Rostock. Math. Kolloq. No.* 51 (1997), 83–96. (Otmar Scherzer) **99c:47087** 47H09 (47H04, 47H17)

— Basic properties of Fejer monotone mappings. (English summary) *Rostock. Math. Kolloq.* **1997**, *no.* 50, 71–84. (Marlies Borchardt) **99k:47132** 47H05 (47H09, 47H17, 54C10, 54C60, 65J10, 90C25)

Schott, René (*with* Alonso, Laurent) Random unlabelled rooted trees revisited. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 1352–1367 (*electronic*). (*see* **99f:68006**) 68Q25 (68R05)

— (*with* Spehner, Jean-Claude) Efficient generation of commutation classes. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 1028–1045 (*electronic*). (*see* **99g:68005**) 68Q45 (68Q10, 68Q70)

— (*with* Alonso, Laurent; Chassaing, Philippe) The average complexity of a coin-weighing problem. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 1–14. (Mukkai S. Krishnamoorthy) **99d:05007** 05A99

— (*with* Neuenschwander, Daniel) The Bernstein and Skitovič-Darmois characterization theorems for Gaussian distributions on groups, symmetric spaces, and quantum groups. (English summary) *Exposition. Math.* **15** (1997), *no.* 4, 289–314. (Gennadiy M. Fel'dman) **99c:60010** 60B15 (17B37, 22E30)

— (*with* Neuenschwander, Daniel) A note on domains of attraction for q-transformed random variables. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 387–394 (19*N*). (Summary) **99k:60036** 60E07 (60B10, 60B15)

— (*with* Franz, Uwe[1]; Neuenschwander, Daniel) Gauss laws in the sense of Bernstein and uniqueness of embedding into convolution semigroups on quantum groups and braided groups. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 1, 101–127. (Gyula Pap) **99d:60007** 60B99 (16W30)

— (*with* Feinsilver, Philip) Formal power series, operator calculus, and duality on Lie algebras. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 157–171. (Andrej A. Zolotykh) **99g:16057** 16W60 (17B30, 17B35)

— (*with* Franz, Uwe[1]) Diffusion on braided spaces. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2748–2762. (John E. Gough) **99g:81113** 81S25 (16W30)

— (*with* Franz, Uwe[1]) Evolution equations and Lévy processes on quantum groups. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1395–1404. (Nicolás Andruskiewitsch) **99g:81117** 81S30 (17B37, 81R50)

— (*with* Feinsilver, Philip) Computing representations of a Lie group via the universal enveloping algebra. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 329–338. (Hartmut Schlosser) **99i:22014** 22E45 (17B35, 22E70)

Schott, Thomas[2] (*with* Krbec, Miroslav) Embeddings of weighted Sobolev spaces in the borderline case. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 395–420. (Maria A. Ragusa) **99f:46045** 46E35

— Function spaces with exponential weights. II. (English summary) *Math. Nachr.* **196** (1998), 231–250. (M. Yu. Vasil'chik) **99m:46084** 46E35

Schottenloher, Martin (*with* Pflaum, Markus J.) Holomorphic deformation of Hopf algebras and applications to quantum groups. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 31–44. (Tomasz Brzeziński) **99k:58018** 58B30 (16W30, 81R50)

Schotting, R. J. (*with* van Duijn, C. J.) Brine transport in porous media: on the use of von Mises and similarity transformations. (English summary) *Comput. Geosci.* **2** (1998), *no.* 2, 125–149. 76S05

Schottky, B. (*with* Krey, U.) Phase transitions in the generalization behaviour of multilayer perceptrons. II. The influence of noise. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8541–8571. (Dimitri Petritis) **99e:82073** 82C32 (92B20)

Schottky, Friedrich *see* **Bölling, Reinhard, (99k:01080)**

Schöttl, A. Optimal stopping of a risk reserve process with interest and cost rates. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 115–123. (Hanspeter Schmidli) **99c:60093** 60G40 (60K99, 90A46)

Schötzau, Dominik (*with* Gerdes, Klaus; Schwab, Christoph) Galerkin least squares hp-finite element method for the Stokes problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 249–254. (Summary) **99f:65174** 65N30 (76D07, 76M10)

Schoukens, Johan (*with* Dobrowiecki, Tadeusz; Pintelon, Rik) Parametric and nonparametric identification of linear systems in the presence of nonlinear distortions—a frequency domain approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 176–190. (Curtis C. Travis) **99j:93027** 93B30 (93C41)
— (*with* Vandersteen, Gerd; Pintelon, Rik; Guillaume, Patrick) Frequency-domain identification of linear systems using arbitrary excitations and a nonparametric noise model. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 343–347. 93B30 (93C80)
— (*with* Pintelon, Rik; Vandersteen, Gerd; Rolain, Yves) Identification of invariants of (over)parameterized models: finite sample results. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1073–1077. 93E10
— (*with* Vandersteen, Gerd) Measurement and identification of nonlinear systems consisting of linear dynamic blocks and one static nonlinearity. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1266–1271. 93B30 (93C10)
Schoutens, Wim (*with* Teugels, Jozef L.) Lévy processes, polynomials and martingales. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 335–349. (N. H. Bingham) **99k:60118** 60G44 (33C45, 60J30)
— (*with* Parthasarathy, P. R.; Lenin, R. B.; Van Assche, Walter) A birth and death process related to the Rogers–Ramanujan continued fraction. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 297–315. (Erik A. van Doorn) **99g:60156** 60J80 (30B70, 40A15, 60K25)
Schouveiler, L. (*with* Le Gal, P.; Chauve, M. P.) Stability of a traveling roll system in a rotating disk flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2695–2697. 76E10 (76U05)
Schovanec, Lawrence (*with* Martin, Clyde F.) Muscle mechanics and dynamics of ocular motion. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 14 *pp.* (*electronic*). (Summary) **99e:92010** 92C10 (92J30)
— (*with* Martin, Clyde F.) The control and mechanics of human movement systems. *Dynamical systems, control, coding, computer vision* (*Padova*, 1998), 173–202, *Progr. Systems Control Theory*, 25, *Birkhäuser, Basel*, 1999. (*see* **99k:93006**) 93C85 (70Q05, 92C10, 93C95)
Schrader, R. *see* **Schrader, Robert**
Schrader, Rainer (*with* Nolte, Andreas) Coloring in sublinear time. (English summary) *Algorithms—ESA* '97 (*Graz*), 388–401, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68R10 (05C15, 05C85)
— (*with* Nolte, Andreas) A note on the finite time behaviour of simulated annealing. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 175–180, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C27 (60J10)
— (*with* Schulz, Andreas S.; Wambach, Georg) Base polytopes of series-parallel posets: linear description and optimization. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 159–173. (Béla Vizvári) **99m:90118** 90C27 (05B35)
Schrader, Robert (*with* Müller, Werner[1]; Schmidt, Martin U.) Theta functions for infinite period matrices. *Internat. Math. Res. Notices* **1996**, *no.* 12, 565–587. (Ch. Birkenhake (Zbl 872.14038)) **99a:14071** 14K25 (11F27, 14H15)
— (*with* Karowski, Michael; Vogt, Elmar) Invariants of three-manifolds, unitary representations of the mapping class group, and numerical calculations. (English summary) *Experiment. Math.* **6** (1997), *no.* 4, 317–352. (Summary) **99g:57020** 57N10 (17B37, 81R50)
— (*with* Fring, Andreas; Kostrykin, V.) Ionization probabilities through ultra-intense fields in the extreme limit. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8599–8610. (Radosław Szmytkowski) **99b:81281** 81V45 (81V80)
— (*with* Kostrykin, V.) Cluster properties of one particle Schrödinger operators. II. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 5, 627–683. (Liu Yang) **99i:81038** 81Q10 (81U05)
— (*with* Kostrykin, V.) Kirchhoff's rule for quantum wires. (English summary) *J. Phys. A* **32** (1999), *no.* 4, 595–630. (Radosław Szmytkowski) **99m:81280** 81U20
Schramm, Oded (*with* Benjamini, Itai) Every graph with a positive Cheeger constant contains a tree with a positive Cheeger constant. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 3, 403–419. (Wolfgang Woess) **99b:05032** 05C05 (60J15)
— (*with* He, Zheng-Xu) On the distortion of relative circle domain isomorphisms. (English summary) *J. Anal. Math.* **73** (1997), 115–131. (Kenneth Stephenson) **99k:30007** 30C20 (52C15)
— (*with* He, Zheng-Xu) The C^∞-convergence of hexagonal disk packings to the Riemann map. *Acta Math.* **180** (1998), *no.* 2, 219–245. (Frédéric Mathéus) **99j:52021** 52C15 (30C20, 30E10, 39A12)
— (*with* Benjamini, Itai) Conformal invariance of Voronoi percolation. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 1, 75–107. (Mathew D. Penrose) **99i:60172** 60K35 (82B43)
— (*with* Benjamini, Itai) Exceptional planes of percolation. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 4, 551–564. (Ronald Meester) **99i:60173** 60K35 (82B43)
— (*with* Benjamini, Itai; Lyons, Russell; Peres, Yuval) Group-invariant percolation on graphs. (English summary) *Geom. Funct. Anal.* **9** (1999), *no.* 1, 29–66. (Olle Häggström) **99m:60149** 60K35 (60B99)
Schreck, Scott *see* **Computational methods for optimal design and control, 99d:49001**
Schreckenberg, Michael Sind Staus berechenbar? Mathematik des Verkehrsflusses. [Can traffic jams be computed? Mathematics of traffic flow] *Überblicke Mathematik* 1998, 138–148, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99a:00018**) 90B20
— (*with* Rajewsky, N.; Santen, L.; Schadschneider, A.) The asymmetric exclusion process: comparison of update procedures. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 151–194. (Summary) **99e:82092** 82C80 (82C20)
Schreckenberg, S. (*with* Isham, Chris J.; Linden, N.; Savvidou, K.) Continuous time and consistent histories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1818–1834. (Władysław Adam Majewski) **99d:81005** 81P05
Schreiber, Bertram M. (*with* Hanin, Leonid G.) Discrete spectrum of nonstationary stochastic processes on groups. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 4, 1111–1133. (Michael Voit) **99i:60013** 60B15 (60G10)
Schreiber, Friedrich Emigration in Europe—the life and work of Félix Pollaczek. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2* (*Aachen*, 1995), 179–194, *Brepols, Turnhout*, 1998. (Pietro Nastasi) **99m:01088** 01A70
Schreiber, Gerald (*with* Andreae, Thomas; Hintz, Martin; Nölle, Michael; Schuster, Gerald W.; Seng, Hajo) Cartesian products of graphs as subgraphs of de Bruijn graphs of dimension at least three. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 3–34. (Jean-Claude Bermond) **99a:05116** 05C75
Schreiber, Karina (*with* Christoph, Gerd) The generalized discrete Linnik distributions. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 3–18, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99g:60030** 60E07 (62E10, 62N05)
— (*with* Christoph, Gerd) Discrete stable random variables. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 243–247. (F. W. Steutel) **99e:60047** 60E07 (60E10, 60F05)
Schreiber, Peter Mathematik und Kunst. [Mathematics and art] *Überblicke Mathematik* 1998, 1–18, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99a:00018**) 00A69
Schreiber, Sebastian J. On the stabilizing effect of specialist predators on founder-controlled communities. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 3, 195–206. (Hassan El-Owaidy) **99m:92038** 92D25 (34D05, 92D40)
— Successional stability of vector fields in dimension three. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 993–1002. (Tomáš Gedeon) **99g:92044** 92D40 (34C35, 34D99, 58F40)
Schreiber, Thomas *see* **Schreiber, Thomas[2]**
Schreiber, Thomas[1] (*with* Rjasanow, Sergej; Wagner, Wolfgang[1]) Reduction of the number of particles in the stochastic weighted particle method for the Boltzmann equation. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 382–405. (Reinhard Illner) **99i:82034** 82C40 (45K05, 65C05, 76P05)
Schreiber, Thomas[2] Interdisciplinary application of nonlinear time series methods. (English summary) *Phys. Rep.* **308** (1999), *no.* 1, 64 *pp.* (Summary) **99i:58108** 58F13 (58F40)
Schreiner, M. (*with* Freeden, Willi) Orthogonal and nonorthogonal multiresolution analysis, scale discrete and exact fully discrete wavelet transform on the sphere. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 493–515. (Margit Rösler) **99i:42046** 42C15 (41A30, 43A90)
Schreiner, Walter J. Matrix regular operator spaces. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 136–175. (Christian Le Merdy) **99d:46025** 46B28 (46L05, 47B60, 47D99)
Schreurs, P. J. G. (*with* van der Sluis, O.; Vosbeek, P. H. J.; Meijer, H. E. H.) Homogenization of heterogeneous polymers. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 21, 3193–3214. (Summary) **99m:73004** 73B27
de Schreye, Danny *see* **De Schreye, Danny**
Schreyer, Frank-Olaf (*with* Decker, Wolfram; Heydtmann, Agnes Eileen) Generating a Noetherian normalization of the invariant ring of a finite group. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 6, 727–731. (Dmitri I. Panyushev) **99d:13004** 13A50
coolen-Schrijner, Pauline *see* **Coolen-Schrijner, Pauline**
Schrijver, Alexander Minor-monotone graph invariants. (English summary) *Surveys in combinatorics*, 1997 (*London*), 163–196, *London Math. Soc. Lecture Note Ser.*, 241, *Cambridge Univ. Press, Cambridge*, 1997. (Jozef Širáň) **99a:05037** 05C10
— (*with* Cook, William J.; Cunningham, William H.; Pulleyblank, William R.) ★ Combinatorial optimization. (English summary) Wiley-Interscience Series in Discrete Mathematics and Optimization. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. x+355 *pp. ISBN* 0-471-55894-X (Ulrich Faigle) **99b:90098** 90C27 (90–02, 90C35)
— Routing and timetabling by topological search. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 687–695 (*electronic*). (Ignacy Kaliszewski) **99i:90046** 90B06 (03C85, 90C35)
— Counting 1-factors in regular bipartite graphs. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 122–135. (Ko-Wei Lih) **99b:05117** 05C70 (15A15)
— (*with* Keijsper, J.) On packing connectors. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 184–188. (Summary) **99d:05054** 05C40
— (*with* Seymour, P. D.; Winkler, Peter M.) The ring loading problem. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 1–14 (*electronic*). (Summary) **99a:90094** 90B12 (90B10)
— Bipartite edge coloring in $O(\Delta m)$ time. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 841–846. (D. de Werra) **99g:68154** 68R10 (05C15, 05C70, 05C85, 90C35)
Schröder, Bernd S. W. Problems related to fixed cliques in graphs. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 42–46. (*see* **99g:05001**) 05C99
Schröder, Eberhard M. On 1-isometries of affine quadrics over finite fields. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 164–181. (Frieder Knüppel) **99c:51019** 51F20 (51F25)
Schröder, Ernst *see* **Ferrante, Francesco**
Schröder, Germar String solitons and dimensional reduction. *Strings, branes and dualities* (*Cargèse*, 1997), 463–466, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 83E30 (81T30)
Schröder, Herbert ★ Funktionalanalysis. (German. German summary) [Functional analysis] *Akademie Verlag, Berlin*, 1997. *viii*+384 *pp. ISBN* 3-05-501780-3 (Harro Heuser) **99j:47001** 47–01 (46–01)
Schröder, J. *see* **Schröder, Joachim**
Schröder, J. F. L. *see* **Beckers, D. J., 99g:01018**
Schröder, Joachim On sub-, pseudo- and quasimaximal spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 197–206. (T. R. Hamlett) **99i:54027** 54D35 (54A10, 54D30, 54D80)
Schröder, K.-H. (*with* Dierolf, Susanne; Wengenroth, Jochen) Characters on certain function algebras. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 53–58. (Summary) **99k:46089** 46J10 (46E40, 46H05)
Schröder, Klaus (*with* Adler, Micah; Berenbrink, Petra) Analyzing an infinite parallel job allocation process. (English summary) *Algorithms—ESA* '98 (*Venice*), 417–428, *Lecture*

Notes in Comput. Sci., 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68M20 (90B35)

Schröder, M. (*with* Kinzel, W.) Limit cycles of a perceptron. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2967–2974. (Dimitri Petritis) **99e:82074** 82C32 (68T05, 92B20)

Schröder, Tobias (*with* Gumm, H. Peter) Covarieties and complete covarieties. (English summary) *First Workshop on Coalgebraic Methods in Computer Science (CMCS '98) (Lisbon)*, 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (Summary) **99f:08003** 08B99 (68Q10)

Schroderus, L. Convergence results for discrete trigonometric collocation methods with product integration in Hölder-Zygmund spaces. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 689–708. (Nassar H. S. Haidar) **99b:65178** 65R20 (45L05)

Schroeck, Franklin E., Jr. Symmetry in quantum theory: implications for the convexity formalism, the measurement problem, and hidden variables. (English summary) *Found. Phys.* **27** (1997), *no.* 10, 1375–1396. (D. J. Foulis) **99b:81025** 81P15

— *see also* **Landsman, N. P.**

Schroeder, M. R. ★ Number theory in science and communication. With applications in cryptography, physics, digital information, computing, and self-similarity. Third edition. Springer Series in Information Sciences, 7. *Springer-Verlag, Berlin*, 1997. xxii+362 *pp. ISBN* 3-540-62006-0 (Andreas Guthmann) **99c:11165** 11Z05 (00A69, 11–01, 68P25, 94A60)

Schroeder, Michael A brief history of the notation of Boole's algebra. *Nordic J. Philos. Logic* **2** (1997), *no.* 1, 41–62. (Branislav Boričić) **99c:03003** 03–03 (01A55, 01A60)

Schroeder, Ulf-Peter (*with* Bezrukov, Sergei; Chavez, J. D.; Harper, L. H.; Röttger, Markus) Embedding of hypercubes into grids. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 693–701, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68M10)

— (*with* Bezrukov, Sergei) The cyclic wirelength of trees. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 275–277. (Summary) **99e:05038** 05C10 (68R10)

— (*with* Röttger, Markus) Embedding 2-dimensional grids into optimal hypercubes with edge-congestion 1 or 2. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 231–242. (Summary) **99f:68162** 68R10 (68M10)

Schroeder, Viktor (*with* Hummel, Christoph) Tits geometry associated with 4-dimensional closed real-analytic manifolds of nonpositive curvature. (English summary) *J. Differential Geom.* **48** (1998), *no.* 3, 531–555. (Andrea Sambusetti) **99j:53058** 53C23 (53C20)

Schroeder-Heister, Peter Frege and the resolution calculus. (English summary) *Hist. Philos. Logic* **18** (1997), *no.* 2, 95–108. (Vladimiro Sassone) **99g:03002** 03–03 (01A55, 01A60, 03B35)

Schröer, Stefan Floer homology and homotopy planes. *Math. Z.* **227** (1998), *no.* 2, 279–294. (Nikolai N. Saveliev) **99b:57042** 57N10 (57M25, 57R57)

Schroers, B. J. (*with* Bais, F. A.) Quantisation of monopoles with non-abelian magnetic charge. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 250–294. (Andrew Dancer) **99c:58023** 58D27 (53C07, 81T13)

Schrohe, Elmar (*with* Schulze, Bert-Wolfgang) Mellin operators in a pseudodifferential calculus for boundary value problems on manifolds with edges. (English summary) *Differential and integral operators (Regensburg*, 1995), 255–285, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Robert Lauter) **99f:58208** 58G20 (35S15, 47G30, 58G15)

— (*with* Nest, Ryszard) Dixmier's trace for boundary value problems. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 203–218. (Éric Leichtnam) **99f:58201** 58G15 (47G30, 58B30)

Schröter, Caren (*with* Schuba, Sonja) The deformations of the simple space curve singularities. *Math. Z.* **229** (1998), *no.* 4, 607–614. (Piotr Jaworski) **99k:32063** 32S30 (14B07)

Schröter, Jens (*with* Yaremchuk, A. I.) Spectral analysis of symmetric operators: application to the Laplace tidal model. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 1–21. (Summary) **99h:86003** 86–08 (86A05)

Schroth, Andreas E. (*with* Polster, Burkard) Halbe Doppeldecker—anschauliche Modelle von Semibiplanes. [Graphic models of semibiplanes] *Überblicke Mathematik* 1998, 128–137, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99a:00018**) 51B20

— (*with* Polster, Burkard) Split semi-biplanes in antiregular generalized quadrangles. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 625–637. (Hendrik Van Maldeghem) **99b:51005a** 51E12 (51H15)

— (*with* Polster, Burkard) Plane models of semi-biplanes. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 135–153. (Theo Grundhöfer) **99c:51005** 51A50 (51B05, 51E12, 51H15)

— (*with* Polster, Burkard) Errata: "Split semi-biplanes in antiregular generalized quadrangles". *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 115. (Hendrik Van Maldeghem) **99b:51005b** 51E12 (51H15)

— Ovoidal Laguerre planes are weakly Miquelian. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 1, 77–80. (Giorgio Faina) **99k:51003** 51B15

Schü, Joachim (*with* Lu, James J.; Calmet, Jacques) Computing multiple-valued logic programs. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 2, 129–153. (Summary) **99m:03057** 03B70 (03B50, 68N17)

Schuba, Sonja (*with* Schröter, Caren) The deformations of the simple space curve singularities. *Math. Z.* **229** (1998), *no.* 4, 607–614. (Piotr Jaworski) **99k:32063** 32S30 (14B07)

Schubert, Christian (*with* Schmidt, Michael G.) Relativistic QFTH-couplings on the worldline. (English summary) *Path integrals: Dubna '96*, 171–176, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

— (*with* Schmidt, Michael G.) Multiloop Feynman integrals in the worldline approach. (English summary) *Path integrals: Dubna '96*, 177–180, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

Schubert, Roman (*with* Bäcker, A.; Stifter, P.) Rate of quantum ergodicity in Euclidean billiards. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5425–5447. (Jens Marklof) **99f:81056a** 81Q50 (58F11)

— (*with* Bäcker, A.; Stifter, P.) Erratum: "Rate of quantum ergodicity in Euclidean billiards". *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5192. (Jens Marklof) **99f:81056b** 81Q50 (58F11)

Schubring, Gert An unknown part of Weierstraß's Nachlaß. (English and German summaries) *Historia Math.* **25** (1998), *no.* 4, 423–430. (Summary) **99j:01014** 01A55 (01A70)

Schucany, William R. (*with* Cha, Kyung-Joon) Nonparametric kernel regression estimation near endpoints. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 289–304. (Summary) **99c:62079** 62G05

Schuch, Dieter On the canonical treatment of dissipative systems with broken time-reversal symmetry. (English summary) *Symmetries in science, X (Bregenz*, 1997), 345–355, *Plenum, New York*, 1998. (Summary) **99h:81123** 81S99

Schuchman, V. On nilpotent semigroups and solutions with finite stopping time. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 59–72. (Evgeniĭ Mel'nikov) **99f:47048** 47D06

Schücker, Thomas (*with* Carminati, Lionel; Iochum, Bruno; Kastler, Daniel) On Connes' new principle of general relativity: can spinors hear the forces of spacetime? *Operator algebras and quantum field theory (Rome*, 1996), 359–373, *Internat. Press, Cambridge, MA*, 199?. (Raimar Wulkenhaar) **99h:58181** 58G11 (46L87, 58B30, 81V17, 83C99)

— (*with* Kastler, Daniel) The standard model à la Connes-Lott. (English summary) *J. Geom. Phys.* **24** (1997), *no.* 1, 1–19. (Raimar Wulkenhaar) **99b:81274** 81V22 (58B30, 81T13)

— (*with* Iochum, Bruno; Kastler, Daniel) On the universal Chamseddine-Connes action. I. Details of the action computation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4929–4950. (S. I. Vacaru (Zbl 906.58004)) **99m:81285** 81V22 (58B30, 81T13)

— (*with* Göckeler, Meinulf) Does noncommutative geometry encompass lattice gauge theory? (English summary) *Phys. Lett. B* **434** (1998), *no.* 1-2, 80–82. (Bruno Iochum) **99f:58015** 58B30 (46L87, 81T25)

Schücking, Engelbert L. (*with* Epstein, Jerome; Kowalski, William P.; Lauro, Salvatore) What is space-time made of? (English summary) *Quantum gravity (Erice*, 1995), 342–365, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Andrzej M. Frydryszak) **99m:81289** 81V25 (51P05, 83E99)

— (*with* Ozsváth, István) The world viewed from outside. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 4, 303–333. (Victor Patrangenaru) **99a:53066** 53C30 (53–03, 53C42)

— Jordan, Pauli, politics, Brecht ... and a variable gravitational constant. *On Einstein's path (New York*, 1996), 1–14, *Springer, New York*, 1999. (H. Treder) **99m:01065** 01A70 (01A60, 83–03)

— Curriculum vita. *On Einstein's path (New York*, 1996), 515–517, *Springer, New York*, 1999. (Editors) **99m:01064b** 01A70

— *see also* **On Einstein's path**, **99h:83002**; **Harvey, Alex**, **99m:01064a** *and* **Vishveshwara, C. V.**, **99m:01066**

Schue, John R. Tori and idempotents in reduced enveloping algebras of a solvable Lie p-algebra. *J. Algebra* **198** (1997), *no.* 1, 1–18. (Rolf Farnsteiner) **99a:17017** 17B35 (17B30)

Schueller, Albert W. (*with* Caudill, Lester F., Jr.; Perry, Peter A.) Isospectral sets for fourth-order ordinary differential operators. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 935–966 (*electronic*). (Vjacheslav A. Yurko) **99c:34022** 34A55 (34B05, 34L40, 47E05)

Schuëller, G. I. (*with* Gasser, M.) Some basic principles of reliability-based optimization (RBO) of structures and mechanical components. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich*, 1996), 80–103, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90B25 (90C15)

Schueth, D. (*with* Gordon, Carolyn S.; Gornet, Ruth; Webb, D. L.; Wilson, Edward N.) Isospectral deformations of closed Riemannian manifolds with different scalar curvature. *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 2, 593–607. (Robert Brooks) **99b:53049** 53C20 (58G25)

Schuierer, Sven Computing the geodesic L_1-diameter and center of a simple rectilinear polygon. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 214–229 (*electronic*). (*see* **99f:68006**) 68U05 (68Q35)

— (*with* Friedrich, R.; Ottmann, Thomas) Two-dimensional string matching for non-rectangular patterns. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 247–262 (*electronic*). (*see* **99f:68006**) 68Q20

— (*with* Estivill-Castro, Vladimir) Optimal algorithms for stabbing polygons by monotone chains. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 1–10 (*electronic*). (*see* **99d:68010**) 68U05

— (*with* Hanke, Sabine; Ottmann, Thomas) The edge-flipping distance of triangulations. (English summary) *J.UCS* **2** (1996), *no.* 8, 570–579 (*electronic*). (Summary) **99d:68230** 68U05

— (*with* Wood, Derick) Visibility in semi-convex spaces. (English summary) *J. Geom.* **60** (1997), *no.* 1-2, 160–187. (Marilyn Breen) **99b:52001** 52A01

— (*with* López-Ortiz, Alejandro) The ultimate strategy to search on m rays? (English summary) *Computing and combinatorics (Taipei*, 1998), 75–84, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68U05 (68Q25, 90B40)

Schüler, Elena (*with* Vũ Quốc Phóng) The operator equation $AX - XB = C$, admissibility, and asymptotic behavior of differential equations. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 394–419. (Gabriella Di Blasio) **99h:34081** 34G10 (34D05, 47A62, 47D06)

Schuler, Rainer (*with* Köbler, Johannes) Average-case intractability vs. worst-case intractability. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 493–502, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q15 (03D15)

— (*with* Lindner, Wolfgang; Watanabe, Osamu[2]) Resource bounded measure and learnability. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY*, 1998), 261–270, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68048** 68Q15 (68T05)

Schulman, L. S. (*with* Gaveau, Bernard) Theory of nonequilibrium first-order phase transitions for stochastic dynamics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1517–1533. (Summary) **99e:82063** 82C26 (60K35)

Schulman, Leonard J. A three-party communication problem. (English summary) *J. Comput. System Sci.* **57** (1998), *no.* 3, 399–401. (Summary) **99m:68091** 68Q25 (68Q10)

Schult, D. A. (*with* Bayliss, Alvin; Matkowsky, Bernard J.) Traveling waves in natural counterflow filtration combustion and their stability. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 806–852 (*electronic*). (Vitaly A. Volpert) **99b:80010** 80A25 (76E99, 76S05)

Schulte, Christoph Quantum mechanics on the pointed plane. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 357–364, *Plenum, New York*, 1998. (Summary) **99g:81039** 81Q05

Schulte, Egon (*with* McMullen, Peter) Flat regular polytopes. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 261–278. (Barry Monson) **99m:52014** 52B05 (51F15, 51M20)

Schultens, Jennifer (*with* Moriah, Yoav) Irreducible Heegaard splittings of Seifert fibered spaces are either vertical or horizontal. *Topology* **37** (1998), *no.* 5, 1089–1112. (Lee Mosher) **99g:57021** 57N10

Schultes, Erik (*with* Hraber, Peter T.; Labean, Thomas H.) A parameterization of RNA sequence space. (English summary) *Complexity* **4** (1999), *no.* 4, 61–71. 92D20

Schultz, Jacques (*with* Ganghoffer, J. F.; Brillard, Alain) Modelling of the mechanical behaviour of joints bonded by a nonlinear incompressible elastic adhesive. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 2, 255–276. (Summary) **99c:73072** 73T05 (73C50, 73V25)

— (*with* Ganghoffer, J. F.; Brillard, Alain) Mechanical modelling of adhesion and adherence between two solids. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 305–326. (Ján Lovišek) **99h:73072** 73T05 (49J40, 73V05)

Schultz, Kelly (*with* Hayes, Leslie; Yates, Julie) Universal dominating sequences of graphs. (English summary) *Util. Math.* **54** (1998), 193–209. (Summary) **99g:05110** 05C35

Schultz, Martin H. (*with* Lee, Ding) ★ Numerical ocean acoustic propagation in three dimensions. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. xii+207 *pp. ISBN* 981-02-2303-X (From the preface) **99e:76106** 76Q05 (65M99, 76M25, 86A05)

— (*with* Malhotra, Sachit; Douglas, Craig C.) Parameter choices for ADI-like methods on parallel computers. (English summary) *Comput. Appl. Math.* **17** (1998), *no.* 3, 221–236. 65F10 (65Y05)

— (*with* Muthukrishnan, S.; Ghosh, Bhaskar) First- and second-order diffusive methods for rapid, coarse, distributed load balancing. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 331–354. (Summary) **99c:68029** 68M20 (05C85)

— (*with* Douglas, Craig C.; Malhotra, Sachit) "Transpose free" alternating direction smoothers for serial and parallel multigrid methods. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 39–52, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65207** 65N55

Schultz, Michelle (*with* Jones, Dawn M.; Roehm, Denny James) On matchings in graphs. (English summary) *Ars Combin.* **50** (1998), 65–79. (Martin Bača) **99m:05125** 05C70

— (*with* Eroh, Linda) Matching graphs. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 73–86. (Olivia M. Carducci) **99i:05163** 05C70

Schultz, Peter F. The wave equation on the lattice in two and three dimensions. *Comm. Pure Appl. Math.* **51** (1998), *no.* 6, 663–695. (Spyridon Kamvissis) **99f:39030** 39A12 (35L05)

Schultz, Phillip Automorphisms which determine an abelian p-group. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 373–379, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Peter Puusemp) **99i:20077** 20K30

Schultz, Reinhard E. (*with* Becker, James C.) Axioms for bundle transfers and traces. *Math. Z.* **227** (1998), *no.* 4, 583–605. (Donald W. Kahn) **99f:55021** 55R12 (55M20)

— (*with* Kwasik, Sławomir) On h-cobordisms of spherical space forms. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1525–1532. (C. B. Thomas) **99h:57063** 57R80 (57S25)

Schultz, Rüdiger A note on preprocessing via Fourier-Motzkin elimination in two-stage stochastic programming. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 208–222, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99f:90071** 90C15

— (*with* Pflug, Georg Ch.; Ruszczyński, Andrzej) On the Glivenko-Cantelli problem in stochastic programming: linear recourse and extensions. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 204–220. (Vlasta Kaňková) **99c:90084** 90C15 (60F99)

— (*with* Stougie, Leen; van der Vlerk, Maarten H.) Solving stochastic programs with integer recourse by enumeration: a framework using Gröbner basis reductions. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 229–252. (Kurt Marti) **99i:90066** 90C15

Schultz, S. W. (*with* DeVault, R.; Ladas, G.) On the recursive sequence $x_{n+1} = A/x_n^p + B/x_{n-1}^q$. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 125–136, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39013** 39A10

— (*with* DeVault, R.; Ladas, G.) On the recursive sequence $x_{n+1} = A/x_n + 1/x_{n-2}$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3257–3261. (Summary) **99a:39009** 39A10

Schultz, William W. (*with* Vanden-Broeck, Jean-Marc; Jiang, Lei[2]; Perlin, Marc) Highly nonlinear standing water waves with small capillary effect. (English summary) *J. Fluid Mech.* **369** (1998), 253–272. (Summary) **99f:76028** 76B15 (76B45, 76M25)

— (*with* Jiang, Lei[2]; Perlin, Marc) Period tripling and energy dissipation of breaking standing waves. (English summary) *J. Fluid Mech.* **369** (1998), 273–299. (Summary) **99f:76002** 76–05 (76B15)

— (*with* Jiang, Lei[2]; Lin, Huan-Jay; Perlin, Marc) Unsteady ripple generation on steep gravity-capillary waves. (English summary) *J. Fluid Mech.* **386** (1999), 281–304. 76B15 (76B45)

siegmund-Schultze, Rainer *see* **Siegmund-Schultze, Rainer**

siegmund-Schultze, Reinhard *see* **Siegmund-Schultze, Reinhard**

Schulz, Andreas S. (*with* Skutella, Martin) Scheduling-LPs bear probabilities: randomized approximations for min-sum criteria. (English summary) *Algorithms—ESA '97* (*Graz*), 416–429, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 90B35 (68Q25)

— (*with* Phillips, Cynthia A.; Shmoys, David B.; Stein, Clifford; Wein, Joel) Improved bounds on relaxations of a parallel machine scheduling problem. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 413–426. (Summary) **99d:90061** 90B35 (68M20, 90C05)

— (*with* Schrader, Rainer; Wambach, Georg) Base polytopes of series-parallel posets: linear description and optimization. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 159–173. (Béla Vizvári) **99m:90118** 90C27 (05B35)

— (*with* Hartmann, Stephan; Schäffter, Markus W.) Switchbox routing in VLSI design: closing the complexity gap. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 31–49. (Summary) **99d:68126** 68Q35

Schulz, Eckart (*with* Taylor, Keith F.) Extensions of the Heisenberg group and wavelet analysis in the plane. *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 217–225, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Gerald B. Folland) **99m:42053** 42C15 (22E30, 44A15)

— *see also* **Proceedings: Mathematical Conference**, **99g:00046**

Schulz, Friedmar On the unique continuation property of elliptic divergence form equations in the plane. *Math. Z.* **228** (1998), *no.* 2, 201–206. (Volker Vogelsang) **99e:35035** 35J15 (35B60, 35F05)

Schulz, Heiko ★ Über lokale und globale Fehlerabschätzungen für adaptive Randelementmethoden. (German) [On local and global error estimates for adaptive boundary element methods] Dissertation, Universität Stuttgart, Stuttgart, 1997. *Mathematisches Institut A der Universität Stuttgart, Stuttgart*, 1997. *ii*+139 *pp.* (H. Marcinkowska) **99k:65113** 65N38 (35S99, 65N15)

— (*with* Wendland, Wolfgang L.) Local, residual-based a posteriori error estimates forcing adaptive boundary element methods. *Boundary element topics* (*Stuttgart*, 1995), 445–470, *Springer, Berlin*, 1997. (H. Marcinkowska) **99j:65218** 65N38 (35S99, 47G30, 65N15)

— (*with* Schwab, Christoph; Wendland, Wolfgang L.) The computation of potentials near and on the boundary by an extraction technique for boundary element methods. Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 225–238. (Summary) **99e:65167** 65N38

Schulz, Klaus U. (*with* Schmidt-Schauß, Manfred) On the exponent of periodicity of minimal solutions of context equations. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 61–75, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99e:03029** 03D35 (03B25, 68Q25, 68Q40, 68T15)

— (*with* Baader, Franz) Combination of constraint solvers for free and quasi-free structures. (English summary) Rewriting systems and applications (Kaiserslautern, 1995). *Theoret. Comput. Sci.* **192** (1998), *no.* 1, 107–161. (Summary) **99j:68127** 68T20 (68Q40, 68T15)

Schulz, Monika ★ A-posteriori-Fehlerschätzer für mittels Finiter Elemente modellierte elasto-plastische Verformungsvorgänge. (German) [A posteriori error estimator for elasto-plastic deformation processes modelled by finite elements] Dissertation, Universität Stuttgart, Stuttgart, 1997. *Mathematisches Institut A der Universität Stuttgart, Stuttgart*, 1997. *ii*+187 *pp.* (Carsten Carstensen) **99i:73074** 73V05 (73E05)

Schulz, Ralph-Hardo (*with* Spera, Antonino Giorgio) Divisible designs admitting a Suzuki group as an automorphism group. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 705–714. (Giovanni Ferrero) **99m:05041** 05B30 (20B25, 20D08, 51A10, 51A35)

— (*with* Spera, Antonino Giorgio) Construction of divisible designs from translation planes. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 479–486. (Summary) **99i:05032** 05B05 (05B25, 51E05)

— Constant weight codes and divisible designs with large automorphism groups. (English summary) Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 173–188. (Michael Klemm) **99j:94078** 94B60 (05B30, 20B25)

Schulz, T. (*with* Opgenorth, J.; Plesken, Wilhelm) Crystallographic algorithms and tables. (English summary) *Acta Cryst. Sect. A* **54** (1998), *no.* 5, 517–531. (Karel Dekimpe) **99h:20082** 20H15 (20–04, 82D25)

Schulz, Volker H. (*with* Bock, Hans Georg; Steinbach, Marc C.) Exploiting invariants in the numerical solution of multipoint boundary value problems for DAEs. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 440–467 (*electronic*). (W. C. Rheinboldt) **99b:65091** 65L10 (34A09)

Schulz-Baldes, H. (*with* Bellissard, Jean) A kinetic theory for quantum transport in aperiodic media. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 991–1026. (Alexei Khorunzhy) **99h:82071** 82C70 (46L60, 58B30)

— (*with* Bellissard, Jean) Anomalous transport: a mathematical framework. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 1, 1–46. (Jean-Michel Ghez) **99b:81046** 81Q10 (47N50, 82B44)

Schulze, Bert-Wolfgang (*with* Dorschfeldt, Christoph; Grieme, Ulrich) Pseudo-differential calculus in the Fourier-edge approach on non-compact manifolds. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 249–299, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Yu. V. Egorov) **99b:58226** 58G15 (35S05, 47G30)

— (*with* Sternin, Boris Yu.; Shatalov, V. E.) Operator algebras associated with resurgent transforms and differential equations on manifolds with singularities. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 300–333, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Alexander Tovbis) **99k:58179** 58G15 (35A20, 47D25, 47G30)

— (*with* Sternin, Boris Yu.; Shatalov, V. E.) Nonstationary problems for Borel-Fuchs type equations. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 334–364, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (R. G. Airapetyan) **99i:35108** 35L80 (35C20)

— ★ Boundary value problems and singular pseudo-differential operators. Pure and Applied Mathematics. *John Wiley & Sons, Ltd., Chichester*, 1998. *xvi*+637 *pp. ISBN* 0-471-97557-5 (Jorge Hounie) **99m:35281** 35S05 (35S15, 47G30, 58G15)

— (*with* Schrohe, Elmar) Mellin operators in a pseudodifferential calculus for boundary value problems on manifolds with edges. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 255–285, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Robert Lauter) **99f:58208** 58G20 (35S15, 47G30, 58G15)

— (*with* Sternin, Boris Yu.; Shatalov, V. E.) On some global aspects of the theory of partial differential equations on manifolds with singularities. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 287–305, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Robert Lauter) **99e:58189** 58G18 (35J99, 58G03)

— (*with* Sternin, Boris Yu.; Shatalov, V. E.) An operator algebra on manifolds with cusp-type singularities. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 101–140. (Robert Lauter) **99d:58162** 58G03 (35S05, 47G30)

— (*with* Sternin, Boris Yu.; Shatalov, V. E.) On the index of differential operators on manifolds with conical singularities. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 141–172. (Robert Lauter) **99c:58149** 58G10 (47G30, 58G12)

— (*with* Tarkhanov, Nikolai N.) Green pseudodifferential operators on manifolds with edges. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 171–200. (Boris A. Plamenevsky) **99e:58182** 58G15 (35S05, 47G30)

— (*with* Burenkov, Viktor I.; Tarkhanov, Nikolai N.) Extension operators for Sobolev spaces commuting with a given transform. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 291–296. (Georgi E. Karadzhov) **99d:46046** 46E35 (47G30)

— (*with* Fedosov, Boris V.; Tarkhanov, Nikolai N.) On the index of elliptic operators on a wedge. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 164–209. (Robert Lauter) **99j:58193** 58G10 (35S15, 47G30)

Schulze, Gary W. (*with* Erdogan, Fazil) Periodic cracking of elastic coatings. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 28-29, 3615–3634. 73M25

Schulze, J. *see* **Schulze, Jürgen[1]**

Schulze, Jürgen *see* **Schulze, Jürgen[2]**

Schulze, Jürgen[1] (*with* Warner, N. P.) BPS geodesics in $N = 2$ supersymmetric Yang-Mills theory. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 101–118. (Summary) **99a:81176** 81T60 (14H45, 58E50, 81T13)

Schulze, Jürgen[2] (*with* Fahle, Torsten) A parallel algorithm for the vehicle routing problem with time window constraints. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 585–607. (*see* **99k:90002**) 90B06

Schulze, Matthew R. (*with* Shearer, Michael) Undercompressive shocks for a system of hyperbolic conservation laws with cubic nonlinearity. *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 344–362. (Stefan Diehl) **99m:35156** 35L67 (35Q72, 73F15)

Schulze, T. P. (*with* Davis, S. H.) Shear stabilization of a solidifying front: weakly nonlinear analysis in a long-wave limit. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2319–2336. (Summary) **99m:80018** 80A99

Schulze, Volker (*with* Aigner, Martin) Sum-difference sequences and Catalan numbers. (English summary) *Monatsh. Math.* **127** (1999), *no.* 2, 89–99. (F. T. Howard) **99m:11022** 11B75 (05A15)

Schulze-Pillot, Rainer (*with* Böcherer, Siegfried) On the central critical value of the triple product L-function. *Number theory (Paris, 1993–1994)*, 1–46, *London Math. Soc. Lecture Note Ser.*, 235, *Cambridge Univ. Press, Cambridge*, 1996. (Solomon Friedberg) **99j:11051** 11F67 (11F46, 11F60, 11F66)

— (*with* Scharlau, Rudolf) Extremal lattices. (English summary) *Algorithmic algebra and number theory (Heidelberg, 1997)*, 139–170, *Springer, Berlin*, 1999. (Gabriele Nebe) **99m:11074** 11H55 (11F11)

Schumacher, Benjamin (*with* Hausladen, Paul; Jozsa, Richard; Westmoreland, Michael; Wootters, William K.) Classical information capacity of a quantum channel. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1869–1876. (Summary) **99c:94017** 94A40 (81P99, 94A15)

— (*with* Nielsen, M. A.; Caves, Carlton M.; Barnum, Howard) Information-theoretic approach to quantum error correction and reversible measurement. (English summary) Quantum coherence and decoherence (Santa Barbara, CA, 1996). *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1969, 277–304. (Frank Antonsen) **99m:81039** 81P99 (82B03, 94A15)

Schumacher, Georg Moduli of framed manifolds. *Invent. Math.* **134** (1998), *no.* 2, 229–249. (Kimio Miyajima) **99k:32034** 32G13 (32L07, 53C25, 53C55)

— Asymptotics of Kähler-Einstein metrics on quasi-projective manifolds and an extension theorem on holomorphic maps. *Math. Ann.* **311** (1998), *no.* 4, 631–645. (Kimio Miyajima) **99g:32054** 32L07 (32F07, 53C25, 53C55)

Schumacher, J. M. (*with* Lomadze, Vakhtang; Ravi, M. S.; Rosenthal, Joachim) A behavioral approach to singular systems. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 3, 331–344. (Kevin A. Grasse) **99m:93002** 93A05 (14F05, 93C55)

— (*with* van der Schaft, Arjan) Complementarity modeling of hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 483–490. (Kirsten Anna Morris) **99f:93006** 93A30 (93C10)

Schumacher, Stephan (*with* Gerke, Horst H.; Hornung, Ulrich; Kelanemer, Youcef; Slodička, Marián) ★ Optimal control of soil venting: mathematical modeling and applications. (English summary) International Series of Numerical Mathematics, 127. *Birkhäuser Verlag, Basel*, 1999. *xvi+152 pp. ISBN* 3-7643-6041-0 (Publisher's description) **99m:49061** 49N55 (76S05, 86A99, 93C95)

Schumaker, Larry L. (*with* Lai, Ming-Jun) Scattered data interpolation using C^2 supersplines of degree six. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 905–921. (Summary) **99a:41009** 41A15 (41A63, 65D10)

— (*with* Fasshauer, Gregory E.) Scattered data fitting on the sphere. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 117–166, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41054** 41A63 (65D10)

— (*with* Lyche, Tom; Stanley, Sonya) Quasi-interpolants based on trigonometric splines. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 280–309. (Kirill A. Kopotun) **99i:41001** 41A05 (42A15, 65D07)

— (*with* Lai, Ming-Jun) On the approximation power of splines on triangulated quadrangulations. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 143–159 (*electronic*). (Peter Alfeld) **99h:41014** 41A15 (41A25, 41A63, 65D07)

— *see also* **Mathematical methods for curves and surfaces, 99d:65004; Curves and surfaces with applications in CAGD, 99g:65004** *and* **Surface fitting and multiresolution methods, 99g:65005**

Schuman, Bertrand (*with* Cresson, Jacky) Formes normales et problème du centre symétrique. (English and French summaries) [Normal forms and the symmetric center problem] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 581–584. (Patrick Bonckaert) **99i:34057** 34C20 (34C05, 58F36)

Schumi, Jennifer (*with* De Veaux, Richard D.; Schweinsberg, Jason; Ungar, Lyle H.) Prediction intervals for neural networks via nonlinear regression. (English summary) *Technometrics* **40** (1998), *no.* 4, 273–282. 62G05

Schummer, James Strategy-proofness versus efficiency on restricted domains of exchange economies. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 1, 47–56. (Shigeo Muto) **99a:90025** 90A06 (90A08, 90A53)

Schunck, Franz E. (*with* Torres, Diego F.; Liddle, Andrew R.) Brans-Dicke boson stars: configurations and stability through cosmic history. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3701–3718. 83D05 (83F05)

Schupp, Paul E. On the structure of Hamiltonian cycles in Cayley graphs of finite quotients of the modular group. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 233–248. (Dave Witte) **99g:05126** 05C45 (05C25, 05C85, 68R10)

Schupp, Peter[1] (*with* Fiore, Gaetano) Statistics and quantum group symmetries. (English summary) *Quantum groups and quantum spaces (Warsaw, 1995)*, 369–377, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Pavel Šťovíček) **99a:81072** 81R50 (17B37)

— (*with* Jurčo, Branislav) Adler-Kostant-Symes scheme for face and Calogero-Moser-Sutherland-type models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3577–3588. (Andrey V. Tsiganov) **99j:81072** 81R50 (81V70, 82B23)

van Schuppen, J. H. (*with* Picci, Giorgio; van den Hof, J. M.) Primes in several classes of the positive matrices. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 149–185. (D. J. Hartfiel) **99f:15019** 15A23 (15A48, 15A51)

Schur, Issai *see* **Haubrich, Ralf, (99k:01080)**

Schuricht, Friedemann Regularity for shearable nonlinearly elastic rods in obstacle problems. (English summary) *Arch. Rational Mech. Anal.* **145** (1998), *no.* 1, 23–49. (Vy Khoi Le) **99k:73078** 73K05 (49N60, 73C50, 73T05)

— (*with* Werner, Bernhard) Paradoxical bending behavior of shearable nonlinearly elastic rods. (English summary) *J. Elasticity* **50** (1998), *no.* 1, 27–48. (Summary) **99c:73039** 73C50 (73K05)

— (*with* Degiovanni, Marco) Buckling of nonlinearly elastic rods in the presence of obstacles treated by nonsmooth critical point theory. *Math. Ann.* **311** (1998), *no.* 4, 675–728. (Vy Khoi Le) **99m:73019** 73C50 (49J35, 58E05, 73V25)

Schürmann, Carsten (*with* Pfenning, Frank) Algorithms for equality and unification in the presence of notational definitions. (English summary) *Workshop on Proof Search in Type-theoretic Languages (Lindau, 1998)*, 13 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 17, *Elsevier, Amsterdam*, 1998. (*see* **99h:68013**) 68T15 (03B35)

Schürr, Andy Programmed graph replacement systems. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 479–546, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C90, 68R10)

— (*with* Andries, Marc; Engels, Gregor; Habel, Annegret; Hoffmann, Berthold; Kreowski, Hans-Jörg; Kuske, Sabine; Plump, Detlef; Taentzer, Gabriele) Graph transformation for specification and programming. (English summary) *Sci. Comput. Programming* **34** (1999), *no.* 1, 1–54. 68Q60 (68Q50, 68R10)

Schurz, Gerhard ★ The is-ought problem. (English summary) An investigation in philosophical logic. Trends in Logic—Studia Logica Library, 1. *Kluwer Academic Publishers, Dordrecht*, 1997. x+332 *pp. ISBN* 0-7923-4410-3 (Walter Alexandre Carnielli) **99e:03020** 03B45 (03A05)

Schurz, H. (*with* Mil′shteĭn, G. N.; Platen, Eckhard) Balanced implicit methods for stiff stochastic systems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1010–1019 (*electronic*). (Summary) **99a:65019** 65C20 (60H10)

Schuss, Z. (*with* Marchewka, A.) Feynman integrals with absorbing boundaries. (English summary) *Phys. Lett. A* **240** (1998), *no.* 4-5, 177–184. (Summary) **99h:81119** 81S40

— (*with* Lerman, G.) Asymptotic theory of large deviations for Markov chains. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1862–1877 (*electronic*). (Rami Atar) **99h:60056** 60F10 (45L05, 60J05)

Schuster, A. *see* **Schuster, Assaf**

Schuster, Alexander P. (*with* Seip, Kristian) A Carleson-type condition for interpolation in Bergman spaces. (English summary) *J. Reine Angew. Math.* **497** (1998), 223–233. (A. A. Borichev) **99f:46034** 46E15 (30E05, 30H05)

Schuster, Assaf (*with* Ben-Aroya, I.; Chinn, D. D.) A lower bound for nearly minimal adaptive and hot potato algorithms. (English summary) *Algorithmica* **21** (1998), *no.* 4, 347–376. (Summary) **99d:68018** 68M10

Schuster, Björn (*with* Leary, Ian J.; Yagita, Nobuaki) On universally stable elements. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 493–498. (Angelina Chin) **99b:20084** 20J06 (20D15)

— (*with* Hunton, John Robert; Mimura, Mamoru; Nishimoto, Tetsu) Higher v_n torsion in Lie groups. (English summary) *J. Math. Soc. Japan* **50** (1998), *no.* 4, 801–818. (Vidhyanath K. Rao) **99i:55005** 55N22 (55T25, 57T10)

Schuster, Eugene F. (*with* Kozek, Andrzej S.; Leslie, Julian R.) On a universal strong law of large numbers for conditional expectations. (English summary) *Bernoulli* **4** (1998), *no.* 2, 143–165. (Winfried Stute) **99h:60064** 60F15 (62G07)

— (*with* He, Jie) On mode(s) and shape of the PDFs of the number of runs and of the maximum of runs by type. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 115–126. (Summary) **99a:62017** 62E15

Schuster, Gerald W. (*with* Andreae, Thomas; Hintz, Martin; Nölle, Michael; Schreiber, Gerald; Seng, Hajo) Cartesian products of graphs as subgraphs of de Bruijn graphs of dimension at least three. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 3–34. (Jean-Claude Bermond) **99a:05116** 05C75

Schuster, Gerhard ML estimation from binomial data with misclassifications. A comparison: internal validation versus repeated measurements. (English summary) *Econometrics in theory and practice*, 45–58, *Physica, Heidelberg*, 1998. (Summary) **99j:62032** 62F10

Schuster, Guido M. (*with* Katsaggelos, Aggelos K.) An optimal polygonal boundary encoding scheme in the rate distortion sense. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 1, 13–26. (Summary) **99j:94024** 94A29 (94A34)

Schuster, Heinz G. (*with* Stenull, Olaf) A solvable replicator model. (English summary) *J. Phys. A* **31** (1998), *no.* 15, *L*301–*L*304. (Summary) **99a:92030** 92D25

Schuster, Karl-Peter *see* **Proceedings: Operations Research, 99a:90009**

Schuster, Peter Karl (*with* Hofacker, Ivo L.; Stadler, Peter F.) Combinatorics of RNA secondary structures. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 207–237. (Michael A. Steel) **99k:92018** 92D20 (05A16, 05C30)

— (*with* Phillipson, Paul E.) Analytics of bifurcation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 471–482. (Summary) **99f:34056** 34C23 (58F14)

Schuster, Stefan (*with* Wilhelm, Thomas; Heinrich, Reinhart) Kinetic and thermodynamic analyses of the reversible version of the smallest chemical reaction system with Hopf

bifurcation. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 295–321. (Summary) **99b:80011** 80A30 (34C23, 58F40, 92E20)

Schuster, Wolfgang Steinersche Torusflächen. [Steiner torus surfaces] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 141–171 (1998). (O. Giering) **99f:51037** 51N20 (51N25, 53A05)

— Die Transformation einer geschlossenen Kurve in eine Ellipse. (German summary) [The transformation of a closed curve into an ellipse] *Elem. Math.* **53** (1998), *no.* 2, 61–72. (F. W. Stallmann) **99f:51029** 51M04 (51M15, 51M20)

— Regularisierung von Polygonen. (German summary) [Regularization of polygons] *Math. Semesterber.* **45** (1998), *no.* 1, 77–94. (J. Böhm) **99d:51021** 51M20 (51M04, 52B15)

Schütt, Carsten (*with* Gordon, Yehoram; Reisner, Shlomo) Umbrellas and polytopal approximation of the Euclidean ball. (English summary) *J. Approx. Theory* **90** (1997), *no.* 1, 9–22. (Peter M. Gruber) **99k:52009a** 52A27 (41A30, 52A20)

— (*with* Gordon, Yehoram; Reisner, Shlomo) Erratum: "Umbrellas and polytopal approximation of the Euclidean ball". *J. Approx. Theory* **95** (1998), *no.* 2, 331. (Peter M. Gruber) **99k:52009b** 52A27 (41A30, 52A20)

— Floating body, illumination body, and polytopal approximation. (English summary) *Convex geometric analysis* (*Berkeley, CA*, 1996), 203–229, *Math. Sci. Res. Inst. Publ.*, 34, *Cambridge Univ. Press, Cambridge*, 1999. (Peter M. Gruber) **99k:52010** 52A27 (52A20, 52A22, 52A40)

Schütte, Christof (*with* Bornemann, Folkmar A.) Homogenization approach to smoothed molecular dynamics. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1805–1814. (Jair Koiller) **99b:70016** 70H05 (34E15, 58F05, 81V55)

— (*with* Bornemann, Folkmar A.) Homogenization of Hamiltonian systems with a strong constraining potential. (English summary) *Phys. D* **102** (1997), *no.* 1-2, 57–77. (Gershon Wolansky) **99a:70025** 70H05 (34C29, 34E15, 58F05, 70F20)

— (*with* Bornemann, Folkmar A.) A mathematical investigation of the Car-Parrinello method. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 359–376. (Peter N. Zhevandrov) **99d:81183** 81V55 (34E15, 70F20, 81Q15)

Schuttelaars, H. M. (*with* de Swart, H. E.) Initial formation of channels and shoals in a short tidal embayment. (English summary) *J. Fluid Mech.* **386** (1999), 15–42. 76B99 (86A05)

Schutten, J. M. J. Practical job shop scheduling. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 161–177. (Summary) **99h:90055** 90B35

de Schutter, Bart *see* **De Schutter, Bart**

de Schutter, Joris *see* **De Schutter, Joris**

Schütz, Gunter M. Stochastic reaction-diffusion processes, operator algebras and integrable quantum spin chains. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 296–303, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82C10 (82C23)

— Experimental realizations of integrable reaction-diffusion processes in biological and chemical systems. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 428–435, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 92D20 (92C05)

— Exact solution of the master equation for the asymmetric exclusion process. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 427–445. (Bálint Tóth) **99e:82062** 82C22

— Reaction-diffusion mechanisms and quantum spin systems. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 78–102, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82C10 (82C31)

— (*with* Mussawisade, K.; Santos, Jaime Eduardo) Branching-annihilating random walks in one dimension: some exact results. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4381–4394. (Summary) **99b:82040** 82B41

Schütz, Heribert (*with* Abdennadher, Slim) Model generation with existentially quantified variables and constraints. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 256–272, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68T15 (03B10, 03B35)

Schützenberger, Marcel-Paul Pour le monoïde plaxique. (English and French summaries) [A vote for the plactic monoid] *Math. Inform. Sci. Humaines No.* 140 (1997), 5–10. (Pascal Weil) **99f:68166** 68R15 (05A15, 05A17, 05E05, 05E10)

Schuur, Jerry D. Oscillatory properties of solutions of the equations $(p(t)x'(t))' \pm q(t)x(t-r) = 0$. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 285–292. (Summary) **99a:34198** 34K15 (34K20)

Schuurman, Petra A fully polynomial approximation scheme for a scheduling problem with intree-type precedence delays. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 9–11. (Summary) **99h:90056** 90B35

Schuurmans, Dale Characterizing rational versus exponential learning curves. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 140–160. (Jerzy W. Grzymała-Busse) **99c:68218** 68T05

Schwab, Christoph (*with* von Petersdorff, Tobias) Fully discrete multiscale Galerkin BEM. (English summary) *Multiscale wavelet methods for partial differential equations*, 287–346, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Ke Chen) **99a:65158** 65N30

— (*with* Sauter, Stefan A.) Quadrature for hp-Galerkin BEM in $\mathbf{R}^3$. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 211–258. (Summary) **99f:65207** 65R20 (45L05, 65N38, 73V10)

— (*with* Schötzau, Dominik; Gerdes, Klaus) Galerkin least squares hp-finite element method for the Stokes problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 249–254. (Summary) **99f:65174** 65N30 (76D07, 76M10)

— (*with* Schulz, Heiko; Wendland, Wolfgang L.) The computation of potentials near and on the boundary by an extraction technique for boundary element methods. Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 225–238. (Summary) **99e:65167** 65N38

— (*with* Suri, Manil; Xenophontos, Christos A.) The hp finite element method for problems in mechanics with boundary layers. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 311–333. (Summary) **99f:73083** 73V05 (76M10)

— (*with* Gerdes, Klaus) Hierarchic models of Helmholtz problems on thin domains. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 1–35. (Rolf Rannacher) **99d:73041** 73D30 (35J05, 73K12, 73V05)

— (*with* Melenk, Jens Markus) *HP* FEM for reaction-diffusion equations. I. Robust exponential convergence. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1520–1557 (*electronic*). (Manil Suri) **99d:65333** 65N35 (35B25, 35C20)

— (*with* Gerdes, Klaus; Matache, A. M.) Analysis of membrane locking in hp FEM for a cylindrical shell. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 663–686. (Manil Suri) **99h:73077** 73V05 (65N30, 73K15)

— (*with* Wendland, Wolfgang L.) On the extraction technique in boundary integral equations. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 91–122. (N. Gass) **99d:65327** 65N30 (45F15, 65R20, 73V10)

Schwab, Emil D. (*with* Silberberg, Gheorghe) Über die Anzahl der zyklischen Untergruppen gegebener Ordnung im Falle einer endlichen Gruppe. (German summary) [On the number of cyclic subgroups of given order in the case of a finite group] *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 3, 143–151. (Marian Deaconescu) **99m:20043** 20D60

Schwabe, Rainer ★ Optimum designs for multi-factor models. (English summary) Lecture Notes in Statistics, 113. *Springer-Verlag, New York*, 1996. vi+124 *pp. ISBN* 0-387-94745-0 (Ewaryst Rafajłowicz) **99e:62130** 62K05

— (*with* Riccomagno, Eva; Wynn, Henry P.) Lattice-based D-optimum design for Fourier regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2313–2327. (Ewaryst Rafajłowicz) **99c:62210** 62K05

— Maximin efficient designs. Another view at D-optimality. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 109–114. (Christos P. Kitsos) **99c:62211** 62K05 (62B15, 62J05, 62J10)

— Uncertain resources and designing for additional information. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 301–311, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62L15

— (*with* Benda, N.) Designing experiments for adaptively fitted models. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 165–175, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62079** 62J05

— (*with* Bates, R. A.; Riccomagno, Eva; Wynn, Henry P.) Lattices and dual lattices in optimal experimental design for Fourier models. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 3, 283–296. 62K05

— (*with* Koval′, V. A.) Limit theorems for solutions of stochastic difference equations in Banach spaces with applications. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 149–158. (Michel Benaïm) **99m:60098** 60H25 (60B12, 60F15)

— (*with* Koval′, V. A.) Exact bounds for the rate of convergence in general stochastic approximation procedures. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 501–515. (Jacek Koronacki) **99e:62142** 62L20

Schwachhöfer, L. J. (*with* Merkulov, Sergei) Twistor solution of the holonomy problem. *The geometric universe* (*Oxford*, 1996), 395–402, *Oxford Univ. Press, Oxford*, 1998. (Francisco M. Cabrera) **99j:53025** 53C10 (32L25, 53C05)

Schwachhöfer, Martin (*with* Stroppel, Markus) Finding representatives for the orbits under the automorphism group of a bounded abelian group. (English summary) *J. Algebra* **211** (1999), *no.* 1, 225–239. (Manfred Dugas) **99j:20064** 20K30 (20K10)

Schwacke, Lorelei H. (*with* Voit, Eberhard O.) Scalability properties of the S-distribution. (English and German summaries) *Biom. J.* **40** (1998), *no.* 6, 665–684. (Summary) **99j:62017** 62E15

Schwager, Thomas (*with* Pöschel, Thorsten) Is there a critical acceleration for the onset of convection? (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 625–631, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:73056** 73E99 (76A99, 76E15)

Schwaiger, Jens The functional equation of homogeneity and its stability properties. *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **205** (1996), 3–12 (1997). (Themistocles M. Rassias) **99j:39024** 39B52

— (*with* Ring, Wolfgang; Schöpf, Peter) On functions continuous on certain classes of "thin" sets. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 205–224. (M. Laczkovich) **99b:26019** 26B05

Schwalb, Eddie (*with* Vila, Lluís) Temporal constraints: a survey. (English summary) *Constraints* **3** (1998), *no.* 2-3, 129–149. (Summary) **99b:68168** 68T20 (68T27)

Schwalm, M. K. (*with* Schwalm, W. A.; Giona, M.) Lie groups and solution of dynamical problems on fractal lattices. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 179–188, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99f:58181** 58F40 (34C99, 39A10, 82C99)

— (*with* Schwalm, W. A.; Moritz, B.; Giona, M.) Vector difference calculus for physical lattice models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 1217–1233. (Summary) **99j:58008** 58A10 (73V99, 76M99, 78A25)

Schwalm, W. A. (*with* Schwalm, M. K.; Giona, M.) Lie groups and solution of dynamical problems on fractal lattices. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 179–188, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99f:58181** 58F40 (34C99, 39A10, 82C99)

— (*with* Moritz, B.; Giona, M.; Schwalm, M. K.) Vector difference calculus for physical lattice models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 1217–1233. (Summary) **99j:58008** 58A10 (73V99, 76M99, 78A25)

Schwartz, Alan L. (*with* Koornwinder, Tom H.) Product formulas and associated hypergroups for orthogonal polynomials on the simplex and on a parabolic biangle. (English summary) *Constr. Approx.* **13** (1997), *no.* 4, 537–567. (Eric Stade) **99b:33024** 33C50 (33C70, 43A62)

— (*with* Connett, William C.) Hypergroups and differential equations. (English summary) *Lie groups and Lie algebras*, 109–115, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00013**) 43A62 (33C45, 33C55, 34B24, 42C10)

— *see also* **Harmonic analysis and hypergroups, 99a:43001**

Schwartz, C. *see* **Schwartz, Charles Leon**

Schwartz, Carla A. (*with* Yan, Aiguo) Construction of Lyapunov functions for nonlinear systems using normal forms. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2,

521–535. (Sergei Mazanik) **99a:34153** 34D20 (34C20)

Schwartz, Charles Leon (*with* Halpern, M. B.) Asymptotic search for ground states of SU(2) Matrix theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 25, 4367–4408. (Yolanda Lozano) **99j:81138** 81T30

Schwartz, David F. (*with* Allen, Jeffery C.) H^∞ approximation with point constraints applied to impedance estimation. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 5, 507–522. (Sergei Treil) **99a:78029** 78A50 (41A05, 47B35, 65D05)

Schwartz, Ira B. (*with* Carr, Thomas W.) On measures of disorder in globally coupled oscillators. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 321–340. (Summary) **99a:34108** 34C15 (70K99)

— (*with* Carr, Thomas W.) Bi-instability as a precursor to global mixed-mode chaos. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 6, 6658–6661. 58F13

Schwartz, Laurent Sur un mémoire de Petrowsky: "Über das Cauchysche Problem für ein System linearer partieller Differentialgleichungen im Gebiete der nichtanalytischen Funktionen". [On a memoir of Petrovskiĭ: "On the Cauchy problem for a system of linear partial differential equations in the realm of nonanalytic functions"] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 11, 65–69, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 35A05 (35D05)

— Sur un deuxième mémoire de Petrowsky: "Über das Cauchysche Problem für Systeme von partiellen Differentialgleichungen". [On a second memoir of Petrovskiĭ: "On the Cauchy problem for systems of partial differential equations"] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 15, 89, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 35A05

— Sur un mémoire de Kodaira: "Harmonic fields in Riemannian manifolds (generalized potential theory)". I. [On a memoir of Kodaira. I] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 26, 177–195, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 58A14

— Sur un mémoire de Kodaira: "Harmonic fields in Riemannian manifolds (generalized potential theory)". II. [On a memoir of Kodaira. II] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 32, 257–268, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 58A14

— Les théorèmes de Whitney sur les fonctions différentiables. [The Whitney theorems concerning differentiable functions] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 43, 355–363, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 58C25 (26B05)

— Les travaux de L. Gårding sur les équations aux dérivées partielles elliptiques. [The works of L. Gårding on elliptic partial differential equations] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 67, 175–182, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 35J40 (35D05)

— Solution élémentaire d'une équation aux dérivées partielles à coefficients constants (d'après B. Malgrange). [Elementary solution of a partial differential equation with constant coefficients (after B. Malgrange)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 87, 345–350, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 35E05 (35A08)

— La fonction aléatoire du mouvement brownien [MR **21** #6037]. [The random function of Brownian motion] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 161, 327–349, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 60J65 (60B11)

— Sous-espaces hilbertiens et antinoyaux associés. (French summary) [Hilbert spaces and associated antikernels] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 238, 255–272, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 46A03 (46C05, 46E22, 46M15)

— Les travaux de Seeley sur les opérateurs intégraux singuliers sur une variété [MR **31** #637]. [The works of Seeley on singular integral operators on a manifold] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 269, 385–399, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 58G15 (35S99, 42B20, 47G10)

— Calcul infinitésimal stochastique [MR 89g:60180]. (French summary) [Infinitesimal stochastic calculus] *Fields Medallists' lectures*, 33–51, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 60G07 (60G40, 60G44, 60H05)

— *see also* **Chandrasekharan, K.** *and* **Bohr, Harald**, (**99b:00010**)

Schwartz, Lionel À propos de la conjecture de non-réalisation due à N. Kuhn. [On N. Kuhn's nonrealization conjecture] *Invent. Math.* **134** (1998), *no.* 1, 211–227. (Grant Walker) **99j:55019** 55S10 (55T20)

— *see also* **Powell, Geoffrey M. L.**, **99h:18013**

Schwartz, M.-H. Compte-rendu de travaux de M. Heins sur diverses majorations de la croissance des fonctions analytiques ou sous-harmoniques. [The results of M. Heins concerning upper bounds on the growth of analytic or subharmonic functions] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 23, 147–151, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 31A05 (30C80)

Schwartz, Matthew D. (*with* Leete, Thomas H.; Williams, Robert M.; Wood, David Harlan; Salem, Jerome S.; Rubin, Harvey) Massively parallel DNA computation: expansion of symbolic determinants. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 45–58, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (68Q40, 92D20)

Schwartz, Moshe (*with* Navot, Yiftah) Fokker-Planck dynamics of the random field spherical model. (English summary) *Phys. A* **255** (1998), *no.* 3-4, 318–331. (Summary) **99e:82070** 82C31

Schwartz, Peter O. (*with* Akcoglu, Mustafa A.; Jones, Roger L.) Variation in probability, ergodic theory and analysis. *Illinois J. Math.* **42** (1998), *no.* 1, 154–177. (Michael T. Lacey) **99a:60048** 60G46 (28D05, 42B25)

— (*with* Roberts, Gareth O.; Rosenthal, Jeffrey S.) Convergence properties of perturbed Markov chains. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 1–11. (Mu Fa Chen) **99c:60139** 60J05 (62F15, 62M99)

Schwartzman, E. (*with* Ioffe, Alexandre D.) Critical points of convex perturbations of quadratic functionals. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 113–118. (Summary) **99i:49027** 49K40 (58E05, 90C31, 90C48)

Schwartzman, Sol Analyticity and metric transitivity on the torus. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 717–723. (Romeo F. Thomas) **99g:58109** 58F25 (34C35)

Schwarz, Albert Symplectic formalism in conformal field theory. *Symétries quantiques* (*Les Houches*, 1995), 957–977, *North-Holland, Amsterdam*, 1998. (Henrik Aratyn) **99m:81226** 81T40 (58F05, 81T60)

— (*with* Connes, Alain; Douglas, Michael R.) Noncommutative geometry and matrix theory: compactification on tori. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 3, 35 *pp.* (*electronic*). (Éric Leichtnam) **99b:58023** 58B30 (81T30)

Schwarz, Binyamin A conjecture concerning strongly connected graphs. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 197–208. (Ortrud R. Oellermann) **99j:05087** 05C20 (05C40)

Schwarz, Christian (*with* Golin, Mordecai J.; Raman, Rajeev; Smid, Michiel H. M.) Randomized data structures for the dynamic closest-pair problem. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1036–1072 (*electronic*). (Hans-Dietrich Hecker) **99e:68159** 68U05

Schwarz, E. (*with* Biskamp, D.; Zeiler, A.) Instability of a magnetized plasma jet. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2485–2488. (Summary) **99b:76036** 76E25 (76X05)

— (*with* Biskamp, D.; Zeiler, A.; Celani, A.; Drake, J. F.) Electron magnetohydrodynamic turbulence. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 751–758. (Summary) **99k:76149** 76W05 (76F99)

Schwarz, F. *see* **Schwarz, Fritz Franz**

Schwarz, Friedrich (*with* Kiyek, Karl-Heinz) ★ Lineare Algebra. (German) [Linear algebra] Teubner Studienbücher Mathematik. [Teubner Mathematical Textbooks] *B. G. Teubner, Stuttgart*, 1999. 320 *pp. ISBN* 3-519-02390-3 15-01

Schwarz, Fritz Franz Algorithmic solution of Abel's equation. (English summary) *Computing* **61** (1998), *no.* 1, 39–46. (L. M. Berkovich) **99g:34005** 34A05 (34A25, 34B30, 68Q40)

— Symmetry analysis of Abel's equation. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 3, 269–294. (L. M. Berkovich) **99c:34001** 34A05 (34A26, 34C20)

Schwarz, G. *see* **Schwarz, Günter**

Schwarz, Gerald W. On a homomorphism of Harish-Chandra. *Algebraic groups and Lie groups*, 321–329, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (William M. McGovern) **99g:22015** 22E46 (16S32)

— (*with* Wehlau, David L.) Invariants of four subspaces. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 3, 667–697. (Frank D. Grosshans) **99i:14055** 14L30 (13A50)

Schwarz, Günter (*with* Farinelli, S.) On the spectrum of the Dirac operator under boundary conditions. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 67–84. (Liviu I. Nicolaescu) **99m:58189** 58G20 (58G03, 58G25)

Schwarz, Hans Rudolf ★ Numerische Mathematik. (German) [Numerical mathematics] With a contribution by Jörg Waldvogel. Fourth edition. *B. G. Teubner, Stuttgart*, 1997. 653 *pp. ISBN* 3-519-32960-3 (From the preface) **99f:65003** 65–01

Schwarz, Hermann Amandus *see* **Bölling, Reinhard**, (**99k:01080**)

Schwarz, John H. Classical duality symmetries in two dimensions. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 439–451, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99j:81173** 81T40 (81T30)

— Lectures on superstring and M theory dualities. (English summary) *Fields, strings and duality* (*Boulder, CO*, 1996), 359–418, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:81185** 81T30 (81–02, 83E30)

— The M theory five-brane and the heterotic string. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 92–102, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99m:81209** 81T30

— The M-theory five-brane and the heterotic string. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 74–80. (C. Gauthier) **99d:81134** 81T30 (83E30)

— Remarks on the M5-brane. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 279–284. (Summary) **99g:81186** 81T30 (81T60)

Schwarz, Martin, Jr. Involutive functionals, infinite dimensional tori, and neighboring tori. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 89–112. (Alexander V. Shapovalov) **99m:58113** 58F07 (35Q51, 35Q58)

Schwarz, Matthias A quantum cup-length estimate for symplectic fixed points. (English summary) *Invent. Math.* **133** (1998), *no.* 2, 353–397. (Joa Weber) **99e:58041** 58E05 (58F05, 58F09)

Schwarz, S. (*with* Krumke, Sven O.) On budget-constrained flow improvement. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 6, 291–297. (Summary) **99c:68131** 68Q25 (90C35)

Schwarz, Štefan (*with* Nemoga, Karol) An explicit description of the set of all normal bases generators of a finite field. *Czechoslovak Math. J.* **49(124)** (1999), *no.* 1, 81–96. (Igor E. Shparlinski) **99m:12003** 12E20

Schwarz, Wolfgang Karl Some aspects of the development of probabilistic number theory. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 661–701, *TEV, Vilnius*, 1994. (I. Kátai) **99h:11090** 11K65 (11K70)

— Evaluation of mean-values of products of shifted arithmetical functions. *Note Mat.* **15** (1995), *no.* 2, 235–250 (1997). (Lutz Gerhard Lucht) **99i:11087** 11N37

— (*with* Spilker, Jürgen) A remark on some special arithmetical functions. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 221–245, *VSP, Utrecht*, 1997. (Jörn Steuding) **99i:11088** 11N37 (11N56, 11N64)

— (*with* Burde, Gerhard) Wolfgang Franz zum Gedächtnis. [Wolfgang Franz in memoriam] *Jahresber. Deutsch. Math.-Verein.* **100** (1998), *no.* 4, 284–292. (Editors) **99m:01047** 01A70

kosmann-Schwarzbach, Yvette *see* **Kosmann-Schwarzbach, Yvette**

Schwarze, María G. (*with* Lewin, Renato A.; Mikenberg, Irene F.) On the algebraizability of annotated logics. (English summary) *Studia Logica* **59** (1997), *no.* 3, 359–386. (G. Mirkowska) **99c:03043** 03B70 (03B60)

Schwarzer, Fabian (*with* Schweikard, Achim) Detecting geometric infeasibility. (English summary) *Artificial Intelligence* **105** (1998), *no.* 1-2, 139–159. (Summary) **99h:68168** 68U05

Schwarzkopf, Otfried (*with* Fuchs, Ulrich; Rote, Günter; Welzl, Emo) Approximation of convex figures by pairs of rectangles. (English summary) *Comput. Geom.* **10** (1998), *no.* 2, 77–87. (Summary) **99a:52019** 52B55 (52A27, 68U05)

— (*with* Agarwal, Pankaj K.; Matoušek, Jiří) Computing many faces in arrangements of lines and segments. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 491–505 (*electronic*). (Summary) **99a:68079** 68Q20 (68R05, 68U05)

— (*with* Agarwal, Pankaj K.; de Berg, Mark; Matoušek, Jiří) Constructing levels in arrangements and higher order Voronoi diagrams. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 654–667 (*electronic*). (Summary) **99c:68242** 68U05 (52B55, 68Q25)

Schwarzschild, K. "On the permissible curvature of space" [Vierteljahrsschr. Astronom. Ges. **35** (1900), 337–347]. Translated from the German original by John M. Stewart and

Mary Stewart. Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2539–2544. (*see* **99f:83003**) 83C15 (83–03)

Schwebler, Hans-Peter (*with* Collas, Peter; Klein, David Michael) Convergence of Hamiltonian systems to billiards. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 466–474. (Rafael Oswaldo Ruggiero) **99h:58061** 58F05

Schweda, M. (*with* Feichtinger, U.; Moritsch, O.; Rant, J.; Zerrouki, H.) The finiteness of the four-dimensional antisymmetric tensor field model in a curved background. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4513–4537. (Summary) **99e:81165** 81T20 (81T60)

— (*with* Del Cima, Oswaldo M.; Landsteiner, Karl) Twisted $N = 4$ SUSY algebra in topological models of Schwarz type. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 289–300. (Summary) **99g:81221** 81T70 (81T60)

— (*with* Leitgeb, R.; Zerrouki, H.) Finiteness of 2D topological BF-theory with matter coupling. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 425–440. (Mohamed Kachkachi) **99m:81223** 81T40 (81T10, 81T15, 81T17)

Schwede, Stefan An exact sequence interpretation of the Lie bracket in Hochschild cohomology. (English summary) *J. Reine Angew. Math.* **498** (1998), 153–172. (Charles Weibel) **99m:16012** 16E40 (18G15, 19D55)

Schweiger, Carl A. (*with* Adjiman, C. S.; Floudas, Christodoulos A.) Mixed-integer nonlinear optimization in process synthesis. (English summary) *Handbook of combinatorial optimization, Vol.* 1, 1–76, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C11 (90–02, 90C27)

— (*with* Floudas, Christodoulos A.) Interaction of design and control: optimization with dynamic models. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 388–435, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:49002**) 49N55 (90C90)

Schweiger, W. *see* **Perturbative and nonperturbative aspects of quantum field theory, 99d:81177**

Schweigert, Christoph (*with* Fuchs, Jürgen) ★ Symmetries, Lie algebras and representations. (English summary) A graduate course for physicists. Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1997. xxii+438 *pp. ISBN* 0-521-56001-2 (Publisher's description) **99k:81078** 81R05 (17B81, 81–01, 81R10)

— (*with* Borisov, Lev A.; Halpern, M. B.) Systematic approach to cyclic orbifolds. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 1, 125–168. (Mirko Primc) **99i:81068** 81R10 (17B68, 81T40)

— (*with* Fuchs, Jürgen) Branes: from free fields to general backgrounds. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 99–136. (Matthias Dörrzapf) **99i:81211** 81T40 (81T30)

— (*with* Lerche, Wolfgang; Minasian, Ruben; Theisen, Stefan) A note on the geometry of CHL heterotic strings. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 53–59. (Summary) **99c:81198** 81T30

— (*with* Fuchs, Jürgen) Completeness of boundary conditions for the critical three-state Potts model. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 141–146. (Summary) **99i:81212** 81T40 (81R10, 82B27)

— (*with* Fuchs, Jürgen) Orbifold analysis of broken bulk symmetries. (English summary) *Phys. Lett. B* **447** (1999), *no.* 3-4, 266–276. (Matthias Dörrzapf) **99k:81282** 81T40 (81R40)

Schweigert, Dietmar (*with* Kilgus, Bernhard) On the lattice of solid equational theories. *Contributions to general algebra*, 9 (*Linz*, 1994), 291–296, *Hölder-Pichler-Tempsky, Vienna*, 1995. (*see* **98g:00020**) 08B05 (03C05)

Schweikard, Achim (*with* Schwarzer, Fabian) Detecting geometric infeasibility. (English summary) *Artificial Intelligence* **105** (1998), *no.* 1-2, 139–159. (Summary) **99h:68168** 68U05

Schweinsberg, Jason (*with* De Veaux, Richard D.; Schumi, Jennifer; Ungar, Lyle H.) Prediction intervals for neural networks via nonlinear regression. (English summary) *Technometrics* **40** (1998), *no.* 4, 273–282. 62G05

Schweitzer, Eithan An interior random vector algorithm for multistage stochastic linear programs. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 956–972 (*electronic*). (Wolfgang J. Runggaldier) **99g:90079** 90C15 (90C08)

Schweitzer, Frank *see* **Self-organization of complex structures, 99k:92005**

Schweitzer, Haim *see* **Shvaytser, Haim**

Schweitzer, Larry B. C^∞ functions on the Cantor set, and a smooth m-convex Fréchet subalgebra of O_2. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 349–365. (Keith Taylor) **99g:46020** 46E10 (46H35, 46J10, 46L05)

Schweitzer, Paul A. *see* **Meeting: Topology, 99b:55001**

Schweizer, Andreas Hyperelliptic Drinfeld modular curves. (English summary) *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 330–343, *World Sci. Publishing, River Edge, NJ*, 1997. (Ernst-Ulrich Gekeler) **99h:11061** 11G09 (11G18)

— On singular and supersingular invariants of Drinfeld modules. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 319–334. (Alain Thiery) **99e:11073** 11G09

Schweizer, Bernhard (*with* Gaul, L.) Analytische Berechnung der integralfreien Terme aus den Somigliana-Identitäten. (English and German summaries) [Analytical computation of the integral-free terms of the Somigliana identities] *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 12, 823–832. (Summary) **99i:73016** 73C02 (65N38, 73V10)

Schweizer, Berthold The genesis of the notion of distributional chaos. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 159–167 (1998). (Summary) **99d:54024** 54H20 (54E70, 58F13)

Schweizer, Jürgen A description of Hilbert C^*-modules in which all closed submodules are orthogonally closed. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2123–2125. (Summary) **99j:46068** 46L05 (46H25)

Schweizer, Martin (*with* Platen, Eckhard) On feedback effects from hedging derivatives. (English summary) *Math. Finance* **8** (1998), *no.* 1, 67–84. (Jakša Cvitanić) **99e:90014** 90A09

— (*with* Amendinger, Jürgen; Imkeller, Peter) Additional logarithmic utility of an insider. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 263–286. (Rüdiger Kiesel) **99j:90008** 90A09 (60G44, 60H30)

— A minimality property of the minimal martingale measure. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 1, 27–31. (Dominique Lépingle) **99m:60072** 60G48 (90A09)

Schwendimann, Stefan A new one-pass tableau calculus for PLTL. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 277–291, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B45, 68Q60)

Schwengler, Thomas (*with* Kuester, Edward F.) Residual error bounds in various norms for solutions of a Fredholm integral equation of the first kind. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 186–190, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 65R20 (45L05)

Schwenk, Allen J. (*with* Zhang, Ping[6]) Starfree biclique decompositions of complete graphs. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 33–62. (Dalibor Fronček) **99c:05157** 05C70

Schwenk, Jörg (*with* Beutelspacher, Albrecht) Was ist ein Beweis? Eine Einführung in die Theorie der interaktiven Beweissysteme. [What is a proof? An introduction to the theory of interactive proof systems] *Überblicke Mathematik* 1996/97, 18–32, *Überbl. Math., Vieweg, Braunschweig*, 1997. (Gerhard Lischke) **99m:68065** 68Q15 (03D15)

Schwentick, Thomas (*with* Barthelmann, Klaus) Local normal forms for first-order logic with applications to games and automata. (English summary) *STACS* 98 (*Paris*, 1998), 444–454, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99g:03042** 03C68 (03C85, 68Q45)

— (*with* Durand, Arnaud; Lautemann, Clemens) Subclasses of binary NP. (English summary) *J. Logic Comput.* **8** (1998), *no.* 2, 189–207. (Bruno Poizat) **99m:03059** 03C13 (03D15, 68Q15)

Schwermer, Joachim (*with* Franke, Jens) A decomposition of spaces of automorphic forms, and the Eisenstein cohomology of arithmetic groups. *Math. Ann.* **311** (1998), *no.* 4, 765–790. (Chandrashekhar Khare) **99k:11077** 11F75 (11F55)

Schwetlick, Hubert (*with* Lösche, Ralf; Timmermann, Gisela) A modified block Newton iteration for approximating an invariant subspace of a symmetric matrix. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 381–400. (Summary) **99e:65085** 65H05 (15A18, 65F15, 65H17, 65H20)

Schwetz, Myckola *see* **Shvets, N. R.**

Schwichtenberg, Helmut Finite notations for infinite terms. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 201–222. (Summary) **99f:03077** 03F15 (03B15, 03D65)

Schwiegelshohn, Uwe (*with* Yahyapour, Ramin) Analysis of first-come-first-serve parallel job scheduling. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 629–638, *ACM, New York*, 1998. (*see* **99d:68011**) 68M20 (68Q25, 90B35)

— (*with* Ludwig, Walter; Wolf, Joel L.; Turek, John; Yu, Philip S.) Smart SMART bounds for weighted response time scheduling. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 237–253 (*electronic*). (Mukkai S. Krishnamoorthy) **99e:68061** 68Q22 (68M20, 68Q25)

Schwieters, Charles D. (*with* Delos, John B.) Classical orbits and quantum waves in natural atoms and in designer atoms. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 233–247, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45

Schwimmer, A. (*with* Deser, Stanley; Henneaux, Marc) p-brane dyons, θ-terms and dimensional reduction. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 284–288. (David S. Berman) **99d:83092** 83E30 (81T30, 81T60)

Schwingenschlögl, Florian (*with* Schlüchtermann, Georg) On noncommutative vector-valued integration. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 765–780. (Serguey A. Malyugin) **99j:46078** 46L50 (46A32, 46L10)

Schwörer, R. (*with* Egelja, Aleksandra; Kröner, Dietmar; Lanson, N.; Mancip, M.; Vila, Jean-Paul) Combined finite volume and smoothed particle method. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 50–74, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76109** 76M25 (76X05)

Scialom, David (*with* Byland, Samuel) Evolution of the Bianchi type I, Bianchi type III, and the Kantowski-Sachs universe: isotropization and inflation. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6065–6074. (Summary) **99m:83211** 83F05

Scialom, M. (*with* Iório, Rafael José, Jr.; Linares, Felipe) KdV and BO equations with bore-like data. (English summary) *Differential Integral Equations* **11** (1998), *no.* 6, 895–915. (Shu Ming Sun) **99j:35188** 35Q53 (76B15)

Sciama, Dennis W. Decaying neutrinos and the geometry of the universe. *The geometric universe* (*Oxford*, 1996), 227–234, *Oxford Univ. Press, Oxford*, 1998. (*see* **99b:00015**) 83F05

— Decaying neutrinos and the flattening of the galactic halo. (English summary) *On Einstein's path* (*New York*, 1996), 443–448, *Springer, New York*, 1999. (Summary) **99h:85002** 85A15

Sciandra, Antoine (*with* Bernard, Olivier; Sallet, Gauthier) Nonlinear observers for a class of biological systems: application to validation of a phytoplanktonic growth model. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1056–1065. (Summary) **99h:92021** 92D25 (93B07)

Sciarrino, Antonino (*with* Marotta, Vincenzo) Conformal field theory on Z_k-surfaces with exchange interactions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 35, 2863–2871. (Dmitri Korotkin) **99k:81283** 81T40 (14H55)

Scimemi, Benedetto The higher arithmetic of Harold Davenport. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *no.* 1, 125–127. 01A70

Scimone, Aldo The presence of Michele Cipolla in Corleone from 1904 to 1911. (Italian) *Michele Cipolla* (1880–1947) (*Palermo*, 1997), 37–42, *Atti Convegni A.I.C.M.*, 1, *Assoc. Insegn. Cultori Mat., Palermo*, 1998. (*see* **99d:01043**) 01A70

— *see also* **Michele Cipolla, 99d:01043**

Scinocca, J. F. (*with* Haynes, Peter H.) Dynamical forcing of stratospheric planetary waves by tropospheric baroclinic eddies. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 14, 2361–2392. (From the summary) **99d:86003** 86A10

Sciomachen, A. (*with* Dell'Amico, Mauro; Maffioli, Francesco) A Lagrangian heuristic for the prize collecting travelling salesman problem. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 289–305. (*see* **99b:90006**) 90C27

— *see also* **Applied mathematical programming and modeling, 99b:90006**

Sciriha, Irene (*with* Gutman, Ivan M.) Graphs with maximum singularity. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 17–20. (Summary) **99i:05139** 05C50

— (*with* Fiorini, Stanley; Lauri, Josef) Minimal basis for a vector space with an application to singular graphs. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 21–24. (Summary) **99i:05142** 05C50

— On singular line graphs of trees. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 73–91. (Summary) **99j:05142** 05C50 (05C05)

— On the construction of graphs of nullity one. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 193–211. (D. Cvetković) **99c:05136** 05C50

— (*with* Gutman, Ivan M.) Nut graphs: maximally extending cores. (English summary) *Util. Math.* **54** (1998), 257–272. (Summary) **99g:05156** 05C75 (05C50)

Scitovski, R. (*with* Ungar, Š.; Jukić, D.) Approximating surfaces by moving total least squares method. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 219–232. (Yu Yu Feng) **99f:65031** 65D17

— (*with* Jukić, D.; Marošević, T.) Discrete total l_p-norm approximation problem for the exponential function. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 137–143. (Summary) **99c:65026** 65D15

— (*with* Jukić, D.) Existence results for special nonlinear total least squares problem. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 348–363. (Gerd Pönisch) **99m:65024** 65D10 (62F12, 62J02, 93E24)

Sciuto, S. (*with* Frau, M.; Lerda, A.; Zemba, Guillermo R.) The extended conformal theory of Luttinger systems. *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 409–413, *World Sci. Publishing, River Edge, NJ*, 1997. (Kazuhiro Hikami) **99m:81294** 81V70 (81R10, 81T40, 82B10)

— (*with* Billó, M.; Di Vecchia, P.; Frau, M.; Lerda, A.; Russo, Rodolfo) The Lorentz force between D0 and D6 branes in string and M(atrix) theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2977–2990. (Summary) **99h:81152** 81T30

Scobelev, B. Yu. *see* **Skobelev, B. Yu.**

Scoccola, Norberto N. (*with* Bes, Daniel R.) Two-dimensional skyrmions on the sphere. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 12, 9 *pp.* (*electronic*). (Summary) **99h:81134** 81T10 (81V70)

Scognamillo, Renata An elementary approach to the abelianization of the Hitchin system for arbitrary reductive groups. (English summary) *Compositio Math.* **110** (1998), *no.* 1, 17–37. (Andrzej Kozlowski) **99b:14013** 14D20 (14H40, 58F07)

Scokaert, Pierre O. M. Infinite horizon generalized predictive control. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 161–175. 93E35 (93D21)

— (*with* Mayne, D. Q.) Min-max feedback model predictive control for constrained linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1136–1142. 93D15 (93B52)

— (*with* Rawlings, James B.) Constrained linear quadratic regulation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1163–1169. (Summary) **99d:93034** 93C05 (49N10, 93C55)

— (*with* Mayne, D. Q.; Rawlings, James B.) Suboptimal model predictive control (feasibility implies stability). (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 648–654. 93D21 (90C90)

Scollo, G. *see* **AMiLP '95, 99a:68003**

Scoppola, Carlo M. (*with* Gavioli, Norberto; Mann, Avinoam; Monti, Valerio; Previtali, Andrea) Groups of prime power order with many conjugacy classes. *J. Algebra* **202** (1998), *no.* 1, 129–141. (W. E. Deskins) **99d:20028** 20D15

Scorletti, Gérard (*with* El Ghaoui, Laurent) Improved LMI conditions for gain scheduling and related control problems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 10, 845–877. (Zbigniew Bartosiewicz) **99h:93053** 93B52 (93B35, 93C05, 93C50)

Scorza-Dragoni, Giuseppe *see* **Magenes, Enrico**

Scott, A. *see* **Scott, Audrey**

Scott, A. D. (*with* Radcliffe, A. J.) Reconstructing subsets of Z_n. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 2, 169–187. (Y. Roditty) **99k:05158** 05D99

Scott, Audrey (*with* Goldsmith, Brendan; Pabst, Simone) Unit sum numbers of rings and modules. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 331–344. (Michael Dokuchaev) **99i:16060** 16U99 (16S50, 20K30)

Scott, C. H. (*with* Jefferson, T. R.; Frenk, J. B. G.) A duality theory for a class of generalized fractional programs. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 239–245. (Summary) **99a:90207** 90C32 (49N15)

— (*with* Jefferson, T. R.) Duality of a nonconvex sum of ratios. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 151–159. (Siegfried Schaible) **99f:90146** 90C32 (49N15)

Scott, D. J. (*with* Tweedie, R. L.) Explicit rates of convergence of stochastically ordered Markov chains. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 176–191, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Summary) **99f:60122** 60J05

Scott, Dana S. (*with* Birkedal, L.; Carboni, A.; Rosolini, Giuseppe) Type theory via exact categories (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 188–198, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q55 (03B70, 18E10)

Scott, David Bernard *see* **Ledermann, W., 99m:01077**

Scott, David W. *see* **Gu, Chong, 99e:62045**

Scott, Elizabeth A. (*with* Wang, Shitong; Gamermann, A.) Extract rules by using rough set and knowledge-based NN. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 279–284. (Summary) **99b:68159** 68T05 (03B70)

Scott, Jennifer A. On ordering elements for a frontal solver. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 5, 309–323. 65F30 (65N30)

Scott, Joshua S. (*with* Bukatin, Michael A.) Towards computing distances between programs via Scott domains. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 33–43, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Summary) **99a:68117** 68Q55 (06B35)

Scott, Julian F. (*with* Cambon, Claude) Linear and nonlinear models of anisotropic turbulence. (English summary) *Annual review of fluid mechanics, Vol.* 31, 1–53, *Annu. Rev. Fluid Mech.*, 31, *Annual Reviews, Palo Alto, CA*, 1999. (Summary) **99j:76057** 76F99

Scott, L. *see* **Scott, Leonard L.**

Scott, L. Ridgway (*with* Ilin, Andrew V.; Bagheri, Babak; Metcalfe, Ralph W.) Error control and mesh optimization for high-order finite element approximation of incompressible viscous flow. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 313–325. (Summary) **99a:76085** 76M10 (65M60)

— (*with* Girault, Vivette) Solutions of a two-dimensional grade-two fluid model with a tangential boundary condition on non-smooth domains. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 105–109. (Summary) **99g:76003** 76A05 (35Q35, 76D07)

Scott, Leonard L. (*with* Cline, Edward; Parshall, Brian) Graded and non-graded Kazhdan-Lusztig theories. (English summary) *Algebraic groups and Lie groups*, 105–125, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Dieter Happel) **99h:16015** 16E40 (20G05)

— Are all groups finite? *Representation theory of finite groups* (*Columbus, OH*, 1995), 133–148, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (Jeremy Haefner) **99c:20009** 20C33 (20C20)

— Linear and nonlinear group actions, and the Newton Institute program. *Algebraic groups and their representations* (*Cambridge*, 1997), 1–23, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 517, *Kluwer Acad. Publ., Dordrecht*, 1998. (James E. Humphreys) **99k:20029** 20C33 (20C30, 20E28, 20G05, 20G40)

— (*with* Du, Jie; Parshall, Brian) Quantum Weyl reciprocity and tilting modules. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 321–352. (Karin Erdmann) **99k:17026** 17B37 (16S80, 20G05)

— (*with* Du, Jie; Parshall, Brian) Stratifying endomorphism algebras associated to Hecke algebras. (English summary) *J. Algebra* **203** (1998), *no.* 1, 169–210. (Andrew P. Mathas) **99e:20006** 20C05 (16G10, 20F55)

— (*with* Du, Jie; Parshall, Brian) Cells and q-Schur algebras. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 33–49. (Jian Yi Shi) **99a:20041; EA 99m** 20G05 (20B30)

Scott, Lynne C. (*with* Seaton, Katherine A.) q-trinomial coefficients and the dilute A model. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7667–7676. (Summary) **99b:82028** 82B23 (33D90)

Scott, N. H. (*with* Leslie, D. J.) Near incompressibility at uniform temperature or entropy in isotropic thermoelasticity. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 3, 243–275. (Summary) **99e:73017** 73B30 (73D15)

— (*with* Leslie, D. J.) Incompressibility at uniform temperature or entropy in isotropic thermoelasticity. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 191–211. (Summary) **99c:73010** 73B30

— (*with* King, Andrew C.; Needham, D. J.) The effects of weak hyperbolicity on the diffusion of heat. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1659–1679. (Mark A. Peletier) **99j:35013** 35B30 (35B25, 35K10, 35L10)

Scott, Paul R. (*with* Hernández Cifre, M. A.) An isodiametric problem with lattice-point constraints. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 289–294. (Martin Henk) **99d:52013** 52C05

— Planar rectangular sets and Steiner symmetrization. (English summary) *Elem. Math.* **53** (1998), *no.* 1, 36–39. (Z. Nádeník) **99b:52005** 52A10 (51M05)

— (*with* Awyong, Poh Wah; Henk, Martin) Note on lattice-point-free convex bodies. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 7–12. (I. Bárány) **99e:52019** 52C07

— (*with* Awyong, Poh Wah) Circumradius-diameter and width-inradius relations for lattice constrained convex sets. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 147–152. (Summary) **99m:52010** 52A40

Scott, Peter Correction to: "The symmetry of intersection numbers in group theory". *Geom. Topol.* **2** (1998), *Erratum* 1 (*electronic*). (Michael L. Mihalik) **99k:20076b** 20F32 (20E06, 57M07)

— The symmetry of intersection numbers in group theory. (English summary) *Geom. Topol.* **2** (1998), 11–29 (*electronic*). (Michael L. Mihalik) **99k:20076a** 20F32 (20E06, 57M07)

— (*with* Adams, Colin C.; Hass, Joel) Simple closed geodesics in hyperbolic 3-manifolds. *Bull. London Math. Soc.* **31** (1999), *no.* 1, 81–86. (Sadayoshi Kojima) **99h:57031** 57N10 (53C22)

Scott, Philip (*with* Čubrić, Djordje; Dybjer, Peter) Normalization and the Yoneda embedding. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 2, 153–192. (Maria E. Maietti) **99d:03012** 03B40 (03F05, 03G30, 18A15, 18D15)

Scott, Ridgway *see* **Scott, L. Ridgway**

Scott, S. G. (*with* Wojciechowski, K. P.; Morchio, Gianni; Booss, Bernhelm) Determinants, manifolds with boundary and Dirac operators. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 423–432, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Friedbert Prüfer) **99j:58222** 58G26 (58G20)

— (*with* Booss, Bernhelm; Wojciechowski, K. P.) The ζ-determinant and $\mathscr{C}'$-determinant on the Grassmannian in dimension one. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 4, 353–362. (Jürgen Tolksdorf) **99i:58152** 58G26

Scott, Stephen K. (*with* Merkin, John H.; Satnoianu, Razvan A.) Travelling waves in a differential flow reactor with simple autocatalytic kinetics. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 2, 157–174. (Yoram Schiffmann) **99d:92053** 92E20 (35K57)

— (*with* Satnoianu, Razvan A.; Merkin, John H.) Spatio-temporal structures in a differential flow reactor with cubic autocatalator kinetics. (English summary) *Phys. D* **124** (1998), *no.* 4, 345–367. (Vitaly A. Volpert) **99k:76057** 76E15 (80A32, 92E20)

Scott, Stuart D. The structure of Ω-groups. *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 47–137, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Günter Pilz) **99c:08006** 08A40 (08A05, 16Y30)

— Transformation near-rings generated by a unit of order three. (English summary) *Algebra Colloq.* **4** (1997), *no.* 4, 371–392. (David John) **99m:16072** 16Y30

Scotti, Alberto Daniele (*with* Meneveau, Charles) A fractal model for large eddy simulation of turbulent flow. (English summary) *Phys. D* **127** (1999), *no.* 3-4, 198–232. (Summary) **99k:76069** 76F05 (76M25)

Scotti, Antonio A consistency criterion for ergodicity conditions in quantum mechanics. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 297–303, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **99b:82006** 82B03 (82B10)

Scott-Morton, F. M. (*with* Hausman, J. A.; Abrevaya, Jason) Misclassification of the dependent variable in a discrete-response setting. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 239–269. (Summary) **99h:62141** 62P20

Scotto, Roberto (*with* Grossi, R. O.; Canterle, E.) On the existence of weak solutions in the study of beams. *J. Sound Vibration* **212** (1998), *no.* 3, 559–563. (L. P. Lebedev) **99c:73039** 73K05 (34B05, 73K12, 73V25)

— (*with* Forzani, Liliana) The higher order Riesz transform for Gaussian measure need not be of weak type (1, 1). (English summary) *Studia Math.* **131** (1998), *no.* 3, 205–214. (B. S. Rubin) **99h:42034** 42B25 (42C10, 47D03, 60H99)

Scozzafava, Romano (*with* Coletti, Giulianella) Null events and stochastical independence. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika* (*Prague*) **34** (1998), *no.* 1, 69–78. (Angelo Gilio) **99g:60006** 60A05

Scozzari, Francesca (*with* Giacobazzi, Roberto; Ranzato, Francesco) Complete abstract interpretations made constructive. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 366–377, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q55

— (*with* Giacobazzi, Roberto; Ranzato, Francesco) Building complete abstract interpretations in a linear logic-based setting. (English summary) *Static analysis* (*Pisa*, 1998), 215–229, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68Q55 (68N20)

Scrowston, M. (*with* Pulé, Joseph V.) Infinite degeneracy for a Landau Hamiltonian with Poisson impurities. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6304–6314. (Nariyuki Minami) **99b:82058** 82B44 (47N50, 60H25)

Scrucca, Claudio A. (*with* Hussain, Faheem; Iengo, Roberto; Núñez, Carmen A.) Interactions and dynamics of D-branes. (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 413–424, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99g:81166** 81T30

— (*with* Hussain, Faheem; Iengo, Roberto; Núñez, Carmen A.) Closed string radiation from moving D-branes. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 92–124. (Summary) **99a:81141** 81T30

— (*with* Bertolini, Matteo; Iengo, Roberto) Electric and magnetic interaction of dyonic D-branes and odd spin structure. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 193–213. (Summary) **99d:81108** 81T30 (83C57, 83E30)

— (*with* Morales, Jose F.; Serone, Marco) Scale-independent spin effects in D-brane dynamics. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 223–249. (Summary) **99g:81177** 81T30

— (*with* Morales, Jose F.; Serone, Marco) A note on supersymmetric D-brane dynamics. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 233–239. (Summary) **99a:81148** 81T30 (83E30)

— (*with* Bertolini, Matteo; Fré, Pietro; Iengo, Roberto) Black holes as D3-branes on Calabi-Yau threefolds. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 22–30. (Summary) **99e:83051** 83E30 (81T30, 83C57)

Scudellaro, P. (*with* Capozziello, S.; de Ritis, R.; Dymnikova, I.; Rubano, C.) Reconstruction of the state equation and the scalar field potential in inflationary cosmology. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 291–300, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83F05

Scuderi, L. (*with* Criscuolo, Giuliana) Convergence of product quadrature rules with preassigned nodes. (English summary) *Indian J. Math.* **39** (1997), *no.* 1, 75–90. (Francesco Romani) **99c:65046** 65D32 (41A55)

— (*with* Criscuolo, Giuliana) The numerical evaluation of Cauchy principal value integrals with non-standard weight functions. (English summary) *BIT* **38** (1998), *no.* 2, 256–274. (G. A. Evans) **99f:65039** 65D32 (41A55)

— (*with* Monegato, G.) High order methods for weakly singular integral equations with nonsmooth input functions. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1493–1515. (Summary) **99a:65192** 65R20 (45E05, 45L05)

— (*with* Monegato, G.) Approximation of nonsmooth solutions of linear integral equations on bounded intervals. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 101–124. (Javad Abdalkhani) **99m:65250** 65R20 (45L05)

— A collocation method for the generalized airfoil equation for an airfoil with a flap. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1725–1739 (*electronic*). (M. M. Sussman) **99g:65100** 65M70 (65R20, 76B05, 76M25)

Scuflaire, Richard Periodic orbits in analytical planar galactic potentials. (English summary) *Celestial Mech. Dynam. Astronom.* **71** (1998/99), *no.* 3, 203–228. (Summary) **99m:70008** 70F15 (85A05)

Scullen, D. C. (*with* Tuck, E. O.) Tandem submerged cylinders each subject to zero drag. (English summary) *J. Fluid Mech.* **364** (1998), 211–220. (Summary) **99b:76013** 76B15

Scully, Marlan O. Asim Orhan Barut: 1926–1994. Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), *no.* 3, 355–356. (*see* **99h:81002**) 01A70

Scurfield, Brian K. Generalization of the theory of signal detectability to *n*-event *m*-dimensional forced-choice tasks. (English summary) *J. Math. Psych.* **42** (1998), *no.* 1, 5–31. (Maurice Salles) **99h:92046** 92J30 (94A12)

Scurr, Raymond (*with* Olive, Gloria) Stirling numbers revisited. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 209–219. (F. T. Howard) **99d:11019** 11B73

Scutaru, H. Transition probabilities between quasifree states. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6403–6415. (Lech Jakóbczyk) **99j:81081** 81S05 (46L50)

— Fidelity for displaced squeezed thermal states and the oscillator semigroup. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3659–3663. (Summary) **99a:81068** 81R30 (81P99)

Scutellà, Maria Grazia (*with* Cambini, Riccardo; Gallo, Giorgio) Flows on hypergraphs. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 195–217. (Summary) **99g:90153** 90C35 (05C65)

Sczech, Robert Eisenstein cocycles for arithmetic groups and values of zeta functions. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 46–48. (Jürgen Rohlfs) **99a:11061** 11F67 (11F66, 11M41)

Seaborn, James B. ★ Understanding the universe. (English summary) An introduction to physics and astrophysics. *Springer-Verlag, New York*, 1998. xii+304 *pp. ISBN* 0-387-98295-7 (Markku Lehto) **99a:85001** 85–01 (00A79)

Seade, José (*with* Suwa, Tatsuo) An adjunction formula for local complete intersections. *Internat. J. Math.* **9** (1998), *no.* 6, 759–768. (David B. Massey) **99k:32059** 32S20 (32S55)

— (*with* Aguilar, Marcelo A.; Verjovsky, Alberto) Indices of vector fields and topological invariants of real analytic singularities. (English summary) *J. Reine Angew. Math.* **504** (1998), 159–176. (David B. Massey) **99k:32058** 32S20 (32S55)

Seager, Suzanne M. Cyclic niche graphs and grids. (English summary) *Ars Combin.* **49** (1998), 21–32. (Summary) **99c:05086** 05C20

— Partition dominations of graphs of minimum degree 2. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 85–91. (Summary) **99j:05156** 05C70 (03C35)

Seaid, M. (*with* Bermejo, R.) Study and numerical simulations of a nonlinear biochemical system of reaction-diffusion. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 581–586, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99

Seara, Tere (*with* Bonet, Carles; Sauzin, David; València, Marta) Adiabatic invariant of the harmonic oscillator, complex matching and resurgence. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1335–1360 (*electronic*). (Jian Gong You) **99h:34058** 34C15 (34A20, 34E05, 70H05, 70K99)

Searby, Geoffrey (*with* Klein, Rupert; Geratz, Karl Josef; Terhoeven, Peter; Munz, Claus-Dieter; Roller, Sabine; Denet, Bruno) Numerical techniques for multi-scale weakly compressible reactive flows. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 242–259, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99j:76091** 76M25 (76N10, 80–08, 80A25)

ó Searcóid, Mícheál *see* **Ó Searcóid, Mícheál**

Searle, Catherine (*with* Grove, Karsten) Differential topological restrictions curvature and symmetry. *J. Differential Geom.* **47** (1997), *no.* 3, 530–559. (McKenzie Y. Wang) **99h:53043a** 53C21 (53C20, 53C23, 53C30)

— (*with* Grove, Karsten) A correction on: "Differential topological restrictions by curvature and symmetry". *J. Differential Geom.* **49** (1998), *no.* 1, 205. (McKenzie Y. Wang) **99h:53043b** 53C21 (53C20, 53C23, 53C30)

Searles, Debra J. (*with* Evans, Denis J.; Isbister, Dennis J.) The conjugate-pairing rule for non-Hamiltonian systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 337–349. (*see* **99d:58003**) 76M35 (58F40)

— (*with* Isbister, Dennis J.; Evans, Denis J.) Non-equilibrium molecular dynamics integrators using Maple. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 147–162. (Summary) **99a:70005** 70–08 (70–04, 76N15)

Sears, M. (*with* Keynes, H.; Madden, Kathleen M.; Markley, Nelson) An overview of the construction of suspension flows using continuous cocycles. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 133–148, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (From the text) **99k:54034** 54H20

Seaton, Katherine A. (*with* Scott, Lynne C.) q-trinomial coefficients and the dilute A model. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7667–7676. (Summary) **99b:82028** 82B23 (33D90)

— (*with* Batchelor, Murray T.) Excitations in the dilute A_L lattice model: E_6, E_7 and E_8 mass spectra. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 719–725. (Summary) **99h:82022** 82B23

Seatzu, Sebastiano (*with* van der Mee, C. V. M.; Rodriguez, Giuseppe) *LDU* factorization results for bi-infinite and semi-infinite scalar and block Toeplitz matrices. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 307–335 (1998). (Lucas Jódar) **99f:65045** 65F05

— (*with* Goodman, Tim N. T.; Micchelli, Charles A.; Rodriguez, Giuseppe) On the limiting profile arising from orthonormalizing shifts of exponentially decaying functions. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 331–354. (Summary) **99d:15011** 15A23 (41A15, 65D07)

— (*with* Brezinski, Claude; Redivo-Zaglia, M.; Rodriguez, Giuseppe) Extrapolation techniques for ill-conditioned linear systems. (English summary) *Numer. Math.* **81** (1998), *no.* 1, 1–29. (Thomas A. Atchison) **99j:65069** 65F30 (65B05, 65J20)

— (*with* van der Mee, C. V. M.; Rodriguez, Giuseppe) Block Cholesky factorization of infinite matrices and orthonormalization of vectors of functions. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 423–455, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Guo Rong Wang) **99m:65079** 65F25 (15A23)

Šeba, Petr (*with* Stöckmann, Hans-Jürgen) The joint energy distribution function for the Hamiltonian $H = H_0 - iWW^+$ for the one-channel case. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3439–3448. (Summary) **99b:81070** 81Q99 (82B10)

Sebag, Michèle Distance induction in first order logic. (English summary) *Inductive logic programming* (*Prague*, 1997), 264–272, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68T05 (68N17)

— (*with* Rouveirol, Céline; Puget, Jean-François) Induction of constraint logic programs. (English summary) *Learning and reasoning with complex representations* (*Cairns*, 1996), 148–167, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68N17 (68T05, 68T20)

pérez Sebastián, M. A. *see* **Pérez Sebastián, M. A.**

Sebastian, Souriar *see* **Kundu, Sukhamay**

Sebastiani, Fabrizio Information retrieval, imaging and probabilistic logic. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 1, 35–50. (Summary) **99a:68158** 68T27 (03B48)

Sebastiani, Paola (*with* Wynn, Henry P.) Risk based optimal designs. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*,

1998), 247–257, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05 (62C10)
— (*with* Settimi, Raffaella) First-order optimal designs for non-linear models. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 177–192. (William I. Notz) **99k:62139** 62K05
di Sebastiano, Annamaria *see* **Di Sebastiano, Annamaria**
Sebbar, Abdellah Quantized universal enveloping algebras and q-de Rham cocycles. *J. Algebra* **210** (1998), *no.* 2, 630–663. (H. H. Andersen) **99m:17023** 17B37 (17B56)
Sebe, Gabriela Ileana On general Lipschitzian kernels. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 135–138. (Summary) **99j:47046** 47B38 (47A35)
Šebek, Michael (*with* Henrion, Didier) Symmetric matrix polynomial equation: interpolation results. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 811–824. 93B40 (65F30, 93C05)
— (*with* Henrion, Didier) Reliable numerical methods for polynomial matrix triangularization. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 497–508. (Summary) **99m:65098** 65F99 (93B40)
Sebel'din, A. M. Summability of the ring of endomorphisms of vector groups. (Russian. Russian summary) *Algebra i Logika* **37** (1998), *no.* 1, 88–100, 123; *translation in Algebra and Logic* **37** (1998), *no.* 1, 48–55. (Peter Puusemp) **99m:20133** 20K30
— (*with* Lubimcev, O.; Vinsonhaler, C.) Separable torsion-free abelian E^*-groups. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 203–208. (Theodore Faticoni) **99i:20076** 20K30
Seberry, Jennifer (*with* Zhang, Xian-Mo; Zheng, Yuliang) The relationship between propagation characteristics and nonlinearity of cryptographic functions. (English summary) *J.UCS* **1** (1995), *no.* 2, 136–150 (*electronic*). (Summary) **99a:94039** 94A60 (68P25)
— (*with* Arasu, K. T.) On circulant weighing matrices. (English summary) *Australas. J. Combin.* **17** (1998), 21–37. (H. Kharaghani) **99c:05037** 05B20
— (*with* Koukouvinos, Christos; Mitrouli, Marilena) Numerical algorithms for the computation of the Smith normal form of integral matrices. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 127–162. (Summary) **99j:15020** 15A21
— (*with* Gysin, Marc) An experimental search and new combinatorial designs via a generalisation of cyclotomy. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 143–160. (Summary) **99j:05041** 05B20 (05B05, 05B10)
— (*with* Chaudhry, Ghulam-Rasool; Ghodosi, Hossein) Perfect secret sharing schemes from Room squares. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 55–61. (Summary) **99j:94040** 94A60 (05B15)
— (*with* Koukouvinos, Christos; Mitrouli, Marilena) Necessary and sufficient conditions for some two variable orthogonal designs in order 44. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 267–287. (Summary) **99k:05040** 05B15
— Bose's method of differences applied to construct Bhaskar Rao designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 215–224. (Summary) **99i:05049** 05B20
— (*with* Sarvate, Dinesh G.) Group divisible designs, GBRSDS and generalized weighing matrices. (English summary) *Util. Math.* **54** (1998), 157–174. (Summary) **99j:05024** 05B05 (05B20)
— *see also* **Papers in honor of Anne Penfold Street**
zilahi-Sebess, L. *see* **Zilahi-Sebess, L.**
Sebestyén, Z. *see* **Sebestyén, Zoltán**
Sebestyén, Z. F. A constructive method for uniform approximation on two-dimensional interval. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 347–354. (Summary) **99c:65028** 65D15 (41A10)
Sebestyén, Zoltán (*with* Czách, L.; Kolumbán, Iosif) On transported inclusions. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 69–74 (1998). (E. Tarafdar) **99m:47071** 47H15 (47N10)
Sébilleau, Didier On the computation of the integrated products of three spherical harmonics. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7157–7168. (Summary) **99d:65060** 65D20 (33C55)
Sebő, András (*with* Bienia, Wojciech; Goddyn, Luis A.; Gvozdjak, Pavol; Tarsi, Michael) Flows, view obstructions, and the lonely runner. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 1–9. (Prabir Das) **99c:90043** 90B10 (05C99)
— (*with* Waksman, Zeev) Optimal binary trees with order constraints. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 305–311. (Summary) **99k:90189** 90C35 (05C05)
Secada, José D. Numerical evaluation of the Hankel transform. (English summary) *Comput. Phys. Comm.* **116** (1999), *no.* 2-3, 278–294. 65R10
Secchi, Paolo A symmetric positive system with nonuniformly characteristic boundary. (English summary) *Differential Integral Equations* **11** (1998), *no.* 4, 605–621. (Ya. A. Roĭtberg) **99m:35054** 35J55 (35F15, 35L50)
Secchi, Piercesare On the existence of good stationary strategies for nonleavable stochastic games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 61–81. (Costis Melolidakis) **99k:90224** 90D15 (90D60)
Seco, Luis A. (*with* Fefferman, Charles L.) Arithmetic aspects of atomic structures. Mathematical results in quantum mechanics (Ascona, 1996). *Helv. Phys. Acta* **71** (1998), *no.* 1, 1–25. (From the introduction) **99k:81347** 81V45 (11Z05, 81–02)
— (*with* Beals, Richard William; Greiner, Peter C.; Jiang, Yaping) A functional calculus on the Heisenberg group and the boundary layer potential $\Box_+^{-1}$ for the $\overline{\partial}$-Neumann problem. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 205–228. (Jorge Lauret) **99f:22013** 22E30 (22E25, 35P05, 47F05)
Seco, M. (*with* Moreno, Jesus M.; Quirós, M.) Bubbles in the supersymmetric standard model. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 489–500. (Summary) **99f:81225** 81V22
Secord, Norman P. (*with* Esmaeili, Morteza; Gulliver, T. Aaron) Trellis complexity of linear block codes via atomic codewords. (English summary) *Information theory and applications, II* (*Lac Delage, PQ*, 1995), 130–148, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (N. L. Manev) **99b:94060** 94B75 (11H31)
— (*with* Esmaeili, Morteza; Gulliver, T. Aaron; Mahmoud, Samy A.) A link between quasi-cyclic codes and convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 431–435. (Summary) **99a:94050** 94B15
Sedaghat, Hassan General permanence conditions for nonlinear difference equations of higher order. *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 496–510. (Shu Tang Liu) **99a:39030** 39A10 (39A12)
— A class of nonlinear second order difference equations from macroeconomics. *Nonlinear Anal.* **29** (1997), *no.* 5, 593–603. (From the introduction) **99d:90040** 90A70 (39A10)
— Bounded oscillations in the Hicks business cycle model and other delay equations. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 4, 325–341. (Summary) **99g:90035** 90A16 (39A12)
Seddighi, Karim (*with* Sameripour, A.) On the distribution of the eigenvalues of non-selfadjoint elliptic systems of differential operators degenerated on the boundary of domain. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 481–487, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99c:35178** 35P20 (35J25, 47F05)
— (*with* Boĭmatov, K. Kh.) Boundary value problems for systems of ordinary differential equations associated with noncoercive forms. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 295–297. (R. C. Gilbert) **99b:47064** 47E05 (34B05)
— (*with* Boĭmatov, K. Kh.) Some spectral properties of ordinary differential operators generated by noncoercive forms. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 4, 439–442. (R. C. Gilbert) **99b:47065** 47E05 (34L05)
— (*with* Sameripour, A.) Distribution of the eigenvalues of nonselfadjoint elliptic systems that degenerate on the domain boundary. (Russian) *Mat. Zametki* **61** (1997), *no.* 3, 463–467; *translation in Math. Notes* **61** (1997), *no.* 3-4, 379–384. (Günter Berger) **99d:35116** 35P20 (35J55)
Seddougui, S. O. (*with* Owen, D. J.; Otto, S. R.) The nonlinear evolution of centrifugal instabilities in curved, compressible mixing layers. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2080–2090. (Summary) **99d:76040** 76E30 (76D10)
Sedenko, V. I. On the limit behavior of oscillatory motions of shallow shells with low inertia of longitudinal displacements of the materials with internal friction. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 1, 22–35, 93. 73D35 (35Q72, 47H20)
Sederberg, Thomas W. (*with* Cox, David A.; Chen, Fa Lai) The moving line ideal basis of planar rational curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 8, 803–827. (Bert Jüttler) **99h:14056** 14Q05 (65D17, 65Y25)
— (*with* Hong, Mu; Klimaszewski, Krzysztof S.; Kaneda, Kazufumi) Triangulation of branching contours using area minimization. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 389–406. (Summary) **99d:68232** 68U05 (52B70)
— (*with* Wang, Guo Jin[1]) Verifying the implicitization formulae for degree n rational Bézier curves. (English summary) *J. Comput. Math.* **17** (1999), *no.* 1, 33–40. 65D17
Sedghi, S. (*with* Hassani, A.) Movement and separation and quasi-invariant subsets for group action. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 477–479, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 20B99
Šedivý, Ondrej (*with* Grešák, Pavol; Kaštieľ, Matej; Kateřiňák, Josef) A remark to the dimension equation for the intersection and union of two subspaces of an incidence space. (English summary) *Stud. Univ. Žilina Math. Phys. Ser.* **11** (1997), 19–23. 51A05
Sedletskiĭ, A. M. On the factorization and zeros of Fourier transforms of infinitely differentiable functions with compact support. (Russian. English summary) *Anal. Math.* **23** (1997), *no.* 4, 297–315. (Ildar Kh. Musin) **99f:42016** 42A38 (30D20)
— Fourier transform of rapidly decreasing functions. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 3, 187–202; *translation in Izv. Math.* **61** (1997), *no.* 3, 647–662. (Ha Huy Bang) **99e:42007** 42A20 (46E30, 46F10)
— Entire functions of the S. N. Bernstein class that are not Fourier-Stieltjes transforms. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 367–380; *translation in Math. Notes* **61** (1997), *no.* 3-4, 301–312. (Peter Boyadjiev) **99c:30057** 30D15 (30D10)
Sedov, L. I. On the necessity for accounting for the potential energy of systems of masses. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 909–916; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 891–897. (Summary) **99b:83066** 83D05
Sedova, S. M. On a criterion for the stability of a scalar equation with constant delay and a periodic coefficient. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 11, 61–71; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 11, 59–69 (1998). (Klaus Morgenthal) **99i:34109** 34K20
Sedra, Moulay Brahim Explicit derivation of a new hyper-Kähler metric. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 3, 709–722. (Roger Bielawski) **99b:53071** 53C25 (53C80, 81T20, 81T60)
Sedrakian, Armen (*with* Röpke, Gerd) A quantum kinetic equation for Fermi systems including three-body correlations. (English summary) *Ann. Physics* **266** (1998), *no.* 2, 524–550. (Silvia Totaro) **99d:82064** 82C70
Sedrakian, Naïri (*with* Steinig, John) A particular case of Dirichlet's theorem on arithmetic progressions. *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 3–7. (Hiroshi Mikawa) **99g:11108** 11N13 (11A41)
Sedrakyan, A. G. (*with* Avakyan, Avetis K.; Hakobyan, T.) Integrable extensions of Hubbard Hamiltonian. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3207–3222. (Rodolfo Cuerno) **99a:82030** 82B23 (81R50)
Sedykh, Vyacheslav (*with* Shapiro, Boris Z.) On Young hulls of convex curves in $\mathbf{R}^{2n}$. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 168–182. (Summary) **99h:52004** 52A20 (51M25, 52A38)
Sędziwy, Stanisław Nonlinear periodic boundary value problem for a second order ordinary differential equation. *Nonlinear Anal.* **32** (1998), *no.* 7, 881–890. (Jun Yu Wang) **99c:34035** 34B15 (34C25)
See, Kyoungah (*with* Song, Sung Y.) Association schemes of small order. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 225–271. (Sylvia A. Hobart) **99m:05172** 05E30 (20B25)
— On asymptotic tests in three-factor factorial designs with no replications. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 31–50. (Summary) **99m:62117** 62K15 (62H10)

Seebaß, Martin (*with* Beck, Rudolf; Deuflhard, Peter; Hege, Hans-Christian; Stalling, Detlev) Numerical algorithms and visualization in medical treatment planning. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 303–328, *Springer, Berlin*, 1997. (*see* **99g:68212**) 92C50

Séébold, Patrice On the conjugation of standard morphisms. (English summary) Mathematical foundations of computer science (Cracow, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 1, 91–109. (Pascal Weil) **99a:68140** 68R15

Seeger, Alberto Smoothing a polyhedral convex function via cumulant transformation and homogenization. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 3, 259–268. (M. Teboulle) **99b:49019** 49J52 (41A30, 90C25)

— Spectral analysis of set-valued mappings. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 49–63. (Arie Leizarowitz) **99e:47068** 47H04 (47H12, 58C06)

— (*with* Moussaoui, Mohammed) Second-order subgradients of convex integral functionals. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3687–3711. (Adam B. Levy) **99m:49028** 49J52 (28B20)

Seeger, Alfred (*with* Lay, Wolfgang; Slavyanov, Sergei Yu.) Confluence of second-order Fuchsian differential equations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 233–247; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 950–960 (1996). (Andreĭ Bolibrukh) **99b:34012** 34A20

Seeger, Andreas (*with* Wainger, Stephen; Wright, James Robert) Spherical maximal operators on radial functions. (English summary) *Math. Nachr.* **187** (1997), 241–265. (Rodolfo Torres) **99a:42013** 42B25 (46E30)

— (*with* Greenleaf, Allan) Fourier integral operators with cusp singularities. (English summary) *Amer. J. Math.* **120** (1998), *no.* 5, 1077–1119. (Andrew W. Hassell) **99g:58120** 58G15 (35S30, 47G30)

— Radon transforms and finite type conditions. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 4, 869–897. (Luigi Rodino) **99f:58202** 58G15 (35S05, 44A12, 47G10)

— (*with* Wainger, Stephen; Wright, James Robert; Ziesler, Sarah) Classes of singular integrals along curves and surfaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3757–3769. (Stephen Buckley) **99m:42029** 42B20

Seeger, M. (*with* Thies, M.) $(1+1)$-dimensional QCD with static quarks as supersymmetric quantum mechanics. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 027701, 4 *pp.* 81V05 (81Q60)

Seehafer, Norbert (*with* Schmidtmann, Olaf; Feudel, Fred) Nonlinear Galerkin methods based on the concept of determining modes for the magnetohydrodynamic equations. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7141–7155. (Summary) **99g:76114** 76M25 (76W05)

Seel, Michael (*with* Mehlhorn, Kurt; Müller, M.; Näher, Stefan; Schirra, Stefan; Uhrig, Christian; Ziegler, Joachim Rudolf) A computational basis for higher-dimensional computational geometry and applications. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 289–303. (*see* **99b:68003**) 68U05 (52B55)

— (*with* Mehlhorn, Kurt; Näher, Stefan; Seidel, Raimund; Schilz, Thomas; Schirra, Stefan; Uhrig, Christian) Checking geometric programs or verification of geometric structures. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 85–103. (Summary) **99k:68196** 68U05 (52B55, 68Q60)

Seeman, Nadrian C. (*with* Winfree, Erik; Yang, Xiaoping) Universal computation via self-assembly of DNA: some theory and experiments. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 191–213, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68061** 68Q05 (92D20)

Seereeram, Sanjeev (*with* Divelbiss, Adam; Wen, John T.) Kinematic path planning for robots with holonomic and nonholonomic constraints. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 127–150, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99g:70008** 70B15 (70F25, 70Q05, 93C85)

Segador, A. Gallego (*with* Caridad Ocerin, J. M.; Espejo Mohedano, R.) Automatic aggregation of categories in multivariate contingency tables using information theory. (English summary) *Comput. Statist. Data Anal.* **29** (1999), *no.* 3, 285–294. 62H17

Segal, August (*with* Wesseling, Pieter; Kassels, C. G. M.; Bijl, Hester) Computing flows on general two-dimensional nonsmooth staggered grids. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 21–44. (Summary) **99f:76110** 76M25 (76D05)

— (*with* Wesseling, Pieter; Kassels, C. G. M.) Computing flows on general three-dimensional nonsmooth staggered grids. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 333–362. (Summary) **99j:76102** 76M25

Segal, Daniel (*with* Mann, Avinoam) Subgroup growth: some current developments. *Infinite groups* 1994 (*Ravello*), 179–197, *de Gruyter, Berlin*, 1996. (Marcus du Sautoy) **99d:20041** 20E26

— (*with* Ribes, L.; Zalesskiĭ, P. A.) Conjugacy separability and free products of groups with cyclic amalgamation. *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 609–628. (David Meier) **99m:20053** 20E06 (20E18, 20E26)

Segal, Irving Real spinor fields and the electroweak interaction. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 542–558. (Waldyr Alves Rodrigues, Jr.) **99g:81075** 81R25 (15A66, 81V15)

— (*with* Zhou, Zhengfang) Conformal extension of massive wave functions. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 550–570. (Brian C. Hall) **99e:81083** 81R20 (46N50)

— (*with* Vogan, David A., Jr.; Zhou, Zhengfang) Spinor currents as vector particles. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 252–262. (Ivailo M. Mladenov) **99h:81066** 81R05 (20C35, 22E70)

Segal, Jack (*with* Skopenkov, A. B.; Spież, S.) Embeddings of polyhedra in $\mathbf{R}^m$ and the deleted product obstruction. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 335–344. (Paul F. Duvall) **99b:57046** 57Q35 (54C25, 55Q15, 55S15)

Segal, Michael On piercing sets of axis-parallel rectangles and rings. (English summary) *Algorithms—ESA '97* (*Graz*), 430–442, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68U05

— (*with* Katz, Matthew J.; Kedem, Klara) Constrained square-center problems. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 95–106, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05

Segala, Roberto Quiescence, fairness, testing, and the notion of implementation. (English summary) *Inform. and Comput.* **138** (1997), *no.* 2, 194–210. (Summary) **99f:68064** 68Q10 (68Q60)

— (*with* Gawlick, Rainer; Søgaard-Andersen, Jørgen; Lynch, Nancy) Liveness in timed and untimed systems. (English summary) *Inform. and Comput.* **141** (1998), *no.* 2, 119–171. (Julian Padget) **99a:68069** 68Q10 (68Q60)

Segawa, Hitoshi (*with* Ishitani, Hiroshi) On the existence of a conjugacy between weakly multimodal maps. *Tokyo J. Math.* **21** (1998), *no.* 2, 511–521. (Eleonora Catsigeras) **99k:58061** 58F03

Segawa, Shigeo (*with* Masaoka, Hiroaki) Harmonic dimension of covering surfaces and minimal fine neighborhood. *Osaka J. Math.* **34** (1997), *no.* 3, 659–672. (M. Nakai) **99g:30054** 30F25 (31C35)

— (*with* Jin, Naondo; Masaoka, Hiroaki) Kuramochi boundaries of finite sheet unbounded covering surfaces. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 166–171. (*see* **99a:00036**) 31C12 (30F25, 31C35)

— (*with* Masaoka, Hiroaki) Positive harmonic functions on unbounded covering surfaces. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 64–73. (*see* **99i:00018**) 30F15

Segawa, Yoshiyuki (*with* Ohnishi, Masamitsu) Optimality of monotone repair limit replacement policies for repair and replacement problems that take age into account. (Japanese. Japanese summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 76–82. (*see* **99h:90006**) 90B25 (90B05)

Segendorff, Björn Delegation and threat in bargaining. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 2, 266–283. (Summary) **99b:90036** 90A27 (90D12)

Segerberg, Krister Three recipes for revision. Philosophy in Sweden (Umeå, 1995). *Theoria* **62** (1996), *no.* 1-2, 62–73. (David Makinson) **99f:03031** 03B60 (68T27)

— Proposal for a theory of belief revision along the lines of Lindström and Rabinowicz. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 183–191. (David Makinson) **99f:03032** 03B60 (68T27)

Segev, Reuven On symmetrically growing bodies. *Extracta Math.* **12** (1997), *no.* 3, 261–272. (Marek Elżanowski) **99d:73002** 73A05 (58D15, 73B99)

Segev, Yoav Some applications of Wedderburn's factorisation theorem. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 105–110. (Uzi Vishne) **99k:16068** 16U60 (16K20)

Segovia, Carlos (*with* Harboure, Eleonor; Torrea Hernández, José Luis) Boundedness of commutators of fractional and singular integrals for the extreme values of p. *Illinois J. Math.* **41** (1997), *no.* 4, 676–700. (Andreas Seeger) **99j:42025** 42B25 (42B30)

— (*with* De Rosa, Liliana) One-sided Littlewood-Paley theory. (English summary) Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 933–957. (Javier Duoandikoetxea) **99c:42032** 42B25 (42B20)

— (*with* Harboure, Eleonor; Macías, Roberto) An extrapolation theorem for pairs of weights. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 37–48. (María Cristina Pereyra) **99m:42031** 42B25 (47B38)

— (*with* De Rosa, Liliana) Dual spaces for one-sided weighted Hardy spaces. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 49–71. (Charles N. Moore) **99h:42039** 42B30 (42B25)

Segre, Alberto Maria (*with* Sturgill, David) Nagging: a distributed, adversarial search-pruning technique applied to first-order inference. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 3, 347–376. (Neculai Curteanu) **99a:03015** 03B35 (68T20)

Segre, Enrico (*with* Kida, Shigeo) Late states of incompressible 2D decaying vorticity fields. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 2, 89–112. (Summary) **99a:76073** 76F99 (76C05)

Segré, J. (*with* Assous, Franck; Ciarlet, Patrick, Jr.; Raviart, Pierre-Arnaud; Sonnendrücker, Eric) The solution of Maxwell's equations in a non-convex polyhedron. I. Saddle-point approach and singularities. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 364–368, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q60 (65N30, 78–08, 78A25)

Séguin, Gérald E. A lower bound on the error probability for signals in white Gaussian noise. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3168–3175. 94A12

zúñiga-Segundo, A. *see* **Zúñiga-Segundo, A.**

Segur, Harvey (*with* Deconinck, Bernard) The KP equation with quasiperiodic initial data. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 123–152. (Pavel Krejčí) **99m:35203** 35Q53 (14H42, 35B15, 35C05, 58F07)

calderón Segura, Apolinar *see* **Calderón Segura, Apolinar**

negrón Segura, Carlos *see* **Negrón Segura, Carlos**

Segura, Javier (*with* Gil, Amparo) Parabolic cylinder functions of integer and half-integer orders for nonnegative arguments. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 69–86. (Summary) **99h:65035** 65D20

— A global Newton method for the zeros of cylinder functions. (English summary) *Numer. Algorithms* **18** (1998), *no.* 3-4, 259–276. (Summary) **99j:65092** 65H05 (33C10, 65D20)

— (*with* Gil, Amparo) ELF and GNOME: two tiny codes to evaluate the real zeros of the Bessel functions of the first kind for real orders. (English summary) *Comput. Phys. Comm.* **117** (1999), *no.* 3, 250–262. 65H05

Segura de León, Sergio (*with* Andreu, F.; Mazón, J. M.; Toledo, Julián) Entropy solutions for a degenerated parabolic equation. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 151–161, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:35148** 35K65 (35R70)

— Estimates for solutions of non-linear parabolic equations. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 987–996. (Li Shang Jiang) **99a:35145** 35K60 (35B45)

— (*with* Andreu, F.; Mazón, J. M.; Toledo, Julián) Existence and uniqueness for a degenerate parabolic equation with L^1-data. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 285–306. (Ya Zhe Chen) **99c:35125** 35K65 (35K60)

Segura Gomis, S. (*with* Hernández Cifre, M. A.) Some inequalities for planar convex sets containing one lattice point. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 159–166. (Matthieu Fradelizi) **99h:52019** 52C05 (52A10, 52A40)
— (*with* Hernández Cifre, M. A.) Some area-diameter inequalities for two-dimensional lattices. (English summary) *Geom. Dedicata* **72** (1998), *no.* 3, 325–330. (Konrad J. Swanepoel) **99i:52017** 52C05 (52A10, 52A40)
Sehgal, Sudarshan K. (*with* Marciniak, Zbigniew S.) Zassenhaus conjectures for infinite groups. (English summary) *Trends in ring theory* (*Miskolc*, 1996), 99–111, *CMS Conf. Proc.*, 22, *Amer. Math. Soc., Providence, RI*, 1998. (Adalbert Bovdi) **99c:16024** 16S34 (20C07)
— (*with* Neisse, Olaf) Units in integral group rings over Solomon fields. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 3985–3991. (Michael Dokuchaev) **99j:16022** 16U60 (16S34, 20C05)
— (*with* Neisse, Olaf) Gauss units in integral group rings. *J. Algebra* **204** (1998), *no.* 2, 588–596. (Antonio Giambruno) **99e:16040** 16U60 (16S34)
— (*with* Giambruno, Antonio; Valenti, Angela) Symmetric units and group identities. (English summary) *Manuscripta Math.* **96** (1998), *no.* 4, 443–461. (E. Jespers) **99k:16067** 16U60 (16S34, 16W10)
Sehgal, V. K. (*with* Kapur, P. K.; Garg, R. B.; Jha, A. K.) Numerical and transient solutions of K out of N: G systems in discrete time with multiple repair facilities. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 61–76. 60K10 (62N05)
Sehgal, V. M. (*with* Isac, George; Singh, Sankatha Prasad) An alternate version of a variational inequality. *Indian J. Math.* **41** (1999), *no.* 1, 25–31. (Paolo Cubiotti) **99k:49023** 49J40 (47H19, 90C33)
Sei, Alain (*with* Bruno, Oscar P.) A fast high-order solver for problems of scattering by heterogeneous bodies. *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 270–274, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78–08 (78A45)
Seiberg, Nathan (*with* Intriligator, Kenneth) Phases of $N = 1$ supersymmetric gauge theories and electric-magnetic triality. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 270–282, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81237** 81T60 (81T13)
— (*with* Intriligator, Kenneth) Lectures on supersymmetric gauge theories and electric-magnetic duality. (English summary) With discussion. *Effective theories and fundamental interactions* (*Erice*, 1996), 237–280, *Subnucl. Ser.*, 34, *World Sci. Publishing, River Edge, NJ*, 1997. (Giulio Bonelli) **99i:81238** 81T60 (81T13)
— (*with* Witten, Edward) Gauge dynamics and compactification to three dimensions. (English summary) *The mathematical beauty of physics* (*Saclay*, 1996), 333–366, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Daniel N. Kabat) **99b:81247** 81T60 (58D27, 81T13)
— (*with* Aharony, Ofer; Berkooz, Micha; Kachru, Shamit; Silverstein, Eva) Matrix description of interacting theories in six dimensions. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 148–157. (David S. Berman) **99b:81226** 81T60 (81T13, 81T30)
— (*with* Sethi, Savdeep) Comments on Neveu-Schwarz five-branes. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 259–270. (Angel Maria Uranga) **99a:81153** 81T30
— (*with* Aharony, Ofer; Hanany, Amihay; Intriligator, Kenneth; Strassler, Matthew J.) Aspects of $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 67–99. (Gustavo Dotti) **99b:81227** 81T60 (81T13)
— (*with* Intriligator, Kenneth) Lectures on supersymmetric gauge theories and electric-magnetic duality. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 157–183. (Claus Montonen) **99a:81173** 81T60 (81T13)
— (*with* Aharony, Ofer; Berkooz, Micha) Light-cone description of (2, 0) superconformal theories in six dimensions. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 119–153. (Marco Spaans) **99k:81211** 81T30
— *see also* **Álvarez-Gaumé, Luis**, **99f:81190**
Seibert, Gerhard (*with* Regnath, Hanne) Frobenius functors and invariant factors. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1757–1768. (Mark R. Johnson) **99e:13004** 13A35 (13H99)
Seibert, P. (*with* Aguirre Castillo, Luis) Bifurcations from unstable equilibria. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 165–171, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 58F14 (34C23, 54H20)
— (*with* Aguirre Castillo, Luis; Arredondo Ruiz, J. H.; Delgado Fernández, Joaquín) A general reduction principle in the stability theory of nonlinear systems. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 245–255, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99f:54050** 54H15
Seibold, René (*with* Krätzel, Ekkehard) Die Verteilung der k-vollen and l-freien Zahlen. (English summary) [The distribution of k-full and l-free numbers] *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 305–320. (Y.-F. S. Pétermann) **99k:11140** 11N25
— (*with* Krätzel, Ekkehard) Exponentialsummen und unsymmetrische Teilerprobleme. (English summary) [Exponential sums and unsymmetric divisor problems] *Analysis* (*Munich*) **18** (1998), *no.* 2, 201–215. (Y.-F. S. Pétermann) **99b:11109** 11N37 (11L07)
Seid, Yuk Fai (*with* Zou, Jun) Identifying parameters in elliptic systems by finite element methods with multi-level initializing techniques. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 213–228, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99c:65214** 65N30 (35J15, 35R30)
Seidel, David B. (*with* Pasik; Michael F.; Lemke, Raymond W.) A modified perfectly matched layer implementation for use in electromagnetic PIC codes. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 125–132. 78–08
Seidel, Edward Numerical relativity. (English summary) *Proceedings of the* 14*th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 459–467, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83–08
— (*with* Anninos, Peter; Camarda, Karen; Libson, Joseph; Massó, Joan; Suen, Wai-Mo) Finding apparent horizons in dynamic 3D numerical spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024003, 12 *pp.* 83–08 (83C57)
— (*with* Papadopoulos, Philippos; Wild, Lee) Adaptive computation of gravitational waves from black hole interactions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084002, 15 *pp.* 83C35 (83–08, 83C57)
Seidel, Hans-Peter Functional data fitting and fairing with triangular B-splines. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 319–328, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 65D10 (65D07)
— (*with* Hausmann, Barbara; Slopianka, Britta) Exploring plane hyperbolic geometry. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 21–36, *Springer, Berlin*, 1997. (*see* **99g:68212**) 51M10
— (*with* Slusallek, Philipp; Stamminger, Marc) Global illumination computations with hierarchical finite element methods. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 445–460, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65D17
Seidel, P. π_1 of symplectic automorphism groups and invertibles in quantum homology rings. *Geom. Funct. Anal.* **7** (1997), *no.* 6, 1046–1095. (Bernd Siebert) **99b:57068** 57R57 (58D99, 58F05)
Seidel, Raimund (*with* Adamy, Udo) On the exact worst case query complexity of planar point location. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 609–618, *ACM, New York*, 1998. (Summary) **99g:68205** 68U05 (68Q25)
— On the number of triangulations of planar point sets. (English summary) *Combinatorica* **18** (1998), *no.* 2, 297–299. (Summary) **99h:05030** 05C10
— The nature and meaning of perturbations in geometric computing. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 1–17. (Jesús A. de Loera) **99b:68202** 68U05 (52B55)
— (*with* Mehlhorn, Kurt; Näher, Stefan; Seel, Michael; Schilz, Thomas; Schirra, Stefan; Uhrig, Christian) Checking geometric programs or verification of geometric structures. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 85–103. (Summary) **99k:68196** 68U05 (52B55, 68Q60)
— *see also* **ACM Symposium: Computational Geometry**, **99d:68241**
Seidel, Wilfried On asymptotic properties of estimators of moments in mixture models with non-identically distributed observations. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2013–2024. (Shyamal D. Peddada) **99k:62052** 62F12 (62F10)
Seiden, Steven S. Randomized online multi-threaded paging. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 264–275, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68N25
— Randomized online interval scheduling. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 171–177. (Summary) **99h:90057** 90B35
— (*with* Irani, Sandy) Randomized algorithms for metrical task systems. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 163–182. (Summary) **99b:68096** 68Q25
— Unfair problems and randomized algorithms for metrical task systems. (English summary) *Inform. and Comput.* **148** (1999), *no.* 2, 219–240. (Summary) **99m:68092** 68Q25
Seidenfeld, Teddy (*with* Herron, Timothy; Wasserman, Larry) Divisive conditioning: further results on dilation. (English summary) *Philos. Sci.* **64** (1997), *no.* 3, 411–444. (Reinhard Suck) **99g:62007** 62A15 (03B48, 60A99, 62F15)
Seidengart, Jean Kant et les mathématiques. [Kant and mathematics] *Les philosophes et les mathématiques*, 106–124, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)
— Cassirer et les mathématiques. [Cassirer and mathematics] *Les philosophes et les mathématiques*, 227–242, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)
Seidl, H. (*with* Sørensen, M. H.) Constraints to stop deforestation. (English summary) 6th European Symposium on Programming (Linköping, 1996). *Sci. Comput. Programming* **32** (1998), *no.* 1-3, 73–107. (Summary) **99e:68012** 68N15 (68N20)
Seidl, Z. (*with* Chajda, Ivan) An algebraic approach to partial lattices. *Demonstratio Math.* **30** (1997), *no.* 3, 485–494. (Danica Jakubíková-Studenovská) **99h:08007** 08A55
Seidler, Jan (*with* Maslowski, Bohdan) Invariant measures for nonlinear SPDE's: uniqueness and stability. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 153–172. (Ralf Manthey) **99e:60139** 60H15 (35R60, 47D07)
— (*with* Peszat, Szymon) Maximal inequalities and space-time regularity of stochastic convolutions. (English summary) *Math. Bohem.* **123** (1998), *no.* 1, 7–32. (Ralf Manthey) **99e:60140** 60H15
Seidman, Thomas I. (*with* Issard-Roch, Françoise) Well-posedness of a dissolution-growth problem on an unbounded domain. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 183–205. (Summary) **99a:35278** 35R35 (35K35)
— (*with* Kalachev, Leonid V.) A one-dimensional reaction/diffusion system with a fast reaction. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 392–414. (Atsushi Yagi) **99a:35135** 35K57 (34B15, 35J65, 92E20)
pieper-Seier, Irene *see* **Pieper-Seier, Irene**
Seif, Steve (*with* Levi, Inessa) Finite normal semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 69–74. (T. S. Blyth) **99e:20077** 20M20
Seifert, George Asymptotic behavior in a three-component food chain model. *Nonlinear Anal.* **32** (1998), *no.* 6, 749–753. (F. Berezovskaya) **99g:92031** 92D25 (34D05)
— On a van der Pol type equation with delay in damping. *Quart. Appl. Math.* **56** (1998), *no.* 3, 473–477. (D. Bobrowski) **99d:34135** 34K15 (34C28)
Seifert, Jean-Pierre (*with* Rössner, Carsten) On the hardness of approximating shortest integer relations among rational numbers. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 287–297. (Summary) **99i:68066** 68Q25 (68Q15)
Seifert, Joachim Generalized Hermite polynomials obtained by embeddings of the q-Heisenberg algebra. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 403–413, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Alexei Zhedanov) **99b:33044** 33D80 (81R50)
Seiford, Lawrence M. (*with* Zhu, Joe) An acceptance system decision rule with data envelopment analysis. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 4, 329–332. 90C08 (90A05)
— (*with* Zhu, Joe) On piecewise loglinear frontiers and log efficiency measures. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 389–395. 90C08 (90C90)
Seifter, Norbert (*with* Lukács, András) Lattices in graphs with polynomial growth. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 227–236. (Vladimir I. Trofimov)

99f:05092 05C70 (05C25, 05C90)
— (*with* Möller, Rögnvaldur G.) Digraphical regular representations of infinite finitely generated groups. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 597–602. (Raffaele Scapellato) **99i:20007** 20B27 (05C25)
Seifu, Yodit (*with* Reid, N.) Applications of bivariate and univariate local Lyapunov exponents. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 559–579. (Summary) **99c:62263** 62M10 (62–09)
Seifullin, T. R. Homology of the Koszul complex of a system of polynomial equations. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 9, 43–49. (Şerban Bărcănescu) **99m:13030** 13D25
Seigner, Josef A. When may two systems of orthonormal functions be interchanged in vector-valued orthogonal sums? (English summary) *Note Mat.* **16** (1996), *no.* 1, 47–57 (1998). (Summary) **99m:46024** 46B15
— Rademacher variables in connection with complex scalars. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 2, 329–336. (Gilles Godefroy) **99d:46017** 46B20 (43A46, 46E99)
rodríguez Seijo, José M. *see* **Rodríguez Seijo, José M.**
Seikkala, S. (*with* Heikkilä, Seppo; Kumpulainen, M.) Uniqueness and comparison results for implicit differential equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 237–244. (Alberto Cabada) **99c:34002** 34A09 (34A12)
Seila, Andrew F. (*with* Zheng, Shen; Sriram, T. N.) Sequential fixed-width confidence interval for the product of two means. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 119–145. (Rasul A. Khan) **99d:62078** 62L12
— (*with* Zheng, Shen; Sriram, T. N.) Asymptotically risk efficient two stage procedure for estimating the product of $k(\geq 2)$ means. (English summary) *Statist. Decisions* **16** (1998), *no.* 4, 369–387. (Summary) **99m:62119** 62L05 (62C05, 62L12)
Seiler, Erhard (*with* Patrascioiu, Adrian) Super-instantons, perfect actions, finite-size scaling, and the continuum limit. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 5-6, 947–961. (Summary) **99h:81146** 81T27 (81T25)
— (*with* Patrascioiu, Adrian) Nonlinear σ-model, form factors and universality. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 160–164. 81T80 (81T27)
Seiler, Jörg Mellin and Green pseudodifferential operators associated with non-compact edges. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 2, 214–245. (Yu. V. Egorov) **99f:58203** 58G15 (35J99, 35S05, 47G30)
Seiler, Werner M. Numerical integration of constrained Hamiltonian systems using Dirac brackets. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 661–681. (Benedict J. Leimkuhler) **99i:70003** 70–08 (65L05, 70F99, 70H05)
Seip, Kristian (*with* Hedenmalm, Håkan; Lindqvist, Peter) A Hilbert space of Dirichlet series and systems of dilated functions in $L^2(0,1)$. *Duke Math. J.* **86** (1997), *no.* 1, 1–37. (From the introduction) **99i:42033** 42B30 (30H05, 46E20)
— (*with* Lyubarskii, Yurii I.) Sampling and interpolating sequences for multiband-limited functions and exponential bases on disconnected sets. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 597–615. (David F. Walnut) **99f:30007** 30B50 (30E05, 42C30, 94A12)
— (*with* Lyubarskii, Yurii I.) Complete interpolating sequences for Paley-Wiener spaces and Muckenhoupt's (A_p) condition. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 361–376. (A. Bultheel) **99e:42004** 42A15 (30E05, 41A05, 44A15)
— (*with* Lindqvist, Peter) Note on some greatest common divisor matrices. (English summary) *Acta Arith.* **84** (1998), *no.* 2, 149–154. (Håkan Hedenmalm) **99f:11034** 11C20 (11M41)
— Developments from nonharmonic Fourier series. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 713–722 (*electronic*). (Leonid B. Golinskiĭ) **99h:42023** 42B15 (30D20, 46E99)
— (*with* Schuster, Alexander P.) A Carleson-type condition for interpolation in Bergman spaces. (English summary) *J. Reine Angew. Math.* **497** (1998), 223–233. (A. A. Borichev) **99f:46034** 46E15 (30E05, 30H05)
Seipel, Dietmar (*with* Minker, Jack; Ruiz, Carolina) A characterization of the partial stable models for disjunctive deductive databases. (English summary) *Logic programming (Port Washington, NY, 1997)*, 245–259, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68030** 68P15 (68N17)
— Partial evidential stable models for disjunctive deductive databases. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY, 1997)*, 66–84, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99m:68037** 68N17 (68P15)
— *see also* **Proceedings: Workshop on Deductive Databases and Logic Programming, 99g:68052**
Seiranyan, A. P. On maximum conditions for the minimal eigenvalue under several constraints. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 4, 458–461. (Vadim Komkov) **99b:70020** 70J05 (15A18, 73K12, 73K40)
— (*with* Maĭlybaev, A. A.) On singularities of the boundary of the domain of stability. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 632–636; *translation in Dokl. Phys.* **43** (1998), *no.* 4, 248–252. (From the text) **99k:34115** 34D99 (34D10, 58F30)
— (*with* Maĭlybaev, A. A.) Aeroelastic stability of a wing with bracing struts (Keldysh problem). *Fluid Dynam.* **33** (1998), *no.* 1, 124–134; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 1, 151–162 (*Russian. Russian summary*). (Summary) **99d:73070** 73K70 (73H10, 76B05)
Seising, Rudolf ★ Probabilistische Strukturen der Quantenmechanik. (German. German summary) [Probabilistic structures of quantum mechanics] Dissertation, Universität München, Munich, 1995. Europäische Hochschulschriften. Reihe XX. Philosophie [European University Publications. Series XX. Philosophy], 500. *Peter Lang, Frankfurt am Main*, 1996. 350 *pp. ISBN* 3-631-49612-5 (M. J. Mączyński) **99k:81011** 81Pxx (00A30, 46N50, 60A10)
Seitbekova, L. R. (*with* Amandosova, R. S.) Separability of a higher-order differential operator. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 17–26. (Vladimir B. Vasilyev) **99g:47112** 47F05 (35J40)
Seittenranta, Pasi Linear dilatation of quasiconformal maps in space. *Duke Math. J.* **91** (1998), *no.* 1, 1–16. (M. K. Vamanamurthy) **99f:30036** 30C65
Seitz, Gary M. (*with* Testerman, Donna M.) Subgroups of type A_1 containing semiregular unipotent elements. *J. Algebra* **196** (1997), *no.* 2, 595–619. (Martin W. Liebeck) **99b:20082** 20G15 (20E07)
— Abstract homomorphisms of algebraic groups. *J. London Math. Soc.* (2) **56** (1997), *no.* 1, 104–124. (Martin W. Liebeck) **99b:20077** 20G05
— Double cosets in algebraic groups. *Algebraic groups and their representations (Cambridge, 1997)*, 241–257, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 517, *Kluwer Acad. Publ., Dordrecht*, 1998. (Ross Ian Lawther) **99k:20096** 20G15
— Maximal subgroups of finite exceptional groups. (English summary) *Groups and geometries (Siena, 1996)*, 155–161, *Trends Math., Birkhäuser, Basel*, 1998. (Cheng Dong Chen) **99g:20092** 20G40 (20E28)
— (*with* Liebeck, Martin W.) On the subgroup structure of classical groups. *Invent. Math.* **134** (1998), *no.* 2, 427–453. (James E. Humphreys) **99h:20074** 20G15 (20D06, 20G40)
— (*with* Liebeck, Martin W.) On the subgroup structure of exceptional groups of Lie type. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3409–3482. (Peter Fleischmann) **99j:20055** 20G40 (20D05, 20G05)
Seitzer, Jennifer (*with* Schlipf, John) Affordable classes of normal logic programs. (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl, 1997)*, 92–111, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:68036** 68N17
Sekerin, A. B. A support theorem for the complex Radon transform. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 8, 43–45; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 8, 40–42 (1998). (Harold P. Boas) **99b:32026** 32F99 (44A12)
raja Sekhar, G. P. *see* **Raja Sekhar, G. P.**
Sekharan, Chandra N. (*with* Chen, Danny Z.; Lee, Der Tsai; Sridhar, Radhakrishnan) Solving the all-pair shortest path query problem on interval and circular-arc graphs. (English summary) *Networks* **31** (1998), *no.* 4, 249–257. (Summary) **99c:68057** 68P05 (05C85, 68R10, 90C35)
Sekhavat, S. (*with* Laumond, Jean-Paul; Lamiraux, F.) Guidelines in nonholonomic motion planning for mobile robots. *Robot motion planning and control*, 1–53, *Lecture Notes in Control and Inform. Sci.*, 229, *Springer, London*, 1998. (Bert Jüttler) **99a:70009** 70B15 (70F25, 70Q05, 93C85)
Seki, Hirohisa (*with* Inuzuka, Nobuhiro; Itoh, Hidenori) Efficient induction of executable logic programs from examples. (English summary) *Advances in computing science—ASIAN'97 (Kathmandu, 1997)*, 212–224, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68N17 (68T05)
— (*with* Inuzuka, Nobuhiro; Furuzawa, Mitsue; Itoh, Hidenori) Induction of recursive logic programs based on structural analysis of saturations. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3155–3164. (Summary) **99j:68013** 68N17 (68T05)
Seki, Hiroyuki (*with* Ishihara, Yasunori; Ito, Minoru[1]) Type-consistency problems for queries in object-oriented databases. (English summary) *Database theory—ICDT '97 (Delphi)*, 364–378, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68055** 68P15
Seki, Takakazu *see* **Sato, Ken-ichi[1], 99k:01006**
Sekigawa, Hiroshi Zero testing of algebraic numbers by an extended Mahler measure. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 83–91. (From the text) **99f:11095** 11J99
— A treatment of algebraic numbers using p-adic approximations. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 183–189. (*see* **99h:00034**) 11J61
— (*with* Hiyoshi, Hisamoto) Deciding the sign of an algebraic number by a floating point calculation. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 190–197. (*see* **99h:00034**) 11R04
— (*with* Koyama, Kenji) Nonexistence conditions of a solution for the congruence $x_1^k + \cdots + x_s^k \equiv N \pmod{p^n}$. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1283–1297. (Hemar Godinho) **99i:11024** 11D79 (11D88, 11P05)
Sekigawa, Kouei (*with* Oguro, Takashi) Goldberg's conjecture and the related topics. *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv, 1994)*, 148–154, *Sci. Cult. Technol. Publ., Singapore*, 1995. (David Blair) **99h:53062** 53C25 (53C55, 53C56)
— (*with* Oguro, Takashi) Four-dimensional almost Kähler Einstein and $*$-Einstein manifolds. (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 91–112. (Manuel de León) **99b:53069** 53C25
— (*with* Hashimoto, Hideya; Mashimo, Katsuya) 4-dimensional CR submanifolds in the 6-dimensional sphere. (Japanese. Japanese summary) Geometry of homogeneous spaces and submanifolds (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1044 (1998), 4–12. (*see* **99i:53001**) 53C40 (53C15)
— (*with* Cho, Jong Taek) Six-dimensional quasi-Kähler manifolds of constant sectional curvature. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 3, 611–627. (Luis M. Hervella) **99m:53052** 53C15
Sekiguchi, Jiro (*with* Takayama, Nobuki) Compactifications of the configuration space of six points of the projective plane and fundamental solutions of the hypergeometric system of type (3, 6). (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 3, 379–413. (Bruce Hunt) **99b:14057** 14M25 (14E05, 14N05, 33C70)
Sekiguchi, Koji On presheaves associated to modules. *Tokyo J. Math.* **21** (1998), *no.* 1, 49–59. (Liam O'Carroll) **99d:13015** 13C99 (13F05, 13F30)
Sekiguchi, Takeshi (*with* Okada, Tatsuya; Shiota, Yasunobu) Multifractal spectrum of multinomial measures. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 7, 123–125. (Lars Olsen) **99c:28027** 28A80 (30B50, 42A75)
Sekiguchi, Tsutomu (*with* Suwa, Noriyuki) Examples of deformations of algebraic groups and formal algebraic groups. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 44–57. (M. Miyanishi) **99m:14087** 14L15 (20G10)
Sekimura, Toshio (*with* Enomoto, Yoshihisa) On the shape problems of vesicles of lipid bilayers. (English summary) *Forma* **12** (1997), *no.* 1, 1–14. (H. W. Vayo) **99e:92009** 92C10 (73P20, 76Z99, 92C40)
Sekine, Tadayuki (*with* Owa, Shigeyoshi) New problems of coefficient inequalities. (English summary) New developments in convolution (Japanese) (Kyoto, 1997).

Sūrikaisekikenkyūsho Kōkyūroku No. 1012 (1997), 164–177. (Summary) **99c:30036** 30C50

Sekine, Tatsuo (*with* Mizuta, Hideyuki; Tezuka, Shu) Acceleration of low-discrepancy sequences. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 84–91. (*see* **99i:00028**) 90A09

Sekitani, Kazuyuki (*with* Sueyoshi, Toshiyuki) Mathematical properties of least absolute value estimation with serial correlation. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 75–92. 62M10 (90C15)

— (*with* Yamaki, Naokazu) Large-scale AHP with incomplete data. (Japanese. Japanese summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 143–154. (*see* **99h:90006**) 93A13 (65F30)

Sekiya, Yuri (*with* Taneichi, Nobuhiro; Imai, Hideyuki) A power approximation of the test of homogeneity for multinomial populations based on a normalizing transformation. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1677–1691. 62G10

Sekizawa, Masami (*with* Kowalski, Oldřich) Pseudo-symmetric spaces of constant type in dimension three—elliptic spaces. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 477–512. (Eric Boeckx) **99a:53032** 53C20 (53C21)

— (*with* Kowalski, Oldřich) Pseudo-symmetric spaces of constant type in dimension three—non-elliptic spaces. (English summary) *Bull. Tokyo Gakugei Univ.* (4) **50** (1998), 1–28. (Eric Boeckx) **99j:53040** 53C20 (53C21)

Sekoyan, A. Kh. (*with* Ter-Krikorov, A. M.) Internal waves induced by potential vortices. *Fluid Dynam.* **33** (1998), *no.* 1, 96–101; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 1, 118–123 (*Russian. Russian summary*). (Summary) **99c:76023** 76C10 (76V05)

Šekutkovski, Nikita (*with* Vasilevska, Violeta) Two approaches to proper shape theory. (English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 51–66. (Summary) **99j:54021** 54C56

— The space of ends of a complement. *Math. Montisnigri* **9** (1998), 93–97. 54D99 (57N99)

Sela, Aner (*with* Schlag, Karl H.) You play (an action) only once. (English summary) *Econom. Lett.* **59** (1998), *no.* 3, 299–303. (Summary) **99d:90145** 90D06

— (*with* Hon-Snir, Shlomit; Monderer, Dov) A learning approach to auctions. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 65–88. (Milan Mareš) **99m:90054** 90A60

Sela, N. (*with* Goldhirsch, Isaac) Hydrodynamic equations for rapid flows of smooth inelastic spheres, to Burnett order. (English summary) *J. Fluid Mech.* **361** (1998), 41–74. (Summary) **99b:76078** 76P05 (76A99, 76D99, 82C40)

Sela, Z. Endomorphisms of hyperbolic groups. I. The Hopf property. (English summary) *Topology* **38** (1999), *no.* 2, 301–321. (Panagiotis Papasoglu) **99m:20081** 20F32 (20E08, 57M07)

Şelaru, Dan (*with* Cucu-Dumitrescu, Cătălin) A multi-angle averaging theorem applied to the J_2 problem. (English summary) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 3, 255–270. (Summary) **99e:70066** 70M20

— (*with* Diacu, Florin) Chaos in the Gyldén problem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6537–6546. (Carles Simó) **99i:70013** 70F05 (58F13, 58F30, 70K50)

Selberg, Sigmund (*with* Klainerman, Sergiu) Remark on the optimal regularity for equations of wave maps type. *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 901–918. (Vladimir Tulovsky) **99c:35163** 35L70 (58G16)

Selbuz, Hasan (*with* Eldem, Vasfi; Özbay, Hitay; Özçaldiran, Kadri) Partial disturbance rejection with internal stability and H_∞ norm bound. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 180–192 (*electronic*). (Summary) **99a:93085** 93D15 (93B36)

Seleacu, Vasile (*with* Dumitrescu, Constantin A.) The equations $m \cdot S(m) = n \cdot S(n)$ and $m \cdot S(n) = n \cdot S(m)$ have infinitely many solutions. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 115–121, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11D99

— (*with* Bălăcenoiu, Ion) Properties of the triplets p^*. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 141–144, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A99

— On a characterization of the uniform repartition. *Smarandache Notions J.* **9** (1998), *no.* 1-2, 134–136. 60E05

— *see also* **Proceedings: Conference on Smarandache Type Notions in Number Theory, 99a:11002**

Selesnick, S. A. ★ Quanta, logic and spacetime. Variations on Finkelstein's quantum relativity. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xvi+266 pp. ISBN* 981-02-3255-1 (S. Gudder) **99c:81017** 81P10 (81R50, 81V22, 83C45)

Seleznev, O. V. (*with* Demetrovics, János; Katona, Gyula O. H.; Miklós, D.; Thalheim, Bernhard) The average length of keys and functional dependencies in (random) databases. (English summary) *Database theory—ICDT'95* (*Prague*), 266–279, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— (*with* Demetrovics, János; Katona, Gyula O. H.; Miklós, D.; Thalheim, Bernhard) Functional dependencies in random databases. *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 127–140. (Lawrence V. Saxton) **99m:68041** 68P15 (15A52)

— (*with* Demetrovics, János; Katona, Gyula O. H.; Miklós, D.; Thalheim, Bernhard) Asymptotic properties of keys and functional dependencies in random databases. (English summary) Database theory (Prague, 1995). *Theoret. Comput. Sci.* **190** (1998), *no.* 2, 151–166. (Summary) **99d:68063** 68P15

Seleznev, V. A. Quasiconformal isotopies. (Russian) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 184–185, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (*see* **99a:00019**) 30C65

Selezneva, S. N. On the complexity of recognizing the completeness of sets of Boolean functions realized by Zhegalkin polynomials. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 24–31; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 565–572. (Summary) **99c:68132** 68Q25 (06E30, 94C10)

Seleznjev, O. *see* **Seleznev, O. V.**

Selezov, I. T. (*with* Avramenko, O. V.) Nonlinear wave propagation in a fluid layer based on a semi-infinite fluid. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 61–66. 76B15

— (*with* Kalyukh, Yu. I.) A method for wave decomposition in computations for nonlinear dynamical three-dimensional towing systems. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2492–2496. (Summary) **99g:76110** 76M25 (73K70)

Selfridge, J. L. *see* **Guy, Richard K., (99k:11005)**

Selgrade, James F. Using stocking or harvesting to reverse period-doubling bifurcations in discrete population models. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 2, 163–183. (Summary) **99e:92029** 92D25

Selhofer, Hubert (*with* Hochbruck, Marlis; Lubich, Christian) Exponential integrators for large systems of differential equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1552–1574 (*electronic*). (Xin Yuan Wu) **99f:65101** 65L05

Selick, Paul S. Space exponents for loop spaces of spheres. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 279–283, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Donald M. Davis) **99b:55013** 55P35 (55Q40)

— (*with* Repka, Joe) On the subalgebra of $H_*((\mathbb{R}P^\infty)^*; F_2)$ annihilated by Steenrod operations. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 273–288. (Jin Kun Lin) **99d:55012** 55S10

— *see also* **Stable and unstable homotopy, 99a:55001**

Selig, Kathi (*with* Prestin, Jürgen) Interpolatory and orthonormal trigonometric wavelets. (English summary) *Signal and image representation in combined spaces*, 201–255, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Gerlind Plonka) **99f:42005** 42A10 (41A05, 42C15, 94A12)

fuchs-Seliger, Susanne *see* **Fuchs-Seliger, Susanne**

Seligman, George B. A characterization of some simple Lie algebras in prime characteristic. (English summary) *Modular interfaces* (*Riverside, CA*, 1995), 109–125, *AMS/IP Stud. Adv. Math.*, 4, *Amer. Math. Soc., Providence, RI*, 1997. (Georgia M. Benkart) **99e:17030** 17B50

Seligman, Jerry (*with* Barwise, K. Jon) ★ Information flow. (English summary) The logic of distributed systems. Cambridge Tracts in Theoretical Computer Science, 44. *Cambridge University Press, Cambridge*, 1997. xvi+274 *pp. ISBN* 0-521-58386-1 (R. Gylys) **99b:03003** 03-02 (03A05, 03B60, 03B65, 03B70, 03G12, 68S05, 68T30)

Selipsky, Stephen B. (*with* Appelquist, Thomas; Nyffeler, Andreas) Analyzing chiral symmetry breaking in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 300–308. (Summary) **99b:81229** 81T60 (81R40, 81T13, 81V05)

Selivanov, B. I. (*with* Chistyakov, V. P.) A sequential χ^2-test constructed from s-chains of states of a Markov chain. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 127–136. (Summary) **99c:62223** 62L10 (62M02)

Selivanov, K. G. SD perturbiner in Yang-Mills + gravity. (English summary) *Phys. Lett. B* **420** (1998), *no.* 3-4, 274–278. (Summary) **99e:81154** 81T13 (83C99)

— (*with* Roslyĭ, A. A.) Form factors in sin(h)-Gordon theory. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 334–338. (Marco Moriconi) **99k:81178** 81T10 (81T40)

Selivanov, V. L. Fine hierarchy of regular ω-languages. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 37–59. (Hideki Yamasaki) **99f:68126** 68Q45 (03D05, 03E15, 68Q68)

Selivanov, Yurīĭ V. Homological dimensions of tensor products of Banach algebras. (English summary) *Banach algebras'97* (*Blaubeuren*), 441–459, *de Gruyter, Berlin*, 1998. (Niels Grønbæk) **99m:46171** 46M20 (46H20, 46M05)

— (*with* Ghahramani, Fereidoun) The global dimension theorem for weighted convolution algebras. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 393–406. (Niels Grønbæk) **99h:46096** 46J05 (18G20, 43A20, 46M20)

Selivanova, E. N. (*with* Stēpin, A. M.) On the dynamic properties of geodesic flows of Liouville metrics on a two-dimensional torus. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 158–175. (Nikolai Chernov) **99f:58160** 58F17

Sel'kin, M. V. (*with* Monakhov, V. S.) On the structure of normal subgroups of finite groups. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 96–100, 104, "*Universitet-skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20E07

— On $\mathfrak{X}$-abnormality and $\mathfrak{X}$-centrality for Schunk classes. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 25–32, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20D10

— (*with* Kamornikov, S. F.) On a property of $\mathfrak{F}$-attainable subgroups. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 71–90, *Gomel. Gos. Univ., Gomel'*, 1996. (Alexander N. Skiba) **99h:20028** 20D10

— (*with* Sidorov, Aleksandr Vladimirovich) Some generalizations of the Frattini subgroup. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 138–143, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20005**) 20D25

— (*with* Skiba, A. N.; Monakhov, V. S.; Kamornikov, S. F.) Leonid Aleksandrovich Shemetkov (on the occasion of his sixtieth birthday). (Russian) *Problems in algebra, No.* 11 (*Russian*), 3–5, *Gomel. Gos. Univ., Gomel'*, 1997. (*see* **99g:20007**) 01A70

— (*with* Sidorov, Aleksandr Vladimirovich) On intersections of maximal subgroups of finite groups. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 62–64, 141. 20D99

Sel'kin, V. M. Characterization of a class of local formations. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 139–145, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20D10

— On critical formations. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 176–192, *Gomel. Gos. Univ., Gomel'*, 1996. (From the text) **99h:20034** 20D10

— (*with* Skiba, A. N.) On hereditary critical formations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1145–1153, *iii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 1009–1015. (Ī. Ya. Subbotin) **99e:20024** 20D10

Selkow, Stanley M. (*with* Atkins, Aron C.; Sárközy, Gábor N.) Counting irregular multigraphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 235–237. (Summary) **99h:05059** 05C30

Sell, George R. (*with* Pliss, Viktor Aleksandrovich) Some properties of weakly hyperbolic invariant sets. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 672–677, 719; *translation in Differential Equations* **33** (1997), *no.* 5, 675–680 (1998). (Mark J. Friedman) **99d:58131** 58F15 (34C30, 34D10, 58F30)

— (*with* Shen, Wen Xian; Yi, Yingfei) Topological dynamics and differential equations. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 279–297, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Rafael Obaya García) **99a:34128** 34C27 (34C28, 54H20)

— (*with* Pliss, Viktor Aleksandrovich) Approximation dynamics and the stability of invariant sets. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 1–51.

(Carlos A. Morales) **99i:58120** 58F15 (34A45, 34C30, 34C35, 34D35)

Sellami, Hichem A homotopy continuation method for solving normal equations. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 317–337. (Giorgio Giorgi) **99f:90152** 90C33 (65H20, 90C31)

Selleri, Franco Local propensities and quantum theory. *Fundamental problems in quantum theory (Baltimore, MD, 1994)*, 798–811, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (Emilio Santos) **99d:81009** 81P05

Sellers, Shaun (*with* Cermelli, Paolo) On the nonlinear mechanics of Bravais crystals with continuous distributions of defects. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 3, 331–358. (Summary) **99e:73006** 73B05 (73C50, 73S10)

Sellie, Linda (*with* Freund, Yoav; Kearns, Michael; Ron, Dana; Rubinfeld, Ronitt; Schapire, Robert E.) Efficient learning of typical finite automata from random walks. (English summary) *Inform. and Comput.* **138** (1997), *no.* 1, 23–48. (Rani Siromoney) **99f:68118** 68Q45 (68T05)

Sellke, Tom (*with* Lalley, Steven P.) Limit set of a weakly supercritical contact process on a homogeneous tree. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 644–657. (T. M. Liggett) **99f:60170** 60K35

Selman, Alan L. (*with* Naik, Ashish V.; Rogers, John D.; Royer, James S.) A hierarchy based on output multiplicity. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 131–157. (Marius Zimand) **99m:68064** 68Q15

— *see also* **Complexity theory retrospective**, **99a:68078** *and* **IEEE Conference: Computational Complexity**, **99g:68002**

Selmane, Schehrazad Non-primitive number fields of degree eight and of signature (2, 3), (4, 2) and (6, 1) with small discriminant. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 333–344. (Michel Olivier) **99c:11160** 11Y40 (11R29)

Selmi, A. (*with* Harrabi, A.; Rebhi, S.) Solutions of superlinear elliptic equations and their Morse indices. I, II. *Duke Math. J.* **94** (1998), *no.* 1, 141–157, 159–179. (Vitaly B. Moroz) **99i:35037** 35J60 (58E05)

Selmi, Mohamed Critères de comparaison des noyaux de Green sur certains domaines de $\mathbf{R}^2$. [Criteria for comparing Green kernels in certain domains in $\mathbf{R}^2$] *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 319–337. (Alexander I. Kheyfits) **99j:31004** 31A99 (35J10)

Selten, Reinhard Multistage game models and delay supergames. (English summary) *Theory and Decision* **44** (1998), *no.* 1, 1–36. (Victor J. Baston) **99c:90170** 90D20 (90D06)

Selvadurai, A. P. S. (*with* Spencer, A. J. M.) Some generalized anti-plane strain problems for an inhomogeneous elastic halfspace. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 4, 403–416. (Ohtsuka Kohji) **99k:73039** 73C02 (73B27)

Selvaggi Primicerio, A. *see* **Primicerio, Angela Selvaggi**

Selvaraj, Chikkanna (*with* Selvaraj, Suguna) Matrix transformations based on Dirichlet convolution. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 498–508. (T. Šalát) **99c:40005** 40C05 (11A25)

Selvaraj, Suguna (*with* Selvaraj, Chikkanna) Matrix transformations based on Dirichlet convolution. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 498–508. (T. Šalát) **99c:40005** 40C05 (11A25)

Selva Soto, Mónica (*with* Vilariño Ayala, Darnes) Two methods for the solution of the mixed binary problem: a comparison of their computational efficiency. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 41–46. 90C09 (90C27)

Selwood, P. M. (*with* Berzins, M.; Nash, J. M.; Dew, P. M.) Portable parallel adaptation of unstructured 3D meshes. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 56–67, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65N55, 65Y05)

Selyaninov, M. Yu. (*with* Kolyada, A. A.; Revinskiĭ, V. V.; Chernyavskiĭ, A. F.) Minimally redundant polynomial-scalar modular number systems. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 103–106, 143. 68M07

Selz, Karen A. (*with* Mandell, Arnold J.) Is the EEG a strange attractor? Brain stem neuronal discharge patterns and electroencephalographic rhythms. *The impact of chaos on science and society (Tokyo, 1991)*, 64–96, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92C05 (58F13, 58F40)

Semaev, Igor A. A generalization of the number field sieve. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 45–63, *VSP, Utrecht*, 1997. (G. Greaves) **99j:11146** 11Y05 (11N36)

— An algorithm for evaluation of discrete logarithms in some nonprime finite fields. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1679–1689. (Bernard J. M. Smeets) **99b:11140** 11Y16 (11T71, 94A60)

Semanišin, Gabriel (*with* Borowiecki, Mieczysław; Broere, Izak; Frick, Marietjie; Mihók, Peter) A survey of hereditary properties of graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 5–50. (Vadim E. Zverovich) **99d:05029** 05C15 (05C35, 05C75)

— (*with* Broere, Izak; Frick, Marietjie) Maximal graphs with respect to hereditary properties. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 51–66. (Vadim E. Zverovich) **99e:05072** 05C35 (05C15, 05C75)

— On some variations of extremal graph problems. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 67–76. (Ioan Tomescu) **99g:05114** 05C35

— (*with* Kratochvíl, Jan; Mihók, Peter) Graphs maximal with respect to hom-properties. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 77–88. (I. Broere) **99k:05092** 05C35

— (*with* Filáková, Z.; Mihók, Peter) A note on maximal k-degenerate graphs. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 489–498. (J. Mitchem) **99m:05133** 05C75

Semba, Ichiro (*with* Mikawa, Kenji) A high-speed method for generating parenthesis strings by at most two transpositions. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 235–240. (*see* **99i:65003**) 68R05

Seme, David (*with* Lecroq, Thierry; Myoupo, Jean Frédéric) A one-phase parallel algorithm for the sequence alignment problem. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 4, 515–526. (Summary) **99m:65258** 65Y05

Semenchuk, V. N. A characterization of $\check{S}$-formations. (Russian. English summary) *Problems in algebra, No. 7 (Russian)*, 103–107, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10

— On totally local formations. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 24–30, 103, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D10

— On solvable totally local formations. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 116–121, *Gomel. Gos. Univ., Gomel'*, 1997. (*see* **99g:20007**) 20D10

— (*with* Polyakov, L. Ya.) Characterization of minimal non-$\mathfrak{F}$-groups. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 60–63; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 4, 58–61. (Ī. Ya. Subbotin) **99f:20028** 20D10 (20F17)

Semendyaev, K. A. (*with* Bronshteĭn, I. N.) ★ Matematyka. (Polish. Polish summary) [Mathematics] Poradnik encyklopedyczny. [An encyclopedic handbook] Fourteenth edition. Translated from the Russian and the German by Stefan Czarnecki and Robert Bartoszyński. *Wydawnictwo Naukowe PWN, Warsaw*, 1997. 856 *pp. ISBN* 83-01-11658-7 (Editors) **99g:00016** 00A20

Semeniuk-Polkowska, Maria (*with* Polkowski, Lech T.) Approximate reasoning about natural language: a certain distributional-mereological model. (English summary) *Mathematical and computational analysis of natural language (Tarragona, 1996)*, 239–252, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68T27 (03B65, 68S05)

Semënkin, Evgeniĭ (*with* Antamoshkin, A. N.) Local search efficiency when optimizing unimodal pseudo-Boolean functions. (English and Lithuanian summaries) *Informatica (Vilnius)* **9** (1998), *no.* 3, 279–296. (Klaus Hofstedt) **99k:90105** 90C09

Semenko, E. V. Gakhov expansion of pseudodifferential operators with a degenerate symbol. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1362–1373, *iv*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1184–1195. (Georgi E. Karadzhov) **99c:58153** 58G15 (35S05, 47G30)

Semenkova, E. A. (*with* Gorokhovik, V. V.) Step-linear functions in finite-dimensional vector spaces. Definition, properties and their relation to half-spaces. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 5, 10–14, 122. (Summary) **99j:90111** 90C48 (15A03, 90C29)

Semenoff, Gordon One-dimensional non-abelian Coulomb gas at large N. *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 570–575, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81V05 (82B21)

— (*with* Gattringer, Christof; Jaimungal, Sebastian) Topology and duality in abelian lattice theories. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 282–290. (Summary) **99b:81165** 81T25

— (*with* Ambjørn, Jan; Makeenko, Yu. M.) Thermodynamics of D0-branes in Matrix theory. (English summary) *Phys. Lett. B* **445** (1999), *no.* 3-4, 307–315. (Summary) **99k:81212** 81T30

— *see also* **Particles and fields**, **99h:81004**

Semenov, Aleksei L'vovich (*with* Muchnik, An. A.; Uspenskiĭ, V. A.) Mathematical metaphysics of randomness. (English summary) *Theoret. Comput. Sci.* **207** (1998), *no.* 2, 263–317. (Cristian Calude) **99h:68091** 68Q30 (60A05)

Semenov, Alex (*with* Vogler, Walter; Yakovlev, Alexandre V.) Unfolding and finite prefix for nets with read arcs. (English summary) *CONCUR'98: concurrency theory (Nice)*, 501–516, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q90 (68Q10)

Semenov, Alexei L. *see* **Semenov, Aleksei L'vovich**

Semënov, È. I. (*with* Rudykh, G. A.) New exact solutions of the one-dimensional nonlinear diffusion equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1130–1139, iv; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 978–987. (Qing Yi Chen) **99a:35021** 35C05 (35K55)

— (*with* Rudykh, G. A.) Exact nonnegative solutions of the multidimensional nonlinear diffusion equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1131–1140, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 977–985. (Qing Yi Chen) **99h:35095** 35K55 (35C05)

— (*with* Rudykh, G. A.) On new exact solutions of the one-dimensional nonlinear diffusion equation with a source (sink). (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 971–977; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 930–936. (Summary) **99e:35102** 35K55 (35C05)

Semenov, E. M. (*with* Franchetti, Carlo) Geometric properties, associated with the Jung constant, of rearrangement-invariant spaces. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 5, 184–209. (Alexander Mekler) **99k:46048** 46E30 (46B20)

— (*with* Hernández, Francisco L.) Disjunctive systems and complemented subspaces of rearrangement-invariant spaces. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 312–314. (Yu. A. Abramovich) **99h:46046** 46E30 (46B42)

— (*with* Dodds, P. G.; de Pagter, B.; Sukochev, F. A.) Symmetric functionals and singular traces. (English summary) *Positivity* **2** (1998), *no.* 1, 47–75. (Christian Le Merdy) **99m:46072** 46E30 (46L50)

Semenov, K. V. On the geometry of a third-order evolution equation. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 67–74; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 6, 62–68. (J. Chrastina) **99j:35010** 35A30 (58G35)

Semenov, Pavel V. (*with* Repovš, Dušan D.) A selection theorem for mappings with nonconvex nondecomposable values in L_p-spaces. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 407–412 (1997). (A. Nowak) **99a:54012** 54C65 (26E25, 52A30)

— The structure of the fixed-point set of paraconvex-valued contraction mappings. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 188–192. (Yu. B. Zelins'kiĭ) **99f:54060** 54H25 (54C60)

— (*with* Repovš, Dušan D.; Shchepin, E. V.) On exact Milyutin mappings. (English summary) *Topology Appl.* **81** (1997), *no.* 3, 197–205. (M. van de Vel) **99f:54022** 54C60 (54C65, 55R10)

— Fixed-point theorems with controllable rejection of the convexity of the values of a multivalued mapping. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 3, 141–160; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 461–480. (Jarosław Górnicki) **99e:47080** 47H10 (47H04)

— (*with* Repovš, Dušan D.; Shchepin, E. V.) Approximation of upper semicontinuous maps on paracompact spaces. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1089–1101. (L. Górniewicz) **99j:54022** 54C60 (47H04, 54C65, 65J99)

Semënov, V. E. (*with* Erukhimov, V. L.) Dynamo-optical effects and hidden anisotropy of a medium. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 7, 849–865; *translation in Radiophys. and Quantum Electronics* **41** (1998), *no.* 7, 571–582 (1999). (Summary) **99f:78007** 78A25

Semenov, Yu. A. (*with* Liskevich, Vitali) Two-sided estimates of the heat kernel of the Schrödinger operator. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 6, 596–602. (El Maati Ouhabaz) **99g:35028** 35J10 (47D06, 47F05, 58G11)

Semenov, Yu. S. (*with* Kuz′min, Yu. V.) On the homology of a free nilpotent group of class 2. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 4, 49–82; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 527–560. (Phạm Anh Minh) **99e:20065** 20J05 (20D15)

Semenov, Yuli *see* **Semenov, Yu. A.**

Semenovich, A. *see* **Lerman, L. M., 99b:58115**

Semenov-Tyan-Shanskiĭ, M. A. Quantum and classical integrable systems. (English summary) *Integrability of nonlinear systems* (*Pondicherry*, 1996), 314–377, *Lecture Notes in Phys.*, 495, *Springer, Berlin*, 1997. (Carlo Morosi) **99f:58106** 58F07 (81R50)

Semenzato, Luigi (*with* Deshpande, Akash; Göllü, Aleks) The SHIFT programming language for dynamic networks of hybrid automata. Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 584–587. (*see* **99a:93006**) 93C83 (93–04)

Semerák, O. Circular orbits in stationary axisymmetric spacetimes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1203–1215. (W. B. Bonnor) **99e:83007** 83C10

Semet, Frédéric (*with* Gendreau, Michel; Laporte, Gilbert) The covering tour problem. (English summary) *Oper. Res.* **45** (1997), *no.* 4, 568–576. (Rainer Burkard) **99j:90104** 90C35 (90C10, 90C27)

— (*with* Gendreau, Michel; Laporte, Gilbert) A branch-and-cut algorithm for the undirected selective traveling salesman problem. (English summary) *Networks* **32** (1998), *no.* 4, 263–273. (P. F. Körner) **99j:90064** 90C27 (90B10, 90C35)

Semigrodskikh, A. P. (*with* Sukhanov, E. V.) On closed classes of polynomials over finite fields. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 50–62; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 593–606. (Vladimir S. Anashin) **99f:11156** 11T06

Semijopuva, Vera (*with* Bessi, Ugo) Minimal orbits close to periodic frequencies. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 4, 516–547. (Vittorio Coti Zelati) **99k:58063** 58F05 (34C37, 70H05)

Semikhatov, A. M. The non-critical $N = 2$ string is an sl(2|1) theory. (English summary) *Nuclear Phys. B* **478** (1996), *no.* 1-2, 209–234. (From the introduction) **99c:81210** 81T30

— The non-critical $N = 2$ string as a representation of the affine sl(2|1) algebra. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 576–580, *World Sci. Publishing, River Edge, NJ*, 1997. (Matthias Dörrzapf) **99k:81093** 81R10 (17B67, 81T30)

— Past the highest-weight, and what you can find there. *New developments in quantum field theory* (*Zakopane*, 1997), 329–339, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Zoltán Bajnok) **99i:81072** 81R10 (17B68, 81T40)

— (*with* Tipunin, I. Yu.) The structure of Verma modules over the $N = 2$ superconformal algebra. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 129–173. (Matthias Dörrzapf) **99j:81053** 81R10 (17B68, 17B81)

— (*with* Grigoriev, M. A.) Canonical form of a pair of compatible antibrackets. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 259–268. (Frans Cantrijn) **99b:58094** 58F05 (58A50)

— *see also* **Proceedings: A. D. Sakharov Conference on Physics, 99h:81006**

Semina, E. A. (*with* Petrosyan, L. A.; Zenkevich, N. A.) ★ Теория игр. (Russian. Russian summary) [Game theory] "*Vyssh. Shkola*", *Moscow*; *Knizhnyĭ Dom* "*Universitet*", *Moscow*, 1998. 301 *pp. ISBN* 5-06-001005-8; 5-8013-0007-4 (Publisher's description) **99c:90001** 90–01 (90Dxx)

Seminara, D. (*with* Deser, Stanley; Griguolo, L.) Definition of Chern-Simons terms in thermal QED_3 revisited. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 443–450. (José Luis López) **99j:81110** 81T10 (81T13, 81V10)

— (*with* Griguolo, L.) Chiral solitons from dimensional reduction of Chern-Simons gauged non-linear Schrödinger equation: classical and quantum aspects. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 467–498. (Summary) **99b:81147** 81T13 (81T17)

— (*with* Deser, Stanley) Counterterms and M-theory corrections to $D = 11$ supergravity. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 12, 2435–2438. (Summary) **99k:83132** 83E50 (81T30)

Seminara, Giovanni Stability and morphodynamics. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 1, 59–99. (Summary) **99a:86003** 86A05 (76E20)

Semko, N. N. The structure of groups with a condition on the density of normality for subgroups. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 9, 49–53. (Summary) **99k:20054** 20E07

— The structure of groups with some conditions on the density of normality for subgroups. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 10, 43–46. (Summary) **99k:20053** 20E07

— The structure of locally graded nilpotent CDN-groups. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 789–798; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 883–893 (1998). (O. Yu. Dashkova) **99d:20069** 20F99

— The structure of a class of groups with conditions for the density of normality for subgroups. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 8, 1148–1151; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1292–1295 (1998). (O. Yu. Dashkova) **99d:20070** 20F99

Semmelmann, U. (*with* Moroianu, Andrei) Kählerian Killing spinors, complex contact structures and twistor spaces. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 197–202 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Hans-Bert Rademacher) **99i:53049** 53C25 (53C15, 58G25)

— (*with* Kramer, Wolfram; Weingart, G.) Quaternionic Killing spinors. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 1, 63–87. (Hans-Bert Rademacher) **99c:53047** 53C25 (58G25)

— (*with* Kramer, Wolfram; Weingart, G.) The first eigenvalue of the Dirac operator on quaternionic Kähler manifolds. (English summary) *Comm. Math. Phys.* **199** (1998), *no.* 2, 327–349. (Hans-Bert Rademacher) **99m:58195** 58G25 (53C25)

— (*with* Alekseevskiĭ, D. V.; Cortés Suárez, Vicente; Devchand, Chandrashekar) Killing spinors are Killing vector fields in Riemannian supergeometry. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 37–50. (Frans Cantrijn) **99k:58025** 58C50 (53C50, 58A50)

Semmes, Stephen (*with* David, Guy) Surfaces quasiminimales de codimension 1 et domaines de John. [Quasiminimal surfaces of codimension 1 and John domains] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. X*, 19 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (J. E. Brothers) **99h:49054** 49Q05 (58E12)

— (*with* David, Guy) ★ Fractured fractals and broken dreams. (English summary) Self-similar geometry through metric and measure. Oxford Lecture Series in Mathematics and its Applications, 7. *The Clarendon Press, Oxford University Press, New York*, 1997. *x*+212 *pp. ISBN* 0-19-850166-8 (Christopher Bishop) **99h:28018** 28A80 (26A16, 28A78, 30C65, 42C15)

— (*with* Heinonen, Juha) Thirty-three yes or no questions about mappings, measures, and metrics. *Conform. Geom. Dyn.* **1** (1997), 1–12 (electronic). (Introduction) **99h:28012** 28A75 (57M12)

— (*with* Baladi, V.; Kitaev, A. Yu.; Ruelle, David) Sharp determinants and kneading operators for holomorphic maps. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 193–235. (Alexander Fel′shtyn) **99f:58163** 58F19 (58F20)

— Mappings and spaces. (English summary) *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 347–368, *Springer, New York*, 1998. (Juha Heinonen) **99c:30045** 30C65

— (*with* David, Guy) Quasiminimal surfaces of codimension 1 and John domains. (English summary) *Pacific J. Math.* **183** (1998), *no.* 2, 213–277. (Juha Heinonen) **99i:28012** 28A75 (30C65, 46E35, 49Q15)

Semmler, Beate Some structure theorems for complete H-surfaces in hyperbolic 3-space $\mathbf{H}^3$. *Illinois J. Math.* **42** (1998), *no.* 2, 230–242. (Ricardo Sa Earp) **99a:53009** 53A10

Sempere, José M. (*with* Nagaraja, G.) Learning a subclass of linear languages from positive structural information. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 162–174, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68T05 (68Q45)

Sempi, Carlo (*with* Pascali, Eduardo) Joint entropy and Gaussian functions. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 45–54 (1998). (Guy Jumarie) **99j:94020** 94A17

— (*with* Lafuerza Guillén, Bernardo; Rodríguez Lallena, José Antonio) Some classes of probabilistic normed spaces. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 237–252. (S. N. Mishra) **99d:46103** 46S50 (46B99, 46E30)

— (*with* Pascali, Eduardo) Two Lévy-type metrics for distribution functions. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 49–60. (S. Ghosh) **99g:60028** 60E05

— (*with* Lafuerza Guillén, Bernardo; Rodríguez Lallena, José Antonio) Probabilistic norms for linear operators. *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 462–476. (Xi Lin) **99f:47096** 47S50 (47A30, 47D15)

Semple, Charles k-regular matroids. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 376–386, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99c:05034** 05B35

Semple, J. G. (*with* Kneebone, G. T.) ★ Algebraic projective geometry. (English summary) Reprint of the 1979 edition. Oxford Classic Texts in the Physical Sciences. *The Clarendon Press, Oxford University Press, New York*, 1998. *viii*+404 *pp. ISBN* 0-19-850363-6 (Editors) **99h:14001** 14–01 (51–01)

Semplice, Matteo (*with* Cantoni, Vittorio) Clifford fields and the relativistic equation of the nucleon. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1721–1733. (Jayme Vaz, Jr.) **99j:81054** 81R20 (81R25)

Šemrl, Peter (*with* Brešar, Matej) Linear preservers on $\mathcal{B}(X)$. *Linear operators* (*Warsaw*, 1994), 49–58, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (From the introduction) **99c:47044** 47B49 (47B48)

— (*with* Molnár, Lajos) Order isomorphisms and triple isomorphisms of operator ideals and their reflexivity. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 6, 497–506. (Hans-Olav Tylli) **99a:47054** 47B49 (15A99, 47D25, 47D50)

— Approximately linear functionals on Hilbert spaces. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 466–472. (Summary) **99g:46019** 46C99

— (*with* Omladič, Matjaž) Preserving diagonalisability. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 165–179. (H. K. Farahat) **99i:15020** 15A21 (15A22)

— (*with* Molnár, Lajos) Some linear preserver problems on upper triangular matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 189–206. (Summary) **99h:15003** 15A04 (15A03, 15A27)

— (*with* Jafarian, Ali A.; Rodman, Leiba) Linear maps preserving the isomorphism class of lattices of invariant subspaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3607–3617. (P. Rosenthal) **99e:47012** 47A15 (15A99, 47B49)

— (*with* Brešar, Matej) Finite rank elements in semisimple Banach algebras. (English summary) *Studia Math.* **128** (1998), *no.* 3, 287–298. (Volker Runde) **99a:46089** 46H05 (46H10)

— (*with* Bhatia, Rajendra) Orthogonality of matrices and some distance problems. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 77–85. (Fuad Kittaneh) **99k:15042** 15A60 (47A30, 47B47)

— (*with* Hartwig, Robert E.) Power additivity and orthogonality. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 1–13 (*electronic*). (Summary) **99f:15016** 15A21 (15A24)

— (*with* Brešar, Matej) On locally linearly dependent operators and derivations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1257–1275. (Volker Runde) **99e:47039** 47B48 (15A04, 16W25, 46H40, 47A99)

Semushin, I. V. (*with* Dulov, E. V.) Adaptive filter for systems with unknown noise covariances using an instrumental performance functional. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 110–119. (*see* **99b:93002**) 93E11

Semykina, A. V. (*with* Bun′, R. A.) Determination of the domains of stability of numerical methods for solving higher-order differential equations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997,** *no.* 6, 120–126, 152. 65L20

Sen, A. A. (*with* Banerjee, Narayan) Gravitational field of a stationary circular cosmic string loop. (English summary) *Astrophys. Space Sci.* **259** (1998), *no.* 3, 301–307. 83F05

Şen, Alper (*with* Benli, Ömer S.) Lot streaming in open shops. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 135–142. (Summary) **99k:90080** 90B22

Sen, Amita (*with* Chakraborty, Mihir K.) A note on contractifiability of self-mappings. *J. Pure Math.* **13** (1996), 30–39. 54E40 (54H25)

Sen, Ananda Estimation of current reliability in a Duane-based reliability growth model. (English summary) *Technometrics* **40** (1998), *no.* 4, 334–344. (Summary) **99h:62126** 62N05

Sen, Arunava (*with* Bergin, James) Extensive form implementation in incomplete information environments. (English summary) *J. Econom. Theory* **80** (1998), *no.* 2, 222–256. (Summary) **99k:90015** 90A08 (90A36, 90D10)

Sen, Arusharka (*with* Bose, Arup) The strong law of large numbers for Kaplan-Meier U-statistics. (English summary) *J. Theoret. Probab.* **12** (1999), *no.* 1, 181–200. (Miguel A. Arcones) **99m:60050** 60F15

Sen, Ashoke Duality symmetries in string theories in dimension ≤ 4. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 452–462, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99j:81156** 81T30

— A note on enhanced gauge symmetries in M- and string theory. (English summary) *J. High Energy Phys.* **1997**, *no.* 9, *Paper* 1, 10 *pp.* (*electronic*). (Jeremy Michelson) **99b:81212** 81T30 (83E30)

— Strong coupling dynamics of branes from M-theory. (English summary) *J. High Energy Phys.* **1997**, *no.* 10, *Paper* 2, 13 *pp.* (*electronic*). (Jihad Mourad) **99a:81154** 81T30 (83E30)

— F-theory and the Gimon-Polchinski orientifold. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 135–155. (Summary) **99e:81208** 81T30 (14J32, 32J81)

— Orientifold limit of F-theory vacua. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, R7345–R7349. (Summary) **99d:81135** 81T30 (14J32, 32J81)

— D0 branes on T^n and Matrix theory. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 51–59. (David S. Berman) **99g:81215** 81T60 (81T30)

— Black holes and elementary string states in $N = 2$ supersymmetric string theories. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 11, 14 *pp.* (*electronic*). (Jeremy Michelson) **99d:83101** 83E30 (81T30, 83C57)

— String network. (English summary) *J. High Energy Phys.* **1998**, *no.* 3, *Paper* 5, 8 *pp.* (*electronic*). (Douglas J. Smith) **99d:81136** 81T30

— Stable non-BPS states in string theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 7, 21 *pp.* (*electronic*). (Angel Maria Uranga) **99e:81209** 81T30

— Stable non-BPS bound states of BPS D-branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 10, 25 *pp.* (*electronic*). (Douglas J. Smith) **99k:81270** 81T30

— Orientifold limit of F-theory vacua. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 81–87. (From the text) **99j:81157** 81T30 (14J32, 32J81, 83E30)

— Orientifold limit of F-theory vacua. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 92–98. (David S. Berman) **99j:81158** 81T30 (14J32, 32J81, 83E30)

Sen, Dolan Chapa (*with* Roy Chowdhury, Asesh) On the Moyal quantized BKP type hierarchies. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 1–7. (Alexander V. Shapovalov) **99b:58126** 58F07 (81S10)

Sen, Kanwar (*with* Gupta, Ritu) Transient solution of $M^b/M/1$ system under threshold control policies. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 109–120. 60K25

— (*with* Mishra, Amarendra) A generalized Polya-Eggenberger model generating various discrete probability distributions. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 243–251. (Moshe Shaked) **99h:60016** 60C05 (60E05, 62E15)

— (*with* Mathur, S. K.) A two sample signed rank test for location. (English summary) *J. Stat. Stud.* **17** (1997), 1–12. 62G10

— (*with* Srivastava, Preeti Wanti) Testing whether X is larger than Y in mean residual life ordering and variance residual life ordering. (English summary) *IAPQR Trans.* **23** (1998), *no.* 1, 47–59. (H. L. Harter) **99k:62194** 62N05 (62F05)

— (*with* Gupta, Ritu) Time dependent analysis of T-policy $M/M/1$ queues—a new approach. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 4, 453–473. (K. M. Ramachandran) **99k:60235** 60K25 (90B22)

Sen, Krishna (*with* Basu, Banasri) Geometric approach to non-abelian gauge theory. (English summary) *Comm. Theoret. Phys. (Allahabad)* **5** (1996), *no.* 1, 45–64. (Gheorghe Zet) **99d:81086** 81T13 (81T70)

Sen, M. K. *see* **Sen, Mridul Kanti**

de la Sen, Manuel (*with* Sagastabeitia, I.; Sandoval, J.) Discrete optimal control in the presence of input and state delays. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 16+*iii pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 49J30 (93C55)

— (*with* Luo, Ning Su) On the design of universal stabilizing continuous linear controllers for time-delay systems. I. Preliminary results. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 3, 401–424. (Jerzy Klamka) **99i:93057** 93D15 (34K35, 93C30)

— (*with* Luo, Ning Su) On the design of universal stabilizing continuous linear controllers for time-delay systems. II. Universal controller and main stability results. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 4, 527–558. (Jerzy Klamka) **99i:93058** 93D15 (34K35, 93C30)

— Robust control of discrete critical systems with specifications in the frequency domain. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 169–192. 93B36 (93C55, 93C80)

— (*with* Zhang, Qing Ling; Dai, Guan Zhong; Lam, James; Zhang, Li Qian[2]) Asymptotic stability and stabilization of descriptor systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 208–211. 93D20 (93D15)

— (*with* Luo, Ning Su; Rodellar, José) Composite adaptive SMC of nonlinear base isolated buildings with actuator dynamics. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 183–197. (*see* **99a:93003**) 93C95

— A method for general design of positive real functions. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 764–769. (Summary) **99h:94083** 94C05

— Controllability and equilibrium analysis of the interaction between the unemployment level and related government expenditure. (English and Lithuanian summaries) *Informatica (Vilnius)* **9** (1998), *no.* 2, 173–194. 90A14 (90A70)

— (*with* Jugo, Josu) Absolute stability and hyperstability of a class of hereditary systems. (English and Lithuanian summaries) *Informatica (Vilnius)* **9** (1998), *no.* 2, 195–208. (Kaiqi Xiong) **99i:93048** 93D10 (34D20, 34H05)

— (*with* Alonso Quesada, Santiago) Robust adaptive tracking with pole placement of first-order potentially inversely unstable continuous-time systems. (English and Lithuanian summaries) *Informatica (Vilnius)* **9** (1998), *no.* 3, 259–278. (Vladimir G. Sragovich) **99k:93059** 93C40 (93B55)

— On the robust adaptive stabilization of a class of nominally first-order hybrid systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 597–602. 93D21

— Sufficient conditions for Lyapunov's global stability of time-varying hybrid linear systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 107–114. (Nicolay A. Magnitskiĭ) **99m:93072** 93D05 (39A99, 93C55)

— (*with* Alonso Quesada, Santiago) Robust adaptive regulation of potentially inversely unstable first-order hybrid systems. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 627–648. (Summary) **99m:93060** 93C40 (93D21)

Sen, Mridul Kanti (*with* Dutta, Tapan Kumar[1]) On group-pseudo-ideals of semigroups. (English summary) *J. Pure Math.* **13** (1996), 19–23. (Summary) **99f:20096** 20M12

— (*with* Mukherjee, T. K.; Roy, Dipak) Primary representation in Noetherian modules. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 285–298. (Sylvia Wiegand) **99j:13013** 13E05

— (*with* Yang, Haixuan; Guo, Yu Qi) A note on $\mathscr{H}$ relation on an inverse semigroup. (English summary) *J. Pure Math.* **14** (1997), 1–3. 20M18

— (*with* Zhong, Zhao Xian) On several classes of orthodox Γ-semigroups. (English summary) *J. Pure Math.* **14** (1997), 18–25. (R. J. Warne) **99m:20151** 20M19

— (*with* Mukherjee, T. K.; Ghosh, Shamik) Additively cancellative congruences on hemirings. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 3, 297–301. 16Y99

— (*with* Malik, D. S.; Mordeson, John N.) Minimization of fuzzy finite automata. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 323–330. (Summary) **99h:68121** 68Q68 (68Q45)

Sen, P. K. *see* **Sen, Pradeep Kumar**

Sen, Pabitra N. *see* **Mathematics of multiscale materials, 99c:73001**

Sen, Pradeep Kumar (*with* Veeravalli, Srinivas V.) On the behaviour of organised disturbances in a turbulent boundary-layer. (English summary) *Sādhanā* **23** (1998), *no.* 2, 167–193. (Summary) **99i:76076** 76F99 (76D10, 76E99)

Sen, Pranab Kumar[1] Design and analysis of experiments: nonparametric methods with applications to clinical trials. *Design and analysis of experiments*, 91–150, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62G10 (62J05, 62J15, 62K10, 62K15, 62P10)

— (*with* Jurečková, Jana) Asymptotic representations and interrelations of robust estimators and their applications. *Robust inference*, 467–512, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35 (62G05)

— (*with* Zhou, Zhenwei) Stochastic approximation and selection of a conditional extremal function in continuum. (English summary) *Sequential Anal.* **16** (1997), *no.* 3, 235–248. (Summary) **99g:62127** 62L20

— (*with* Jurečková, Jana) Partially adaptive rank and regression rank scores tests in linear models. (English summary) *Applied statistical science, III*, 1–12, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62065** 62G10

— (*with* Chaubey, Yogendra P.) On smooth estimation of hazard and cumulative hazard functions. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 91–99, *Narosa, New Delhi*, 1998. (From the introduction) **99j:62139** 62N05

— (*with* Bhattacharjee, Manish C.) Tests for a property of aging under renewals: rationality and general asymptotics. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 328–340, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62N05

— *see also* **Conference: Mathematical Statistics and Probability Theory, 99k:62004**

Sen, R. N. *see* **Sen, Rathindra Nath**

Sen, Rabindranath (*with* Hossain, Md. Bellal) On the solution by fourth order finite difference method for certain singular boundary value problems. (English summary) *Soochow J. Math.* **23** (1997), *no.* 3, 253–275. (Ekkehard Wagenführer) **99c:65147** 65L10

Sen, Rathindra Nath *see* **Proceedings: Symposium on Mathematical Physics with Special Sessions on Bose's Works, 99b:00016** *and* **99b:00017**

Sen, S. *see* **Sen, Shibani**

Sen, Sandeep (*with* Bhattacharya, Binay K.) On a simple, practical, optimal, output-sensitive randomized planar convex hull algorithm. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 177–193. (Stelian S. Dumitrascu) **99a:65199** 65Y25 (65Y20, 68U05)

— (*with* Gupta, Neelima) Distribution-sensitive algorithms. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 335–346, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05 (68Q25)

Sen, Shibani (*with* Banerjee, Narayan) No scalar hair theorem for a charged spherical black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104024, 6 *pp.* (Summary) **99k:83053** 83C57

Sen, Siddhartha[1] (*with* Birmingham, Danny; Sachs, Ivo) Entropy of three-dimensional black holes in string theory. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 275–280. (Marco Cavaglià) **99f:83061** 83E30 (83C57)

Sen, Suvrajeet (*with* Sherali, Hanif D.; Choi, Gyunghyun) An exterior-point polytope sliding and deformation algorithm for linear programming problems. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 4, 559–582. (Summary) **99a:90127** 90C05

— *see also* **Errata: "An exterior-point polytope sliding and deformation algorithm for linear programming problems"**

Şen, Zekai (*with* Sönmez, İbrahim; Tatlı, Hasan) Comment on: "Grade estimation using fuzzy set algorithms" [Math. Geol. **29** (1997), no. 2, 291–305; MR 97k:86013] by T. D. Pham. With a reply by Pham. *Math. Geol.* **30** (1998), *no.* 8, 1033–1042. 86A32 (04A72)

Sename, O. (*with* Picard, Pascal; Lafay, J. F.) Weak controllability and controllability indices for linear neutral systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 223–233. (Summary) **99c:93009** 93B05 (34K40, 93C25)

Senashov, V. I. Characterization of generalized Chernikov groups in groups with involutions. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 577–587; *translation in Math. Notes* **62** (1997), *no.* 3-4, 480–487 (1998). (L. A. Kurdachenko) **99c:20053** 20F99

— Groups with a layer-finite periodic part. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1374–1386, *iv*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1196–1205. (Sergey P. Strunkov) **99b:20065** 20F50

— On a question of V. P. Shunkov. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1154–1156, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 998–999. (Alla S. Detinko) **99h:20052** 20E34 (20F99)

Senatov, V. V. Qualitative effects in estimates for the rate of convergence in the central limit theorem in multidimensional spaces. (Russian. English and Russian summaries) Edited and with a preface by V. M. Zolotarev. *Tr. Mat. Inst. Steklova* **215** (1997), 239 *pp.* (V. J. Paulauskas) **99h:60015** 60B12 (60F05)

Senba, Takasi Blow-up of radially symmetric solutions to some systems of partial differential equations modelling chemotaxis. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 79–92. (Gershon Wolansky) **99a:35256** 35Q80 (35K99, 35R30, 92C10)

— (*with* Nagai, Toshitaka; Yoshida, Kiyoshi) Application of the Trudinger-Moser inequality to a parabolic system of chemotaxis. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 411–433. (V. N. Razzhevaikin) **99k:92048** 92D50 (35K55, 35Q80, 92C99)

— (*with* Nagai, Toshitaka) Behavior of radially symmetric solutions of a system related to chemotaxis. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3837–3842. (Yuzo Hosono) **99b:35198** 35Q80 (80A30)

— (*with* Nagai, Toshitaka; Yoshida, Kiyoshi) Global existence of solutions to the parabolic systems of chemotaxis. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 22–28. (N. L. Vulchanov) **99h:92043** 92D50 (35K55, 35Q80, 92C05)

— (*with* Nagai, Toshitaka; Suzuki, Takashi[1]) Keller-Segel system and the concentration lemma. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 75–80. (H. W. Vayo) **99k:35177** 35Q80 (92D50)

corrales Sendino, José M. *see* **Corrales Sendino, José M.**

Sendov, Bl. Binary self-similar fractal functions. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 6, 9–12. (Sándor Fridli) **99k:42066** 42C15 (28A80, 41A30)

— Multiresolution analysis of functions defined on the dyadic topological group. (English summary) *East J. Approx.* **3** (1997), *no.* 2, 225–239. (Ferenc Weisz) **99b:42043** 42C15

— (*with* Marinov, P.) Orthonormal systems of fractal functions. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 1-2, 169–200. (Summary) **99c:28029** 28A80 (42C05)

— Adaptive multiresolution analysis on the dyadic topological group. (English summary) *J. Approx. Theory* **96** (1999), *no.* 2, 258–280. (Charles K. Chui) **99m:42054** 42C15 (43A32)

Sendra, J. Rafael (*with* Winkler, Franz) Real parametrization of algebraic curves. (English summary) *Artificial intelligence and symbolic computation (Plattsburgh, NY, 1998)*, 284–295, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (Summary) **99m:68099** 68Q40 (14Q05)

— (*with* Hong, Hoon) Computation of variant resultants. *Quantifier elimination and cylindrical algebraic decomposition (Linz*, 1993), 327–340, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40 (03C10, 12D10)

Sendrier, Nicolas On the concatenated structure of a linear code. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 3, 221–242. (Summary) **99i:94066** 94B05

Sene, Abdou (*with* Niane, Mary Teuw) Contrôlabilité exacte frontière et limite asymptotique des corps élastiques minces. (English and French summaries) [Exact boundary controllability and asymptotic analysis of thin elastic bodies] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 65–70. (Summary) **99f:73062** 73K50 (73K10, 93C20)

Senechal, Marjorie (*with* Crapo, Henry H.) Tilings by related zonotopes. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 59–73. (P. McMullen) **99b:52053** 52C22

— (*with* Dolbilin, Nikolai; Lagarias, Jeffrey C.) Multiregular point systems. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 477–498. (Summary) **99i:52027** 52C22 (82D25)

— Oberwolfach, 1944–1964. *Math. Intelligencer* **20** (1998), *no.* 4, 17–24. (Pietro Nastasi) **99h:01039** 01A74 (01A70, 01A80)

— Periodic and aperiodic tilings of E^n. (English summary) *Advances in discrete and computational geometry (South Hadley, MA*, 1996), 293–312, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52038** 52C20 (52B55)

— Parallel worlds: Escher and mathematics, revisited. *Math. Intelligencer* **21** (1999), *no.* 1, 13–19. 00A99 (00A69)

Senellart, Jean (*with* Béal, Marie-Pierre) On the bound of the synchronization delay of a local automaton. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 297–306. (Summary) **99f:68135** 68Q68 (68Q45)

Şener, M. K. (*with* Verbaarschot, J. J. M.) Universality in chiral random matrix theory at $\beta = 1$ and $\beta = 4$. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 2, 248–251. (Summary) **99c:82033** 82B41

Seneta, E. Early influences on probability and statistics in the Russian empire. (English summary) *Arch. Hist. Exact Sci.* **53** (1998), *no.* 3-4, 201–213. (Bernard Bru) **99k:01027** 01A55 (60–03, 62–03)

— (*with* Ku, Simon F.) Practical estimation from the sum of AR(1) processes. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 981–998. 62M10

Seng, Hajo (*with* Andreae, Thomas; Hintz, Martin; Nölle, Michael; Schreiber, Gerald; Schuster, Gerald W.) Cartesian products of graphs as subgraphs of de Bruijn graphs of dimension at least three. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 3–34. (Jean-Claude Bermond) **99a:05116** 05C75

Sengadir, T. (*with* Pani, Amiya K.) Weak solutions of integro-differential and functional-differential equations. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 411–422. (Marlène Frigon) **99h:34097** 34K10 (45J05, 47H15, 47N20)

Sengül, Sare (*with* Çelebi, A. Okay) On Riemann functions for complex differential equations. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 309–320. (Guo Chun Wen) **99j:35004** 35A20 (30E25, 35C05, 35L25)

Sengupta, A. *see* **Sengupta, Ambar N.**

Sengupta, Abhijit[1] On ring embedding in hypercubes with faulty nodes and links. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 4, 207–214. (Summary) **99h:68022** 68M10 (68M15, 68R10)

— (*with* Viswanathan, Suresh) Embedding meshes in hypercubes with edge faults. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 33–48. (Summary) **99e:68009** 68M10 (68M15)

Sengupta, Ambar N. A Yang-Mills inequality for compact surfaces. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 1–16. (Dana S. Fine) **99d:58043** 58E15 (53C07)

— (*with* Cochran, W. George; Kuo, Hui-Hsiung) A new class of white noise generalized functions. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 43–67. (Habib Ouerdiane) **99d:46062** 46F25 (46G12)

— (*with* Hall, Brian C.) The Segal-Bargmann transform for path-groups. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 220–254. (Philippe Biane) **99a:58020** 58D20 (22E65, 58G32, 60J65)

Sengupta, Bhaskar (*with* Alfa, Attahiru Sule; Takine, Tetsuya) The use of non-linear programming in matrix analytic methods. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 351–367. (Summary) **99c:90050** 90B22 (60K25, 90C30)

Sengupta, Debasis (*with* Nanda, Asok K.) Log-concave and concave distributions in reliability. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 4, 419–433. (Summary) **99m:90081** 90B25

Sengupta, Gautam[2] (*with* Biswas, Anindya K.; Kumar, Alok[2]) Oscillating D-strings from type IIB Matrix theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5141–5149. (Summary) **99m:81174** 81T30

Sengupta, P. R. (*with* Rakshit, Amit Kumar) Magneto-thermo-visco-elastic waves in an initially stressed conducting layer. (English summary) *Sādhanā* **23** (1998), *no.* 3, 233–246. (Summary) **99j:73041** 73D20 (73B30, 73F15, 73R05)

Sengupta, Rimli (*with* Venkateswaran, H.) A lower bound for monotone arithmetic circuits computing 0-1 permanent. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 389–398. (Johan Håstad) **99h:68084** 68Q25 (15A15, 65Y20, 68Q15)

Sengupta, S. (*with* Kapuria, S.; Dumir, P. C.) Three-dimensional axisymmetric piezothermoelastic solution of clamped circular elastic plate bonded to piezoceramic plate. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 2, 117–129. 73K10 (73R05)

Sengupta, Sankar (*with* Lipset, Robert; Van Til, Robert P.) Development of a model for a two-station serial transfer line subject to machine and buffer failure. (English summary) *Math. Comput. Model. Dyn. Syst.* **4** (1998), *no.* 3, 231–246. 90B25 (93C83)

— (*with* Lipset, Robert; Van Til, Robert P.) Steady-state performance analysis of serial transfer lines subject to machine and buffer failure. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 319–325. 93C83 (90B30)

Sengupta, Santanu (*with* Chattaraj, P. K.; Poddar, A.) Quantum signature of the classical chaos in the field-induced barrier crossing in a quartic potential. (English summary) *Current Sci.* **76** (1999), *no.* 10, 1371–1376. 81Q50

SenGupta, Soumitra (*with* Majumdar, Parthasarathi) Gaugino mass in the heterotic string with Scherk-Schwarz compactification. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 129–133. 81V22 (81T30)

Sengupta, Sudipta[2] (*with* Engels, Daniel W.; Karger, David R.; Kolliopoulos, Stavros G.; Uma, R. N.; Wein, Joel) Techniques for scheduling with rejection. (English summary) *Algorithms—ESA '98 (Venice)*, 490–501, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 90B35

Senior, J. K. *see* **Menger, Karl**, (**99a:00006a**)

Senitskiĭ, A. Yu. On the integrability of the wave equation with variable coefficients. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 39–46; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 7, 36–43 (1999). 35L05

Sénizergues, Géraud The equivalence problem for deterministic pushdown transducers into abelian groups. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 305–315, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q70 (20M35, 68Q45)

Senkene, È. *see* **Senkienė, Elvyra**

Senkevitch, Nikolai (*with* Gulliver, T. Aaron) On a class of self-dual codes derived from quadratic residues. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 701–702. (Summary) **99m:94065** 94B60

Senkienė, Elvyra On a global optimization algorithm. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 1, 113–117, 156. 90C30 (65K05)

Senn, W. M. Phase-locking in the multidimensional Frenkel-Kontorova model. *Math. Z.* **227** (1998), *no.* 4, 623–643. (M. L. Blank) **99h:58176** 58F40 (58E50, 82D99)

Sennott, Linn I. ★ Stochastic dynamic programming and the control of queueing systems. Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xvi*+328 *pp. ISBN* 0-471-16120-9 (Onésimo Hernández Lerma) **99i:90115** 90C40 (60K25, 90–02, 90B22, 90C39)

Senovilla, José M. M. (*with* Vera, Raül) G_2 cosmological models separable in non-comoving coordinates. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1737–1758. (Alicia M. Sintes) **99e:83016** 83C20

— (*with* Sopuerta, Carlos F.; Szekeres, Peter) Theorems on shear-free perfect fluids with their Newtonian analogues. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 389–411. (Mattias Marklund) **99b:83045** 83C55 (76Y05, 83C05)

— Singularity theorems and their consequences. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 5, 701–848. (Robert J. Low) **99e:83041** 83C75 (83–02)

— Comment on: "Theorem for nonrotating singularity-free universes" [Phys. Rev. Lett. **80** (1998), no. 4, 654–655; MR 98j:83110] by A. K. Raychaudhuri. *Phys. Rev. Lett.* **81** (1998), *no.* 22, 5032. 83F05

— *see also* **Raychaudhuri, A. K.**

Sensat, Julius Game theory and rational decision. (English summary) *Erkenntnis* **47** (1997), *no.* 3, 379–410 (1998). (Summary) **99c:90161** 90D05 (90A05)

Sensoy, S. (*with* Huseyin, Koncay) On the application of IHB technique to the analysis of non-linear oscillations and bifurcations. (English summary) *J. Sound Vibration* **215** (1998), *no.* 1, 35–46. (Summary) **99d:34059** 34C15 (34–04, 34C23, 70K99)

Senthamarai Kannan, S. Torus quotients of homogeneous spaces. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 1–12. (Venkatramani Lakshmibai)

99d:14053 14M17 (14M15)

Senthil Velan, M. (*with* Lakshmanan, M.) Invariance analysis of the $(2+1)$-dimensional long dispersive wave equation. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 251–260. (Irina Yehorchenko) **99g:35098** 35Qxx (17B67, 35A30)

— (*with* Lakshmanan, M.) Lie symmetries, Kac-Moody-Virasoro algebras and integrability of certain $(2+1)$-dimensional nonlinear evolution equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 190–211. (Ian A. B. Strachan) **99e:58160** 58F35 (17B68, 35A30, 35Q55, 58F07)

— (*with* Torrisi, M.) Equivalence transformations and approximate solutions of a nonlinear heat conduction model. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 10005–10016. (Summary) **99h:80007** 80A20 (80-08)

Sentis, Rémi (*with* Lapeyre, Bernard; Pardoux, Étienne) ★ Méthodes de Monte-Carlo pour les équations de transport et de diffusion. (French. French summary) [Monte Carlo methods for transport and diffusion equations] Mathématiques & Applications [Mathematics & Applications], 29. *Springer-Verlag, Berlin*, 1998. $x+176$ *pp. ISBN* 3-540-63393-6 (Mohammad Asadzadeh) **99e:65006** 65C05 (60J70, 76M35, 76P05, 82C70, 82C80)

— (*with* Buet, Christophe; Dellacherie, Stéphane) Résolution numérique d'une équation de Fokker-Planck ionique avec température électronique. (English and French summaries) [Numerical solution of an ionic Fokker-Planck equation with electronic temperature] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 93–98. (Summary) **99e:82066** 82C31 (65M99)

Şentürk, Zerrin (*with* Deszcz, Ryszard; Hotloś, Marian) On the equivalence of the Ricci-pseudosymmetry and pseudosymmetry. *Colloq. Math.* **79** (1999), *no.* 2, 211–227. (Eric Boeckx) **99k:53017** 53B20 (53C25)

Seo, Byeongseon Tests for structural change in cointegrated systems. (English summary) *Econometric Theory* **14** (1998), *no.* 2, 222–259. (Summary) **99e:62182** 62P20

— Statistical inference on cointegration rank in error correction models with stationary covariates. (English summary) *J. Econometrics* **85** (1998), *no.* 2, 339–385. (Summary) **99b:62165** 62P20

Seo, C. H. (*with* Yoon, J. W.; Sung, Y. O.) On the relation between the linear complexity of FCSR and the period. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 115–123. (Summary) **99c:94037** 94A60 (11T71)

Seo, G. S. (*with* Kim, Yangkon; So, K. H.; Park, D. Y.; Choi, Seul Hee) Some remarks on four kinds of points associated to Lie algebras. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 31–43. (Jörg Feldvoss) **99m:17025** 17B50 (17B20, 17B55)

Seo, Hye-Young (*with* Kim, Tae-Sung) On the strong law of large numbers for linearly positive quadrant dependent random variables. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 151–158. (Przemysław Matuła) **99b:60044** 60F15 (60E15)

Seo, Jin H. A frequency domain method for decentralized stabilization based on quasi-block diagonal dominance. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 41–59. 93D15 (93A14)

— (*with* Shim, Hyungbo; Byun, J.) Comments on: "Observers for nonlinear systems in steady state" [IEEE Trans. Automat. Control **39** (1994), no. 10, 2113–2118; MR 95e:93014] by L. R. Hunt and M. S. Verma. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 587. 93B07 (93C10)

Seo, Jin Keun (*with* Kim, Hyunseok) Identification problems in linear elasticity. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 514–531. (Giovanni Crosta) **99a:73046** 73C99 (31B20, 35Q72, 35R30)

Seo, Phil K. (*with* Murthy, Ishwar) A dual-ascent procedure for the file allocation and join site selection problem on a telecommunications network. (English summary) *Networks* **33** (1999), *no.* 2, 109–124. (A. A. Chernyak) **99m:90070** 90B12 (68M10)

Seo, Takashi (*with* Tomizawa, Sadao; Yamamoto, Hideharu) Power-divergence-type measure of departure from symmetry for square contingency tables that have nominal categories. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 3, 387–398. 62H17

— (*with* Siotani, Minoru; Iwashita, Toshiya) Asymptotic expansion for sampling distribution and sample size in statistical inference. II. Probability of misdiscrimination in the discriminant analysis. (English summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 2, 135–152. 62H30

— (*with* Fujikoshi, Yasunori) Asymptotic approximations for EPMC's of the linear and the quadratic discriminant functions when the sample sizes and the dimension are large. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 3, 269–280. (Issa Fakhre-Zakeri) **99e:62111** 62H30

Seo, Yuki Variance in noncommutative probability. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 439–444. (Fumio Hiai) **99a:46115** 46L50 (47A63)

— Independence in noncommutative probability. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 445–450. (Fumio Hiai) **99a:46116** 46L50 (47A63)

Seoane, M. L. (*with* Bermúdez de Castro, Alfredo) Numerical solution using duality methods of a nonlinear problem of plasma physics. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 16 *pp. (electronic), Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76X05 (65N30, 76M25)

— (*with* Bermúdez de Castro, Alfredo) Numerical solution of a nonlocal problem arising in plasma physics. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 5, 45–59. (Summary) **99a:76167** 76X05 (65N99, 76M10)

Seok, Eun-Yang (*with* Kim, Tae-Sung) A functional central limit theorem for linearly positive quadrant dependent random fields. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 411–418. (José Rafael León) **99h:60073** 60F17 (60G60, 62H20)

— (*with* Kim, Tae-Sung) Maximal inequalities with an application to the weak convergence for 2-parameter arrays of positively dependent random variables. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 279–292. (Alexander V. Bulinskiĭ) **99e:60061** 60F05 (60E15)

Seoud, M. A. (*with* Beineke, Lowell W.) On the strong multiplicativity of powers of paths. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 211–217. (Summary) **99j:05118** 05C38

Sepanski, Mark R. (*with* Banks, William D.; Levy, Jason) Block-compatible metaplectic cocycles. *J. Reine Angew. Math.* **507** (1999), 131–163. (Volker J. Heiermann) **99m:20100** 20G10

Sepe, Vincenzo (*with* Nardinocchi, Paola) Dynamical interaction between local and overall curving in circular cylindrical shells: a one-dimensional approach. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 565–576. (Summary) **99g:73086** 73K15 (73K12)

Sepehri, N. (*with* Wu, Qiong; Thornton-Trump, A. B.) Lyapunov feedback control of base-excited inverted pendulums. (English summary) *Sci. Iran.* **3** (1996), *no.* 1-3, 21–32. 93B52 (70Q05)

— (*with* Wu, Qiong; Thornton-Trump, A. B.) Lyapunov stability control of inverted pendulums with general base point motion. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 801–818. (Summary) **99g:93061** 93D05 (70K20, 70Q05)

Sepko-Guzicka, E. *see* **Ross, Kenneth Allen, 99f:00001**

Seppälä, Mika (*with* Buser, Peter) Computing on Riemann surfaces. (English summary) *Topology and Teichmüller spaces (Katinkulta*, 1995), 5–30, *World Sci. Publishing, River Edge, NJ*, 1996. (Thomas A. Schmidt) **99k:30071** 30F10 (14H55, 14Q05, 14Q10, 30F35)

— (*with* Gianni, Patrizia; Silhol, Robert; Trager, Barry) Riemann surfaces, plane algebraic curves and their period matrices. (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 789–803. (Gabino González Díez) **99m:14055** 14H40 (14H55, 30F10, 30F30, 30F35)

— *see also* **Topology and Teichmüller spaces, 99g:00051**

Seppäläinen, Timo A scaling limit for queues in series. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 855–872. (Pablo A. Ferrari) **99j:60160** 60K35

— Increasing sequences of independent points on the planar lattice. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 886–898. (Bernard Ycart) **99a:60116** 60K35

— (*with* Feng, Shui; Iscoe, Ian) A microscopic mechanism for the porous medium equation. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 2, 147–182. (Pablo A. Ferrari) **99a:60114** 60K35 (35K55, 35Q35, 82C20, 82C22)

— Exact limiting shape for a simplified model of first-passage percolation on the plane. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1232–1250. (Olle Häggström) **99e:60220** 60K35 (82B43, 82C22)

— Hydrodynamic scaling, convex duality and asymptotic shapes of growth models. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 1, 1–26. (Jean-Pierre Fouque) **99e:60221** 60K35 (82C22)

Seppecher, Pierre (*with* Alberti, Giovanni; Bouchitté, Guy) Phase transition with the line-tension effect. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 1, 1–46. (Matthias Wilhelm Winter) **99j:76104** 76M30 (49Q20, 58E50, 76B45)

Sepulchre, J.-A. (*with* Mackay, Robert S.) Stability of discrete breathers. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 148–162. (Summary) **99e:58115** 58F10 (58F22)

Sepulchre, Rodolphe (*with* Kokotović, Petar V.) Shape signifiers for control of a low-order compressor model. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1643–1648. 93C95 (93A30)

— (*with* Aeyels, Dirk; Peuteman, Joan) Asymptotic stability for time-variant systems and observability: uniform and nonuniform criteria. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 1, 1–27. (Zvi Artstein) **99e:34064** 34D20 (93D05)

Sepúlveda, Marcos (*with* Rodríguez, Patricio; Nussbaum, Miguel; Baeza, Rodrigo; León, Gerardo; Cobián, Agustín) Using global search heuristics for the capacity vehicle routing problem. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 407–417. 90C35 (90B06)

Sequeira, Adélia (*with* Novotný, Antonin; Videman, Juha H.) Existence of three-dimensional flows of second-grade fluids past an obstacle. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3051–3058. (Leonid K. Antanovskiĭ) **99a:76006** 76A05 (35Q35)

— (*with* Pileckas, Konstantin; Videman, Juha H.) A note on steady flows of non-Newtonian fluids in channels and pipes. (English summary) *International Conference on Differential Equations (Lisboa*, 1995), 458–467, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35Q35 (76A05)

— (*with* Padula, Mariarosaria) A note on a vector transport equation with applications to non-Newtonian fluids. (English summary) *Theory of the Navier-Stokes equations*, 121–126, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99e:35188** 35Q35 (76A05)

— (*with* Matušů-Nečasová, Šárka; Videman, Juha H.) Existence of classical solutions for compressible viscoelastic fluids of Oldroyd type past an obstacle. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 5, 449–460. (Didier Bresch) **99m:76004** 76A10 (35Q35, 35R35)

Serafin, J. The finitary coding of two Bernoulli schemes with unequal entropies has finite expectation. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 4, 503–519. (Meir Smorodinsky) **99h:28038** 28D05 (28D20)

Serafin, Richard A. Bounds on the solution to Kepler's equation. II. Universal and optimal starting points. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 2, 131–146. (Summary) **99h:70020** 70F15 (70-08, 70F05)

Serafini, David B. (*with* Booker, Andrew J.; Dennis, J. E., Jr.; Frank, Paul D.; Torczon, Virginia) Optimization using surrogate objectives on a helicopter test example. (English summary) *Computational methods for optimal design and control (Arlington, VA*, 1997), 49–58, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 90C90 (93C95)

Serafini, Luciano (*with* Benerecetti, Massimo; Giunchiglia, Fausto) Model checking multiagent systems. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 401–423. (Summary) **99f:68132** 68Q60 (68T27)

Serag, H. On maximum principle and existence of solutions for $n \times n$ elliptic system with variable coefficients. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 1, 91–97. (Summary) **99h:35043** 35J45 (35B50)

Serakos, Demetrios (*with* Root, William L.) The state of dynamical input-output systems as an operator. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 224–248. (M. Z. Nashed) **99f:93033** 93B28 (47N70)

jiménez-Seral, Paz *see* **Jiménez-Seral, Paz**

Serapioni, Raul (*with* Franchi, Bruno; Serra Cassano, Francesco) Irregular solutions of linear degenerate elliptic equations. (English summary) *Potential Anal.* **9** (1998), *no.* 3, 201–216. (Ya. A. Roĭtberg) **99m:35087** 35J70

Şerb, Ioan On the behaviour of the tangential modulus of a Banach space. I. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 241–248. (Mikhail Ostrovskiĭ) **99d:46018**

46B20
— On the behaviour of the tangential modulus of a Banach space. II. *Mathematica* **38(61)** (1996), *no.* 1-2, 199–207. (From the introduction) **99d:46019** 46B20
Serban, Didina Some properties of the Calogero-Sutherland model with reflections. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4215–4225. (Summary) **99g:81246** 81V70 (22E70, 33C80)
— (*with* Maassarani, Ziad) Non-unitary conformal field theory and logarithmic operators for disordered systems. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 3, 603–625. (Michael A. I. Flohr) **99b:81219** 81T40 (17B65, 81R10, 82B44)
Şerbetçi, Ayhan (*with* Özkın, İ. Kaya) Restrictive semigroups of holomorphic endomorphisms on Riemann surfaces. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 77–81 (1998). (G. M. Lyan) **99b:30048** 30F99
Serbina, L. I. (*with* Tolpaev, V. A.) Computation of the permeability tensor for media with cylindrical laws of the distribution of the main directions of anisotropy. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 2, 41–42, 89. 76S05
Serbinowska, Monika (*with* Horváth, Lajos; Hušková, Marie) Estimators for the time of change in linear models. (English summary) *Statistics* **29** (1997), *no.* 2, 109–130. (Summary) **99k:62126** 62J05 (62G05)
el-Serbiny, H. M. *see* **El-Serbiny, H. M.**
Şerbu, Mihaela Some criteria for selection of variables in linear regression. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 6, 533–542. 62J05
Serdyukov, A. I. (*with* Gimadi, È. Kh.; Glebov, N. I.) On a problem of the choice of a cyclic route and loading of transport vehicles. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **5** (1998), *no.* 1, 12–18. 90C35 (90C08)
Séré, Eric (*with* Cieliebak, Kai) Pseudo-holomorphic curves and multibump homoclinic orbits. (English summary) Variational problems and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 973 (1996), 12–23. (Patricio L. Felmer) **99c:58056** 58F05 (34C37, 58D10, 58E05, 58F13)
— (*with* Esteban, Maria J.) Les équations de Dirac-Fock. (French summary) [The Dirac-Fock equations] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. V*, 10 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35Q40 (81Q05)
Serebryakov, A. Yu. Decoding of codes on elliptic curves with the number of errors greater than half of the code distance constructed. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 29–39; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 214–223 (1998). (V. A. Zinov'ev) **99a:94057** 94B35 (94B27)
Serebryakov, V. P. On the deficiency index of third-order two-term differential operators. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 40–43, 112; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 38–40. (Summary) **99d:47044** 47E05 (34L05)
— Quasiregularity conditions for a "purely imaginary" third-order singular differential operator. (Russian) *Mat. Zametki* **61** (1997), *no.* 1, 149–151; *translation in Math. Notes* **61** (1997), *no.* 1-2, 124–126. (Vjacheslav A. Yurko) **99c:47071** 47E05 (34L05)
— On the deficiency index of second-order matrix differential operators. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 183–184; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1326–1327. (Boris M. Levitan) **99b:47066** 47E05 (34B20)
Serebryanyĭ, A. I. Definability of the set of all true propositions of arithmetic by means of a passage to the limit. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 185–186; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 422–423. (Roman Murawski) **99a:03056** 03F30
Serëgin, G. A. Flow of two-dimensional generalized Newtonian fluid. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 1, 167–200; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 1, 121–146. (Summary) **99a:76007** 76A05 (35Q35)
— (*with* Ladyzhenskaya, O. A.) On the smoothness of solutions of systems describing the flow of generalized Newtonian fluids and the estimation of the dimensions of their attractors. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 5, 590–592. (Woodford W. Zachary) **99a:35211** 35Q35 (35B65, 47H20, 76A05)
— (*with* Shilkin, T. N.) Regularity of minimizers of some variational problems in plasticity theory. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 270–298, 342–343. (Reza Malek-Madani) **99f:49061** 49N60 (35Q72, 49J10, 73E99, 73V25)
— A variational problem on the phase equilibrium of an elastic body. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 3, 92–132. (Erich Miersemann) **99k:73047** 73C50 (49J45, 73B30, 73V25)
— (*with* Fuchs, Martin[2]) A regularity theory for variational integrals with $L \ln L$-growth. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 2, 171–187. (Reza Malek-Madani) **99i:49046** 49N60 (35J60, 46N20, 49J10, 73V25)
— (*with* Ladyzhenskaya, O. A.) On the smoothness of systems describing flows of generalized Newtonian fluids, and on the estimation of the dimensions of their attractors. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 1, 59–122; *translation in Izv. Math.* **62** (1998), *no.* 1, 55–113. (Igor D. Chueshov) **99g:35107** 35Q35 (35B40, 47H20, 58F12, 76A99, 76D99)
— (*with* Fuchs, Martin[2]) Regularity results for the quasi-static Bingham variational inequality in dimensions two and three. (English summary) *Math. Z.* **227** (1998), *no.* 3, 525–541. (Giuseppe Mingione) **99f:76006** 76A05 (35Q35, 49J40, 73E60, 76M30)
Sereno, Matteo Binary search with errors and variable cost queries. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 5, 261–270. (Summary) **99i:68026** 68P10
— (*with* Boucherie, Richard J.) On closed support T-invariants and the traffic equations. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 473–481. (Peter Gerrard Taylor) **99k:60239** 60K30 (60K25, 90B22)
Seress, Ákos (*with* Luks, Eugene M.) Computing the Fitting subgroup and solvable radical of small-base permutation groups in nearly linear time. (English summary) *Groups and computation, II (New Brunswick, NJ*, 1995), 169–181, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (Gerhard Hiss) **99g:20015** 20B40 (68Q25, 68Q40)
— (*with* Babai, László; Luks, Eugene M.) Fast management of permutation groups. I. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1310–1342. (Richard M. Thomas) **99d:20007** 20B40 (20-04, 68Q25, 68Q40)
— (*with* Gluck, David; Shalev, Aner) Bases for primitive permutation groups and a conjecture of Babai. (English summary) *J. Algebra* **199** (1998), *no.* 2, 367–378. (Robert M. Guralnick) **99b:20004** 20B15 (20B40, 20P05)
Serf, P. (*with* Cremona, J. E.) Computing the rank of elliptic curves over real quadratic number fields of class number 1. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1187–1200. (Kenneth Kramer) **99j:11060** 11G05 (11Y50)
Serfati, Michel Quasi-ensembles d'ordre r et approximations de répartitions ordonnées. (English and French summaries) [Quasisets and approximations of r-ordered partitions] *Math. Inform. Sci. Humaines No.* 143 (1998), 5–26 (1999). (Summary) **99j:06003** 06A07
Serfaty, Sylvia Solutions stables de l'équation de Ginzburg-Landau en présence de champ magnétique. (English and French summaries) [Stable solutions of the Ginzburg-Landau equation with magnetic field] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 949–954. (Summary) **99e:35213** 35Q55 (58E50, 82D55)
lane-Serff, Gregory F. *see* **Lane-Serff, Gregory F.**
Serfling, Robert (*with* Christofides, Tasos C.) *U*-statistics on a lattice of i.i.d. random variables. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 293–303. (N. C. Weber) **99i:60049** 60F05 (60F15, 60F17)
Serfozo, Richard F. Point processes in large spaces: Poisson approximations. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 597–610. (Toshio Mori) **99k:60125** 60G55 (60F05)
— (*with* Chang, Kuo-Hwa; Szczotka, Władysław) Treelike queueing networks: asymptotic stationarity and heavy traffic. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 541–568. (Vladimir V. Kalashnikov) **99e:60201** 60K25 (60F17)
— (*with* Yang, Bingyi) Markov network processes with string transitions. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 793–821. (Peter Gerrard Taylor) **99j:60137** 60K20 (68M20, 90B10)
— (*with* Chen, Liang[8]) Performance limitations of parallel simulations. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 397–409. (Summary) **99d:68031** 68M20 (65C20, 68U20)
— (*with* Chao, Xiuli; Miyazawa, Masakiyo; Takada, H.) Markov network processes with product form stationary distributions. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 4, 377–401. (Peter Gerrard Taylor) **99m:60142** 60K25 (68M20, 90B12)
Serganova, V. V. (*with* Vince, Andrew; Zelevinsky, Andrei) A geometric characterization of Coxeter matroids. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 173–181. (M. Stefănescu) **99g:05047** 05B35 (20F55)
— Characters of irreducible representations of simple Lie superalgebras. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 583–593 (*electronic*). (Joris Van der Jeugt) **99j:17010** 17B10 (17-02)
— (*with* Penkov, Ivan) The support of an irreducible Lie algebra representation. (English summary) *J. Algebra* **209** (1998), *no.* 1, 129–142. (Dietrich Burde) **99i:17008** 17B10
Sergeev, A. G. (*with* Popov, A. D.) Twistor quantization of bosonic string theory. (English summary) *Interface between physics and mathematics (Hangzhou*, 1993), 213–223, *World Sci. Publishing, River Edge, NJ*, 1994. (Michael Murray) **99c:81074** 81R25 (22E67, 81S10, 81T30)
— Vortex equations. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 329–341. (Steven B. Bradlow) **99b:58057** 58E15 (32L10, 53C07)
— (*with* Davidov, İ.) Twistor quantization of loop spaces. (Russian. Russian summary) *Tr. Mat. Inst. Steklova* **217** (1997), *Prostran. Petel' i Gruppy Diffeomorf.*, 5–99. (Alexander D. Popov) **99f:58084** 58F06 (22E67, 58B25, 81S10)
— Twistor quantization of loop spaces and general Kähler manifolds. (English summary) *Operator theory for complex and hypercomplex analysis (Mexico City*, 1994), 221–228, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (J. S. Joel) **99b:58106** 58F06 (32L25)
Sergeev, A. I. Uniqueness and normality for M. Riesz potentials and solutions of the Darboux equation. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 141–147, 216–217; *translation in J. Math. Sci. (New York)* **92** (1998), *no.* 1, 3635–3639. (Summary) **99a:31005** 31B15 (35J05)
Sergeev, A. V. (*with* Elout, Melchior O.; Goodson, David Z.; Elliston, Carl D.; Huang, Shi-Wei; Watson, Deborah K.) Improving the convergence and estimating the accuracy of summation approximants of $1/D$ expansions for Coulombic systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5112–5122. (Peter N. Zhevandrov) **99g:81045** 81Q15
Sergeev, I. N. (*with* Vinogradova, I. A.; Lupanov, O. B.; Mel'nikov, I. I.; Potapov, M. K.; Sadovnichiĭ, V. A.) In memory of Slav Nikolaevich Olekhnik [1945–1995]. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 108–109. 01A70
Sergeev, S. M. Operator solutions of simplex equations. (English summary) *Problems of quantum field theory (Alushta*, 1996), 154–157, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:81074** 81R50 (82B23)
— (*with* Kashaev, R. M.) On pentagon, ten-term, and tetrahedron relations. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 309–319. (Władysław Marcinek) **99k:81115** 81R50 (16W30, 17B37, 82B23)
— Solutions of the functional tetrahedron equation connected with the local Yang-Baxter equation for the ferro-electric condition. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 113–119. (Mathias Pillin) **99d:58089** 58F07 (16W30)
Sergeev, V. S. On asymptotic stability and an estimate for the domain of attraction in some systems with aftereffect. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 744–751; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 737–743. (Sergiy V. Yanchuk) **99e:34109** 34K20 (45J05, 45M10)
— On the instability in the critical case of a pair of purely imaginary roots for a class of systems with aftereffect. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 79–86; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 73–79. (J. Milota) **99i:45023** 45M10 (34K20, 45J05)
Sergeev, Yaroslav D. Global one-dimensional optimization using smooth auxiliary functions. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 127–146. (G. R. Wood) **99f:90134** 90C30

— (*with* Celani, M.; Cerulli, R.; Gaudioso, M.) A multiplier adjustment technique for the capacitated concentrator location problem. (English summary) *Optim. Methods Softw.* **10** (1998), *no.* 1, 87–102. 90B80 (90C09)

— (*with* Gergel, V. P.) Sequential and parallel algorithms for global minimizing functions with Lipschitzian derivatives. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 163–179. (*see* **99i:90003**) 90C30 (65K05, 65Y05)

Sergeichuk, Vladimir V. Unitary and Euclidean representations of a quiver. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 37–62. (K. Chandrasekhara Rao) **99g:16020** 16G20 (15A03)

Sergent, Philippe (*with* Duhamel, D.) Optimal placement of sources and sensors with the minimax criterion for active control of a one-dimensional sound field. (English summary) *J. Sound Vibration* **207** (1997), *no.* 4, 537–566. (Summary) **99a:76139** 76Q05 (49N55, 73K12, 73K50)

Sergeyev, Arthur On parasupersymmetries in a relativistic Coulomb problem for the modified Stueckelberg equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 331–335, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 81Q60

— A relativistic Coulomb problem for the modified Stueckelberg equation. (English, Russian and Ukrainian summaries) *Ukrain. Fiz. Zh.* **42** (1997), *no.* 10, 1171–1174. 81V10

— Generalized symmetries of partial differential equations and quasi-exact solvability. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 279–286. (Alexander V. Shapovalov) **99k:58196** 58G35 (35A30, 58F07, 58F35)

Sergeyev, Ya. D. *see* **Sergeev, Yaroslav D.**

Sergeyev, Yaroslav D. *see* **Sergeev, Yaroslav D.**

Sergheyev, A. G. *see* **Sergeyev, Arthur**

Sergheyev, Arthur *see* **Sergeyev, Arthur**

Sergienko, I. V. (*with* Roshchin, V. A.) On the solution of an integer programming problem of a special type. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996,** *no.* 5, 16–22, 151. 90C10 (90C27)

Sergievskiĭ, A. E. (*with* Averkin, A. N.; Golovina, E. Yu.) Design of fuzzy controllers based on triangular norms. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997,** *no.* 5, 112–118. 93C42

Series, Caroline (*with* Komori, Yohei) The Riley slice revisited. (English summary) *The Epstein birthday schrift*, 303–316 (*electronic*), *Geom. Topol. Monogr.*, 1, *Geom. Topol., Coventry*, 1998. (John R. Parker) **99m:30087** 30F40

— *see also* **Epstein birthday schrift, 99h:00016**

sivrikaya-Şerifoğlu, Funda *see* **Sivrikaya-Şerifoğlu, Funda**

Serio, M. (*with* Osborne, A. R.; Bergamasco, L.; Cavaleri, L.) Solitons, cnoidal waves and nonlinear interactions in shallow-water ocean surface waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 64–81. (Summary) **99i:76021** 76B25 (35Q53, 86A05)

— (*with* Osborne, A. R.; Onorato, M.; Bergamasco, L.) Soliton creation and destruction, resonant interactions, and inelastic collisions in shallow water waves. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 17, 3559–3562. (Summary) **99h:76011** 76B25 (76B15)

vera de Serio, Virginia N. *see* **Vera de Serio, Virginia N.**

Seriu, Masafumi (*with* Mukohyama, Shinji; Kodama, Hideo) Thermodynamics of entanglement in Schwarzschild spacetime. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064001, 11 *pp.* (Summary) **99k:83080** 83C57

Serizawa, Shigehiro (*with* Barberà, Salvador; Massó, Jordi) Strategy-proof voting on compact ranges. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 2, 272–291. (Maurice Salles) **99m:90015** 90A08

— (*with* Ching, Stephen) A maximal domain for the existence of strategy-proof rules. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 157–166. (Summary) **99f:90012** 90A08

— Strategy-proof and symmetric social choice functions for public good economies. (English summary) *Econometrica* **67** (1999), *no.* 1, 121–145. (Summary) **99h:90011** 90A08 (90A27)

Serjeantson, R. W. Testimony and proof in early-modern England. *Stud. Hist. Philos. Sci.* **30** (1999), *no.* 2, 195–236. 01A40 (01A45)

Serkov, S. K. (*with* Bigoni, D.; Valentini, M.; Movchan, A. B.) Asymptotic models of dilute composites with imperfectly bonded inclusions. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 24, 3239–3258. (Leonid V. Gibiansky) **99d:73005** 73B27 (73K20, 73M25)

— (*with* Cherkaev, Andrej V.; Grabovsky, Yury; Movchan, A. B.) The cavity of the optimal shape under the shear stresses. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 33, 4391–4410. (Summary) **99e:73040** 73C99 (73B27, 73K20, 73K40, 73V35)

Sermutlu, Emre The first law of black-hole thermodynamics for black holes in string theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1449–1461. (Marco Cavaglià) **99g:83059** 83C57 (83E30)

Serna, A. (*with* Alimi, J. M.) Baryonic density and scalar-tensor gravity theories. (English summary) Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology, Part II (Beer Sheva, 1997). *Hadronic J.* **21** (1998), *no.* 2, 192–201. (*see* **99m:83002**) 83F05 (83D05)

— (*with* Navarro, A.; Alimi, J. M.) Asymptotic and exact solutions of perfect-fluid scalar-tensor cosmologies. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 12, 124015, 16 *pp.* 83D05

sanz Serna, J. M. *see* **Sanz Serna, J. M.**

Serna, María José (*with* Díaz, Josep; Spirakis, Paul G.; Torán, Jacobo) ★ Paradigms for fast parallel approximability. (English summary) Cambridge International Series on Parallel Computation, 8. *Cambridge University Press, Cambridge*, 1997. viii+158 *pp.* *ISBN* 0-521-43170-0 (Juraj Hromkovič) **99b:68092** 68Q22 (68–02, 68Q15, 68Q25)

— (*with* Trevisan, Luca; Xhafa, Fatos) The (parallel) approximability of non-Boolean satisfiability problems and restricted integer programming. (English summary) *STACS 98* (*Paris*, 1998), 488–498, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 90C10 (90C27)

— (*with* Díaz, Josep; Spirakis, Paul G.) On the random generation and counting of matchings in dense graphs. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 281–290. (Summary) **99b:68145** 68R10 (05C70, 05C85)

Sernadas, Amílcar (*with* Sernadas, Cristina; Caleiro, Carlos) Synchronization of logics. (English summary) *Studia Logica* **59** (1997), *no.* 2, 217–247. (Marcus Kracht) **99c:03013** 03B22 (03B70, 68Q60)

— (*with* Menezes, P. Blauth; Costa, J. Félix) Nonsequential automata semantics for a concurrent, object-based language. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems* (*Rio de Janeiro*, 1997/*New Orleans, LA*, 1997), 29 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q55 (68Q10)

Sernadas, Cristina (*with* Sernadas, Amílcar; Caleiro, Carlos) Synchronization of logics. (English summary) *Studia Logica* **59** (1997), *no.* 2, 217–247. (Marcus Kracht) **99c:03013** 03B22 (03B70, 68Q60)

Seron, M. M. (*with* Braslavsky, J. H.; Kokotović, Petar V.; Mayne, D. Q.) Feedback limitations in nonlinear systems: from Bode integrals to cheap control. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 829–833. (Summary) **99m:93042** 93B52 (93C10)

Serone, Marco (*with* Plefka, Jan C.; Waldron, Andrew K.) $D = 11$ SUGRA as the low energy effective action of Matrix theory: three form scattering. (English summary) *J. High Energy Phys.* **1998,** *no.* 11, *Paper* 10, 24 *pp.* (*electronic*). (Summary) **99k:83126** 83E30 (81T30, 83E50)

— (*with* Morales, Jose F.; Scrucca, Claudio A.) Scale-independent spin effects in D-brane dynamics. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 223–249. (Summary) **99g:81177** 81T30

— (*with* Morales, Jose F.; Scrucca, Claudio A.) A note on supersymmetric D-brane dynamics. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 233–239. (Summary) **99a:81148** 81T30 (83E30)

— (*with* Plefka, Jan C.; Waldron, Andrew K.) Matrix theory S matrix. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 14, 2866–2869. (Summary) **99g:81181** 81T30

Seroussi, Gadiel (*with* Roth, Ron M.) Reduced-redundancy product codes for burst error correction. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1395–1406. (Summary) **99j:94072** 94B20

Serov, N. I. (*with* Serova, M. M.) The conditional symmetry and connection between the equations of mathematical physics. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 48–52, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 58G35 (35Q35)

— (*with* Cherniga, R. M.) Lie and non-Lie symmetries of nonlinear diffusion equations with convection term. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 444–449, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35K55 (35A30)

Serov, V. P. (*with* Chentsov, A. G.) Representation for some set-theoretic limits in the class of two-valued finitely additive measures. (English summary) *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 265–278 (1997). (Summary) **99c:28006** 28A12 (49Q20)

Serov, V. S. (*with* Leont'eva, T. A.; Panferov, V. S.) ★ Задачи по теории функций действительного переменного. (Russian. Russian summary) [Problems in the theory of functions of a real variable] *Izdatel'stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1997. 208 *pp.* *ISBN* 5-211-04054-6 (Publisher's description) **99e:00003** 00A07 (28–01, 46–01)

— (*with* Päivärinta, Lassi) Recovery of singularities of a multidimensional scattering potential. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 697–711 (*electronic*). (Xue-Ping Wang) **99c:35261** 35R30 (35J99, 35P25)

Serova, M. M. (*with* Serov, N. I.) The conditional symmetry and connection between the equations of mathematical physics. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 48–52, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 58G35 (35Q35)

— (*with* Andreeva, N. V.) Evolution equations invariant under the conformal algebra. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 217–221, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35A30

Serovaĭskiĭ, S. Ya. Arithmetic theory of distributions and an unsolved problem of J.-L. Lions. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996,** *no.* 3, 38–44. (Vyacheslav V. Chistyakov) **99f:46057** 46F10 (35J20, 35J85, 49J20)

— Optimal control of a nonlinear singular system with a phase constraint. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 511–518, 638; *translation in Math. Notes* **60** (1996), *no.* 3-4, 383–388 (1997). (Vyacheslav N. Pavlenko) **99i:49007** 49J20 (49K20, 49M05)

— Gradient methods in the problem of the optimal control of a nonlinear elliptic system. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1154–1166, *iii–iv*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 1016–1027. (O. V. Vasil'ev) **99j:49065** 49M07 (49J20)

— Optimal control of a nonlinear singular system with a fixed terminal state. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1114–1117, 1151; *translation in Differential Equations* **33** (1997), *no.* 8, 1121–1124 (1998). 49K40 (49K20)

— A multiplicative topological groupoid of distributions. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997,** *no.* 3, 57–66. (Bl. P. Damyanov) **99i:46029** 46F10 (22A10, 22A15, 46F05)

— Extendedly differentiable manifolds. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997,** *no.* 1, 56–65; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 1, 53–62. (S. Buryšek) **99e:58010** 58B10 (35J60, 47H15, 47N20, 58C20)

Serpico, M. E. (*with* Canonero, G.) On the double locus of a determinantal hypersurface. (Italian. English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 211–214. (Summary) **99g:14062** 14M12 (14N05)

Serra, Jean C. Equicontinuous random functions. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 67–84, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:60072** 60G05

— Hausdorff distances and interpolations. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 107–114, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (54E35)

Serra, Mauro (*with* Banichuk, N. V.; Ragnedda, Francesco) Probabilistic approaches for optimal beam design based on fracture mechanics. (English and Italian summaries) *Meccanica* **34** (1999), *no.* 1, 29–38. (Summary) **99m:73055** 73K40 (73M25)

Serra, Micaela (*with* Cattell, Kevin; Zhang, Shujian; Muzio, Jon C.) 2-by-*n* hybrid cellular automata with regular configuration: theory and application. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 3, 285–295. (Summary) **99k:68116** 68Q80 (68Q35)

Serra, O. (*with* Espona, M.) Cayley digraphs based on the de Bruijn networks. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 305–317 (*electronic*). (William L. Kocay) **99h:05052** 05C25 (05C20, 94C15)

Serra, Roberto (*with* Di Gregorio, S.; Villani, Marco) Applying cellular automata to complex environmental problems: the simulation of the bioremediation of contaminated soils. (English summary) Cellular automata (Milan, 1996). *Theoret. Comput. Sci.* **217** (1999), *no.* 1, 131–156. (*see* **99k:68007**) 90A30 (68Q80, 92D40)

Serra, Stefano New PCG based algorithms for the solution of Hermitian Toeplitz systems. (English summary) *Calcolo* **32** (1995), *no.* 3-4, 153–176 (1997). (De Hui Chen) **99a:65053** 65F30

— (*with* Fiorentino, Giuseppe) Multigrid methods for indefinite Toeplitz matrices. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 223–236 (1998). (Summary) **99e:65070** 65F30

— An ergodic theorem for classes of preconditioned matrices. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 161–183. (Zdeněk Dostál) **99k:65040** 65F35 (15A12)

— Korovkin theorems and linear positive Gram matrix algebra approximations of Toeplitz matrices. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 307–334. (Alexey L. Lukashov) **99h:65088** 65F35 (41A36, 47N40)

— (*with* Costabile, F.; Gualtieri, M. I.) An extrapolation technique for general exponential type operators. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 345–355. (Mariano Gasca) **99h:41025** 41A25 (41A60, 65B05)

— Superlinear PCG methods for symmetric Toeplitz systems. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 793–803. (Israel Koltracht) **99i:65049** 65F30

— The rate of convergence of Toeplitz based PCG methods for second order nonlinear boundary value problems. (English summary) *Numer. Math.* **81** (1999), *no.* 3, 461–495. (L. W. Ehrlich) **99m:65202** 65N12 (65N22)

— Asymptotic results on the spectra of block Toeplitz preconditioned matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 31–44 (*electronic*). (Zdeněk Dostál) **99k:65039** 65F35 (15A12, 15A57)

— Toeplitz preconditioners constructed from linear approximation processes. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 446–465 (*electronic*). (A. Bultheel) **99j:65051** 65F10 (65F35, 65T10)

Serra Cassano, Francesco (*with* Paronetto, F.) On the convergence of a class of degenerate parabolic equations. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 9, 851–878. (Stepan D. Ivasyshen) **99m:35135** 35K65 (35B27, 35J70)

— (*with* Franchi, Bruno; Serapioni, Raul) Irregular solutions of linear degenerate elliptic equations. (English summary) *Potential Anal.* **9** (1998), *no.* 3, 201–216. (Ya. A. Roĭtberg) **99m:35087** 35J70

Serrano, Fernando *see* **Dedicated to the memory of Fernando Serrano, 99i:00032**; **Conte, Alberto, 99m:01050** *and* **Bibliography: Serrano, Fernando, (99i:00032)**

Serrano, M. (*with* Huidobro Rojo, J. A.; Robles, Arturo) Analysis of the solution of a thermoelastoplastic model. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 73B30 (73E50, 73V20)

Serrano, Roberto Reinterpreting the kernel. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 58–80. (Tadeusz Radzik) **99c:90166** 90D12

— (*with* Vohra, Rajiv) Non-cooperative implementation of the core. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 4, 513–525. (Summary) **99d:90157** 90D40 (90D12)

— (*with* Dagan, Nir; Volij, Oscar) Comment on A. McLennan and H. Sonnenschein "Sequential bargaining as a noncooperative foundation for Walrasian equilibrium" [Econometrica **59** (1991), no. 5, 1395–1424; MR 93a:90012]. *Econometrica* **66** (1998), *no.* 5, 1231–1233. (Akira Okada) **99k:90045** 90A12 (90A14, 90D10)

Serrano-Pérez, M. Carmen (*with* Lorente-Pardo, Jerónimo; Sablonnière, Paul) On convexity and subharmonicity of some functions on triangles. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 271–278, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (W. W. Breckner) **99m:26022** 26B25 (41A29)

— (*with* Lorente-Pardo, Jerónimo; Sablonnière, Paul) On the convexity of Powell-Sabin finite elements. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 395–404, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65029** 65D17

Serrão, P. G. T. A. (*with* Campos, L. M. B. C.) On the acoustics of an exponential boundary layer. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1746, 2335–2378. (Summary) **99g:76131** 76Q05

Serratosa, Francesc (*with* Alquézar, René; Sanfeliu, Alberto) Synthesis of function-described graphs. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 112–121, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68R10 (68T10)

Serre, Denis ★ Systèmes de lois de conservation. I. (French. French summary) [Systems of conservation laws. I] Hyperbolicité, entropies, ondes de choc. [Hyperbolicity, entropies, shock waves] Fondations. [Foundations] *Diderot Editeur, Paris*, 1996. xii+300 *pp. ISBN* 2-84134-068-6 (Philippe G. LeFloch) **99b:35139** 35L65 (35B35, 35D05, 35L67)

— ★ Systèmes de lois de conservation. II. (French. French summary) [Systems of conservation laws. II] Structures géométriques, oscillation et problèmes mixtes. [Geometric structures, oscillation and mixed problems] Fondations. [Foundations] *Diderot Editeur, Paris*, 1996. iv+308 *pp. ISBN* 2-84134-072-4 (Philippe G. LeFloch) **99e:35144** 35L67 (35Bxx, 35C20, 35L67)

— Solutions globales $(-\infty < t < +\infty)$ des systèmes paraboliques de lois de conservation. (English and French summaries) [Global solutions $(-\infty < t < +\infty)$ of parabolic systems of conservation laws] *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 4, 1069–1091. (Albert J. Milani) **99m:35130** 35K60 (35B25, 35L65)

— (*with* Luo, Tao) Linear stability of shock profiles for a rate-type viscoelastic system with relaxation. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 569–586. (Michael Renardy) **99e:35143** 35L67 (35Q72, 73F15)

Serre, Jean-Pierre Extensions de groupes localement compacts (d'après Iwasawa et Gleason). [Extensions of locally compact groups (after Iwasawa and Gleason)] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 27, 197–202, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 22D05

— Groupes d'homotopie. [Homotopy groups] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 44, 365–370, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 55Q05

— Groupes *p*-divisibles (d'après J. Tate). [*p*-divisible groups (after J. Tate)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 318, 73–86, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 14L05

— Groupes de congruence (d'après H. Bass, H. Matsumoto, J. Mennicke, J. Milnor, C. Moore). [Congruence groups (after H. Blass, H. Matsumoto, J. Mennicke, J. Milnor, C. Moore)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 330, 275–291, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 20H05

— Utilisation des nouvelles opérations de Steenrod dans la théorie des espaces fibrés (d'après A. Borel et J.-P. Serre). [Using new Steenrod operations in the theory of fiber spaces (after A. Borel and J.-P. Serre)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 54, 37–46, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 55S10 (55R10, 55S40)

— Cohomologie et fonctions de variables complexes. [Cohomology and functions of complex variables] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 71, 213–218, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 32C35 (32E10)

— Cohomologie et arithmétique. [Cohomology and arithmetic] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 77, 263–269, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 20J06 (12G05)

— Espaces fibrés algébriques (d'après André Weil). [Algebraic fiber spaces (after André Weil)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 82, 305–311, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 14F05

— Travaux d'Hirzebruch sur la topologie des variétés. [Works of Hirzebruch on the topology of manifolds] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 88, 351–356, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 55S10 (57R20)

— Faisceaux analytiques. [Analytic sheaves] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 95, 409–414, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 32C35

— Représentations linéaires et espaces homogènes kählériens des groupes de Lie compacts (d'après Armand Borel et André Weil). [Linear representations and Kähler homogeneous spaces of compact Lie groups (after Armand Borel and André Weil)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 100, 447–454, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 53C30 (53C55)

— Le théorème de Brauer sur les caractères. [The Brauer character theorem] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 111, 107–113, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 20C20

— Théorie du corps de classes pour les revêtements non ramifiés de variétés algébriques (d'après S. Lang). [Theory of class fields for nonramified coverings of algebraic varieties (after S. Lang)] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 133, 347–355, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 11R37 (11G45, 14E20)

— Critère de rationalité pour les surfaces algébriques (d'après K. Kodaira). [Rationality criterion for algebraic surfaces (after K. Kodaira)] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 146, 125–138, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 14M20 (14J99)

— Classes des corps cyclotomiques (d'après K. Iwasawa). [Classes of cyclotomic fields (after K. Iwasawa)] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 174, 83–93, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 11R18

— Corps locaux et isogénies. [Local fields and isogenies] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 185, 239–247, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 20G15 (14F35)

— Rationalité des fonctions ζ des variétés algébriques (d'après Bernard Dwork). [Rationality of the ζ-functions of algebraic varieties (after Bernard Dwork)] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 198, 415–425, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 14G10 (11G40)

— Revêtements ramifiés du plan projectif (d'après S. Abhyankar). [Ramified coverings of the projective plane (after S. Abhyankar)] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 204, 483–489, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 14H30

— Groupes finis à cohomologie périodique (d'après R. Swan). [Finite groups with periodic cohomology (after R. Swan)] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 209, 53–64, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 20J06

— Structure de certains pro-*p*-groupes (d'après Demuškin). [Structure of certain pro-*p*-groups (after Demushkin)] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 252, 145–155, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 20E18 (12F10)

— Groupes analytiques *p*-adiques (d'après Michel Lazard) [MR **31** #1255]. [*p*-adic analytic groups (after Michel Lazard)] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 270, 401–410, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 22E55

— Deux lettres sur la cohomologie non abélienne. [Two letters concerning nonabelian cohomology] *Geometric Galois actions*, 1, 175–182, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Johannes Huebschmann) **99d:20081** 20J05 (18G50, 20E08)

Serre, Marc (*with* Hristopulos, Dionissios T.; Christakos, George) Numerical implementation of a space-transformation approach for solving the three-dimensional flow equation. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 619–647 (*electronic*). (Summary) **99d:65025** 65C20 (76M20, 76S05)

Serrin, James (*with* Levine, Howard A.) Global nonexistence theorems for quasilinear evolution equations with dissipation. *Arch. Rational Mech. Anal.* **137** (1997), *no.* 4, 341–361. (Mitsuhiro Nakao) **99b:34110** 34G20 (35L99, 47N20)

— (*with* Pucci, Patrizia) Some new reuslts on global nonexistence for abstract evolution with positive initial energy. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 241–247. (Sergiu Aizicovici) **99i:34086** 34G20 (35L70)

— (*with* Zou, Henghui) Existence of positive solutions of the Lane-Emden system. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 369–380. (Giovanni Leoni) **99j:35055** 35J60 (35B05, 35J45)

— (*with* Zou, Henghui) Existence of positive entire solutions of elliptic Hamiltonian systems. *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 577–599. (C. A. Swanson) **99f:35054** 35J60 (34A34, 35B05)

— (*with* Pucci, Patrizia) Uniqueness of ground states for quasilinear elliptic operators. *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 501–528. (C. A. Swanson) **99k:35066** 35J65 (34B15)

— (*with* Pucci, Patrizia) Uniqueness of ground states for quasilinear elliptic equations in the exponential case. *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 529–539. (C. A. Swanson) **99k:35067** 35J65 (34B15)
— (*with* Pucci, Patrizia) Local asymptotic stability for dissipative wave systems. (English summary) *Israel J. Math.* **104** (1998), 29–50. (Alan Jeffrey) **99b:35149** 35L70 (34D05, 35B40)
— (*with* Levine, Howard A.; Park, Sang Ro) Global existence and nonexistence theorems for quasilinear evolution equations of formally parabolic type. *J. Differential Equations* **142** (1998), *no.* 1, 212–229. (Nicolae H. Pavel) **99b:35089** 35K55 (34G20)
— (*with* Levine, Howard A.; Park, Sang Ro) Global existence and global nonexistence of solutions of the Cauchy problem for a nonlinearly damped wave equation. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 181–205. (Huicheng Yin) **99k:35124** 35L70 (35B60, 35D05)
Sertel, Murat R. (*with* Ichiishi, Tatsuro) Cooperative interim contract and re-contract: Chandler's *M*-form firm. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 523–543. (Shigeo Muto) **99i:90126** 90D12 (90A30)
— (*with* Yıldız, Muhamet) The Lindahl solution with changing population and resources. (English summary) Axiomatics of resource allocation, 1. *Math. Social Sci.* **35** (1998), *no.* 2, 151–163. (Summary) **99i:90030** 90A27
— (*with* Yıldız, Muhamet) Double-edged population monotonicity of Walrasian equilibrium—a note on the nature of competition. (English summary) *Math. Social Sci.* **37** (1999), *no.* 3, 235–251. (Summary) **99m:90040** 90A14 (90D05)
Sertöz, A. Sinan An overview of the search for minimal models of algebraic threefolds. *Algebraic geometry* (*Ankara*, 1995), 291–311, *Lecture Notes in Pure and Appl. Math.*, 193, *Dekker, New York*, 1997. (Dimitrios I. Dais) **99j:14017** 14E30
— (*with* Önsiper, Hurşit) On degenerations of fiber spaces of curves of genus ≥ 2. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 4, 350–352. (Wolfgang K. Seiler) **99b:14008** 14D05 (14J29)
— (*with* Arslan, Feza) Genus calculations of complete intersections. *Comm. Algebra* **26** (1998), *no.* 8, 2463–2471. (Luca Chiantini) **99e:14058** 14M10 (13C40)
— Local structure of holomorphic foliation singularities. (English summary) *Pacific J. Math.* **186** (1998), *no.* 1, 149–165. (M. G. Soares) **99j:32036** 32L30
Serva, Maurizio (*with* Baviera, R.; Pasquini, M.) A variational approach to Ising spin glasses in finite dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4127–4140. (Summary) **99b:82086** 82D30 (82B20)
— 2D Ising model with layers of quenched spins. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 31–45. (Daniel Ueltschi) **99e:82053** 82B44 (82B20)
Servatius, Brigitte (*with* Whiteley, Walter) Constraining plane configurations in computer-aided design: combinatorics of directions and lengths. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 136–153 (*electronic*). (Luiz Henrique de Figueiredo) **99m:68218** 68U07 (05B35, 05C50, 51N05, 52C25)
Servi, L. D. (*with* Daley, D. J.) Moment estimation of customer loss rates from transactional data. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 301–310. (Summary) **99e:60202** 60K25 (62M05)
— (*with* Humair, S.) Optimizing Bernoulli routing policies for balancing loads on call centers and minimizing transmission costs. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 3, 623–659. (Summary) **99m:90072** 90B12 (94A05)
Sesekin, A. N. (*with* Zavalishchin, S. T.) ★ Dynamic impulse systems. (English summary) Theory and applications. Mathematics and its Applications, 394. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xii+256 *pp. ISBN* 0-7923-4394-8 (Yuri V. Rogovchenko) **99h:34018** 34A37 (34H05, 34K99, 46F10, 46N10, 49J15, 93C15)
— (*with* Andreeva, I. Yu.) A degenerate linear-quadratic optimization problem with time delay. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 43–54; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1101–1109. (Vladimir Veliov) **99e:49044** 49N10 (49K40)
Šešelja, Branimir (*with* Chajda, Ivan; Tepavčević, Andreja) Lattices of compatible relations satisfying a set of formulas. (English summary) *Algebra Universalis* **40** (1998), *no.* 1, 51–58. (Ewa Graczyńska) **99k:08002** 08A30 (08A05)
— (*with* Tepavčević, Andreja) On generation of finite posets by meet-irreducibles. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 269–275. (V. Novák) **99m:06002** 06A06 (06B15, 06D05)
— (*with* Chajda, Ivan; Tepavčević, Andreja) Weak congruences in algebras having restricted similarity types. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 27–38. (Pavol Zlatoš) **99g:08001** 08A30 (08A05, 08A62, 08A65)
— (*with* Tepavčević, Andreja) On a representation of posets by fuzzy sets. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 127–132. (Claudi Alsina) **99f:06003** 06A06 (04A72)
Seshadri, Nambi (*with* Tarokh, Vahid; Naguib, Ayman; Calderbank, A. Robert) Combined array processing and space-time coding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 4, 1121–1128. 94A05 (78A55)
Seshadri, Sampath (*with* Balakrishnan, Venkataramanan; Lakshmibala, S.) Ladder operators for isospectral oscillators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 838–847. (Marcelo R. Ubriaco) **99a:81069** 81R30 (81R50)
Seshadri, Sridhar (*with* Glassey, C. Roger; Shanthikumar, J. George) Using information about machine failures to control flowlines. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 455–481. (S. N. Alam) **99a:90096** 90B25
Seshadri, Vanamamalai A property of natural exponential families in $\mathbf{R}^n$ with simple quadratic variance functions. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 351–361. (Summary) **99c:62035** 62E15 (62H05)
— ★ The inverse Gaussian distribution. (English summary) Statistical theory and applications. Lecture Notes in Statistics, 137. *Springer-Verlag, New York*, 1999. *xii*+347 *pp. ISBN* 0-387-98618-9 (Truc Nguyen) **99j:62015** 62E15
Seshagiri Rao, K. V. V. (*with* Iyengar, T. K. V.) On the existence of positive solutions of certain nonlinear differential equations of arbitrary order. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 143–150. (John R. Graef) **99i:34053** 34C11
Seshaiyer, Padmanabhan (*with* Suri, Manil) Convergence results for non-conforming *hp* methods: the mortar finite element method. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 453–459, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N30 (65N15)
Sesiano, Jacques Les carrés magiques de Manuel Moschopoulos. [The magic squares of Manuel Moschopoulos] *Arch. Hist. Exact Sci.* **53** (1998), *no.* 5, 377–397. (Doru Ştefănescu) **99m:01009** 01A35 (05–03)
— An early form of Greek algebra. With addenda in Greek. *Centaurus* **40** (1998), *no.* 3-4, 276–302. (C. R. Fletcher) **99k:01004** 01A20
Sesma, Javier (*with* López García, José Luis) The solutions of the Whittaker equation as functions of the order's parameter. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 309–314, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Summary) **99h:33020** 33C15 (34A20)
— (*with* López García, José Luis) The Whittaker function $M_{\kappa,\mu}$ as a function of κ. (English summary) *Constr. Approx.* **15** (1999), *no.* 1, 83–95. (H. S. P. Shrivastava) **99m:33004** 33C15 (30D10, 33C10, 41A30)
— (*with* Abad, Julio) Buchholz polynomials: a family of polynomials relating solutions of confluent hypergeometric and Bessel equations. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 237–241. (Summary) **99j:33007** 33C15 (26C05, 33C10)
Sessa, Carmen (*with* Dickenstein, Alicia) Résidus de formes méromorphes et cohomologie modérée. (English summary) [Residues of meromorphic forms and moderate cohomology] *Géométrie complexe* (*Paris*, 1992), 35–59, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Mohammed El Amrani) **99a:32009** 32C30 (32A27, 32C35)
Sessa, Maria I. (*with* Paternoster, Beatrice) A workload characterization by clustering technique. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 4, 365–382. 68M20
Sessa, Salvatore (*with* Mehta, Ghanshyam) General coincidence theorems for maps and multivalued maps in topological vector spaces. (English summary) *Bull. Greek Math. Soc.* **37** (1995), 79–92. (Adrian Petruşel) **99e:47081** 47H10 (47H04)
— (*with* Dubois, Didier; Prade, Henri) Recent literature. *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 381–386. 00A15 (03B52, 03E72)
— (*with* Ray, Suryansu) Representation of an MV-algebra by its triangular norms. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 171–175. (Summary) **99g:03067** 03G20
— (*with* Dubois, Didier; Prade, Henri) Recent literature. *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 351–356. 00A15 (03E72)
— (*with* Dubois, Didier; Prade, Henri) Recent literature. *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 191–197. 00A15 (03E72)
— *see also* **Using fuzzy algebraic structures in intelligent systems, 99d:68015**
Šestak, Ivan (*with* Jovanović, Boško S.) Existence result for the displacement field of elastic body. The case of a locking support. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **63(77)** (1998), 75–80. (Igor Bock) **99f:73026** 73C02 (73T05, 73V25)
— (*with* Jovanović, Boško S.) Least-squares mixed finite elements for linear elasticity problems with non-homogeneous boundary conditions. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 9, 641–645. (Summary) **99f:65168** 65N30 (73C02, 73V05)
Sester, Olivier Configurations combinatoires des polynômes fibrés de degré 2. (English and French summaries) [Combinatorial configurations of quadratic fibered polynomials] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 477–482. (Dan Coman) **99i:58130** 58F23 (30D05)
Sestini, A. (*with* Morandi, R.) Precise controls in numerical grid generation. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 243–258, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 65N55 (41A63, 65N30)
Seta, Luciano (*with* Greco, Antonio M.) High-frequency interacting gravitational and magnetosonic waves. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3655–3668. (Summary) **99g:83027** 83C35
Seth, A. *see* **Seth, Arindam**
Seth, Anil (*with* Dawar, Anuj; Hella, Lauri) Ordering finite variable types with generalized quantifiers. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 28–43, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03042** 03C80 (03C13, 68P15, 68Q15)
Seth, Arindam Representations of Γ-semigroups and regular Γ-semigroups. (English summary) *J. Pure Math.* **13** (1996), 58–62. (Summary) **99g:20118** 20M30 (20M17)
Sethares, William A. (*with* Blackmore, Kim L.; Williamson, Robert C.; Mareels, Iven M. Y.) Online learning via congregational gradient descent. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 4, 331–363. (Summary) **99a:90180** 90C30 (65K10)
Sethi, Bhupinder S. (*with* Robins, Gabriel; Robinson, Brian L.) On detecting spatial regularity in noisy images. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 4, 189–195. (Summary) **99k:68169** 68T10
Sethi, Rajiv Strategy-specific barriers to learning and nonmonotonic selection dynamics. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 2, 284–304. (Summary) **99b:90168** 90D10 (90D40)
Sethi, Savdeep (*with* Seiberg, Nathan) Comments on Neveu-Schwarz five-branes. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 259–270. (Angel Maria Uranga) **99a:81153** 81T30
— (*with* Stern, Mark A.) A comment on the spectrum of *H*-monopoles. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 47–51. (Summary) **99a:81155** 81T30 (58G10, 58G40)
— (*with* Stern, Mark A.) D-brane bound states redux. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 675–705. (Claudio A. Scrucca) **99h:81188** 81T30 (58G40, 81Q60)
— (*with* Ganor, Ori J.) New perspectives on Yang-Mills theories with sixteen supersymmetries. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 7, 32 *pp.* (*electronic*). (Summary) **99f:81197** 81T60 (81T13)
— A relation between $N = 8$ gauge theories in three dimensions. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 3, 7 *pp.* (*electronic*). (C. Gauthier) **99m:81262** 81T60 (81T13, 81T30)
Sethi, Suresh P. (*with* Zhang, Hanqin; Zhang, Qing[1]) Hierarchical production control in a stochastic manufacturing system with long-run average cost. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 151–172. (Yannis A. Phillis) **99g:93088** 93E20 (90B70, 90C35)

— (*with* Suo, W.; Taksar, Michael I.; Yan, Houmin) Optimal production planning in a multi-product stochastic manufacturing system with long-run average cost. (English summary) *Discrete Event Dyn. Syst.* **8** (1998), *no.* 1, 37–54. 93B30 (93E20)

— (*with* Presman, È. L.; Zhang, Hanqin; Zhang, Qing[1]) Optimality of zero-inventory policies for an unreliable manufacturing system producing two part types. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 485–496. (Summary) **99h:90039** 90B05 (90C90)

— (*with* Beyer, Dirk M.; Taksar, Michael I.) Inventory models with Markovian demands and cost functions of polynomial growth. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 281–323. (P. R. Parthasarathy) **99d:90041** 90B05 (90C40)

— (*with* Zhang, Qing[1]) Near optimization of dynamic systems by decomposition and aggregation. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 1–22. (Summary) **99k:49072** 49M30 (93A14)

— (*with* Zhang, Hanqin; Zhang, Qing[1]) Minimum average cost production planning in stochastic manufacturing systems. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1251–1276. (Summary) **99i:93073** 93E20 (90B30)

Sethian, James A. Theory, algorithms, and applications of level set methods for propagating interfaces. (English summary) *Acta numerica*, 1996, 309–395, *Acta Numer.*, 5, *Cambridge Univ. Press, Cambridge*, 1996. (Summary) **99d:65397** 65Y25 (68U10, 73V20, 76M25, 76T05, 80A22, 80A25)

— (*with* Malladi, Ravikanth) Level set methods for curvature flow, image enhancement, and shape recovery in medical images. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 329–345, *Springer, Berlin*, 1997. (*see* **99g:68212**) 92C50 (53–04)

— Adaptive fast marching and level set methods for propagating interfaces. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 3–15. (*see* **99f:00021**) 65M55

— (*with* Barth, Timothy J.) Numerical schemes for the Hamilton-Jacobi and level set equations on triangulated domains. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 1–40. (Summary) **99d:65277** 65M60

— (*with* Kimmel, Ron) Computing geodesic paths on manifolds. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 15, 8431–8435 (*electronic*). (Summary) **99d:65359** 65N99 (53C22)

— (*with* Adalsteinsson, D.) The fast construction of extension velocities in level set methods. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 2–22. (Summary) **99j:65189** 65N30 (73V20)

Sethumadhavan, M. On the discrepancy of pseudorandom numbers generated by quadratic method. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 9–12. (Geon Ho Choe) **99m:11087** 11K45 (65C10)

Sethupathy, Prasanna (*with* Hemaspaandra, Lane A.; Rajasethupathy, Kulathur S.; Zimand, Marius) Power balance and apportionment algorithms for the United States Congress. (English summary) *ACM J. Exp. Algorithmics* **3** (1998), *approx.* 16 *pp.* (*electronic*). 68Q25

Sethuraman, B. A. ★ Rings, fields, and vector spaces. (English summary) An introduction to abstract algebra via geometric constructibility. Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1997. xiv+190 *pp. ISBN* 0-387-94848-1 (Alex Martsinkovsky) **99c:12001** 12–01 (12F05, 13–01, 51–01)

— (*with* Morandi, Patrick J.) Divisors on division algebras and error correcting codes. *Comm. Algebra* **26** (1998), *no.* 10, 3211–3221. (L. R. Vermani) **99m:94048** 94B05 (16K20)

Sethuraman, J. *see* **Sethuraman, Jayaram**

Sethuraman, Jay (*with* Teo, Chung-Piaw) The geometry of fractional stable matchings and its applications. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 874–891. (R. N. Kaul) **99k:90140** 90C27 (68Q25, 90D12)

Sethuraman, Jayaram (*with* Chaganty, Narasinga R.) The large deviation principle for common statistical tests against a contaminated normal. (English summary) *Advances in statistical decision theory and applications*, 239–252, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Olcay Akman) **99c:62043** 62F05 (60F10, 62G20)

— (*with* Dorado, Crisanto; Hollander, Myles) Nonparametric estimation for a general repair model. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1140–1160. (J. V. Deshpande) **99b:62151** 62N05 (60K10, 62G05)

— (*with* Chaganty, Narasinga R.) Bahadur slope of the t-statistic for a contaminated normal. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 3, 245–250. (Philippe Barbe) **99c:62044** 62F05 (60F10)

Setoya, Hiroshi (*with* Kageyama, Sanpei) Robustness of BIB designs against the unavailability of any two observations. (English summary) *Bull. Fac. Sch. Educ. Hiroshima Univ. Part II* **20** (1998), 23–28. (Aloke Dey) **99k:62140** 62K10 (05B05, 62K05)

Setti, Alberto G. (*with* Brandolini, Luca; Rigoli, Marco) Positive solutions of Yamabe-type equations on the Heisenberg group. *Duke Math. J.* **91** (1998), *no.* 2, 241–296. (Chu Li Fu) **99d:35027** 35H05 (35B05, 58G99)

— L^p-L^r estimates for the Poisson semigroup on homogeneous trees. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 20–32. (Martha Bănulescu) **99c:43017** 43A85 (47D03)

Setti, Gianluca (*with* Rovatti, Riccardo; Mazzini, Gianluca) Chaotic complex spreading sequences for asynchronous DS-CDMA. II. Some theoretical performance bounds. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 496–506. (Summary) **99e:94002** 94A05

Settimi, Raffaella (*with* Sebastiani, Paola) First-order optimal designs for non-linear models. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 177–192. (William I. Notz) **99k:62139** 62K05

Setukha, A. V. Justification of the discrete vortex method in the problem of the motion of a finite vortex sheet under analytic initial conditions. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1272–1279, 1296; *translation in Differential Equations* **32** (1996), *no.* 9, 1272–1279 (1997). (Ivan K. Lifanov) **99a:76120** 76M25 (76C05)

— Justification of the numerical method of discrete vortices for Euler equations in a domain with a boundary. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1268–1277, 1296; *translation in Differential Equations* **33** (1997), *no.* 9, 1277–1287 (1998). (From the text) **99e:76029** 76C99 (65M99, 76M25)

Setzer, Anton (*with* Clote, Peter G.) On PHP, st-connectivity, and odd charged graphs. *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 93–117, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Piotr Wojtylak) **99c:03010** 03B05 (03F03, 68Q15)

Seube, Nicolas (*with* Doyen, Luc) Control of uncertain systems under bounded chattering. (English summary) *Dynam. Control* **8** (1998), *no.* 2, 163–176. (Zvi Artstein) **99f:93128** 93D21 (90D25)

Seubert, Steven M. (*with* Lesko, James P.) Cyclicity results for Jordan and compressed Toeplitz operators. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 3, 338–352. (D. Sarason) **99i:47003** 47A05 (47B35, 47B99)

Sevastianov, S. V. *see* **Sevast'yanov, S. V.**

Sevastianov, Sergey *see* **Sevast'yanov, S. V.**

Sevastianov, Sergey V. *see* **Sevast'yanov, S. V.**

Sevast'janov, S. V. *see* **Sevast'yanov, S. V.**

Sevast'yanov, E. A. On the Haar problem for sign-sensitive approximations. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 22–24. (Dumitru Acu) **99a:41042** 41A50 (41A52)

— (*with* Oskolkov, V. A.) On the Hardy-Littlewood problem. (Russian. Russian summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 71–72, *Heron Press, Sofia*, 1998. (N. G. Moshchevitin) **99k:11116** 11K06 (11A55, 11K31)

— (*with* Dolzhenko, E. P.) Sign-sensitive approximations. (English summary) Analysis, 10. *J. Math. Sci.* (*New York*) **91** (1998), *no.* 5, 3205–3257. (Bl. Sendov) **99h:41007** 41A10 (41A30)

Sevast'yanov, S. V. Seven problems: so different yet close. (English summary) *Algorithms—ESA '97* (*Graz*), 443–458, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (Summary) **99f:90100** 90C27 (68Q25)

— (*with* Williamson, David P.; Hall, Leslie A.; Hoogeveen, Johannes Adzer; Hurkens, C. A. J.; Lenstra, Jan Karel; Shmoys, David B.) Short shop schedules. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 288–294. (Jan Węglarz) **99g:90049** 90B25 (68Q25)

— (*with* Chernykh, I. D.) Computer-aided way to prove theorems in scheduling. (English summary) *Algorithms—ESA '98* (*Venice*), 502–513, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:90090** 90B35

— (*with* Alon, Noga; Azar, Yossi; Csirik, János; Epstein, Leah; Vestjens, Arjen P. A.; Woeginger, Gerhard J.) On-line and off-line approximation algorithms for vector covering problems. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 104–118. (Editors) **99c:68116** 68Q25 (90C27)

— Nonstrict vector summation in multi-operation scheduling. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 179–211. (Knut Richter) **99m:90091** 90B35

— (*with* Woeginger, Gerhard J.) Makespan minimization in open shops: a polynomial time approximation scheme. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 191–198. (Frank Werner) **99e:90052** 90B35 (90C27, 90C60)

Sevcik, Carlos A procedure to estimate the fractal dimension of waveforms. (English summary) *Complex. Int.* **5** (1998), 16 *HTML documents* (*electronic*). 42C15 (28A80)

Ševčíková, H. (*with* Merkin, John H.; Šnita, D.; Marek, M.) The effects of an electric field on an autocatalytic ionic reaction in a system with high ionic strength. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 1, 1–31. (Summary) **99c:92064** 92E20

Sévennec, Bruno Normes invariantes par difféomorphismes sur $C^k(X)$. (English and French summaries) [Diffeomorphism-invariant norms on $C^k(X)$] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 2, 335–355. (Enrique Outerelo Domínguez) **99j:58022** 58C05

— Une caractérisation des formes symplectiques. (English and French summaries) [A characterization of symplectic forms] *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 1, 265–280. (Hansjörg Geiges) **99b:53047** 53C15 (58A10, 58H05)

Sever, Ali (*with* Yildiz, Bünyamin) On the inverse conductivity problem. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 91–96. (Giovanni Crosta) **99d:35179** 35R30 (80A23)

— A computational method for hyperbolic inverse problem. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 1, 5–12. (Summary) **99k:65087** 65M30 (86A22)

Ševera, Pavol (*with* Klimčík, C.) T-duality and the moment map. (English summary) *Quantum fields and quantum space time* (*Cargèse*, 1996), 323–329, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Summary) **99h:81169** 81T30 (58F40, 58Z05)

— On simplest Hamiltonian systems. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 165–166. (Christine Médan) **99e:70052** 70H05 (58F05, 70E15)

Severin, J. (*with* Herwig, H.) The effect of heat transfer on flow stability. (English summary) *Recent advances in boundary layer theory* (*Udine*, 1997), 75–106, *CISM Courses and Lectures*, 390, *Springer, Vienna*, 1998. (From the summary) **99j:76051** 76E99 (76D10, 76E30, 76F99, 80A20)

Severini, Thomas A. An approximation to the modified profile likelihood function. (English summary) *Biometrika* **85** (1998), *no.* 2, 403–411. 62E20

— Likelihood functions for inference in the presence of a nuisance parameter. (English summary) *Biometrika* **85** (1998), *no.* 3, 507–522. (Summary) **99i:62006** 62A10 (62F10)

— (*with* Hall, Daniel B.) Extended generalized estimating equations for clustered data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1365–1375. (Summary) **99h:62095** 62J12

— On the effect of overdispersion on exact conditional tests. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 115–126. 62F03

Severino, R. (*with* Sousa Ramos, J.) Dimension groups and one-dimensional maps of the interval. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 511–517, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 58F03

Jiménez Sevilla, M. *see* **Jiménez Sevilla, M.**

Asensio Sevilla, María Isabel *see* **Asensio Sevilla, María Isabel**

Sevrin, Alexander (*with* Troost, Jan) Off-shell formulation of $N = 2$ non-linear σ-models. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 3, 623–646. (Summary) **99a:81177** 81T60 (81T30)

— (*with* Grisaru, Marcus T.; Massar, M.; Troost, Jan) The quantum geometry of $N = (2, 2)$ non-linear σ-models. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 53–58. (Summary) **99a:81172** 81T60 (81T15, 81T30, 81T40)

— (*with* Penati, Silvia; Refolli, Andrea; Zanon, Daniela) Geometry and beta functions for $N = 2$ matter models in two dimensions. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 593–610. (Summary) **99g:81141** 81T17 (81T60)

— (*with* de Wit, Bernard; Peeters, Kasper; Plefka, Jan C.) The M-theory two-brane in $AdS_4 \times S^7$ and $AdS_7 \times S^4$. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 153–158. (Summary) **99j:83073** 83E30 (81T30)

Sevryuk, Mikhail B. (*with* Broer, Hendrik W.; Huitema, George B.) ★ Quasi-periodic motions in families of dynamical systems. Order amidst chaos. Lecture Notes in Mathematics, 1645. *Springer-Verlag, Berlin*, 1996. xii+196 *pp. ISBN* 3-540-62025-7 (Luigi Chierchia) **99d:58142** 58F27 (34C27, 34C35, 70H05)

— The finite-dimensional reversible KAM theory. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 132–147. (Jürgen Scheurle) **99h:58168** 58F27 (34C27, 58F30, 70H05)

— Invariant tori of intermediate dimensions in Hamiltonian systems. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 39–48. (Pere Gutiérrez) **99h:58167** 58F27 (34C30, 58F36, 70H05)

Sevy, J. C. Acceleration of convergence of sequences of multivariate simultaneous approximants. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 51–69 (1998). (Joseph M. Lambert) **99h:41028** 41A29 (41A65, 65D15)

Sewald, Julio (*with* Monteiro, Luiz F.; Abad, Manuel; Savini, Sonia) Finite free generating sets. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 177–189. (S. Comer) **99i:08004** 08B20 (03Gxx, 06D25, 06D30)

Sewell, E. C. (*with* Tan, J. C.) Scheduling jobs with sequence dependent setups on coupled lines. (English summary) *Industrial applications of combinatorial optimization*, 109–124, *Appl. Optim.*, 16, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:90005**) 90B35 (90C27)

— A branch and bound algorithm for the stability number of a sparse graph. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 4, 438–447. (Summary) **99i:90112** 90C35 (05C85)

Sewell, Geoffrey L. Non-equilibrium phase transitions, coherence and chaos. (English summary) *Quantum probability* (*Gdańsk*, 1997), 349–358, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Robert Alicki) **99k:82055** 82C26 (46L55, 46L60, 82C10)

— (*with* Bagarello, Fabio) New structures in the theory of the laser model. II. Microscopic dynamics and a nonequilibrium entropy principle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2730–2747. (Franco Fagnola) **99m:81298** 81V80

Sewell, Peter Nonaxiomatisability of equivalences over finite state processes. (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 163–191. (A. Aiello) **99e:68104** 68Q68 (03B40, 03C05, 68Q10, 68Q55)

— Global/local subtyping and capability inference for a distributed π-calculus. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 695–706, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68N15 (68Q60)

— From rewrite to bisimulation congruences. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 269–284, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q42 (68Q10)

Seyffarth, K. (*with* Fellows, Michael R.; Hell, Pavol) Constructions of large planar networks with given degree and diameter. (English summary) *Networks* **32** (1998), *no.* 4, 275–281. (Summary) **99h:90041** 90B10 (68M10, 90C35)

Seyhan, Hikmet On the local property of φ-$|\overline{N}, p_n; \delta|_k$ summability of factored Fourier series. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 4, 311–316. (Summary) **99m:40013** 40G05 (42A28)

— A note on absolute summability factors. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 53–56. (L. Loone) **99a:40006** 40F05 (40D15)

— (*with* Sönmez, Abdulcabbar) On φ-$|\overline{N}, p_n; \delta|_k$ summability factors. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 393–398. (Summary) **99c:40008** 40F05 (40G05)

— A note on absolute summability factors. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 157–162. (Summary) **99k:40007** 40F05 (40G05)

— A note on relative strength of two absolute summability methods. (English summary) *J. Anal.* **6** (1998), 7–11. (Summary) **99j:40010** 40F05

— Absolute summability factors of type (A, B). (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 10, 19–23. (Niranjan Singh) **99m:40010** 40F05 (40G05)

— (*with* Sönmez, Abdulcabbar) Corrigendum to: "On φ-$|\overline{N}, p_n; \delta|_k$ summability factors" [Portugal Math. **54** (1997), no. 4, 393–398; MR 99c:40008]. *Portugal. Math.* **56** (1999), *no.* 1, 127. 40F05 (40G05)

Seyidmamedov, Z. (*with* Gasanov, A. I.) Determination of unknown elastoplastic properties in Signorini problem. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 979–991. (Mircea Sofonea) **99e:73055** 73E99 (47H19, 49J40, 73V25)

Seymour, Brian R. (*with* Varley, Eric) A simple derivation of the N-soliton solutions to the Korteweg-deVries equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 904–911 (*electronic*). (Summary) **99a:35229** 35Q53

Seymour, Chris (*with* Unsworth, Keith) Interactive shape preserving interpolation by curvature continuous rational cubic splines. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 87–117. (Julio Guacaneme Dix) **99m:65038** 65D17 (65Y25)

Seymour, Lynne (*with* Lund, Robert; Padgett, W. J.) A control chart for a general Gaussian process. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 19–34. 62N10

Seymour, P. D. (*with* Robertson, Neil) Graph minors. XV. Giant steps. (English summary) *J. Combin. Theory Ser. B* **68** (1996), *no.* 1, 112–148. (Summary) **99c:05056** 05C10

— (*with* Reed, Bruce A.) Fractional colouring and Hadwiger's conjecture. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 147–152. (H. L. Abbott) **99k:05079** 05C15

— (*with* Schrijver, Alexander; Winkler, Peter M.) The ring loading problem. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 1–14 (*electronic*). (Summary) **99a:90094** 90B12 (90B10)

Sezer, M. Erol (*with* Wei, Runyi; Ocali, Ogan) Robust adaptive stabilization of a class of systems under structured nonlinear perturbations with application to interconnected systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 183–194. 93D21

Sezgin, Ergin (*with* Chu, Chong-Sun) M-fivebrane from the open supermembrane. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 1, 12 *pp.* (*electronic*). (Summary) **99a:81131** 81T30 (83E30)

— The M-algebra. (English summary) *Phys. Lett. B* **392** (1997), *no.* 3-4, 323–331. (Summary) **99b:81071** 81R05 (81T30, 83E30)

— (*with* Rudychev, I.) Superparticles in $D > 11$. (English summary) *Phys. Lett. B* **415** (1997), *no.* 4, 363–370. (Sergey Nikolaevich Roshchupkin) **99d:81132a** 81T30 (83E30)

— (*with* Howe, Paul S.; Raetzel, Olaf) On brane actions and superembeddings. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 11, 19 *pp.* (*electronic*). (Sergey Nikolaevich Roshchupkin) **99i:81186** 81T30 (83E30)

— (*with* Rudychev, I.; Sundell, Per) Supersymmetry in dimensions beyond eleven. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 285–294. (Summary) **99e:81245** 81T60 (81T13)

— (*with* Rudychev, I.) Superparticles, p-form coordinates and the BPS condition. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 60–68. (Summary) **99a:81175** 81T60

— (*with* Rudychev, I.) Addendum: "Superparticles in $D > 11$". *Phys. Lett. B* **424** (1998), *no.* 3-4, 411–412. (Sergey Nikolaevich Roshchupkin) **99d:81132b** 81T30 (83E30)

— (*with* Chu, Chong-Sun; Howe, Paul S.) Strings and D-branes with boundaries. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 59–67. (Summary) **99b:81180** 81T30

— (*with* Chu, Chong-Sun; Howe, Paul S.; West, P. C.) Open superbranes. (English summary) *Phys. Lett. B* **429** (1998), *no.* 3-4, 273–280. (Summary) **99b:81181** 81T30

— (*with* Howe, Paul S.) Anomaly-free tensor-Yang-Mills system and its dual formulation. (English summary) *Phys. Lett. B* **440** (1998), *no.* 1-2, 50–58. (Summary) **99j:81187** 81T60 (81T50)

Sezgin, M. (*with* Verdiyev, A. Y.; Verdiev, İ. A.) Generalized Pöschl-Teller, Toda, Morse potentials and SL(2, **R**) group. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1910–1918. (Takeshi Kawazoe) **99g:81064** 81R05 (22E30, 22E70)

— (*with* Kerimov, G. A.) On scattering systems related to the SO(2, 1) group. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7901–7912. (Albert W. Sáenz) **99m:81279** 81U20

Sfard, Anna A mathematician's view of research in mathematics education: an interview with Shimshon A. Amitsur. *Mathematics education as a research domain: a search for identity, Book* 1, 2, 445–458, *New ICMI Stud. Ser.*, 4, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00011**) 00A35

— The many faces of mathematics: do mathematicians and researchers in mathematics education speak about the same thing? *Mathematics education as a research domain: a search for identity, Book* 1, 2, 491–511, *New ICMI Stud. Ser.*, 4, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00011**) 00A35

Sfetsos, Konstadinos (*with* Skenderis, Kostas) Microscopic derivation of the Bekenstein-Hawking entropy formula for non-extremal black holes. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 179–204. (Marco Cavaglià) **99g:83060** 83C57 (83E30)

— (*with* Henningson, Måns) Spinors and the AdS/CFT correspondence. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 63–68. (Summary) **99c:81186** 81T30 (83E30)

— Poisson-Lie T-duality beyond the classical level and the renormalization group. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 365–375. (Yolanda Lozano) **99j:81159** 81T30 (81T17)

— (*with* Kehagias, Alexandros A.) On running couplings in gauge theories from type-IIB supergravity. (English summary) *Phys. Lett. B* **454** (1999), *no.* 3-4, 270–276. 81T13 (81T60)

Sficas, Yiannis (*with* Philos, Ch. G.) An oscillation criterion for first order linear delay differential equations. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 207–213. (Summary) **99b:34119** 34K15

— (*with* Karakostas, George) Stability of delay differential equations with amnesia and a sign-guiding factor. *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 204–223. (Peter Dormayer) **99b:34123** 34K20

Sgall, Jiří (*with* Buss, Samuel R.; Impagliazzo, Russell; Krajíček, Jan; Pudlák, Pavel; Razborov, A. A.) Proof complexity in algebraic systems and bounded depth Frege systems with modular counting. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 256–298. (Mariko Yasugi) **99g:03060** 03F20

— On-line scheduling. *Online algorithms* (*Schloss Dagstuhl*, 1996), 196–231, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 90B35 (68M20)

— (*with* Avidor, Adi; Azar, Yossi) Ancient and new algorithms for load balancing in the L_p norm. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 426–435, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35 (68M20, 68Q25)

— (*with* Pudlák, Pavel) Algebraic models of computation and interpolation for algebraic proof systems. *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 279–295, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Juraj Hromkovič) **99b:68101** 68Q25 (03B05, 68Q05)

— (*with* Damm, Carsten; Jukna, Stasys) Some bounds on multiparty communication complexity of pointer jumping. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 109–127. (Summary) **99h:68053** 68Q15 (68Q25)

— (*with* Boneh, Dan; Dunworth, Christopher; Lipton, Richard J.) Making DNA computers error resistant. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 163–170, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05

Sgambati, Luciana (*with* Donato, Patrizia; Gaudiello, Antonio) Homogenization of bounded solutions of elliptic equations with quadratic growth in periodically perforated domains. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 223–243. (Summary) **99b:35009** 35B27 (35J65, 49J45, 73B27)

Sghir, Abdelhaq Hyperbolic functional-differential inclusion in Hilbert spaces. (English summary) *Libertas Math.* **17** (1997), 21–27. (Markus Kunze) **99k:34178** 34K30 (34A60, 34G20)

Sgibnev, M. S. Submultiplicative moments of the supremum of a random walk with negative drift. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 377–383. (Gerold Alsmeyer) **99e:60158** 60J15

— Asymptotics of generalized renewal functions under finite variance. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 632–637; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 536–541 (1998). (Aleksandras Baltrūnas) **99d:60098** 60K05 (60J15)

— On the asymptotic behavior of the harmonic renewal measure. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 371–382. (Gerold Alsmeyer) **99g:60159** 60K05 (60J15)

Sgurev, Vassil A network flow approach to clause inference. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **46** (1997), 3–10. (From the introduction) **99c:68048** 68N17 (90B10)

— (*with* Nikolova, Mariana) Capacity and maximal value of the network flow with multiplicative constraints. (English summary) *Yugosl. J. Oper. Res.* **7** (1997), *no.* 2, 231–239. (Maretsugu Yamasaki) **99a:90092** 90B10 (90C35)

— (*with* Atanassov, Atanas T.) An approximate method for optimization of a network flow with inverse linear constraints. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 289–313. 90B10 (90C35)

Sha, Desong (*with* Guo, Xing Lin; Gu, Yuan Xian) An implicit solution of bi-penalty approximation with orthogonality projection for the numerical simulation of Bingham fluid flow. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 8, 725–734; *translated from Appl. Math. Mech.* **19** (1998), *no.* 8, 679–688 (*Chinese. English and Chinese summaries*). (Summary) **99m:76084** 76M10 (65M60, 76A05)

— (*with* Tamma, K. K.; Zhou, Xiangmin) Transient algorithms for heat transfer: general developments and approaches for theoretically generating *n*th-order time-accurate operators including practically useful second-order forms. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 10, 1545–1572. (Summary) **99k:80004** 80–08

Sha, Ji-Ping (*with* Shen, Zhong Min) Complete manifolds with nonnegative Ricci curvature and quadratically nonnegatively curved infinity. (English summary) *Amer. J. Math.* **119** (1997), *no.* 6, 1399–1404. (William P. Minicozzi, II) **99a:53046** 53C21 (53C20)

— (*with* Dadok, Jiri) On embedded flat surfaces in S^3. *J. Geom. Anal.* **7** (1997), *no.* 1, 47–55. (Joel L. Weiner) **99e:53088** 53C42 (53C40, 57M35)

Sha, Qiuying (*with* Zhang, Shuanglin) On the best equivariant estimator of covariance matrix of a multivariate normal population. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 8, 2021–2034. (Yoshihiko Konno) **99c:62160** 62H12 (62F10)

Sha, Weiming (*with* Nakabayashi, Koichi; Ueda, Hiromasa) An accurate second-order approximation factorization method for time-dependent incompressible Navier-Stokes equations in spherical polar coordinates. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 47–66. (Summary) **99a:76102** 76M20 (76D05)

— (*with* Tsuchiya, Kenichi; Nakabayashi, Koichi) The linear stability of thermally stratified rotating channel flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 439–449. 76E99 (76U05)

Shabalin, P. L. (*with* Salimov, R. B.; Nasyrova, E. V.) Unique solvability of an inverse mixed boundary value problem. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 78–82; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 4, 76–80. (Irina Yu. Dmitrieva) **99i:30061** 30E25

Shabalkin, D. Yu. (*with* Chervon, S. V.) On an exact solution of the chiral model of a plane-symmetric gravitational field. (Russian) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 6, 119–120. 83C15

Shabana, Ahmed A. Computer implementation of the absolute nodal coordinate formulation for flexible multibody dynamics. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 3, 293–306. 70–08 (70E15, 73K12)

Shabanov, Sergei V. Path integral in holomorphic representation without gauge fixation. (English summary) *Path integrals: Dubna '96*, 133–138, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

— (*with* Prokhorov, L. V.) ★ Гамильтонова механика калибровочных систем. (Russian. Russian summary) [Hamiltonian mechanics of gauge systems] *Izdatel'stvo Sankt-Peterburgskogo Universiteta, St. Petersburg*, 1997. 293 *pp. ISBN* 5-288-01523-6 (Sergiu I. Vacaru) **99h:81001** 81–01 (53C80, 58–01, 81S40, 81T13)

— (*with* Scholtz, F. G.) Supersymmetric quantization of Yang-Mills theory and possible applications. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 558–561, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81150** 81T13 (81V05)

— Constrained systems and analytical mechanics in spaces with torsion. (English summary) *J. Phys. A* **31** (1998), *no.* 22, 5177–5190. (David Martín de Diego) **99k:70018** 70F25 (53C22, 58F05, 70H30)

— (*with* Kleinert, Hagen) Theory of Brownian motion of a massive particle in spaces with curvature and torsion. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7005–7009. (Summary) **99e:82067** 82C31

— (*with* Klauder, John R.) Coordinate-free quantization of second-class constraints. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 3, 713–736. (George K. Savvidy) **99k:81324** 81T70 (81S40)

— (*with* Klauder, John R.) Path integral quantization and Riemannian-symplectic manifolds. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 343–349. (Takashi Miura) **99i:81127** 81S30 (81S40)

— (*with* Düchting, Norbert; Strobl, Thomas) BRST inner product spaces and the Gribov obstruction. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 485–514. (Mohamed Kachkachi) **99k:81322** 81T70 (81T13, 81T50)

Shabanov-Kushnarenko, S. Yu. (*with* Poslavskiĭ, S. A.; Shabanov-Kushnarenko, Yu. P.) Comparative identification of finite-dimensional linear processes. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 5, 39–43. (Summary) **99m:93024** 93B30 (68T99, 92J30, 93A30)

Shabanov-Kushnarenko, Yu. P. (*with* Poslavskiĭ, S. A.; Shabanov-Kushnarenko, S. Yu.) Comparative identification of finite-dimensional linear processes. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 5, 39–43. (Summary) **99m:93024** 93B30 (68T99, 92J30, 93A30)

Shabat, G. B. (*with* Adrianov, Nikolai) Unicellular cartography and Galois orbits of plane trees. *Geometric Galois actions*, 2, 13–24, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Helmut Völklein) **99h:12004** 12F12 (20B25)

— (*with* Shabat, V.; Razin, M.) Edge operations. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 199–211. (Vagn Lundsgaard Hansen) **99g:14042** 14H55

Shabat, V. (*with* Shabat, G. B.; Razin, M.) Edge operations. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 199–211. (Vagn Lundsgaard Hansen) **99g:14042** 14H55

Shabel, Lisa Kant on the 'symbolic construction' of mathematical concepts. *Stud. Hist. Philos. Sci.* **29** (1998), *no.* 4, 589–621. (Victor V. Pambuccian) **99j:01010** 01A50 (00A30, 00A35, 03A05)

Shabir, Muhammad (*with* Beg, Ismat; Arshad, Muhammad) Fuzzy almost linear spaces. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 349–359. (Athanasios K. Katsaras) **99m:46180** 46S40 (46A19)

— (*with* Ahsan, Javed; Weinert, H. J.) Characterizations of semirings by *P*-injective and projective semimodules. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2199–2209. (C. J. Maxson) **99d:16053** 16Y60

Shabunin, M. I. (*with* Kudryavtsev, L. D.; Kutasov, A. D.; Chekhlov, V. I.) ★ Сборник задач по математическому анализу. (Russian. Russian summary) [A collection of problems in mathematical analysis] Функции нескольких переменных. [Functions of several variables] *Fizmatlit "Nauka", Moscow*, 1995. 496 *pp. ISBN* 5-02-013953-X (Publisher's description) **99h:00004** 00A07 (26–01, 46–01)

Shachter, Ross (*with* Heckerman, David) A definition and graphical representation for causality. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 262–273, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T30

Shaddad, M. H. (*with* Dirar, M.; El-Tahir, Ali) A generalized field cosmology. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 3025–3031. 83F05

Shader, Bryan L. A simple proof of Fiedler's conjecture concerning orthogonal matrices. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1239–1243. (Summary) **99c:15052** 15A99

— Sign-nonsingular matrices and orthogonal sign-patterns. (English summary) *Ars Combin.* **48** (1998), 289–296. (Summary) **99c:05040** 05B20 (15A99)

— (*with* Kirkland, Stephen J.; Neumann, Michael) Bounds on the subdominant eigenvalue involving group inverses with applications to graphs. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 1–20. (Thomas H. Foregger) **99b:15010** 15A18

— (*with* Kirkland, Stephen J.; Neumann, Michael) On a bound on algebraic connectivity: the case of equality. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 65–76. (E. Seneta) **99c:15034** 15A45 (15A51, 60J10)

— (*with* Poet, Jeffrey L.) Short score certificates for upset tournaments. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research paper* 24, 18 *pp.* (*electronic*). (Erol Barbut) **99b:05073** 05C20

— (*with* Kirkland, Stephen J.; Neumann, Michael) Applications of Paz's inequality to perturbation bounds for Markov chains. (English summary) *Linear Algebra Appl.* **268** (1998), 183–196. (E. Seneta) **99a:15007** 15A51 (15A12, 60J10)

— (*with* Cheon, Gi-Sang) How sparse can a matrix with orthogonal rows be? (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 29–40. (Summary) **99i:05044** 05B20

— *see also* **Proceedings: Conference of the International Linear Algebra Society**, **99a:00039**

lee Shader, Chanyoung *see* **Lee Shader, Chanyoung**

Shader, Chanyoung Lee *see* **Lee Shader, Chanyoung**

Shadman, D. (*with* Mehri, B.) Periodic solutions of certain *n*th order non-autonomous differential equations. (English summary) *Sci. Iran.* **1** (1995), *no.* 4, 321–326. (Summary) **99f:34065** 34C25

— (*with* Mehri, B.) Periodic solution of a certain class of nonlinear fourth order differential equation. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 1–7. (Summary) **99j:34060** 34C25

— (*with* Mehri, B.) Periodic solutions of certain third order nonlinear differential equations. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 345–350. (Gabriele Villari) **99i:34063** 34C25 (47H11)

— (*with* Mehri, B.) On the existence of periodic solutions of a certain class of second order nonlinear differential equation. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 431–436. (Summary) **99b:34074** 34C25 (65L06)

Shadmi, Yael (*with* Cheng, Hsin-Chia) Duality in the presence of supersymmetry breaking. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 125–150. (Summary) **99g:81210** 81T60 (81R40, 81V05)

— (*with* Dine, Michael; Nir, Yosef) Enhanced symmetries and the ground state of string theory. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2, 61–68. (Summary) **99g:81157** 81T30

Shadrin, A. Yu. On the de Boor problem for multidimensional D^m-splines. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 420–452. (N. A. Shirokov) **99m:41016** 41A15 (41A63)

Shadrin, V. Yu. Iterative solution of equations of the projection method. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 96–104, *Yakut. sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 47A50 (65J10)

Shadwick, B. A. (*with* Bowman, John C.; Morrison, P. J.) Exactly conservative integrators. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 1112–1133 (*electronic*). (Summary) **99m:65136** 65L06 (34A45, 70–08, 70H05)

Shafai, Bahram (*with* Wilson, Bruce H.; Eryilmaz, Bora) Improving control design for nonlinear parametric uncertainty. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 863–883. 93B50 (93C41)

— (*with* Oloomi, H.) Constrained stabilization problem and transient mismatch phenomenon in singularly perturbed systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 435–454. 93D15 (93C70)

— (*with* Wilson, Bruce H.; Eryilmaz, Bora) An adaptive angular sweep algorithm for value set construction. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 551–555. 93B30 (93C41, 93E03)

Shafarevich, Andrei I. On the asymptotic theory of partial differential equations with rapidly varying coefficients. Its relation with spectral theory and geometric phases. (Spanish) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 455–463, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 35B40 (58G18)

— (*with* Maslov, V. P.) A laminar wake in an arbitrary external flow. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 4, 476–480; *translation in Phys. Dokl.* **42** (1997), *no.* 10, 552–556. (Sergey Nikolaevich Alekseenko) **99i:76042** 76D25 (35Q35)

— (*with* Dobrokhotov, Sergeĭ Yu.) Quantum selection of isotropic tori of partially integrable Hamiltonian systems in the quasiclassical approximation. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 267–272 (1998). (Oleg Yu. Shvedov) **99b:81053** 81Q20 (81Q05)

— (*with* Maslov, V. P.) Localized asymptotic solutions of the Navier-Stokes equations, and laminar wakes in an incompressible fluid. (Russian. Russian summary) *Prikl. Mat.*

Mekh. **62** (1998), *no.* 3, 424–432; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 389–396. (Summary) **99m:76046** 76D05 (35C20, 35Q30, 76D25)

Shafarevich, Igor R. Families of reducible abelian surfaces. (Russian) *Mat. Zametki* **60** (1996), *no.* 6, 946–949; *translation in Math. Notes* **60** (1996), *no.* 5-6, 717–720 (1997). (I. Dolgachev) **99c:14061** 14K10 (14J28)

— ★ Basic notions of algebra. Translated from the Russian by M. Reid. Reprint of the 1990 translation [*Algebra. I*, Encyclopaedia Math. Sci., 11, Springer, Berlin, 1990; MR 90k:00010]. *Springer-Verlag, Berlin*, 1997. *iv*+258 *pp. ISBN* 3-540-61221-1 (Editors) **99g:00009** 00A05 (12–01, 13–01, 16–01, 20–01)

— On some arithmetic properties of algebraic varieties. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 231–241, *World Sci. Publishing, River Edge, NJ*, 1998. (Jörg Jahnel) **99m:14044** 14G25 (11G35)

— *see also* **Number theory, 99a:11088a** *and* **Danilov, Vladimir Ivanovich[1], 99g:14001**

Shafei Deh Abad, A. Hamiltonian systems on quantized spaces. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4795–4803. (Roberto Casalbuoni) **99c:81098** 81R50

Shafer, Glenn Mathematical foundations for probability and causality. (English summary) *Mathematical aspects of artificial intelligence* (*Orlando, FL*, 1996), 207–270, *Proc. Sympos. Appl. Math.*, 55, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68162**) 60A05 (03B48, 62A99, 68T27, 68T30)

Shafi, Q. (*with* Dvali, Gia; Lazarides, G.) μ problem and hybrid inflation in supersymmetric $SU(2)_L \times SU(2)_R \times U(1)_{B\text{-}L}$. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 259–264. (Summary) **99b:81272** 81V22 (81T60)

Shafiee, Masoud (*with* Razzaghi, Mohsen) On the solution of the covariance matrix differential equation for singular systems. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 337–343. (Summary) **99m:65155** 65L99 (65U05)

Shafiekhani, A. (*with* Chung, Won Sang) $N = 2$ superconformal field theory on the basis of osp(2|2). (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 1, 47–57. (Vadim A. Brazhnikov) **99f:81077** 81R10 (81T40)

Shafiqui Islam, Md. (*with* Rathod, H. T.) Integration of rational functions of bivariate polynomial numerators with linear denominators over a $(-1, 1)$ square in a local parametric two-dimensional space. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 1-2, 195–213. (C. Dagnino) **99k:65024** 65D30 (26C15)

Shafiro, B. (*with* Kachanov, M.) Solids with non-spherical cavities: simplified representations of cavity compliance tensors and the overall anisotropy. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 877–898. 73C99 (73B40)

Shafranskiĭ, Ya. M. (*with* Brucker, Peter; Kovalëv, M. Ya.; Werner, Frank) Batch scheduling with deadlines on parallel machines. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 23–40. (Roman Słowiński) **99k:90082** 90B25 (65Y05, 68Q25)

— (*with* Kovalëv, M. Ya.) Uniform machine scheduling of unit-time jobs subject to resource constraints. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 253–257. (Summary) **99b:90071** 90B35

— (*with* Strusevich, V. A.) The open shop scheduling problem with a given sequence of jobs on one machine. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 7, 705–731. (Summary) **99e:90053** 90B35 (90C35)

Shafrir, Itai (*with* André, Nelly) Minimization of a Ginzburg-Landau type functional with nonvanishing Dirichlet boundary condition. *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 3, 191–217. (Vitaly B. Moroz) **99k:35161** 35Q55 (35B40, 49J10, 58E50)

— (*with* Chipot, Michel; Chlebík, M.; Fila, M.) Existence of positive solutions of a semilinear elliptic equation in $\mathbf{R}^n_+$ with a nonlinear boundary condition. *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 429–471. (Jianfu Yang) **99h:35060** 35J65 (35B05)

— *see also* **Progress in partial differential equations, 99d:35003** *and* **99d:35004**

Shaftel, Timothy L. (*with* Wilson, Beverley M.) Time-cost evaluation of alternative system/process designs. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 3, 275–288. 90B12 (90C39)

Shagidullin, R. R. Minimization of the total energy functional for a soft shell. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 65–73; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 3, 62–69. (Ján Lovišek) **99d:73063** 73K15 (49R05, 73V25)

Shah, Arvind K. (*with* Bhaumik, Dulal K.) Exact tests in crossover designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 79–88. (*see* **99f:62005**) 62H15 (62K99)

Shah, Kirti R. (*with* Sinha, Bikas Kumar) Row-column designs. *Design and analysis of experiments*, 903–937, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K10 (62K05)

— (*with* Das, Ashish D.) Discrimination among equivalent block designs. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 341–349, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62K10

— (*with* Dey, Aloke) Optimal asymmetric fractional factorial plans for estimating main effects and selected two-factor interactions. (English summary) Statistical theory and applications. *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 1, 27–38. (Summary) **99j:62114** 62K15 (62K05)

Shah, Nimish A. (*with* Rajan, C. S.; Bhatia, Rajendra; Ramadas, T. R.) The work of the Fields medalists: 1998. (English summary) *Current Sci.* **75** (1998), *no.* 12, 1290–1295. 01A70

Shah, Nimish R. (*with* Dey, Tamal K.) On the number of simplicial complexes in $\mathbf{R}^d$. (English summary) *Comput. Geom.* **8** (1997), *no.* 5, 267–277. (Béla Uhrin) **99b:52032** 52B70

Shah, Nita H. (*with* Warrier, Vasudha) Probabilistic order level system with a mixture of backorders and lost sales. (English summary) *Investigación Oper.* **18** (1997), *no.* 1-3, 81–85. 90B05

— Probabilistic order level system with lead time when delay in payments are permissible. (English summary) *Top* **5** (1997), *no.* 2, 297–305. (Summary) **99c:90041** 90B05

— (*with* Shah, Y. K.) A discrete in time EOO model for deteriorating items with random lead time. (English and Spanish summaries) *Investigación Oper.* **19** (1998), *no.* 1, 64–68. 90B25

Shah, W. M. (*with* Aziz, Abdul[1]) L^p inequalities for polynomials with restricted zeros. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 247–258. (Summary) **99c:41025** 41A17

— (*with* Aziz, Abdul[1]) An integral mean estimate for polynomials. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1413–1419. (Summary) **99a:30005** 30C10

— (*with* Aziz, Abdul[1]) L^p inequalities for polynomials with restricted zeros. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 63–68. (Summary) **99c:26011** 26D05

Shah, Y. K. (*with* Shah, Nita H.) A discrete in time EOO model for deteriorating items with random lead time. (English and Spanish summaries) *Investigación Oper.* **19** (1998), *no.* 1, 64–68. 90B25

Shahabi Shojaei, M. A. (*with* Shahryari, M.) A survey of modular symmetry classes of tensors. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference*, *Part* 1 (*Tabriz*, 1997), 495–504, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:15040** 15A72

— (*with* Shahryari, M.) Subgroups which are the union of three conjugate [conjugacy] classes. (English summary) *J. Algebra* **207** (1998), *no.* 1, 326–332. (M. Herzog) **99e:20034** 20D99 (20E07)

— (*with* Shahryari, M.) On a permutation character of S_m. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 45–52. 20C15 (15A69)

Shahabuddin, Perwez (*with* Glasserman, Paul; Heidelberger, Philip; Zajic, Tim) A look at multilevel splitting. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 98–108, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (*see* **99d:65005**) 65U05

— (*with* Glasserman, Paul; Heidelberger, Philip; Zajic, Tim) A large deviations perspective on the efficiency of multilevel splitting. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1666–1679. (Luisa Gargano) **99m:68016** 68M10 (65C05, 90B12)

Shahani, A. R. (*with* Esmailzadeh, E.) Longitudinal and rotational coupled vibration of viscoelastic bars with tip mass. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 111–116. (Summary) **99h:73044** 73K12 (70K99, 73F15, 73K05)

el-Shahat, Ismail A. *see* **El-Shahat, Ismail A.**

Shahbaghyan, R. R. *see* **Shakhbagyan, R. R.**

Shahbagian, R. R. *see* **Shakhbagyan, R. R.**

Shahbazov, A. A. (*with* Alpaslan, F.) An analysis and optimization of stochastic service system with heterogeneous channel and Poisson arrival. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 15–20. (Summary) **99b:90052** 90B22

Shahbazov, A. I. (*with* Vaezi, H.) Compact sums of weighted composition operators on $C(X)$. (English, Russian and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 168–172. (Summary) **99k:47070** 47B38 (47B07)

— (*with* Dehghan, Y. N.) Weighted composition operators acting on the space of vector-valued functions. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference*, *Part* 1 (*Tabriz*, 1997), 147–152, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Oscar Blasco) **99g:47062** 47B38 (46E40, 47B07)

— (*with* Dehghan, Y. N.) Finite sums of weighted composition operators on the space of vector-valued functions. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference*, *Part* 1 (*Tabriz*, 1997), 505–509, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Oscar Blasco) **99g:47063** 47B38 (46E40, 47B07)

— (*with* Vaezi, H.) Nuclearity of finite sums of weighted composition operators on $C(X)$. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference*, *Part* 1 (*Tabriz*, 1997), 569–572, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Oscar Blasco) **99g:47064** 47B38 (47B10)

— (*with* Dehghan, Y. N.) Compactness and nuclearity of weighted composition operators on uniform spaces. (English and Persian summaries) *Bull. Iranian Math. Soc.* **23** (1997), *no.* 1, 49–62. (Som Datt Sharma) **99i:47060** 47B38 (47B07)

Shahgholian, Henrik (*with* Hosseinzadeh, Hassan) Some qualitative aspects of a free boundary problem for the p-Laplace operator. (English summary) *Ann. Acad. Sci. Fenn. Math.* **24** (1999), *no.* 1, 109–121. (Mahdi Boukrouche) **99m:35273** 35R35 (35J65)

Shahidi, Freydoon On non-vanishing of twisted symmetric and exterior square L-functions for $GL(n)$. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 311–322. (David Ginzburg) **99b:11054** 11F67 (11F70)

— (*with* Casselman, William) On irreducibility of standard modules for generic representations. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 561–589. (Goran Muić) **99f:22028** 22E50

— (*with* Goldberg, David) On the tempered spectrum of quasi-split classical groups. *Duke Math. J.* **92** (1998), *no.* 2, 255–294. (Rebecca Herb) **99c:22024** 22E50 (11F70)

— (*with* Muić, Goran) Irreducibility of standard representations for Iwahori-spherical representations. *Math. Ann.* **312** (1998), *no.* 1, 151–165. (Vladimir V. Kisil) **99g:22012** 22E35

Shahidi, Niousha (*with* Balinski, Michel) A simple approach to the product rate variation problem via axiomatics. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 129–135. (Summary) **99g:90050** 90B30 (90B35)

Shahin, R. M. (*with* El-Kholy, E. M.) Cellular folding. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 3, 177–181. (Summary) **99k:55003** 55M99

bin Shahna, A. S. *see* **Bin Shahna, A. S.**

Shahrokhi, Farhad (*with* Sýkora, Ondrej; Székely, László A.; Vrťo, Imrich) Bipartite crossing numbers of meshes and hypercubes. (English summary) *Graph drawing* (*Rome*, 1997), 37–46, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99e:68130** 68R10 (68U05)

Shahruz, S. M. (*with* Mahavamana, P. A.) An upper bound on displacements of damped linear systems. *J. Sound Vibration* **213** (1998), *no.* 5, 943–951. (Alexander P. Seyranian) **99g:70028** 70J30

— (*with* Parasurama, S. A.) Suppression of vibration in the axially moving Kirchhoff string by boundary control. *J. Sound Vibration* **214** (1998), *no.* 3, 567–575. 93D15 (73K12, 73K50)

— Boundary control of Kirchhoff's non-linear string. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 560–563. (Summary) **99m:93055** 93C20 (73K50, 93D15)

Shahryari, M. (*with* Shahabi Shojaei, M. A.) A survey of modular symmetry classes of tensors. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference*, *Part* 1 (*Tabriz*, 1997), 495–504, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:15040** 15A72

— (*with* Shahabi Shojaei, M. A.) Subgroups which are the union of three conjugate [conjugacy] classes. (English summary) *J. Algebra* **207** (1998), *no.* 1, 326–332. (M. Herzog) **99e:20034** 20D99 (20E07)

— (*with* Shahabi Shojaei, M. A.) On a permutation character of S_m. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 45–52. 20C15 (15A69)

Shahzad, Naseer (*with* Papageorgiou, Nikolaos S.) Extremal solutions for semilinear obstacle problems. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 37–47. (Summary) **99a:34169** 34G20 (34A60, 35K55, 49J40)

— (*with* Beg, Ismat) A general fixed point theorem for a class of continuous random operators. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 21–24. (From the introduction) **99c:47088** 47H10 (47H40, 60H25)

— (*with* Papageorgiou, Nikolaos S.) On periodic solutions of functional-differential inclusions in $\mathbf{R}^N$. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 313–320. (Summary) **99a:34036** 34A60 (34K15)

— (*with* Beg, Ismat) Some random approximation theorems with applications. *Nonlinear Anal.* **35** (1999), *no.* 5, *Ser. A: Theory Methods*, 609–616. (A. Nowak) **99k:47180** 47H40 (41A65, 47H10)

Shaĭdurov, V. V. (*with* Gileva, L. V.) A cascadic multigrid algorithm in the finite element method for the plane elasticity problem. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 1, 23–34. (Summary) **99b:65142** 65N30 (73V05)

— On the cascade organization of iterative algorithms. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 600–603. 65M55 (65F30)

Shaieb, Mustafa (*with* Borzymowski, Andrzej) Goursat-type problems containing the normal derivatives of the unknown functions. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 869–882. (Summary) **99a:35159** 35L30 (35C10)

Shaĭkhet, L. E. (*with* Kolmanovskiĭ, Vladimir B.) Asymptotic behavior of some discrete-time systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 12, 58–66; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1735–1742 (1997). (Summary) **99e:39071** 39A12 (93E15)

— (*with* Beretta, Edoardo; Kolmanovskiĭ, Vladimir B.) Stability of epidemic model with time delays influenced by stochastic perturbations. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 269–277. (K. Gopalsamy) **99k:92022** 92D25 (34K20, 34K50, 92D30)

Shaji, Krishnan Chinese remainder theorem—revisited. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 122. 11A07

Shaked, Moshe (*with* Scarsini, Marco) Fréchet classes and nonmonotone dependence. *Distributions with given marginals and moment problems (Prague, 1996)*, 59–71, *Kluwer Acad. Publ., Dordrecht*, 1997. (Ludger Rüschendorf) **99b:60023** 60E05

— (*with* Rocha-Martínez, José M.) A bivariate discrete-time model of failure and repair. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 147–169. (Philip J. Boland) **99e:60196** 60K10

— (*with* Spizzichino, Fabio) Positive dependence properties of conditionally independent random lifetimes. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 944–959. (Pawel Hitczenko) **99j:60022** 60E05 (90B25)

Shaked, Uri (*with* Theodor, Y.) Output-feedback mixed H_∞/H_2 control—a dynamic game approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 263–279. 93B36 (90D25)

— (*with* Cohen, Agnès) Robust discrete-time H_2 control. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 213–231. 93B36 (93C55)

— (*with* Shergei, M.) Robust H_∞-estimation of nonlinear discrete-time processes. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 603–617. 93B36 (93B55)

— (*with* Yaesh, I.) $\mathscr{H}_\infty$ static output-feedback control of linear continuous-time systems with delay. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1431–1436. (Summary) **99f:93050** 93B36 (93C30)

— (*with* Fridman, Emilia) H_∞-state-feedback control of linear systems with small state delay. (English summary) *Systems Control Lett.* **33** (1998), *no.* 3, 141–150. (Ian Petersen) **99e:93026** 93B36 (93C30)

Shaked-Monderer, Naomi (*with* Berman, Abraham) Remarks on completely positive matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 149–163. (Summary) **99j:15027** 15A48

Shaker, Aihua W. (*with* Lair, Alan V.) Entire large solutions of semilinear elliptic problems. (English summary) *Differential equations and applications (Hangzhou, 1996)*, 164–175, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99c:35061** 35J60 (35B05)

— (*with* Henson, Van Emden) Theory and numerics for a semilinear elliptic PDE, with an application in the theory of pseudoplastic fluids. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 271–285. (Summary) **99a:35045** 35J15 (65N55, 73E50, 76A05)

Shaker, M. O. (*with* El-Barki, F. A.; Ismail, A. I.; Amer, T. S.) On the motion of the pendulum on an ellipse. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 1, 65–72. 70K99

Shakhbagyan, R. L. (*with* Akopyan, G. S.) Attractors of evolution systems of Sobolev type. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 5, 27–37 (1995); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 5, 21–30. (Sergei A. Vakulenko) **99i:35061** 35K55 (35B40, 58F39)

— (*with* Akopyan, G. S.) A mixed boundary value problem for higher-order degenerate nonlinear equations of Sobolev type. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 1, 21–38 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 1, 17–32. (Siegfried Carl) **99i:35080** 35K65 (34D20, 34D45, 34G20, 35K55, 47N20)

— (*with* Airapetyan, R. G.; Zhidkov, E. P.) Regularizing numerical method for solving the inverse scattering problem. *Symmetry methods in physics, Vol. 1 (Dubna, 1995)*, 1–7, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 65N99 (35J10, 81U40)

Shakhbagyan, R. R. (*with* Lobanov, Yu. Yu.; Zhidkov, E. P.) Functional measures and approximations for some imaginary-time path integrals. (English summary) *Path integrals: Dubna '96*, 359–363, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

— *see also* **Computational modelling and computing in physics, 99k:65003**

Shakhbazyan, K. V. (*with* Movsisyan, S. A.) Solution of the pipeline stabilization problem, based on decomposition processes. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 3, 142–146 (1994). 90C35 (90B35)

Shakhlevich, Natalia (*with* Bräsel, Heidemarie) On the solution region for certain scheduling problems with preemption. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 1–21. (S. Csibi) **99k:90084** 90B35 (60K25, 90B22)

Shakhmatov, Dmitriĭ B. (*with* Nogura, Tsugunori) Spaces which have finitely many continuous selections. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 723–729. (Stoyan Nedev) **99a:54011** 54C65 (05A99, 54B20, 54D99)

— (*with* Nogura, Tsugunori) Characterizations of intervals via continuous selections. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 2, 317–328. (J. J. Charatonik) **99d:54012** 54C65 (54B20, 54D05, 54F15)

— (*with* Pestov, Vladimir G.) A relatively free topological group that is not varietal free. (English summary) *Colloq. Math.* **77** (1998), *no.* 1, 1–8. (Oleg G. Okunev) **99d:22004** 22A05 (54H11)

— A categorical version of the Lefschets-Nöbeling-Pontryagin theorem on embedding compacta in $\mathbf{R}^n$. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 345–349. (Michael M. Zarichnyi) **99c:18003** 18B30 (54B30)

— A comparative survey of selected results and open problems concerning topological groups, fields and vector spaces. (English summary) *Topology Appl.* **91** (1999), *no.* 1, 51–63. (Michael Tkačenko) **99m:54027** 54H11 (22A05, 54B10, 54F45, 54H13, 54H20)

Shakhmurov, V. B. (*with* Karakas, H. I.; Yakubov, Sasun) Degenerate elliptic boundary value problems. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 155–174. (Summary) **99a:47072** 47F05 (34G10, 35J70)

Shakhno, S. M. (*with* Bartish, M. Ya.) Investigation of parametric iterative processes for solving nonlinear equations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 2, 22–30, 152. (L. Berg) **99e:65096** 65J15 (47H17)

— Investigation of difference analogues of the Gauss-Newton method. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 2, 219–222. 90C20 (65H10)

Shakhov, E. M. Numerical solution of the kinetic equation for the evaporation-condensation problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 1040–1053; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 994–1006. (Summary) **99g:76128** 76P05 (76M20, 82C40)

Shakhova, S. A. On the lattice of quasivarieties of nilpotent groups of class 2. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 3, 98–125. (A. I. Budkin) **99c:20027** 20E10 (08C15)

Shakhverdyan, A. S. (*with* Shakhverdyan, S. V.) Necessary conditions for optimality for systems with constraints on the complete change of control. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 1, 19–25. 49K15

Shakhverdyan, S. V. (*with* Shakhverdyan, A. S.) Necessary conditions for optimality for systems with constraints on the complete change of control. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 1, 19–25. 49K15

Shakir, Syed (*with* Ghazali, Ali) Modification of Jessen's method 3. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 3, 179–187. 62D05

Shakirov, M. A. The principal vector of local line distortion under conformal mapping and its application. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 3-4, 304–314. (Dmitri Valentinović Prokhorov) **99k:30011** 30C35 (78A30)

Shakurskiĭ, V. K. Synthesis of invariant transformers by the control value method. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 3, 42–49; *translation in Automat. Remote Control* **59** (1998), *no.* 3, *part* 1, 338–343. 93B17 (93E10)

Shalabh Improved estimation in measurement error models through Stein rule procedure. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 1, 35–48. (Summary) **99j:62098** 62J07 (62C15)

Shalaby, Nabil (*with* Assaf, Ahmed M.; Yin, Jian Xing) Directed packings with block size 5. (English summary) *Australas. J. Combin.* **17** (1998), 235–256. (Summary) **99d:05019** 05B40

— (*with* Yin, Jian Xing) Nested optimal λ-packings and λ-coverings of pairs with triples. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 271–278. (Sanpei Kageyama) **99k:05056** 05B40

— (*with* Bennett, Frank E.; Yin, Jian Xing) Existence of directed GDDs with block size five. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 389–402. (Summary) **99j:05020** 05B05

— (*with* Al-Gwaiz, M. A.) Generalized hooked, extended, and near-Skolem sequences. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 113–128. (A. Rosa) **99d:05021** 05B99

Shalev, Aner Finite groups and almost free actions. (English summary) The mathematical heritage of Sir William Rowan Hamilton (Dublin, 1993). *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *suppl.*, 67–74. (Martin W. Liebeck) **99g:20013** 20B05 (20C15)

— Simple groups, permutation groups, and probability. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 129–137 (*electronic*). (Robert M. Guralnick) **99f:20024** 20D06 (20B15, 20P05)

— (*with* Barnea, Y.; Zelmanov, Efim I.) Graded subalgebras of affine Kac-Moody algebras. (English summary) *Israel J. Math.* **104** (1998), 321–334. (Zhe-xian Wan) **99d:17025** 17B67

— A theorem on random matrices and some applications. *J. Algebra* **199** (1998), *no.* 1, 124–141. (László Pyber) **99a:20048** 20G40 (15A52)

— (*with* Gluck, David; Seress, Ákos) Bases for primitive permutation groups and a conjecture of Babai. (English summary) *J. Algebra* **199** (1998), *no.* 2, 367–378. (Robert M. Guralnick) **99b:20004** 20B15 (20B40, 20P05)

— Centralizers in residually finite torsion groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3495–3499. (Francesco de Giovanni) **99b:20066** 20F50 (20E26)

— (*with* Liebeck, Martin W.) Simple groups, permutation groups, and probability. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 2, 497–520. (Robert M. Guralnick) **99b:20004** 20B15 (14H30, 20D06, 20G40, 20P05)

— On the degree of groups of polynomial subgroup growth. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3793–3822. (Daniel Segal) **99m:20063** 20E26 (20F16)

Shalev, Jonathan Loss aversion in a multi-period model. (English summary) *Math. Social Sci.* **33** (1997), *no.* 3, 203–226. (Oscar F. Orellana) **99a:90068** 90A16

Shalika, Joseph A. (*with* Furusawa, Masaaki) The fundamental lemma for the Bessel and Novodvorsky subgroups of GSp(4). (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 2, 105–110. (Dihua Jiang) **99k:11075** 11F70

Shalimova, I. A. (*with* Sabelfeld, K. K.) ★ Spherical means for PDEs. *VSP, Utrecht*, 1997. *viii+188 pp. ISBN* 90-6764-211-8 (Cornelius O. Horgan) **99f:35067** 35J99 (35Q72, 45A05, 73C02)

— A Monte Carlo iterative procedure for solving the pseudo-vibration elastic equation. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 449–453. (*see* **99d:65008**) 73D30 (65C05, 73V30)

de Shalit, Ehud Hecke rings and universal deformation rings. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 421–445, *Springer, New York*, 1997. (*see* **99k:11004**) 11F80 (11F25, 11R34)

Shalizi, Cosma Rohilla (*with* Crutchfield, James P.) Thermodynamic depth of causal states: objective complexity via minimal representations. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part A*, 275–283. (Summary) **99j:82004** 82B03

Shallcross, D. F. (*with* Bárány, Imre; Scarf, H. E.) The topological structure of maximal lattice free convex bodies: the general case. (English summary) *Math. Programming* **80** (1998), *no.* 1, *Ser. A*, 1–15. (Summary) **99h:90069** 90C10

— (*with* Pan, Victor Y.; Lin-Kriz, Y.) Planar integer linear programming is NC equivalent to Euclidean GCD. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 960–971 (*electronic*). (Evangelos Kranakis) **99c:68100** 68Q15 (68Q22)

Shallit, Jeffrey Automaticity. IV. Sequences, sets, and diversity. (English and French summaries) *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 2, 347–367. (George Tourlakis) **99a:11027a** 11B85 (68Q45, 68Q68, 68R15)

— (*with* Lagarias, Jeffrey C.) Linear fractional transformations of continued fractions with bounded partial quotients. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 267–279. (Christoph Baxa) **99c:11088** 11J70 (11A55, 11J06)

— (*with* Pomerance, Carl; Robson, John Michael) Automaticity. II. Descriptional complexity in the unary case. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 181–201. (Jean-Paul Allouche) **99a:11026** 11B85 (68Q45, 68R15)

— (*with* Allouche, Jean-Paul; Currie, James) Extremal infinite overlap-free binary words. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research paper* 27, 11 *pp.* (*electronic*). (Jennifer R. Galovich) **99d:68201** 68R15 (05A99)

— (*with* Wang, Ming-wei) On minimal words with given subword complexity. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 35, 16 *pp.* (*electronic*). (Jean-Paul Allouche) **99g:68159** 68R15 (11B85, 68R10)

— (*with* Allouche, Jean-Paul) Generalized perturbed symmetry. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 401–411. (Valérie Berthé) **99f:11027** 11B85 (54H20, 68R15)

— *see also* **Errata: "Automacity. IV. Sequences, sets, and diversity", 99a:11027b**

Shalman, E. (*with* Yakhot, A.; Shalman, S.; Igra, O.; Yadlin, Y.) Attenuating artificial dissipation in the computation of Navier-Stokes turbulent boundary layers. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 2, 151–172. (Summary) **99f:76072** 76F10 (76D10, 76M20)

Shalman, S. (*with* Shalman, E.; Yakhot, A.; Igra, O.; Yadlin, Y.) Attenuating artificial dissipation in the computation of Navier-Stokes turbulent boundary layers. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 2, 151–172. (Summary) **99f:76072** 76F10 (76D10, 76M20)

Shalom, Rami (*with* Harari, Isaac; Barbone, Paul E.) Higher-order boundary infinite elements. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 107–119. (Summary) **99i:76118** 76M25 (65N30, 76Q05)

bar-Shalom, Yaakov *see* **Bar-Shalom, Yaakov**

Shalom, Yehuda Expanding graphs and invariant means. (English summary) *Combinatorica* **17** (1997), *no.* 4, 555–575. (Dave Witte) **99h:05057** 05C25

— Rigidity and cohomology of unitary representations. *Internat. Math. Res. Notices* **1998**, *no.* 16, 829–849. (A. I. Danilenko) **99h:22012** 22E40 (22D10, 22E41)

— Invariant measures for algebraic actions, Zariski dense subgroups and Kazhdan's property (T). (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3387–3412. (A. I. Danilenko) **99m:22008** 22E35 (14L30, 58F11)

Shamai, Shlomo (*with* Wyner, Aaron D.) Information-theoretic considerations for symmetric, cellular, multiple-access fading channels. I. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1877–1894. (N. C. Mohanty) **99b:94003** 94A05 (90B12)

— (*with* Wyner, Aaron D.) Information-theoretic considerations for symmetric, cellular, multiple-access fading channels. II. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1895–1911. (N. C. Mohanty) **99b:94004** 94A05 (90B12)

— (*with* Biglieri, Ezio; Proakis, John) Fading channels: information-theoretic and communications aspects. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2619–2692. (Summary) **99i:94032** 94A40 (94–02, 94A15)

— (*with* Verdú, Sergio) Spectral efficiency of CDMA with random spreading. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 622–640. 94A60

Shamandy, A. (*with* Aouf, M. K.; Attıya, A. A.) Certain classes of analytic and multivalent functions with negative coefficients. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 353–368. (Ved Parkash Gupta) **99f:30016** 30C45

— (*with* Aouf, M. K.; Yassen, M. F.) Some applications of fractional calculus operators to a certain subclasses of univalent functions with negative coefficients. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 73–78. (Summary) **99c:30013** 30C45 (26A33)

Shamara, H. M. (*with* El-Ghoul, M.) Folding of some types of fuzzy manifolds and their retractions. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 387–391. (Summary) **99g:05169** 05C99 (04A72, 54A40)

Shamardan, A. B. (*with* Khater, A. H.; Farag, M. H.; Abel-Hamid, A. H.) Analytical and numerical solutions of a quasilinear parabolic optimal control problem. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 29–43. (Summary) **99d:49012** 49J20 (49M30, 65K10)

— (*with* Zait, R. A.) Extended structures in the U(3) chiral model. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 1, 115–126. (Summary) **99g:81129** 81T10

Shamarov, N. N. Some formulas for the calculus of differential forms of finite codegree on a locally convex space. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 2, 26–33, 103–104; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 2, 23–28. (Vladimir Pestov) **99b:58011** 58A10 (46G05, 46G12, 58B99)

— A probabilistic solution of the Neumann problem for the Poisson equation in a domain of a Hilbert space. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 102–106; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 55–58. 35R15 (35J05, 46G05, 60J99)

Shamash, Y. A. (*with* Lin, Zongli; Saberi, Ali; Sannuti, P.) Direct method of constructing H_2-suboptimal controllers: continuous-time systems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 585–616. (Abdelmoula El Bouhtouri) **99j:93033** 93B36 (93C60, 93D21)

— (*with* Lin, Zongli; Saberi, Ali; Sannuti, P.) Direct method of constructing H_2-suboptimal controllers: discrete-time systems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 617–653. (Abdelmoula El Bouhtouri) **99j:93034** 93B36 (93C55, 93D21)

Shamia, G. M. (*with* Baczkowski, A. J.; Joanes, D. N.) Range of validity of α and β for a generalized diversity index $H(\alpha, \beta)$ due to Good. (English summary) *Math. Biosci.* **148** (1998), *no.* 2, 115–128. (Summary) **99d:92043** 92D40

Shamir, Adi (*with* Kipnis, Aviad) Cryptanalysis of the oil and vinegar signature scheme. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 257–266, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99k:94037** 94A60

Shamir, Eliahu (*with* Rubin, Boris; Ryabogin, Dmitri) Fractional integrals and wavelet transforms. (English summary) *Transform methods & special functions, Varna '96*, 377–385, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 26A33 (42C15)

Shamir, Joseph (*with* Piestun, Rafael) Generalized propagation-invariant wave fields. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 12, 3039–3044. (Summary) **99i:78019** 78A40

Shamir, Ron (*with* Tsur, Dekel) The maximum subforest problem: approximation and exact algorithms (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 394–399, *ACM, New York*, 1998. (*see* **99d:68011**) 05C05 (05C85, 68Q25, 68R10)

Shamis, E. V. (*with* Chebotarev, Pavel Yu.) A matrix forest theorem and the measurement of relations in small social groups. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 9, 125–137; *translation in Automat. Remote Control* **58** (1997), *no.* 9, *part* 2, 1505–1514 (1998). (Slobodan Simić) **99f:05075** 05C50

— (*with* Chebotarev, Pavel Yu.) Characterizations of scoring methods for preference aggregation. (English summary) *Ann. Oper. Res.* **80** (1998), 299–332. (Summary) **99g:90021** 90A07 (90A10, 90A28)

— (*with* Chebotarev, Pavel Yu.) On the duality of metrics and Σ-neighborhoods. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 184–189; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 608–612. 54E35 (05C50)

— (*with* Chebotarev, Pavel Yu.) Preference fusion when the number of alternatives exceeds two: indirect scoring procedures. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 2, 205–226. (Summary) **99k:90008a** 90A05 (90A07)

— (*with* Chebotarev, Pavel Yu.) Erratum: "Preference fusion when the number of alternatives exceeds two: indirect scoring procedures". *J. Franklin Inst.* **336** (1999), *no.* 4, 747–748. (Editors) **99k:90008b** 90A05 (90A07)

Shamma, Jeff S. (*with* Poolla, Kameshwar) Optimal asymptotic robust performance via nonlinear controllers. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1367–1389. 93B35 (93C10)

— (*with* Tu, Kuang-Yang) Output feedback control for systems with constraints and saturations: scalar control case. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 1–11. (Vladimir Veliov) **99j:93055** 93C15 (93B52, 93C41)

Shamolin, M. V. An introduction to the problem of the braking of a body in a resisting medium, and a new two-parameter family of phase portraits. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 57–69, 112. (Summary) **99e:70027** 70E99 (34C99)

— Spatial Poincaré topographical systems and comparison systems. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 177–178; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 621–622. (Natalia Borisovna Medvedeva) **99a:34089** 34C05 (34C11)

— On integrability in transcendental functions. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 209–210; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 637–638. (Shamil Makhmutov) **99h:34006** 34A20 (30D30)

Shamos, Michael Ian The early years of computational geometry—a personal memoir. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 313–333, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:68169** 68U05 (01A60, 52-03, 52B55, 68-03)

Shamoyan, F. A. (*with* Zakaryan, M. A.) Some problems of representation in weighted spaces of functions harmonic in a ball. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 4, 210–216 (1994). 42C10

— On a conjugate operator in multidimensional Hölder classes on a torus. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 1, 89–94 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 1, 75–79. (Fritz Haslinger) **99i:47061** 47B38 (42B10, 46E99)

— (*with* Arutyunyan, A. V.) Toeplitz operators in the M. M. Dzhrbashyan multidimensional spaces $H^p(\alpha)$. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 2, 85–95 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 2, 70–78. (Miroslav Engliš) **99f:47035** 47B35 (32A35)

Shampine, L. F. (*with* Kierzenka, J.) Solving DAE's with inconsistent initial conditions. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 513–520. 65L06 (34A09, 65L05)

— Linear conservation laws for ODEs. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 45–53. (Summary) **99a:65091** 65L06 (34A45)

Shamraĭ, A. A. (*with* Mikhaĭlov, A. P.; Stepanova, V. V.) Self-similar LS-regimes of adiabatic self-compression of a gas. (Russian) *Mat. Model.* **9** (1997), *no.* 3, 109–120. (From the text) **99b:76072** 76N15

Shams, Bijan (*with* Mamourian, Ahmad) On a non-uniformly elliptic boundary value problem. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **1** (1996), *no.* 1, 25–38. (Srinivasan Kesavan) **99c:35075** 35J65 (30E25, 35J55)

Shamshin, V. M. (*with* Vatul'yan, A. O.) A new version of boundary integral equations and their application to dynamic three-dimensional problems in the theory of elasticity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 462–469; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 427–434. (Summary) **99m:73016** 73C02 (73D30, 73V10)

Shamsuddin, Ahmad Rings with Krull dimension one. *Comm. Algebra* **26** (1998), *no.* 7, 2147–2158. (G. Krause) **99c:16019** 16P60 (16N20)

Shan, Erfang (*with* Sun, Liang; Kang, Liying) Some results on domination number of products of graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 103–108. (Anthony E. Barkauskas) **99b:05085** 05C35

Shan, Qi Qian (*with* Chen, Hong[1]) A simple method for calculating numerical characteristics of some important statistics. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **12** (1999), *no.* 1, 15–17. 65U05 (62E99)

Shan, Weijuan (*with* Ding, Cunsheng; Helleseth, Tor) On the linear complexity of Legendre sequences. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1276–1278. (Summary) **99d:94017** 94A55 (94A60)

Shan, Zun (*with* Kan, Jia Hai) On the representation of a large even integer as the sum of a prime and an almost prime: the prime belongs to a fixed arithmetic progression. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 625–638. (Tian Ze Wang) **99e:11130** 11P32

— (*with* Wang, Edward T. H.) A simple proof of a curious congruence by Sun. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1289–1291. (Richard P. Lewis) **99h:11006** 11A07

Shanahan, Patrick (*with* Mangum, Brian S.) Three-dimensional representations of punctured torus bundles. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 6, 817–825. (Athanase Papadopoulos) **99e:57030** 57N10 (20F34, 57M50)

Shananin, N. A. Singularities of solutions of a linearized system of Navier-Stokes equations. (Russian) *Mat. Zametki* **63** (1998), *no.* 4, 638–640; *translation in Math. Notes* **63** (1998), *no.* 3-4, 562–564. 35Q30 (35A20, 76D05)

Shanbhag, Abhijit G. (*with* Kumar, P. Vijay; Helleseth, Tor) An upper bound for the extended Kloosterman sums over Galois rings. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 3, 218–238. (Charles Helou) **99g:11146** 11T23 (11L07, 94B27)

Shanbhag, D. N. (*with* Fosam, E. B.) An extended Laha-Lukacs characterization result based on a regression property. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 173–186. (M. Riedel) **99d:62008** 62E10 (60E05, 60E10, 62J02)

Shandra, I. G. The geometry of the tangent bundle over a manifold with pseudoconnection, and antiquaternion f-structures. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 75–86; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 6, 69–79. (V. Cruceanu) **99i:53030** 53C15

Shang, C. C. (*with* Shang, J. S.) Simulating electromagnetic phenomena on an Intel Paragon XP/S system. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 341–361, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08

Shang, J. S. (*with* Shang, C. C.) Simulating electromagnetic phenomena on an Intel Paragon XP/S system. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 341–361, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08

Shang, Mei (*with* Mei, Feng Xiang) The Noether's theory of constrained Birkhoffian system. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 3, 221–228. (Summary) **99d:70028** 70H99 (70H33)

— (*with* Mei, Feng Xiang; Zhang, Yong Fa) Lie symmetries and conserved quantities of Birkhoffian system. *Mech. Res. Comm.* **26** (1999), *no.* 1, 7–12. (I. A. Galiullin) **99m:70013** 70H33 (58F35)

Shang, Peng Jian Continuous spectrum measure of a class of Schrödinger operators. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 11–16. (Summary) **99a:47052** 47B39 (39A12, 39A70, 47N55, 82B44)

— The influence of symmetry on the existence of eigenvectors of the Schrödinger operator. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 104–108. (Liu Yang) **99i:47064** 47B39 (39A70, 47N50)

Shang, Shi Min A notation for astronomically large numbers, and continued logarithms. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 27–31. (From the summary) **99h:11149** 11Y99

Shang, Xiu-Gang (*with* Jiang, Wei-Sun) Addition of fuzzy numbers based on generalized t-norms. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 95–99. (Summary) **99d:04009** 04A72

Shang, Ya Dong Solitary wave solutions of a class of generalized KdV equations. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 110–112. 35Q51 (35Q53)

— (*with* Niu, Peng Cheng) Explicit exact solutions for the RLW equation and the SRLW equation in two space dimensions. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 1–5. 35Q53

— (*with* Niu, Peng Cheng) Exact solitary wave solutions for some nonlinear evolution equations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 74–79, 35. 35Q51 (35C05, 35Q58)

Shang, Yi (*with* Wah, Benjamin W.) A discrete Lagrangian-based global-search method for solving satisfiability problems. (English summary) *J. Global Optim.* **12** (1998), *no.* 1, 61–99. (Uwe Zimmermann) **99j:90087** 90C30 (68Q25, 90C27)

Shank, Michael H. Regiomontanus and homocentric astronomy. *J. Hist. Astronom.* **29** (1998), *no.* 2, 157–166. (George Abraham) **99c:01009** 01A40 (01A20)

Shankar, Krishnan On the fundamental groups of positively curved manifolds. *J. Differential Geom.* **49** (1998), *no.* 1, 179–182. (Megan M. Kerr) **99h:53040** 53C20 (53C21, 53C30)

Shankar, N. Ravi (*with* Suryanarayana, Ch.) S-function identities and their inner products. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 13–17. 05E05

Shankar, P. N. Sir James Lighthill: in remembrance. *Current Sci.* **75** (1998), *no.* 4, 405–406. 01A70

Shankar, Rama (*with* Bhardwaj, Dheeraj) On similarity solution for reactive shock in magnetogasdynamics. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 195–210. (Summary) **99j:76144** 76W05 (76L05, 76M25, 76N15, 80A32)

Shankar, Vijaya (*with* Gedney, Stephen D.; Roden, J. Alan; Madsen, Niel K.; Mohammadian, Alireza H.; Hall, William F.; Rowell, Chris) Explicit time-domain solutions of Maxwell's equations via generalized grids. *Advances in computational electrodynamics*, 163–262, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78002** 78–08 (65M06, 78A45)

Shanken, Jay Statistical methods in tests of portfolio efficiency: a synthesis. (English summary) *Statistical methods in finance*, 693–711, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:90024** 90A09 (62P20)

Shanker, Balasubramaniam (*with* Ergin, A. Arif; Michielssen, Eric) Fast evaluation of three-dimensional transient wave fields using diagonal translation operators. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 157–180. (Summary) **99g:76134** 76Q05 (76M25, 78–08, 78A45)

— (*with* Jandhyala, Vikram; Michielssen, Eric; Chew, Weng Cho) Fast algorithm for the analysis of scattering by dielectric rough surfaces. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 7, 1877–1885. (Summary) **99c:78004** 78–08 (78A45)

Shankhapal, R. M. (*with* Thakur, L. B.; Harihar, Ajay K.; Patel, S. R.) On modified algorithm for primal-dual linear programming. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 7–18. (Summary) **99a:90126** 90C05

Shan'ko, D. V. (*with* Monastyrnyĭ, P. I.) An invariant embedding for nonlinear difference boundary value problems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 1, 10–15, 122. (Summary) **99a:65093** 65L10 (65L12)

Shanks, Daniel C. (*with* Sime, Patrick J.; Washington, Lawrence C.) Zeros of 2-adic L-functions and congruences for class numbers and fundamental units. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1243–1255. (Daniel Barsky) **99i:11101** 11R23 (11R42, 11S40)

Shanmugam, Ramalingam Index method of determining the sample size. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 1001–1008. (I. Guttman) **99c:62067** 62F25

Shann, Wei-Chang (*with* Yen, Chien-Chang) On the tau-cycle condition. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 370–373. (Peter A. McCoy) **99d:42068** 42C15

— (*with* Yen, Chien-Chang) Matrices and quadrature rules for wavelets. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 435–446. (Summary) **99h:65043** 65D32 (42C15)

Shanno, David F. (*with* Breitfeld, Marc G.; Simantiraki, Evangelia M.) Implementing barrier methods for nonlinear programming. (English summary) *Interior point methods of mathematical programming*, 399–414, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C30 (65K05)

— (*with* Simantiraki, Evangelia M.) Interior point methods for linear and nonlinear programming. (English summary) *The state of the art in numerical analysis (York*, 1996), 339–362, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99c:90075** 90C05 (65K05, 90C30)

Shannon, Anthony G. (*with* Clarke, J. H.) A note on sums of squares of integers. *Notes Number Theory Discrete Math.* **3** (1997), *no.* 4, 185–187. 11E25

— (*with* Ollerton, Richard L.) Some properties of generalized Pascal squares and triangles. *Fibonacci Quart.* **36** (1998), *no.* 2, 98–109. (A. N. Philippou) **99d:11012** 11B37 (05A10)

— (*with* Leyendekkers, J. V.; Rybak, J. M.) The characteristics of primes and other integers within the modular ring Z_4 and in class $\overline{1}$. (English summary) *Notes Number Theory Discrete Math.* **4** (1998), *no.* 1, 1–17. (G. L. Alexanderson) **99g:11044** 11D85

— (*with* Leyendekkers, J. V.; Rybak, J. M.) The characteristics of primes and other integers within the modular ring Z_4 and in class $\overline{3}$. (English summary) *Notes Number Theory Discrete Math.* **4** (1998), *no.* 1, 18–37. (G. L. Alexanderson) **99g:11045** 11D85

Shannon, Gregory E. (*with* Bradford, Phillip G.; Rawlins, Gregory J. E.) Efficient matrix chain ordering in polylog time. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 466–490 (*electronic*). (Summary) **99f:90089** 90C27 (68Q25, 90C60)

semenov-tyan-shanskiĭ, M. A. *see* **Semenov-Tyan-Shanskiĭ, M. A.**

Shanthikumar, J. George (*with* Glassey, C. Roger; Seshadri, Sridhar) Using information about machine failures to control flowlines. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 455–481. (S. N. Alam) **99a:90096** 90B25

— (*with* Xu, Susan H.) Asymptotically optimal routing and service rate allocation in a multiserver queueing system. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 464–469. (Joseph Kreimer) **99h:90047** 90B22 (60K25)

— (*with* Toyoizumi, Hiroshi; Wolff, Ronald W.) Block renewal processes and their application to modeling. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 53–67. (Summary) **99b:60163** 60K25 (90B22)

— (*with* Righter, Rhonda) Independently expiring multiarmed bandits. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 453–468. (Peter Watts Jones) **99i:62180** 62L05 (62L15)

Shanubhogue, Ashok (*with* Dass, Bani Brata) Three class price adjusting sampling plan by attributes. (English summary) *IAPQR Trans.* **21** (1996), *no.* 1, 23–28. (Summary) **99i:62241** 62N10

— (*with* Jani, P. N.; Muraleedharan Nair, K. R.) A test for gamma DFR alternative. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2535–2546. 62N05 (62F03)

Shany, Yaron (*with* Reuven, Ilan; Be'ery, Yair) On the trellis representation of the Delsarte-Goethals codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1547–1554. (Summary) **99i:94068** 94B12

Shao, Bin A trace formula for variable-coefficient Toeplitz matrices with symbols of bounded variation. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 505–546. (Estelle L. Basor) **99g:47056** 47B35 (15A57, 47A75)

Shao, C. *see* **Shao, Cnangcheng**

Shao, Cheng On the robust stability of a Clarke-Gawthrop type of self-tuning controller. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 721–731. 93D09

Shao, Cnangcheng (*with* Matsuda, Yoshi) Modified Galerkin method for unsteady two-dimensional viscous fluid flow analysis. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 293–301. (*see* **99f:76004**) 65M70 (76M10)

Shao, Hai Ming (*with* Cao, Qi Guo; Sun, Yu Geng) The best connectivity hypergraph based on the DBB design. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 6, 713–718. 05C65

Shao, Jia-Yu Optimal labellings of rooted directed trees. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 1, 1–21. (Hung-Lin Fu) **99e:05105** 05C78 (05C05)

— (*with* Wu, Xiao Jun[2]) Finiteness conditions for generalized exponents of digraphs. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 453–464. (Xue Liang Li) **99j:05088** 05C20 (05C35)

— (*with* Hwang, Suk-Geun) Generalized exponents of non-primitive graphs. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 207–225. (Thomas H. Foregger) **99g:05092** 05C20

— On digraphs and forbidden configurations of strong sign nonsingular matrices. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 221–232. (Ke Min Zhang) **99h:05086** 05C50 (05C20, 15A48)

Shao, Jian A sufficient condition for the optimality of a differential game with a time constraint. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **31** (1997), *no.* 6, 717–722. 90D26

— A sufficient condition for a periodic optimal solution. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 3, 315–318. (Daizhan Cheng) **99m:49057** 49N20 (34A60, 34C25, 34H05)

— (*with* Shen, Hong; Chen, Peng Nian) Dynamic output feedback stabilization of planar nonlinear systems. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 6, 659–665. 93D15

Shao, Jun[1] An asymptotic theory for linear model selection. (English summary) With comments and a rejoinder by the author. *Statist. Sinica* **7** (1997), *no.* 2, 221–264. (Summary) **99m:62104** 62J05

— (*with* Chen, Ying[1]; Chen, Yinzhong) Balanced repeated replication for stratified multistage survey data under imputation. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 819–831. (Victor K. T. Tang) **99c:62027** 62D05

— Convergence rates of the generalized information criterion. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 3, 217–225. (Summary) **99h:62093** 62J05

— (*with* Tsui, Kwok-Leung) Form tolerance estimation using jackknife methods. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 119–133. (Summary) **99f:62056** 62G05

— (*with* Chen, Yinzhong) Bootstrapping sample quantiles based on complex survey data under hot deck imputation. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1071–1085. (Jagdish Saran) **99k:62024** 62D05 (62G09)

— (*with* Steel, Philip) Variance estimation for survey data with composite imputation and nonnegligible sampling fractions. (English summary) *J. Amer. Statist. Assoc.* **94** (1999), *no.* 445, 254–265. 62D05

Shao, Li (*with* Yue, Xian Chang; Zhu, Bin[2]) A maximum entropy constrained homotopy method for min-max problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 59–61. 90C30 (49J35)

— (*with* Yue, Xian Chang; Zhu, Bin[2]) A decomposition approach for the global minimization of concave functions. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 62–64. 90C26 (90C29)

— (*with* Zhu, Bin[2]; Yue, Xian Chang) A parametric algorithm for transportation problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 65–67. 90C08

Shao, Ming-Xue (*with* Luo, Yan; Zhu, Zhong-Yuan) Diffeomorphism invariance of geometric descriptions of Palatini and Ashtekar gravity. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 37–39. (Summary) **99c:83005** 83C05 (83C45)

Shao, Peter Yi-Shi (*with* Phadia, Eswar G.) Exact moments of the product limit estimator. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 277–286. (Summary) **99k:62078** 62G05 (62N05)

Shao, Qi-Man (*with* Chen, Ming-Hui) Estimating ratios of normalizing constants for densities with different dimensions. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 607–630. (Christian P. Robert) **99f:62038** 62F15 (62F03, 62F10)

— (*with* Chen, Ming-Hui) Performance study of marginal posterior density estimation via Kullback-Leibler divergence. (English summary) *Test* **6** (1997), *no.* 2, 321–350. (I. Vajda) **99g:62038** 62G05 (62F15)

— Recent developments on self-normalized limit theorems. (English summary) *Asymptotic methods in probability and statistics (Ottawa, ON, 1997)*, 467–480, *North-Holland, Amsterdam*, 1998. (Lajos Horváth) **99j:60063** 60G50 (60F05, 60F15)

— (*with* Dembo, Amir) Self-normalized large deviations in vector spaces. (English summary) *High dimensional probability (Oberwolfach, 1996)*, 27–32, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (George L. O'Brien) **99j:60036** 60F10 (60B12)

— (*with* Horváth, Lajos) Limit distributions of directionally reinforced random walks. (English summary) *Adv. Math.* **134** (1998), *no.* 2, 367–383. (Luis G. Gorostiza) **99g:60070** 60F17 (60F15, 60J15)

— (*with* Chen, Ming-Hui) Monte Carlo methods for Bayesian analysis of constrained parameter problems. (English summary) *Biometrika* **85** (1998), *no.* 1, 73–87. (Michael J. Evans) **99g:62006** 62A15 (62F15)

— (*with* Dembo, Amir) Self-normalized moderate deviations and lils. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 51–65. (Karl Grill) **99i:60053** 60F10 (60F15)

Shao, Rui (*with* Jiang, Fu; Wu, Jian Zhong[2]) Exit and entry decisions of a cooperative game firm. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 3, 30–34. (Summary) **99e:90019** 90A11 (90D40)

— (*with* Jiang, Fu; Wu, Jian Zhong[2]) Uncertainty, equivalent marginal costs and investments. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 102–107. 90A09

Shao, Sai Lai (*with* Chin, R. C. Y.) An asymptotic-domain decomposition method for a time-dependent singularly perturbed system. *Differential equations and applications (Hangzhou, 1996)*, 269–276, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 65M55 (35K10)

Shao, Xiumin Absorbing boundary conditions of wave equations and their stability analysis. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 137–147. (*see* **99i:00026**) 65M12 (65M06, 65M60)

Shao, Y. Y. (*with* Hsia, J. S.; Xu, Fei[1]) Representations of indefinite quadratic forms. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 129–140. (A. G. Earnest) **99h:11039** 11E12 (11E08)

Shao, Yan Ling (*with* Liu, Bo Lian; Gao, Yu Bin) Extremal matrices of generalized upper exponents for symmetric primitive matrices. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 559–566. (Gang Song Leng) **99g:15024** 15A48 (05C50)

— (*with* Gao, Yu Bin) The sets of upper generalized exponents for a class of primitive undirected [directed] graphs. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 5, 409–416. (Yubao Guo) **99b:05099** 05C50

— (*with* Gao, Yu Bin) The kth upper generalized exponents of primitive symmetric digraphs. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 161–164. (Summary) **99e:05061** 05C20

Shao, Yongheng (*with* Borwein, Jonathan M.; Mordukhovich, Boris S.) On the equivalence of some basic principles in variational analysis. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 228–257. (Abderrahim Jourani) **99j:49024** 49J52 (46N10)

Shao, Yongzhao (*with* Jiménez, Raúl) Entropy for random partitions and its applications. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 417–433. (Eric V. Slud) **99h:60067** 60F15 (62G10)

— (*with* Jin, Zhezhen) On kernel estimation of a multivariate distribution function. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 163–168. (Summary) **99j:62046** 62G05

Shao, Zhoude Existence of inertial manifolds for partly dissipative reaction diffusion systems in higher space dimensions. (English summary) *J. Differential Equations* **144** (1998), *no.* 1, 1–43. (Miklós Farkas) **99d:35087** 35K57 (34G20, 47H20, 58F39)

Shaofang, Hong *see* **Hong, Shao Fang**

Shapcott, C. M. (*with* Bell, David Andrew; Guan, Ji Wen) Using the Dempster-Shafer orthogonal sum for reasoning which involves space. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 467, 511–526. 68T30

Shapere, Alfred D. (*with* Argyres, Philip C.; Faraggi, Alon E.) Curves of marginal stability in $N = 2$ super-QCD. *Strings '95 (Los Angeles, CA, 1995)*, 1–2, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T60 (81T13)

— (*with* Evans, Nick; Johnson, Clifford V.) Orientifolds, branes, and duality of 4D gauge theories. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 251–271. (Javier Borlaf González) **99d:81154** 81T60 (81T13, 81T30)

Shapira, Dana (*with* Schaps, Mary; Shlomo, Orly) Quivers of blocks with normal defect group. (English summary) *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 497–510, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (David Benson) **99f:20015** 20C20

Shapira, Yair Coloring update methods. (English summary) *BIT* **38** (1998), *no.* 1, 177–185. (George D. Poole) **99c:65062** 65F10

— Parallelizable approximate solvers for recursions arising in preconditioning. (English summary) *Linear Algebra Appl.* **274** (1998), 211–237. (Rafael Bru) **99f:65069** 65F35 (65Y05)

— Analysis of matrix-dependent multigrid algorithms. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 3, 165–201. (Summary) **99b:65165** 65N55

Shapiro, Alexander (*with* Bonnans, J. Frédéric; Cominetti, Roberto) Sensitivity analysis of optimization problems under second order regular constraints. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 806–831. (Adam B. Levy) **99g:90139** 90C31

— (*with* Homem-de-Mello, Tito) A simulation-based approach to two-stage stochastic programming with recourse. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 301–325. (Riho Lepp) **99d:90080** 90C15

— (*with* Bonnans, J. Frédéric) Optimization problems with perturbations: a guided tour. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 228–264 (*electronic*). (D. Klatte) **99i:90095** 90C31 (49K40, 90–02)

Shapiro, Arnold Algèbres de Clifford et périodicité des groupes $\pi_k(\mathrm{BO})$ (d'après R. Bott et A. Shapiro). [Clifford algebras and periodicity of the groups $\pi_k(\mathrm{BO})$ (after R. Bott and A. Shapiro)] *Séminaire Bourbaki, Vol. 6, Exp. No.* 215, 141–148, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 55R45 (15A66)

Shapiro, Boris Z. (*with* Shapiro, Mikhail) On ring generated by Chern 2-forms on SL_n/B. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 75–80. (Summary) **99g:14027** 14F99 (14M17)

— (*with* Shapiro, Mikhail; Vaĭnshteĭn, A. D.) Kazhdan-Lusztig polynomials for certain varieties of incomplete flags. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 345–355. (Harry Tamvakis) **99b:14054** 14M15 (05E15)

— $\overline{\partial}$-free maps satisfy the homotopy principle. (English summary) *Indag. Math. (N.S.)* **9** (1998), *no.* 1, 107–111. (Iskander A. Taimanov) **99g:32052** 32H99

— (*with* Sedykh, Vyacheslav) On Young hulls of convex curves in $\mathbf{R}^{2n}$. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 168–182. (Summary) **99h:52004** 52A20 (51M25, 52A38)

— Discriminants of convex curves are homeomorphic. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1923–1930. (Giorgio Bolondi) **99a:14084** 14P25 (14P05)

Shapiro, Harold S. Quasi-balayage and a priori estimates for the Laplace operator. I, II. *Multivariate approximation (Witten-Bommerholz, 1996)*, 203–230, 231–254, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Maria A. Ragusa) **99c:35040** 35J15 (31B15, 35J05, 46E27)

— (*with* Ebenfelt, Peter; Khavinson, Dmitry) Analytic continuation of Jacobi polynomial expansions. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 19–31. (Peter A. McCoy) **99e:42041** 42C10 (35A20)

— (*with* Gustafsson, Björn; Sakai, Makoto) On domains in which harmonic functions satisfy generalized mean value properties. (English summary) *Potential Anal.* **7** (1997), *no.* 1, 467–484. (Hiroaki Aikawa) **99b:31002** 31B05 (31A05, 31C35)

— (*with* Khavinson, Dmitry; Pérez-González, Fernando[2]) Approximation in L^1-norm by elements of a uniform algebra. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 401–410. (Yu. A. Brudnyĭ) **99d:41064** 41A65 (46J10)

— (*with* Ebenfelt, Peter; Khavinson, Dmitry) Extending solutions of holomorphic partial differential equations across real hypersurfaces. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 411–432. (Yûsaku Hamada) **99j:35014** 35B60 (32D15, 35A20, 35J15)

Shapiro, Helene Commutators which commute with one factor. (English summary) Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 323–336. (Tomaž Košir) **99c:15022** 15A27

— *see also* **Special Issue: Taussky-Todd, Olga, 99c:01028**

piatetski-Shapiro, I. I. *see* **Piatetski-Shapiro, I. I.**

Shapiro, I. L. (*with* Asorey, M.; López García, José Luis) Some remarks on high derivative quantum gravity. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32,

5711–5734. (Helmut Rumpf) **99b:83029** 83C45 (83D05)
— (*with* Cognola, Guido) Back-reaction of the vacuum and the renormalization group flow from the conformal fixed point. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3411–3425. (Summary) **99g:81139** 81T17 (83C47)
Shapiro, Jacob (*with* Goldberg, Robert R.; Waxman, Jerry) Analysis of partition variance for the number partition problem. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 29–46. (Summary) **99k:05014** 05A18 (68Q25)
Shapiro, Jeffrey H. Quantum measurement eigenkets for continuous-time direct detection. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 3, 567–578. (Koichiro Matsuno) **99g:81024** 81P15
Shapiro, Jonathan E. Aleksandrov measures used in essential norm inequalities for composition operators. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 133–146. (D. Sarason) **99i:47062** 47B38
— (*with* Fisher, Stephen D.) The essential norm of a composition operator on a planar domain. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 113–130. (Wayne Stewart Smith) **99k:47065** 47B38 (30D55, 30H05)
Shapiro, L. B. On dense subspaces of diadic compact Hausdorff spaces. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 213–219. (Ljubiša Kočinac) **99f:54032** 54D30 (54D80)
Shapiro, Louis (*with* Getu, Seyoum) Catalan and Motzkin probabilities. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 65–72. (Introduction) **99k:05008** 05A15
Shapiro, M. *see* **Shapiro, Mikhail**
Shapiro, M. V. On the conjugate harmonic functions of M. Riesz–E. Stein–G. Weiss. (English summary) *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 8–32, *World Sci. Publishing, River Edge, NJ*, 1997. (Klaus Gürlebeck) **99e:30040** 30G35 (42B20)
— (*with* Tovar, Luis Manuel) On a class of integral representations related to the two-dimensional Helmholtz operator. (English summary) *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 229–244, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Igor M. Mitelman) **99b:30064** 30G35 (35C15, 35J05)
— (*with* Rocha-Chávez, R.; Sommen, Franciscus) On the singular Bochner-Martinelli integral. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 354–365. (Alexandr M. Kytmanov) **99i:32003** 32A25
— (*with* Vasilevskiĭ, N. L.) On the Bergman kernel function in quaternion analysis. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 84–88; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 2, 81–85. (Wolfgang Sprössig) **99g:35022** 35C15 (30C40, 30G20, 46E22)
Shapiro, Michael *see* **Shapiro, M. V.**
Shapiro, Michael David (*with* Miller, Charles F., III) Solvable Baumslag-Solitar groups are not almost convex. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 123–127. (Michael L. Mihalik) **99k:20075** 20F32
Shapiro, Mikhail (*with* Gekhtman, Michael I.) Completeness of real Toda flows and totally positive matrices. *Math. Z.* **226** (1997), *no.* 1, 51–66. (Giulio Soliani) **99h:58085** 58F07 (15A99, 35Q58, 39A10)
— (*with* Shapiro, Boris Z.) On ring generated by Chern 2-forms on SL_n/B. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 75–80. (Summary) **99g:14027** 14F99 (14M17)
— (*with* Shapiro, Boris Z.; Vaĭnshteĭn, A. D.) Kazhdan-Lusztig polynomials for certain varieties of incomplete flags. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 345–355. (Harry Tamvakis) **99b:14054** 14M15 (05E15)
— (*with* Gekhtman, Michael I.) Noncommutative and commutative integrability of generic Toda flows in simple Lie algebras. *Comm. Pure Appl. Math.* **52** (1999), *no.* 1, 53–84. (Stephanie F. Singer) **99i:58074** 58F07 (58F05)
Shapiro, Stanley H. (*with* Leblanc, Raymond) Information theory and the noncentral hypergeometric distribution. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 141–156. (Summary) **99i:62132** 62H17
Shapiro, Stewart (*with* Cook, Roy) J. Hintikka's revolution. Review of *The principles of mathematics revisited* [Cambridge Univ. Press, Cambridge, 1996; MR 97j:03005]. *British J. Philos. Sci.* **49** (1998), *no.* 2, 309–316. 03A05 (03F55, 03F65)
Shapiro, Stuart L. (*with* Baumgarte, Thomas W.; Cook, Gregory B.; Scheel, Mark A.; Teukolsky, Saul A.) General relativistic models of binary neutron stars in quasiequilibrium. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7299–7311. 83F05
— (*with* Scheel, Mark A.; Baumgarte, Thomas W.; Cook, Gregory B.; Teukolsky, Saul A.) Treating instabilities in a hyperbolic formulation of Einstein's equations. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044020, 12 *pp.* (Summary) **99k:83002** 83–08 (83C57)
Shapley, Lloyd S. (*with* Rulnick, John M.) Convex covers of symmetric games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 561–577. (Tatsuro Ichiishi) **99h:90120** 90D06
Shaposhnikova, T. A. (*with* Lobo-Hidalgo, Miguel; Oleĭnik, Ol'ga Arsen'evna; Pérez, Eugenia) On homogenization of solutions of boundary value problems in domains, perforated along manifolds. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 611–629 (1998). (Alain Brillard) **99k:35018** 35B27 (35J25)
Shapoval, A. B. The integral manifold of a nonlinear elliptic equation in a cylinder. (Russian) *Mat. Zametki* **61** (1997), *no.* 3, 476–480; *translation in Math. Notes* **61** (1997), *no.* 3-4, 391–395. (Ya Zhe Chen) **99c:35079** 35J65 (35B40)
Shapovalov, A. V. The number of solutions of systems of random monomial and binomial linear equations. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 333–342, *VSP, Utrecht*, 1997. (Summary) **99g:60020** 60C05 (05A16)
— (*with* Lisitsyn, Ya. V.) Reduction of quantum analogues of Hamiltonian systems on Lie algebras to orbits of the coadjoint representation. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 5, 69–74; *translation in Russian Phys. J.* **41** (1998), *no.* 5, 460–464. (Summary) **99k:58094** 58F07 (81Q99, 81R99)
— (*with* Lisitsyn, Ya. V.) Noncommutative solutions of the d'Alembert equation. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 6, 25–30; *translation in Russian Phys. J.* **41** (1998), *no.* 6, 528–533 (1999). (Summary) **99j:35223** 35Q99 (35A25, 35C99)
— (*with* Evdokimov, E. V.) Hamiltonian dynamics of Darwin systems. (English summary) *Phys. D* **112** (1998), *no.* 3-4, 441–450. (F. Berezovskaya) **99c:92046** 92D25 (58F40)
Shapranov, A. V. (*with* Mazhukin, V. I.; Samarskiĭ, Aleksandr Andreevich; Kastel'yanos, Orlando) The dynamic adaptation method for nonstationary problems with large gradients. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 4, 32–56. 65M55
Shaptoshvili, A. E. A method for solving a system of Maxwell rheological equations and the heat equation. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 113–116. 80A20 (76A05)
Shapukov, B. N. Reduction of Hamiltonian systems with cyclic coordinates, and projectability in bundles. (Russian. English and Russian summaries) *Tr. Geom. Semin. No.* 23 (1997), 165–174. (J. S. Joel) **99m:58099** 58F05 (70H05)
— (*with* Kaĭgorodov, V. R.) Aleksandr Petrovich Shirokov (on the occasion of his seventieth birthday). (Russian) *Tr. Geom. Semin. No.* 23 (1997), 231–244. (Editors) **99k:01073** 01A70
Sharaf, Khidir R. (*with* Ali, Ali A.) Average distance in weighted graphs with removed edges. (English summary) *Ars Combin.* **49** (1998), 310–314. (Summary) **99d:05025** 05C12
Sharafutdinov, Vladimir A. Ray transform of symmetric tensor fields for a spherically symmetric metric. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 177–187, *Plenum, New York*, 1998. (Eberhard Teufel) **99e:53110** 53C65
— (*with* Croke, Christopher B.) Spectral rigidity of a compact negatively curved manifold. *Topology* **37** (1998), *no.* 6, 1265–1273. (Carolyn Gordon) **99e:58191** 58G25 (53C20)
— (*with* Derevtsov, E. Yu.; Kleshchev, A. G.) Numerical solution of the emission 2D-tomography problem for a medium with absorption and refraction. (English summary) *J. Inverse Ill-Posed Probl.* **7** (1999), *no.* 1, 83–103. (Summary) **99m:65030** 65D17 (65Y25, 92C55)
Sharaiha, Y. M. *see* **Advances in combinatorial optimization, 99k:90002**
Sharapov, A. A. (*with* Lyakhovich, S. L.; Shekhter, K. M.) $D = 6$ massive spinning particle. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 474–478, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:81096** 81R20
— (*with* Lyakhovich, S. L.; Shekhter, K. M.) Massive spinning particle in any dimension. I. Integer spins. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 640–652. (Ivailo M. Mladenov) **99m:81077** 81R05 (81S10)
Sharapov, V. G. Discrete partitions and ergodic endomorphisms of the Lebesgue space. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 104–109. (Summary) **99f:28026** 28D05
— A class of ergodic inexact endomorphisms of a Lebesgue space. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 77–82 (1997). (S. I. Bezuglyĭ) **99f:28027** 28D05
Sharapudinov, I. I. (*with* Vagabov, I. A.) On the convergence of de la Vallée-Poussin means for Fourier-Jacobi sums. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 569–586, 640; *translation in Math. Notes* **60** (1996), *no.* 3-4, 425–437 (1997). (N. B. Pogosyan) **99f:42010** 42A20
Sharatchandra, H. S. Analytic calculations for SU(3) using a representation of the model space by polynomials. (English summary) *Special functions and differential equations* (*Madras*, 1997), 224–229, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 22E46 (81R05)
— (*with* Majumdar, Pushan) General solution of the non-abelian Gauss law and non-abelian analogues of the Hodge decomposition. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 067702, 3 *pp.* (Summary) **99k:81184** 81T13
Shareshian, John On the probabilistic zeta function for finite groups. (English summary) *J. Algebra* **210** (1998), *no.* 2, 703–707. (Avinoam Mann) **99k:20049** 20D60 (20F05)
Shargorodskiĭ, E. M. (*with* Natroshvili, D. G.) Three-dimensional problems of dynamics for elastic bodies with cuts. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 281–284 (1991). 73C02 (73D99)
Sharia, Teo On the recursive parameter estimation in the general discrete time statistical model. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 2, 151–172. (P. S. Knopov) **99f:62113** 62M10
Sharif, Habib E-algebraic functions over fields of positive characteristic—an analogue of differentially algebraic functions. (English summary) *J. Algebra* **207** (1998), *no.* 2, 355–366. (François Ollivier) **99k:12011** 12H99 (12H05, 12H10, 12H25)
Shariff, Karim (*with* Moser, Robert D.) Two-dimensional mesh embedding for B-spline methods. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 471–488. (Summary) **99d:65290** 65M60 (65D07)
— (*with* Kravchenko, Arthur G.; Moin, Parviz) B-spline method and zonal grids for simulations of complex turbulent flows. (English summary) *J. Comput. Phys.* **151** (1999), *no.* 2, 757–789. 76M25 (76F99)
Sharifi, Romyar T. On cyclotomic polynomials, power residues, and reciprocity laws. (English summary) *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 319–336. (Ronald J. Evans) **99a:11007** 11A15 (11R18)
Sharifi-Mokhtarian, F. *see* **Mokhtarian, F. Sharifi**
Sharifnia, Ali Instability of the join-the-shortest-queue and FCFS policies in queuing systems and their stabilization. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 309–314. (Summary) **99d:90055** 90B22
Sharipov, R. A. (*with* Pavlov, M. V.; Svinolupov, S. I.) An invariance criterion for the integrability of systems of equations of hydrodynamic type. (Russian. English and Russian summaries) *Integrability in dynamical systems* (*Russian*), 27–48, 93, *Ross. Akad. Nauk, Inst. Mat. Vychisl. Tsentrom, Ufa*, 1994. (Iskander A. Taimanov) **99e:58106** 58F07 (35Q35)
— (*with* Bronnikov, A. A.) Axially symmetric dynamical systems accepting the normal shift in $\mathbf{R}^n$. (English summary) *Integrability in dynamical systems* (*Russian*), 62–69, *Ross. Akad. Nauk, Inst. Mat. Vychisl. Tsentrom, Ufa*, 1994. (Valentin V. Lychagin) **99e:34008** 34A26 (34C35, 70G50)

— (*with* Boldin, A. Yu.) On the solution of normality equations in dimension $n \geq 3$. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 37–61. (S. Yu. Pilyugin) **99m:58161** 58F25 (34C35, 35Q72, 70F99)

Sharipova, L. D. A nonclassical limit theorem on convergence to the Poisson law. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 69–75. (Summary) **99f:60052** 60F05

Sharir, Micha (*with* Agarwal, Pankaj K.; Har-Peled, Sariel; Varadarajan, Kasturi R.) Approximating shortest paths on a convex polytope in three dimensions. (English summary) *J. ACM* **44** (1997), *no.* 4, 567–584. (Ruth Silverman) **99c:68241** 68U05

— (*with* Aronov, Boris; Efrat, Alon; Halperin, Dan) On the number of regular vertices of the union of Jordan regions. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 322–334, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99m:68204** 68U05 (52B55)

— (*with* Pach, János) On the number of incidences between points and curves. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 121–127. (Ren Ding) **99b:52037** 52C10

— (*with* Agarwal, Pankaj K.; Amenta, Nina) Largest placement of one convex polygon inside another. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 95–104. (E. Hertel) **99c:52026** 52C15 (52B55, 68U05)

— (*with* Agarwal, Pankaj K.; Aronov, Boris; Chan, Timothy M.) On levels in arrangements of lines, segments, planes, and triangles. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 315–331. (Summary) **99b:52029** 52B55 (68U05)

— (*with* Boissonnat, Jean-Daniel; Tagansky, B.; Yvinec, Mariette) Voronoi diagrams in higher dimensions under certain polyhedral distance functions. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 485–519. (Rade Živaljević) **99c:52020** 52B55 (68Q25, 68U05)

— (*with* Agarwal, Pankaj K.; Welzl, Emo) The discrete 2-center problem. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 287–305. (Evangelos Kranakis) **99i:68117** 68U05 (52B55)

— Arrangements of surfaces in higher dimensions. (English summary) *Advances in discrete and computational geometry (South Hadley, MA, 1996)*, 335–353, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52026** 52B99 (51M99, 52B55, 52C10, 52C99, 68U05)

— (*with* Barequet, Gill) Partial surface matching by using directed footprints. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 45–62. (Summary) **99m:68219** 68U10 (65Y20, 68T10, 68U05)

Sharkawi, I. E. (*with* Ahmed, A. R.; El-Afifi, M. M.) On the operational exponential function. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 187–192 (1997). (Summary) **99a:44005** 44A40

Sharkov, E. A. (*with* Astaf'eva, N. M.) Hierarchical structure of a queueing system for railway traffic. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 7, 37–47. 90B22

Sharkov, I. V. (*with* Kan, I. D.; Stechkin, B. S.) On the Frobenius problem for three arguments. (Russian) *Mat. Zametki* **62** (1997), *no.* 4, 626–629; *translation in Math. Notes* **62** (1997), *no.* 3-4, 521–523 (1998). (Béla Uhrin) **99h:11022** 11D04

Sharkovs'kiĭ, Aleksandr (*with* Fedorenko, A. D.; Fedorenko, V. V.; Ivanov, Anatoliĭ Fedorovich) Solution behaviour in a class of difference-differential equations. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 37–48. (Frederick R. Marotto) **99e:34097** 34K15 (58F14)

Sharla, Sushil *see* **Sharma, Sushil**

Sharlow, Mark F. A new non-Hausdorff spacetime model for resolution of the time travel paradoxes. (English summary) *Ann. Physics* **263** (1998), *no.* 2, 179–197. (Robert J. Low) **99c:83071** 83C75 (53C80)

Sharma, A. *see* **Sharma, Anju**

Sharma, Ambikeshwar Some simple properties of $up(x)$. (English summary) *Fourier analysis, approximation theory and applications (Aligarh, 1993)*, 263–280, *New Age, New Delhi*, 1997. (*see* **99d:00019**) 41A05

— Arum Kumar Varma [1934–1994]: some reminiscences. *Approximation theory, xvii–xxii, Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (*see* **99a:00051**) 01A70

— (*with* de Bruin, M. G.; Szabados, J.) Birkhoff type interpolation on perturbed roots of unity. (English summary) *Approximation theory*, 167–179, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:41003** 41A05 (30E05)

— (*with* Jakimovski, Amnon) Hermite interpolation on Chebyshev nodes and Walsh equiconvergence. (English summary) *Approximation theory*, 293–333, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Weixing Zheng) **99f:41004** 41A05 (30E05, 30E10, 42A15)

— (*with* Lee, Seng Luan; Tan, Hwee Huat) Spline interpolation and wavelet construction. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 249–276. (Charles K. Chui) **99f:42068** 42C15 (41A15, 65D15)

— (*with* Szabados, J.) Quantitative results in some problems on Walsh equiconvergence. (English summary) *East J. Approx.* **4** (1998), *no.* 3, 291–309. (Weixing Zheng) **99k:41003** 41A05 (41A10)

— (*with* Jakimovski, Amnon) Hermite interpolation on Chebyshev nodes and Walsh equiconvergence. II. (English summary) *J. Anal.* **6** (1998), 91–119. (Weixing Zheng) **99m:41002** 41A05 (30E05, 30E10)

— *see also* **Approximation theory**, **99a:00051**

Sharma, Anju (*with* Moshinsky, Marcos) Variational analysis of an exactly soluble relativistic oscillator. (English summary) *Symmetries in science, X (Bregenz, 1997)*, 293–304, *Plenum, New York*, 1998. (Summary) **99h:81035** 81Q05

— (*with* Moshinsky, Marcos; Nikitin, Anatolii; Smirnov, Yu. F.) Supermultiplets and relativistic problems. II. The Bhabha equation of arbitrary spin and its properties. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6045–6055. (Violeta V. Tretynyk) **99g:81038** 81Q05 (81R20)

— (*with* Moshinsky, Marcos; Smirnov, Yu. F.) Supermultiplets and relativistic problems. III. The non-relativistic limit for a particle of arbitrary spin in an external field. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 10017–10028. (Violeta V. Tretynyk) **99k:81058** 81Q05 (81R20)

— (*with* Moshinsky, Marcos; Nikitin, Anatolii; Smirnov, Yu. F.) Analysis of relativistic particles of arbitrary spin through different chains of groups. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fís.* **44** (1998), *suppl.* 2, 1–10. (Summary) **99m:81078** 81R05

— (*with* Nikitin, Anatolii; Smirnov, Yu. F.) Mass and spin content of a free relativistic particle of arbitrary spin and the group reduction $\mathrm{Sp}(4) \supset \mathrm{U}(1) \otimes \mathrm{SU}(2)$. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fís.* **44** (1998), *suppl.* 2, 23–25. (Summary) **99i:81074** 81R20 (81R05)

Sharma, Araohana (*with* Verma, Alok; Kaushik, Pushpa) On absolute Cesaro summability of ultraspherical series. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 336–340. (Summary) **99h:33051** 33C55 (40G05)

Sharma, Arun (*with* Jain, Sanjay[1]) The structure of intrinsic complexity of learning. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1187–1201. (Philip Ross Watson) **99k:03035** 03D30 (68Q99, 68T05)

— (*with* Case, John; Ott, Matthias; Stephan, Frank) Learning to win process-control games watching game-masters. (English summary) *Algorithmic learning theory (Otzenhausen, 1998)*, 31–45, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T20 (68T05)

— (*with* Case, John; Jain, Sanjay[1]; Kaufmann, Susanne; Stephan, Frank) Predictive learning models for concept drift. (English summary) *Algorithmic learning theory (Otzenhausen, 1998)*, 276–290, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q99)

— (*with* Jain, Sanjay[1]) Generalization and specialization strategies for learning r.e. languages. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 1–26. (Philip Ross Watson) **99m:68167** 68T05 (68Q99)

— A note on batch and incremental learnability. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 3, 272–276. (Summary) **99d:68214** 68T05 (68Q99)

Sharma, Birendra Kumar (*with* Sahu, Daya Ram) Hybrid D-compatibility for solution of functional equations. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 1, 101–114. (S. A. Naimpally) **99c:39037** 39B52

— (*with* Banerjee, Amitabh) A generalization of Kang and Rhoades result. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 19–26. 54H25

— (*with* Thakur, Balwant Singh; Jung, Jong Soo) Fixed point theorems for generalized uniformly Lipschitzian semigroups. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 71–79. (Mo Tak Kiang) **99b:47100** 47H20 (47H09, 47H10)

— (*with* Thakur, Balwant Singh; Jung, Jong Soo) On some fixed point theorems for mappings with generalized Lipschitzian iterates. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 187–198. (Hong Kun Xu) **99j:47081** 47H09 (47H10)

Sharma, Chandra Shekhar On the Hodge star operator and its application in electrodynamics. (English summary) *J. Natur. Geom.* **14** (1998), *no.* 1, 81–92. (Akira Asada) **99d:58011** 58A12 (78A25, 83C50)

Sharma, D. C. (*with* Sharma, G. C.) $M/M/R$ machine repair problem with spares and three modes of failure. (English summary) *Ganita Sandesh* **11** (1997), *no.* 1, 51–56. 60K25

Sharma, Devnandan (*with* Prasad, Ramadhar) Existence and uniqueness of Green's matrix associated with an $n \times n$ matrix differential operator. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 55–59. 34L05

Sharma, G. *see* **Sharma, Govind**

Sharma, G. C. (*with* Sharma, D. C.) $M/M/R$ machine repair problem with spares and three modes of failure. (English summary) *Ganita Sandesh* **11** (1997), *no.* 1, 51–56. 60K25

Sharma, Govind (*with* Ramesh, Chaveli; Rao, P. R. K.) Scale-limitedness in wavelet transforms. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 211–228. (Kathi Karima Selig) **99k:42065** 42C15

Sharma, M. K. *see* **Sharma, Mahendra Kumar**

Sharma, M. L. (*with* Rathore, M. S.; Sharma, P. L.) Common fixed point theorems for setvalued mappings. (English summary) *Vikram Math. J.* **14** (1994), 1–9. 54H25 (54C60, 54E55)

— (*with* Rathore, M. S.; Singh, Bijendra) Coincidence point theorems for multivalued mappings. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 353–356. 54H25

— (*with* Rathore, M. S.; Singh, Naval) Fixed point of certain involutions in 2-Banach spaces. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 189–191. 47H10

Sharma, Mahendra Kumar Partial diallel crosses through circular designs. (English summary) *J. Indian Soc. Agricultural Statist.* **51** (1998), *no.* 1, 17–27. 62K10

Sharma, P. L. (*with* Sharma, M. L.; Rathore, M. S.) Common fixed point theorems for setvalued mappings. (English summary) *Vikram Math. J.* **14** (1994), 1–9. 54H25 (54C60, 54E55)

Sharma, Prabha (*with* Sokkalingam, P. T.; Ahuja, Ravindra K.) A new pivot selection rule for the network simplex algorithm. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 149–158. (Summary) **99j:90106** 90C35 (90C27)

Sharma, Pramod K. (*with* Bhatwadekar, S. M.; Dumaldar, Mahesh N.) Some non-chromatic rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 477–505. (Daniel D. Anderson) **99a:13002** 13A99

— (*with* Dumaldar, Mahesh N.) Comments over "some non-chromatic rings". (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3871–3883. (Daniel D. Anderson) **99k:13009** 13A99 (05C15, 13M99)

Sharma, R. *see* **Sharma, Rajiv**

Sharma, R. K. (*with* Singh, Bijendra) A fixed point theorem of a sequence of contractive type maps in a 2-metric space. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 351–352. 54H25

— (*with* Singh, Bijendra; Chouhan, M. S.) A fixed point theorem in 2-metric space. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 11–12. 54H25

— (*with* Singh, Bijendra; Chouhan, M. S.) Fixed point theorems for a sequence of mappings satisfying rational inequalities. (English summary) *Acta Cienc. Indica Math.*

24 (1998), *no.* 1, 33–35. 54H25

— (*with* Singh, Bijendra; Chauhan, Makhan Singh) Fixed points of semi-compatible mappings. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 159–160. 54H25

Sharma, R. N. (*with* Singh, Mithilesh Kumar) Transformation of a module over an algebra onto its subalgebras. (English summary) *J. Bihar Math. Soc.* **17** (1996), 43–47. 17A99

Sharma, R. R. K. A new algorithm for preparing PERT networks. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 37–48. 90C35

Sharma, Rajendra Pal (*with* Chaurasia, V. B. L.) Two-dimensional exponential Bessel expansion of a general class of polynomials and the multivariable H-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 405–412. (Summary) **99g:33008** 33C10 (33C60)

Sharma, Rajiv (*with* Clark, J. D.; Fraser, W. B.; Rahn, Christopher D.) The dynamic response of a ballooning yarn: theory and experiment. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2767–2789. (Summary) **99f:73053** 73K12 (73H10)

Sharma, Ram Krishan Contraction of high eccentricity satellite orbits using K-S elements with air drag. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1681–1689. (Summary) **99d:70040** 70M20 (70F05)

Sharma, Ram Parkash (*with* Sharma, Samriti) Group action on fuzzy ideals. *Comm. Algebra* **26** (1998), *no.* 12, 4207–4220. (John Mordeson) **99i:16063** 16W20 (16Y99)

— (*with* Sharma, Samriti) Graded fuzzy ideals in graded rings. (English summary) *Ganita* **49** (1998), *no.* 1, 29–37. (Summary) **99i:16076** 16W50

— (*with* Sharma, Samriti) On the range of a G-prime fuzzy ideal. *Comm. Algebra* **27** (1999), *no.* 6, 2913–2916. 16W99

Sharma, Ramesh (*with* Ghosh, Amalendu) Some results on contact metric manifolds. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 6, 497–507. (Themis Koufogiorgos) **99d:53029** 53C15 (53C25)

— Addendum: "Conformal motion of contact manifolds with characteristic vector field in the k-nullity distribution" [Illinois J. Math. **40** (1996), no. 4, 553–563; MR 97i:53054] by Sharma and D. E. Blair. *Illinois J. Math.* **42** (1998), *no.* 4, 673–677. (From the text) **99h:53064** 53C25 (53C15)

Sharma, S. D. *see* **Sharma, Som Datt**

Sharma, S. K. *see* **Sharma, Srikant**

Sharma, Samriti (*with* Sharma, Ram Parkash) Group action on fuzzy ideals. *Comm. Algebra* **26** (1998), *no.* 12, 4207–4220. (John Mordeson) **99i:16063** 16W20 (16Y99)

— (*with* Sharma, Ram Parkash) Graded fuzzy ideals in graded rings. (English summary) *Ganita* **49** (1998), *no.* 1, 29–37. (Summary) **99i:16076** 16W50

— (*with* Sharma, Ram Parkash) On the range of a G-prime fuzzy ideal. *Comm. Algebra* **27** (1999), *no.* 6, 2913–2916. 16W99

Sharma, Shri Deo (*with* Muhamad, N. K.) On integrals involving product of three spheroidal functions of general order. I. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 85–96. (Summary) **99h:33065** 33E10

Sharma, Som Datt (*with* Raj, Jagdish; Anand, Renu) Composition operators on Bergman-Orlicz type spaces. (English summary) *Indian J. Math.* **40** (1998), *no.* 2, 227–235. (Wayne Stewart Smith) **99m:47039** 47B38 (46E30)

Sharma, Srikant (*with* Kumar, Rajeev) Invariance of the countability axioms under locally convex tensor product. (English summary) *Math. Ed. (Siwan)* **33** (1999), *no.* 1, 6–8. 46A32 (46A03, 46M05)

Sharma, Sunil (*with* Kumbhat, R. K.) An inversion formula for an integral transform. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 1–12. (Summary) **99i:44001** 44A05

Sharma, Sushil (*with* Dawar, Ravi) Some results on common fixed points in D-metric space. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 181–186. 54H25

— (*with* Patidar, Prakash C.) Common fixed point theorem in Hilbert space. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 23–26. 47H10

— (*with* Patidar, Prakash C.) On common fixed point theorems in Banach space. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 2, 275–277. (B. E. Rhoades) **99k:47150** 47H10

Sharma, V. *see* **Sharma, Vinod**

Sharma, V. D. (*with* Jena, J.) Bäcklund transformations for the nonlinear evolution equation $z_{yy} = [A(x, y, z)z_x]_x$. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 213–219. (F. Pempinelli) **99e:58163** 58F37 (35A30, 35Q99)

— (*with* Jena, J.) Self-similar shocks in a dusty gas. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 313–327. (Summary) **99i:76083** 76L05 (76N15, 76T05)

Sharma, Vagisha (*with* Arora, S. C.) Solution of integral equations in fuzzy spaces. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 2, 135–139. (From the text) **99h:45001** 45B05 (45D05, 47N20)

Sharma, Vinod (*with* Kuri, J.) Stability and performance analysis of rate-based feedback flow controlled ATM networks. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part I (Hajdúszoboszló, 1997). *J. Math. Sci. (New York)* **92** (1998), *no.* 3, 3930–3939. (Summary) **99k:90073** 90B12

— Some limit theorems for regenerative queues. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 3-4, 341–363. (Anatoly V. Swishchuk) **99k:60236** 60K25 (60F17, 90B22)

Sharman, Ken C. (*with* Li, Yun; Ng, Kim Chwee; Murray-Smith, David J.; Gray, Gary J.) Genetic algorithm automated approach to the design of sliding mode control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 721–739. 93B12 (90C90)

al'-Sharo, Khaled *see* **Al'-Sharo, Khaled**

Sharomet, A. A. On the absolute Galois group of a Henselian field. (Russian. English summary) *Problems in algebra, No. 8 (Russian)*, 164–169, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 12F10

Sharp, David H. (*with* Chen, Yupin; Glimm, James; Saltz, David; Zhang, Qiang[1]) A two-phase flow formulation for the Rayleigh-Taylor mixing zone and its renormalization group solution. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 23–32, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76144** 76T05 (76E99, 76M35)

— (*with* Plohr, Bradley J.) Instability of accelerated elastic metal plates. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 786–804. (Summary) **99f:73051** 73K10 (73D99, 73H10)

— (*with* Glimm, James) Stochastic partial differential equations: selected applications in continuum physics. *Stochastic partial differential equations: six perspectives*, 3–44, *Math. Surveys Monogr.*, **64**, *Amer. Math. Soc., Providence, RI*, 1999. (Giambattista Giacomin) **99k:60162** 60H15 (35R60, 73B99, 73V30, 76M35, 76S05)

— (*with* Glimm, James; Saltz, David) Two-phase modelling of a fluid mixing layer. (English summary) *J. Fluid Mech.* **378** (1999), 119–143. (Summary) **99j:76060** 76F99 (76E99, 76T05)

Sharp, P. W. (*with* Verner, J. H.) Generation of high-order interpolants for explicit Runge-Kutta pairs. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 1, 13–29. 65L06

— (*with* Parsons, Louise) The efficiency of extended explicit Pouzet Volterra Runge-Kutta pairs. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 97–111. (Neide Bertoldi Franco) **99h:65221** 65R20

Sharp, Richard (*with* Pollicott, Mark) Poincaré series and zeta functions for surface group actions on **R**-trees. *Math. Z.* **226** (1997), *no.* 3, 335–347. (Boris Datskovsky) **99g:58104** 58F20 (57M15, 57S30)

— (*with* Pollicott, Mark) Exponential error terms for growth functions on negatively curved surfaces. (English summary) *Amer. J. Math.* **120** (1998), *no.* 5, 1019–1042. (Jens Marklof) **99h:58148** 58F20 (11M36)

— Relative growth series in some hyperbolic groups. *Math. Ann.* **312** (1998), *no.* 1, 125–132. (Stephen P. Humphries) **99g:20055** 20F05 (57M05)

— (*with* Pollicott, Mark; Yuri, Michiko) Large deviations for maps with indifferent fixed points. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1173–1184. (Bernard Schmitt) **99j:58131** 58F11 (28D05)

Sharp, Rodney Y. (*with* Brodmann, M. P.) ★ Local cohomology: an algebraic introduction with geometric applications. (English summary) Cambridge Studies in Advanced Mathematics, 60. *Cambridge University Press, Cambridge*, 1998. *xvi+416 pp. ISBN* 0-521-37286-0 (Lê Tuân Hoa) **99h:13020** 13D45 (14B15)

— Linear growth of primary decompositions of integral closures. *J. Algebra* **207** (1998), *no.* 1, 276–284. (L. J. Ratliff, Jr.) **99g:13008** 13B22 (13A15)

— (*with* Petzl, Henrike) Comparison of graded and ungraded Cousin complexes. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 289–301. (José A. Hermida-Alonso) **99i:13029** 13D25 (13A02)

Sharpe, Eric Extremal transitions in heterotic string theory. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 175–197. (Mark Gross) **99c:81211** 81T30 (14J32, 32G81, 32J81)

— Notes on heterotic compactifications. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 326–332. (Alexander E. Polishchuk) **99m:81230** 81T50 (14J32, 32J81, 81T30)

Sharpe, R. W. *see* **Geometric control and non-holonomic mechanics, 99d:93002**

Sharpen, P. *see* **Charpin, Pascale**

Sharpley, Robert C. (*with* Wang, Hong[9]; Al-Lawatia, Mohamed) A characteristic domain decomposition and space-time local refinement method for first-order linear hyperbolic equations with interfaces. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 1, 1–28. (Beny Neta) **99m:65180** 65M55

Sharry, Martin J. (*with* Delaney, Cathy; Gray, Brenton D.; Gray, Ken; Maenhaut, Barbara M.; Street, Anne Penfold) Pointwise defining sets and trade cores. (English summary) *Australas. J. Combin.* **16** (1997), 51–76. (Dinesh G. Sarvate) **99b:05017** 05B05

Shary, Sergey P. *see* **Sharyi, S. P.**

Sharygin, P. I. (*with* Gimadi, È. Kh.; Zalyubovskiĭ, V. V.) The problem of packing into a strip: an asymptotically exact approach. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 34–44; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 12, 32–42 (1998). (Simon N. Litsyn) **99f:90094** 90C27 (05B40)

Sharyi, S. P. Algebraic approach in the "outer problem" for interval linear equations. (English summary) *Reliab. Comput.* **3** (1997), *no.* 2, 103–135. (Ljiljana Petković) **99d:65151** 65G10 (65F10)

Shasha, Dennis (*with* Yang, Yanling; Zhang, Kaizhong; Wang, Xiong; Wang, Jason T. L.) An approximate oracle for distance in metric spaces. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 104–117, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68021** 68P05 (68Q20)

Shashikanth, B. N. (*with* Newton, Paul K.) Vortex motion and the geometric phase. I. Basic configurations and asymptotics. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 2, 183–214. (Joaquín Delgado Fernández) **99d:76020** 76C05 (58F40)

Shashikhin, V. N. Synthesis of a robust control for interval large-scale systems with aftereffect. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 164–174; *translation in Automat. Remote Control* **58** (1997), *no.* 12, *part* 2, 1978–1986 (1998). (Ryszard Gessing) **99e:93073** 93D21 (93D09)

— Decentralized suboptimal control of parametrically perturbed systems with delay. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 56–63. 93A14 (93C30)

Shashkov, Mikhail (*with* Hyman, James M.) Adjoint operators for the natural discretizations of the divergence, gradient and curl on logically rectangular grids. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 413–442. (Sui Yang Chen) **99c:39018** 39A12 (65C20, 65N06)

— (*with* Hyman, James M.) Approximation of boundary conditions for mimetic finite-difference methods. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 79–99. (Summary) **99d:65298** 65N06

— (*with* Caramana, E. J.) Elimination of artificial grid distortion and hourglass-type motions by means of Lagrangian subzonal masses and pressures. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 521–561. (Summary) **99a:76108** 76M25

— (*with* Morel, Jim Emanuel; Roberts, Randy M.) A local support-operators diffusion discretization scheme for quadrilateral r-z meshes. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 17–51. (Stanisław Burys) **99k:65091** 65M55

— (*with* Caramana, E. J.; Whalen, P. P.) Formulations of artificial viscosity for multi-dimensional shock wave computations. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 70–97. (Summary) **99d:76066** 76M20 (76L05, 76N10)

— (*with* Caramana, E. J.; Burton, Donald Eugene; Whalen, P. P.) The construction of compatible hydrodynamics algorithms utilizing conservation of total energy. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 227–262. (Summary) **99g:76103** 76M25 (76M20)

— (*with* Margolin, Len) Using a curvilinear grid to construct symmetry-preserving discretizations for Lagrangian gas dynamics. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 389–417. (Summary) **99j:76095** 76M25 (76N15)

— (*with* Wendroff, Burton) A composite scheme for gas dynamics in Lagrangian coordinates. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 502–517. (Summary) **99m:76088** 76M20 (76N15)

Shastri, Aditya An equality from an inequality of Bollobas. (English summary) *Ganita Sandesh* **11** (1997), *no.* 2, 57–60 (1998). 05D05

— Time-relaxed broadcasting in communication networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 263–278. (Luisa Gargano) **99h:90045** 90B12 (68M10, 68R10)

— Number of linear extensions of symmetric KLYM posets. *Util. Math.* **53** (1998), 25–35. (Michael Drmota) **99h:05005** 05A15 (06A07)

Shastri, Anant. R. (*with* Pradeep, C. R.) On rationality of logarithmic Q-homology planes. I. *Osaka J. Math.* **34** (1997), *no.* 2, 429–456. (N. Mohan Kumar) **99b:14034** 14J26

— (*with* Gurjar, R. V.; Pradeep, C. R.) On rationality of logarithmic Q-homology planes. II. *Osaka J. Math.* **34** (1997), *no.* 3, 725–743. (N. Mohan Kumar) **99i:14038** 14J26

Shatah, Jalal (*with* McLaughlin, David W.) Homoclinic orbits for PDE's. (English summary) *Recent advances in partial differential equations, Venice* 1996, 281–299, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Satyanad Kichenassamy) **99b:58218** 58F39 (34C37, 35B99, 35Q51, 58F07, 58F30)

— (*with* Bahouri, Hajer) Decay estimates for the critical semilinear wave equation. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 6, 783–789. (Summary) **99h:35136** 35L70 (35B40)

— (*with* Cai, David; McLaughlin, David W.) Spatiotemporal chaos and effective stochastic dynamics for a near-integrable nonlinear system. (English summary) *Phys. Lett. A* **253** (1999), *no.* 5-6, 280–286. (Summary) **99m:58175** 58F39 (58F13)

— *see also* **Differential equations: La Pietra, 99g:35004**

Shatalov, V. E. (*with* Sternin, Boris Yu.) ★ Borel-Laplace transform and asymptotic theory. Introduction to resurgent analysis. *CRC Press, Boca Raton, FL*, 1996. x+270 *pp. ISBN* 0-8493-9435-X (J. S. Joel) **99c:44001** 44A05 (30E20, 34A20, 34E05, 58G07)

— (*with* Sternin, Boris Yu.) Analytic continuation of solutions of integral equations and localization of singularities. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1544–1553; *translation in Differential Equations* **32** (1996), *no.* 11, 1541–1549 (1997). (V. S. Rabinovich) **99b:35017** 35B60 (32C25, 35J99, 45B05, 45P05)

— (*with* Schulze, Bert-Wolfgang; Sternin, Boris Yu.) Operator algebras associated with resurgent transforms and differential equations on manifolds with singularities. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 300–333, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Alexander Tovbis) **99k:58179** 58G15 (35A20, 47D25, 47G30)

— (*with* Schulze, Bert-Wolfgang; Sternin, Boris Yu.) Nonstationary problems for Borel-Fuchs type equations. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 334–364, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (R. G. Aĭrapetyan) **99i:35108** 35L80 (35C20)

— (*with* Sternin, Boris Yu.) Analytic continuation of fundamental solutions of elliptic equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1123–1133, 1152; *translation in Differential Equations* **33** (1997), *no.* 8, 1130–1140 (1998). (Ya. A. Roĭtberg) **99f:58185** 58G03 (35A08, 35J99)

— (*with* Sternin, Boris Yu.) Alien differential calculus and resurgent equations. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 4, 167–202; *translation in Izv. Math.* **61** (1997), *no.* 4, 843–875. (Alexander Tovbis) **99d:34106** 34E20 (32S40, 35C20)

— (*with* Sternin, Boris Yu.) The method of resurgent analysis in the theory of atomic collisions. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 2, 308–323; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 2, 1043–1055 (1998). (Alexander Tovbis) **99e:81059** 81Q20 (34E20, 81V45)

— (*with* Schulze, Bert-Wolfgang; Sternin, Boris Yu.) On some global aspects of the theory of partial differential equations on manifolds with singularities. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 287–305, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Robert Lauter) **99e:58189** 58G18 (35J99, 58G03)

— (*with* Schulze, Bert-Wolfgang; Sternin, Boris Yu.) An operator algebra on manifolds with cusp-type singularities. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 101–140. (Robert Lauter) **99d:58162** 58G03 (35S05, 47G30)

— (*with* Schulze, Bert-Wolfgang; Sternin, Boris Yu.) On the index of differential operators on manifolds with conical singularities. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 141–172. (Robert Lauter) **99c:58149** 58G10 (47G30, 58G12)

Shatalova, O. A. (*with* Lyubich, Yu. I.) Almost Euclidean planes in l_p^n. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 76–78; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 59–61. (Mikhail Ostrovskiĭ) **99j:46014** 46B04 (52A21)

Shatashvili, Samson L. (*with* Losev, Andrei; Moore, Gregory W.) M & m's. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 105–124. (Marco Spaans) **99g:81174** 81T30 (83E30)

— (*with* Losev, Andrei; Moore, Gregory W.; Nekrasov, Nikita) Central extensions of gauge groups revisited. (English summary) *Selecta Math. (N.S.)* **4** (1998), *no.* 1, 117–123. (C. J. Atkin) **99k:22031** 22E65 (58B25, 81R10)

Shatskikh, S. Ya. Conditional quantiles of Gaussian measures in Hilbert space. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci. (New York)* **89** (1998), *no.* 5, 1553–1558. (Rita Giuliano Antonini) **99i:60008** 60B11

Shauger, Stephen E. Results on the Erdős-Gyárfás conjecture in $K_{1,m}$-free graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 61–65. (Summary) **99j:05122** 05C38

Shauman, A. M. Composite number systems with a binary alphabet. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 131–138, 222. (Summary) **99e:68004** 68M07

— Realization of arithmetic operations in binary-ternary number systems. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 105–119, 223. (Igor E. Shparlinski) **99h:68017** 68M07 (11A67)

Shavel', N. A. (*with* Knyazhishche, L. B.) Nonmonotone Lyapunov functionals and estimates for solutions of differential equations with delay. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 205–211, 285; *translation in Differential Equations* **33** (1997), *no.* 2, 205–211. (Tatjana K. Plyshevskaya) **99d:34150** 34K20 (34K15)

Shavgulidze, E. T. (*with* Belokurov, V. V.; Solov'ëv, Yuriĭ Petrovich) Convergent series perturbation theory for functional integrals. (English summary) *Path integrals: Dubna '96*, 122–126, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

— Solutions of Schrödinger equations with polynomial potential by path integrals. *Path integrals: Dubna '96*, 269–272, *Joint Inst. Nuclear Res., Dubna*, 1996. (Kun Soo Chang) **99m:81120** 81S40 (58D30, 81Q05)

— Quasi-invariant measures on groups of diffeomorphisms. (Russian) *Tr. Mat. Inst. Steklova* **217** (1997), *Prostran. Petel' i Gruppy Diffeomorf.*, 189–208. (Vladimir Pestov) **99f:58027** 58D20 (22A05, 58D05)

Shavit, Nir (*with* Upfal, Eli; Zemach, Asaph) A steady state analysis of diffracting trees. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 403–423. (Summary) **99b:68075** 68Q10

— *see also* **Networks in distributed computing, 99b:68009**

Shavlakadze, N. The contact interaction of the elastic wedge with the elastic fastener. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 3, 361–365. 73T05

— On some contact problems for bodies with elastic inclusions. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 285–300. (K. N. Srivastava) **99c:73075** 73T05 (45E05, 73C99)

Shaw, Dong X. (*with* Cho, Geon) The critical-item, upper bounds, and a branch-and-bound algorithm for the tree knapsack problem. (English summary) *Networks* **31** (1998), *no.* 4, 205–216. (Summary) **99c:90097** 90C27 (90B22)

— A unified limited column generation approach for facility location problems on trees. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 363–382. (*see* **99m:90004**) 90B80 (90C70)

hele-Shaw, Henry *see* **Hele-Shaw, Henry**

Shaw, Ian S. ★ Fuzzy control of industrial systems. Theory and applications. *Kluwer Academic Publishers, Boston, MA*, 1998. *xxiv+192 pp. ISBN* 0-7923-8249-8 93C42 (93–02)

Shaw, James (*with* Boneh, Dan) Collusion-secure fingerprinting for digital data. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1897–1905. 94A60

Shaw, Jiin-Chang (*with* Tu, Ming-Hsien) Nonlocal extended conformal algebras associated with multiconstraint KP hierarchy and their free field realizations. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 16, 2723–2737. (Summary) **99i:58083** 58F07 (81R10)

— (*with* Huang, Wen-Jui; Tu, Ming-Hsien) Matrix formulation of Hamiltonian structures of constrained KP hierarchy. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3738–3753. (Henrik Aratyn) **99d:58082** 58F07 (35Q53)

— (*with* Tu, Ming-Hsien) Binary Darboux-Bäcklund transformations for the Manin-Radul super KdV hierarchy. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4773–4784. (Jérôme Leon) **99e:58164** 58F37 (58F07)

— (*with* Tu, Ming-Hsien) The hidden algebraic structure of the Kaup-Broer hierarchy. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4319–4328. (Henrik Aratyn) **99d:58090** 58F07 (35Q55)

— (*with* Tu, Ming-Hsien) A note on the gauge equivalence between the Manin-Radul and Laberge-Mathieu super KdV hierarchies. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4805–4810. (Carlo Morosi) **99e:58107** 58F07 (35Q53)

— (*with* Tu, Ming-Hsien) On the Miura and Bäcklund transformations associated with the supersymmetric Gelfand-Dickey bracket. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 979–986. (F. Pempinelli) **99f:58179** 58F37 (35Q53, 58F07)

Shaw, Mei-Chi (*with* Michel, Joachim) Subelliptic estimates for the $\overline{\partial}$-Neumann operator on piecewise smooth strictly pseudoconvex domains. *Duke Math. J.* **93** (1998), *no.* 1, 115–128. (Der-Chen E. Chang) **99b:32019** 32F20 (35H05, 35N15)

— (*with* Michel, Joachim) C^∞-regularity of solutions of the tangential CR-equations on weakly pseudoconvex manifolds. *Math. Ann.* **311** (1998), *no.* 1, 147–162. (Hervé Gaussier) **99g:32032** 32F40 (32F30, 35N10)

Shaw, Michael J. (*with* Kershaw, David S.; Prasad, Manoj K.; Milovich, Jose L.) 3D unstructured mesh ALE hydrodynamics with the upwind discontinuous finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 81–116. (From the summary) **99d:76060** 76M10 (76L05, 76M25)

Shaw, R. *see* **Shaw, Ronald**

Shaw, R. E. (*with* Garey, L. E.) Efficient algorithms for solving nonlinear Volterra integro-differential equations with two-point boundary conditions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 755–760. (Summary) **99e:65182** 65R20 (45L05)

— (*with* Garey, L. E.) A parallel algorithm for solving Toeplitz linear systems. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 241–247. (Summary) **99k:65031** 65F10 (65Y05)

Shaw, Ronald Finite geometry, Dirac groups and the table of real Clifford algebras. (English summary) *Clifford algebras and spinor structures*, 59–99, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Bernd A. Schmeikal) **99f:15041** 15A66 (15A63)

— (*with* Gordon, Neil A.; Lunardon, Guglielmo) Linear sections of GL(4, 2). (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 287–311. (J. W. P. Hirschfeld) **99g:51008** 51E23 (20G40)

Shaw, Sen-Yen (*with* Kuo, Chung-Cheng) C-cosine functions and the abstract Cauchy problem. I, II. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 632–646, 647–666. (Dieter Lutz) **99c:47063** 47D09 (34G10, 47N20)

— (*with* Li, Yuan-Chuan) Hermitian and positive integrated C-cosine functions on Banach spaces. (English summary) *Positivity* **2** (1998), *no.* 3, 281–299. (Dieter Lutz) **99k:47103** 47D09

— Abstract ergodic theorems. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 141–155. (Summary) **99d:47009** 47A35 (28D05, 47D03)

Shawagfeh, N. T. A class of integro-differential equations via fractional calculus. (English summary) *Transform methods & special functions, Varna '96*, 417–422, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 26A33 (34A05, 45J05)

Shawe-Taylor, John Classification accuracy based on observed margin. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 157–172. (Peter Auer) **99k:68164** 68T05 (68Q99)
— (*with* Bartlett, Peter L.; Williamson, Robert C.; Anthony, Martin) Structural risk minimization over data-dependent hierarchies. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1926–1940. (Summary) **99i:68106** 68T05
Shayman, Mark A. (*with* Kumar, Ratnesh) Formulae relating controllability, observability, and co-observability. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 211–215. (George Fragulis) **99i:93041** 93C83 (68Q60, 93B05)
Shćepanović, R. *see* **Ščepanović, Radoje**
Shćepanović, Radoje *see* **Ščepanović, Radoje**
Shchedrik, V. P. On transforming matrices. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 10, 58–60. (Summary) **99k:15024** 15A21
Shcheglik, V. S. (*with* Samarskiĭ, Aleksandr Andreevich; Jovanović, Boško S.; Matus, Petr P.) Difference schemes on time-adaptive grids for parabolic equations with generalized solutions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 975–984, 1007; *translation in Differential Equations* **33** (1997), *no.* 7, 981–990 (1998). (Summary) **99e:65117** 65M06
— Analysis of a difference scheme that approximates the third boundary value problem for a second-order nonlinear differential equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 951–957; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 8, 919–925. (I. N. Molchanov) **99b:65128** 65N06
Shcheglov, A. Yu. A vector method of job scheduling in the formulation of a linear programming problem. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998,** *no.* 4, 127–133. 90C90 (90C05)
Shcheglov, Alekseĭ Yurievich Uniqueness of the solution of an inverse problem for a nonlinear hyperbolic equation in a rectangular domain. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1999,** *no.* 1, 11–13, 51. 35R30 (35L10)
Shcheglov, V. A. Stability of a linear differential equation with distributed delay. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1665–1669, 1726; *translation in Differential Equations* **32** (1996), *no.* 12, 1658–1662 (1997). (Vera V. Malygina) **99a:34214** 34K20
— (*with* Knyazhishche, L. B.) The use of nonmonotone functionals in the investigation of the boundedness of solutions of differential equations with delay. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 34–38, 123. (Summary) **99j:34098** 34K15 (34K20)
Shchegoleva, I. V. (*with* Chernetskii, V. I.; Rogov, A. A.) Statistical analysis of renewal processes. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 137–144, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60K05 (62G05)
Shchelkov, A. G. (*with* Shishkov, Andrei E.) Dynamics of the supports of energy solutions of mixed problems for quasilinear parabolic equations of arbitrary order. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 3, 175–200; *translation in Izv. Math.* **62** (1998), *no.* 3, 601–626. (Alexander L. Gladkov) **99i:35078** 35K60 (35B99)
Shchepakina, E. A. (*with* Sobolev, V. A.) Duck trajectories in a problem of combustion theory. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1175–1184, 1293; *translation in Differential Equations* **32** (1996), *no.* 9, 1177–1186 (1997). (Leonid V. Kalachev) **99a:34141** 34C99 (34E15, 80A25)
Shchepanovskaya, G. I. (*with* Shchepanovskii, V. A.) Three-dimensional solution for supersonic aerodynamics. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 127–137. (*see* **99e:76001**) 76J20
Shchepanovskii, V. A. (*with* Shchepanovskaya, G. I.) Three-dimensional solution for supersonic aerodynamics. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 127–137. (*see* **99e:76001**) 76J20
Shchepanyuk, G. V. (*with* Litvinov, E. V.; Rebenko, A. L.) Wick calculus on spaces of generalized functions of compound Poisson white noise. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 219–248. (Summary) **99j:60054** 60G20 (60H99)
Shchepetilov, A. V. Reduction of the two-body problem with central interaction on simply connected spaces of constant sectional curvature. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6279–6291. (George Bozis) **99f:70018** 70F05 (58F27, 70G05, 70H05)
— Corrigendum: "Reduction of the two-body problem with central interaction on simply connected spaces of constant sectional curvature" [J. Phys. A **31** (1998), no. 29, 6279–6291; MR 99f:70018]. *J. Phys. A* **32** (1999), *no.* 8, 1531. 70F05 (58F27, 70G05, 70H05)
Shchepin, E. V. P. S. Aleksandrov and general topology. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 5–6. 01A70
— (*with* Ageev, S. M.; Repovš, Dušan D.) On the softness of the Dranishnikov resolution. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 7–32. (Š. Ungar) **99h:54021** 54C10 (54C60, 55R65, 57N20)
— (*with* Brodskiĭ, N. B.) Selections of filtered multivalued mappings. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 220–240. (Volodymyr K. Maslyuchenko) **99g:54014** 54C65 (54C60)
— (*with* Repovš, Dušan D.) A proof of the Hilbert-Smith conjecture for actions by Lipschitz maps. *Math. Ann.* **308** (1997), *no.* 2, 361–364. (Sergey A. Antonjan) **99c:57066** 57S05 (53C20, 54F45, 54H11)
— (*with* Repovš, Dušan D.; Semenov, Pavel V.) On exact Milyutin mappings. (English summary) *Topology Appl.* **81** (1997), *no.* 3, 197–205. (M. van de Vel) **99f:54022** 54C60 (54C65, 55R10)
— (*with* Repovš, Dušan D.; Semenov, Pavel V.) Approximation of upper semicontinuous maps on paracompact spaces. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1089–1101. (L. Górniewicz) **99j:54022** 54C60 (47H04, 54C65, 65J99)
Shchepochkina, I. (*with* Leites, D.) Quivers and Lie superalgebras. (English summary) Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1221–1229. (Summary) **99c:16012** 16G20 (16G60, 17B99)
Shcherbak, Vladimir F. (*with* Kovalev, A. M.) Inverse problems of nonlinear control systems. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1997), *no.* 7, 241–253. (Sauro Longhi) **99f:93073** 93C10 (93B30)
Shcherbakov, A. A. (*with* Rosales Gonsales, Èrnesto; Ortíz-Bobadilla, Laura) Countable set of limit cycles for the equation $dw/dz = P_n(z,w)/Q_n(z,w)$. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 4, 539–581. (Sergeĭ Yu. Yakovenko) **99m:58150** 58F21 (34C05)
Shcherbakov, B. A. (*with* Bronshteĭn, I. U.) Konstantin Sergeevich Sibirsky (1928–1990) (a tribute in honor of his 70th birthday). *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998,** *no.* 1, 3–4. 01A70
— Recurrent functions and recurrent solutions of differential equations. (Russian. English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998,** *no.* 1, 21–31, 150, 153. (Krzysztof Ciesielski) **99j:54024** 54C99 (34C28, 34C35)
Shcherbakov, E. A. Free boundary value problem for the axisymmetric fluid's flow with surface tension and wedging forces. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 937–961. (Jürgen Socolowsky) **99m:76033** 76B99 (35R35, 49J05, 76M30)
Shcherbakov, P. S. (*with* Polyak, B. T.) A probabilistic approach to the robust stability of time-delay systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 12, 97–108; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1770–1779 (1997). (Summary) **99a:93079** 93D09 (34K35, 93B40)
— (*with* Lagoa, C. M.; Barmish, B. R.) Probabilistic enhancement of classical robustness margins: the unirectangularity concept. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 31–43. (B. T. Polyak) **99g:93065** 93D09
Shcherbakova, I. V. (*with* Perov, V. P.) ★ Статистическая динамика дискретных систем. (Russian. Russian summary) [Statistical dynamics of discrete systems] *Izdat. MAI, Moscow*, 1997. 159 *pp. ISBN* 5-7035-0589-5 (From the preface) **99h:93098** 93E03 (93–02, 93B07, 93C55)
Shcherbakova, V. A. Classes of oriented graded graphs with polynomially solvable cardinality Steiner problem. (English. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 73–85; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 617–629. (Matúš Harminc) **99f:05048** 05C20
Shcherbina, Maria (*with* Pastur, Leonid Andreevich) Distribution of the eigenvalues of a class of random matrices in the limit of their infinite dimension. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 131–138. (Alexei Khorunzhy) **99f:82036** 82B44 (15A52, 60F99)
— On the replica symmetric solution for the Sherrington-Kirkpatrick model. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 838–853. (Summary) **99f:82037** 82B44
Shcherbinin, E. (*with* Bartulis, A.; Kremenetsky, V.) General method of constructing self-similar solutions for two-dimensional MHD flows. (English summary) *Magnetohydrodynamics* **34** (1998), *no.* 2, 89–104. (Summary) **99j:76130** 76W05
Shchetinin, A. N. Quotient spaces over tori, and transitive actions of Lie groups. II. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 10, 149–157; *translation in Sb. Math.* **188** (1997), *no.* 10, 1561–1570. (Krzysztof Pawalowski) **99b:57073** 57S25 (57S10, 57S15, 57T10)
She, Xiaotie (*with* Dutta Gupta, Shamita) The GL(2) Rankin-Selberg method for functions not of rapid decay. (English summary) *J. Number Theory* **71** (1998), *no.* 2, 159–165. (M. Ram Murty) **99h:11049** 11F66 (11F12)
— On the non-vanishing of cubic twists of automorphic L-series. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1075–1094. (Solomon Friedberg) **99e:11060** 11F66 (11F70, 11G40, 11N75)
She, Yan (*with* Zhang, Si Ying) Relative degree and normal form for general nonlinear control systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 4, 570–572. 93B10 (93C10)
— (*with* Zhang, Si Ying) Decentralized linearization and decentralized control for nonlinear large-scale systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 585–592. 93A14 (93B18)
— On the sufficient condition for a convex domain to contain another in $\mathbf{R}_{2n}$. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 121–123. (Summary) **99h:52005** 52A20 (52A22)
Shea, Dan (*with* Langley, J. K.) On multiple points of meromorphic functions. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 371–384. (N. Toda) **99g:30043** 30D35
Shea, William Galileo's Copernicanism: the science and the rhetoric. *The Cambridge companion to Galileo*, 211–243, *Camb. Companions Philos., Cambridge Univ. Press, Cambridge*, 1998. (*see* **99k:01020**) 01A45
Sheard, Michael Induction the hard way. *Amer. Math. Monthly* **105** (1998), *no.* 4, 348–353. (Stewart Shapiro) **99d:03057** 03F30 (03A05)
— (*with* Hendry, George R. T.; Knickerbocker, C. J.; Lock, Patti Frazer) Forbidden subgraphs of graphs uniquely Hamiltonian-connected from a vertex. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 281–290. (Summary) **99b:05093** 05C45
Sheard, Tim (*with* Taha, Walid; Benaissa, Zine-El-Abidine) Multi-stage programming: axiomatization and type safety. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 918–929, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68N15
Shearer, James B. Some new disjoint Golomb rulers. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3151–3153. 05B10
— Some new difference triangle sets. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 65–76. (Summary) **99d:05012** 05B10
Shearer, Michael (*with* Garaizar, Xabier; Gordon, Michael K.) An elastoplasticity model for antiplane shearing with a non-associative flow rule: genuine nonlinearity of plastic waves. *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 344–363. (Anne Nouri) **99a:73064** 73E50 (35Q72, 73E05, 73E70)
— (*with* Schaeffer, David G.) A simple model for stress fluctuations in plasticity with application to granular materials. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1791–1807 (*electronic*). 73E99 (73Q05)
— (*with* Howle, Laurens; Schaeffer, David G.; Zhong, Pei) Lithotripsy: the treatment of kidney stones with shock waves. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 356–371 (*electronic*). (Summary) **99d:92009** 92C05 (76Q05, 76Z99, 92C50)
— (*with* Schulze, Matthew R.) Undercompressive shocks for a system of hyperbolic conservation laws with cubic nonlinearity. *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 344–362. (Stefan Diehl) **99m:35156** 35L67 (35Q72, 73F15)
Sheather, Simon J. (*with* Hettmansperger, Thomas P.; McKean, Joseph W.) Rank-based analyses of linear models. *Robust inference*, 145–173, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62G10 (62J05)

— (*with* Maritz, J. S.) A general method for estimating standard errors. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 141–154. (Summary) **99d:62042** 62G05

Sheats, Jeffrey T. The Riemann hypothesis for the Goss zeta function for $\mathbf{F}_q[T]$. (English summary) *J. Number Theory* **71** (1998), *no.* 1, 121–157. (David Goss) **99b:11127** 11R58 (11G09, 11M41, 11R42)

— A symplectic jeu de taquin bijection between the tableaux of King and of De Concini. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3569–3607. (Angèle M. Hamel) **99m:05167** 05E15

Shebanina, E. V. (*with* Evtukhov, V. M.) Asymptotic behaviour of solutions of nth order differential equations. *Mem. Differential Equations Math. Phys.* **13** (1998), 150–153. 34B05 (34E99)

Shectman, J. Parker (*with* Sahinidis, Nikolaos V.) A finite algorithm for global minimization of separable concave programs. (English summary) *J. Global Optim.* **12** (1998), *no.* 1, 1–35. (Summary) **99c:90092** 90C26

Shedler, G. (*with* Rissanen, Jorma) Failure-time prediction. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 193–210. (Summary) **99a:62143** 62N10

Sheehan, John (*with* Jackson, Bill) The structure of transform graphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 123–144. (Hansjoachim Walther) **99e:05103** 05C75 (05C45)

— *see also* **Conference: Combinatorial, 99h:00023**

Sheehan, Nuala A. (*with* Hurn, Merrilee A.; Rue, Håvard) Block updating in constrained Markov chain Monte Carlo sampling. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 4, 353–361. (Summary) **99j:62138** 62M99

Sheehy, R. (*with* Burns, John M.; Ellis, Graham J.; MacHale, Desmond; Ó Murchú, P.; Wiegold, James) Lower central series of groups with small upper central factors. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 113–122. (O. Yu. Dashkova) **99g:20061** 20F14

Sheen, Dongwoo (*with* Lee, Chang-Ock[2]; Lee, Jongwoo; Yeom, Yongjin) A frequency-domain parallel method for the numerical approximation of parabolic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 19–29. (Summary) **99j:65157** 65M55 (65Y05)

Sheffer, Alla (*with* Blacker, Ted; Clements, Jan; Bercovier, Michel) Virtual topology construction and applications. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 247–259, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99f:65214** 65Y25 (65D17)

Sheftel′, Z. G. Problems with a shift in complete scales of Sobolev type spaces. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 218–226, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Jiří Rákosník) **99a:35058** 35J40 (46N20)

— Green's formula for elliptic operators with a shift and its applications. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 307–314, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (V. S. Rabinovich) **99i:35027** 35J40

Shefter, Michael G. (*with* Majda, Andrew J.) Elementary stratified flows with instability at large Richardson number. (English summary) *J. Fluid Mech.* **376** (1998), 319–350. (Shu Ming Sun) **99k:76148** 76V05 (76D99, 76E10)

— (*with* Majda, Andrew J.) The instability of stratified flows at large Richardson numbers. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 14, 7850–7853 (*electronic*). (Summary) **99f:76065** 76E99 (76V05, 86A05)

Shehadeh, Ramsey D. (*with* Hong, Yongmiao) A new test for ARCH effects and its finite-sample performance. (English summary) *J. Bus. Econom. Statist.* **17** (1999), *no.* 1, 91–108. (Summary) **99i:62254** 62P20 (62J05)

Shehory, Onn (*with* Sandholm, Tuomas; Larson, Kate; Andersson, Martin; Tohmé, Fernando) Anytime coalition structure generation with worst case guarantees. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 46–53, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90B12

— (*with* Kraus, Sarit) Methods for task allocation via agent coalition formation. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 165–200. (Summary) **99i:90130** 90D12 (90B80)

Shehtman, Valentin B. *see* **Shekhtman, V. B.**

el-Sheikh, S. A. *see* **El-Sheikh, S. A.**

Sheikh Jabbari, M. M. Classification of different branes at angles. (English summary) *Phys. Lett. B* **420** (1998), *no.* 3-4, 279–284. (Summary) **99a:81156** 81T30 (11F27, 33C45)

— More on mixed boundary conditions and D-branes bound states. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 48–54. (Summary) **99b:81213** 81T30

Sheikholeslam, F. (*with* Tahani, Valiollah) Total stability of fuzzy feedback control systems. (English and Farsi summaries) *Iranian J. Sci. Tech.* **23** (1999), *no.* 1, *Trans. B Tech.*, 27–34, 95. 93C42 (93D05)

Sheĭnin, O. B. ★ The history of the theory of errors. Deutsche Hochschulschriften [German University Publications], 1118. *Hänsel-Hohenhausen, Egelsbach*, 1996. 180 *pp. ISBN* 3-8267-1118-1 (Zeno G. Swijtink) **99d:01004** 01A05

— Stochastic thinking in the Bible and the Talmud. (English summary) *Ann. of Sci.* **55** (1998), *no.* 2, 185–198. (Zeno G. Swijtink) **99h:01045** 01A99 (01A35)

— The theory of probability: its definition and its relation to statistics. *Arch. Hist. Exact Sci.* **52** (1998), *no.* 2, 99–108. (Zeno G. Swijtink) **99d:01005** 01A05

Sheĭnin, S. A. (*with* Tuzikov, A. V.; Roerdink, Jos B. T. M.; Heijmans, Henk J. A. M.) Measures and indices of reflection symmetry for convex polyhedra. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 59–65, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Christian Ronse) **99k:52014** 52A38 (51M16, 52A39, 52B15, 68U05, 68U10)

al-Shejari, A. A. *see* **Al-Shejari, A. A.**

Shek, C. K. (*with* Chow, K. W.; Lai, Wing Chiu Derek; Tso, K.) Positon-like solutions of nonlinear evolution equations in $(2+1)$ dimensions. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1901–1912. (Summary) **99i:35135** 35Q53

Shekhar, Chander (*with* Komal, B. S.) A characterization of composition operators induced by matrices. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 569–572. (Summary) **99a:47046** 47B38 (46E40)

Shekhter, K. M. (*with* Lyakhovich, S. L.; Sharapov, A. A.) $D = 6$ massive spinning particle. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 474–478, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:81096** 81R20

— (*with* Lyakhovich, S. L.; Sharapov, A. A.) Massive spinning particle in any dimension. I. Integer spins. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 640–652. (Ivailo M. Mladenov) **99m:81077** 81R05 (81S10)

Shekhtman, Boris (*with* Clark, W. Edwin; Suen, W.-C. Stephen; Fisher, David C.) Upper bounds for the domination number of a graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 99–123. (Summary) **99j:05103** 05C35

Shekhtman, V. B. (*with* Gabbay, Dov M.) Products of modal logics. I. (English summary) *Log. J. IGPL* **6** (1998), *no.* 1, 73–146. (N. C. A. da Costa) **99c:03018** 03B45

Shekhunova, N. A. (*with* Bezzateev, Sergei V.) A subclass of binary Goppa codes with improved estimation of the code dimension. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 23–38. (Summary) **99h:94065** 94B27

Shekoyan, L. A. (*with* Samsonov, Boris F.) Investigation of a class of Bergman-type potentials. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 5, 34–39; *translation in Russian Phys. J.* **41** (1998), *no.* 5, 428–432. (Summary) **99j:81037** 81Q05 (34L40)

Shekutkovski, Nikita *see* **Šekutkovski, Nikita**

Shelah, Saharon If there is an exactly λ-free abelian group then there is an exactly λ-separable one in λ. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1261–1278. (Milan Grulović) **99c:20076** 20K20 (03E75, 08B20)

— Very weak zero one law for random graphs with order and random binary functions. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 4, 351–358. (Tomasz J. Łuczak) **99b:05128** 05C80

— (*with* Fuchino, Sakaé; Soukup, Lajos) Sticks and clubs. (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 57–77. (Douglas R. Burke) **99j:03044** 03E55 (03E05, 03E35)

— σ-entangled linear orders and narrowness of products of Boolean algebras. (English summary) *Fund. Math.* **153** (1997), *no.* 3, 199–275. (Pierre Matet) **99e:03032** 03E05 (03E35, 04A20, 06A07, 06E05)

— On Ciesielski's problems. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 2, 191–209. (Jakub Jasiński) **99k:03039** 03E15 (03E05, 03E35, 26A03)

— (*with* Lifsches, Shmuel) Peano arithmetic may not be interpretable in the monadic theory of linear orders. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 848–872. (M. Yasuhara) **99b:03054** 03C85 (03E35, 03F25, 03F30)

— (*with* Rosłanowski, Andrzej) Simple forcing notions and forcing axioms. *J. Symbolic Logic* **62** (1997), *no.* 4, 1297–1314. (Eva Coplakova) **99j:03043** 03E40 (03E50)

— (*with* Göbel, Rüdiger) Endomorphism rings of modules whose cardinality is cofinal to omega. *Abelian groups, module theory, and topology* (*Padua*, 1997), 235–248, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Manfred Dugas) **99i:13021** 13C99 (20K30)

— (*with* Milner, E. C.) A tree-arrowing graph. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 175–182, *Kluwer Acad. Publ., Dordrecht*, 1998. (Lorenz Halbeisen) **99f:03065** 03E05 (05C15)

— (*with* Goldstern, Martin) Order polynomially complete lattices must be large. (English summary) *Algebra Universalis* **39** (1998), *no.* 3-4, 197–209. (A. Kanamori) **99g:06010** 06A07 (03E35, 03E55, 06B05, 08A40)

— (*with* Göbel, Rüdiger) Indecomposable almost free modules—the local case. (English summary) *Canad. J. Math.* **50** (1998), *no.* 4, 719–738. (Luigi Salce) **99i:13014** 13C13 (20K20)

— (*with* Juhász, István) On the cardinality and weight spectra of compact spaces. II. (English summary) *Fund. Math.* **155** (1998), *no.* 1, 91–94. (W. W. Comfort) **99c:06015** 06E05 (54A25)

— (*with* Rosłanowski, Andrzej) Cardinal invariants of ultraproducts of Boolean algebras. (English summary) *Fund. Math.* **155** (1998), *no.* 2, 101–151. (U. Felgner) **99g:03033** 03C20 (03C60, 03E35, 03G05, 06E05, 06E15)

— A polarized partition relation and failure of GCH at singular strong limit. (English summary) *Fund. Math.* **155** (1998), *no.* 2, 153–160. (Douglas R. Burke) **99b:03064** 03E05 (04A20, 04A30)

— Erdős and Rényi conjecture. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 179–185. (Zbigniew Palka) **99g:05173** 05C99

— (*with* Lifsches, Shmuel) Uniformization and Skolem functions in the class of trees. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 103–127. (Martin Weese) **99i:03045** 03C85

— (*with* Balcerzak, Marek; Rosłanowski, Andrzej) Ideals without ccc. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 128–148. (Miroslav Repický) **99j:03039** 03E15 (03E35, 03E55, 54H05)

— (*with* Baldwin, John T.) DOP and FCP in generic structures. *J. Symbolic Logic* **63** (1998), *no.* 2, 427–438. (Alexandre Ivanov) **99m:03064** 03C45 (03C13)

— (*with* Hamkins, Joel David) Superdestructibility: a dual to Laver's indestructibility. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 549–554. (Douglas R. Burke) **99m:03106** 03E55 (03E40)

— (*with* Grossberg, Rami) On cardinalities in quotients of inverse limits of groups. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 189–197. (O. V. Belegradek) **99d:20039** 20E18

— (*with* Rabus, Mariusz) Topological density of ccc Boolean algebras—every cardinality occurs. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2573–2581. (Vinodkumar) **99m:06026** 06E15 (03E10, 54D80)

Sheldon, B. W. (*with* Chang, Han-Chieh; Gottlieb, David; Marion, Martine) Mathematical analysis and optimization of infiltration processes. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 303–321. (Elena Comparini) **99k:76137** 76S05 (76R99)

Shelemy, S. (*with* Kunstatter, G.; Petryk, R.) Hamiltonian thermodynamics of black holes in generic 2D dilaton gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3537–3547. (Summary) **99m:83122** 83C57 (83C47)

Shelepin, A. L. (*with* Shelepin, L. A.) Clebsh-Gordon [Clebsch-Gordan] coefficients in coherent and mixed bases. Overlap method. *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 493–497, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81R05 (81R30)

Shelepin, L. A. (*with* Shelepin, A. L.) Clebsh-Gordon [Clebsch-Gordan] coefficients in coherent and mixed bases. Overlap method. *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 493–497, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81R05 (81R30)

Shelkovich, V. M. (*with* Danilov, V. G.) Generalized solutions of nonlinear differential equations and the Maslov algebras of distributions. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 171–180. (Summary) **99f:46056** 46F10 (35L60)

— The Colombeau theory of generalized functions using harmonic regularizations. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 313–316; *translation in Math. Notes* **63** (1998), *no.* 1-2, 275–278. (Yu. V. Egorov) **99f:46054** 46F05 (46F10)

Shell, Karl (*with* Goenka, Aditya) Robustness of sunspot equilibria. (English summary) *Econom. Theory* **10** (1997), *no.* 1, 79–98. (Summary) **99b:90030** 90A14

— (*with* Bhattacharya, Joydeep; Guzman, Mark G.) Price level volatility: a simple model of money taxes and sunspots. (English summary) *J. Econom. Theory* **81** (1998), *no.* 2, 401–430. (From the introduction) **99e:90024** 90A53 (90A56)

Shell, Niel (*with* Cohen, Jo-Ann; Mathews, David) *F*-transcendental Ostrowski nets. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 316–323, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Niels Schwartz) **99b:12007** 12J10

Shellard, E. P. S. (*with* Martins, C. J. A. P.) Evolution of superconducting string currents. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 58–64. (Summary) **99c:83106** 83F05 (83E30)

Shelley, Michael J. (*with* Pugh, M. C.) Singularity formation in thin jets with surface tension. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 7, 733–795. (Thomas Y. Hou) **99d:76007** 76B10 (76B45, 76E99)

— (*with* Goldstein, Raymond E.; Pesci, Adriana I.) Instabilities and singularities in Hele-Shaw flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2701–2723. (Summary) **99g:76064** 76E99 (76D99, 76S05)

— Spirals, jets, and pinches. *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 119–128, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D25 (76D99)

Shelton, Brad (*with* Yuzvinsky, Sergey) Koszul algebras from graphs and hyperplane arrangements. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 477–490. (Alexander E. Polishchuk) **99c:16044** 16W50 (16S99, 52B30)

Shelton, Christian R. (*with* Halperin, Dan) A perturbation scheme for spherical arrangements with application to molecular modeling. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 273–287. (Summary) **99d:65392** 65Y25 (52B30, 65Y15, 68U05)

Sheludko, Hely A. (*with* Shupikov, Alexander N.; Smetankina, Natalia V.) Selection of optimal parameters of multilayer plates at nonstationary loading. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 553–564. 73K40 (73K10)

Shelukhin, Vladimir The limit of zero shear viscosity for compressible fluids. *Arch. Rational Mech. Anal.* **143** (1998), *no.* 4, 357–374. (R. M. Gundersen) **99m:35195** 35Q35 (76N10)

al-Shemas, Eman H. *see* **Al-Shemas, Eman H.**

Shemetkov, Leonid Aleksandrovich Some ideas and results in the theory of formations of finite groups. *Problems in algebra, No.* 7 (*Russian*), 3–38, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10

— (*with* Skiba, A. N.) On the minimal compositional screen of a compositional formation. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 39–43, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10

— (*with* Skiba, A. N.) On primitively closed semiformations of multirings. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 3–6, 102, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 08A30

— Sergeĭ Antonovich Chunikhin (1905–1985). (Russian) *Problems in algebra, No.* 9 (*Russian*), 3–5, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20005**) 01A70

— (*with* Ballester-Bolinches, A.) On lattices of *p*-local formations of finite groups. *Math. Nachr.* **186** (1997), 57–65. (T. O. Hawkes) **99b:20032** 20D10 (20D30)

— *see also* **Problems in algebra**, **99g:20002**; **99g:20003**; **99g:20004**; **99g:20005**; **99g:20006**; **99g:20008** *and* **Skiba, A. N. et al.**, (**99g:20007**)

Shemetov, N. (*with* Meirmanov, A. M.) The classical solution for the Stefan problem with hysteresis. *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 125–136, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (Tomáš Roubíček) **99d:35187a** 35R35 (35K65, 80A22)

— (*with* Meirmanov, A. M.) The Stefan problem with hysteresis-type phase function. (English summary) *Adv. Math. Sci. Appl.* **6** (1996), *no.* 2, 541–558. (Tomáš Roubíček) **99d:35187b** 35R35 (35K65, 80A22)

— Existence result for the full one-dimensional Frémond model of shape memory alloys. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 157–172. (Martin Brokate) **99e:73021** 73B30 (35Q72, 49J40, 73V25)

Shemyakina, T. K. (*with* Izobov, N. A.; Il'in, Vladimir Aleksandrovich[1]; Kiguradze, I. T.; Kudryavtsev, L. D.; Maksimov, V. P.) Nikolaĭ Viktorovich Azbelev (on the occasion of his seventy-fifth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 4, 435–439; *translation in Differential Equations* **33** (1997), *no.* 4, 433–438. (Editors) **99k:01062** 01A70

Shen', A. Kh. Probabilistic proofs. *Math. Intelligencer* **20** (1998), *no.* 3, 29–31. 00A05

— (*with* Hammer, Daniel) A strange application of Kolmogorov complexity. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 1–4. (Summary) **99b:68103** 68Q30

Shen, Bing (*with* Szidarovszky, Ferenc) A heuristic algorithm for constructing optimal lookup tables in circuit design. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 8–12 (*electronic*). (Summary) **99d:65061** 65D20 (65D05)

Shen, Bo Qian (*with* Tan, Xin Xin) A condition for the existence of limit cycles of a centrally symmetric cubic system with two parabolic solutions. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 496–500. 34C05

— An approximating system for a differential system with a multiple limit cycle. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 282–287. (Ding Jun Luo) **99h:34050** 34C05 (34C23, 58F21)

— (*with* Liu, De Ming[1]) A mathematical model of a class of autocatalytic chemical reaction. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 278–286. (Summary) **99d:34047** 34C05

— (*with* Tan, Ji Zhi) The existence of limit cycles for a centrally symmetric cubic system with a cubic curve solution $xy^2 + y = x^3$. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 629–632. (Mao An Han) **99m:34071** 34C05

Shen, C.-L. *see* **Shen, Chi-Long**

Shen, C. Y. *see* **Shen, Chung Y.**

Shen, Chao-Liang (*with* Shieh, Chung-Tsun) Two inverse eigenvalue problems for vectorial Sturm-Liouville equations. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1331–1343. (Vjacheslav A. Yurko) **99j:34016** 34A55 (34B24, 47E05)

Shen, Chi-Long (*with* Chien, C. S.; Mei, Zhen) Numerical continuation at double bifurcation points of a reaction-diffusion problem. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 117–139. (Summary) **99c:35108** 35K57 (35B32, 35B60, 58F39, 65M99)

Shen, Chun-Li (*with* Chen, Yun Mei) Evolution problem of Yang-Mills flow over 4-dimensional manifold. *Variational methods in nonlinear analysis* (*Erice*, 1992), 63–66, *Gordon and Breach, Basel*, 1995. (Introduction) **99g:58030** 58E15 (53C07)

Shen, Chung Y. (*with* Owa, Shigeyoshi) An application of certain operators to the generalized hypergeometric functions. *Mathematica* **37(60)** (1995), *no.* 1-2, 199–203. (M. E. Muldoon) **99c:30024** 30C45 (33C45)

— (*with* Owa, Shigeyoshi) An application of certain fractional operator. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 221–226. (H. M. Srivastava) **99c:30025** 30C45 (26A33, 33C45)

Shen, De Yao (*with* Peng, Hui) An improved algorithm for self-tuning dynamic matrix control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 945–948. 93C40 (93E12)

Shen, En Shao Model-theoretic logic and theoretical computer science. (Chinese. English and Chinese summaries) *Adv. in Math.* (*China*) **25** (1996), *no.* 3, 193–202. (Fuxing Shen) **99d:68176** 68Q99 (03-02, 03B70, 03C13)

— (*with* Bie, Rong Fang) Z-automata and partition logics. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 67–74. (Summary) **99a:68124** 68Q68 (03B25, 03B70, 03D05)

Shen, Gong Xun (*with* Fang, Jian Cheng; Li, Xue En; Wan, De Jun; Dong, Xiao Yong) A study of the Kalman filtering method and the analysis of filtering accuracy in GPS kinematic positioning with speed observation. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 914–919. 93E11

Shen, Guang Xing Some new conditions for a matrix to be a nonsingular *H*-matrix. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 21–27. 15A57

Shen, Guangyu (*with* Shu, Bin) Algebraic groups associated with graded Lie algebras of Cartan type. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 533. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 293–298. (Daniel K. Nakano) **99k:17016** 17B10

— (*with* Hu, Naihong) On the representations of the Witt algebra. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 189–192. (Yuri B. Ermolaev) **99f:17028** 17B66

Shen, Guoxiang (*with* Jones, William B.) Regular strong Hamburger moment problem. *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 209–256, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Olav Njåstad) **99m:44011** 44A60 (30B70, 30E05)

Shen, H. *see* **Shen, Hong[2]**

Shen, Hao (*with* Wang, Minjie) Existence of labeled resolvable block designs. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 427–439. (Bronisław Ceranka) **99e:05021** 05B05

Shen, Hong (*with* Chen, Peng Nian; Shao, Jian) Dynamic output feedback stabilization of planar nonlinear systems. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 6, 659–665. 93D15

Shen, Hong[2] (*with* You, Jia; Evans, David John[1]) An efficient parallel algorithm for visible-surface detection in 3D graphics display. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 359–371. (Summary) **99m:68216** 68U05 (68Q22)

Shen, Hong[3] (*with* Li, Yao Ying) An exact time-dependent solution to the Fokker-Planck equation for the Schlögl first-order phase transition model with external noise. (Chinese. English and Chinese summaries) *J. Jiangxi Norm. Univ. Nat. Sci. Ed.* **21** (1997), *no.* 4, 369–372, 392. 82C31

Shen, Hui (*with* Sun, Che) The finite difference streamline diffusion methods for time-dependent convection-diffusion equations. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 1, 72–85. 65N30 (76M20)

Shen, Hui Chuan A Lagrangian formulation of elasticity mechanics: establishing the basic equations for finite deformation problems by Routh's method. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 78–88. (Xiaoguang Allan Zhong) **99d:73031** 73C50 (73B99)

Shen, J. H. *see* **Shen, Jian Hua**

Shen, Jia (*with* Bosq, Denis) Estimation of an autoregressive semiparametric model with exogenous variables. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 105–127. (Peter M. Robinson) **99g:62131** 62M10 (62G05)

Shen, Jian *see* **Shen, Jian[2]**

Shen, Jian[1] (*with* Ewing, Richard E.; Sævareid, Ove) Discretization schemes on triangular grids. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 219–238. (D. Schultz) **99d:65297** 65N06

Shen, Jian[2] (*with* Xu, Junming; Li, Zhanzong) Some results on arithmetic and balanced graphs. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 2, 183–193. (Yixun Lin) **99j:05164** 05C75 (05C78)

— Directed triangles in digraphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 405–407. (Summary) **99g:05093** 05C20

— (*with* Neufeld, Stewart W.) Some results on generalized exponents. (English summary) *J. Graph Theory* **28** (1998), *no.* 4, 215–225. (Qiao Li) **99f:05077** 05C50 (05C20)

— (*with* Neufeld, Stewart W.) On a problem of Lewin. (English summary) *Linear Algebra Appl.* **274** (1998), 411–426. (Matúš Harminc) **99a:05058** 05C20

Shen, Jian Hua Comparison theorems for the oscillation of difference equations with continuous arguments and applications. *Chinese Sci. Bull.* **41** (1996), *no.* 18, 1506–1510. (From the text) **99e:39040** 39A10

— (*with* Tang, Xian Hua) Oscillations of higher order neutral differential equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 56–67. (I. P. Stavroulakis) **99d:34137** 34K15 (34K40)

— (*with* Tang, Xian Hua) Comparison theorems for a class of neutral differential equations and their application. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 339–344. (Bao Tong Cui) **99h:34108** 34K15 (34K40)

— (*with* Tang, Xian Hua) New oscillation criteria for linear delay differential equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 53–61. (Klaus Morgenthal) **99j:34108** 34K15

— (*with* Luo, Jiao Wan) Lyapunov-Razumikhin methods for impulsive functional-differential equations. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 157–171. (Yuri V. Rogovchenko) **99m:34175** 34K20 (34A37, 34D20)

— Razumikhin techniques in impulsive functional-differential equations. *Nonlinear Anal.* **36** (1999), *no.* 1, *Ser. A: Theory Methods*, 119–130. (Snezhana Khristova) **99m:34177** 34K20 (34A37)

Shen, Jian Jing (*with* Zhang, Jian[3]; Liu, Yong Qing) Intelligent decentralized stabilization of large-scale interconnected linear systems with time delays. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 102–107. 93A14 (93C83)

Shen, Jianhong (*with* Rota, Gian-Carlo; Taylor, Brian D.) All polynomials of binomial type are represented by Abel polynomials. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 731–738 (1998). (Maurice J. Ginocchio) **99j:05018** 05A40

— (*with* Strang, Gilbert) Asymptotics of Daubechies filters, scaling functions, and wavelets. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 312–331. (Lars F. Villemoes) **99f:94003** 94A12 (42C15)

— Refinement differential equations and wavelets. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 3, 283–316. (Hans W. Volkmer) **99k:34144** 34K05 (39B22, 42C15)

Shen, Jun (*with* Nikias, Chrysostomos) General $\mathcal{L}^{(p,q)}$-metric estimator of arbitrary complex impulsive interference in linear systems. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 598–608. (Ewaryst Rafajłowicz) **99k:93087** 93E10

Shen, Junhao (*with* Song, Guozhu) An exponential stability problem on the small delay linear system. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 4, 376–384. (Olusola Akinyele) **99b:34125** 34K20

— (*with* Song, Guozhu) The Laplace transform and integrated semigroups. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 15–22. (Alexei I. Filinkov) **99g:47100** 47D06 (34G10)

Shen, Kevin (*with* Marcus, Michael B.) Bounds for the expected number of level crossings of certain harmonizable infinitely divisible processes. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 1, 1–32. (Robert J. Adler) **99h:60105** 60G70 (60G10, 60G17)

Shen, Kish (*with* King, Andrew Malcolm; Benoy, Florence) Lower-bound time-complexity analysis of logic programs. (English summary) *Logic programming (Port Washington, NY, 1997)*, 261–275, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68Q25)

Shen, Larry Z. (*with* Al-Khalidi, Hussein R.) Application of boundary calculation methodologies to group sequential testing in general parametric models. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2173–2190. (Summary) **99c:62224** 62L10

Shen, Lei[2] (*with* Lumelsky, Vladimir J.; Shkel, Andrei M.) Hazard and safety regions for paths with constrained curvature. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 18, 1655–1679. (Summary) **99k:70002** 70B15 (68U05)

Shen, Li-Chien On a class of q-series related to quadratic forms. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 2, 111–126. (Ronald J. Evans) **99h:11091** 11L03 (11R11, 33D10)

— On an identity of Ramanujan based on the hypergeometric series ${}_2F_1(\frac{1}{3}, \frac{2}{3}; \frac{1}{4}; x)$. (English summary) *J. Number Theory* **69** (1998), *no.* 2, 125–134. (Bruce C. Berndt) **99d:11042** 11F27 (33C05, 33E05)

Shen, Lian *see* **Shen, Lian[2]**

Shen, Lian[1] (*with* Zhang, Xiang; Yue, Dick K. P.; Triantafyllou, George S.) The surface layer for free-surface turbulent flows. (English summary) *J. Fluid Mech.* **386** (1999), 167–212. 76M25 (76F99)

Shen, Lian[2] (*with* Ji, Hai Bo; Yang, Bei) An extension of an algorithm for flows in a two-dimensional network. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 3, 284–291. 90C35 (90C90)

Shen, Lin (*with* Cheng, Jing Yuan; Wang, Zhi Wei[3]) An efficient algorithm for fault tolerant routing. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 353–357. 68M15

Shen, Ling (*with* Xu, Jinchao) On a Schur complement operator arisen from Navier-Stokes equations and its preconditioning. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 481–490, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99i:76129** 76M25 (65M06, 76D05)

Shen, Ling[2] (*with* Szidarovszky, Ferenc) A stochastic bargaining process and solution concept in the discrete case. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 219–227. (Summary) **99c:90168** 90D12 (90A60)

Shen, Long-jun (*with* Zhang, Wen Xu) A finite difference method for higher-order nonlinear wave equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 419–430. (Summary) **99d:65258** 65M06

— (*with* Zhou, Yu Lin[1]; Yuan, Guangwei) Finite difference method of first boundary problem for quasilinear parabolic systems. V. Convergence of iterative difference schemes. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1148–1157. (Summary) **99d:65260** 65M06

— (*with* Feng, Hui) Long time asymptotic behavior of solution of difference scheme for a semilinear parabolic equation. I. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 395–402. (Summary) **99f:65127** 65M06

— (*with* Tang, Wei-jun; Fu, Hong-yuan) On the coupling of boundary integral and finite element methods for Signorini problems. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 561–570. (Summary) **99i:73075** 73V05 (65N30, 73V10, 73V25)

— (*with* Feng, Hui) Long time asymptotic behavior of solution of difference scheme for a semilinear parabolic equation. II. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 571–576. (Summary) **99k:65072** 65M06

— (*with* Zhou, Yu Lin[1]; Yuan, Guangwei) Convergence of iterative difference method with nonuniform meshes for quasilinear parabolic systems. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 163–172. (Summary) **99c:65172** 65M12 (65M06)

Shen, M. C. (*with* Yeh, N. S.) Exact solution for forced capillary-gravity waves in a circular basin under Hocking's edge condition. (English summary) *Wave Motion* **26** (1997), *no.* 2, 117–126. (Frédéric Dias) **99e:76013** 76B15 (35C05, 76B45)

Shen, Meng Yu (*with* Ju, Hong Bin) Optimization of finite difference schemes for wave equations. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 7, 49–53. 65M06 (76M20)

Shen, Nai Lu (*with* Wang, Zhen Ya) The Haseman problem on Riemann surfaces with $h = 1$. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 25–28, 35. (Yu Zan He) **99f:30064** 30E25 (30F99)

Shen, Pei Jun (*with* Hu, Tie Song; Guo, Yuan Yu; Wan, Yi) A goal programming method for improving the generalization performance of feedforward neural networks. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 34–39. 90C08 (90B10)

Shen, Peilong On the existence and uniqueness theorems of solutions for a class of the systems of mixed monotone operator equations with application. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 289–294. (S. N. Askhabov) **99k:47162** 47H15 (45G10)

Shen, Q. (*with* Tabarrok, Behrouz) Stability investigation of multibody spacecraft. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 161–170. (Summary) **99k:70006** 70E15 (70M20)

Shen, Samuel Shan Pu (*with* Zhang, Shu Nian) A quantitative study on the stability of quadratic delay difference systems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 1–16. (Michail G. Blizorukov) **99f:39023** 39A11 (39A10)

Shen, Shi-Yi (*with* Fu, Fang Wei) Strong coding theorem and asymptotic error exponent of arbitrarily varying source with a fidelity criterion. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 168–174. (Summary) **99e:94019** 94A29

— (*with* Fu, Fang Wei; Kløve, Torleiv) On the Hamming distance between two i.i.d. random n-tuples over a finite set. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 803–807. (Summary) **99k:94068** 94B65

Shen, Su Lin Induced map with property P on inverse limit space. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 3, 5–8, 11. 54H20 (54C70)

— (*with* Yang, Run Sheng) Pseudo-orbit-tracing and completely positive entropy. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **42** (1999), *no.* 1, 99–104. 54H20

Shen, Sy-Kang (*with* Wang, Bor-Chyun; Lee, Tsu-Tian) An improved algorithm for computing the boundary of parametric rational functions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 227–231. 93B40 (93B35)

Shen, Tielong (*with* Zang, Huaiquan; Tamura, Katsutoshi) Riccati equation approach to robust L_2-gain synthesis for a class of uncertain nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1177–1188. 93B36 (93C05)

Shen, W. *see* **Shen, Wen Xian**

Shen, Wei Ping (*with* Li, Hong Yun) Parallel computing for Padé approximations of one-dimensional partial parabolic equations. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 8, 77–80. 65D15 (41A21, 65Y05)

Shen, Weixi Mathematical study of a model for liquid-vapour phase change in porous media. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai, 1994)*, 142–150, *World Sci. Publishing, River Edge, NJ*, 1997. (Werner Horn) **99j:80005** 80A20 (35K55, 76S05)

— (*with* Li, Da Qian; Zheng, Songmu; Tan, Yongji) ★ Boundary value problems with equivalued surface and resistivity well-logging. (English summary) Pitman Research Notes in Mathematics Series, 382. *Longman, Harlow*, 1998. *xiv*+210 *pp. ISBN* 0-582-27632-2 (Alexander S. Denisjuk) **99h:35230** 35R30 (35J15, 65N30, 86-08, 86A20)

Shen, Wen (*with* Bressan, Alberto) Uniqueness for discontinuous ODE and conservation laws. *Nonlinear Anal.* **34** (1998), *no.* 5, 637–652. (Denis Serre) **99d:34005** 34A12 (34A99, 35L65)

Shen, Wen Huai Recent advances in homotopy epimorphisms and homotopy monomorphisms. *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 242–245, *World Sci. Publishing, River Edge, NJ*, 1998. (From the text) **99i:55010** 55P15 (55–02, 55P60)

— (*with* Zuo, Zai Si) Semilocalization of epimorphisms and monomorphisms in homotopy theory. (English summary) *Topology Appl.* **88** (1998), *no.* 3, 207–217. (Kathryn P. Hess) **99e:55018** 55P60

Shen, Wen Xian (*with* Sell, George R.; Yi, Yingfei) Topological dynamics and differential equations. (English summary) *Topological dynamics and applications (Minneapolis, MN, 1995)*, 279–297, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Rafael Obaya García) **99a:34128** 34C27 (34C28, 54H20)

— (*with* Yi, Yingfei) Convergence in almost periodic Fisher and Kolmogorov models. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 84–102. (Ying Guo Lei) **99k:92037** 92D25 (35K57, 35Q80, 92D40)

— (*with* Yi, Yingfei) Almost automorphic and almost periodic dynamics in skew-product semiflows. (English summary) *Mem. Amer. Math. Soc.* **136** (1998), *no.* 647, x+93 *pp.* (Russell A. Johnson) **99d:34088** 34D05 (34C27, 34C35, 35K55, 47H20, 54H20, 58F11)

Shen, Wen Xuan Comment: "The width of a simplex that touches a given sphere" [J. Math Res. Exposition **9** (1989), no. 1, 14–16; MR 90b:52006] by Q. J. Mao and Q. R. Zuo. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 291–295. 52A40 (52A20)

Shen, Xiaofeng (*with* Schiavone, Peter) On an integral solution of the antiplane shear problem. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 3, 319–330. (D. G. Natroshvili) **99e:73022** 73B40 (35Q72, 73C02)

Shen, Xiaoping (*with* Walter, Gilbert G.) Positive estimation with wavelets. (English summary) *Wavelets, multiwavelets, and their applications (San Diego, CA, 1997)*, 63–79, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Louise A. Raphael) **99d:42071** 42C15 (40G05, 40G10)

Shen, Xiaotong Proportional odds regression and sieve maximum likelihood estimation. (English summary) *Biometrika* **85** (1998), *no.* 1, 165–177. (David P. Harrington) **99h:62039** 62G05 (62J12)

— On the method of penalization. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 337–357. (Jacek Koronacki) **99h:62040** 62G05 (62G07)

Shen, Xie Chang *see* **Tu, Tianliang, 99m:41006**

Shen, Xinyao (*with* Pan, Jian Zhong; Woo, Moo Ha) The G-sequence of a map and its exactness. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 281–294. (Donald W. Kahn) **99e:55024** 55Q70 (55P45)

Shen, Ya Peng (*with* Zhou, Zhen-Gong; Ma, Xing Rui; Zou, Zhen Zhu) The dynamic response of an interface crack with adhesional contact at its ends to transient elastic

waves. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 3, 38–44, *III*. 73M25

Shen, Yao Tian The Pokhozhaev identity for singular solutions of systems of quasilinear elliptic equations and the nonexistence of solutions. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 389–395. (Henghui Zou) **99i:35051** 35J65

— (*with* Yan, Shusen) A minimization problem associated with gap phenomenon. *Chinese Sci. Bull.* **42** (1997), *no.* 13, 1073–1076. (Martin Fuchs) **99a:35104** 35J85 (58E30)

— Asymptotics for Landau-Lifshitz equilibrium systems of equations in two dimensions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 589–594. (Summary) **99e:35073** 35J65 (35B40, 35Q55)

— (*with* Zhang, Gui Yi) The Neumann problem for quasilinear elliptic equations with critical Sobolev exponent and critical nonlinearity boundary conditions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 851–858. (Summary) **99j:35074** 35J65 (58E05)

— (*with* Yan, Shusen) A singularly perturbed elliptic problem involving supercritical Sobolev exponent. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 809–819. (Summary) **99e:35013** 35B25 (35J60, 49J10)

Shen, Yi[1] (*with* Huang, Zheng Hai; Hu, Shi Geng) Lagrange duality and an alternative theorem for vector optimization problems. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 18–22. (Summary) **99a:90171** 90C29 (49N15)

— (*with* Huang, Zheng Hai; Hu, Shi Geng) Weakly efficient solutions in nonconvex infinite-dimensional programming. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 1–7. 90C29 (90C48)

— (*with* Hu, Shi Geng; Huang, Zheng Hai) A general Motzkin theorem and its applications. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 40–46. (Summary) **99f:90109** 90C29 (90C48)

— (*with* Liao, Xiao Xin) Razumikhin type theorems on exponential stability of stochastic functional-differential equations of neutral type. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 21, 2272–2275. 34K20 (34K40)

— (*with* Wang, Chun Lin; Hu, Shi Geng) Positive radial solutions for a class of semilinear elliptic equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 29–33. (Summary) **99e:35077** 35J65 (34B15, 35B05)

Shen, Yi-Bing The Riemannian geometry of superminimal surfaces in complex space forms. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 158. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 3, 298–313. (G. R. Jensen) **99c:53068** 53C42 (53C55)

— Harmonic and conformal maps of surfaces into a complex Grassmannian. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 246–250, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 58E20

— (*with* Zhu, Xiao Hua) On stable complete minimal hypersurfaces in $\mathbf{R}^{n+1}$. (English summary) *Amer. J. Math.* **120** (1998), *no.* 1, 103–116. (Zhi Ren Jin) **99c:58040** 58E15 (53A07)

— The nearly Kähler structure and minimal surfaces in S^6. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 142. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 87–96. (Angela Farinola) **99c:53069** 53C42 (53C15)

— (*with* Dong, Yu Xing) On complete space-like submanifolds with parallel mean curvature vector. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 534. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 369–380. (Mehmet Erdoğan) **99m:53108** 53C40 (53C50)

Shen, Yi-fan (*with* Xin, Xiao-kang; Yu, Heng) A new nonoscillatory characteristics scheme for hyperbolic convection equations. (English summary) *J. Hydrodyn. Ser. B (English Ed.)* **10** (1998), *no.* 4, 62–70. 65M06 (76M20)

Shen, Yidong A general scheme for formalizing defaults using the predicate $ab(I, S)$. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 159–164. (Summary) **99k:68183** 68T27 (68T30)

Shen, Ying (*with* Cao, Huai-Dong; Zhu, Shunhui) The structure of stable minimal hypersurfaces in $\mathbf{R}^{n+1}$. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 5, 637–644. (William P. Minicozzi, II) **99a:53037** 53C21 (53C42, 58E15)

— (*with* Cao, Huai-Dong; Zhu, Shunhui) A Bernstein theorem for complete spacelike constant mean curvature hypersurfaces in Minkowski space. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 2, 141–157. (Rabah Souam) **99h:53007** 53A10 (53C50)

Shen, You-Gen (*with* Chen, Da-Ming) Entropy in $(1 + 1)$-dimensional black hole. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 12, 3041–3049. 83C57

— (*with* Tan, Zhen-Qiang) Metric of dynamic black hole in higher-dimensional de Sitter background space-time. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 3, 339–342. (Nora Bretón Báez) **99f:83053** 83C57 (83C15)

— (*with* Chen, Da-Ming) Entropy of the global monopole black hole in de Sitter backgrounds space-time. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1273–1278. (Summary) **99k:83083** 83C57

— (*with* Chen, Da-Ming) The quantum corrections to the entropy of stationary axisymmetric Einstein-Maxwell-dilaton-axion black holes. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 3, 315–322. (Summary) **99k:83082** 83C57 (83C22)

— (*with* Chen, Da-Ming) Cosmological wave function and wormhole wave function with a conformal complex scalar field. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 713–724. 83C45

Shen, Yu Bo (*with* Feng, Jing Hai) Reliability analysis for a system that consists of two dependent parallel components. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **39** (1999), *no.* 1, 1–5. 90B25

Shen, Yu Liang Some remarks on the geodesics in infinite-dimensional Teichmüller spaces. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 951. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 497–502. (Yoichi Imayoshi) **99c:32028** 32G15 (30F60)

— Notes on univalent functions and the universal Teichmüller space. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 4, 335–338. (Summary) **99m:30047** 30C70 (30C62)

— Local and global properties of boundary values of quasiconformal deformations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 589–594. (Guizhen Cui) **99k:30038** 30C70 (30C62)

Shen, Yuan Tong (*with* Ye, Bi Quan; Yi, Xu Ming) Wavelet-collocation methods for solving a class of singular differential equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 517–521. 65L06 (42C15)

— (*with* Sun, Jianhua; Yi, Xu Ming; Ye, Bi Quan) Wavelet-Galerkin solutions for differential equations. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 4, 403–406. (Summary) **99k:65066** 65L60 (42C15)

Shen, Yue-lin (*with* Ge, Mo Lin) Zamolodchikov-Faddeev algebra in 2-component anyons. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin*, 1995), 436–441, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81V70

Shen, Yun-Qiu Computation of a Hopf bifurcation point using one singular value decomposition nearby. (English summary) *Differential equations and applications (Hangzhou*, 1996), 277–285, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99c:34077** 34C23 (58F14, 65L07)

Shen, Z. *see* **Shen, Zhizhang**

Shen, Zhao Xuan Sample path properties of Gaussian processes. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 58–67. 60G15 (60F15, 60G17)

Shen, Zheng (*with* Huang, Norden E.; Long, Steven R.; Wu, Manli C.; Shih, Hsing H.; Zheng, Quanan; Yen, Nai-Chyuan; Tung, Chi Chao; Liu, Henry H.) The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 903–995. (Summary) **99d:76082** 76M35 (62M10, 86–08)

Shen, Zhizhang The average diameter of general tree structures. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 111–130. (Summary) **99f:68018** 68M10 (68M20)

Shen, Zhong Min (*with* Sha, Ji-Ping) Complete manifolds with nonnegative Ricci curvature and quadratically nonnegatively curved infinity. (English summary) *Amer. J. Math.* **119** (1997), *no.* 6, 1399–1404. (William P. Minicozzi, II) **99a:53046** 53C21 (53C20)

— (*with* Bao, David; Chern, Shiing-Shen) Rigidity issues on Finsler surfaces. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 707–735. (Gabriel P. Paternain) **99h:53099** 53C60 (53B40)

— (*with* Liu, Zhong-Dong) Riemannian geometry of conical singular sets. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 1, 29–62. (Andrea Sambusetti) **99e:53054** 53C21 (53C20)

— On Finsler geometry of submanifolds. *Math. Ann.* **311** (1998), *no.* 3, 549–576. (Sorin Dragomir) **99j:53095** 53C60

Shen, Zhongwei On bounds of $N(\lambda)$ for a magnetic Schrödinger operator. *Duke Math. J.* **94** (1998), *no.* 3, 479–507. (L. V. Kritskov) **99e:35171** 35P20 (35J10, 35Q60, 47F05, 81Q10)

— On moments of negative eigenvalues for the Pauli operator. (English summary) *J. Differential Equations* **149** (1998), *no.* 2, 292–327. (Fumio Hiroshima) **99j:81039** 81Q10 (35P05, 47F05, 47N50)

— On moments of negative eigenvalues for the Pauli operator. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 420–455. (Hiroshi Isozaki) **99m:81055** 81Q10 (35Q40, 47F05, 47N50)

— (*with* Brown, Russell M.; Perry, Peter A.) The additive turbulent decomposition for the two-dimensional incompressible Navier-Stokes equations: convergence theorems and error estimates. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 139–155 (*electronic*). (Alain Miranville) **99i:35124** 35Q30 (65M70, 76D05, 76M25)

Shen, Zi Fei (*with* Wu, Xian[3]) On Ky Fan's minimax inequality. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 4, 324–330. 49J35 (47H10)

Shen, Zu He (*with* Li, Wei Guo) Constructive proof on the existence of periodic solution of Duffing equation. *Chinese Sci. Bull.* **42** (1997), *no.* 22, 1870–1874. (Alessandro Fonda) **99a:34119** 34C25

— (*with* Wu, Guang Rong) Some existence theorems of boundary value problems. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 91–94. (Donal O'Regan) **99m:34050** 34B15 (47H15)

— (*with* Huang, Wen Hua; Cao, Ju Sheng) On the solution of nonlinear two-point boundary value problem $u'' + g(t, u) = f(t)$, $u(0) = u(2\pi) = 0$. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 9, 889–894; *translated from Appl. Math. Mech.* **19** (1998), *no.* 9, 821–826 (*Chinese. English and Chinese summaries*). (Lorenzo Pisani) **99m:34034** 34B15 (47H15)

— (*with* Li, Wei Guo) A new proof of the existence and uniqueness of solutions to higher-order Duffing equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 131–134. 34B15 (34C25)

— (*with* Li, Wei Guo) A note on existence of periodic solutions of Duffing equations. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 1–8. (Maria Patrizia Pera) **99g:34091** 34C25

— (*with* Cao, De Xin) Interval algorithms for a class of nonsmooth optimization problems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 23–33. 90C30 (65G10)

— (*with* Huang, Zhen-yu) ε-optimal solution for continuous minimax problems with maximum-entropy function. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 1, 45–50. (Igor[2] V. Konnov) **99g:90122** 90C30 (49J35, 65K10)

— *see also* **Proceedings: Conference on Interval Methods and their Applications on Global Optimization, 99m:65007**

Shen, Zuowei (*with* Ron, Amos) Affine systems in $L_2(\mathbf{R}^d)$. II. Dual systems. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 617–637. (Charles K. Chui) **99g:42044** 42C15 (46E30)

— (*with* Ron, Amos) Affine systems in $L_2(\mathbf{R}^d)$: the analysis of the analysis operator. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 2, 408–447. (Charles K. Chui) **99g:42043** 42C15 (46E30)

— (*with* Riemenschneider, Sherman D.) Multidimensional interpolatory subdivision schemes. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2357–2381. (D. S. Lubinsky) **99j:65011** 65D05 (41A15)

— (*with* Goh, Say Song; Lee, Seng Luan; Tang, Wai-Shing) Multilevel projections on spaces of periodic functions. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 22–29, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 41A65 (46E30)

— (*with* Goh, Say Song; Lee, Seng Luan; Tang, Wai-Shing) Construction of Schauder decomposition on Banach spaces of periodic functions. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 61–91. (Kazaros Kazarian) **99b:46033** 46E30 (41A65, 42C15, 46B15, 47A58)

— Refinable function vectors. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 235–250 (*electronic*). (Yong Ping Liu) **99d:41038** 41A30 (42A15, 65D15, 94A11)

— (*with* Ji, Hui; Riemenschneider, Sherman D.) Multivariate compactly supported fundamental refinable functions, duals, and biorthogonal wavelets. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 2, 173–204. (Fabio Bagarello) **99m:42049** 42C15

Shënberg, D. *see* **Reminiscences about Il'ya Mikhailovich Lifshits**

Shende, Anil M. (*with* Baliga, Ganesh R.; Shende, Sunil M.) Uniqueness of a memoryless online server strategy on the real line. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 81–91 (*electronic*). (*see* **99d:68010**) 68Q25 (68Q20)

— (*with* Case, John; Rajan, Dayanand S.) Rotation in lattice computers. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 185–197 (*electronic*). (*see* **99g:68005**) 68Q05

Shende, Sunil M. (*with* Baliga, Ganesh R.; Shende, Anil M.) Uniqueness of a memoryless online server strategy on the real line. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 81–91 (*electronic*). (*see* **99d:68010**) 68Q25 (68Q20)

— (*with* Simha, Rahul) A distributed list update problem. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 331–343 (*electronic*). (*see* **99d:68010**) 68P05 (68Q10)

— (*with* Feder, Tomás) Online channel allocation in FDMA networks with reuse constraints. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 295–302. 68M10

— (*with* Narayanan, Lata) Partial characterizations of networks supporting shortest path interval labeling schemes. (English summary) *Networks* **32** (1998), *no.* 2, 103–113. (Summary) **99e:68008** 68M10 (05C35, 90B12)

Shendge, G. R. Stability of functional-differential equations and perturbing a Lyapunov function. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 423–429. (Hildebrando Munhoz Rodrigues) **99i:34110** 34K20 (34K25)

Shene, Ching-Kuang Blending two cones with Dupin cyclides. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 7, 643–673. (Heinz H. Gonska) **99g:65140** 65Y25 (65D10, 65D17)

Sheng, Baohuai (*with* Chen, Guang Rong) Approximation of modified Lagrange interpolation in Orlicz spaces. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 1, 29–35. (Summary) **99h:42016** 42A65 (41A10, 41A65)

— (*with* Li, Hong Tao; Chen, Guang Rong) Approximation of modified Hermite-Fejér interpolation in Orlicz spaces. (English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 3, 1–5. (Yong Ping Liu) **99k:41036** 41A35 (41A10, 41A25, 46E30)

Sheng, De Cheng (*with* Liu, Guo Xin) Orthodox congruences on regular Γ-semigroups. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 80–84. 20M17

Sheng, Li (*with* Roberts, Fred S.) Phylogeny graphs of arbitrary digraphs. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 233–237, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Robert C. Brigham) **99c:05085** 05C20 (05C75, 92D15)

— (*with* Roberts, Fred S.) Phylogeny numbers. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 213–228. (J. Richard Lundgren) **99j:05086** 05C20 (68R10)

Sheng, Li Ren (*with* Xiao, Jian[2]) A singular two-point Dirichlet problem. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 13–22. (William K. C. Yin) **99f:34033** 34B15

Sheng, Ping (*with* Ma, Hongru) Upper bounds on electrorheological properties. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 223–230, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (*see* **99c:73001**) 76A99 (76W05)

Sheng, Pingxing Some properties of homogeneous vector fields. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 191–195. (Coraci P. Malta) **99b:58193** 58F22 (34C25)

— Hilbert's sixteenth problem. (English summary) *Analysis and topology*, 621–646, *World Sci. Publishing, River Edge, NJ*, 1998. (Henryk Żołądek) **99j:34040** 34C05 (12H20)

Sheng, Qin (*with* Khaliq, A. Q. M.) A compound adaptive approach to degenerate nonlinear quenching problems. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 1, 29–47. (Summary) **99h:65151** 65M06

Sheng, Rongqin (*with* Potra, Florian A.) A path following method for LCP with superlinearly convergent iteration sequence. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 97–114. (*see* **99b:90006**) 90C33

— (*with* Potra, Florian A.) Superlinearly convergent infeasible-interior-point algorithm for degenerate LCP. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 249–269. (Shinji Mizuno) **99m:90144** 90C33 (65K05)

— (*with* Potra, Florian A.) Superlinear convergence of interior-point algorithms for semidefinite programming. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 103–119. (Levent Tunçel) **99m:90145** 90C33

— (*with* Potra, Florian A.) On homogeneous interior-point algorithms for semidefinite programming. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 161–184. (Summary) **99b:90123** 90C30 (65K05)

— (*with* Potra, Florian A.) A superlinearly convergent primal-dual infeasible-interior-point algorithm for semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1007–1028 (*electronic*). (Jos F. Sturm) **99j:90086** 90C30 (90C05)

Sheng, Song-bai (*with* Yang, Fu-gui; Zou, Zhi-hong) A self-adaptive algorithm for nonlinear least squares with linear constraints. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **4** (1995), *no.* 2, 164–175. (Summary) **99c:65117** 65K05 (90C30)

— A class of collinear scaling algorithms for unconstrained optimization. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **6** (1997), *no.* 2, 219–230. (Summary) **99f:90135** 90C30 (65K05)

— (*with* Hu, Rong) Convergence of inexact conic Newton methods. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 2, 159–168. (Dorel Duca) **99m:90132** 90C30 (65K05)

Sheng, Wancheng (*with* Zhang, Tong[1]) The Riemann problem for the transportation equations in gas dynamics. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 654, *viii+77 pp.* (Hermano Frid) **99g:35109** 35Q35 (35L65, 76N10, 76N15)

Sheng, Wei Min Harnack's inequality for a class of Gauss-Kronecker curvature flows. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **24** (1997), *no.* 3, 195–203. (Shun Hui Zhu) **99d:53036** 53C21

Sheng, Wei Ping *see* **Shen, Wei Ping**

Sheng, Zhaohan (*with* Li, Lushu) The fuzzy set-valued measures generated by fuzzy random variables. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 203–209. (Beloslav Riečan) **99i:28024** 28E10

Sheng, Zhong Ping Existence of nonconstant common divisors for a system of polynomials. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 27–30. 13B25

— Generalized resultant matrices of a polynomial system. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 7–10. 15A33

— (*with* Cui, Kai; Lu, Xian Duan) The general form of Kunio Kakie's theorem. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 2, 12–15. 13F15

Shenitzer, Abe *see* **Pogoda, Zdzisław, 99a:00001; Laugwitz, Detlef, 99c:01016; Pogoda, Zdzisław, 99f:57013; Medvedev, F. A., 99g:01003** *and* **Bashmakova, I. G., 99m:01003**

Shenker, Stephen H. (*with* Douglas, Michael R.; Kabat, Daniel; Pouliot, Philippe) D-branes and short distances in string theory. (English summary) *Nuclear Phys. B* **485** (1997), *no.* 1-2, 85–127. (Summary) **99c:81177** 81T30

Shenkman, P. (*with* Dyn, Nira; Levin, David) Normals of the butterfly subdivision scheme surfaces and their applications. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 157–180. (Michael Kallay) **99m:65264** 65Y25 (65D17)

Shenoy, Ajit R. (*with* Cliff, Eugene M.; Heinkenschloss, Matthias) Adjoint-based methods in aerodynamic design-optimization. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 91–112, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:90114** 90C90 (49N55, 76G25)

— (*with* Heinkenschloss, Matthias; Cliff, Eugene M.) Airfoil design by an all-at-once method. (English summary) Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 3–25. (*see* **99k:76005**) 76M25 (76B05)

Shenoy, B. Gokuldas (*with* Prasanna Kumar, N.) On the zeros of complex polynomials. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 3, 162–163. 30C15

— (*with* Prasanna Kumar, N.) On the zeros of polynomials. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 4, 215–217. 30C15

Shenoy, Prakash P. (*with* Schmidt, Tuija) Some improvements to the Shenoy-Shafer and Hugin architectures for computing marginals. (English summary) *Artificial Intelligence* **102** (1998), *no.* 2, 323–333. 68T30

— Game trees for decision analysis. (English summary) *Theory and Decision* **44** (1998), *no.* 2, 149–171. (Summary) **99a:90262** 90D40 (90A05)

Shenoy, V. B. (*with* Miller, Ron; Tadmor, E. B.; Rodney, D.; Phillips, Rob; Ortiz, Michael) An adaptive finite element approach to atomic-scale mechanics—the quasicontinuum method. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 3, 611–642. (Summary) **99k:73116** 73V05 (73B99, 73S10)

Shenton, A. T. (*with* Besson, V.) An interactive parameter space method for robust performance in mixed sensitivity problems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1272–1276. 93B35 (93B51)

Shepeleva, A. Modulated modulations approach to the loss of stability of periodic solutions for the degenerate Ginzburg-Landau equation. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 409–429. (Peter E. Zhidkov) **99e:35214** 35Q55 (76E30)

Shepelyanskiĭ, D. L. (*with* Belissard, J.) Boris Chirikov, a pioneer in classical and quantum chaos. Classical and quantum chaos. *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 4, 379–380. (*see* **99b:58004**) 01A70

Shephard, G. C. (*with* Grünbaum, Branko) Some new transversality properties. (English summary) *Geom. Dedicata* **71** (1998), *no.* 2, 179–208. (O. Giering) **99i:51017** 51M04 (51A20)

— (*with* Grünbaum, Branko) Isohedra with nonconvex faces. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 76–96. (J. M. Wills) **99i:52013** 52B15

— The Nehring-Reyes' theorems for polygons. (English summary) *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 37–56. (Summary) **99i:51018** 51M04 (52A10)

— Some properties of coronas. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 356–363. (Richard Kenyon) **99c:52030** 52C20 (05B45, 52C22)

— Correction: "Some properties of coronas" [Results Math. **33** (1998), no. 3-4, 356–363; MR 99c:52030]. *Results Math.* **35** (1999), *no.* 1-2, 197. 52C20 (05B45, 52C22)

Shephard, M. S. (*with* Flaherty, J. E.; Loy, R. M.; Dindar, M.; Szymanski, B. K.; Teresco, J. D.; Ziantz, L. H.) An adaptive and parallel framework for partial differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 74–90, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65189** 65Y05 (65M60, 65N30)

Shepherd, F. B. (*with* Gerards, A. M. H.) Strong orientations without even directed circuits. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 111–125. (J. Richard Lundgren) **99i:05091** 05C20 (05C38)

Shepherd, J. J. (*with* Baker, Donna; Chiera, C.; Connell, H. J.) Helical flow of a Carreau fluid between coaxial cylinders. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 121–128, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76A05

— (*with* White, Andrew M.; Connell, H. J.; May, Robert L.) Annular time-dependent flow of a Bingham fluid. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 779–786, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76A05 (76M25)

— (*with* Gunatilake, L.; Connell, H. J.) Transitions in a non-linear second-order system. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 231–245. (James A. Murdock) **99k:34084** 34C23 (34C15, 34E20)

Shepherd, M. A. (*with* van den Heuvel, Jan; Leese, R. A.) Graph labeling and radio channel assignment. (English summary) *J. Graph Theory* **29** (1998), *no.* 4, 263–283. (Summary) **99h:05103** 05C78

Shepherd, Raymond T. (*with* Fernández-Alcober, Gustavo A.) On the order of p-groups of abundance zero. *J. Algebra* **201** (1998), *no.* 2, 392–400. (Carlo M. Scoppola) **99a:20017** 20D15

Shepherd, T. G. (*with* Vanneste, Jacques) On the group-velocity property for wave-activity conservation laws. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 6, 1063–1068. (Alan Shapiro) **99e:76024** 76C10 (76C15, 86A05, 86A10)

Shepherd-Barron, N. I. (*with* Borcherds, Richard Ewen; Katzarkov, Ludmil; Pantev, Tony G.) Families of $K3$ surfaces. *J. Algebraic Geom.* **7** (1998), *no.* 1, 183–193. (Mark Gross) **99d:14029** 14J28 (11F55, 14J05)

— Semi-stability and reduction mod p. *Topology* **37** (1998), *no.* 3, 659–664. (Antony Maciocia) **99c:14057** 14J60

Shepelev, V. S. (*with* Bryksina, N. A.; Slin'ko, M. G.) An algorithm for computing Lyapunov quantities in the analysis of chemical self-induced oscillations. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 6, 789–792. 34C99 (92E20)

Shepley, L. C. (*with* Pons, Josep M.) Dimensional reduction and gauge group reduction in Bianchi-type cosmology. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024001, 17 *pp.* (Summary) **99m:83021** 83C05 (83C50)

— (*with* Pons, Josep M.; Salisbury, D. C.) Reduced phase space: quotienting procedure for gauge theories. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 419–430. (Narciso Román-Roy) **99k:58076** 58F05 (70G99, 70H05, 70H35)

Shepp, Lawrence A. (*with* Shiryaev, A. N.) A dual Russian option for selling short. (English summary) *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 209–218, *Gordon and Breach, Amsterdam*, 1996. (Summary) **99h:90025** 90A09

— (*with* Alvarez, Luis H. R.) Optimal harvesting of stochastically fluctuating populations. (English summary) *J. Math. Biol.* **37** (1998), *no.* 2, 155–177. (Alexander Abakumov) **99m:90047** 90A30 (60J70, 92D25, 92D40)

— (*with* Chen, Robert W.; Zame, Alan; Odlyzko, Andrew M.) An optimal acceptance policy for an urn scheme. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 183–195 (*electronic*). (Vladimir Mazalov) **99e:60110** 60G40 (60K99)

— (*with* Kagan, Abram) Some linear models are necessarily parametric. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 77–80. (Summary) **99c:62182** 62J05

— (*with* Kagan, Abram) Why the variance? (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 329–333. (Iosif Pinelis) **99c:60031** 60E15

Sheppard, C. J. R. (*with* Saghafi, S.) Near field and far field of elegant Hermite-Gaussian and Laguerre-Gaussian modes. (English summary) *J. Modern Opt.* **45** (1998), *no.* 10, 1999–2009. (Summary) **99i:78020** 78A40

Sherali, Hanif D. (*with* Choi, Gyunghyun; Sen, Suvrajeet) An exterior-point polytope sliding and deformation algorithm for linear programming problems. (English and Lithuanian summaries) *Informatica* (*Vilnius*) **8** (1997), *no.* 4, 559–582. (Summary) **99a:90127** 90C05

— (*with* Tuncbilek, Cihan H.) New reformulation linearization/convexification relaxations for univariate and multivariate polynomial programming problems. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 1, 1–9. (Summary) **99f:90061** 90C08 (65K05, 90C30)

— (*with* Adams, Warren P.) Reformulation-linearization techniques for discrete optimization problems. *Handbook of combinatorial optimization, Vol.* 1, 479–532, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C10)

— (*with* Joshi, Shirish; Tew, Jeffrey D.) An enhanced response surface methodology (RSM) algorithm using gradient deflection and second-order search strategies. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 7-8, 531–541. 90C30 (65K05)

— Global optimization of nonconvex polynomial programming problems having rational exponents. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 267–283. (Summary) **99a:90162** 90C26 (90C30)

— (*with* Krishnamurthy, R. S.; Al-Khayyal, F. A.) Enumeration approach for linear complementarity problems based on a reformulation-linearization technique. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 481–507. (Romesh Saigal) **99k:90180** 90C33

— (*with* Adams, Warren P.; Bowers Lassiter, Julie) Persistency in 0-1 polynomial programming. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 359–389. (Jesús A. de Loera) **99d:90075** 90C09 (90C11, 90C30)

— (*with* Ozbay, Kaan; Subramanian, Shivaram) The time-dependent shortest pair of disjoint paths problem: complexity, models, and algorithms. (English summary) *Networks* **31** (1998), *no.* 4, 259–272. (Summary) **99b:90149** 90C35 (90B10)

— (*with* Adams, Warren P.; Driscoll, Patrick J.) Exploiting special structures in constructing a hierarchy of relaxations for 0 – 1 mixed integer problems. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 396–405. 90C09 (90C11)

— *see also* **Errata: "An exterior-point polytope sliding and deformation algorithm for linear programming problems"**

Sheremet, Alexandru (*with* Agnon, Yehuda; Pelinovskiĭ, E. N.) Disintegration of cnoidal waves over smooth topography. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 1, 49–71. (Summary) **99b:76016** 76B25

Sheremet, I. G. (*with* Kolpakov, A. G.) An asymptotic model of a membrane and a string. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 845–853; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 817–824 (1998). (I. Aganović) **99g:73008** 73B27 (35Q72, 73K03, 73K10)

Sheremeta, Myroslav M. On a relationship between the maximum modulus and the maximum term of an entire Dirichlet series. (Ukrainian. English and Russian summaries) *Mat. Stud.* **3** (1994), 61–66, 121. 30B50 (30D15)

— On analytic continuation of power series with the condition on their Gelfond-Leontev derivatives. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 261–265, *Prometheus, Prague*, 1996. (Wolfgang Gawronski) **99c:30003** 30B40 (30D20)

— On analytic continuation of functions with the condition on their Gelfond-Leont'ev derivatives. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **24** (1997), 83–90. (Alekos Vidras) **99f:30005** 30B40

— On the asymptotic behaviour of Cauchy-Stieltjes integrals. (English and Russian summaries) *Mat. Stud.* **7** (1997), *no.* 2, 175–178, 221. 30E20

— (*with* Pritula, Ya. Ya.) Maximum modulus and maximal term of a class of Dirichlet series. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 77–83; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 2, 74–80. (Shlomo Strelitz) **99h:30004a** 30B50 (30D15)

— On the maximum term of the derivative of the Dirichlet series. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 68–72; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 5, 66–70. (Jia Rong Yu) **99i:30005** 30B50

— (*with* Pritula, Ya. Ya.) Errata: "Maximum modulus and maximal term of a class of Dirichlet series". (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. (Shlomo Strelitz) **99h:30004b** 30B50 (30D15)

— (*with* Bodnar, R. D.) On the rate of convergence of the partial sums of Dirichlet series and rational approximation of analytic functions. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2421–2426. (Summary) **99h:30003** 30B50

— On sequences of maximal terms and central exponents of derivatives of Dirichlet series. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 457–467; *translation in Math. Notes* **63** (1998), *no.* 3-4, 401–410. (Shlomo Strelitz) **99f:30008** 30B50

— (*with* Fedynyak, S. I.) On the derivative of the Dirichlet series. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 206–223, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 181–197. (Shlomo Strelitz) **99g:30004** 30B50 (30D15)

Shereshevskiĭ, I. A. (*with* Antonets, M. A.) Analysis of a stochastic model of the growth of trees. (Russian. Russian summary) *Trudy Moskov. Mat. Obshch.* **56** (1995), 68–106, 350; *translation in Trans. Moscow Math. Soc.* **1995**, 51–80. (Summary) **99d:60075** 60J05 (60K35)

Shereshevskiĭ, M. A. K-property of permutative cellular automata. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 3, 411–416. (Summary) **99b:68136** 68Q80

Sheretov, Yu. V. An entropy balance theorem for a system of equations of hydrodynamic type. (Russian. Russian summary) *Mat. Model.* **5** (1993), *no.* 5, 106–118. 76N10

— (*with* Elizarova, T. G.; Kalachinskaya, I. S.; Klyuchnikova, A. V.) Application of quasi-hydrodynamic equations for modeling thermal convection at low Prandtl numbers. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1732–1742; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1662–1671. (Summary) **99f:76089** 76M20 (76D45, 76R05)

Sherfey, Brian W. (*with* Miller, Forrest R.; Neill, James W.) Maximin clusters for near-replicate regression lack of fit tests. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1411–1433. (Goetz Trenkler) **99i:62149** 62J05 (62F03)

Shergei, M. (*with* Shaked, Uri) Robust H_∞-estimation of nonlinear discrete-time processes. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 603–617. 93B36 (93B55)

Sherief, Hany H. (*with* Saleh, Heba A.) A problem for an infinite thermoelastic body with a spherical cavity. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 473–487. (Summary) **99a:73029** 73B30

— (*with* Ezzat, Magdy A.) A problem in generalized magneto-thermoelasticity for an infinitely long annular cylinder. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 4, 387–402. (Summary) **99g:73095** 73R05 (73B30)

— (*with* Megahed, Fouad A.) Two-dimensional problems for thermoelasticity, with two relaxation times in spherical regions under axisymmetric distributions. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 3, 299–314. 73B30

— (*with* Megahed, Fouad A.) A two-dimensional thermoelasticity problem for a half space subjected to heat sources. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 9, 1369–1382. (Summary) **99j:73015** 73B30

Sherlock, B. G. (*with* Monro, D. M.) On the space of orthonormal wavelets. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1716–1720. 42C15

Sherman, Clayton On K_1 of an exact category. (English summary) *K-Theory* **14** (1998), *no.* 1, 1–22. (Stanisław Betley) **99e:19002** 19B99 (18E10, 18F25)

Sherman, Gary J. (*with* Ahearn, Stephen T.; Huber, Mark L.) Finite groups can be arbitrarily Hamiltonian. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1013–1016. (Summary) **99k:20048** 20D60

Sherman, Michael Efficiency and robustness in subsampling for dependent data. (English summary) *J. Statist. Plann. Inference* **75** (1998), *no.* 1, 133–146. (Summary) **99j:62060** 62G09 (62M10)

Sherman, Robert P. (*with* Cavanagh, Christopher) Rank estimators for monotonic index models. (English summary) *J. Econometrics* **84** (1998), *no.* 2, 351–381. (Summary) **99b:62160** 62P20 (62G05)

Shermer, Thomas C. (*with* Biedl, Therese C.; Whitesides, S. H.; Wismath, Stephen K.) Orthogonal 3-D graph drawing. (English summary) *Graph drawing* (*Rome*, 1997), 76–86, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)

— (*with* Bose, Prosenjit; Everett, Hazel; Fekete, Sándor P.; Houle, Michael E.; Lubiw, Anna; Meijer, Henk; Romanik, Kathleen; Rote, Günter; Whitesides, S. H.; Zelle, Christian) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)

Sherratt, Jonathan A. Periodic waves in reaction-diffusion models of oscillatory biological systems. (English summary) *Forma* **11** (1996), *no.* 1, 61–80. (Sui Yang Chen) **99c:92017** 92C40 (35B10, 35K57, 92C20, 92D25)

— (*with* Perumpanani, Abbey J.; Norbury, John) Mathematical modelling of capsule formation and multinodularity in benign tumour growth. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1599–1614. (Summary) **99g:92015** 92C50

— (*with* Sneyd, James) On the propagation of calcium waves in an inhomogeneous medium. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 1, 73–94. (Summary) **99a:92004** 92C05 (35K57, 35Q80)

— On the transition from initial data to travelling waves in the Fisher-KPP equation. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 2, 167–174. (Summary) **99c:35114** 35K57 (35Q80, 92B05)

— (*with* Benson, Debbie L.; Maini, Philip K.) Unravelling the Turing bifurcation using spatially varying diffusion coefficients. (English summary) *J. Math. Biol.* **37** (1998), *no.* 5, 381–417. (Yoram Schiffmann) **99k:92007** 92C15 (35B32, 35K57, 35Q80)

Sherstinsky, Alexander S. (*with* Picard, Rosalind W.) On stability and equilibria of the M-lattice. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 408–415. (Summary) **99e:94011** 94A12 (92B20)

Sherstnev, A. N. (*with* Lugovaya, G.) On extending an unbounded orthogonal vector measure in a semifinite von Neumann algebra to a weight. *Demonstratio Math.* **30** (1997), *no.* 3, 591–598. (Jan Hamhalter) **99b:46099** 46L50

— (*with* Dorofeev, S. V.) Frame-type functions and their applications. *Measures on projections and orthomodular posets*, 2–13, *Kazan Tracts Math.*, 4, *Kazan Math. Soc., Kazan'*, 1998. (Editors) **99k:46113** 46L50 (47N99, 81P10)

— *see also* **Measures on projections and orthomodular posets, 99h:00037**

Shersty̆ukov, V. B. On a class of complete systems. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997,** *no.* 2, 38–40, 89. 46A03 (41A50)

Shervashidze, T. (*with* Lazrieva, N.; Mania, M.; Torondzhadze, T. A.) In memory of Professor R. Chitashvili. *Proc. A. Razmadze Math. Inst.* **115** (1997), 3–15. (Editors) **99m:01076** 01A70

Sherwin, Spencer J. (*with* Warburton, Timothy C. E.; Karniadakis, George Em) Spectral/*hp* methods for elliptic problems on hybrid grids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 191–216, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (B. Kellogg) **99h:65198** 65N30 (65N50)

Sherwood, H. (*with* Caron, R. M.; Li, Xin^3; Mikusiński, Piotr; Taylor, M. D.) Nonsquare "doubly stochastic" matrices. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 65–75, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Ryszard Grząślewicz) **99b:15025** 15A51 (15A48)

— (*with* Li, Xin^3; Mikusiński, Piotr; Taylor, M. D.) In quest of Birkhoff's theorem in higher dimensions. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 187–197, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Ryszard Grząślewicz) **99b:15027** 15A51 (15A48)

— (*with* Li, Xin^3; Mikusiński, Piotr; Taylor, M. D.) On approximation of copulas. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 107–116, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:60009** 60E05 (62H05)

Sheshadri, K. Localization in the hopping disordered Bose Hubbard model. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 28, 1159–1166. 82D50 (82B44)

Sheshko, M. A. On exact and approximate solutions of a singular integral equation with a Cauchy kernel on an infinite contour. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1122–1130, 1151; *translation in Differential Equations* **32** (1996), *no.* 8, 1126–1134 (1997). (R. V. Duduchava) **99d:45001** 45E05 (45L05)

— A direct method for solving a system of singular equations with a Cauchy kernel. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1278–1287, 1296; *translation in Differential Equations* **33** (1997), *no.* 9, 1288–1298 (1998). (I. Spitkovsky) **99f:45019** 45L05 (45E05, 45F15, 47A68)

— (*with* Rasol'ko, G. A.; Shulyaev, D. S.) On exact and approximate solutions of a singular integral equation with a Cauchy kernel on the real half-line. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 43–48, 124. (Summary) **99k:45010** 45E05 (45L05)

Shestakov, Aleksei I. (*with* Milovich, Jose L.) Parallelization of an unstructured grid, hydrodynamic-diffusion code. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 182–193, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N55 (65Y05)

Shestakov, Ivan P. Alternative and Jordan superalgebras. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 157–169, 191, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (K. Strambach) **99g:17009** 17A70 (16S10, 16W55, 17C70, 17D05)

— Prime alternative superalgebras of arbitrary characteristic. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 6, 675–716, 722; *translation in Algebra and Logic* **36** (1997), *no.* 6, 389–412. (Oleg Smirnov) **99k:17006** 17A70 (17D05)

— (*with* Gómez-Ambrosi, Carlos) On the Lie structure of the skew elements of a simple superalgebra with superinvolution. (English summary) *J. Algebra* **208** (1998), *no.* 1, 43–71. (Darin R. Stephenson) **99j:17032** 17B60 (16W10, 16W55)

— (*with* González, Santos; López-Díaz, Miguel; Martínez López, Consuelo) Bernstein superalgebras and supermodules. (English summary) *J. Algebra* **212** (1999), *no.* 1, 119–131. (Henrique Guzzo, Jr.) **99m:17045** 17D92 (17A70)

Shestopalov, V. P. (*with* Yatsik, V. V.) Spectral theory of a plane layer with continuously changing dielectric permittivity. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 10, 51–58. (Summary) **99k:78022** 78A40 (35Q99, 78A45)

— Linear-bistable-element turbulence: a new model of turbulence. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 10, 102–107. (From the text) **99j:76047** 76E30 (58E50, 58F40, 76F99)

— Construction of Ginzburg-Landau equations near the Morse critical point of dispersion equations. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 4, 473–476; *translation in Dokl. Phys.* **43** (1998), *no.* 6, 326–329. 35Q55 (58E30)

— (*with* Poedinchuk, A. E.; Tuchkin, Yu. A.) The method of the Riemann-Hilbert problem in the theory of the diffraction of waves by screens of arbitrary cross section. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1314–1328. (B. Belinskiy) **99k:78029** 78A45 (45E05)

Shestopalov, Yu. V. (*with* Lozhechko, V. V.) A variational method for solving diffraction problems in domains with noncompact boundaries. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 277–288; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 2, 267–278. (Gert Lube) **99c:35035** 35J05 (65N30, 78A45)

Shete, Sanjay (*with* Sriram, T. N.) Fixed precision estimator of the offspring mean in branching processes. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 17–33. (Valeri Stefanov) **99k:62146** 62M05 (60J80)

Shetty, Bala (*with* Syam, Siddhartha) Coordinated replenishments from multiple suppliers with price discounts. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 579–598. 90B30 (90C10, 90C90)

Shetty, I. D. (*with* Govindarajulu, Z.; Bhat, Sharada V.) A class of distribution-free tests for testing homogeneity against ordered location alternatives. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 747–760. (Summary) **99c:62145** 62G20

Sheu, Albert J. L. Groupoids and compact quantum groups. *Quantum groups and quantum spaces* (*Warsaw*, 1995), 41–50, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Andreas Cap) **99e:46093** 46L87 (17B37, 22D25)

— Quantum spheres as groupoid C^*-algebras. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 503–510. (Aldo J. Lazar) **99b:46112** 46L89 (81R50)

— Groupoids and quantization. (English summary) *Perspectives on quantization* (*South Hadley, MA*, 1996), 157–167, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Markus J. Pflaum) **99j:58086** 58F06 (22A22, 46L87, 58B30, 58H05)

Sheu, Shey Shiung The sets containing points of multiplicity c of planar Brownian paths. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 2, 95–99. (Barthel W. Huff) **99i:60158** 60J65 (60J45)

— A large deviation principle of reflecting diffusions. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 2, 251–256. (Gheorghe Stoica) **99c:60174** 60J60 (60F10)

Sheu, Shuenn-Jyi (*with* Fleming, Wendell H.) Asymptotics for the principal eigenvalue and eigenfunction of a nearly first-order operator with large potential. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1953–1994. (Alexander Veretennikov) **99a:60064** 60H30 (93E20)

Sheu, T. W. H. (*with* Fang, Chao-Ching; Tsai, S. F.) Application of an element-by-element BiCGSTAB iterative solver to a monotonic finite element model. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 57–70. 65N30 (65F30)

Shevaldin, V. T. Extremal interpolation in the mean with overlapping intervals of averaging, and L-splines. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 4, 201–224; *translation in Izv. Math.* **62** (1998), *no.* 4, 833–856. (Zygmunt Wronicz) **99k:41004** 41A05 (41A15, 41A44)

Shevchenko, O. Yu. (*with* Sisakyan, A. N.; Solganik, S. B.) Chiral and parity anomalies at finite temperature and density. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 455–472. (Summary) **99a:81165** 81T50

Shevchenko, V. N. (*with* Il'ichev, A. P.; Kogan, G. P.) Polynomial algorithms for computing the permanents of some matrices. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 96–100. (G. P. Egorychev) **99c:15009** 15A15

— (*with* Zolotykh, Nikolai Yu.) Lower bounds for the complexity of learning half-spaces with membership queries. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 61–71, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (Summary) **99m:68173** 68T05 (68Q99)

Shevchenko, Yu. I. Linear connections of holonomic and nonholonomic smooth manifolds. (Russian. English and Russian summaries) *Tr. Geom. Semin. No.* 23 (1997), 175–186. (Andrew Bucki) **99k:53013** 53B05

Shevchik, K. S. (*with* Boguslavskiĭ, L. B.; Lyakhov, A. I.) A search for optimal access strategies to a set of critical resources of multiprocessor systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998,** *no.* 1, 78–91; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 2, 67–77. (Summary) **99b:68021** 68M20 (90B12)

Shevchuk, I. A. (*with* DeVore, Ronald A.; Leviatan, D.) Approximation of monotone functions: a counter example. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 95–102, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Allan Pinkus) **99j:41032** 41A29 (41A10, 41A25)

— (*with* Leviatan, D.) Some positive results and counterexamples in comonotone approximation. (English summary) *J. Approx. Theory* **89** (1997), *no.* 2, 195–206. (Summary) **99a:41023** 41A29

— (*with* Dzyubenko, G. A.; Gilewicz, Jacek) Piecewise monotone pointwise approximation. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 311–348. (Hong Kun Xu) **99f:41008** 41A10 (41A29)

— (*with* Leviatan, D.) Nearly comonotone approximation. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 53–81. (Geetha S. Rao) **99j:41012** 41A10 (41A29)

— (*with* Kopotun, Kirill A.; Leviatan, D.) The degree of coconvex polynomial approximation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 409–415. (L. G. Labsker) **99c:41010** 41A10 (41A25)

Shevelev, A. G. Estimation of oscillation and other performance indicators of transient processes in discrete automatic control systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996,** *no.* 3, 52–60, 154. 93C55 (93B51)

Shevelev, V. S. On an arithmetic property of permutation numbers with a given signature associated with the Morse sequence. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996,** *no.* 2, 20–24, 98–99. (Summary) **99e:11023** 11B68 (11B85)

— Development of the rook technique for computing cyclic indicators of (0, 1)-matrices. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996,** *no.* 4, 21–28, 101. (Summary) **99f:15024** 15A36 (05A15)

— (*with* Grigorchuk, S. E.) Another algorithm for computing the cyclic indicator of permutations with restricted positions. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997,** *no.* 2, 11–13, 88. 05A05

— (*with* Grigorchuk, S. E.) An algorithm for computing the cyclic indicator of discordant permutation pairs with restricted positions. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997,** *no.* 3, 5–13, 98. 05A05

Shevlyakov, G. L. (*with* Khvatova, T. Yu.) On robust estimation of a correlation coefficient and correlation matrix. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 153–162, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62H12 (62F35)

— (*with* Vil'chevskii, N. O.) On the characterization of Fisher information and stability of the least favorable lattice distributions. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci. (New York)* **92** (1998), *no.* 4, 4104–4111. (Summary) **99k:62066** 62F35

Shevrin, L. N. (*with* Ovsyannikov, A. Ya.) ★ Semigroups and their subsemigroup lattices. (English summary) Translated and revised from the 1990/1991 Russian originals by the authors. Mathematics and its Applications, 379. *Kluwer Academic Publishers Group, Dordrecht*, 1996. xii+378 *pp. ISBN* 0-7923-4221-6 (S. M. Goberstein) **99c:20084** 20M10 (20–02)

Sheynin, Oscar *see* **Sheĭnin, O. B.**

Sheynin, Stanislav A. *see* **Sheĭnin, S. A.**

Shi, Aifen (*with* Lü, Xian Qing; Mei, Sheng Wei) Exact $(1 + 1)$-dimensional similarity solutions of the Broadwell model. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1249–1252. (Nicola Bellomo) **99m:82042** 82C40 (76P05)

Shi, Aimin (*with* Teng, Michelle H.; Wu, Theodore Yaotsu) Propagation of solitary waves through significantly curved shallow water channels. (English summary) *J. Fluid Mech.* **362** (1998), 157–176. (Summary) **99c:76039** 76D33 (35Q35, 35Q51, 76B25)

Shi, Bao (*with* Wang, Zhi Cheng[1]; Yu, Jian She) Asymptotic constancy of solutions of linear parabolic Volterra difference equations. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 8, 65–77. (Summary) **99c:39008** 39A10 (39A12)
— (*with* Wang, Zhi Cheng[1]; Yu, Jian She) Stability of parabolic Volterra integro-partial differential equations and their discrete analogues. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 177–190. (Summary) **99h:45020** 45K05 (35B35, 35K55, 39A12, 45M10)
— (*with* Wang, Zhi Cheng[1]; Yu, Jian She) A necessary and sufficient condition for global asymptotic stability of the zero solution to delay difference equations and its applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 615–624. (Summary) **99i:39026** 39A11 (39A10)
— (*with* Wang, Zhi Cheng[1]; Yu, Jian She) Stability and boundedness in difference systems with finite delay. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 369–376. (Summary) **99j:39015** 39A11
— *see also* **Zhang, Zheng Qiu**
Shi, Bao Chang (*with* Hu, Xin Sheng; Li, Guangzhen; Li, Shuyang) The fixed point approach to nonsmooth multiobjective programming. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 65–70. (Summary) **99b:90108** 90C29 (49J52)
— (*with* Hu, Xin Sheng) Maximum entropy methods and feasible direction methods with nonmonotone curvilinear search for constrained optimization. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 241–256. (Summary) **99a:65078** 65K05
— (*with* Li, Qing; Zhou, Meilian; Wang, Neng Chao) Fast algorithms for Walsh transform in bit-reversed sequency order. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 627–633. 65T20 (42C15)
— (*with* Liu, Xue Ying) A quasi-descent algorithm for function optimization based on a genetic algorithm. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 11, 104–106. 90C30 (65K05)
— (*with* Hu, Xin Sheng; Zhou, Ji[1]) Convergence of maximum entropy approximations for multiobjective minimax problems. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 285–290. 90C29 (49K35)
— (*with* Guo, Zhao Li; Wang, Neng Chao) Evolutionary generation and fast algorithms for Haar-type transforms. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 1–6. 65T20
— (*with* Du, Jiang; Meng, Xiang Hui; Yu, Yin) An improved algorithm for the branch and bound method. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 55–58. 90C05
— (*with* Zhou, Xiao Yang; Chen, Ting[1]) Constrained variable metric type methods. I. The unified algorithm model and reduced gradient directions type algorithm. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 2, 24–31. 90C30 (65K05)
— (*with* Zhou, Xiao Yang; Chen, Ting[1]) Constrained variable metric type methods. II. The generalized projection gradient type algorithm with superlinear convergence. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 13–19. 90C30 (65K05)
— (*with* Li, Qing; Zhou, Mei Lian; Wang, Neng Chao) Design of a fast algorithm for Walsh transforms of inverse Walsh sequences. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 5, 482–488. 42C10
— (*with* Chen, Ting[1]) A class of interactive methods based on exact penalty functions for multiobjective programming. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 106–110. 90C29
Shi, C.-J. (*with* Brzozowski, J. A.) A characterization of signed hypergraphs and its applications to VLSI via minimization and logic synthesis. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 223–243. (Italo José Dejter) **99m:68155** 68R10 (05C85, 68Q35, 94C10)
Shi, Cheng Xian (*with* Zhao, Zhi Xin; Zhang, Hong Bo) (Almost) excellent extensions of rings. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 105–108. 16S20
Shi, Dinghua (*with* Guo, Jinli) The point process of state transitions in a regular Markov chain. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 374–380. (M. Iosifescu) **99k:60126** 60G55 (60J27, 60K25)
— Revisiting the state transition frequency formula. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 305–317. (*see* **99m:90004**) 90B22 (90C40)
Shi, Dong Yang (*with* Li, Qing Shan) A new formulation for constructing rectangular plate elements with eight degrees of freedom. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 4, 8–12. (Summary) **99c:65207** 65N30
— (*with* Chen, Shao Chun) Symmetrical forms of double set parameter 12-parameter rectangular plate elements. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 293–297. 65N30 (65D15)
— (*with* Feng, Weibing; Li, Kai-tai) Nonconforming finite element penalty method for Stokes equation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117–118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 53–58. (Summary) **99b:65148** 65N30 (76D05, 76M10)
— (*with* Chen, Shao Chun) New schemes for constructing arbitrary nonconforming quadrilateral elements. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 326–332. (Summary) **99f:65175** 65N30
— (*with* Chen, Shao Chun) A new nonconforming quadrilateral membrane element. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 1, 1–6. 65N30 (73V05)
Shi, Donghua (*with* Feng, De Xing; Zhang, Weitao) Boundary feedback stabilization of Timoshenko beam with boundary dissipation. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 483–490. (Kenneth B. Hannsgen) **99i:93051** 93D15 (47H20, 73K05, 73K50)
Shi, Dylan On selecting the most reliable components. (English summary) *J. Appl. Math. Decis. Sci.* **2** (1998), *no.* 2, 133–145. (Summary) **99j:62144** 62N05
Shi, Feng[1] Basic sequences and bounded linear operators. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 105–110. (Bor-Luh Lin) **99f:46016** 46B15 (46B03, 47B07)
Shi, Feng Xian (*with* Xiong, Peng Rong; Zhou, Yu Lin[2]; Zhu, Hong[1]) A deadlock-free routing algorithm on star graphs. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 946–951. 68M10
Shi, Fu Gui Pointwise uniformities in fuzzy set theory. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 141–146. (Summary) **99d:54004** 54A40 (54E15)
— (*with* Meng, Guang Wu) Topologies in pointwise quasi-uniform molecular lattices. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 41–44. (Summary) **99b:06019** 06F30 (54E15)
— Remarks on paracompactness of L-fuzzy subsets. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 6–9. 54A40 (54D20)
Shi, Hai Zhong (*with* Du, Ding Zhu) Necessary and sufficient conditions for a graph to be reconstructible. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 16, 1719–1721. 05C60
Shi, Haomao (*with* Spencer, Thomas H.) Time-work tradeoffs of the single-source shortest paths problem. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 19–32. (Xiao Tie Deng) **99k:68148** 68R10 (68Q22)
Shi, Hong Ting (*with* Gu, Jin Sheng; Jiu, Quan Sen) A substructuring algorithm for solving fourth order elliptic problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **19** (1999), *no.* 1, 61–65. 65N06 (65N30)
Shi, J. *see* **Shi, Jianming**
Shi, Ji-huai (*with* Ren, Guang-bin) Boundedness of the Cesàro operator on mixed norm spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3553–3560. (Aristomenis Siskakis) **99b:47047** 47B38 (30D55)
— Bergman type operators on a class of weakly pseudoconvex domains. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 1, 22–32. (Manfred Stoll) **99g:32026** 32F15 (32H10, 46E99, 47B38)
— (*with* Ren, Guang-bin) Gleason's problem in weighted Bergman space on egg domains. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 225–231. (Manfred Stoll) **99f:32038** 32H10 (32F15)
Shi, Jian[2] Empirical likelihood estimation of the error variance in linear correlation models and its bootstrapping. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 38–46. (Summary) **99c:62190** 62J05 (62G09)
— Edgeworth expansion in partial linear models. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 683–686. 62J05
— (*with* Wen, Xian Bin; Zhu, Yan Tang) Asymptotic properties of randomly weighted estimates of the sample mean. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 347–352. 62G05 (62G09)
Shi, Jian-Qing (*with* Lee, Sik-Yum) Analysis of covariance structures with independent and non-identically distributed observations. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 543–557. (Summary) **99d:62062** 62H12
Shi, Jian-Yi (*with* Chen, Yu[4]) Left cells in the Weyl group of type E_7. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3837–3852. (R. W. Carter) **99h:20065** 20F55
— Left cells in the affine Weyl group of type $\widetilde{F}_4$. (English summary) *J. Algebra* **200** (1998), *no.* 1, 173–206. (Cheng Dong Chen) **99b:20069** 20F55 (20G99)
— Left cells in the affine Weyl group of type $\widetilde{C}_4$. (English summary) *J. Algebra* **202** (1998), *no.* 2, 745–776. (R. W. Carter) **99d:20065** 20F55
Shi, Jianming (*with* Yamamoto, Yoshitsugu) A global optimization method for minimum maximal flow problem. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 271–287. (Maretsugu Yamasaki) **99a:90220** 90C35
— (*with* Yamamoto, Yoshitsugu) A parametric algorithm for the minimum norm point problem under a linear constraint and its application to portfolio optimization. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 2, 69–91. (Summary) **99e:90064** 90C20 (90C90)
Shi, Jiao Ying (*with* Liu, Yong Kui) An all-integer arithmetic algorithm for drawing curves. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 270–280. 68U05 (65D17)
— (*with* Ma, Xiao Hu; Pan, Zhi Geng) A polyhedral model simplification method based on a triangle removal criterion. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 492–498. 68U05 (65Y25)
— (*with* Zhou, Kun[2]; Pan, Zhi Geng) A mesh simplification algorithm based on triangle collapse. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 506–513. 68U05 (65D15)
— (*with* Dong, Feng; Cai, Wenli) Stream surface construction using mass conservative interpolation. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 45–53. (Summary) **99k:76108** 76M25
Shi, Jinglin (*with* Li, Tao; Yu, Bo; Zhang, Qunying; Han, Yueqiu) Improvement of CORDIC algorithm. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 4, 400–405. 65D20 (94A12)
Shi, Jingyu (*with* Tordesillas, Antoinette) Indentation of a double shearing dilatant granular material by a smooth rigid wedge. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 633–646. (Summary) **99g:73060** 73E99 (73E05)
— (*with* Hill, James M.; Tordesillas, Antoinette; Wu, Yong-Hong) The velocity field for the punch problem for dilatant granular materials. (English summary) *Quart. J. Mech. Appl. Math.* **52** (1999), *no.* 1, 99–110. 73E99
Shi, Jinlin Topological classification of nonautonomous linear systems. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 461–474. (Rimma A. Prokhorova) **99g:34106** 34C99 (34C11, 34D99)
Shi, Jun (*with* Tang, Ben Rong) A high-speed algorithm for binary double operands addition. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 22–26. 68M07
Shi, Junping (*with* Ouyang, Tiancheng) Exact multiplicity of solutions and global bifurcation of $\Delta u + \lambda f(u) = 0$. (English summary) *Differential equations and applications (Hangzhou, 1996)*, 356–363, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99c:35077** 35J65 (35B32, 58E07)
— (*with* Ouyang, Tiancheng) Exact multiplicity of positive solutions for a class of semilinear problems. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 121–156. (Yi Hong Du) **99f:35061** 35J65 (34B15, 35B05, 35P30, 58E05)
— (*with* Yao, Miaoxin) On a singular nonlinear semilinear elliptic problem. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 6, 1389–1401. (Summary) **99j:35070** 35J65 (35B05, 35B30, 35B65)
— (*with* Bates, Peter W.; Dancer, Edward Norman) Multi-spike stationary solutions of the Cahn-Hilliard equation in higher-dimension and instability. (English summary) *Adv. Differential Equations* **4** (1999), *no.* 1, 1–69. (Siegfried Carl) **99k:35097** 35K60 (35B25, 35B40, 58E50)
Shi, Kang-jie (*with* Hou, Bo Yu; Wang, Yan Shen; Yang, Wen Li[2]) Multipoint functions (form-factors) of quantum sine-Gordon field with boundary. (English summary)

Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (*Tianjin*, 1995), 157–165, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81T10

— (*with* Hou, Bo Yu; Wang, Yan Shen; Yang, Wen Li[2]) Bosonization of quantum sine-Gordon field with boundary. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 9, 1711–1741. (Marco Moriconi) **99a:81099** 81T10 (81U40)

— (*with* Fan, Heng; Hou, Bo Yu; Yang, Zhong-Xia) Integrable boundary conditions associated with the $Z_n \times Z_n$ Belavin model and solutions of reflection equation. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 16, 2809–2823. (Andrey V. Tsiganov) **99e:82026** 82B23 (82B20)

— (*with* Hou, Bo Yu; Wang, Yan Shen; Yang, Wen Li[2]) Bosonic realization for boundary states in quantum sine-Gordon field with boundary. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 4, 579–586. (Mathias Pillin) **99j:81113** 81T10

— (*with* Hou, Bo Yu; Yang, Wen Li[2]) The general crossing relation for boundary reflection matrix. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 3, 415–418. (Summary) **99m:82013** 82B23

— (*with* Fan, Heng; Hou, Bo Yu; Li, Guang-liang; Wang, Yan Shen) A one-dimensional many-body integrable model from Z_n Belavin model with open boundary conditions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4746–4758. (Kazuhiro Hikami) **99g:81237** 81V70 (81R50, 82B23)

— (*with* Fan, Heng; Hou, Bo Yu; Li, Guang-liang) A new solution to the reflection equation for the Z_n symmetric Belavin model. (English summary) *Phys. Lett. A* **250** (1998), *no.* 1-3, 79–87. (Andrey V. Tsiganov) **99j:82014** 82B20 (82B23)

Shi, Ke (*with* Zhong, Cheng Kui) $Z_2 \times Z_2$-index theory on product spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 501–506. (Yong Qing Li) **99h:58036** 58E05 (47H11, 58E40)

Shi, Lei *see* **Shi, Lei[3]**

Shi, Lei[2] Assessment of local influence for F-test in linear regression model. (English summary) *Systems Sci. Math. Sci.* **12** (1999), *no.* 1, 33–39. (Summary) **99k:62129** 62J05 (62F35)

Shi, Lei[3] (*with* Feng, Mang; Wang, Ke Lin; Fang, Ximing; Yan, Min; Zhu, Xiwen) Exact solution of Jaynes-Cummings model without rotating wave approximation. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 2, 169–172. (Summary) **99h:81239** 81V80 (81R30)

Shi, Lijie (*with* Li, Rongheng) An on-line algorithm for some uniform processor scheduling. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 414–422 (*electronic*). (Summary) **99c:90068** 90B35 (90C27)

Shi, M. X. (*with* Wang, Wei[4]) On the general solutions of transversely isotropic elasticity. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 25, 3283–3297. (V. K. Arya) **99g:73030** 73C02 (73B40)

Shi, Minyong A note on the tree decompositions of graphs. *Chinese Sci. Bull.* **42** (1997), *no.* 23, 1948–1952. (David Burns) **99e:05099** 05C70 (05C05)

— (*with* Favaron, Odile) Minimally k-factor-critical graphs. (English summary) *Australas. J. Combin.* **17** (1998), 89–97. (Summary) **99b:05111** 05C70

— (*with* Li, Yanjun; Tian, Feng[1]) Tree decompositions for a class of graphs. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 221–232. (E. J. Farrell) **99i:05064** 05C05 (05C70)

Shi, Nian Dong (*with* Cherlin, Gregory; Tallgren, L.) Graphs omitting a bushy tree. (English summary) *J. Graph Theory* **26** (1997), *no.* 4, 203–210. (Summary) **99a:05122** 05C75

Shi, Ning-Zhong (*with* Jiang, Hua) Maximum likelihood estimation of isotonic normal means with unknown variances. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 2, 183–195. (Bhaskar Bhattacharya) **99h:62027** 62F30

— (*with* Gao, Wei) A note on the choice of optimal scores for ordinal data. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 187–194. (Summary) **99e:62108** 62H17

Shi, P. *see* **Shi, Peter**

Shi, Peide (*with* Fung, Wing-Kam) A note on transforming a response variable for linearity. (English summary) *Biometrika* **85** (1998), *no.* 3, 749–754. (Summary) **99m:62105** 62J05

— (*with* He, Xuming) Monotone B-spline smoothing. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 643–650. (Alan M. Polansky) **99f:62059** 62G07 (65D07, 94A17)

— (*with* Tsai, Chih-Ling) A note on the unification of the Akaike information criterion. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 551–558. (Summary) **99a:62008** 62B10

Shi, Peilin (*with* Ding, Shu Sen) Weighted Poincaré-type inequalities for differential forms in $L^t(\mu)$-averaging domains. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 200–215. (Anna Mercaldo) **99m:46077** 46E35 (26D10, 35B45)

Shi, Peng (*with* de Souza, Carlos E.; Xie, Lihua) Bounded real lemma for linear systems with finite discrete jumps. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 145–159. 93D09 (93C57)

— H_∞ filtering for linear continuous-time systems with sampled measurements. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 349–362. (Summary) **99i:93068** 93E11 (93B36, 93C57)

— (*with* Shue, Shyh-Pyng; Agarwal, Ramesh K.) Robust disturbance attenuation with stability for a class of uncertain singularly perturbed systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 873–891. (Vasile Drăgan) **99f:93096** 93C70 (93D21)

— (*with* Boukas, El-Kébir) Stochastic stability and guaranteed cost control of discrete-time uncertain systems with Markovian jumping parameters. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 13, 1155–1167. (Tomás Caraballo) **99j:93110** 93E15 (93D09, 93E20)

— (*with* Shue, Shyh-Pyng) Robust H_∞ control for linear discrete-time systems with norm-bounded nonlinear uncertainties. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 108–111. 93B36 (93C55)

— Filtering for interconnected nonlinear sampled-data systems with parametric uncertainties. (English summary) *J. Vib. Control* **5** (1999), *no.* 4, 591–618. 93C57 (93E11)

Shi, Peng Fei (*with* Yang, Jie[3]; Lu, Zheng Gang) A nonmonotonic truth maintenance system combining priorities and degrees of belief. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 4, 54–58. (Summary) **99g:68198** 68T27

Shi, Peter (*with* Showalter, R. E.) Plasticity models and nonlinear semigroups. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 218–245. (Martin Brokate) **99b:73020** 73E50 (35Q72, 47H06, 47H20)

— (*with* Showalter, R. E.) Dynamic plasticity models. (English summary) Symposium on Advances in Computational Mechanics, Vol. 4 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 3-4, 501–511. (Martin Brokate) **99b:73021** 73E50 (35Q72, 47H06, 47H20)

— The restitution coefficient for a linear elastic rod. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 427–435. (David E. Stewart) **99g:73076** 73K12 (73D05, 73K05, 73T05)

— (*with* Babuška, Ivo M.) Regularity of solutions to a one-dimensional plasticity model. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 5, 521–537. (Mircea Sofonea) **99g:73051** 73E50 (47H19, 49N60, 73E05, 73V25)

Shi, Q. (*with* Safonov, V. L.; Mino, M.; Yamazaki, Hitoshi) Unitary transformations in weakly nonideal Bose gases. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 258–264. (Summary) **99a:82024** 82B20 (81V70)

Shi, Qin Chun The spectral property for a class of Dirac eigenvalue problems. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 1, 18–20. 34L40

Shi, Qing Sheng (*with* Zhang, Dong Mo[1]; Zhu, Wu Jia) A system of temporal logic based on medium logic. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 465–471. (Summary) **99e:03021** 03B45 (03B55)

Shi, Qing Yun (*with* Feng, Ju Fu; Cheng, Min De) A unified method for stereo vision based on conics. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 2-3, 268–274. (Summary) **99h:68176** 68U10

Shi, Qiyan (*with* Wu, Yong-Tang; Zhu, Si-Ming) Lax representations for Dirac soliton hierarchy. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 74–78. (Valery V. Obukhov) **99e:35193** 35Q51 (35Q40, 58F07)

Shi, Rui Min (*with* Mei, Li Quan; Huang, Ai Xiang) Analysis of a spectral-finite element method for the 3D unsteady Boltzmann transport equation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 44–50, 102. 65N35

Shi, Shao Chun (*with* Yuan, Si; Cui, Jing Hao) An infinite FEMOL element–infinite line mapping technique. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 81–89. 65N40 (65N30)

Shi, Shao Jian (*with* Liu, Jia Zhuang) Edge list-colorings of Halin graphs. (Chinese) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 118–119. 05C15

Shi, Sheng Ming (*with* Cao, Jing Long) A generalization of Brauer's Problem 24. (Chinese. English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 1, 78–80. (Summary) **99f:20016** 20C20 (20D20)

— (*with* Hu, Lei) The finite groups of order p^2q with p-blocks of defect 0. *J. Algebra* **210** (1998), *no.* 2, 487–497. (Jürgen Ritter) **99m:20012** 20C20 (20D05)

Shi, Shu Zhong (*with* Cheng, Li Xin) Lipschitz functions on Banach spaces which are actually on Asplund spaces. *Chinese Sci. Bull.* **42** (1997), *no.* 24, 2051–2054. (Warren B. Moors) **99g:46056** 46G05 (46B20)

— (*with* Cheng, Li Xin) Lipschitz functions on Banach spaces which are actually on Asplund spaces. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 20, 2145–2147. 46G05

— (*with* Wang, Bing Wu) Geometric conditions for differentiability of a regular locally Lipschitz function. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 307–312. (Yubo Chen) **99m:46108** 46G05 (46B20, 49J50, 58C20)

— (*with* Cheng, Li Xin; Wang, Bing Wu; Lee, E. Stanley) Generic Fréchet differentiability of convex functions dominated by a lower semicontinuous convex function. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 389–400. (Nikolay V. Zhivkov) **99m:49021** 49J50 (46G05, 58C20)

Shi, Song Jiao (*with* Chen, Wei Tian; Zhang, Zhong Jun) Adaptive output feedback control of a class of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 2, 140–148. (P. K. C. Wang) **99k:93060** 93C40 (93B50, 93C41)

— (*with* Weng, Zheng-Xin) H_∞ state-feedback control of discrete-time systems with norm-bounded time-varying uncertainty. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 734–740. 93B36 (93C55)

— (*with* Weng, Zheng-Xin) H_∞ loop transfer recovery synthesis of discrete-time systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 687–697. (Summary) **99d:93022** 93B36 (93D09)

— (*with* Xu, Pu Shui) A robust feedback controller design method with gains constrained to zero. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 6, 74–77. 93B36 (93B51)

— (*with* Qin, Bin; Xi, Yu Geng) H_∞ output feedback robust stabilization for nonlinear systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 6, 78–82. 93D21 (93B36)

— (*with* Chen, Wei Tian; Zhang, Zhong Jun) Robust adaptive control of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 6, 88–93. 93C41 (93B51)

Shi, Wei-Xue Extensions of perfect GO-spaces and σ-discrete dense sets. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 615–618. (Summary) **99c:54045** 54F05 (54A10, 54D35, 54F65)

— A non-metrizable compact linearly ordered topological space, every subspace of which has a σ-minimal base. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2783–2791. (O. T. Alas) **99m:54020** 54F05 (54D70, 54G20)

Shi, Weihui (*with* Tang, Yiming) A numerical invariant of nonlinear partial differential equations. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 202–204. (Akira Asada) **99c:58006** 58A20 (35A20, 35A30, 35Q30)

Shi, William T. (*with* Hogrefe, J. Errett; Peffley, Nicholas L.; Goodridge, Christopher L.; Hentschel, H. George E.; Lathrop, Daniel P.) Power-law singularities in gravity-capillary waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 183–205. (*see* **99h:00031**) 76D33 (76-05, 76D45)

Shi, Wu Jie Groups whose elements have prescribed orders. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 16, 1703–1706. 20D60

— Finite groups defined by the sets of their element orders. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 185–188, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 20D60

Shi, Xi Quan² (*with* Wang, Tianjun; Yin, Baocai) Splines on generalized quasi-cross-cut partitions. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 139–147. (Summary) **99h:41016** 41A15 (65D07)

— (*with* Deng, Hao; Lin, Hong-fei) Notes on refinable functions. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 319–326. (Summary) **99d:42069** 42C15 (41A30)

Shi, Xianghua (*with* Liu, Xiao Bing; Zhou, Ming) Exact, general and asymptotic solutions of generalized master equation and continuous-time random walks. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 291–295. (Summary) **99k:60181** 60J15 (60J25)

— (*with* Liu, Xiao Bing; Zhou, Ming) The general theory of generalized transport coefficient. I. (English summary) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 400–405. 82C70

Shi, Xianliang (*with* Chui, Charles K.) A study of biorthogonal sinusoidal wavelets. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 51–66, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Louise A. Raphael) **99m:42045** 42C15 (41A30)

— (*with* Chui, Charles K.; Stöckler, Joachim) Affine frames, quasi-affine frames, and their duals. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 1-2, 1–17. (Amos Ron) **99b:42037** 42C15 (42B15, 47N40)

Shi, Xiao Ding (*with* Gu, Yong Geng; Chen, Jing²) Symmetry and monotonicity of positive solutions of systems of semilinear elliptic equations. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 1–9. (Henghui Zou) **99e:35074** 35J65 (35B05)

— (*with* Gu, Yong Geng) Weak solutions for a class of Navier-Stokes equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 733–744. (Chang Hao Lin) **99g:35105** 35Q30 (35D05, 76D05)

Shi, Xiao Ping² (*with* Ma, Ke Mao; Wang, Zi Cai) Observer design for a class of nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 443–446. 93B07

— (*with* Wang, Zi Cai) A new method for linearizing nonlinear systems. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 2, 68–71. 34A46 (34A34)

— (*with* Chen, Xiao Dong²; Ma, Guang Fu; Wang, Zi Cai) The least maximum-error parameter estimation method for linear systems. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 3, 42–44. 93E10

Shi, Xiquan *see* **Shi, Xi Quan²**

Shi, Xue Dong (*with* Huang, Yong; Wang, Shu Ning; Dai, Jian She) A fast algorithm for l^1 robust identification. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *suppl. I*, 72–74. 93B30 (93B40)

Shi, Y. *see* **Shi, Yong¹**

Shi, Yan *see* **Yan, Shi**

Shi, Yi Ming (*with* Kang, Zheng Jiu; Hu, Bao Sheng) A parallel algorithm for recursive total least squares parameter estimation. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 3, 1–4. 93E10

Shi, Ying Guang Mean convergence of truncated Hermite interpolation on an arbitrary system of nodes. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 45–58. (Len Bos) **99a:41002** 41A05

— Optimal Lebesgue function type sums. *Acta Math. Hungar.* **77** (1997), *no.* 4, 287–300. (S. M. Mazhar) **99h:41005** 41A05 (41A50)

— On the exact order of Lebesgue function type sums of Hermite interpolation. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 1-2, 93–98. 41A25

— General Gaussian quadrature formulas on Chebyshev nodes. (English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 3, 227–239. (Summary) **99h:65044** 65D32

— On L_p extremal polynomials. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 187–194. (Kirill A. Kopotun) **99c:42047** 42C05 (41A05)

— A minimax problem admitting the equioscillation characterization of Bernstein and Erdős. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 463–471. (Gerald D. Taylor) **99a:41003** 41A05 (41A63)

— On Turán quadrature formulas for the Chebyshev weight. (English summary) *J. Approx. Theory* **96** (1999), *no.* 1, 101–110. (V. I. Polovinkin) **99j:41049** 41A55 (65D32)

Shi, Yixun (*with* Dargahi-Noubary, G. R.) Difference equation models for estimating athletic records. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 107–122. (Summary) **99c:39002** 39A10

Shi, Yong¹ (*with* Liu, Yi-Hsin) A fuzzy potential solution approach to multi-criteria and multi-constraint level linear programming problems. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 213–224, *Springer, Berlin*, 1997. (Summary) **99d:90105** 90C29 (90C70)

— (*with* Xiao, Wei; Liu, Zhibin; Jiang, Maoze) Multiobjective linear programming model on injection oilfield recovery system. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 127–135. 90C90 (86A20, 90C29)

— (*with* Zhou, Zongfang) A convergence of ODE method in constrained optimization. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 297–307. (Alfonso Laratta) **99d:90124** 90C30 (65K05)

Shi, Yong Dong Existence of solutions for a two-point boundary value problem arising from a liquid metal flow with surface tension. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1069–1074. (Summary) **99m:34045** 34B15 (76D99, 80A20)

Shi, Yu Feng (*with* Wang, Xiang Rong) A Lyapunov stability theorem. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 12–16. (Xiang Sheng Xie) **99k:34113** 34D20

Shi, Yu Ming¹ (*with* Liu, Guang Xu) Boundary value problems for nth order differential equations. III. Asymptotic expansions for singular perturbations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **11** (1996), *no.* 2, 167–172. (Summary) **99c:34121** 34E15 (34B15)

— (*with* Han, Zhen Lai; Zhu, Dongmei) The generalized Airy functions. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 287–294. (Khélifa Trimèche) **99m:33003** 33C10 (34B30)

Shi, Yu Ming² Exponential stability of classical solutions to a class of semilinear wave equations with boundary dissipation. *Nonlinear Anal.* **36** (1999), *no.* 1, *Ser. A: Theory Methods*, 35–43. (Nikolai A. Lar'kin) **99m:35170** 35L70 (35B35)

Shi, Yuming *see* **Shi, Yu Ming¹**

Shi, Z. *see* **Shi, Zhan**

Shi, Z. C. *see* **Shi, Zhong Ci**

Shi, Zhan (*with* Bertoin, Jean) Hirsch's integral test for the iterated Brownian motion. (English summary) *Séminaire de Probabilités, XXX*, 361–368, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Endre Csáki) **99a:60087** 60J65 (60F15)

— (*with* Hu, Yue Yun; Yor, Marc) Some applications of Lévy's area formula to pseudo-Brownian and pseudo-Bessel bridges. (English summary) *Exponential functionals and principal values related to Brownian motion*, 181–209, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (F. B. Knight) **99j:60122** 60J65 (60J55, 60J60)

— (*with* Hu, Yue Yun) Extreme lengths in Brownian and Bessel excursions. (English summary) *Bernoulli* **3** (1997), *no.* 4, 387–402. (Davar Khoshnevisan) **99c:60169** 60J60 (60F15, 60J65)

— Locating the maximum of an empirical process. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 3, 199–211. (M. Csörgő) **99a:60031** 60F15

— Windings of Brownian motion and random walks in the plane. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 112–131. (Endre Csáki) **99f:60147** 60J65 (60F15, 60J15)

— (*with* Hu, Yue Yun) The local time of simple random walk in random environment. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 765–793. (Kiyoshi Kawazu) **99m:60105** 60J15 (60F05, 60F20, 60K05, 60K35)

— (*with* Hu, Yue Yun) Favourite sites of transient Brownian motion. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 87–99. (Endre Csáki) **99a:60088** 60J65 (60F15, 60J55)

— A local time curiosity in random environment. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 2, 231–250. (Kiyoshi Kawazu) **99i:60176** 60K35 (60J15, 60J55, 60J60)

— (*with* Csáki, Endre) Some lim inf results for two-parameter processes. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 1, 27–46. (Karl Grill) **99i:60064** 60F15 (60J65)

— (*with* Hu, Yue Yun) Shortest excursion lengths. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **35** (1999), *no.* 1, 103–120. (Michèle Mastrangelo-Dehen) **99k:60206** 60J65 (60F17)

— (*with* Hu, Yue Yun; Yor, Marc) Rates of convergence of diffusions with drifted Brownian potentials. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 3915–3934. (Kiyoshi Kawazu) **99m:60119** 60J60 (60F17, 60K35)

Shi, Zhan Wei (*with* Zhao, Xing Hua²) A divided region variational principle of A, φ-Ω method for 3-D eddy current problems. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 12, 1135–1140; *translated from Appl. Math. Mech.* **19** (1998), *no.* 12, 1049–1054 (*Chinese. English and Chinese summaries*). (Summary) **99m:78007** 78A25

Shi, Zhenjun (*with* Zhang, Yu Zhong; Li, Qun) A variation of Goldfarb's method for linearly constrained optimization problems and its superlinear convergence rate. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 351–358. (Summary) **99g:90135** 90C30 (65K05)

Shi, Zhi Fei (*with* Liang, Li Fu; Liang, Zhong Hong) The stationary value property of Hamilton's principle in non-holonomic systems. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 12, 1169–1176; *translated from Appl. Math. Mech.* **18** (1997), *no.* 12, 1089–1096 (*Chinese. English and Chinese summaries*). (A. Sumbatov) **99a:70021** 70F25 (70H25)

Shi, Zhong (*with* Luo, Zhen Jiang) A subclass of the class of starlike meromorphic functions of order λ. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 8–11. 30C45

Shi, Zhong Ci (*with* Chen, Shao Chun; Huang, Hong-ci) Plate elements with high accuracy. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 155–164, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:73097** 73V05 (73K10)

— (*with* Xie, Zheng-hui) A two-level additive Schwarz method for Morley elements on non-nested meshes. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 313–328; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 4, 84–100. (Summary) **99a:65159** 65N30

— (*with* Jiang, Bin; Xue, Wei Min¹) A new superconvergence property of Wilson nonconforming finite element. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 259–268. (H. Marcinkowska) **99c:65215** 65N30

— (*with* Jiang, Bin) Multigrid method for Wilson nonconforming finite element with numerical integration. (English summary) Domain decomposition methods and related topics (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 989 (1997), 103–121. (Eun-Jae Park) **99b:65149** 65N30 (65N55)

— (*with* Xie, Zheng-hui) Intergrid transfer operators for biharmonic problems using nonconforming plate elements on nonnested meshes. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 460–467, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99f:65176** 65N30 (65F10, 65N55)

— (*with* Jiang, Bin) Multigrid method for Wilson nonconforming finite element with numerical integration. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 72–94, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Pieter W. Hemker) **99m:65240** 65N55 (65N30, 73V05)

— (*with* Xu, Xue Jun) Cascadic multigrid method for a plate bending problem. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 2, 137–153. (Muthusamy Vanninathan) **99g:73109** 73V05 (65N55, 73K10)

— (*with* Xie, Zheng-hui) Substructure preconditioners for nonconforming plate elements. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 289–304. (Jiří Nedoma) **99g:65116** 65N30 (73K10, 73V05)

— (*with* Xie, Zheng-hui) Multigrid methods for Morley element on nonnested meshes. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 385–394. (Summary) **99f:65193** 65N55

— (*with* Wang, Jia Cheng) A note on the equivalence of some triangular plate elements. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 39–44. 73V05 (65N30)

Shi, Zhong Ke An iterative learning control method for nonlinear discrete systems and its application. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 327–332. 93E35 (93C55)

Shi, Zhong Kun (*with* Lin, Jun; Wu, Jie Ru; Wu, Xiao) Fitting surfaces to scattered data in space. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 78–82. 65D15 (90C90)

Shi, Zhongrui (*with* Wang, Ting Fu) On the packing spheres of some sequence spaces. (English summary) *Analysis* **17** (1997), *no.* 4, 379–386. (Anna H. Kamińska) **99a:46033** 46B45

Shi, Zi Fu A resolution of $L^2(\mathbf{R})$ and its functional approximation. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 5, 111–114. 42C15 (41A63)

Shi, Zi Yun (*with* Xu, Da Chuan) Hybrid conjugate gradient techniques. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 4, 1–4. (Summary) **99b:90124** 90C30

Shia, David (*with* Hui, C.-Y.) Evaluations of hypersingular integrals using Gaussian quadrature. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 2, 205–214. 65D32

Shiah, Y. C. (*with* Tan, C. L.) Exact boundary integral transformation of the thermoelastic domain integral in BEM for general 2D anisotropic elasticity. (English summary) *Comput. Mech.* **23** (1999), *no.* 1, 87–96. (Summary) **99m:73075** 73V10 (73B30)

Shiau, J. F. (*with* Marris, A. W.) Corrigenda: Universal deformations in isotropic incompressible hyperelastic materials when the deformation tensor has equal proper values [Arch. Rational Mech. Anal. **36** (1970), 135–160; MR **40 #6835**]. *Arch. Rational Mech. Anal.* **143** (1998), *no.* 4, 401. 73B99 (73C50)

Shiau, Jaw-Kuen (*with* Taranto, Glauco N.; Chow, Joe H.) A decentralized control design method for model-matching robustness problems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 401–416. 93A14 (93B51)

Shiba, Masakazu (*with* Schmieder, Gerald) One-parameter variations of the ideal boundary and compact continuations of a Riemann surface. (English summary) *Analysis (Munich)* **18** (1998), *no.* 2, 125–130. (M. Nakai) **99k:30073** 30F30 (30F25)

Shibakov, A. Sequential topological groups of any sequential order under CH. (English summary) *Fund. Math.* **155** (1998), *no.* 1, 79–89. (I. I. Guran) **99c:54051** 54H11 (04A30, 22A05)

Shibata, Hiroshi[1] (*with* Li, Deyu; Fujinaka, Toru) A discrete-time SAC system with no output tracking error. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 5, 304–312. 93C55 (93D15)

Shibata, Junya (*with* Takagi, Shin) A note on (spin-)coherent-state path integral. (English summary) *Internat. J. Modern Phys. B* **13** (1999), *no.* 2, 107–140. (Summary) **99m:81121** 81S40 (81R30)

Shibata, Keiichi (*with* Rassias, Themistocles M.) Variational problem of some quadratic functionals in complex analysis. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 234–253. (Vasily A. Chernecky) **99k:30036** 30C70 (30F45, 30F60)

Shibata, Masaru (*with* Taniguchi, Keisuke; Asada, Hideki) Irrotational and incompressible ellipsoids in the first post-Newtonian approximation of general relativity. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 4, 703–735. (Summary) **99k:83025** 83C25

Shibata, Ritei (*with* Takagiwa, Mutsumi) Consistency of frequency estimates based on the wavelet transform. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 6, 641–662. (P. A. Morettin) **99b:62147** 62M15 (62G05)

Shibata, Tetsutaro Global L^2-bifurcation for non-autonomous nonlinear Sturm-Liouville problem. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 246–258. (Gianni Arioli) **99d:34039** 34B15 (34A47, 34B24)

— Nonlinear multiparameter eigenvalue problems. Variational problems and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 973 (1996), 40–52. (Hans-Peter Heinz) **99a:34062** 34B15 (34L30, 35P30, 49J99)

— Variational eigencurve and bifurcation for two-parameter nonlinear Sturm-Liouville equations. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 79–93. (Lawrence Turyn) **99g:34057** 34B15 (34A47, 34L30, 47H15, 58E05)

— Multiparameter variational eigenvalue problems with indefinite nonlinearity. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 1066–1088. (Brian D. Sleeman) **99c:34036** 34B15 (34L30, 47H15, 58E05)

— Asymptotic profiles of variational eigenvalues of two-parameter non-linear Sturm-Liouville problems. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 18, 1619–1635. (Brian D. Sleeman) **99m:34046** 34B15 (34L30)

— Two-parameter nonlinear Sturm-Liouville problems. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 225–245. (Hans W. Volkmer) **99c:34037** 34B15

Shibata, Yoshihiro An exterior initial-boundary value problem for the Navier-Stokes equation. (English summary) *Nonlinear waves (Sapporo, 1995)*, 431–446, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Ivan Straškraba) **99a:35203** 35Q30 (76D05)

— (*with* Dan, Wakako) On the L_q–L_r estimates of the Stokes semigroup in a two-dimensional exterior domain. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 79–99. (Alain Miranville) **99i:35125** 35Q30 (47D06, 76D05)

— (*with* Dan, Wakako; Kobayashi, Takayuki[2]) On the local energy decay approach to some fluid flow in an exterior domain. *Recent topics on mathematical theory of viscous incompressible fluid (Tsukuba, 1996)*, 1–51, *Lecture Notes Numer. Appl. Anal.*, 16, *Kinokuniya, Tokyo*, 1998. (José Luiz Boldrini) **99h:35157** 35Q30 (47D06, 76D05)

— (*with* Kobayashi, Takayuki[2]) On the Oseen equation in the three-dimensional exterior domains. *Math. Ann.* **310** (1998), *no.* 1, 1–45. (Paolo Maremonti) **99e:76033** 76D05 (35Q30)

— (*with* Dan, Wakako) On the L_q–L_r estimates of the Stokes semigroup in a two-dimensional exterior domain. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 181–207. (Viktor G. Zvyagin) **99m:35185** 35Q30 (47D06, 47F05, 76D07)

— *see also* **Recent topics on mathematical theory of viscous incompressible fluid, 99a:35005**

Shibukawa, Youichi Vertex-face correspondence in elliptic solutions of the Yang-Baxter equation. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 304–311, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81R50 (82B23)

Shibuya, Tetsuo Self local moves and the Conway polynomials of links. (English summary) *Mem. Osaka Inst. Tech. Ser. A* **42** (1997), *no.* 1, 1–20. (Gyo Taek Jin) **99d:57006** 57M25

Shibuya, Tomoharu (*with* Mizutani, Jiro; Sakaniwa, Kohichi) On generalized Hamming weights of codes constructed on affine algebraic sets. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 311–320, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99h:94068** 94B27 (13P10, 94B65)

Shida, Masayuki Note on long-step predictor-corrector interior-point algorithm with Monteiro-Zhang unified search directions. (English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 153–167. (Shu Zhong Zhang) **99e:90101** 90C33

— (*with* Shindoh, Susumu; Kojima, Masakazu) Existence and uniqueness of search directions in interior-point algorithms for the SDP and the monotone SDLCP. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 387–396 (*electronic*). (Jos F. Sturm) **99b:90140** 90C33 (90C05, 90C25)

Shidlovskiĭ, A. B. On the linear independence of values of E-functions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 53–56, 112; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 49–51. (Eugene M. Matveev) **99f:11094** 11J91 (11J72)

— On the algebraic independence of values of E-functions. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 439–443. (Yao Chen Zhu) **99h:11082** 11J85 (11J91)

Shieh, Chung-Tsun (*with* Shen, Chao-Liang) Two inverse eigenvalue problems for vectorial Sturm-Liouville equations. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1331–1343. (Vjacheslav A. Yurko) **99j:34016** 34A55 (34B24, 47E05)

Shieh, Grace S. Weighted degenerate U- and V-statistics with estimated parameters. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1021–1038. (Summary) **99a:62071** 62G10

— A weighted Kendall's tau statistic. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 17–24. (Summary) **99e:62110** 62H20 (62G10)

Shieh, Leang-San (*with* Wang, Wei Min[2]; Zheng, Jing-Bo) Robust control of sampled-data uncertain systems using digitally redesigned observer-based controllers. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 43–64. 93B35 (93C62)

— (*with* Wang, Wei Min[2]; Chen, Guanrong) Discretization of cascaded continuous-time controllers and uncertain systems. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 5, 591–611. (Summary) **99f:93095** 93C57 (93A20)

— (*with* Wang, Sheng-Guo; Lin, Shield B.; Sunkel, John W.) Observer-based controller for robust pole clustering in a vertical strip and disturbance rejection in structured uncertain systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1073–1084. (Summary) **99g:93070** 93D09 (93B55, 93C41)

Shieh, Narn-Rueih Multiple points of dilation-stable Lévy processes. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1341–1355. (J. L. Mijnheer) **99j:60052** 60G17 (60G50)

— (*with* Taylor, S. James) Logarithmic multifractal spectrum of stable occupation measure. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 249–261. (Yimin Xiao) **99g:60078** 60G17 (28A80, 60J30)

Shieh, Sanford Undecidability, epistemology and anti-realist intuitionism. (English summary) *Nordic J. Philos. Logic* **2** (1997), *no.* 2, 55–67. (Summary) **99g:03006** 03A05

— Undecidability in anti-realism. (English summary) *Philos. Math.* (3) **6** (1998), *no.* 3, 324–333. (Branislav Boričić) **99h:03003** 03A05 (00A30)

Shieh, Shiuh-Pyng (*with* Sun, Hung-Min) On private-key cryptosystems based on product codes. (English summary) *Information security and privacy (Brisbane, 1998)*, 68–79, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60

— (*with* Sun, Hung-Min) Secret sharing schemes for graph-based prohibited structures. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 131–140. (Summary) **99f:94013** 94A60

— (*with* Sun, Hung-Min) Recursive constructions for perfect secret sharing schemes. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 87–96. (Summary) **99j:94060** 94A60

Shields, D. N. (*with* Yu, Dingli; Daley, S.) A bilinear fault detection observer and its application to a hydraulic drive system. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1023–1047. 93C90 (93B07)

— Observer design and detection for nonlinear descriptor systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 153–168. 93B07 (93C30)

— (*with* Yu, Dingli) A bilinear fault detection filter. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 417–430. 93E11

— (*with* Ashton, S. A.) A robust fault detection observer for nonlinear systems. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 79–88. 93B07 (93B35)

Shields, Paul C. The interactions between ergodic theory and information theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2079–2093. (Summary) **99i:94025** 94A17 (28D99, 60G17)

Shifman, Mikhail (*with* Kogan, Ian I.; Kovner, Alex) More on supersymmetric domain walls, N counting, and glued potentials. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5195–5213. 81V05 (81T60)

— (*with* Chibisov, B.) Erratum: "BPS-saturated walls in supersymmetric theories" [Phys. Rev D (3) **56** (1997), no. 12, 7990–8013; MR 98j:81324]. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 109901, 1 *p.* 81T60

— Domain walls and the decay rate of the excited vacua in large N Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 021501, 3 *pp.* 81T13

Shifrin, È. G. *see* **Filatov, O. P., 99k:34011**

Shifrin, L. B. (*with* Mazets, I. E.) Nonexponential decay of an atomic excited state in the presence of a Bose-Einstein condensate. (English summary) *Phys. Lett. A* **229** (1997), *no.* 2, 73–76. (Summary) **99c:81285** 81V80

Shifrin, T. (*with* Adams, Malcolm R.; McCrory, Clint; Varley, Robert) Conic Lagrangian singularities. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 155–178. (Stanisław Janeczko) **99i:57049** 57R45 (58F05)

Shiga, Hironori An elaborate adaptation of a famous poem as a mathematical technique. (Japanese) *Sūgaku* **48** (1996), *no.* 4, 400–414. (Kazumi Inoue) **99f:00007** 00A35 (01A99)
— On the arithmetic properties of the modular function induced from the hypergeometric differential equation of type (3, 6). (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 381–388, *VSP, Utrecht*, 1997. (Masaaki Yoshida) **99f:32033** 32G34 (11F03, 14G35, 33C05)
Shiga, Hiroo (*with* Body, Richard; Mimura, Mamoru; Sullivan, Dennis P.) *p*-universal spaces and rational homotopy types. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 427–442. (Edgar H. Brown, Jr.) **99e:55017** 55P60 (55P62)
— (*with* Hinokuma, Takanori) Topology of the configuration space of polygons as a codimension one submanifold of a torus. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 4, 313–324. (Darryl McCullough) **99i:57043** 57N65 (52B70, 57R70)
Shiga, Hiroshige (*with* Tanigawa, Harumi) Projective structures with discrete holonomy representations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 813–823. (William Goldman) **99d:32025** 32G15
Shiga, Tokuzo (*with* Cox, J. Theodore; Greven, Andreas) Finite and infinite systems of interacting diffusions: cluster formation and universality properties. (English summary) *Math. Nachr.* **192** (1998), 105–124. (Wan Ding Ding) **99e:60213** 60K35 (60J60)
— (*with* Furuoya, Tasuku) Sample Lyapunov exponent for a class of linear Markovian systems over $\mathbf{Z}^d$. *Osaka J. Math.* **35** (1998), *no.* 1, 35–72. (Klaus Fleischmann) **99g:60099** 60H10 (60J30)
Shigekawa, Ichiro Differential calculus on a based loop group. (English summary) *New trends in stochastic analysis (Charingworth, 1994)*, 375–398, *World Sci. Publishing, River Edge, NJ*, 1997. (Rémi Léandre) **99k:60146** 60H07 (58G32)
— The Meyer inequality for the Ornstein-Uhlenbeck operator in L^1 and probabilistic proof of Stein's L^p multiplier theorem. (English summary) *Trends in probability and related analysis (Taipei, 1996)*, 273–288, *World Sci. Publishing, River Edge, NJ*, 1997. (Tu Sheng Zhang) **99d:60059** 60H07 (60J35)
— *see also* **New trends in stochastic analysis, 99f:60003**
Shigeno, Maiko (*with* Iwata, Satoru; McCormick, S. Thomas) A faster algorithm for minimum cost submodular flows. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 167–174, *ACM, New York*, 1998. (Summary) **99f:90162** 90C35 (90B10)
Shigeta, Takemi (*with* Onishi, Kazuei) A numerical method for a magnetostatic inverse problem using the edge element. (English summary) *Inverse problems in engineering mechanics (Nagano, 1998)*, 509–518, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 78–08 (78A30)
Shigoka, Tadashi (*with* Nishimura, Kazuo; Yano, Makoto; Iwai, Keiichiro) Topological optimal chaos. Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 84–106. (Joan Carles Tatjer) **99g:90034** 90A16 (58F13, 58F40)
Shih, Ching-Cheng (*with* Wulff, Christopher R.; Hartmann, Carlos R. P.; Mohan, Chilukuri K.) Efficient heuristic search algorithms for soft-decision decoding of linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3023–3038. (Summary) **99i:94067** 94B05 (94B35)
Shih, Hsing H. (*with* Huang, Norden E.; Shen, Zheng; Long, Steven R.; Wu, Manli C.; Zheng, Quanan; Yen, Nai-Chyuan; Tung, Chi Chao; Liu, Henry H.) The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 903–995. (Summary) **99d:76082** 76M35 (62M10, 86–08)
Shih, Joanna H. Modeling multivariate discrete failure time data. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 1115–1128. 62P10 (62E15)
— A goodness-of-fit test for association in a bivariate survival model. (English summary) *Biometrika* **85** (1998), *no.* 1, 189–200. (Summary) **99e:62084** 62G10 (62N05)
Shih, Mau-Hsiang (*with* Lur, Yung-yih; Pang, Chin-tzong) An inequality for the spectral radius of an interval matrix. (English summary) *Linear Algebra Appl.* **274** (1998), 27–36. (Zdeněk Dostál) **99c:15035** 15A45
— (*with* Wu, Jinn-Wen) On a discrete version of the Jacobian conjecture of dynamical systems. *Nonlinear Anal.* **34** (1998), *no.* 5, 779–789. (Armengol Gasull) **99j:39017** 39A12 (34D99)
— (*with* Ando, Tsuyoshi) Simultaneous contractibility. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 487–498 (*electronic*). (Sivaram K. Narayan) **99c:15046** 15A60 (47A30)
— (*with* Wu, Jinn-Wen) Asymptotic stability in the Schauder fixed point theorem. (English summary) *Studia Math.* **131** (1998), *no.* 2, 143–148. (Summary) **99e:47082** 47H10
— Simultaneous Schur stability. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 323–336. (Mihail Voicu) **99k:15019** 15A18 (15A60, 34D20, 34K20)
Shih, Tsi Min (*with* Dai, Dao-Qing; Chau, Foo-Tim) Sampling sums based on coiflets. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 89–118. (Summary) **99b:42038** 42C15 (94A12)
— (*with* Chen, Chuan Miao) ★ Finite element methods for integrodifferential equations. Series on Applied Mathematics, 9. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xviii+272 pp. ISBN* 981-02-3263-2 (Wojciech Mydlarczyk) **99f:65200** 65R20 (45L05, 65M60)
— (*with* Yi, Fa Huai) Stefan problem with convection. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 139–154. (Summary) **99f:35213** 35Q99 (35K55, 80A22)
— (*with* Gao, Jun-bin; Yang, Yi Du) The defect iteration of the finite element for elliptic boundary value problems and Petrov-Galerkin approximation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 152–164. (Ji Chun Li) **99d:65315** 65N30 (65N12)
— (*with* Yang, Yi Du; Liem, Chin Bo; Lü, Tao) An abstract error estimate for eigenvalue finite element approximation. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 359–366. 65N30 (65J10)
Shih, Weishu Stratifications et équations aux dérivées partielles. [Stratifications and partial differential equations] *Stratifications, singularities and differential equations, I (Marseille, 1990; Honolulu, HI, 1990)*, 95–124, *Travaux en Cours*, 54, *Hermann, Paris*, 1997. (Kazushige Ueno) **99b:58016** 58A35 (35A30, 58C27)
Shih, Yi-Wen Symmetry breaking and existence of many positive nonsymmetric solutions for semi-linear elliptic equations on finite cylindrical domains. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 465–474. (J. V. A. Gonçalves) **99d:35060** 35J65 (34B15, 35B32, 58E07)
al-Shiha, A. A. *see* **Al-Shiha, A. A.**
Shiho, Atsushi On crystalline fundamental groups. Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 141–152. (Nobuo Tsuzuki) **99i:14023** 14F35 (14F20, 14F30)
Shiihara, Kosuke Padé approximation with Nourein's formula. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2043–2048. 41A21 (65D15)
Shiino, Masatoshi H-theorem with generalized relative entropies and the Tsallis statistics. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 11, 3658–3660. (Summary) **99k:82057** 82C31
Shikakhwa, M. S. (*with* Fainberg, V. Ya.; Pak, N. K.) Non-relativistic fermions interacting through the Chern-Simons field and the Aharonov-Bohm scattering amplitude. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3531–3543. (Summary) **99a:81108** 81T15
Shikhmurzaev, Yulii D. On cusped interfaces. (English summary) *J. Fluid Mech.* **359** (1998), 313–328. (Summary) **99a:76046** 76D45
— Free-surface cusps and moving contact lines. A common approach to the problems. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow (Haifa, 1997)*, 297–308, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D99
Shiki, Junji (*with* Chen, Wen[2]; Itoh, Shuichi) Irregular sampling theorems for wavelet subspaces. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1131–1142. (Summary) **99e:94008** 94A12
Shikin, G. N. (*with* Saha, Bijan) Nonlinear spinor field in Bianchi type-I universe filled with perfect fluid: exact self-consistent solutions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5305–5318. (Wathek Talebaoui) **99a:83022** 83C20 (83C10)
Shikin, I. S. (*with* Rodin, A. B.) Dissipative evolution of the Alfvén soliton. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 1053–1055. 76W05
Shikin, I. Yu. (*with* Mal'kovskiĭ, M. G.) Fuzzy set technology in problems of information retrieval in databases. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 37–40, 49; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 55–59. 03E72 (68P20)
Shil, R. N. (*with* Bhowmik, J. L.) A new method of construction of 5×2^3 design in 5×2 plots block. (English and Bengali summaries) *Chittagong Univ. Stud. Part II Sci.* **21** (1997), *no.* 2, 117–123. (Summary) **99i:62174** 62K15 (62K10)
— (*with* Bhowmik, J. L.) On a method of constructing confounded balanced design of the type 5×2^2. (English summary) *J. Stat. Stud.* **17** (1997), 71–78. 62K15 (05B05)
Shilkin, T. N. (*with* Serëgin, G. A.) Regularity of minimizers of some variational problems in plasticity theory. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 270–298, 342–343. (Reza Malek-Madani) **99f:49061** 49N60 (35Q72, 49J10, 73E99, 73V25)
Shiller, Zvi (*with* Fiorini, Paolo) Time-optimal trajectory planning in dynamic environments. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 433–458. (*see* **99b:70004**) 93C85 (49J15, 70B15, 70Q05)
Shillor, Meir (*with* Frémond, Michel; Kuttler, Kenneth L.; Nedjar, Boumediene) One-dimensional models of damage. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 541–570. (Ramon Quintanilla) **99k:35172** 35Q72 (73B05, 73K05, 73M25)
— (*with* Gariepy, R. F.; Xu, Xiangsheng) Existence of generalized weak solutions to a model for in situ vitrification. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 6, 543–559. (Vitaly A. Volpert) **99m:80013** 80A22 (35J70, 35Q99)
— (*with* Rochdi, Mohamed; Sofonea, Mircea) Quasistatic viscoelastic contact with normal compliance and friction. (English summary) *J. Elasticity* **51** (1998), *no.* 2, 105–126. (Kenneth Kuttler) **99k:73110** 73T05 (73F99)
— (*with* Sofonea, Mircea) A quasistatic contact problem for an elastoplastic rod. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 579–596. (Song Jiang) **99b:73037** 73T05 (35Q72, 73E99, 73K05, 73V25)
— (*with* Mikelić, Andro; Tapiéro, R.) Homogenization of an elastic material with inclusions in frictionless contact. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 287–307. (Alain Brillard) **99i:73064** 73T05 (35B27, 73B27, 73C02)
— (*with* Frémond, Michel; Kuttler, Kenneth L.) Existence and uniqueness of solutions for a dynamic one-dimensional damage model. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 271–294. (Alain Brillard) **99k:73071** 73F15 (35Q72)
— (*with* Amassad, Amina; Sofonea, Mircea) A quasistatic contact problem with slip-dependent coefficient of friction. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 3, 267–284. (Alain Brillard) **99k:73108** 73T05 (35Q72, 73F99, 73V25)
— (*with* Amassad, Amina; Sofonea, Mircea) A quasistatic contact problem for an elastic perfectly plastic body with Tresca's friction. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 95–109. (Alain Brillard) **99f:73070** 73T05 (34G20, 35Q72, 73E99)
— (*with* Andrews, Kevin T.; Wright, Stephen James) A model for heat transfer in grinding. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 233–246. (Anders Klarbring) **99h:73005** 73B30 (35Q72, 73T05, 80A20)
— *see also* **Recent advances in contact mechanics, 99e:73004**
Shilnikov, A. (*with* Pisarevskii, V.; Turaev, D. V.) Asymptotic normal forms for equilibria with a triplet of zero characteristic exponents in systems with symmetry. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 19–27. (James A. Murdock) **99m:58172** 58F36 (34C20)
Shil'nikov, L. P. Homoclinic chaos. (English summary) *Nonlinear dynamics, chaotic and complex systems (Zakopane, 1995)*, 39–63, *Cambridge Univ. Press, Cambridge*, 1997. (Alexander Loskutov) **99c:58113** 58F13 (58F15)
— (*with* Sten'kin, O. V.) On bifurcations of periodic motions near a structurally unstable homoclinic curve. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 377–384, 430; *translation in Differential Equations* **33** (1997), *no.* 3, 375–383. (Sergei A. Dovbysh) **99a:34121** 34C25 (34C23, 34C37, 58F14)
— (*with* Alekseeva, S. A.) Bifurcations of periodic motions in systems with a homoclinic saddle-focus loop. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 440–447, 573; *translation in Differential Equations* **33** (1997), *no.* 4, 439–446. (Michal Fečkan) **99b:34080** 34C37 (34C23, 34C25, 58F14)
— (*with* Turaev, D. V.) An example of a wild strange attractor. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 2, 137–160; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 291–314. (A. Morimoto) **99d:58126** 58F13

Shil'nov, Yu. I. (*with* Inagaki, Tomohiro; Odintsov, Sergei D.) Dynamical symmetry breaking in the external gravitational and constant magnetic fields. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 481–503. 81R40 (81T20)

Shilov, G. E. *see* **Demidov, Sergeĭ S.**

Shilova, S. O. (*with* Khisamutdinov, A. I.) The nonlinear Boltzmann equation, methods with "continuous time", and some general constructions of Monte Carlo methods. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 456–473, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 398–414. (Summary) **99e:82091** 82C80 (65C05, 82C40)

Shim, G. M. (*with* Bollé, D.; Jongen, G.) Fully connected Q-Ising neural networks: a general scheme for discussing parallel dynamics. (English summary) *Theoretical aspects of neural computation* (*Hong Kong*, 1997), 277–285, *Springer, Singapore*, 1998. (*see* **99f:00027**) 82C32

Shim, H. *see* **Shim, Hyungbo**

Shim, Hong-Tae (*with* Kim, Hong Oh) On Gibbs' phenomenon for sampling series in wavelet subspaces. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 97–109. (Summary) **99b:42044** 42C15

— (*with* Walter, Gilbert G.) Gibbs' phenomenon for sampling series and what to do about it. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 357–375. (Ahmed I. Zayed) **99k:42074** 42C15 (42A10, 94A12)

Shim, Hyungbo (*with* Byun, J.; Seo, Jin H.) Comments on: "Observers for nonlinear systems in steady state" [IEEE Trans. Automat. Control **39** (1994), no. 10, 2113–2118; MR 95e:93014] by L. R. Hunt and M. S. Verma. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 587. 93B07 (93C10)

Shima, Akiko On simply knotted tori in S^4. II. (English summary) *KNOTS '96* (*Tokyo*), 551–568, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99m:57022** 57Q45 (57Q35)

— Immersions from the 2-sphere to the 3-sphere with only two triple points. (English summary) Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 146–160. (Summary) **99b:57061** 57R42 (57Q35)

Shima, Masasuke (*with* Kawamura, Takeshi) Robust stability analysis of characteristic polynomials whose coefficients are polynomials of interval parameters. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 4, 12 *pp.* (*electronic*). (Summary) **99g:93064** 93D09

— (*with* Kawamura, Takeshi) Monotonicity methods for stability analysis of the characteristic polynomials whose coefficients are polynomials. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 253–260, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 93D09 (34D10)

— (*with* Yokomichi, Masahiro) Another approach to asymptotic model matching problem for nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 13, 1119–1131. (Summary) **99h:93035** 93B30 (93B51, 93C10)

Shimada, Fumihiko (*with* Ishii, Hiroaki[1]; Itoh, Takeshi) Optimization problems on fuzzy networks. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 25–31. (*see* **99h:90006**) 90C70 (90C35)

Shimada, Hideo (*with* Sabău, Vasile Sorin) Higher order Miron-Tavakol metric. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 813–821. (László Kozma) **99k:53032** 53B40

— (*with* Hrimiuc, Dragoş) On some special problems concerning the $\mathscr{L}$-duality between Finsler and Cartan spaces. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 48–61. (M. Matsumoto (Zbl 897.53015)) **99j:53017** 53B40

Shimada, Ichiro On the commutativity of fundamental groups of complements to plane curves. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 49–52. (Eriko Hironaka) **99b:14018** 14E20 (14H30)

— Fundamental groups of complements to hypersurfaces. Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 27–33. (Caryn Werner) **99k:14029** 14E20

Shimada, Shin-ichi A solvable model for line interaction. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 168–183. (*see* **99a:00049**) 81U99

Shimada, Tutomu Cyclotomic unit and its Fermat quotient. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 239–254. (Lawrence Washington) **99e:11138** 11R18

— Index for subgroups of the group of units in number fields. *Acta Arith.* **85** (1998), *no.* 3, 249–263. (Lawrence Washington) **99k:11174** 11R27 (11R21)

Shimane, Norihito (*with* Fisher, S. G.; Gartside, P. M.; Mizokami, Takemi) Near metric properties of hyperspaces. (English summary) *Topology Proc.* **22** (1997), 197–211. (Summary) **99h:54014** 54B20 (54E20)

— (*with* Mizokami, Takemi) On perfect mappings between hyperspaces of compact subsets. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 391–399. 54E20 (54C35)

— (*with* Mizokami, Takemi) On D-paracompact p- and Σ-spaces. *Tsukuba J. Math.* **22** (1998), *no.* 2, 379–392. (R. M. Stephenson, Jr.) **99k:54016** 54D20 (54C10, 54E18, 54E30)

Shimanskiĭ, I. V. (*with* Han, Weimin; Jensen, Søren S.) The Kačanov method for some nonlinear problems. (English summary) *Appl. Numer. Math.* **24** (1997), *no.* 1, 57–79. (Rolf Rannacher) **99d:65316** 65N30 (73V05, 76M10, 78–08, 80–08)

Shimata, Tsutomu (*with* Kageyama, Sanpei) Error-correcting codes derivable from (r, λ)-designs. (English summary) *Bull. Fac. Sch. Educ. Hiroshima Univ. Part II* **21** (1999), 9–14. (Summary) **99k:94047** 94B05

Shimazu, Keiko (*with* Furukawa, Koichi; Murakami, Tomoko; Ueno, Ken; Ozaki, Tomonobu) On a sufficient condition for the existence of most specific hypothesis in Progol. (English summary) *Inductive logic programming* (*Prague*, 1997), 157–164, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)

Shimazu, Naomitsu (*with* Kawata, Masakatsu; Inoue, Kazuo) An approximate realization of nonlinear $\mathscr{H}_\infty$ control based on the Hamilton-Jacobi equation. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 7, 401–410. 93B36 (49L20)

Shimazu, Shigeaki (*with* Asano, Tetsuo; Kimura, Souichi) Contour representation of an image with applications. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3242–3251. 68U10

Shimemura, Etsujiro (*with* Kubo, Tomohiro) Exponential stabilization of systems with time-delay by optimal memoryless feedback. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 319–328. (Summary) **99c:93088** 93D15

— (*with* Kubo, Tomohiro) Gain and phase margin of optimal memoryless regulator of systems with time-delay. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 404–410. (Summary) **99k:93050** 93B50 (49N10, 93C30)

— (*with* Jaddu, H.) Computation of optimal control trajectories using Chebyshev polynomials: parameterization, and quadratic programming. (English summary) *Optimal Control Appl. Methods* **20** (1999), *no.* 1, 21–42. 49M30 (49N10)

Shimizu, Akira *see* **Simizu, Akira**

Shimizu, Kensuke (*with* Wei, Shugang) Residue arithmetic circuits based on the signed-digit multiple-valued arithmetic circuits. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 276–281, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 68M07

Shimizu, Senjo Scattering theory for elastic wave propagation problems in perturbed stratified media. II. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 3, 341–358. (Hideo Soga) **99a:35195** 35P25 (35Q72, 47A40, 47N20, 73C35, 73D25)

— Singularities of solutions to elastic wave propagation problems in stratified media. (English summary) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 104–120. (Norbert Ortner) **99k:35174** 35Q72 (73D25)

Shimizu, Tomoo (*with* Takahashi, Wataru) Fixed points of multivalued mappings in certain convex metric spaces. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 197–203. (Simeon Reich) **99c:47094** 47H10 (47H04, 54C60, 54H25)

— Fixed points of multivalued nonexpansive mappings in certain convex metric spaces. Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 75–84. (*see* **99f:00024**) 54H25 (54C60)

Shimizu, Toshiyuki *see* **Shimizu, Toshiyuki[2]**

Shimizu, Toshiyuki[1] (*with* Oda, Nobuyuki) Smash product with Γ-Whitehead product and its dual. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 707–726. (Summary) **99h:55015** 55P91 (55Q15)

— (*with* Oda, Nobuyuki) Transformation between pairings. (English summary) *Fukuoka Univ. Sci. Rep.* **28** (1998), *no.* 2, 53–64. (Donald M. Davis) **99i:55014** 55P45

Shimizu, Toshiyuki[2] (*with* Tanaka, Tamaki) Network optimization for congestion alleviation problems. (Japanese) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 93–110. (*see* **99i:90002**) 90C35 (90B10)

Shimizu, Yuji The achievements of Fields medalist M. Kontsevich. I. (Japanese) *Sūgaku* **51** (1999), *no.* 1, 62–66. 01A70 (14–02, 58–02)

— *see also* **Integrable systems and algebraic geometry, 99i:14002**

Shimokawa, Koya Parallelism of two strings in alternating tangles. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 489–502. (Kimihiko Motegi) **99f:57012** 57M25

— (*with* Hayashi, Chuichiro) Heegaard splittings of the trivial knot. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 8, 1073–1085. (Summary) **99i:57034** 57N10 (57M25)

— On tunnel number one alternating knots and links. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 3, 547–560. (Colin C. Adams) **99j:57010** 57M25

— (*with* Hayashi, Chuichiro) Symmetric knots satisfy the cabling conjecture. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 501–529. (Ying Qing Wu) **99c:57022** 57M25 (57N10)

— Incompressibility of closed surfaces in toroidally alternating link complements. *Osaka J. Math.* **35** (1998), *no.* 1, 191–234. (Tsuyoshi Kobayashi) **99g:57013** 57M25 (57N10)

Shimomura, Hiroaki 1-cocycles for rotationally invariant measures. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 6, 967–985. (Vladimir I. Bogachev) **99b:60009** 60B11

— Reminiscences of the origination of infinite-dimensional measure theory—from the work of Yasuo Yamasaki. (Japanese) Infinite-dimensional measure theory and representation theory of infinite-dimensional groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1017 (1997), 24–31. (*see* **99d:22001**) 28C20 (60B15)

— (*with* Hirai, Takeshi) On group topologies on the group of diffeomorphisms. Infinite-dimensional measure theory and representation theory of infinite-dimensional groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1017 (1997), 104–115. (Nobuaki Obata) **99h:58010** 58B25 (22E65, 58D05)

— 1-cocycles on infinite-dimensional spaces. Infinite-dimensional measure theory and representation theory of infinite-dimensional groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1017 (1997), 116–123. (Nobuaki Obata) **99k:58013** 58B25 (22A10, 22E65, 28D99, 46G12)

— (*with* Tatsuuma, Nobuhiko; Hirai, Takeshi) On group topologies and unitary representations of inductive limits of topological groups and the case of the group of diffeomorphisms. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 551–578. (M. Rajagopalan) **99k:22003** 22A05 (54H11, 58D05)

Shimomura, Katsumi The homotopy groups of an L_2-localized type one finite spectrum at the prime 2. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 1, 113–127. (N. J. Kuhn) **99h:55019** 55Q10 (55P60, 55Q45, 55T15)

Shimomura, Shun Asymptotic expansions and Stokes multipliers of the confluent hypergeometric function Φ_2. II. Behaviour near (∞, ∞) in $\mathbf{P}^1(\mathbf{C}) \times \mathbf{P}^1(\mathbf{C})$. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 1–22. (Donald A. Lutz) **99h:33019** 33C10 (35C20)

— On a generalized Bessel function of two variables. II. Case of coalescing saddle points. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 3, 389–406. (C. M. Joshi) **99j:33018** 33C70 (35C20)

Shimomura, Takashi (*with* Kawasaki, Katsumasa; Fujii, Takao) Synthesis of strictly positive real $\mathscr{H}_2$ controllers with loop transfer recovery. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 1, 44–55. 93B36

Shimomura, Tetsu Continuity properties and exponential integrability for Riesz potentials of functions in Orlicz classes. Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 94–111. (*see* **99a:00036**) 31C45 (42B20, 46E30)

— (*with* Mizuta, Yoshihiro) Exponential integrability for Riesz potentials of functions in Orlicz classes. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 355–371. (Petr Gurka) **99h:31012** 31B15 (46E35)

— (*with* Mizuta, Yoshihiro) Boundary limits of spherical means for BLD and monotone BLD functions in the unit ball. (English summary) *Ann. Acad. Sci. Fenn. Math.* **24** (1999), *no.* 1, 45–60. (Stephen J. Gardiner) **99m:31012** 31B25

Shimomura, Torataro *see* **Murata, Tamotsu**, (**99d:01002**)

Shimomura, Yutaka A theoretical study of the turbulent diffusion in incompressible shear flows and in passive scalars. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2636–2646. (Summary) **99g:76068** 76F10

Shimon, Meir Generalized law of addition of accelerations. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 067501, 1 *p.* 83C15

Shimony, Abner Implications of transience for spacetime structure. (English summary) *The geometric universe* (*Oxford*, 1996), 161–172, *Oxford Univ. Press, Oxford*, 1998. (Lawrence Sklar) **99d:81010** 81P05

— On ensembles that are both pre- and post-selected. Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 725–728. (S. Gudder) **99m:81016** 81P05 (81P15)

— *see also* **Penrose, Roger**, **99e:81006** *and* **Wigner, Eugene Paul**, **99k:01088**

Shimony, Solomon Eyal (*with* Balaban, Mira) Structured plans with sharing and replication. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 4, 257–292. (Summary) **99e:68146** 68T20

Shimorin, S. M. The Green functions for weighted biharmonic operators of the form $\Delta w^{-1}\Delta$ in the unit disk. (English summary) Some questions of mathematical physics and function theory. *J. Math. Sci.* (*New York*) **92** (1998), *no.* 6, 4404–4411. (Summary) **99k:35038** 35J40 (31A30)

Shimozono, Shinichi (*with* Hirata, Kouichi; Shinohara, Ayumi) On the hardness of approximating the minimum consistent acyclic DFA and decision diagram. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 165–170. (Summary) **99b:68102** 68Q25

— Alphabet indexing for approximating features of symbols. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 245–260. (Summary) **99i:68067** 68Q25 (68P99)

Shimpi, M. E. (*with* Bhatt, S. J.; Karia, Dinesh J.; Kulkarni, S. H.) A note on the Gelfand-Mazur theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2999–3005. (M. S. Kassem) **99a:46088** 46H05 (46K05)

Shimura, Goro Fonctions automorphes et variétés abéliennes [MR **21** #6371]. [Automorphic functions and abelian varieties] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 167, 403–411, *errata p.* 217, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 14K05 (11F46)

— ★ Abelian varieties with complex multiplication and modular functions. (English summary) Princeton Mathematical Series, 46. *Princeton University Press, Princeton, NJ*, 1998. xvi+218 *pp. ISBN* 0-691-01656-9 (Rolf Berndt) **99e:11076** 11G15 (11F46, 14K22)

Shimura, Hiroyuki (*with* Gyoja, Akihiko; Nishiyama, Kyo) Invariants for representations of Weyl groups and two-sided cells. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 1–34. (Jian Yi Shi) **99m:20006** 20C15 (20F55)

Shimura, Michio Rare events in random walks and importance sampling. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 152–156. (*see* **99f:65007**) 62D05 (60J15, 62E20)

Shimura, Tatsuya An application of Jankov's characteristic formulas. (Japanese) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 89–100. (*see* **99a:03003**) 03G25 (03B45)

— On some one variable axioms over intuitionistic S4. (Japanese) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 70–85. (*see* **99d:03003**) 03B45

Shin, Chae Seob (*with* Cho, Eui Whan; Kim, Young Key) Fuzzy semi-inner-product space. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **2** (1995), *no.* 2, 163–172. 46S40 (46C50)

Shin, Chan-Su (*with* Shin, Sung Yong; Chwa, Kyung-Yong) The widest k-dense corridor problems. *Inform. Process. Lett.* **68** (1998), *no.* 1, 25–31. (From the introduction) **99k:68199** 68U05 (90C27)

Shin, Dong-Kwan On a fiber space over a curve. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 539–541. (Summary) **99e:14044** 14J30

Shin, Dong-Sun (*with* Lee, Hyang-Sook) Some properties on spaces with noncompact group action. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 717–723. 54H15 (57S99)

Shin, Dong Wan (*with* Sarkar, Sahadeb) Regression with integrated regressors. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 325–340. (Alexander G. Kukush) **99i:62218** 62M10

— (*with* Fuller, Wayne A.) Unit root tests based on unconditional maximum likelihood estimation for the autoregressive moving average. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 5, 591–599. 62M10

— (*with* Sarkar, Sahadeb) Testing for a unit root in autoregressive moving-average models with missing data. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 5, 601–608. (Summary) **99i:62219** 62M10

— The limiting distribution of the residual processes in nonstationary autoregressive processes. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 6, 723–736. (Summary) **99j:62133** 62M10

— (*with* Kim, Hyun Jung) Semiparametric tests for double unit roots based on symmetric estimators. (English summary) *J. Bus. Econom. Statist.* **17** (1999), *no.* 1, 67–73. 62M10

Shin, Dong-Yun Norms for Schur products. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 571–577. (Summary) **99g:46084** 46L05

— Norms for compact operators on Hilbertian operator spaces. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 311–317. (Summary) **99b:46089** 46L05 (46B28, 47A30, 47D15)

Shin, H. J. *see* **Shin, Hyun-Jong**

Shin, H. S. *see* **Shin, Hyun Song**

Shin, Hyeonjoon (*with* Hyun, Seungjoon; Kiem, Youngjai) Infinite Lorentz boost along the M-theory circle and nonasymptotically flat solutions in supergravities. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4856–4861. (Summary) **99k:83121** 83E30 (81T30, 83E50)

— (*with* Hyun, Seungjoon; Kiem, Youngjai) Effective action for membrane dynamics in DLCQ M theory on a two-torus. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 021901, 4 *pp.* 81T30

Shin, Hyun Hye (*with* Park, Yong Moon) Dynamical entropy of generalized quantum Markov chains over infinite-dimensional algebras. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6287–6303. (Fumio Hiai) **99a:82011** 82B10 (28D20, 46L55)

Shin, Hyun-Jong (*with* Park, Q-Han) Nonabelian sine-Gordon theory and its application to nonlinear optics. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 531–535, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T10 (81V80)

— (*with* Park, Q-Han) Painlevé test for extended nonlinear Schrödinger equation. (English summary) *Proceedings of International Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories* (*Seoul*, 1998), 63–68, *Lecture Notes Ser.*, 42, *Seoul Nat. Univ., Seoul*, 1998. (*see* **99d:58005**) 35Q55

— (*with* Kim, Jongbae; Park, Q-Han) Conservation laws in higher-order nonlinear Schrödinger equations. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part B*, 6746–6751. (Summary) **99j:35203** 35Q55 (35L65)

— (*with* Park, Q-Han) Painlevé analysis of the coupled nonlinear Schrödinger equation for polarized optical waves in an isotropic medium. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part B*, 2373–2379. (Summary) **99j:35208** 35Q55 (78A60)

Shin, Hyun Song (*with* Williamson, Timothy) Representing the knowledge of Turing machines [MR 95b:90189]. *Epistemic logic and the theory of games and decisions*, 169–190, *Theory Decis. Lib. Ser. C Game Theory Math. Program. Oper. Res.*, 20, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **99k:00028**) 90D35 (03B30, 03D10, 03D80)

— *see also* **Epistemic logic and the theory of games and decisions**, **99k:00028**

Shin, J. Y. (*with* Lee, Hyun Young; Ohm, Mi-Ray) A finite difference approximation of a singular boundary value problem. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 473–484. (Summary) **99h:65137** 65L12 (65L20)

Shin, Jin-Ho (*with* Lee, Ju-Jang) Singularity-free Cartesian path planning and adaptive robust control of a robot manipulator with free-swinging passive joints. (English summary) *Systems Sci.* **24** (1998), *no.* 1, 73–93. 93C85

Shin, Jong Son (*with* Naito, Toshiki; Murakami, Satoru) On solution semigroups of general functional-differential equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4565–4576. (Ioan I. Vrabie) **99b:34129** 34K30 (47D06, 47N20)

— (*with* Naito, Toshiki) Evolution equations with infinite delay. Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 147–160. (Ti Jun Xiao) **99e:34113** 34K30 (34K20, 47D06, 47N20)

— (*with* Naito, Toshiki; Murakami, Satoru) The generator of the solution semigroup for the general linear functional-differential equation. (English summary) *Bull. Univ. Electro-Comm.* **11** (1998), *no.* 1, 29–38. (Shu Chun Gao) **99m:34184** 34K30 (47D06)

— (*with* Naito, Toshiki) Existence of periodic solutions for periodic linear functional-differential equations in Banach spaces. II. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 120–129. (From the introduction) **99k:34179** 34K30 (34K15)

— (*with* Naito, Toshiki; Nguyễn Văn Minh) On a spectral criterion for almost periodicity of solutions of periodic evolution equations. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1999**, *No.* 1, 28 *pp.* (*electronic*). (C. J. K. Batty) **99m:34130** 34G10 (34C27, 47D06, 47N20)

Shin, Joonkook Isometry groups of unimodular simply connected 3-dimensional Lie groups. (English summary) *Geom. Dedicata* **65** (1997), *no.* 3, 267–290. (Summary) **99a:57031** 57S15 (22E15, 53C30, 55P20, 57M10)

Shin, K. *see* **Shin, Kihong**

Shin, Ki-yeon (*with* Ha, Ki Sik) Abstract nonlinear functional integro-differential equations in Banach spaces. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 321–328. (Summary) **99i:45014** 45J05 (34G20, 34K30, 45N05, 47N20)

Shin, Kihong (*with* Hammond, J. K.) The instantaneous Lyapunov exponent and its application to chaotic dynamical systems. (English summary) *J. Sound Vibration* **218** (1998), *no.* 5, 389–403. (Summary) **99h:70030** 70K50 (34D08, 58F13)

Shin, KyungHee (*with* Choi, Eunmi; Lee, Heisook) Schur groups of commutative rings. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 527–532. (Giuseppe Paxia) **99i:13004** 13A20 (16H05)

Shin, S. Y. *see* **Shin, Sung Yong**

Shin, Sang Sik (*with* Kirk, William A.; Yañez, Carlos Martinez) Asymptotically nonexpansive mappings. *Nonlinear Anal.* **33** (1998), *no.* 1, 1–12. (Brailey Sims) **99g:47128** 47H09 (46B20, 47H10)

Shin, Seiichi (*with* Ikeda, Kenji) Adaptive stabilization of minimum phase plants with relative degree n or $n+1$. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 290–296. 93D21 (93C40)

— (*with* Nobuyama, Eitaku) Deadbeat control of MIMO continuous-time systems. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 9, 521–528. 93B52 (93C05)

Shin, Seung Hyun Some relations between function spaces on $\mathbf{R}^n$. *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **2** (1995), *no.* 1, 31–34. 46E99 (54C35)

Shin, Sujin (*with* Choe, Geon Ho) Strong shift equivalence of 2 by 2 non-negative integral matrices. (English summary) *Mathematika* **44** (1997), *no.* 2, 302–312. (Oliver Knill) **99f:54052** 54H20 (28D05)

Shin, Sun-Joo Kant's syntheticity revisited by Peirce. (English summary) *Synthese* **113** (1997), *no.* 1, 1–41. (Alex Blum) **99d:03007** 03A05 (00A30, 01A55)

— (*with* Hammer, Eric) Euler's visual logic. (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 1, 1–29. (E. Mendelson) **99g:03008** 03B10 (01A50, 01A55, 03-03)

Shin, Sung Yong (*with* Kim, Dae Seoung; Yoo, Kwan-Hee; Chwa, Kyung-Yong) Efficient algorithms for computing a complete visibility region in three-dimensional space. (English summary) *Algorithmica* **20** (1998), *no.* 2, 201–225. (Summary) **99a:68171** 68U05 (52B55)

— (*with* Kim, Hoi Sub; Kim, Hong Oh) An efficient algorithm for determining the extreme vertices of a moving 3D convex polyhedron with respect to a plane. (English summary)

Comput. Math. Appl. **36** (1998), *no.* 3, 55–61. (Summary) **99f:68200** 68U05 (52A40, 65Y25)

— (*with* Baek, Nakhoon) On circularly-hidden surface removal. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 119–123. (Summary) **99c:68244** 68U05

— (*with* Shin, Chan-Su; Chwa, Kyung-Yong) The widest k-dense corridor problems. *Inform. Process. Lett.* **68** (1998), *no.* 1, 25–31. (From the introduction) **99k:68199** 68U05 (90C27)

Shin, Vladimir Ignat'evich (*with* Oh, Myoungho; Han, Changhee; Sinitsyn, I. N.) Recurrent filtering in discrete nonlinear systems with unknown parameters. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 44–53; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 36–43. (V. N. Fomin) **99d:93069** 93E11 (60G35)

— (*with* Cho, Yonggun; Kim, Jin Hyung) Data fusion of multisensor's estimates. (English summary) *Informatica (Ljubl.)* **22** (1998), *no.* 1, 75–83. (Summary) **99e:94009** 94A12

Shin, Yang Jae (*with* Pak, Jin Suk; Jeong, Jang Chun) Contact metric manifolds with vanishing contact conformal curvature tensor fields. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 747–751. (Themis Koufogiorgos) **99m:53063** 53C15 (53C25)

— (*with* Pak, Hong Kyung) L^2 transversal conformal and projective fields of Riemannian foliations on complete Riemannian manifolds. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 1, 19–29. (James J. Hebda) **99d:53027** 53C12

Shin, Yang Woo (*with* Pearce, C. E. M.) An algorithmic approach to the Markov chain with transition probability matrix of upper block-Hessenberg form. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 361–384. (Srinivas Chakravarthy) **99g:60176** 60K25 (60J10, 68M20)

Shin, Yong Su (*with* Geramita, Anthony V.; Ko, Hyoung June) The Hilbert function and the minimal free resolution of some Gorenstein ideals of codimension 4. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4285–4307. (Juan C. Migliore) **99m:13032** 13D40 (13D02, 14M10)

— The construction of some Gorenstein ideals of codimension 4. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 289–307. (Juan C. Migliore) **99f:13017** 13D40 (13C40, 13D02)

Shin, Yong Yeon (*with* Koh, Jai Sang) An algorithm for generating minimal cutsets of undirected graphs. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 681–693. (Summary) **99e:05120** 05C85 (94C15)

Shinba, Masanobu Structure of the set of all anti-periodic solutions for some nonlinear evolution equations. (English summary) *Functional analysis and global analysis (Quezon City, 1996)*, 258–262, *Springer, Singapore*, 1997. (*see* **99g:00040**) 34G20 (35K55)

Shindo, Koji A note on integral matrices. (English summary) *Sci. Rep. Hirosaki Univ.* **44** (1997), *no.* 2, 189–192. (Morris Newman) **99d:11024** 11C20 (11R21)

Shindoh, Susumu (*with* Shida, Masayuki; Kojima, Masakazu) Existence and uniqueness of search directions in interior-point algorithms for the SDP and the monotone SDLCP. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 387–396 (*electronic*). (Jos F. Sturm) **99b:90140** 90C33 (90C05, 90C25)

Shindzhikashvili, O. On an application of the theory of functions of a complex variable to the plane problem of non-homogeneous theory of elasticity. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **117** (1998), 79–88. (Summary) **99k:73038** 73C02 (73B27, 73V35)

Shiner, J. S. Self-organization, entropy and order in growing systems. *Self-organization of complex structures (Berlin, 1995)*, 21–35, *Gordon and Breach, Amsterdam*, 1997. (*see* **99k:92005**) 92B05

Shingu, Kohei (*with* Saito, Yoshihiro[2]; Mitsui, Taketomo) A numerical solution method for Langevin diffusion equations (equations of KPZ types). (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 86–100. (*see* **99f:65007**) 65M06 (65U05, 82C31)

Shinkai, Hisa-aki (*with* Yoneda, Gen) Symmetric hyperbolic system in the Ashtekar formulation. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 2, 263–266. (Summary) **99i:83008** 83C05

Shinkin, Vladimir N. The integrable cases of the general and restricted elliptic spatial three-body problems at both third-order orbital and secondary resonances under the oblateness of the central body. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997), *no.* 2, 105–120. (Richard C. Churchill) **99a:70016** 70F07 (70F15)

Shinmori, Shuichi (*with* Koide, Takeshi; Ishii, Hiroaki[1]) A method of deriving a lower bound for all-terminal reliability that utilizes series-parallel graphs. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 128–134. (*see* **99h:90006**) 90B25

Shinoda, Shoji (*with* Watanabe, Hitoshi) Soul of circuit theory—a review on research activities of graphs and circuits in Japan. (English summary) Darlington memorial issue. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 1, 83–94. (*see* **99m:94001**) 94C05 (94C15)

Shinohara, Ayumi (*with* Karpinski, Marek; Rytter, Wojciech) An efficient pattern-matching algorithm for strings with short descriptions. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 2, 172–186. (Summary) **99f:68080** 68Q20 (68Q25)

— (*with* Shimozono, Shinichi; Hirata, Kouichi) On the hardness of approximating the minimum consistent acyclic DFA and decision diagram. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 165–170. (Summary) **99b:68102** 68Q25

Shinohara, Susumu (*with* Aizawa, Yoji) Indicators of reconnection processes and transition to global chaos in nontwist maps. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 2, 219–233. (Summary) **99h:58127** 58F13

Shinohara, Takeshi (*with* Ishizaka, Hiroki; Arimura, Hiroki) Finding tree patterns consistent with positive and negative examples using queries. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 101–115. (Rani Siromoney) **99m:68140** 68Q99 (68T05)

— (*with* Miyazaki, Masamichi; Fukamachi, Shuichi; Takeda, Masayuki) Speeding up the pattern matching machine for compressed texts. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 9, 2638–2648. (Summary) **99h:68061** 68Q20 (68P20)

Shinohara, Yoshitane (*with* Imai, Hitoshi; Konno, T.; Natori, Makoto; Zhou, Weidong; Ohnishi, Isamu; Nishiura, Yasumasa) Numerical computations of free boundary problems in quadruple precision arithmetic using an explicit method. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 193–207, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 65L06 (65G05)

— (*with* Ali, Zulfikar; Imai, Hitoshi; Sakaguchi, Hideo; Okamoto, Kuniya) Existence and uniqueness of quasiperiodic solutions to perturbed nonlinear oscillators. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 279–293. (Jialin Hong) **99c:34085** 34C27

Shintani, Hisayoshi Numerical solution of differential-algebraic systems by one-step methods. (English summary) *Bull. Fac. School Ed. Hiroshima Univ. Part II* **18** (1996), 45–58. (Vladimir A. Danilov) **99c:65137** 65L06 (34A45, 65L05)

Shiny, A. K. (*with* Pujari, Arun K.) Computation of prime implicants using matrix and paths. (English summary) *J. Logic Comput.* **8** (1998), *no.* 2, 135–145. (Summary) **99a:68159** 68T27 (03B05, 03B35, 94C10)

Shin'ya, Hitoshi Spherical matrix functions and Banach representability for compactly generated locally compact motion groups. *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 167–200. (Ryszard Szwarc) **99e:22012** 22D12 (43A65)

Shioda, Shigeo Worst-case performance of ATM multiplexer with GCRA-conforming arrival processes. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 3–20. (Summary) **99c:90048** 90B12

Shioda, Tetsuji Constructing curves with high rank via symmetry. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 551–566. (Takashi Ichikawa) **99g:11080** 11G30 (14G25, 14H25)

— On Q-split Bézout intersection. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 3, 295–301. (Aigli Papantonopoulou) **99m:14015** 14C21 (14H10)

Shioda, Tsutomu (*with* Takano, Kyoichi) On some Hamiltonian structures of Painlevé systems. I. *Funkcial. Ekvac.* **40** (1997), *no.* 2, 271–291. (Andrei A. Kapaev) **99c:34007** 34A20 (34A34, 34C30, 58F05)

Shiohama, Katsuhiro (*with* Cheng, Qing-Ming) Nonexistence of stable integral currents. Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 116–124. (Harold Parks) **99j:53098** 53C65 (49Q20)

— (*with* Xu, Hongwei) A general rigidity theorem for complete submanifolds. (English summary) *Nagoya Math. J.* **150** (1998), 105–134. (Yi Bing Shen) **99j:53084** 53C42 (53C40)

Shioji, Naoki (*with* Takahashi, Wataru) Strong convergence theorems for asymptotically nonexpansive semigroups in Hilbert spaces. *Nonlinear Anal.* **34** (1998), *no.* 1, 87–99. (Behzad Djafari-Rouhani) **99e:47071** 47H09 (47H20)

— (*with* Suzuki, Tomonari; Takahashi, Wataru) Contractive mappings, Kannan mappings and metric completeness. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3117–3124. (Hans-Peter A. Künzi) **99a:54023** 54E50 (54H25)

— Strong convergence theorems for nonexpansive mappings and nonexpansive semigroups. (Japanese) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 157–167. (*see* **99f:00024**) 47H09 (47H10, 47H20)

— (*with* Takahashi, Wataru) Strong convergence of averaged approximants for asymptotically nonexpansive mappings in Banach spaces. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 53–64. (Yuly Makovoz) **99m:41055** 41A65 (41A29)

— (*with* Lau, Anthony To-Ming; Takahashi, Wataru) Existence of nonexpansive retractions for amenable semigroups of nonexpansive mappings and nonlinear ergodic theorems in Banach spaces. (English summary) *J. Funct. Anal.* **161** (1999), *no.* 1, 62–75. (Summary) **99j:47079** 47H09 (47H10, 47H20)

Shiokawa, Iekata (*with* Duverney, Daniel; Nishioka, Keiji; Nishioka, Kumiko) Transcendence of Jacobi's theta series and related results. (English summary) *Number theory (Eger, 1996)*, 157–168, *de Gruyter, Berlin*, 1998. (P. Bundschuh) **99h:11078** 11J85 (11B39, 11J81, 11J91)

Shiota, Masahiro ★ Geometry of subanalytic and semialgebraic sets. (English summary) Progress in Mathematics, 150. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xii+431 *pp.* *ISBN* 0-8176-4000-2 (Patrice Orro) **99b:14061** 14P15 (03C62, 32B20)

— Relations between equivalence relations of maps and functions. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 161–188. (Leslie Charles Wilson) **99e:58022** 58C27 (14P20)

— Relation between equivalence relations of maps and functions. (English summary) *Real analytic and algebraic singularities (Nagoya/Sapporo/Hachioji, 1996)*, 114–144, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Zbigniew Szafraniec) **99b:58009** 58A07 (58C27)

— (*with* Fukui, Toshizumi; Koike, Satoshi) Modified Nash triviality of a family of zero-sets of real polynomial mappings. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 5, 1395–1440. (Laurenţiu Păunescu) **99m:14112** 14P20 (58A07, 58A35, 58C27)

— (*with* Benedetti, Riccardo) On real algebraic links in S^3. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 585–609. (Lee Rudolph) **99k:57007** 57M25 (14P25, 32S55)

Shiota, T. (*with* Adler, Mark; van Moerbeke, P.) Random matrices, Virasoro algebras, and noncommutative KP. *Duke Math. J.* **94** (1998), *no.* 2, 379–431. (Kazuhiro Hikami) **99e:58088** 58F07 (17B68, 60H25)

Shiota, Yasunobu (*with* Okada, Tatsuya; Sekiguchi, Takeshi) Multifractal spectrum of multinomial measures. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 7, 123–125. (Lars Olsen) **99c:28027** 28A80 (30B50, 42A75)

Shiotani, H. (*with* Nakamura, Yoshimasa; Kajiwara, Kenji) On an integrable discretization of the Rayleigh quotient gradient system and the power method with a shift. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 77–90. (Summary) **99i:39029** 39A12 (65Q05)

Shioura, Akiyoshi Minimization of M-convex function. (English summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 63–71. (Summary) **99f:90101** 90C27 (90C35)

— Minimization of an M-convex function. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 215–220. (Victor P. Il'ev) **99g:05048** 05B35 (90C35)

Shioya, Masahiro (*with* Abe, Yoshihiro) Regularity of ultrafilters and fixed points of elementary embeddings. *Tsukuba J. Math.* **22** (1998), *no.* 1, 31–37. (O. V. Belegradek)

99h:03018 03C20 (03C62, 03E10, 03E40)

Shioya, Tadashi (*with* Chen, Weiqiu) Fundamental solution for a penny-shaped crack in a piezoelectric medium. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 7, 1459–1475. 73M25 (73R05)

Shioya, Takashi The limit spaces of two-dimensional manifolds with uniformly bounded integral curvature. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1765–1801. (Andrea Sambusetti) **99h:53052** 53C23 (53C20)

Shipina, T. N. (*with* Belov, Yu. Ya.) The problem of determining the source function for a system of composite type. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 287–308. (P. A. Mishnayevskiy) **99k:35188** 35R30 (35M20)

Shipkov, A. A. (*with* Bolotin, V. V.) A model of the growth of fatigue cracks taking into account environmental factors. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 313–322; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 289–296. 73M25

Shipman, Barbara A. On the geometry of certain isospectral sets in the full Kostant-Toda lattice. (English summary) *Pacific J. Math.* **181** (1997), *no.* 1, 159–185. (Stephanie F. Singer) **99i:58084** 58F07 (14M15, 14M25, 22E60, 32M10)

— Monodromy near the singular level set in the sl(2, **C**) Toda lattice. (English summary) *Phys. Lett. A* **239** (1998), *no.* 4-5, 246–250. (Iskander A. Taimanov) **99c:58081** 58F07 (14K20)

Shipo, M. *see* **Chipot, Michel**

Shipshina, A. G. *see* **Computing mathematics and cybernetics, 99a:00058**

Shirafuji, Takeshi (*with* Tsuda, Motomu) Minimal off-shell version of $N = 1$ chiral supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087702, 4 *pp.* (Summary) **99m:83207** 83E50

— (*with* Tsuda, Motomu) Construction of $N = 2$ chiral supergravity compatible with the reality condition. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 69–77. (Piet Termonia) **99m:83208** 83E50 (81T60)

Shirahata, Masaru A coherence space semantics for linear set theory. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 101–112. (*see* **99a:03003**) 03E70 (03F50)

Shirai, Hisato Reinterpretation of quantum mechanics based on the statistical interpretation. (English summary) *Found. Phys.* **28** (1998), *no.* 11, 1633–1662. (S. Gudder) **99k:81024** 81P05 (81P15)

Shirai, Kokio A characterization of axiom schema playing the role of tertium non datur in intuitionistic predicate logic. (Japanese) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 113–130. (*see* **99a:03003**) 03B20

— On the strong completeness theorems for the first-order generalized intuitionistic predicate calculus. (Japanese) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 136–155. (*see* **99d:03003**) 03B20

Shirai, Shin-ich (*with* Iwatsuka, Akira) Eigenvalue asymptotics for the Schrödinger operator with asymptotically flat magnetic fields and decreasing electric potential. Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 184–194. (P. A. Mishnayevskiy) **99f:35152** 35P20 (35J10, 47F05, 47N50, 81Q10)

Shirai, Tomoyuki A factorization of determinant related to some random matrices. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1449–1459. (Boris A. Khoruzhenko) **99f:82038** 82B44 (33C45)

Shiraishi, Jun'ichi (*with* Kimura, Kazuhiro[1]; Uchiyama, Jun) A level-one representation of the quantum affine superalgebra $U_q(\widehat{\mathfrak{sl}}(M+1|N+1))$. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 367–378. (Naihuan Jing) **99a:17021** 17B37 (17B69, 81R50)

— (*with* Awata, Hidetoshi; Kubo, Harunobu; Odake, Satoru) Virasoro-type symmetries in solvable models. (English summary) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 37–71. (Naihuan Jing) **99g:17048** 17B68 (58F07)

— (*with* Jimbo, Michio) A coset-type construction for the deformed Virasoro algebra. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 173–185. (Rinat Kedem) **99c:81090a** 81R50 (17B68, 81R10)

— (*with* Jimbo, Michio) Errata: "A coset-type construction for the deformed Virasoro algebra". *Lett. Math. Phys.* **44** (1998), *no.* 4, 349–352. (Rinat Kedem) **99c:81090b** 81R50 (17B68, 81R10)

Shiraishi, Kei-ichi (*with* Kai, Hiroshi; Saito, Tomokatsu; Noda, Matu-Tarow) An algebraic solution method for certain types of nonlinear programming problems. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 146–153. (*see* **99h:00034**) 90C30 (65K05)

Shiraishi, Kiyoshi (*with* Sakamoto, Kenji) Boson stars with large self-interaction in $(2 + 1)$ dimensions: an exact solution. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 15, 12 *pp.* (*electronic*). (Michael O. Katanaev) **99k:83104** 83C99

— (*with* Sakamoto, Kenji) Exact solutions for boson-fermion stars in $2 + 1$ dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124017, 8 *pp.* (Summary) **99m:83164** 83C99

Shiraishi, Shuji On the maximum cut of line graphs. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 335–337. (Summary) **99i:05117** 05C35

Shiraishi, Shunsuke (*with* Obata, Tsuneshi; Daigo, Motomasa) Properties of a positive reciprocal matrix and their application to AHP. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 404–414. (Summary) **99f:15032** 15A48 (15A18, 65F99, 90B30)

— (*with* Obata, Tsuneshi; Daigo, Motomasa; Nakajima, Nobuyuki) Properties of a positive reciprocal matrix and their application to estimating priority weights for incomplete comparison matrices. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 135–142. (*see* **99h:90006**) 93A13 (65F30)

Shirakawa, Hiroshi Evaluation of investment opportunity under entry and exit decisions. (English summary) Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 107–124. (Summary) **99e:90016** 90A09 (60G40, 60J65)

Shirakawa, K. (*with* Ito, Akio; Yamazaki, Noriaki; Kenmochi, Nobuyuki) Asymptotic stability for evolution systems associated with phase transition. (English summary) *Progress in partial differential equations, Vol. 2 (Pont-à-Mousson, 1997)*, 104–115, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Alp O. Eden) **99h:35019** 35B35 (35K99, 47N20, 80A22)

— (*with* Ito, Akio; Yamazaki, Noriaki; Kenmochi, Nobuyuki) Asymptotic stability for evolution equations governed by subdifferentials. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 287–310, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Philippe Laurençot) **99m:34141** 34G20 (34D05, 35K99, 35R70, 80A22)

Shiratani, Katsumi (*with* Yamada, Mieko) Rationality problems of Jacobi sums. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 153–160. (Zun Shan) **99h:11095** 11L10

Shiratori, Norio (*with* Takahashi, Kaoru; Sugawara, Kana; Ando, Toshihiko; Kato, Yasushi) Specification of a concurrent system based on propositional logic. (English summary) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 322–332. (Summary) **99m:68124** 68Q60 (03B70)

Shirayanagi, Kiyoshi (*with* Sweedler, Moss) Remarks on automatic algorithm stabilization. (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 761–765. (Summary) **99h:65086** 65F30 (65G05)

— New uses for stabilization theory. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 170–176. (*see* **99h:00034**) 93D15 (93–02)

— (*with* Niitsuma, Hirotaka) A stable method to compute Smith normal form of polynomial matrices using floating-point computation. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1006–1017. 65F30 (15A21)

Shirazi, Fatemah Ayatollahzadeh (*with* Sabbaghan, Masoud; Wu, Ta-Sun) α-minimal sets. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **2** (1997), *no.* 1, 1–12. (Summary) **99a:54027** 54H20

Shirikyan, Armen (*with* Volevich, Leonid) Bounded and almost time-periodic solutions of higher-order nonlinear hyperbolic equations. (Russian. Russian summary) *Tr. Mosk. Mat. Obs.* **58** (1997), 102–157; *translation in Trans. Moscow Math. Soc.* **1997**, 89–135. (Nickolai A. Lar'kin) **99a:35189** 35L75 (35B15, 35B25)

— (*with* Volevich, Leonid) Bounded and almost periodic solutions of linear high-order hyperbolic equations. (English summary) *Math. Nachr.* **193** (1998), 137–197. (R. G. Airapetyan) **99k:35135** 35L75 (35B15, 35B40, 35L30)

Shirinov, K. F. (*with* Dzhalilova, R. K.; Kasumov, S. Yu.) Application of the Lee theory to the study of a class of filtration processes. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **16** (1995), *no.* 5-6, *Inform. i Probl. Upr.*, 82–86 (1997). 35Q35 (76S05)

Shirke, D. T. (*with* Rattihalli, R. N.) UMA confidence intervals for the parameter of a family of distributions involving one truncation parameter. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 165–170. 62F25

Shirkov, D. V. ★ The Bogoliubov renormalization group. (English and Russian summaries) Translated from the 1994 Russian original. Second printing. Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-96-15. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1996. 29 *pp.* (Summary) **99c:81148** 81T17 (81–03, 82–03, 82B28)

— *see also* **Problems of quantum field theory, 99i:81005** *and* **Renormalization group '96, 99m:81155**

Shirman, Y. (*with* Randall, Lisa; von Unge, Rikard) Brane boxes: bending and beta functions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105005, 7 *pp.* (Summary) **99m:81259** 81T60 (81T13, 81T30)

Shiroishi, Masahiro (*with* Ujino, Hideaki; Wadati, Miki) SO(4) symmetry of the transfer matrix for the one-dimensional Hubbard model. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2341–2358. (Shao-Ming Fei) **99d:82019** 82B20 (81U40, 82B23)

— (*with* Umeno, Yukiko; Wadati, Miki) Fermionic R-operator for the fermion chain model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1930–1935. (Summary) **99c:82028** 82B23 (81U40)

— (*with* Umeno, Yukiko; Wadati, Miki) Fermionic R-operator and integrability of the one-dimensional Hubbard model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 7, 2242–2254. (Andrey V. Tsiganov) **99h:82019** 82B20 (82B23)

Shirokov, Aleksandr Petrovich The space H_4 and quaternion algebra. (Russian. English and Russian summaries) *Tr. Geom. Semin. No.* 23 (1997), 187–198. (V. Oproiu) **99k:53011** 53A35 (53A20)

— P. A. Shirokov's work on the geometry of symmetric spaces. Geometry, 3. *J. Math. Sci. (New York)* **89** (1998), *no.* 3, 1253–1260. (O. Kowalski) **99f:53001** 53–03 (01A60, 53C35)

— *see also* **Shapukov, B. N., 99k:01073** *and* **Obituary: Shirokov, Aleksandr Petrovich**

Shirokov, B. M. On a length of the continued fraction's period. (Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 85–90. (Summary) **99f:11013** 11A55

— Distribution of the values of the generalized sum of divisors. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 176–189. (Ognian Trifonov) **99h:11106** 11N37 (11N64)

Shirokov, I. V. (*with* Drokin, A. A.) The quantum projection method. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **39** (1996), *no.* 9, 103–108; *translation in Russian Phys. J.* **39** (1996), *no.* 9, 893–897 (1997). (Summary) **99c:81032** 81Q05

— (*with* Drokin, A. A.) The quantum method of projection. Integration of the quantum open Toda lattice. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 5, 26–34; *translation in Russian Phys. J.* **41** (1998), *no.* 5, 420–427. (Summary) **99k:58097** 58F07 (81Q99, 81R99)

Shirokov, M. I. Spin state determination using a Stern-Gerlach device. (English summary) *Found. Phys.* **28** (1998), *no.* 6, 985–997. (Summary) **99b:81026** 81P15

Shirokov, N. A. Approximation by polynomials on compacta with infinitely connected complement. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 1, 248–264; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 197–210. (Inna Boricheva) **99j:42002** 42A10 (30E10, 41A10)

— (*with* Kotochigov, A. M.) Interpolation in a neighborhood of a cusp point. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 142–176. (Alexey L. Lukashov)

99m:41041 41A36 (41A65)

— (*with* Kotochigov, A. M.) Free interpolation in Hölder classes in quasiconformal domains. (English summary) Some questions of mathematical physics and function theory. *J. Math. Sci. (New York)* **92** (1998), *no.* 6, 4324–4337. (Lai Yi Zhu) **99m:30075** 30E05 (30C62, 46E15)

Shirokov, P. A. *see* **Shirokov, Aleksandr Petrovich, 99f:53001**

Shirokova, E. A. The solution of the plane elasticity basic problems for the unbounded domains with boundary cusps. *Mech. Res. Comm.* **26** (1999), *no.* 1, 61–64. 73C02 (73V35)

— (*with* Ivan'shin, P. N.) The exact solution of the plane elasticity problems for the S-cut with cusps. *Mech. Res. Comm.* **26** (1999), *no.* 1, 65–68. 73C02 (73V35)

Shiromizu, Tetsuya (*with* Gen, Uchida) Timelike infinity and asymptotic symmetry. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6573–6592. (Richard Hansen) **99k:83028** 83C30

— (*with* Ikumi, Keita) Freely falling 2-surfaces and the effective gravitational mass. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 73–90. (Summary) **99j:83028** 83C40

Shirosaki, Manabu On polynomials which determine holomorphic mappings. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 289–298. (Anand Prakash Singh) **99b:30035** 30D30 (30D35)

Shirota, Kenji (*with* Nakamura, Gen[1]; Onishi, Kazuei) Numerical calculation of electrocardiogram inverse problems connected with impedance identification. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 70–77. (*see* **99i:00028**) 92C55 (92C50)

Shirota, Taira (*with* Ohno, Mayumi) On the initial-boundary-value problem for the linearized equations of magnetohydrodynamics. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 3, 259–299. (Shu-Xing Chen) **99i:76150** 76W05 (35Q35)

— (*with* Ohno, Mayumi) On the initial-boundary value problem for the linearized MHD equations. Regularity, blowup and related properties of solutions to nonlinear evolution equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1045 (1998), 26–44. (Paolo Secchi) **99m:76127** 76W05 (35Q35)

Shirron, Joseph J. (*with* Babuška, Ivo M.) A comparison of approximate boundary conditions and infinite element methods for exterior Helmholtz problems. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 121–139. (Summary) **99j:76099** 76M25 (65N30, 73V20, 76Q05, 78–08)

— (*with* Ghosh Roy, D. N.; Warner, Jeremy A.; Couchman, L. S.) Inverse obstacle transmission problem in acoustics. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 903–929. (Summary) **99f:76119** 76Q05 (35R30, 65N99, 76M25)

Shirvani, Mazi (*with* Gonçalves, J. Z.) On the codimension of the image of a derivation in a commutative field. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2273–2281. (Andrzej Nowicki) **99e:12008** 12H05

— (*with* Gonçalves, J. Z.) Free group algebras in the field of fractions of differential polynomial rings and enveloping algebras. (English summary) *J. Algebra* **204** (1998), *no.* 2, 372–385. (Nikolaus Vonessen) **99g:16033** 16S34 (16K40, 16S30)

— (*with* So, Joseph W.-H.) Solutions of linear differential algebraic equations. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 344–346 (*electronic*). (Michael Hanke) **99g:34010** 34A09 (15A22, 34A05)

Shiryaev, A. N. (*with* Shepp, Lawrence A.) A dual Russian option for selling short. (English summary) *Probability theory and mathematical statistics (St. Petersburg, 1993)*, 209–218, *Gordon and Breach, Amsterdam*, 1996. (Summary) **99h:90025** 90A09

— (*with* Peškir, Goran) On the Brownian first-passage time over a one-sided stochastic boundary. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 591–602; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 3, 444–453 (1998). (H.-J. Engelbert) **99j:60123** 60J65 (60G40, 60G44)

— (*with* Kramkov, D. O.) Sufficient conditions of the uniform integrability of exponential martingales. *European Congress of Mathematics, Vol. I (Budapest, 1996)*, 289–295, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Paul McGill) **99g:60150** 60J65 (60J57)

— *see also* **Statistics and control of stochastic processes, 99e:60005**

Shirzad, A. Gauge symmetry in Lagrangian formulation and Schwinger models. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2747–2760. (Radu Constantinescu) **99e:70045** 70G50 (58E30, 70H33, 70H35, 81T10)

— (*with* Sadeghnezhad, N.) Lagrangian and Hamiltonian constraint structure coefficients. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7403–7413. (Juan Carlos Marrero Gonzalez) **99j:58081** 58F05 (70G99, 70H05, 70H35)

Shishebor, Z. (*with* Soltani, A. Reza) A spectral representation for weakly periodic sequences of bounded linear transformations. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 3, 265–270. (Summary) **99g:47006** 47A10 (47A05, 60G25)

Shishibori, Masami (*with* Ando, Kazuaki; Kinoshita, Toshiharu; Aoe, Jun-ichi) An improvement of the Aho-Corasick machine. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 139–151. (Summary) **99f:68076** 68Q20 (68Q45)

— (*with* Ando, Kazuaki; Mizobuchi, Shoji; Aoe, Jun-ichi) Efficient multi-attribute pattern matching. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 21–38. (Summary) **99c:68105** 68Q20 (68Q25)

Shishkin, A. B. Spectral synthesis for systems of differential operators with constant coefficients. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 28–30. (Sergeĭ Grudskiĭ) **99b:47048** 47B38 (46E10)

Shishkin, G. I. A problem of the approximation of diffusion flow in the numerical modeling of the pollution transport process. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 7, 61–80. (Gert Lube) **99a:65117** 65M50 (65M15, 76R50)

— Grid approximation of the solution and diffusion flux for singularly perturbed parabolic equations with discontinuous coefficients and concentrated factors. (English summary) *Computational modelling and computing in physics (Dubna, 1996)*, 253–258, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M55

— (*with* Hegarty, Alan F.; Miller, John J. H.; O'Riordan, Eugene) Numerical solution of elliptic convection-diffusion problems on fitted meshes. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 239–251. (*see* **99a:65009**) 65N50 (76M20, 76Rxx)

— (*with* Shishkina, L. P.; Hemker, P. W.) A numerical method with floating meshes for singularly perturbed problems with a concentrated disturbance in the initial data. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 317–336. (Martin Stynes) **99d:65254** 65M06 (65M25, 65M50)

— (*with* Miller, John J. H.; O'Riordan, Eugene) Fitted numerical methods for four simple convection-diffusion problems. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 444–448, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65N06 (65N30)

— (*with* Clavero Gracia, Carmelo; Jorge, J. C.; Lisbona, Francisco J.) A fractional step method on a special mesh for the resolution of multidimensional evolutionary convection-diffusion problems. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 211–231. (Claus-Dieter Munz) **99g:65089** 65M06 (65M12, 76M20)

— Grid approximation of parabolic equations with small parameters multiplying the space and time derivatives. Reaction-diffusion equations. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 1-2, 179–214. (Martin Stynes) **99k:65076** 65M06 (35C20, 65M12, 65M50)

— A posteriori piecewise uniform grids for singularly perturbed elliptic equations of a reaction-diffusion type. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 5, 411–423. (Martin Stynes) **99j:65222** 65N50 (65M50)

— Grid approximation of the problem of the decay of a discontinuity in the case of the Burgers equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1418–1420. 65N55 (65N06)

— Grid approximations for singularly perturbed elliptic equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 1989–2001; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1909–1921. (Thomas Apel) **99m:65200** 65N06 (35B25, 65N12)

Shishkina, L. P. (*with* Shishkin, G. I.; Hemker, P. W.) A numerical method with floating meshes for singularly perturbed problems with a concentrated disturbance in the initial data. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 317–336. (Martin Stynes) **99d:65254** 65M06 (65M25, 65M50)

Shishkov, Andrei E. (*with* Hulshof, Josephus) The thin film equation with $2 \le n < 3$: finite speed of propagation in terms of the L^1-norm. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 5, 625–642. (Summary) **99i:35140** 35Q53 (76D99)

— (*with* Shchelkov, A. G.) Dynamics of the supports of energy solutions of mixed problems for quasilinear parabolic equations of arbitrary order. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 3, 175–200; *translation in Izv. Math.* **62** (1998), *no.* 3, 601–626. (Alexander L. Gladkov) **99i:35078** 35K60 (35B99)

Shishmarëv, I. A. (*with* Naumkin, Pavel I.) A periodic problem for a system of equations describing the conductivity of nerve pulses. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 562–564, 575; *translation in Differential Equations* **32** (1996), *no.* 4, 568–570. (Qi Xiao Ye) **99e:35226** 35Q80 (34G20, 35B10, 35K55, 92C20)

— On an estimate for the eigenfunctions of a nonlinear operator. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 6, 730–733. (Jolanta Przybycin) **99a:35096** 35J65 (35B45, 35P99)

Shishmarev, Yu. E. Some classes of countably categorical graphs. (Russian. Russian summary) *Algebras, groups and varieties (Russian)*, 74–80, 82, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 03C35 (05C75)

Shitikova, M. V. (*with* Rossikhin, Yu. A.) Dynamic stability of an elastic cylindrical shell being in external contact with an elastic isotropic medium with respect to nonstationary excitations. (English summary) *J. Vib. Control* **5** (1999), *no.* 1, 3–44. (Summary) **99i:73050** 73K15 (73D99, 73H10)

Shitovitz, Benyamin (*with* Spiegel, Menahem) Cournot-Nash and Lindahl equilibria in pure public good economies. (English summary) *J. Econom. Theory* **83** (1998), *no.* 1, 1–18. (Summary) **99k:90051** 90A27

— (*with* Einy, Ezra; Moreno, Diego) The core of a class of non-atomic games which arise in economic applications. (English summary) *Internat. J. Game Theory* **28** (1999), *no.* 1, 1–14. (O. A. Malafeyev) **99m:90170** 90D12

Shiu, Gary (*with* Kakushadze, Zurab; Tye, S.-H. Henry; Vtorov-Karevsky, Yan) A review of three-family grand unified string models. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 15, 2551–2598. (Angel Maria Uranga) **99e:81198** 81T30 (81V22, 83E30)

— (*with* Kakushadze, Zurab) Four-dimensional chiral $N = 1$ type I vacua with and without D5-branes. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 75–92. (Summary) **99c:81192** 81T30

— (*with* Kakushadze, Zurab; Tye, S.-H. Henry) Type IIB orientifolds, F-theory, type I strings on orbifolds and type I-heterotic duality. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 25–87. (Gysbert Zwart) **99m:81195** 81T30 (83E30)

— (*with* Kakushadze, Zurab; Tye, S.-H. Henry) Type IIB orientifolds with NS-NS antisymmetric tensor backgrounds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 086001, 7 *pp.* (Summary) **99k:81248** 81T30

— (*with* Tye, S.-H. Henry) TeV scale superstring and extra dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 106007, 13 *pp.* 81V22 (81T30)

Shiu, Wai Chee (*with* Lam, Peter Che Bor; Gutman, Ivan M.) Wiener number of hexagonal parallelograms. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 21–25. (*see* **99g:05001**) 05C12

— (*with* Lam, Peter Che Bor; Gutman, Ivan M.) Wiener number of hexagonal bitrapeziums and trapeziums. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 9–25. (N. Trinajstić) **99a:05044** 05C12 (05C90)

— (*with* Lam, Peter Che Bor) Wiener numbers of pericondensed benzenoid molecule systems. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 113–124. (Summary) **99b:92065** 92E10 (05C12, 05C90)

— (*with* Tong, Chong Sze; Lam, Peter Che Bor) Wiener number of some polycyclic graphs. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 10–15. (Summary) **99m:05054** 05C12 (05C90)

— (*with* Lam, Peter Che Bor; Lee, Sin-Min) Edge-magicness of the composition of a cycle with a null graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 9–18. (*see* **99i:00022**) 05C78

Shiue, Chin-Lin The α-labeling number of bipartite graphs. (English summary) *Australas. J. Combin.* **19** (1999), 123–128. 05C78

Shiue, Peter Jau-Shyong (*with* Hsu, Leetsch Charles) A unified approach to generalized Stirling numbers. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 3, 366–384. (F. T. Howard) **99c:11020** 11B73 (05A10)
— (*with* Brown, Thomas Craig; Yu, Xiu Yuan) Sequences with translates containing many primes. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 15–19. (Gérald Tenenbaum) **99b:11105** 11N25 (11N32, 11N56)
— (*with* Feng, Keqin; Xiang, Qing) On aperiodic and periodic complementary binary sequences. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 296–303. (Summary) **99m:94026** 94A55
Shiue, Wen-Kwei (*with* Lee, Tsiu-Kwen) Derivations cocentralizing polynomials. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 457–467. (Andrzej Nowicki) **99k:16074** 16W25 (16N60)
Shivaji, Ratnasingham (*with* Garner, J. B.) Nonhomogeneous diffusion with singularities at the boundaries. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3663–3669. (Achilles Tertikas) **99c:35049** 35J45 (34B15)
— (*with* Maya, C.) Instability of nonnegative solutions for a class of semilinear elliptic boundary value problems. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 125–128. (Summary) **99b:35068** 35J65 (35B05)
— *see also* **Proceedings: Conference on Difference Equations and Computational Simulations, 99h:00032**
Shivakumar, P. N. (*with* Ramm, Alexander G.) Inequalities for the minimal eigenvalue of the Laplacian in an annulus. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 559–563. (Summary) **99f:35149** 35P15 (35J25)
— *see also* **Symposium: Fast Algorithms for Control, Signals and Image Processing, 99f:00025**
Shivamoggi, Bhimsen K. ★ Nonlinear dynamics and chaotic phenomena. (English summary) An introduction. Fluid Mechanics and its Applications, 42. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xiv+404 *pp. ISBN* 0-7923-4772-2 (Muthusamy Lakshmanan) **99c:58051** 58Fxx (34A34, 34C35, 58F13, 65C20, 70H99, 70K50)
— Spatial intermittency in the classical two-dimensional and geostrophic turbulence. (English summary) *Ann. Physics* **270** (1998), *no.* 2, 263–291. (Radyadour Kh. Zeytounian) **99j:76063** 76F99 (76C99, 86A10)
— (*with* van Heijst, GertJan F.) Generalized point-vortex model for the motion of a dipole-vortex on the β-plane. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 2, 113–124. (From the introduction) **99c:76021** 76C05 (76U05)
— Thomas-Fermi theory in an n-dimensional space. (English summary) *Phys. A* **248** (1998), *no.* 1-2, 195–206. (Jacob Katriel) **99b:81282** 81V45
— Erratum to: "Thomas-Fermi theory in an n-dimensional space" [Phys. A **248** (1998), no. 1-2, 195–206; MR 99b:81282]. *Phys. A* **261** (1998), *no.* 3-4, 618. 81V45
— Magnetohydrodynamic axisymmetric turbulence. (English summary) *Ann. Physics* **272** (1999), *no.* 2, 167–176. (Summary) **99k:76073** 76F20 (76M25, 76W05)
— Erratum: "Spatial intermittency in the classical two-dimensional and geostrophic turbulence" [Ann. Physics **270** (1998), no. 2, 263–291; MR 99j:76063]. *Ann. Physics* **273** (1999), *no.* 1, 171. 76F99 (76C99, 86A10)
— (*with* Taylor, M. D.; Kida, Shigeo) On some mathematical aspects of the direct-interaction approximation in turbulence theory. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 639–658. (Roland Schiestel) **99m:76074** 76F99 (76M25)
— (*with* Rollins, David K.) Magnetohydrodynamic boundary layer on a flat plate: further analytic results. (English summary) *J. Math. Phys.* **40** (1999), *no.* 7, 3372–3378. 76W05 (76D10)
Shively, Jamen W. (*with* Fogel, David B.; Wasson, Eugene C.; Boughton, Edward M.; Porto, Vincent W.) Initial results of training neural networks to detect breast cancer using evolutionary programming. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 497–510. (*see* **99b:90008**) 90C90 (92B20, 92C50)
— (*with* Fogel, David B.; Wasson, Eugene C.; Boughton, Edward M.; Porto, Vincent W.) Erratum: "Initial results of training neural networks to detect breast cancer using evolutionary programming" [Control Cybernet. **26** (1997), no. 3, 497–510]. *Control Cybernet.* **26** (1997), *no.* 4, 665. 90C90 (92B20, 92C50)
Shizgal, Bernie D. (*with* Leung, Ki; Chen, Heli) The quadrature discretization method (QDM) in comparison with other numerical methods of solution of the Fokker-Planck equation for electron thermalization. (English summary) *J. Math. Chem.* **24** (1998), *no.* 4, 291–319. 65M06
— (*with* Chen, Heli) The quadrature discretization method (QDM) in the solution of the Schrödinger equation. (English summary) *J. Math. Chem.* **24** (1998), *no.* 4, 321–343. 65M06
Shizume, Kousuke (*with* Habib, Salman; Zurek, Wojciech Hubert) Chaos, noise and the quantum-classical correspondence. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 159–169. (*see* **99b:00018**) 81Q50 (58F13)
— (*with* Habib, Salman; Zurek, Wojciech Hubert) Decoherence, chaos, and the correspondence principle. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 20, 4361–4365. (Summary) **99a:81010** 81P05 (58F40, 81Q50, 81S30)
Shizuta, Yasushi The regularity of solutions of the initial-boundary value problem for quasi-linear symmetric hyperbolic systems with characteristic boundary. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 165–172, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35L60 (35B65)
Shizuya, Hiroki (*with* Mizuki, Takaaki; Nishizeki, Takao) Eulerian secret key exchange (extended abstract). (English summary) *Computing and combinatorics (Taipei, 1998)*, 349–360, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 94A60
— (*with* Sakurai, Kouichi) A structural comparison of the computational difficulty of breaking discrete log cryptosystems. (English summary) *J. Cryptology* **11** (1998), *no.* 1, 29–43. (Summary) **99i:94055** 94A60
Shkadov, V. Ya. (*with* Shutov, A. A.) Stability of a surface-charged viscous jet in an electric field. *Fluid Dynam.* **33** (1998), *no.* 2, 176–185; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 29–40 (*Russian. Russian summary*). 76E25 (76D25)
Shkalikov, A. A. On the limit behavior of the spectrum for large values of the parameter of a model problem. (Russian) *Mat. Zametki* **62** (1997), *no.* 6, 950–953; *translation in Math. Notes* **62** (1997), *no.* 5-6, 796–799 (1998). (A. G. Baskakov) **99h:34126** 34L40 (34B24, 34E15)
— (*with* Kostyuchenko, A. G.; Yurkin, M. Yu.) On the stability of a top with a cavity filled with viscous fluid. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 36–55, 95–96; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 100–113. (Summary) **99f:34086** 34G10 (70E99, 70K20, 76D99)
Shkarin, S. A. Peano's theorem is invalid in infinite-dimensional F'-spaces. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 128–137; *translation in Math. Notes* **62** (1997), *no.* 1-2, 108–115 (1998). (Józef Banaś) **99c:34140** 34G20 (34A12)
— Extending smooth functions from linear subspaces of locally convex spaces. (English summary) Analysis, 10. *J. Math. Sci. (New York)* **91** (1998), *no.* 5, 3323–3338. (Summary) **99h:46076** 46G05 (46A22, 46E50)
Shkarupa, E. V. (*with* Voĭtishek, A. V.) Optimization of discretely stochastic procedures for globally estimating the solution of an integral equation of the second kind. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 6, 525–546. (Summary) **99f:65208** 65R20 (45L05, 65C99)
— (*with* Plotnikov, M. Yu.) Error estimation and optimization in C-space of Monte Carlo iterative solution of nonlinear integral equations. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 1, 53–71. (Summary) **99a:65193** 65R20 (65C05)
— Error estimation and optimization for the frequency polygon method in the C-metric. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 612–626; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 590–603. (Petru P. Blaga) **99g:65128** 65R20 (65C05)
Shkel, Andrei M. (*with* Shen, Lei[2]; Lumelsky, Vladimir J.) Hazard and safety regions for paths with constrained curvature. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 18, 1655–1679. (Summary) **99k:70002** 70B15 (68U05)
Shkhanukov, M. Kh. (*with* Shogenov, V. Kh.; Kumykova, S. K.) The generalized transport equation and fractional derivatives. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 12, 47–54. 35Q99 (26A33, 82C70)
— (*with* Ozturk, Ilhan) Difference method for the differential equation with fractional derivative. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 5, 517–523. 65L06
Shkil', Nikolaĭ Ivanovich (*with* Kovalenko, S. M.; Zavizion, G. V.) On a mixed problem for a system of differential equations of the hyperbolic type with rotation points. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 297–306, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Ya. A. Roĭtberg) **99c:35138** 35L20
— *see also* **Symmetry in nonlinear mathematical physics, 99b:00027**
Shklyar, B. Controllability and observability problems for distributed systems. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol.* 2 (*Plovdiv*, 1994), 185–196, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 93B05 (93C20)
Shklyarov, D. L. (*with* Vaksman, L. L.) Integral representations of functions in the quantum disk. I. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 3, 286–308. (Alexei Zhedanov) **99g:81098** 81R50 (33D80)
Shkoller, Steve (*with* Marsden, Jerrold E.) Multisymplectic geometry, covariant Hamiltonians, and water waves. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 553–575. (Frans Cantrijn) **99h:58065** 58F05 (58A20, 70G50, 70H05, 76B15)
Shkuropatskiĭ, D. A. (*with* Chubarov, L. B.) Nonlinear-dispersive shallow-water models of high order approximation. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 91–100. (Summary) **99h:76009** 76B15
— (*with* Chubarov, L. B.; Fedotova, Z. I.) Investigation of computational models of long surface waves in the problem of interaction of a solitary wave with a conic island. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 4, 289–306. 76M25 (76B15, 76B25, 86-08, 86A05)
Shlager, Kurt L. (*with* Schneider, John B.) A survey of the finite-difference time-domain literature. *Advances in computational electrodynamics*, 1–62, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (*see* **99c:78001**) 78-08 (65-00, 65M06)
Shlapentokh, Alexandra Diophantine definability over holomorphy rings of algebraic function fields with infinite number of primes allowed as poles. (English summary) *Internat. J. Math.* **9** (1998), *no.* 8, 1041–1066. (Ricardo Bianconi) **99k:11190** 11U05 (11R58)
Shlapunov, A. A. On the Cauchy problem for some elliptic systems in a spherical shell in $\mathbf{R}^n$. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 11, 849–859. (A. P. Soldatov) **99b:35049** 35J55
— (*with* Nacinovich, Mauro; Tarkhanov, Nikolai N.) Duality in the spaces of solutions of elliptic systems. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 207–232. (Steven George Krantz) **99e:46032** 46E10 (35J99, 46N20)
Shlaustas, R. Yu. Computation of the principal values of singular integrals with power singularities, and the solution of equations. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 9, 53–63. 65R20 (45E05, 45L05)
Shlēpkin, A. K. On conjugately biprimitively finite groups saturated with finite simple subgroups. (Russian. Russian summary) *Algebra i Logika* **37** (1998), *no.* 2, 224–245, 250; *translation in Algebra and Logic* **37** (1998), *no.* 2, 127–138. (È. M. Palʹchik) **99m:20087** 20F50
— Shunkov groups with primary minimality condition. I. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 3, 114–131. (H. Heineken) **99k:20057** 20E15 (20E25)
Shlomo, Orly (*with* Schaps, Mary; Shapira, Dana) Quivers of blocks with normal defect group. (English summary) *Group representations: cohomology, group actions and topology (Seattle, WA*, 1996), 497–510, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (David Benson) **99f:20015** 20C20
Shlosman, S. B. (*with* Dobrushin, R. L.) Gibbsian description on "non-Gibbs" fields. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 45–58; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 285–297. (B. L. Granovskiy) **99c:60106** 60G60 (60K35, 82B20)
— (*with* Schonmann, Roberto H.) Wulff droplets and the metastable relaxation of kinetic Ising models. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 2, 389–462. (Aernout C. D. van Enter) **99d:60113** 60K35 (82B20, 82C22)
— (*with* van Enter, Aernout C. D.) (Almost) Gibbsian description of the sign fields of SOS fields. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 353–368. (Raphael Lefevere) **99g:82004** 82B05

Shlyakhtenko, Dimitri Some applications of freeness with amalgamation. (English summary) *J. Reine Angew. Math.* **500** (1998), 191–212. (Dietmar H. Bisch) **99j:46079** 46L50 (46L10, 46L35)

Shlyakonov, V. A. (*with* Buryĭ, A. S.; Polous, A. I.) A functional diagnostic method for program-controlled plants. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 173–178; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 599–602. 93B30 (90B25)

Shlyk, V. A. (*with* Dymchenko, Yu. V.) A relation between weighted condensor capacity and the weighted modulus of a family of separating surfaces. (Russian. English summary) *Dal'nevost. Mat. Sb. No.* 2 (1996), 72–80, 198. (P. Caraman) **99j:31008** 31B15 (46E15)

ta-Shma, Paula *see* **Ta-Shma, Paula**

Shmagin, V. V. (*with* Chebrakov, Y. V.) The analytical formulae yielding some Smarandache numbers and applications in magic squares theory. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 51–60, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A25 (05B15)

— (*with* Yasinskiy, S. A.; Chebrakov, Y. V.) The system-graphical analysis of some numerical Smarandache sequences. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 193–205, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11Y55

Shmal'ts, G. *see* **Schmalz, Gerd**

Shmarev, Sergei I. (*with* Galaktionov, V. A.; Vázquez, Juan Luis) Second-order interface equations for nonlinear diffusion with very strong absorption. (English summary) *Commun. Contemp. Math.* **1** (1999), *no.* 1, 51–64. (Summary) **99m:35098** 35K55 (35R35)

Shmatkov, A. M. (*with* Ovseevich, A. I.) On the comparison of probabilistic and guaranteed approaches to the prediction of the phase state of dynamical systems. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 11–16. 93E12 (93C41)

— (*with* Chernous'ko, Feliks Leonidovich) Time-optimal control in a third-order system. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 723–731; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 699–707 (1998). (Bozhidar Cheshankov) **99d:49008** 49J15 (70Q05)

— (*with* Akulenko, L. D.) Synthesis of a control in the time-optimal problem of bringing a mass point to a specified position at zero velocity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 129–138; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 123–131. (Summary) **99d:49065** 49N35 (93B52)

Shmegera, S. V. A method for solving plane initial-boundary value problems in dynamic elasticity theory. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 263–274; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 253–263. (Summary) **99d:73040** 73D25 (73V35)

Shmel'kin, D. A. On algebras of invariants and codimension 1 Luna strata for nonconnected groups. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 189–215. (Dennis Snow) **99h:14049** 14L30 (20G05)

Shmerko, V. P. (*with* Cheushev, Vasily; Simovici, Dan A.; Yanushkevich, Svetlana) Functional entropy and decision trees. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 257–262, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (06E30)

Shmoĭlov, V. I. (*with* Kachmar, V. S.; Rusyn, B. P.) Algorithms for computing the values of continued fractions. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1436–1451. (M. Znojil) **99m:65026** 65D15 (11Y65, 30B70, 40A15)

Shmoys, David B. (*with* Williamson, David P.; Hall, Leslie A.; Hoogeveen, Johannes Adzer; Hurkens, C. A. J.; Lenstra, Jan Karel; Sevast'yanov, S. V.) Short shop schedules. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 288–294. (Jan Węglarz) **99g:90049** 90B25 (68Q25)

— Using linear programming in the design and analysis of approximation algorithms: two illustrative problems. (English summary) *Approximation algorithms for combinatorial optimization* (*Aalborg*, 1998), 15–32, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (Summary) **99k:90104** 90C08 (65C10)

— (*with* Phillips, Cynthia A.; Schulz, Andreas S.; Stein, Clifford; Wein, Joel) Improved bounds on relaxations of a parallel machine scheduling problem. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 413–426. (Summary) **99d:90061** 90B35 (68M20, 90C05)

— (*with* Chudak, Fabián A.) Approximation algorithms for precedence-constrained scheduling problems on parallel machines that run at different speeds. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 323–343. (Jan Węglarz) **99k:90087** 90B35 (68M20, 68Q25)

— *see also* **Networks and matroids; Sequencing and scheduling, 99b:00026**

Shmueli, Oded (*with* Gavril, Fănică) Intersection graphs of k-acyclic families of subtrees and relational database query processing. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 1, 1–6. (Summary) **99a:68041** 68P15 (05C85, 68R10)

— (*with* Lustig, Aviv) Acyclic hypergraph projections. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 400–422. (Summary) **99k:68144** 68R10 (05C65, 05C85)

Shmyglevskii, Yu. D. Vortex formations in plane flows of viscous and ideal fluids. *Fluid Dynam.* **32** (1997), *no.* 6, 830–833 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 6, 88–92 (*Russian. Russian summary*). (Summary) **99c:76032** 76D05 (76C05)

— Chains of axisymmetric vortices. *Fluid Dynam.* **33** (1998), *no.* 2, 298–300; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 174–176 (*Russian. Russian summary*). (Summary) **99h:76023** 76D05 (76C05)

Shneerson, L. M. On identities and growth functions in inverse semigroups. (English summary) *Semigroups* (*Luino*, 1992), 284–287, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M18

Shnerb, Nadav M. (*with* Nelson, David R.) Non-Hermitian localization and population biology. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1383–1403. (Summary) **99g:92029** 92D25 (82C31)

Shnider, S. (*with* Donin, J.) Deformation of certain quadratic algebras and the corresponding quantum semigroups. (English summary) *Israel J. Math.* **104** (1998), 285–300. (Thierry Dana-Picard) **99e:16035** 16S80

Shnir, Ya. M. (*with* Kiselev, V. G.) Forced topological nontrivial field configurations. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5174–5183. 81T10

Shnirelman, Alexander (*with* Polterovich, I.) An asymptotic subcone of the Lobachevskiĭ plane as a function space. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 209–210; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 842–843. (Wojciech Wieczorek) **99c:53040** 53C23 (51M10)

— Weak solution of incompressible Euler equations with decreasing energy. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 329–334. (Raphaël Danchin) **99h:35171** 35Q30 (35D05, 76C99)

Shnirman, M. G. (*with* Blanter, E. M.; Narteau, C.; Le Mouël, J.-L.) Up and down cascade in a dynamo model: spontaneous symmetry breaking. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part A*, 5112–5123. 76W05 (76F99, 86A25)

Shnol', È. É. On the stability of linear periodic systems that are close to Hamiltonian systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 951–958; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 933–939. (Dmitry V. Treshchëv) **99e:34063** 34D10 (58F30, 70K20)

— Functions of two variables that are continuous along straight lines. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 306–311; *translation in Math. Notes* **62** (1997), *no.* 1-2, 255–259 (1998). (Zbigniew Grande) **99e:26013** 26B05

— (*with* Nikolaev, E. V.) Bifurcations of cycles in systems of differential equations with a finite symmetry group. I, II. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 3, 315–341, 343–363. (Douglas S. Shafer) **99e:34046** 34C23 (58F14)

Shoaib-ud-Din Some properties of Hadamard hypernets with class size 2. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 35–40. (Summary) **99j:05025** 05B05

Shoemaker, Christine A. (*with* Chen, Victoria C. P.; Ruppert, David) Applying experimental design and regression splines to high-dimensional continuous-state stochastic dynamic programming. (English summary) *Oper. Res.* **47** (1999), *no.* 1, 38–53. 90C15 (90C39)

Shogenov, V. Kh. (*with* Kumykova, S. K.; Shkhanukov, M. Kh.) The generalized transport equation and fractional derivatives. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 12, 47–54. 35Q99 (26A33, 82C70)

Shoham, M. (*with* Brodsky, V.; Glozman, D.) Double circular-triangular six-degrees-of-freedom parallel robot. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 155–164, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Shoham, Yoav (*with* Brafman, Ronen I.; Latombe, Jean-Claude; Moses, Yoram) Applications of a logic of knowledge to motion planning under uncertainty. (English summary) *J. ACM* **44** (1997), *no.* 5, 633–668. (I. M. Havel) **99b:68182** 68T30 (03B70, 68Q60, 68U05)

Shohet, Zion (*with* Harari, Isaac) On non-reflecting boundary conditions in unbounded elastic solids. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 123–139. (Summary) **99f:73086** 73V20 (73D15)

— (*with* Harari, Isaac) Erratum: "Open non-reflecting boundary conditions in unbounded elastic solids" [Comput. Methods Appl. Mech. Engrg. **163** (1998), no. 1-4, 123–139; MR 99f:73086]. *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 191. 73V20 (73D15)

Shoikhet, David (*with* Khatskevich, V. A.; Reich, Simeon) Semi-complete holomorphic vector fields on homogeneous open unit balls in Banach spaces. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 143–148. (Summary) **99k:47176** 47H20 (58B12)

— (*with* Reich, Simeon) Semigroups and generators on convex domains with the hyperbolic metric. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 4, 231–250. (Marco Abate) **99g:47155** 47H20 (32K05, 46G20, 47H10)

— (*with* Reich, Simeon) Results and conjectures in holomorphic fixed point theory. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3529–3538. (Tadeusz Kuczumow) **99b:47088** 47H10 (47H20, 58C10)

— (*with* Reich, Simeon) Averages of holomorphic mappings and holomorphic retractions on convex hyperbolic domains. (English summary) *Studia Math.* **130** (1998), *no.* 3, 231–244. (Peter R. Mercer) **99d:47073** 47H20 (46G20, 47H10, 58C10)

— (*with* Reich, Simeon) A characterization of holomorphic generators on the Cartesian product of Hilbert balls. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 383–396. (Jarosław Górnicki) **99m:46113** 46G20 (34G20, 47H20, 58C10)

shahabi Shojaei, M. A. *see* **Shahabi Shojaei, M. A.**

Shojai, Ali (*with* Shojai, Fatimah; Golshani, Mehdi) Conformal transformations and quantum gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 34, 2725–2729. 83C45

— (*with* Shojai, Fatimah; Golshani, Mehdi) Scalar-tensor theories and quantum gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 36, 2915–2922. 83D05 (83C45)

— (*with* Shojai, Fatimah; Golshani, Mehdi) Nonlocal effects in quantum gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2965–2969. (Viqar Husain) **99m:83081** 83C45

Shojai, Fatimah (*with* Golshani, Mehdi) On the geometrization of Bohmian mechanics: a new approach to quantum gravity. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 4, 677–693. (Viqar Husain) **99e:83029** 83C45

— (*with* Golshani, Mehdi) On the general covariance in Bohmian quantum gravity. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2135–2144. (Summary) **99a:83033** 83C45 (83D05)

— (*with* Shojai, Ali; Golshani, Mehdi) Conformal transformations and quantum gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 34, 2725–2729. 83C45

— (*with* Shojai, Ali; Golshani, Mehdi) Scalar-tensor theories and quantum gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 36, 2915–2922. 83D05 (83C45)

— (*with* Shojai, Ali; Golshani, Mehdi) Nonlocal effects in quantum gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2965–2969. (Viqar Husain) **99m:83081** 83C45

Shoji, Isao (*with* Ozaki, Tohru) A statistical method of estimation and simulation for systems of stochastic differential equations. (English summary) *Biometrika* **85** (1998), *no.* 1, 240–243. (Summary) **99b:60083** 60H10 (62F10, 62M05)

— A comparative study of maximum likelihood estimators for nonlinear dynamical system models. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 391–404. (Summary) **99h:93103** 93E10 (93C10)

Shoji, Kunitaka Regular semigroups, representation extension properties and semigroup amalgamation bases. (English summary) *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields (Mito, 1996)*, 1–2, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M17 (20M30)

Shōji, Mayumi (*with* Okamoto, Hisashi) Boundary layer in unsteady two-dimensional Navier-Stokes equations. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 171–180, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99i:76036** 76D05 (76D10, 76M20, 76M25)

Shoji, Toshiaki On the computation of unipotent characters of finite classical groups. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 3, 165–174. (François Digne) **99e:20059** 20G05 (20G40)

— Shintani descent for special linear groups. (English summary) *J. Algebra* **199** (1998), *no.* 1, 175–228. (Bhama Srinivasan) **99b:20078** 20G05 (20G40)

— (*with* Srinivasan, Bhama) Averages of Green functions of classical groups. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 1, 165–220. (Jean Michel) **99f:20082** 20G40 (20C15, 20G10)

— (*with* Agoh, Takashi) Quadratic equations over finite fields and class numbers of real quadratic fields. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 279–292. (Franz Lemmermeyer) **99b:11120** 11R29 (11D79, 11R11)

— Irreducible characters of finite Chevalley groups [translation of Sūgaku **47** (1995), no. 3, 241–255; MR 97k:20072]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 1, 19–37. (*see* **99a:00057**) 20G05 (20G40)

Shokikiu, K. *see* **Sochichiu, Corneliu**

Shokin, Yu. *see* **Computational fluid dynamics in Russia**, **99e:76001**

Shokrollahi, M. Amin (*with* Bürgisser, Peter; Clausen, Michael) ★ Algebraic complexity theory. With the collaboration of Thomas Lickteig. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 315. *Springer-Verlag, Berlin*, 1997. xxiv+618 *pp. ISBN* 3-540-60582-7 (Alexander I. Barvinok) **99c:68002** 68–02 (12Y05, 65Y20, 68Q05, 68Q15, 68Q25, 68Q40)

— (*with* Luby, Michael G.; Mitzenmacher, Michael) Analysis of random processes via And-Or tree evaluation. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 364–373, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (68T20, 94B60)

— (*with* Wasserman, Hal) List decoding of algebraic-geometric codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 432–437. (Summary) **99m:94057** 94B27 (94B05)

— (*with* Feisel, Sandra; von zur Gathen, Joachim) Normal bases via general Gauss periods. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 271–290. (Safwan Akbik) **99c:11148** 11T22 (12E20)

— Relative class number of imaginary abelian fields of prime conductor below 10 000. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1717–1728. (Michel Olivier) **99m:11147** 11Y40 (11R29)

Shokurov, V. N. *see* **Danilov, Vladimir Ivanovich[1]**, **99g:14001**

Shokurov, V. V. (*with* Danilov, Vladimir Ivanovich[1]) ★ Algebraic curves, algebraic manifolds and schemes. Translated from the 1988 Russian original by D. Coray and V. N. Shokurov. Translation edited and with an introduction by I. R. Shafarevich. Reprint of the original English edition from the series Encyclopaedia of Mathematical Sciences [*Algebraic geometry. I*, Encyclopaedia Math. Sci., 23, Springer, Berlin, 1994; MR 95b:14001]. *Springer-Verlag, Berlin*, 1998. *vi*+307 *pp. ISBN* 3-540-63705-2 (Editors) **99g:14001** 14–00 (14Hxx, 30Fxx)

Shon, Kwang Ho (*with* Kajiwara, Joji; Tsuji, Miki) Localization of global existence of holomorphic solutions of holomorphic differential equations with infinite-dimensional parameter. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 687–700. (Hidetoshi Tahara) **99m:32039** 32K99 (32C35, 32F15, 34A20)

— (*with* Kwon, Ern Gun; Lee, Sang Keun) A Rado type refinement of Minkowski's and Hölder's inequality. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 245–250. (Lucio Renato Berrone) **99m:26030** 26D15 (28A35)

— (*with* Lee, Sang Keun; Kwon, Ern Gun) Pseudoconvexity of Riemann domains over a product of complex planes. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 347–352. (Marek Jarnicki) **99i:32022** 32F15 (46E99)

Shondin, Yu. G. On the semiboundedness of δ-perturbations of the Laplacian on curves with angular points. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 1, 3–17; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 1, 1189–1200 (1996). (Vitali A. Liskevich) **99b:47069** 47F05 (47N50, 81Q10)

Shonhiwa, Temba (*with* Gould, H. W.) A generalization of Cesàro's function and other results. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 183–194. (Armel Mercier) **99f:11010** 11A25 (11N56)

— A generalization of the Euler and Jordan totient functions. *Fibonacci Quart.* **37** (1999), *no.* 1, 67–76. (Armel Mercier) **99k:11011** 11A25

Shono, Hiroshi Information inequalities in the non-regular case. (Japanese) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 115–138. (*see* **99a:62005**) 62B10

Shopolov, Nikolai (*with* Philipoff, Philip) Structural solution of the $\mathbf{R}^n$ Schroedinger equation problem based on Sturm-Liouville theory. *Applications of mathematics in engineering (Sozopol, 1997)*, 90–92, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 81Q05 (34B24)

— (*with* Philipoff, Philip) Space L_2 Schroedinger equation problem solutions. *Applications of mathematics in engineering (Sozopol, 1997)*, 96–99, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 81Q05 (35J10)

— (*with* Philipoff, Philip; Grammatikopoulos, Myron K.) An algorithm for inverting the polynomial matrix in the structural solution of the 3D Schrödinger boundary equation problem. (English summary) *Applications of mathematics in engineering (Sozopol, 1998)*, 77–82, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65F35 (65N30)

Shor, Molly H. (*with* Alpay, Mehmet Emin) Multiple solutions to the l^1-optimal control problem and its dual linear programming problem. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1089–1093. 93B36 (93B40)

Shor, Naum Z. (*with* Stetsyuk, P. I.) The use of a modification of the r-algorithm for finding the global minimum of polynomial functions. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 28–49, 187; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 482–497 (1998). (V. F. Dem'yanov) **99d:90119** 90C30 (65K05)

— ★ Nondifferentiable optimization and polynomial problems. (English summary) Nonconvex Optimization and its Applications, 24. *Kluwer Academic Publishers, Dordrecht*, 1998. *xviii*+394 *pp. ISBN* 0-7923-4997-0 (Bernd Luderer) **99f:90004** 90–02 (49J52, 90C30)

Shor, Peter W. (*with* Coffman, E. G., Jr.; Johnson, David Stifler; Weber, R. R.) Bin packing with discrete item sizes. II. Tight bounds on first fit. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 69–101. (Ding Zhu Du) **99m:68080** 68Q25

— (*with* Calderbank, A. Robert; Rains, Eric M.; Sloane, Neil J. A.) Quantum error correction via codes over GF(4). (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1369–1387. (Dennis Dieks) **99m:94063** 94B60

— (*with* Bennett, Charles H.) Quantum information theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2724–2742. (Summary) **99h:94025** 94A15 (81P99, 94–02, 94A05, 94A60)

— (*with* Sloane, Neil J. A.) A family of optimal packings in Grassmannian manifolds. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 2, 157–163. (Simon N. Litsyn) **99b:52047** 52C17 (11H31, 94B75)

— (*with* Bennett, Charles H.; DiVincenzo, David P.; Fuchs, Christopher A.; Mor, Tal; Rains, Eric M.; Smolin, John A.; Wootters, William K.) Quantum nonlocality without entanglement. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1070–1091. (V. Ya. Kreinovich) **99m:81027** 81P99 (68Q75, 81P15)

— *see also* **Jackson, Allyn** *and* **Graham, Ronald L.**

Shorack, Galen R. Inequalities for quantile functions with a uniform Studentized CLT that includes trimming. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 4, 307–335. (Summary) **99c:60033** 60E15 (60F05, 60F15, 62G20)

— Applications of weighted approximations via quantile inequalities. (English summary) *Asymptotic methods in probability and statistics (Ottawa, ON, 1997)*, 151–167, *North-Holland, Amsterdam*, 1998. (Miguel A. Arcones) **99i:60042** 60E15 (60F05, 62G09)

Shore, Richard A. (*with* Khusainov, B. M.) Categoricity and Scott families. *Combinatorics, complexity, & logic (Auckland, 1996)*, 299–307, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 03C57 (03D45)

— Conjectures and questions from Gerald Sacks's *Degrees of unsolvability*. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 233–253. (Anne Leggett) **99a:03043** 03D25 (01A60, 03–02, 03–03, 03D30, 03D60)

— (*with* Khusainov, B. M.; Nies, André) Computable models of theories with few models. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 165–178. (Alexandre Ivanov) **99c:03049** 03C15 (03C35, 03C57)

— (*with* Khusainov, B. M.) Computable isomorphisms, degree spectra of relations, and Scott families. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 153–193. (Summary) **99g:03046** 03D45 (03C57, 03D25)

— (*with* Nies, André; Slaman, Theodore A.) Interpretability and definability in the recursively enumerable degrees. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 241–291. (C. G. Jockusch, Jr.) **99m:03083** 03D25 (03D30, 03D35)

Shorey, T. N. Some applications of Diophantine approximations to Diophantine equations. *Number theory (Paris, 1993–1994)*, 189–198, *London Math. Soc. Lecture Note Ser.*, 235, *Cambridge Univ. Press, Cambridge*, 1996. (Michel Waldschmidt) **99e:11034** 11D61 (11J86)

— (*with* Mignotte, Maurice) The equations $(x+1)\cdots(x+k)=(y+1)\cdots(y+mk)$, $m=5,6$. *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 215–225. (Yann Bugeaud) **99h:11032** 11D41

— Perfect powers in products of arithmetical progressions with fixed initial term. *Indag. Math. (N.S.)* **7** (1996), *no.* 4, 521–525. (A. Pethő) **99b:11025** 11D41 (11B25)

— (*with* Saradha, N.; Tijdeman, R.) Corrections to the paper: "On values of a polynomial at arithmetic progressions with equal products" [Acta Arith. **72** (1995), no. 1, 67–76; MR 96j:11041]. *Acta Arith.* **84** (1998), *no.* 4, 385–386. (István Gaál) **99g:11043** 11D75 (11C08, 11D41)

— (*with* Saradha, N.) The equation $(x^n-1)/(x-1)=y^q$ with x square. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 1–19. (Yann Bugeaud) **99h:11037** 11D61 (11J86)

Shorgin, S. Ya. (*with* Korolev, V. Yu.) On the absolute constant in the remainder term estimate in the central limit theorem for Poisson random sums. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 305–308, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60F05

— On a condition of existence of integer-valued random variables with given two moments. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 343–347, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60C05 (60E05)

— Asymptotic estimates of insurance tariffs in the individual risk model. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci. (New York)* **89** (1998), *no.* 5, 1559–1569. (*see* **99d:00033**) 62P05

— Exponential bounds for generalized Poisson distributions. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci. (New York)* **91** (1998), *no.* 3, 2984–2989. (Paul Embrechts) **99k:60046** 60E15 (60G50)

Shorina, Svetlana Yu. (*with* Bukatin, Michael A.) Partial metrics and co-continuous valuations. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 125–139, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (Summary) **99g:68125** 68Q55 (06B35)

Short, Mark (*with* Stewart, D. Scott) Cellular detonation stability. I. A normal-mode linear analysis. (English summary) *J. Fluid Mech.* **368** (1998), 229–262. (Summary) **99e:80006** 80A25 (76E99, 76N15)

— (*with* Stewart, D. Scott) The multi-dimensional stability of weak-heat-release detonations. (English summary) *J. Fluid Mech.* **382** (1999), 109–135. (Summary) **99m:80017** 80A25 (76L05, 76N10)

Shortis, Trudi A. (*with* Hall, Philip[2]) On the nonlinear stability of the oscillatory viscous flow of an incompressible fluid in a curved pipe. (English summary) *J. Fluid Mech.* **379** (1999), 145–163. (Summary) **99j:76048** 76E30

Shortt, Rae Michael (*with* Bhaskara Rao, K. P. S.) Weak cardinal algebras. (English summary) *Papers on general topology and applications (Brookville, NY, 1990)*, 156–162,

Ann. New York Acad. Sci., 659, *New York Acad. Sci., New York*, 1992. (T. Thrivikraman) **99a:06021** 06F05 (28A99)

— (*with* Göbel, Rüdiger; Bhaskara Rao, K. P. S.) Extensions of group-valued set functions. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 1, 35–44. (Przemo Kranz) **99c:28032** 28B10 (20K30)

— (*with* D'Aniello, E.; Hirshberg, A.; Bhaskara Rao, K. P. S.) Bounded common extensions of vector measures. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 766–774. (L. Ya. Savel'ev) **99e:28018** 28B05

— (*with* Hirshberg, A.) Strassen's theorem for group-valued charges. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 173–178, *Kluwer Acad. Publ., Dordrecht*, 1997. (K. P. S. Bhaskara Rao) **99i:28009** 28A35 (28B10, 28B15)

— (*with* Bhaskara Rao, K. P. S.) Borel spaces. II. *Dissertationes Math.* (*Rozprawy Mat.*) **372** (1998), 48 *pp.* (Jakub Jasiński) **99d:28004** 28A05 (03E15, 04A15)

— (*with* Kuske, Dietrich) Topology for computations of concurrent automata. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 3, 327–362. (Wiesław Zielonka) **99g:68066** 68Q10 (18B20, 68Q55, 68Q70)

— (*with* D'Aniello, E.; Bhaskara Rao, K. P. S.) A Stone space approach to the existence of bounded common extensions. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 442–454. (Z. Lipecki) **99h:28002** 28A10

— (*with* D'Aniello, E.) Vector-valued capacities. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 311–324. (Richard Becker) **99h:28026** 28B15 (28C15)

Shoshitaishvili, A. N. Qualitative behavior control problem and stabilization of dynamical systems. (English summary) *Geometry of feedback and optimal control*, 423–462, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 93D15 (93B29)

Shou, Biao (*with* Li, Xiaofeng[1]; Zheng, Shirong) Research on the optimal parallel algorithms of broadcast-class problems. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 5, 455–463. (A. T. Amin) **99h:68067** 68Q22

Shou, Hua Hao (*with* Wang, Guo Jin[1]) The boundary of an interval Bézier curve. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 37–44. (*see* **99k:65006**) 65D17 (51N20)

Shoukralla, E. S. A technique for the solution of certain singular integral equation of the first kind. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 165–173. (Summary) **99e:65184** 65R20

Shoup, Victor (*with* Smolensky, Roman) Lower bounds for polynomial evaluation and interpolation problems. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 301–311. (Joachim von zur Gathen) **99h:68085** 68Q25 (68Q40)

— (*with* Cramer, Ronald) A practical public key cryptosystem provably secure against adaptive chosen ciphertext attack. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 13–25, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94041** 94A60

— (*with* Kaltofen, Erich) Subquadratic-time factoring of polynomials over finite fields. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1179–1197. (Summary) **99m:68097** 68Q40 (11Y16, 13P05)

Shovkovy, I. A. Mass generation in the supersymmetric Nambu-Jona-Lasinio model in an external magnetic field. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 182–186, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 81V25

— (*with* Gusynin, V. P.; Hong, D. K.) Chiral symmetry breaking by a non-abelian external field in 2 + 1 dimensions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5230–5235. 81T13 (81R40)

Showalter, R. E. (*with* Shi, Peter) Plasticity models and nonlinear semigroups. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 218–245. (Martin Brokate) **99b:73020** 73E50 (35Q72, 47H06, 47H20)

— (*with* Shi, Peter) Dynamic plasticity models. (English summary) Symposium on Advances in Computational Mechanics, Vol. 4 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 3-4, 501–511. (Martin Brokate) **99b:73021** 73E50 (35Q72, 47H06, 47H20)

Shpadi, Yu. R. The first boundary value problem for the heat equation with a divergence term in the form of a Bessel operator in a semibounded domain. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 64–70. (Lubomira G. Softova) **99h:35114** 35K65

Shpankovskiĭ, V. *see* **Szpankowski, Wojciech**

Shparlinski, Igor E. (*with* Stepanov, Sergei Aleksandrovich) Estimation of trigonometric sums with rational and algebraic functions. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II* (*Russian*), 5–18, 253, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11L07

— (*with* Mans, Bernard; Pappalardi, Francesco) On the Ádám conjecture on circulant graphs. *Computing and combinatorics* (*Taipei*, 1998), 251–260, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 05C60 (68R10)

— (*with* von zur Gathen, Joachim) The CREW PRAM complexity of modular inversion. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 305–315, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68104** 68Q25 (11Y16, 68Q22)

— (*with* von zur Gathen, Joachim) Orders of Gauss periods in finite fields. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 1, 15–24. (Francesco Pappalardi) **99j:11142** 11T30

— (*with* Everest, G. R.) Counting the values taken by algebraic exponential polynomials. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 665–675. (A. J. van der Poorten) **99f:11042** 11D61 (11B83)

— (*with* von zur Gathen, Joachim) Computing components and projections of curves over finite fields. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 822–840 (*electronic*). (Genady Lazarevich Margolin) **99h:11065** 11G20 (11Y16, 14G15, 68Q40)

Shpektorov, S. V. Complementary l_1-graphs. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 323–331. (Kevin Lawrence McAvaney) **99j:05162** 05C75

Shpigel, Miron The ideal structure of some analytic crossed products. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2515–2538. (Kichi-Suke Saito) **99i:46046** 46L05 (46L55, 47D25)

Shpilrain, Vladimir (*with* Yu, Jie-Tai) Polynomial automorphisms and Gröbner reductions. (English summary) *J. Algebra* **197** (1997), *no.* 2, 546–558. (Franz Pauer) **99c:13055** 13P10 (13F20)

— Generalized primitive elements of a free group. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 4, 270–278. (Thaddeus C. Hurley) **99j:20033** 20E05 (16S34, 20F28)

— (*with* Yu, Jie-Tai) On generators of polynomial algebras in two commuting or non-commuting variables. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 3, 309–315. (L. Andrew Campbell) **99g:16044** 16W20 (08A35, 16S10, 17C99)

Shpitalnik, Gregory (*with* Glozman, Alex; Kedem, Klara) On some geometric selection and optimization problems via sorted matrices. (English summary) *Comput. Geom.* **11** (1998), *no.* 1, 17–28. (Summary) **99c:65261** 65Y25 (65K10)

Shpitonkov, M. I. (*with* Razzhevaĭkin, V. N.) ★ Вопросы эволюционного моделирования в задачах корреляционной адаптометрии. (Russian. Russian summary) [Questions of evolution modeling in problems of correlation adaptometry] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1995. 39 *pp.* 92D15

Shpot, M. (*with* Diehl, H. W.) Massive field-theory approach to surface critical behavior in three-dimensional systems. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 3, 595–647. (Summary) **99g:81140** 81T17

Shragin, I. V. Some remarks on Musielak-Orlicz spaces generated by functions of a vector argument. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 237–247. (Marian Nowak) **99a:46055** 46E30

Shramko, Yaroslav A theory of relevant properties. I. Reflections and definitions. (English summary) Analytical philosophy and epistomology in Ukraine. *Theoria* (*San Sebastián*) (2) **14** (1999), *no.* 34, 63–81. (*see* **99k:03002**) 03A05

— *see also* **Analytical philosophy and epistomology in Ukraine**, **99k:03002**

Shreve, Warren E. (*with* Chen, Guantao; Faudree, Ralph J.) Note on Whitney's theorem for k-connected graphs. (English summary) *Ars Combin.* **49** (1998), 33–40. (Summary) **99c:05117** 05C40

— (*with* Chen, Guantao; Erdős, Paul[1]) Ramsey numbers for irregular graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 139–145. (*see* **99i:00025**) 05C55

— (*with* Cai, Xiao Tao) (1 mod 3)-cycles. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 179–185. (Summary) **99m:05082** 05C38

Shrikhande, Mohan S. (*with* Bekker, Boris; Ionin, Yury J.) Embeddability and construction of affine α-resolvable pairwise balanced designs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 2, 111–129. (Elizabeth J. Billington) **99a:05008** 05B05

Shrikhande, S. S. R. C. Bose Memorial Conference, Fort Collins, Colorado: my reminiscences of Professor R. C. Bose and disproof of Euler's conjecture. R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 273–276. (*see* **99f:62006**) 01A70

Shrira, V. I. (*with* Kharif, Christian; Badulin, S.) Instabilities of finite amplitude short-crested free surface waves. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 291–299, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76E99)

— (*with* Voronovich, Vyacheslav V.; Pelinovsky, Dmitry E.) On internal wave-shear flow resonance in shallow water. (English summary) *J. Fluid Mech.* **354** (1998), 209–237. (Summary) **99j:76025** 76C10 (86A05)

Shrivastava, A. K. (*with* Jain, Rajendra Kumar[1]; Fisher, Brian) Fixed points on three complete metric spaces. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 27–35. 54H25

— (*with* Jain, Rajendra Kumar[1]; Nayak, B. K.) A related fixed point theorem on four complete metric spaces. (English summary) *Ultra Sci. Phys. Sci.* **11** (1999), *no.* 1, 100–103. 54H25

Shrivastava, B. M. L. (*with* Srivastava, S. S.) Determination of two species population equation. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 98–99. (Summary) **99d:92030** 92D25 (33C60)

Shrivastava, H. S. P. On certain expansions. I. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **39** (1996), *no.* 3, 171–195. (R. K. Saxena) **99d:33014** 33C45 (33C60)

— Double integrals involving generalized H-function of two variables. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 107–130. (Summary) **99g:33043** 33C70 (33C60)

— Fractional integrals of the generalized Kampé de Fériet functions and the H-function of two variables. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 47–58. (Summary) **99g:33047** 33C90 (33C60)

— Expansions for the generalized H-function of two variables in series involving Fourier orthogonal polynomials. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 177–192. (Summary) **99g:33035** 33C50

— Double series for generalized H-function of two variables. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 77–85. (Summary) **99b:33028** 33C60

Shrivastava, Praveen Kumar (*with* Bawa, N. P. S.; Raich, Vivek V.) Common fixed point theorems for three mappings under weak commutativity condition. *J. Indian Acad. Math.* **20** (1998), *no.* 2, 207–214. 54H25

Shrivastava, Rajeev P. (*with* Goyal, Anil; Agrawal, R. D.) Some finite integrals involving the I-function of two variables. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 87–92. 33C60

— (*with* Goyal, Anil; Agrawal, R. D.) Application of I-function of two variables in problem of vibration in a string. *J. Indian Acad. Math.* **20** (1998), *no.* 2, 163–168. 73D30

Shrivastava, Rajesh (*with* Khare, Abhay) A fixed point theorem in d-complete L-space. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 128–130. 54H25

— (*with* Khare, Abhay) A fixed point theorem for compact spaces. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 139–140. 54H25

Shrivastava, Umesh Kumar (*with* Varma, Sushama K.; Yadav, Ramadhar Singh) On uniform $F(a, q)$ summability of Fourier series. *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 449–456. 42A24

— (*with* Verma, Alok) On the convergence of ultraspherical polynomials. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 2, 281–282. (Summary) **99j:33017** 33C55

Shrock, Robert (*with* Feldmann, Heiko; Guttmann, Anthony J.; Jensen, Iwan; Tsai, Shan-Ho) Study of the Potts model on the honeycomb and triangular lattices: low-temperature series and partition function zeros. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2287–2310. (Summary) **99b:82019** 82B20 (82B26)

— (*with* Roček, Martin; Tsai, Shan-Ho) Chromatic polynomials for families of strip graphs and their asymptotic limits. (English summary) *Phys. A* **252** (1998), *no.* 3-4, 505–546. (Zhibo Chen) **99c:05070** 05C15

— (*with* Tsai, Shan-Ho) Ground-state entropy of the Potts antiferromagnet on cyclic strip graphs. (English summary) *J. Phys. A* **32** (1999), *no.* 17, *L*195–*L*200. 82B20

Shtal', G. *see* **Stahl, Herbert**

Shtaras, A. L. *see* **Štaras, Arūnas**

Shtar'kov, Yu. M. (*with* Johansson, Thomas; Smeets, Bernard J. M.) On message and key equivocation in secrecy systems. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 117–127; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 197–206. (Summary) **99h:94055** 94A60

Shteinberg, Alexander (*with* Brudnyĭ, Yu. A.) Calderón constants of finite-dimensional couples. (English summary) *Israel J. Math.* **101** (1997), 289–322. (Mieczysław Mastyło) **99e:46099** 46M35

Shteingold, S. D. (*with* Petersen, Peter, V; Wei, Guofang) Comparison geometry with integral curvature bounds. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 6, 1011–1030. (Joseph E. Borzellino) **99c:53022** 53C20 (53C21)

Shtelen, V. M. (*with* Zachary, Woodford W.) On asymptotic nonlocal symmetry of nonlinear Schrödinger equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 4, 417–437. (Roman O. Popovich) **99j:35214** 35Q55 (35A30, 81Q05)

Shtemenko, L. S. (*with* Shugaev, F. V.) ★ Propagation and reflection of shock waves. Series on Advances in Mathematics for Applied Sciences, 49. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *x*+244 *pp. ISBN* 981-02-3010-9 (From the preface) **99g:76080** 76L05 (76N15)

Shtepin, V. V. Intermediate orthogonal Lie algebra $\mathfrak{b}_{n-1/2}$ and its finite-dimensional representations. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 3, 201–223; *translation in Izv. Math.* **62** (1998), *no.* 3, 627–648. (Serge M. Skryabin) **99h:17010** 17B10

Shtern, A. I. Triviality and continuity of pseudocharacters and pseudorepresentations. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 135–138 (1998). (George A. Willis) **99d:22008** 22D12 (22D05, 43A07)

— Almost representations and quasi-symmetry. (English summary) *Lie groups and Lie algebras*, 337–358, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Karl-Hermann Neeb) **99g:22004** 22A25 (22D12, 43A40, 43A65)

Shtern, Vladimir (*with* Borisov, A. A.; Hussain, Fazle) Vortex sinks with axial flow: solution and applications. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2941–2959. (Rupert Klein) **99c:76022** 76C05 (76D05)

— (*with* Hussain, Fazle) Instabilities of conical flows causing steady bifurcations. (English summary) *J. Fluid Mech.* **366** (1998), 33–85. (Alexander Lifschitz) **99h:76036** 76Exx (76C05, 76D05, 76D25)

— (*with* Hussain, Fazle) Collapse, symmetry breaking, and hysteresis in swirling flows. (English summary) *Annual review of fluid mechanics, Vol.* 31, 537–566, *Annu. Rev. Fluid Mech.*, 31, *Annual Reviews, Palo Alto, CA*, 1999. (Summary) **99k:76043** 76D05 (76C05, 76E99)

Shtessel', Yu. B. Nonlinear nonminimum phase output tracking via dynamic sliding manifolds. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 841–850. (Summary) **99c:93019** 93B12 (93C10)

Shtikonene, O. *see* **Štikonienė, Olga**

Shtilman, L. (*with* Kortsarts, Y.; Kliakhandler, I.; Sivashinsky, G. I.) Effects due to shear flow on the diffusive-thermal instability of premixed gas flames. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 401–412. (Summary) **99d:80010** 80A25

Shtork, S. I. (*with* Alekseenko, S. V.; Kuibin, P. A.; Okulov, V. L.) Helical vortices in swirl flow. (English summary) *J. Fluid Mech.* **382** (1999), 195–243. (Summary) **99m:76034** 76C05 (76–05, 76D99)

Shtraus, A. V. Functional models and generalized spectral functions of symmetric operators. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 5, 1–76. (Vladimir Derkach) **99m:47009** 47A45 (47B25)

Shtraus, V. A. On an estimate of the eigenvalues for an infinite-dimensional matrix and its application to the problem of the completeness of an eigenvector system of a completely continuous operator. (English summary) *Linear Algebra Appl.* **274** (1998), 61–76. (L. Rodman) **99a:47008** 47A10 (47B50)

Shtrichman, O. (*with* Pnueli, Amir; Siegel, Michael) Translation validation for synchronous languages. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 235–246, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68N20 (68Q60)

Shtykov, N. N. (*with* Bukina, E. N.) Evaluation of vacuum energy for tensor fields on spherical spaces. (English summary) *Path integrals: Dubna* '96, 203–206, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81T20 (81T16)

Shu, Bin (*with* Shen, Guangyu) Algebraic groups associated with graded Lie algebras of Cartan type. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 533. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 293–298. (Daniel K. Nakano) **99k:17016** 17B10

— On the cohomology of generalized restricted Lie algebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 421–432. (Floyd L. Williams) **99k:17040** 17B56 (17B50)

— Simple generalized restricted modules for graded Lie algebras of Cartan type. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1336–1340. (Rolf Farnsteiner) **99k:17038** 17B50 (17B70)

— Generalized restricted Lie algebras and representations of the Zassenhaus algebra. (English summary) *J. Algebra* **204** (1998), *no.* 2, 549–572. (Daniel K. Nakano) **99g:17046** 17B66 (17B35)

Shu, Chi-Wang (*with* Cockburn, Bernardo) The Runge-Kutta discontinuous Galerkin method for conservation laws. V. Multidimensional systems. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 2, 199–224. (Summary) **99c:65181** 65M60 (65L06, 76M25)

— (*with* Cockburn, Bernardo) The local discontinuous Galerkin method for time-dependent convection-diffusion systems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2440–2463 (*electronic*). (Leonid K. Antanovskiĭ) **99j:65163** 65M60 (76M25)

— (*with* Montarnal, Philippe) Real gas computation using an energy relaxation method and high-order WENO schemes. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 59–80. (Summary) **99h:76068** 76M20 (76N15)

— (*with* Hu, Changqing) Weighted essentially non-oscillatory schemes on triangular meshes. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 97–127. (Summary) **99k:76111** 76M25

Shu, Huai Lin PID neural network for decoupling control of strong coupling multivariable time-delay systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 920–924. 93C83 (93B52)

Shu, Lan (*with* Mo, Zhi Wen) Max-product fuzzy grammars and automata. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 18–22. 68Q45 (03D05, 03E72)

— (*with* Mo, Zhi Wen; Xu, Biao) A survey of the theory and applications of fuzzy mathematics. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 330–335. 03E72

Shu, Li Sheng (*with* Zheng, Wei Xing) About spherical functions on SL(2, **R**). (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 479. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 199–206. (Summary) **99h:43023** 43A90 (22E30, 33C80)

— (*with* Zheng, Wei Xing) The asymptotic behavior of the Fourier transform on SL(2, **R**). (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 279–286. (Ji Sheng Na) **99c:43014** 43A80 (22E30)

— (*with* Li, Gang[1]) Lifting of convexity properties of substitution spaces $P_X X_n$. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 2, 10–12. (Ting Fu Wang) **99j:46022** 46B20

Shu, Qin (*with* Zhang, You Zheng) A fast iterative algorithm for least squares deconvolution. (Chinese. English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **2** (1998), *no.* 1, 81–87. 65T20 (65F30)

Shu, Shi (*with* Yu, Hai Yuan; Huang, Yun Qing) Superconvergence and a high accuracy combination formula for bicubic spline elements for plate problems. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 167–174. (Summary) **99e:65146** 65N12 (73K10, 73V20)

— (*with* Yu, Haiyan; Jin, Jicheng) On orthonormal spline wavelets of multi-knots in the periodic case. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 491–505, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Tian-Xiao He) **99i:42055** 42C15

— (*with* Chen, Chuan Miao; Jin, Jicheng) Superconvergence for triangular cubic elements. (English summary) *Chinese Sci. Bull.* **44** (1999), *no.* 1, 47–49. 65N38 (65N30)

Shu, Shi Chang The minimal submanifolds in a locally symmetric, conformally flat space. II. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*, 8–12. (Guo Ying Jiang) **99e:53093** 53C42

— Totally real harmonic foliations on a complex projective space. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 19–24, 38. (James J. Hebda) **99e:53031** 53C12 (53C42)

— (*with* Zhang, Zong Lao) Complete spacelike submanifolds in a de Sitter space with parallel mean curvature vector. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 3, 252–258. (Hong Wang) **99h:53077** 53C40 (53C50)

— Integral submanifolds with flat normal connections. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 105–107, 112. (Bang-yen Chen) **99g:53060** 53C40 (53C25)

— Totally real submanifolds with flat connection of normal bundle in $\mathbf{CP}^n$. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 3, 25–28. 53C40

Shu, Song Gui (*with* Jiang, Chang Jun; Wang, Cheng Hong; Zheng, Ying Ping) Embedding operations of Petri nets and their use for establishing hierarchies in concurrent systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 551–557. 68Q90 (68Q10)

Shu, Wen Hao (*with* Qian, Guo Liang; Wang, Ya Dong) A heuristic algorithm for extension matrices based on information entropy. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 619–626. 68T05

Shu, Yang Chun Uniqueness of base functions for generalized Hausdorff moments. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 151–154. (Summary) **99k:44016** 44A60

Shu, Zhibiao (*with* Gao, Ling Yun; Song, Shugang) On m-nonadmissible components of solutions of systems of differential equations. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 116–121, 139. (Ilpo Laine) **99g:34014** 34A20

Shuai, Dianxun Asynchronous heterogeneous mechanism for hyper-distributed hyper-parallel AI processing. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 3, 234–241. 68T20 (68Q22)

Shub, Michael (*with* Pugh, Charles) Stable ergodicity and stable accessibility. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 258–268, *Internat. Press, Cambridge, MA*, 199?. (András Krámli) **99c:58097** 58F11 (58F15)

— (*with* Smale, Stephen) On the average cost of solving polynomial equations. *Geometric dynamics* (*Rio de Janeiro*, 1981), 719–724, *Lecture Notes in Math.*, 1007, *Springer, Berlin*, 1983. (*see* **84m:58003**) 58C15 (68Q25)

— (*with* Brezin, Jonathan) Stable ergodicity in homogeneous spaces. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 197–210. (Alexander Starkov) **99a:58103** 58F11

— (*with* Blum, Lenore; Cucker, Felipe; Smale, Stephen) ★ Complexity and real computation. (English summary) With a foreword by Richard M. Karp. *Springer-Verlag, New York*, 1998. xvi+453 *pp. ISBN* 0-387-98281-7 (Klaus Meer) **99a:68070** 68Q15 (03D15, 13P99, 14P99, 65Y20, 68–02)

— (*with* Adler, Roy; Kitchens, Bruce) Errata to: "Stably ergodic skew products" [Discrete Contin. Dynam. Systems **2** (1996), no. 3, 349–350; MR 97d:58113]. *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 456. (From the text) **99k:58110** 58F11 (58F15)

— *see also* **Foundations of computational mathematics, 99g:00039**

Shubin, C. (*with* Vakilian, R.; Wolff, Thomas) Some harmonic analysis questions suggested by Anderson-Bernoulli models. *Geom. Funct. Anal.* **8** (1998), *no.* 5, 932–964. (Keisaku Kumahara) **99k:43005** 43A50 (82B44)

Shubin, Mikhail (*with* Egorov, Yuriĭ Vladimirovich) ★ Foundations of the classical theory of partial differential equations. Translated from the 1988 Russian original by R. Cooke. Reprint of the original English edition from the series Encyclopaedia of Mathematical Sciences [*Partial differential equations. I*, Encyclopaedia Math. Sci., 30, Springer, Berlin, 1992; MR 93a:35004b]. *Springer-Verlag, Berlin*, 1998. *iv*+259 *pp. ISBN* 3-540-63825-3 (Editors) **99f:35003** 35–02

— (*with* Gel′fand, Izrail′ Moiseevich; Retakh, Vladimir) Fedosov manifolds. *Adv. Math.* **136** (1998), *no.* 1, 104–140. (Markus J. Pflaum) **99d:53023** 53C05 (53C15, 58F06)

Shubladze, A. M. A geometric approach to the analysis of optimal structures in systems with a maximum degree of stability. I. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 70–83; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 1, 515–525. (Summary) **99k:93081** 93D15 (93B40)

Shubladze, M. Isolated hypersurface singularities of transversal A_{k-1} type. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 1, 7–10. (Mihai Tibăr) **99i:32045** 32S55 (32S30)

— On finite multiplicity of a hypersurface singularity. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 3, 362–364. (Karim Bekka) **99i:32042** 32S05 (58C27)

Shubov, Marianna A. Spectral operators generated by damped hyperbolic equations. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 3, 358–372. (Summary) **99a:47036** 47B25 (35L99, 47B40, 47D06, 47N20)

— Spectral operators generated by 3-dimensional damped wave equation and applications to control theory. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 177–188, *Plenum, New York*, 1998. (R. F. Datko) **99g:93047** 93C20 (35L99, 47B25, 47N70)

— Asymptotics of spectrum and eigenfunctions for nonselfadjoint operators generated by radial nonhomogeneous damped wave equations. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 245–272. (Yu. V. Egorov) **99c:35179** 35P20 (34L20, 35L05, 47E05)

— Exact boundary and distributed controllability of radial damped wave equation. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 5, 415–437. (Sergei A. Avdonin) **99g:93048** 93C20 (35L05, 93B05)

— (*with* Belinskiĭ, B. P.; Dauer, Jerald P.; Martin, Clyde F.) On controllability of an elastic string with a viscous damping. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 227–255. (Vilmos Komornik) **99f:93009** 93B05 (35L05, 73K50, 93C20)

Shubov, V. I. (*with* Byrnes, Christopher I.; Gilliam, David S.) On the global dynamics of a controlled viscous Burgers' equation. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 4, 457–519. (Grzegorz Karch) **99k:35154** 35Q53 (76D99, 93C20)

— (*with* Burns, John A.; Balogh, A.; Gilliam, David S.) Numerical stationary solutions for a viscous Burgers' equation. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 16 *pp.* (*electronic*). (Summary) **99i:76045** 76D99 (35Q53, 65M99, 76M25)

Shudo, Akira (*with* Ikeda, Kensuke S.) Chaotic tunneling: a remarkable manifestation of complex classical dynamics in non-integrable quantum phenomena. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 234–292. (Summary) **99b:81062** 81Q50 (58F13, 81Q20)

Shue, Shyh-Pyng (*with* Shi, Peng; Agarwal, Ramesh K.) Robust disturbance attenuation with stability for a class of uncertain singularly perturbed systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 873–891. (Vasile Drăgan) **99f:93096** 93C70 (93D21)

— (*with* Shi, Peng) Robust H_∞ control for linear discrete-time systems with norm-bounded nonlinear uncertainties. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 108–111. 93B36 (93C55)

Shugaev, F. V. (*with* Shtemenko, L. S.) ★ Propagation and reflection of shock waves. Series on Advances in Mathematics for Applied Sciences, 49. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *x*+244 *pp. ISBN* 981-02-3010-9 (From the preface) **99g:76080** 76L05 (76N15)

Shugai, G. A. (*with* Yakubenko, P. A.) Spatio-temporal instability in free ultra-thin films. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 3, 371–384. (Summary) **99e:76054** 76E99 (76D45)

— (*with* Yakubenko, P. A.) Note on two-dimensional instability in shallow-water flows. (English summary) *Acta Mech.* **135** (1999), *no.* 1-2, 101–112. (Summary) **99m:76065** 76E99 (86A05)

Shugan, Igor (*with* Volyak, K. I.) On phase kinks, negative frequencies, and other third-order peculiarities of modulated surface waves. (English summary) *J. Fluid Mech.* **368** (1998), 321–338. (Summary) **99e:76014** 76B15 (76D33)

Shukhat, Boris Supervised fuzzy pattern recognition. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 257–265. (Summary) **99h:68150** 68T10

Shukhman, I. G. Nonlinear evolution of a weakly unstable wave in a free shear flow with a weak parallel magnetic field. (English summary) *J. Fluid Mech.* **369** (1998), 217–252. (Summary) **99f:76058** 76E25 (76F99, 76W05)

— A weakly nonlinear theory of the spatial evolution of disturbances in a shear flow with a parallel magnetic field. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1972–1986. (Summary) **99d:76039** 76E25 (76E30, 76W05)

Shukla, Ajay Kumar (*with* Khan, Mumtaz Ahmad) On Lagrange's polynomials of three variables. (English summary) *J. Bihar Math. Soc.* **17** (1996), 9–14. (Summary) **99j:33016** 33C50 (33C65)

— (*with* Khan, Mumtaz Ahmad) On Laguerre polynomials of several variables. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 155–164. (H. S. P. Shrivastava) **99h:33013** 33C10 (33C15, 33C45, 33C50)

— (*with* Khan, Mumtaz Ahmad) A note on Laguerre polynomials of m-variables. (English summary) *Bull. Greek Math. Soc.* **40** (1998), 113–117. (Summary) **99k:33040** 33C50

Shukla, M. K. (*with* Sachan, M. P.) On the strong summability of a Fourier series by (A, λ) means. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), *no.* 3, 167–177. 42A24

Shukla, Nalini (*with* Shukla, Pratibha) A convolution approach to certain subclasses of starlike functions related to complex order. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 43–58. (S. K. Chatterjea) **99h:30016** 30C45

— (*with* Shukla, Pratibha) A convolution approach to certain subclasses of univalent functions related to complex order. *Demonstratio Math.* **31** (1998), *no.* 2, 279–284. (D. R. Wilken) **99h:30017** 30C45

Shukla, Pavika Pair of fixed point densifying mappings in Hausdorff space. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 7–8. 54H25

Shukla, Pratibha (*with* Shukla, Nalini) A convolution approach to certain subclasses of starlike functions related to complex order. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 43–58. (S. K. Chatterjea) **99h:30016** 30C45

— (*with* Shukla, Nalini) A convolution approach to certain subclasses of univalent functions related to complex order. *Demonstratio Math.* **31** (1998), *no.* 2, 279–284. (D. R. Wilken) **99h:30017** 30C45

Shukla, Sandeep K. (*with* Rosenkrantz, Daniel J.; Hunt, Harry B., III; Stearns, Richard E.) The polynomial time decidability of simulation relations for finite state processes: a HORNSAT based approach. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 603–641, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Ryszard Janicki) **99h:68116** 68Q60 (03B05, 68N17, 68Q10, 68Q68)

— (*with* Guo, Qing; Narendran, Paliath) Unification and matching in process algebras. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 91–105, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68075** 68Q10 (68Q40, 68T15)

Shukurov, Anvar (*with* Moss, David Leonard; Sokolov, D. D.) Boundary effects and propagating magnetic fronts in disc dynamos. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 3-4, 285–308. (Summary) **99j:76140** 76W05 (85A30)

Shukuryan, Yu. G. Parallelization of traces of free partially commutative semigroups. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 5, 289–293 (1994). 20M05

ruiz-Shulcloper, José *see* **Ruiz-Shulcloper, José**

Shul′ga, N. F. (*with* Bondarenko, N. V.) The Gauss theorem in potential scattering theory and semi-classical corrections to the eikonal scattering amplitude. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 114–118. (Summary) **99b:81257** 81U05 (81Q20)

Shulgin, Boris V. (*with* Osipov, G. V.; Collins, James J.) Controlled movement and suppression of spiral waves in excitable media. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 6955–6958. 35Q80

Shull, Randy (*with* Trenk, Ann N.) Cliques that are tolerance digraphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 119–134. (Martin G. Everett) **99c:05087** 05C20 (06A07)

Shulman, Viktor S. (*with* Kissin, Edward) ★ Representations on Krein spaces and derivations of C^*-algebras. (English summary) Pitman Monographs and Surveys in Pure and Applied Mathematics, 89. *Longman, Harlow*, 1997. xii+602 *pp. ISBN* 0-582-23157-4 (Aurelian Gheondea) **99d:46091** 46L57 (47B50, 47D20, 81S05)

— Quasivectors and Tomita-Takesaki theory for operator algebras on Π_1-spaces. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 6, 749–783. (Gerald Hofmann) **99b:47055** 47B50 (46L10, 47D25)

— (*with* Kissin, Edward) Differential Banach $*$-algebras of compact operators associated with symmetric operators. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 1–29. (Geoffrey Price) **99h:47052** 47D25 (46K05, 46L57, 47B47, 47D40)

— (*with* Erdos, J. A.; Katavolos, A.) Rank one subspaces of bimodules over maximal abelian selfadjoint algebras. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 554–587. (Allan P. Donsig) **99f:47054** 47D25 (47B10, 47D15)

Shultz, Frederic W. (*with* Alfsen, Erik M.) On orientation and dynamics in operator algebras. I. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 87–108. (Khristo N. Boyadzhiev) **99h:46129** 46L70 (46H70)

— (*with* Alfsen, Erik M.) Orientation in operator algebras. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 12, 6596–6601 (*electronic*). (Khristo N. Boyadzhiev) **99h:46128** 46L70 (46H70)

Shulyaev, D. S. (*with* Sheshko, M. A.; Rasol′ko, G. A.) On exact and approximate solutions of a singular integral equation with a Cauchy kernel on the real half-line. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 43–48, 124. (Summary) **99k:45010** 45E05 (45L05)

— (*with* Mastyanitsa, V. S.) Approximate solution of the generalized Prandtl integro-differential equation. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 2, 70–73, 81. 45L05 (45E05)

Shum, Kar Ping (*with* Ren, Xueming; Guo, Yu Qi) Congruences on ideal nil-extension of completely regular semigroups. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 379–381. (A. R. Rajan) **99b:20094** 20M17

— (*with* Nochefranca, L.) Pseudo-symmetric ideals of semigroup and their radicals. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 727–735. (C. Sri Hari Nagore) **99m:20141** 20M12

— (*with* Chen, De Gang; Wu, Cong Xin) Fuzzy pseudo-symmetric ideals of semigroups and their radicals. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 1–3. 20M99

Shum, P. (*with* Caldwell, James) Solution of the nonlinear Burgers' equation using a split-step finite element analysis technique. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 2, 153–161. (Summary) **99m:65181** 65M60

— (*with* Caldwell, James; So, K. L.) Solving the nonlinear Burgers' equation by the use of split-step finite element analysis method with various adaptive techniques. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 2, 185–198. (Summary) **99m:65182** 65M60

Shum, Siu-Ming (*with* Luo, Yong-Lun; Luk, Kwai-Man) A novel exact two-point field equation (2PFE) for solving electromagnetic scattering problems. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 12, 1833–1841. (Summary) **99i:78004** 78–08 (78A45)

Shumeiko, A. A. (*with* Ligun, A. A.) On a problem of area minimization. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 927–936; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1040–1050 (1998). (Constantin Zălinescu) **99b:52014** 52A38 (52A40)

— (*with* Ligun, A. A.; Radzevich, S. P.; Goodman, E. D.) Asymptotically optimum recovery of smooth contours by [a] Bézier curve. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 495–506. (Summary) **99b:65017** 65D17 (68U05)

Shumway, Robert H. (*with* Cavanaugh, Joseph E.) An Akaike information criterion for model selection in the presence of incomplete data. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 45–65. (Summary) **99d:62003** 62B10

Shumyatskiĭ, P. V. Involutory automorphisms of finite groups and their centralizers. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 6, 425–432. (Andreas Caranti) **99j:20031** 20D45 (20D15)
— Centralizers in groups with finiteness conditions. *J. Group Theory* **1** (1998), *no.* 3, 275–282. (Thomas Weigel) **99g:20074** 20F50
— (*with* Rocco, N. R.) On nilpotent π-subgroups in solvable groups. (English summary) *J. Group Theory* **1** (1998), *no.* 3, 283–290. (Beverly Hargraves) **99i:20026** 20D10 (20D15)
— (*with* Rocco, N. R.) On periodic groups having almost regular 2-elements. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 385–391. (A. H. Rhemtulla) **99m:20086** 20F50 (20E26)
— On groups having a four-subgroup with finite centralizer. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 196, 491–499. (David I. Moldavanskiĭ) **99k:20081** 20F50 (20E26, 20F40)
— On residually finite groups in which commutators are Engel. (English summary) *Comm. Algebra* **27** (1999), *no.* 4, 1937–1940. (John S. Wilson) **99m:20064** 20E26 (20F14, 20F19, 20F45)
— On groups with commutators of bounded order. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2583–2586. (Summary) **99m:20065** 20E26 (20F40, 20F50)
— *see also* **Berkovich, Ya. G., 99j:20007**

Shupikov, Alexander N. (*with* Smetankina, Natalia V.; Sheludko, Hely A.) Selection of optimal parameters of multilayer plates at nonstationary loading. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 553–564. 73K40 (73K10)

Shur, A. M. Syntactical semigroups of avoidable languages. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 683–702, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 594–610. (Andrei Kelarev) **99e:20081** 20M35 (68Q70, 68R15)

Shuryak, E. V. (*with* Schäfer, Thomas[2]) Instantons in QCD. (English summary) *Rev. Modern Phys.* **70** (1998), *no.* 2, 323–425. (Summary) **99b:81268** 81V05 (81T13)

Shushbaev, Sarsen Shushbaevich On the extrema of the eight-dimensional Epstein zeta function. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 109–112 (1996). (Vladimir G. Zhuravlev) **99f:11051** 11E45 (11H55)
— On a perfect form that is not finally extremal. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 75–80. (Meinhard Peters) **99e:11090** 11H55
— *see also* **Birthday: Shushbaev, Sarsen Shushbaevich**

Shushlyapin, E. A. Synthesis of linear and nonlinear systems for the control of the terminal state, based on finite state models. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 10–16, 154. 93B51 (93C10)

Shuster, L. A. (*with* Chernyavskaya, N.) Solvability in L_p of the Dirichlet problem for a singular nonhomogeneous Sturm-Liouville equation. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 3, 259–272. (Tetsutaro Shibata) **99m:34054** 34B24 (34L05)
— (*with* Chernyavskaya, N.) Weight summability of solutions of the Sturm-Liouville equation. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 456–473. (L. V. Kritskov) **99m:34055** 34B24 (34C11)
— Estimates of eigenfunctions and localization of the spectrum of differential operators. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 363–375. (Summary) **99j:34121** 34L05 (34B05, 47E05)
— (*with* Chernyavskaya, N.) Estimates for the Green function of a general Sturm-Liouville operator and their applications. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1413–1426. (Christiane Tretter) **99h:34040** 34B27 (34B24)

Shustin, Evgeniĭ Equiclassical deformation of plane algebraic curves. (English summary) *Singularities (Oberwolfach, 1996)*, 195–204, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Lê Văn Thành) **99k:14041** 14H10 (14H20)
— (*with* Greuel, Gert-Martin; Lossen, Christoph) Plane curves of minimal degree with prescribed singularities. (English summary) *Invent. Math.* **133** (1998), *no.* 3, 539–580. (Sherwood Washburn) **99g:14035** 14H20 (14B05)
— Gluing of singular and critical points. (English summary) *Topology* **37** (1998), *no.* 1, 195–217. (Patrice Orro) **99f:14073** 14P25 (14N10, 57R70)

Shustova, E. P. An interrelation between geometries of a third-order tangent bundle and the Whitney sum. (Russian. English and Russian summaries) *Tr. Geom. Semin. No.* 23 (1997), 211–221. (Andrew Bucki) **99k:58010** 58A20 (53B05)

Shutler, Paul M. E. Euler's constant, Stirling's approximation and the Riemann zeta function. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 5, 677–688. (Andreas Guthmann) **99d:11135** 11Y60 (33B15)
— (*with* Cheah, H. M.) Applying Boltzmann's definition of entropy. (English summary) *European J. Phys.* **19** (1998), *no.* 4, 371–377. (Summary) **99c:82004** 82B03 (82B05)

Shutov, A. A. (*with* Shkadov, V. Ya.) Stability of a surface-charged viscous jet in an electric field. *Fluid Dynam.* **33** (1998), *no.* 2, 176–185; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 29–40 (*Russian. Russian summary*). 76E25 (76D25)

Shutyaev, V. P. (*with* Parmuzin, E. I.) Numerical algorithms for solving a problem of data assimilation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 7, 816–827; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 7, 792–803. (V. D. Glushenkov) **99d:49056** 49M25 (49J27, 65M12)
— On data assimilation in a scale of Hilbert spaces for quasilinear evolution problems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 383–389, 430; *translation in Differential Equations* **34** (1998), *no.* 3, 382–388. (From the text) **99i:34087** 34G20 (35R20, 46N20, 49J20, 76N10, 93C20)

Shuvalov, A. L. Topological features of the polarization fields of plane acoustic waves in anisotropic media. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 2911–2947. (Summary) **99g:73038** 73D15 (73B40, 73R05)
— (*with* Hayes, Michael A.) On the extreme values of Young's modulus, the shear modulus, and Poisson's ratio for cubic materials. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 3, 786–787. (Summary) **99g:73015** 73B40
— (*with* Darinskiĭ, A. N.; Alshits, V. I.; Lothe, J.; Lyubimov, V. N.) An existence criterion for the branch of two-component surface waves in anisotropic elastic media. (English summary) *Wave Motion* **28** (1998), *no.* 3, 241–257. (Summary) **99e:73044** 73D20 (73B40)

Shuzhong, Shi *see* **Shi, Shu Zhong**

Shvarts, Dov (*with* Alon, U.; Ofer, D.) Rayleigh-Taylor instability under a time dependent driving acceleration. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 1–7, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99
— (*with* Alon, U.; Ofer, D.) Scaling laws of nonlinear Rayleigh-Taylor and Richtmyer-Meshkov instabilities. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 8–13, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99
— (*with* Alon, U.) Two-phase flow model for Rayleigh-Taylor and Richtmyer-Meshkov mixing. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 14–22, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 16E99

Shvartsman, Mikhail M. (*with* Cermelli, Paolo; Gurtin, Morton E.) A note on the thermomechanics of curvature flows in $\mathbf{R}^3$ and on surfaces in $\mathbf{R}^3$. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 587–599. (Matteo Novaga) **99k:73018** 73B30 (35Q72, 80A22)

Shvartsman, P. *see* **Shvartsman, Pavel**

Shvartsman, P. A. *see* **Shvartsman, Polina Arnol'dovna**

Shvartsman, Pavel A geometrical approach to the K-divisibility problem. (English summary) *Israel J. Math.* **103** (1998), 289–318. (Fernando Cobos) **99d:46100** 46M35 (46B70)
— (*with* Sagher, Yoram) On the John-Strömberg-Torchinsky characterization of BMO. *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 521–548. (Da Chun Yang) **99k:46047** 46E30 (41A10, 42C15, 46E35)

Shvartsman, Polina Arnol'dovna On the localization of spectra for the sum and product of matrices of certain classes. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 1, 202–247; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 159–195. (Jaroslav Zemánek) **99d:15007** 15A18 (15A42, 15A57, 47A10, 47B50)

Shvaytser, Haim (*with* Straach, Janell) Utilizing moment invariants and Gröbner bases to reason about shapes. (English summary) *Comput. Intelligence* **14** (1998), *no.* 4, 461–474. (Summary) **99e:68140** 68T10 (68Q40)

Shved, O. L. (*with* Ibragimov, V. A.; Makhnach, V. I.) The method of p-analytic representations in mixed boundary value problems on the elastoplastic antiplane state of polygonal regions. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 5, 44–48, 124. (Summary) **99j:73058** 73E99 (30G20, 73C35, 73V35)
— (*with* Ibragimov, V. A.; Makhnach, V. I.) An elastoplastic problem of antiplanar deformation of a rectangular domain with a cut. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 43–46, 140. 73E99 (73V35)

Shvedov, A. S. A three-layer explicit difference scheme of the second order of accuracy for parabolic equations. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 5, 751–759, 800; *translation in Math. Notes* **60** (1996), *no.* 5-6, 562–568 (1997). (Summary) **99c:65160** 65M06
— (*with* Zhukov, V. T.) Explicit iterative difference schemes for parabolic equations. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 2, 133–148. (Alexander Ostermann) **99e:65110** 65L06 (65M06, 65M20)

Shvedov, I. A. (*with* Kuz'minov, V. I.) Normal solvability of the exterior differentiation operator on warped products. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 2, 324–337, ii; *translation in Siberian Math. J.* **37** (1996), *no.* 2, 276–287. (Jürgen Eichhorn) **99b:58012** 58A12 (58G05)
— (*with* Kuz'minov, V. I.) L_p-theory of differential forms on warped products. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk, 1996)*, 110–120, 190, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Józef Dodziuk) **99e:58002** 58A12 (58G05)
— (*with* Kuz'minov, V. I.) L_p-theory of differential forms on warped products [translation of *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk, 1996)*, 110–120, 190, Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk, 1997; MR 99e:58002]. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 3, 74–89. 58A12 (58G05)
— (*with* Kuz'minov, V. I.) On orthogonal direct sum decomposition of de Rham complexes of warped products of Riemannian manifolds. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 354–368, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 311–322. (Jürgen Eichhorn) **99k:58168** 58G05 (58A12)
— (*with* Storozhuk, K. V.) L_p cohomology of warped products of Lipschitz Riemannian manifolds. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 633–649, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 549–563. (Jürgen Eichhorn) **99k:58006** 58A12 (58G05)

Shvedov, O. Yu. (*with* Maslov, V. P.) The complex germ method in the Fock space. I. Asymptotics of wave packet type. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 310–329; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 1013–1028 (1996). (Alexander Tovbis) **99j:81042** 81Q20
— (*with* Maslov, V. P.) The complex germ method in the Fock space. II. Asymptotics that correspond to finite-dimensional isotropic manifolds. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 479–506; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1141–1161 (1996). (Alexander Tovbis) **99j:81043** 81Q20
— (*with* Maslov, V. P.) Spectral problems with an operator-valued symbol in quantum field theory. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 3, 312–314. (Yu. M. Berezanskiĭ) **99f:81049** 81Q10 (46F25, 47N50)
— (*with* Maslov, V. P.) On the problem of divergences in quantum field theory. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 604–608. (George K. Savvidy) **99i:81153** 81T15
— (*with* Maslov, V. P.) On the number of particles in the condensate of a weakly nonideal Bose gas. (Russian) *Mat. Zametki* **61** (1997), *no.* 5, 790–792; *translation in Math. Notes* **61** (1997), *no.* 5-6, 661–664. (V. I. Yukalov) **99d:82012** 82B10
— (*with* Maslov, V. P.) On complex germ in relativistic field theory. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 319–322. (J. S. Joel) **99d:58182** 58G99 (58G18, 81T99)
— (*with* Maslov, V. P.) On the axiomatics of quantum field theory with ultraviolet cutoff. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 147–150; *translation in Math. Notes* **63** (1998), *no.* 1-2, 133–136. (J. S. Joel) **99e:81131** 81T05

Shvets, G. (*with* Li, Xiaohu) Theory of laser wakes in plasma channels. (English summary) *Phys. Plasmas* **6** (1999), *no.* 2, 591–602. (Summary) **99k:76164** 76X05

Shvets, N. R. (*with* Evans, Nick) The field theory of non-supersymmetric brane configurations. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 69–81. (Marco Spaans) **99f:81158** 81T30 (81T60, 83E30)

Shwartz, Adam (*with* Feinberg, Eugene A.) Constrained dynamic programming with two discount factors: applications and an algorithm. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 628–631. 90C40 (93E20)

Shyamasundar, R. K. *see* **Advances in computing science—ASIAN'97, 99b:68001**

Shygimaga, Dmitro V. (*with* Vavriv, D. M.; Vinogradov, Vladimir V.) Chaos due to the interaction of high- and low-frequency modes. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 12, 1255–1260. (Summary) **99h:94084** 94C05

Shyr, H. J. (*with* Yü, Shih Shêng) Bi-catenation and shuffle product of languages. (English summary) *Acta Inform.* **35** (1998), *no.* 8, 689–707. (Summary) **99f:68127** 68Q45

— (*with* Fan, Chen-Ming; Yü, Shih Shêng) d-words and d-languages. (English summary) *Acta Inform.* **35** (1998), *no.* 8, 709–727. (Summary) **99e:68089** 68Q45 (68R15)

— (*with* Tsai, Y. S.) Free submonoids in the monoid of languages. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 213–222. (Véronique Bruyère) **99f:68139** 68Q70 (20M35, 68Q45, 94A45)

— (*with* Yü, Shih Shêng) 2-codes and 2-code annihilators. (English summary) *Semigroup Forum* **56** (1998), *no.* 1, 36–48. (Alessandra Cherubini) **99a:68112** 68Q45

— (*with* Tu, F. K.) Some algebraic properties of semicodes. (English summary) *Soochow J. Math.* **24** (1998), *no.* 1, 59–71. (Dong Yang Long) **99c:68205** 68R15 (68Q70)

— (*with* Yü, Shih Shêng) Midst-languages. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 113–130. (Pascal Weil) **99g:68120** 68Q45

— (*with* Fan, Chen-Ming) Some properties of maximal comma-free codes. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 121–135. (Véronique Bruyère) **99m:68156** 68R15 (68Q45, 94A45)

Shyu, Daw-Jong (*with* Wang, Biing-Feng; Tang, Chuan Yi) Efficient emulations for X-trees and m-ary trees. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 2, 95–116. 90B12 (65Y05)

Shyu, Dzhen *see* **Xu, Jian[2]**

Shyue, Keh-Ming An efficient shock-capturing algorithm for compressible multicomponent problems. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 208–242. (Summary) **99a:76103** 76M20 (76L05)

— (*with* Glimm, James; Grove, John W.; Li, Xiao Lin; Zeng, Yanni; Zhang, Qiang[1]) Three-dimensional front tracking. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 703–727 (*electronic*). (Alexander Doktor) **99c:35153** 35L67 (65M99)

Shyur, Huan-Jyh (*with* Elsayed, E. A.; Luxhøj, James T.) A general model for accelerated life testing with time-dependent covariates. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 3, 303–321. 90B25 (62N05)

Shyy, Wei (*with* Krishnamurty, V. S.) Erratum: "Study of compressibility modifications to the k-ϵ turbulence model" [Phys. Fluids **9** (1997), no. 9, 2769–2788;; MR 98f:76036]. *Phys. Fluids* **9** (1997), *no.* 12, 3938. 76F05 (76N10)

— (*with* Mei, Renwei) On the finite difference-based lattice Boltzmann method in curvilinear coordinates. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 426–448. (Summary) **99b:76065** 76M25 (76P05)

si Si *see* **Si Si**

Si, Helen (*with* Hou, Thomas Yizhao; Klapper, Isaac) Removing the stiffness of curvature in computing 3-D filaments. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 628–664. (From the text) **99c:76085** 76M25 (65N30, 73K05, 76C05)

— (*with* Ortiz, Michael; Repetto, E. A.) A continuum model of kinetic roughening and coarsening in thin films. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 697–730. (Summary) **99k:82078** 82D55

Si, Jian-Guo (*with* Cheng, Sui Sun) Note on an iterative functional-differential equation. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 609–614. (Summary) **99h:34093** 34K05

— (*with* Wang, Xin-Ping) Smooth solutions of a nonhomogeneous iterative functional-differential equation with variable coefficients. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 377–392. (Andrey Ponomaryov) **99h:34094** 34K05 (47N20)

— (*with* Wang, Xin-Ping; Cheng, Sui Sun) Analytic solutions of a functional-differential equation with a state derivative dependent delay. (English summary) *Aequationes Math.* **57** (1999), *no.* 1, 75–86. (Summary) **99k:34145** 34K05

— (*with* Wang, Xin-Ping) Analytic solutions of a second-order functional-differential equation with a state derivative dependent delay. (English summary) *Colloq. Math.* **79** (1999), *no.* 2, 273–281. (Summary) **99h:34095** 34K05 (34K25)

Si, Jie (*with* Zhou, Gui An; Li, Han; Han, Ying Duo) Theory and applications of a supervised learning method based on gradient algorithms. I. The fundamental algorithm. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 7, 71–73. (Summary) **99a:68145a** 68T05

— (*with* Zhou, Gui An; Li, Han; Han, Ying Duo) Theory and applications of a supervised learning method based on gradient algorithms. II. The training mechanism. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 9, 104–107, 117. (Summary) **99a:68145b** 68T05

Si, Li Geng A note on Lipschitz stability. III. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1996**, *no.* 3, 1–6. (Summary) **99j:34077** 34D99

— (*with* Guo, Shu Li) Generalizations of a class of integral inequalities. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **27** (1998), *no.* 2, 95–98. 26D10 (34A40)

Si, Si *see* **Si Si**

Siarry, Patrick (*with* Berthiau, Gérard; Durbin, François; Haussy, Jacques) Enhanced simulated annealing for globally minimizing functions of many-continuous variables. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 209–228. 65Y15

— (*with* Guély, Francois; La, Rémy) Fuzzy rule base learning through simulated annealing. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 353–363. 68T05

Šiaulys, J. On the convergence to the Poisson law. (English summary) *New trends in probability and statistics, Vol.* **4** (*Palanga*, 1996), 389–398, *VSP, Utrecht*, 1997. (Summary) **99g:60052** 60F05

Sibert, Edwin L., III (*with* Karabulut, Hasan) Distributed Gaussian polynomials and associated Gaussian quadratures. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4815–4831. (Summary) **99c:33018** 33C45 (92E10)

Sibeux, C. (*with* Vostrikova, L.) Uniform convergence of semimartingales and minimum distance estimators. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 1-2, 139–164. (Summary) **99e:60095** 60F17 (62F12)

Sibeyn, Jop F. Routing with finite speeds of memory and network. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 488–497, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68M10

— Solving fundamental problems on sparse-meshes. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 288–299, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68M10 (68Q22)

— List ranking on meshes. (English summary) *Acta Inform.* **35** (1998), *no.* 7, 543–566. (Summary) **99d:68096** 68Q22 (68M10, 68P05, 68P10)

— Row-major sorting on meshes. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 847–863. (Summary) **99e:68062** 68Q22

Sibgatullin, N. R. (*with* Cabannes, Henri) The Cauchy problem for a semi-continuous model of the two-dimensional homogeneous Boltzmann equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 217–222. (Summary) **99f:82053** 82C40 (35Q99, 45K05, 76P05)

— (*with* Li, Zhi) A refined theory of long waves on the surface of water. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 184–189; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 177–182. (Summary) **99d:76012** 76B15 (35Q35, 76B25)

Sibirskiĭ, Konstantin Sergeevich *see* **Shcherbakov, B. A.**

Sibold, Klaus (*with* Erdmenger, Johanna; Rupp, Christian) Conformal transformation properties of the supercurrent in four-dimensional supersymmetric theories. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 501–533. (Sergey Nikolaevich Roshchupkin) **99i:81233** 81T60

Siboni, S. Decay of correlations in skew endomorphisms with Bernoulli base. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 463–501. (Mahesh Nerurkar) **99a:28017** 28D05 (58F11)

— Lyapunov exponents, KS-entropy and correlation decay in skew product extensions of Bernoulli endomorphisms. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 631–638. (Sandro Vaienti) **99j:58132** 58F11

— Complex/generalized arithmetico-geometric maps and elliptic integrals. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 1–10. (Summary) **99d:65062** 65D20

— (*with* Brini, F.) Estimates to correlation decay in discrete dynamical systems by spectral methods. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 639–656. (Nikolai Chernov) **99e:28025** 28D05 (58F11)

— Some applications of symbolic dynamics techniques to toral skew endomorphisms. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3665–3675. (Sandro Vaienti) **99f:58132** 58F11 (28D05, 58F03, 58F20)

— Exponential rate of correlation decay for characters in a three-parameter class of toral skew endomorphisms. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 1, 1–16. (Sandro Vaienti) **99c:58099** 58F11

— Some remarks about the thermodynamics of discrete finite Markov chains. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 8, 1011–1024. (Nikolai Chernov) **99g:82049** 82C05

Sibony, Nessim (*with* Fornæss, John Erik) Fatou and Julia sets for entire mappings in $\mathbf{C}^k$. *Math. Ann.* **311** (1998), *no.* 1, 27–40. (Marco Abate) **99e:32044** 32H50

— (*with* Fornæss, John Erik) Hyperbolic maps on $\mathbf{P}^2$. *Math. Ann.* **311** (1998), *no.* 2, 305–333. (Marco Abate) **99d:32032** 32H50 (32C30)

Siburg, Karl Friedrich Bi-invariant metrics for symplectic twist mappings on $T^*\mathbf{T}^n$ and an application in Aubry-Mather theory. *Geometry, topology, and dynamics* (*Montreal, PQ*, 1995), 137–148, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Hansjörg Geiges) **99g:58055** 58F05 (58D05)

— Action-minimizing measures and the geometry of the Hamiltonian diffeomorphism group. *Duke Math. J.* **92** (1998), *no.* 2, 295–319. (Yong-Geun Oh) **99e:58077** 58F05 (58D05, 58E30)

— Rigidity of integrable twist maps and a theorem of Moser. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 725–730. (Yong-Geun Oh) **99d:58070** 58F05 (58F25)

Sichler, J. (*with* Trnková, V.) Clones in topology and algebra. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 2, 243–260. (Andreĭ A. Krokhin) **99m:08005** 08A05 (08A40, 08A62, 08C05, 54C05)

— (*with* Fried, Ervin) On endomorphisms and automorphisms of monounary algebras. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 13–36. (Keith A. Kearnes) **99h:08008** 08A60 (08A35, 08C05)

— (*with* Koubek, V.) On full and faithful Kan extensions. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 3, 291–332. (M. Barr) **99i:18004** 18B15 (18A20, 18A22, 18A40)

— (*with* Pultr, A.) Finite commutative monoids of open maps. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 1, 63–77. (J. R. Isbell) **99g:20115** 20M20 (06D20, 54C10, 54D10, 54H10, 54H15)

— (*with* Koubek, V.) Equimorphy in varieties of distributive double p-algebras. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 473–544. (Vlad Boicescu) **99g:06014** 06D15 (06E15, 08A35, 08B99, 18B15, 54F05)

Siciak, Józef *see* **Complex analysis and applications, 99h:32001**

Sicilia, J. *see* **Sicilia Rodríguez, J.**

Sicilia, Joaquín *see* **Sicilia Rodríguez, J.**

Siciliano, Bruno (*with* Chiaverini, Stefano; Villani, Luigi) An adaptive force/position control scheme for robot manipulators. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 293–303. (*see* **99b:70004**) 70B15 (70Q05, 93C85)

Siciliano, Roberta (*with* Klaschka, Jan; Antoch, Jaromír) Computational enhancements in tree-growing methods. (English summary) *Advances in data science and classification* (*Rome*, 1998), 295–302, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Sicilia Rodríguez, J. (*with* Riera, J.; Alcaide, David) Approximate algorithms for the $P||C_{\max}$ problem. (English summary) *Top* **4** (1996), *no.* 2, 345–359. (Summary) **99c:90069** 90B35 (90C90)

— (*with* Alcaide, David; Vigo, Daniele) A tabu search algorithm for the open shop problem. (English summary) *Top* **5** (1997), *no.* 2, 283–296. (Summary) **99b:90068** 90B30 (90C27)

— (*with* Ramos Domínguez, Rosa María; Ramos Domínguez, María Teresa; Colebrook, M.) Locating a facility on a network with multiple median-type objectives. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 221–235. (Summary) **99m:90153** 90C35 (05C12, 90B80)

Sickel, Winfried (*with* Bourdaud, Gérard) Homeomorphisms which act on Besov spaces. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 1–16, *Prometheus, Prague*, 1996. (Moshe Marcus) **99a:47042** 47B38

— (*with* Runovskiĭ, K. V.) Marcinkiewicz-Zygmund-type inequalities—trigonometric interpolation on non-uniform grids and unconditional Schauder bases in Besov spaces on the torus. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 669–687. (Bui Huy Qui) **99b:46047** 46E35 (41A25, 42A05, 42A15)

— Conditions on composition operators which map a space of Triebel-Lizorkin type into a Sobolev space. The case $1 < s < n/p$. II. (English summary) *Forum Math.* **10** (1998), *no.* 2, 199–231. (Isaac V. Shragin) **99j:47105** 47H30 (46E35)

— Necessary conditions on composition operators acting between Besov spaces. The case $1 < s < n/p$. III. (English summary) *Forum Math.* **10** (1998), *no.* 3, 303–327. (Isaac V. Shragin) **99j:47106** 47H30 (47B35)

Sickles, Robin C. (*with* Huh, Keun; Postert, Anthony K.) Maximum penalized likelihood estimation of mixed proportional hazard models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2143–2164. (Summary) **99e:62172** 62N05 (62G05)

van Siclen, Clinton DeW. *see* **Van Siclen, Clinton DeW.**

Siconolfi, Paolo (*with* Pietra, Tito) Fully revealing equilibria in sequential economies with asset markets. (English summary) *J. Math. Econom.* **29** (1998), *no.* 2, 211–223. (Summary) **99d:90038** 90A60 (90A09)

Siddiqi, A. H. (*with* Ahmad, Rais; Khan, Mohammad Firdosh) Generalized multivalued vector variational inequalities. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 471–476. (Summary) **99c:47114** 47H19 (49J40)

— Problems concerning wavelet-packet approximation. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 243–253, *New Age, New Delhi*, 1997. (*see* **99d:00019**) 42C15

— (*with* Ahmad, Rais; Khan, Mohammad Firdosh) Sensitivity analysis of generalized multivalued variational inequalities. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 125–128. 49K40 (90C31)

— (*with* Ansari, Qamrul Hasan) A generalized vector variational-like inequality and optimization over an efficient set. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 177–191, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (P. D. Panagiotopoulos) **99c:90099** 90C29 (47H19, 47N10, 49J40)

— (*with* Ahmad, M. K.; Mukheimer, A.) Current developments in fractal image compression. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 304–331, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (*see* **98i:00018**) 94A12 (28A80)

— (*with* Ahmad, Rais; Firdosh Khan, M.) Generalized multivalued η-mixed vector variational-like inequalities on locally convex Hausdorff topological vector spaces. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 137–144. (George Isac) **99j:47102** 47H19 (47H04, 49J40)

— (*with* Ahmad, Rais; Khan, Mohammad Firdosh) An iterative scheme for general mixed multivalued mildly non-linear variational inequalities. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 583–588. 49J40 (65J15)

— (*with* Kazmi, K. R.; Khan, Mohammad Firdosh) A perturbed Ishikawa iterative algorithm for generalized strongly nonlinear quasivariational inequalities. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 1–11. (Yuan Guo Zhu) **99b:49008** 49J40 (47H17, 47H19, 65K10)

— (*with* Ansari, Qamrul Hasan; Khan, Mohammad Firdosh) Variational-like inequalities for multivalued maps. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 2, 161–166. 49J40 (90C48)

Siddiqi, M. U. (*with* Madhusudhana, H. S.) On Blahut's decoding algorithms for two-dimensional BCH codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 358–367. (N. L. Manev) **99e:94049** 94B35

Siddiqi, Rafat N. A criterion on continuous functions of Wiener's class. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 255–262, *New Age, New Delhi*, 1997. (Summary) **99d:42008** 42A24

Siddiqi, Shahid S. (*with* Twizell, E. H.) Spline solutions of linear tenth-order boundary-value problems. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 345–362. 65L05 (65D07)

Siddiqui, A. M. (*with* Hayat, Tasawar; Asghar, Saleem) Periodic unsteady flows of a non-Newtonian fluid. (English summary) *Acta Mech.* **131** (1998), *no.* 3-4, 169–175. (Summary) **99e:76004** 76A05

Siddiqui, M. M. (*with* Gürler, Ülkü) On the consistency of a two-sample matching test. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 69–73. (Summary) **99d:62050** 62G10 (62G20)

— (*with* Gürler, Ülkü) Limiting behavior of a matching test for two samples. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 3, 189–200. (Summary) **99m:62072** 62G10 (62G30)

Siddiqui, Mohammad Raziuddin *see* **Siddiqui, Safiuddin**

Siddiqui, Safiuddin Mohammad Raziuddin Siddiqui. *Current Sci.* **76** (1999), *no.* 8, 1153. 01A70

Sidel'nikov, G. L. (*with* Kravchenko, V. F.) Diffraction of fundamental waves of a cylindrical waveguide by a system of annular cuts. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 2, 185–188; *translation in Dokl. Phys.* **43** (1998), *no.* 7, 408–411. 78A50

Sidel'nikov, V. M. (*with* Strunkov, S. P.) On some arithmetic properties of orbit codes in a matrix space. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 185–186; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1328–1329. 94B40 (94B25)

— On a finite matrix group and orbit codes on a Euclidean sphere. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 3, 313–315. (Alla S. Detinko) **99m:20124** 20H20

Sideri, Martha (*with* Gogic, Goran; Papadimitriou, Christos H.) Incremental recompilation of knowledge. (English summary) *J. Artificial Intelligence Res.* **8** (1998), 23–37 (*electronic*). (Summary) **99e:68149** 68T27 (68T30)

— (*with* Kavvadias, Dimitris) The inverse satisfiability problem. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 152–163 (*electronic*). (Summary) **99d:68111** 68Q25 (03B05, 68Q15, 68T30)

Sideris, Athanasios (*with* Tchernychev, Andrei) A multiplier approach for the robust design of discrete-time control systems with real/complex uncertainties. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 851–859. (Summary) **99d:93028** 93B51 (93C55)

— (*with* Tchernychev, Andrei) μ/k_m-design with time-domain constraints. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1622–1627. (Summary) **99h:93045** 93B36 (93B50, 93D21)

— (*with* Yu, Jie) H_∞ control synthesis via reduced-order LMIs. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 85–101. (Summary) **99c:93041** 93B36 (93B50)

— (*with* Tchernychev, Andrei) Robust discrete-time control design with time-varying parametric uncertainties. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 4, 199–213. (Summary) **99m:93039** 93B51 (93C41, 93C55)

Siders, Ryan Layered circlepackings and the type problem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3071–3074. (Frédéric Mathéus) **99a:52027** 52C15 (05B40)

Sidharth, B. G. (*with* Popova, A. D.) The origin of gravitation in quantum mechanics with self-interaction and a self-gravitating wave packet. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 431–440. (From the text) **99k:81050** 81P99

Sidhu, Deepinder P. (*with* Wijesinha, Alexander L.) Performance analysis of a constrained resource sharing system. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 293–311. (Erik A. van Doorn) **99k:60237** 60K25 (68M20)

Sidhu, H. S. (*with* Mercer, G. N.; Weber, R. O.) An oscillatory route to extinction for solid fuel combustion waves due to heat losses. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 2015–2022. (Summary) **99d:80011** 80A25

Sidi, Avram (*with* Climent, Joan-Josep; Neumann, Michael) A semi-iterative method for real spectrum singular linear systems with an arbitrary index. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 21–38. (Cs. J. Hegedüs) **99c:65052** 65F10 (65F20)

— Krylov subspace methods for eigenvalues with special properties and their analysis for normal matrices. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 129–162. (Heike Faßbender) **99i:65038** 65F15

Sidi, Marcel Gain-bandwidth limitations of feedback systems with non-minimum-phase plants. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 731–743. 93B52 (93C80)

Sidki, Said (*with* Brunner, A. M.) The generation of $\mathrm{GL}(n, \mathbf{Z})$ by finite state automata. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 1, 127–139. (Olympia Talelli) **99f:20055** 20F10 (68Q68)

— (*with* Brunner, A. M.; Vieira, Ana Cristina) A just nonsolvable torsion-free group defined on the binary tree. (English summary) *J. Algebra* **211** (1999), *no.* 1, 99–114. (Olympia Talelli) **99m:20054** 20E08

Sidky, F. I. (*with* Atallah, M. M.) On T-congruences of lattices. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 993–1000. (Summary) **99h:06004** 06B99 (03E72)

Sidney, Jeffrey B. (*with* Hall, Nicholas G.; Liu, Wei-Ping) Scheduling in broadcast networks. (English summary) *Networks* **32** (1998), *no.* 4, 233–253. (Yuri Nazarovich Sotskov) **99j:90028** 90B12 (68M10, 90B35)

— (*with* Sriskandarajah, Chelliah) A heuristic for the two-machine no-wait openshop scheduling problem. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 129–145. 90B35 (90C90)

Sidon, Tatiana Provability logic with operations on proofs. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 342–353, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Summary) **99b:03032** 03B45 (03B25, 03F40)

Sidoravicius, V. (*with* Kesten, Harry; Zhang, Yu[1]) Almost all words are seen in critical site percolation on the triangular lattice. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 10, 75 *pp.* (*electronic*). (Rahul Roy) **99j:60155** 60K35

— (*with* De Angelis, G. F.; Jona Lasinio, G.) Berezin integrals and Poisson processes. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 289–308. (Michael S. Marinov) **99b:81128** 81S40 (28C20, 60K35, 81S20, 82C31)

— (*with* Surgailis, Donatas; Vares, Maria Eulália) An exclusion process with two types of particles and the hydrodynamic limit. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 2, 131–174. (Timo Seppäläinen) **99e:60222** 60K35 (82C22)

Sidorczyk, Michał The semicoercive case of the Dirichlet problem of even order. *Demonstratio Math.* **31** (1998), *no.* 3, 615–625. (Miguel Ramos) **99m:34047** 34B15 (49J45, 58E05)

Sidorenko, A. F. Randomness friendly graphs. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 3, 229–241. (A. G. Thomason) **99b:05086** 05C35 (05C55)

Sidorenko, E. A. P. Florenskiĭ's ideas of nonmonotonic and paraconsistent logics. (Russian. English summary) *Logical investigations, No.* 4 (*Russian*), 290–303, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03B53 (01A60, 03–03, 03A05)

Sidorenko, V. V. (*with* Neĭshtadt, A. I.) Delay of loss of stability in Ziegler's system. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 18–29; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 15–25. (Vassili G. Gelfreich) **99f:70027** 70K20 (34D10, 70H35)

Sidorenko, Vladimir (*with* Bossert, M.; Breitbach, Markus; Zyablov, Viktor V.) Codes that correct multiple burst errors or erasures. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 15–25; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 297–306 (1998). (Summary) **99d:94039** 94B20

— (*with* Martin, Ian; Honary, Bahram) On the rectangularity of nonlinear block codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 720–725. (Summary) **99k:94064** 94B60

Sidorets, V. N. (*with* Vladimirov, Vsevolod A.) On the peculiarities of stochastic invariant solutions of a hydrodynamic system accounting for non-local effects. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 409–417, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 76F20 (35Q35, 58F13)

Sidorov, A. F. Two-dimensional processes of unbounded shockless compression of a gas. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 812–821; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 787–796 (1998). (Summary) **99c:76094** 76N15

Sidorov, Aleksandr Vladimirovich Finite groups with a system of normally independent subgroups. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 115–118, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10

— Separating classes of subgroups of finite groups. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 51–55, 103, "*Universitet-skoe*", *Minsk*, 1993. (*see* **99g:20002**)

20D10

— Finite groups with normally independent non-$\mathfrak{F}$-subgroups. (Russian. English summary) *Problems in algebra, No. 8 (Russian)*, 146–148, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20D10

— On properties of the $\mathfrak{F}$-hypercenter of a finite group. (Russian. English summary) *Problems in algebra, No. 10 (Russian)*, 141–143, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20D10

— (*with* Sel'kin, M. V.) Some generalizations of the Frattini subgroup. (Russian. English summary) *Problems in algebra, No. 9 (Russian)*, 138–143, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20005**) 20D25

— (*with* Sel'kin, M. V.) On intersections of maximal subgroups of finite groups. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 62–64, 141. 20D99

— Finite groups with systems of minimal non-$\mathfrak{F}$-subgroups. (Russian. English summary) *Problems in algebra, No. 12 (Russian)*, 59–61, *Gomel. Gos. Univ., Gomel'*, 1998. (*see* **99g:20008**) 20D10

Sidorov, I. N. (*with* Païmushin, V. N.) Construction of an integral representation of the solution of equilibrium equations in a theory of Timoshenko type for shells with a complex geometry. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 854–862; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 825–832 (1998). (Summary) **99c:73051** 73K15

Sidorov, M. V.-S. (*with* Voĭna, A. A.) Estimation of conditional transition probabilities for partially observable Markov chains. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 25–37; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 25–37. (Anatoly V. Swishchuk) **99g:60112** 60J05 (60G35, 60J25, 62M05, 93E10)

Sidorov, N. *see* **Sidorov, Nikita**

Sidorov, N. A. *see* **Sidorov, Nikolaĭ Aleksandrovich**

Sidorov, Nikita (*with* Vershik, Anatoliĭ Moiseevich) Bijective arithmetic codings of hyperbolic automorphisms of the 2-torus, and binary quadratic forms. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 3, 365–399. (Richard Kenyon) **99g:58095** 58F15 (11E16, 28D05)

Sidorov, Nikolaĭ Aleksandrovich (*with* Sinitsyn, Aleksandr Vladimirovich) Investigation of the bifurcation points and nontrivial branches of solutions of the stationary Maxwell-Vlasov system. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 268–292; *translation in Math. Notes* **62** (1997), *no.* 1-2, 223–243 (1998). (Tadeusz Nadzieja) **99f:35212** 35Q99 (35B32, 82D10)

Siebelink, R. (*with* Claus, Piet; de Wit, Bernard; Faux, M.; Kleijn, B.; Termonia, P.) $N = 2$ supergravity Lagrangians with vector-tensor multiplets. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 148–178. (Sergiu I. Vacaru) **99f:83072** 83E50

— The low-energy effective action for perturbative heterotic strings on $K3 \times T^2$ and the $d = 4$ $N = 2$ vector-tensor multiplet. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 86–128. (Summary) **99k:81271** 81T30 (83E30)

Sieber, Martin (*with* Schomerus, Henning) Bifurcations of periodic orbits and uniform approximations. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4537–4562. (Julio Espinoza Ortiz) **99a:81039** 81Q20 (34C35, 81Q50)

— Semiclassical transition from an elliptical to an oval billiard. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4563–4596. (Julio Espinoza Ortiz) **99a:81040** 81Q20 (81Q50)

Siebert, Bernd (*with* Tian, Gang) On quantum cohomology rings of Fano manifolds and a formula of Vafa and Intriligator. *Asian J. Math.* **1** (1997), *no.* 4, 679–695. (Andreas Gathmann) **99d:14060** 14N10 (14J45)

Siedow, N. (*with* Klar, Axel) Boundary layers and domain decomposition for radiative heat transfer and diffusion equations: applications to glass manufacturing process. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 4, 351–372. (Summary) **99d:80002** 80A20 (80–08)

Sieg, Wilfried (*with* Byrnes, John) K-graph machines: generalizing Turing's machines and arguments. (English summary) *Gödel'96 (Brno, 1996)*, 98–119, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Robert M. Baer) **99b:03055** 03D03 (03A05, 03D10, 03D20, 68Q05)

— *see also* **Natural deduction, 99a:03002**

Siegel, David (*with* Kunze, H.) A graph theoretical approach to monotonicity with respect to initial conditions. II. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 1–20. (Hal Leslie Smith) **99g:34032** 34A34 (34C11)

— *see also* **Differential equations and dynamical systems, 99m:34001**

Siegel, Michael (*with* Mikk, Erich; Lakhnech, Yassine) Hierarchical automata as model for statecharts (extended abstract). (English summary) *Advances in computing science—ASIAN'97 (Kathmandu, 1997)*, 181–196, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60 (68Q68)

— (*with* Bressan, Stephane F.; Goh, Cheng Hian; Lee, Thomas Y.; Madnick, S.) A procedure for mediation of queries to sources in disparate contexts. (English summary) *Logic programming (Port Washington, NY, 1997)*, 213–227, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68P15)

— (*with* Pnueli, Amir; Shtrichman, O.) Translation validation for synchronous languages. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 235–246, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68N20 (68Q60)

Siegel, Paul H. (*with* Immink, Kees A. Schouhamer; Wolf, Jack K.) Codes for digital recorders. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2260–2299. (Summary) **99h:94029** 94A24 (94A14)

— (*with* Altekar, Shirish A.; Berggren, Magnus; Moision, Bruce E.; Wolf, Jack K.) Error-event characterization on partial-response channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 241–247. (Summary) **99k:94019** 94A13 (94A14, 94A40)

Siegel, Warren (*with* Grisaru, Marcus T.; Knutt-Wehlau, Marcia E.) A superspace normal coordinate derivation of the density formula. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 663–679. (Ilya Shapiro) **99f:83075** 83E50 (81T60)

— (*with* Gates, S. James, Jr.; Grisaru, Marcus T.; Knutt-Wehlau, Marcia E.) Component actions from curved superspace: normal coordinates and ectoplasm. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 203–210. (Ilya Shapiro) **99c:83099** 83E50 (81T30, 83E30)

Siegelmann, Hava T. (*with* Balcázar, José L.; Gavaldà, Ricard) Computational power of neural networks: a characterization in terms of Kolmogorov complexity. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1175–1183. (Summary) **99c:68077** 68Q05 (68Q30, 68T05)

Siegert, S. (*with* Friedrich, Rudolf; Peinke, J.) Analysis of data sets of stochastic systems. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 275–280. (Summary) **99b:82077** 82C31

Siegmann, William L. (*with* Collins, Michael D.) Parabolic equation techniques for wave propagation. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 3–11, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35K99 (35J05, 73D15, 76Q05, 78A40)

Siegmund, David Genetic linkage analysis: an irregular statistical problem. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 291–300 (*electronic*). (Summary) **99e:62170** 62M99

Siegmund-Schultze, Rainer (*with* Matthes, Klaus; Nawrotzki, Kurt) On the structure of spatial branching processes. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 269–312. (Anton Wakolbinger) **99m:60134** 60J80 (60G57, 60J05, 60K35)

Siegmund-Schultze, Reinhard Das an der Berliner Universität um 1892 "herrschende mathematische System" aus der Sicht des Göttingers Felix Klein: eine Studie über den "Raum der Wissenschaft". [The "prevailing mathematical system" at Berlin University around 1892, from the viewpoint of Felix Klein in Göttingen: a study on the "space of science"] Natur, Mathematik und Geschichte. *Acta Hist. Leopold. No.* 27 (1997), 239–255. (Albert C. Lewis) **99k:01028** 01A55 (01A73, 01A80)

— The University of Berlin from reopening until 1953. *Mathematics in Berlin*, 137–141, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A73 (01A80)

Siegrist, Kyle (*with* Rowell, Ginger) Relative aging of distributions. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 469–478. (Dominik Szynal) **99k:60050** 60E99 (60K10, 62E10)

Sieling, Detlef (*with* Löbbing, Martin; Wegener, Ingo) Parity OBDDs cannot be handled efficiently enough. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 4, 163–168. (Summary) **99e:68037** 68Q05 (68Q25)

— Variable orderings and the size of OBDDs for random partially symmetric Boolean functions. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 1, 49–70. (Summary) **99d:68070** 68Q05 (68Q25)

— (*with* Bollig, Beate; Sauerhoff, Martin; Wegener, Ingo) Hierarchy theorems for kOBDDs and kIBDDs. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 45–60. (Christoph Meinel) **99i:68031** 68Q05 (68Q15)

Siemens, Paul (*with* Green, John Stephen; Horne, Neil; Orłowska, Ewa) A rough set model of information retrieval. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 273–296. (Summary) **99c:68237** 68T30 (68P20)

Siemiendiajew, K. A. *see* **Semendyaev, K. A.**

Siemion, P. (*with* Hasiewicz, Zbigniew) Non-commutative group manifolds. (English summary) *Quantum groups (Karpacz, 1994)*, 253–257, *PWN, Warsaw*, 1995. (Summary) **99f:58016** 58B30 (58F05)

Siemon, Helmut A number-theoretic conjecture and the existence of S-cyclic Steiner quadruple systems. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 1, 63–94. (T. S. Griggs) **99c:05028** 05B05

— Erratum: "A number-theoretic conjecture and the existence of S-cyclic Steiner quadruple systems" [Des. Codes Cryptogr. **13** (1998), no. 1, 63–94; MR 99c:05028]. *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 297. 05B05

Siemons, I. J. Kernels of modular inclusion maps. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 309–315. (Summary) **99h:15002** 15A03

Siemons, Johannes (*with* Bell, Steven; Jones, Philip) On modular homology in the Boolean algebra. II. (English summary) *J. Algebra* **199** (1998), *no.* 2, 556–580. (Yasuyuki Hirano) **99a:16006** 16E40

— (*with* Maynard, Philip) On the reconstruction of linear codes. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 285–291. (Summary) **99d:94033** 94B05

Siems, R. (*with* Pleimling, M.; Neubert, B.) Low-temperature phase diagram and critical behaviour of the four-state chiral clock model. (English summary) *J. Phys. A* **31** (1998), *no.* 21, 4871–4883. (Summary) **99a:82041** 82B26 (82B20, 82B27)

de Siena, Silvio *see* **De Siena, Silvio**

Sieniutycz, Stanisław Thermodynamic and relativistic aspects of thermal inertia in fluids. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7027–7039. (Summary) **99j:80010** 80A99 (76Y05, 83A05)

di Sieno, Simonetta *see* **Di Sieno, Simonetta**

Sierksma, Gerard Interchange graphs and the Hamiltonian cycle polytope. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 217–224. (Peter Mihók) **99c:05128** 05C45

— (*with* Libura, Marek; van der Poort, Edo S.; van der Veen, Jack A. A.) Stability aspects of the traveling salesman problem based on k-best solutions. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 159–185. (András Faragó) **99i:90080** 90C27 (68Q25)

Sierocki, Ireneusz A feedback transformation of the planning problems. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 3, 193–209. (Summary) **99g:68187** 68T20

Sierpinska, Anna *see* **Mathematics education as a research domain: a search for identity, 99a:00011**

Sierra, Carles (*with* Puyol-Gruart, Josep; Godo, Lluís) Specialisation calculus and communication. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 107–130. (Summary) **99i:68112** 68T27

— (*with* Parsons, Simon; Jennings, Nick) Agents that reason and negotiate by arguing. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 261–292. (Summary) **99d:68222** 68T27 (03B70)

Sierra, Germán (*with* Martín-Delgado, Miguel A.) Dualities in spin ladders. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1657–1665. (Gunter Schütz) **99d:82020** 82B20 (81V70)

— (*with* Román, J. M.; Dukelsky, J.; Martín-Delgado, Miguel A.) The matrix product approach to quantum spin ladders. (English summary) *J. Phys. A* **31** (1998), *no.* 48, 9729–9759. (Summary) **99j:82019** 82B20

Sierra, Manuel Diagonal logic. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **3** (1996), *no.* 2, 63–81. (Summary) **99f:03033** 03B60

Siersma, Dirk (*with* Tibăr, Mihai) Topology of polynomial functions and monodromy dynamics. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 655–660. (Kevin Houston) **99k:32068** 32S40

Sieveking, Malte (*with* Hmissi, Mohamed) Sur l'existence des courbes de Siegel. (English summary) [Existence of Siegel curves] *Iteration theory (ECIT 94)* (*Opava*), 139–146, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F10 (58F25)

Siew, P. F. On the differentiation between the magnetic anomalies of cylinders and disks. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 2, 149–164. (Summary) **99a:86004** 86A25 (78A30)

Siewert, C. E. (*with* Garcia, R. D. M.) The F_N method in atmospheric radiative transfer. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1623–1649. (Summary) **99i:85002** 85A25 (86A10)

Sifi, Mohamed (*with* Nessibi, M. M.) Laguerre hypergroup and limit theorem. (English summary) *Lie groups and Lie algebras*, 133–145, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Michael Voit) **99g:60008** 60B10 (33C45, 43A62, 60B15, 60F05)

— Generalized wavelet packet associated with Laguerre functions. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 353–364. (Gerald B. Folland) **99j:42041** 42C15 (33C45, 43A62)

Sigal, I. Kh. (*with* Melamed, I. I.) Numerical investigation of tricriterial tree and assignment problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1780–1787; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1707–1714. (Summary) **99f:90111** 90C29 (90C27, 90C35)

Sigal, Israel Michael (*with* Ovchinnikov, Yu. N.) On the Ginzburg-Landau and related equations. (English summary) *Séminaire sur les Équations aux Dérivées Partielles, 1997–1998, Exp. No. XXI*, 13 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35Q55 (35B99, 58E50)

— (*with* Bach, Volker; Fröhlich, Jürg) Renormalization group analysis of spectral problems in quantum field theory. (English summary) *Adv. Math.* **137** (1998), *no.* 2, 205–298. (H. Hogreve) **99e:81051a** 81Q15 (47N50, 81Q10, 81T17)

— (*with* Bach, Volker; Fröhlich, Jürg) Quantum electrodynamics of confined nonrelativistic particles. (English summary) *Adv. Math.* **137** (1998), *no.* 2, 299–395. (H. Hogreve) **99e:81051b** 81Q15 (47N50, 81Q10, 81V10)

— (*with* Ovchinnikov, Yu. N.) The Ginzburg-Landau equation. III. Vortex dynamics. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1277–1294. (Yisong Yang) **99k:35167** 35Q55

— (*with* Ovchinnikov, Yu. N.) Long-time behaviour of Ginzburg-Landau vortices. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1295–1309. (Yisong Yang) **99k:35168** 35Q55

Sigman, Karl (*with* Scheller-Wolf, Alan) Moments in tandem queues. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 378–380. 90B22

— (*with* Glynn, Peter W.) Independent sampling of a stochastic process. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 2, 151–164. (Mikhail Sverchkov) **99g:60086** 60G55 (60G10, 60K99)

— (*with* Asmussen, Søren; Klüppelberg, Claudia) Sampling at subexponential times, with queueing applications. (English summary) *Stochastic Process. Appl.* **79** (1999), *no.* 2, 265–286. (Hanspeter Schmidli) **99k:60224** 60K25 (60G70, 60J25, 90B22)

Sigmund, Karl (*with* Hofbauer, Josef) ★ Evolutionary games and population dynamics. (English summary) *Cambridge University Press, Cambridge*, 1998. *xxviii+323 pp. ISBN* 0-521-62365-0; 0-521-62570-X (Gabriela Kirlinger) **99h:92027** 92D25 (34C35, 34D99, 90–02, 92–02, 92D40)

— The population dynamics of conflict and cooperation. Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 487–506 (*electronic*). (*see* **99e:00023**) 92D25

— The social life of automata. (English summary) *Mathematical and computational biology* (*Aizu-Wakamatsu City*, 1997), 133–146, *Lectures Math. Life Sci.*, 26, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92016** 92D15 (90D80, 92H10)

— *see also* **Menger, Karl**, **99j:01028**

Sigmund, Ole (*with* Petersson, Joakim) Slope constrained topology optimization. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 8, 1417–1434. (Christian Zillober) **99e:73073** 73K40 (73V05, 90C90)

Signore, R. L. Mach's principle in flat and curved spaces. Application to cosmology. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 12, 1593–1604. (Summary) **99a:83074** 83F05

Signorelli, David (*with* Pfeffermann, Danny; Feder, Moshe) Estimation of autocorrelations of survey errors with application to trend estimation in small areas. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 3, 339–348. 62D05

Signoret P., Carlos J. E. (*with* Raggi, Francisco; Rincón-Mejía, Hugo Alberto) On some classes of R-modules and congruences in R-tors. *Comm. Algebra* **27** (1999), *no.* 2, 889–901. (J. K. Luedeman) **99m:16003** 16D10 (16S90)

Sigovtsev, S. G. (*with* Morozov, E. V.) Simulation of queueing processes based on weak regeneration. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci.* (*New York*) **89** (1998), *no.* 5, 1517–1523. (*see* **99d:00033**) 60K25

Sigrist, Niklaus (*with* Kirchgraber, Urs) Feigenbaum-Universalität: Beschreibung und Beweisskizze. (German summary) [Feigenbaum universality: description and sketch of proof] *Math. Semesterber.* **45** (1998), *no.* 1, 39–59. (Volker Matthias Gundlach) **99e:58061** 58F03 (34C23, 58F13, 58F14)

Sigua, I. (*with* Natroshvili, D. G.) The mixed boundary value problem of the thermoelastic pseudo-oscillations. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 31–36. (Andrzej Chrzęszczyk) **99g:73014** 73B30 (35Q72, 73C35)

Siguerdidjane, H. B. *see* **Bourdache-Siguerdidjane, Houria**

bourdache-Siguerdidjane, Houria *see* **Bourdache-Siguerdidjane, Houria**

Sigurdson, Lorenz (*with* Peck, Bill) On the kinematics at a free surface. (English summary) *IMA J. Appl. Math.* **61** (1998), *no.* 1, 1–13. (Summary) **99i:76002** 76A02 (73B99)

Sigurdsson, Ragnar (*with* Lárusson, Finnur; Lassere, Patrice) Convexity of sublevel sets of plurisubharmonic extremal functions. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 267–273. (Evgeny A. Poletsky) **99d:32018** 32F05 (30D50, 31C10)

— (*with* Lárusson, Finnur) Plurisubharmonic functions and analytic discs on manifolds. *J. Reine Angew. Math.* **501** (1998), 1–39. (Evgeny A. Poletsky) **99e:32020** 32F05 (31C10, 32E10)

Sihvola, Ari (*with* Kristensson, Gerhard; Rikte, Sten) Mixing formulas in the time domain. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1411–1422. (Summary) **99a:78014** 78A25

Siino, Masaru Topology of event horizons. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104016, 10 *pp.* (Summary) **99m:83155** 83C75 (53C80)

— (*with* Ida, Daisuke; Nakao, Ken-ichi; Hayward, Sean A.) Hoop conjecture for colliding black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 121501, 4 *pp.* (Summary) **99m:83113** 83C57

— Topological appearance of event horizon—what is the topology of the event horizon that we can see? (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 1, 1–32. (Robert J. Low) **99d:83067** 83C57 (83C75)

Šijački, Djordje (*with* Ne'eman, Yuval) World spinors—construction and some applications. (English summary) *Found. Phys.* **27** (1997), *no.* 8, 1105–1122. (Bertfried Fauser) **99b:83057** 83C60 (81R25)

— World spinors revisited. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1089–1097. (Summary) **99k:83093** 83C60 (22E70, 81R10)

Sijtsma, Klaas (*with* Hemker, Bas T.) Nonparametric polytomous IRT models for invariant item ordering, with results for parametric models. (English summary) *Psychometrika* **63** (1998), *no.* 2, 183–200. (Summary) **99d:62096** 62P15

Šika, Z. (*with* Kočandrle, P.; Stejskal, V.) An investigation of properties of the forward displacement analysis of the generalized Stewart platform by means of general optimization methods. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 3, 245–253. 70B15

Sikder, A. Attracting theorems for cyclic sets and impermanence. (English summary) *Math. Biosci.* **152** (1998), *no.* 1, 1–11. (Miklós Farkas) **99g:92032** 92D25 (34C35, 34D99, 92D40)

Šikić, Hrvoje Transition probabilities of some measure-valued processes. (English summary) *Indian J. Math.* **38** (1996), *no.* 3, 237–274. (Xue Lei Zhao) **99f:60137** 60J35 (60G57)

— (*with* Pop-Stojanović, Zoran; Rao, Murali) Brownian potentials and Besov spaces. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 331–337. (H. Triebel) **99a:46062** 46E35 (35J05, 60J65)

Šikić, Tomislav (*with* Radas, Sonja) A note on the generalization of Hua's inequality. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 321–323. (E. Thandapani) **99e:26023** 26D20 (26D15)

Sik-Lee *see* **Lee, Sik**

Sikora, Adam (*with* ter Elst, A. F. M.; Robinson, Derek W.) Heat kernels and Riesz transforms on nilpotent Lie groups. (English summary) *Colloq. Math.* **74** (1997), *no.* 2, 191–218. (Dominique Manchon) **99a:35029** 35H05 (22E25, 35J30, 47F05)

Sikora, Adam S. (*with* Przytycki, Józef H.) Skein algebra of a group. *Knot theory* (*Warsaw*, 1995), 297–306, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Carlo Petronio) **99e:57019** 57M25 (20C07, 57N10)

Sikora, Radosław Limit points of random iterations of monotone maps. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 4, 351–363. (Jean-René Chazottes) **99m:60099** 60H25 (54H25, 60B10)

— (*with* Skarbek, Władysław) Stability analysis of Oja-RLS learning rule. (English summary) *Fund. Inform.* **34** (1998), *no.* 4, 441–453. (Summary) **99k:68165** 68T05

Sikorskii, Alla Yu. (*with* Leonenko, Nikolai N.; Terdik, György) On spectral and bispectral estimator of the parameter of non-Gaussian data. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 159–182. (Vladimir Zaiats) **99d:62090** 62M15 (62F12, 62M10)

Sikors'kiĭ, S. P. Factorization of the unimodular symbol of the Toeplitz operator with a nontrivial kernel. (Ukrainian. English and Russian summaries) *Mat. Stud.* **8** (1997), *no.* 1, 113–114, 127. 47B35

Siksek, S. (*with* Smart, Nigel P.) On the complexity of computing the 2-Selmer group of an elliptic curve. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 251–257. (Kenneth Kramer) **99b:11061** 11G05 (11Y16)

— (*with* Smart, Nigel P.) A fast Diffie-Hellman protocol in genus 2. (English summary) *J. Cryptology* **12** (1999), *no.* 1, 67–73. 94A60 (14G15)

Šilac-Benšić, M. (*with* Leonenko, Nikolai N.) On the asymptotic distributions of least square estimations in a regression model with singular errors. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 26–31. (Peter M. Robinson) **99b:62105** 62J05 (62F12)

— (*with* Leonenko, Nikolai N.) On estimation of regression coefficients of long memory random fields observed on the arrays. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 61–76. (Peter M. Robinson) **99c:62275** 62M40

lópez de Silanes, M. C. *see* **López de Silanes, M. C.**

Silber, Mary (*with* Rucklidge, A. M.) Bifurcations of periodic orbits with spatio-temporal symmetries. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1435–1455. (Ian Melbourne) **99h:58134** 58F14 (34C25, 34C35, 35B10, 35B32, 76E99)

— (*with* Skeldon, Anne C.) New stability results for patterns in a model of long-wavelength convection. (English summary) *Phys. D* **122** (1998), *no.* 1-4, 117–133. (Summary) **99g:76056** 76E15

Silberberg, Gheorghe (*with* Bechtell, H.; Deaconescu, Marian) Finite groups with large automizers for their abelian subgroups. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 266–270. (Jay Zimmerman) **99a:20024** 20D99 (20E34)

— (*with* Chiş, Mihai; Deaconescu, Marian) Finite groups with few central automorphism orbits. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 203–213. (F. Pérez Monasor) **99k:20047** 20D45

— (*with* Schwab, Emil D.) Über die Anzahl der zyklischen Untergruppen gegebener Ordnung im Falle einer endlichen Gruppe. (German summary) [On the number of cyclic subgroups of given order in the case of a finite group] *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 3, 143–151. (Marian Deaconescu) **99m:20043** 20D60

Silberger, Allan J. Harish-Chandra's Plancherel theorem for p-adic groups. (English summary) *Trans. Amer. Math. Soc.* **348** (1996), *no.* 11, 4673–4686. (Introduction) **99c:22026** 22E50 (11F70)

Silbermann, Bernd (*with* Berthold, D.) The fast solution of periodic pseudodifferential equations. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 3–23. (Summary) **99a:47076** 47G30 (45E05, 45L05, 65R20)
— (*with* Berthold, D.) Fast algorithms for the solution of pseudodifferential equations. *Boundary element topics (Stuttgart, 1995)*, 291–316, *Springer, Berlin*, 1997. (Carsten Carstensen) **99i:65132** 65N38 (45L05, 47G30)
— (*with* Rabinovich, V. S.; Roch, Steffen) Fredholm theory and finite section method for band-dominated operators. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 4, 452–495. (A. Böttcher) **99f:47037** 47B37 (47A53, 47D30, 65J10)
— (*with* Roch, Steffen) Index calculus for approximation methods and singular value decomposition. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 401–426. (Catalin Badea) **99g:47030** 47A58 (46L99, 47A50, 47A53)
— (*with* Didenko, V. D.) Extension of C^*-algebras and Moore-Penrose stability of sequences of additive operators. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 121–140. (Andreĭ V. Lebedev) **99e:46095** 46L99 (45E05, 45L05, 47A50, 47G10)
— (*with* Roch, Steffen) A note on singular values of Cauchy-Toeplitz matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 531–536. (Summary) **99d:47027** 47B35 (15A18)
Silberschatz, Avi (*with* Rastogi, Rajeev; Mehrotra, Sharad; Breitbart, Yuri; Korth, Henry F.) On correctness of nonserializable executions. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 68–82. (Armin Cremers) **99c:68074** 68P15 (68Q10)
ceccherini-Silberstein, Tullio G. *see* **Ceccherini-Silberstein, Tullio G.**
Silbey, Robert J. (*with* Pfluegl, Wolfgang) Long-time properties of random walks with a single trap. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4128–4133. 60J15
Sil'chenko, Yu. T. (*with* Sobolevskii, Pavel E.) Semigroups of bounded linear operators. (Russian) *Mathematics today '93, No. 8 (Ukrainian)*, 34–63, "*Vishcha Shkola*", *Kiev*, 1993. (Irina V. Melnikova) **99e:47050** 47D06 (34G10, 47D03)
— An ordinary differential operator with irregular boundary conditions. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **40** (1999), *no.* 1, 183–190, *iv*. (Summary) **99m:47056** 47E05 (34B05, 34G10)
Silenko, A. Ya. *see* **Neznamov, V. P.**
Siler, Joseph R. Mean crowds and Pythagorean triples. *Fibonacci Quart.* **36** (1998), *no.* 4, 323–326. (Michael E. Mays) **99d:11008** 11A99 (11A05, 11B83)
Siler, W. (*with* Buckley, James J.) A new t-norm. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 283–290. (Summary) **99g:03055** 03E72
Siles Molina, Mercedes (*with* Fernández López, Antonio[1]; García Rus, Eulalia; Gómez Lozano, Miguel) Goldie theorems for associative pairs. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2987–3020. (L. Márki) **99h:17003** 17A40 (16U20)
— (*with* Ara, Pere; Gómez Lozano, Miguel) Local rings of exchange rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4191–4205. (Andrei Kelarev) **99h:16036** 16L30
Silhol, Robert (*with* Bochnak, J.; Kucharz, Wojciech) Morphisms, line bundles and moduli spaces in real algebraic geometry. *Inst. Hautes Études Sci. Publ. Math. No.* 86 (1997), 5–65 (1998). (A. R. Shastri) **99h:14055** 14P99 (14D20)
— (*with* Gianni, Patrizia; Seppälä, Mika; Trager, Barry) Riemann surfaces, plane algebraic curves and their period matrices. (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 789–803. (Gabino González Diez) **99m:14055** 14H40 (14H55, 30F10, 30F30, 30F35)
giral Silió, José María *see* **Giral Silió, José María**
Šiljak, Dragoslav D. (*with* Wada, Teruyo; Ikeda, Masao; Ohta, Yuzo) Parametric absolute stability of Lur'e systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1649–1653. (Summary) **99h:93091** 93D20 (34D99, 34H05)
— Extensions of Ladas' oscillation theorem to polytopic difference equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 473–483. (Summary) **99a:39031** 39A10
— (*with* Zečević, Aleksandar I.) Parallel solutions of very large sparse Lyapunov equations by balanced BBD decompositions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 612–618. 93B40 (65F30)
— (*with* Stanković, Srdjan S.; Chen, Xue-Bo; Mataušek, Miroslav R.) Stochastic inclusion principle applied to decentralized automatic generation control. (English summary) *Internat. J. Control* **72** (1999), *no.* 3, 276–288. (Muhidin Lelic) **99m:93096** 93E03 (93A13)
Silk, Joseph (*with* Levin, Janna; Scannapieco, Evan) The topology of the universe: the biggest manifold of them all. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2689–2697. (Summary) **99f:83085** 83F05 (85A40)
Sill, Joseph The capacity of monotonic functions. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 1, 95–107. (Summary) **99f:68173** 68T05
Silliman, Nancy Paul Nonparametric classes of weight functions to model publication bias. (English summary) *Biometrika* **84** (1997), *no.* 4, 909–918. (Summary) **99c:62068** 62F25 (62F15, 62G99, 62P99)
Sills, J. A. (*with* Kamen, E. W.) Matched filtering in the case of nonstationary interference. (English summary) *Current topics in nonstationary analysis (San Diego, CA, 1995)*, 1–14, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99h:60089** 60G35 (93E11)
da Silva, A. *see* **Da Silva, A.**
duarte Silva, A. Pedro *see* **Duarte Silva, A. Pedro**
da Silva, A. R. *see* **Rica da Silva, A.**
e Silva, Aguinaldo S. (*with* Bazanella, Alexandre S.; Kokotović, Petar V.) A dynamic extension for $L_g V$ controllers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 93*b*52. 93D05
da Silva, Antonio R. (*with* Gustafson, Sven-Åke) On accurate computation of a class of linear functionals. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 12 *pp.* (*electronic*). (I. Norman Katz) **99i:65020** 65D30 (65D05)
Silva, B. P. B. (*with* Santos, C. H.; Yuan, Jin Yun) Block SOR methods for rank-deficient least-squares problems. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 1–9. (Summary) **99j:65050** 65F10
de Silva, Basil M. (*with* Mukhopadhyay, Nitis) Multi-stage fixed-width confidence intervals in the two-sample problem: the normal case. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 1–20. (Summary) **99c:62229** 62L12
— (*with* Mukhopadhyay, Nitis) Sequential estimation of the mean of an exponential distribution via partial piecewise sampling. (English summary) *Applied statistical science, III*, 215–226, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62116** 62L12
— (*with* Mukhopadhyay, Nitis) Multistage partial piecewise sampling and its applications. (English summary) *Sequential Anal.* **17** (1998), *no.* 1, 63–90. (Summary) **99e:62135** 62L10
Silva, Cesar E. (*with* Hawkins, Jane) Characterizing mildly mixing actions by orbit equivalence of products. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 99–115 (*electronic*). (Scot Adams) **99b:28019** 28D15
— (*with* Muehlegger, Erich J.; Raich, Andrew S.; Zhao, Wenhuan) Lightly mixing on dense algebras. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 259–265. (Nathaniel Friedman) **99c:28052** 28D05
de souza e Silva, Edmundo *see* **de Souza e Silva, Edmundo**
da Silva, Edson P. (*with* Botelho, Luiz C. L.) Quantum geometry for the Brownian particle. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 28, 1191–1194. 81S20 (81S40)
Silva, Elves Alves de B. e (*with* Felmer, Patricio L.) Homoclinic and periodic orbits for Hamiltonian systems. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 285–301. (Addolorata Salvatore) **99f:58035** 58E05 (34C25, 34C37, 58F05, 58F22, 70H05)
— (*with* Teixeira, Marco Antonio) A version of Rolle's theorem and applications. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 2, 301–327. (Viktor G. Zvyagin) **99i:58029** 58E05
Silva, Emílio C. Nelli (*with* Fonseca, Jun S. Ono; Kikuchi, Noboru) Optimal design of periodic piezocomposites. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 1-2, 49–77. (Summary) **99e:73075** 73K40 (73B27, 73K20, 73R05)
da Silva, Fabio Q. B. On observational equivalence and compiler correctness. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 17–34, 35–45 (*electronic*). (*see* **99f:68006**) 68N20 (68Q55)
Silva, Fernando C. (*with* Furtado, Susana) On the characteristic polynomial of matrices with prescribed columns and the stabilization and observability of linear systems. (English summary) *Electron. J. Linear Algebra* **4** (1998), 19–31 (*electronic*). (Jacek Kabziński) **99h:15009** 15A18 (93D15)
— (*with* Santa-Clara, Catarina) On infinite Goldie dimension. (English summary) *J. Algebra* **205** (1998), *no.* 2, 617–625. (Edmund R. Puczyłowski) **99h:16039** 16P99 (05B35, 06A07)
— Invariant polynomials of matrices with prescribed entries. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 357–372. 15A18
Silva, G. *see* **Silva, Guillermo**
Silva, Geraldo Nunes (*with* Treskov, Yu. P.; Tsurkov, V. I.) The hierarchical model of the branch planning with random coefficients. (English summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 4, 118–126. 90C20 (90A11, 93A13)
— (*with* Rojas Medar, Marko A.; Brandão, Adilson J. V.) Nonsmooth continuous-time optimization problems: sufficient conditions. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 305–318. (Vera Zeidan) **99j:49031** 49K05
Silva, Guillermo (*with* Gonorazky, S.; Schaposnik, Fidel A.) Supersymmetric non-abelian Born-Infeld theory. (English summary) *Phys. Lett. B* **449** (1999), *no.* 3-4, 187–193. (Summary) **99k:81308** 81T60
Silva, H. H. M. (*with* Bashir-Ali, Z.; Cash, J. R.) Lobatto deferred correction for stiff two-point boundary value problems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 59–69. (Summary) **99i:65070** 65L06
da Silva, Ilda P. F. *see* **Da Silva, Ilda P. F.**
da Silva, Ivan N. (*with* de Arruda, Lucia V. R.; Amaral, Wagner C.) A novel approach to robust parameter estimation using neurofuzzy systems. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 251–268. 93E12 (93C42)
dias da Silva, J. A. *see* **Dias da Silva, J. A.**
toledo da Silva, João *see* **Toledo da Silva, João**
marques-Silva, João P. *see* **Marques-Silva, João P.**
oliveira e Silva, Jorge-Nuno *see* **Oliveira e Silva, Jorge-Nuno**
da Silva, José L. (*with* Grothaus, Martin; Khandekar, Dinkar C.; Streit, Ludwig) The Feynman integral for time-dependent anharmonic oscillators. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3278–3299. (T. Hida) **99c:46083** 46N50 (46G12, 60H99, 81S40)
— (*with* Kondrat'ev, Yu. G.; Streit, Ludwig; Us, G. F.) Analysis on Poisson and gamma spaces. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 91–117. (Isamu Dôku) **99i:60100** 60G55 (47B38, 60H99)
villegas-Silva, Luis M. *see* **Villegas-Silva, Luis M.**
pereira da Silva, Paulo Sérgio *see* **Pereira da Silva, Paulo Sérgio**
patrício da Silva, Pedro *see* **Patrício da Silva, Pedro**
Silva, Pedro V. The divisibility problem for inverse monoid presentations. (English summary) *Semigroups (Luino, 1992)*, 288–296, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M05 (20M18)
— (*with* Almeida, Jorge) On the hyperdecidability of semidirect products of pseudovarieties. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4065–4077. (Shelly L. Wismath) **99m:20136** 20M07 (20A15)
Silva, R., Jr. (*with* Plastino, Angel Ricardo; de Lima, J. Ademir Sales) A Maxwellian path to the q-nonextensive velocity distribution function. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 401–408. (Summary) **99h:82032** 82B30
Silva, Ronaldo Rodrigues The trace formulas yield the inverse metric formula. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6206–6213. (Summary) **99f:15042** 15A90 (83C99)
Silva, S. (*with* Julia, B.) Currents and superpotentials in classical gauge-invariant theories. I. Local results with applications to perfect fluids and general relativity. (English

summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2173–2215. (Hans P. Künzle) **99h:83004** 83C05 (58E30, 70G50, 76N10, 83C55)

da Silva Filho, P. B. (*with* de Lima Rodrigues, R.; Vaidya, A. N.) SUSY QM and solitons from two coupled scalar fields in two dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125023, 6 *pp.* (Summary) **99k:81076** 81Q60 (81T40)

— (*with* de Lima Rodrigues, R.; Vaidya, A. N.) A class of double-well like potentials in 1 + 1 dimensions via SUSY QM. (English summary) *J. Phys. A* **32** (1999), *no.* 12, 2395–2402. 81Q60

Silva Leite, F. (*with* Crouch, Peter E.) The triple cross product in $\mathbf{R}^7$. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 407–424. (H. de Vries) **99a:17033** 17D10 (17B25)

Silva Maia Porto, M. B. D. (*with* Barci, D. G.; Lemes, V. E. R.; Linhares de Jesus, C.; Sorella, S. P.; Vilar, L. C. Q.) Three-dimensional fermionic determinants, Chern-Simons and nonlinear field redefinitions. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 765–778. (Ilya Shapiro) **99e:81158** 81T16 (81T13)

Silva-Navarro, Gerardo (*with* Retchkiman, Zvi) A vector Lyapunov function approach for the stabilization of nonlinear systems. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 461–480. (Summary) **99k:93086** 93D30 (34D20, 34H05, 93D15)

Silva-Ortigoza, Gilberto (*with* Frittelli, Simonetta; Newman, Ezra T.) Conjugate points along null geodesics of asymptotically flat spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 689–703. (Jörg Frauendiener) **99d:83007** 83C10 (83C20)

Silveira, L. Miguel (*with* Kamon, Mattan; Elfadel, Ibrahim; White, Jacob) A coordinate-transformed Arnoldi algorithm for generating guaranteed stable reduced-order models of RLC circuits. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 377–389. 94C05 (65F30, 78–08)

Silver, Daniel S. (*with* Williams, Susan G.) Generalized *n*-colorings of links. (English summary) *Knot theory* (*Warsaw*, 1995), 381–394, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99e:57020** 57M25

Silver, Deborah (*with* Zabusky, Norman J.; Fernandez, Victor M.) Collapse, intensification and reconnection in vortex dominated flows: visiometrics and modeling. (English summary) *Computational physics* (*Canberra*, 1996), 59–78, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:76121** 76M25 (76C05)

Silverberg, Alice Explicit families of elliptic curves with prescribed mod *N* representations. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 447–461, *Springer, New York*, 1997. (*see* **99k:11004**) 11G05 (11F80, 11G18)

— (*with* Zarkhin, Yu. G.) Subgroups of inertia groups arising from abelian varieties. (English summary) *J. Algebra* **209** (1998), *no.* 1, 94–107. (Ben Moonen) **99j:11069** 11G10 (14K15)

— (*with* Zarkhin, Yu. G.) Semistable reduction of abelian varieties over extensions of small degree. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 2, 179–193. (Dino J. Lorenzini) **99k:11085** 11G10 (14K15)

— (*with* Zarkhin, Yu. G.) Connectedness extensions for abelian varieties. *Math. Z.* **228** (1998), *no.* 2, 387–403. (Ben Moonen) **99d:11065** 11G10 (14K15)

Silverman, B. W. (*with* Abramovich, F.) Wavelet decomposition approaches to statistical inverse problems. (English summary) *Biometrika* **85** (1998), *no.* 1, 115–129. (Sidney J. Yakowitz) **99k:62068** 62G05

— (*with* Abramovich, F.; Sapatinas, T.) Wavelet thresholding via a Bayesian approach. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 725–749. (P. A. Morettin) **99i:62080** 62G07

Silverman, Herb Harmonic univalent functions with negative coefficients. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 283–289. (Albert E. Livingston) **99c:30037** 30C55 (31A05)

— (*with* Subramanian, K. G.; Sudharsan, T. V.; Balasubrahmanyam, P.) Classes of uniformly starlike functions. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 309–315. (Frode Rønning) **99i:30028** 30C45

— Partial sums of a class of univalent functions. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 171–174. (T. H. MacGregor) **99m:30028** 30C45

— (*with* Ahuja, O. P.; Jahangiri, Jay M.) Subclasses of starlike functions related to a multiplier family. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 65–72. (F. W. Hartmann) **99m:30015** 30C45 (30C50)

Silverman, Joseph H. A survey of the arithmetic theory of elliptic curves. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 17–40, *Springer, New York*, 1997. (*see* **99k:11004**) 11G05

— (*with* Rosen, Michael) On the rank of an elliptic surface. (English summary) *Invent. Math.* **133** (1998), *no.* 1, 43–67. (Carlo Gasbarri) **99f:11081** 11G40 (11G35, 14G10)

— The average rank of an algebraic family of elliptic curves. (English summary) *J. Reine Angew. Math.* **504** (1998), 227–236. (John W. Jones) **99m:11066** 11G05 (11G35)

— Computing rational points on rank 1 elliptic curves via *L*-series and canonical heights. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 835–858. (Abderrahmane Nitaj) **99i:11043** 11G05 (11Y50)

— *see also* **Modular forms and Fermat's last theorem, 99k:11004**

Silverstein, Eva (*with* Aharony, Ofer; Berkooz, Micha; Kachru, Shamit; Seiberg, Nathan) Matrix description of interacting theories in six dimensions. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 148–157. (David S. Berman) **99b:81226** 81T60 (81T13, 81T30)

— Closing the generation gap. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 274–278. (Summary) **99e:81210** 81T30

— (*with* Aharony, Ofer; Berkooz, Micha; Kachru, Shamit) Matrix description of (1, 0) theories in six dimensions. (English summary) *Phys. Lett. B* **420** (1998), *no.* 1-2, 55–63. (Summary) **99a:81166** 81T60 (81T30)

Silverstein, Jack W. (*with* Bai, Zhi-Dong) No eigenvalues outside the support of the limiting spectral distribution of large-dimensional sample covariance matrices. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 316–345. (V. I. Serdobol'skiĭ) **99b:60041** 60F15 (62H99)

Silverstone, Harris J. (*with* Lai, Shan Tao; Palting, Pancracio; Chiu, Ying Nan) On the summations involving Wigner rotation matrix elements. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 123–132. (Summary) **99g:81062** 81R05 (81V35)

Silvester, David J. (*with* Elman, Howard C.; Wathen, Andrew J.) Iterative methods for problems in computational fluid dynamics. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 271–327, *Springer, Singapore*, 1997. (*see* **99g:65001**) 65F10 (76M25)

— (*with* Wathen, Andrew J.; Fischer, Bernd) The convergence of iterative solution methods for symmetric and indefinite linear systems. (English summary) *Numerical analysis* 1997 (*Dundee*), 230–243, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65058** 65F10

— (*with* Fischer, Bernd; Ramage, A.; Wathen, Andrew J.) Minimum residual methods for augmented systems. (English summary) *BIT* **38** (1998), *no.* 3, 527–543. (Jin Yun Yuan) **99i:65031** 65F10 (65F35, 65F50)

— (*with* Norburn, Sean) Stabilised vs. stable mixed methods for incompressible flow. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 131–141. (Summary) **99i:76090** 76M10

Silvestri, Giovanni (*with* Napolitano, Marcello R.; Casdorph, Van; Neppach, Charles; Naylor, Steve; Innocenti, Mario) Online learning neural architectures and cross-correlation analysis for actuator failure detection and identification. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 433–455. 93E12 (93E03)

Silvestri, Riccardo (*with* De Agostino, Sergio) Bounded size dictionary compression: SC^k-completeness and NC algorithms. (English summary) *STACS* 98 (*Paris*, 1998), 522–532, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q25 (68P99, 68Q22, 94A29)

— (*with* Crescenzi, P.) Sperner's lemma and robust machines. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 163–173. (Gerhard Lischke) **99m:68049** 68Q05 (03D15, 68Q25, 68R05)

Sil'vestrov, A. N. Two alternative approaches to the identification of real objects. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 54–65, 155–156. 93B30 (93E12)

Silvestrov, Dmitrii S. (*with* Stenflo, Örjan) Ergodic theorems for iterated function systems controlled by regenerative sequences. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 589–608. (M. Iosifescu) **99j:60100** 60H25 (28D05, 60F05, 60F15, 60K99)

— (*with* Teugels, Jozef L.) Asymptotics of multivariate extremes with random sample size. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 391–400. (H. Vishnu Hebbar) **99h:60045** 60F05 (60G70)

Silvestrov, Sergei D. (*with* Hellström, Lars) On centralisers in *q*-deformed Heisenberg algebras. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1163–1169. (Marcelo R. Ubriaco) **99i:81101** 81R50 (81S05)

— On rings generalizing commutativity. (English summary) Quantum groups and integrable systems (Prague, 1998). *Czechoslovak J. Phys.* **48** (1998), *no.* 11, 1495–1500. (*see* **99k:81007**) 16U80

Silvia, E. M. Convex null operators. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 311–317. (F. W. Hartmann) **99c:30032** 30C45

Silvotti, Roberto (*with* Phong, Duong H.) The fusion matrix and the Verlinde loop operators in conformal field theory. *CR-geometry and overdetermined systems* (*Osaka*, 1994), 285–317, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Stanislav Z. Pakuliak) **99a:81163** 81T40 (17B37, 81R50)

— On the Poincaré polynomial of a complement of hyperplanes. *Math. Res. Lett.* **4** (1997), *no.* 5, 645–661. (Hiroaki Terao) **99d:52011** 52B30 (32S20)

Sim, Hyo-Seob Conjugacy classes of subgroups of split metacyclic groups of prime power order. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 719–726. (Wujie Shi) **99m:20038** 20D15

Sim, Songyong (*with* Johnson, Richard A.; Klein, Barbara E.; Klein, Ronald) A multivariate multisample quantile test for ordered alternatives. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 807–818. (Subhash C. Kochar) **99g:62057** 62G10

— (*with* Lee, Kee-Won) A note on parametric bootstrap model selection. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 4, 397–405. 62G09

— (*with* Johnson, Richard A.) Comparisons of spatially correlated binary data. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 81–87. (Summary) **99i:62125** 62H11 (62F03)

Šíma, Jiří (*with* Wiedermann, Jiří) Theory of neuromata. (English summary) *J. ACM* **45** (1998), *no.* 1, 155–178. (Robert M. Baer) **99c:68082** 68Q05 (68Q45, 68T05)

Simakov, N. N. (*with* Pavlov, A. E.) Spatial chaos of the Swift-Hohenberg model. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 104–110. 35Q99 (35K55, 58F13)

— (*with* Borisov, Adriyan V.) Period-doubling bifurcations in the dynamics of a rigid body. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 64–74. (Summary) **99e:70021** 70E15 (58F40, 70K50)

Simakov, S. T. (*with* Tuck, E. O.) Splash formation at the nose of a smoothly curved body in a stream. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 4, 421–436. (Summary) **99m:76011** 76B10 (76M25)

Simakova, T. B. (*with* Mychelkin, T. È.) On the Bertrand-Kepler problem. II. Stability, classification and equivalence of Bertrand's laws of motion. (Russian. English, Russian and Kazakh summaries) *Izv. Nats. Akad. Nauk Respub. Kazakhstan Ser. Fiz.-Mat.* **1996**, *no.* 1, 73–76. (A. S. Baranov) **99k:70008** 70F05 (70F15)

Simalarides, A. Congruences mod p^n for the Bernoulli numbers. *Fibonacci Quart.* **36** (1998), *no.* 3, 276–281. (L. Skula) **99e:11024** 11B68 (11A07)

Simanihuruk, M. (*with* Achuthan, Nirmala; Achuthan, N. R.) On the Nordhaus-Gaddum problem for the *n*-path-chromatic number of a graph. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 107–115. (Summary) **99a:05045** 05C15

Simantiraki, Evangelia M. (*with* Shanno, David F.; Breitfeld, Marc G.) Implementing barrier methods for nonlinear programming. (English summary) *Interior point methods of mathematical programming*, 399–414, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C30 (65K05)

— (*with* Shanno, David F.) Interior point methods for linear and nonlinear programming. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 339–362, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99c:90075** 90C05 (65K05, 90C30)

Simar, Léopold (*with* Kneip, Alois; Park, Byeong U.) A note on the convergence of nonparametric DEA estimators for production efficiency scores. (English summary) *Econometric Theory* **14** (1998), *no.* 6, 783–793. (Summary) **99i:62069** 62G05 (62P20)

Simchi-Levi, David (*with* Pinedo, Michael) Heuristic methods. *Mathematical programming for industrial engineers*, 575–617, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see*

99g:90006) 90C08 (90–02, 90C27)
— (*with* Bramel, Julien; Rhee, WanSoo T.) Average-case analysis of the bin-packing problem with general cost structures. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 7, 673–686. (N. I. Yanev) **99d:90091** 90C27
— (*with* Bramel, Julien) On the effectiveness of set covering formulations for the vehicle routing problem with time windows. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 295–301. (Neville G. F. Sancho) **99g:90040** 90B06 (90C08)
— (*with* Chan, Lap Mui Ann; Bramel, Julien) Worst-case analyses, linear programming and the bin-packing problem. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 213–227. (José F. Fontanari) **99h:90080** 90C27
— (*with* Chan, Lap Mui Ann; Muriel, Ana) Parallel machine scheduling, linear programming, and parameter list scheduling heuristics. (English summary) *Oper. Res.* **46** (1998), *no.* 5, 729–741. (Summary) **99f:90045** 90B35 (90C08)
Sime, Patrick J. (*with* Shanks, Daniel C.; Washington, Lawrence C.) Zeros of 2-adic *L*-functions and congruences for class numbers and fundamental units. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1243–1255. (Daniel Barsky) **99i:11101** 11R23 (11R42, 11S40)
Simeon, B. Order reduction of stiff solvers at elastic multibody systems. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 459–475. (Summary) **99g:70003** 70–08 (34A09, 65L20, 70E99, 73V20)
— DAEs and PDEs in elastic multibody systems. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 235–246. (Summary) **99j:73081** 73K99 (34A09, 65L05, 73V20)
Simeone, Bruno (*with* Lari, Isabella; Maravalle, Maurizio) A linear programming based heuristic for a hard clustering problem on trees. (English summary) *Advances in data science and classification* (*Rome*, 1998), 161–170, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30 (90C08)
— (*with* Liu, Yan Pei; Morgana, Aurora) A linear algorithm for 2-bend embeddings of planar graphs in the two-dimensional grid. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 69–91. (Summary) **99k:05067** 05C10 (05C85)
— (*with* Becker, Ronald; Lari, Isabella; Lucertini, Mario) Max-min partitioning of grid graphs into connected components. (English summary) *Networks* **32** (1998), *no.* 2, 115–125. (Summary) **99e:05112** 05C85 (68Q25)
Simeone, Claudio Quantization of minisuperspaces as ordinary gauge systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3131–3137. (Charles G. Torre) **99e:83030** 83C45 (83C05)
Simeoni, Marta (*with* Große-Rhode, Martin; Parisi-Presicce, Francesco) Spatial and temporal refinement of typed graph transformation systems. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 553–561, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q10, 68Q50)
Simeonov, P. C. (*with* Rakhmanov, E. A.; Saff, Edward B.) Rational approximation with varying weights. II. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 331–338. (D. J. Leeming) **99a:41015** 41A20
Simeonov, Pavel (*with* Bainov, Drumi Dimitrov) ★ Oscillation theory of impulsive differential equations. (English summary) *International Publications, Orlando, FL*, 1998. ii+284 *pp.* (From the preface) **99h:34014** 34A37 (34C10, 34K15, 35B05, 35R10)
— (*with* Bainov, Drumi Dimitrov; Dimitrova, Margarita B.) Oscillatory properties of the solutions of impulsive differential equations with retarded argument and oscillating coefficients. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 1, 63–74. (Summary) **99f:34101** 34K15 (34A37)
— (*with* Bainov, Drumi Dimitrov; Markova, N. T.) Asymptotic behaviour of the nonoscillatory solutions of differential equations of second order with delay depending on the unknown function. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 87–96. (Vincent Šoltés) **99d:34126** 34K15 (34C10, 34K25)
Simha, N. K. (*with* Bhattacharya, Kaushik) Kinetics of phase boundaries with edges and junctions. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 12, 2323–2359. (Matthias Wilhelm Winter) **99j:73016** 73B30 (35Q72, 80A22)
Simha, R. R. Picard's theorem and Ahlfors' lemma. *Math. Ed.* **9** (1993), *no.* 4, 213–215. 05D15
Simha, Rahul (*with* Shende, Sunil M.) A distributed list update problem. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 331–343 (*electronic*). (*see* **99d:68010**) 68P05 (68Q10)
Simi, A. (*with* Rivolo, M. T.) The computation of square and cube roots in Italy from Fibonacci to Bombelli. (Italian) *Arch. Hist. Exact Sci.* **52** (1998), *no.* 2, 161–193. (Massimo Galuzzi) **99d:01015** 01A35 (01A40)
Simić, S. *see* **Simić, Slobodan K.**
Simić, Slavko Best possible bounds and monotonicity of segments of harmonic series. II. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 5–10. (Kirill A. Kopotun) **99f:26039** 26D15
Simić, Slobodan K. (*with* Bell, Francis K.) A note on the second largest eigenvalue of star-like trees. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 433–443, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Peter Rowlinson) **99d:05060** 05C50 (05C05)
— (*with* Cvetković, Dragoš M.; Stevanović, Dragan) 4-regular integral graphs. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 89–102. (N. Trinajstić) **99m:05104** 05C50
— (*with* Cvetković, Dragoš M.; Lepović, Mirko; Rowlinson, Peter) A database of star complements of graphs. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 103–112. (N. Trinajstić) **99m:05132** 05C75
Šimić, V. (*with* Pearce, C. E. M.; Pečarić, Josip) Stolarsky means and Hadamard's inequality. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 99–109. (B. Crstici) **99b:26040** 26D15
— (*with* Pečarić, Josip; Qi, Feng; Xu, Sen Lin) Refinements and extensions of an inequality. III. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 439–448. (Zsolt Páles) **99i:26029** 26D15
Simion, Doina Irina *see* **Stoilow, Simion**, (**99h:00035**)
Simis, Aron (*with* Vasconcelos, Wolmer V.; Villarreal, Rafael H.) The integral closure of subrings associated to graphs. (English summary) *J. Algebra* **199** (1998), *no.* 1, 281–289. (Sarah Glaz) **99c:13004** 13A30 (13B22, 13B25)
— (*with* Brumatti, Paulo; Gimenez, Philippe) On the Gauss algebra associated to a rational map $\mathbf{P}^d \to \mathbf{P}^n$. (English summary) *J. Algebra* **207** (1998), *no.* 2, 557–571. (Santiago Zarzuela Armengou) **99h:14053** 14M25 (13F20, 14E05)
— (*with* Ngô Việt Trung; Valla, Giuseppe) The diagonal subalgebra of a blow-up algebra. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 305–328. (Claudia Polini) **99b:13004** 13A30 (13D40, 14E05)
Simizu, Akira (*with* Minamide, Nariyasu; Fujisaki, Yasumasa) A parametrization of all observers for descriptor systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 767–777. 93B07 (93C30)
Simkin, J. (*with* Bryant, C. F.; Emson, C. R. I.; Trowbridge, C. W.; Nitta, K.) A comparison of Lorentz and Coulomb gauges in the solution of Maxwell's equations. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 301–312, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78002** 78–08 (78A25)
Šimko, Juraj Metrizable and **R**-metrizable betweenness spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 323–325. (L. Bukovský) **99c:03061** 03C65 (54E35)
Simmonds, J. G. (*with* Libai, A.) ★ The nonlinear theory of elastic shells. (English summary) Second edition. *Cambridge University Press, Cambridge*, 1998. xvi+542 *pp. ISBN* 0-521-47236-9 (Veronique Lods) **99k:73083** 73K15 (73C50)
— (*with* Ladevèze, Pierre) New concepts for linear beam theory with arbitrary geometry and loading. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 3, 377–402. (Cornelius O. Horgan) **99f:73049** 73K05 (73C10)
Simms, D. J. *see* **Mathematical heritage of Sir William Rowan Hamilton**, **99e:00020**
Simó, Carles (*with* Haro, A.) A numerical study of the breakdown of invariant tori in 4D symplectic maps. *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (O. Christov) **99h:58164** 58F27 (34C35)
— (*with* Valls, Claudia) The classical Arnold example of diffusion with two equal parameters. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 357–362, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 58F05 (34C99, 70H05)
— (*with* Cobos, Jordi) Reduction of the central manifold around a collinear equilibrium point of the restricted three-body problem. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 673–676, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70F07
— (*with* García García, Nuria) Monte Carlo and uniform distribution methods for the numerical approximation of partial differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 755–761, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65C05
— (*with* Broer, Hendrik W.) Hill's equation with quasi-periodic forcing: resonance tongues, instability pockets and global phenomena. (English summary) *Bol. Soc. Brasil. Mat.* (*N.S.*) **29** (1998), *no.* 2, 253–293. (James A. Murdock) **99m:34109** 34C99 (34C29, 34D08, 58F27, 70J40)
Simo, Juan Carlos (*with* Hughes, Thomas J. R.) ★ Computational inelasticity. (English summary) Interdisciplinary Applied Mathematics, 7. *Springer-Verlag, New York*, 1998. *xiv*+392 *pp. ISBN* 0-387-97520-9 (Weimin Han) **99i:73038** 73Exx (65N30, 73G20, 73V05)
— Numerical analysis and simulation of plasticity. *Handbook of numerical analysis, Vol. VI*, 183–499, *North-Holland, Amsterdam*, 1998. (Weimin Han) **99m:73064** 73Vxx (73Exx, 73G20)
— *see also* **Hughes, Thomas J. R.**, (**99h:65001**)
Simo, Makkonen *see* **Makkonen, Simo**
Simões, F. M. F. (*with* Martins, J. A. C.) Instability and ill-posedness in some friction problems. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 11, 1265–1293. (Summary) **99e:73093** 73T05 (73H10)
— (*with* Martins, J. A. C.; Loret, Benjamin) Instabilities in elastic-plastic fluid-saturated porous media: harmonic wave versus acceleration wave analyses. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 9, 1277–1295. (Summary) **99k:73054** 73D15 (73E50, 73E70, 73K70, 76S05)
Simon, A. *see* **Simon, András**
chaljub-Simon, Alice *see* **Chaljub-Simon, Alice**
Simon, András (*with* Andréka, Hajnal; Givant, Steven; Németi, István) Persistent properties and an application to algebras of logic. *Algebra Universalis* **38** (1997), *no.* 2, 141–149. (Ivo Düntsch) **99g:03065** 03G15
— (*with* Andréka, Hajnal; Givant, Steven; Mikulás, Szabolcs; Németi, István) Notions of density that imply representability in algebraic logic. (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 2-3, 93–190. (Ivo Düntsch) **99f:03089** 03G15 (03C05, 06E25, 08B05)
Simon, Anne-Marie Intersection dimension and canonical modules. *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 287–297, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Hans-Bjørn Foxby) **99e:13016** 13C15 (13C11, 13H10)
Simon, Barry (*with* del Rio, Rafael; Gesztesy, Fritz) Inverse spectral analysis with partial information on the potential. III. Updating boundary conditions. *Internat. Math. Res. Notices* **1997**, *no.* 15, 751–758. (Vjacheslav A. Yurko) **99a:34032** 34A55 (34B24, 34L05, 47E05, 81U40)
— (*with* Gesztesy, Fritz) *m*-functions and inverse spectral analysis for finite and semi-infinite Jacobi matrices. (English summary) *J. Anal. Math.* **73** (1997), 267–297. (M. Krishna) **99c:47039** 47B39 (47A10, 81Q10)
— (*with* Kiselev, Alexander; Last, Yoram) Modified Prüfer and EFGP transforms and the spectral analysis of one-dimensional Schrödinger operators. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 1–45. (Günter Stolz) **99g:34167** 34L40 (39A70, 47B39, 47B80, 47E05, 81Q10)
— (*with* Last, Yoram) Modified Prüfer and EFGP transforms and deterministic models with dense point spectrum. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 513–530. (Günter Stolz) **99f:81048** 81Q10 (34L40, 39A12)
Simon, Benoît (*with* Rakotoson, Jean Michel) Relative rearrangement on a finite measure space. Application to the regularity of weighted monotone rearrangement. I. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat.* (*Esp.*) **91** (1997), *no.* 1, 17–31. (P. Szeptycki) **99m:46074a** 46E30

— (*with* Rakotoson, Jean Michel) Relative rearrangement on a finite measure space. Application to weighted spaces and to P.D.E. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fis. Nat. (Esp.)* **91** (1997), *no.* 1, 33–45. (P. Szeptycki) **99m:46074b** 46E30

Simon, D. *see* **Simon, David S.**

Simon, Daniel R. On the power of quantum computation. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1474–1483. (V. Ya. Kreinovich) **99a:68059** 68Q05 (03D10, 03D15, 81P99)

Simon, David S. (*with* He, Matthew X.; Ricci, Paolo Emilio) Numerical results on the zeros of generalized Fibonacci polynomials. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 25–40 (1998). (Summary) **99j:33013** 33C45 (05A10)

Simon, H. *see* **Simon, Horst D.**

Simon, Hans Ulrich (*with* Birkendorf, Andreas; Böker, Andreas) Learning deterministic finite automata from smallest counterexamples. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 599–608, *ACM, New York*, 1998. (Summary) **99e:68134** 68T05 (68Q68)

— (*with* Birkendorf, Andreas) Using computational learning strategies as a tool for combinatorial optimization. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 237–257. (Summary) **99g:68167** 68T05 (68Q20)

Simon, Herbert A. Allen Newell: 1927–1992. *IEEE Ann. Hist. Comput.* **20** (1998), *no.* 2, 63–76. (From the text) **99m:01089** 01A70 (68–03)

Simon, Horst D. (*with* Zha, Hongyuan; Marques, Osni) Large-scale SVD and subspace-based methods for information retrieval. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 29–42, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y20 (94A12)

— (*with* Wu, Kesheng) Thick-restart Lanczos method for symmetric eigenvalue problems. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 43–55, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F15

— (*with* Golub, Gene H.; Huang, Lan Jie; Tang, Wei-Pai) A fast Poisson solver for the finite difference solution of the incompressible Navier-Stokes equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1606–1624 (*electronic*). (Jean-Luc Guermond) **99e:65116** 65M06 (65F30, 76D05, 76M20)

— *see also* **Solving irregularly structured problems in parallel**, **99h:65007**

Simon, J. *see* **Simon, Jonathan K.**

Simon, Jacques (*with* Bresch, Didier) Modèles stationnaires de lacs et mers. (French summary) [Stationary models of lakes and seas] *Équations aux dérivées partielles et applications*, 239–269, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99f:76130** 76U05 (35Q35, 76D99, 86A05)

— (*with* Bresch, Didier; Lemoine, Jérôme) Écoulement engendré par le vent et la force de Coriolis dans un domaine mince. II. Cas d'évolution. (English and French summaries) [Motion driven by wind and by Coriolis force in a thin domain. II. Nonstationary case] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 329–334. (Summary) **99h:86005** 86A05 (35Q30, 76D05, 76U05)

— (*with* Bresch, Didier) Sur les variations normales d'un domaine. (French summary) [On the normal variations of a domain] *ESAIM Control Optim. Calc. Var.* **3** (1998), 251–261 (*electronic*). (H. R. Gluck) **99f:49064** 49Q10 (49Q20)

Simon, Jacques C. H. (*with* Flato, Moshé; Sternheimer, Daniel; Taflin, Erik) Nonlinear relativistic wave equations in general dimensions. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 53–70, *World Sci. Publishing, River Edge, NJ*, 1997. (R. Schimming) **99j:58205** 58G16 (22E45, 35A30, 35Q75)

Simon, Janos (*with* Kurtz, Stuart A.; Mahaney, Stephen R.; Royer, James S.) Biological computing. (English summary) *Complexity theory retrospective, II*, 179–195, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q05 (92D20)

— (*with* Kurtz, Stuart A.; Mahaney, Stephen R.; Royer, James S.) Active transport in biological computing. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 171–179, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99f:68055** 68Q05 (68Q25)

Simón, Joan (*with* Brandt, Friedemann; Gomis, Joaquim) Cohomological analysis of bosonic D-strings and 2d sigma models coupled to abelian gauge fields. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 623–662. (Jan Sładkowski) **99e:81249** 81T70 (81T13, 81T30, 81T50)

— (*with* Gomis, Joaquim; Mateos, David; Townsend, Paul K.) Brane-intersection dynamics from branes in brane backgrounds. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 231–236. (Summary) **99c:81182** 81T30

— (*with* Brandt, Friedemann; Gomis, Joaquim; Mateos, David) Infinitely many rigid symmetries of kappa-invariant D-string actions. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 147–152. (Summary) **99h:81156** 81T30

— (*with* Brandt, Friedemann; Gomis, Joaquim) D-string on near horizon geometries and infinite conformal symmetry. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1770–1773. (Summary) **99d:83090** 83E30 (81T30)

Simon, Jonathan K. (*with* Litherland, R. A.; Durumeric, O.; Rawdon, E.) Thickness of knots. (English summary) *Topology Appl.* **91** (1999), *no.* 3, 233–244. (Sadayoshi Kojima) **99k:57025** 57M25

— (*with* Buck, Gregory) Thickness and crossing number of knots. (English summary) *Topology Appl.* **91** (1999), *no.* 3, 245–257. (Sadayoshi Kojima) **99k:57026** 57M25

Simón, Juan Jacobo *see* **Simón Pinero, Juan Jacobo**

Simon, Károly (*with* Solomyak, Boris) Correlation dimension for self-similar Cantor sets with overlaps. (English summary) *Fund. Math.* **155** (1998), *no.* 3, 293–300. (Run Sheng Yang) **99g:28036** 28D20 (28D05)

— (*with* Manning, Anthony) A short existence proof for correlation dimension. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 1047–1049. (Luis M. Barreira) **99b:58149** 58F11

Simon, Klaus (*with* Crippa, Davide) q-distributions and Markov processes. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 81–98. (Jiang Zeng) **99c:33030** 33D90 (05A30)

Simon, László On systems of strongly nonlinear parabolic functional-differential equations. *Period. Math. Hungar.* **33** (1996), *no.* 2, 135–151. (Krzysztof A. Topolski) **99c:35093** 35K22 (35R10)

— On different types of nonlinear parabolic functional-differential equations. Modern applied analysis (Ilieni, 1997). *Pure Math. Appl.* **9** (1998), *no.* 1-2, 181–192. (Introduction) **99k:35182** 35R10 (35K55)

Simon, Leon Asymptotics for exterior solutions of quasilinear elliptic equations. (English summary) *Geometry from the Pacific Rim (Singapore, 1994)*, 343–361, *de Gruyter, Berlin*, 1997. (Giovanni Leoni) **99a:35075** 35J60 (35B40)

— The minimal surface equation. *Geometry, V*, 239–272, *Encyclopaedia Math. Sci.*, 90, *Springer, Berlin*, 1997. (R. Finn) **99b:53014** 53A10 (35J60, 58E12)

Simon, M. C. *see* **Simon, Marie Claude**

Simon, M. J. (*with* Kuznetsov, N. G.; Porter, Richard; Evans, D. V.) Uniqueness and trapped modes for surface-piercing cylinders in oblique waves. (English summary) *J. Fluid Mech.* **365** (1998), 351–368. (Summary) **99d:76011** 76B15 (35Q35)

Simon, Marie Claude (*with* El Jaï, Abdelhak; Zerrik, E.; Pritchard, A. J.) Regional controllability of distributed parameter systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1351–1365. 93B05 (93C20)

Simon, P. *see* **Simon, Péter**

Simon, Pascal Coupled minimal models with and without disorder. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 3, 624–664. (Summary) **99b:82030** 82B27 (82B20, 82B44)

— (*with* Rausch de Traubenberg, M.) 2D fractional supersymmetry and conformal field theory for alternative statistics. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 485–505. (Summary) **99d:81145** 81T40 (81R50)

Simon, Péter (*with* Weisz, Ferenc) Paley type inequalities for Vilenkin-Fourier coefficients. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 107–124. (Toshiyuki Kitada) **99c:42050** 42C10 (43A70, 60G42)

— A note on multipliers for Walsh system. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 165–185 (1998). (James E. Daly) **99j:42037** 42C10 (43A22)

— (*with* Weisz, Ferenc) Hardy type inequalities for two-parameter Vilenkin-Fourier coefficients. (English summary) *Studia Math.* **125** (1997), *no.* 3, 231–246. (W. R. Wade) **99a:42018** 42C10

— Hardy spaces and multipliers. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 183–200. (W. R. Wade) **99g:42036** 42C10 (46E15)

— (*with* Weisz, Ferenc) Hardy-Littlewood type inequalities for Vilenkin-Fourier coefficients. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 2, 131–150. (W. R. Wade) **99c:42051** 42C10

— Two-parameter multipliers on Hardy spaces. *Colloq. Math.* **77** (1998), *no.* 1, 9–31. (I. Ya. Novikov) **99c:42024** 42B15 (42B30, 60G46)

— Remarks on Walsh-Fourier multipliers. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 635–657. (James E. Daly) **99j:42038** 42C10 (43A22)

— (*with* Fridli, Sándor) Ferenc Schipp is sixty. *Math. Pannon.* **10** (1999), *no.* 1, 3–4. 01A70

Simon, Petr Miroslav Katětov (1918–1995). *Handbook of the history of general topology, Vol. 1*, 111, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:01001**) 01A70

— (*with* Katětov, Miroslav) Origins of dimension theory. *Handbook of the history of general topology, Vol. 1*, 113–134, *Kluwer Acad. Publ., Dordrecht*, 1997. (Roman Duda) **99d:01019** 01A55 (01A60, 54–03, 54F45)

— *see also* **Proceedings: Topological Symposium**, **99a:54002**

Simon, Rajiah Canonical uncertainty principle: generalization to all orders. (English summary) *Special functions and differential equations (Madras, 1997)*, 310–325, *Allied Publ., New Delhi*, 1998. (Summary) **99i:81015** 81P05 (81S30)

— (*with* Mukunda, N.) Shape-invariant anisotropic Gaussian Schell-model beams: a complete characterization. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1361–1370. (Summary) **99a:78009** 78A10

— (*with* Mukunda, N.) Iwasawa decomposition in first-order optics: universal treatment of shape-invariant propagation for coherent and partially coherent beams. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 8, 2146–2155. (Summary) **99e:78014** 78A10

— (*with* Arvind[1]; Mukunda, N.) Characterizations of classical and nonclassical states of quantized radiation. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 565–583. (K. Wódkiewicz) **99e:81274** 81V80

Simon, Richard (*with* Faraggi, David) Bayesian variable selection method for censored survival data. (English and French summaries) *Biometrics* **54** (1998), *no.* 4, 1475–1485. (Summary) **99k:62187** 62N05 (62F15)

Simon, Thomas D. Subordination au sens large et équation de quotient. (English and French summaries) [Subordination in the wide sense and quotient equation] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 683–688. (Loïc Chaumont) **99j:60116** 60J45

Simon, Udo (*with* Bokan, Neda; Gilkey, Peter B.) Asymptotic spectra for Weyl geometries. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 83–90. (M. Puta (Zbl 882.58055)) **99f:58206** 58G18 (53C25, 58G11)

— (*with* Liu, Huili L.; Wang, Chang Ping[1]) Codazzi tensors and the topology of surfaces. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 189–202. (Bang-yen Chen) **99d:53007** 53A05 (53A15, 53C40)

— (*with* Liu, Huili L.; Wang, Chang Ping[1]) Higher order Codazzi tensors on conformally flat spaces. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 329–348. (Xingwang Xu) **99m:53067** 53C20 (53A15, 53A30)

— (*with* Bokan, Neda; Gilkey, Peter B.) Spectral invariants of affine hypersurfaces. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math. (Beograd) (N.S.)* **64(78)** (1998), 133–145. (Haruo Kitahara) **99j:58197** 58G11 (53A15, 58G18)

Simoncelli, Alba Chiara (*with* Kocić, Ljubiša M.; Occorsio, Donatella) Comparison between two generalizations of Bézier curves. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 217–232. (Summary) **99f:65027** 65D17

— (*with* Kocić, Ljubiša M.) Towards free-form fractal modelling. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 287–294, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65046** 65D17

— (*with* Kocić, Ljubiša M.) Bézier curves via fractal algorithm. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat.*

Palermo (2) *Suppl. No.* 52, *Vol. II* (1998), 567–574. (Summary) **99e:65024** 65D17 (41A36)

Simoncini, V. (*with* Gallopoulos, E.) Transfer functions and resolvent norm approximation of large matrices. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 190–201 (*electronic*). (Summary) **99i:65039** 65F15 (93C80)

— A matrix analysis of Arnoldi and Lanczos methods. (English summary) *Numer. Math.* **81** (1998), *no.* 1, 125–141. (Marc Van Barel) **99j:65061** 65F15

Simondon, F. (*with* Andreu, F.; Mazón, J. M.; Toledo, Julián) Attractor for a degenerate nonlinear parabolic equation with a nonlinear flux. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 1–7, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 35K60 (34G20, 35B40, 47H20, 58F39)

— (*with* Andreu, F.; Mazón, J. M.; Toledo, Julián) Attractor for a degenerate nonlinear diffusion problem with nonlinear boundary condition. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 347–377. (Sergei A. Vakulenko) **99j:35102** 35K57 (35B40)

— (*with* Laurençot, Philippe) Long-time behaviour for porous medium equations with convection. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 315–336. (Vladimir Grebenev) **99f:35108** 35K65 (35B40, 35Q35, 76S05)

de Simone, Anna *see* **De Simone, Anna**

de Simone, Robert *see* **CONCUR'98: concurrency theory, 99k:68006**

Simonet, G. Two FOL semantics for simple and nested conceptual graphs. (English summary) *Conceptual structures: theory, tools and applications* (*Montpellier*, 1998), 240–254, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (Summary) **99k:03030** 03B70 (68T30)

Simonett, Gieri (*with* Escher, Joachim; Mayer, Uwe F.) The surface diffusion flow for immersed hypersurfaces. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1419–1433 (*electronic*). (Vladimir Grebenev) **99f:58042** 58E15 (35K99, 35R35, 65C20)

Simonetta, Patrick (*with* Delon, Françoise) Undecidable wreath products and skew power series fields. *J. Symbolic Logic* **63** (1998), *no.* 1, 237–246. (O. V. Belegradek) **99b:03059** 03D35 (16W60, 20E22)

Simonetti, P. (*with* Saleur, Hubert) Multiparameter integrable QFT's with N bosons. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 596–620. (Mathias Pillin) **99j:81117** 81T10

— (*with* Lesage, F.; Saleur, Hubert) Boundary flows in minimal models. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 85–92. (Summary) **99b:81218** 81T40

Simonian, Alain D. (*with* Roberts, James W.; Théberge, F.; Mazumdar, Ravi R.) Asymptotic estimates for blocking probabilities in a large multi-rate loss network. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 806–829. (Peter Gerrard Taylor) **99c:60211** 60K30 (60F10, 90B15)

Simonis, A. Filling the hypercube in the supercritical contact process in equilibrium. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 1, 113–130. (Paolo Dai Pra) **99d:60114** 60K35 (60F10, 82C22)

Simonis, Juriaan (*with* Ashikhmin, A.) Almost affine codes. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 179–197. (Bal Kishan Dass) **99m:94052** 94B05 (94A60)

— (*with* Dodunekov, Stefan) Codes and projective multisets. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 37, 23 *pp.* (*electronic*). (Italo José Dejter) **99m:94041** 94B05 (51E22, 94B27)

— (*with* Gabidulin, È. M.) Metrics generated by families of subspaces. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1336–1341. (Summary) **99e:94042** 94B05

Simonnet, E. (*with* Moise, Ioana; Temam, Roger; Ziane, Mohammed) Numerical simulation of differential systems displaying rapidly oscillating solutions. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 201–214. (Summary) **99d:65241** 65L99

Simonot, F. A comparison of the stationary distributions of $GI/M/c/n$ and $GI/M/c$. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 510–515. (Summary) **99f:60161** 60K25

Simonov, B. V. (*with* Potapov, M. K.) On the interrelation of the generalized Besov-Nikol′skiĭ and Weyl-Nikol′skiĭ classes of functions. (Russian summary) *Anal. Math.* **22** (1996), *no.* 4, 299–316. (Vladimir D. Stepanov) **99e:46044** 46E35 (42B20)

— (*with* Potapov, M. K.) On the relations between generalized classes of Besov-Nikol′skiĭ and Weyl-Nikol′skiĭ functions. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 250–266. (L. Ï. Nikolova) **99m:46083** 46E35

— On trigonometric series with monotone coefficients in Lorentz spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 59–67; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 5, 57–65. (Tatjana Ostrogorski) **99i:42007** 42A32

Simonov, N. *see* **Simonov, Nikolai A.**

Simonov, N. I. (*with* Demidov, Sergeĭ S.; Petrova, S. S.) Ordinary differential equations. *Mathematics of the 19th century*, 83–196, *Birkhäuser, Basel*, 1998. (*see* **99d:01022**) 34–03 (01A55)

Simonov, Nikolai A. Stochastic iterative methods for solving equations of parabolic type. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1146–1162, iv; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 993–1007. (Krystyna Twardowska) **99c:35087** 35K10 (35C99, 35R60, 60H15)

— Monte Carlo solution to three-dimensional vorticity equation. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 455–459. (*see* **99d:65008**) 76C05 (65C05, 76M35)

— (*with* Dreyer, Wolfgang; Kunik, Matthias; Sabelfeld, K. K.; Wilmański, Krzysztof) Iterative procedure for multidimensional Euler equations. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 3, 253–271. (Sergei A. Nemnyugin) **99m:65206** 65N22 (65C05)

Simonov, P. M. (*with* Chistyakov, Aleksandr Vladimirovich) Symbolic analysis of linear periodic operators in translation-invariant Lebesgue C^l-moduli. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 27–38 (1998). (Sjoerd M. Verduyn Lunel) **99c:47034** 47B38 (34K20, 47N20)

— (*with* Azbelev, Nikolaĭ Viktorovich) Stability of equations with a retarded argument. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 6, 3–16; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 6, 1–14. (Elena Litsyn) **99h:34112** 34K20

Simonov, Yu. A. Perturbation theory in a nonperturbative QCD background. *Perturbative and nonperturbative aspects of quantum field theory* (*Schladming*, 1996), 139–207, *Lecture Notes in Phys.*, 479, *Springer, Berlin*, 1997. (*see* **99d:81177**) 81V05 (81T18)

Simonova, V. N. (*with* Kon′kova, T. Ya.; Kublanovskaya, V. N.) On the development of certain ideas of D. K. Faddeev and V. N. Faddeeva in computational algebra. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 1955–1961; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1877–1883. (Summary) **99h:65080** 65F30

Simonovits, Miklós (*with* Sós, Vera T.) Hereditarily extended properties, quasi-random graphs and not necessarily induced subgraphs. (English summary) *Combinatorica* **17** (1997), *no.* 4, 577–596. (A. G. Thomason) **99j:05115** 05C35 (05C80)

— (*with* Kannan, Ravindran; Lovász, László) Random walks and an $O^*(n^5)$ volume algorithm for convex bodies. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 1, 1–50. (Mark R. Jerrum) **99h:68078** 68Q25 (52A20, 52A38, 60J15, 60J20)

— (*with* Griggs, Jerrold R.; Thomas, George Rubin) Extremal graphs with bounded densities of small subgraphs. (English summary) *J. Graph Theory* **29** (1998), *no.* 3, 185–207. (W. G. Brown) **99m:05076** 05C35 (05C15)

Simonovskii, A. Ya. (*with* Gogosov, V. V.; Grishanina, O. A.; Kiryushin, V. V.) Theoretical description of the free surface shapes of a magnetic fluid, surrounding a magnetizable plate in an external magnetic field. (English summary) *Magnetohydrodynamics* **34** (1998), *no.* 1, 43–49. 76W05

Simón Pinero, Juan Jacobo Finitely generated projective modules over row and column finite matrix rings. *J. Algebra* **208** (1998), *no.* 1, 165–184. (Jeremy Haefner) **99i:16056** 16S50 (16D40, 16D60)

Simons, Christopher S. (*with* Conway, John H.) Relations in M_{666}. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 27–38, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Hiroyoshi Yamaki) **99i:20020** 20D08 (20F05)

— Monster roots. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 127–146, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Mohammad-Reza Darafsheh) **99i:20023** 20D08

Simons, Gordon (*with* Podgórski, Krzysztof; Ma, Yi-Wen) On estimation for a binary-symmetric channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1260–1272. (Summary) **99b:94020** 94A34 (94A40)

— (*with* Yao, Yi-Ching) Approximating the inverse of a symmetric positive definite matrix. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 97–103. (Summary) **99f:65046** 65F05

Simons, Martin ★ The presentation of formal proofs. (English and German summaries) Dissertation, Technische Universität Berlin, Berlin, 1996. With a preface by Stefan Jähnichen. GMD-Berichte [GMD Reports], 278. *R. Oldenbourg Verlag, Munich*, 1997. *xii*+169 *pp. ISBN* 3-486-24262-8 (Summary) **99e:68144** 68T15 (03B70, 03F07)

Simons, Peter Higher-order quantification and ontological commitment. (English summary) *Dialectica* **51** (1997), *no.* 4, 255–271. (Roman Murawski) **99i:03008** 03B15 (00A30, 03B65)

Simons, Stephen Three lectures on minimax and monotonicity. *Minimax theory and applications* (*Erice*, 1996), 217–240, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Xie Ping Ding) **99i:47096** 47H05 (46N10, 47N10, 49J35, 49K35)

— (*with* Phelps, R. R.) Unbounded linear monotone operators on nonreflexive Banach spaces. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 303–328. (Hassan Riahi) **99k:47003** 47A05 (47B44, 47H05)

— *see also* **Minimax theory and applications, 99c:49007**

Simos, T. E. (*with* Tsitouras, Ch.) Explicit high order methods for the numerical integration of periodic initial-value problems. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 15–26. (Summary) **99c:65129** 65L05

— A new hybrid imbedded variable-step procedure for the numerical integration of the Schrödinger equation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 51–63. (Summary) **99d:65242** 65L99

— (*with* Tougelidis, G.) New variable-step algorithms for computing eigenvalues of the one-dimensional Schrödinger equation. (English summary) *Comput. Mech.* **21** (1998), *no.* 4-5, 424–428. (Summary) **99c:81033** 81Q05 (81–08)

— An exponentially-fitted Runge-Kutta method for the numerical integration of initial-value problems with periodic or oscillating solutions. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 1–8. (Summary) **99h:65130** 65L06

— High algebraic order methods with minimal phase-lag for accurate solution of the Schrödinger equation. (English summary) *Internat. J. Modern Phys. C* **9** (1998), *no.* 7, 1055–1071. (Summary) **99h:81037** 81Q05 (81–08)

— An accurate finite difference method for the numerical solution of the Schrödinger equation. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 47–61. (Summary) **99c:65128** 65L05

— Some embedded modified Runge-Kutta methods for the numerical solution of some specific Schrödinger equations. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 23–37. (Summary) **99h:65131** 65L06

— Some modified Runge-Kutta methods for the numerical solution of initial-value problems with oscillating solutions. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 1, 51–63. (Summary) **99d:65219** 65L06

— Explicit exponentially fitted methods for the numerical solution of the Schrödinger equation. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 185–198. (Summary) **99f:65121** 65L10

— Explicit eighth order methods for the numerical integration of initial-value problems with periodic or oscillating solutions. (English summary) *Comput. Phys. Comm.* **119** (1999), *no.* 1, 32–44. 65L06

— A new Numerov-type exponentially fitted method for the numerical integration of the Schrödinger equation. (English summary) *Helv. Phys. Acta* **72** (1999), *no.* 1, 1–22. 65L06 (81–08)

— P-stable exponentially fitted methods for the numerical integration of the Schrödinger equation. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 305–321. (Summary) **99i:81006** 81–08 (65M55)

Simoson, Andrew (*with* Goorskey, David) Antimagic pickup sticks. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory

and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 43–52. (From the text) **99d:90155** 90D40 (90D46)

Simov, Kiril Ivanov (*with* King, Paul John) The automatic deduction of classificatory systems from linguistic theories (abridged). (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 248–273, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (03B65)

Simovici, Dan A. (*with* Reischer, Corina; Stojmenović, Ivan) An algebraic approach to entropy. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 271–280, *Hölder-Pichler-Tempsky, Vienna*, 1995. (M. Studený) **99c:94018** 94A17 (04A05)

— (*with* Ngom, Alioune; Reischer, Corina; Stojmenović, Ivan) Learning with permutably homogeneous multiple-valued multiple-threshold perceptrons. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 161–166, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 68T05

— (*with* Cheushev, Vasily; Shmerko, V. P.; Yanushkevich, Svetlana) Functional entropy and decision trees. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 257–262, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (06E30)

Simplot, David (*with* Latteux, Michel; Terlutte, Alain) Iterated length-preserving rational transductions (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 286–295, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q45 (68Q70)

Simpson, Alex K. Lazy functional algorithms for exact real functionals. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 456–464, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68N15

Simpson, Carlos The Hodge filtration on nonabelian cohomology. *Algebraic geometry—Santa Cruz* 1995, 217–281, *Proc. Sympos. Pure Math.*, 62, *Part* 2, *Amer. Math. Soc., Providence, RI*, 1997. (Nitin Nitsure) **99g:14028** 14F99 (14C30, 14D20, 32J25, 32J27, 53C55)

Simpson, Douglas G. (*with* Yohai, Víctor J.) Functional stability of one-step GM-estimators in approximately linear regression. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1147–1169. (P. Laurie Davies) **99i:62078** 62G05 (62J02)

— (*with* Ge, Nanxiang) Correlation and high-dimensional consistency in pattern recognition. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 995–1006. (Summary) **99e:62112** 62H30

Simpson, Henry C. (*with* Healey, Timothy J.) Global continuation in nonlinear elasticity. *Arch. Rational Mech. Anal.* **143** (1998), *no.* 1, 1–28. (Massimo Lanza de Cristoforis) **99h:73021** 73C50 (35Q72, 47H15, 47N20)

Simpson, James R. (*with* Montgomery, Douglas C.) The development and evaluation of alternative generalized *M*-estimation techniques. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 999–1018. 62F35

Simpson, R. J. Covering systems of homogeneous congruences. *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1125–1133. (Štefan Porubský) **99k:11007** 11A07

Sims, Brailey (*with* Llorens-Fuster, Enrique) The fixed point property in c_0. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 413–422. (Tomás Domínguez Benavides) **99i:47097** 47H09 (46B20, 47H10)

— (*with* Garcia-Falset, J.; Llorens-Fuster, Enrique) Fixed point theory for almost convex functions. *Nonlinear Anal.* **32** (1998), *no.* 5, 601–608. (Tomás Domínguez Benavides) **99b:47083** 47H10

— (*with* Smyth, Michael A.) On some Banach space properties sufficient for weak normal structure and their permanence properties. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 497–513. (S. Swaminathan) **99d:46020** 46B20 (47H10)

Şimşek, Yılmaz Theorems on three-term relations for Hardy sums. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 153–162. (Charles Helou) **99j:11043** 11F20 (11L99)

Simson, Daniel (*with* Kasjan, Stanisław) A subbimodule reduction, a peak reduction functor and tame prinjective type. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 1, 89–107. (Summary) **99a:16009** 16G20 (16G60)

— Quivers, Dynkin diagrams, tameness and wildness in the representation theory of algebras. (Polish) *Wiadom. Mat.* **33** (1997), 1–46. (Rainer Nörenberg) **99k:16001** 16–02 (15A63, 16G20, 16G60, 16G70, 20F55)

— Dualities and pure semisimple rings. *Abelian groups, module theory, and topology* (*Padua*, 1997), 381–388, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (V. Dlab) **99h:16023** 16G10

— (*with* Göbel, Rüdiger) Embeddings of Kronecker modules into the category of prinjective modules and the endomorphism ring problem. *Colloq. Math.* **75** (1998), *no.* 2, 213–244. (Peter Dräxler) **99g:16021** 16G60 (16G20, 16S50)

— (*with* Kosakowska, Justyna) On Tits form and prinjective representations of posets of finite prinjective type. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1613–1623. (Hans-Joachim von Höhne) **99d:16013** 16G20 (16G60)

— (*with* von Höhne, Hans-Joachim) Bipartite posets of finite prinjective type. (English summary) *J. Algebra* **201** (1998), *no.* 1, 86–114. (Rainer Nörenberg) **99h:16027** 16G20 (16G70)

Simulik, V. M. (*with* Krivskiĭ, I. Yu.) Fermionic symmetries of the Maxwell equations with gradient-like sources. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 475–482, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:81061** 81R05 (78A25)

— A theorem on the structure of the complete set of conformal-like series of conserved variables for massless fields. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 12, 1707–1711; *translation in Ukrainian Math. J.* **49** (1997), *no.* 12, 1927–1931 (1998). (Summary) **99k:81327** 81T99 (78A25, 81R99)

— (*with* Krivskiĭ, I. Yu.) Bosonic symmetries of the massless Dirac equation. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 69–82. (Waldyr Alves Rodrigues, Jr.) **99m:81089** 81R20 (15A66)

Sin, Carlos A. Complications with stochastic volatility models. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 256–268. (Summary) **99a:90044** 90A09 (60H30)

Sin, L. I. Mathematical and algorithmic methods for processing images. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 3, 15–17, 98. 68U10

Sin, Peter (*with* Narasimha Sastry, N. S.) The code of a regular generalized quadrangle of even order. *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 485–496, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Theo Grundhöfer) **99c:51006** 51E12 (51E22)

Sin, Sang-Jin The super-potential and holomorphic properties of the MQCD. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 432–442. (Summary) **99g:81216** 81T60 (81T13, 81V05)

— (*with* Park, Chanyong) Notes on D-instanton correction to $AdS_5 \times S^5$ geometry. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 156–162. (Summary) **99i:81200** 81T30 (83E30)

Sin, Vai-Kuong (*with* Jin, Xiao-Qing) Addendum to: "A note on construction of circulant preconditioners from kernels" [Appl. Math. Comput. **83** (1997), no. 1, 3–12; MR 97i:65077] by Jin. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 91–99. (Summary) **99d:65136** 65F35

Sina, Sigalit (*with* Argamon-Engelson, Shlomo; Kraus, Sarit) Utility-based on-line exploration for repeated navigation in an embedded graph. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 267–284. 68T20

Sinaceur, Hourya Bolzano et les mathématiques. [Bolzano and mathematics] *Les philosophes et les mathématiques*, 150–173, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

— Cavaillès et les mathématiques. [Cavaillès and mathematics] *Les philosophes et les mathématiques*, 302–317, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

— Du modèle à la stratégie. [From model to strategy] *Jaakko Hintikka* (*Paris*, 1994), 127–138, *Probl. Controv., Vrin, Paris*, 1998. (*see* **99f:03005**) 03–03 (01A60, 03A05)

Sinaĭ, Yakov Grigor'evich (*with* Khanin, K. M.) Hyperbolicity of minimizing trajectories for two-dimensional Hamiltonian systems with random forcing. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 176–180. (J. S. Joel) **99f:58156** 58F15 (34F05, 70H05)

— On the distribution of the maximum of fractional Brownian motion. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 119–138; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 359–378. (N. M. Zinchenko) **99j:60050** 60G15 (45D05, 60G17, 60G18)

— (*with* Soshnikov, A.) Central limit theorem for traces of large random symmetric matrices with independent matrix elements. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 1, 1–24. (Alexei Khorunzhy) **99f:60053** 60F05 (15A52, 60F99)

— (*with* Goldstein, Sheldon; Lebowitz, Joel L.) Remark on the (non)convergence of ensemble densities in dynamical systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 393–395. (Nikolai Chernov) **99e:58120** 58F11 (82C05)

— Parabolic perturbations of Hamilton-Jacobi equations. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 299–303. (Paola Loreti) **99g:35027** 35F20 (35B20, 35K99, 58F30, 70H20)

— *see also* **Reminiscences about Il'ya Mikhailovich Lifshits**

Sinaĭskiĭ, E. S. On a stochastic model that leads to a stable distribution. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1572–1579; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1768–1776 (1998). (Przemysław Matuła) **99m:60028** 60E07 (60K05)

Sinay, Leon An algebraic procedure for the determination of periodic bifurcating solutions of quadratic ordinary differential equations. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 205–220. 65L99 (34C23)

Sinclair, Alistair Convergence rates for Monte Carlo experiments. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 1–17, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (Summary) **99j:82049** 82B80 (65C05)

— (*with* Nayak, Ashwin; Zwick, Uri) Spatial codes and the hardness of string folding problems (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 639–648, *ACM, New York*, 1998. (Summary) **99d:68118** 68Q25 (92D20)

— (*with* Kenyon, Claire M.; Rabani, Yuval) Biased random walks, Lyapunov functions, and stochastic analysis of best fit bin packing. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 218–235. (Summary) **99f:60120** 60J05 (68Q25)

Sinclair, Allan M. (*with* Smith, Roger R.) The completely bounded approximation property for discrete crossed products. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1311–1322. (Aldo J. Lazar) **99e:46072** 46L05 (46L40)

— (*with* Smith, Roger R.) Hochschild cohomology for von Neumann algebras with Cartan subalgebras. (English summary) *Amer. J. Math.* **120** (1998), *no.* 5, 1043–1057. (Carla Farsi) **99j:46087** 46L85 (19D55, 46L10)

— (*with* Smith, Roger R.) Factorization of completely bounded bilinear operators and injectivity. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 62–87. (Christian Le Merdy) **99i:46047** 46L10 (46B28, 46L05, 47D25)

— (*with* Smith, Roger R.) The Hochschild cohomology problem for von Neumann algebras. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 7, 3376–3379 (*electronic*). (Summary) **99b:46110** 46L85 (46L10, 46M20)

— (*with* Kumar, Ajay[1]) Equivalence of norms on operator space tensor products of C^*-algebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 2033–2048. (Christian Le Merdy) **99a:46103** 46L05 (46B28)

Sinclair, G. B. Further paradoxes in generalized Levy problems. (English summary) *J. Elasticity* **50** (1998), *no.* 3, 253–259. (Summary) **99g:73027** 73C02 (73K10)

Sinclair, Nathalie (*with* Borwein, Jonathan M.; Borwein, Peter B.; Corless, Robert M.; Jörgenson, Loki) What is organic mathematics? *Organic mathematics* (*Burnaby, BC*, 1995), 1–18, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Editors) **99b:00014** 00A99 (00A30, 01A99)

Sinclair, Robert (*with* Feldman, Joel S.; Knörrer, Horst; Trubowitz, Eugene) Superconductivity in a repulsive model. Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 154–191. (Klaus Ziegler) **99a:82100** 82D55 (82B26)

Sindhushayana, N. T. (*with* Marcus, Brian; Trott, Mitchell) Homogeneous shifts. *IMA J. Math. Control Inform.* **14** (1997), *no.* 3, 255–287. (From the introduction) **99b:94048** 94B10

— (*with* Viterbi, A. J.; Viterbi, A. M.) Interleaved concatenated codes: new perspectives on approaching the Shannon limit. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 18, 9525–9531. (Henk van Tilborg) **99b:94049** 94B15

Sineglazov, V. M. (*with* Akhmadeev, A. F.) Identification of the elastic-mass characteristics of an airplane from the results of frequency tests. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 79–86, 155. 93B30 (93C95)

Sinestrari, Carlo (*with* Cannarsa, Piermarco; Mennucci, Andrea) Regularity results for solutions of a class of Hamilton-Jacobi equations. (English summary) *Arch. Rational Mech. Anal.* **140** (1997), *no.* 3, 197–223. (Martino Bardi) **99e:49032** 49L25 (35D10, 35F25, 49N60)

— (*with* Huisken, Gerhard) Mean curvature flow singularities for mean convex surfaces. (English summary) *Calc. Var. Partial Differential Equations* **8** (1999), *no.* 1, 1–14. (John Urbas) **99m:58057** 58E12 (35K55, 53A10)

Sinestrari, Eugenio Favard classes and hyperbolic equations. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 323–336 (1997). (Evgeniĭ Mel'nikov) **99c:34128** 34G10 (35L99, 46N20, 47D06)

Singal, M. K. Some interesting magic squares. (English summary) *Math. Ed.* **9** (1993), *no.* 4, 243–246. 05B15

— Some more interesting magic squares. *Math. Ed.* **10** (1993), *no.* 1, 55–60. 05B15

Singer, Burton H. (*with* Pincus, Steve) A recipe for randomness. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 18, 10367–10372 (*electronic*). (Summary) **99d:11086** 11K45 (65C10, 68Q30)

Singer, Dan W. Erratum: "q-analogues of Lagrange inversion" [Adv. Math. **115** (1995), no. 1, 99–116; MR 96h:05015]. *Adv. Math.* **137** (1998), *no.* 2, 396–397. 05A30 (33D15)

— A bijective proof of Garsia's q-Lagrange inversion theorem. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research paper* 26, 34 *pp.* (*electronic*). (George E. Andrews) **99f:05009** 05A19 (05A30)

Singer, David A. ★ Geometry: plane and fancy. (English summary) Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1998. x+159 *pp. ISBN* 0-387-98306-6 (Robert Connelly) **99c:51003** 51–01 (52–01)

Singer, I. (*with* Turkel, Eli) High-order finite difference methods for the Helmholtz equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 343–358. (Bernd Heinrich) **99i:65118** 65N06

Singer, I. M. (*with* Baulieu, Laurent; Kanno, Hiroaki) Special quantum field theories in eight and other dimensions. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 149–175. (Marcos Mariño) **99k:58033** 58D29 (53C07, 53C25, 57R57, 58D27, 81T60, 81T70)

Singer, Ivan (*with* Martínez-Legaz, Juan-Enrique) On conjugations for functions with values in extensions of ordered groups. (English summary) *Positivity* **1** (1997), *no.* 3, 193–218. (Alberto Seeger) **99k:49076** 49N15 (06F20, 90C48)

— (*with* Martínez-Legaz, Juan-Enrique) On Φ-convexity of convex functions. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 163–181. (S. Kutateladze) **99f:49055** 49N15 (49J52, 52A41, 90C25)

— (*with* Li, Wu[3]) Global error bounds for convex multifunctions and applications. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 443–462. (D. Klatte) **99i:90097** 90C31 (49J52, 49K40)

— Duality for optimization and best approximation over finite intersections. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 903–915. (Wu Li) **99j:49075** 49N15 (41A65, 90C48)

Singer, Johannes Maria (*with* Schneider, Johannes; Morgenstern, Ingo) Bouncing towards the optimum: improving the results of Monte Carlo optimization algorithms. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5085–5095. 65C05

Singer, Julio Motta (*with* Ho, Linda Lee) Regression models for bivariate counts. (English summary) *Rebrape* **11** (1997), *no.* 2, 175–197. (Summary) **99a:62100** 62J12 (62D05)

Singer, Marcos (*with* Pinedo, Michael) A shifting bottleneck heuristic for minimizing the total weighted tardiness in a job shop. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 1–17. (Summary) **99h:90054** 90B35 (90C35)

Singer, Maria Lucia Sobral (*with* Dokuchaev, M. A.) Units in group rings of free products of prime cyclic groups. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 312–322. (Kenneth A. Brown) **99g:16039** 16U60 (16S34, 20E06)

Singer, Michael A.[2] (*with* Belytschko, Ted; Liu, Wing Kam) On adaptivity and error criteria for meshfree methods. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 217–228, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N15 (65N30)

Singer, P. E. On a question of A. John Coleman. (English summary) *Comm. Algebra* **25** (1997), *no.* 6, 1687–1694. (Summary) **99e:17038** 17B67

Singer, Peter Uncertainty inequalities for the continuous wavelet transform. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 1039–1042. (Summary) **99m:42055** 42C15 (94A11)

Singer, S. F. (*with* Lerman, Eugene) Stability and persistence of relative equilibria at singular values of the moment map. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1637–1649. (M. E. R. de Sousa Dias) **99j:58077** 58F05 (70H05, 70H33)

— (*with* Talvacchia, J.; Watson, Noel) Nontoric Hamiltonian circle actions on four-dimensional symplectic orbifolds. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 937–940. (Ágúst Sverrir Egilsson) **99f:57043** 57S25 (57S15, 58F05)

Singer, Yoram (*with* Ron, Dana; Tishby, Naftali) On the learnability and usage of acyclic probabilistic finite automata. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 133–152. (Sanjay Jain) **99e:68136** 68T05 (68Q68)

Singerman, David (*with* Watson, Paul) Non-maximal cyclic group actions on compact Riemann surfaces. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 423–439. (Marston Conder) **99a:20050** 20H10 (30F10)

Singh, A. I. *see* **Harmonic analysis and hypergroups, 99a:43001**

Singh, A. K. *see* **Singh, Awadhesh Kumar[2]**

Singh, A. P. *see* **Singh, Anand Prakash**

Singh, Ambuj (*with* Ravi Kanth, K. V.) Efficient dynamic range searching using data replication. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 2, 97–105. (Summary) **99f:68202** 68U05 (68P05)

Singh, Anand Prakash Iterates of meromorphic functions: an introduction. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 207–219, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (I. N. Baker) **99b:58201** 58F23 (30D05)

— (*with* Charak, K. S.) On factorization of meromorphic functions with finitely many poles. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 109–113. (Bao Qin Li) **99f:30043** 30D05 (30D30)

Singh, Anurag K. Tight closure in non-equidimensional rings. *Comm. Algebra* **26** (1998), *no.* 12, 3969–3983. (Ian M. Aberbach) **99j:13002** 13A35

— Failure of F-purity and F-regularity in certain rings of invariants. *Illinois J. Math.* **42** (1998), *no.* 3, 441–448. (Ian M. Aberbach) **99g:13004** 13A35 (13A50)

Singh, Ashok K. (*with* Ananda, Malwane M. A.) Performance assessment of multiple engineered barrier systems. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 1, 25–33. 90B25

Singh, Awadhesh Kumar[2] (*with* Kothari, R. K.) Some theorems on Kaehlerian s-recurrent spaces with H-curvature tensors. *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 1–6. (Liviu Ornea) **99h:53025** 53B35

— (*with* Kothari, R. K.) On Kaehlerian conharmonic s-recurrent and Kaehlerian conharmonic s-symmetric spaces. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 367–374. 53C55

Singh, B. *see* **Singh, Bijendra**

Singh, Baljeet (*with* Kumar, Rajneesh) Reflection of plane waves from the flat boundary of a micropolar generalized thermoelastic half-space with stretch. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 657–669. 73B30 (73D25)

Singh, Bhanu Pratap (*with* Singh, Shree Dhar) Curvature tensor of relativistic significance in a C^∞-manifold equipped with unified structure. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 33–38. 53B20

Singh, Bhopinder (*with* Kour, Kamaljeet) Dynamical systems on weighted spaces of continuous functions. (English summary) *Math. Today* (*Ahmedabad*) **14** (1996), 33–38. (Summary) **99d:47030** 47B38 (46E40, 47D03)

— (*with* Kour, Kamaljeet) Composition operators on a locally convex space of continuous functions. (English summary) *Math. Forum* **11** (1997), 16–20. (Summary) **99i:47063** 47B38

— (*with* Singh, Raj Kishor) Weighted composition operators and dynamical systems. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 101–107. (Andreĭ V. Lebedev) **99h:47039** 47B38 (54H20)

Singh, Bijendra (*with* Chand, D. K.) Non-Archimedean 2-Banach space valued almost periodic functions. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 67–72. 43A60 (46S10)

— (*with* Sharma, R. K.) A fixed point theorem of a sequence of contractive type maps in a 2-metric space. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 351–352. 54H25

— (*with* Sharma, M. L.; Rathore, M. S.) Coincidence point theorems for multivalued mappings. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 353–356. 54H25

— (*with* Chauhan, Makhan Singh) Fixed points of multi-valued mappings in PM-spaces. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 203–204. 54H25 (54C60)

— (*with* Chauhan, Makhan Singh) Generalized fuzzy metric space and fixed point theorems. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 6, 457–460. 54A40 (54H25)

— (*with* Sharma, R. K.; Chouhan, M. S.) A fixed point theorem in 2-metric space. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 11–12. 54H25

— (*with* Sharma, R. K.; Chouhan, M. S.) Fixed point theorems for a sequence of mappings satisfying rational inequalities. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 33–35. 54H25

— (*with* Chauhan, Makhan Singh; Sharma, R. K.) Fixed points of semi-compatible mappings. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 159–160. 54H25

— (*with* Chauhan, Makhan Singh) Fixed points of multivalued mappings in D-metric space. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 161–162. 54H25 (54C60)

— (*with* Chauhan, Makhan Singh) Common fixed points of fuzzy mappings. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 163–166. 54A40 (54H25)

— (*with* Chauhan, Makhan Singh) Fixed points of generalised contraction mappings in D-metric space. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 189–191. 54H25

Singh, C. *see* **Singh, Chanchal**

Singh, C. P. (*with* Ram, Shri) Early universe in self-creation cosmology. (English summary) *Astrophys. Space Sci.* **257** (1997/98), *no.* 1, 123–129. 83F05 (83C15)

— (*with* Ram, Shri) Anisotropic Bianchi type-II cosmological models in self-creation cosmology. (English summary) *Astrophys. Space Sci.* **257** (1997/98), *no.* 2, 287–292. 83D05

Singh, C. S. (*with* Prasad, Baij Nath; Pandey, T. N.) Recurrent Finsler connection in a Finsler space with (α, β) metric. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 829–833. (Sándor Bácsó) **99m:53036** 53B40

Singh, Chanchal (*with* Pini, Rita) A survey of recent [1985–1995] advances in generalized convexity with applications to duality theory and optimality conditions. (English summary) *Optimization* **39** (1997), *no.* 4, 311–360. (Summary) **99a:90161** 90C26 (49K27, 49N15, 65K05, 90–02)

— (*with* Pini, Rita) (Φ_1, Φ_2)-convexity. (English summary) *Optimization* **40** (1997), *no.* 2, 103–120. (Gerard Sierksma) **99i:52010** 52A41 (52A40, 90C99)

Singh, Dasharath (*with* Singh, Jai Narain) Some remarks on the choice of step lengths in Karmarkar's algorithm. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 1, 53–58. (Summary) **99f:90057** 90C05

— (*with* Singh, Jai Narain) A note on affine scaling algorithms for linear programming. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 19–22. 90C05

Singh, Deepa (*with* Singh, Dhar) On a C^∞-manifold M_n. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 459–464. 53C15

Singh, Dhar (*with* Singh, Deepa) On a C^∞-manifold M_n. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 459–464. 53C15

Singh, Dinesh *see* **Singh, Dinesh[2]**

Singh, Dinesh[1] (*with* Thukral, Virender) Invariant subspaces of shifts on the Hardy spaces of the circle and the torus. (English summary) *Fourier analysis, approximation theory*

and applications (*Aligarh*, 1993), 301–311, *New Age, New Delhi*, 1997. (Summary) **99g:47012** 47A15 (30D55, 46E15)
— (*with* Agrawal, Sanjeev) De Branges modules in $H^2(\mathbf{C}^k)$. *Harmonic analysis and hypergroups* (*Delhi*, 1995), 1–11, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (J. Rovnyak) **99c:47031** 47B37 (46E20, 46H25, 47A15)
— (*with* Bhatia, Rajendra; Sinha, Kalyan B.) Differentiation of operator functions and perturbation bounds. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 603–611. (V. D. Koshmanenko) **99c:47017** 47A60 (47A55)
Singh, Dinesh[2] (*with* Mishra, Babban Prasad) Translativity of (A_λ) methods of functions. *J. Nat. Acad. Math. India* **10** (1992/96), 55–59 (1997). (Amnon Jakimovski) **99f:40005** 40C10 (40D99, 40G99)
Singh, G. D. Rational quadrilateral. (English summary) *Math. Today* (*Ahmedabad*) **16** (1998), 3–10. 51M04 (11D09)
Singh, G. P. *see* **Singh, Gyan Prakash**
Singh, G. Suresh A note on labeling of graphs. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 201–207. (S. I. Gendler) **99d:05076** 05C78
Singh, Gopal Prasad (*with* Chakrabarty, S. P.) A deterministic model in population genetics. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 4, 192–193. 92D25
Singh, Gulab[2] Balanced row column designs. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 39–46. (Summary) **99i:62175** 62K15
— (*with* Bora, A. C.) On robust experimental designs with random effect model. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 47–54. 62K10
Singh, Gyan Prakash (*with* Ghosh, Sushant; Beesham, Aroonkumar) Cosmological models in generalized scalar-tensor theory with causal viscous fluid. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 6, 849–856. 83D05 (83F05)
— (*with* Singh, Tarkeshwar[2]) String cosmological models with magnetic field. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 3, 371–378. 83F05 (83E30)
Singh, H. *see* **Singh, Harvinder**
Singh, H. P. *see* **Singh, Housila Prasad**
Singh, Harvendra Macroscopic string-like solutions in massive supergravity. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 195–198. (Summary) **99b:83076** 83E50 (83E30)
— New supersymmetric vacua for $D = 4$, $N = 4$ gauged supergravity. (English summary) *Phys. Lett. B* **429** (1998), *no.* 3-4, 304–312. (J. A. H. Samtleben) **99f:83077** 83E50
Singh, Harvinder (*with* Subbarao, D.; Uma, Ramanathan) Paraxial theory of self-focusing of cylindrical laser beams. I. ABCD laws. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3440–3450. (Summary) **99f:78021** 78A60 (76X05)
Singh, Housila Prasad (*with* Tracy, Derrick S.; Singh, Rajesh[1]) A class of almost unbiased estimators for finite populations mean using two auxiliary variables. (English summary) *Biom. J.* **40** (1998), *no.* 6, 753–766. 62D05
— (*with* Tracy, Derrick S.) A modified ratio-cum-product estimator. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 201–212. (Summary) **99i:62017** 62D05
— (*with* Singh, Rajesh[1]; Ruiz Espejo, Mariano) The efficiency of an alternative to ratio estimator under a super population model. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 287–301. 62D05
Singh, Hukum (*with* Khan, Quddus) On a generalized r-recurrent Riemannian manifold. (English summary) *Ganita* **49** (1998), *no.* 2, 127–136. (Lovejoy S. K. Das) **99k:53019** 53B20
Singh, I. N. (*with* Ojha, P. K.) A discussion on two methods for finding the value of "the Riemann zeta function" $\zeta(s)$ where $s = 2$. (English summary) *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 24–28. 11Y60 (11M06)
Singh, J. *see* **Singh, Jagbir**[1]
Singh, J. B. (*with* Singh, P. S.) Analytical determination of self-similarity exponent in imploding shock waves. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 225–233. (Corneliu Berbente) **99h:76053** 76L05
Singh, J. K. (*with* Singh, Shambhoo Nath) On existence of unique solution concerning a system of simultaneous differential equations. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 64–67. 34A30
Singh, J. N. *see* **Singh, Jai Narain**
Singh, Jagbir[1] (*with* Ordoukhani, N.; Thavaneswaran, A.) A note on optimal smoothers for semimartingales. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 350–353, *Narosa, New Delhi*, 1998. (Miguel A. Arcones) **99j:62051** 62G05 (60G48, 62M99)
Singh, Jai Narain (*with* Singh, Dasharath) Some remarks on the choice of step lengths in Karmarkar's algorithm. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 1, 53–58. (Summary) **99f:90057** 90C05
— (*with* Singh, Dasharath) A note on affine scaling algorithms for linear programming. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 19–22. 90C05
— (*with* Sinha, S. N.; Das, J. K.) A variant of primal-dual infeasible-interior-point algorithm for linear programming. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 103–109. 90C05
Singh, Janeshwar (*with* Singh, Tarkeshwar[1]) Some theorems on Frobenius group with Frobenius complement. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 111–113. 20D99
— (*with* Singh, Krishna Kumar; Singh, Tarkeshwar[1]) Direct product and Hopficity of groups. (English summary) *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 38–39. 20E99
Singh, K. *see* **Singh, Karanjeet**
Singh, Karan P. (*with* Bartolucci, A. A.; Dickey, J. M.; Tabatabai, M. A.) On the translated exponential model with censoring. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 9–23 (*electronic*). (Summary) **99g:62031** 62F15 (62N05)
Singh, Karanjeet (*with* Bhutani, O. P.) Generalized similarity solutions for the type D fluid in five-dimensional flat space. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3203–3212. (Nora Bretón Báez) **99e:83008** 83C15 (83E15)
Singh, Kesar (*with* Maguluri, G.) On the fundamentals of data robustness. *Robust inference*, 537–549, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35
— (*with* Kim, Yongman) Sharpening estimators using resampling. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 121–146. (Zuzana Prášková) **99f:62063** 62G09
Singh, Krishna Kumar (*with* Singh, Janeshwar; Singh, Tarkeshwar[1]) Direct product and Hopficity of groups. (English summary) *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 38–39. 20E99
Singh, M. C. (*with* Dai, Liming) Periodic, quasiperiodic and chaotic behavior of a driven Froude pendulum. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 947–965. (Summary) **99a:70031** 70K40 (70K50)
Singh, M. K. *see* **Singh, Mithilesh Kumar**
Singh, Mahendra Pal *see* **Dynamics of atmospheric flows, 99j:86001**
Singh, Man (*with* Singh, Umed) Network of serial and non-serial queueing processes with impatient customers. (English summary) *J. Indian Soc. Statist. Oper. Res.* **15** (1994), *no.* 1-4, 81–96. 60K25
Singh, Manmohan[2] (*with* Easton, Alan K.; Cui, Gurong) Solutions of two species reaction-diffusion systems. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 359–373. (Summary) **99i:92019** 92D25 (35K57, 92D40)
— (*with* Easton, Alan K.; Cui, Gurong; Kozlova, Irina) Numerical study of the two-dimensional spruce budworm reaction-diffusion equation with density dependent diffusion. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Natur. Resource Modeling* **11** (1998), *no.* 2, 143–154. (Summary) **99d:92029** 92D25
Singh, Mithilesh Kumar (*with* Sharma, R. N.) Transformation of a module over an algebra onto its subalgebras. (English summary) *J. Bihar Math. Soc.* **17** (1996), 43–47. 17A99
— (*with* Logan, Roger; Sinha, Kishore) Two series of BIB designs. (English summary) *Ars Combin.* **49** (1998), 259–264. 05B05
Singh, Munindar P. Toward a model theory of actions: how agents do it in branching time. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 287–317. (Summary) **99c:68234** 68T27 (03B70)
— Applying the mu-calculus in planning and reasoning about action. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 425–445. (Summary) **99e:68152** 68T27 (03B70)
Singh, Murari (*with* Hinkelmann, Klaus) Analysis of partial diallel crosses in incomplete blocks. (English summary) *Biom. J.* **40** (1998), *no.* 2, 165–181. (Summary) **99a:62112** 62K10
Singh, N. *see* **Singh, Naunihal**
Singh, Nagesh (*with* Komal, B. S.) Non-Archimedean multiplication operators. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 135–142. (Ann Verdoodt) **99c:47121** 47S10 (47B38)
Singh, Naunihal (*with* Peiris, M. Shelton) Predictors for seasonal and nonseasonal fractionally integrated ARIMA models. (English summary) *Biometrical J.* **38** (1996), *no.* 6, 741–752. (Summary) **99c:62260** 62M10
Singh, Naval (*with* Rathore, M. S.; Sharma, M. L.) Fixed point of certain involutions in 2-Banach spaces. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 4, 189–191. 47H10
Singh, P. S. (*with* Singh, J. B.) Analytical determination of self-similarity exponent in imploding shock waves. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 225–233. (Corneliu Berbente) **99h:76053** 76L05
Singh, Preetvanti (*with* Saxena, P. K.) Total shipping cost/completion-date trade-off in transportation problem with additional restriction. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 2-3, 161–174. 90C08 (90B06)
Singh, R. *see* **Singh, Rita**
Singh, R. K. *see* **Singh, Raj Kishor**
Singh, R. Karan (*with* Verma, Sanjay) A generalized ridge-cum-Stein-rule estimator in linear regression when disturbances are nonnormal. (English summary) *J. Indian Soc. Agricultural Statist.* **51** (1998), *no.* 1, 51–60. 62J07
— (*with* Gupta, Sanjeev) Estimation of population mean using coefficient of variation and auxiliary information. (English summary) *Rebrape* **12** (1998), *no.* 1, 35–40. 62F10
Singh, Radhey S. Empirical Bayes procedures for testing the quality and reliability with respect to mean life. (English summary) *Quality improvement through statistical methods* (*Cochin*, 1996), 371–379, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99f:62017** 62C12 (62N05, 62N10)
Singh, Raj Kishor (*with* Manhas, J. S.) Invertibility of operators on locally convex spaces. *Functional analysis*, 120–139, *Narosa, New Delhi*, 1998. (W. Żelazko) **99k:47006** 47A05 (46A99, 47B38)
— (*with* Manhas, J. S.) Weighted composition operators on nonlocally convex weighted spaces of continuous functions. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 4, 275–292. (Summary) **99j:47045** 47B38
— (*with* Singh, Bhopinder) Weighted composition operators and dynamical systems. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 101–107. (Andreĭ V. Lebedev) **99h:47039** 47B38 (54H20)
Singh, Rajendra[1] *see* **Symposium: Emerging Trends in Vibration and Noise Engineering, 99a:73001**
Singh, Rajesh *see* **Singh, Rajesh**[2]
Singh, Rajesh[1] (*with* Tracy, Derrick S.; Singh, Housila Prasad) A class of almost unbiased estimators for finite populations mean using two auxiliary variables. (English summary) *Biom. J.* **40** (1998), *no.* 6, 753–766. 62D05
— (*with* Singh, Housila Prasad; Ruiz Espejo, Mariano) The efficiency of an alternative to ratio estimator under a super population model. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 287–301. 62D05
Singh, Rajesh[2] (*with* Singh, Umesh; Upadhyay, Satyanshu K.) A decision-theoretic interval estimator for one parameter exponential distribution. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 21–29. 62F25 (62C10)
Singh, Ranjit (*with* Nath, Prem; Kaur, M. M.) Some derivations of the Shannon entropy. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 85–100. (Summary) **99i:94024** 94A17
Singh, Ravindra (*with* Mangat, N. S.; Singh, Sarjinder) On use of a modified randomization device in Warner's model. (English summary) *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 65–69. 62D05
— (*with* Singh, Sarjinder; Mangat, N. S.) Estimation of coefficient of variation of a sensitive character. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 59–67 (1998). 62D05
Singh, Rita (*with* Maru, V. M.; Moharir, P. S.) Complex chaotic systems and emergent phenomena. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 3, 235–259. (Boris G.

Zaslavskiĭ) **99e:93002** 93A30 (58F40, 93C10)

Singh, S. D. *see* **Singh, Shree Dhar**

Singh, S. N. *see* **Singh, Shobh Nath**

Singh, S. P. *see* **Singh, Satya Prakash**

Singh, Sankatha Prasad On Fan's best approximation and fixed point theorems. (English summary) *J. Natur. Phys. Sci.* **9/10** (1995/96), 25–42. (Hong Kun Xu) **99f:47082** 47H10 (47H04, 47H09)

— (*with* Watson, Bruce B.; Srivastava, Pramila) ★ Fixed point theory and best approximation: the KKM-map principle. (English summary) Mathematics and its Applications, 424. *Kluwer Academic Publishers, Dordrecht*, 1997. x+220 *pp. ISBN* 0-7923-4758-7 (Tomás Domínguez Benavides) **99a:47087** 47H10 (41A65, 47H19, 47N10, 49J40)

— (*with* Isac, George; Sehgal, V. M.) An alternate version of a variational inequality. *Indian J. Math.* **41** (1999), *no.* 1, 25–31. (Paolo Cubiotti) **99k:49023** 49J40 (47H19, 90C33)

Singh, Sarjinder (*with* Mangat, N. S.; Singh, Ravindra) On use of a modified randomization device in Warner's model. (English summary) *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 65–69. 62D05

— (*with* Joarder, Anwarul H.; King, Maxwell L.) Regression analysis using scrambled responses. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 2, 201–211. (David Birkes) **99c:62191** 62J05 (62D05)

— (*with* Singh, Ravindra; Mangat, N. S.) Estimation of coefficient of variation of a sensitive character. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 59–67 (1998). 62D05

— (*with* Strachan, Rodney; King, Maxwell L.) Likelihood-based estimation of the regression model with scrambled responses. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 279–290. (Summary) **99i:62154** 62J05 (62D05)

— (*with* Horn, Stephen; Chowdhury, Sadeq) Estimation of stigmatized characteristics of a hidden gang in a finite population. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 291–297. (Summary) **99i:62016** 62D05

— (*with* Joarder, Anwarul H.) Estimation of finite population variance using random non-response in survey sampling. (English summary) *Metrika* **47** (1998), *no.* 3, 241–249. (Mahendra K. Sharma) **99m:62016** 62D05

Singh, Satya Prakash Certain integrals involving basic hypergeometric functions. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 188–194 (1996). (Summary) **99b:33008** 33C20

Singh, Shambhoo Nath (*with* Singh, J. K.) On existence of unique solution concerning a system of simultaneous differential equations. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 64–67. 34A30

— (*with* Kumar, Sunil) On the Wronskian associated with a system of simultaneous differential equations. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 128–129. 34A30

Singh, Shobh Nath (*with* Singh, U. B.) Generalization of certain summation formulae. *Math. Student* **66** (1997), *no.* 1-4, 243–247. (From the introduction) **99f:33022** 33D45

— (*with* Denis, Remy Y.) Some partition theorems. (English summary) *Special functions and differential equations (Madras*, 1997), 146–150, *Allied Publ., New Delhi*, 1998. (David M. Bressoud) **99m:11118** 11P81 (05A17, 33D80)

Singh, Shree Dhar (*with* Singh, Bhanu Pratap) Curvature tensor of relativistic significance in a C^∞-manifold equipped with unified structure. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 33–38. 53B20

Singh, Shyam Lal (*with* Gairola, U. C.; Mishra, Swami Nath) Convergence of sequences of iterates of multivalued operators. (English summary) *J. Natur. Phys. Sci.* **9/10** (1995/96), 13–24. (Charles Ejike Chidume) **99f:47065** 47H04

— (*with* Matkowski, Janusz) Round-off stability of functional iterations on product spaces. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 275–286. (E. A. Nurminski) **99f:65081** 65J05 (65Q05)

— (*with* Mishra, Swami Nath) A family of nonlinear second order integrodifferential equations in physical phenomena. (English summary) *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 37–43. (Summary) **99a:45015** 45J05 (34K05, 47H15)

— (*with* Czerwik, Stefan; Dlutek, Krzysztof) Round-off stability of iteration procedures for operators in b-metric spaces. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 87–94. 54H25

Singh, Subhash Ranjan (*with* Prasad, Lal Babu; Yadav, Niranjan Prasad) Flow under oscillatory rate of temperature distribution. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 118–121. 80A20

— (*with* Yadav, Brij Nandan) Cylindrically symmetric perfect fluid distribution in general relativity. (English summary) *Math. Ed. (Siwan)* **33** (1999), *no.* 1, 56–59. 83C15 (83C55)

Singh, Surendra (*with* Thakur, S. S.) Fuzzy M-semipreopen and fuzzy M-semipreclosed mappings. (English summary) *Vikram Math. J.* **14** (1994), 17–22. 54A40

— (*with* Thakur, S. S.) On fuzzy semi-preopen sets and fuzzy semi-precontinuity. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 383–391. 54A40

Singh, Surjeet (*with* Khan, Mohd Z.) TAG-modules with complement submodules h-pure. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 801–814. (Theodore Faticoni) **99i:16005** 16D10

Singh, Surjit[2] (*with* Wilde, Richard E.) ★ Statistical mechanics. (English summary) Fundamentals and modern applications. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xvi+400 *pp. ISBN* 0-471-16165-9 (Darko Kapor) **99b:82001** 82–01

Singh, Surya Narain (*with* Singh, V. K.) On control policies for the $M^x/G/1$ queueing system. (English summary) *Ganita Sandesh* **10** (1996), *no.* 1, 17–20. 60K25

Singh, T. *see* **Singh, Tarunraj**

Singh, T. P. *see* **Singh, Tejinder P.**

Singh, Tarkeshwar[1] (*with* Singh, Janeshwar) Some theorems on Frobenius group with Frobenius complement. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 111–113. 20D99

— (*with* Singh, Janeshwar; Singh, Krishna Kumar) Direct product and Hopficity of groups. (English summary) *Math. Ed. (Siwan)* **33** (1999), *no.* 1, 38–39. 20E99

Singh, Tarkeshwar[2] (*with* Singh, Gyan Prakash) String cosmological models with magnetic field. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 3, 371–378. 83F05 (83E30)

Singh, Tarunraj (*with* Vadali, S. R.) Robust time-delay control of multimode systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1319–1339. 93C25 (93B35)

Singh, Tejinder P. Gravitational collapse and cosmic censorship. (English summary) *Classical and quantum aspects of gravitation and cosmology (Madras*, 1996), 57–75, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (*see* **99b:83003**) 83C75

— (*with* Witten, Louis) Spherical gravitational collapse with tangential pressure. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3489–3499. (Maciej Przanowski) **99a:83052** 83C75 (83C15, 83C57)

— Gamma-ray bursts and quantum cosmic censorship. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1563–1567. 83C75 (83B05)

— Null geodesic expansion in spherical gravitational collapse. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024004, 4 *pp.* 83C75 (83C10)

— (*with* Barve, Sukratu; Vaz, Cenalo; Witten, Louis) Quantum stress tensor in self-similar spherical dust collapse. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104018, 8 *pp.* 83C47 (81T20)

— Comment on: "Stability of naked singularities in spherically symmetric dust collapse" [Phys. Rev. D (3) **53** (1996), no. 6, 3472–3473; MR 97b:83063] by H. M. Antia. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 108502, 2 *pp.* (Summary) **99m:83156** 83C75

Singh, Th. Manihar Common fixed point theorem on a metric space. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 365–366. 54H25

Singh, Thakur B. (*with* Górnicki, Jarosław) On some generalization of uniformly Lipschitzian mappings and its fixed points. *Demonstratio Math.* **31** (1998), *no.* 2, 305–311. (V. V. Obukhovskiĭ) **99g:47131** 47H10 (47H09, 54H25)

Singh, U. B. A note on the generalized Alder polynomials. *Math. Student* **64** (1995), *no.* 1-4, 231–235 (1996). (Mizan Rahman) **99d:11021** 11B83 (05A19, 11C08)

— On a bibasic transformation formula. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 2-3, 271–278. (Hukum Chand Agrawal) **99d:33027** 33D65

— (*with* Singh, Shobh Nath) Generalization of certain summation formulae. *Math. Student* **66** (1997), *no.* 1-4, 243–247. (From the introduction) **99f:33022** 33D45

Singh, Udita Narayana Professor B. N. Prasad. *Indian J. Math.* **41** (1999), *no.* 1, *i–xviii.* (Margaret A. M. Murray) **99m:01090** 01A70

Singh, Umed (*with* Singh, Man) Network of serial and non-serial queueing processes with impatient customers. (English summary) *J. Indian Soc. Statist. Oper. Res.* **15** (1994), *no.* 1-4, 81–96. 60K25

Singh, Umesh (*with* Upadhyay, Satyanshu K.; Singh, Rajesh[2]) A decision-theoretic interval estimator for one parameter exponential distribution. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 21–29. 62F25 (62C10)

Singh, V. K. (*with* Singh, Surya Narain) On control policies for the $M^x/G/1$ queueing system. (English summary) *Ganita Sandesh* **10** (1996), *no.* 1, 17–20. 60K25

Singh, V. N. (*with* Pathak, M. P.) Generalized quasi-hypergeometric functions. (English summary) *Ganita* **48** (1997), *no.* 1, 41–49. (A. N. Srivastava) **99h:33024** 33C20 (33D15, 33E30)

Singh, V. P. *see* **Singh, Virendra Pratap[2]**

Singh, Vijay Kumar[1] (*with* Saxena, Ashok) Some results on unique fixed points for mappings on Hausdorff space. (English summary) *Ganita* **49** (1998), *no.* 2, 121–125. 54H25

Singh, Vijay Kumar[2] (*with* Srivastava, Arun Kumar[2]) Estimating the current mean of stratified population in successive sampling using auxiliary information. *Frontiers in probability and statistics (Calcutta*, 1994/1995), 354–360, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05

Singh, Vikramaditya On order of partial sums of Legendre series. *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 245–252. (E. R. Love) **99d:41051** 41A58 (33C45, 42C10)

Singh, Vikramaditya[1] Convolution properties of two classes of starlike functions defined by differential inequalities. (English summary) *Approximation theory*, 477–487, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (S. Ponnusamy) **99f:30026** 30C45

Singh, Virendra Pratap[2] (*with* Pooniwala, R. K.) Concerning semicontinuous functions. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 141–144. 54C08

Singh Aujla, Jaspal A fixed point theorem and a norm inequality for operator means. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 109–118. (Takayuki Furuta) **99k:47041** 47A63 (15A45, 15A60)

Singh Thakur, B. *see* **Thakur, Balwant Singh**

Singleton, Douglas Alexander (*with* Dzhunushaliev, V. D.) Wormholes and flux tubes in 5D Kaluza-Klein theory. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064018, 6 *pp.* 83E05 (83E15)

Singman, David (*with* Gowrisankaran, Kohur) Thin sets and boundary behavior of solutions of the Helmholtz equation. (English summary) *Potential Anal.* **9** (1998), *no.* 4, 383–398. (Neil A. Watson) **99k:31007** 31B25 (35J05)

Singmaster, David Coconuts: the history and solutions of a classic Diophantine problem. *Ganita-Bhāratī* **19** (1997), *no.* 1-4, 35–51. (Victor J. Katz) **99d:01047** 01A99 (11–03)

Singpurwalla, Nozer D. (*with* Irony, Telba Z.) Non-informative priors do not exist: a dialogue with José M. Bernardo. With comments and a rejoinder by Bernardo. *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 159–189. (Mohan Delampady) **99k:62008** 62A15 (62F15)

— (*with* Wilson, Simon P.) Failure models indexed by two scales. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 4, 1058–1072. (Attila Csenki) **99k:90083** 90B25 (60K20)

— (*with* Al-Mutairi, Dhaifalla K.; Chen, Yiping) An adaptive concatenated failure rate model for software reliability. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1150–1163. 62N05

— (*with* Lynn, Nicholas; Smith, Adrian F. M.) Bayesian assessment of network reliability. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 202–227 (*electronic*). (Summary) **99a:68022** 68M15 (68M10, 90B25)

— The stochastic control of process capability indices. (English summary) With comments and rejoinder by the author. *Test* **7** (1998), *no.* 1, 1–74. (Summary) **99g:62149** 62N10

Sinh, Tran Xuan (*with* Trần Vũ Thiệu) A new bounding technique in branch-and-bound algorithms for mixed integer programming. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 357–366. (Summary) **99h:90071** 90C11

Sinha, A. P. (*with* Prasad, Yogendra) On fuzzy bi-quasi uniform space. *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 145–148. 54A40 (54E15, 54E55)

Sinha, Anjana (*with* Nag, Nivedita; Roychoudhury, R.) Quantum deformation of the confined Hulthen problem. (English summary) *Czechoslovak J. Phys.* **48** (1998), *no.* 9,

1025–1033. (From the text) **99j:81073** 81R50

Sinha, B. K. *see* **Sinha, Bikas Kumar**

Sinha, Balmiki Kumar (*with* Muslim, Mohammad) Two theorems on semitopological groups and topological groups. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 220–222. 22A05

Sinha, Bikas Kumar (*with* Shah, Kirti R.) Row-column designs. *Design and analysis of experiments*, 903–937, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K10 (62K05)

— (*with* Abt, Markus; Liski, Erkki P.; Mandal, Nripes K.) Optimal designs in growth curve models. I. Correlated model for linear growth: optimal designs for slope parameter estimation and growth prediction. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 141–150. (Christine Hildegard Müller) **99c:62201** 62K05 (62J05)

— (*with* Abt, Markus; Gaffke, Norbert; Liski, Erkki P.) Optimal designs in growth curve models. II. Correlated model for quadratic growth: optimal designs for parameter estimation and growth prediction. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 287–296. (Christine Hildegard Müller) **99f:62086** 62K05

— *see also* **Applied statistical science, 99j:62001**

Sinha, Bimal Kumar (*with* Khuri, André I.; Mathew, Thomas[1]) ★Statistical tests for mixed linear models. (English summary) Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xvi+352 *pp. ISBN* 0-471-15653-1 (J. Kleffe) **99e:62123** 62J10 (62F03)

— (*with* DasGupta, Anirban) A new general interpretation of the Stein estimate and how it adapts: applications. (English summary) The Seventh Eugene Lukacs Conference (Bowling Green, OH, 1997). *J. Statist. Plann. Inference* **75** (1999), *no.* 2, 247–268. (Summary) **99k:62113** 62H12 (62C15)

— *see also* **Frontiers in probability and statistics, 99g:62003**

Sinha, Deba Prasad (*with* Arora, K. K.) On the Gelfand-Phillips property in Banach spaces with PRI. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 347–354. (Giovanni Emmanuele) **99e:46020** 46B20

— (*with* Jain, Pawan Kumar) On strong Markuševič decompositions of Banach spaces. II. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 69–76. (From the introduction) **99c:46005** 46B15

— (*with* Jain, Pawan Kumar; Arora, K. K.) Weak* sequential compactness of dual unit balls of Banach spaces with PRI. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 123–132. (Anatolij M. Plichko) **99e:46016** 46B20

— (*with* Jain, Pawan Kumar) Some recent breakthroughs in the theory of bases in Banach spaces. *Functional analysis*, 50–59, *Narosa, New Delhi*, 1998. (*see* **99h:00036**) 46B15

— (*with* Jain, Pawan Kumar; Arora, K. K.) Projectional resolutions of the identity on Banach spaces. *Functional analysis*, 60–67, *Narosa, New Delhi*, 1998. (Introduction) **99k:46016** 46B15

— (*with* Jain, Pawan Kumar; Arora, K. K.) On Grothendieck spaces with PRI. *Functional analysis with current applications in science, technology and industry (Aligarh*, 1996), 70–81, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Paolo Terenzi) **99c:46010** 46B20

Sinha, Debajyoti (*with* Dey, Dipak K.) Survival analysis using semiparametric Bayesian methods. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 195–211, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62068** 62G05 (62F15, 62N05)

— (*with* Ibrahim, Joseph G.) Prior elicitation for semiparametric Bayesian survival analysis. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 273–292, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99c:62100** 62G05 (62F15, 62N05)

— (*with* Aslanidou, Helen; Dey, Dipak K.) Bayesian analysis of multivariate survival data using Monte Carlo methods. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 33–48. (Summary) **99b:62036** 62F15 (62E25)

— *see also* **Practical nonparametric and semiparametric Bayesian statistics, 99a:62004**

Sinha, K. *see* **Sinha, Kishore**

Sinha, K. P. Professor Charles Frank [1911–1998], an obituary. *Current Sci.* **75** (1998), *no.* 1, 66–67. 01A70

Sinha, Kalyan B. Quantum stochastic calculus and applications—a review. *Probability towards* 2000 (*New York*, 1995), 307–318, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (John E. Gough) **99f:81110** 81S25 (46L50)

— (*with* Bhatia, Rajendra; Singh, Dinesh[1]) Differentiation of operator functions and perturbation bounds. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 603–611. (V. D. Koshmanenko) **99c:47017** 47A60 (47A55)

Sinha, Kishore (*with* Logan, Roger; Singh, Mithilesh Kumar) Two series of BIB designs. (English summary) *Ars Combin.* **49** (1998), 259–264. 05B05

— (*with* Jones, Byron; Kageyama, Sanpei) A series of quasi-multiple BIB designs from Hadamard matrices. (English summary) *Ars Combin.* **50** (1998), 245–250. (Summary) **99k:05031** 05B05 (05B20)

Sinha, P. (*with* Saxena, Vinod P.; Misra, O. P.) On the stability of an egg-eating predator-prey system with an age-structured predator population. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 879–888. (Summary) **99k:92036** 92D25 (34K20, 45J05)

Sinha, Rakesh K. Simulation of PRAMs with scan primitives by unbounded fan-in circuits. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 275–282. (Summary) **99i:68033** 68Q05

Sinha, S. C. (*with* Butcher, E. A.) Symbolic computation of local stability and bifurcation surfaces for nonlinear time-periodic systems. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 1, 1–21. (Summary) **99e:78003** 78–08 (70K28)

— (*with* Butcher, E. A.) Canonical perturbation of a fast time-periodic Hamiltonian via Liapunov-Floquet transformation. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 1, 209–217. (James A. Murdock) **99e:70056** 70K28 (70H05, 70H30)

— (*with* Marghitu, Dan B.; Diaconescu, Cristan) Control of a parametrically excited flexible beam undergoing rotation and impacts. (English summary) *Multibody Syst. Dyn.* **3** (1999), *no.* 1, 47–63. 73K50 (73K05, 93C85)

Sinha, S. K. *see* **Sinha, Snehesh Kumar**

Sinha, S. N. (*with* Singh, Jai Narain; Das, J. K.) A variant of primal-dual infeasible-interior-point algorithm for linear programming. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 103–109. 90C05

Sinha, Sanjoy Kumar (*with* Roy, Manindra Kumar; Ali, Mir Masoom) Some negative binomial mixtured distributions. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 285–302. 62E15

Sinha, Snehesh Kumar (*with* Xiong, Zheng Xin; Huynh, Cam-Loi) Efficiency of estimates for reliability function of exponential distribution in life testing. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 47–56. 62N05

— Prediction interval & reliability assessment of the kth failure time in exponential life distribution. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 43–51. (Summary) **99b:62153** 62N05

— Corrigendum: "Prediction interval & reliability assessment of the kth failure time in exponential life distribution" [J. Statist. Res. **31** (1997), no. 1, 43–52; MR 99b:62153]. *J. Statist. Res.* **31** (1997), *no.* 2, 85. 62N05

Sinha, Tushar Kumar (*with* Acharya, Krishna) On eigenvalues of Riesz operator. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 249–252. 47B06 (47A10)

Sinha Roy, S. (*with* Ganguly, Sobhakar; Basu, C. K.) A new regular measure on a topological space. II. (English summary) *J. Pure Math.* **12** (1995), 7–15. (Summary) **99g:28003** 28A12

— (*with* Ganguly, Sobhakar; Basu, C. K.) Existence of an invariant measure on a generalized topological group. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 131–134. (Michael Tkačenko) **99e:54029** 54H11 (22A05, 54D10)

— (*with* Ganguly, Sobhakar; Basu, C. K.) Existence and uniqueness of an invariant integral on a more general class of functions in a generalized topological group. (English summary) *J. Pure Math.* **14** (1997), 10–17. (V. V. Mukhin) **99m:28033** 28C99 (22A10)

Siniscalco, Pasquale (*with* Dąbrowski, Ludwik; Nesti, Fabrizio) A finite quantum symmetry of $M(3, \mathbf{C})$. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4147–4161. (Tomasz Brzeziński) **99i:81093** 81R50 (16W30, 17B37, 58B30)

Sinitskiĭ, L. A. (*with* Romanishin, I. M.) H_D-systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 224–238, 300. 93D10 (93C05)

Sinitsyn, Aleksandr Vladimirovich (*with* Sidorov, Nikolaĭ Aleksandrovich) Investigation of the bifurcation points and nontrivial branches of solutions of the stationary Maxwell-Vlasov system. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 268–292; *translation in Math. Notes* **62** (1997), *no.* 1-2, 223–243 (1998). (Tadeusz Nadzieja) **99f:35212** 35Q99 (35B32, 82D10)

Sinitsyn, I. N. (*with* Oh, Myoungho; Han, Changhee; Shin, Vladimir Ignat'evich) Recurrent filtering in discrete nonlinear systems with unknown parameters. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 44–53; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 36–43. (V. N. Fomin) **99d:93069** 93E11 (60G35)

— Finite-dimensional distributions of invariant measure in nonlinear stochastic differential systems. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 167–175. (*see* **99b:93002**) 60H10 (34F05)

Sinkevich, O. A. Ball lightning and the problem of long-lived non-equilibrium formations. (English summary) *J. Moscow Phys. Soc.* **8** (1998), *no.* 1, 1–17. (Summary) **99b:76101** 76X05 (78A99, 86A99)

abo-Sinna, Mahmoud A. *see* **Abo-Sinna, Mahmoud A.**

Sinnadurai, J. St. C. L. On a trigonometric series criterion for deterministic sequences. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 73–76. (P. Szüsz) **99m:30003** 30B10

— An elementary proof of the prime number theorem along classical lines. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 77–80. (D. R. Heath-Brown) **99i:11080** 11N05 (40G05)

Sinnamon, Gord One-dimensional Hardy-type inequalities in many dimensions. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 833–848. (Serguey V. Shvedenko) **99f:26023** 26D10 (26D15, 44A15)

— (*with* Heinig, Hans P.) Mapping properties of integral averaging operators. (English summary) *Studia Math.* **129** (1998), *no.* 2, 157–177. (Summary) **99k:42042** 42B25 (47B38)

Sinopoulos, Pavlos Contribution to the study of two functional equations. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 91–97. (J. Aczél) **99e:39093** 39B52 (39B32)

flores-Sintas, Antonio *see* **Flores-Sintas, Antonio**

Sintes, A. M. Kinematic self-similar locally rotationally symmetric models. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3689–3700. (Juan Antonio Sáez) **99k:83022** 83C20 (83C15)

— (*with* Coley, Alan A.; Carot, J.) Lie groups of conformal motions acting on null orbits. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 1, 151–157. (Nora Bretón Báez) **99a:83023** 83C20

Sioen, M. (*with* Lowen, Robert) Applications of approach theory in functional analysis. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 251–269 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54B30 (54E35)

— The Čech-Stone compactification for Hausdorff uniform approach spaces is of Wallman-Shanin-type. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 189–211. (Summary) **99g:54020** 54D35 (54E15)

— (*with* Lowen, Robert) Proximal hypertopologies revisited. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 1, 1–19. (Summary) **99h:54015** 54B20 (54B30, 54E05)

Siokos, Stavros (*with* Nagurney, Anna) Network modeling of international financial equilibria with hedging. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 139–160. (Summary) **99f:90018** 90A09

Siopsis, George Newtonian versus black-hole scattering. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044015, 6 *pp.* (Summary) **99m:83139** 83C57

Siotani, Minoru (*with* Iwashita, Toshiya; Seo, Takashi) Asymptotic expansion for sampling distribution and sample size in statistical inference. II. Probability of misdiscrimination in the discriminant analysis. (English summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 2, 135–152. 62H30

— *see also* **MSI-2000, 99f:62009**

Sipcic, R. (*with* Lucas, S. K.; Stone, Howard A.) An integral equation solution for the steady-state current at a periodic array of surface microelectrodes. (English

summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1615–1638. (Yury Petrovich Yatsenko) **99a:92041** 92E20 (65R20)

Sipper, Moshe (*with* Stauffer, André) On the relationship between cellular automata and L-systems: the self-replication case. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 71–80. (Karel Culik, II) **99c:68184** 68Q80 (92B05)

Sipser, Michael (*with* Kao, Ming-Yang; Ma, Yuan; Yin, Yiqun) Optimal constructions of hybrid algorithms. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 142–164. (Evangelos Kranakis) **99i:68054** 68Q20

Siqin (*with* Ayongga) Traceability of subsets in cubic graphs. (English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **27** (1998), *no.* 1, 14–15. 05C45

de Siqueira, A. C. V. V. (*with* Barbosa, A. S.; Bezerra de Mello, E. R.) The classical and quantum analysis of the relativistic motion of a massive bosonic particle on a conical spacetime. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2773–2782. (Summary) **99h:83006** 83C10 (83C47)

— (*with* Bezerra de Mello, E. R.; Bezerra, Valdir B.) Bosonic and fermionic partition functions on S^3. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 899–909. (Summary) **99c:81145** 81T16 (81T20)

Siqueira, E. F. N. (*with* Mansur, W. J.; Carrer, J. A. M.) Time discontinuous linear traction approximation in time-domain BEM scalar wave propagation analysis. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 4, 667–683. (Summary) **99a:73131** 73V10

Širáň, Jozef (*with* Archdeacon, Dan; Bonnington, C. Paul; Pearson, John Frederick) The Hadwiger number for the product of two cycles. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 113–120, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:05071** 05C35

— (*with* Baskoro, Edy Tri; Miller, Mirka) A remark on almost Moore digraphs of degree three. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 2, 285–291. (Joseph B. Klerlein) **99f:05042** 05C20

— (*with* Branković, Ljiljana; Miller, Mirka; Plesník, Ján; Ryan, Joseph) Large graphs with small degree and diameter: a voltage assignment approach. (English summary) *Australas. J. Combin.* **18** (1998), 65–76. (Summary) **99h:05063** 05C35

— (*with* Grannell, M. J.; Griggs, Terry) Surface embeddings of Steiner triple systems. (English summary) *J. Combin. Des.* **6** (1998), *no.* 5, 325–336. (Ian Anderson) **99g:05028** 05B07 (05C10)

— (*with* Archdeacon, Dan; Bonnington, C. Paul) A Nebeský-type characterization for relative maximum genus. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 1, 77–98. (Arthur T. White) **99f:05028** 05C10

— (*with* Grannell, M. J.; Griggs, Terry) Face 2-colourable triangular embeddings of complete graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 8–19. (Arthur T. White) **99g:05061** 05C10 (05B07, 05C15)

— (*with* McKay, Brendan D.; Miller, Mirka) A note on large graphs of diameter two and given maximum degree. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 110–118. (Summary) **99c:05108** 05C35

Sira-Ramírez, Hebertt (*with* Yu, Xing-Huo; Ledwich, Gerard) Switching control strategy for the power system stabilization problem. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1021–1036. 93D15 (93C95)

— (*with* García-Esteban, Mauricio; Pérez-Moreno, Rafael A.) Design of pulse width modulation controllers for stabilization and tracking in derived DC-to-DC power converters. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 301–318. 93D15 (93C95)

— On the sliding mode control of multivariable nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 745–765. 93B12 (93C10)

— (*with* García-Esteban, Mauricio; Zinober, Alan S. I.) Dynamical adaptive pulse-width-modulation control of DC-to-DC power converters: a backstepping approach. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 205–222. 93C95 (93C40)

— (*with* Bourdache-Siguerdidjane, Houria) A redundant dynamical sliding mode control scheme for an asymptotic space vehicle stabilization. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 901–912. 93D21 (93C95)

— (*with* Spurgeon, Sarah K.) Robust sliding mode control using measured outputs. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 13 *pp.* (*electronic*). (Summary) **99h:93026** 93B12 (93B51)

— (*with* Angulo-Núñez, María Isabel) Passivity-based control of nonlinear chemical processes. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 971–996. 93C95 (93C10)

— (*with* Poznyak, A. S.; Yu, Wen; Sanchez, Edgar N.) Robust identification by dynamic neural networks using sliding mode learning. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 135–144. (*see* **99a:93003**) 93B30 (93C83)

— A general canonical form for feedback passivity of nonlinear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 891–905. (Valeriu Prepeliţă) **99i:93013** 93B10 (93B52, 93C10)

Sircar, K. Ronnie (*with* Fouque, Jean-Pierre; Papanicolaou, George C.) Asymptotics of a two-scale stochastic volatility model. (English summary) *Équations aux dérivées partielles et applications*, 517–525, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 90A09 (60H10)

Sirenek, V. A. (*with* Kryuchkov, A. F.) On numerical-probabilistic methods for solving a three-dimensional hyperbolic diffusion equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 107–114. (Reinhard Redlinger) **99b:65003** 65C05 (65M99)

Sirenko, Yu. K. (*with* Velychko, L. G.; Karacuha, E.) Synthesis of perfectly conducting gratings with an arbitrary profile of slits. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 541–550. 78A45

Siri, Paola Asymptotic behaviour of a tagged particle in an inhomogeneous zero-range process. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 139–154. (Ellen Saada) **99k:60254** 60K35 (82C22)

Sirignano, William A. (*with* Kim, Inchul; Elghobashi, S. E.) On the equation for spherical-particle motion: effect of Reynolds and acceleration numbers. (English summary) *J. Fluid Mech.* **367** (1998), 221–253. 76T05 (76F99)

Siroĭd, Ĭ.-P. P. *see* **Syroid, I.-P. P.**

Sirotin, A. N. On the problem of bounded zero-controllability with probability 1 for linear autonomous systems with discrete time and a random transition matrix having a finite set of spectra. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 39–51; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1563–1573 (1997). (Ryszard Gessing) **99e:93010** 93B05 (93E03)

Sirousse-Zia, Hayden Gravitational lensing and relativistic theories of gravitation. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1273–1280. 83D05

— Erratum: "Gravitational lensing and relativistic theories of gravitation" [Gen. Relativity Gravitation **30** (1998), no. 8, 1273–1280]. *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1553. 83D05

Sirovich, Lawrence (*with* Tarman, I. Hakan) Extensions to Karhunen-Loève based approximation of complicated phenomena. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 3-4, 359–368. (Summary) **99a:76122** 76M25 (76F99, 76R10)

Sirvent, A. (*with* Martín Alustiza, J. A.; Morera, J. L.) Linear multistep matrix methods for a class of functional-differential equations: convergence and error bounds. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 17–30. (Summary) **99h:65147** 65L99 (34K05)

Sirvent, V. F. Semigroups and the self-similar structure of the flipped Tribonacci substitution. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 25–29. (Summary) **99h:58096** 58F08 (11B85)

Sisakyan, A. N. (*with* Grosche, Christian; Pogosyan, G. S.) Interbasis expansion for the Kaluza-Klein monopole system. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 245–254, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81Q05

— (*with* Shevchenko, O. Yu.; Solganik, S. B.) Chiral and parity anomalies at finite temperature and density. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 455–472. (Summary) **99a:81165** 81T50

— (*with* Mardoyan, L. G.; Ter-Antonyan, V. M.) 8D oscillator as a hidden SU(2) monopole. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1746–1750. (Summary) **99i:81033** 81Q05

— (*with* Hakobyan, Ye. M.; Pogosyan, G. S.) Generalized D-dimensional oscillator: interbasis expansions. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1762–1767. (Summary) **99j:81031** 81Q05

— (*with* Hakobyan, Ye. M.; Kibler, Maurice; Pogosyan, G. S.) Generalized oscillator: invariance algebra and interbasis expansions. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1782–1788. (Summary) **99i:81030** 81Q05 (81R05)

— *see also* **Conference: Symmetry Methods in Physics, 99i:81002; 99i:81003; Symmetry methods in physics, 99m:81006** *and* **99m:81007**

Si Si Innovation of some random fields. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 793–802. (Jan Ubøe) **99m:60077** 60G60 (60H10)

Siskakis, Aristomenis G. (*with* Aleman, Alexandru) Integration operators on Bergman spaces. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 337–356. (Daniel H. Luecking) **99b:47039** 47B38 (30E99, 47B07, 47B10)

Siskos, Yannis (*with* Grigoroudis, E.; Zopounidis, C.; Saurais, O.) Measuring customer satisfaction using a collective preference disaggregation model. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 175–195. (*see* **99a:90011**) 90C29 (90A05)

— (*with* Kettani, Ossama; Oral, Muhittin) A multiple criteria analysis model for real estate evaluation. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 197–214. (*see* **99a:90011**) 90C29

— *see also* **Recent developments in multiple objective optimization, 99a:90011**

Šišma, Pavel The rise and development of graph theory. (Czech) *Pokroky Mat. Fyz. Astronom.* **43** (1998), *no.* 2, 89–99. 05-03

Sissakian, A. N. *see* **Sisakyan, A. N.**

Sisson, Paul (*with* Nguyen To Nhu) A rigid space homeomorphic to Hilbert space. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 85–95. (Summary) **99k:54028** 54F65 (46C05, 54G15)

Sitaram, A. (*with* Sundari, M.) An analogue of Hardy's theorem for very rapidly decreasing functions on semi-simple Lie groups. (English summary) *Pacific J. Math.* **177** (1997), *no.* 1, 187–200. (Michael Cowling) **99a:22018** 22E30 (43A30)

Sitaramachandrarao, R. A formula of S. Ramanujan. *Ramanujan Visiting Lectures*, 51–69, *Tech. Rep.*, 4, *Madurai Kamaraj Univ., Madurai*, 199?. (*see* **99g:11001**) 11Y60

— Ramanujan's formula for $\zeta(2n+1)$. *Ramanujan Visiting Lectures*, 70–117, *Tech. Rep.*, 4, *Madurai Kamaraj Univ., Madurai*, 199?. (*see* **99g:11001**) 11M06 (11Y60)

Sitaramaiah, V. (*with* Subbarao, M. V.) On regular ψ-convolutions. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 131–150. (W. Narkiewicz) **99c:11007** 11A25

— (*with* Subbarao, M. V.) On unitary multiperfect numbers. *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 57–61. (Neville Robbins) **99h:11008** 11A25

— (*with* Subbarao, M. V.) On the equation $\sigma^*(\sigma^*(n)) = 2n$. (English summary) *Util. Math.* **53** (1998), 101–124. (Neville Robbins) **99a:11009** 11A25

Sitaramayya, M. (*with* Subramanian Moosath, K. S.) Picard bundles as subbundles. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 195–209. (Rosa M. Miró-Roig) **99d:14047** 14K30 (14H40)

— *see also* **New directions in applied mathematics, 99g:00043**

Sitarz, Andrzej Metric in noncommutative geometry. (English summary) *Quantum groups* (*Karpacz*, 1994), 297–301, *PWN, Warsaw*, 1995. (*see* **99e:17001**) 58B30

— Finite Hopf algebra symmetries in physics. *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 59–64, *PWN, Warsaw*, 1997. (Rita Fioresi) **99f:81100** 81R50 (16W30)

— (*with* Paschke, Mario) Discrete spectral triples and their symmetries. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6191–6205. (Raimar Wulkenhaar) **99k:58017** 58B30 (46L87)

— On the tensor product construction for q-differential algebras. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 1, 17–21. (Andreas Cap) **99h:16020** 16E99 (46L89, 58B30)

Sitenko, Yu. A. Nonlocality, self-adjointness and Θ-vacuum in quantum field theory in spaces with nontrivial topology. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 190–198, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99i:81161** 81T20

Sitharam, Meera (*with* Hoffmann, Christoph M.; Lomonosov, Andrew) Geometric constraint decomposition. *Geometric constraint solving and applications*, 170–195, *Springer, Berlin*, 1998. (*see* **99e:68167**) 68U05 (65Y25, 68U07)

— (*with* Anderson, Bruce B.; Jackson, Jeffrey C.) Descartes' rule of signs revisited. *Amer. Math. Monthly* **105** (1998), *no.* 5, 447–451. (D. Boyd) **99e:12001** 12D10 (01A45, 26C10)

Sitnyakovskaya, E. I. Construction of efficient literal codes for dictionary methods of data compression. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 47–55; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 134–141. (Summary) **99h:94035** 94A29 (68P99)

Sitou, Saliou (*with* Dolecki, Szymon) Precise bounds for the sequential order of products of some Fréchet topologies. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 61–75. (Thomas W. Rishel) **99h:54002** 54A20 (54B10, 54D55)

Sitton, Gary A. (*with* Guo, Haitao; Burrus, Charles S.) The quick Fourier transform: an FFT based on symmetries. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 2, 335–341. (Summary) **99i:65151** 65T20 (94A12)

Siu, Man-Keung The combinatorics of binary arrays. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 103–113. (Summary) **99c:05033** 05B10

— (*with* Chan, Wai-Kiu; Chan, Yip-Cheung) Minimal rank of abelian group matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 3, 277–285. (Summary) **99j:15002** 15A03 (15A36)

Siu, Yum-Tong Invariance of plurigenera. *Invent. Math.* **134** (1998), *no.* 3, 661–673. (János Kollár) **99i:32035** 32L10 (32G13, 32J18)

Siudut, Stanisław Cauchy difference operator in $\mathcal{L}^p$-spaces. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 201–211. (Alexander Isaakovich Shtern) **99d:39029** 39B52 (22C05, 43A05, 47B38)

Sivaganesan, S. (*with* Lingham, Rama T.) Testing hypotheses about the power law process under failure truncation using intrinsic Bayes factors. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 693–710. (Michael J. Evans) **99g:62022** 62F03 (62F15)

Sivak, A. G. On the periodicity of recursive sequences. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 559–566, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39075** 39A12

Sivakumar, D. (*with* Regan, Kenneth W.; Cai, Jin-Yi) Pseudorandom generators, measure theory, and natural proofs. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 26–35, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15

— (*with* Cai, Jin-Yi) The resolution of a Hartmanis conjecture. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 362–371, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (Summary) **99b:68079** 68Q15

— (*with* Buhrman, Harry; van Melkebeek, Dieter; Regan, Kenneth W.; Strauss, Martin Joel) A generalization of resource-bounded measure, with an application (extended abstract). (English summary) *STACS 98* (*Paris*, 1998), 161–171, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q15

— On membership comparable sets. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 2–7, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68050** 68Q15

— (*with* Regan, Kenneth W.) Probabilistic martingales and BPTIME classes. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 186–200, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68049** 68Q15

Sivakumar, Krishnamoorthy (*with* Goutsias, J.) Morphologically constrained discrete random sets. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 49–66, *World Sci. Publishing, River Edge, NJ*, 1997. (Ilya S. Molchanov) **99j:60161** 60K35 (68U10)

— (*with* Goutsias, J.) A multiresolution morphological approach to stochastic image modeling. (English summary) *CWI Quarterly* **11** (1998), *no.* 4, 347–369. (Ilya S. Molchanov) **99m:68221** 68U10 (60D05, 94A12)

Sivakumar, M. (*with* Ghosh, Pijush Kanti; Khare, Avinash) Supersymmetry, shape invariance, and solvability of A_{N-1} and BC_N Calogero-Sutherland model. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 821–825. (Kazuhiro Hikami) **99g:81238** 81V70 (81Q60)

— (*with* Harikumar, E.) Duality and massive gauge-invariant theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3794–3797. (Summary) **99k:81181** 81T13

Sivakumar, S. Even and odd nonlinear coherent states. (English summary) *Phys. Lett. A* **250** (1998), *no.* 4-6, 257–262. (Constantin Brif) **99k:81103** 81R30 (81V80)

Sivalingam, Krishna M. (*with* Wang, Jie[1]; Wu, Xiangjun; Mishra, Manav) Improved on-line scheduling algorithms for optical WDM networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 43–61, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 68M10 (68M20, 90B12)

Sivaloganathan, J. (*with* Ganesh, Mahadevan; Graham, I. G.) A new spectral boundary integral collocation method for three-dimensional potential problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 778–805 (*electronic*). (Summary) **99b:65173** 65R20 (45L05)

Sivaloganathan, S. (*with* Karageorghis, Andreas) Conforming spectral approximations for non-conforming domain decompositions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 299–308. (Summary) **99a:65177** 65N55

— (*with* Stastna, M.; Tenti, G.; Drake, James M.) Brain biomechanics: an exact solution, and asymptotics of slow variations, for the time dependent equations of consolidation theory. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 415–425. (*see* **99m:34001**) 73P20 (76Z99, 92C10, 92C50)

Sivanandan, Arun (*with* Messac, Achille) A new family of convex splines for data interpolation. (English summary) *Comput. Aided Geom. Design* **15** (1997), *no.* 1, 39–59. (Summary) **99f:41023** 41A29 (65D17, 65Y25)

Sivaramakrishnan, R. On a class of arithmetic functions. *Ramanujan Visiting Lectures*, 17–31, *Tech. Rep.*, 4, *Madurai Kamaraj Univ., Madurai*, 199?. (*see* **99g:11001**) 11A25

— On Ramanujan's trigonometrical sums. *Ramanujan Visiting Lectures*, 32–50, *Tech. Rep.*, 4, *Madurai Kamaraj Univ., Madurai*, 199?. (*see* **99g:11001**) 11L03

— Professor (Dr.) C. S. Venkataraman: a biographical note (1918–1994). *Math. Student* **64** (1995), *no.* 1-4, 1–8 (1996). 01A70

Sivaraman, Vijay (*with* Nolan, Jennifer M.; Savage, Carla D.; Tiwari, Pranav K.) Graphical basis partitions. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 241–261. (C. C. Rousseau) **99j:05014** 05A17 (05C99, 11Y55)

Siva Ram Murthy, C. (*with* Pradeep, B.) A constant time string shuffle algorithm on reconfigurable meshes. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 251–259. (Summary) **99m:68072** 68Q22

Sivardière, Jean Comments on the Gauss theorem. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 167–172. (Summary) **99d:78017** 78A30

— Comments on the Ampère and Stokes theorems. (English summary) *European J. Phys.* **19** (1998), *no.* 3, 293–298. (A. P. Stone) **99d:78018** 78A30

Sivasamy, R. (*with* Pandiyan, P.) A two commodity inventory model under (s_k, S_k) policy. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 3, 19–34. (P. R. Parthasarathy) **99m:90059** 90B05

Sivashinsky, G. I. (*with* Rahibe, M.; Aubry, Nadine) Instability of pole solutions for planar propagating flames in sufficiently large domains. (English summary) *Combust. Theory Model.* **2** (1998), *no.* 1, 19–41. (Summary) **99a:80005** 80A25 (35Q35, 76E99)

— (*with* Kortsarts, Y.; Kliakhandler, I.; Shtilman, L.) Effects due to shear flow on the diffusive-thermal instability of premixed gas flames. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 401–412. (Summary) **99d:80010** 80A25

Sivasundaram, S. (*with* Lakshmikantham, V.) Stability of moving invariant sets and uncertain dynamic systems on time scales. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 339–346. (Tzanko D. Donchev) **99k:93070** 93D05 (34D99, 34H05, 39A11, 93C41)

— (*with* Vasil'ev, S. N.) On controllability of nonlinear systems under phase restrictions and persistent perturbations. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 2, 163–172. (M. Krastanov) **99h:93020** 93B05 (93C10)

Sivrikaya-Şerifoğlu, Funda (*with* Ulusoy, Gündüz) Parallel machine scheduling with earliness and tardiness penalties. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 8, 773–787. 90B35

Siyyam, H. I. (*with* Syam, Muhammed I.) An accurate solution of the Poisson equation by the Chebyshev-Tau method. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 1–10. (Ji Chun Li) **99a:65129** 65M70 (76M25)

Sizer, W. S. (*with* Kulenović, M. R. S.; Ladas, G.) On the recursive sequence $x_{n+1} = (\alpha x_n + \beta x_{n-1})/(\gamma x_n + \delta x_{n-1})$. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 5, 1–16. (Ulrich Krause) **99g:39008** 39A10

Sizhuk, V. P. On functions with negative coefficients that are starlike and convex with respect to *n*-symmetric points. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 617–624, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 534–541. (Milutin Č. Obradović) **99g:30019** 30C45

Sizikov, V. S. (*with* Brunner, Hermann) On a suboptimal filtration method for solving convolution-type integral equations of the first kind. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 292–308. (Summary) **99g:45013** 45L05 (45E10, 65R20)

— The use of regularization for the stable computation of the Fourier transform. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 376–386; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 362–372. (Manfred Tasche) **99c:65242** 65R10 (65R30, 65T10)

Sjavavko, Marijan *see* **Syavavko, M. S.**

Sjöberg, Boris Håkan The history of π. (Swedish. English summary) *Normat* **46** (1998), *no.* 1, 14–25, 48. (Summary) **99e:01039** 01A99

Sjöberg, Jonas (*with* Ljung, Lennart) Overtraining, regularization and searching for a minimum, with application to neural networks. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1391–1407. 93E10 (93C83)

— (*with* Pucar, P.) On the hinge-finding algorithm for hinging hyperplanes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1310–1319. (Summary) **99b:65013** 65D15 (41A63)

Sjödin, Tord Thinness in non-linear potential theory for non-isotropic Sobolev spaces. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 2, 313–338. (S. K. Vodop'yanov) **99h:31016** 31C45 (46E35)

— On s-sets and mutual absolute continuity of measures on homogeneous spaces. (English summary) *Manuscripta Math.* **94** (1997), *no.* 2, 169–186. (Jeremy T. Tyson) **99d:28024** 28C99 (28A78, 30C62)

Sjögreen, Björn (*with* Engquist, Björn) The convergence rate of finite difference schemes in the presence of shocks. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2464–2485 (*electronic*). (Gholam-Ali Zakeri) **99k:65080** 65M12 (76L05, 76M20)

Sjögren, Peter Operators associated with the Hermite semigroup—a survey. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 813–823. (Cristian E. Gutiérrez) **99e:42001** 42-02 (42B20, 42C05, 47D06)

— (*with* Gaudry, Garth) Singular integrals on the complex affine group. *Colloq. Math.* **75** (1998), *no.* 1, 133–148. (Shobha Madan) **99k:43003** 43A32 (22E10, 42B20)

— An estimate for a first-order Riesz operator on the affine group. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3301–3314. (Tao Qian) **99m:43009** 43A80 (22E30, 42B20)

Sjölin, Per A counter-example concerning maximal estimates for solutions to equations of Schrödinger type. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 593–599. (Cristian E. Gutiérrez) **99m:35040** 35J10 (35B45, 42B25, 46N20)

Sjöqvist, Erik (*with* Carlsen, Henrik) Berry's phase in pilot-wave theory. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 2, 179–188. (Summary) **99a:81021** 81P99 (81Q99)

— (*with* Brown, Harvey R.; Bacciagaluppi, Guido) Remarks on identical particles in de Broglie-Bohm theory. (English summary) *Phys. Lett. A* **251** (1999), *no.* 4, 229–235. (Summary) **99k:81016** 81P05

Sjöstrand, Johannes A trace formula and review of some estimates for resonances. (English summary) *Microlocal analysis and spectral theory* (*Lucca*, 1996), 377–437, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 490, *Kluwer Acad. Publ., Dordrecht*, 1997. (Vesselin M. Petkov) **99e:47064** 47F05 (35A27, 35P25, 47A40, 47A55, 81Q10)

— (*with* Vodev, Georgi) Asymptotics of the number of Rayleigh resonances. With an appendix by Jean Lannes. *Math. Ann.* **309** (1997), *no.* 2, 287–306. (Leon S. Farhy) **99g:35097** 35P20 (35J25, 35Q72, 47F05, 73D25)

— Resonances for strictly convex obstacles (based on joint work with M. Zworski). (French summary) *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XIII*, 5 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35P25 (35J85)

Sjöström, Tomas (*with* Krishna, Vijay) On the convergence of fictitious play. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 479–511. (James Bergin) **99i:90120** 90D05 (90D10, 90D20)

Skafidas, E. (*with* Fradkov, A. L.; Evans, Robin J.; Mareels, Iven M. Y.) Trajectory-approximation-based adaptive control for nonlinear systems under matching conditions. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 287–299. (Summary) **99a:93060** 93C40 (93B40)

— (*with* Nešić, D.; Mareels, Iven M. Y.; Evans, Robin J.) Minimum phase properties for input nonaffine nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 868–872. (Summary) **99m:93048** 93C10 (93B17, 93D15)

Skal, Asya S. New classic equations for conductivity and thermopower. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 5927–5940. (Summary) **99c:82065** 82C70

Skala, Heinz J. On a representation theorem of Schmeidler. (English summary) *Statist. Papers* **39** (1998), *no.* 1, 97–107. (Summary) **99a:90074** 90A43 (28A12)

Skála, L. (*with* Dvořák, Jan[1]; Kapsa, V.) Analytic solutions of the Schrödinger equation for the modified quartic oscillator. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2953–2961. (M. Znojil) **99c:81034** 81Q05 (34L40)

— (*with* Mančal, T.; Bok, J.) Short time de-excitation dynamics of a two-level electron system. Non-perturbative solution of the master equation. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9429–9440. (Summary) **99h:82076** 82D20

— (*with* Čížek, Jiří Karel; Zamastil, J.) Large-order behaviour of the strong coupling perturbation expansion for anharmonic oscillators. (English summary) *J. Phys. A* **32** (1999), *no.* 9, *L*123–*L*127. 81Q15

Skalak, Richard *see* **Özkaya, Nihat**

Skalák, Zdeněk A continuity property for the inverse of Mañé's projection. (English summary) *Appl. Math.* **43** (1998), *no.* 1, 9–21. (Michael Wiegner) **99h:35172** 35Q30 (35B40, 58F39, 76D05, 76F20)

Skałba, Mariusz On the relative Davenport constant. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 221–225. (Richard J. Friedlander) **99b:20044** 20D60

— On ζ-convergence of sequences. (English summary) *Math. Slovaca* **48** (1998), *no.* 2, 167–172. (Gérald Tenenbaum) **99j:11111** 11N37

Skalski, Grzegorz On the Łojasiewicz exponent for a pair of analytic sets. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **24** (1997), 91–97. (Arkadiusz Płoski) **99d:32005** 32B10 (32B99)

Skalyga, V. I. (*with* Bobylev, N. A.; Korovin, S. K.) A homotopic method for studying multicriterial problems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 168–178; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 2, 1513–1521 (1997). (A. Göpfert) **99d:90099** 90C29 (90C31)

— Analogues of an inequality of the Markov brothers for polynomials on a cube in $\mathbf{R}^m$. (Russian) *Mat. Zametki* **60** (1996), *no.* 5, 783–787; *translation in Math. Notes* **60** (1996), *no.* 5-6, 589–593 (1997). (Kairat T. Mynbaev) **99f:26024** 26D10

— Estimates for the derivatives of polynomials on convex bodies. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 374–384. (Libor Veselý) **99h:46079** 46G20 (46B28, 46M99)

— Analogues of Markov and Bernstein inequalities on convex bodies in Banach spaces. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 2, 169–192; *translation in Izv. Math.* **62** (1998), *no.* 2, 375–397. (Libor Veselý) **99f:46065** 46G20 (26D05, 41A17, 46B99)

Skandalis, Georges (*with* Baaj, Saad) Transformations pentagonales. (English and French summaries) [Pentagonal transformations] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 623–628. (Tullio G. Ceccherini-Silberstein) **99k:28018** 28D05 (22D25, 46L89)

Škapin-Rugelj, Meta (*with* Petek, Peter) The dynamics of $\lambda + z + \exp(z)$. *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 38–63. (I. N. Baker) **99b:58199** 58F23 (30D05)

— The basic properties of the Julia set of a rational function. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **45** (1998), *no.* 6, 161–170. 30D05 (58F23)

Skarbek, Władysław On relation of image compression and image association. (English summary) *Fund. Inform.* **32** (1997), *no.* 3-4, 359–371. (Summary) **99i:94030** 94A29 (68U10, 94A12)

— (*with* Sikora, Radosław) Stability analysis of Oja-RLS learning rule. (English summary) *Fund. Inform.* **34** (1998), *no.* 4, 441–453. (Summary) **99k:68165** 68T05

wybraniec-Skardowska, Urszula *see* **Wybraniec-Skardowska, Urszula**

Skarke, Harald (*with* Avram, A. C.; Kreuzer, Maximilian; Mandelberg, Michael) The web of Calabi-Yau hypersurfaces in toric varieties. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 625–640. (Dimitrios I. Dais) **99a:14056** 14J32 (14M25, 32G05)

— (*with* Perevalov, Eugene) Enhanced gauge symmetry in type II and F-theory compactifications: Dynkin diagrams from polyhedra. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 679–700. (Mark Gross) **99a:14058** 14J32 (14M25, 81T30)

— (*with* Candelas, Philip) F-theory, SO(32) and toric geometry. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 63–69. (Mark Gross) **99a:14051** 14J28 (14M25, 32J81, 81T30)

— (*with* Kreuzer, Maximilian) Classification of reflexive polyhedra in three dimensions. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 4, 853–871. (Sandra Di Rocco) **99m:14100** 14M25 (14J30, 14J32)

— (*with* Kreuzer, Maximilian) Calabi-Yau 4-folds and toric fibrations. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 272–290. (Sławomir Cynk) **99f:14052** 14J32 (14M25, 32J18, 81T30)

Skaropoulos, Nikolaos C. (*with* Chrissoulidis, Dimitrios P.) Rigorous application of the stochastic functional method to plane-wave scattering from a random cylindrical surface. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 156–168. (Summary) **99h:35233** 35R30 (35J25, 35R60)

Skarzhinskiĭ, V. D. (*with* Audretsch, Jürgen) Quantum processes beyond the Aharonov-Bohm effect. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 777–788. (*see* **99f:81002**) 81V10 (81P99)

Skaskīv, O. B. (*with* Lutsishin, M. R.) Asymptotic properties of a multiple Dirichlet series. (Ukrainian. English and Russian summaries) *Mat. Stud.* **3** (1994), 41–48, 120. 30B50

— Some open problems in Dirichlet series. *Mat. Stud.* **8** (1997), *no.* 2, 233–234. 30B50

Skau, Christian Orbit structure of topological dynamical systems and its invariants. *Operator algebras and quantum field theory* (*Rome*, 1996), 533–544, *Internat. Press, Cambridge, MA*, 199?. (Siegfried Echterhoff) **99a:46104** 46L05 (46L55, 46L80)

Skau, Ivar H. A note on the asymptotic number of Latin rectangles. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 617–620. (Jörn Quistorff) **99h:05006** 05A16 (05B15)

— (*with* Borgersen, Hans Erik) A closer look at Pascal's theorem. (Norwegian. English summary) *Normat* **46** (1998), *no.* 1, 26–32, 48. (Summary) **99b:01010** 01A45 (51-03)

Skea, Jim E. F. The Kasner condition and inhomogeneous perfect fluid cosmologies. (English summary) *On Einstein's path* (*New York*, 1996), 449–464, *Springer, New York*, 1999. (Leonardo Fernández-Jambrina) **99i:83022** 83C20

Skeel, Robert D. (*with* López Marcos, M. A.; Sanz Serna, J. M.) Some problems of molecular dynamics. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65L06 (70–08)

— (*with* García-Archilla, Bosco; Sanz Serna, J. M.) Long-time step methods for oscillatory differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 111–123, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65107** 65L06

— Comments on: "Numerical instability due to varying time steps in explicit wave propagation and mechanics calculations" [J. Comput. Phys. **140** (1998), no. 2, 421–431; MR 98m:65155] by J. P. Wright. *J. Comput. Phys.* **145** (1998), *no.* 2, 758–759. 65M12

— Symplectic integration with floating-point arithmetic and other approximations. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 3–18. (Werner M. Seiler) **99j:70004** 70–08 (34A45, 65L99, 70H05)

— (*with* Hardy, David J.; Okunbor, Daniel I.) Symplectic variable step size integration for N-body problems. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 19–30. (Werner M. Seiler) **99j:70005** 70–08 (65L99, 70F10)

— (*with* García-Archilla, Bosco; Sanz Serna, J. M.) Long-time-step methods for oscillatory differential equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 930–963 (*electronic*). (David E. Stewart) **99g:65087** 65L99 (65L70, 70–08)

Skeide, Michael Quantum stochastic calculus on full Fock space. (English summary) *Quantum probability* (*Gdańsk*, 1997), 369–379, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Alexander Isaakovich Shtern) **99k:46116** 46L50 (46L60, 81S25)

— Hilbert modules in quantum electrodynamics and quantum probability. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 569–604. (John E. Gough) **99b:81122** 81S25 (46L60, 46N50, 81V10)

Skeldon, Anne C. (*with* Moroz, Irene M.) On a codimension-three bifurcation arising in a simple dynamo model. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 117–127. (Manuel Núñez Jiménez) **99e:78039** 78A99 (34C23, 58F14, 58F36, 76E25, 76W05)

— (*with* Silber, Mary) New stability results for patterns in a model of long-wavelength convection. (English summary) *Phys. D* **122** (1998), *no.* 1-4, 117–133. (Summary) **99g:76056** 76E15

Skelton, Robert E. (*with* Iwasaki, Tetsuya) The XY-centring algorithm for the dual LMI problem: a new approach to fixed-order control design. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1257–1272. 93B51 (93B40)

— (*with* Zhu, Guoming G.; Li, Pingkang) q-Markov cover identification using pseudo-random binary signals. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1273–1290. 93E12

Skenderis, Kostas (*with* de Boer, Jan; Peeters, Bas; van Nieuwenhuizen, Peter) The equivalence between the operator approach and the path integral approach for quantum mechanical non-linear sigma models. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 47–62, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81051** 81Q60 (81S40, 81T27)

— (*with* de Boer, Jan) Self-dual supergravity from $N = 2$ strings. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 192–223. (Summary) **99f:83063** 83E30 (81T30, 83E50)

— (*with* Henningson, Måns) The holographic Weyl anomaly. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 23, 12 *pp.* (*electronic*). (Summary) **99f:81162** 81T30 (81T40, 83E30)

— (*with* Ooguri, Hirosi) On the field theory limit of D-instantons. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 13, 8 *pp.* (*electronic*). (Ion V. Vancea) **99k:81268** 81T30

— (*with* Sfetsos, Konstadinos) Microscopic derivation of the Bekenstein-Hawking entropy formula for non-extremal black holes. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 179–204. (Marco Cavaglià) **99g:83060** 83C57 (83E30)

Škerget, Leopold (*with* Marn, Jure; Delić, Marjan) Non-Newtonian driven cavity flow comparison between boundary element and finite difference methods. (English summary) *Advances in fluid mechanics, II* (*Udine*, 1998), 261–270, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76M15 (76A05, 76M20)

Škerlik, Anton (*with* Elias, Uri) On a conjecture about an integral criterion for oscillation. (English summary) *Arch. Math.* (*Brno*) **34** (1998), *no.* 3, 393–399. (E. Müller-Pfeiffer) **99i:34049** 34C10

Skhirtladze, N. Trigonometrical series with special coefficients. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 1, 18–20. 42A10

— Some properties of H^ω class functions coefficients. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 167–168. 42B30 (46E15)

— Some properties of Belman's and Loo's transformations. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 44–45. 41A65 (42A10)

Skiadas, Costis (*with* DeMarzo, Peter) Aggregation, determinacy, and informational efficiency for a class of economies with asymmetric information. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 123–152. (Summary) **99i:90040** 90A53 (90A56)

Skianis, Charalabos A. (*with* Kouvatsos, Demetres D.) Arbitrary open queueing networks with server vacation periods and blocking. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 143–180. (Summary) **99b:90061** 90B22 (60K25)

Skiba, A. N. (*with* Shemetkov, Leonid Aleksandrovich) On the minimal compositional screen of a compositional formation. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 39–43, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10

— (*with* Kovalenko, A. V.) On solvable local formations of finite groups with a premaximal π-decomposable local subformation. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 94–102, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10

— On factorizations of a class of formations of finite groups. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 108–110, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10

— (*with* Shemetkov, Leonid Aleksandrovich) On primitively closed semiformations of multirings. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 3–6, 102, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 08A30

— On a class of formations of finite groups. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 31–35, 103, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D10

— (*with* Vorob'ev, N. T.) On local Fitting classes represented as the product of two nonlocal Fitting classes. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 55–58, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20D10

— (*with* Ryzhik, I. N.) On metanilpotent local formations. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 104–108, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20D10

— On the lattice of subgroup functors. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 177–186, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20D10

— On complemented subformations. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 114–118, *Gomel. Gos. Univ., Gomel'*, 1996. (Summary) **99h:20058** 20F17

— (*with* Sel'kin, V. M.) On hereditary critical formations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1145–1153, *iii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 1009–1015. (Î. Ya. Subbotin) **99e:20024** 20D10

— (*with* Monakhov, V. S.; Kamornikov, S. F.; Sel'kin, M. V.) Leonid Aleksandrovich Shemetkov (on the occasion of his sixtieth birthday). (Russian) *Problems in algebra, No.* 11 (*Russian*), 3–5, *Gomel. Gos. Univ., Gomel'*, 1997. (*see* **99g:20007**) 01A70

— (*with* Ryzhik, V. N.) Factorizations of p-local formations. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 76–89, *Gomel. Gos. Univ., Gomel'*, 1997. (Î. Ya. Subbotin) **99i:20046** 20F17

Skiba, Witold (*with* Dotti, Gustavo; Manohar, Aneesh V.) Supersymmetric gauge theories with a free algebra of invariants. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 507–524. (Summary) **99i:81231** 81T60 (81T13, 81T50)

— (*with* Csáki, Csaba; Schmaltz, Martin; Terning, John) Gauge theories with tensors from branes and orientifolds. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7546–7560. (Summary) **99k:81297** 81T60 (81T13)

— (*with* Csáki, Csaba) Classification of the $N = 1$ Seiberg-Witten theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045008, 9 *pp.* (Summary) **99k:81298** 81T60 (81T13)

Skiba, Yu. N. Spectral approximation in the numerical stability study of nondivergent viscous flows on a sphere. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 2, 143–157. (A. J. Meir) **99h:76076** 76M25 (65M70, 76D99, 76E20, 76U05, 86A05, 86A10)

— (*with* Adem, Julián) On the linear stability study of zonal incompressible flows on a sphere. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 649–665. (Stefan G. Llewellyn Smith) **99h:76040** 76E20 (76U05)

Skibiński, Przemysław (*with* Frontczak, Maria; Spodzieja, Stanisław) On factorization of polynomials with holomorphic coefficients. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 39–54. (Amnon Rosenmann) **99c:12002** 12D05 (13P05)

Skibsted, Erik Spectral analysis of N-body systems coupled to a bosonic field. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 7, 989–1026. (Thierry Jecko) **99i:81040** 81Q10 (47A55, 47B25, 47N50)

Skiena, Steven S. (*with* Khanna, Sanjeev; Muthukrishnan, S.) Efficient array partitioning. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 616–626, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **99c:68127** 68Q25 (68Q20)

— (*with* Arkin, Esther M.; Chiang, Yi-Jen; Held, Martin; Mitchell, Joseph S. B.; Sacristan, V.; Yang, Tae-Cheon) On minimum-area hulls. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 119–136. (Evangelos Kranakis) **99c:68243** 68U05 (52B55)

— (*with* Arkin, Esther M.; Meijer, Henk; Mitchell, Joseph S. B.; Rappaport, David) Decision trees for geometric models. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 343–363. (Summary) **99b:68193** 68U05 (52B55, 68U10)

Skigin, Diana C. (*with* Ruedin, A. M. C.; Vaillancourt, Rémi) Computer solution of the scattering problem for a groove in a metallic plane using the modal method. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 98–119. (Summary) **99d:78030** 78A45 (30D05, 78–08)

— (*with* Depine, Ricardo A.) Modal method for scattering by arbitrarily shaped multivalued surfaces. (English summary) *J. Modern Opt.* **45** (1998), *no.* 9, 1821–1843. (Summary) **99e:78011** 78–08 (78A45)

Skilyagina, G. I. (*with* Borisov, I. S.; Panchenko, D. A.) On minimal smoothness conditions for asymptotic expansions of moments in the CLT. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 1, 80–95. (Lothar Heinrich) **99k:60052** 60F05 (60E10, 60F25, 60G50)

Skinner, C. J. (*with* Pfeffermann, Danny; Holmes, D. J.; Goldstein, Harvey; Rasbash, J.) Weighting for unequal selection probabilities in multilevel models. (English summary) With discussion. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 23–56. (Summary) **99a:62013** 62D05

Skinner, Christopher (*with* Ono, Ken) Fourier coefficients of half-integral weight modular forms modulo *l*. *Ann. of Math.* (2) **147** (1998), *no.* 2, 453–470. (B. Ramakrishnan) **99f:11059a** 11F33 (11F30, 11F37, 11G40)

— (*with* Ono, Ken) Corrigendum: "Fourier coefficients of half-integral weight modular forms modulo *l*". *Ann. of Math.* (2) **148** (1998), *no.* 1, 361. (B. Ramakrishnan) **99f:11059b** 11F33 (11F30, 11F37, 11G40)

Skinner, L. A. Passages through resonance in weakly nonlinear systems. (English summary) *IMA J. Appl. Math.* **62** (1999), *no.* 1, 45–59. (Summary) **99k:34077** 34C15 (34E05)

Skjetne, E. (*with* Auriault, J. L.) New insights on steady, non-linear flow in porous media. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 1, 131–145. (Summary) **99j:76127** 76S05

Sklar, Jessica K. (*with* Godbole, Anant P.; Potter, Laura K.) Improved upper bounds for the reliability of d-dimensional consecutive-k-out-of-n:F systems. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 2, 219–230. (Summary) **99a:90097** 90B25

Skliar, Mikhail *see* **Sklyar, M. V.**

Sklyanin, E. K. (*with* Kuznetsov, Vadim B.; Nijhoff, Frank) Separation of variables for the Ruijsenaars system. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 855–877. (V. A. Golubeva) **99a:58092** 58F07 (33C80, 33C90, 70F10, 81U40, 81V70)

— (*with* Kuznetsov, Vadim B.) On Bäcklund transformations for many-body systems. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2241–2251. (Kazuhiro Hikami) **99d:81187** 81V70 (58F37)

Sklyar, M. V. (*with* Ramirez, W. Fred) Implicit Kalman filtering. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 393–412. (Summary) **99j:93106** 93E11 (93E25)

— (*with* Ramirez, W. Fred) Source identification in distributed parameter systems. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 733–754. (*see* **99h:93003**) 93B30 (93C20)

— *see also* **Data processing and process control, 99h:93003**

Sklyarenko, E. G. On filtrations in hyperhomology. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 578–582; *translation in Math. Notes* **61** (1997), *no.* 3-4, 480–483. (Andrew Borisovich Verëvkin) **99f:18016** 18G40 (55N40, 55T99)

Sklyarov, V. P. On a polynomial inequality of G. Freud. (Russian) *Mat. Zametki* **60** (1996), *no.* 5, 788–792; *translation in Math. Notes* **60** (1996), *no.* 5-6, 593–597 (1997). (Kairat T. Mynbaev) **99e:26015** 26D05

Skobelev, B. Yu. On the question about the sufficiency of the von Neumann criterion for stability of difference schemes. *J. Comput. Phys.* **143** (1998), *no.* 1, 278–282. (D. Schultz) **99j:65141** 65M06 (65M12)

Skodinis, K. The bounded tree-width problem of context-free graph languages. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 303–317, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68141** 68Q42 (68Q25, 68R10)

Skof, Fulvia The general solution of the Cauchy equation on some restricted domains in $\mathbf{R}^2$ in terms of Hamel-bases without use of extensions. (English and Italian summaries) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **130** (1996), 111–122. (R. A. Rosenbaum) **99e:39079** 39B05 (39B22, 39B52)

— On some alternative quadratic equations in inner-product spaces. (Italian summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 951–962. (Nicole Brillouët-Belluot) **99k:39072** 39B52 (46C15)

Skoglund, Mikael (*with* Hedelin, Per) Hadamard-based soft decoding for vector quantization over noisy channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 515–532. 94A29 (94A24)

Skomorowski, Marek Image labelling by random graph parsing for syntactic scene description. (English summary) *Found. Comput. Decision Sci.* **23** (1998), *no.* 3, 161–178. (Summary) **99i:68109** 68T10 (68R10)

Skopenkov, A. B. (*with* Repovš, Dušan D.) Embeddability and isotopy of polyhedra in Euclidean spaces. *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 173–187. (Paul F. Duvall) **99g:57028** 57N35 (57Q35)

— On the deleted product criterion for embeddability of manifolds in $\mathbf{R}^m$. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 543–555. (Laurence R. Taylor) **99h:57046** 57Q35

— (*with* Repovš, Dušan D.) On homogeneous compacta in Euclidean space and the classical Hilbert-Smith conjecture. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 222–226, *World Sci. Publishing, River Edge, NJ*, 1998. (Sergey A. Antonjan) **99m:57032** 57S10 (54F15, 54H15)

— (*with* Cavicchioli, Alberto; Repovš, Dušan D.) Open problems on graphs arising from geometric topology. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 207–226. (Andrew Vince) **99d:57002** 57M15 (05C10, 54B35, 54C25, 54F50)

— (*with* Segal, Jack; Spież, S.) Embeddings of polyhedra in $\mathbf{R}^m$ and the deleted product obstruction. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 335–344. (Paul F. Duvall) **99b:57046** 57Q35 (54C25, 55Q15, 55S15)

— (*with* Repovš, Dušan D.) A deleted product criterion for approximability of maps by embeddings. (English summary) *Topology Appl.* **87** (1998), *no.* 1, 1–19. (Alexander N. Dranishnikov) **99g:57029** 57Q35 (55S15, 57Q55)

Skopetskiĭ, V. V. (*with* Gladkaya, Yu. A.) Investigation of discrete models with a nonselfadjoint operator. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 11, 103–106. (Summary) **99m:35196** 35Q40 (65N12, 76Q05)

— (*with* Deĭneka, V. S.) Numerical modeling of discontinuous fields. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 3, 63–74, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 3, 354–365 (1998). (Introduction) **99d:65360** 65N99 (65Y20)

— (*with* Deĭneka, V. S.) Control of the temperature state of a layered cylindrical body. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 88–99, 155. 93C20 (49K20)

Skopina, M. A. Multiresolution analysis of periodic functions. (English summary) *East J. Approx.* **3** (1997), *no.* 2, 203–224. (Summary) **99h:42066** 42C15

— (*with* Liflyand, E. R.) Square linear means with hyperbolic multipliers. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 4, 333–343. (G. I. Gaudry) **99m:42023** 42B15 (42B08)

— Local convergence of Fourier series with respect to periodized wavelets. (English summary) *J. Approx. Theory* **94** (1998), *no.* 2, 191–202. (Margit Rösler) **99h:42067** 42C15 (42B08)

Skóra, Lidia The asymptotic behaviour of solutions to systems of ordinary differential-functional equations. (English summary) *Selected problems of mathematics*, 267–288, *50th Anniv. Cracow Univ. Technol. Anniv. Issue*, 6, *Cracow Univ. Technol., Kraków*, 1995. (P. K. Palamides) **99c:34179** 34K25

Skordev, Dimitʺr G. An abstract approach to some loop detection problems. (English summary) *Fund. Inform.* **31** (1997), *no.* 2, 195–212. (Summary) **99a:68032** 68N17

Skordev, Gencho S. (*with* Allouche, Jean-Paul; von Haeseler, Fritz; Lange, Ehler; Petersen, Antje) Linear cellular automata and automatic sequences. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1577–1592. (Valérie Berthé) **99a:11023** 11B85 (11T06, 12Y05, 68Q80)

— (*with* Lange, Ehler; Peitgen, Heinz-Otto) Fractal patterns in Gaussian and Stirling number tables. (English summary) *Ars Combin.* **48** (1998), 3–26. (Jean-Paul Allouche) **99f:11023** 11B65 (11B85, 28A80, 58F08)

— (*with* Peitgen, Heinz-Otto; Rodenhausen, Anna) Self-similar functions generated by cellular automata. (English summary) *Fractals* **6** (1998), *no.* 4, 371–394. (François Blanchard) **99j:58111** 58F08 (68Q80)

Skorik, A. (*with* Zaidenberg, Mikhail G.) On isometric reflections in Banach spaces. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 212–247. (Wolfgang Lusky) **99a:46025** 46B20 (46C15, 47B99)

Skorin-Kapov, Darko On some cost allocation problems in communication networks. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 19–39. (Leonardo Pasini) **99i:90131** 90D12 (90B12, 90D35)

— Hub network games. (English summary) *Networks* **31** (1998), *no.* 4, 293–302. (Summary) **99c:90167** 90D12 (90D46, 90D80)

Skorin-Kapov, Jadranka On strongly polynomial algorithms for some classes of quadratic programming problems. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 2, 95–105. (Summary) **99a:90147** 90C20

— (*with* Labourdette, Jean-François) On minimum congestion routing in broadcast optical networks with regular and arbitrary topologies. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 143–155, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 90B12

Skośnik, Krystyna (*with* Kierat, Władysław) Remarks on convolution products of distributions. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 97–102. (Arpad Takači) **99a:46077** 46F12

— (*with* Wloka, J.) Factoring and splitting of S-differential equations in the field of Mikusiński. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 3, 263–274. (Georg M. Reinhart) **99e:34006** 34A25 (12H05, 44A40)

— (*with* Kierat, Władysław) On the application of Mikusiński's operational calculus to the controllability of dynamical systems. (English summary) *Transform methods & special functions, Varna '96*, 227–235, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 93B05 (34K35, 44A40)

— (*with* Kierat, Władysław) An application of the Mikusiński operational calculus in the theory of controllability. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 159–162. (Summary) **99g:44010** 44A40

Skórnik, Urszula (*with* Prudnikov, Anatoliĭ Platonovich) A remark on Watson transform. (English summary) *Transform methods & special functions, Varna '96*, 360–367, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:44010** 44A15 (33C45, 44A20)

— (*with* Moiseev, Evgeniĭ Ivanovich; Prudnikov, Anatoliĭ Platonovich) On the generalized Fourier sine- and cosine- transforms. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 163–166. 42A38 (33C15)

Skorobogat'ko, Vitalii Yakovich A rapid method of solving differential equations with a small parameter. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2334–2340. 65L08

— *see also* **Obituary: Skorobogat'ko, Vitalii Yakovich**

Skorobogatov, A. N. (*with* Colliot-Thélène, J.-L.; Swinnerton-Dyer, H. P. F.) Hasse principle for pencils of curves of genus one whose Jacobians have rational 2-division points. *Invent. Math.* **134** (1998), *no.* 3, 579–650. (David Harari) **99k:11095** 11G35 (14G25)

— (*with* Colliot-Thélène, J.-L.; Swinnerton-Dyer, H. P. F.) Rational points and zero-cycles on fibred varieties: Schinzel's hypothesis and Salberger's device. *J. Reine Angew. Math.* **495** (1998), 1–28. (R. T. Hoobler) **99i:14027** 14G25 (11G35, 14C25, 14D10)

Skorokhod, A. V. ★ Lectures on the theory of stochastic processes. *VSP, Utrecht; TBiMC Scientific Publishers, Kiev*, 1996. vi+185 *pp. ISBN* 90-6764-206-1 (H.-J. Engelbert) **99d:60001** 60-01

— Measure-valued diffusion. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 3, 458–464; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 3, 506–513 (1998). (Luis G. Gorostiza) **99c:60103** 60G57 (60J25, 60J80, 60K35)

Skorupka, M. (*with* Rempulska, L.) The Voronovskaya theorem for some linear positive operators of functions of two variables. (English summary) *Note Mat.* **16** (1996), *no.* 1, 145–154 (1998). (Radu Păltănea) **99m:41042** 41A36 (41A30, 41A63)

— (*with* Rempulska, L.) The Voronovskaya theorem for some linear positive operators in exponential weight spaces. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 519–526. (A. Meir) **99a:41036** 41A36

Skoug, David (*with* Huffman, Timothy; Park, Chull) Convolution and Fourier-Feynman transforms. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 827–841. (Kun Soo Chang) **99c:28039** 28C20

— (*with* Park, Chull) Integration by parts formulas involving analytic Feynman integrals. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 1–11. (Summary) **99i:46031** 46G12 (28C20, 60J65)

— (*with* Park, Chull; Storvick, David) Fourier-Feynman transforms and the first variation. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 277–292. (Kun Soo Chang) **99d:28022** 28C20 (58D30)

Skoulakis, Spyros (*with* Thomas, Steven) Logarithmic conformal field theory solutions of two-dimensional magnetohydrodynamics. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 301–310. (Summary) **99i:76077** 76F99 (76W05, 81T40)

Skouras, Kostas (*with* Dawid, A. Philip) On efficient point prediction systems. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 765–780. (Bert M. Steece) **99k:62173** 62M10 (62F15)

— Absolute continuity of Markov chains. (English summary) *J. Statist. Plann. Inference* **75** (1998), *no.* 1, 1–8. (Summary) **99k:62147** 62M05

Škoviera, Martin (*with* Jendroľ, Stanislav; Nedela, Roman) Constructing regular maps and graphs from planar quotients. (English summary) *Math. Slovaca* **47** (1997), *no.* 2, 155–170. (Summary) **99h:05054** 05C25 (20F38, 57M15)

— (*with* Fu, Hung-Lin; Tsai, Ming-Chun) The maximum genus, matchings and the cycle space of a graph. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 329–339. (Arthur T. White) **99d:05023** 05C10 (05C38, 05C70)

Skowron, Andrzej (*with* Păun, Gheorghe; Polkowski, Lech T.) Parallel communicating grammar systems with negotiation. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 315–330. (Summary) **99c:68163** 68Q50

— (*with* Păun, Gheorghe; Polkowski, Lech T.) Rough set approximations of languages. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 149–162. (Summary) **99c:68157** 68Q45 (03D05)

— (*with* Bazan, Jan G.; Nguyen, Hung Son; Nguyen, Tuan Trung; Stepaniuk, Jarosław) Synthesis of decision rules for object classification. (English summary) *Incomplete information: rough set analysis*, 23–57, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T10 (04A72)

— (*with* Polkowski, Lech T.) Rough mereology and analytical morphology. (English summary) *Incomplete information: rough set analysis*, 399–437, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03B70 (04A72)

— (*with* Polkowski, Lech T.) Rough sets: a perspective. (English summary) *Rough sets in knowledge discovery*, 1, 31–56, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 04A72

— (*with* Nguyen, Sinh Hoa; Synak, Piotr) Discovery of data patterns with applications to decomposition and classification problems. *Rough sets in knowledge discovery*, 2, 55–97, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68Q25 (68P99, 68T99)

— (*with* Bartol, Wiktor; Orłowska, Ewa) Helena Rasiowa, 1917–1994. Reprinted from Modern Logic **5** (1995), no. 3, 231–247 [MR 96d:01029]. *Logic, algebra, and computer science* (*Warsaw*, 1996), 8–21, *Banach Center Publ.*, 46, *Polish Acad. Sci., Warsaw*, 1999. (*see* **99m:03004**) 01A70 (03-03)

— *see also* **Rough sets in knowledge discovery**, **99k:68188** *and* **99k:68189**

Skowroński, Andrzej (*with* Zwara, Grzegorz) Degenerations for indecomposable modules and tame algebras. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 2, 153–180. (Ibrahim Assem) **99k:16032** 16G20 (16G60, 16G70)

— (*with* Yamagata, Kunio) Stable equivalence of selfinjective algebras of tilted type. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 5, 341–350. (Héctor A. Merklen) **99g:16017** 16G10 (16G70)

— Tame quasi-tilted algebras. *J. Algebra* **203** (1998), *no.* 2, 470–490. (Dieter Happel) **99b:16019** 16G10

— (*with* Zwara, Grzegorz) Degenerations for modules over blocks of group algebras. (English summary) *Manuscripta Math.* **97** (1998), *no.* 2, 143–154. (William H. Gustafson) **99j:20016** 20C20 (16G60, 16S80)

— (*with* Lenzing, Helmut) On selfinjective algebras of Euclidean type. *Colloq. Math.* **79** (1999), *no.* 1, 71–76. (Steffen König) **99m:16038** 16P10 (16E20)

— On the structure of periodic modules over tame algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1941–1949. (Shi Ping Liu) **99j:16004** 16G10 (16G60, 16G70)

— (*with* Yamagata, Kunio) Galois coverings of selfinjective algebras by repetitive algebras. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 715–734. (Karin Erdmann) **99d:16008** 16D50 (16G10, 16G70)

Škrekovski, Riste (*with* Juvan, Martin; Mohar, Bojan) On list edge-colorings of subcubic graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 137–149. (Michael E. Raines) **99d:05034** 05C15

— (*with* Klavžar, Sandi; Mulder, Henry Martyn) An Euler-type formula for median graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 255–258. (Summary) **99a:05040** 05C12

— Choosability of K_5-minor-free graphs. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 223–226. (Summary) **99c:05072** 05C15

Skriganov, M. M. Ergodic theory on homogeneous spaces and the enumeration of lattice points in polyhedra. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 609–611. (Alexander Starkov) **99b:11113** 11P21 (22D40, 22E40)

— (*with* Nikishin, N. A.) On the distribution of algebraic numbers in parallelotopes. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 1, 68–87; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 53–68. (W. Narkiewicz) **99g:11120** 11P21 (11H06, 11R04)

Skripko, A. P. Moments of a modified k-th order periodogram. (Russian. English and Russian summaries) *Vestn. Belorussk. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 1, 63–65, 78. 62M15

Skripnik, I. V. (*with* Kostin, A. V.) On asymptotic expansions of o-solutions in the theory of quasilinear systems of difference equations. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 5, 672–677; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 747–754 (1998). (V. G. Kurbatov) **99e:39072** 39A12 (34E05)

Skripnik, V. I. On quantum systems of particles with singular magnetic interaction in one dimension. M-B statistics. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 248–256. (Summary) **99m:81296** 81V70

Skryabin, S. M. On the structure of the graded Lie algebra associated with a noncontractible filtration. *J. Algebra* **197** (1997), *no.* 1, 178–230. (Georgia M. Benkart) **99f:17022** 17B50

— Toral rank one simple Lie algebras of low characteristics. *J. Algebra* **200** (1998), *no.* 2, 650–700. (Rolf Farnsteiner) **99b:17020** 17B50

— (*with* Premet, Alexander) Representations of restricted Lie algebras and families of associative $\mathscr{L}$-algebras. (English summary) *J. Reine Angew. Math.* **507** (1999), 189–218. (Jean-Pierre Soublin) **99m:17026** 17B50

Skrypnik, A. N. Convergence of two functionals of asymptotically normal sums of independent random variables. (English summary) Stability problems for stochastic

models, Part II (Moscow, 1996). *J. Math. Sci. (New York)* **91** (1998), *no.* 3, 2990–3001. (Jongsig Bae) **99m:60037** 60F05 (60G50)

Skrypnik, Igor V. (*with* Nicolosi, Francesco) Nirenberg-Gagliardo interpolation inequality and regularity of solutions of nonlinear higher order equations. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 327–347. (Xi Ping Zhu) **99a:35071** 35J60 (35B65, 35J70, 46N20)

— (*with* Nicolosi, Francesco) Bounded solutions of higher-order degenerate quasilinear parabolic equations. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 17–21. (Si Ning Zheng) **99b:35108** 35K65 (35B35, 35K55)

— (*with* Dal Maso, Gianni) Capacity theory for monotone operators. (English summary) *Potential Anal.* **7** (1997), *no.* 4, 765–803. (Tero Kilpeläinen) **99c:31016** 31C15 (31C45, 35J60)

Skrypnik, W. I. *see* **Skripnik, V. I.**

Skrzipek, Michael-Ralf Polynomial evaluation and associated polynomials. (English summary) *Numer. Math.* **79** (1998), *no.* 4, 601–613. (Adam Marlewski) **99g:65025** 65D20 (42C10)

Skrzypczak, Leszek Spherical transform and Besov spaces on semisimple Lie groups. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 181–187. (Da Chun Yang) **99m:46085** 46E35 (22E30, 43A80)

— Mapping properties of pseudodifferential operators on manifolds with bounded geometry. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 721–738. (Luigi Rodino) **99j:58202** 58G15 (35S05, 47G30)

— The Triebel-Lizorkin scale of function spaces for the Fourier-Helgason transform. (English summary) *Math. Nachr.* **190** (1998), 251–274. (Lanzhe Liu) **99c:46030** 46E35 (43A85)

— Heat and harmonic extensions for function spaces of Hardy-Sobolev-Besov type on symmetric spaces and Lie groups. (English summary) *J. Approx. Theory* **96** (1999), *no.* 1, 149–170. (Da Chun Yang) **99m:46086** 46E35 (22E30, 43A15)

Skrzypczyk, J. (*with* Burczyński, T.) Theoretical and computational aspects of the stochastic boundary element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 321–344. (Summary) **99j:73105** 73V10 (73V30)

Skubachevskiĭ, A. L. (*with* Galakhov, E. I.) On contractive nonnegative semigroups with nonlocal conditions. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 45–78; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 43–74. (Vitali A. Liskevich) **99e:47045** 47D06 (35J99, 47F05)

— Bifurcation of periodic solutions for nonlinear parabolic functional-differential equations arising in optoelectronics. *Nonlinear Anal.* **32** (1998), *no.* 2, 261–278. (Wenxian Shen) **99b:35206** 35R10 (35B32, 35K55, 35P10, 78A60)

Skubalska-Rafajłowicz, Ewa (*with* Rafajłowicz, Ewaryst) Searching for optimal experimental designs using space-filling curves. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 647–656. 62K05

Skula, Ladislav Application of generalized inverses in linear models. *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřínek*, 1995), 143–145, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 62J05 (15A09)

— Involutions of matrices and generalized least squares solution. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřínek*, 1995), 147–151, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (Summary) **99b:15003** 15A09 (15A06)

Skupień, Z. (*with* Ivančo, Jaroslav; Meszka, M.) Decomposition of multigraphs into isomorphic graphs with two edges. (English summary) *Ars Combin.* **51** (1999), 105–112. (Summary) **99j:05154** 05C70

Skurikhina, Marina (*with* Raudys, Šarūnas) Small sample properties of ridge-estimate of the covariance matrix in statistical and neural net classification. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 237–245, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62H30

Skutella, Martin (*with* Schulz, Andreas S.) Scheduling-LPs bear probabilities: randomized approximations for min-sum criteria. (English summary) *Algorithms—ESA* '97 (*Graz*), 416–429, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 90B35 (68Q25)

— Approximation algorithms for the discrete time-cost tradeoff problem. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 909–929. (András Faragó) **99j:90040** 90B35 (68Q25, 90C35)

Skvortsov, D. P. Not every "tabular" predicate logic is finitely axiomatizable. (English summary) *Studia Logica* **59** (1997), *no.* 3, 387–396. (Jerzy Kotas) **99c:03039** 03B55

Skvortsov, L. M. The interpolation method for the automatic adjustment of controllers. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 6, 100–103. 93B50 (93B52)

Skvortsov, V. A. (*with* Humke, P. D.) Symmetric primitives and Lusin's condition $\mathcal{N}$. *Acta Math. Hungar.* **76** (1997), *no.* 4, 279–285. (From the introduction) **99f:26008** 26A24

— Approximate symmetric variation and Luzin's N-property. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 4, 155–166; *translation in Izv. Math.* **61** (1997), *no.* 4, 831–841. (Zygfryd Kominek) **99b:26020** 26B05

— (*with* Solodov, A. P.) On a generalization of the Denjoy integral. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 766–772; *translation in Math. Notes* **62** (1997), *no.* 5-6, 642–647 (1998). (Š. Schwabik) **99f:26015** 26A39

— Variations and variational measures in integration theory and some applications. Analysis, 10. *J. Math. Sci. (New York)* **91** (1998), *no.* 5, 3293–3322. (B. Bongiorno) **99k:26009** 26A39 (26A45)

— On the variational measure generated by the indefinite Lebesgue integral. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 14–16, 79; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 13–15. (Serguey A. Malyugin) **99e:26009** 26A39 (26A42, 28A50)

Skwarczyński, M. Haar measure according to Bredon. *Classical analysis* (*Kazimierz Dolny*, 1995), 133–147, *Wars. Agric. Univ. Press, Warsaw*, 1996. (Adolf R. Mirotin) **99b:28013** 28C10

Skyrms, Brian Carnapian inductive logic and Bayesian statistics. (English summary) *Statistics, probability and game theory*, 321–336, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (S. K. Chatterjee) **99c:62005** 62A15 (03B48)

Skyum, Sven (*with* Frandsen, Gudmund Skovbjerg; Miltersen, Peter Bro) Dynamic word problems. (English summary) *J. ACM* **44** (1997), *no.* 2, 257–271. (Itsuo Takanami) **99b:68094** 68Q25 (20M05, 68P05)

— (*with* Barrington, David A. Mix; Lu, Chi-Jen; Miltersen, Peter Bro) Searching constant width mazes captures the AC^0 hierarchy. (English summary) *STACS* 98 (*Paris*, 1998), 73–83, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68065** 68Q15

— *see also* **Automata, languages and programming**, **99m:68007**

Slaats, Noemie (*with* Van Heule, Dirk; Hoogewijs, Albert) The non-definedness notion in expert systems. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 53–62. (Summary) **99j:68140** 68T35 (03B50, 03B70)

Slack, Michael Infinite loop spaces with odd torsion-free homology. (English summary) *Topology* **37** (1998), *no.* 2, 329–338. (J. M. Boardman) **99b:55015** 55P47 (55S12, 55T20)

Slade, Gordon (*with* Derbez, Eric) The scaling limit of lattice trees in high dimensions. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 69–104. (E. J. Janse van Rensburg) **99b:60138** 60J65 (82B41)

— (*with* Hara, Takashi) The incipient infinite cluster in high-dimensional percolation. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 48–55 (*electronic*). (H. Kesten) **99j:60154** 60K35 (60G57, 82B43)

— (*with* van der Hofstad, R. W.; den Hollander, Frank) A new inductive approach to the lace expansion for self-avoiding walks. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 2, 253–286. (Neal Madras) **99j:82043** 82B41 (60J15, 60K35)

Slade, Margaret E. (*with* Pinkse, Joris) Contracting in space: an application of spatial statistics to discrete-choice models. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 125–154. (Summary) **99c:62290** 62P20 (62H11)

Sladek, Andrzej (*with* Wesołowski, Adam) Clifford-Littlewood-Eckmann groups as orthogonal groups of forms of higher degree. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 93–103. (Adrian R. Wadsworth) **99k:11059** 11E76

— (*with* Czogała, Alfred) Higher degree Hilbert symbol equivalence of algebraic number fields. II. (English summary) *J. Number Theory* **72** (1998), *no.* 2, 363–376. (K. Szymiczek) **99i:11100** 11R21 (11R20)

Sladek, J. (*with* Sladek, V.) Singular integrals and boundary elements. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 251–266. (Summary) **99d:65339** 65N38 (73V10)

— (*with* Sladek, V.; Le Van, A.) Completely regularized integral representations and integral equations for anisotropic bodies with initial strains. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 771–780. (Maurizio Vianello) **99j:73024** 73C02 (65R20, 73B40, 73C35, 73V20)

Sladek, V. (*with* Sladek, J.) Singular integrals and boundary elements. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 251–266. (Summary) **99d:65339** 65N38 (73V10)

— (*with* Sladek, J.; Le Van, A.) Completely regularized integral representations and integral equations for anisotropic bodies with initial strains. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 771–780. (Maurizio Vianello) **99j:73024** 73C02 (65R20, 73B40, 73C35, 73V20)

Śladkowska, J. Estimations of the second coefficient of a univalent, bounded, symmetric and non-vanishing function by means of Loewner's parametric method. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 119–123. (J. G. Krzyż) **99d:30020** 30C45

Sladký, Karel (*with* van Dijk, Nico M.) On uniformization for reducible nonnegative dynamic systems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 163–168, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B22

— On composite stability of time-varying discrete interval systems. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 15 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:93080** 93D09 (93A15)

— (*with* van Dijk, Nico M.) On discrete-form expressions for time-inhomogeneous cumulative reward structures. *Operations Research Proceedings* 1997 (*Jena*), 162–167, *Springer, Berlin*, 1998. (*see* **99d:90008**) 60J10 (60K25, 65U05)

Sladoje, Nataša (*with* Žunić, Joviša D.) A reconstruction of digital parabolas from their least squares fit representation. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 273–287. 65Y10 (68U10)

Slagter, R. On the causal structure of spinning Einstein-Yang-Mills-Higgs strings. (English summary) Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology, Part III (Beer Sheva, 1997). *Hadronic J.* **21** (1998), *no.* 3, 373–382. (*see* **99m:83003**) 83C20 (81T13)

Slaman, Theodore A. (*with* Soare, Robert I.) Algebraic aspects of the computably enumerable degrees. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **92** (1995), *no.* 2, 617–621. (Michael Stob) **99i:03048** 03D25 (03D30)

— (*with* Groszek, Marcia J.) Π^0_1 classes and minimal degrees. (English summary) Logic Colloquium '95 Haifa. *Ann. Pure Appl. Logic* **87** (1997), *no.* 2, 117–144. (C. G. Jockusch, Jr.) **99f:03058** 03D30 (03F35)

— (*with* Woodin, W. Hugh) Extending partial orders to dense linear orders. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 253–261. (Summary) **99f:06002** 06A05 (03D80, 03E15)

— (*with* Groszek, Marcia J.) A basis theorem for perfect sets. (English summary) *Bull. Symbolic Logic* **4** (1998), *no.* 2, 204–209. (Summary) **99c:03072** 03E45

— (*with* Arslanov, Marat M.; LaForte, Geoffrey L.) Relative enumerability in the difference hierarchy. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 411–420. (Wen Qi Huang) **99f:03057** 03D30

— (*with* Nies, André; Shore, Richard A.) Interpretability and definability in the recursively enumerable degrees. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 241–291. (C. G. Jockusch, Jr.) **99m:03083** 03D25 (03D30, 03D35)

— *see also* **Conference: Computability Theory**, **99b:03006**

Slamin (*with* Miller, Mirka; Ryan, Joseph; Smyth, William F.) Labelling wheels for minimum sum number. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 289–297. (Summary) **99j:05168** 05C78

— (*with* Miller, Mirka; Ryan, Joseph) Integral sum numbers of cocktail party graphs and symmetric complete bipartite graphs. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 23–28. (Summary) **99k:05143** 05C78

— (*with* Sutton, Martin; Miller, Mirka; Ryan, Joseph) Connected graphs which are not mod sum graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 287–293. (Summary) **99h:05104** 05C78 (05C40, 05C75)

Slaminka, Edward E. (*with* Baldwin, Stewart L.) Calculating topological entropy. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 5-6, 1017–1033. (Pere Mumbrú) **99a:58100** 58F11 (54H20, 58F03)

Slaney, John K. (*with* Meyer, Robert K.; Restall, Greg) Linear arithmetic desecsed. (English summary) *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 155-156, 379–387. (Christian Bennet) **99m:03041** 03B46 (03F30)

Šlapal, Josef Compactness in categories of $\mathscr{S}$-net spaces. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 349–357 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54D30 (18B30, 54A20, 54B30, 54D80)

— Compactness in categories of $\mathscr{S}$-net spaces. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 4, 515–525. (Summary) **99h:54037** 54D30 (18B30, 54A20, 54B30)

Slapničar, Ivan Componentwise analysis of direct factorization of real symmetric and Hermitian matrices. (English summary) *Linear Algebra Appl.* **272** (1998), 227–275. (J. Segethová) **99d:65134** 65F30 (15A23)

Slastikov, V. V. (*with* Vasil′kevich, S. I.) On the compactness of the solution set of the Navier-Stokes equation. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 17–20. (Summary) **99k:35146** 35Q30 (35B99, 76D05)

— (*with* Vasil′kevich, S. I.) On necessary conditions for the optimality of controls for multidimensional equations of hydrodynamics. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 1, 130–137, 156. (Summary) **99d:49044** 49K20 (76D05, 76M30)

Slater, Matthew J. (*with* Khoze, Valentin V.; Mattis, Michael P.) The instanton hunter's guide to supersymmetric SU(N) gauge theories. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 69–109. (Bernd J. Schroers) **99m:81254** 81T60 (14H45, 81T13)

Slater, Paul B. Bures metrics for certain high-dimensional quantum systems. (English summary) *Phys. Lett. A* **244** (1998), *no.* 1-3, 35–42. (Peter N. Zhevandrov) **99f:82010** 82B10 (81S99)

— Comparative noninformativities of quantum priors based on monotone metrics. (English summary) *Phys. Lett. A* **247** (1998), *no.* 1-2, 1–8. (Frank Antonsen) **99i:81025** 81P99

Slater, Peter J. An overview of graphical weighted-subset problems. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 44–47. (Summary) **99i:05118** 05C35

— (*with* Dunbar, Jean E.; Hattingh, Johannes H.; McRae, Alice A.) Efficient coverage of edge sets in graphs. (English summary) *Util. Math.* **51** (1997), 183–192. (László Pyber) **99b:05109** 05C70

— (*with* Henning, Michael A.) Closed neighborhood order dominating functions. (English summary) *Australas. J. Combin.* **17** (1998), 77–88. (Summary) **99a:05076** 05C35 (05C85)

— Dynamic domination in graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 183–188. (Summary) **99j:05116** 05C35

— (*with* Amin, Ashok T.; Clark, Lane H.) Parity dimension for graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 1–17. (Anthony E. Barkauskas) **99f:05057** 05C35

— (*with* Haynes, Teresa W.) Paired-domination in graphs. (English summary) *Networks* **32** (1998), *no.* 3, 199–206. (Summary) **99f:05062** 05C35 (05C70)

— (*with* Henning, Michael A.) Open packing in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 3–16. (Summary) **99j:05152** 05C70

Slattery, Seán (*with* Craven, Mark) Combining statistical and relational methods for learning in hypertext domains. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 38–52, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (*see* **99k:68010**) 68T05

Slavchev, Slavcho Georgiev (*with* Miladinova, S. P.) Weakly nonlinear Marangoni convection under an external magnetic field. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 5, 345–357. (Summary) **99a:76165** 76W05 (76E15, 76E25)

Slavík, Petr A tight analysis of the greedy algorithm for set cover. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 237–254. (Linda Pagli) **99a:68095** 68Q25 (68Q20, 68R10)

Slavnov, A. A. (*with* Frolov, Sergeĭ Anatol′evich; Sochichiu, Corneliu) SO(N)-invariant Wess-Zumino action and its quantization. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 270–291; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1407–1425 (1996). (George K. Savvidy) **99g:81133** 81T13 (81T10, 81T16)

— Path integral bosonization of fermion determinants. (English summary) *Path integrals: Dubna '96*, 42–50, *Joint Inst. Nuclear Res., Dubna*, 1996. (E. M. Santangelo) **99m:81146** 81T13 (81T16, 81T25, 81T80, 81V05)

— Fermions on a lattice. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 24–31, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T25

— Progress in studies of fermions on a lattice. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 581–585, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T25

Slavnov, Nikita Fredholm determinants and τ-functions. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 3, 357–371; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 3, 1523–1535 (1997). (J. S. Joel) **99b:58127** 58F07 (35Q58)

— (*with* Kojima, Takeo; Korepin, Vladimir E.) Determinant representation for dynamical correlation functions of the quantum nonlinear Schrödinger equation. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 657–689. (Mayumi Ohmiya) **99a:82058** 82C10 (35Q55)

— (*with* Kojima, Takeo; Korepin, Vladimir E.) Completely integrable equation for the quantum correlation function of nonlinear Schrödinger equation. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 709–728. (Konstantin G. Selivanov) **99a:81100** 81T10 (45K05, 58F07, 81U40)

— (*with* Korepin, Vladimir E.) The Riemann-Hilbert problem associated with the quantum nonlinear Schrödinger equation. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8241–8255. (Tuncay Aktosun) **99f:81041** 81Q05 (35Q55)

— (*with* Korepin, Vladimir E.) Normal ordering in the theory of correlation functions of exactly solvable models. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8623–8633. (M. Yu. Rasulova) **99j:82024** 82B23 (82C23)

— (*with* Korepin, Vladimir E.) Time and temperature dependent correlation functions of 1D models of quantum statistical mechanics. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 201–205. (Nicolae Angelescu) **99f:82009** 82B10

— On an identity for dual fields. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 270–281, 287. (Andrey V. Tsiganov) **99e:81105** 81R50 (82B23)

— (*with* Korepin, Vladimir E.) The new identity for the scattering matrix of exactly solvable models. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 555–557. (Tuncay Aktosun) **99j:82025** 82B23 (82B20)

— (*with* Korepin, Vladimir E.) The determinant representation for quantum correlation functions of the sinh-Gordon model. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9283–9295. (Summary) **99h:81130** 81T10

Slavov, Iordan The optimal value of singularly perturbed Mayer's problem is Hölderian. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 135–139, *Heron Press, Sofia*, 1998. (G. A. Kurina) **99j:49057** 49K40 (34H05, 93B03)

Slavova, Angela (*with* Panteleev, D.) Nonlinear singularly perturbed systems of differential equations and applications. (English summary) *Ital. J. Pure Appl. Math. No.* 1 (1997), 137–158 (1998). (Summary) **99i:34077** 34E15 (34C29, 34D15, 34E05)

— (*with* Popivanov, Petʼr R.) Blow up and singularities of the solutions of homogeneous quasilinear hyperbolic systems in the plane. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 379–384, *VSP, Utrecht*, 1998. (Summary) **99e:35132** 35L60 (35B05)

— Dynamic properties of cellular neural networks with nonlinear output function. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 587–590. (Summary) **99b:92006** 92B20

— Topological degree approach for studying nonlinear cellular neural networks. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 2, 267–278. (Summary) **99g:92008** 92B20 (34C23, 68Q80)

Slavtchev, S. G. *see* **Slavchev, Slavcho Georgiev**

Slavyanov, Sergei Yu. (*with* Seeger, Alfred; Lay, Wolfgang) Confluence of second-order Fuchsian differential equations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 233–247; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 950–960 (1996). (Andreĭ Bolibrukh) **99b:34012** 34A20

— (*with* Lay, Wolfgang) The central two-point connection problem for the Heun class of ODEs. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4249–4261. (Summary) **99a:34011** 34A20 (34E05)

— (*with* Lay, Wolfgang; Bay, K.) Asymptotic and numeric study of eigenvalues of the double confluent Heun equation. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8521–8531. (Summary) **99g:34020** 34A20 (34B05, 34E05, 65L15)

— Multipole moments for Coulomb and oscillator wavefunctions and the Heun equation. (English summary) *J. Phys. A* **32** (1999), *no.* 9, 1773–1778. (M. Znojil) **99m:81049** 81Q05 (34B24, 34B30)

Sławianowska, A. On cylindrical elastic-plastic shells with moderately large rotations. (English summary) *Engrg. Trans.* **46** (1998), *no.* 2, 165–187. 73K15 (73E99)

Sławianowski, Jan J. U(2, 2) symmetry as a common basis for quantum theory and geometrodynamics. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 411–420. (Summary) **99e:83047** 83E05 (81R05)

Sławiński, Andrzej On the comparative analysis of some criteria of stability of motion. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 783–799. (T. A. Burton) **99g:34107** 34D05 (70K20)

Šlechta, Jiří On a quantum-statistical theory of pair interaction between memory traces in the brain. (English summary) *Informatica* (*Ljubl.*) **17** (1993), *no.* 2, 109–115. 92J40 (82B99)

Sleeman, B. D. (*with* Levine, Howard A.) Systems of reaction diffusion equations modelling chemotaxis. *Ordinary and partial differential equations, Vol. V* (*Dundee*, 1996), 130–150, *Pitman Res. Notes Math. Ser.*, 370, *Longman, Harlow*, 1997. (Hal Leslie Smith) **99j:92028** 92D50 (35K57, 35Q80)

— (*with* Davidson, F. A.; Crawford, J. W.) Travelling waves in a reaction-diffusion system modelling fungal mycelia. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 3, 237–257. (Wolf-Jürgen Beyn) **99c:92011** 92C15 (34C37, 35K57, 35Q80)

— (*with* Davidson, F. A.; Rayner, A. D. M.; Crawford, J. W.; Ritz, K.) Travelling waves and pattern formation in a model for fungal development. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 589–608. (Joseph So) **99d:92024** 92D25 (35K57, 35Q80, 92C15)

— (*with* Zhao, Xiao-Qiang) Target patterns and spiral waves in reaction-diffusion systems with limit cycle kinetics and weak diffusion. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 4, 347–357. (Vitaly A. Volpert) **99j:35112** 35K57 (35Q80, 80A32, 92C15)

— (*with* Chen, Hua[1]) On a pair of non-isometric isospectral domains with fractal boundaries and the Weyl-Berry conjecture. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 9–20. (Robert Brooks) **99e:58198** 58G25 (35J99, 35P05, 58G99)

Sleeman, Candace K. (*with* Mode, Charles J.) A computer exploration of some properties of non-linear stochastic partnership models for sexually transmitted diseases with stages. (English summary) Epidemiology, cellular automata, and evolution (Sofia, 1997). *Math. Biosci.* **156** (1999), *no.* 1-2, 123–145. (*see* **99m:92001**) 92D30

Sleewaegen, Pierre A partition of the Euclidean plane $\mathbf{R}^2$ into k pairwise isometric connected subsets. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 4, 529–530. 51M04 (51M20, 54D05)

Sleijpen, Gerard L. G. (*with* Van der Vorst, Henk A.) Iterative Bi-CG type methods and implementation aspects. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 217–253, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (Zuhe Shen) **99f:65055** 65F10

— (*with* Van der Vorst, Henk A.; Meijerink, Ellen) Efficient expansion of subspaces in the Jacobi-Davidson method for standard and generalized eigenproblems. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 75–89 (*electronic*). (Summary) **99i:65040** 65F15

— (*with* Fokkema, Diederik R.; Van der Vorst, Henk A.) Jacobi-Davidson style QR and QZ algorithms for the reduction of matrix pencils. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 94–125 (*electronic*). (Summary) **99e:65061** 65F15

Slemrod, Marshall A discrete velocity model for metastable fluid flow. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 173–179, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:82073** 82C40 (35Q35, 76M35, 76P05)

— A renormalization method for the Chapman-Enskog expansion. (English summary) *Phys. D* **109** (1997), *no.* 3-4, 257–273. (Giuliana Lauro) **99a:82081** 82C40 (76P05)

— (*with* Artstein, Zvi) Phase separation of the slightly viscous Cahn-Hilliard equation in the singular perturbation limit. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 1147–1166. (Lumin Jiang) **99m:35017** 35B25 (35K60)

— Renormalization of the Chapman-Enskog expansion: isothermal fluid flow and Rosenau saturation. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 285–305. (Giuliana Lauro) **99j:76109** 76P05 (82C40)

Slepyan, L. I. (*with* Ayzenberg, M. V.) Localization of strain and the melting wave in high-speed penetration. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 129–140, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 73E99 (73D05)

— Energy release in fracture of rate-dependent materials. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 193–204, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 73M25

Sletsjøe, Arne B. (*with* Altmann, Klaus) André-Quillen cohomology of monoid algebras. (English summary) *J. Algebra* **210** (1998), *no.* 2, 708–718. (Cristodor Ionescu) **99k:13018** 13D03 (13D10, 14M25)

Sleumer, Nora Output-sensitive cell enumeration in hyperplane arrangements. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 300–309, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05

Slezák, Vladimír (*with* Machala, František) Incidence structures and closure spaces. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 149–156. (Giovanni Ferrero) **99f:06009** 06B05 (08A35, 51B05, 54A05)

Ślęzak, W. (*with* Kwiecińska, Grażyna) On complete measurability of multifunctions defined on product spaces. *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 293–305. (O. Lipovan) **99g:54011** 54C60 (26E25, 28B20)

Sliepčević, Ana Isogonale Transformation und Fokalkurve einer Kegelschnittschar. (English and Croatian summaries) [Isogonal transformation and focal curve of a range of conics] *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 157–166. (Summary) **99c:51032** 51N35

Slijepčević, Siniša A note on initial digits of recurrence sequences. *Fibonacci Quart.* **36** (1998), *no.* 4, 305–308. 11K31 (11B37)

— The pulled Frenkel-Kontorova chain. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 923–948. (Volker Matthias Gundlach) **99j:82054** 82C05 (58F40, 70K99)

Slimane, M. (*with* Venturini, Gilles; Rochet, S.) Schemata and deception in binary genetic algorithms: a tutorial. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 339–373. (*see* **99b:90008**) 90C27 (90–02, 90C30)

ben Slimane, Mourad *see* **Ben Slimane, Mourad**

naït Slimane, Y. *see* **Naït Slimane, Y.**

Slimani, Yahya (*with* Najjar, Faïza) Extension of the one-shot semijoin strategy to minimize data transmission cost in distributed query processing. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 1–21. (Summary) **99j:68026** 68P15

Slin'ko, M. G. (*with* Sheplev, V. S.; Bryksina, N. A.) An algorithm for computing Lyapunov quantities in the analysis of chemical self-induced oscillations. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 6, 789–792. 34C99 (92E20)

Slinn, Donald N. (*with* Riley, J. J.) A model for the simulation of turbulent boundary layers in an incompressible stratified flow. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 550–602. (Summary) **99e:76084** 76M20 (76D10, 76F99, 76V05)

Slipenko, A. K. (*with* Brodskiĭ, Ya. S.) Functional equations and groups: a formal introduction. *Quantum* **9** (1998), *no.* 2, 14–19. 39–01 (20A99, 39B52)

Slisenko, A. (*with* Grigor'ev, D. Yu.) Computation of a path with a minimal number of links in a given homotopy class between semi-algebraic obstacles in the plane. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 2, 124–147. (Ivan V. Arzhantsev) **99e:52018** 52B55 (14P10)

Slissenko, A. O. (*with* Grigor'ev, D. Yu.) Computing minimum-link path in a homotopy class amidst semi-algebraic obstacles in the plane. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 114–129, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (*see* **99b:94002**) 68U05 (68Q40)

— (*with* Girault-Beauquier, Danièle) Polytime model checking for timed probabilistic computation tree logic. (English summary) *Acta Inform.* **35** (1998), *no.* 8, 645–664. (Summary) **99f:68133** 68Q60

Slivnik, Tomaž, Jr. (*with* Hilton, A. J. W.; Stirling, D. S. G.) A vertex-splitting lemma, de Werra's theorem, and improper list colourings. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 91–103. (D. de Werra) **99a:05047** 05C15

Śliwa, C. (*with* Kijowski, Jerzy; Rudolph, Gerd) On the structure of the observable algebra for QED on the lattice. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 299–308. (Giovanni Morchio) **99e:81167** 81T25 (81R10, 81V10)

Sloan, D. M. (*with* McIntosh, J. G.; Leslie, F. M.) Stability for shearing flow of nematic liquid crystals. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 5, 293–308. (Paolo Biscari) **99m:76006** 76A15 (76E99)

— (*with* Qiu, Yiqi) Numerical solution of Fisher's equation using a moving mesh method. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 726–746. 65M55 (92D10)

— (*with* Mulholland, L. S.; Huang, Wei Zhang[1]) Pseudospectral solution of near-singular problems using numerical coordinate transformations based on adaptivity. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1261–1289 (*electronic*). (Summary) **99b:65155** 65N35 (76D30, 76M25)

— (*with* Qiu, Yiqi) Analysis of difference approximations to a singularly perturbed two-point boundary value problem on an adaptively generated grid. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 1–25. (Bernhard A. Schmitt) **99m:65147** 65L50 (65L10)

Sloan, Ian H. (*with* Wang, Song; Kelly, D. W.) Pointwise a posteriori upper error bounds for derivatives of a Neumann problem. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 771–778, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N15

— Interpolation and hyperinterpolation on the sphere. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 255–268, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Summary) **99c:41041** 41A30 (41A63)

— (*with* Novak, Erich; Woźniakowski, Henryk) Tractability of tensor product linear operators. (English summary) *J. Complexity* **13** (1997), *no.* 4, 387–418. (Arthur G. Werschulz) **99c:65257** 65Y20 (46M05, 47A80, 47N40, 65J10, 68Q25)

— (*with* Atkinson, Kendall E.) Semi-discrete Galerkin approximations for the single-layer equation on Lipschitz curves. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 3, 279–292. (Jose Cuminato) **99c:65250** 65R20 (45L05)

— (*with* Grigorieff, R. D.) Galerkin approximation with quadrature for the screen problem in $\mathbf{R}^3$. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 4, 293–319. (Jose Cuminato) **99e:65183** 65R20 (45L05)

— (*with* Middleton, Jason) V. T. Buchwald [1929–1998]—an obituary. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 224–225. 01A70

— (*with* Grigorieff, R. D.) Stability of discrete orthogonal projections for continuous splines. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 307–332. (Charles K. Chui) **99f:41010** 41A15 (42C05)

— (*with* Woźniakowski, Henryk) When are quasi-Monte Carlo algorithms efficient for high-dimensional integrals? (English summary) *J. Complexity* **14** (1998), *no.* 1, 1–33. (Stefan Heinrich) **99d:65384** 65Y20 (65C05)

— (*with* Tran, Thanh) Tolerant qualocation—a qualocation method for boundary integral equations with reduced regularity requirement. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 1, 85–115. (Carsten Carstensen) **99f:65179** 65N30 (45L05, 65R20)

— (*with* Ainsworth, Mark; Grigorieff, R. D.) Semi-discrete Galerkin approximation of the single layer equation by general splines. (English summary) *Numer. Math.* **79** (1998), *no.* 2, 157–174. (Juhani Pitkäranta) **99d:65308** 65N30 (65R20)

— (*with* Wendland, Wolfgang L.) Qualocation methods for elliptic boundary integral equations. (English summary) *Numer. Math.* **79** (1998), *no.* 3, 451–483. (Reinhard Scholz) **99k:65112** 65N35 (65R20)

— (*with* Woźniakowski, Henryk) Multiple integrals in many dimensions. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 507–516, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (J. Spanier) **99k:65025** 65D30 (65C05)

— (*with* Wendland, Wolfgang L.) Commutator properties for periodic splines. (English summary) *J. Approx. Theory* **97** (1999), *no.* 2, 254–281. (Tord H. Ganelius) **99m:41017** 41A15 (41A35)

Sloane, Neil J. A. The sphere packing problem. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 387–396 (*electronic*). (Salvatore Vassallo) **99j:52023** 52C17 (11H31)

— (*with* Edel, Yves; Rains, Eric M.) On kissing numbers in dimensions 32 to 128. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 22, 5 *pp.* (*electronic*). (Summary) **99c:94064** 94B75

— (*with* Brouwer, Andries E.; Hämäläinen, Heikki O.; Östergård, Patric R. J.) Bounds on mixed binary/ternary codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 140–161. (Summary) **99b:94057** 94B65

— (*with* Calderbank, A. Robert; Rains, Eric M.; Shor, Peter W.) Quantum error correction via codes over GF(4). (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1369–1387. (Dennis Dieks) **99m:94063** 94B60

— (*with* Shor, Peter W.) A family of optimal packings in Grassmannian manifolds. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 2, 157–163. (Simon N. Litsyn) **99b:52047** 52C17 (11H31, 94B75)

— (*with* Conway, John H.) A note on optimal unimodular lattices. (English summary) *J. Number Theory* **72** (1998), *no.* 2, 357–362. (Renaud Coulangeon) **99k:11104** 11H31 (11H06)

— (*with* Rains, Eric M.) The shadow theory of modular and unimodular lattices. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 359–389. (Gabriele Nebe) **99i:11053** 11H31 (11H50, 11H56)

— (*with* Rains, Eric M.) On Cayley's enumeration of alkanes (or 4-valent trees). (English summary) *J. Integer Seq.* **2** (1999), 1 *HTML document* (*electronic*). (Summary) **99j:05010** 05A15 (92E10)

Slobodenyuk, V. A. Convergence of the Schwinger-DeWitt expansion for some potentials. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 563–569. (Summary) **99f:81137** 81T20

— Potentials with convergent Schwinger-DeWitt expansion. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1753–1771. (Summary) **99d:81039** 81Q20

— (*with* Uchaikin, V. V.) The fractal nature of the asymptotic solution of an integral equation with stable (in Lévy's sense) kernel. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci.* (*New York*) **89** (1998), *no.* 5, 1570–1575. (Summary) **99k:82058** 82C31 (60E07)

Slobodová, Anna On the composition problem for OBDDs with multiple variable orders. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 645–655, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q99 (68M07, 94C10)

Slobodskoĭ, G. V. (*with* Latyshev, Anatoliĭ Vasil'evich; Yushkanov, A. A.) A boundary value problem for the kinetic equation in a layer with mirror boundary conditions. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 6, 32–40; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 6, 842–849 (1998). (Alexander Orlov) **99e:82081** 82C40 (45K05, 76P05)

Slobozhanin, N. M. Control in conflict discrete processes with information lag. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 189–195, 255–256, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 90D10 (90D50)

Slodička, Marián Finite elements in modeling of flow in porous media: how to describe wells. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 197–214. (Zhangxin Chen) **99j:76076** 76M10 (65M60, 76S05, 86A05)

— (*with* Gerke, Horst H.; Hornung, Ulrich; Kelanemer, Youcef; Schumacher, Stephan) ★ Optimal control of soil venting: mathematical modeling and applications. (English summary) International Series of Numerical Mathematics, 127. *Birkhäuser Verlag, Basel*, 1999. *xvi*+152 *pp. ISBN* 3-7643-6041-0 (Publisher's description) **99m:49061** 49N55 (76S05, 86A99, 93C95)

Slodkowski, Zbigniew Polynomially convex hulls in $\mathbf{C}^3$ with totally real fibers. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 4, 321–330. (Summary) **99g:32024** 32E20

Slodowy, Peter Two notes on a finiteness problem in the representation theory of finite groups. With an appendix by G.-Martin Cram. *Algebraic groups and Lie groups*, 331–348, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Burkhard Külshammer) **99e:20020** 20C99 (20G99)

— (*with* Cassens, Heiko) On Kleinian singularities and quivers. *Singularities* (*Oberwolfach*, 1996), 263–288, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (A. Sinan Sertöz) **99k:14003** 14B05 (14E15)

Słomczyński, Wojciech Subadditive ergodic theorems in $C(X)$. (English summary) *Ital. J. Pure Appl. Math. No.* 1 (1997), 17–28 (1998). (Wojciech Bartoszek) **99m:47008** 47A35 (28D05)

— (*with* Życzkowski, Karol) The Monge distance between quantum states. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9095–9104. (Laurence Nedelec) **99k:81168** 81S99

— (*with* Zastawniak, Tomasz) How long was the coast of Atlantis? *Math. Intelligencer* **21** (1999), *no.* 1, 38–41. 00A69 (01A99)

Słomiński, Leszek (*with* Rozkosz, Andrzej) On stability and existence of solutions of SDEs with reflection at the boundary. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 2, 285–302. (Anatoliy A. Levakov) **99c:60120** 60H10

Slomp, Carol G. (*with* Swaters, Gordon E.) Finite-amplitude perturbations and modulational instability of a stable geostrophic front. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 149–172. (Summary) **99j:76044** 76E20 (86A10)

Slonim, Donna K. (*with* Blum, Avrim L.; Chalasani, Prasad; Goldman, Sally A.) Learning with unreliable boundary queries. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 209–222. (Sanjay Jain) **99e:68135** 68T05 (68Q99)

Słonimski, Chaim Selig *see* **Zielnica, Krzysztof, 99c:01027**

Slon'ovs'kiĭ, R. V. (*with* Stolyarchuk, R. R.) Stable multistep methods of numerical integration of rigid systems of differential equations. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2450–2453. (Summary) **99e:65106** 65L05

Sloot, P. M. A. (*with* Kandhai, D.; Koponen, A.; Hoekstra, Alfons; Kataja, M.; Timonen, Jussi) Implementation aspects of 3D lattice-BGK: boundaries, accuracy, and a new fast relaxation method. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 482–501. (Summary) **99m:76093** 76M25

Slopianka, Britta (*with* Hausmann, Barbara; Seidel, Hans-Peter) Exploring plane hyperbolic geometry. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 21–36, *Springer, Berlin*, 1997. (*see* **99g:68212**) 51M10

Sloss, B. G. (*with* Blyth, W. F.) A variational method using Walsh functions. *Nonlinear Anal.* **32** (1998), *no.* 4, 549–561. (Ian Gladwell) **99c:65216** 65N30 (42C10, 65K10)

Sloss, J. M. (*with* Bruch, J. C., Jr.; Sadek, Ibrahim S.; Adali, Sarp) Maximum principle for optimal boundary control of vibrating structures with applications to beams. (English summary) *Dynam. Control* **8** (1998), *no.* 4, 355–375. (L. P. Lebedev) **99k:49055** 49K20 (73K12, 73K50, 93D15)

— (*with* Sadek, Ibrahim S.; Adali, Sarp; Bruch, J. C., Jr.) A maximum principle for optimal control using spatially distributed pointwise controllers. (English summary) *J. Vib. Control* **4** (1998), *no.* 4, 445–462. (Vadim Komkov) **99d:49043** 49K20 (73K50)

Sloth, Birgitte (*with* Groes, Ebbe; Jacobsen, Hans Jørgen; Tranæs, Torben) Nash equilibrium with lower probabilities. (English summary) *Theory and Decision* **44** (1998), *no.* 1, 37–66. (Peter Borm) **99f:90195** 90D10

Slotine, Jean-Jacques E. (*with* Lohmiller, Winfried) On contraction analysis for non-linear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 683–696. (Summary) **99e:93034** 93C10 (93B60, 93D15)

Slottje, Daniel J. (*with* Ryu, Hang K.) ★ Measuring trends in U. S. income inequality. Theory and applications. Lecture Notes in Economics and Mathematical Systems, 459. *Springer-Verlag, Berlin*, 1998. *xii*+195 *pp. ISBN* 3-540-64229-3 (From the foreword) **99g:62156** 62P20 (62-02)

Slovák, Jan *see* **Proceedings: School "Geometry and Physics", 99g:00047**

Slowik, Edward Cartesianism and the kinematics of mechanisms: or, how to find fixed reference frames in a Cartesian space-time. *Noûs* **32** (1998), *no.* 3, 364–385. 03B30

Słowikowski, W. (*with* Nielsen, Erik Bjerrum; Jensen, Ole Rask) On exponentials of quadratic expressions of field operators in connection with representation of infinite-dimensional Lie groups and algebras. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 273–275. (Władysław Adam Majewski) **99g:81106** 81S05 (46N50)

Słowiński, Roman Interactive fuzzy multiobjective programming. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 202–212, *Springer, Berlin*, 1997. (Summary) **99d:90106** 90C29 (90C27)

— Fuzzy multi-objective linear programming. (English summary) Fuzzy sets and applications. *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 1-2, 83–98. (*see* **99a:90004**) 90C70 (90C08, 90C29)

— (*with* Rommelfanger, Heinrich) Fuzzy linear programming with single or multiple objective functions. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 179–213, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C70 (04A72, 90C05, 90C29)

— (*with* Greco, Salvatore; Matarazzo, Benedetto) Rough approximation of a preference relation in a pairwise comparison table. (English summary) *Rough sets in knowledge discovery*, 2, 13–36, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 90C70 (90A05)

— (*with* Krawiec, Krzysztof; Vanderpooten, Daniel) Learning decision rules from similarity based rough approximations. (English summary) *Rough sets in knowledge discovery*, 2, 37–54, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68T05

— (*with* Greco, Salvatore; Matarazzo, Benedetto; Tsoukiàs, Alexis) Exploitation of a rough approximation of the outranking relation in multicriteria choice and ranking. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 45–60, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90A05)

— (*with* Mousseau, V.) Inferring an ELECTRE TRI model from assignment examples. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 157–174. (*see* **99a:90011**) 90C27 (90C29)

— *see also* **Fuzzy sets in decision analysis, operations research and statistics, 99h:90001**

Slud, Eric (*with* Kong, Fan Hui[1]) Robust covariate-adjusted logrank tests. (English summary) *Biometrika* **84** (1997), *no.* 4, 847–862. (Jan Beirlant) **99i:62106** 62G10

— Testing for imperfect debugging in software reliability. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 555–572. (Tapan K. Nayak) **99d:62012** 62F03 (62F05, 62N05)

Sluijter, F. W. (*with* Fehmers, G. C.; Kamp, L. P. J.) An algorithm for quadratic optimization with one quadratic constraint and bounds on the variables. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 893–901. 90C20 (65K05)

van der Sluis, O. (*with* Vosbeek, P. H. J.; Schreurs, P. J. G.; Meijer, H. E. H.) Homogenization of heterogeneous polymers. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 21, 3193–3214. (Summary) **99m:73004** 73B27

Slungård, Inger Heidi (*with* Happel, Dieter) One-point extensions of hereditary algebras. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 285–291, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Steffen König) **99i:16023** 16G10 (16E70, 16G60)

Slupinski, M. J. Dual pairs in $\mathrm{Pin}(p, q)$ and Howe correspondences for the spin representation. (English summary) *J. Algebra* **202** (1998), *no.* 2, 512–540. (Gordan Savin) **99c:20065** 20G20

Slusallek, Philipp (*with* Seidel, Hans-Peter; Stamminger, Marc) Global illumination computations with hierarchical finite element methods. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 445–460, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65D17

Ślusarek, M. (*with* Kaczyński, Tomasz; Mrozek, Marian) Homology computation by reduction of chain complexes. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 59–70. (Michael Joswig) **99a:18001** 18-04 (18G35, 55-04, 55U15)

Slutskiĭ, V. P. An iterative method for increasing the accuracy of an approximating polynomial. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 3, 17–21, 98. 65D15

Slutzki, Giora *see* **Grammatical inference, 99h:68006**

Sluys, L. J. Computational modelling of localisation and fracture. (English summary) *Localization and fracture phenomena in inelastic solids* (*Udine*, 1997), 243–299, *CISM Courses and Lectures*, 386, *Springer, Vienna*, 1998. (Summary) **99h:73090** 73V20 (73E60, 73M25)

— (*with* Ganghoffer, J. F.; de Borst, R.) A reappraisal of nonlocal mechanics. (English summary) *Eur. J. Mech. A Solids* **18** (1999), *no.* 1, 17–46. (Summary) **99j:73057** 73E99 (73B99)

Slyusarchuk, V. E. Some conditions for the convergence of numerical series. (Ukrainian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 163–176, "*Vishcha Shkola*", *Kiev*, 1993. (*see* **99a:00015**) 40A05

— New conditions for the convergence of improper integrals and numerical series. (Ukrainian) *Mathematics today* '94, *No.* 9 (*Ukrainian*), 96–110, "*Vishcha Shkola*", *Kiev*, 1995. (Ilya V. Boikov) **99d:65077** 65D30 (40A10)

— A general theorem on the convergence of numerical series. (Russian) *Mathematics today* '95, *No.* 10 (*Russian*), 43–54, *Nauchn. Izdat.* "*TViMS*", *Kiev*, 1995. (T. Šalát) **99i:40002** 40A05

— Problems. (Russian) *Mathematics today* '95, *No.* 10 (*Russian*), 67–69, *Nauchn. Izdat.* "*TViMS*", *Kiev*, 1995. (*see* **99a:00017**) 01A07

— A property of absolutely converging numerical series. (Russian) *Mathematics today* '97, *No.* 11 (*Russian*), 28–42, *Nauchn. Izdat.* "*TViMS*", *Kiev*, 1997. (From the text) **99h:40008** 40F05 (40H05, 46-01, 47-01)

— A counterexample to a conjecture on a smooth mapping. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 135–136; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 408–409. (J. S. Joel) **99g:58015** 58C30 (47H15, 58C15)

Smagin, V. V. Estimates in strong norms for the error of the projection-difference method for the approximate solution of an abstract parabolic equation. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 898–909; *translation in Math. Notes* **62** (1997), *no.* 5-6, 752–761 (1998). (G. W. Hedstrom) **99e:65099** 65J15 (65M60)

Smailagic, A. (*with* Spallucci, E.) Consistent two-dimensional chiral gravity. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 21, 3695–3722. (Summary) **99e:81228** 81T40

Smaill, Alan (*with* Armando, Alessandro; Gallagher, Jason; Bundy, Alan) Automating the synthesis of decision procedures in a constructive metatheory. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 259–279. (Summary) **99e:03013** 03B35 (03B05, 68T15)

— (*with* Madden, Peter; Bundy, Alan) Recursive program optimization through inductive synthesis proof transformation. (English summary) *J. Automat. Reason.* **22** (1999), *no.* 1, 65–115. (Summary) **99j:68124** 68T15 (68N99)

Smailov, E. S. On coefficients of multiple Fourier series in periodic multiplicative Price systems. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 620–624; *translation in Math. Notes* **60** (1996), *no.* 3-4, 466–469 (1997). (W. R. Wade) **99c:42052** 42C10

— On the absolute convergence of multiple series consisting of Fourier-Price coefficients. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 66–78. (Sergei F. Lukomskiĭ) **99g:42037** 42C10 (40A05)

— On the effect of the geometric properties of the spectrum of a polynomial on S. M. Nikol'skiĭ inequalities of different metrics. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1157–1163, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 1000–1006. (Wiesław Pleśniak) **99j:41025** 41A17 (26D05)

Smajdor, Andrzej Increasing iteration semigroups of Jensen set-valued functions. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 131–142. (B. Crstici) **99g:39024** 39B12 (26E25, 39B52)

Smajdor, Wilhelmina Convex differentiable set-valued functions. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 153–164. (Kazimierz Nikodem) **99h:26020** 26B25 (26E25, 54C60, 58C06)

Smale, Stephen (*with* Shub, Michael) On the average cost of solving polynomial equations. *Geometric dynamics* (*Rio de Janeiro*, 1981), 719–724, *Lecture Notes in Math.*, 1007, *Springer, Berlin*, 1983. (*see* **84m:58003**) 58C15 (68Q25)

— Complexity theory and numerical analysis. *Acta numerica*, 1997, 523–551, *Acta Numer.*, 6, *Cambridge Univ. Press, Cambridge*, 1997. (Klaus Meer) **99d:65385** 65Y20 (68Q15, 68Q25)

— A survey of some recent developments in differential topology [MR **26** #1896]. *Fields Medallists' lectures*, 142–155, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 57Rxx

— (*with* Blum, Lenore; Cucker, Felipe; Shub, Michael) ★ Complexity and real computation. (English summary) With a foreword by Richard M. Karp. *Springer-Verlag, New York*, 1998. xvi+453 *pp. ISBN* 0-387-98281-7 (Klaus Meer) **99a:68070** 68Q15 (03D15, 13P99, 14P99, 65Y20, 68–02)

— The work of Curtis T. McMullen. Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 127–132 (*electronic*). (Athanase Papadopoulos) **99k:58001** 58–02 (01A70, 30C10, 58F15, 58F23)

— Mathematical problems for the next century. *Math. Intelligencer* **20** (1998), *no.* 2, 7–15. (Editors) **99h:01033** 01A67 (00A05)

— The work of [Fields medalist] Curtis T. McMullen. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 3, 48–51. 58F23 (01A70, 30–03)

— (*with* Cucker, Felipe; Koiran, Pascal) A polynomial time algorithm for Diophantine equations in one variable. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 1, 21–29. (Maurice Mignotte) **99i:11121** 11Y50 (11Y16, 68Q40)

— *see also* **Thom, Réné**, (**99b:00010**) *and* **Bibliography: Smale, Stephen**, (**99b:00010**)

Smalĭ, V. F. A Galilei-invariant generalization of the Shiff equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 473–474, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 78A25

Small, Lance (*with* Rowen, Louis H.) Primitive ideals of algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3853–3857. (Ronald S. Irving) **99e:16026** 16N60 (16D25, 16P60)

Smalø, Sverre O. (*with* Zimmermann-Huisgen, Birge) Co- versus contravariant finiteness of categories of representations. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 129–144, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Peter Dräxler) **99k:16027** 16G10 (16E10, 18G20)

— (*with* Venås, Stig) Lengths of endomorphism rings of finitely generated indecomposable modules over Artin algebras. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 3, 182–186. (Sheila Brenner) **99a:16013** 16G60 (16D70, 16D90)

— (*with* Dräxler, Peter; Reiten, Idun; Solberg, Øyvind) Exact categories and vector space categories. (English summary) With an appendix by B. Keller. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 647–682. (Hagen Meltzer) **99f:16001** 16B50 (16G20, 16G70, 18E10)

— *see also* **Algebras and modules**, **99e:16001** *and* **99e:16002**

van der Sman, R. G. M. (*with* Ernst, M. H.) Diffusion lattice Boltzmann scheme on a orthorhombic lattice. (English summary) *J. Statist. Phys.* **94** (1999), *no.* 1-2, 203–217. (Summary) **99k:82070** 82C70 (76M25, 82–08)

Smaoui, Nejib (*with* Kostelich, Eric J.) Using chaos to shadow the quadratic map for all time. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 117–129. (Summary) **99j:65096** 65H17

Smarandache, Florentin ★ Neutrosophy. (English summary) Neutrosophic probability, set, and logic. Analytic synthesis & synthetic analysis. *American Research Press, Rehoboth, NM*, 1998. 104 *pp. ISBN* 1-879585-63-4 03A05

— ★ Asupra unor noi funcţii în teoria numerelor. (Moldavian) [On some new functions in number theory] *Universitatea de Stat din Moldova, Chişinău*, 1999. 97 *pp.* 11A25

Šmarda, Zdeněk On solutions of an implicit singular system of integro-differential equations depending on a parameter. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 125–130. (George Karakostas) **99d:45009** 45J05 (45G05)

Smart, M. K. (*with* Kalkhoran, I. M.; Wang, Frank Young) Supersonic vortex breakdown during vortex/cylinder interaction. (English summary) *J. Fluid Mech.* **369** (1998), 351–380. (Summary) **99f:76080** 76J20 (76C05, 76L05)

Smart, Nigel P. (*with* Siksek, S.) On the complexity of computing the 2-Selmer group of an elliptic curve. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 251–257. (Kenneth Kramer) **99b:11061** 11G05 (11Y16)

— Thue and Thue-Mahler equations over rings of integers. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 455–462. (Nikos Tzanakis) **99d:11031** 11D61 (11Y50)

— (*with* Woodcock, Christopher F.) *p*-adic chaos and random number generation. (English summary) *Experiment. Math.* **7** (1998), *no.* 4, 333–342. (Franco Vivaldi) **99k:11123** 11K45 (11S80, 58F13)

— (*with* Siksek, S.) A fast Diffie-Hellman protocol in genus 2. (English summary) *J. Cryptology* **12** (1999), *no.* 1, 67–73. 94A60 (14G15)

— Elliptic curve cryptosystems over small fields of odd characteristic. (English summary) *J. Cryptology* **12** (1999), *no.* 2, 141–151. (Summary) **99m:94037** 94A60

Smatov, K. S. (*with* Dzhenaliev, M. T.; Kasymbekova, A. S.) The problem of the control of coefficients with loaded summands for a parabolic equation. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 26–32. 49J20 (35K10, 49K20)

de Smedt, Stany *see* **De Smedt, Stany**

Smeets, Bernard J. M. (*with* Kabatyanskiĭ, G. A.; Kruk, E. A.) A digital signature scheme based on random error-correcting codes. (English summary) *Cryptography and coding* (*Cirencester*, 1997), 161–167, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (Summary) **99h:94047** 94A60 (94B05)

— (*with* van Dijk, Marten; Gehrmann, Christian) Unconditionally secure group authentication. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 281–296. (Andrea Sgarro) **99k:94032** 94A60 (94B05)

— (*with* Shtar'kov, Yu. M.; Johansson, Thomas) On message and key equivocation in secrecy systems. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 117–127; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 197–206. (Summary) **99h:94055** 94A60

Smereka, Peter Synchronization and relaxation for a class of globally coupled Hamiltonian systems. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 104–125. (Peter Ashwin) **99m:34081** 34C15 (34E05, 70H05, 70K20, 76X05)

Smerlas, Alex (*with* Postlethwaite, Ian; Walker, Daniel J.) H_∞ in flight. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 353–364, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93C95)

Smet, A. (*with* Reyes Sanchez, M. V.; Verschoren, Alain) Involutive invariants of a Krull domain and Amitsur cohomology. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 239–256, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (F. DeMeyer) **99e:13002** 13A20 (13D03, 16H05)

de Smet, P. J. *see* **De Smet, P. J.**

Smetanin, Yu. G. Neural networks as systems for recognizing patterns. Computing mathematics and cybernetics, 2. *J. Math. Sci.* (*New York*) **89** (1998), *no.* 4, 1406–1457. (Reiner Lenz) **99g:68177** 68T05

Smetankina, Natalia V. (*with* Shupikov, Alexander N.; Sheludko, Hely A.) Selection of optimal parameters of multilayer plates at nonstationary loading. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 553–564. 73K40 (73K10)

Smets, P. (*with* Benferhat, Salem; Saffiotti, A.) Belief functions and default reasoning. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 19–26, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T27 (03B70)

— (*with* Benferhat, Salem; Dubois, Didier; Lang, Jérôme; Prade, Henri; Saffiotti, A.) Reasoning under inconsistency based on implicitly-specified partial qualitative probability relations: a unified framework. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 121–126, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B70)

Smid, Michiel H. M. (*with* Das, Gautam; Kapoor, Sanjiv) On the complexity of approximating Euclidean traveling salesman tours and minimum spanning trees. (English summary) *Algorithmica* **19** (1997), *no.* 4, 447–460. (P. F. Körner) **99b:90099** 90C27 (90C60)

— (*with* Golin, Mordecai J.; Raman, Rajeev; Schwarz, Christian) Randomized data structures for the dynamic closest-pair problem. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1036–1072 (*electronic*). (Hans-Dietrich Hecker) **99e:68159** 68U05

— (*with* Gupta, Prosenjit; Janardan, Ravi) Efficient algorithms for counting and reporting pairwise intersections between convex polygons. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 7–13. (Summary) **99i:68121** 68U05 (68P05)

— (*with* Janardan, Ravi) On the width and roundness of a set of points in the plane. (English summary) *Internat. J. Comput. Geom. Appl.* **9** (1999), *no.* 1, 97–108. (Summary) **99j:65261** 65Y25 (52C15)

Smida, A. (*with* Hachemane, M.; Hamici, A.-H.) Geometro-differential conception of extended particles and the semigroup of trajectories in Minkowski space-time. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1367–1381. (Michael B. Mensky) **99j:81092** 81S40

Šmídek, M. (*with* Holický, P.; Zajíček, Luděk) Convex functions with non-Borel set of Gâteaux differentiability points. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 469–482. (Javier Gómez Gil) **99k:46073** 46G05 (46B26)

Smidts, C. (*with* Tombuyses, B.; DeLuca, P. R.) Backward Monte Carlo for probabilistic dynamics. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 493–505. (*see* **99d:65008**) 90B35 (65C05)

Smidts, O. F. (*with* Devooght, J.) A non-analog Monte Carlo simulation of transport of radionuclides in a porous medium. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 461–472. (*see* **99d:65008**) 76S05 (65C05, 76M35)

— Point and surface estimations by a non-analog Monte Carlo simulation for the transport of radionuclide chains in porous media. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 4, 289–318. (Summary) **99k:76140** 76S05 (65C05, 76M35, 86–08)

Smilansky, Uzy Quantum chaos and random matrix theory—some new results. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 153–162. (Jens Marklof) **99c:81048** 81Q50

— (*with* Primack, Harel) On the accuracy of the semiclassical trace formula. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6253–6277. (Summary) **99c:81043** 81Q20

Smiley, M. W. A principle of reduced stability for reaction-diffusion equations. (English summary) *J. Differential Equations* **142** (1998), *no.* 2, 277–290. (Alan V. Lair) **99a:35136** 35K57 (35B35, 47H15, 58E07)

Smilga, A. V. (*with* Veselov, A. I.) Domain walls zoo in supersymmetric QCD. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 163–183. (Summary) **99a:81195** 81V05 (81T60)

— (*with* Veselov, A. I.) BPS and non-BPS domain walls in supersymmetric QCD with SU(3) gauge group. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 303–309. (Summary) **99c:81269** 81V05

— (*with* Keurentjes, A.; Roslyĭ, A. A.) Isolated vacua in supersymmetric Yang-Mills theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 081701, 4 *pp.* (Summary) **99k:81313** 81T60 (81T13)

— 6 + 1 vacua in supersymmetric QCD with the G_2 gauge group. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105014, 8 *pp.* 81V05 (81T60)

Smillie, John Complex dynamics in several variables. With notes by Gregery T. Buzzard. *Flavors of geometry*, 117–150, *Math. Sci. Res. Inst. Publ.*, 31, *Cambridge Univ. Press, Cambridge*, 1997. (Dan Coman) **99b:32043** 32H50 (31C10, 32F05, 32F07)

Smilyanskiĭ, V. R. Transition matrices for fundamental systems of solutions of the Jordan-Pochhammer equation. II. (Russian) *Algebra and mathematical analysis* (*Russian*), 80–91, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 34E20 (34A20)

— ★ Центральная и боковая задачи связи для обыкновенных линейных дифференциальных уравнений с иррегулярной особой точкой. (Russian. Russian summary) [Central and lateral connection problems for ordinary linear differential equations with an irregular singular point] *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. 318 *pp. ISBN* 5-230-13589-1 (Alexander Tovbis) **99k:34007** 34A20

Smirichinskii, V. I. (*with* Gyngazov, L. N.; Pawlowski, M.; Pervushin, V. N.) Proper time dynamics in general relativity and conformal unified theory. (English summary) *Gen.*

Relativity Gravitation **30** (1998), *no.* 12, 1749–1773. (Alexander N. Petrov) **99j:83010** 83C05 (83C22, 83D05)

— (*with* Pervushin, V. N.) Conformal symmetry and Higgs effect in quantum cosmology. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 119–131. 83C45 (83F05)

— (*with* Papoyan, V. V.; Pervushin, V. N.) Conformal quantum cosmology: integrable models and Friedmann observables. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1908–1913. (Summary) **99i:83043** 83C45

— (*with* Pawlowski, M.; Papoyan, V. V.; Pervushin, V. N.) Conformal unification of general relativity and standard model. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 293–298. (Summary) **99m:81287** 81V22 (81V17, 83C99)

— (*with* Pervushin, V. N.) Conformal symmetry and cosmological vacuum in unified theories. *Phys. Atomic Nuclei* **62** (1999), *no.* 1, 157–159; *translated from Yadernaya Fiz.* **62** (1999), *no.* 1, 163–165 (*Russian*). (Summary) **99j:81204** 81V17 (81V15, 83F05)

Smirnov, A. I. (*with* Mazurov, Vl. D.) Duality in pattern recognition and in expert systems. (Russian. Russian summary) *Pattern recognition. Classification. Prediction* (*Russian*), 80–98, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68T10 (68T35)

Smirnov, A. O. 3-elliptic solutions of the sine-Gordon equation. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 440–450; *translation in Math. Notes* **62** (1997), *no.* 3-4, 368–376 (1998). (Eugen Belokolos) **99b:14031** 14H55 (14K20, 35Q53, 58F07)

Smirnov, A. V. (*with* Novodvorskiĭ, A. E.) A shell for generic interactive proof search. (English summary) *J. Appl. Non-Classical Logics* **8** (1998), *no.* 1-2, 123–140. 68T15 (03B35)

Smirnov, F. A. (*with* Babelon, O.; Bernard, Denis) Form factors, KdV and deformed hyperelliptic curves. (English summary) *R.C.P. 25, Vol.* **48**, 69–85, *Prépubl. Inst. Rech. Math. Av.*, 1997/42, *Univ. Louis Pasteur, Strasbourg*, 1997. (Iskander A. Taimanov) **99k:58081** 58F07 (14H45, 81T10)

— (*with* Babelon, O.; Bernard, Denis) Form factors, KdV and deformed hyperelliptic curves. (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 21–33. (Gregorio Falqui) **99c:81217** 81T40 (14H40, 58F07, 81R10)

Smĭrnov, G. S. (*with* Smirnov, Roman G.) Best uniform restricted ranges approximation of complex-valued functions. (English and French summaries) *C. R. Math. Rep. Acad. Sci. Canada* **19** (1997), *no.* 2, 58–63. (A. Kroó) **99d:41046** 41A50 (41A52)

Smirnov, Mikhail M. Radon transforms, symplectic geometry and inverse problem of geometric calculus of variations. (English summary) *Differential equations, asymptotic analysis, and mathematical physics* (*Potsdam*, 1996), 369–383, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Summary) **99e:53111** 53C65 (44A12, 49Q20, 52A22, 58E99)

— Cocycles on the gauge group and the algebra of Chern-Simons classes. (English summary) *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 245–254, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Esther Pérez) **99a:58010** 58B25 (17B70, 57R19, 58D29)

Smirnov, O. I. (*with* Ivanov, V. I.) Jackson constants in the space $l_2(Z_2^n)$. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 183–210. (Ion Badea) **99j:41022** 41A17

Smirnov, Roman G. On a construction leading to Magri-Morosi-Gel′fand-Dorfman's bi-Hamiltonian systems. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 359–365, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Robert Brouzet) **99c:58082** 58F07 (58F05, 70H05)

— (*with* Smĭrnov, G. S.) Best uniform restricted ranges approximation of complex-valued functions. (English and French summaries) *C. R. Math. Rep. Acad. Sci. Canada* **19** (1997), *no.* 2, 58–63. (A. Kroó) **99d:41046** 41A50 (41A52)

— Integrability of the Hénon-Heiles system. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 71–74. (Summary) **99b:58128** 58F07 (58F05, 70H05)

Smirnov, S. A. Modeling of quantum systems with control. I. Systems analysis of physical constraints. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 277–284, 301. 93A30 (81S99, 93C20)

— Modeling of quantum systems with control. II. Mathematical aspects of the problem. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 19–25, 153. 93A30 (81S99, 93C20)

Smirnov, S. K. (*with* Khavin, Viktor Petrovich) Approximation and extension problems for some classes of vector fields. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 3, 133–162. (Andrew Bucki) **99f:41046** 41A65 (49Q15, 58A10)

Smirnov, T. I. (*with* Rakhimberdiev, M. I.) On the properties of linear extensions of shifts on a torus that are close to ergodic. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 47–57. (András Krámli) **99h:58111** 58F11 (28D10)

Smirnov, V. A. *see* **Smirnov, Vladimir Aleksandrovich**[4]

Smirnov, V. A.[2] Description of the homology of groups and algebras. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 3, 203–212; *translation in Izv. Math.* **61** (1997), *no.* 3, 663–671. (J. Jirásko) **99g:16014** 16E40 (18G35, 55U15)

— E_∞-structures on homotopy groups. (Russian) *Mat. Zametki* **61** (1997), *no.* 1, 152–156; *translation in Math. Notes* **61** (1997), *no.* 1-2, 127–130. (Donald W. Kahn) **99f:55017** 55P42 (55Q10)

— Computation of the E_∞-structure on the Milnor coalgebra. (Russian) *Mat. Zametki* **62** (1997), *no.* 3, 479–480; *translation in Math. Notes* **62** (1997), *no.* 3-4, 399–401 (1998). (Donald W. Kahn) **99f:55018** 55P42 (55S10, 55S12)

— Lie algebras over operads and their application to homotopy theory. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 3, 121–154; *translation in Izv. Math.* **62** (1998), *no.* 3, 549–580. (Teimuraz Pirashvili) **99h:55020** 55Q35 (17B99, 18D99, 55U15)

Smirnov, Vladimir Aleksandrovich[4] Free logics and quite free logics. (Russian summary) *Logical investigations, No.* 4 (*Russian*), 102–106, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03B10

— *see also* **Logical investigations**, **99m:03005**; **Dolgova, T. P.**, (**99m:03005**) *and* **Anisov, A. M.**, (**99m:03005**)

Smirnov, Yu. F. Projection operators for Lie algebras, superalgebras, and quantum algebras. (English summary) *Latin-American School of Physics XXX ELAF* (*México City*, 1995), 99–116, *AIP Conf. Proc.*, 365, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (A. J. Coleman) **99b:17016** 17B37 (81R50)

— (*with* Kharitonov, Yu. I.) Quantum algebra $U_q(3)$: recent results. *Symmetries in science, X* (*Bregenz*, 1997), 365–382, *Plenum, New York*, 1998. (A. J. Coleman) **99m:81100** 81R50 (17B37, 33D80)

— (*with* del Sol Mesa, A.; Quesne, C.) Generalized Morse potential: symmetry and satellite potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 321–335. (Summary) **99a:81204** 81V55 (81R05)

— (*with* Moshinsky, Marcos; Nikitin, Anatolii; Sharma, Anju) Supermultiplets and relativistic problems. II. The Bhabha equation of arbitrary spin and its properties. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6045–6055. (Violeta V. Tretynyk) **99g:81038** 81Q05 (81R20)

— (*with* Sharma, Anju; Moshinsky, Marcos) Supermultiplets and relativistic problems. III. The non-relativistic limit for a particle of arbitrary spin in an external field. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 10017–10028. (Violeta V. Tretynyk) **99k:81058** 81Q05 (81R20)

— (*with* Asherova, R. M.; Draayer, J. P.; Kharitonov, Yu. I.) Extension of the Draayer-Akiyama procedure for the $u_q(3)$ algebra. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1816–1820. (Summary) **99i:81088** 81R50

— (*with* Moshinsky, Marcos; Nikitin, Anatolii; Sharma, Anju) Analysis of relativistic particles of arbitrary spin through different chains of groups. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fis.* **44** (1998), *suppl.* 2, 1–10. (Summary) **99m:81078** 81R05

— (*with* Sharma, Anju; Nikitin, Anatolii) Mass and spin content of a free relativistic particle of arbitrary spin and the group reduction $\mathrm{Sp}(4) \supset \mathrm{U}(1) \otimes \mathrm{SU}(2)$. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fis.* **44** (1998), *suppl.* 2, 23–25. (Summary) **99i:81074** 81R20 (81R05)

Smirnov, Yu. G. (*with* Ivakhnenko, V. I.; Tyrtyshnikov, E. E.) The electric field integral equation: theory and algorithms. *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 251–262, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Marius Mitrea) **99h:78020** 78A45 (45L05, 65N30, 65R20, 78–08)

Smirnov, Yu. S. (*with* Kholmurodov, Kh. T.; Puzynin, I. V.) On one computational scheme solving the nonstationary Schrödinger equation with polynomial nonlinearity. *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 190–192, *Springer, Berlin*, 1997. (*see* **99g:00039**) 65N06

Smirnova, A. V. (*with* Babeshko, V. A.; Buzhan, V. V.; Natal′chenko, A. V.) On the problem of computing the strength of welded structures. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 2, 12–16, 101. 73K99

— (*with* Pryakhina, O. D.; Tukodova, O. M.) The method of fictitious absorption in dynamic problems of electro-elasticity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 834–839; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 771–776 (1999). 73R05 (73D99)

Smirnova, E. D. I. Kant and D. Hilbert's finitistic viewpoint. (Russian. English summary) *Logical investigations, No.* 4 (*Russian*), 304–309, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03A05 (01A60, 03–03)

— *see also* **Logical investigations**, **99m:03005**

Smirnova, G. S. (*with* Bashmakova, I. G.) The birth of literal algebra. Translated from the Russian and edited by Abe Shenitzer. *Amer. Math. Monthly* **106** (1999), *no.* 1, 57–66. (Editors) **99m:01003** 01A20 (01A35)

Smirnov-Rueda, R. (*with* Chubykalo, A. E.) Action at a distance and self-consistency of classical electrodynamics. *The enigmatic photon, Vol.* 4, 261–304, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78A25

— (*with* Chubykalo, A. E.; Múnera, H. A.) Is the free electromagnetic field a consequence of Maxwell's equations or a postulate? (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 6, 573–584. (T. Erber) **99k:78008** 78A25

Smirnovskiĭ, I. R. On the structure of a shock wave in a dispersing plasma. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 3, 14–21. (Summary) **99f:76138** 76X05 (76L05)

de Smit, Bart (*with* Lenstra, Hendrik W., Jr.) Explicit construction of universal deformation rings. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 313–326, *Springer, New York*, 1997. (*see* **99k:11004**) 11F80

— (*with* Rubin, Karl; Schoof, René) Criteria for complete intersections. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 343–356, *Springer, New York*, 1997. (*see* **99k:11004**) 11F25 (13C40)

Smit, D.-J. (*with* ten Kroode, A. P. E.; Verdel, A. R.) A microlocal analysis of migration. (English summary) *Wave Motion* **28** (1998), *no.* 2, 149–172. (Nassar H. S. Haidar) **99j:73046** 73D50 (35A27, 35R30, 86A15)

Smit, Jacobus Hendrik (*with* Jeltsch, Rolf; Renaut, Rosemary) An accuracy barrier for stable three-time-level difference schemes for hyperbolic equations. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 445–484. (Claude Carasso) **99m:65160** 65M06

Smítal, Jaroslav (*with* Kahlig, Peter) On a parametric functional equation of Dhombres type. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 63–68. (Jianguo Si) **99j:39019** 39B22 (26A18)

— (*with* Forti, Gian Luigi; Paganoni, Luigi) Dynamics of homeomorphisms on minimal sets generated by triangular mappings. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 1–20. (Henk P. Bruin) **99m:54029** 54H20 (58F08, 58F12)

— *see also* **Iteration theory (ECIT 94)**, **99h:58001**

Smith, Adrian F. M. (*with* Foreman, Lindsey A.; Evett, Ian W.) Bayesian analysis of DNA profiling data in forensic identification applications. (English summary) With discussion and a reply by the authors. *J. Roy. Statist. Soc. Ser. A* **160** (1997), *no.* 3, 429–469. (Hans-Peter Herzel) **99c:92030** 92D20 (92B05)

— (*with* Laud, Purushottam W.; Damien, Paul) Bayesian nonparametric and covariate analysis of failure time data. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 213–225, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99e:62028** 62F15 (65G99)

— (*with* Denison, David G. T.; Mallick, Bani K.) A Bayesian CART algorithm. (English summary) *Biometrika* **85** (1998), *no.* 2, 363–377. 62H30

— (*with* Blyth, Stephen) Bayesian meta-analysis of frequentist *P*-values. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2707–2724. 62F15

— (*with* Gutiérrez-Peña, E.) Aspects of smoothing and model inadequacy in generalized regression. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 273–286. (Summary) **99d:62071** 62J12 (62F15)

— (*with* Efstathiou, M.; Gutiérrez-Peña, E.) Laplace approximations for natural exponential families with cuts. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 77–92. (Célestin C. Kokonendji) **99b:62017** 62E17

— (*with* Lynn, Nicholas; Singpurwalla, Nozer D.) Bayesian assessment of network reliability. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 202–227 (*electronic*). (Summary) **99a:68022** 68M15 (68M10, 90B25)

— *see also* **Girón González-Torre, Fco. Javier, 99k:62058**

Smith, Anthony A., Jr. (*with* MacKinnon, James G.) Approximate bias correction in econometrics. (English summary) *J. Econometrics* **85** (1998), *no.* 2, 205–230. (Summary) **99b:62164** 62P20

Smith, Barbara M. (*with* Proll, Les) Integer linear programming and constraint programming approaches to a template design problem. (English summary) Connections between integer programming and constraint logic programming. *INFORMS J. Comput.* **10** (1998), *no.* 3, 265–275. (*see* **99e:90002**) 90C10 (90C90)

Smith, Barry F. (*with* Christara, Christina C.) Multigrid and multilevel methods for quadratic spline collocation. (English summary) *BIT* **37** (1997), *no.* 4, 781–803. (Bernard Bialecki) **99b:65163** 65N55

Smith, Barton L. (*with* Glezer, Ari) The formation and evolution of synthetic jets. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2281–2297. 76D25 (76F10)

Smith, Bradley J. (*with* Heileman, Gregory L.; Abdallah, Chaouki T.) The exponential hash function. (English summary) *ACM J. Exp. Algorithmics* **2** (1997), *approx.* 18 *pp.* (*electronic*). 68P10 (68P25)

beresford-Smith, Bryan *see* **Beresford-Smith, Bryan**

Smith, C. Ray *see* **Maximum entropy and Bayesian methods, 99k:62005**

Smith, Carl H. (*with* Apsītis, Kalvis; Arikawa, Setsuo; Freivalds, Rūsiņš; Hirowatari, Eiju) Recursive inference of real functions. I. Strict inference. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 199–204. (*see* **99i:65003**) 03D20 (03D80)

— (*with* Apsītis, Kalvis; Arikawa, Setsuo; Freivalds, Rūsiņš; Hirowatari, Eiju) Recursive inference of real functions. II. Approximate inference. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 205–210. (*see* **99i:65003**) 03D20 (03D80)

— (*with* Fortnow, Lance; Freivalds, Rūsiņš; Gasarch, William I.; Kummer, Martin Walter; Kurtz, Stuart A.; Stephan, Frank) On the relative sizes of learnable sets. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 139–156. (Philip Ross Watson) **99c:68210** 68T05 (03D25, 03D80, 68Q99)

— *see also* **Algorithmic learning theory, 99m:68005**

Smith, Cassandra L. (*with* Sano, Takeshi[2]; Broude, Natalia E.; Cantor, Charles R.) Parallel strategies for DNA manipulation and analysis. (English summary) *Mathematical support for molecular biology*, 199–212, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92023** 92D20

Smith, Christopher (*with* Hendrickson, Bruce; Jessup, Elizabeth) Toward an efficient parallel eigensolver for dense symmetric matrices. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1132–1154 (*electronic*). (Jian-Ping Zhu) **99k:65033** 65F15 (65Y05)

Smith, D. H. *see* **Smith, David H.**

Smith, David Alexander Renewal in collegiate mathematics education. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 777–786 (*electronic*). (Summary) **99e:00009** 00A35

Smith, David Eugene[1] *see* **Donoghue, Eileen F., 99i:01032**

Smith, David H. (*with* Roberts, A. J.) Branching behavior of standing waves—the signatures of resonance. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1051–1064. (Summary) **99m:76024** 76B15

murray-Smith, David J. *see* **Murray-Smith, David J.**

Smith, Derek Howard (*with* Allen, S. M.; Hurley, Steve) Lower bounding techniques for frequency assignment. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 41–52. (Summary) **99i:90105** 90C35 (05C90, 90C27)

— *see also* **Conference: Combinatorial, 99h:00023**

Smith, Dirk (*with* Benton, Robert E., Jr.) Static output feedback stabilization with prescribed degree of stability. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1493–1496. (Summary) **99e:93060** 93D15

Smith, Donald Ray ★ Variational methods in optimization. (English summary) Reprint of the 1974 original. *Dover Publications, Inc., Mineola, NY*, 1998. *xviii+378 pp. ISBN* 0-486-40455-2 (Editors) **99g:49001** 49–01

— (*with* Kimmel, Hans E.) Liquid hammer for the de-energized radial inflow turbine generator. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 2, 157–168. (Summary) **99e:76015** 76B99 (34C99)

Smith, Douglas D. (*with* McLaurin, Sandra C.; Berman, David R.) Fairness in whist tournaments. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 189–198. (Summary) **99k:05048** 05B30

Smith, Douglas J. (*with* Karch, Andreas; Lüst, Dieter) Equivalence of geometric engineering and Hanany-Witten via fractional branes. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 348–372. (Angel Maria Uranga) **99i:81191** 81T30 (81T60)

Smith, E. M. B. (*with* Pantelides, C. C.) Symbolic methods for global optimisation. *Symbolic methods in control system analysis and design*, 321–338, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 90C30 (65K05)

Smith, Eric Carnot's theorem as Noether's theorem for thermoacoustic engines. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 2818–2832. (Summary) **99d:80003** 80A20 (80A10)

Smith, Frank T. (*with* Li, Linzhong; Walker, J. D. A.; Bowles, R. I.) Short-scale break-up in unsteady interactive layers: local development of normal pressure gradients and vortex wind-up. (English summary) *J. Fluid Mech.* **374** (1998), 335–378. (Murad Brutyan) **99k:76047** 76D10 (76F99, 76M25)

— (*with* Degani, A. T.; Walker, J. D. A.) Unsteady separation past moving surfaces. (English summary) *J. Fluid Mech.* **375** (1998), 1–38. (Summary) **99h:76028** 76D15 (76M25)

— (*with* Dodia, B. T.; Bowles, R. G. A.) On effects of increasing amplitude in a boundary-layer spot. (English summary) *Mathematika* **45** (1998), *no.* 1, 1–24. (Summary) **99f:76046** 76D10 (76E99)

— (*with* Elliott, J. W.) The effect of smooth deceleration of the external stream on an aligned flat-plate boundary layer. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 339–381. (Summary) **99c:76034** 76D10 (76E99)

— (*with* Walton, Andrew G.) Flow past a two- or three-dimensional steep-edged roughness. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 31–69. (James P. Denier) **99e:76037** 76D15 (76D10)

Smith, G. C. *see* **Smith, Geoff C.**

Smith, G. F. (*with* Bao, Gang[2]) Isotropic invariants of traceless symmetric tensors of orders three and four. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 15, 1457–1462. (Maurizio Vianello) **99a:73004** 73B05 (15A72)

Smith, Geoff C. On monoids with a single defining relator. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 209–213. (P. G. Trotter) **99b:20092** 20M05

— ★ Introductory mathematics: algebra and analysis. (English summary) Springer Undergraduate Mathematics Series. *Springer-Verlag London, Ltd., London*, 1998. xiv+215 *pp. ISBN* 3-540-76178-0 (Editors) **99g:00002** 00–01

— (*with* Tabachnikova, O. M.) Fresh orderings of groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2523–2528. (N. Ya. Medvedev) **99m:20092** 20F60

Smith, George E. Newton's study of fluid mechanics. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1377–1390. (Summary) **99j:01009** 01A45 (76–03)

Smith, Glenn S. (*with* Maloney, James G.) Modeling of antennas. *Advances in computational electrodynamics*, 409–460, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Jin Yun Yuan) **99e:78035** 78A50 (78–08)

Smith, Gregory L. (*with* Miamee, A. G.) A two-dimensional power spectral study for some nonstationary processes. (English summary) *Current topics in nonstationary analysis* (*San Diego, CA*, 1995), 75–95, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99h:60079** 60G12

Smith, H. *see* **Smith, Howard**

Smith, H. L. Complicated dynamics for low-dimensional strongly monotone maps. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1911–1914. (Mark J. Friedman) **99a:58059** 58F03 (47H20, 58F08, 58F12)

— Planar competitive and cooperative difference equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 335–357. (Summary) **99a:39032** 39A10 (92D25)

— (*with* Dung, Le; Waltman, Paul) Growth in the unstirred chemostat with different diffusion rates. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 131–142, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:92024** 92D25 (35Q80)

— (*with* Waltman, Paul) Perturbation of a globally stable steady state. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 447–453. (H. I. Freedman) **99c:58102** 58F12 (47H99, 92D25)

Smith, H. V. Global error bounds for product cubature rules. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 3, 413–417. 65D32

Smith, Harry (*with* Draper, Norman R.) ★ Applied regression analysis. (English summary) Third edition. With 1 IBM-PC floppy disk (3.5 inch; DD). Wiley Series in Probability and Statistics: Texts and References Section. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xx+706 pp. ISBN* 0-471-17082-8 (Publisher's description) **99c:62001** 62–01 (62J05)

Smith, Hart F. A parametrix construction for wave equations with $C^{1,1}$ coefficients. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 3, 797–835. (Peter R. Popivanov) **99h:35119** 35L15 (35S30)

— Wave equations with low regularity coefficients. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 723–730 (*electronic*). (Summary) **99e:35126** 35L05 (35R05, 35S05, 58G16)

— (*with* Oberlin, Daniel M.; Sogge, Christopher D.) Averages over curves with torsion. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 535–539. (Walter Trebels) **99j:42021** 42B20 (42B25)

Smith, Howard (*with* Lennox, John C.; Wiegold, James) Finite *p*-groups in which subgroups have large cores. *Infinite groups* 1994 (*Ravello*), 163–169, *de Gruyter, Berlin*, 1996. (Czesław Bagiński) **99a:20018** 20D15

— (*with* Cutolo, Giovanni; Lennox, John C.; Rinauro, Silvana; Wiegold, James) On infinite core-finite groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 169–175. (O. Yu. Dashkova) **99g:20062** 20F14

— (*with* Kurdachenko, Leonid A.) Groups with the weak minimal condition for non-subnormal subgroups. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 299–312. (Silvana Franciosi) **99e:20044** 20F22 (20F16)

— (*with* Wiegold, James) Groups isomorphic to their non-nilpotent subgroups. *Glasgow Math. J.* **40** (1998), *no.* 2, 257–262. (Patrizia Longobardi) **99h:20068** 20F99 (20E07)

— (*with* Khukhro, E. I.) Locally finite groups with all subgroups normal-by-(finite rank). (English summary) *J. Algebra* **200** (1998), *no.* 2, 701–717. (Martyn R. Dixon) **99b:20063** 20F50

— (*with* Longobardi, Patrizia; Maj, Mercede) Locally nilpotent groups with all subgroups normal-by-(finite rank). (English summary) *J. Group Theory* **1** (1998), *no.* 3, 291–299. (H. Heineken) **99e:20038** 20E25 (20F19)

— (*with* Dixon, Martyn R.; Evans, Martin J.) Locally soluble-by-finite groups with all proper non-nilpotent subgroups of finite rank. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 1, 33–43. (Pavel Shumyatsky) **99k:20058** 20E25 (20F18)

byatt-Smith, J. G. B. *see* **Byatt-Smith, J. G. B.**

Smith, J. MacGregor Steiner minimal trees in E^3: theory, algorithms, and applications. *Handbook of combinatorial optimization, Vol. 2*, 397–470, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C35 (90–02, 90C27)

— (*with* Li, Wu-Ji) Star, grid, ring topologies in facility location & network design. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 219–246, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:90057** 90B22 (60K25, 68M20, 90B80)

Smith, Jason A. (*with* Bosch, Robert A.) Separating hyperplanes and the authorship of the disputed Federalist Papers. *Amer. Math. Monthly* **105** (1998), *no.* 7, 601–608. (A. Göpfert) **99f:90185** 90C90 (01A99)

Smith, Jeffrey Andrew (*with* Heckman, James; Ichimura, Hidehiko; Todd, Petra) Characterizing selection bias using experimental data. (English summary) *Econometrica* **66** (1998), *no.* 5, 1017–1098. (Summary) **99d:62098** 62P20 (62G05)

Smith, Jeffrey H. (*with* Hopkins, Michael J.) Nilpotence and stable homotopy theory. II. *Ann. of Math.* (2) **148** (1998), *no.* 1, 1–49. (David A. Blanc) **99h:55009** 55P42 (55N20, 55Q10)

Smith, John H. Factoring, into edge transpositions of a tree, permutations fixing a terminal vertex. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 92–95. (Summary) **99h:05095** 05C70

Smith, Jonathan D. H. Demography and the canonical ensemble. (English summary) *Math. Biosci.* **153** (1998), *no.* 2, 151–161. 92D25

Smith, Karen E. Vanishing, singularities and effective bounds via prime characteristic local algebra. *Algebraic geometry—Santa Cruz* 1995, 289–325, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Ian M. Aberbach) **99a:14026** 14F17 (13A35, 13D45, 14B05)

— (*with* Glassbrenner, Donna) Sparse systems of parameters for determinantal varieties. *Adv. in Appl. Math.* **19** (1997), *no.* 4, 529–558. (Miriam Pisonero) **99b:13019** 13C40 (14M12)

Smith, Kate A. Neural networks for combinatorial optimization: a review of more than a decade of research. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 15–34. 90–02 (90C27, 90C35)

Smith, Ken W. (*with* Mackenzie-Fleming, Kirsten) An infinite family of non-embeddable quasi-residual designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 77–83. (Summary) **99i:05031** 05B05

Smith, Kirby C. (*with* van Wyk, Leon) On finite abelian centraliser near-rings and their associated matrix rings. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 175–192. (Silvia Pellegrini) **99i:16082** 16Y30 (16S50)

— (*with* van Wyk, Leon) Generalized blocked triangular matrix rings associated with finite abelian centralizer near-rings. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 177–195. (Summary) **99a:16024** 16S50 (16Y30)

— (*with* van Wyk, Leon) Solution of the $\mathcal{J}_2$-radical problem in structural matrix near-rings. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 137–145. (G. Betsch) **99g:16060** 16Y30 (16N20)

Smith, L. Douglas (*with* Burns, Richard N.; Narasimhan, Rangarajan) A set-processing algorithm for scheduling staff on 4-day or 3-day work weeks. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 8, 839–853. (Summary) **99g:90055** 90B35 (90C90)

Smith, Larry (*with* Neusel, Mara D.) Polynomial invariants of groups associated to configurations of hyperplanes over finite fields. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 87–105. (Haruhisa Nakajima) **99c:13009** 13A50 (20G40, 52B30)

— (*with* Neusel, Mara D.) The Lasker-Noether theorem for $\mathcal{P}^*$-invariant ideals. (English summary) *Forum Math.* **10** (1998), *no.* 1, 1–18. (P. S. Landweber) **99c:13007** 13A35 (13A02, 55S05)

— Homological codimension of modular rings of invariants and the Koszul complex. (English summary) *J. Math. Kyoto Univ.* **38** (1998), *no.* 4, 727–747. (Dmitri I. Panyushev) **99m:13011** 13A50 (13D25)

— The ring of invariants of $O(3, \mathbf{F}_q)$. (English summary) *Finite Fields Appl.* **5** (1999), *no.* 1, 96–101. (Frank D. Grosshans) **99m:13012** 13A50 (15A72, 20G40)

Smith, Leonard A. (*with* Moroz, Irene M.; Hide, Raymond) Synchronized chaos in coupled double disk homopolar dynamos. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2125–2133. (Summary) **99m:76126** 76W05 (34C99, 58F13, 58F40, 78A55)

— (*with* Ziehmann, Christine; Kurths, Jürgen) The bootstrap and Lyapunov exponents in deterministic chaos. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 49–59. (Summary) **99j:58145** 58F13

Smith, Leslie M. (*with* Woodruff, Stephen L.) Renormalization-group analysis of turbulence. (English summary) *Annual review of fluid mechanics, Vol.* 30, 275–310, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (Summary) **99b:76045** 76F99 (76M35, 82C28)

— (*with* Waleffe, Fabian) Transfer of energy to two-dimensional large scales in forced, rotating three-dimensional turbulence. (English summary) *Phys. Fluids* **11** (1999), *no.* 6, 1608–1622. 76F99 (76M25, 76U05)

Smith, Lloyd M. (*with* Liu, Qinghua; Guo, Zhen[2]; Fei, Zhengdong; Condon, Anne E.; Corn, Robert M.; Lagally, Max G.) A surface-based approach to DNA computation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 123–132, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (92D20)

Smith, Lones (*with* Moscarini, Giuseppe; Ottaviani, Marco) Social learning in a changing world. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 657–665. (Summary) **99e:92040** 92H10 (92K10)

Smith, Malcolm *see* **Smith, Malcolm James**

Smith, Malcolm C. (*with* Lee, Richard C. H.) Robustness and trade-offs in repetitive control. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 889–896. 93B35 (93C40)

Smith, Malcolm James (*with* Proskurowski, Andrzej; Ruskey, Frank) Analysis of algorithms for listing equivalence classes of k-ary strings. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 94–109 (*electronic*). (Peter B. Gibbons) **99b:68100** 68Q25 (05A15, 05C30, 68R05, 68R15)

Smith, Mark A. (*with* Hu, Zhibao; Moors, Warren B.) On a Banach space without a weak mid-point locally uniformly rotund norm. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 193–196. (Stephen J. Dilworth) **99a:46015** 46B03 (46B20)

Smith, Michael Stanley (*with* Kohn, Robert Jacob) Nonparametric estimation of irregular functions with independent or autocorrelated errors. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 157–179, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (*see* **99a:62004**) 62G05

Smith, Patrick F. (*with* Albu, Toma; Lenagan, T. H.) Ascending chains of submodules in modules having Krull dimension. *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 567–581. (J. C. Robson) **99i:16044** 16P60

— Nonsingular extending modules. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 305–311, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Syed Tariq Rizvi) **99d:16002** 16D10

— (*with* Galvão, M. Luísa) Chain conditions in modular lattices. *Colloq. Math.* **76** (1998), *no.* 1, 85–98. (Mária Tomková-Csontoová) **99k:06006** 06C05 (06E20)

— (*with* Doğruöz, Semra) Modules which are extending relative to module classes. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1699–1721. (John Dauns) **99e:16007** 16D70 (16D50)

— (*with* McCasland, R. L.; Moore, M. E.) Modules with bounded spectra. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3403–3417. (Aihua Li) **99g:13013** 13C13 (13E05)

Smith, Paul (*with* Arkin, Joseph) The Arkin-Smith construction on pairs of orthogonal Latin squares of order 14. Edited by Arkin and David C. Arney. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 5. (*see* **99i:00023**) 05B15

Smith, Paula (*with* Fountain, John B.; Gould, Victoria) Maximal orders in semigroups. *Comm. Algebra* **27** (1999), *no.* 1, 173–187. (L. Márki) **99k:20109** 20M10

Smith, Peter *see* **Smith, Peter Jeffry**

Smith, Peter[3] ★ Explaining chaos. (English summary) *Cambridge University Press, Cambridge*, 1998. *viii*+193 *pp. ISBN* 0-521-47747-6 (Frederick R. Marotto) **99i:58109** 58F13 (00A30, 00A69)

— Approximate truth and dynamical theories. (English summary) *British J. Philos. Sci.* **49** (1998), *no.* 2, 253–277. (Summary) **99e:03011** 03B30

Smith, Peter Jeffry (*with* Gao, Hongsheng) Some bounds on the distribution of certain quadratic forms in normal random variables. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 73–81. (Goro Nagase) **99j:62011** 62E15 (62H10)

Smith, R. *see* **Smith, Ronald**

Smith, R. C. *see* **Smith, Ralph C.**

Smith, R. S. *see* **Smith, Roy S.**

Smith, Ralph A. An operator expansion formalism for nonlinear surface waves over variable depth. (English summary) *J. Fluid Mech.* **363** (1998), 333–347. (Summary) **99b:76012** 76B15 (76M25)

Smith, Ralph C. (*with* Del Rosario, R. C. H.) LQR control of shell vibrations via piezoceramic actuators. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 247–265, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Sergei Pavlovich Ohezin) **99g:93042** 93C20 (73K50)

— Well-posedness issues concerning a magnetostrictive actuator model. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 269–283 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99j:73076** 73K50 (73R05, 78A55, 93A30)

— (*with* Banks, H. T.) Numerical techniques for simulation, parameter estimation, and noise control in structural acoustic systems. (English summary) *Dynamics and control of distributed systems*, 202–263, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99f:73052** 73K12 (73D30, 73K50, 93C20)

Smith, Richard J. (*with* McCabe, Brendan P. M.) The power of some tests for difference stationarity under local heteroscedastic integration. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 751–761. (Summary) **99i:62212a** 62M10

— (*with* McCabe, Brendan P. M.) Errata: "The power of some tests for difference stationarity under local heteroscedastic integration". *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1252. (Editors) **99i:62212b** 62M10

— (*with* Taylor, A. M. Robert) Additional critical values and asymptotic representations for seasonal unit root tests. (English summary) *J. Econometrics* **85** (1998), *no.* 2, 269–288. (Summary) **99d:62087** 62M10 (62P20)

Smith, Richard W. AUSM(ALE): a geometrically conservative arbitrary Lagrangian-Eulerian flux splitting scheme. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 268–286. 76M25

Smith, Robert C. (*with* Miller, Thomas Len; Miller, V. G.) Bishop's property (β) and the Cesàro operator. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 197–207. (Jörg Eschmeier) **99m:47002** 47A11 (47B38, 47B40)

Smith, Robert L. (*with* Chou, Yu-Li; Romeijn, H. Edwin) Approximating shortest paths in large-scale networks with an application to intelligent transportation systems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 163–179. 90B10 (90B20)

— (*with* Romeijn, H. Edwin) Shadow prices in infinite-dimensional linear programming. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 239–256. (Edward J. Anderson) **99c:90078** 90C08 (90C34)

— (*with* Schochetman, Irwin E.) Existence and discovery of average optimal solutions in deterministic infinite horizon optimization. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 416–432. (Jean B. Lasserre) **99d:90140** 90C48 (49L20, 90C39)

— (*with* Cross, William P.; Romeijn, H. Edwin) Approximating extreme points of infinite-dimensional convex sets. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 433–442. (Edward J. Anderson) **99c:90088** 90C25 (90C10)

Smith, Roger R. (*with* Sinclair, Allan M.) The completely bounded approximation property for discrete crossed products. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1311–1322. (Aldo J. Lazar) **99e:46072** 46L05 (46L40)

— (*with* Sinclair, Allan M.) Hochschild cohomology for von Neumann algebras with Cartan subalgebras. (English summary) *Amer. J. Math.* **120** (1998), *no.* 5, 1043–1057. (Carla Farsi) **99j:46087** 46L85 (19D55, 46L10)

— (*with* Sinclair, Allan M.) Factorization of completely bounded bilinear operators and injectivity. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 62–87. (Christian Le Merdy) **99i:46047** 46L10 (46B28, 46L05, 47D25)

— (*with* Sinclair, Allan M.) The Hochschild cohomology problem for von Neumann algebras. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 7, 3376–3379 (*electronic*). (Summary) **99b:46110** 46L85 (46L10, 46M20)

Smith, Ronald (*with* Purnama, A.) Two outfalls in an estuary: optimal wasteload allocation. (English summary) *J. Engrg. Math.* **35** (1999), *no.* 3, 273–283. 86A05

— Two outfalls in an estuary: cooperative pollution minimization. (English summary) *J. Engrg. Math.* **35** (1999), *no.* 3, 285–298. 86A05

Smith, Ronald L. (*with* Fallat, Shaun M.; Johnson, Charles Royal; van den Driessche, P.) Eigenvalue location for nonnegative and Z-matrices. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 187–198. (Thomas L. Markham) **99e:15009** 15A18 (15A48, 15A57)

— (*with* Markham, Thomas L.) A Schur complement inequality for certain P-matrices. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 33–41. (Bo Ying Wang) **99h:15017** 15A45 (15A57)

— (*with* Hu, Shu An[1]) Inequalities for monotonic pairs of Z-matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 57–65. (Summary) **99c:15036** 15A45 (15A57)

Smith, Roy S. (*with* Erickson, M. A.; Laub, A. J.) Power methods for calculating eigenvalues and eigenvectors of spectral operators on Hilbert spaces. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1117–1128. 93B60 (93B40)

— (*with* Newlin, Matthew P.) A generalization of the structured singular value and its application to model validation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 901–907. (Summary) **99e:93076** 93E10 (93A30)

Smith, S. Paul (*with* Ajitabh, K.; Zhang, James J.) Auslander-Gorenstein rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2159–2180. (John Clark) **99g:16010** 16E10 (16D50, 16P40)

Smith, Sean C. (*with* Yu, Hua-Gen) The elimination of Lanczos ghosting effects by MINRES filter diagonalization. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 484–494. (Summary) **99d:65119** 65F15 (65F50)

Smith, Stephen D. (*with* Aschbacher, Michael G.) Quasithin groups. (English summary) *Groups and geometries* (*Siena*, 1996), 1–7, *Trends Math., Birkhäuser, Basel*, 1998. (Ronald Solomon) **99g:20027** 20D05 (20–02)

montgomery-Smith, Stephen J. *see* **Montgomery-Smith, Stephen J.**

Smith, Steven T. (*with* Edelman, Alan; Arias, Tomás A.) The geometry of algorithms with orthogonality constraints. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 303–353 (*electronic*). (Michael M. Dediu) **99h:65075** 65F30 (15A18, 51F20, 65H10, 90C30)

Smith, Steven W. (*with* Hall, Carol K.; Freeman, Benny D.; McCormick, Julie A.) Self-diffusion coefficients and atomic mean-squared displacements in entangled hard chain fluids. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 203–215, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82D60

Smith, Suzan (*with* Ding, Yuan; Houghten, Sheridan; Lam, Clement Wing Hong; Thiel, Larry; Tonchev, Vladimir D.) Quasi-symmetric 2-(28, 12, 11) designs with an automorphism of order 7. (English summary) *J. Combin. Des.* **6** (1998), *no.* 3, 213–223. (Mohan S. Shrikhande) **99a:05011** 05B05

Smith, Thomas B. (*with* Hennings, Mark A.; Dubin, Daniel A.) Dequantization techniques for Weyl quantization. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 4, 325–354. (Günter Braunss) **99i:81118** 81S10 (46F25, 46N50, 81S30)

Smith, Todd (*with* Peddada, Shyamal D.) Analysis of fixed effects linear models under heteroscedastic errors. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 399–408. (Summary) **99a:62096** 62J05

rayward-Smith, V. J. *see* **Rayward-Smith, V. J.**

Smith, Vernon L. (*with* McCabe, Kevin A.; Rassenti, Stephen J.) Reciprocity, trust, and payoff privacy in extensive form bargaining. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 10–24. (Summary) **99b:90172** 90D12 (90A60)

Smith, W. James (*with* Formby, John P.; Zheng, Buhong) The coefficient of variation, stochastic dominance and inequality: a new interpretation. (English summary) *Econom. Lett.* **62** (1999), *no.* 3, 319–323. (Summary) **99m:90045** 90A19

Smith, W. L. *see* **Smith, William Lorne**

Smith, W. V. (*with* Arino, Ovide) Migration in age structured population dynamics. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 905–925. (From the introduction) **99h:92019** 92D25 (35Q80)

Smith, Wayne Stewart Compactness of composition operators on BMOA. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2715–2725. (H. Jarchow) **99m:47040** 47B38 (30D50)

Smith, William Lorne (*with* Mann, Robert B.) Formation of topological black holes from gravitational collapse. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4942–4947. (Summary) **99f:83052** 83C57

— (*with* Mann, Robert B.) Regular central structures in topologically nontrivial anti-de Sitter spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124021, 7 *pp.* (Summary) **99m:83036** 83C15 (83C20)

Smith, William W. (*with* Chabert, Jean-Luc; Chapman, Scott T.) A basis for the ring of polynomials integer-valued on prime numbers. *Factorization in integral domains* (*Iowa City, IA*, 1996), 271–284, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Lahoucine Izelgue) **99d:13008** 13B25

— (*with* Chapman, Scott T.) Generalized sets of lengths. (English summary) *J. Algebra* **200** (1998), *no.* 2, 449–471. (David F. Anderson) **99i:13030** 13F05 (13A05, 13C20, 20M99)

— (*with* Chabert, Jean-Luc; Chapman, Scott T.) The Skolem property in rings of integer-valued polynomials. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3151–3159. (David F. Anderson) **99a:13006** 13B25 (13G05)

— (*with* Chapman, Scott T.) Generators of maximal ideals in the ring of integer-valued polynomials. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 95–105. (Jean-Luc Chabert) **99i:13032** 13F20 (11C08)

Smithdorf, Vivienne (*with* Dankelmann, Peter; Swart, Henda C.) Radius-forcing sets in graphs. (English summary) *Australas. J. Combin.* **17** (1998), 39–49. (Kevin Lawrence McAvaney) **99e:05045** 05C12

Smithies, Frank ★ Cauchy and the creation of complex function theory. (English summary) *Cambridge University Press, Cambridge*, 1997. vi+216 *pp. ISBN* 0-521-59278-X (Burnett Meyer) **99b:01013** 01A55 (01A70, 30–03)

Smits, Alexander J. (*with* Zagarola, M. V.) Response to: "Scaling of the intermediate region in wall-bounded turbulence: the power law. Comment on: 'Log laws or power laws: the scaling in the overlap region'" [Phys. Fluids **10** (1998), no. 4, 1043–1044; 1 613 975] by G. I. Barenblatt and A. J. Chorin. *Phys. Fluids* **10** (1998), *no.* 4, 1045–1046. 76F05 (76–05)

— *see also* **Barenblatt, G. I.**

Smits, B. *see* **Smits, Bert**

Smit-s, B. Dzh. M. *see* **Smeets, Bernard J. M.**

Smits, Bert Singular perturbations arising in Hilbert's 16th problem for quadratic vector fields. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 2, 133–136. (Lubomir Gavrilov) **99a:34090** 34C05 (34C23, 34E15, 58F21)

Smoczyk, Knut Starshaped hypersurfaces and the mean curvature flow. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 225–236. (Emmanuel Hebey) **99c:53033** 53C21 (58E12)

Smoktunowicz, Agata (*with* Puczyłowski, Edmund R.) On maximal ideals and the Brown-McCoy radical of polynomial rings. *Comm. Algebra* **26** (1998), *no.* 8, 2473–2482. (Andrei Kelarev) **99d:16026** 16N80 (16S36)

Smola, A. J. (*with* Schölkopf, B.) On a kernel-based method for pattern recognition, regression, approximation and operator inversion. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 211–231. (Summary) **99f:68177** 68T10 (65K99)

Smolander, Pekka Numerical approximation of bicanonical embedding. Dissertation, University of Joensuu, Joensuu, 1998. *Ann. Acad. Sci. Fenn. Math. Diss. No.* 119 (1998), 48 *pp.* (I. Kra) **99m:30085** 30F30 (20H10, 30F35, 65E05)

Smolarkiewicz, Piotr K. (*with* Margolin, Len) Antidiffusive velocities for multipass donor cell advection. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 907–929 (*electronic*). (Summary) **99f:65149** 65M99 (76M20, 76R50)

Smolensky, Roman Representations of sets of Boolean functions by commutative rings. *Comput. Complexity* **6** (1996/97), *no.* 3, 199–208. (Christoph Meinel) **99c:68101** 68Q15 (13A99, 68Q05, 68R99, 94C10)

— Easy lower bound for a strange computational model. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 213–216. (Christoph Meinel) **99c:68103** 68Q15 (68Q05, 68Q25)

— (*with* Shoup, Victor) Lower bounds for polynomial evaluation and interpolation problems. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 301–311. (Joachim von zur Gathen) **99h:68085** 68Q25 (68Q40)

— (*with* Chandra, Ashok K.; Raghavan, Prabhakar; Ruzzo, Walter L.; Tiwari, Prasoon) The electrical resistance of a graph captures its commute and cover times. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 312–340. (Mark R. Jerrum) **99h:60140** 60J15 (05C90, 94C05)

— (*with* Grigor'ev, D. Yu.; Karpinski, Marek; Meyer auf der Heide, Friedhelm) A lower bound for randomized algebraic decision trees. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 357–375. (Claus-Peter Schnorr) **99d:68107** 68Q25 (68Q15, 68Q40)

— (*with* Grigor'ev, D. Yu.; Karpinski, Marek) Randomization and the computational power of analytic and algebraic decision trees. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 376–388. (Claus-Peter Schnorr) **99d:68108** 68Q25 (68Q15, 68Q40)

— *see also* **Bruck, Jehoshua**, **99c:68102**

Smolíková, Renata (*with* Močkoř, Jiří) Fuzzy automata. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 41–50. (Janusz J. Szuster) **99b:68133** 68Q68

Smolin, John A. (*with* Terhal, Barbara M.) Single quantum querying of a database. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1822–1826. (Summary) **99e:68033** 68P15 (68Q05, 81P99)

— (*with* Bennett, Charles H.; DiVincenzo, David P.; Fuchs, Christopher A.; Mor, Tal; Rains, Eric M.; Shor, Peter W.; Wootters, William K.) Quantum nonlocality without entanglement. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1070–1091. (V. Ya. Kreinovich) **99m:81027** 81P99 (68Q75, 81P15)

Smolin, Lee ★ The life of the cosmos. (English summary) *Oxford University Press, New York*, 1997. *viii*+358 *pp. ISBN* 0-19-510837-X (Markku Lehto) **99f:83001** 83–01 (00A79, 83C45, 83F05)

— Experimental signatures of quantum gravity. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 171–193, *Internat. Press, Cambridge, MA*, 1997. (Markku Lehto) **99a:83034** 83C45 (83–02)

— The physics of spin networks. *The geometric universe* (*Oxford*, 1996), 291–304, *Oxford Univ. Press, Oxford*, 1998. (José A. Zapata) **99k:83026** 83C27 (83C45)

— Covariant quantization of membrane dynamics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6216–6223. (Summary) **99m:81210** 81T30

— (*with* Markopoulou, Fotini) Quantum geometry with intrinsic local causality. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084032, 12 *pp.* (Summary) **99m:83078** 83C45

— (*with* Markopoulou, Fotini) Nonperturbative dynamics for abstract (p, q) string networks. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084033, 5 *pp.* (Summary) **99k:81260** 81T30

Smoliński, K. A. (*with* Papaloucas, L. C.; Rembieliński, Jakub) Quantum mechanics on a circle and its possible q-deformations. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 179–188, *PWN, Warsaw*, 1997. (Roberto Casalbuoni) **99e:81102** 81R50 (81S99)

Smolinsky, Lawrence (*with* McDaniel, Andrew) Lax equations, weight lattices, and Prym-Tjurin varieties. *Acta Math.* **181** (1998), *no.* 2, 283–305. (V. V. Chueshev) **99k:14047** 14H40 (17B10, 58F07)

Smolka, Maciej Asymptotic behaviour of optimal solutions of control problems governed by inclusions. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 641–652. (M. Beatrice Lignola) **99i:49008** 49J24 (49J45)

Smolka, Scott A. (*with* Liu, Xinxin) Simple linear-time algorithms for minimal fixed points (extended abstract). (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 53–66, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60

— (*with* Philippou, Anna; Cleaveland, Rance; Lee, Insup; Sokolsky, Oleg) Probabilistic resource failure in real-time process algebra. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 389–404, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

— (*with* Stark, Eugene W.) Compositional analysis of expected delays in networks of probabilistic I/O automata. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 466–477, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10 (68Q45, 68Q68)

Smoller, J. A. (*with* Temple, Blake) Multi-dimensional shock-waves for relativistic fluids. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*,

1993), 377–391, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Norbert Noutchegueme) **99a:83010** 83C05 (35Q35, 76L05, 76Y05, 83C55)

— (*with* Temple, Blake) On the Oppenheimer-Volkoff equations in general relativity. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 2, 177–191. (Alan D. Rendall) **99f:83038** 83C55 (83C20)

— (*with* Wasserman, A. G.) Extendability of solutions of the Einstein-Yang/Mills equations. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 707–732. (Hans P. Künzle) **99h:58193** 58G16 (58E15, 83C57)

— (*with* Temple, Blake) Shock-wave solutions in closed form and the Oppenheimer-Snyder limit in general reality. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 15–33 (*electronic*). (Norbert Noutchegueme) **99c:83006** 83C05 (35Q75, 76L05, 83C55)

Smolsky, Michael V. Long time-step particle pushing in drift approximation without orbit averaging. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 41–60. 78–08 (65M60, 78A35)

Smoluchowski, Marian *see* **Symposium: Statistical Physics, 99d:82005** *and* **Fuliński, A., 99j:82002**

Smol′yakov, È. R. Heuristic procedures for searching for equilibria in noncooperative and antagonistic games. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 9, 18–28; *translation in Automat. Remote Control* **57** (1996), *no.* 9, *part* 1, 1233–1241 (1997). (Summary) **99b:90169** 90D10

— Cooperative programmed differential games. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1499–1505, 1581; *translation in Differential Equations* **32** (1996), *no.* 11, 1496–1502 (1997). (Jacek B. Krawczyk) **99c:90174** 90D25 (49N55, 90D12)

— Theorems on the existence of symmetric active equilibria in noncooperative programmed differential games. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 776–781, 862; *translation in Differential Equations* **33** (1997), *no.* 6, 779–784 (1998). (A. M. Tarasyev) **99g:90174** 90D25

— Absolute equilibrium in differential games. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 5, 603–606. (Anatoliĭ F. Kleimenov) **99m:90178** 90D25

Smolyanov, Oleg G. (*with* Kupsch, Joachim) On models of the symmetric Fock algebra. (Russian) *Mat. Zametki* **60** (1996), *no.* 6, 939–942; *translation in Math. Notes* **60** (1996), *no.* 5-6, 710–713 (1997). (Lech Jakóbczyk) **99d:81062** 81S05

— (*with* Norin, N. V.) Logarithmic derivatives of measures, and Gibbs distributions. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 4, 456–460. (A. V. Uglanov) **99d:46067** 46G12 (28C20, 82B05, 82B21)

— (*with* Albeverio, Sergio; Kolokol′tsov, V. N.) Continuous quantum measurement: local and global approaches. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 8, 907–920. (Michael B. Mensky) **99a:81015** 81P15 (81S40)

— Differentiable measures on current groups. (Russian) *Tr. Mat. Inst. Steklova* **217** (1997), *Prostran. Petel′ i Gruppy Diffeomorf.*, 182–188. (Vladimir Pestov) **99e:58028** 58D20 (22E65, 28C10, 28C20, 58B25, 58G32)

— Change of variable formulas for Gaussian integrals over spaces of paths in compact Riemannian manifolds. (English summary) *Lie groups and Lie algebras*, 435–442, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00013**) 60H07 (58G32, 60H05, 60H10, 60H15, 60J25)

— (*with* Kupsch, Joachim) Functional representations for Fock superalgebras. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 2, 285–324. (Andrzej Łuczak) **99i:81140** 81T08 (46N50, 81S99)

Smondyrev, Mikhail A. *see* **Path integrals: Dubna '96, 99h:81005**

Smooke, Mitchell D. (*with* Bennett, Beth Anne V.) Local rectangular refinement with application to nonreacting and reacting fluid flow problems. (English summary) *J. Comput. Phys.* **151** (1999), *no.* 2, 684–727. 76M25 (80–08)

Smorodinskiĭ, Ya. A. *see* **Conference: Symmetry Methods in Physics, 99i:81002** *and* **99i:81003**

Smorodinsky, Meir (*with* Feldman, Jacob[1]) Simple examples of non-generating Girsanov processes. (English summary) *Séminaire de Probabilités, XXXI*, 247–251, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Jia Gang Wang) **99f:60144** 60J65 (60G44, 60H05)

— Processes with no standard extension. (English summary) *Israel J. Math.* **107** (1998), 327–331. (Jia Gang Wang) **99k:60101** 60G05

Smorodinsky, Rann (*with* Lehrer, Ehud) Merging and learning. (English summary) *Statistics, probability and game theory*, 147–168, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (James Bergin) **99c:90177** 90D35 (90A05, 90D10)

Smorodinsky, Ya. A. *see* **Smorodinskiĭ, Ya. A.**

Smotrov, M. N. (*with* Golovchanskiĭ, V. V.) On the multiplicity of the discrete spectrum of an automorphic Laplacian. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II (Russian)*, 130–139, 254, *Akad. Nauk SSSR, Dal′nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11F72

Smriglio, Stefano (*with* Arbib, Claudio; Pacciarelli, Dario) A three-dimensional matching model for perishable production scheduling. (English summary) *Discrete Appl. Math.* **92** (1999), *no.* 1, 1–15. (Summary) **99m:90082** 90B30 (90B35)

Smurov, I. (*with* Samarskiĭ, Aleksandr Andreevich; Mazhukin, V. I.; Matus, Petr P.; Rychagov, V. G.) Invariant difference schemes for parabolic equations with transformations of independent variables. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 93–110. (Meng Zhao Qin) **99m:65166** 65M06 (65M12, 65M15)

Smutnicki, Czesław (*with* Grabowski, Józef; Pempera, Jarosław) Scheduling in production of concrete wares. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 192–196, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35

— Approximation algorithms. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 213–217, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35

— A two-machine permutation flow shop scheduling problem with buffers. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 4, 229–235. (Stanislav Palúch) **99j:90041** 90B35 (68M20)

Smutný, Peter (*with* Tkáč, Michal) On cubic polyhedral graphs with prescribed adjacency properties of their faces. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 197–206. (Stanislav Jendrol′) **99j:05123** 05C38 (05C75, 52B10)

Smyrlis, Y. S. (*with* Papageorgiou, Demetrios T.) The effects of generalized dispersion on dissipative dynamical systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 93–99. (Summary) **99f:35180** 35Q53 (35B40, 76B15, 76E30)

Smyshlyaev, V. P. (*with* Willis, John R.) A "non-local" variational approach to the elastic energy minimization of martensitic polycrystals. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1573–1613. (Rustum Choksi) **99h:73067** 73S10 (73C50, 73K40, 73V25, 82D25)

Smyth, C. J. There are only eleven special Pisot numbers. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 1–5. (Toufik Zaïmi) **99h:11118** 11R06

Smyth, M. R. F. (*with* West, T. T.) The minimum diagonal element of a positive matrix. (English summary) *Studia Math.* **131** (1998), *no.* 1, 95–99. (Summary) **99c:15042** 15A48

Smyth, Michael A. (*with* Sims, Brailey) On some Banach space properties sufficient for weak normal structure and their permanence properties. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 497–513. (S. Swaminathan) **99d:46020** 46B20 (47H10)

Smyth, Noel F. (*with* Marchant, T. R.) Pulse evolution for Marangoni-Bénard convection. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 45–58. (Summary) **99j:76117** 76R05 (76E15)

— (*with* Cruz-Pacheco, G.; Flores-Reyna, G.; Jorge, M. C.; Minzoni, Antonmaría) Approximate evolution of lump initial conditions for the Benjamin-Ono equation. (English summary) *Wave Motion* **28** (1998), *no.* 3, 195–202. 35Q53 (76B15)

Smyth, William F. Approximate periodicity in strings. (English summary) *Util. Math.* **51** (1997), 125–135. (Jennifer R. Galovich) **99d:68209** 68R15 (05A99, 68Q25, 92D20)

— (*with* Miller, Mirka; Slamin; Ryan, Joseph) Labelling wheels for minimum sum number. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 289–297. (Summary) **99j:05168** 05C78

— (*with* Moore, Dennis W. G.; Miller, Dianne) Counting distinct strings. (English summary) *Algorithmica* **23** (1999), *no.* 1, 1–13. (Summary) **99i:68087** 68R05 (68Q20)

Smythe, Robert T. (*with* Dobrow, Robert P.) Poisson approximations for functionals of random trees. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 79–92. (Bert Fristedt) **99e:05037** 05C05 (05C80, 60F05)

Snaith, Victor P. (*with* Chinburg, Ted; Kolster, Manfred; Pappas, Georgios) Quaternionic exercises in K-theory Galois module structure. (English summary) *Algebraic K-theory (Toronto, ON, 1996)*, 1–29, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Kenneth Kramer) **99b:11130** 11R70 (11R33, 19F27)

— Hecke algebras and class-group invariants. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1265–1280. (Nigel Byott) **99b:11129** 11R65 (16S34, 19A99)

— (*with* Chinburg, Ted; Kolster, Manfred; Pappas, Georgios) Galois structure of K-groups of rings of integers. (English summary) *K-Theory* **14** (1998), *no.* 4, 319–369. (Cornelius Greither) **99g:11140** 11R70 (11R34, 11S23, 19A31, 19F27)

Snapp, Robert R. (*with* Venkatesh, Santosh S.) Asymptotic expansions of the k nearest neighbor risk. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 850–878. (Margaret P. Gessaman) **99h:62062** 62G20 (41A60)

Snášel, Václav λ-lattices. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 267–272. (N. K. Thakare) **99f:06010** 06B10 (06A06)

Snashall, Nicole (*with* Erdmann, Karin) Preprojective algebras of Dynkin type, periodicity and the second Hochschild cohomology. *Algebras and modules, II (Geiranger*, 1996), 183–193, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Thorsten Holm) **99h:16016** 16E40 (16D20, 16G20)

— Reflexivity of modules over QF-3 algebras. *Comm. Algebra* **26** (1998), *no.* 12, 4233–4242. (John Clark) **99m:16023** 16G30 (16G20, 16L60)

— (*with* Erdmann, Karin) On Hochschild cohomology of preprojective algebras. I, II. (English summary) *J. Algebra* **205** (1998), *no.* 2, 391–412, 413–434. (Thorsten Holm) **99e:16013** 16E40 (16D20, 16G20)

Sneddon, G. E. (*with* Gill, Andrew; Read, W. W.) On series solutions to Laplacian free boundary problems. *Computational techniques and applications: CTAC95 (Melbourne*, 1995), 343–350, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N35

— The identities of the algebraic invariants of the four-dimensional Riemann tensor. II. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1659–1679. (Emil Zakhary) **99a:53020** 53B50 (83C99)

Snell, J. Laurie A conversation with Joe Doob. (English summary) *Statist. Sci.* **12** (1997), *no.* 4, 301–311. (Summary) **99a:01024** 01A70

Snell, Michael R. An analogue to the Edgeworth-Esseen expansion. *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 652–657. (F. Móricz) **99h:42006** 42A16 (60F99)

Snellman, Jan Initial ideals of truncated homogeneous ideals. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 813–824. (Summary) **99k:13030** 13F25

— Gröbner bases and normal forms in a subring of the power series ring on countably many variables. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 3, 315–328. (Francisco Jesús Castro-Jiménez) **99h:13035** 13P10 (13F25, 68Q40)

— Generalized Hilbert numerators. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 321–333. (David A. Jorgensen) **99m:13033** 13D40 (13P10)

Snevily, Hunter S. (*with* West, Douglas B.) The bricklayer problem and the strong cycle lemma. *Amer. Math. Monthly* **105** (1998), *no.* 2, 131–143. (Joseph Zaks) **99b:05014** 05A99

— A generalization of Fisher's inequality. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 120–125. (Summary) **99h:05115** 05D05

Sneyd, A. D. (*with* Fautrelle, Y.) Instability of a plane conducting free surface submitted to an alternating magnetic field. (English summary) *J. Fluid Mech.* **375** (1998), 65–83. (Summary) **99h:76088** 76W05 (76E25)

Sneyd, James (*with* Sherratt, Jonathan A.) On the propagation of calcium waves in an inhomogeneous medium. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 1, 73–94. (Summary) **99a:92004** 92C05 (35K57, 35Q80)

— (*with* Dale, Paul D.; Duffy, Alastair) Traveling waves in buffered systems: applications to calcium waves. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1178–1192 (*electronic*). (Summary) **99b:92015** 92C40 (35K57, 35Q80, 92C05, 92C30)

Śniatycki, Jędrzej (*with* Cushman, Richard; Kemppainen, D.) A classical particle with spin realized by reduction of a nonlinear nonholonomic constraint. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 1, 133–142. (David Martín de Diego) **99e:70037** 70F25 (34A26, 58F05, 70E15)

— *see also* **Workshop: Nonholonomic Constraints in Dynamics, 99i:58004**

Sniedovich, Moshe (*with* Iwamoto, Seiichi) Sequential decision making in fuzzy environment. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 208–224. (Introduction) **99b:90158** 90C70 (90C39)
— (*with* Churilov, Leonid; Ralph, Daniel) A note on composite concave quadratic programming. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 163–169. 90C20 (90C31)
Sniegoski, Carol Ann (*with* Somogyi, Roland) Modeling the complexity of genetic networks: understanding multigenic and pleiotropic regulation. (English summary) *Complexity* **1** (1995/96), *no.* 6, 45–63. 92D20 (92D10)
Snijders, A. (*with* Roos, Cornelis; van Zanten, A. J.) Cyclonomial number systems and the ranking of lexicographically ordered constant-sum codes. (English summary) *Ars Combin.* **48** (1998), 173–184. (Summary) **99d:05002** 05A10 (94B60)
hon-Snir, Shlomit *see* **Hon-Snir, Shlomit**
Šnita, D. (*with* Merkin, John H.; Ševčíková, H.; Marek, M.) The effects of an electric field on an autocatalytic ionic reaction in a system with high ionic strength. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 1, 1–31. (Summary) **99c:92064** 92E20
— (*with* Lindner, Jiří; Marek, M.; Merkin, John H.) Propagating reaction fronts in an ionic autocatalytic system: the effects of electric field intensity and ionic strength. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 2, 1–25. (Summary) **99d:92054** 92E20
Snoeyink, Jack (*with* van Kreveld, Marc) Linear-time reconstruction of Delaunay triangulations with applications. (English summary) *Algorithms—ESA '97* (*Graz*), 459–471, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68U05
— (*with* García López de Lacalle, Jesús; Ramos, P. A.) Fitting a set of points by a circle. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 389–402. (Summary) **99h:52017** 52B55 (68U05)
— (*with* Kahan, Simon) On the bit complexity of minimum link paths: superquadratic algorithms for problem solvable in linear time. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 33–44. (Summary) **99m:68212** 68U05 (65Y20)
Snoha, Ľubomír (*with* Kolyada, S. F.) Some aspects of topological transitivity—a survey. (English summary) *Iteration theory* (*ECIT 94*) (*Opava*), 3–35, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 54H20 (58F08)
— (*with* Alsedà, Lluís; Jiménez López, Víctor) All solenoids of piecewise smooth maps are period doubling. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 121–138. (Alexander Loskutov) **99f:58063** 58F03 (58F08, 58F13)
— (*with* Alsedà, Lluís; Kolyada, S. F.; Llibre, Jaume) Entropy and periodic points for transitive maps. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1551–1573. (Frederick R. Marotto) **99f:58117** 58F11 (54H20, 58F20)
de Snoo, Hendrik S. V. (*with* Alpay, Daniel; Dijksma, Aad; Rovnyak, James) Reproducing kernel Pontryagin spaces. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 425–444, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Stefania A. M. Marcantognini) **99g:46028** 46E22 (46C20, 47A57, 47B50)
— (*with* Hassi, Seppo; Kaltenbäck, Michael) The sum of matrix Nevanlinna functions and self-adjoint extensions in exit spaces. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 137–154, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Vladimir Derkach) **99i:47043** 47B25 (47A45, 47E05)
— (*with* Hassi, Seppo; Kaltenbäck, Michael) Generalized Kreĭn-von Neumann extensions and associated operator models. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 627–655. (Abraham V. Strauss) **99m:47026** 47B15 (47A55, 47A57, 47A70, 47B25)
— (*with* Hassi, Seppo) Nevanlinna functions, perturbation formulas, and triplets of Hilbert spaces. (English summary) *Math. Nachr.* **195** (1998), 115–138. (Vladimir Derkach) **99j:47014** 47A55 (47A70, 47B15, 47B25)
Snow, Dennis M. (*with* Winkelmann, Jörg) Compact complex homogeneous manifolds with large automorphism groups. (English summary) *Invent. Math.* **134** (1998), *no.* 1, 139–144. (Peter Heinzner) **99f:32054** 32M10 (32M05)
Snow, Paul The vulnerability of the transferable belief model to Dutch books. (English summary) *Artificial Intelligence* **105** (1998), *no.* 1-2, 345–354. (Summary) **99g:03020** 03B45 (03B48)
— On the correctness and reasonableness of Cox's theorem for finite domains. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 452–459. (Lawrence Sklar) **99j:03018** 03B48 (03B45, 68T27)
Snyder, Brian A. (*with* Gekeler, Ernst-Ulrich) Drinfeld modules over finite fields. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 66–87, *World Sci. Publishing, River Edge, NJ*, 1997. (Bruno Anglès) **99i:11044** 11G09 (11G20)
Snyder, Chip (*with* Benjamin, E.; Lemmermeyer, Franz) Imaginary quadratic fields k with cyclic $Cl_2(k^1)$. (English summary) *J. Number Theory* **67** (1997), *no.* 2, 229–245. (Stéphane Louboutin) **99a:11126** 11R32 (11R29, 11R37)
Snyder, Don (*with* Tait, Stephen) A flow-front instability in viscous gravity currents. (English summary) *J. Fluid Mech.* **369** (1998), 1–21. (Summary) **99f:76055** 76E20 (76–05, 86A05)
Snyder, Donald L. (*with* O'Sullivan, Joseph A.; Blahut, Richard E.) Information-theoretic image formation. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2094–2123. (Summary) **99i:94012** 94A12 (68U10, 94A15)
Snyders, Jakov (*with* Fossorier, Marc P. C.; Lin, Shu) Reliability-based syndrome decoding of linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 388–398. (Summary) **99b:94052** 94B35
Snyman, J. A. (*with* Berner, D. F.) The influence of joint angle constraints on the optimum design of a planar robot manipulator following a complicated prescribed path. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 111–124. 93C85 (70B15, 70Q05, 90C90)
Snytnikov, V. N. (*with* Vshivkov, V. A.) On the particle method for solving the Vlasov kinetic equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1877–1883; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1801–1807. 65M70 (82–08)
So, Joseph W.-H. (*with* Hofbauer, Josef; Takeuchi, Yasuhiro) Global stability of competition in a spatially heterogeneous environment. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 213–223. (Peter Moson) **99k:92030** 92D25 (34D99)
— (*with* Yang, Yuanjie) Dirichlet problem for the diffusive Nicholson's blowflies equation. (English summary) *J. Differential Equations* **150** (1998), *no.* 2, 317–348. (Sergei A. Vakulenko) **99m:35255** 35R10 (35K55, 92D25)
— (*with* Yang, Yuanjie; Wu, Jian Hong) Centre manifolds for functional partial differential equations: smoothness and attractivity. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 67–81. (Ryszard Rudnicki) **99i:34114** 34K30 (35B40, 35R10, 47N20, 58F39)
— (*with* Shirvani, Mazi) Solutions of linear differential algebraic equations. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 344–346 (*electronic*). (Michael Hanke) **99g:34010** 34A09 (15A22, 34A05)
— (*with* Yu, Jian She) Global stability for a general population model with time delays. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 447–457, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Miklós Farkas) **99m:92039** 92D25 (34K20)
So, K. H. (*with* Kim, Yangkon; Seo, G. S.; Park, D. Y.; Choi, Seul Hee) Some remarks on four kinds of points associated to Lie algebras. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 31–43. (Jörg Feldvoss) **99m:17025** 17B50 (17B20, 17B55)
So, K. L. (*with* Shum, P.; Caldwell, James) Solving the nonlinear Burgers' equation by the use of split-step finite element analysis method with various adaptive techniques. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 2, 185–198. (Summary) **99m:65182** 65M60
So, Shing-Seung (*with* Tian, Songlin; Chen, Guanghui) Concerning circles in taxicab geometry. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 5, 727–733. (David C. Kay) **99c:51023** 51K99
— (*with* Roy, Kathleen) Right simple subsemigroups and right subgroups of a compact semigroup. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 2, 121–125. (Summary) **99i:22008** 22A15
So, Wasin (*with* Ruch, David K.; Wang, Jian Zhong[2]) Global support of a scaling vector. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 493–498. (Summary) **99e:42050** 42C15
— An explicit criterion for the convexity of quaternionic numerical range. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 105–108. (Hiroshi Nakazato) **99d:15012** 15A33 (15A60)
— (*with* Day, Jane; Thompson, Robert C.) The spectrum of a Hermitian matrix sum. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 289–332. (F. Szidarovszky) **99f:15009** 15A18 (47A75)
— (*with* Li, Chi-Kwong) Isometric isomorphisms between normed spaces. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 607–624. (H. E. Lacey) **99k:46015** 46B04 (46B07)
Soames, Scott The modal argument: wide scope and rigidified descriptions. *Noûs* **32** (1998), *no.* 1, 1–22. (Steve Kuhn) **99j:03014** 03B45 (03A05)
Soardi, Paolo M. (*with* Holopainen, Ilkka) p-harmonic functions on graphs and manifolds. (English summary) *Manuscripta Math.* **94** (1997), *no.* 1, 95–110. (Maretsugu Yamasaki) **99c:31017** 31C20 (30F20, 53C20)
— Hölder regularity of compactly supported p-wavelets: $p = 3, 4, 5$. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 387–399. (Hans W. Volkmer) **99d:42070** 42C15 (41A15, 42A05)
— (*with* Weiland, David) Single wavelets in n-dimensions. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 299–315. (Gerlind Plonka) **99k:42067** 42C15 (28A80, 42B10)
— On quantitative Korovkin's theorem in multivariate Orlicz spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 205–212. (Ion Raşa) **99m:41056** 41A65 (41A36, 46E30, 46M35)
Soare, Nicolae Linear connections on manifolds admitting an almost s-tangent structure. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 47–51 (1998). (José A. Oubiña) **99f:53023** 53C05 (53C15)
Soare, Robert I. (*with* Slaman, Theodore A.) Algebraic aspects of the computably enumerable degrees. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **92** (1995), *no.* 2, 617–621. (Michael Stob) **99i:03048** 03D25 (03D30)
— (*with* Harrington, Leo) Definable properties of the computably enumerable sets. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 97–125. (Peter Cholak) **99f:03055** 03D25
— (*with* Harrington, Leo) Codable sets and orbits of computably enumerable sets. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 1–28. (C. G. Jockusch, Jr.) **99j:03031** 03D25
— (*with* Lachlan, Alistair H.) Models of arithmetic and subuniform bounds for the arithmetic sets. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 59–72. (Marat M. Arslanov) **99i:03038** 03C62 (03C57)
— *see also* **Conference: Computability Theory, 99b:03006**
Soares, Ana Jacinta Initial-boundary-value problem for the Broadwell model of a gas mixture with bimolecular reaction. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 6, 501–517. (Lorenzo Pareschi) **99a:76134** 76P05 (45K05, 82C40)
— Erratum: "Initial-boundary-value problem for the Broadwell model of a gas mixture with bimolecular reaction" [Math. Methods Appl. Sci. **21** (1998), no. 6, 501–517; MR 99a:76134]. *Math. Methods Appl. Sci.* **22** (1999), *no.* 3, 199. 76P05 (45K05, 82C40)
Soares, João (*with* Facchinei, Francisco; Júdice, Joaquim) Algorithm 774: Fortran subroutines for generating box-constrained optimization problems. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 448–450. 65Y15
— (*with* Fernandes, Luís; Fischer, Andreas[1]; Júdice, Joaquim; Requejo, C.) A block active set algorithm for large-scale quadratic programming with box constraints. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 75–95. (*see* **99b:90006**) 90C20
— (*with* Facchinei, Francisco; Júdice, Joaquim) An active set Newton algorithm for large-scale nonlinear programs with box constraints. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 158–186 (*electronic*). (Zhen Yu Huang) **99c:90117** 90C30 (65K05, 90C06)
Soares, Marcio G. The Poincaré problem for hypersurfaces invariant by one-dimensional foliations. *Invent. Math.* **128** (1997), *no.* 3, 495–500. (Gary P. Kennedy) **99a:32043** 32L30 (14M10, 57R30)

Soares, T. M. (*with* Corrêa, G. O.; Sales, D. M.) Approximate solutions to H_2/H_∞ problems via sequences of H_2-cost/H_2-constraint optimization problems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 333–353. 93B36 (90C90, 93B40)

Soatov, U. A. On the solution of a linear integral equation with partial integrals. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 71–79. (Anatolij Semenovich Kalitvin) **99m:45002** 45A05 (47A80, 47N20)

Sobczyk, Garret Spectral integral domains in the classroom. (English summary) *XXIX National Congress of the Mexican Mathematical Society (Spanish)* (*San Luis Potosí*, 1996), 169–188, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Muhammad Zafrullah) **99k:13033** 13G05

Sobczyk, Jan T. (*with* Kosiński, Piotr; Lukierski, Jerzy; Maślanka, Paweł) Quantum deformation of the Poincaré supergroup. (English summary) *Quantum groups* (*Karpacz*, 1994), 353–357, *PWN, Warsaw*, 1995. (*see* **99e:17001**) 81R50 (17B37)

— (*with* Ferrari, Franco) Quantum field theories on algebraic curves. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 289–298, *PWN, Warsaw*, 1997. (Martin Schlichenmaier) **99m:81216** 81T40 (14H30)

— (*with* Juszczak, C.) Classification of low-dimensional Lie super-bialgebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4982–4992. (Andrey V. Tsiganov) **99k:17031** 17B37 (81R50)

— (*with* Ferrari, Franco) Operator formalism for bosonic beta-gamma fields on general algebraic curves. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5148–5165. (Martin Schlichenmaier) **99m:81217** 81T40 (14H30)

— (*with* Ferrari, Franco) Monodromy properties of energy momentum tensor on general algebraic curves. (English summary) *J. Geom. Phys.* **29** (1999), *no.* 1-2, 161–176. (Matthias Dörrzapf) **99m:81218** 81T40 (14H55, 17B68)

— *see also* **Quantum groups, 99e:17001**

Sobczyk, Kazimierz On cumulative jump models for random deterioration processes. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 145–157. (Karol Andrzejczak) **99b:60151** 60K10

— Stochastic nonlinear systems. Existing methods and new results. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 651–661. (G. N. Mil′shteĭn) **99i:60118** 60H10 (34F05, 60H30, 70L05)

Sobhy El-Sayed Ibrahim *see* **Ibrahim, Sobhy El-Sayed**

Sobociński, Bolesław *see* **Tatarkiewicz, Krzysztof, 99m:01092**

Sobol′, I. M. (*with* Samarskiĭ, Aleksandr Andreevich; Chetverushkin, B. N.; Tishkin, V. F.; Gol′din, V. Ya.; Kalitkin, N. N.) Boris Leonidovich Rozhdestvenskiĭ (on the occasion of his seventieth birthday). (Russian) *Mat. Model.* **10** (1998), *no.* 9, 123–124. 01A70

— On quasi-Monte Carlo integrations. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 103–112. (Summary) **99d:65017** 65C05 (65D30)

— (*with* Levitan, Yu. L.) A pseudo-random number generator for personal computers. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 33–40. (*see* **99i:90003**) 65C10

Sobolev, Aleksandr Vladimirovich[1] (*with* Sobolev, Vladimir Ivanovich) Monotonicity and fixed points of nonlinear discontinuous operators. (Russian) *Mathematics today* '94, *No.* 9 (*Ukrainian*), 40–55, "*Vishcha Shkola*", *Kiev*, 1995. (*see* **99a:00016**) 47H10 (47H07)

Sobolev, Sergeĭ L′vovich (*with* Vaskevich, V. L.) ★ Кубатурные формулы. (Russian) [Cubature formulas] Edited and with a contribution by M. D. Ramazanov. *Izdatel′stvo Rossiĭskoĭ Akademii Nauk, Sibirskoe Otdelenie, Institut Matematiki im. S. L. Soboleva, Novosibirsk*, 1996. 484 *pp. ISBN* 5-86134-020-X (I. P. Mysovskikh) **99g:65029a** 65D32 (41A55, 46N40, 65–02)

— (*with* Vaskevich, V. L.) ★ The theory of cubature formulas. (English summary) Translated from the 1996 Russian original and with a foreword by S. S. Kutateladze. Revised by Vaskevich. Mathematics and its Applications, 415. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xxii+416 *pp. ISBN* 0-7923-4631-9 (I. P. Mysovskikh) **99g:65029b** 65D32 (41A55, 46N40, 65–02)

— *see also* **Lavrent′ev, Mikhail Mikhaĭlovich, 99m:01075**

Sobolev, V. A. (*with* Shchepakina, E. A.) Duck trajectories in a problem of combustion theory. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1175–1184, 1293; *translation in Differential Equations* **32** (1996), *no.* 9, 1177–1186 (1997). (Leonid V. Kalachev) **99a:34141** 34C99 (34E15, 80A25)

— (*with* Zharikova, E. N.) Optimal periodic control systems with singular perturbations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 151–168; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1188–1202. (Tzanko D. Donchev) **99b:49026** 49K40 (34E15, 34H05, 49N20)

— (*with* Voropaeva, N. V.) Decomposition of singularly perturbed differential systems. (English summary) Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 28–37. (O. B. Lykova) **99h:34072** 34D15 (34C30, 34E05)

Sobolev, V. A. (*with* Mironova, V. A.; Tsirlin, A. M.) Optimal control of flows of raw materials and finished goods by price variations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 91–100; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 2, 229–236. 90A16 (90A53)

Sobolev, Vladimir Ivanovich (*with* Sobolev, Aleksandr Vladimirovich[1]) Monotonicity and fixed points of nonlinear discontinuous operators. (Russian) *Mathematics today* '94, *No.* 9 (*Ukrainian*), 40–55, "*Vishcha Shkola*", *Kiev*, 1995. (*see* **99a:00016**) 47H10 (47H07)

Sobolevskaya, E. P. The knapsack problem with polymatroidal constraints. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 73–76, 141. (Regina Hildenbrandt) **99m:90119** 90C27 (90C10)

Sobolevskiĭ, A. N. The small viscosity method for a one-dimensional system of equations of gas dynamic type without pressure. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 3, 310–312. (Ivan Straškraba) **99a:76131** 76N15 (35Q35)

Sobolevskii, Pavel E. (*with* Sil′chenko, Yu. T.) Semigroups of bounded linear operators. (Russian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 34–63, "*Vishcha Shkola*", *Kiev*, 1993. (Irina V. Melnikova) **99e:47050** 47D06 (34G10, 47D03)

— Well-posedness of difference elliptic equation. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 337–382 (1997). (Andrey Ponomaryov) **99g:39022** 39A12 (34G10, 35J99, 65J10)

— (*with* Agranovich, Yu. Ya.) Motion of nonlinear visco-elastic fluid. *Nonlinear Anal.* **32** (1998), *no.* 6, 755–760. (Adélia Sequeira) **99g:76008** 76A10 (35Q35)

— (*with* Matskewich, Tanya) The sharp constant in Hardy's inequality for complement of bounded domain. *Nonlinear Anal.* **33** (1998), *no.* 2, 105–120. (Luboš Pick) **99c:26012** 26D10 (46E30)

Sobouti, Y. (*with* Nasiri, S.) A phase space quantization resulting from symmetric treatment of q^- and p^- representation. *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 529–532, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81S10 (81S30)

— (*with* Jalali, M. A.) Some analytical results in dynamics of spheroidal galaxies. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 4, 255–270. (Summary) **99g:85001** 85A05

teotonio-Sobrinho, Paulo *see* **Teotonio-Sobrinho, Paulo**

Sobrino, Luis ★ Elements of non-relativistic quantum mechanics. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+332 *pp. ISBN* 981-02-2386-2 (J.-P. Antoine) **99j:81002** 81–01

Sobrón Fernández, Ma. Inés (*with* Sánchez García, Miguel) A necessary and sufficient condition to a Pareto optimal without optimizing the weighting criterion. (English summary) *Top* **5** (1997), *no.* 2, 307–311. (Summary) **99a:90177** 90C29

— (*with* Sánchez García, Miguel; Vitoriano Villanueva, B.) On the set covering polytope: facets with coefficients in $\{0, 1, 2, 3\}$. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 343–356. (*see* **99b:90006**) 90C35 (90C27)

Sobukawa, Takuya Extrapolation theorem on L^p spaces over infinite measure space: an approach $p \searrow p_0$. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 773–783. (Javier Soria) **99b:46040** 46E30 (46M35)

Socała, Jolanta Asymptotic behaviour of the iterates of nonnegative operators on a Banach lattice. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 1, 1–16. (Wojciech Bartoszek) **99a:47017** 47A35 (47B38, 47B60, 47B65)

Sochen, Nir (*with* Zeevi, Yehoshua Y.) Representation of images by surfaces and higher-dimensional manifolds in non-Euclidean space. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 469–476, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:94012** 94A12

— (*with* Kimmel, Ron; Malladi, Ravikanth) A general framework for low level vision. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 3, 310–318. (Summary) **99k:94016** 94A12

Sochichiu, Corneliu (*with* Slavnov, A. A.; Frolov, Sergeĭ Anatol′evich) $SO(N)$-invariant Wess-Zumino action and its quantization. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 270–291; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1407–1425 (1996). (George K. Savvidy) **99g:81133** 81T13 (81T10, 81T16)

moreno Socías, Guillermo *see* **Moreno Socías, Guillermo**

Socolovsky, Miguel (*with* Aguilar, Marcelo A.) Reductions and extensions in bundles and homotopy. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 487–494. (Jürgen Eichhorn) **99k:55014** 55R10 (55R15, 55R35)

Socolowsky, J. On the numerical solution of heat-conducting multiple-layer coating flows. (Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 125–147; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 1, 98–115. (Vitoriano Ruas) **99m:76085** 76M10 (65M60, 76D99)

Socorro, José (*with* Hehl, Friedrich W.) Gauge theory of gravity: electrically charged solutions within the metric-affine framework. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1113–1120. (Summary) **99m:83169** 83D05

— (*with* García Díaz, Alberto; Hehl, Friedrich W.; Lämmerzahl, Claus; Macías, Alfredo) Plebański-Demiański-like solutions in metric-affine gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1793–1799. (Serguey M. Pokas′) **99d:83082** 83D05

— (*with* Macías, Alfredo; Hehl, Friedrich W.) Computer algebra in gravity: Reduce-Excalc programs for (non-)Riemannian space-times. I. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 264–283. (Summary) **99h:83001** 83–04

— (*with* Macías, Alfredo; Mielke, Eckehard W.) Supersymmetric quantum cosmology for Bianchi class A models. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 5, 701–712. (Seth A. Major) **99h:83023** 83C45

— (*with* Rosu, Haret C.) Double Darboux method for the Taub continuum. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 5, 677–682. (Summary) **99c:83033** 83C45 (83F05)

— (*with* Lämmerzahl, Claus; Macías, Alfredo; Mielke, Eckehard W.) Multipole-like solutions in metric-affine gravity. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 317–323. (Mark D. Roberts) **99e:83046** 83D05 (83E30)

— (*with* Macías, Alfredo; Mielke, Eckehard W.) Supersymmetric quantum cosmology: the physical states. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1027–1033. (Seth A. Major) **99g:83040** 83C45

— (*with* García Díaz, Alberto; Lämmerzahl, Claus; Macías, Alfredo; Mielke, Eckehard W.) Colliding waves in metric-affine gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3457–3462. 83D05

Soda, Jiro (*with* Kawai, Shinsuke; Sakagami, Masa-aki) Instability of 1-loop superstring cosmology. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 284–290. (Summary) **99f:83068** 83E30

Sodaïgui, Bouchaïb "Galois module structure" des extensions quaternioniennes de degré 8. [Galois module structure of quaternionic extensions of degree 8] *J. Algebra* **213** (1999), *no.* 2, 549–556. (Nigel Byott) **99m:11130** 11R33

Soden, P. D. (*with* Li, Shuguang; Reid, S. R.) A continuum damage model for transverse matrix cracking in laminated fibre-reinforced composites. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1746, 2379–2412. (From the text) **99h:73065** 73M25 (73K20)

Söderberg, Bo Polymers, spin models and field theory. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 68–77, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82D60 (81T08, 82B20)

Söderholm, Lars H. 13 moments equations based on first order Chapman-Enskog solution. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 681–690. (Summary) **99e:82085** 82C40

Söderkvist, I. An algorithm for Kalman filtering and smoothing with diagonal input covariance matrices. *Computational techniques and applications: CTAC95 (Melbourne, 1995), 709–716, World Sci. Publishing, River Edge, NJ, 1996.* (*see* **99g:00035**) 93E11 (93B40)

Söderlind, Gustaf The automatic control of numerical integration. (English summary) Solving differential equations on parallel computers. *CWI Quarterly* **11** (1998), *no.* 1, 55–74. (*see* **99g:65011**) 65M06

— (*with* Olsson, Hans) Stage value predictors and efficient Newton iterations in implicit Runge-Kutta methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 185–202 (*electronic*). (Yun Kang Liu) **99f:65118** 65L06

Söderström, Torsten (*with* Sorelius, Joakim; Stoica, Petre; Cedervall, Mats) Comparative study of rank test methods for ARMA order estimation. *Statistical methods in control and signal processing*, 179–216, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E10 (62M10)

— (*with* Kumamaru, Kousuke; Hu, Jinglu; Inoue, Katsuhiro) Statistical methods for robust change detection in dynamical systems with model uncertainty. *Statistical methods in control and signal processing*, 453–479, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E12

— (*with* Ježek, Jan; Kučera, Vladimír) An efficient and versatile algorithm for computing the covariance function of an ARMA process. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1591–1600. (Summary) **99j:65253** 65U05 (62M10)

Sodin, Mikhail A remark to the definition of Nevanlinna matrices. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 3-4, 412–422. (Olav Njåstad) **99e:30020** 30D15 (30E05, 44A60, 47A57)

— (*with* Yuditskiĭ, P. M.) Another approach to de Branges' theorem on weighted polynomial approximation. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 221–227, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (John G. Stalker) **99c:41014** 41A10

— (*with* Borichev, A. A.) Density of polynomials and the Hamburger moment problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 11–16. (Summary) **99e:41016** 41A30 (42A10, 44A60)

— Hahn decomposition for the Riesz charge of δ-subharmonic functions. *Math. Scand.* **83** (1998), *no.* 2, 277–282. (P. C. Fenton) **99m:31003** 31A05

Soedijono, Bambang Functional representation on the space of approximately Henstock integrable functions. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 50–53, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 26A39

eich-Soellner, Edda *see* **Eich-Soellner, Edda**

Soergel, Wolfgang (*with* Miličić, Dragan) The composition series of modules induced from Whittaker modules. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 503–520. (H. H. Andersen) **99e:17010** 17B10 (17B35, 22E47)

— Kazhdan-Lusztig-Polynome und eine Kombinatorik für Kipp-Moduln. (English summary) [Kazhdan-Lusztig polynomials and combinatorics for tilting modules] *Represent. Theory* **1** (1997), 37–68 (*electronic*). (H. H. Andersen) **99d:17023** 17B37 (20F55, 20G05)

— Combinatorics of Harish-Chandra modules. (English summary) *Representation theories and algebraic geometry (Montreal, PQ, 1997), 401–412, NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 514, *Kluwer Acad. Publ., Dordrecht*, 1998. (Eric N. Sommers) **99k:17017** 17B10 (22E45)

Soewono, E. Two-soliton interactions of the Kadomtsev-Petviashvili (KP-I,II) equations. (English summary) *Functional analysis and global analysis (Quezon City, 1996), 263–272, Springer, Singapore*, 1997. (Summary) **99h:35192** 35Q53

— (*with* Pudjaprasetya, S. R.; Van Groesen, E.) The splitting of solitary waves running over a shallower water. (English summary) *Wave Motion* **29** (1999), *no.* 4, 375–389. (Summary) **99m:76029** 76B25

Sofer, Ariela (*with* Nash, Stephen G.) On the complexity of a practical interior-point method. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 833–849 (*electronic*). (Shu Zhong Zhang) **99g:90161** 90C70 (90C05)

Soffer, A. (*with* Weinstein, Michael I.) Time dependent resonance theory. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 6, 1086–1128. (Hiroshi Isozaki) **99k:81329** 81U05 (47A55, 47N50, 81Q10)

— (*with* Weinstein, Michael I.) Nonautonomous Hamiltonians. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 359–391. (Christian Remling) **99i:81041** 81Q15

Sofo, Anthony (*with* Cerone, P.) Generalisation of Euler's identity. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 359–371. (R. K. Raina) **99j:05016** 05A19 (39A11)

— On the integral $(\sin x)^{p+q}/x^q$. *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 914–918. 26A06

Sofonea, Mircea (*with* Amassad, Amina) On a quasistatic rate-type viscoplastic problem with friction. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 1–12. (Kenneth Kuttler) **99a:73065** 73E60 (35Q72, 73T05)

— (*with* Rochdi, Mohamed) On the existence and behaviour of the solution for a class of nonlinear evolution systems. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 659–667. (Weimin Han) **99h:73034** 73E60 (34G20, 73E50)

— (*with* Drabla, S.; Teniou, Boudjemaa) Analysis of a frictionless contact problem for elastic bodies. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 75–88. (Alain Brillard) **99f:73075** 73T05 (49J45, 73C02, 73V25)

— (*with* Rochdi, Mohamed; Shillor, Meir) Quasistatic viscoelastic contact with normal compliance and friction. (English summary) *J. Elasticity* **51** (1998), *no.* 2, 105–126. (Kenneth Kuttler) **99k:73110** 73T05 (73F99)

— (*with* Shillor, Meir) A quasistatic contact problem for an elastoplastic rod. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 579–596. (Song Jiang) **99b:73037** 73T05 (35Q72, 73E99, 73K05, 73V25)

— (*with* Rochdi, Mohamed) On rate-type viscoplastic problems with linear boundary conditions. (English summary) *Math. Nachr.* **193** (1998), 119–135. (Mircea Sofonea) **99g:73053** 73E50 (34G20, 35Q72, 73E60)

— (*with* Amassad, Amina; Shillor, Meir) A quasistatic contact problem with slip-dependent coefficient of friction. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 3, 267–284. (Alain Brillard) **99k:73108** 73T05 (35Q72, 73F99, 73V25)

— (*with* Amassad, Amina; Shillor, Meir) A quasistatic contact problem for an elastic perfectly plastic body with Tresca's friction. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 95–109. (Alain Brillard) **99f:73070** 73T05 (34G20, 35Q72, 73E99)

Sofroniou, Mark (*with* Iserles, Arieh; Ramaswami, Geetha) Runge-Kutta methods for quadratic ordinary differential equations. (English summary) *BIT* **38** (1998), *no.* 2, 315–346. (Iulian Coroian) **99i:65074** 65L06

Sofronov, E. T. (*with* Dyrakhova, M. S.) On the stability in the large of an automatic control system. (Russian) *Dynamics of control systems, and computational processes (Russian)*, 20–26, *Yakut.sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 93D05

— (*with* Petrov, P. P.) On conditions for boundedness of solutions and stability in the large of a control system. (Russian) *Dynamics of control systems, and computational processes (Russian)*, 56–61, *Yakut.sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 34D20 (34C11, 93D05)

Sofronov, Ivan L. Non-reflecting inflow and outflow in a wind tunnel for transonic time-accurate simulation. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 92–115. (Summary) **99k:76117** 76M25 (76H05)

Softova, Lubomira Strong solvability for a class of nonlinear parabolic equations. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 59–70 (1998). (Yuanming Wang) **99e:35117** 35K60 (35B45)

— An integral estimate for the gradient for a class of nonlinear elliptic equations in the plane. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 57–66. (H. J. Kuiper) **99c:35064** 35J60 (35B45)

Søgaard-Andersen, Jørgen (*with* Segala, Roberto; Gawlick, Rainer; Lynch, Nancy) Liveness in timed and untimed systems. (English summary) *Inform. and Comput.* **141** (1998), *no.* 2, 119–171. (Julian Padget) **99a:68069** 68Q10 (68Q60)

Sogami, Ikuo S. Generalized covariant derivatives with gauge and Higgs fields in the standard model and SU(5) grand unified theory. (English summary) *Symmetry methods in physics, Vol. 2 (Dubna, 1995), 533–542, Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81V22

— (*with* Marnelius, Robert) Generalized BRST quantization and massive vector fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3101–3120. (Ion V. Vancea) **99m:81270** 81T70

Sogge, Christopher D. (*with* Georgiev, Vladimir; Lindblad, Hans) Weighted Strichartz estimates and global existence for semilinear wave equations. (English summary) *Amer. J. Math.* **119** (1997), *no.* 6, 1291–1319. (Sergio Spagnolo) **99f:35134** 35L70

— (*with* Oberlin, Daniel M.; Smith, Hart F.) Averages over curves with torsion. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 535–539. (Walter Trebels) **99j:42021** 42B20 (42B25)

— Concerning Nikodým-type sets in 3-dimensional curved spaces. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 1–31. (Adam Sikora) **99h:42037** 42B25 (58G15)

Soh, Cheong Boon (*with* Liu, Yuqiong; Wang, Jianliang; Yang, Guang-Hong) Reliable nonlinear control system design using duplicated control elements. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1103–1122. (Summary) **99j:93035** 93B36 (93B51)

— Frequency domain criteria for Hurwitz stability of generalized disc polynomials. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 2, 15 *pp.* (*electronic*). (Jacob Hammer) **99j:93076** 93D09 (93D21)

— (*with* Lin, Chong; Wang, Jianliang) Necessary and sufficient conditions for the controllability of linear interval descriptor systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 363–367. (Summary) **99a:93010** 93B05 (93C41)

— (*with* Li, Zhengguo; Xu, Xin He) Robust stability of a class of hybrid dynamic uncertain systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1059–1072. (Summary) **99g:93067** 93D09

— (*with* Dong, Xue-dong; Gunawan, Erry) Matrix characterization of MDS linear codes over modules. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 57–61. (Summary) **99d:94029** 94B05

— (*with* Dong, Xue-dong; Gunawan, Erry) Linear block codes for four-dimensional signals. (English summary) *Finite Fields Appl.* **5** (1999), *no.* 1, 57–75. (Harold N. Ward) **99m:94042** 94B05 (94A12)

— (*with* Wang, Dianhui) On regularizing singular systems by decentralized output feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 148–152. 93A14 (93B52)

— (*with* Yang, Guang-Hong; Wang, Jianliang; Lam, James) Decentralized H_∞-controller design for nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 578–583. 93B36 (93A14)

Soh, Kwang-Sup (*with* Cai, Rong-Gen; Ji, Jeong-Young) Action and entropy of black holes in spacetimes with a cosmological constant. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2783–2793. (Marco Cavaglià) **99j:83042** 83C57

— (*with* Cai, Rong-Gen; Ji, Jeong-Young) Ultrarelativistic limits of boosted dilaton black holes. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 265–282. (Summary) **99g:83051** 83C57 (83E30)

— (*with* Cai, Rong-Gen; Ji, Jeong-Young) Topological dilaton black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6547–6550. (Summary) **99k:83059** 83C57

— (*with* Cai, Rong-Gen) Topological black holes in the dimensionally continued gravity. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044013, 13 *pp.* (Summary) **99m:83166** 83D05 (83C57)

Soh, Yeng Chai (*with* Lee, Peng Hin; Kimura, Hidenori) (J, J')-lossless conjugations, (J, J')-lossless factorizations and chain scattering approach to time-varying H^∞ control: one and two-block cases. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 177–198. 93B36 (93B25)

— (*with* Lee, Peng Hin; Kimura, Hidenori) J-lossless conjugations and J-lossless factorizations of exponentially stable time-varying systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 199–212. 93B36 (93B25)

— (*with* Lee, Peng Hin; Kimura, Hidenori) Co-(J'', J)-lossless co-conjugations and co-(J'', J)-lossless factorizations of linear time-varying systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 731–752. 93B25 (93C60)

— (*with* Lee, Peng Hin; Kimura, Hidenori) Chain scattering approach to H^∞ control for time-varying systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 2, 195–218. (Peng Shi) **99h:93038** 93B36

— (*with* Xie, Lihua; Yan, Wei Yong) Parameterization and optimization of reduced-order filters. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 418–422. 93E11 (93E20)

— (*with* Lum, H. K.; Zribi, Mohamed) Planning and control of a biped robot. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 10, 1319–1349. 70B15 (70Q05, 93C85)

— (*with* Song, Qing; Yin, Ling) Shifting of the center of radial basis function neural network in the presence of disturbance. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 1, 43–53. 92B20

Sohn, Byung Keun (*with* Pahk, Dae Hyeon; Im, Sun Woo) Multipliers in the Fourier transform of distributions of rapid growth. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 59–67. (Richard D. Carmichael) **99j:46046** 46F10 (42B15, 44A35)

Sohn, Dong Joo (*with* Suh, Young Jin) Classification of real hypersurfaces in complex hyperbolic space in terms of constant φ-holomorphic sectional curvatures. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 801–819. (Jürgen Berndt) **99m:53109** 53C40

Sohn, Moo Young (*with* Lee, Jaeun; Kim, Hye Kyung) A note on graphs with large girth and small minus domination number. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 299–303. (Summary) **99j:05109** 05C35

Sohn, Su Ho (*with* Lee, Bu Young) Fuzzy regular convergence structures. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 505–508. 54A40

Sohn, Sung-Ik (*with* Zhang, Qiang[1]) Quantitative theory of Richtmyer-Meshkov instability in three dimensions. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 1, 1–46. (Summary) **99k:76066** 76E99 (76E30, 76L05, 76N10)

Sohn, Won-Ho (*with* Kwon, Jung-Hwan; Cho, Kwan-Ho) Cosymplectic conformal curvature tensor and spectrum of the Laplacian in cosymplectic manifolds. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 333–346. (Novica Blažić) **99i:58150** 58G25 (53C15)

Sohn, Young H. (*with* Sung, Chang Sup) Combat modeling of remotely targeted vehicles and a battery against a moving target. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 7, 645–667. 90B06 (90D40)

Sohoni, Milind (*with* Mukund, Madhavan; Narayan Kumar, K.; Radhakrishnan, Jaikumar) Robust asynchronous protocols are finite-state. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 188–199, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q10 (68M10, 68Q45)

Sohr, Hermann (*with* Farwig, Reinhard) Weighted L^q-theory for the Stokes resolvent in exterior domains. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 251–288. (Michael Wiegner) **99h:35158** 35Q30 (47N20, 76D05)

— (*with* Specovius-Neugebauer, Maria) The Stokes problem for exterior domains in homogeneous Sobolev spaces. (English summary) *Theory of the Navier-Stokes equations*, 185–205, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Toshiaki Hishida) **99k:35145** 35Q30 (35J25, 76D07)

— (*with* Thäter, Gudrun) Imaginary powers of second order differential operators and L^q-Helmholtz decomposition in the infinite cylinder. *Math. Ann.* **311** (1998), *no.* 3, 577–602. (Zinovi Sheftel) **99h:35035** 35J15 (47F05)

Soĭbel'man, Ya. S. (*with* Korogodskiĭ, L. I.) ★ Algebras of functions on quantum groups. Part I. (English summary) Mathematical Surveys and Monographs, 56. *American Mathematical Society, Providence, RI*, 1998. $x+150$ *pp. ISBN* 0-8218-0336-0 (Władysław Marcinek) **99a:17022** 17B37 (16W30, 58F05, 81R50)

Soicher, Leonard H. (*with* Leedham-Green, Charles) Symbolic collection using Deep Thought. (English summary) *LMS J. Comput. Math.* **1** (1998), 9–24 (*electronic*). (Martyn R. Dixon) **99f:20002** 20-04 (20F18)

garcía-Soidán, Pilar H. *see* **García-Soidán, Pilar H.**

Soifer, Alexander In memory of Paul Erdős: our joint problems in combinatorial geometry. II. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 43–48. (*see* **99i:00021**) 05-XX (01A70)

— Packing clones in convex figures. *Geombinatorics* **8** (1998), *no.* 1, 166–168. 52C10 (52C15)

Soisalon-Soininen, Eljas (*with* Ylönen, Tatu) Partial strictness in two-phase locking. (English summary) *Database theory—ICDT '95* (*Prague*), 139–147, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68Q10)

Soize, C. Reduced models in the medium frequency range for general dissipative structural-dynamics systems. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 657–685. (Pierre Alart) **99d:73061** 73K12 (65M60, 73F15)

Sokal, Alan D. (*with* Salas, Jesús) Logarithmic corrections and finite-size scaling in the two-dimensional 4-state Potts model. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 567–615. (Emilio N. M. Cirillo) **99a:82043** 82B27 (82B05, 82B20, 82B26)

Sokalski, Krzysztof (*with* Sułkowski, Piotr) On the classification of quantum systems with respect to their integrability. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 8, 1943–1961. (Summary) **99g:81122** 81S99

Sokatchev, E. (*with* Ivanov, Evgeniĭ Alekseevich[2]) On non-linear superfield versions of the vector-tensor multiplet. (English summary) *Phys. Lett. B* **429** (1998), *no.* 1-2, 35–47. (Piet Termonia) **99h:81213** 81T60 (81T30, 83E50)

— (*with* Dragon, Norbert; Ivanov, Evgeniĭ Alekseevich[2]; Kuzenko, Sergei M.; Theis, U.) $N = 2$ rigid supersymmetry with gauged central charge. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 411–450. (Ilya Shapiro) **99k:81303** 81T60 (81T13)

Soker, Noam (*with* Harpaz, Amos) Radiation from a uniformly accelerated charge. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1217–1227. (Summary) **99c:83022** 83C30

Sokhadze, G. A. Equivalence of measures corresponding to random processes for some equations. (Georgian. English and Russian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 1, 23–26 (1995). (Summary) **99f:60081** 60G30

— Prediction and filtering of solutions of equations with randomness. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 4, *Suppl.*, 704–707 (1996). 60G25 (60G35)

Sokhadze, Z. P. (*with* Kiguradze, I. T.) On the Cauchy problem for evolution singular functional-differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 48–59, 142; *translation in Differential Equations* **33** (1997), *no.* 1, 47–58. (Elena Litsyn) **99b:34128** 34K30

— (*with* Kiguradze, I. T.) On the structure of the set of solutions of the weighted Cauchy problem for evolution singular functional-differential equations. (English summary) *Fasc. Math. No.* 28 (1998), 71–92. (Elena Litsyn) **99j:34086** 34K05

Sokīl, B. Ī. On an asymptotic approximation of a solution of a boundary value problem for a nonlinear nonautonomous equation. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1580–1583; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1777–1781 (1998). (Taras A. Mel'nyk) **99m:35027** 35C20 (35G30)

Sokkalingam, P. T. (*with* Sharma, Prabha; Ahuja, Ravindra K.) A new pivot selection rule for the network simplex algorithm. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 149–158. (Summary) **99j:90106** 90C35 (90C27)

— (*with* Aneja, Y. P.) Lexicographic bottleneck combinatorial problems. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 27–33. (Paulo Barcia) **99m:90120** 90C27 (90C10, 90C35)

Sokół, Janusz (*with* Szumny, Waldemar) On some extreme points of the unit ball. (English summary) *Transform methods & special functions, Varna '96*, 423–427, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:30029** 30C75

— On some subclass of strongly starlike functions. *Demonstratio Math.* **31** (1998), *no.* 1, 81–86. (Frode Rønning) **99e:30009** 30C45

Sokol, Michael (*with* Eloe, Paul W.) Positive solutions and conjugate points for a boundary value problem with impulse. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 441–450. (Summary) **99h:34015** 34A37 (34B05, 34B15)

Sokol, V. D. (*with* Lysogor, V. N.) An optimal rule for stopping the control of a stochastic process of variable structure. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 80–88, 156–157. 93E05 (93E20)

— (*with* Lysogor, V. N.) Modeling of the two-level control of a multistage dynamic technological process. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 99–106, 153. 90B30 (93A30)

Sokolis, Dimitrios P. (*with* Theocaris, Pericles S.) Spectral decomposition of the compliance tensor for anisotropic plates. (English summary) *J. Elasticity* **51** (1998), *no.* 2, 89–103. (Summary) **99h:73012** 73B40 (73K10)

Sokolkin, Yu. V. (*with* Vil'deman, V. È.; Tashkinov, A. A.) ★ Механика неупругого деформирования и разрушения композиционных материалов. (Russian. Russian summary) [Mechanics of inelastic deformation and fracture of composite materials] *Fizmatlit "Nauka", Moscow*, 1997. 288 *pp. ISBN* 5-02-015078-9 (Gennady S. Mishuris) **99m:73051** 73K20 (73B27, 73M25, 73S10)

Sokoloff, D. D. *see* **Sokolov, D. D.**

Sokoloff, Dmitriĭ D. *see* **Sokolov, D. D.**

Sokoloff, Dmitry *see* **Sokolov, D. D.**

Sokolov, A. V. On the problem of optimal stack control in two-level memory. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 349–351, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 68N15 (68P05)

Sokolov, D. D. (*with* Meunier, N.; Proctor, M. R. E.; Soward, Andrew M.; Tobias, S. M.) Asymptotic properties of a nonlinear $\alpha\omega$-dynamo wave: period, amplitude and latitude dependence. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 249–285. (Summary) **99k:85006** 85A30 (76W05, 85A20)

— Stabilizability of the dynamo equation. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 535–540 (1998). (Manuel Núñez Jiménez) **99b:76097** 76W05 (60H30)

— (*with* Moss, David Leonard; Shukurov, Anvar) Boundary effects and propagating magnetic fronts in disc dynamos. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 3-4, 285–308. (Summary) **99j:76140** 76W05 (85A30)

Sokolov, G. A. (*with* Gul'ko, S. P.) P-points in $\mathbf{N}^*$ and the spaces of continuous functions. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 137–142. (Maria Scafati Tallini) **99c:54021** 54C35 (54A20, 54E52)

Sokolov, M. A. (*with* Damaskinskiĭ, E. V.) q-bosonization of orthogonal and symplectic quantum groups. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 166–172, 285. (Robert Rałowski) **99h:81084** 81R50 (17B37)

Sokolov, M. V. Which lens spaces are distinguished by Turaev-Viro invariants? (Russian) *Mat. Zametki* **61** (1997), *no.* 3, 468–470; *translation in Math. Notes* **61** (1997), *no.* 3-4, 384–387. (Nikolai N. Saveliev) **99c:57046** 57N10 (57M99)

— On the absolute value of the SO(3)-invariant and other summands of the Turaev-Viro invariant. *Knot theory* (*Warsaw*, 1995), 395–408, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Justin D. Roberts) **99h:57041** 57N10 (57M25)

Sokolov, S. V. Optimal control based on nonlinear probabilistic criteria. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 61–71, 157. 49K45 (93E20)

— (*with* Pogorelov, V. A.) A posteriori synthesis of the optimal control of nonlinear stochastic structures. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 62–69, 152. 49K45 (93E20)

Sokolov, V. F. Adaptive robust control of a discrete scalar plant in the l_1-formulation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 3, 107–131; *translation in Automat. Remote Control* **59** (1998), *no.* 3, *part* 2, 392–411. (B. I. Anan'ev) **99m:93033** 93B36 (93C73)

— Adaptive robust control with guaranteed outcome. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 176–185. (*see* **99b:93002**) 93E20 (93B35)

Sokolov, Vladimir V. (*with* Olver, Peter J.) Integrable evolution equations on associative algebras. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 245–268. (Satyanad Kichenassamy) **99c:58077** 58F07 (35Q51)

— (*with* Olver, Peter J.) Non-abelian integrable systems of the derivative nonlinear Schrödinger type. (English summary) *Inverse Problems* **14** (1998), *no.* 6, *L5–L8*. 35Q55 (58F37)

— (*with* Balandin, S. P.) On the Painlevé test for non-abelian equations. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 267–272. (Summary) **99e:34011** 34A34 (34A25)

— (*with* Wolf, Thomas Otto) A symmetry test for quasilinear coupled systems. (English summary) *Inverse Problems* **15** (1999), *no.* 2, *L5–L11*. 35Q55 (35A30)

Sokolovskaya, S. I. On connections induced on surfaces of a projective space by the Bortolotti equipments. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat.*

Mekh. **1998**, *no.* 1, 33–37, 80; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 35–38. (V. Oproiu) **99d:53017** 53B25

Sokolovskiĭ, M. A. (*with* Zyryanov, V. N.; Davies, Peter A.) On the influence of an isolated submerged obstacle on a barotropic tidal flow. (English summary) *Geophys. Astrophys. Fluid Dynam.* **88** (1998), *no.* 1-2, 1–30. 76C99 (86A05)

Sokołowski, Jan Displacement derivatives in shape optimization of thin shells. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 247–266, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Bernard Rousselet) **99b:73033** 73K40 (49Q15, 73K15)

— (*with* Henrot, Antoine) A shape optimization problem for the heat equation. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 204–223, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Maïtine Bergounioux) **99f:49067** 49Q10 (35K05, 49K20)

— (*with* Khludnev, A. M.) On solution existence for elastoplastic plates with cracks. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 1–11, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (From the introduction) **99d:73048** 73E99 (35Q72, 73K10, 73V25)

— (*with* Hömberg, Dietmar) Optimal control of laser hardening. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 911–928. (Summary) **99g:49035** 49N55 (73B30, 80A22)

— (*with* Arnăutu, Viorel; Hömberg, Dietmar) On a laser hardening problem. *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **6** (1998), *no.* 1, 1–7 (1999). 49N55 (80A22)

— (*with* Bubner, Nikolaus; Sprekels, Jürgen) Optimal boundary control problems for shape memory alloys under state constraints for stress and temperature. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 489–498. (Bernard Rousselet) **99k:49085** 49Q10 (73B30, 73K50, 93C20)

— (*with* Żochowski, A.) Topological derivatives for elliptic problems. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 123–134. (Summary) **99k:49088** 49Q10 (35J05, 35R30)

— *see also* **Recent advances in structural modelling and optimization, 99k:73003**

Sokołowski, Leszek M. Universality of Einstein's general relativity. (English summary) *Proceedings of the* 14*th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 337–354, *World Sci. Publishing, River Edge, NJ*, 1997. (Viqar Husain) **99j:83012** 83C05 (83D05)

— (*with* Pogoda, Zdzisław) Does mathematics distinguish certain dimensions of spaces? Translated by Abe Shenitzer. *Amer. Math. Monthly* **104** (1997), *no.* 9, 860–869. (J. S. Joel) **99a:00001** 00A05 (00A69)

— (*with* Pogoda, Zdzisław) Does mathematics distinguish certain dimensions of spaces? II. Translated from the Polish by Abe Shenitzer. *Amer. Math. Monthly* **105** (1998), *no.* 5, 456–463. (J. S. Joel) **99f:57013** 57M40 (00A79, 55M10, 57R55)

— (*with* Magnano, Guido) Can the local energy-momentum conservation laws be derived solely from field equations? (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1281–1288. (Roh Suan Tung) **99f:83027** 83C40 (83C05)

Sokolsky, Oleg (*with* Philippou, Anna; Cleaveland, Rance; Lee, Insup; Smolka, Scott A.) Probabilistic resource failure in real-time process algebra. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 389–404, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

bustince Sola, Humberto *see* **Bustince Sola, Humberto**

Sola, Thierry (*with* Fages, François; Fowler, Julian) Experiments in reactive constraint logic programming. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 185–212. (Summary) **99c:68038** 68N17 (68Q10, 68T20)

Solaeche Galera, María Cristina The algorithm of elementary operations and the reduced echelon matrix: millennial Oriental concepts. (Spanish. English and Spanish summaries) *Divulg. Mat.* **4** (1996), *no.* 1-2, 55–60 (1998). (Summary) **99g:01007** 01A25 (15–03, 65–03)

— The system for tabulating binomial coefficients, Pascal's triangle: a numerical model rips the loom of time. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 61–68. 05A10

Solana A., Elena (*with* Echavarría Heras, Héctor) A mathematical model for general radial insertion of LDL receptors near coated pits: formal analysis and applications. (English summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 87–104, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 92C05 (35Q80, 92C30)

Solanki, Anjana (*with* Srivastava, P. N.) Transient state analysis of the queueing system $E_k/M^{a,b}/1/N$. (English summary) *Opsearch* **35** (1998), *no.* 4, 353–359. 60K25 (90B22)

Solanky, T. K. S. (*with* Mukhopadhyay, Nitis) Estimation after sequential selection and ranking. (English summary) *Metrika* **45** (1997), *no.* 2, 95–106. (Neeraj Misra) **99c:62055** 62F10 (62F07)

— (*with* Mukhopadhyay, Nitis) On an improved accelerated sequential methodology with applications in selection and ranking. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 250–259, *Narosa, New Delhi*, 1998. (Introduction) **99j:62024** 62F07 (62L10)

Solares, Cristina (*with* Castillo, Enrique F.; Gómez, Patricia) Tail sensitivity analysis in Bayesian networks. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 133–140, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

— (*with* Castillo, Enrique F.; Hadi, Ali S.; Jubete, Francisco) An expert system for coherent assessment of probabilities in multigraph models. (English summary) *Networks* **33** (1999), *no.* 3, 193–206. 68T35

Solari, Giovanni *see* **Nonlinear and random dynamics in wind engineering**

Solarin, A. R. T. (*with* Adeniran, John Olusola) A note on automorphic inverse property loops. (English and Serbian summaries) *Zb. Rad.* (*Kragujevac*) *No.* 20 (1998), 47–52. (Summary) **99g:20123** 20N05

Solberg, Jerome M. (*with* Papadopoulos, Panayiotis) A finite element method for contact/impact. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 4, 297–311. (Summary) **99f:73078** 73T05 (73V05)

Solberg, Øyvind (*with* Buan, Aslak Bakke) Relative cotilting theory and almost complete cotilting modules. *Algebras and modules, II* (*Geiranger*, 1996), 77–92, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Flávio Ulhoa Coelho) **99i:16022** 16G10 (16E10, 16G70)

— (*with* Michler, Gerhard O.) Testing modules of groups of even order for simplicity. (English summary) *J. Algebra* **202** (1998), *no.* 1, 229–242. (D. F. Holt) **99b:20008** 20C05 (20–04, 20C40)

— (*with* Green, Edward L.[1]; Martínez-Villa, Roberto; Reiten, Idun; Zacharia, D.) On modules with linear presentations. *J. Algebra* **205** (1998), *no.* 2, 578–604. (Sverre O. Smalø) **99i:16075** 16W50 (16E10, 16G20, 16G70)

— (*with* Dräxler, Peter; Reiten, Idun; Smalø, Sverre O.) Exact categories and vector space categories. (English summary) With an appendix by B. Keller. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 647–682. (Hagen Meltzer) **99f:16001** 16B50 (16G20, 16G70, 18E10)

— *see also* **Algebras and modules, 99e:16001** *and* **99e:16002**

Solberg Gasser, Kirsten Lackner (*with* Nielson, Hanne Riis; Nielson, Flemming) Strictness and totality analysis. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 113–145. (Summary) **99c:68035** 68N15 (68Q55)

Soldano, Henri (*with* Sagot, Marie-France; Viari, Alain) Multiple sequence comparison—a peptide matching approach. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 115–137. (Juraj Hromkovič) **99e:92023** 92D20 (68Q20, 68Q25)

Soldati, Roberto (*with* Sorbo, Lorenzo) Effective action for Dirac spinors in the presence of general uniform electromagnetic fields. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 82–88. (Summary) **99b:81153** 81T15

— (*with* Andrianov, A. A.; Sorbo, Lorenzo) Dynamical Lorentz symmetry breaking from a $(3+1)$-dimensional axion-Wess-Zumino model. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 025002, 13 *pp.* 81T13 (81R40)

Soldatkin, P. A. On H^∞-disks pasted to completely real manifolds. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 624–626; *translation in Math. Notes* **60** (1996), *no.* 3-4, 469–471 (1997). (Armen Edigarian) **99d:30035** 30D55

Soldatov, A. P. (*with* Mitin, S. P.) On a class of strongly elliptic systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1118–1122, 1152; *translation in Differential Equations* **33** (1997), *no.* 8, 1125–1129 (1998). (Ya. A. Roĭtberg) **99g:35034** 35J55

Soldovieri, Francesco (*with* Pierri, Rocco) On the information content of the radiated fields in the near zone over bounded domains. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 321–337. (Summary) **99a:78008** 78A10 (78–08)

marquès Solé, Daniel *see* **Marquès Solé, Daniel**

Solé, J. (*with* Joan-Arinyo, R.) Boundary generation from voxel-based volume representations. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 273–285, *Focus Comput. Graph., Springer, Berlin*, 1997. (*see* **99d:65003**) 65Y25 (65D17)

sanz-Solé, Marta *see* **Sanz-Solé, Marta**

Solé, Patrick Sato-Tate conjectures and Chebyshev polynomials. (English summary) *Ramanujan J.* **1** (1997), *no.* 2, 211–220. (M. Ram Murty) **99d:11043** 11F30 (11G40, 11S40, 33C45)

— (*with* Litsyn, Simon; Struik, René) On the covering radius of an unrestricted code as a function of the rate and dual distance. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 177–191. (Antoine Lobstein) **99g:94023** 94B65 (94B75)

— (*with* Tillich, Jean-Pierre) On the dual distance and the gap of a binary code. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 333–336. (Summary) **99h:94064** 94B15 (05C90)

— (*with* Loyer, Pierre) U_n lattices, construction B, and AGM iterations. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 227–236. (Richard T. Bumby) **99c:94059** 94B40 (05A15, 33C80)

— (*with* Langevin, Philippe) Kernels and defaults. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 77–85, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:94079** 94B75

Solecki, Sławomir Decomposing Borel sets and functions and the structure of Baire class 1 functions. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 521–550. (Solomon Marcus) **99h:26010** 26A21 (04A15, 28A12)

— (*with* Hjorth, Greg) Vaught's conjecture and the Glimm-Effros property for Polish transformation groups. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2623–2641. (Klaas Pieter Hart) **99j:54037** 54H05 (22A05, 54H15)

Soleev, Ahmadjon Newton polyhedra and determination of Hamiltonian truncations of Hamiltonian system. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 374–375, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 34C20 (58F05, 70H05)

Solel, Baruch (*with* Muhly, Paul S.) An algebraic characterization of boundary representations. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 189–196, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Summary) **99f:47057** 47D25 (46L05, 47A20)

— (*with* Muhly, Paul S.) Tensor algebras over C^*-correspondences: representations, dilations, and C^*-envelopes. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 389–457. (Michael Frank) **99j:46066** 46L05 (46H25, 46H35)

— (*with* Muhly, Paul S.) On the simplicity of some Cuntz-Pimsner algebras. (English summary) *Math. Scand.* **83** (1998), *no.* 1, 53–73. (Claudia Pinzari) **99m:46140** 46L05 (46L40)

Soler, David *see* **Soler Fernández, David**

albà Soler, Gerard *see* **Albà Soler, Gerard**

Soler Fernández, David (*with* Hervás, Antonio; Sanchis, Francisco J.) An approximate algorithm for the mixed rural postman problem. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 90C27 (90C35)

— A double tracing problem in cubic graphs. (Spanish. English and Spanish summaries) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 125–130. (Summary) **99f:05031** 05C10

— (*with* Martínez Molada, Eulalia) Exact solution of the Chinese postman problem with turn penalties. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1111–1115, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 90B10

— Eulerian tour without U-turns in a simple digraph. (Catalan. English and Catalan summaries) *Qüestiió* (2) **22** (1998), *no.* 3, 471–489. 05C45 (05C20)

— (*with* Benavent López, Enrique) Searching for a strong double tracing in a graph. (English summary) *Top* **6** (1998), *no.* 1, 123–138. (Summary) **99e:05113** 05C85 (68R10, 94C15)

Solev, V. N. (*with* Nikulin, Mikhail S.) Chi-squared goodness of fit test for doubly censored data with applications in survival analysis and reliability. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 101–111, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 62N05

Solganik, S. B. (*with* Sisakyan, A. N.; Shevchenko, O. Yu.) Chiral and parity anomalies at finite temperature and density. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 455–472. (Summary) **99a:81165** 81T50

Soliani, Giulio (*with* Martina, L.; Pashaev, O. K.) Chern-Simons-Witten topological field theory and integrable models. *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 396–401, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81T70

— (*with* Profilo, Gabriella; Tebaldi, Claudio) Some exact solutions of the two-dimensional Navier-Stokes equations. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 459–471. (Summary) **99a:76038** 76D05 (35Q30)

— (*with* Alfinito, E.; Grassi, V.; Leo, R. A.; Profilo, Gabriella) Equations of the reaction-diffusion type with a loop algebra structure. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1387–1401. (Oktay K. Pashaev) **99m:58106** 58F07 (35K57, 58F35)

— (*with* Alfinito, E.; Causo, M. S.; Profilo, Gabriella) A class of nonlinear wave equations containing the continuous Toda case. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2173–2189. (Summary) **99c:35157** 35L70 (35A30, 35Q58, 70G99)

— (*with* Martina, L.; Pashaev, O. K.) Bright solitons as black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084025, 13 *pp.* (Summary) **99m:83127** 83C57 (83C47)

Soliba, Kh. M. On the mean value of the ternary function of divisors on a sparse sequence. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 385–396. (Katalin Kovács) **99h:11107** 11N37 (11L07)

Soliman, A. A. Stability criteria of differential systems via Liapunov's second method. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 143–152. (T. A. Burton) **99c:34110** 34D20 (34K20)

Soliman, Mohamed S. Basin boundaries with fractal and smooth accumulation properties in systems with single potential well. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 989–994. 58F12

— Four indeterminate pitchfork bifurcations resulting in unpredictable dynamics in nonlinear driven oscillators. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 10, 2013–2017. 58F14 (34C23, 70K40)

Soliman, Sylvain (*with* Fages, François; Ruet, Paul) Phase semantics and verification of concurrent constraint programs. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 141–152, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10 (68T20)

Solimano, Fortunata (*with* Beretta, Edoardo; Takeuchi, Yasuhiro) A mathematical model for drug administration by using the phagocytosis of red blood cells. (English summary) *J. Math. Biol.* **35** (1996), *no.* 1, 1–19. (John G. Milton) **99g:92014** 92C50 (34K15, 93A30)

— (*with* Chattopadhyay, J.; Beretta, Edoardo) Role of time-delay in an ecotoxicological problem. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 1, 19–48. (H. I. Freedman) **99e:92032** 92D40 (34K20)

Šolín, P. (*with* Felcman, Jiří) On the construction of the Osher-Solomon scheme for 3D Euler equations. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 1, 43–64. (Claus-Dieter Munz) **99e:76086** 76M25 (65M99, 76H05)

Solís, Francisco (*with* Chen-Charpentier, Benito) Discretizations of nonlinear differential equations using explicit finite order methods. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 171–183. (V. R. Ibragimov) **99f:65113** 65L06 (34A45)

— Dimension and local structures of attracting manifolds of smooth dynamical systems. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 169–175. (Timothy Sauer) **99m:58130** 58F12 (34D35, 65M99)

hidalgo-Solís, Laura *see* **Hidalgo-Solís, Laura**

Solka, Jeffrey L. (*with* Poston, Wendy L.; Wegman, Edward J.) *D*-optimal design methods for robust estimation of multivariate location and scatter. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 205–213. (*see* **99f:62006**) 62H12 (62K99)

Solla, Sara A. An exact solution for on-line learning of smooth functions. (English summary) *Theoretical aspects of neural computation* (*Hong Kong*, 1997), 237–247, *Springer, Singapore*, 1998. (*see* **99f:00027**) 68T05

del Sol Mesa, A. (*with* Moshinsky, Marcos; Riquer, V.) Supermultiplicity and the relativistic Coulomb problem with arbitrary spin. (English summary) *Found. Phys.* **27** (1997), *no.* 8, 1139–1157. (A. M. Gavrilik) **99b:81037** 81Q05 (81Q10, 81R05)

— (*with* Quesne, C.; Smirnov, Yu. F.) Generalized Morse potential: symmetry and satellite potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 321–335. (Summary) **99a:81204** 81V55 (81R05)

Solnechnyĭ, È. M. Conditions for the Volterra property of an operator generated by the Cauchy problem for a partial differential equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 267–274, 287; *translation in Differential Equations* **33** (1997), *no.* 2, 267–274. (Peter R. Popivanov) **99b:35003** 35A99 (47F05)

Solo, Victor Deterministic adaptive control with slowly varying parameters: an averaging analysis. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 99–125. 93C40

Solodkiĭ, S. G. On a discretization scheme for Fredholm equations of the first kind. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1547–1551, 1583; *translation in Differential Equations* **33** (1997), *no.* 11, 1551–1555 (1998). (Peter Junghanns) **99m:45018** 45L05 (65R20)

— On the information complexity of some classes of operator equations. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1271–1277. (Stefan Heinrich) **99g:47020** 47A50 (45L05, 65Y20, 68Q25)

— A modification of a projection scheme for solving ill-posed problems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 83–90. (Mihail Yu. Kokurin) **99m:65117** 65J10 (47A50, 65J20)

Solodov, A. P. (*with* Skvortsov, V. A.) On a generalization of the Denjoy integral. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 766–772; *translation in Math. Notes* **62** (1997), *no.* 5-6, 642–647 (1998). (Š. Schwabik) **99f:26015** 26A39

Solodov, Michael V. (*with* Alber, Ya. I.; Iusem, Alfredo N.) Minimization of nonsmooth convex functionals in Banach spaces. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 235–255. (W. W. Breckner) **99g:90158** 90C48 (46N10, 65K05)

— Incremental gradient algorithms with stepsizes bounded away from zero. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 23–35. (Summary) **99f:90136** 90C30 (65K05)

— (*with* Zavriev, S. K.) Error stability properties of generalized gradient-type algorithms. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 663–680. (Summary) **99f:90137** 90C30 (65K05, 90C31)

— (*with* Alber, Ya. I.; Iusem, Alfredo N.) On the projected subgradient method for nonsmooth convex optimization in a Hilbert space. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 23–35. (Lionel Thibault) **99k:90114** 90C25 (49J52, 90C48)

— On the convergence of constrained parallel variable distribution algorithms. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 187–196 (*electronic*). (Summary) **99c:90126** 90C30 (65K05)

Solodukhin, S. N. Brick wall and quantum statistical entropy of black hole. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 324–327, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57

— (*with* Mann, Robert B.) Universality of quantum entropy for extreme black holes. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 293–307. (Guido Cognola) **99d:83061** 83C57

Soloi, Anton Une méthode d'obtenir la densité de répartition et la transformée Laplace de la statistique du processus bidimensionnel gaussien que représente la réponse d'une construction à l'action séismique. (French summary) [A method for obtaining the distribution density and Laplace transform of the statistics of a two-dimensional Gaussian process representing the behavior of a structure under seismic action] *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 261–270. 62M09 (62B05)

Solomatine, D. P. Two strategies of adaptive cluster covering with descent and their comparison to other algorithms. (English summary) *J. Global Optim.* **14** (1999), *no.* 1, 55–78. (Harold P. Benson) **99m:90135** 90C30 (90C15)

Solomin, J. (*with* Durán, Ricardo G.; Hervella-Nieto, L.; Liberman, E.; Rodríguez, Rodolfo) Approximation of the vibration modes of a plate by Reissner-Mindlin equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1447–1463. (Riccardo Fazio) **99m:73045** 73K10 (65N30, 73V20)

Solomon, Allan I. (*with* Daskaloyannis, C.) Jaynes-Cummings variants. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 130–136, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81V80

— (*with* Birman, Joseph L.) Dynamical group for the quantum Hall current. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1702–1704. (Introduction) **99j:81212** 81V70

Solomon, Andrew ★ Concrete monoids, automata and the Catalan construction. (English summary) Available at http://www.elsevier.nl/cas/tree/store/tcs/free/entcs/store/tcs12/contents.sub.sht#top. Electronic Notes in Theoretical Computer Science, 12. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+83 *pp.* (*electronic*). (From the introduction) **99g:68139** 68Q70 (18C99, 68N15)

Solomon, David Algebraic properties of Shintani's generating functions: Dedekind sums and cocycles on $PGL_2(\mathbf{Q})$. (English summary) *Compositio Math.* **112** (1998), *no.* 3, 333–362. (Alexey A. Panchishkin) **99g:11137** 11R42 (11F20, 11R80)

Solomon, Louis An introduction to reductive monoids. *Semigroups, formal languages and groups* (*York*, 1993), 295–352, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Jan Okniński) **99h:20099** 20M20 (20C33, 20D06)

— (*with* Terao, Hiroaki) The double Coxeter arrangement. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 2, 237–258. (Luis Paris) **99c:52018** 52B30 (05E15, 20F55)

Solomonoff, Ray J. The discovery of algorithmic probability. Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 73–88. (M. I. Dekhtyar) **99a:01018** 01A60 (68–03, 68Q30, 68T05)

Solomons, D. M. (*with* Ellis, George F. R.) Caustics of compensated spherical lens models. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2381–2396. (Summary) **99h:83065** 83F05

Solomyak, Boris (*with* Dajani, Karma; Kraaikamp, Cor) The natural extension of the β-transformation. *Acta Math. Hungar.* **73** (1996), *no.* 1-2, 97–109. (Meir Smorodinsky) **99d:28029** 28D05 (11K55)

— On the measure of arithmetic sums of Cantor sets. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 133–141. (P. Mendes) **99g:28015** 28A78 (58F11)

— Spectrum of dynamical systems arising from Delone sets. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 265–275, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Kenyon) **99f:58176** 58F27 (54H20, 58F19)

— Nonperiodicity implies unique composition for self-similar translationally finite tilings. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 265–279. (R. Blind) **99f:52028** 52C22

— (*with* Simon, Károly) Correlation dimension for self-similar Cantor sets with overlaps. (English summary) *Fund. Math.* **155** (1998), *no.* 3, 293–300. (Run Sheng Yang) **99g:28036** 28D20 (28D05)

— Measure and dimension for some fractal families. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 531–546. (Andreas Schief) **99e:28016** 28A80 (28A78)

Solomyak, M. Z. (*with* Rozenblyum, G. V.) The Cwikel-Lieb-Rozenblyum estimator for generators of positive semigroups and semigroups dominated by positive semigroups. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 214–236; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 6, 1195–1211. (Vitali A. Liskevich) **99c:47059** 47D06 (35J10, 35P15, 47B65, 81Q10)

— (*with* Naimark, K.) Regular and pathological eigenvalue behavior for the equation $-\lambda u'' = Vu$ on the semiaxis. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 2, 504–530. (Günter Stolz) **99b:34039** 34B05 (34L20, 47E05)

— (*with* Rozenblyum, G. V.) On principal eigenvalues for indefinite problems in Euclidean space. (English summary) *Math. Nachr.* **192** (1998), 205–223. (Yehuda Pinchover) **99e:35162** 35P05 (35J25, 47F05)

— (*with* Birman, M. Sh.; Laptev, A.) On the eigenvalue behaviour for a class of differential operators on semiaxis. (English summary) *Math. Nachr.* **195** (1998), 17–46. (Christiane Tretter) **99m:34194** 34L20 (47E05)

Solomyak, Margarita On coincidence of entropies for two classes of dynamical systems. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 731–738. (Thomas Ward) **99h:58112** 58F11 (22D40)

Solomyak, Michael *see* **Solomyak, M. Z.**

Solomyak, Rita *see* **Solomyak, Margarita**

Solonnikov, Vsevolod A. (*with* Garroni, M. G.; Vivaldi, M. A.) On the oblique derivative problem in an infinite angle. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 299–325. (Giovanna Citti) **99b:35039** 35J25 (35K20)

— Free boundary problems for the Navier-Stokes equations with moving contact points. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 180–189, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35R35 (35Q30, 76D05)

— (*with* Maremonti, Paolo) On nonstationary Stokes problem in exterior domains. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 395–449. (Jürgen Socolowsky) **99c:35092** 35K22 (35B45, 35Q30, 76D07)

— (*with* Mogilevskiĭ, I. Sh.) The problem of the steady motion of a second-grade fluid in Hölder classes of functions. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 154–168, 341. (Antonín Novotný) **99g:35108** 35Q35 (76A05)

— (*with* Frolova, Elena Veniaminovna) L_p-theory for the Stefan problem. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 299–323, 343. (Galina I. Bizhanova) **99f:35232** 35R35 (35D05, 35K05, 80A22)

— (*with* Novotný, Antonín; Penel', P.) Investigation of the problem of viscous compressible fluid flow around a bounded body in Hölder spaces. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 247–269, 287. (Vladimir V. Shelukhin) **99d:76086** 76N10 (35Q30)

— (*with* Maremonti, Paolo) On decay properties of solutions to Stokes system in exterior domains. (English summary) *Theory of the Navier-Stokes equations*, 99–105, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99h:35165** 35Q30 (76D07)

— (*with* Yi, Fa Huai) A free boundary problem for viscous compressible flow associated with oxidation of silicon. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1013–1018. 35R35 (35Q35, 76N10)

— Problème de frontiére libre dans l'écoulement d'un fluide à la sortie d'un tube cylindrique. [Free boundary problem for the flow of a fluid out of a cylindrical tube] *Asymptot. Anal.* **17** (1998), *no.* 2, 135–163. (Alberto Valli) **99f:35233** 35R35 (35Q30, 76D05)

— Solvability of two stationary free boundary problems for the Navier-Stokes equations. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 283–342. (Angela Pawell) **99h:35237** 35R35 (35Q30, 76D05)

— (*with* Garroni, M. G.; Vivaldi, M. A.) Existence and regularity results for oblique derivative problems for heat equations in an angle. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 47–79. (Peter G. Danilaev) **99a:35110** 35K20

— *see also* **Theory of the Navier-Stokes equations, 99c:35002; Navier-Stokes equations and related nonlinear problems, 99m:35004** *and* **Recent developments in partial differential equations, 99m:35005**

Solonukha, O. V. (*with* Mel'nik, V. S.) On variational inequalities with multivalued operators. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 5, 32–38. (George Isac) **99b:49007** 49J40 (47H19)

— (*with* Mel'nik, V. S.) On stationary variational inequalities with multivalued operators. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 3, 74–89, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 3, 366–378 (1998). (Julian Revalski) **99d:47070** 47H19 (47H04, 49J40)

Solotar, Andrea (*with* Redondo, María Julia) Paracyclic complexes arising from α-derivations. *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish) (Bahía Blanca, 1997)*, 99–104, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (J. Kuzmanovich) **99i:16019** 16E40

— (*with* Fieux, Etienne) Une suite spectrale pour les groupes d'homotopie des espaces d'applications équivariantes. (English and French summaries) [A spectral sequence for the homotopy groups of spaces of equivariant mappings] *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 4, 565–582. (Summary) **99h:55014** 55P91 (18G10, 55Q05, 55S37, 55T99)

— (*with* Farinati, Marco A.) On the Picard group of involutive algebras and coalgebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2115–2137. (Blas Torrecillas Jover) **99e:16009** 16D90 (16W30)

— (*with* Farinati, Marco A.) Localization on (necessarily) topological coalgebras and cohomology. *J. Algebra* **208** (1998), *no.* 2, 575–603. (Mitsuhiro Takeuchi) **99m:16058** 16W30 (16E40, 16W80, 18G60)

Solovej, J. P. Mathematical results on the structure of large atoms. (English summary) *European Congress of Mathematics, Vol. II (Budapest, 1996)*, 211–220, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (Giorgio Cattapan) **99h:81232** 81V45

Solov'ev, A. A. *see* **Solov'ev, Aleksandr Anatol'evich**

Solov'ev, A. D. (*with* Petrova, S. S.) The calculus of finite differences. *Mathematics of the 19th century*, 261–310, *Birkhäuser, Basel*, 1998. (*see* **99d:01022**) 01A55

Solov'ev, A. G. (*with* Zhidkov, E. P.) Increasing the accuracy of approximate solutions of a boundary value problem on a half-line. (Russian. Russian summary) *Computational modelling and computing in physics (Dubna, 1996)*, 321–326, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65L20

Solov'ev, Aleksandr Anatol'evich (*with* Kryazhimskii, Arkadii V.; Maksimov, V. I.; Chentsov, A. G.) On a probabilistic approach to the quantitative description of the dynamics of natural processes. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996,** *no.* 1-2, 192–210, 300. 93A30 (93C95)

Solov'ëv, Aleksandr Artëmovich (*with* Maz'ya, Vladimir G.) L_p-theory of boundary integral equations on a contour with outward peak. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 75–100. (Heinrich Begehr) **99i:31001** 31A10 (35J25, 45E10, 47G10)

— (*with* Maz'ya, Vladimir G.) L_p-theory of boundary integral equations on a contour with inward peak. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 641–673. (Andreas Rathsfeld) **99g:31003** 31A10 (35J05, 45A05, 45P05, 47G10)

Solov'ev, L. D. String model of confinement. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 75–80, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81V05 (81T30)

Solov'ev, M. A. On the spectral condition for infrared-singular quantum fields. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 405–411; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1520–1524 (1996). (Summary) **99c:81128** 81T05 (46N50)

— Use of nontempered distributions to handle infrared singularities. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 586–591, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T08 (46F99, 46N50)

— A uniqueness theorem for distributions and its application to nonlocal quantum field theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2635–2642. (Guenther Hoermann) **99e:81134** 81T05 (46F10, 46N50)

— Extension of the spin-statistics theorem to nonlocal fields. *JETP Lett.* **67** (1998), *no.* 8, 621–626; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **67** (1998), *no.* 8, 586–591 (*Russian*). (Summary) **99b:81138** 81T05

Solov'ev, O. A. Conformal points of non-abelian Thirring model. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 463–465, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T10 (81T40)

— (*with* Kogan, Ian I.; Lewis, Alexander S.) Gauged Knizhnik-Zamolodchikov equation. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 154–158. (Conclusion) **99i:81214** 81T40

— On the Schild action for $D = 0$ and $D = 1$ strings. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2415–2425. (Summary) **99f:81179** 81T30

— (*with* Kogan, Ian I.) Gravitationally dressed RG flows and zigzag-invariant strings. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 136–144. (Summary) **99h:81170** 81T30 (81T17, 81T40)

Solov'ev, S. V. (*with* Andreev, A. E.) A deciding algorithm for linear isomorphism of types with complexity $O(n \log^2(n))$. (English summary) *Category theory and computer science (Santa Margherita Ligure, 1997)*, 197–209, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Summary) **99e:03014** 03B40 (03D15, 68Q65)

Solov'ëv, V. D. Initial segments of effectively finite orders. (Russian) *Mat. Zametki* **61** (1997), *no.* 6, 950–953; *translation in Math. Notes* **61** (1997), *no.* 5-6, 793–795. (Roman Murawski) **99m:03084** 03D25

Solov'ev, V. N. On the subdifferential of the maximum of convex functions. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 24–25. (Ludmila N. Polyakova) **99b:49020** 49J52 (90C25)

— On the problem of minimax-Bayesian estimation. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 5(323), 247–248. 62F15

Solov'ev, Yu. I. Cauchy formula and Cauchy-type integral for a class of generalized analytic functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998,** *no.* 2, 64–68; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 2, 61–65. (Arturo Presa Sagué) **99f:30063a** 30E20 (30G20)

— Erratum: "Cauchy formula and Cauchy-type integral for a class of generalized analytic functions". (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998,** *no.* 6, 99. (Arturo Presa Sagué) **99f:30063b** 30E20 (30G20)

Solov'ëv, Yurïĭ Petrovich (*with* Belokurov, V. V.; Shavgulidze, E. T.) Convergent series perturbation theory for functional integrals. (English summary) *Path integrals: Dubna '96*, 122–126, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

Solov'eva, Faina I. (*with* Avgustinovich, Sergei V.; Honold, Thomas; Heise, Werner R.) On the extendability of code isometries. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 3–16. (Italo José Dejter) **99a:94053** 94B25 (51E99)

Solov'eva, S. I. An iterative method for solving the inverse problem for a nonlinear differential equation. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998,** *no.* 4, 14–16, 50. 65M70 (34A55)

Soloviev, A. *see* **Solov'ëv, Aleksandr Artëmovich**

Soloviev, L. D. *see* **Solov'ev, L. D.**

Soloviev, M. A. *see* **Solov'ev, M. A.**

Soloviev, O. A. *see* **Solov'ev, O. A.**

Soloviev, Oleg A. *see* **Solov'ev, O. A.**

Soloviev, S. *see* **Solov'ev, S. V.**

Solovyov, Yu. P. *see* **Solov'ëv, Yurïĭ Petrovich**

Sols Lucía, Ignacio Gauss and the algebra of his time. (Spanish) *History of mathematics in the XIXth century, Part 1 (Spanish) (Madrid, 1991)*, 139–156, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1992. (J. S. Joel) **99a:01014** 01A55 (12D10)

— (*with* Giraldo, Luis) The irregularity of ruled surfaces in $\mathbf{P}^3$. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 325–334. (Luciana Picco Botta) **99m:14067** 14J26 (14H25, 14H45)

Soltan, Petru (*with* Martini, Horst) On convex partitions of polygonal regions. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 167–180. (George E. Martin) **99j:52016** 52B55 (05C10. 52A10)

Soltan, V. P. (*with* Iacob, Maria-Eugenia) On geodetic characteristic of networks. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 5, 521–527. 90C35 (05C12, 54E35)

— (*with* Martini, Horst; Makai, Endre, Jr.) Unilateral tilings of the plane with squares of three sizes. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 481–495. (R. Blind) **99i:52023** 52C20

— (*with* Lingas, Andrzej) Minimum convex partition of a polygon with holes by cuts in given directions. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 507–538. (Summary) **99d:68236** 68U05 (52B55)

Soltani, A. Reza (*with* Nikfar, M.) On regularity of certain stable processes. (English and Persian summaries) *Bull. Iranian Math. Soc.* **23** (1997), *no.* 1, 13–22. (Randall James Swift) **99h:60088** 60G25 (60E07)

— (*with* Dozzi, Marco) Local time for stable moving average processes: Hölder conditions. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 2, 195–207. (Simeon M. Berman) **99a:60081** 60J55 (60G17)

— (*with* Shishebor, Z.) A spectral representation for weakly periodic sequences of bounded linear transformations. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 3, 265–270. (Summary) **99g:47006** 47A10 (47A05, 60G25)

Soltankhah, N. (*with* Behzad, M.; Mahmoodian, E. S.) Defining sets in total coloring of graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics*

Conference, Part I (*Tabriz*, 1997), 521–526, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:05053** 05C15

Soltanov, K. N. (*with* Novruzov, È. B.) On the solvability of equations of unstable filtration type in noncylindrical domains. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 159–167. (Alexander L. Gladkov) **99k:35102** 35K60 (35K65)

Šoltés, Ľubomír (*with* Klostermeyer, William F.) Hamiltonicity and reversing arcs in digraphs. (English summary) *J. Graph Theory* **28** (1998), *no.* 1, 13–30. (R. C. Entringer) **99g:05124** 05C45 (05C20)

Soltysek, B. (*with* Dymnikova, I.) Spherically symmetric space-time with two cosmological constants. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1775–1793. (Alicia M. Sintes) **99j:83014** 83C15 (83C20, 83C57)

Solymosi, József (*with* Pach, János) Canonical theorems for convex sets. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 427–435. (Summary) **99a:52025** 52C10 (52A10)

— (*with* Pach, János) Halving lines and perfect cross-matchings. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 245–249, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:52020** 52C10

Solynin, A. Yu. Some extremal problems on the hyperbolic polygons. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 3, 207–231. (Summary) **99j:30030** 30C75 (30C85, 31A15)

— Extremal problems on conformal moduli and estimates for harmonic measures. (English summary) *J. Anal. Math.* **74** (1998), 1–49. (Vladimir N. Dubinin) **99k:30040** 30C85 (31A15)

Som, M. M. (*with* Souza, Marcelo de Oliveira) An exact model of an infinite cosmic string. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1213–1219. (Mark D. Roberts) **99b:83046** 83C55 (83C99)

Soma, Teruhiko (*with* Inaba, Hisayoshi) On spatial graphs isotopic to planar embeddings. *KNOTS '96* (*Tokyo*), 1–22, *World Sci. Publishing, River Edge, NJ*, 1997. (From the text) **99j:57002** 57M15

— (*with* Fujii, Michihiko) Totally geodesic boundaries are dense in the moduli space. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 589–601. (From the summary) **99b:57029** 57M50

— Bounded cohomology of closed surfaces. *Topology* **36** (1997), *no.* 6, 1221–1246. (J. Hebda (Zbl 881.57019)) **99a:57011** 57N05 (55N35, 57M50, 57N10)

— Symmetries of minimum graphs in the 3-sphere. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 5, 651–657. (Marc Lackenby) **99g:57004** 57M15

— Spatial-graph isotopy and the rearrangement theorem. *Osaka J. Math.* **35** (1998), *no.* 1, 235–248. (From the text) **99j:57003** 57M15 (05C10)

— Existence of non-Banach bounded cohomology. *Topology* **37** (1998), *no.* 1, 179–193. (Yuli B. Rudyak) **99e:55010** 55N35 (53C20)

Somali, Sennur The asymptotic expansion of the global error of finite difference solution to singular two-point boundary value problem. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **43** (1997), *no.* 2, 367–374 (1998). 65L10

Somanathan, E. Evolutionary stability of pure-strategy equilibria in finite games. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 253–265. (Summary) **99c:90163** 90D10 (90A14)

Somaroo, Shyamal S. Higher spin and the spacetime algebra. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 347–368, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Stefano De Leo) **99i:81076** 81R25 (81R05)

— (*with* Ashdown, M. A. J.; Gull, Stephen; Doran, C. J. L.; Lasenby, Anthony N.) Multilinear representations of rotation groups within geometric algebra. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1566–1588. (Stefano De Leo) **99c:81069** 81R20 (15A66, 20G05)

— (*with* Cory, David G.; Havel, Timothy F.) Expressing the operations of quantum computing in multiparticle geometric algebra. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 1–7. (Jayme Vaz, Jr.) **99e:81036** 81P99 (15A66)

Somashekara, D. D. (*with* Adiga, Chandrashekar) On some Rogers-Ramanujan type continued fraction identities. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 1-2, 37–45. (Summary) **99j:33021** 33D15 (11A55, 11B65)

— (*with* Bhargava, Srinivasamurthy; Adiga, Chandrashekar) Ramanujan's ${}_1\psi_1$ summation and an interesting generalization of an identity of Jacobi. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 39–42. (Summary) **99j:33008** 33C15

Somasundaram, D. Some theorems of Ramanujan in analysis. (English summary) *Math. Ed.* **10** (1994), *no.* 3, 200–203. (Bruce C. Berndt) **99k:30003** 30B10

— On a matrix transformation over non-Archimedian fields. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 951–954. (M. S. Rangachari) **99c:40013** 40J05 (46S10)

— On the subspace $\Gamma(\lambda)$ of entire functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1025–1028. 30D20

Somasundaram, M. (*with* McLaughlin, Joyce R.; Sacks, Paul E.) Inverse scattering in acoustic media using interior transmission eigenvalues. *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 357–374, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (I. Kay) **99b:35217** 35R30 (34A55, 34L25, 35J05, 76Q05)

Somasundaram, S. (*with* Nagarajan, A.) Graphoidal tree cover. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 95–98. 05C70 (05C05)

Somayāji, Nīlakaṇṭha *Tantrasaṃgraha* of Nīlakaṇṭha Somayāji (Sanskrit, English translation and exposition in terms of modern mathematics). Text by K. V. Sarma with English translation by V. S. Narasimhan. *Indian J. Hist. Sci.* **33** (1998), *no.* 1, *suppl.*, 48 *pp.* (Takao Hayashi) **99f:01008** 01A32

— *Tantrasaṃgraha* of Nīlakaṇṭha Somayāji (Sanskrit, English translation and exposition in terms of modern mathematics). Text by K. V. Sarma with English translation by V. S. Narasimhan. *Indian J. Hist. Sci.* **33** (1998), *no.* 2, *Suppl.*, 44 *pp.* (Takao Hayashi) **99h:01017** 01A32

— Tantrasaṃgraha of Nīlakaṇṭha Somayāji (Sanskrit, English translation and exposition in terms of modern mathematics). Text by K. V. Sarma with English translation by V. S. Narasimhan. *Indian J. Hist. Sci.* **33** (1998), *no.* 3, *Suppl.*, 58 *pp.* (Takao Hayashi) **99h:01018** 01A32

Sombrin, Jacques (*with* Ibnkahla, Mohamed; Bershad, Neil J.; Castanié, Francis) Neural network modeling and identification of nonlinear channels with memory: algorithms, applications, and analytic models. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 5, 1208–1220. (Summary) **99j:94028** 94A40 (92B20)

Someda, Kiyohiko (*with* Stefański, Krzysztof; Nakamura, Hiroki) Divergences of the semiclassical S-matrix formula in irregular scattering. (English summary) Proceedings of the XXVIII Symposium on Mathematical Physics (Toruń, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 3, 399–418. (Summary) **99b:81263** 81U20

Somer, Frank L., Jr. (*with* Watson, Greg I.; Canright, Geoff) Reasonable and robust Hamiltonians violating the third law of thermodynamics. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6459–6465. (Nicolae Angelescu) **99a:82026** 82B20

Somer, Lawrence (*with* Carlip, Walter; Jacobson, Eliot) Pseudoprimes, perfect numbers, and a problem of Lehmer. *Fibonacci Quart.* **36** (1998), *no.* 4, 361–371. (A. N. Philippou) **99g:11013** 11A41 (11A25)

Somersalo, Erkki (*with* Järvenpää, Seppo) Impedance imaging and electrode models. *Inverse problems in medical imaging and nondestructive testing* (*Oberwolfach*, 1996), 65–74, *Springer, Vienna*, 1997. (Andreas Rieder) **99b:65181** 65R30 (65R10, 78A55)

— (*with* Lassas, Matti) On the existence and convergence of the solution of PML equations. (English summary) *Computing* **60** (1998), *no.* 3, 229–241. (Summary) **99a:65133** 65N12 (78–08, 78A45)

— (*with* Baroudi, Djebar; Kaipio, J. P.) Dynamical electric wire tomography: a time series approach. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 799–813. 93C95 (78A55)

Somerset, D. W. B. (*with* Henriksen, Melvin; Kopperman, Ralph; Mack, John E.) Joincompact spaces, continuous lattices, and C^*-algebras. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 289–323. (Jimmie D. Lawson) **99c:54004** 54A05 (06B35, 46L05, 54C05, 54D30, 54E55)

— (*with* Feinstein, J. F.) A note on ideal spaces of Banach algebras. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 6, 611–617. (John Duncan) **99j:46053** 46H10 (46J40)

— The central Haagerup tensor product of a C^*-algebra. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 113–121. (Christian Le Merdy) **99e:46073** 46L05 (46H10, 46M05)

— A Dauns-Hofmann theorem for TAF-algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1379–1385. (Miron E. Shpigel) **99h:46102** 46K05 (46L05, 47D25)

Somerville, Paul N. Numerical computation of multivariate normal and multivariate-t probabilities over convex regions. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 4, 529–544. (Summary) **99i:62119** 62H05

Somfai, Ellak (*with* Davidovitch, Benny; Hentschel, H. George E.; Olami, Zeev; Procaccia, Itamar; Sander, Leonard M.) Diffusion limited aggregation and iterated conformal maps. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1368–1378. (Summary) **99m:82048** 82D99 (58F40)

Sommariva, Alvise (*with* Vianello, Marco) Approximating fixed-points of decreasing operators in spaces of continuous functions. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 635–646. (P. P. Zabreĭko) **99h:47060** 47H07 (45G10, 47H10, 47N20, 65J15, 85A25)

Sommars, Steven E. (*with* Sommars, Tim) The number of triangles formed by intersecting diagonals of a regular polygon. (English summary) *J. Integer Seq.* **1** (1998), *Article* 98.1.5 (1 *HTML document*). (W. Moser) **99m:05002** 05A05

Sommars, Tim (*with* Sommars, Steven E.) The number of triangles formed by intersecting diagonals of a regular polygon. (English summary) *J. Integer Seq.* **1** (1998), *Article* 98.1.5 (1 *HTML document*). (W. Moser) **99m:05002** 05A05

Sommeijer, B. P. (*with* Verwer, J. G.) Stability analysis of a difference scheme for three-dimensional advection-diffusion problems. *From universal morphisms to megabytes: a Baayen space odyssey*, 609–625, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (Erwin Schechter) **99a:65105** 65M12 (65M50)

— (*with* Eichler-Liebenow, C.; van der Houwen, P. J.) Analysis of approximate factorization in iteration methods. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 245–258. (Summary) **99f:65114** 65L06

— (*with* van der Houwen, P. J.) CWI contributions to the development of parallel Runge-Kutta methods. (English summary) Solving differential equations on parallel computers. *CWI Quarterly* **11** (1998), *no.* 1, 33–53. (*see* **99g:65011**) 65M06 (65–02)

— An explicit Runge-Kutta method of order twenty-five. Solving differential equations on parallel computers. *CWI Quarterly* **11** (1998), *no.* 1, 75–82. (T. E. Simos) **99j:65149** 65M12 (65Y20)

— (*with* van der Houwen, P. J.) The use of approximate factorization in stiff ODE solvers. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 11–21. (Bernhard A. Schmitt) **99k:65058** 65L06 (65F10)

Sommen, Franciscus (*with* Van Lancker, P.) A product for special classes of monogenic functions and tensors. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 1013–1026. (C. S. Sharma) **99b:30065** 30G35 (15A66, 15A69, 58A10)

— Curved Radon transforms in Clifford analysis. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 369–381, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (A. K. Agarwal) **99d:30048** 30G35 (44A12)

— (*with* Rocha-Chávez, R.; Shapiro, M. V.) On the singular Bochner-Martinelli integral. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 354–365. (Alexandr M. Kytmanov) **99i:32003** 32A25

— (*with* Denecker, Koen; Van Overloop, Jeroen) The general quadratic Radon transform. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 615–633. (Sergey Egorovich Sysoev) **99j:44005** 44A12

— (*with* Watkins, Matthew Raymond) Vector manifolds from structure functions. (English summary) *J. Natur. Geom.* **13** (1998), *no.* 2, 77–118. (Marius Mitrea) **99e:58001** 58A05

Sommer, Daniel (*with* Frey, Rüdiger) The generalization of the Geske-formula for compound options to stochastic interest rates is not trivial—a note. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 501–509. (Wolfgang J. Runggaldier) **99k:90027** 90A09 (60G35)

Sommer, H.-J. (*with* Hahn, Hubert) Structural approximate controllability of linear systems: a pure graph theoretical approach. I. Linear systems associated to simple cacti. (English summary) *Systems Sci.* **24** (1998), *no.* 1, 5–31. (Summary) **99h:93015** 93B05 (93C05)

Sommerhäuser, Yorck On Kaplansky's fifth conjecture. (English summary) *J. Algebra* **204** (1998), *no.* 1, 202–224. (E. J. Taft) **99e:16053** 16W30

Sommeria, Joël Statistical mechanics of potential vorticity for parameterizing mesoscale eddies. (English summary) *Ocean modeling and parameterization* (*Les Houches*, 1998), 303–326, *NATO Sci. Ser. C Math. Phys. Sci.*, 516, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:86009** 86A05 (76C05, 76F99, 76M35)

— (*with* Chavanis, Pierre-Henri) Classification of robust isolated vortices in two-dimensional hydrodynamics. (English summary) *J. Fluid Mech.* **356** (1998), 259–296. (Radyadour Kh. Zeytounian) **99b:76041** 76F99 (76C05, 76M35)

— (*with* Benielli, Dominique) Excitation and breaking of internal gravity waves by parametric instability. (English summary) *J. Fluid Mech.* **374** (1998), 117–144. (Summary) **99i:76031** 76C10 (76E99, 76V05)

Sommers, Eric A generalization of the Bala-Carter theorem for nilpotent orbits. *Internat. Math. Res. Notices* **1998**, *no.* 11, 539–562. (R. W. Carter) **99g:20086** 20G20 (17B20)

Sommers, Hans-Jürgen (*with* Fedorov, Ya. V.; Khoruzhenko, Boris A.) Universality in the random matrix spectra in the regime of weak non-Hermiticity. (English and French summaries) Classical and quantum chaos. *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 4, 449–489. (Alexei Khorunzhy) **99i:60080** 60F99 (15A52, 60B15, 82B41)

— (*with* Haake, Fritz; Weber, Joachim) Joint densities of secular coefficients for unitary matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4395–4401. (Summary) **99b:82042** 82B41

— (*with* Fedorov, Ya. V.; Titov, Mikhail) Statistics of S-matrix poles for chaotic systems with broken time reversal invariance: a conjecture. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, *R*1195–R1198. 81Q50

— (*with* Fedorov, Ya. V.; Titov, Mikhail) S-matrix poles for chaotic quantum systems as eigenvalues of complex symmetric random matrices: from isolated to overlapping resonances. (English summary) *J. Phys. A* **32** (1999), *no.* 5, *L*77–*L*87. 81Q50 (81U20, 82B41)

Sommese, Andrew J. (*with* Kim, Meeyoung) Two results on branched coverings of Grassmannians. *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 21–27. (Harry Tamvakis) **99e:14059** 14M15 (14E20)

— (*with* Beltrametti, Mauro C.; Di Rocco, Sandra) On higher order embeddings of Fano threefolds by the anticanonical linear system. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 1, 75–97. (Tomasz Szemberg) **99d:14036** 14J45 (14C20, 14M10)

— (*with* Beltrametti, Mauro C.) Sharp Matsusaka-type theorems on surfaces. (English summary) *Math. Nachr.* **191** (1998), 5–17. (M. Kh. Gizatullin) **99d:14004** 14C20 (14J25)

Somogyi, Roland (*with* Sniegoski, Carol Ann) Modeling the complexity of genetic networks: understanding multigenic and pleiotropic regulation. (English summary) *Complexity* **1** (1995/96), *no.* 6, 45–63. 92D20 (92D10)

Somsikov, V. M. Transmission processes and collision matrix in hard disks system. (English and Russian summaries) *Regul. Chaotic Dyn.* **3** (1998), *no.* 2, 67–73. 82C22

phạm tien Son *see* **Phạm Tien Son**

Son, D. T. Turbulent decay of a passive scalar in the Batchelor limit: exact results from a quantum-mechanical approach. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, *R*3811–*R*3814. 76F99 (82C31)

Son, Jung Je (*with* Lim, Jong In; Chee, Seongtaek; Sung, Soo Hak) Global avalanche characteristics and nonlinearity of balanced Boolean functions. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 139–144. (Summary) **99c:94038** 94A60 (68P25)

Son, M. S. (*with* Haugh, L. D.; Hamdy, H. I.; Costanza, M. C.) Controlling type II error while constructing triple sampling fixed precision confidence intervals for the normal mean. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 681–692. (Summary) **99c:62230** 62L12

Son, N. K. *see* **Nguyễn Khoa So'n**

Son, Nguyen K. *see* **Nguyễn Khoa So'n**

Son, Seung Hwan Some theta function identities related to the Rogers-Ramanujan continued fraction. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2895–2902. (Heng Huat Chan) **99a:33010** 33D10 (11A55, 11B65)

— Cubic identities of theta functions. (English summary) *Ramanujan J.* **2** (1998), *no.* 3, 303–316. (Heng Huat Chan) **99i:33018** 33D10 (11B65)

Son, Tran Cao (*with* Baral, Chitta) Approximate reasoning about actions in presence of sensing and incomplete information. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 387–401, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68147** 68T27 (03B70)

— (*with* Gelfond, Michael) Reasoning with prioritized defaults. (English summary) *Logic programming and knowledge representation* (*Port Jefferson, NY*, 1997), 164–223, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99k:68179** 68T27 (68N17)

Sonar, Thomas ★ Mehrdimensionale ENO-Verfahren. (German. German summary) [Multidimensional ENO procedures] Zur Konstruktion nichtoszillatorischer Methoden für hyberbolische Erhaltungsgleichungen. [On the construction of nonoscillatory methods for hyperbolic conservation laws] Advances in Numerical Mathematics. *B. G. Teubner, Stuttgart*, 1997. ii+291 *pp. ISBN* 3-519-02724-0 (A. O. Oganesyan) **99f:65125** 65Mxx (35L65, 76M25)

— (*with* Abgrall, Rémi) On the use of Mühlbach expansions in the recovery step of ENO methods. (English summary) *Numer. Math.* **76** (1997), *no.* 1, 1–25. (Komali S. Sastri) **99c:65179** 65M60 (76M25)

— (*with* Ansorge, R.) Informationsverlust, abstrakte Entropie und die mathematische Beschreibung des zweiten Hauptsatzes der Thermodynamik. (English and German summaries) [Information loss, abstract entropy and the mathematical description of the second fundamental law of thermodynamics] *Z. Angew. Math. Mech.* **77** (1997), *no.* 11, 803–821. (Kotik K. Lee) **99b:80003** 80A05 (80A25, 94A15)

— (*with* Süli, Endre) A dual graph-norm refinement indicator for finite volume approximations of the Euler equations. (English summary) *Numer. Math.* **78** (1998), *no.* 4, 619–658. (Dennis C. Jespersen) **99c:65176** 65M15 (65M50, 76M25, 76N15)

— On families of pointwise optimal finite volume ENO approximations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2350–2369 (*electronic*). (Ji Chun Li) **99i:65095** 65M12 (65M20)

— (*with* Meister, Andreas[2]) Finite-volume schemes for compressible fluid flow. (English summary) *Surveys Math. Indust.* **8** (1998), *no.* 1, 1–36. (Claus-Dieter Munz) **99k:76115** 76M25 (76J20, 76N10)

— (*with* Abgrall, Rémi; Lantéri, S.) ENO approximations for compressible fluid dynamics. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 1, 3–28. (Claus-Dieter Munz) **99k:76116** 76M25 (76N10)

Søndergaard, Harald (*with* Bailey, James Alexander; Crnogorac, Lobel; Ramamohanarao, Kotagiri) Abstract interpretation of active rules and its use in termination analysis. *Database theory—ICDT '97* (*Delphi*), 188–202, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

— (*with* García de la Banda, Maria; Marriott, Kim; Stuckey, Peter J.) Differential methods in logic program analysis. (English summary) *J. Logic Programming* **35** (1998), *no.* 1, 1–37. (Summary) **99a:68029** 68N17

— (*with* Armstrong, Tania; Marriott, Kim; Schachte, Peter) Two classes of Boolean functions for dependency analysis. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 3–45. (Summary) **99c:68050** 68N20 (68N17, 68P15)

Sondore, Anita On CB-compact, countably CB-compact and CB-Lindelöf spaces. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 125–133. (Summary) **99i:54022** 54D30 (54D20)

Sone, Junji (*with* Konno, Kouichi; Chiyokura, Hiroaki) Surface interpolation using NURBS boundary Gregory patch for non-four-sided area. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 710–718. (Summary) **99m:68217** 68U05 (65D17)

Sone, Yoshio (*with* Golse, François; Ohwada, Taku; Doi, Toshiyuki) Analytical study of transonic flows of a gas condensing onto its plane condensed phase on the basis of kinetic theory. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 3, 277–306. (Summary) **99f:76116** 76P05 (76H05, 82C40)

— (*with* Sugimoto, Hiroshi; Aoki, Kazuo[2]) Cylindrical Couette flows of a rarefied gas with evaporation and condensation: reversal and bifurcation of flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 476–490. (Summary) **99j:76110** 76P05 (76E15, 76U05)

Sonego, Sebastiano (*with* Bruni, Marco) Gauge dependence in the theory of non-linear spacetime perturbations. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 209–218. (Simonetta Frittelli) **99a:83025** 83C25

— (*with* Abramowicz, Marek A.) Maxwell equations and the optical geometry. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3158–3166. (János Kánnár) **99d:83054** 83C50 (78A25)

Soner, Halil Mete (*with* Ambrosio, Luigi) A measure-theoretic approach to higher codimension mean curvature flows. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 27–49 (1998). (Linghai Zhang) **99m:35217** 35Q55 (35K55, 49Q20, 58E99)

— (*with* Jerrard, Robert Leon) Dynamics of Ginzburg-Landau vortices. *Arch. Rational Mech. Anal.* **142** (1998), *no.* 2, 99–125. (Monica Lazzo) **99m:58073** 58E50 (35Q55)

Song, Chang Ming (*with* Yang, Zhi Jian[2]) The problem of the existence of global solutions for a class of nonlinear evolution equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 321–331. (L. Hsiao) **99e:35158** 35L75 (35B65, 35Q72, 73D35, 73K05)

Song, Chongmin (*with* Wolf, John P.) The scaled boundary finite-element method: analytical solution in frequency domain. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 249–264. (Summary) **99h:73080** 73V05

Song, Dai Cai (*with* Lin, Zheng Hua; Yang, Ming[4]) A continuation method for solving nonconvex programming problems. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 349–356. (Summary) **99f:90088** 90C26 (65K05)

Song, Dao Jin (*with* Yu, Xing Jiang) Integrals of interval-valued functions and fuzzy-valued functions over curves and surfaces. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 27–32. 65D30 (26B15, 65G10)

Song, De Gong A result on perturbations of the essential spectral radius of a strongly continuous linear operator semigroup. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 579–584. (Summary) **99e:47051** 47D06

— (*with* Peng, Ji Gen; Wang, Mian Sen; Zhu, Guang Tian) The wellposedness of an abstract Cauchy problem and semigroups of operators. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 225–229. 34G10 (47D06)

Song, Dong-Ping (*with* Xing, Wei[2]; Sun, You Xian) Optimal service rate allocation policy of an unreliable manufacturing system with random demands. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 621–626. 90B30 (93E03)

— (*with* Sun, You Xian; Xing, Wei[2]) Optimal control of a stochastic assembly production line. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 681–700. (Yannis A. Phillis) **99g:93089** 93E20 (90B30)

— (*with* Sun, You Xian) Optimal control structure of an unreliable manufacturing system with random demands. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 619–622. 93E20 (49N55)

Song, Fang Min A new (ξ) rule in combinatory logic. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 669–674. (Summary) **99m:03029** 03B40

Song, Fu Min Solutions of semilinear evolution inclusions in Banach spaces under weak* topology. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4209–4215. (Sergiu Aizicovici) **99a:34170** 34G20 (34A60)

— Existence of solutions to differential inclusions in Banach spaces. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 11, 1103–1113; *translated from Appl. Math. Mech.* **19** (1998), *no.* 11, 1021–1029 (*Chinese. English and Chinese summaries*). 34G20 (34A60)

Song, G.-Q. (*with* Sun, Q.-P.; Huang, Ke Zhi) Micromechanics constitutive modeling for polycrystalline SMA. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 25–33, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73S10 (73B30)

Song, Gangbing (*with* Cai, Lilong; Wang, Yiping; Longman, Richard W.) A sliding-mode based smooth adaptive robust controller for friction compensation. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 725–739. 93C40 (70Q05, 93B35)

Song, Guang Xing An iterative solution method for bivariate nonlinear operator equations in Banach spaces. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 103–107. 65J10 (47H17)

Song, Guangtian 0-direct unions of injective S-systems. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 2, 211–214. (Summary) **99m:20156** 20M50

Song, Guo Dong[1] (*with* Zheng, Ying Long) The value distribution of the meromorphic function $f + f^{(k)''}$. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 3, 7–10. 30D35

Song, Guoxiang (*with* Fu, Yu) The projective property on the solution space of wavelet collocation. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 425–429, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 42C15

Song, Guozhu (*with* Shen, Junhao) An exponential stability problem on the small delay linear system. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 4, 376–384. (Olusola Akinyele) **99b:34125** 34K20

— (*with* Shen, Junhao) The Laplace transform and integrated semigroups. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 15–22. (Alexei I. Filinkov) **99g:47100** 47D06 (34G10)

Song, Hong Zao (*with* Wu, Bao Qiang) Three-dimensional compact minimal submanifolds in a sphere. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 185–190. (Bang-yen Chen) **99d:53070** 53C42 (53C40)

— (*with* Zhao, Pei Biao; Wu, Bing Ye) Some notes on: "2-type spherical hypersurfaces" [Chinese Ann. Math. Ser. A **17** (1996), no. 4, 483–486; MR 97f:53092] by B. Y. Wu. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 128–130. 53C40

Song, Hyeong Kee (*with* Kim, Yong Sup) On p-adic analogue of hypergeometric series. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 11–16. (Kaori Ota) **99m:11140** 11S80 (33C20)

Song, Hyun-Jong (*with* Kang, Byung-Sik) On the symmetric Sierpinski gaskets. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 157–163. (Summary) **99g:58067** 58F08 (28A80)

Song, Hyung Soo Some dynamical properties of a weakly almost periodic flow. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 123–129. (A. Pelczar) **99e:54033** 54H20 (34C28, 34C35)

Song, J. (*with* Ramalingam, G.; Joskowicz, L.; Miller, Raymond E.) Solving systems of difference constraints incrementally. (English summary) *Algorithmica* **23** (1999), *no.* 3, 261–275. (Summary) **99j:90105** 90C35 (15A39, 68T20)

Song, J. C. *see* **Song, Jong Chul**

Song, Jie (*with* Li, Ming Zhong) Nonlinear Riemann-Hilbert boundary value problems for a class of nth order systems. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 4, 390–397. 35Q15 (30E25, 35C99, 35L99)

Song, Jinjie (*with* Kurano, Masami; Hosaka, Masanori; Huang, Youqiang) Controlled Markov set-chains with discounting. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 293–302. (D. Kalin) **99g:90157** 90C40

— (*with* Hosaka, Masanori; Kurano, Masami) Controlled Markov set-chains under average criteria. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 169–177. (*see* **99h:90006**) 90C40 (90C39)

Song, Jong Chul (*with* Payne, Lawrence E.) Spatial decay estimates for the Brinkman and Darcy flows in a semi-infinite cylinder. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 3, 175–190. (From the introduction) **99e:76121** 76S05 (35B45, 35K99, 35Q35)

— (*with* Payne, Lawrence E.) Continuous dependence on initial-time and spatial geometry in generalized heat conduction. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 173–190. (Ulrich Tautenhahn) **99i:35055** 35K05 (35B30, 35R30, 80A20)

— (*with* Yoon, Dall Sun) Phragmén-Lindelöf and continuous dependence type results in generalized dissipative heat conduction. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 945–960. (Vitaly A. Volpert) **99k:35073** 35K05 (35B30, 35B40, 80A20)

— (*with* Payne, Lawrence E.; Schaefer, Philip W.) Growth and decay results in heat conduction problems with nonlinear boundary conditions. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 269–286. (I. Łojczyk-Królikiewicz) **99h:35113** 35K60 (35B05)

Song, Jun (*with* Xu, Xiao Ming; He, Xing) A stability based neural networks controller design method. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 119–133. 93C83 (93B51)

Song, Kaitai (*with* Fu, Yi Ping; Zhou, Li[1]) Asymptotic behavior of solutions for a periodic transport equation with delay. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 2, 135–138. (Summary) **99d:92012** 92C30

Song, Ke Hui (*with* Guo, Guang Can) Preparation of two-mode Schrödinger-cat states via atomic nonresonant interaction with a two-mode field. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 9, 1477–1480. 81V80

Song, Ling Chun (*with* Wu, Wei[3]; Lin, Meng Hai; Zhang, Qian Er) Program implementation of a new algorithm for computing matrices of standard orthogonal irreducible representations of symmetric groups. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 2, 209–216. (Summary) **99h:20017** 20C40 (20C30)

Song, Moon Sup (*with* Park, Changsoon; Lee, Jaeheon) A generalization of the discrete feedback adjustment by rational subgrouping. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 2, 237–249. (Summary) **99k:62198** 62N10

— (*with* Park, Changsoon; Nam, Ho Soo) An efficient Mallows-type one-step GM-estimator in linear models. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 3, 369–383. (Summary) **99l:62152** 62J05

Song, Ning (*with* Perkowski, Marek) Minimization of exclusive sums of multi-valued complex terms for logic cell arrays. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 32–37, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 94C10

Song, Peter Xue-Kun (*with* Jørgensen, Bent) Stationary time series models with exponential dispersion model margins. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 78–92. (Francesco Battaglia) **99e:60101** 60G10 (62M10)

Song, Q. *see* **Song, Qing**

Song, Qiang[2] (*with* Esogbue, Augustine O.) On the decomposition problem of fuzzy sets. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 57–66. (Summary) **99d:03047** 03E72

— (*with* Leland, Robert P.) An optimal control model of neural networks for constrained optimization problems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 371–376. 49N55 (93A30)

Song, Qing (*with* Xiao, Jizhong) On the convergence performance of multilayered NN tracking controller. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 459–467. (Summary) **99c:93075** 93C83 (90B10)

— (*with* Yin, Ling; Soh, Yeng Chai) Shifting of the center of radial basis function neural network in the presence of disturbance. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 1, 43–53. 92B20

Song, Qing Wen (*with* Qin, Zhong Ping) A TMP trade-off method for finding a class of one-way functions. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 94–97. 94A60

Song, Ri-yao (*with* Ishijima, Shintaro; Kojima, Akira) Stabilization of a class of nonlinear systems by a specific nonlinear observer. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 3, 136–144. (Summary) **99b:93041** 93D15 (93C10)

Song, S. W. *see* **Song, Shao Wen**

Song, Seok-Zun (*with* Lee, Gwang-Yeon; Lee, You-Ho) Tripotence for irreducible sign-pattern matrices. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 27–36. (H. K. Farahat) **99g:15015** 15A21 (15A57)

— (*with* Hong, Sung-Min; Jun, Young Bae; Kim, Seon Jeong) Linear operators that preserve Boolean ranks. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 131–138. (R. Piziak) **99m:15001** 15A03 (06E20, 15A04)

Song, Shao Wen (*with* Baddour, R. E.) Periodic water waves on shear currents. (English summary) *Advances in fluid mechanics, II* (*Udine*, 1998), 213–222, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76B15

Song, Shiji (*with* Wu, Cong Xin; Wang, Hai Yan[3]) On the basic solutions to the generalized fuzzy integral equation. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 255–260. (Summary) **99a:45003** 45A05

— (*with* Wu, Cong Xin) Existence theorem to the Cauchy problem of fuzzy differential equations under compactness-type conditions. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 123–134. (Summary) **99e:34003** 34A12

— (*with* Qiao, Xiao Lin; Zhang, Jiewu; Che, Zhao Dong) The convergency of (DG) fuzzy integrals on L-fuzzy sets. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 821–836. (Summary) **99i:28026** 28E10

— (*with* Wu, Cong Xin) Remark on approximate solutions, existence, and uniqueness of the Cauchy problem of fuzzy differential equations. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 923–928. (Summary) **99j:34004** 34A12

Song, Shiqi (*with* Hirsch, Francis) Properties of the set of positivity for the density of a regular Wiener functional. (English and French summaries) *Bull. Sci. Math.* **122** (1998), *no.* 1, 1–15. (Hélène Airault) **99j:60121** 60J65 (60H99)

Song, Shu Ni (*with* Zheng, Lian Wei) Maximality and continuity of accretive operators. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 331–334. (Summary) **99j:47077** 47H06

Song, Shugang (*with* Gao, Ling Yun; Shu, Zhibiao) On m-nonadmissible components of solutions of systems of differential equations. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 116–121, 139. (Ilpo Laine) **99g:34014** 34A20

Song, Song He (*with* Li, Yin Fan) A simplified third-order accurate weighted ENO finite volume method. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 127–134. 65N30

Song, Sung Y. (*with* See, Kyoungah) Association schemes of small order. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 225–271. (Sylvia A. Hobart) **99m:05172** 05E30 (20B25)

Song, Tinglun (*with* Collins, Emmanuel G., Jr.) A delta operator approach to discrete-time H_∞ control. (English summary) *Internat. J. Control* **72** (1999), *no.* 4, 315–320. (Summary) **99j:93030** 93B36 (93C62)

Song, W. *see* **Song, Wen**

Song, Wei Dong Hypersurfaces with constant mean curvature. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 40–43. (Xue Shan Zhang) **99k:53117** 53C42 (53C20)

Song, Wen A general Farkas type lemma. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 147–152. (Vaithilingam Jeyakumar) **99a:49026** 49J52 (90C26)

— On the connectivity of efficient point sets. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 1, 121–127. (Summary) **99a:90178** 90C29 (90C26)

— Generalized vector quasi-variational inequalities. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 4, 401–417. (Igor' V. Konnov) **99i:47116** 47H19 (49J40)

— Duality in set-valued optimization. *Dissertationes Math. (Rozprawy Mat.)* **375** (1998), 69 *pp.* (From the introduction) **99c:49037** 49N15 (90C30, 90C48)

— A generalization of Fenchel duality in set-valued vector optimization. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 259–272. (Juan-Enrique Martínez-Legaz) **99j:90077** 90C29 (49N15)

Song, Wen Jie (*with* Wang, Jian Zhong[1]; Yao, Tian Xing; Zhang, Ke Min[1]) A note on 4-regular 4-chromatic graphs with girth 4. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 35–36. (Summary) **99h:05044** 05C15

Song, Wen Zhong (*with* Jiang, Guo Ping) Design of observers for linear discrete systems with unknown inputs. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 507–514. 93B07 (93C55)

— (*with* Gu, Qing Ming) A flexible scheduling method based on group technology. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 908–913. 90B35

— (*with* Yu, Xin-Zhen) Switching curve policy for manufacturing systems with no backlog permitted. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1628–1630. 90B30 (93C95)

— (*with* Da, Fei Peng) Direct adaptive control for a class of nonlinear systems. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 2, 124–129. 93C40 (93C10)

— (*with* Yu, Xin-Zhen) Further properties of optimal hedging points in a class of manufacturing systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 379–382. 49L20 (90C30)

Song, Xiaoyu (*with* Tan, Xuehou) Channel routing on a hexagonal grid. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 263–279 (*electronic*). (*see* **99f:68006**) 68Q35
— (*with* Nicoloso, S.; Sarrafzadeh, Majid) On the sum coloring problem on interval graphs. (English summary) *Algorithmica* **23** (1999), *no.* 2, 109–126. (Summary) **99j:68110** 68R10 (05C15, 05C85, 68Q25)
— (*with* Tan, Xuehou) Routing multiterminal nets on a hexagonal grid. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 245–255. 68Q35
Song, Xingchang (*with* Hou, Bo Yu) Lagrangian form of the self-dual equations for SU(n) gauge fields on four-dimensional Euclidean space. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 3, 443–446. (Summary) **99e:81147** 81T13 (58E30)
— Quantum dynamical R-matrix from fusion. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 1, 157–160. (Shuzhou Wang) **99i:81112** 81R50
— (*with* Feng, Bo; Li, Jianming) The reduction of differential calculus on direct product group. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 2, 257–262. (Andrzej Sitarz) **99m:58020** 58B30
— (*with* Li, Jianming) Reconstruction of SU(5) grand unified model in noncommutative geometry approach. (English summary) *Eur. Phys. J. C Part. Fields* **1** (1998), *no.* 3-4, 721–728. (Summary) **99e:81260** 81V22 (58B30)
Song, Xinyu (*with* Chen, Lan Sun) Persistence and global stability for nonautonomous predator-prey system with diffusion and time delay. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 33–40. (Summary) **99c:92047** 92D25 (34K20)
Song, Y. D. *see* **Song, Yong Duan**
Song, Y. H. *see* **Song, Yong Hua**
Song, Yanbin (*with* Xu, Jian-Xin) Sliding mode control with directly learned feedforward compensation. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 89–100. (*see* **99a:93003**) 93C10 (93B50)
Song, Yeong Moo (*with* Chung, Sang Cho) Inverse polynomials, ramification indices and injective envelopes of simple modules over polynomial rings. *Honam Math. J.* **20** (1998), *no.* 1, 45–55. (P. Schenzel) **99g:13010** 13C11 (13B15)
Song, Yeoul-Ouk (*with* Cho, Sung-Jin; Lee, Byung Soo; Lee, Gue Myung; Kim, Do Sang) Fubini theorem for generalized fuzzy number-valued integrals. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 177–179. 28E10 (28A35)
Song, Ying Qing (*with* Chu, Yu Ming; Fang, Ai Nong) Bounded convex domains and quasiballs in three-space. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 417–422. (Summary) **99i:30035** 30C65
— Deviation estimates for quasiconformal mappings. (Chinese. Chinese summary) *Hunan Ann. Math.* **18** (1998), *no.* 2, 56–59. 30C62
— (*with* Chu, Yu Ming) Distortion estimates and a modulus inequality for homeomorphisms with integrable dilatations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 51–54. 30C65
Song, Yong Duan Adaptive motion tracking control of robot manipulators—non-regressor based approach. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 41–54. 93C85
Song, Yong Hua (*with* Beardmore, R. E.) Differential-algebraic equations: a tutorial review. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1399–1411. (Summary) **99g:34006** 34A09 (34C23, 34D99)
Song, Yong Zhong (*with* Chen, Ying[5]) Solutions of systems of differential-algebraic equations with inconsistent initial conditions. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 2, 6–11. (Summary) **99a:34002** 34A09
— Comparisons among numerical stability properties of algorithms. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 3, 1–9. (Summary) **99d:65095** 65F05
— (*with* Goro, Oumarou) Méthodes itératives de type SOR pour résoudre les problèmes des moindres carrés. (English and French summaries) [SOR-type iterative methods for solving least squares problems] *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 99–118. 65K10 (90C20)
Song, Yongjin (*with* Fiedorowicz, Zbigniew) The braid structure of mapping class groups. Surgery and geometric topology (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997**, *Special issue no.* 2, 21–29. (From the introduction) **99g:18005** 18D10 (20F38, 57M99)
Song, Young Kwon Maximal commutative subalgebras of matrix algebras. (English summary) *Comm. Algebra* **27** (1999), *no.* 4, 1649–1663. (William H. Gustafson) **99m:16047** 16S50 (13E10)
Song, Young Ran (*with* Kim, Do Sang; Lee, Gue Myung) Symmetric duality for multiobjective nonconvex programs. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 347–350, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 90C29 (49N15)
— (*with* Kim, Do Sang; Lee, Won Jung) Symmetric duality in nonlinear multiobjective fractional variational problems. *Nonlinear Anal. Forum* **3** (1998), 53–74. 49N15 (90C29)
Song, Zeng Min (*with* Lin, Wen Song) Neighbourhood unions and edge-pancyclicity. (English summary) *Ars Combin.* **48** (1998), 81–86. (Summary) **99a:05085** 05C38
— (*with* Yu, Zhengguang; Lu, Mei) Sufficient condition for Hamiltonian graphs concerning degree and neighborhood union. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1194–1198. (Summary) **99i:05136** 05C45
Song, Zhen Ming (*with* Qin, Ke Yun; Xu, Yang) The compactness and Löwenheim-Skolem properties for the logic FM. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 4, 371–375. 03B50
— (*with* Qin, Ke Yun; Xu, Yang) The lattice-valued system $L(X)$ of propositional logic. II. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 10–19. 03B50
Song, Zhihuan (*with* Cheng, Chu Wang; Sun, You Xian) Robust stabilization of uncertain nonlinear systems with time delays in both state and control input. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 605–609. 93D21
Song, Zi-Xia (*with* Li, Jiong Sheng; Wang, Ping[1]) The Erdős-Jacobson-Lehel conjecture about potentially P_k-graphic sequences. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 1, 1–9. (Xue Liang Li) **99e:05075** 05C35
— (*with* Li, Jiong Sheng; Luo, Rong) The Erdős-Jacobson-Lehel conjecture on potentially P_k-graphic sequence is true. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 510–520. (Jenő Lehel) **99j:05110** 05C35
— (*with* Li, Jiong Sheng) On the potentially P_k-graphic sequences. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 255–262. (Summary) **99i:05195** 05C99
Soni, Bharat K. (*with* Lee, Swungho) Governing equations of fluid mechanics in physical curvilinear coordinate system. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations* (*Mississippi State, MS*, 1997), 149–157 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Summary) **99k:76114** 76M25 (76D05)
— *see also* **Proceedings: Conference on Difference Equations and Computational Simulations, 99h:00032**
Sonin, Constantin *see* **Sonin, K. I.**
Sonin, Isaac The asymptotic behaviour of a general finite nonhomogeneous Markov chain (the decomposition-separation theorem). (English summary) *Statistics, probability and game theory*, 337–346, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **99a:60070** 60J10 (90C40)
— On some asymptotic properties of nonhomogeneous Markov chains and random sequences with countable number of values. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 297–313, *World Sci. Publishing, River Edge, NJ*, 1997. (M. Iosifescu) **99g:60117** 60J10
Sonin, K. I. Krull dimension of Malcev-Neumann rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2915–2931. (K. R. Goodearl) **99i:16052** 16S35 (16P60)
Sönmez, Abdulcabbar (*with* Seyhan, Hikmet) On φ-$[\overline{N}, p_n;\delta]_k$ summability factors. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 393–398. (Summary) **99c:40008** 40F05 (40G05)
— On absolute Nörlund summability of orthogonal series. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 245–247. (Summary) **99j:40014** 40G05 (42C05)
— (*with* Seyhan, Hikmet) Corrigendum to: "On φ-$[\overline{N}, p_n;\delta]_k$ summability factors" [Portugal Math. **54** (1997), no. 4, 393–398; MR 99c:40008]. *Portugal. Math.* **56** (1999), *no.* 1, 127. 40F05 (40G05)
Sönmez, İbrahim (*with* Şen, Zekai; Tath, Hasan) Comment on: "Grade estimation using fuzzy set algorithms" [Math. Geol. **29** (1997), no. 2, 291–305; MR 97k:86013] by T. D. Pham. With a reply by Pham. *Math. Geol.* **30** (1998), *no.* 8, 1033–1042. 86A32 (04A72)
Sönmez, Tayfun (*with* Abdulkadiroğlu, Atila) Random serial dictatorship and the core from random endowments in house allocation problems. *Econometrica* **66** (1998), *no.* 3, 689–701. 90A06
Sonn, Jack (*with* Aljadeff, Eli) Bounds on orders of finite subgroups of $\mathrm{PGL}_n(K)$. (English summary) *J. Algebra* **210** (1998), *no.* 1, 352–360. (Morris Newman) **99m:20117** 20H05
Sonnemann, Frank (*with* Reif, Konrad; Unbehauen, Rolf) Nonlinear state observation using H_∞-filtering Riccati design. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 203–208. 93E11 (93B36)
Sonnendrücker, Eric (*with* Assous, Franck; Ciarlet, Patrick, Jr.; Raviart, Pierre-Arnaud; Segré, J.) The solution of Maxwell's equations in a non-convex polyhedron. I. Saddle-point approach and singularities. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 364–368, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q60 (65N30, 78–08, 78A25)
— (*with* Frénod, Emmanuel) Homogenization of the Vlasov equation and of the Vlasov-Poisson system with a strong external magnetic field. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 3-4, 193–213. (Kamel Hamdache) **99m:82046** 82D10 (35B27, 35Q99, 76X05)
— (*with* Munz, Claus-Dieter; Schneider, Rudolf[2]; Voss, Ursula) Maxwell's equations when the charge conservation is not satisfied. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 431–436. (Summary) **99k:35170** 35Q60 (78A25)
— (*with* Munz, Claus-Dieter; Schneider, Rudolf[2]; Stein, E.; Voss, Ursula; Westermann, Thomas) A finite-volume particle-in-cell method for the numerical treatment of Maxwell-Lorentz equations on boundary-fitted meshes. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 4, 461–487. (Summary) **99i:78005** 78–08
— (*with* Roche, Jean R.; Bertrand, Pierre; Ghizzo, Alain) The semi-Lagrangian method for the numerical resolution of the Vlasov equation. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 201–220. (Summary) **99j:76100** 76M25 (76X05)
Sonnenschein, Hugo *see* **Dagan, Nir et al., 99k:90045**
Sonnenschein, Jacob (*with* Brandhuber, Andreas; Itzhaki, Nissan; Theisen, Stefan; Yankielowicz, Shimon) On the M-theory approach to (compactified) 5D field theories. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 127–134. (Gonzalo Violero) **99a:81129** 81T30 (81T13, 81T60, 83E30)
— (*with* Brandhuber, Andreas; Itzhaki, Nissan; Yankielowicz, Shimon) Wilson loops, confinement, and phase transitions in large N gauge theories from supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 1, 20 *pp.* (*electronic*). (Summary) **99c:81232** 81T60 (81T13, 81T30, 83E30)
— (*with* Brandhuber, Andreas; Itzhaki, Nissan; Yankielowicz, Shimon) Baryons from supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 20, 11 *pp.* (*electronic*). (Summary) **99i:83087** 83E30 (81T30, 83E50)
— Novel field theory phenomena from F theory and D-branes. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 158–171. (Gonzalo Violero) **99e:81211** 81T30 (81T60)
— (*with* Itzhaki, Nissan; Maldacena, Juan M.; Yankielowicz, Shimon) Supergravity and the large N limit of theories with sixteen supercharges. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046004, 11 *pp.* (Summary) **99k:83133** 83E50 (81T30, 83E30)
— (*with* Armoni, Adi; Frishman, Yitzhak; Trittmann, U.) The spectrum of multi-flavor QCD_2 and the non-abelian Schwinger equation. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 503–515. (Summary) **99h:81224** 81V05 (81T13)
— (*with* Armoni, Adi; Frishman, Yitzhak) Screening in supersymmetric gauge theories in two dimensions. (English summary) *Phys. Lett. B* **449** (1999), *no.* 1-2, 76–80. (Summary) **99k:81290** 81T60 (81T30, 81T40)
Sonnet, André M. (*with* Virga, Epifanio G.) Dynamics of nematic loop disclinations. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6834–6842. (From the text) **99k:76013** 76A15 (73B99, 82D30)
Sonnevend, G. (*with* Stoer, Josef; Zhao, Gong Yun) Subspace methods for solving linear programming problems. (English summary) Modern applied analysis (Ilieni, 1997). *Pure Math. Appl.* **9** (1998), *no.* 1-2, 193–212. (Shu Zhong Zhang) **99m:90096** 90C05

Sonnino, Angelo Linear collineation groups preserving an arc in a Möbius plane. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 749–757. (Summary) **99m:51021** 51E25 (05B25, 20H10)

Sons, Linda R. (*with* Anderson, James Milne; Drasin, David) Wolfgang Heinrich Johannes Fuchs (1915–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 11, 1472–1478. (Editors) **99k:01042** 01A70 (30–03)

Sonsino, Doron Geanakoplos and Sebenius model with noise. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 111–130. (P. Neumann) **99h:90116** 90D05 (90D20, 90D60)

Sonstegaard, Miles H. A shortcut method of calculating the distribution of election outcome types under approval voting. (English summary) *Theory and Decision* **44** (1998), *no.* 3, 211–220. 90A28

Sontag, Alexia *see* **Constantinescu, Corneliu et al., 99m:28001**

Sontag, Eduardo D. (*with* Sussmann, Héctor J.) Complete controllability of continuous-time recurrent neural networks. (English summary) *Systems Control Lett.* **30** (1997), *no.* 4, 177–183. (Summary) **99c:93011** 93B05 (93C83)

— ★ Mathematical control theory. (English summary) Deterministic finite-dimensional systems. Second edition. Texts in Applied Mathematics, 6. *Springer-Verlag, New York*, 1998. *xvi*+531 *pp. ISBN* 0-387-98489-5 (Heinz Schättler) **99k:93001** 93–01 (49–01, 93–02)

— A general approach to path planning for systems without drift. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 151–168, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99h:93071** 93C85 (70F25, 70Q05)

— Comments on integral variants of ISS. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 93–100. (Inge Troch) **99j:93094** 93D25 (93D30)

— A learning result for continuous-time recurrent neural networks. (English summary) Learning theory. *Systems Control Lett.* **34** (1998), *no.* 3, 151–158. (Keigo Watanabe) **99f:93084** 93C30 (68T05, 92B20, 93E35)

Sonthipaumpoon, K. (*with* Vanderperre, Edmond J.; Makhanov, S. S.) A renewal integral equation related to a multiple cold standby system. (English summary) *Opsearch* **35** (1998), *no.* 2, 154–158. 90B25

Sontz, Stephen Bruce Entropy and the Segal-Bargmann transform. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2402–2417. (Summary) **99c:46084** 46N50 (47N50, 81S30, 82B10)

Sood, Abha (*with* Kleihaus, Burkhard; Kunz, Jutta; Wirschins, Marion) Sequences of globally regular and black hole solutions in SU(4) Einstein-Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084006, 16 *pp.* (Summary) **99m:83120** 83C57 (81T13)

Sook, Jee Eun A study on relative efficiency of kernel type estimators of smooth distribution functions. *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **1** (1994), *no.* 1, 19–24. 62G05

Sopena, E. (*with* Borodin, O. V.; Kostochka, A. V.; Nešetřil, Jaroslav; Raspaud, A.) On universal graphs for planar oriented graphs of a given girth. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 73–85. (Pavol Hell) **99e:05046** 05C15 (05C20)

Sophocleous, Christodoulos (*with* Kingston, J. G.) On form-preserving point transformations of partial differential equations. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1597–1619. (Ian M. Anderson) **99g:35010** 35A30 (58G35)

— Linearizing mappings for certain nonlinear diffusion equations. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6293–6307. (Summary) **99e:35111** 35K57

— (*with* Kingston, J. G.) Cyclic symmetries of one-dimensional non-linear wave equations. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 3, 531–543. (Summary) **99k:35130** 35L70 (35A30)

— (*with* Damianou, Pantelis A.) Symmetries of Hamiltonian systems with two degrees of freedom. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 210–235. (Yurij H. Yaremko) **99j:70023** 70H33 (58F05, 70H05)

Sopronyuk, F. O. (*with* Kirichenko, N. F.; Lazorik, V. V.) Structural methods for CAD for robotic processes. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2532–2536. (*see* **99c:00033**) 93C85 (70B15)

Sopuerta, Carlos F. Covariant study of a conjecture on shear-free barotropic perfect fluids. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1043–1062. (Patrick Dolan) **99i:83053** 83C55

— (*with* Senovilla, José M. M.; Szekeres, Peter) Theorems on shear-free perfect fluids with their Newtonian analogues. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 389–411. (Mattias Marklund) **99b:83045** 83C55 (76Y05, 83C05)

— Stationary generalized Kerr-Schild spacetimes. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1024–1039. (Brian Edgar) **99b:83016** 83C15 (83C20)

Sopuev, A. On an inverse problem for a third-order equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 71–76. (Plamen D. Stefanov) **99f:35226** 35R30 (35L30, 35M20)

Sorace, E. Exponential mapping for non-semisimple quantum groups. (English summary) *Quantum groups* (*Karpacz*, 1994), 103–113, *PWN, Warsaw*, 1995. (Ben Lewis Cox) **99i:17020** 17B37 (81R50)

— (*with* Bonechi, F.; Giachetti, Riccardo; Tarlini, M.) Homogeneous spaces and special functions from the 2-dim Euclidean quantum groups. *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 13–25, *PWN, Warsaw*, 1997. (From the introduction) **99i:33026** 33D80 (17B37)

— (*with* Giachetti, Riccardo; Tarlini, M.; Bonechi, F.) The quantum Galilei group and its representations. *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 65–78, *PWN, Warsaw*, 1997. (Anatol Nowicki) **99f:81092** 81R50 (17B81)

— (*with* Bonechi, F.; Giachetti, Riccardo; Tarlini, M.) Induced representations of the one-dimensional quantum Galilei group. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 309–318. (Vladimir S. Mazorchuk) **99c:17023** 17B37 (17B10, 81R50)

— *see also* **Proceedings: Conference on General Relativity and Gravitation, 99g:83002**

Soraggi, R. L. On injectivity of Fourier transform on Colombeau's algebra of generalized functions. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 321–328. (Summary) **99d:46061** 46F12 (42B10)

Soranzo, Alessandro (*with* Volčič, Aljoša) On the Bertrand paradox. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 503–509. (Jan Rataj) **99j:60021** 60D05

— (*with* Gardner, Richard J.; Volčič, Aljoša) On the determination of star and convex bodies by section functions. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 69–85. (G. D. Chakerian) **99k:52004** 52A20 (52A30, 52A38)

Soranzo, Ramon (*with* Caristi, Gabriella; Mitidieri, Enzo) Isolated singularities of polyharmonic equations. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 257–294. (Nicolai N. Tarkhanov) **99i:35035** 35J60 (31B30, 35B05)

Sorato, Annamaria (*with* Viscolani, Bruno) The maximum line length problem. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 4, 23–39 (1999). (Summary) **99m:90076** 90B22

Soravia, Pierpaolo Estimates of convergence of fully discrete schemes for the Isaacs equation of pursuit-evasion differential games via maximum principle. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 1–11 (*electronic*). (Summary) **99a:90260** 90D26 (49M25, 65K10)

— (*with* Kocan, Maciej) A viscosity approach to infinite-dimensional Hamilton-Jacobi equations arising in optimal control with state constraints. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1348–1375 (*electronic*). (Fabio Camilli) **99f:49045** 49L25 (34G20, 35R15, 49K20)

— Equivalence between nonlinear $\mathscr{H}_\infty$ control problems and existence of viscosity solutions of Hamilton-Jacobi-Isaacs equations. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 1, 17–32. (Pierre Bernhard) **99j:49064** 49L25 (93B36)

— *see also* **Bardi, Martino, 99e:49001**

Sorba, P. (*with* Avan, J.; Frappat, L.; Rossi, Marco) From quantum to elliptic algebras. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1083–1092. (Paul Demkin) **99h:17016** 17B37 (17B67, 17B68, 81R10, 81R50)

— (*with* Avan, J.; Frappat, L.; Rossi, Marco) New $\mathscr{W}_{q,p}(\mathrm{sl}(2))$ algebras from the elliptic algebra $\mathscr{A}_{q,p}(\hat{\mathrm{sl}}(2)_c)$. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 27–35. (Summary) **99h:81081** 81R50 (17B37, 17B81, 81R10)

— (*with* Avan, J.; Frappat, L.; Rossi, Marco) Central extensions of classical and quantum q-Virasoro algebras. (English summary) *Phys. Lett. A* **251** (1999), *no.* 1, 13–24. (Fabio Gavarini) **99j:81068** 81R50 (17B37)

Sorbo, Lorenzo (*with* Soldati, Roberto) Effective action for Dirac spinors in the presence of general uniform electromagnetic fields. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 82–88. (Summary) **99b:81153** 81T15

— (*with* Andrianov, A. A.; Soldati, Roberto) Dynamical Lorentz symmetry breaking from a $(3+1)$-dimensional axion-Wess-Zumino model. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 025002, 13 *pp.* 81T13 (81R40)

Sorci, Paola Functions and their rearrangements in BLO and BUO. (English and Italian summaries) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 57–70. (Peter W. Day) **99h:42038** 42B25 (26D15, 46E35, 46M35)

Sordoni, Vania Gaussian decay for the eigenfunctions of a Schrödinger operator with magnetic field constant at infinity. *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 223–242. (Peter D. Hislop) **99g:81043** 81Q10 (35J10, 35P05)

Sorek, S. (*with* Ben-Dor, G.; Levy, Avi) Waves propagation in saturated rigid porous media—numerical simulation and comparison with experiments. (English summary) *Numerical methods for wave propagation* (*Manchester*, 1995), 55–73, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76100** 76M25 (76–05, 76S05)

Sorelius, Joakim (*with* Söderström, Torsten; Stoica, Petre; Cedervall, Mats) Comparative study of rank test methods for ARMA order estimation. *Statistical methods in control and signal processing*, 179–216, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E10 (62M10)

Sorella, S. P. (*with* Vilar, L. C. Q.; Ventura, O. S.; Sasaki, C. A. G.) Algebraic characterization of vector supersymmetry in topological field theories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 848–866. (Noriaki Ano) **99d:81166** 81T70 (58D29, 81T60)

— (*with* Barci, D. G.; Lemes, V. E. R.; Linhares de Jesus, C.; Silva Maia Porto, M. B. D.; Vilar, L. C. Q.) Three-dimensional fermionic determinants, Chern-Simons and nonlinear field redefinitions. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 765–778. (Ilya Shapiro) **99e:81158** 81T16 (81T13)

— (*with* Lemes, V. E. R.; Linhares de Jesus, C.; Vilar, L. C. Q.; Ventura, O. S.) Chern-Simons as a geometrical setup for three-dimensional gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045010, 11 *pp.* 81T70 (81T13)

Sørensen, D. *see* **Sørensen, Dorte**

Sorensen, D. C. Truncated QZ methods for large scale generalized eigenvalue problems. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 141–162 (*electronic*). (Summary) **99i:65041** 65F15

— (*with* Yang, Chao[2]) A truncated RQ iteration for large scale eigenvalue calculations. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 1045–1073 (*electronic*). (Ilse C. F. Ipsen) **99g:65048** 65F15 (15A18, 65F50)

Sørensen, Dan Erik Krarup Describing quadratic Cremer point polynomials by parabolic perturbations. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 739–758. (Jean-Yves Briend) **99e:58146** 58F23

— (*with* Branner, Bodil) Cover illustration: the limit elephant. *Nonlinearity* **11** (1998), *no.* 1, 1–4. (I. N. Baker) **99b:58196** 58F23 (30D05)

Sørensen, Dorte (*with* Andersen, Heidi H.; Højbjerre, M.; Eriksen, P. S.) ★ Linear and graphical models. For the multivariate complex normal distribution. Lecture Notes in Statistics, 101. *Springer-Verlag, New York*, 1995. x+183 *pp. ISBN* 0-387-94521-0 (M. Studený) **99a:62002** 62–01 (05C90, 62H12, 62H15)

Sørensen, M. H. (*with* Seidl, H.) Constraints to stop deforestation. (English summary) 6th European Symposium on Programming (Linköping, 1996). *Sci. Comput. Programming* **32** (1998), *no.* 1-3, 73–107. (Summary) **99e:68012** 68N15 (68N20)

Sørensen, Michael (*with* Küchler, Uwe) On exponential families of Markov processes. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 3–19. (Valeri Stefanov) **99g:62145** 62M99

— On comparison of stopping times in sequential procedures for exponential families of stochastic processes. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 331–343. (Norbert Schmitz) **99j:62118** 62L15

Sørensen, Niels J. (*with* Freund, Lambert B.) Dynamic bifurcation during high-rate planar extension of a thin rectangular block. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 709–724. 73E50 (73H10)

Sørensen, Preben Graae (*with* Ipsen, M.; Hynne, F.) Systematic derivation of amplitude equations and normal forms for dynamical systems. (English summary) *Chaos* **8** (1998), *no.* 4, 834–852. (Jialin Hong) **99k:58165** 58F36 (34C20, 34C23)

Sorensen, S. (*with* Apte, Aruna Uday; Jayasuriya, A.; Kennington, J.; Krass, I.; Mohamed, Ramadan Hamed; Whitler, J.) Class scheduling algorithms for Navy training schools. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 533–551. 90B35 (90B90)

Sørensen, Thorkild I. A. (*with* Martinussen, Torben) Age-dependent U-shaped risk functions and Aalen's additive risk model. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 989–1001. 62P10

Sorenson, Jonathan P. (*with* Meyer Eikenberry, Shawna) Efficient algorithms for computing the Jacobi symbol. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 4, 509–523. (Jeffrey O. Shallit) **99h:11146** 11Y16 (11A15)

Sorg, M. Topological currents in relativistic Schrödinger theory. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5517–5541. (Enric Verdaguer) **99g:81146** 81T20 (35Q75, 81T13, 83C05)

— Identities and conservation laws in relativistic Schrödinger theory. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 1, 23–61. (George K. Savvidy) **99e:81084** 81R20 (83F05)

Sorge, Volker (*with* Kerber, Manfred; Kohlhase, Michael) Integrating computer algebra into proof planning. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 327–355. 68T15 (68Q40)

Sorger, Christoph Le groupe de Picard de la variété des thêta-caractéristiques des courbes planes. [Picard group of the variety of theta-characteristics of plane curves] *Algebraic geometry (Catania, 1993/Barcelona, 1994)*, 169–200, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Jean-Marc Drezet) **99i:14017** 14D20 (14C22)

— (*with* Beauville, Arnaud; Laszlo, Yves) The Picard group of the moduli of G-bundles on a curve. (English summary) *Compositio Math.* **112** (1998), *no.* 2, 183–216. (Jean-Marc Drezet) **99i:14011** 14D20 (14C22)

— On moduli of G-bundles of a curve for exceptional G. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **32** (1999), *no.* 1, 127–133. (Jean-Marc Drezet) **99m:14031** 14D20

Sorger, Gerhard (*with* Hommes, Cars H.) Consistent expectations equilibria. (English summary) *Macroecon. Dyn.* **2** (1998), *no.* 3, 287–321. (Jeffrey L. Coles) **99k:90059** 90A56

— (*with* Mitra, Tapan) Rationalizing policy functions by dynamic optimization. (English summary) *Econometrica* **67** (1999), *no.* 2, 375–392. (Lorenzo Peccati) **99k:90193** 90C39 (90A09)

Sorgsepp, Leo (*with* Lõhmus, Jaak; Paal, Eugen) About nonassociativity in mathematics and physics. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 3–31. (K. Strambach) **99d:17001** 17–02 (17D05, 17D10, 20N05, 81R99)

Soria, Fernando (*with* Lu, Shan Zhen) Weighted inequalities for a class of operators related to the disc multiplier. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 3, 333–337. (Marta Urciuolo) **99d:42024** 42B20

— (*with* Carbery, Anthony) Pointwise Fourier inversion and localisation in $\mathbf{R}^n$. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 847–858. (Elijah Liflyand) **99c:42018** 42B10 (42B25)

— (*with* Menárguez, M. Trinidad; Pérez, Sonsoles) Pointwise and norm estimates for operators associated with the Ornstein-Uhlenbeck semigroup. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 25–30. (Summary) **99f:35070** 35K10 (47D07, 60J35)

Soria, Javier Lorentz spaces of weak-type. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 193, 93–103. (Henryk Hudzik) **99e:46037** 46E30

Soria, Julio (*with* Martín Yague, Jesús; Ooi, Andrew; Chong, M. S.) Dynamics of the velocity gradient tensor invariants in isotropic turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2336–2346. 76F99

sánchez-Soriano, J. *see* **Sánchez-Soriano, J.**

Soriano, J. A. (*with* Cavalcanti, M. M.) On solvability and stability of the wave equation with lower order terms and boundary damping. (English summary) *Rev. Mat. Apl.* **18** (1997), *no.* 2, 61–78. (Alan Jeffrey) **99a:35154** 35L05 (35B35, 93C20)

— (*with* Cavalcanti, M. M.; Domingos Cavalcanti, V. N.) Existence and boundary stabilization of a nonlinear hyperbolic equation with time-dependent coefficients. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 8, 21 *pp.* (*electronic*). (Enzo Vitillaro) **99b:35141** 35L70 (35B35, 93C20, 93D15)

— (*with* Cavalcanti, M. M.; Domingos Cavalcanti, V. N.; Rocha dos Santos, Angela) Exact controllability of a second-order integro-differential equation with a pressure term. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 9, 18 *pp.* (*electronic*). (Irina F. Sivergina) **99k:93017** 93B05 (35L99, 45K05, 73K50, 93C20)

— (*with* Cavalcanti, M. M.; Lar'kin, N. A.) On solvability and stability of solutions of nonlinear degenerate hyperbolic equations with boundary damping. (English summary) *Funkcial. Ekvac.* **41** (1998), *no.* 2, 271–289. (Summary) **99h:35147** 35L80 (35B35, 35L70)

— (*with* Cavalcanti, M. M.; Domingos Cavalcanti, V. N.; Prates Filho, J. S.) Existence and exponential decay for a Kirchhoff-Carrier model with viscosity. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 40–60. (Summary) **99g:35084** 35L70 (35B40)

Soriano, J. M. *see* **Soriano Arbizu, J. M.**

Soriano, María L. (*with* Benítez, Carlos; Fernández García-Hierro, Manuel) On the norm of the product of linear functionals. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1437–1441. (Summary) **99h:46032** 46C15 (46B20)

Soriano, Patrick (*with* Labbé, Martine; Laporte, Gilbert) Covering a graph with cycles. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 6, 499–504. (László Pyber) **99m:05151** 05C85 (05C38, 05C70)

Soriano, V. A. (*with* Díaz Díaz, Gregorio) Existence of solutions to some semilinear elliptic equations from dynamic programming. *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35J60 (90C39)

Soriano Arbizu, J. M. Existence of zeros for bounded perturbations of proper mappings. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 255–259. (Joe Thrash) **99j:58028** 58C30 (65H10)

— *see also* **Di Bella, Beatrice, 99b:26021**

Sorin, A. S. (*with* Bonora, Loriano) The Hamiltonian structure of the $N = 2$ supersymmetric GNLS hierarchy. (English summary) *Phys. Lett. B* **407** (1997), *no.* 2, 131–142. (Chris Athorne) **99a:58084** 58F07

— (*with* Bonora, Loriano; Krivonos, S.) The $N = 2$ supersymmetric matrix GNLS hierarchies. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 63–79. (Nikolai A. Kostov) **99j:58088** 58F07

— (*with* Derjagin, V. B.; Leznov, A. N.) The solution of the $N = (0|2)$ superconformal f-Toda lattice. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 643–656. (Henrik Aratyn) **99j:58089** 58F07 (35Q58, 81T10)

— Discrete symmetries of the $N = 2$ supersymmetric generalized nonlinear Schrödinger hierarchies. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1768–1772. (Summary) **99j:81046** 81Q60 (58F07)

— (*with* Derjagin, V. B.; Leznov, A. N.) $N = 2$ superintegrable f-Toda mapping and super-NLS hierarchy in $(1|2)$ superspace. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1990–1996. (Summary) **99j:58072** 58F07

Sorin, Sylvain (*with* Neyman, Abraham) Equilibria in repeated games of incomplete information: the general symmetric case. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 201–210. (Françoise Forges) **99j:90131** 90D20 (90D05, 90D10)

— On the impact of an event. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 315–330. (Françoise Forges) **99k:90212** 90D10

Sorkin, Gregory B. (*with* Jerrum, Mark) The Metropolis algorithm for graph bisection. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 155–175. (Konrad Engel) **99e:90107** 90C35 (05C80, 05C85)

— (*with* Goldberg, Leslie Ann; Goldberg, Paul W.; Phillips, Cynthia A.) Constructing computer virus phylogenies. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 188–208. (Juraj Hromkovič) **99c:68124** 68Q25 (68N99, 92D15)

Sorkin, Rafael D. (*with* Surya, Sumati) Geon statistics and UIR's of the mapping class group. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields (Mérida, 1996)*, 505–514, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99e:83048** 83E05 (83C45)

— Quantum measure theory and its interpretation. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 229–251, *Internat. Press, Cambridge, MA*, 1997. (Markku Lehto) **99a:81022** 81P99 (81S40, 83C45)

— Forks in the road, on the way to quantum gravity. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2759–2781. (Viqar Husain) **99b:83040** 83C45

— The statistical mechanics of black hole thermodynamics. (English summary) *Black holes and relativistic stars (Chicago, IL, 1996)*, 177–194, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C57

— (*with* Dowker, H. F.) A spin-statistics theorem for certain topological geons. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1153–1167. (Gil De Oliveira-Neto) **99d:83086** 83E05 (83C45)

— (*with* Surya, Sumati) An analysis of the representations of the mapping class group of a multigeon three-manifold. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 21, 3749–3790. (Darryl McCullough) **99h:83047** 83E05 (20C35, 57N10)

— (*with* Daughton, Alan; Louko, Jorma) Instantons and unitarity in quantum cosmology with fixed four-volume. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084008, 17 *pp.* (Summary) **99m:83068** 83C45

Sorkin, Stephen (*with* Hsu, David; Kavraki, Lydia E.; Latombe, Jean-Claude; Motwani, Rajeev) On finding narrow passages with probabilistic roadmap planners. (English summary) *Robotics: the algorithmic perspective (Houston, TX, 1998)*, 141–153, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 68U05 (68T20)

Sorli, R. M. (*with* Cohen, G. L.) Harmonic seeds. *Fibonacci Quart.* **36** (1998), *no.* 5, 386–390. (Marc Deléglise) **99j:11002** 11A05 (11Y70)

Sõrmus, Tamara Some properties of generalized summability methods in Banach spaces. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 3, 171–186. (R. H. Cox) **99c:40011** 40H05 (40J05, 46B99, 47B99)

— Mercer's theorems for generalized summability methods in Banach spaces. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 2, 75–89. (Summary) **99h:40014** 40J05 (46B45)

Sornborger, A. (*with* D'Eath, P. D.) Persistence amplitudes from numerical quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3435–3447. (Summary) **99g:83032** 83C45 (83–08)

— (*with* Chamblin, Andrew; Ashbourn-Chamblin, J. M. A.; Emparan, Roberto) Can extreme black holes have (long) abelian Higgs hair? (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124014, 11 *pp.* 83C57

Soroka, V. A. On dynamics with Grassmann-odd Lagrangian. *Problems of quantum field theory (Alushta, 1996)*, 396–399, *Joint Inst. Nuclear Res., Dubna*, 1996. (Avinash Khare) **99m:81067** 81Q60

— Remark concerning integrable Hamilton systems. (English summary) *Supersymmetry and quantum field theory (Kharkov, 1997)*, 252–256, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 58F07

Sorokin, A. S. Parametric representation of functions in finitely connected domains. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1163–1178, iv–v; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 1008–1022. (N. K. Karapetyants) **99b:30060** 30E20

Sorokin, D. P. Geometrical and symmetry properties of super-p-brane dynamics. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 229–239, *PWN, Warsaw*, 1997. (Gheorghe Zet) **99g:81187** 81T30

— Superstrings in the geometrical approach and constrained super-WZNW models. *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 592–597, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T30 (81T40)

— (*with* Dall'Agata, Gianguido; Lechner, Kurt) Covariant actions for the bosonic sector $D = 10$ IIB supergravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, L195–L198. (Summary) **99i:83100** 83E50

— (*with* Toppan, Francesco) An $n = (1, 1)$ super-Toda model based on OSp(1|4). (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 2, 139–152. (Josep Herrero) **99d:81146** 81T40 (17B81, 81R10, 81T60)

— (*with* Pasti, Paolo; Tonin, Mario) Comment on: "Covariant duality symmetric actions" [Phys. Rev. D (3) **53** (1996), no. 10, 5974–5977; MR 97a:81167] by A. Khoudeir and N. R. Pantoja. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2473–2474. (Summary) **99a:81104** 81T13

— (*with* Bandos, Igor A.; Pasti, Paolo; Tonin, Mario) Superbrane actions and geometrical approach. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 79–91, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81217** 81T30

— (*with* Bandos, Igor A.; Berkovits, Nathan) Duality-symmetric eleven-dimensional supergravity and its coupling to M-branes. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 214–233. (Paulo Moniz) **99j:83066** 83E30 (81T30, 83E50)

— (*with* Maznytsia, Alexey; Preitschopf, Christian R.) Duality of self-dual actions. (English summary) *Nuclear Phys. B* **539** (1999), *no.* 1-2, 438–452. (Summary) **99i:81149** 81T13

— (*with* Pasti, Paolo; Tonin, Mario) On gauge-field superbrane actions in AdS superbackgrounds. (English summary) *Phys. Lett. B* **447** (1999), *no.* 3-4, 251–256. (Summary) **99m:83193** 83E30 (81T30)

Sorokin, V. N. Completely integrable nonlinear dynamical systems of Langmuir chain type. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 588–602; *translation in Math. Notes* **62** (1997), *no.* 3-4, 488–500 (1998). (Yordan Stoev Vaklev) **99c:35236** 35Q58 (34C99, 58F07)

— Simultaneous Pollaczek polynomials. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 2, 5–9, 62; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 2, 4–7. (Summary) **99a:47025** 47A57 (33C45, 42C05, 47B37)

Sorokina, M. M. (*with* Vedernikov, V. A.) Composition hereditary critical formations. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 6–19, *Gomel. Gos. Univ., Gomel'*, 1997. (Alexander N. Skiba) **99m:20031** 20D10

Sorolla Ayza, M. (*with* Katsenelenbaum, B. Z.; Mercader del Río, L.; Pereyaslavets, M.; Thumm, M.) ★ Theory of nonuniform waveguides. (English summary) The cross-section method. IEE Electromagnetic Waves Series, 44. *Institution of Electrical Engineers* (*IEE*), *London*, 1998. *xvi*+249 *pp. ISBN* 0-85296-918-X (A. S. Silbergleit) **99f:78017** 78A50 (35Q99, 78A40)

Soroush, Hossein M. (*with* Soroush, Masoud) Input-output linearizing nonlinear model predictive control. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1449–1473. 93B17

Soroush, Masoud (*with* Kravaris, Costas) A continuous-time formulation of nonlinear model predictive control. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 121–146. 93E10 (93E35)

— (*with* Soroush, Hossein M.) Input-output linearizing nonlinear model predictive control. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1449–1473. 93B17

Sós, Vera T. Paul Erdős, 1913–1996. *Aequationes Math.* **54** (1997), *no.* 3, 205–220. (Editors) **99k:01074** 01A70

— (*with* Simonovits, Miklós) Hereditarily extended properties, quasi-random graphs and not necessarily induced subgraphs. (English summary) *Combinatorica* **17** (1997), *no.* 4, 577–596. (A. G. Thomason) **99j:05115** 05C35 (05C80)

— *see also* **Number theory**, **99a:11004** *and* **Recent trends in combinatorics**, **99k:00041**

minjárez-Sosa, J. Adolfo *see* **Minjárez-Sosa, J. Adolfo**

bermúdez Sosa, Juana E. *see* **Bermúdez Sosa, Juana E.**

valdés-Sosa, Pedro A. *see* **Valdés-Sosa, Pedro A.**

Soshnikov, A. (*with* Sinaĭ, Yakov Grigor'evich) Central limit theorem for traces of large random symmetric matrices with independent matrix elements. (English summary) *Bol. Soc. Brasil. Mat.* (*N.S.*) **29** (1998), *no.* 1, 1–24. (Alexei Khorunzhy) **99f:60053** 60F05 (15A52, 60F99)

Sosinskiĭ, A. B. Vassiliev spaces and classical invariants. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 47–62 (1998). (Sergei V. Chmutov) **99b:57023** 57M25

— *see also* **Lie groups and Lie algebras**, **99a:00013** *and* **Kantorovich, L. V.**, **99f:01030**

Sosnin, N. V. (*with* Abakumov, M. V.; Gavrilyuk, K. V.; Esikova, N. B.; Lukshin, An. V.; Mukhin, S. I.; Tishkin, V. F.; Favorskiĭ, A. P.) A mathematical model of the hemodynamics of a cardio-vascular system. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 892–898, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 895–901 (1998). (Introduction) **99b:92017** 92C50 (92–08, 92C30)

Sosnits'kiĭ, S. P. On the instability of conservative systems with gyroscopic forces. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1422–1428; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1598–1606 (1998). (A. Sumbatov) **99k:34114** 34D20 (70F20, 70F25, 70K20)

Sosnowska, Honorata Coalitions and rationality. *Control Cybernet.* **26** (1997), *no.* 4, 623–624. 90A12

Sosonkina, Maria (*with* Watson, Layne T.; Melville, Robert C.; Morgan, Alexander P.; Walker, Homer F.) Algorithm 777: HOMPACK90: a suite of Fortran 90 codes for globally convergent homotopy algorithms. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 514–549. 65Y15

— (*with* Saad, Youcef; Zhang, Jun^2) Domain decomposition and multi-level type techniques for general sparse linear systems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 174–190, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65057** 65F10 (65N22, 65N55)

— (*with* Watson, Layne T.; Kapania, Rakesh K.; Walker, Homer F.) A new adaptive GMRES algorithm for achieving high accuracy. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 4, 275–297. (Summary) **99d:65110** 65F10 (65F50)

Sosov, E. N. On convex sets in a generalized chord space. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 47–52; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 7, 44–49 (1999). (Valery Marenich) **99h:53102** 53C70

Sossa-Azuela, J. H. (*with* Díaz de León S., J. L.) Mathematical morphology based on metric spaces. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 75–82, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:68175** 68U10

Sossai, Claudio (*with* Boldrin, Luca) An algebraic semantics for possibilistic logic. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 27–35, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 03B70 (68T27)

Sossinskiĭ, A. B. *see* **Sosinskiĭ, A. B.**

Sossinsky, A. B. *see* **Sosinskiĭ, A. B.**

Sossinsky, Alexeĭ B. *see* **Sosinskiĭ, A. B.**

Šostak, Alexander P. (*with* Gutiérrez García, J.; de Prada Vicente, María Angeles) Even fuzzy topologies and related structures. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 327–350. (Summary) **99h:54007** 54A40

Soták, Roman (*with* Horňák, Mirko) Asymptotic behaviour of the observability of Q_n. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 139–148. (S. G. Hoggar) **99b:05058** 05C15

— (*with* Horňák, Mirko) Localization of jumps of the point-distinguishing chromatic index of $K_{n,n}$. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 243–251. (Summary) **99b:05059** 05C15

— (*with* Jendroľ, Stanislav; Madaras, Tomáš; Tuza, Zsolt) On light cycles in plane triangulations. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 453–467. (Summary) **99j:05055** 05C10 (05C38, 52B10)

Soteros, C. E. (*with* Paulhus, Marc M.) A Monte Carlo algorithm for studying the collapse transition in lattice animals. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 121–139, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82B80 (65C05, 82B41, 82D60)

— (*with* Sumners, De Witt; Whittington, Stuart G.) Linking of random p-spheres in $\mathbf{Z}^d$. (English summary) *J. Knot Theory Ramifications* **8** (1999), *no.* 1, 49–70. (Yuanan Diao) **99m:57023** 57Q45 (57M25, 60D05)

Sotiropoulos, D. A. (*with* Ogden, R. W.) The effect of pre-stress on the propagation and reflection of plane waves in incompressible elastic solids. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 1, 95–121. (Summary) **99a:73049** 73D15 (73C50, 73D20, 73D25, 73G05)

— (*with* Ogden, R. W.) Reflection of plane waves from the boundary of a pre-stressed compressible elastic half-space. (English summary) *IMA J. Appl. Math.* **61** (1998), *no.* 1, 61–90. (Ivan Andronov) **99j:73044** 73D25 (73C50, 73D30)

Sotirov, Vladimir Arithmetizations of syllogistic à la Leibniz. *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 4, 156–163. 03B20

— Errata: "Arithmetizations of syllogistic à la Leibniz" [Bull. Sect. Logic Univ. Łódź **27** (1998), no. 4, 156–163]. *Bull. Sect. Logic Univ. Łódź* **28** (1999), *no.* 1, *loose errata.* 03B20

Sotkov, G. M. (*with* Gomes, J. F.; Zimerman, A. H.) $SU(2, \mathbf{R})_q$ symmetries of non-abelian Toda theories. (English summary) *Phys. Lett. B* **435** (1998), *no.* 1-2, 49–60. (Mathias Pillin) **99g:81199** 81T40 (81R50, 81T10)

Sotnikova, S. D. (*with* Lamzyuk, V. D.) A plane problem in elasticity theory for a half-strip with given normal displacement at the base. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2459–2463. (Summary) **99g:73026** 73C02

galindo Soto, Félix *see* **Galindo Soto, Félix**

Soto, Fernando (*with* Osejo, Edgar; Caballero, Rafael) Peirce's enumeration of the rationals. (Spanish. English and Spanish summaries) *Bol. Mat.* (*N.S.*) **3** (1996), *no.* 2, 83–96. (Summary) **99d:04001** 04A05

cruz Soto, J. L. *see* **Cruz Soto, J. L.**

majadas Soto, Javier *see* **Majadas Soto, Javier**

Soto, Joan (*with* Pineda, Antonio) The Lamb shift in dimensional regularisation. (English summary) *Phys. Lett. B* **420** (1998), *no.* 3-4, 391–396. (Lewis H. Ryder) **99a:81200** 81V10 (81T15)

gasca Soto, María De Luz *see* **Gasca Soto, María De Luz**

selva Soto, Mónica *see* **Selva Soto, Mónica**

Soto, R. (*with* Rojo, O.; Rojo J., Héctor) Bounds for the spectral radius and the largest singular value. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 41–50. (Summary) **99c:65080** 65F30 (15A42)

— (*with* Ayala, Victor; Rojo, O.) Observability of the direct product of bilinear control systems on Lie groups. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 107–112. (Yuri L. Sachkov) **99f:93017** 93B07 (93B25, 93C10)

Soto-Andrade, Jorge (*with* Vargas, Jorge) Intertwining operators for $L^2(E)$. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1419–1427. (Ronald J. Evans) **99d:11132** 11T99

Sotolongo Costa, Oscar (*with* Vázquez, Alexei) Self-organized criticality and directed percolation. (English summary) *J. Phys. A* **32** (1999), *no.* 14, 2633–2644. 82C43

Sotomayor, Jorge Structurally stable differential systems of the form $A(x)x' = F(x)$. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 415–422. (S. Yu. Pilyugin) **99m:34115** 34D30 (34A09, 34C05, 58F10)

— (*with* Garcia, Ronaldo Alves) Structural stability of parabolic points and periodic asymptotic lines. (English and Portuguese summaries) Workshop on Real and Complex Singularities (São Carlos, 1996). *Mat. Contemp.* **12** (1997), 83–102. (Robert Roussarie) **99g:58069** 58F10 (53A05)

— (*with* Teixeira, Marco Antonio) Regularization of discontinuous vector fields. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 207–223, *World Sci. Publishing, River Edge, NJ*, 1998. (Robert Roussarie) **99h:58102** 58F10 (34C25, 34C35, 34D30, 58F09)

— (*with* Llibre, Jaume) Structural stability of constrained polynomial systems. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 6, 589–595. (S. Yu. Pilyugin) **99h:58101** 58F10 (34C35, 34D30)

Soto-Treviño, C. (*with* Kopell, Nancy; Watson, Diana) Parabolic bursting revisited. (English summary) *J. Math. Biol.* **35** (1996), *no.* 1, 114–128. (Summary) **99a:92007** 92C20 (34C99, 34E15)

Sot·skov, Aleksandr I. (*with* Danilov, Vladimir Ivanovich[1]) Rational choice under convex conditions. (English summary) *Constructing scalar-valued objective functions* (*Hagen*, 1995), 53–63, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (Hiroaki Osana) **99a:90028** 90A08

Sot·skov, Yu. N. (*with* Tanaev, Vyacheslav S.; Werner, Frank) Stability radius of an optimal schedule: a survey and recent developments. (English summary) *Industrial applications of combinatorial optimization*, 72–108, *Appl. Optim.*, 16, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:90058** 90B35 (90–02, 90C27)

— (*with* Wagelmans, Albert P. M.; Werner, Frank) On the calculation of the stability radius of an optimal or an approximate schedule. (English summary) Models and algorithms

for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 213–252. (Peter Brucker) **99j:90048** 90C09 (90B35, 90C31)
— (*with* Brucker, Peter; Kravchenko, Svetlana A.) Preemptive job-shop scheduling problems with a fixed number of jobs. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 41–76. (Edward J. Anderson) **99m:90084** 90B35 (90C60)
Sotteau, Dominique (*with* Germa, Anne; Heydemann, Marie-Claude) Cycles in the cube-connected cycles graph. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 135–155. (Joseph B. Klerlein) **99d:05049** 05C38 (68R10)
— (*with* Bouabdallah, A.; Heydemann, Marie-Claude; Opatrny, J.) Embedding complete binary trees into star and pancake graphs. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 279–305. (Michael O. Albertson) **99d:68188** 68R10 (05C85, 68M99)
Sottile, Frank Enumerative geometry for real varieties. *Algebraic geometry—Santa Cruz* 1995, 435–447, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (From the introduction) **99i:14066** 14N10 (14P05)
— Enumerative geometry for the real Grassmannian of lines in projective space. *Duke Math. J.* **87** (1997), *no.* 1, 59–85. (From the introduction) **99a:14079** 14N10 (14M15)
Souček, Vladimír (*with* Bureš, Jarolím) The inverse Penrose transform for the Dirac and complex Laplace equations. (French summary) *Géométrie complexe* (*Paris*, 1992), 3–22, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Michael G. Eastwood) **99e:32053** 32L25 (81R25)
Soudry, David (*with* Ginzburg, David; Rallis, Stephen) A tower of theta correspondences for G_2. *Duke Math. J.* **88** (1997), *no.* 3, 537–624. (Gordan Savin) **99c:11059** 11F70 (22E45)
— (*with* Ginzburg, David; Rallis, Stephen) On the automorphic theta representation for simply laced groups. (English summary) *Israel J. Math.* **100** (1997), 61–116. (Gordan Savin) **99c:11058** 11F70 (22E45)
Souères, P. (*with* Boissonnat, Jean-Daniel) Optimal trajectories for nonholonomic mobile robots. *Robot motion planning and control*, 93–170, *Lecture Notes in Control and Inform. Sci.*, 229, *Springer, London*, 1998. (Krzysztof Tchoń) **99c:93076** 93C83 (49N55, 70B15, 70Q05)
Souffland, D. (*with* Grégoire, O.; Gauthier, S.; Schiestel, R.) A multi-scale turbulence model for compressible mixing flows. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 78–82, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76078** 76F99 (76L05)
el Soufi, Ahmad *see* **El Soufi, Ahmad**
Souganidis, Panagiotis E. (*with* Perthame, B.) A limiting case for velocity averaging. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 591–598. (Carlo Cercignani) **99h:82064** 82C40 (35B27, 35Q99, 76P05)
— (*with* Barles, Guy) A new approach to front propagation problems: theory and applications. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 3, 237–296. (Hideo Ikeda) **99c:35106** 35K57 (35B40, 73D99, 82C20)
— (*with* Lions, Pierre-Louis) Fully nonlinear stochastic partial differential equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1085–1092. (Samy Tindel) **99j:60094** 60H15 (35R60)
— (*with* Lions, Pierre-Louis) Fully nonlinear stochastic partial differential equations: non-smooth equations and applications. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 735–741. (Sergey V. Lototsky) **99j:60095** 60H15 (35R60)
— (*with* Majda, Andrew J.) Flame fronts in a turbulent combustion model with fractal velocity fields. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1337–1348. (Vitaly A. Volpert) **99f:35090** 35K57 (35Q35, 76F99, 80A25)
Souidi, El Mamoun Universal central extensions of Kac-Moody algebras extended by a commutative algebra. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 1, 1–12. (Duncan J. Melville) **99m:17028** 17B55 (17B67)
— (*with* Benayed, Miloud) Heisenberg Lie bialgebras as central extensions. (English summary) *New York J. Math.* **4** (1998), 177–183 (*electronic*). (Aleksandr A. Mikhalev) **99h:17024** 17B50 (16W30)
Souissi, A. (*with* Abouchabaka, J.; Aboulaïch, R.) Numerical approach of a free boundary in the junction field effect transistor—MESFET. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 6, 531–539. (Summary) **99i:78001** 78–08 (65N99, 78A55)
Souissi, Sami (*with* Bernard, Olivier) Qualitative behavior of stage-structured populations: application to structural validation. (English summary) *J. Math. Biol.* **37** (1998), *no.* 4, 291–308. (Summary) **99i:92017** 92D25
Soukup, Lajos (*with* Fuchino, Sakaé; Shelah, Saharon) Sticks and clubs. (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 57–77. (Douglas R. Burke) **99j:03044** 03E55 (03E05, 03E35)
— (*with* Fuchino, Sakaé) More set-theory around the weak Freese-Nation property. (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 159–176. (A. Kanamori) **99a:03048** 03E05 (03E35, 03E55, 06A06, 06E05)
— (*with* Roitman, Judith) Luzin and anti-Luzin almost disjoint families. (English summary) *Fund. Math.* **158** (1998), *no.* 1, 51–67. (Klaas Pieter Hart) **99g:03050** 03E05 (03E35, 54G20)
— (*with* Juhász, István; Szentmiklóssy, Z.) What is left of CH after you add Cohen reals? (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 165–174. (Andrzej Szymański) **99d:54001** 54A25 (03E35, 03E50)
Soukup, Lubomír Probability distribution of transformed random variables with application to nonlinear feature extraction. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 4, 473–478. (Summary) **99h:62041** 62G05 (62E15)
Soula, M. (*with* Chevalier, Y.) La dérivée fractionnaire en rhéologie des polymères. Application aux comportements élastiques et viscoélastiques linéaires et non linéaires des élastomères. (English and French summaries) [Fractional derivatives in polymer rheology. Application to the linear and nonlinear elastic and viscoelastic behavior of elastomers] *Systèmes différentiels fractionnaires* (*Paris*, 1998), 193–204, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99k:73070** 73F05 (73F15, 73G25, 76A99)
Soulé, Christophe Hermitian vector bundles on arithmetic varieties. *Algebraic geometry—Santa Cruz* 1995, 383–419, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Jörg Jahnel) **99e:14030** 14G40 (11G35, 11J81, 14C17, 14J60)
Soulier, Philippe (*with* Bardet, Jean-Marc; Moulines, Eric) Recent advances on the semi-parametric estimation of the long-range dependence coefficient. (English and French summaries) *Systèmes différentiels fractionnaires* (*Paris*, 1998), 29–41, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99i:62198** 62M10 (62M15)
— Nonparametric estimation of the diffusion coefficient of a diffusion process. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 185–200. (José Rafael León) **99c:62113** 62G05 (62M09)
alaoui Soulimani, A. *see* **Alaoui Soulimani, A.**
Soultan, N. A. (*with* Verschoren, Alain) Inductive limits of multispectra. (English summary) *Comm. Algebra* **27** (1999), *no.* 4, 1895–1902. (Summary) **99m:18001** 18A30 (18F20)
Soumis, François (*with* Ioachim, Irina; Gélinas, Sylvie; Desrosiers, Jacques) A dynamic programming algorithm for the shortest path problem with time windows and linear node costs. (English summary) *Networks* **31** (1998), *no.* 3, 193–204. (Summary) **99b:90154** 90C39 (93B35)
Soumyanath, K. (*with* Borkar, Vivek S.) An analog scheme for fixed-point computation. II. Applications. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 4, 442–451. 65H10
Soundararajan, K. (*with* Ono, Ken) Ramanujan's ternary quadratic form. *Invent. Math.* **130** (1997), *no.* 3, 415–454. (Rainer Schulze-Pillot) **99b:11036** 11E45 (11E20, 11F37, 11F67)
— (*with* Granville, Andrew) A binary additive problem of Erdős and the order of 2 mod p^2. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 283–298. (Nigel Watt) **99i:11081** 11N25 (11A15, 11N36, 11N69)
Soundarajan, T. (*with* Comfort, W. W.; Trigos-Arrieta, F. Javier) Determining a weakly locally compact group topology by its system of closed subgroups. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 248–261, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Dieter Remus) **99d:22002** 22A05 (22D05, 54H11)
— (*with* Nagarajan, K. R.) On submanifolds with extension property. *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 53–60. (From the introduction) **99b:57060** 57R40 (54C20)
— (*with* Nagarajan, K. R.) On the module of 1-forms on a differentiable manifold and parallelizable manifolds. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 115–129. (Akira Asada) **99m:58008** 58A10
Souplet, Philippe Some results on blow-up for nonlocal reaction-diffusion equations. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 127–137, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (*see* **99d:35004**) 35K57 (35B40)
— (*with* Martel, Yvan) Estimations optimales en temps petit et près de la frontière pour les solutions de l'équation de la chaleur avec données non compatibles. (English and French summaries) [Optimal small-time boundary estimates for solutions of the heat equation with noncompatible data] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 575–580. (Summary) **99g:35051** 35K05 (35B45)
— Blow-up in nonlocal reaction-diffusion equations. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1301–1334 (*electronic*). (Peter E. Zhidkov) **99h:35104** 35K57 (35B05, 45K05)
Sourour, Ahmed R. (*with* Marcoux, Laurent W.) Commutativity preserving linear maps and Lie automorphisms of triangular matrix algebras. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 89–104. (Andrei Marcus) **99k:16072** 16W20 (15A30, 16S50, 47B48)
Sousa, J. M. M. (*with* Pereira, José C. F.) Confined vortex breakdown generated by a rotating cone. (English summary) *J. Fluid Mech.* **385** (1999), 287–323. 76C05 (76–05, 76U05)
de Sousa, J. Ricardo Critical behavior of the quantum spin-$\frac{1}{2}$ anisotropic Heisenberg model. (English summary) *Phys. A* **259** (1998), *no.* 1-2, 138–144. (Summary) **99e:82040** 82B27 (82B28)
Sousa, Lurdes Note on multisolid categories. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 2, 201–205. (Summary) **99k:18001** 18A05 (18A22, 18A40)
de Sousa Dias, M. E. R. (*with* Roberts, Richard Mark) Bifurcations from relative equilibria of Hamiltonian systems. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1719–1738. (Jair Koiller) **99b:58176** 58F14 (58F05, 70E15, 70H05, 70H33)
Sousa Ramos, J. (*with* Rica da Silva, A.; Croca, J. R.; Moreira, R. N.) Non-linear Schrödinger equation, Burger's equation and superposition of solutions. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 421–430, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81Q05 (35Q53, 35Q55)
— (*with* Martins Girão, Pedro) Algebraic results on Markov shifts of torus automorphisms. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 436–441, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 58F15 (28D15)
— (*with* Sarreira, Mário) Markov shifts in complex dynamical systems. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 498–505, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 58F03 (28D15, 30D05, 58F23)
— (*with* Severino, R.) Dimension groups and one-dimensional maps of the interval. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 511–517, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 58F03
Southern, B. W. (*with* Lavis, D. A.; Wilde, I. F.) The inverse of a semi-infinite symmetric banded matrix. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7229–7241. (Jaroslav Zemánek) **99b:47050** 47B39 (39A70, 47B35, 82B20)
Southworth, H. R. (*with* Mardia, Kanti V.; Taylor, Charles C.) On bias in maximum likelihood estimators. (English summary) *J. Statist. Plann. Inference* **76** (1999), *no.* 1-2, 31–39. 62F10
Souvignier, B. (*with* Plesken, Wilhelm) Analysing finitely presented groups by constructing representations. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 335–349. (Summary) **99h:20009** 20C15 (20C20, 20F05, 68Q40)
— (*with* Plesken, Wilhelm) Constructing representations of finite groups and applications to finitely presented groups. *J. Algebra* **202** (1998), *no.* 2, 690–703. (Mohammad-Reza

Darafsheh) **99d:20013** 20C15 (20F05)

de Souza, Aparecido Jesuino (*with* Marchesin, Dan) Conservation laws possessing contact characteristic fields with singularities. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 3, 353–364. (Shu-Xing Chen) **99d:35102** 35L65

— (*with* Doronin, G. G.; Lar'kin, N. A.) A hyperbolic problem with nonlinear second-order boundary damping. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 28, 10 *pp.* (*electronic*). (Takashi Narazaki) **99h:35139** 35L70

de Souza, B. *see* **De Souza, B.**

de Souza, C. C. (*with* Ferreira, Carlos E.; Martin, Alexander; Weismantel, Robert; Wolsey, Laurence A.) The node capacitated graph partitioning problem: a computational study. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 229–256. (Summary) **99b:90146** 90C35 (05C90)

farina de Souza, Carlos *see* **Farina de Souza, Carlos**

de Souza, Carlos E. (*with* Li, Xi) Criteria for robust stability and stabilization of uncertain linear systems with state delay. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1657–1662. (Summary) **99g:93066** 93D09 (93D21)

— (*with* Shi, Peng; Xie, Lihua) Bounded real lemma for linear systems with finite discrete jumps. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 145–159. 93D09 (93C57)

— (*with* Li, Xi) Output feedback stabilization of linear time-delay systems. (English summary) *Stability and control of time-delay systems*, 241–258, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (34K35, 93C30)

— (*with* Niculescu, Silviu-Iulian; Dugard, Luc; Dion, Jean-Michel) Robust exponential stability of uncertain systems with time-varying delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 743–748. (Tetsushi Sasagawa) **99h:93078** 93D09 (34K35)

— (*with* Xie, Shoulie; Xie, Lihua) Robust dissipative control for linear systems with dissipative uncertainty. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 169–191. (Summary) **99a:93027** 93B35 (93C41)

de Souza, Edelcio G. (*with* Bueno, Otávio) The concept of quasi-truth. Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 183–199. (Ignacio Angelelli) **99m:03007** 03A05

Souza, Joel S. (*with* Kapitonov, Boris V.) Uniqueness theorem and exact boundary controllability for a class of distributed systems. (Portuguese summary) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 157–167. (Summary) **99h:93016** 93B05 (35K99, 93C20)

Souza, Marcelo de Oliveira (*with* Som, M. M.) An exact model of an infinite cosmic string. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1213–1219. (Mark D. Roberts) **99b:83046** 83C55 (83C99)

lapa de Souza, Maria Luiza *see* **Lapa de Souza, Maria Luiza**

Souza, Mauricio C. (*with* Martins, Simone L.; Ribeiro, Celso C.) A parallel GRASP for the Steiner problem in graphs. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 285–297, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05

de Souza, Paulo Ney (*with* Oliveira e Silva, Jorge-Nuno) ★ Berkeley problems in mathematics. (English summary) Problem Books in Mathematics. *Springer-Verlag, New York*, 1998. *xiv*+443 *pp. ISBN* 0-387-94934-8 (From the preface) **99g:00012** 00A07

Souza, Rafael R. (*with* Lopes, Artur Oscar; Lopes, Silvia) On the spectral density of a class of chaotic time series. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 5, 465–474. (Yoshihiro Yajima) **99c:62270** 62M15 (62M10)

de Souza, Renata M. C. R. (*with* de Carvalho, Francisco de A. T.) Statistical proximity functions of Boolean symbolic objects based on histograms. (English summary) *Advances in data science and classification (Rome, 1998)*, 391–396, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30 (62–07)

de Souza, Robert *see* **De Souza, Robert**

de Souza Cortes, M. B. (*with* Souza de Cursi, J. E.) Approximate Gaussian distributions in optimization by random perturbation methods. (English summary) Applied and computational mathematics (Gramado, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 1, 23–30. (*see* **99m:65003**) 90C15

Souza de Cursi, J. E. (*with* Autrique, L.) On stochastic modification for global optimization problems: an efficient implementation for the control of the vulcanization process. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 1–21. 90C30 (90C15)

— (*with* Le Maître, O.; Huberson, S.) Large displacement analysis for ideally flexible sails. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 619–636. 73K15

— (*with* de Souza Cortes, M. B.) Approximate Gaussian distributions in optimization by random perturbation methods. (English summary) Applied and computational mathematics (Gramado, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 1, 23–30. (*see* **99m:65003**) 90C15

de Souza Dutra, A. (*with* Natividade, C. P.; Boschi-Filho, H.) Symmetry transform in Faddeev-Jackiw quantization of dual models. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065016, 9 *pp.* (Summary) **99m:81271** 81T70 (81T10)

de Souza e Silva, Edmundo (*with* Gail, H. Richard) An algorithm to calculate transient distributions of cumulative rate and impulse based reward. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 509–536. (Jaap Wessels) **99m:60108** 60J27 (90C40)

de Souza Neto, E. A. (*with* Perić, D.; Owen, D. R. J.) Continuum modelling and numerical simulation of material damage at finite strains. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 4, 311–384. (Summary) **99j:73063** 73G05 (73C50, 73M25, 73S10, 73V20)

Soward, Andrew M. (*with* Meunier, N.; Proctor, M. R. E.; Sokolov, D. D.; Tobias, S. M.) Asymptotic properties of a nonlinear $\alpha\omega$-dynamo wave: period, amplitude and latitude dependence. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 249–285. (Summary) **99k:85006** 85A30 (76W05, 85A20)

— (*with* Moroz, Irene M.; Hide, Raymond) On self-exciting coupled Faraday disk homopolar dynamos driving series motors. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 128–144. (Manuel Núñez Jiménez) **99e:78040** 78A99 (34C23, 58F13, 58F36, 76W05)

— (*with* Brandenburg, Axel; Moss, David Leonard) New results for the Herzenberg dynamo: steady and oscillatory solutions. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1283–1300. (Summary) **99d:76097** 76W05 (78A99, 86A25)

— (*with* Brandenburg, Axel; Moss, David Leonard) Erratum: "New results for the Herzenberg dynamo: steady and oscillatory solutions" [R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci. **454** (1998), no. 1973, 1283–1300; MR 99d:76097]. *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3275. 76W05 (78A99, 86A25)

Sowers, Richard B. (*with* Wu, Jang-Mei) Thermal capacity estimates on the Allen-Cahn equation. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2553–2567. (Neil A. Watson) **99i:31006** 31B35 (35K57, 60J45)

Sowjanya Kumari, I. (*with* Umamaheswaram, S.) Conjugacy criteria for a two-dimensional linear Hamiltonian system. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 441–452. (E. Müller-Pfeiffer) **99g:34070** 34C10

Soyer, Refik (*with* van Dorp, J. René; Mazzuchi, Thomas A.) Sequential inference and decision making for single mission systems development. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 207–218. (Richard A. Johnson) **99b:62123** 62L15 (62N05)

— (*with* Erkanli, Alaattin; Angold, Adrian) Optimal Bayesian two-phase designs. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 175–191. (Summary) **99c:62205** 62K05 (62F15)

Söylemez, M. T. (*with* Munro, Neil) A note on pole assignment in uncertain systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 487–497. 93B55 (93C41)

— (*with* Munro, Neil) Pole assignment for uncertain systems. *Symbolic methods in control system analysis and design*, 251–272, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B55 (93C41)

Soyster, Allen L. (*with* Ventura, José A.) Linear programming. *Mathematical programming for industrial engineers*, 11–121, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C05 (90–02)

Soytürk, Emine (*with* Kaya, Rüstem) On a Laguerre inversion. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 61–66 (1997). (Giorgio Faina) **99b:51004** 51B15

Sozutov, A. I. On the existence of f-local subgroups in a group. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 5, 573–598, 601; *translation in Algebra and Logic* **36** (1997), *no.* 5, 336–348. (Sergey P. Strunkov) **99c:20030** 20E25

— On groups with certain systems of F-subgroups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 161–171, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 141–150. (Sergey P. Strunkov) **99e:20053** 20F99

Spaanenburg, Lambert (*with* ter Brugge, Mark H.; Nijhuis, Jos A. G.) Transformational DT-CNN design from morphological specifications. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 879–888. 68U10 (68Q80, 68T05)

marchetti-Spaccamela, Alberto *see* **Marchetti-Spaccamela, Alberto**

Spadini, Marco Periodic perturbations of ordinary differential equations on differentiable manifolds. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 149–152. 34C25 (34C40, 58F22)

— (*with* Furi, Massimo) Multiplicity of forced oscillations for the spherical pendulum. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 147–157. (Roman Srzednicki) **99h:58154** 58F22 (34C25, 58F30, 70K40)

Spaggiari, Fulvia (*with* Cavicchioli, Alberto; Hegenbarth, Friedrich) A splitting theorem for homotopy equivalent smooth 4-manifolds. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 523–539. (Masayuki Yamasaki) **99a:57019** 57N13 (57R42, 57R67)

— On certain classes of finite groups. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 31–43. (Colin M. Campbell) **99c:20041** 20F05 (57M05, 57M07, 57N10)

— (*with* Cavicchioli, Alberto; Hegenbarth, Friedrich) Topological properties of high-dimensional handles. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 1, 45–62. (V. P. Snaith) **99e:57036** 57Q37 (57N65, 57R65)

— (*with* Cavicchioli, Alberto; Meschiari, M.; Ruini, Beatrice) A survey on snarks and new results: products, reducibility and a computer search. (English summary) *J. Graph Theory* **28** (1998), *no.* 2, 57–86. (Martin Kochol) **99d:05031** 05C15 (05C38, 05C40)

Spagnolatti, I. (*with* Cacciatori, S.; Preparata, G.; Rovelli, S.; Xue, S.-S.) On the ground state of quantum gravity. (English summary) *Phys. Lett. B* **427** (1998), *no.* 3-4, 254–260. (Summary) **99c:83028** 83C45

Spagnolo, Filippo The works of Michele Cipolla on the Zermelo axiom. (Italian) *Michele Cipolla* (1880–1947) (*Palermo*, 1997), 27–35, *Atti Convegni A.I.C.M.*, 1, *Assoc. Insegn. Cultori Mat., Palermo*, 1998. (*see* **99d:01043**) 01A70 (01A60, 03–03)

— *see also* **Michele Cipolla, 99d:01043**

Spagnolo, Sergio (*with* D'Ancona, Piero) On pseudosymmetric hyperbolic systems. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 397–418 (1998). (Roman O. Popovich) **99k:35113** 35L45 (35B65)

— (*with* Ghisi, Marina) Global analytic solutions to hyperbolic systems. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 245–264. (Alan Jeffrey) **99c:35159** 35L70

Spalding, Anne (*with* Fisher, David C.) Domination of circulant graphs: an example of min-plus algebra. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 45–54. (Anthony E. Barkauskas) **99g:05141** 05C70 (05C35)

Spalding, D. B. Multi-fluid models of turbulent combustion. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 59–81, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 80A25 (76F99)

Spalević, Miodrag M. Product of Turán quadratures for ellipse and regions bounded by orthogonal parabolas. (English and Serbo-Croatian summaries) *Zb. Rad. (Kragujevac) No.* 19 (1997), 21–28. (I. P. Mysovskikh) **99g:65030** 65D32 (41A55)

— (*with* Milovanović, Gradimir V.) Construction of Chakalov-Popoviciu's type quadrature formulae. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 625–636. (Dimitar Kolev Dimitrov) **99f:41035** 41A55 (65D32)

— Product of rectangle and Gauss-Turán's quadratures for n-sphere. (English and Serbian summaries) *Zb. Rad. (Kragujevac) No.* 20 (1998), 83–89. (Summary) **99i:65024** 65D32 (41A55)

Spaliński, Michał (*with* Fayyazuddin, Ansar) The Seiberg-Witten differential from M-theory. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 219–228. (Angel

Maria Uranga) **99c:81237** 81T60 (14H45, 81T13, 81T30)

Spall, James C. (*with* Cristion, John A.) Model-free control of nonlinear stochastic systems with discrete-time measurements. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1198–1210. (Summary) **99d:93076** 93E35

— (*with* Sadegh, Payman) Optimal random perturbations for stochastic approximation using a simultaneous perturbation gradient approximation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1480–1484. 93E15 (93E23)

— (*with* Sadegh, Payman) Correction to: "Optimal random perturbations for stochastic approximation using a simultaneous perturbation gradient approximation" [IEEE Trans. Automat. Control **43** (1998), no. 10, 1480–1484]. *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 231–232. 93E15 (93E23)

Spallek, K. (*with* Bartosiewicz, Zbigniew) Control theory with singular state-space constraints. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 21 *pp.* (*electronic*). (Miroslav Lovrić) **99h:93030** 93B25 (32K15, 34H05, 93C10)

Spallicci, A. (*with* Ferraris, Marco; Francaviglia, Mauro) Physical limitations of McVittie metric. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 343–348, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83C15

— (*with* Ferraris, Marco; Francaviglia, Mauro) Transition metrics: method and applications. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 349–358, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83010** 83C15 (83–04)

Spallucci, E. (*with* Smailagic, A.) Consistent two-dimensional chiral gravity. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 21, 3695–3722. (Summary) **99e:81228** 81T40

Spanderen, K. (*with* Kirchner, R.; Montvay, I.; Westphalen, J.; Luckmann, S.) Evidence for discrete chiral symmetry breaking in $N = 1$ supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **446** (1999), *no.* 3-4, 209–215. 81R40 (81T13, 81T80)

Spangenberg, W. H. (*with* Bandy, V. A.; Dendy, Joel E., Jr.) Some multigrid algorithms for elliptic problems on data parallel machines. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 74–86 (*electronic*). (Summary) **99a:65173** 65N55 (65Y05)

Spanier, Jerome (*with* Li, Liming) Approximation of transport equations by matrix equations and sequential sampling. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 3, 171–198. (Pierre Hillion) **99a:65015** 65C05 (45L05)

Špániková, E. (*with* Růžičková, M.) Comparison theorems for differential equations of neutral type. (English summary) *Fasc. Math. No.* 28 (1998), 141–148. (Narahari Parhi) **99i:34103** 34K15 (34C10, 34K40)

Spanos, John (*with* Bayard, David S.; Rahman, Zahidul) A result on exponential tracking error convergence and persistent excitation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1334–1338. 93B40 (93E25)

Spanoudakis, N. K. (*with* Erdos, J. A.; Lambrou, Michael S.) Block strong M-bases and spectral synthesis. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 183–195. (Paolo Terenzi) **99e:46012** 46B15 (47A15, 47B07)

Sparano, G. (*with* Lizzi, Fedele; Mangano, Gianpiero; Miele, G.) Mirror fermions in noncommutative geometry. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 231–237. (Raimar Wulkenhaar) **99f:81131** 81T13 (58B30)

Sparenberg, A. (*with* Lacoste, D.; van Tiggelen, B. A.; Rikken, G. L. J. A.) Optics of a Faraday-active Mie sphere. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1636–1642. (Summary) **99b:78005** 78A10 (78A05)

Sparenberg, J.-M. (*with* Lévai, G.; Baye, D.) Phase-equivalent potentials from supersymmetry: analytical results for a Natanzon-class potential. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8257–8271. (Avinash Khare) **99c:81259** 81U05 (81Q60)

Sparks, Andrew G. (*with* Gu, Guoxiang; Banda, Siva S.) Bifurcation based nonlinear feedback control for rotating stall in axial flow compressors. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1241–1257. 93B52 (93C10)

— (*with* Bernstein, Dennis S.) Real robustness bounds using generalized stability multipliers. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 651–664. (Summary) **99c:93082** 93D09

— (*with* Bernstein, Dennis S.) Reliable state-space upper bounds for the peak structured singular value. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 611–630. (Long Wang) **99d:93011** 93B15 (93B40)

Sparks, Nicholas A distortion problem for the space $l^c_\infty(\omega_1)$. (English summary) *Israel J. Math.* **104** (1998), 125–128. (Summary) **99e:46025** 46B25

Sparla, Eric ★ Geometrische und kombinatorische Eigenschaften triangulierter Mannigfaltigkeiten. (German) [Geometric and combinatorial properties of triangulated manifolds] Dissertation, Universität Stuttgart, Stuttgart, 1997. Berichte aus der Mathematik. [Reports from Mathematics] *Verlag Shaker, Aachen*, 1997. viii+123 *pp. ISBN* 3-8265-3254-6 (Volkmar Welker) **99i:52016** 52B70 (57Q15)

Sparling, George Abstract/virtual/reality/complexity. (English summary) *The geometric universe (Oxford, 1996)*, 337–346, *Oxford Univ. Press, Oxford*, 1998. (Michael G. Eastwood) **99f:83056** 83C60 (53C25)

Spartalis, S. (*with* Dramalidis, Achilles; Vougiouklis, Thomas) On Hv-group rings. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 1, 47–54. 16Y99

meyer-Spasche, Rita *see* **Meyer-Spasche, Rita**

Spassova, T. S. (*with* Panchev, S.) The Lorenz chaotic system with modified X, Y-equations. (English summary) *Bull. Calcutta Math. Soc.* **91** (1999), *no.* 1, 17–28. 58F13

Späth, Helmuth Least-squares fitting of parametric curves with a linear function of several variables as argument. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 61–66. (Summary) **99e:65015** 65D10

Spathis, P. N. (*with* Papanicolaou, N.) Semitopological solitons in planar ferromagnets. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 285–302. (Summary) **99k:82076** 82D40

Spathopoulos, M. P. (*with* Grobov, I. D.) A state-set estimation algorithm for linear systems in the presence of bounded disturbances. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 799–811. 93E12

— (*with* Grobov, I. D.) Parameter bounding identification for state-space systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 745–765. 93B30

— (*with* Grobov, I. D.) Input disturbance estimation in the bounded noise context. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 505–516. (Summary) **99e:93078** 93E10 (93B40)

Spatschek, K. H. (*with* Friedel, H.; Laedke, E. W.) Dynamics of surface waves in the Faraday experiment. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 223–229, *Adv. Ser. Nonlinear Dynam., 7, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76B25, 76E99)

Spatzier, R. J. (*with* Katok, A.) Differential rigidity of Anosov actions of higher rank abelian groups and algebraic lattice actions. (English summary) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 292–319. (Raul Quiroga) **99i:58118** 58F15 (22E40, 58F10)

— (*with* Katok, A.) Corrections to: "Invariant measures for higher-rank hyperbolic abelian actions" [Ergodic Theory Dynam. Systems **16** (1996), no. 4, 751–778; MR 97d:58116]. *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 503–507. (From the text) **99c:58093** 58F11

Spear, Stephen E. (*with* Goenka, Aditya; Kelly, David L.) Endogenous strategic business cycles. (English summary) *J. Econom. Theory* **81** (1998), *no.* 1, 97–125. (Summary) **99m:90053** 90A60 (90D40)

Spearman, Blair K. (*with* Huard, James G.; Williams, Kenneth S.) Pascal's triangle (mod 8). (English summary) *European J. Combin.* **19** (1998), *no.* 1, 45–62. (Andrew Granville) **99b:11012** 11B65 (11A07)

— (*with* Williams, Kenneth S.) The factorization of $x^5 + x^a + n$. *Fibonacci Quart.* **36** (1998), *no.* 2, 158–170. (Jau-Shyong Shiue) **99c:11025** 11C08

Spearman, T. D. William Rowan Hamilton 1805–1865. The mathematical heritage of Sir William Rowan Hamilton (Dublin, 1993). *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *suppl.*, 1–12. (Jeremy Gray) **99g:01023** 01A55 (01A70)

Spears, William M. A compression algorithm for probability transition matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 60–77 (*electronic*). (Summary) **99f:15033** 15A51 (15–04)

Speck, F.-O. (*with* Meister, Erhard; Penzel, F.; Teixeira, F. S.) Some interior and exterior boundary-value problems for the Helmholtz equation in a quadrant. (English summary) *Differential and integral operators (Regensburg, 1995)*, 169–178, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Summary) **99e:35028** 35J05 (45E05, 47G10)

— (*with* Moura Santos, A.; Teixeira, F. S.) Minimal normalization of Wiener-Hopf operators in spaces of Bessel potentials. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 501–531. (R. V. Duduchava) **99b:47034** 47B35 (35S05, 45E10, 47N20)

— (*with* Castro, L. P.) Regularity properties and generalized inverses of delta-related operators. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 577–598. (I. Spitkovsky) **99b:47002** 47A05 (45E05, 46F10, 47A53, 47B35)

Specovius-Neugebauer, Maria (*with* Sohr, Hermann) The Stokes problem for exterior domains in homogeneous Sobolev spaces. (English summary) *Theory of the Navier-Stokes equations*, 185–205, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Toshiaki Hishida) **99k:35145** 35Q30 (35J25, 76D07)

Spector, Donald Duality, partial supersymmetry, and arithmetic number theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1919–1927. (Éric Leichtnam) **99b:11144** 11Z05 (11M06, 81T30, 82B10)

— (*with* Hlousek, Zvonimir) Fermi-Bose cancellation in topologically nontrivial backgrounds. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 193–202. (Summary) **99d:81089** 81T15

— Anyon statistics and the Witten index. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 159–164. (Bernd J. Schroers) **99m:81263** 81T60 (58G10, 81T10)

Spector, M. D. (*with* Cocke, W. J.) Incompressible turbulence and minimum Fisher information: correlations between velocity and pressure. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2055–2060. (Summary) **99d:76044** 76F05 (76M35)

Spectorsky, Igor *see* **Spektorskiĭ, I. Ya.**

Spedicato, Emilio ABS algorithms for linear systems and linear least squares: theoretical results and computational performance. (English summary) *Sci. Iran.* **1** (1995), *no.* 4, 289–303. 65F10 (15A06)

— (*with* Xia, Zun Quan; Zhang, Li Wei) The implicit LX method of the ABS class. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 99–110. (Summary) **99a:90128** 90C05 (65F30)

— (*with* Xia, Zun Quan; Zhang, Li Wei; Mirnia, K.) ABS algorithms for linear equations and applications to optimization. (English summary) *Algorithms for large scale linear algebraic systems (Gran Canaria, 1996)*, 291–319, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F30 (65K05)

— (*with* Li, Zheng Feng) Restarted and truncated versions of ABS methods for large linear systems: a basic framework. (English summary) *Large-scale scientific computations of engineering and environmental problems (Varna, 1997)*, 328–337, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F50

— *see also* **Algorithms for large scale linear algebraic systems, 99a:65004**

Speed, F. Michael (*with* Spiegelman, Clifford) Evaluating black boxes: an ad-hoc method for assessing nonparametric and nonlinear curve-fitting estimators. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 3, 699–710. 65C20 (62G99, 62J02)

Speed, Terence P. (*with* Lange, Kenneth; Zhao, Hongyu) The Poisson-skip model of crossing-over. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 299–313. (P. R. Parthasarathy) **99b:92024** 92D10 (60K05)

Speegle, Darrin M. (*with* Dai, Xingde; Larson, David R.) Wavelet sets in $\mathbf{R}^n$. II. (English summary) *Wavelets, multiwavelets, and their applications (San Diego, CA, 1997)*, 15–40, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Eugenio Hernández) **99d:42054** 42C15 (46N20, 47D25)

— Banach spaces failing the almost isometric universal extension property. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3633–3637. (Summary) **99b:46020** 46B20 (46A22)

— The s-elementary wavelets are path-connected. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 223–233. (Eugenio Hernández) **99b:42045** 42C15 (46E30)

Speer, Eugene R. (*with* Dekking, F. M.) On the shape of the wavefront of branching random walk. (English summary) *Classical and modern branching processes (Minneapolis, MN, 1994)*, 73–88, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (J. D. Biggins) **99b:60141** 60J80

— (*with* Derrida, B.; Lebowitz, Joel L.) Shock profiles for the asymmetric simple exclusion process in one dimension. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 135–167. (Pablo A. Ferrari) **99f:82049** 82C22 (60K35)

— Finite-dimensional representations of a shock algebra. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 169–175. (Pablo A. Ferrari) **99i:60177** 60K35 (82C22)

— (*with* Duke, William; Greenfield, Stephen J.) Properties of a quadratic Fibonacci recurrence. (English summary) *J. Integer Seq.* **1** (1998), *Article* 98.1.8 (1 *HTML document*). (Neville Robbins) **99k:11024** 11B39

Speer, Thomas (*with* Kuppe, Markus; Hoschek, Josef) Global reparametrization for curve approximation. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 869–877. (Summary) **99g:65021** 65D17 (41A30)

Speh, Birgit (*with* Rohlfs, Jürgen) A comparison of geometric theta functions for forms of orthogonal groups. (English summary) *Geometry and representation theory of real and p-adic groups* (*Córdoba*, 1995), 243–272, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Jiandong Guo) **99c:11061** 11F70 (11F72, 22E55)

Spehler, D. (*with* Marques, G. C.) Chiral asymmetry and gravitation theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 7, 553–569. (Jorge Goncalves Cardoso) **99g:81072** 81R20

Spehner, Jean-Claude (*with* Schott, René) Efficient generation of commutation classes. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 1028–1045 (*electronic*). (*see* **99g:68005**) 68Q45 (68Q10, 68Q70)

— (*with* Schmitt, Dominique) Angular properties of Delaunay diagrams in any dimension. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 17–36. (Jesús A. de Loera) **99j:68146** 68U05 (52B11)

Speicher, Roland (*with* Nica, Alexandru) Commutators of free random variables. *Duke Math. J.* **92** (1998), *no.* 3, 553–592. (Dimitri Y. Shlyakhtenko) **99d:46084** 46L50

— (*with* Biane, Philippe) Stochastic calculus with respect to free Brownian motion and analysis on Wigner space. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 3, 373–409. (Franco Fagnola) **99i:60108** 60H05 (46L50, 81S25)

Speight, J. M. Lump dynamics in the $\mathbf{CP}^1$ model on the torus. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 513–539. (Antony Maciocia) **99h:58027** 58D27 (53C80, 58E50)

— (*with* Sadun, Lorenzo) Geodesic incompleteness in the $\mathbf{CP}^1$ model on a compact Riemann surface. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 329–334. (Gil Bor) **99m:58039** 58D27 (58E50)

— (*with* Haskins, M.) Breathers in the weakly coupled topological discrete sine-Gordon system. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1651–1671. (Jochen Denzler) **99k:34089** 34C25 (34G20, 35Q53, 70K99)

Speissegger, Patrick (*with* van den Dries, Lou) The real field with convergent generalized power series. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4377–4421. (Christopher L. Miller) **99a:03036** 03C10 (14P99, 26E05, 32B05, 32B10)

Spektorskiĭ, I. Ya. Stochastic equations in formal mappings. *Stochastic differential and difference equations* (*Győr*, 1996), 267–272, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 60H10

trojnar-Spelina, Lucyna *see* **Trojnar-Spelina, Lucyna**

Spellman, Dennis (*with* Gaglione, Anthony M.) Almost locally free groups and the genus question. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2821–2836. (Peter M. Neumann) **99i:20003** 20A10 (20E05, 20E25)

— (*with* Fine, Benjamin; Gaglione, Anthony M.; Myasnikov, A. G.; Rosenberger, Gerhard) A classification of fully residually free groups of rank three or less. (English summary) *J. Algebra* **200** (1998), *no.* 2, 571–605. (Dimitrios Varsos) **99b:20053** 20E26

Spellucci, P. A new technique for inconsistent QP problems in the SQP method. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 3, 355–400. (Horst Hollatz) **99f:90138** 90C30 (65K05)

— An SQP method for general nonlinear programs using only equality constrained subproblems. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 413–448. (De Ren Wang) **99i:90091** 90C30

Spence, A. (*with* Ganesh, Mahadevan) Orthogonal collocation for a nonlinear integro-differential equation. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 191–206. (H. Brunner) **99d:65366** 65R20 (45L05, 65L60)

— (*with* Lust, Kurt; Roose, Dirk; Champneys, A. R.) An adaptive Newton-Picard algorithm with subspace iteration for computing periodic solutions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1188–1209 (*electronic*). (Summary) **99b:65088** 65L07 (65N12)

Spence, Bill (*with* Acharya, Bobby S.; Figueroa-O'Farrill, José M.) Branes at angles and calibrated geometry. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 12, 18 *pp.* (*electronic*). (Krzysztof Galicki) **99f:53060** 53C42 (53C80, 81T30, 81T60)

— (*with* Acharya, Bobby S.; Figueroa-O'Farrill, José M.; O'Loughlin, M.) Euclidean D-branes and higher-dimensional gauge theory. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 583–602. (Héctor H. García-Compeán) **99j:58033** 58D27 (57R57, 58D29, 81T60)

Spence, Edward All 2-(21, 7, 3) designs are residual. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 441–445. (Summary) **99b:05018** 05B05

— (*with* van Dam, Edwin R.) Small regular graphs with four eigenvalues. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 233–257. (D. Cvetković) **99g:05130** 05C50

— (*with* Pavčević, Mario-Osvin) Some new symmetric designs with $\lambda = 10$ having an automorphism of order 5. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 257–266. (Summary) **99h:05011** 05B05

Spencer, A. J. M. (*with* Selvadurai, A. P. S.) Some generalized anti-plane strain problems for an inhomogeneous elastic halfspace. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 4, 403–416. (Ohtsuka Kohji) **99k:73039** 73C02 (73B27)

— (*with* Mian, M. Abid) Exact solutions for functionally graded and laminated elastic materials. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 12, 2283–2295. (Summary) **99h:73017** 73C02 (73B27, 73K10, 73K20)

Spencer, Brian J. (*with* Tersoff, J.) Equilibrium shapes of islands in epitaxially strained solid films. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 255–269, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (*see* **99c:73001**) 73B99

Spencer, Donald C. Old memories and an old problem. *Prospects in mathematics* (*Princeton, NJ*, 1996), 13–16, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99g:00034**) 01A70 (11J83, 11L03)

Spencer, J. *see* **Spencer, Joel H.**

Spencer, J. J. (*with* Palmer, E. M.) Hitting time for k edge-disjoint spanning trees in a random graph. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 3, 235–240. (Petrus Potgieter) **99f:05104** 05C80

Spencer, Joel H. Enumerating graphs and Brownian motion. New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 8–10. (*see* **99g:05001**) 05C30 (60J65)

— (*with* Boppana, Ravi B.) Smoothness laws for random ordered graphs. *Logic and random structures* (*New Brunswick, NJ*, 1995), 15–32, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Damian Niwiński) **99k:03031** 03C13 (05C80, 68Q15)

— (*with* St. John, Katherine) Random sparse bit strings at the threshold of adjacency. (English summary) *STACS* 98 (*Paris*, 1998), 94–104, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:03017** 03C13 (03B70, 68Q99)

— (*with* Alon, Noga; Boppana, Ravi B.) An asymptotic isoperimetric inequality. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 3, 411–436. (Xue Rong Mao) **99i:60003** 60B05 (26D15, 60F10)

— Geometric discrepancy theory. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 355–367, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52032** 52C10 (11B25)

Spencer, Nicholas K. (*with* Abramovich, Yuri I.; Gray, Douglas A.; Gorokhov, Alexei Y.) Positive-definite Toeplitz completion in DOA estimation for nonuniform linear antenna arrays. I. Fully augmentable arrays. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2458–2471. 78–08 (78A50)

Spencer, Ross L. (*with* Rasband, S. Neil) Modes and quasi-modes for $m = 1, 2$ in a gyrokinetic model for a non-neutral plasma. (English summary) *Phys. Plasmas* **6** (1999), *no.* 5, *part* 1, 1435–1441. 76X05

Spencer, Thomas H. (*with* Shi, Hanmao) Time-work tradeoffs of the single-source shortest paths problem. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 19–32. (Xiao Tie Deng) **99k:68148** 68R10 (68Q22)

— (*with* Eppstein, David; Galil, Zvi; Italiano, Giuseppe F.) Separator-based sparsification. II. Edge and vertex connectivity. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 341–381 (*electronic*). (Fabrizio Luccio) **99g:05058** 05C10 (05C85, 68Q25, 68R10)

Spera, Antonino Giorgio (*with* Schulz, Ralph-Hardo) Divisible designs admitting a Suzuki group as an automorphism group. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 705–714. (Giovanni Ferrero) **99m:05041** 05B30 (20B25, 20D08, 51A10, 51A35)

— (*with* Schulz, Ralph-Hardo) Construction of divisible designs from translation planes. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 479–486. (Summary) **99i:05032** 05B05 (05B25, 51E05)

Spera, Mauro (*with* Penna, Vittorio; Rasetti, Mario) Quantum dynamics of 3-D vortices. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 173–193, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Ivailo M. Mladenov) **99j:81085** 81S10 (76C05, 81R30, 81T99)

— (*with* Wurzbacher, Tilmann) Determinants, Pfaffians and quasi-free representations of the CAR algebra. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 5, 705–721. (H. Araki) **99m:58016** 58B25 (46L60, 46L87, 58G26, 81S05)

Speranza, Antonio The impact of chaos on meteorology. *The impact of chaos on science and society* (*Tokyo*, 1991), 232–242, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 86A10 (58F13)

Speranza, Francesco From the philosophy of science to the philosophy of mathematics: programs of scientific research in mathematics. (Italian) *Epistemology of mathematics.* 1992–1993 *Seminars* (*Italian*) (*Siena/Bologna/Pavia*), 119–134, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 00A30

— ★ Scritti di epistemologia della matematica. (Italian) [Papers on epistemology of mathematics] Complementi di Matematica per l'Indirizzo Didàttico [Complements of Mathematics for the Teaching Program], 4. *Pitagora Editrice, Bologna*, 1997. *viii*+187 *pp. ISBN* 88-371-0966-0 (Otávio Bueno) **99m:00008** 00A30 (01A75)

— *see also* **Seminar: Epistemology of Mathematics, 99a:00007** *and* **Conference: Speranza, Francesco, 99g:00052**

Speranza, Maria Grazia (*with* Kellerer, Hans[2]; Pferschy, Ulrich) An efficient approximation scheme for the subset-sum problem. (English summary) *Algorithms and computation* (*Singapore*, 1997), 394–403, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q25 (90C27)

— (*with* Dell'Olmo, Paolo; Giordani, Stefano) Graph models for a duo-processor task scheduling problem. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 186–191, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35 (90C35)

— (*with* Kellerer, Hans[2]; Kotov, Vladimir; Tuza, Zsolt) Semi on-line algorithms for the partition problem. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 235–242. (Summary) **99c:90148** 90C35 (68Q25, 90B25)

— (*with* Tuza, Zsolt) On-line approximation algorithms for scheduling tasks on identical machines with extendable working time. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 491–506. (Summary) **99m:90092** 90B35 (90C27)

— (*with* Bertazzi, Luca) Minimizing logistic costs in multistage supply chains. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 4, 399–417. (Summary) **99m:90065** 90B10 (90C60)

Sperber, Steven (*with* Adolphson, Alan) A remark on local cohomology. (English summary) *J. Algebra* **206** (1998), *no.* 2, 555–567. (Santiago Zarzuela Armengou) **99g:13027** 13D45 (13B15, 33C70)

Spergel, David N. Gravitational lensing: a tool for astronomers. (English summary) *Proceedings of the* 14*th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 355–369, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83F05

— Do we live in a low-density universe? (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2589–2598. (Summary) **99f:83087** 83F05

— (*with* Cornish, Neil J.; Starkman, Glenn D.) Circles in the sky: finding topology with the microwave background radiation. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2657–2670. (Summary) **99f:83081** 83F05 (85A40)

Speyer, Jason L. (*with* Cortelezzi, L.) Robust reduced-order controller of transitional boundary layers. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 127–136, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 93C20 (76D10, 93B52)

— (*with* Chung, Walter H.) A game-theoretic fault detection filter. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 143–161. (Summary) **99a:93097** 93E11 (93C15)

Speziale, Charles G. A combined large-eddy simulation and time-dependent RANS capability for high-speed compressible flows. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 253–274. (Summary) **99g:76115** 76M25 (76F99, 76N10)

— (*with* Zhou, Ye; Rubinstein, Robert) Some remarks concerning recent work on rotating turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3242–3244. 76F99 (76U05)

— *see also* **Canuto, V. M.**

Speziali, Pierre *see* **Pont, Jean-Claude**

Spezzaferri, Fulvio (*with* De Santis, Fulvio) Alternative Bayes factors for model selection. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 503–515. (Summary) **99b:62037** 62F15

— (*with* De Santis, Fulvio) Bayes factors and hierarchical models. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 2, 323–342. 62F15

Spicci, M. (*with* Abel, Markus) Nonlinear localized periodic solutions in a coupled map lattice. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 22–33. (Esa A. Järvenpää) **99h:58150** 58F22 (58F30)

Spicer, Daniel S. (*with* Balsara, Dinshaw S.) Maintaining pressure positivity in magnetohydrodynamic simulations. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 133–148. (Summary) **99j:76079** 76M20 (76W05, 85-08, 85A30)

— (*with* Balsara, Dinshaw S.) A staggered mesh algorithm using high order Godunov fluxes to ensure solenoidal magnetic fields in magnetohydrodynamic simulations. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 270–292. (Summary) **99j:76080** 76M20 (76W05)

Spichak, Stanislav (*with* Stognii, Valerii) Conditional symmetry and exact solutions of the Kramers equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 450–454, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q99 (35A30)

Spiegel, E. *see* **Spiegel, Eugene**

Spiegel, Edward A. Gravitational screening. (English summary) *On Einstein's path* (*New York*, 1996), 465–474, *Springer, New York*, 1999. (Summary) **99i:85005** 85A30

— (*with* Paparella, Francesco) Sheared salt fingers: instability in a truncated system. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1161–1168. 76E15

Spiegel, Eugene (*with* Parmenter, M. M.; Stewart, P. N.) The periodic radical of group rings and incidence algebras. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 481–487. (Howard E. Bell) **99m:16044** 16S34 (16N80)

— (*with* Parmenter, M. M.) Algebraic properties of necklace rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1625–1632. (Ramdorai Sujatha) **99m:05014** 05A40 (13K05)

— Classical quotient rings of incidence algebras. *Comm. Algebra* **27** (1999), *no.* 3, 999–1012. (Giovanni Ferrero) **99k:16064** 16S90

Spiegel, Menahem (*with* Shitovitz, Benyamin) Cournot-Nash and Lindahl equilibria in pure public good economies. (English summary) *J. Econom. Theory* **83** (1998), *no.* 1, 1–18. (Summary) **99k:90051** 90A27

Spiegelman, Clifford (*with* Speed, F. Michael) Evaluating black boxes: an ad-hoc method for assessing nonparametric and nonlinear curve-fitting estimators. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 3, 699–710. 65C20 (62G99, 62J02)

— (*with* Schechtman, E.; Moran, N.) Interval estimate for the X-intercept of a straight line: a nonlinear approach. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 1093–1115. 62F25

Spiekerman, C. F. (*with* Lin, D. Y.) Marginal regression models for multivariate failure time data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1164–1175. (Summary) **99e:62175** 62N05

Spieksma, F. M. (*with* Hordijk, Arie; Passchier, O.) On the existence of the Puiseux expansion of the discounted rewards: a counterexample. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 2, 229–235. (Summary) **99m:90158** 90C40

Spieksma, Frits (*with* Queyranne, Maurice; Tardella, Fabio) A general class of greedily solvable linear programs. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 892–908. (Rainer Burkard) **99j:90067** 90C27 (90C05, 90C08)

Spielberg, John S. (*with* Kaminker, Jerome; Putnam, Ian) Operator algebras and hyperbolic dynamics. *Operator algebras and quantum field theory* (*Rome*, 1996), 525–532, *Internat. Press, Cambridge, MA*, 199?. (Berndt Brenken) **99b:46103** 46L55 (46L85, 54H20, 55P25, 58F15)

Spieler, Barry S. (*with* Corson, Jon M.) The qsf property and group actions via complexes of spaces. *Math. Z.* **228** (1998), *no.* 3, 589–603. (Ludwig Balke) **99f:57044** 57S30 (20E42, 57M07)

Spielmann, Marc (*with* Gurevich, Yuri) Recursive abstract state machines. (English summary) Ten years of Gurevich's abstract state machines, Part I. *J.UCS* **3** (1997), *no.* 4, 233–246 (*electronic*). (Summary) **99k:68052** 68Q05

Spielmann, R. A semilinear elliptic equation with Dirac measure as right-hand side. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 919–943. (Henghui Zou) **99b:35072** 35J65 (35B30, 35D05, 35R05)

ambos-Spies, Klaus *see* **Ambos-Spies, Klaus**

Spies, Rubén D. (*with* Morin, Pedro) A quasilinearization approach for parameter identification in a nonlinear model of shape memory alloys. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1551–1563. (Summary) **99h:65158** 65M12 (35Q55, 35R30, 73B30)

Spież, S. (*with* Segal, Jack; Skopenkov, A. B.) Embeddings of polyhedra in $\mathbf{R}^m$ and the deleted product obstruction. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 335–344. (Paul F. Duvall) **99b:57046** 57Q35 (54C25, 55Q15, 55S15)

Spiga, Giampiero (*with* Caraffini, G. L.; Iori, M.) On the connections between kinetic theory and a statistical model for the distribution of dominance in populations of social organisms. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 169–181 (1997). (Silvia Totaro) **99b:92038** 92D25 (82C40)

— (*with* Miklavčič, Milan) On the nonlinear stability of Maxwellian states for discrete velocity models of the extended Boltzmann equation. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5393–5400. (Yan Guo) **99g:82070** 82C40 (76P05)

— (*with* Banasiak, Jacek; Frosali, Giovanni) Asymptotic analysis for a particle transport equation with inelastic scattering in extended kinetic theory. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 851–874. (Luisa Arlotti) **99h:82068** 82C70 (47D06, 47N55, 76P05, 82C40)

— (*with* Bobylëv, A. V.) On a model transport equation with inelastic scattering. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1128–1137 (*electronic*). (Summary) **99a:76132** 76P05 (82C40)

— (*with* Rossani, Alberto) Kinetic theory with inelastic interactions. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 273–287. (Summary) **99d:82054** 82C40

— (*with* Miklavčič, Milan) Stability of Maxwellian states for the Broadwell model of the extended Boltzmann equation. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 590–601. (Carlo Cercignani) **99g:82071** 82C40 (76P05)

Spigel, Efim (*with* Krupnik, Naum) Critical points of essential norms of singular integral operators in weighted spaces. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 2, 211–220. (V. S. Pilidi) **99k:47120** 47G10 (45E05, 45P05)

Spigler, Renato (*with* Vianello, Marco) A survey on the Liouville-Green (WKB) approximation for linear difference equations of the second order. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 567–577, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39041** 39A10

— (*with* Sartoretto, Flavio; Pérez Vicente, Conrado J.) Numerical solution of the Kuramoto-Sakaguchi equation governing populations of coupled oscillators. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1023–1038. (Summary) **99e:65137** 65M70 (34C99, 65C05, 65R20, 70K99, 92B05)

— (*with* Bonilla, Luis L.; Pérez Vicente, Conrado J.) Time-periodic phases in populations of nonlinearly coupled oscillators with bimodal frequency distributions. (English summary) *Phys. D* **113** (1998), *no.* 1, 79–97. (Peter Ashwin) **99a:34107** 34C15 (34C23, 58F22, 70K99, 82C31)

— (*with* Vianello, Marco) On the complex differential equation $Y'' + G(z)Y = 0$ in Banach algebras. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 3, 291–308. (Summary) **99m:34142** 34G20 (34A20, 46H99)

Spikes, Paul W. (*with* Thandapani, E.; Sundaram, Pon.; Graef, John R.) Asymptotic behaviour and oscillation of solutions of neutral delay difference equations of arbitrary order. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 539–551. (Narahari Parhi) **99j:39011** 39A10 (39A11)

— (*with* Thandapani, E.; Manuel, M. Maria Susai; Graef, John R.) Monotone properties of certain classes of solutions of second-order difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 291–297. (Binggen Zhang) **99k:39037** 39A10 (39A12)

Spiliotis, J. On a Monge-Ampère operator. *Nonlinear Stud.* **4** (1997), *no.* 2, 233–255. (J. Urbas (Zbl 883.35058)) **99k:35054** 35J60 (35D99, 35K55)

Spilker, Jürgen (*with* Schwarz, Wolfgang Karl) A remark on some special arithmetical functions. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 221–245, *VSP, Utrecht*, 1997. (Jörn Steuding) **99i:11088** 11N37 (11N56, 11N64)

Spille, Bianca (*with* Pieper-Seier, Irene) On strong isotopy of Dickson semifields and geometric implications. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 364–373. (S. C. Althoen) **99h:17001** 17A35 (17A36, 51A40)

de Spinadel, Vera W. New Smarandache sequences: the family of metallic means. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 79–114, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11B83

Spinas, Otmar Partition numbers. (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 243–262. (Andrzej Szymański) **99c:03067** 03E05 (03E35, 06A07, 54H05)

Spindel, Ph. (*with* Brout, R.; Gabriel, Cl.; Lubo, M.) Minimal length uncertainty principle and the trans-Planckian problem of black hole physics. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044005, 6 *pp.* 83C57 (83C45)

Spindler, Karlheinz Optimal control on Lie groups with applications to attitude control. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 3, 197–219. (Krzysztof Tchoń) **99k:49083** 49N55 (49K15, 58E25, 70Q05)

Spineanu, F. (*with* Balescu, R.; Vlad, M.) Tokamap: a model of a partially stochastic toroidal magnetic field. *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 243–261, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Bing Hong Wang) **99i:76152** 76X05 (58F40)

— (*with* Balescu, R.; Vlad, M.) Tokamap: a Hamiltonian twist map for magnetic field lines in a toroidal geometry. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 951–964. (Summary) **99f:78018** 78A55 (58F40, 76X05, 82D10)

Spinei, I. (*with* Zolotarevskiĭ, V. A.) Direct methods for solving singular integral equations with complex conjugation. (English summary) *Comput. Sci. J. Moldova* **6** (1998), *no.* 1, 83–91. 65L20 (45L10)

Spinks, M. (*with* Bignall, R. J.) Multiple-valued logics for theorem-proving in first order logic with equality. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 102–107, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (03B35, 68T15)

Spinrad, Jeremy P. (*with* Borie, Richard B.) Construction of a simple elimination scheme for a chordal comparability graph in linear time. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 287–292. (Summary) **99i:05187** 05C85

Spirakis, Paul G. (*with* Díaz, Josep; Serna, Maria José; Torán, Jacobo) ★ Paradigms for fast parallel approximability. (English summary) Cambridge International Series on Parallel Computation, 8. *Cambridge University Press, Cambridge*, 1997. viii+158 *pp. ISBN* 0-521-43170-0 (Juraj Hromkovič) **99b:68092** 68Q22 (68–02, 68Q15, 68Q25)

— (*with* Pantziou, Grammati E.; Pentaris, George P.) Competitive call control in mobile networks. (English summary) *Algorithms and computation* (*Singapore*, 1997), 404–413, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68R10 (68Q10, 90B10)

— (*with* Díaz, Josep; Serna, Maria José) On the random generation and counting of matchings in dense graphs. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 281–290. (Summary) **99b:68145** 68R10 (05C70, 05C85)

— (*with* Fotakis, Dimitris; Pantziou, Grammati E.; Pentaris, George P.) Frequency assignment in mobile and radio networks. (English summary) *Networks in distributed computing* (*Piscataway, NJ*, 1997), 73–90, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 45, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:68004** 68M10 (05C85, 68Q25, 68R10, 90B12)

— *see also* **ESA '95**, **99b:68004**

Spiratos, N. *see* **Spyratos, Nicolas**

Spiridonov, A. V. (*with* Time, I. V.) Application of smoothing splines for filtering signals with strong noise. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 75–82; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 1, 967–972. (Summary) **99j:93107** 93E11 (93E14, 94A12)

Spiridonov, Vyacheslav P. (*with* Loutsenko, Igor M.; Vinet, Luc; Zhedanov, A. S.) Spectral analysis of q-oscillator with general bilinear interaction. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9081–9094. (Marcelo R. Ubriaco) **99k:81117** 81R50 (81Q99)

— (*with* Ermolayeva, O.; Vinet, Luc; Zhedanov, A. S.) Self-similarity and orthogonal polynomials. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1863–1867. (Summary) **99k:33026** 33C45

Spiro, Andrea F. Classification of proper holomorphic maps between Reinhardt domains in $\mathbf{C}^2$. *Math. Z.* **227** (1998), *no.* 1, 27–44. (Mario Landucci) **99h:32030** 32H35 (32A07)

— (*with* Kim, Kang-Tae) Moduli space of ramified holomorphic coverings of B^2. (English summary) *Complex geometric analysis in Pohang* (1997), 227–239, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Mario Landucci) **99m:32033** 32H35

Spirova, S. Hyper-Bessel operators, differential equations, functions and integral transforms of 4th order. (English summary) *Transform methods & special functions, Varna* '96, 428–445, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99k:44012** 44A20 (26A33, 33C60)

Spitaleri, R. M. Computational and visual advances in multigrid grid generation. (English summary) Applied and computational mathematics (Gramado, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 1, 141–152. (*see* **99m:65003**) 65N55 (65D17)

Spiteri, Pierre (*with* El Baz, Didier; Miellou, Jean Claude) Asynchronous multisplitting methods with flexible communication for pseudolinear P.D.E. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 145–152, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65M55 (65Y05)

Spitkovsky, Ilya M. (*with* Wegert, Elias; Khimshiashvili, G. N.) Nonlinear transmission problems. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 223–230. (Summary) **99g:47058** 47B35 (30E25)

— (*with* Bastos, M. A.; Karlovich, Yu. I.; Tishin, P. M.) On a new algorithm for almost periodic factorization. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 53–74, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (A. Böttcher) **99g:47034** 47A68 (39A10, 42A75, 45E10, 47B35)

— (*with* Karlovich, Yu. I.) On the semi-Noethericity of singular integral operators with matrix semi-almost-periodic coefficients. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 10–12. (V. S. Pilidi) **99k:47119** 47G10 (45E05, 47A53)

— (*with* Ball, Joseph A.; Karlovich, Yu. I.; Rodman, Leiba) Sarason interpolation and Toeplitz corona theorem for almost periodic matrix functions. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 243–281. (A. Böttcher) **99k:47033** 47A57 (42A75, 47B35, 47B50)

— (*with* Quint, Daniel; Rodman, Leiba) New cases of almost periodic factorization of triangular matrix functions. *Michigan Math. J.* **45** (1998), *no.* 1, 73–102. (A. Böttcher) **99c:47020** 47A68 (39A10, 42A75, 45E10, 47B35)

Spivak, A. K. On the existence of an optimal solution in the problem of the control of some systems with delay. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 5, 282–285 (1992). 49J25 (34K35)

Spivakovsky, Mark A new proof of D. Popescu's theorem on smoothing of ring homomorphisms. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 2, 381–444. (D.-M. Popescu) **99j:13008** 13B40 (13F40, 14B12, 14E40)

Spizzichino, Fabio (*with* Shaked, Moshe) Positive dependence properties of conditionally independent random lifetimes. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 944–959. (Pawel Hitczenko) **99j:60022** 60E05 (90B25)

— (*with* Nappo, G.) Ordering properties of the TTT-plot of lifetimes with Schur joint densities. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 195–203. (Moshe Shaked) **99i:62238** 62N05

Spjøtvoll, E. (*with* Godtliebsen, F.; Marron, J. Stephen) A nonlinear Gaussian filter applied to images with discontinuities. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 1, 21–43. (Summary) **99g:94003** 94A12

Spoar, G. A characterization of curves of minimal order as regards singular points and their multiplicities. *Note Mat.* **15** (1995), *no.* 2, 225–233 (1997). (Introduction) **99a:51011** 51L05

Spodareva, L. A. (*with* Berezin, Yu. A.) Slow motion of a granular layer along an inclined plane. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 117–120. (Summary) **99h:76006** 76A05 (73E99)

Spodzieja, Stanisław (*with* Frontczak, Maria; Skibiński, Przemysław) On factorization of polynomials with holomorphic coefficients. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 39–54. (Amnon Rosenmann) **99c:12002** 12D05 (13P05)

Spohn, Herbert Ground state of a quantum particle coupled to a scalar Bose field. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 1, 9–16. (Mihai Pascu) **99c:81278** 81V45 (81Q10, 81S40)

— (*with* Komech, A. I.) Soliton-like asymptotics for a classical particle interacting with a scalar wave field. *Nonlinear Anal.* **33** (1998), *no.* 1, 13–24. (George Rowlands) **99e:35191** 35Q51 (70G50)

Spokoĭnyĭ, V. G. Estimation of a function with discontinuities via local polynomial fit with an adaptive window choice. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1356–1378. (Wolfgang Polonik) **99m:62066** 62G07

— (*with* Pukhal'skiĭ, A. A.) On large-deviation efficiency in statistical inference. (English summary) *Bernoulli* **4** (1998), *no.* 2, 203–272. (N. R. Chaganty) **99k:62040** 62F03 (62C99)

Spong, Mark W. On feedback linearization of robot manipulators and Riemannian curvature. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 185–202, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99i:93043** 93C85 (53B21, 70B15, 70Q05)

Spooner, David A. (*with* Cockett, J. R. B.) Constructing process categories. (English summary) Mathematical foundations of programming semantics (Manhattan, KS, 1994). *Theoret. Comput. Sci.* **177** (1997), *no.* 1, 73–109. (Summary) **99d:68157** 68Q55 (18B99, 68Q10)

Sporring, Jon (*with* Weickert, Joachim) Information measures in scale-spaces. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 1051–1058. 94A12

Sposito, Garrison A note on helicity conservation in steady fluid flows. (English summary) *J. Fluid Mech.* **363** (1998), 325–332. (Summary) **99b:76022** 76C99 (76D99)

Spott, Martin A theory of possibility distributions. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 135–155. (Summary) **99j:68139** 68T30

Spotz, William F. (*with* Pardhanani, Anand L.; Carey, Graham F.) A stable multigrid strategy for convection-diffusion using high order compact discretization. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 211–223 (*electronic*). (Summary) **99a:76101** 76M20 (65N55, 76Rxx)

— Accuracy and performance of numerical wall boundary conditions for steady, 2D, incompressible streamfunction vorticity. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 4, 737–757. (Summary) **99f:76094** 76M20

— (*with* Taylor, Mark Alan; Swarztrauber, Paul N.) Fast shallow-water equation solvers in latitude-longitude coordinates. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 432–444. 76M25 (76B15)

— (*with* Carey, Graham F.) Iterative and parallel performance of high-order compact systems. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 1–14 (*electronic*). (*see* **99a:65007**) 65M06 (65Y05, 76M20)

Spradlin, Gregory S. A Hamiltonian system with an even term. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 93–106. (Addolorata Salvatore) **99j:58044** 58E05 (34C37, 58F05)

Spraker, John S. (*with* Biles, Daniel C.) Continuous almost everywhere. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 2, 287–289. 26B15

Spreafico, M. *see* **Spreafico, Mauro**

Spreafico, Maria Luisa Axiomatic theory for transversality and Bertini type theorems. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 5, 407–424. (Caterina Cumino) **99f:14008** 14C20 (14A15, 14M05)

Spreafico, Mauro (*with* Martellini, Maurizio; Yoshida, Kensuke) A continuum approach to 2D-quantum gravity for $c > 1$. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3247–3279. (Henrik Aratyn) **99b:81220** 81T40 (81T50)

— Gauge groups and classifying spaces. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 63–66. 55R35 (55R10)

— (*with* Piccinini, Renzo A.) The Milgram-Steenrod construction of classifying spaces for topological groups. *Exposition. Math.* **16** (1998), *no.* 2, 97–130. (From the introduction) **99f:55022** 55R35

— (*with* Crabb, M. C.; Sutherland, W. A.) Enumerating projectively equivalent bundles. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 223–242. (R. A. Piccinini) **99i:55022** 55R10 (55R25, 55R50)

Spreen, Dieter Representations versus numberings: on two computability notions. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 387–401, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:03031** 03D45

Spreeuw, Robert J. C. A classical analogy of entanglement. (English summary) Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), *no.* 3, 361–374. (Summary) **99i:81026** 81P99 (03B30, 03G12)

Spreij, Peter (*with* Dzhaparidze, K. O.; Valkeila, Esko) On Hellinger processes for parametric families of experiments. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 41–61, *World Sci. Publishing, River Edge, NJ*, 1997. (Dieter Mussmann) **99m:62147** 62M99 (60G99, 62B15)

— (*with* Klein, André) On Fisher's information matrix of an ARMA process. (English summary) *Stochastic differential and difference equations* (*Győr*, 1996), 273–284, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 62B10 (62M10, 93E12)

— A representation result for finite Markov chains. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 183–186. (Summary) **99c:60096** 60G42 (60G44, 60J10, 60J27)

Sprekels, Jürgen (*with* Bubner, Nikolaus) Optimal control of martensitic phase transitions in a deformation-driven experiment on shape memory alloys. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 299–325. (Matthias Wilhelm Winter) **99e:49006** 49J20 (35Q72, 49K20, 73B30)

— (*with* Krejčí, Pavel) Temperature-dependent hysteresis in one-dimensional thermovisco-elastoplasticity. (English summary) *Appl. Math.* **43** (1998), *no.* 3, 173–205. (Martin Brokate) **99f:73045** 73F15 (35Q72, 47H30, 73B30)

— (*with* Krejčí, Pavel) Hysteresis operators in phase-field models of Penrose-Fife type. (English summary) *Appl. Math.* **43** (1998), *no.* 3, 207–222. (Martin Brokate) **99f:47092** 47H30 (35R35, 73B30, 80A22)

— (*with* Tiba, Dan) Propriétés de bang-bang généralisées dans l'optimisation des plaques. (English and French summaries) [Generalized bang-bang properties in the optimization of plates] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 705–710. (Summary) **99h:49034** 49K20 (49Q10, 73K10, 73K40)

— (*with* Colli, Pierluigi) Weak solution to some Penrose-Fife phase-field systems with temperature-dependent memory. (English summary) *J. Differential Equations* **142** (1998), *no.* 1, 54–77. (Si Ning Zheng) **99a:35251** 35Q72 (35D05, 73B30, 80A22)

— (*with* Krejčí, Pavel) Global solutions to a coupled parabolic-hyperbolic system with hysteresis in 1-D magnetoelasticity. *Nonlinear Anal.* **33** (1998), *no.* 4, 341–358. (Martin Brokate) **99e:73086** 73R05 (35M10, 35Q72, 47H30, 47N20)

— (*with* Bubner, Nikolaus; Sokołowski, Jan) Optimal boundary control problems for shape memory alloys under state constraints for stress and temperature. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 489–498. (Bernard Rousselet) **99k:49085** 49Q10 (73B30, 73K50, 93C20)

— (*with* Zheng, Songmu) Maximal attractor for the system of a Landau-Ginzburg theory for structural phase transitions in shape memory alloys. (English summary) *Phys. D* **121** (1998), *no.* 3-4, 252–262. (Summary) **99g:35122** 35Q55 (35B40, 58F39)

— (*with* Krejčí, Pavel) Strong solutions to equations of visco-thermo-plasticity with a temperature-dependent hysteretic strain-stress law. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 237–244, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99k:73022** 73B30 (35Q72, 73E50, 73F15)

— (*with* Colli, Pierluigi; Grasselli, Maurizio) Automatic control via thermostats of a hyperbolic Stefan problem with memory. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 2, 229–255. (Mircea Lupu) **99k:93055** 93C20 (35R35, 73B30, 80A20)

— (*with* Tiba, Dan) A duality approach in the optimization of beams and plates. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 486–501 (*electronic*). (Pekka Neittaanmäki) **99j:73074** 73K40 (49N15, 73K05, 73K10, 73V25)

Sprengel, Frauke (*with* Pöplau, Gisela) Some error estimates for periodic interpolation on full and sparse grids. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 355–362, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D05

— (*with* Prestin, Jürgen) An orthonormal bivariate algebraic polynomial basis for $C(I^2)$ of low degree. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 177–188, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Summary) **99c:42073** 42C15 (42C30)

— Interpolation and wavelets on sparse Gauß-Chebyshev grids. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 269–286, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Don Hong) **99e:42051** 42C15 (41A30, 65D05, 65Y20)

— A unified approach to error estimates for interpolation on full and sparse Gauss-Chebyshev grids. (English summary) *Rostock. Math. Kolloq. No.* 51 (1997), 51–64. (Antonio López-Carmona) **99c:65017** 65D05

— Periodic interpolation and wavelets on sparse grids. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 147–169. (S. Hitotumatu) **99d:65378** 65T20 (42C10, 65D05)

Sprenger, Klaus-Hilmar Model theory of Boolean products of subdirectly irreducible Heyting algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1349–1366. (Carlo Toffalori) **99m:03071** 03C60 (03C10, 03G25, 06D20)

Sprenger, Pius (*with* Mielke, Alexander) Quasiconvexity at the boundary and a simple variational formulation of Agmon's condition. (English summary) *J. Elasticity* **51** (1998), *no.* 1, 23–41. (Igor Yu. Chudinovich) **99k:35040** 35J45 (49J10, 73C02, 73V25)

Spriestersbach, K. K. Determination of a convex body from the average of projections and stability results. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 561–569. (Elisabeth M. Werner) **99b:52010** 52A22

González-Sprinberg, Gérard *see* **González-Sprinberg, Gérard**

Spring, David ★ Convex integration theory. (English summary) Solutions to the *h*-principle in geometry and topology. Monographs in Mathematics, 92. *Birkhäuser Verlag, Basel*, 1998. viii+213 *pp. ISBN* 3-7643-5805-X (Hansjörg Geiges) **99e:58024** 58C35 (35A99, 58A15, 58E25)

Springael, Johan (*with* Pelinovsky, Dmitry E.; Lambert, Francois; Loris, Ignace) On modified NLS, Kaup and NLBq equations: differential transformations and bilinearization. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8705–8717. (Summary) **99a:35242** 35Q55 (58F07)

— (*with* Conte, Robert; Musette, Micheline) On exact solutions of the Bianchi IX cosmological model in the proper time. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 3–8. (Nora Bretón Báez) **99m:83037** 83C15

Springer, T. A. A description of *B*-orbits on symmetric varieties. *Algebraic groups and Lie groups*, 349–373, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (James E. Humphreys) **99g:20083** 20G15 (14M17, 22E46)

— ★ Linear algebraic groups. (English summary) Second edition. Progress in Mathematics, 9. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xiv*+334 *pp. ISBN* 0-8176-4021-5 (Andy R. Magid) **99h:20075** 20G15 (14L10)

— (*with* Mars, J. G. M.) Hecke algebra representations related to spherical varieties. (English summary) *Represent. Theory* **2** (1998), 33–69 (*electronic*). (François Digne) **99h:20072** 20G10 (14F32, 14M17)

— *see also* **Algebraic groups and Lie groups, 99b:00024**

Spronk, Jaap *see* **Essays in decision making, 99f:90005**

Sprössig, Wolfgang On a class of non-linear boundary value problems. *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 383–389, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00022**) 35J65 (35Q72)

Spruck, Joel (*with* Tchrakian, D. H.; Yang, Yisong) Multiple instantons representing higher-order Chern-Pontryagin classes. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 737–751. (Michael Murray) **99c:53020** 53C07 (58E15, 81T13)

— Strictly convex curves, convex hulls and surfaces of positive Gauss curvature. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 138–142, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (*see* **99d:35004**) 35J60 (53C21)

Sprugnoli, Renzo (*with* Corsani, Cristiano; Merlini, Donatella) Left-inversion of combinatorial sums. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 107–122. (Alessandro Di Bucchianico) **99c:05017** 05A19 (05A15, 05A40)

Sprumont, Yves On the game-theoretic structure of public-good economies. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 455–472. (Shigeo Muto) **99i:90136** 90D35 (90A27, 90D12)

— Equal factor equivalence in economies with multiple public goods. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 543–558. (Summary) **99i:90031** 90A27

Sprung, D. W. L. (*with* Martorell, J.) Addendum: "The symmetrized Fermi function and its transforms" [J. Phys. A **30** (1997), no. 18, 6525–6534; MR 98m:33049]. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8973–8975. (Summary) **99j:33026** 33E20

Spurgeon, Sarah K. (*with* Edwards, Christopher) Sliding mode stabilization of uncertain systems using only output information. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1129–1144. 93D15

— (*with* Edwards, Christopher) Robust output tracking using a sliding-mode controller/observer scheme. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 967–983. 93B12 (93B07)

— (*with* Sira-Ramírez, Hebertt) Robust sliding mode control using measured outputs. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 13 *pp.* (*electronic*). (Summary) **99h:93026** 93B12 (93B51)

— (*with* Lu, Xiao Yun^2) A new sliding mode approach to asymptotic feedback linearisation with application to the control of non-flat systems. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 21–37. (Ülle Kotta) **99f:93018** 93B12 (93B18)

— (*with* Lu, Xiao Yun^2) Asymptotic stabilisation of multiple input nonlinear systems via sliding modes. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 231–254. (Henk Nijmeijer) **99d:93058** 93D15 (93B10)

— (*with* Edwards, Christopher) Compensator based output feedback sliding mode controller design. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 601–614. (Ülle Kotta) **99j:93019** 93B12 (93B52, 93C05)

— (*with* Lu, Xiao Yun^2) Dynamic sliding mode control design using symbolic algebra tools. *Symbolic methods in control system analysis and design*, 227–249, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B12 (93C40)

Spurrier, John D. (*with* Baker, Georgiana R.) Comparisons with a control using normal scores and Savage statistics. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 123–139. (Summary) **99d:62045** 62G10

Spyratos, Nicolas (*with* Lellahi, Seyed-Kazem; Thiam, M'Bayang) Object functional dependencies and the semantics of class extensions. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 867–888 (*electronic*). (Summary) **99h:68038** 68P15

— (*with* Grahne, Gösta; Stamate, Daniel) Semantics and containment of queries with internal and external conjunctions. (English summary) *Database theory—ICDT '97* (*Delphi*), 71–82, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

— (*with* Dekhtyar, Mikhail I.; Dikovskiĭ, A. Ya.) On conservative enforced updates. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 244–257, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:68053** 68P15

— (*with* Laurent, Dominique; Phan Luong, V.) The use of deleted tuples in database querying and updating. (English summary) *Acta Inform.* **34** (1997), *no.* 12, 905–925. (János Demetrovics) **99b:68057a** 68P15

— (*with* Dekhtyar, Mikhail I.; Dikovskiĭ, A. Ya.) On logically justified updates. (English summary) *Logic programming* (*Manchester*, 1998), 250–264, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99f:68044** 68P15 (68T30)

— (*with* Laurent, Dominique; Phan Luong, V.) Erratum: "The use of deleted tuples in database querying and updating". *Acta Inform.* **35** (1998), *no.* 6, 541. (János Demetrovics) **99b:68057b** 68P15

— (*with* Dekhtyar, Mikhail I.; Dikovskiĭ, A. Ya.) Recovery of integrity constraints by the smallest sufficient changes. (Russian. Russian summary) *Programmirovanie* **1998**, *no.* 2, 27–37; *translation in Program. Comput. Software* **24** (1998), *no.* 2, 63–70. (Introduction) **99k:68041** 68P15 (68T27)

Squillante, M. (*with* Basile, L.; D'Apuzzo, L.) Relations between Gehring classes and Muckenhoupt classes via the Hardy operator. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 157–177. (Hans P. Heinig) **99f:42039** 42B25 (26D15)

— (*with* Basile, L.; D'Apuzzo, L.) The limit class of Gehring type G_∞. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 871–884. (Jeremy T. Tyson) **99h:42031** 42B25 (26D15)

Squire, Matthew B. Generating the acyclic orientations of a graph. (English summary) *J. Algorithms* **26** (1998), *no.* 2, 275–290. (Theodore C. Enns) **99a:05059** 05C20 (05C85)

Squires, E. J. (*with* Hardy, Lucien; Home, D.; Whitaker, M. A. B.) Comment on: "Why quantum mechanics cannot be formulated as a Markov process" [Phys. Rev. A (3) **49** (1994), no. 3, 1607–1612; MR 95a:81009] by D. T. Gillespie. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 4, 3301–3303. (Gennady Berman) **99g:81006** 81P05

— *see also* **Gillespie, Daniel T., 99g:81007**

Srebro, Uri (*with* Yakubov, È. Kh.) μ-homeomorphisms. (English summary) *Lipa's legacy* (*New York*, 1995), 473–479, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (M. Yu. Vasil'chik) **99c:30043** 30C62 (35J70)

— (*with* Fruchter, Gila E.; Zeheb, Ezra) Stability of discrete nonlinear control systems. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 4, 333–351. (A. A. Martynyuk) **99b:93038** 93D09 (93C55)

— Non-existence of quasimeromorphic automorphic mappings. (English summary) *Analysis and topology*, 647–651, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99j:30027** 30C65

— (*with* Martio, Olli; Väisälä, Jussi) Normal families, multiplicity and the branch set of quasiregular maps. (English summary) *Ann. Acad. Sci. Fenn. Math.* **24** (1999), *no.* 1, 231–252. (Matti Vuorinen) **99m:30043** 30C65 (30D45)

Srednicki, Mark (*with* Hortikar, Sanjay) Random matrix elements and eigenfunctions in chaotic systems. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 7313–7316. (Summary) **99a:81045** 81Q50

Sreedhar, J. (*with* Van Dooren, Paul) Periodic descriptor systems: solvability and conditionability. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 310–313. (Summary) **99i:93039** 93C55 (93C30)

Sreedhar, V. V. (*with* O'Raifeartaigh, Lochlainn) Conformally invariant path integral formulation of the Wess-Zumino-Witten→ Liouville reduction. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 513–532. (Isabel P. Ennes) **99j:81170** 81T40 (81S40)

— (*with* O'Raifeartaigh, Lochlainn) Path integral formulation of the conformal Wess-Zumino-Witten → Toda reductions. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 547–566. (Kazuto Oshima) **99j:81171** 81T40 (81S40, 81T10, 81T70)
— (*with* O'Raifeartaigh, Lochlainn) Path integral formulation of the conformal Wess-Zumino-Witten → Liouville reduction. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 291–299. (Kazuto Oshima) **99e:81226** 81T40 (81S40, 81T10, 81T70)
Sreehari, M. (*with* Prakasa Rao, B. L. S.) Chernoff-type inequality and variance bounds. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 325–335. (Sergei Utev) **99d:60089** 60F15
— (*with* Kalamkar, V. A.) Modelling some stationary Markov processes and related characterizations. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 363–375. (Barry C. Arnold) **99f:62114** 62M10 (60J05)
— (*with* Kirkire, P. D.) Generating non-normal stable variables. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 361–364, *Narosa, New Delhi*, 1998. (From the introduction) **99j:62016** 62E15 (60E07)
— (*with* Rosalsky, Andrew) On the limiting behavior of randomly weighted partial sums. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 4, 403–410. (Carlos Matrán) **99k:60089** 60F15 (60F05)
Sree Hari Rao, V. (*with* Phaneendra, Bh. R. M.; Prameela, V.) Global dynamics of bidirectional associative memory networks with transmission delays. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 453–471. (Virginia W. Noonburg) **99m:34178** 34K20 (92B20)
— (*with* Phaneendra, Bh. R. M.) Stability of differential systems involving time lags. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 949–964. (Moulay Lhassan Hbid) **99m:34179** 34K20 (34C23, 34K15)
Sreelatha, K. S. (*with* Babu Joseph, K.) On the integrability properties of a perturbed nonlinear Schrödinger field equation. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1865–1874. (Summary) **99i:35157** 35Q55
Sreenivas, Ramavarapu S. On Commoner's liveness theorem and supervisory policies that enforce liveness in free-choice Petri nets. (English summary) *Systems Control Lett.* **31** (1997), *no.* 1, 41–48. (Summary) **99b:93036** 93C83 (68Q90)
— On supervisory policies that enforce liveness in a class of completely controlled Petri nets obtained via refinement. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 173–177. (From the summary) **99k:93067** 93C83 (68Q90)
Sreeram, V. (*with* Liu, Wan Quan; Teo, Kok Lay; Gao, Feng[1]) Feedback control of singular decentralized systems with direct control feedthrough. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 831–841. 93B52 (93A14)
— (*with* Liu, Wan Quan; Teo, Kok Lay; Yan, Wei Yong) On initial jumps for singular systems in connection with LQ optimal control. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1207–1213. 49N10 (93E20)
— (*with* Diab, Mahmoud; Liu, Wan Quan) A new approach for frequency weighted L_2 model reduction of discrete-time systems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 147–167. (Summary) **99e:93012** 93B11 (93C55)
— (*with* Liu, Wan Quan; Teo, Kok Lay) Model reduction for state-space symmetric systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 209–215. (Summary) **99d:93008** 93B11 (93C05)
— (*with* Diab, Mahmoud; Liu, Wan Quan) Frequency-weighted model reduction via quasi-Kalman decomposition. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 139–144. (Summary) **99j:93101** 93E11 (93B11)
Sribnaya, T. A. (*with* Klimkin, V. M.) Convergence of a sequence of weakly regular set functions. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 103–110; *translation in Math. Notes* **62** (1997), *no.* 1-2, 87–92 (1998). (Summary) **99m:28010** 28A20
Sridhar, K. (*with* Mathews, Prakash; Raychaudhuri, Sreerup) Getting to the top with extra dimensions. (English summary) *Phys. Lett. B* **450** (1999), *no.* 4, 343–347. 81V22
Sridhar, R. *see* **Sridhar, Raghavendra**
Sridhar, Radhakrishnan (*with* Chen, Danny Z.; Lee, Der Tsai; Sekharan, Chandra N.) Solving the all-pair shortest path query problem on interval and circular-arc graphs. (English summary) *Networks* **31** (1998), *no.* 4, 249–257. (Summary) **99c:68057** 68P05 (05C85, 68R10, 90C35)
Sridhar, Raghavendra (*with* Lakshminarayanan, Vasudevan; Jagannathan, Ramaswamy) Lie algebraic treatment of dioptric power and optical aberrations. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 9, 2497–2503. (Summary) **99i:78011** 78A10
— (*with* Chandrasekaran, R.; Kabadi, Santosh N.) Integer solution for linear complementarity problem. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 390–402. (Anton Volgenant) **99d:90129** 90C33 (90D05)
Sridharan, J. (*with* Nallaswamy, R.; Srinivasan, Aravind) On the rates of convergence of first passage times and their associated processes. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 299–309. (Summary) **99a:60073** 60J15 (60F15, 60G50)
Sridharan, K. (*with* Subramanian, C. R.; Sudha, N.) Some properties of touching distances for polygons and polyhedra. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 1–7. (Summary) **99d:68239** 68U05 (52A10, 52A15, 70B15)
— (*with* Stephanou, H. E.) Fuzzy distances for proximity characterization under uncertainty. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 427–434. 93C85 (70B15)
Sridharan, M. R. (*with* Balaji, K.) Characterisation of self-complementary chordal graphs. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 279–283. (Summary) **99a:05125** 05C75
Sridharan, R. *see* **Sridharan, Ramaiyengar**
Sridharan, Raja (*with* Bhatwadekar, S. M.) Projective generation of curves in polynomial extensions of an affine domain and a question of Nori. *Invent. Math.* **133** (1998), *no.* 1, 161–192. (Satyagopal Mandal) **99c:13016** 13C10 (13F20)
— Projective modules and complete intersections. (English summary) *K-Theory* **13** (1998), *no.* 3, 269–278. (N. Mohan Kumar) **99c:13019** 13C10 (13C40, 13D15)
— (*with* Bhatwadekar, S. M.) Projective generation of curves in polynomial extensions of an affine domain. II. (English summary) *K-Theory* **15** (1998), *no.* 3, 293–300. (Satyagopal Mandal) **99j:13016** 13F20 (13C10)
Sridharan, Ramaiyengar (*with* Parimala, R.; Thakur, Maneesh L.) A classification theorem for Albert algebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1277–1284. (B. N. Allison) **99b:17041** 17C40
Sridharan, V. (*with* Balakrishnan, Nagraj; Kanet, John J.) Early/tardy scheduling with sequence dependent setups on uniform parallel machines. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 127–141. 90B35
Sridharan, Varadachari (*with* Mohanavadivu, P.) Optimum ordering policies with the effect of weather condition, random lead times and salvage cost. (English summary) *Optimization* **39** (1997), *no.* 3, 295–309. (Summary) **99a:90100** 90B25 (90B90)
— (*with* Jayashree, P. R.) Transient solutions of a software model with imperfect debugging and generation of errors by two servers. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 217–225. (Summary) **99a:68035** 68N99 (68M15)
— (*with* Jayashree, P. R.) A model of HIV population to seropositivity. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 259–269. (Summary) **99a:92015** 92C60 (60G55, 60K99)
— (*with* Jayashree, P. R.) A non-Markovian evolution model of HIV population with bunching behaviour. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 695–705. (Summary) **99m:60076** 60G55 (92D30)
— (*with* Mohanavadivu, P.) Stochastic behaviour of a two-unit standby system with two types of repairmen and patience time. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 63–71. 90B25 (90B05)
— (*with* Jayashree, P. R.) A population model of infected T-4 cells in AIDS. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 99–110. (Summary) **99j:60064** 60G55 (92D30)
Srikant, R. (*with* Kumar, Sunil[1]; Kumar, Panganamala Ramana) Bounding blocking probabilities and throughput in queueing networks with buffer capacity constraints. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 55–77. (Summary) **99b:60160** 60K25
Srikanth, P. N. On periodic motions of two-dimensional lattices. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 118–122, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Summary) **99a:58034** 58E05 (34C25, 58E50, 70K99)
Srimani, Pradip K. (*with* Antoniou, Gheorghe) A self-stabilizing distributed algorithm for minimal spanning tree problem in a symmetric graph. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 15–23. (Summary) **99c:05182** 05C85
— (*with* Latifi, Shahram) Wormhole broadcast in star graph networks. (English summary) *Parallel Comput.* **24** (1998), *no.* 8, 1263–1276. (Summary) **99e:68007** 68M10
— (*with* Antoniou, Gheorghe) Self-stabilizing protocol for mutual exclusion among neighboring nodes in a tree structured distributed system. (English summary) *Parallel Algorithms Appl.* **14** (1999), *no.* 1, 1–18. 90B10 (90C35)
— *see also* **Proceedings: Conference of Computing and Information, 99f:68006**
Sri Namachchivaya, N. (*with* Doyle, M. M.; Arnold, Ludwig) Small noise expansion of moment Lyapunov exponents for two-dimensional systems. *Advances in nonlinear stochastic mechanics* (*Trondheim*, 1995), 153–168, *Solid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1996. (Anatoliy A. Levakov) **99e:34077** 34F05 (34D08, 60H10, 70L05)
— (*with* Van Roessel, H. J.) On the calculation of Lyapunov and moment Lyapunov exponents for noise driven coupled oscillators. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 391–398, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 34C15 (34D08, 34F05)
— (*with* Nagata, Wayne) Bifurcations in gyroscopic systems with an application to rotating shafts. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 543–585. (Summary) **99d:34065** 34C23 (34C15, 70H05, 70K99)
— (*with* McDonald, Robert J.) Global dynamics in gyroscopic and aeroelastic systems. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 471–482, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (Alexander P. Seyranian) **99j:70030** 70K99 (34C23, 70F99, 73K70)
Srinivas, Kotyada (*with* Sankaranarayanan, Ayyadurai) On a method of Balasubramanian and Ramachandra (on the abelian group problem). (English summary) *Rend. Sem. Mat. Univ. Padova* **97** (1997), 135–161. (Werner Georg Nowak) **99a:11109** 11N45 (11N37)
Srinivas, Mullahalli V. (*with* Dvorak, George J.) New estimates of overall properties of heterogeneous solids. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 899–920. (Summary) **99k:73012** 73B27 (73K20)
Srinivas, Vasudevan (*with* Mehta, V. B.) A characterization of rational singularities. *Asian J. Math.* **1** (1997), *no.* 2, 249–271. (Karen E. Smith) **99e:13009** 13A99 (14B05)
— (*with* Barbieri Viale, Luca) Albanese and Picard 1-motives. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1397–1401. (Fumio Hazama) **99k:14010** 14C22 (14K30)
Srinivasan, A. *see* **Srinivasan, Aravind**
Srinivasan, Anand (*with* Kirkpatrick, D. G.; Madhukar Reddy, K.; Pandu Rangan, C.) Partial and perfect path covers of cographs. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 143–153. (Michael E. Raines) **99m:05127** 05C70
Srinivasan, Anitha Computations of class numbers of real quadratic fields. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1285–1308. (Michel Olivier) **99b:11143** 11Y40 (11R11, 11R29)
Srinivasan, Aravind (*with* Cook, Doug; Faber, Vance; Marathe, Madhav V.; Sussmann, Yoram J.) Low-bandwidth routing and electrical power networks. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 604–615, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 90B10 (68Q25, 68R10, 93C90)
— (*with* Sridharan, J.; Nallaswamy, R.) On the rates of convergence of first passage times and their associated processes. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 299–309. (Summary) **99a:60073** 60J15 (60F15, 60G50)
— (*with* Saks, Michael E.; Zhou, Shiyu) Explicit OR-dispersers with polylogarithmic degree. (English summary) *J. ACM* **45** (1998), *no.* 1, 123–154. (Ralf Klasing) **99c:68099** 68Q15 (68Q25, 68R05, 68R10)
— A survey of the role of multicommodity flow and randomization in network design and routing. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 271–302, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Peter Butkovič) **99k:90190** 90C35 (68R10, 90C27)
Srinivasan, Bhama (*with* Shoji, Toshiaki) Averages of Green functions of classical groups. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 1, 165–220. (Jean Michel) **99f:20082** 20G40 (20C15, 20G10)
Srinivasan, Chandra Two optimization models for a manpower system. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*),

376–380, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 90B70 (90C90)

Srinivasan, Hema A note on the multiplicities of Gorenstein algebras. (English summary) *J. Algebra* **208** (1998), *no.* 2, 425–443. (Irena Swanson) **99m:13046** 13H10 (13H15)

— (*with* Herzog, Jürgen) Bounds for multiplicities. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2879–2902. (Summary) **99g:13033** 13H15 (13D02, 13F20)

Srinivasan, Mandayam A. (*with* Annaswamy, Anuradha M.) The role of compliant fingerpads in grasping and manipulation: identification and control. (English summary) *Essays on mathematical robotics (Minneapolis, MN, 1993)*, 1–29, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99g:93055** 93C85 (70B15, 70Q05)

Srinivasan, Mandyam M. (*with* Cooper, Robert B.; Niu, Shun-Chen) Some reflections on the renewal-theory paradox in queueing theory. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 355–368. 60K25 (60K30, 90B22)

Srinivasan, Murali K. Boolean packings in Dowling geometries. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 727–731. (Martin Funk) **99i:05059** 05B35 (05B40, 06A07)

Srinivasan, Ramesh (*with* Swaminathan, Jayashankar M.) Managing individual customer service constraints under stochastic demand. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 3, 115–125. 90B05 (90C30)

Srinivasan, S. K. Quantum mechanics via extended measures. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8297–8315. (Pavel Šťovíček) **99e:81127** 81S99

— Complex measure, coherent state and squeezed state representation. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4541–4553. (Valery P. Karassiov) **99i:81083** 81R30 (81S30)

Srinivasan, V. *see* **Srinivasan, Venkataraman**

Srinivasan, Vaithinathsamy (*with* Natarajan, P. N.) Convolution of Nörlund methods in non-Archimedean fields. (English summary) *Ann. Math. Blaise Pascal* **4** (1997), *no.* 2, 41–47. (Amnon Jakimovski) **99f:40007** 40G05 (40D25, 40J05)

Srinivasan, Venkataraman (*with* Gochet, Willy; Stam, Antonie; Chen, Shaoxiang) Multigroup discriminant analysis using linear programming. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 213–225. (Summary) **99d:90142** 90C90 (90C05)

Srinivasan, Venkatraman Operator methods and special functions. *Special functions and differential equations (Madras, 1997)*, 245–255, *Allied Publ., New Delhi*, 1998. (Summary) **99j:81082** 81S05 (33C45, 47N50)

— (*with* Chaturvedi, S.; Kapoor, A. K.) A new orthogonalization procedure with an extremal property. (English summary) *J. Phys. A* **31** (1998), *no.* 19, *L*367–*L*370. (Summary) **99c:15014** 15A21 (65F25)

— (*with* Gurappa, N.; Panigrahi, Prasanta K.) Degeneracy structure of the Calogero-Sutherland model: an algebraic approach. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 339–346. (Summary) **99d:81186** 81V70

Srinivasa Rao, K. ★ Srinivasa Ramanujan. (English summary) A mathematical genius. With a foreword by Bruce C. Berndt. *EastWest Books (Madras) Pvt. Ltd., Chennai*, 1998. *xviii*+231 *pp. ISBN* 81-86852-14-X (From the foreword) **99g:01036** 01A70 (01A60, 11–03)

— Angular momentum coefficients and generalized hypergeometric functions. (English summary) *Special functions and differential equations (Madras, 1997)*, 165–170, *Allied Publ., New Delhi*, 1998. (Summary) **99i:81066** 81R05 (33C20)

— (*with* Van der Jeugt, Joris; Pitre, S. N.) Transformation and summation formulas for multiple hypergeometric series, and the 9-j coefficient. *Special functions and differential equations (Madras, 1997)*, 171–177, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 33C70 (33D70, 81R05)

— Symmetries of 3n-j coefficients and generalized hypergeometric functions. (English summary) *Symmetries in science, X (Bregenz, 1997)*, 383–399, *Plenum, New York*, 1998. (A. J. Coleman) **99k:81086** 81R05 (33C20)

— (*with* Van der Jeugt, Joris) Transformations of single and double hypergeometric series from the triple sum series for the 9-j coefficient. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 891–905. (R. G. Buschman) **99g:33044** 33C70 (33C20, 33C65)

— *see also* **Special functions and differential equations**, **99h:33002**

Srinivasa Rao, N. (*with* Rao, K. P. R.; Bhishma Rao, G. S. S.) Common fixed point theorem in metric linear space. *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 147–148. 54H25

Srinivasa Rao, T. S. S. *see* **Rao, T. S. S. Srinivasa**

Sriparna, B. (*with* Murthy, G. S. R.; Parthasarathy, T.) Some recent results on the linear complementarity problem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 898–905 (*electronic*). (Michael M. Kostreva) **99f:90150** 90C33

Śrīpati *see* **Arora, Virendra**, **99h:01014**

Sriram, T. N. (*with* Etemadi, N.; Vidyashankar, A. N.) L_p convergence of reciprocals of sample means with applications to sequential estimation in linear regression. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 1–15. (K. F. Yu) **99d:60046** 60F25 (60G10, 62L12, 62L15)

— (*with* Zheng, Shen; Seila, Andrew F.) Sequential fixed-width confidence interval for the product of two means. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 119–145. (Rasul A. Khan) **99d:62078** 62L12

— Asymptotic expansions for array branching processes with applications to bootstrapping. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 12–26. (K. B. Athreya) **99h:60158** 60J80 (60F05, 62E20)

— (*with* Zheng, Shen; Seila, Andrew F.) Asymptotically risk efficient two stage procedure for estimating the product of $k(\geq 2)$ means. (English summary) *Statist. Decisions* **16** (1998), *no.* 4, 369–387. (Summary) **99m:62119** 62L05 (62C05, 62L12)

— (*with* Shete, Sanjay) Fixed precision estimator of the offspring mean in branching processes. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 17–33. (Valeri Stefanov) **99k:62146** 62M05 (60J80)

Sri Ranga, Alagacone (*with* Matioli, Luiz Carlos) Bounds for the extreme zeros of polynomials generated by a certain recurrence relation. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 113–120. (Paolo Emilio Ricci) **99f:33015** 33C45 (26C10)

— (*with* Bracciali, C. F.; Capela, J. M. V.) Symmetric orthogonal L-polynomials in the complex plane. *Orthogonal functions, moment theory, and continued fractions (Campinas, 1996)*, 57–67, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Peter A. McCoy) **99k:42050** 42C05 (30E20, 33C45, 33C50)

— (*with* de Andrade, Eliana X. L.; Dimitrov, Dimitar K.) Characterization of generalized Bessel polynomials in terms of polynomial inequalities. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 538–543. (H. M. Srivastava) **99b:33011** 33C45

— *see also* **Orthogonal functions, moment theory, and continued fractions**, **99f:00020**

Sriskandarajah, Chelliah (*with* Hall, Nicholas G.) A survey of machine scheduling problems with blocking and no-wait in process. (English summary) *Oper. Res.* **44** (1996), *no.* 3, 510–525. (Summary) **99k:90088** 90B35 (90–02)

— (*with* Sidney, Jeffrey B.) A heuristic for the two-machine no-wait openshop scheduling problem. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 129–145. 90B35 (90C90)

Sriskandarajah, K. A one-dimensional analogue of the vorticity equation. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 119–134. (A. Elcrat) **99a:76033** 76C99 (35Q35)

Sritharan, S. S. An introduction to deterministic and stochastic control of viscous flow. *Optimal control of viscous flow*, 1–42, *SIAM, Philadelphia, PA*, 1998. (Tsvetomir Tsachev) **99h:49007** 49J20 (49K20, 49K45, 76D99, 93E20)

— (*with* Fattorini, H. O.) Optimal control problems with state constraints in fluid mechanics and combustion. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 159–192. (Ruxandra Stavre) **99d:49039** 49K20 (35Q30, 76D05, 80A25, 93C20)

— (*with* Barbu, Viorel) H^∞-control theory of fluid dynamics. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 3009–3033. (Thomas P. Svobodny) **99j:93029** 93B36 (76D05, 76M99, 93C20)

— *see also* **Optimal control of viscous flow**, **99a:49003**

Srivastav, Anand (*with* Wolf, Katja) Finding dense subgraphs with semidefinite programming. (English summary) *Approximation algorithms for combinatorial optimization (Aalborg, 1998)*, 181–191, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (H. T. Lau) **99k:90191** 90C35 (05C85)

Srivastav, Sudesh K. On the class of t-designs. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 167–172. (Summary) **99j:62112** 62K10

Srivastava, A. K. *see* **Srivastava, Arun Kumar**[2]

Srivastava, Ajay Kumar (*with* Garain, D. N.) Effect of perturbations in Coriolis and centrifugal forces on the first order normalization in the new kind restricted problem of three bodies. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 473–476. 70F07

Srivastava, Arun K. *see* **Srivastava, Arun Kumar**[2]

Srivastava, Arun Kumar (*with* Mathur, Kewal Krishna) Weighted (0; 0, 1, 3)-interpolation on the zeros of Hermite polynomials. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 49–67 (1998). (P. Vértesi) **99e:41002** 41A05 (41A10)

Srivastava, Arun Kumar[2] (*with* Singh, Vijay Kumar[2]) Estimating the current mean of stratified population in successive sampling using auxiliary information. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 354–360, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05

— (*with* Khastgir, Anuruddha S.) On fuzzy sobriety. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 195–205. 54A40 (04A72)

Srivastava, B. M. L. *see* **Shrivastava, B. M. L.**

Srivastava, Bhaskar Some new identities of the Rogers-Ramanujan type. *Ganita Sandesh* **11** (1997), *no.* 1, 21–26. (Anne Schilling) **99k:33059** 33D90 (05A30, 11B65)

— Some relations between contiguous bibasic q-Appell functions. *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 37–44. (Summary) **99k:33054** 33D65

Srivastava, D. C. An overview of exact solutions of Einstein's equations. (English summary) *Classical and quantum aspects of gravitation and cosmology (Madras, 1996)*, 143–154, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (*see* **99b:83003**) 83C20 (83C15)

Srivastava, G. S. (*with* Gupta, Vijay) On convergence of derivative by Szász-Mirakyan Baskakov type operators. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 195–205 (1996). (Summary) **99a:41033** 41A36 (41A35)

— (*with* Gupta, Vijay) Saturation theorem in L_p-approximation by modified Szász-Mirakyan operators. *Demonstratio Math.* **30** (1997), *no.* 3, 573–578. (Shun Sheng Guo) **99a:41029** 41A35 (41A40)

— (*with* Kumar, Arvind) Spaces of functions analytic in a half plane. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 113–120. (Dragan Vukotić) **99d:46036** 46E15 (30B50, 30H05)

— (*with* Behnam, Hazem Shaba) A note on growth of entire functions of two complex variables having zero order. (English summary) *Ganita* **49** (1998), *no.* 2, 137–147. (Vladimir Logvinenko) **99h:32005** 32A22 (32A15)

Srivastava, H. M. *see* **Srivastava, Hari M.**

Srivastava, H. S. P. Some fractional derivatives of the H-function of two variables. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 2, 225–239. (C. M. Joshi) **99e:33016** 33C60

Srivastava, Hari M. Some families of elliptic integrals arising in radiation field and other problems. (English summary) *New frontiers in algebras, groups and geometries (Monteroduni, 1995)*, 329–387, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Summary) **99m:33012** 33E05 (33C65, 33C75, 78A45)

— (*with* Choi, Jae Ho; Kim, Yong Chan) Starlikeness and convexity of fractional calculus operators. (English summary) *J. Fract. Calc.* **10** (1996), 75–89. (R. K. Raina) **99b:30013** 30C45 (26A33)

— Bilateral analytic expansions associated with some families of special functions. (English summary) *Fourier analysis, approximation theory and applications (Aligarh, 1993)*, 313–337, *New Age, New Delhi*, 1997. (Harold Exton) **99h:33009** 33C05

— Some characteristics and theorems associated with analytic and univalent functions. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 33–57. (Shigeyoshi Owa) **99h:30018** 30C45 (26A33)

— (*with* Prieto, Ana Isolina) A generalization of the function $S_m^{(p,q)}$ associated with some families of radiation integrals. (Spanish. English and Spanish summaries) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 65–74. (Summary) **99g:33013** 33C20 (33C45)

— Certain conjectures and theorems involving the fractional derivatives of analytic and univalent functions. (English summary) *Analysis and topology*, 653–676, *World Sci. Publishing, River Edge, NJ*, 1998. (Shigeyoshi Owa) **99m:30029** 30C45 (26A33)

— (*with* Gorenflo, Rudolf; Mainardi, Francesco) Special functions in fractional relaxation-oscillation and fractional diffusion-wave phenomena. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 195–202, *VSP, Utrecht*, 1998. (Summary) **99g:33057** 33E20 (26A33, 35L99)

— A unified theory of some families of elliptic integrals arising in radiation field and other problems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 399–407, *VSP, Utrecht*, 1998. (Summary) **99g:33056** 33E05 (33C65)

— Some operational techniques in the theory of special functions. (English summary) *Transform methods & special functions, Varna '96*, 446–465, *Bulgarian Acad. Sci., Sofia*, 1998. (S. P. Goyal) **99k:33035** 33C45 (26A33, 33C65, 33D70, 44A10)

— (*with* Adamchik, V. S.) Some series of the zeta and related functions. (English summary) *Analysis (Munich)* **18** (1998), *no.* 2, 131–144. (Jack Quine) **99d:11096** 11M06 (33B15)

— (*with* Salinas de Romero, Susana) Some applications of fractional calculus involving summation of infinite series. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 2-3, 129–142. (R. K. Raina) **99c:40002** 40A25 (26A33)

— (*with* Chen, Ming-Po; Yu, Ching-Shu) Some operators of fractional calculus and their applications involving a novel class of analytic functions. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 285–296. (Shigeyoshi Owa) **99g:26013** 26A33 (30C45)

— (*with* Choi, Junesang; Zhang, Nan-Yue) Integrals involving a function associated with the Euler-Maclaurin summation formula. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 101–116. (Dumitru Acu) **99h:33004** 33B15 (11M06, 40A25, 65B15)

— Further series representations for $\zeta(2n+1)$. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 1, 1–15. (Bruce C. Berndt) **99h:11148** 11Y60 (11M06, 11M35)

— (*with* Pathan, M. A.; Kamarujjama, M.) Some unified presentations of the generalized Voigt functions. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 49–64. (Summary) **99e:33026** 33E20 (85A25)

— (*with* Mishra, Akshaya Kumar; Das, Manoj Kumar) A nested class of analytic functions defined by fractional calculus. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 321–332. (Shigeyoshi Owa) **99g:30020** 30C45 (26A33)

— (*with* Chen, Ming-Po; Irmak, H.) A certain subclass of analytic functions involving operators of fractional calculus. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 83–91. (R. K. Raina) **99a:30015** 30C45 (26A33)

— (*with* Kiryakova, Virginia S.; Saigo, Megumi) Some criteria for univalence of analytic functions involving generalized fractional calculus operators. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 1, 79–104. (R. K. Raina) **99k:30021** 30C45 (26A33)

— (*with* Pintér, Ákos) Some remarks on generalized elliptic-type integrals. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 167–170. (Summary) **99h:33064** 33E05 (33C75)

— (*with* Aouf, M. K.; Hossen, H. M.) Certain subclasses of prestarlike functions with negative coefficients. (English summary) *Kumamoto J. Math.* **11** (1998), 1–17. (Herb Silverman) **99f:30019** 30C45 (26A33)

— (*with* Owa, Shigeyoshi) Distortion inequalities for Ruscheweyh derivatives. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 239–246. (Shusen Ding) **99c:30026** 30C45 (33C05)

— (*with* Hossen, H. M.; Aouf, M. K.) A certain subclass of meromorphically convex functions with negative coefficients. (English summary) *Math. J. Ibaraki Univ.* **30** (1998), 33–51. (Herb Silverman) **99j:30016** 30C45

— (*with* Niizeki, Syôzô; Sasaki, Masato) Further remarks on the integral of $\exp(-x^2)$ over **R**. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 97–102. (Summary) **99d:33001** 33B10 (33B15, 33C60)

— (*with* Kulkarni, Shripad Rajaram; Naik, U. H.) A certain class of meromorphically p-valent quasi-convex functions. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 57–64. (S. Ponnusamy) **99c:30017** 30C45

— (*with* Vasil'ev, Yu. V.; Yakubovich, S. B.) A class of index transforms with Whittaker's function as the kernel. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 375–394. (R. G. Buschman) **99k:44013** 44A20 (33C15, 44A15)

— (*with* Chen, Ming-Po) Some families of series representations for the Riemann $\zeta(3)$. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 179–197. (Richard B. Paris) **99b:11095** 11M06 (11Y60, 33B15, 33C90)

— (*with* Li, Jian-Lin) Some questions and conjectures in the theory of univalent functions. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1035–1041. (Frode Rønning) **99i:30021** 30C45

— (*with* Hossen, H. M.; Aouf, M. K.) Certain classes of analytic and multivalent functions. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 233–244. (Shigeyoshi Owa) **99k:30020** 30C45

— (*with* Li, Jian-Lin; Zhang, Yu-Lin) A certain class of analytic functions defined by means of the Ruscheweyh derivative. (English summary) *Complex Variables Theory Appl.* **38** (1999), *no.* 1, 85–93. (Summary) **99m:30022** 30C45

— (*with* Kanas, Stanisława) Some criteria for univalence related to Ruscheweyh and Sălăgean derivatives. (English summary) *Complex Variables Theory Appl.* **38** (1999), *no.* 3, 263–275. 30C55

— (*with* Cho, Nak Eun; Kim, Yong Chan) Argument estimates for a certain class of analytic functions. (English summary) *Complex Variables Theory Appl.* **38** (1999), *no.* 3, 277–287. 30C45

— Some rapidly converging series for $\zeta(2n+1)$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 385–396. (Matti Jutila) **99c:11164** 11Y60 (11M06, 11M35)

Srivastava, Jagdish N. A critique of some aspects of experimental design. *Design and analysis of experiments*, 309–341, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K10 (62K15, 62K99)

— (*with* Li, Junfang) Optimal 2^n factorial designs of parallel flats type. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2473–2488. (D. V. Chopra) **99a:62108** 62K05 (62K15)

— *see also* **Conference: Bose, Raj Chandra**, **99f:62005** *and* **99f:62006**

Srivastava, Muni S. (*with* Kubokawa, Tatsuya) Double shrinkage estimators of ratio of variances. (English summary) *Multidimensional statistical analysis and theory of random matrices (Bowling Green, OH, 1996)*, 139–154, *VSP, Utrecht*, 1996. (Nabendu Pal) **99a:62028** 62F12 (62C15)

— Robustness of on-line control procedures. (English summary) *Quality improvement through statistical methods (Cochin, 1996)*, 97–108, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62011**) 62N10 (62F35)

— (*with* von Rosen, Dietrich) Outliers in multivariate regression models. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 195–208. (Tonghui T. Wang) **99i:62121** 62H10

Srivastava, Namita On an unusual integral equation. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **68** (1998), *no.* 3, 257–264. (From the introduction) **9?k:45003** 45A05

Srivastava, P. D. (*with* Gnanaseelan, C.) A generalized product on some sequences and matrix transformations. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 943–949. (Y. Sitaraman) **99b:40004** 40H05

— Simultaneous automorphism on a complete linear metric space. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 137–146. (Summary) **99g:46003** 46A16

— Simultaneous automorphism on a complete linear metric space. (English summary) *Soochow J. Math.* **24** (1998), *no.* 1, 51–58. (Jerzy Kąkol) **99d:46034** 46E10 (46A35)

Srivastava, P. N. (*with* Solanki, Anjana) Transient state analysis of the queueing system $E_k/M^{a,b}/1/N$. (English summary) *Opsearch* **35** (1998), *no.* 4, 353–359. 60K25 (90B22)

Srivastava, Pramila (*with* Singh, Sankatha Prasad; Watson, Bruce B.) ★ Fixed point theory and best approximation: the KKM-map principle. (English summary) Mathematics and its Applications, 424. *Kluwer Academic Publishers, Dordrecht*, 1997. x+220 *pp. ISBN* 0-7923-4758-7 (Tomás Domínguez Benavides) **99a:47087** 47H10 (41A65, 47H19, 47N10, 49J40)

Srivastava, Preeti Wanti (*with* Sen, Kanwar) Testing whether X is larger than Y in mean residual life ordering and variance residual life ordering. (English summary) *IAPQR Trans.* **23** (1998), *no.* 1, 47–59. (H. L. Harter) **99k:62194** 62N05 (62F05)

Srivastava, R. K. *see* **Srivastava, Ravindra Kumar**

Srivastava, Rakesh Bayesian estimation of scale parameter and reliability in Weibull distribution using asymmetric loss function. (English summary) *IAPQR Trans.* **21** (1996), *no.* 2, 143–148. 62F15

— Pooling procedures—a new perspective. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 3, 348–363, *v.* 62F10 (62N05)

Srivastava, Ravindra Kumar (*with* Pande, H. D.; Tiwari, Shiv Kumar) Existence of affine motion in a R-⊕ recurrent Finsler space. *J. Nat. Acad. Math. India* **10** (1992/96), 126–135 (1997). (László Kozma) **99a:53019** 53B40

Srivastava, Rekha (*with* Mathur, Kewal Krishna) An interpolation process on the roots of Hermite polynomials: (0; 0, 1)-interpolation on infinite interval. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 3, 229–237. (Heinz H. Gonska) **99f:41005** 41A05 (41A25)

Srivastava, S. K. *see* **Srivastava, Sanjay K.**

Srivastava, S. M. ★ A course on Borel sets. (English summary) Graduate Texts in Mathematics, 180. *Springer-Verlag, New York*, 1998. *xvi*+261 *pp. ISBN* 0-387-98412-7 (Marek Balcerzak) **99d:04002** 04A15 (28A05, 54–01, 54H05)

Srivastava, S. S. (*with* Shrivastava, B. M. L.) Determination of two species population equation. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 98–99. (Summary) **99d:92030** 92D25 (33C60)

Srivastava, Sanjay K. (*with* Bahuguna, D.) Semilinear integro-differential equations with compact semigroups. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 507–517. (Shu Chun Gao) **99m:34182** 34K30 (45K05, 47D06)

Srivastava, Sudhir Kumar (*with* Nivas, Ram) On integrability conditions of a manifold admitting $f_4(2k,2)$-structure. *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 13–17. (Lovejoy S. K. Das) **99k:53059** 53C15

Srivastava, U. K. (*with* Varma, Sushama K.) On degree of approximation of functions in the Hölder metric. (English summary) *Ganita* **48** (1997), *no.* 1, 11–20. (Alexandru Leonte) **99a:41020** 41A25

Srivastava, V. K. *see* **Srivastava, Virendra Kumar**

Srivastava, Vipin Arithmetic of the integer quantum Hall effect. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 6, 561–571. (Summary) **99g:81247** 81V70

Srivastava, Virendra Kumar (*with* Toutenburg, Helge) Estimation of regression coefficients subject to interval constraints. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 273–282. (Goetz Trenkler) **99k:62130** 62J05

— (*with* Rao, Calyampudi Radhakrishna; Toutenburg, Helge) Pitman nearness comparisons of Stein-type estimators for regression coefficients in replicated experiments. (English summary) *Statist. Papers* **39** (1998), *no.* 1, 61–74. (Shyamal D. Peddada) **99g:62097** 62J05 (62C15)

Srivastava, Y. N. (*with* Ralph, J. F.; Clark, T. D.; Prance, H.; Prance, R. J.; Widom, A.) Solutions of the time-dependent Schrödinger equation for a two-state system. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1271–1282. 81Q05

Srochko, V. A. (*with* Antonik, V. G.) The projection method in linear-quadratic problems of optimal control. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 564–572; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 543–551. (Summary) **99c:49033** 49M30 (49N10)

Srubshchik, Leonid S. (*with* Antman, Stuart S.) Asymptotic analysis of the eversion of nonlinearly elastic shells. (English summary) *J. Elasticity* **50** (1998), *no.* 2, 129–179. (Veronique Lods) **99g:73078** 73K15 (73C50)

Srzednicki, Roman On the Conley index over a base. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 239–241. (*see* **99f:58002**) 58F25

Ssafini, Mohamed (*with* Kandri Rody, Abdelilah; Maârouf, Hamid) Triviality and dimension of a system of algebraic differential equations. (English summary) *J. Automat. Reason.* **20** (1998), *no.* 3, 365–385. (Andrzej Nowicki) **99b:12005** 12H05 (12H20, 68Q40)

Stabakis, John (*with* Kontolatou, Angeliki) Some remarks on topologies induced by a G-valuation in a field. *Riv. Mat. Pura Appl. No.* 18 (1996), 45–61. (Francis J. Rayner) **99a:12011** 12J10 (12J25, 54H13)

Stacchetti, Ennio (*with* Pearce, David G.) The interaction of implicit and explicit contracts in repeated agency. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 75–96. (Summary) **99a:90258** 90D20 (90A05)

Stacey, Alan (*with* Bollobás, Béla) Approximate upper bounds for the critical probability of oriented percolation in two dimensions based on rapidly mixing Markov chains. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 859–867. (Summary) **99j:60152** 60K35

— (*with* Balister, P. N.; Bollobás, Béla) Counting boundary paths for oriented percolation clusters. (English summary) *Random Structures Algorithms* **14** (1999), *no.* 1, 1–28. (T. M. Liggett) **99k:60243** 60K35

Stacey, P. J. The automorphism groups of rational rotation algebras. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 395–400. (Summary) **99b:46097** 46L40 (46L05)
müller-Stach, Stefan J. *see* **Müller-Stach, Stefan J.**
Stachel, Hellmuth (*with* Dirnböck, Hans) The development of the oloid. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 2, 105–118. (Hans Sachs) **99d:51023** 51N05 (53A05, 53A17)
— A remarkable overconstrained spherical motion. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 287–296, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:51018** 51M99 (70B15)
— New applications of geometry. (English summary) *J. Geom. Graph.* **2** (1998), *no.* 2, 151–159. 51N05 (53A17)
Stachel, John On the interpretation of the Einstein-Cartan formalism. *On Einstein's path* (*New York*, 1996), 475–485, *Springer, New York*, 1999. (Alberto Saa Vazquez) **99j:83062** 83D05 (78A25)
Stachniak, Zbigniew Non-clausal reasoning with propositional definite theories. (English summary) *Artificial intelligence and symbolic computation* (*Plattsburgh, NY*, 1998), 296–307, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 03B35 (68T15)
— On finitely-valued inference systems. (English summary) Many-valued logics. *Studia Logica* **61** (1998), *no.* 1, 149–169. (R. Sh. Grigolia) **99m:03046** 03B50
Stacho, Ladislav (*with* Vrťo, Imrich) Bisection width of transposition graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 221–235. (Vladimir P. Korzhik) **99e:05041** 05C10 (05C25, 05C40, 05C90)
Stachó, László (*with* Hatvani, László) On small solutions of second order differential equations with random coefficients. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 119–126. (Summary) **99c:34123** 34F05 (34D20, 60H10)
— (*with* Zalar, B.) Uniform primeness of the Jordan algebra of symmetric operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2241–2247. (A. Niknam) **99f:46101** 46L70 (17C65, 46H70)
— (*with* Bunce, L. J.; Chu, Cho-Ho; Zalar, B.) On prime JB*-triples. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 279–290. (Sh. A. Ayupov) **99j:46085** 46L70 (17C65)
Stachowiak, Herbert Die tollen ersten Jahre 1945–1951. Ein Abschnitt Berliner Kulturgeschichte. [The wild first years 1945–1951. A slice of Berlin's cultural history] *Mathematik aus Berlin*, 25–39, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 01A80
Stachura, Piotr Poisson-Lie structures on Poincaré and Euclidean groups in three dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4555–4564. (Janusz Grabowski) **99f:58082** 58F05 (22E99)
Stäckel, Paul *see* **von Renteln, Michael, 99j:01023**
Stadje, Wolfgang Asymptotic behavior of some interactive population flow models. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 837–854. (Summary) **99k:92038** 92D25 (60J20)
— Some structural properties of a Markovian storage/production system. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 339–350. (Summary) **99f:60163** 60K30 (60K25)
— Asymptotic probabilities in a sequential urn scheme related to the matchbox problem. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 831–849. (John Haigh) **99k:60178** 60J10 (60F05, 82C22)
— Shift-generated random permutations and the $M/D/1$ queue. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 3, 297–304. (Walter M. Böhm) **99c:60209** 60K25 (60C05)
— Two ergodic sample-path properties of the Poisson process. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 197–208. (Shaler Stidham, Jr.) **99h:60096** 60G55 (60G10, 60G17)
— (*with* Baryshnikov, Yuliĭ Maratovich) Asymptotics of damped periodic motions with random initial speed. (English summary) *Math. Nachr.* **189** (1998), 5–21. (Xue Rong Mao) **99b:60032** 60F05 (34F05)
— Level-crossing properties of the risk process. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 576–584. (M. J. M. Posner) **99j:60111** 60J25 (60J75, 90A46)
Stadler, Friedrich Karl Popper und der Wiener Kreis. [Karl Popper and the Vienna Circle] *Wittgenstein and the Vienna Circle* (*Spanish*) (*Toledo*, 1994), 285–304, *Estudios*, 49, *Ed. Univ. Castilla-La Mancha, Cuenca*, 1998. (*see* **99b:00022**) 00A30 (01A70)
Stadler, Peter F. Landscapes and their correlation functions. (English summary) *J. Math. Chem.* **20** (1996), *no.* 1-2, 1–45. (Summary) **99a:92021** 92D20 (92C40)
— (*with* Hofacker, Ivo L.; Schuster, Peter Karl) Combinatorics of RNA secondary structures. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 207–237. (Michael A. Steel) **99k:92018** 92D20 (05A16, 05C30)
— (*with* Leydold, Josef) Minimal cycle bases of outerplanar graphs. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 16, 14 *pp.* (*electronic*). (Ke Min Zhang) **99a:05084** 05C38 (05C75)
— (*with* Miller, John H.) The dynamics of locally adaptive parties under spatial voting. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 2, 171–189. (Summary) **99f:90026** 90A28
Stadtmüller, Karin (*with* Jakimovski, Amnon) On matrix transforms of power series with Ostrowski gaps. (English summary) *J. Nat. Acad. Math. India* **10** (1992/96), 30–54 (1997). (John A. Fridy) **99f:30004** 30B30 (40C05, 40G05, 40G10)
Stadtmüller, Ulrich (*with* Klüppelberg, Claudia) Ruin probabilities in the presence of heavy-tails and interest rates. (English summary) *Scand. Actuar. J.* **1998**, *no.* 1, 49–58. (Paul Embrechts) **99f:62121** 62P05 (60K30)
— (*with* Fahrner, I.) On almost sure max-limit theorems. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 229–236. (Lajos Horváth) **99g:60062** 60F15 (60F05, 60G70)
— (*with* Kiesel, Rüdiger) Erdős-Rényi-Shepp laws for dependent random variables. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 253–259. (J. Steinebach) **99g:60066** 60F15 (60G50)
Staffans, Olof J. The algebraic Riccati equation in discrete and continuous time. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 267–277, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Martin Weiss) **99f:93082** 93C25 (49N10, 93D15)
— Feedback representations of critical controls for well-posed linear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 14, 1189–1217. (Joseph A. Ball) **99m:93043** 93B52 (47B35, 47N70, 93B36)
— On the distributed stable full information H^∞ minimax problem. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 15, 1255–1305. (Stuart Townley) **99m:93034** 93B36 (93B28)
— Coprime factorizations and well-posed linear systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1268–1292 (*electronic*). (Martin Weiss) **99g:93049** 93C25 (34G10, 47D06, 93D15)
Staffelbach, Othmar (*with* Meier, Willi) Kryptographie und elliptische Kurven. (German summary) [Cryptography and elliptic curves] *Elem. Math.* **52** (1997), *no.* 4, 137–151. (Thomas W. Cusick) **99b:94038** 94A60 (11G20, 14G15)
Staffilani, Gigliola On solutions for periodic generalized KdV equations. *Internat. Math. Res. Notices* **1997**, *no.* 18, 899–917. (John Albert) **99d:35146** 35Q53 (35B40)
Stafford, J. E. (*with* Davison, A. C.) The score function and a comparison of various adjustments of the profile likelihood. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 139–148. (J. A. Melamed) **99g:62020** 62F03
Stafford, J. T. (*with* Levasseur, T.) Semi-simplicity of invariant holonomic systems on a reductive Lie algebra. (English summary) *Amer. J. Math.* **119** (1997), *no.* 5, 1095–1117. (Toshiyuki Tanisaki) **99g:17020** 17B20 (22E47)
— (*with* Levasseur, T.) Differential operators commuting with invariant functions. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 3, 426–433. (François Dumas) **99a:22025** 22E46 (14L30, 16S32)
Stafford, Richard M. Groups of permutation polynomials over finite fields. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 450–452. (Robert M. Guralnick) **99j:20003** 20B25 (12E20, 20B20)
Stafylopatis, Andreas N. (*with* Fernandez de la Vega, Wenceslao; Paschos, Vangelis Th.) Average-case complexity for the execution of recursive definitions on relational databases. (English summary) *Acta Inform.* **35** (1998), *no.* 3, 211–243. (Lawrence V. Saxton) **99a:68040** 68P15
Stagni, Luigi The effect of the interface on the interaction of an interior edge dislocation with an elliptical inhomogeneity. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 2, 327–337. 73C02
Stahl, Dale O. Evidence based rules and learning in symmetric normal-form games. (English summary) *Internat. J. Game Theory* **28** (1999), *no.* 1, 111–130. (Summary) **99k:90208** 90D05 (90D40)
Stahl, Herbert (*with* Pekarskiĭ, A. A.) Bernstein-type inequalities for derivatives of rational functions in L_p spaces, $p < 1$. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 119–130; *translation in Sb. Math.* **186** (1995), *no.* 1, 121–131. (Alexey L. Lukashov) **99f:41014** 41A17 (26D10)
— (*with* Saff, Edward B.) Ray sequences of best rational approximants for $|x|^\alpha$. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 1034–1065. (Ralitza Kovacheva) **99c:41031** 41A20 (41A44)
— The convergence of Padé approximants to functions with branch points. (English summary) *J. Approx. Theory* **91** (1997), *no.* 2, 139–204. (H. Wallin) **99a:41017** 41A21 (30E10, 41A25)
— Spurious poles in Padé approximation. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 511–527. (A. J. Rodrigues) **99k:41019** 41A21 (30E10)
Stahl, Saul ★ A gentle introduction to game theory. (English summary) Mathematical World, 13. *American Mathematical Society, Providence, RI*, 1999. *xii+176 pp. ISBN* 0-8218-1339-0 (From the preface) **99g:90005** 90-01 (90Dxx)
Stahl, V. A sufficient condition for non-overestimation in interval arithmetic. (English summary) *Computing* **59** (1997), *no.* 4, 349–363. (H. Ratschek) **99a:65064** 65G10
Stahlecker, Peter (*with* Arnold, Bernhard F.) Prediction in linear regression combining crisp data and fuzzy prior information. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 19–33. (Wolfgang Näther) **99e:62115** 62J05
— (*with* Arnold, Bernhard F.) Minimax adjustment technique and fuzzy information. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 25–39. (Summary) **99k:94020** 94A15
Stahlhofen, A. A. Comment on: "Factorization of the radial Schrödinger equation and four kinds of raising and lowering operators of hydrogen atoms and isotropic harmonic oscillators" [Phys. Lett. A **231** (1997), no. 1-2, 9–22; MR 98e:81202] by Y. F. Liu, Y. A. Lei and J. Y. Zeng. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 298–299. (Summary) **99m:81291** 81V45 (81Q05)
— *see also* **Liu, Yu Fen et al., 99m:81292**
Stahlsmeier, Martin (*with* Frahm, Holger) Spinon statistics in integrable spin-S Heisenberg chains. (English summary) *Phys. Lett. A* **250** (1998), *no.* 4-6, 293–299. (Summary) **99h:82023** 82B23 (81T27, 81T40, 82B20)
Staiger, Ludwig On ω-power languages. *New trends in formal languages*, 377–394, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Hideki Yamasaki) **99g:68121** 68Q45 (03D05)
— (*with* Fernau, Henning) IFS and control languages. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 740–750, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q45 (28A80)
— The Hausdorff measure of regular ω-languages is computable. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 178–182. 68Q45 (03D05)
Stainier, L. (*with* Ortiz, Michael) The variational formulation of viscoplastic constitutive updates. (English summary) *Comput. Methods Appl. Mech. Engrg.* **171** (1999), *no.* 3-4, 419–444. (Summary) **99m:73036** 73E60 (73E05, 73V20)
Stakėnas, V. (*with* Indlekofer, Karl-Heinz) Multiplicative functions of Farey fractions. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 323–344, *VSP, Utrecht*, 1997. (Jie Wu) **99h:11111** 11N64 (11B57)
— *see also* **New trends in probability and statistics, 99f:11003**
Stakgold, Ivar ★ Green's functions and boundary value problems. (English summary) Second edition. Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xx+689 *pp. ISBN* 0-471-61022-4 (Editors) **99a:35002** 35-01 (00A69, 34-01, 46-01, 47-01, 47F05)
— (*with* Bandle, Catherine; Nanbu, Tokumori) Porous medium equation with absorption. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1268–1278 (*electronic*). (Domingo A. Tarzia) **99f:35085** 35K57 (35B40, 35R35, 76S05)

Stalevskaya, S. N. (*with* Kharin, Yu. S.) On the stability of multivariate linear regression forecasting. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 9–13, 139. (Summary) **99m:62085** 62H15

Staley, Richard On the histories of relativity: the propagation and elaboration of relativity theory in participant histories in Germany, 1905–1911. (English summary) *Isis* **89** (1998), *no.* 2, 263–299. (Dennis Dieks) **99f:01021** 01A60 (83–03)

Stalker, John A convergence speeding algorithm with applications to numerical integration. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 1, 119–153. (Kai Diethelm) **99j:65002** 65B05 (41A55)

Stallard, Nigel Sample size determination for phase II clinical trials based on Bayesian decision theory. (English and French summaries) *Biometrics* **54** (1998), *no.* 1, 279–294. (Summary) **99a:62154** 62P10 (62L10)

Stalling, Detlev (*with* Battke, Henrik; Hege, Hans-Christian) Fast line integral convolution for arbitrary surfaces in 3D. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 181–195, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)

— (*with* Beck, Rudolf; Deuflhard, Peter; Hege, Hans-Christian; Seebaß, Martin) Numerical algorithms and visualization in medical treatment planning. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 303–328, *Springer, Berlin*, 1997. (*see* **99g:68212**) 92C50

— (*with* Hege, Hans-Christian) Fast LIC with piecewise polynomial filter kernels. (English summary) *Mathematical visualization* (*Berlin*, 1997), 295–314, *Springer, Berlin*, 1998. (*see* **99k:65005**) 65Y25

Stallman, Cornelius (*with* Berestovskiĭ, V. N.; Plaut, Conrad) Geometric groups. I. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1403–1422. (Zhongmin Shen) **99f:22008** 22D05 (53C23, 53C70)

Stalnaker, Robert On the evaluation of solution concepts [MR 95b:90190]. *Epistemic logic and the theory of games and decisions*, 345–364, *Theory Decis. Lib. Ser. C Game Theory Math. Program. Oper. Res.*, 20, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **99k:00028**) 90D35 (03B80)

— Response to G. Bonanno and K. Nehring: "On R. Stalnaker's notion of strong rationalizability and Nash equilibrium in perfect information games: 'On the evaluation of solution concepts'" [Theory and Decision **45** (1998), no. 3, 291–295; 1676783]. *Theory and Decision* **45** (1998), *no.* 3, 297–299. 90D35 (90A05)

— *see also* **Bonanno, Giacomo**

Stals, Linda Adaptive multigrid in parallel. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 717–724, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65M55 (65Y05)

Stalzer, Mark A. (*with* Canino, Lawrence F.; Ottusch, John J.; Visher, John L.; Wandzura, Stephen M.) Numerical solution of the Helmholtz equation in 2D and 3D using a high-order Nyström discretization. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 627–663. 65M60 (78–08)

Stam, Antonie (*with* Duarte Silva, A. Pedro) A multiplicative method for synthesizing preference ratings. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 94–102, *Springer, Berlin*, 1997. (*see* **99d:90006**) 90A07 (90A10)

— (*with* Gochet, Willy; Srinivasan, Venkataraman; Chen, Shaoxiang) Multigroup discriminant analysis using linear programming. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 213–225. (Summary) **99d:90142** 90C90 (90C05)

— (*with* Duarte Silva, A. Pedro) The stability of AHP rankings in the presence of stochastic paired comparisons. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 96–105, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90A05)

Stamate, Daniel (*with* Grahne, Gösta; Spyratos, Nicolas) Semantics and containment of queries with internal and external conjunctions. (English summary) *Database theory—ICDT '97* (*Delphi*), 71–82, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Stamatescu, Ion-Olimpiu (*with* Berg, Bernd A.) Neural networks and confidence limit estimates. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 173–191, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82C32 (92B20)

— *see also* **Intelligence and artificial intelligence, 99d:68211**

Stamatopoulos, C. (*with* Katavolos, A.) Commutators of quasinilpotents and invariant subspaces. (English summary) *Studia Math.* **128** (1998), *no.* 2, 159–169. (Wacław Szymański) **99b:46070** 46H10 (47A15, 47B47)

Stamer, Meike Penrose-Parkette—ein faszinierendes Puzzlespiel. [Penrose tilings—a fascinating puzzle] *Überblicke Mathematik* 1996/97, 85–91, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99d:00011**) 52C20 (00A69)

Stamm, Christoph (*with* Eidenbenz, Stephan; Widmayer, Peter) Positioning guards at fixed height above a terrain—an optimum inapproximability result. (English summary) *Algorithms—ESA '98* (*Venice*), 187–198, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68209** 68U05 (68Q25)

Stamminger, Marc (*with* Seidel, Hans-Peter; Slusallek, Philipp) Global illumination computations with hierarchical finite element methods. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 445–460, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65D17

Stamnes, Jakob J. (*with* Eide, Hans A.) Exact and approximate solutions for focusing of two-dimensional waves. I. Theory. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1285–1291. (From the summary) **99c:78014a** 78A40 (78–08, 78A45)

— (*with* Eide, Hans A.) Exact and approximate solutions for focusing of two-dimensional waves. II. Numerical comparisons among exact, Debye, and Kirchhoff theories. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1292–1307. (From the summary) **99c:78014b** 78A40 (78–08, 78A45)

— (*with* Eide, Hans A.) Exact and approximate solutions for focusing of two-dimensional waves. III. Numerical comparisons between exact and Rayleigh-Sommerfeld theories. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1308–1319. (From the summary) **99c:78014c** 78A40 (78–08, 78A45)

Stamou, George Regelflächen vom Weingarten-Typ. [Ruled surfaces of Weingarten type] *Colloq. Math.* **79** (1999), *no.* 1, 77–84. (Wolfgang Kühnel) **99k:53003** 53A05 (53A25)

Stamov, Gani T. Integral manifolds of singularly perturbed systems of impulsive differential equations defined on tori. (English summary) *Math. Balkanica* (*N.S.*) **10** (1996), *no.* 2-3, 301–314. (Yuri V. Rogovchenko) **99d:34022** 34A37 (34C30, 34E15)

— Integral manifolds and bounded solutions of singularly perturbed systems of impulsive differential equations. (English summary) *Serdica Math. J.* **24** (1998), *no.* 2, 135–144. (Yuri V. Rogovchenko) **99m:34015** 34A37 (34C30, 34E15)

Stamova, Ivanka (*with* Bainov, Drumi Dimitrov; Vatsala, Aghalaya) Global stability of sets for linear impulsive differential-difference equations with variable impulsive perturbations. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 149–160. (Summary) **99a:34207** 34K20 (34A37)

— (*with* Bainov, Drumi Dimitrov) Application of Lyapunov's direct method to the investigation of the stability of the solutions of impulsive differential-difference equations with variable impulsive perturbations. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 253–269. (Summary) **99a:34208** 34K20 (34A37)

— (*with* Bainov, Drumi Dimitrov) Second method of Lyapunov and existence of periodic solutions of linear impulsive differential-difference equations. (English and Spanish summaries) *Divulg. Mat.* **5** (1997), *no.* 1-2, 29–37 (1998). (Eduardo Liz) **99f:34100** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov) Stability of sets for impulsive differential-difference equations with variable impulsive perturbations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 69–81. (O. S. Chernikova) **99b:34022** 34A37 (34K20)

— (*with* Bainov, Drumi Dimitrov; Minchev, Emil) Present state of the stability theory for impulsive differential equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 197–226. (Yuri V. Rogovchenko) **99c:34014** 34A37 (34Dxx, 35B35, 35R10)

— (*with* Bainov, Drumi Dimitrov; Vatsala, Aghalaya) Second method of Lyapunov for stability of linear impulsive differential-difference equations with variable impulsive perturbations. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 2, 209–216. (J. W. Macki) **99k:34164** 34K20 (34A37)

— (*with* Bainov, Drumi Dimitrov) Lyapunov functions and asymptotic stability of impulsive differential-difference equations. (English summary) *Panamer. Math. J.* **9** (1999), *no.* 1, 23–34. (Raúl M. Naulin) **99k:34165** 34K20 (34A37)

— (*with* Bainov, Drumi Dimitrov) Strong stability of impulsive differential-difference equations. (English summary) *Panamer. Math. J.* **9** (1999), *no.* 1, 87–95. (Raúl M. Naulin) **99k:34166** 34K20 (34A37)

Stănăşilă, O. On the chaotic maps on metric spaces. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 227–230. (Summary) **99h:54061** 54H20 (58F13)

Stanchescu, Y. On finite difference sets. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 123–138. (Béla Uhrin) **99c:05034** 05B10 (11B13)

Stancheva, Tatiana Some generalizations of Steiner's tree problem in graphs. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 150–151, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 05C05

Stanciu, Sonia (*with* Figueroa-O'Farrill, José M.) Supersymmetric cosets from gauged SWZW models. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 23, 1677–1685. (Summary) **99e:81223** 81T40 (81R10)

— D-branes in Kazama-Suzuki models. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 295–310. (Matthias Dörrzapf) **99h:81189** 81T30 (83E30)

Stancu, Alina Asymptotic behavior of solutions to a crystalline flow. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 303–320. (Anders Linnér) **99h:58050** 58E50 (34A26, 34A34, 73B30)

Stancu, Dimitrie D. Professor Gheorghe Coman at his 60th anniversary. *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 1–8. (Editors) **99k:01075** 01A70

— A note on the remainder in a polynomial approximation formula. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 95–101. (Alexey L. Lukashov) **99e:41006** 41A10 (41A25, 41A36, 41A80)

— Approximation properties of a class of multiparameter positive linear operators. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 107–120, *Transilvania, Cluj-Napoca*, 1997. (A. Meir) **99a:41037** 41A36

— Representation of remainders in approximation formulae by some discrete type linear positive operators. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 781–791. (Summary) **99f:41047** 41A80 (41A36)

Stancu-Minasian, I. M. (*with* Ţigan, Ştefan Iulius) On some methods for solving fractional programming problems with inexact data. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 6, 517–532. 90C32

— (*with* Teghem, Jacques, Jr.) Duality for fractional transportation problem. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 121–133. (Chanchal Singh) **99c:90130** 90C32 (49N15)

— (*with* Mititelu, Ştefan) On the quasi-invexity and semistrict quasi-invexity at a point. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 313–316. 90C29

— (*with* Ţigan, Ştefan Iulius) On sensitivity coefficient for the linear-fractional programming. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 159–166, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 90C32 (90C31)

Stańczy, Robert Hammerstein equations with an integral over a noncompact domain. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 49–60. (Isaac V. Shragin) **99e:47099** 47H30 (45G10)

Stanek, Martin (*with* Olejár, Daniel) On cryptographic properties of random Boolean functions. (English summary) *J.UCS* **4** (1998), *no.* 8, 705–717 (*electronic*). (Summary) **99h:94053** 94A60

Staněk, Svatoslav On a criterion for the existence of at least four solutions of functional boundary value problems. (English summary) *Arch. Math.* (*Brno*) **33** (1997), *no.* 4, 335–348. (Summary) **99j:34092** 34K10 (47H15, 47N20)

— Multiplicity results for functional boundary value problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2617–2628. (William K. C. Yin) **99b:34051** 34B15 (34K10, 47H15, 47N20)

— Multiplicity results for second order nonlinear problems with maximum and minimum. (English summary) *Math. Nachr.* **192** (1998), 225–237. (Michal Fečkan) **99d:34123** 34K10 (34B15, 47H15)

— Existence results for functional boundary value problems at resonance. (English summary) *Math. Slovaca* **48** (1998), *no.* 1, 43–55. (Andrei N. Ronto) **99j:34093** 34K10

— Multiple solutions for some functional boundary value problems. *Nonlinear Anal.* **32** (1998), *no.* 3, 427–438. (S. A. Brykalov) **99e:34093** 34K10

Stanescu, M. M. (*with* Kozhukhar′, P. A.) On the spectrum of some integro-differential operators. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 3, 23–26, 105, 108–109. (Viorel Iftimie) **99b:47074** 47G20 (45J05)

Stanev, Yassen S. (*with* Todorov, Ivan T.) Monodromy representation of the mapping class group $\mathscr{B}_n$ for the su_2 Knizhnik-Zamolodchikov equation. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 201–222, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (V. A. Golubeva) **99a:32025** 32G34 (17B81, 20F36, 81T40)

— (*with* Bianchi, Massimo) Open strings on the Neveu-Schwarz 5-brane. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 193–210. (C. Gauthier) **99e:81176** 81T30

Stanford, David P. (*with* Bakonyi, Mihály; Johnson, Charles Royal) Sign pattern matrices that require domain-range pairs with given sign patterns. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 165–178. (Summary) **99j:15039** 15A99

Stanford, William On the number of pure strategy Nash equilibria in finite common payoffs games. (English summary) *Econom. Lett.* **62** (1999), *no.* 1, 29–34. (Summary) **99j:90117** 90D05 (90D60)

Stangarone, R. (*with* Verdi, L.) Complete 16-arcs of π_{16}. (Italian. English summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 157–167 (1998). (György Kiss) **99f:51018** 51E21

Stangl, C. (*with* Engl, Heinz W.) Existence and uniqueness of solutions of the equilibrium equations for a class of nonlinearly elastic materials. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 7, 467–481. (Massimo Lanza de Cristoforis) **99h:73019** 73C50 (35J99, 35Q72)

Stănică, Daniel On the φ-map method for exponential interpolation. (English summary) *An. Univ. Bucureşti Mat.* **46** (1997), 81–88. (Mariano Gasca) **99f:65015** 65D05 (41A05)

Staniforth, Andrew (*with* Côté, Jean; Gravel, Sylvie; Roch, Michel; Méthot, André; Patoine, Alain; Caveen, James; Valin, Michel; Thomas, Steve) Forecasting with a variable-resolution global model. (English summary) *Numerical methods in fluid mechanics*, 23–32, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 86–08 (86A10)

Stanilov, G. (*with* Videv, V.) Four-dimensional pointwise Osserman manifolds. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 1–6. (María Elena Vázquez-Abal) **99j:53064** 53C25

— (*with* Gilkey, Peter B.; Videv, V.) Pseudo-Riemannian manifolds whose generalized Jacobi operator has constant characteristic polynomial. *J. Geom.* **62** (1998), *no.* 1-2, 144–153. (María Elena Vázquez-Abal) **99f:53069** 53C50

Stanimirović, Predrag S. (*with* Stanković, Miomir S.) Determinants of rectangular matrices and Moore-Penrose inverse. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 53–69. (Anna Lee) **99i:15006** 15A09 (15A15)

— (*with* Djordjević, D. S.) Universal iterative methods for computing generalized inverses. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 253–268. (Ar. Meenakshi) **99c:15006** 15A09

— Interpreter-based approach to generalized matrix inversion. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform.* (*N.S.*) **7** (1998), 19–32 (1999). 65F10 (68N20)

— (*with* Rančić, Svetozar) First order gradient optimization in LISP. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 611–626. 90C30 (90–04)

Stanishkov, M. (*with* Fioravanti, D.) On the null-vectors in the spectra of the 2D integrable hierarchies. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 109–119. (Summary) **99c:81219** 81T40 (58F07)

Stanišić, M. M. (*with* Wiitala, J. M.) Kinematics of a split-equator symmetrically actuated double pointing system used in a robotic wrist. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 237–246, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Stanislavova, M. O. (*with* Konstantinov, M. M.; Petkov, Petko Khr.) Perturbation bounds and characterisation of the solution of the associated algebraic Riccati equation. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 7–31. (Jaroslav Zemánek) **99m:15014** 15A24

Staniswalis, Joan G. (*with* Thall, Peter F.; Salch, John) Semiparametric regression analysis for recurrent event interval counts. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1334–1353. (Summary) **99c:62114** 62G05 (62P10)

— (*with* Lee, J. Jack) Nonparametric regression analysis of longitudinal data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1403–1418. (Summary) **99h:62051** 62G07 (62P10)

Stankiewicz, Jan Functions of two complex variables regular in a halfspace. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 19 (1996), 107–116. (Summary) **99g:32006** 32A30 (30C45, 32A10)

— (*with* Dziok, Jacek) On a class of p-valent analytic functions with fixed argument of coefficients defined by fractional calculus. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 19–35. (H. M. Srivastava) **99i:30015** 30C45 (26A33)

— Convolution in the theory of univalent functions. (English summary) *Transform methods & special functions, Varna* '96, 466–472, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99i:30031** 30C50 (30C45)

— (*with* Kanas, Stanisława) Univalence of confluent hypergeometric functions. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 51–56. (R. K. Raina) **99m:30033** 30C55 (33C15)

Stanković, Bogoljub S-bounded Fourier hyperfunctions. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 4, 327–333. (Yoshifumi Ito) **99j:46047** 46F15

— (*with* Pilipović, Stevan S.) The structure of a convergent family of Fourier hyperfunctions. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 277–287. (Summary) **99f:46059** 46F15

— Generalized functions and their applications. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 145–158. (Summary) **99g:46053** 46F05 (46N20)

— Convergence structures and S-asymptotic behaviour of Fourier hyperfunctions. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **64(78)** (1998), 98–106. (Andrea D'Agnolo) **99k:46068** 46F15 (32A45)

Stanković, Miomir S. (*with* Stanimirović, Predrag S.) Determinants of rectangular matrices and Moore-Penrose inverse. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 53–69. (Anna Lee) **99i:15006** 15A09 (15A15)

— (*with* Danković, Bratislav M.; Tričković, Slobodan B.) Some inequalities involving harmonic numbers. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 493–498, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99c:26019** 26D15 (05A20, 11B68)

Stanković, Radomir S. (*with* Janković, Dragan; Moraga, Claudio) Reed-Muller-Fourier versus Galois field representations of four-valued logic functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 186–191, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Stanković, Srdjan S. (*with* Tadich, V.) On the convergence of a stochastic gradient algorithm in the problem of learning in neural networks. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 118–134; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 2, 1002–1015. (Summary) **99k:60091** 60F15 (60F25, 93E23)

— (*with* Chen, Xue-Bo; Mataušek, Miroslav R.; Šiljak, Dragoslav D.) Stochastic inclusion principle applied to decentralized automatic generation control. (English summary) *Internat. J. Control* **72** (1999), *no.* 3, 276–288. (Muhidin Lelic) **99m:93096** 93E03 (93A13)

Stankus, E. Modified zeta functions and the number of g-integers. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 247–258, *VSP, Utrecht*, 1997. (Jerzy Kaczorowski) **99m:11104** 11N25 (11M41, 11N80)

Stankus, Mark (*with* Helton, J. William; Wavrik, John J.) Computer simplification of formulas in linear systems theory. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 302–314. (Summary) **99a:93020** 93B25 (93–04, 93C05)

— (*with* Agler, Jim; Helton, J. William) Classification of hereditary matrices. (English summary) *Linear Algebra Appl.* **274** (1998), 125–160. (Summary) **99m:15009** 15A24

— (*with* Helton, J. William) Computer assistance for "discovering" formulas in system engineering and operator theory. (English summary) *J. Funct. Anal.* **161** (1999), *no.* 2, 289–363. (Joseph A. Ball) **99m:93029** 93B36 (47A99, 47N70, 68Q40, 93B40)

Stanley, H. Eugene (*with* Barabási, Albert-László) ★ Fractal concepts in surface growth. (English summary) *Cambridge University Press, Cambridge*, 1995. xx+366 *pp. ISBN* 0-521-48318-2 (Vitor R. Vieira) **99b:82072** 82C24 (82–01, 82C28, 82D30)

Stanley, Lisa G. (*with* Stewart, Dawn L.) A comparison of local and global projections in design sensitivity computations. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 361–373, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:65033** 65D25 (49Q12, 65N30, 73K40)

— (*with* Burns, John A.; Stewart, Dawn L.) A projection method for accurate computation of design sensitivities. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 40–66, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Werner Horn) **99e:65103** 65K10 (49M25, 65N30)

Stanley, Richard P. Foundations I and the development of algebraic combinatorics. *Gian-Carlo Rota on combinatorics*, 105–107, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05–03

— Hyperplane arrangements, parking functions and tree inversions. *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 359–375, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Volkmar Welker) **99f:05006** 05A15 (52B30)

— (*with* Hanlon, Philip J.) A q-deformation of a trivial symmetric group action. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4445–4459. (Frédéric Patras) **99a:20008** 20C30 (05E10)

— *see also* **Mathematical essays in honor of Gian-Carlo Rota**. **99a:00055**

Stanley, Sonya (*with* Lyche, Tom; Schumaker, Larry L.) Quasi-interpolants based on trigonometric splines. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 280–309. (Kirill A. Kopotun) **99i:41001** 41A05 (42A15, 65D07)

Stannat, Wilhelm Dirichlet forms and Markov processes: a generalized framework including both elliptic and parabolic cases. (English summary) *Potential Anal.* **8** (1998), *no.* 1, 21–60. (Yoichi Ôshima) **99c:60162** 60J45 (31C25, 35J60, 35K55, 60J40)

Stanomir, D. (*with* Pârvu, V.) Using the discrete signal theory for analysing two families of polynomials on the unit circle. (English and Romanian summaries) *Politeh. Univ. Buchar. Sci. Bull. Ser. C Electr. Eng.* **59** (1997), *no.* 1-4, 61–70. 42C05 (94A12)

Stansby, P. K. (*with* Butler, Matthew J.; Duck, P. W.) An asymptotic description of the attached, turbulent, oscillatory boundary layer. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 3, 335–357. (Summary) **99g:76042** 76D10 (76D15, 76F99)

— (*with* Chegini, A.; Barnes, T. C. D.) The initial stages of dam-break flow. (English summary) *J. Fluid Mech.* **370** (1998), 203–220. 76–05 (76B99)

— (*with* Chegini, A.; Barnes, T. C. D.) The initial stages of dam-break flow. (English summary) *J. Fluid Mech.* **374** (1998), 407–424. 76–05 (76B15)

Stanton, Dennis W. (*with* Fomin, Sergey) Rim hook lattices. (English summary) *Algebra i Analiz* **9** (1997), *no.* 5, 140–150; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 5, 1007–1016. (Grant Walker) **99c:05202** 05E10 (05A17)

— (*with* Ismail, Mourad E. H.) More orthogonal polynomials as moments. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 377–396, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Mizan Rahman) **99f:33011** 33C45 (05E35)

— (*with* Andrews, George E.) Determinants in plane partition enumeration. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 273–282. (Christian Krattenthaler) **99f:05002** 05A15 (05A10, 05A17, 05A30, 05E10, 33C20)

— (*with* Reiner, Victor) Unimodality of differences of specialized Schur functions. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 1, 91–107. (Joaquin O. Carbonara) **99c:05198** 05E05 (17B10, 17B20)

— A hypergeometric hierarchy for the Andrews evaluations. (English summary) *Ramanujan J.* **2** (1998), *no.* 4, 499–509. (Wolfgang Bühring) **99k:33015** 33C20

— (*with* Ismail, Mourad E. H.; Kim, Dongsu) Lattice paths and positive trigonometric sums. (English summary) *Constr. Approx.* **15** (1999), *no.* 1, 69–81. (Summary) **99k:42007** 42A24 (05A15, 05A19, 05A20)

Stanton, Nancy K. Homogeneous CR submanifolds in $\mathbf{C}^n$. *Math. Z.* **228** (1998), *no.* 2, 247–253. (Matthew B. Stenzel) **99d:32008** 32C16 (32F40)

Stanton, R. G. Triple systems with bipoints. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph

Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 205–210. (Summary) **99j:05028** 05B07

— Coverings by triples with singular bipoints. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 47–53. (Summary) **99j:05051** 05B40

— (*with* Mullin, Ronald C.) A type of pairwise balanced design. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 95–99. (Summary) **99i:05033** 05B05

Stantso, V. V. Bifurcations of the "saddle lip" polycycle. (Russian) *Tr. Mat. Inst. Steklova* **213** (1997), *Differ. Uravn. s Veshchestv. i Kompleks. Vrem.*, 213–225. (Pavao Mardešić) **99i:58116** 58F14 (34C05, 34C23, 58F21)

Stanyukova, I. V. A combined penalty and finite-element method for a class of convex optimization problems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 1, 18–23, 52. (Summary) **99c:49032** 49M25 (65K05, 90C30)

Stanzhitskiĭ, A. N. (*with* Kopas′, Ĭ. M.) On invariant tori of stochastic systems on a plane. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 8, 1125–1129; *translation in Ukrainian Math. J.* **48** (1996), *no.* 8, 1276–1281 (1997). (Summary) **99b:60084** 60H10

— (*with* Samoĭlenko, Anatoliĭ Mikhaĭlovich) On invariant sets of differential equations with small random perturbations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 54–58, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 54–58. (Summary) **99i:34065** 34C30 (34F05, 60H99)

Stapp, Henry P. (*with* Kawai, Takahiro) On infrared singularities. *New trends in microlocal analysis (Tokyo, 1995)*, 117–123, *Springer, Tokyo*, 1997. (*see* **99d:00024**) 81U20

— Nonlocal character of quantum theory. (English summary) *Amer. J. Phys.* **65** (1997), *no.* 4, 300–304. (Summary) **99k:81035** 81P15

— Meaning of counterfactual statements in quantum physics. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 10, 924–926. (Summary) **99g:81011** 81P05

van der Stappen, A. Frank (*with* de Berg, Mark; Katz, Matthew J.; Overmars, Mark H.; Vleugels, Jules) Models and motion planning. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 83–94, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05

— (*with* Berretty, Robert-Paul; Goldberg, Ken; Overmars, Mark H.) Computing fence designs for orienting parts. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 249–262. (Summary) **99g:68206** 68U05

— (*with* Overmars, Mark H.; de Berg, Mark; Vleugels, Jules) Motion planning in environments with low obstacle density. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 561–587. (Summary) **99h:68170** 68U05

Staquet, C. (*with* Godeferd, Fabien S.) Statistical modelling and direct numerical simulations of decaying stably stratified turbulence. I. Flow energetics. *J. Fluid Mech.* **360** (1998), 295–340. (Summary) **99a:76074** 76F99 (76M35)

verde-Star, Luis *see* **Verde-Star, Luis**

Stará, Jana (*with* John, Oldřich) On the regularity of weak solutions to parabolic systems in two spatial dimensions. *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1159–1170. (Vasiliy I. Sedenko) **99k:35079** 35K40 (35B65, 35D10)

Štaras, Arūnas (*with* Bakhvalov, N. S.; Panasenko, G. P.) The averaging method for partial differential equations (homogenization) and its applications [MR 91k:35061]. *Partial differential equations, V*, 211–239, 241–247, *Encyclopaedia Math. Sci.*, 34, *Springer, Berlin*, 1999. (*see* **99i:35002**) 35G20 (35B40, 73B27)

Starc, Zdravko F. On solving a nonlinear ordinary differential equation of the third order. (English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 39–42. 34A05 (34A34)

— Behavior at infinity of solutions of the Abel differential equation of the second kind. (English and Serbian summaries) *Zb. Rad. (Kragujevac) No.* 20 (1998), 27–30. 34C99

Starchenko, Sergei (*with* Miller, Chris) A growth dichotomy for o-minimal expansions of ordered groups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3505–3521. (A. M. W. Glass) **99e:03025** 03C60 (06F15, 20F60)

Starck, J.-L. (*with* Murtagh, Fionn; Bijaoui, A.) ★ Image processing and data analysis. (English summary) The multiscale approach. *Cambridge University Press, Cambridge*, 1998. *x*+287 *pp. ISBN* 0-521-59084-1; 0-521-59914-8 (From the preface) **99f:94004** 94A12 (68U10)

Stărică, Catalin (*with* Resnick, Sidney I.) Tail index estimation for dependent data. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 1156–1183. (Erich Haeusler) **99k:60136** 60G70 (60G10, 62G30)

Starita, Giulio (*with* Benouar, Nour-Eddine) Elliptic systems in exterior domains. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **42** (1996), 1–30 (1998). (Guido Sweers) **99c:35050** 35J55 (35J40)

— (*with* Carbonaro, Bruno) The principle of virtual velocities. *Classical problems in mechanics*, 1–95, *Quad. Mat.*, 1, *Aracne, Rome*, 1997. (Ll. G. Chambers) **99g:70002** 70–03 (01A45, 70C20, 70F10)

— *see also* **Errata: "The principle of virtual velocities"**, (**99m:35005**)

Stark, C. W. Approximate finiteness properties of infinite groups. (English summary) *Topology* **37** (1998), *no.* 5, 1073–1088. (Erik K. Pedersen) **99k:57050** 57P10 (20J99, 57Q12, 57S30)

— Minimal dynamics on Menger manifolds. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 21–30. (Krzysztof Ciesielski) **99j:57041** 57S30 (54H20, 55P99)

Stark, Dudley (*with* Wormald, Nicholas C.) Asymptotic enumeration of convex polygons. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 196–217. (Summary) **99i:05014** 05A16

— Total variation asymptotics for independent process approximations of logarithmic multisets and selections. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 1, 51–80. (Lyuben R. Mutafchiev) **99a:60005** 60C05 (05A16, 60F05)

Stark, Eugene W. Fibrational semantics of dataflow networks. (English summary) *CONCUR'98: concurrency theory (Nice)*, 597–612, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q55 (18C10, 68Q10)

— (*with* Smolka, Scott A.) Compositional analysis of expected delays in networks of probabilistic I/O automata. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN*, 1998), 466–477, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10 (68Q45, 68Q68)

Stark, Ian (*with* Cattani, Gian Luca; Winskel, Glynn) Presheaf models for the π-calculus. (English summary) *Category theory and computer science (Santa Margherita Ligure*, 1997), 106–126, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q10 (68Q55)

Stark, Jaroslav Invariant graphs for forced systems. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 163–179. (Remo Badii) **99c:58103** 58F12 (58F13)

— (*with* Iannelli, Pasquale; Baigent, Steve) Inertial manifolds for dynamics of cells coupled by gap junction. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 2, 187–213. (Boris G. Zaslavskiĭ) **99j:92004** 92C30 (34D45, 34G20, 58F40)

— Regularity of invariant graphs for forced systems. (English summary) *Ergodic Theory Dynam. Systems* **19** (1999), *no.* 1, 155–199. (Boris Hasselblatt) **99k:58140** 58F15 (58F12)

Stärk, Robert F. (*with* Jäger, Gerhard) A proof-theoretic framework for logic programming. *Handbook of proof theory*, 639–682, *Stud. Logic Found. Math.*, 137, *North-Holland, Amsterdam*, 1998. (From the introduction) **99g:68036** 68N17 (03B50, 03B70)

— Why the constant "undefined"? Logics of partial terms for strict and non-strict functional programming languages. (English summary) *J. Funct. Programming* **8** (1998), *no.* 2, 97–129. (Dorothy Bollman) **99h:68028** 68N15 (03B70, 68Q55)

— The theoretical foundations of LPTP (a logic program theorem prover). (English summary) *J. Logic Programming* **36** (1998), *no.* 3, 241–269. (Summary) **99c:68049** 68N17 (68T15)

— A direct proof of the completeness of SLDNF-resolution. (English summary) *J. Logic Comput.* **9** (1999), *no.* 1, 47–61. (Summary) **99j:68126** 68T15 (03B70)

Starke, Gerhard Field-of-values analysis of preconditioned iterative methods for nonsymmetric elliptic problems. (English summary) *Numer. Math.* **78** (1997), *no.* 1, 103–117. (Anna-Margarete Sändig) **99a:65137** 65N15

— Multilevel computation of streamline diffusion finite element discretizations for convection-diffusion problems. (English summary) *Large-scale scientific computations of engineering and environmental problems (Varna*, 1997), 281–289, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 76M10 (65F10, 76Rxx)

Starke, Jens (*with* Schanz, Michael) Dynamical system approaches to combinatorial optimization. (English summary) *Handbook of combinatorial optimization, Vol.* 2, 471–524, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (58F40, 90–02, 90C35)

Starkman, Glenn D. Topology and cosmology. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2529–2538. (Wathek Talebaoui) **99m:83214** 83F05 (83–02, 83–03)

— (*with* Cornish, Neil J.; Spergel, David N.) Circles in the sky: finding topology with the microwave background radiation. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2657–2670. (Summary) **99f:83081** 83F05 (85A40)

— *see also* **Conference: Topology of the Universe**, **99f:83003**

Starkov, A. N. The Tikhonov property for linear groups. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 269–279; *translation in Math. Notes* **63** (1998), *no.* 1-2, 233–241. (Alexander Isaakovich Shtern) **99f:52005** 52A07 (22A10, 43A07, 54H25)

Starkov, A. S. (*with* Kurylev, Yaroslav) Directional moments in the acoustic inverse problem. *Inverse problems in wave propagation (Minneapolis, MN*, 1995), 295–323, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (I. Kay) **99b:35216** 35R30 (35J05, 35K05, 35L05, 76Q05)

Starkov, V. V. Harmonic locally quasiconformal mappings. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 61–69. 30C62

— (*with* Godula, Janusz) Univalence of integrals of $(f')^\lambda$, and Bloch functions [MR 98c:30043]. (Russian. English and Russian summaries) Translated from the English. *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 28–36. 30C55 (30D45)

— (*with* Kayumov, I. R.) An estimate for logarithmic coefficients of locally univalent functions [MR 98a:30020]. (Russian. English and Russian summaries) Translated from the English. *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 88–96. 30C50

— (*with* Godula, Janusz) Linear-invariant families of harmonic locally quasiconformal mappings. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 50–61. (Alexander Vasil′ev) **99h:30022** 30C62 (30C45)

Starks, Scott A. (*with* Kreinovich, Vladik) Locating the whole pattern is better than locating its pieces: a geometric explanation of an empirical phenomenon. (English summary) *Geombinatorics* **8** (1999), *no.* 4, 116–121. (Summary) **99m:68178** 68T10 (52B55)

Starling, A. Gregory A new integer partitioning algorithm. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 49–54. (Summary) **99k:05012** 05A17

Starnone, Federico Algebraic surfaces with canonical curves. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 67–69. 14J99

Starobin, Joseph M. (*with* Chernyak, Yuri B.; Cohen, Richard J.) Where do dispersion curves end? A basic question in theory of excitable media. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, *R*4108–*R*4111. 35K55 (35Q58)

Staroselsky, Ilya (*with* Konstantinov, A. B.; Orszag, Steven A.; Yakhot, Victor) Renormalization group-based transport modeling of premixed turbulent combustion. I. Incompressible deflagration model. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 229–252. (From the text) **99k:80009** 80A25 (76F99, 76M25, 76N99, 80–08)

— (*with* Konstantinov, A. B.; Orszag, Steven A.; Yakhot, Victor) Renormalization group-based transport modeling of premixed turbulent combustion. II. Finite density gradient and direct heat release. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 369–404. (Summary) **99k:80010** 80A25 (76F99, 76M25, 76N99, 80–08)

Starostin, A. I. Finite p-groups. Algebra, 5. *J. Math. Sci. (New York)* **88** (1998), *no.* 4, 559–585. (Andreas Caranti) **99b:20036** 20D15 (20D30, 20D45)

Staroszczyk, R. (*with* Morland, L. W.) Viscous response of polar ice with evolving fabric. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 3, 135–152. (Summary) **99d:73077** 73N20 (73B99, 73E60, 86A40)

— (*with* Morland, L. W.) A material coordinate treatment of the sea-ice dynamics equations. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454**

(1998), *no.* 1979, 2819–2857. (Summary) **99i:86009** 86A05 (73K70, 73N20, 73V05, 76D99, 86–08)

Staroverov, V. M. (*with* Kobel'kov, G. M.) On the limit behavior of solutions of equations of a weakly compressible generalized Newtonian fluid with two small parameters. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 29–33, 111; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 25–29. (Summary) **99f:35010** 35B25 (35Q35, 76D07, 76N10)

Staroverova, I. B. (*with* Voronov, N. A.; Dyshko, A. L.; Konyukhova, N. B.) On some nonlinear singular problems in models of relativistic cosmology. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 304–310, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 83F05 (35Q75)

Starovoitov, V. *see* **Starovoĭtov, Valeriĭ Vasil'evich**

Starovoĭtov, V. N. On the motion of a two-component fluid in the presence of capillary forces. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 293–305; *translation in Math. Notes* **62** (1997), *no.* 1-2, 244–254 (1998). (Summary) **99a:76047** 76D45 (35Q35, 76E99)

— (*with* Hoffmann, Karl-Heinz[1]) The Stefan problem with surface tension and convection in Stokes fluid. *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 173–183. (Angela Pawell) **99d:35185** 35R35 (35Q30, 76D07, 76D45, 80A22)

— (*with* Hoffmann, Karl-Heinz[1]) Phase transitions of liquid-liquid type with convection. *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 185–198. (Angela Pawell) **99d:35186** 35R35 (35Q30, 76D07, 76D45, 80A22)

Starovoĭtov, Valeriĭ Vasil'evich Touching distances and distance transform. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 99–106, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (54E35)

Starr, A. G. (*with* Rajendran, S.; Leung, A. Y. T.; Chan, J. K. W.) Bifurcation and stability of a three-hinged rod under a conservative load. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 5, 657–696. (Summary) **99i:73043** 73H05 (73K05)

Starr, Ross M. ★ General equilibrium theory. (English summary) An introduction. *Cambridge University Press, Cambridge*, 1997. xxiv+250 *pp. ISBN* 0-521-56414-X; 0-521-56473-5 (Andrzej Wieczorek) **99c:90031** 90A14 (90–01)

Startsev, A. N. A new approach to the estimation of the parameter of a linear diffusion. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 72–76 (1996). (Summary) **99e:62149** 62M09

Startsev, E. A. (*with* McKinstrie, C. J.; Giacone, R. E.) Accurate formulas for the Landau damping rates of electrostatic waves. (English summary) *Phys. Plasmas* **6** (1999), *no.* 2, 463–466. (Summary) **99j:76147** 76X05

Startseva, N. G. An optimal decision in classification problems. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 4, 462–464. 62H30

Startz, Richard (*with* Zivot, Eric; Nelson, Charles R.) Valid confidence intervals and inference in the presence of weak instruments. (English summary) Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 1119–1144. (Summary) **99i:62256** 62P20 (62J05)

Starushenko, G. A. (*with* Pilipchuk, V. N.) On the representation of periodic solutions of differential equations by means of an oblique-angled saw-tooth transformation of the argument. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 11, 25–28. (From the text) **99m:34092** 34C25

Staruszkiewicz, Andrzej Quantum mechanics of the electric charge. *New developments in quantum field theory* (*Zakopane*, 1997), 179–185, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Introduction) **99j:81203** 81V10 (81R99)

— Quantum mechanics of the electric charge. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 929–936. (Summary) **99k:81342** 81V10 (81Q99, 81S99, 81V45)

Stasevich, S. I. (*with* Koshelev, V. N.) On a matrix apparatus for elementary Markov fields. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 71–90; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 251–267 (1998). (Summary) **99k:60130** 60G60 (82B05)

Stasheff, James D. (*with* Kimura, Takashi[2]; Voronov, Alexander A.) Homology of moduli of curves and commutative homotopy algebras. *The Gelfand Mathematical Seminars, 1993–1995*, 151–170, *Gelfand Math. Sem., Birkhäuser Boston, Boston, MA*, 1996. (Andreas Gathmann) **99f:14029** 14H15 (32G81, 55U99)

— (*with* Barnich, Glenn; Fulp, R.; Lada, Tom) The sh Lie structure of Poisson brackets in field theory. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 585–601. (Friedemann Brandt) **99j:17030** 17B55 (18G35, 58F05)

— (*with* Markl, Martin) On the compactification of configuration spaces. Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 83–90. (*see* **99g:00047**) 55R40 (18D10, 55P35, 55U35, 57R99)

— *see also* **Higher homotopy structures in topology and mathematical physics, 99g:00041** *and* **McCleary, John, 99i:01036**

Stashulenok, S. P. Algebra of random mnemonic processes. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1997**, *no.* 1, 57–60, 76. (Todor Dimitrov Todorov) **99b:46061** 46F10 (34A12, 46N30, 60G20)

— (*with* Lazakovich, N. V.) Solutions, associated in the sense of Itô, of differential equations in the direct product of algebras of generalized random processes. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 32–38, 139. 60G20 (60H05, 60H10)

Stasiak, Andrzej (*with* Katritch, Vsevolod; Bednar, Jan; Michoud, Didier; Scharein, Robert G.; Dubochet, Jacques) Geometry and physics of knots. (English summary) *Nature* **384** (1996), *no.* 6605, 142–145. (Summary) **99b:92032** 92D20 (57M25)

Stasica, Jacek *see* **Singularities Symposium—Łojasiewicz 70, 99i:00035**

Stastna, M. (*with* Sivaloganathan, S.; Tenti, G.; Drake, James M.) Brain biomechanics: an exact solution, and asymptotics of slow variations, for the time dependent equations of consolidation theory. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 415–425. (*see* **99m:34001**) 73P20 (76Z99, 92C10, 92C50)

Stateczny, Andrzej (*with* Balicki, Jerzy; Żak, Bogdan) Genetic algorithms and Hopfield neural networks for solving combinatorial problems. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 567–592. (Summary) **99c:90100** 90C29 (90C27)

Stathopoulos, Andreas (*with* Saad, Youcef) Restarting techniques for the (Jacobi-)Davidson symmetric eigenvalue methods. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 163–181 (*electronic*). (Summary) **99j:65062** 65F15 (65F10)

— (*with* Wu, Kesheng; Saad, Youcef) Inexact Newton preconditioning techniques for large symmetric eigenvalue problems. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 202–214 (*electronic*). (Summary) **99i:65042** 65F15

— (*with* Saad, Youcef; Wu, Kesheng) Dynamic thick restarting of the Davidson, and the implicitly restarted Arnoldi methods. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 227–245 (*electronic*). (C. Ilioi) **99d:65135** 65F30

Staton, William (*with* Ali, Asad Ali) The extremal question for cycles with chords. (English summary) *Ars Combin.* **51** (1999), 193–197. (Summary) **99k:05086** 05C35 (05C38)

Statulyavichus, Vitautas Antanovich (*with* Aleškevičienė, Aldona Kazio) Large deviations in approximation by Poisson law. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 1–18, *TEV, Vilnius*, 1994. (Summary) **99f:60055** 60F10

— (*with* Aleškevičienė, Aldona Kazio) Probabilities of large deviations for the χ^2 approximation. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 401–412; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 301–309 (1998). (S. A. Book) **99j:60034** 60F10 (60G50)

— *see also* **Probability theory and mathematical statistics, 99e:60004**

Staudacher, Matthias (*with* Kostov, Ivan K.; Wynter, Thomas) Complex matrix models and statistics of branched coverings of 2D surfaces. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 283–298. (Vasily A. Chernecky) **99h:81193** 81T40 (30F10, 32B25, 81T25, 81T27)

— (*with* Krauth, Werner; Nicolai, Hermann) Monte Carlo approach to M-theory. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 31–41. (Summary) **99c:81257** 81T80 (81T60)

— (*with* Krauth, Werner) Finite Yang-Mills integrals. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 350–355. (Summary) **99e:81148** 81T13 (81T80)

Staudte, Robert G. (*with* Dollinger, Michael B.; Kulinskaya, E. V.) When is a p-value a good measure of evidence? (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 119–134, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **99c:62004** 62A15 (62F03, 62F15)

Stauffer, André (*with* Sipper, Moshe) On the relationship between cellular automata and L-systems: the self-replication case. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 71–80. (Karel Culik, II) **99c:68184** 68Q80 (92B05)

Stauffer, Dietrich Can percolation theory be applied to the stock market? (English summary) *Ann. Phys.* (8) **7** (1998), *no.* 5-6, 529–538. 90A09

St. Augustine *see* **Malatesta, Michele, 99e:03002**

Stauning, Ole (*with* Caprani, Ole; Madsen, Kaj) Existence test for asynchronous interval iteration. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 269–275. (Summary) **99a:65061** 65G10 (65D99)

— (*with* Knudsen, Carsten) Exact numerical methods in dynamical systems theory. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1339–1358. (Summary) **99f:58141** 58F13 (58F40, 65H99, 65Q05)

Stavracou, T. Theory of connections on graded principal bundles. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 1, 47–79. (Antonio López Almorox) **99i:58010** 58A50 (53C05)

Stavrakakis, Nikos M. Global bifurcations results for noncompact operators on unbounded domains. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 143–155, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Vitaly B. Moroz) **99h:35054** 35J60 (35B32, 47H15, 58E07)

Stavre, Petre (*with* Murărescu, Gheorghe) Sur les connexions Finsler-projectives. III. (English summary) [Finsler-projective connections. III] *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 99–103. (Aurel Bejancu) **99m:53035** 53B40

Stavre, Ruxandra (*with* Căpăţînă, Anca) A control problem in biconvective flow. *J. Math. Kyoto Univ.* **37** (1997), *no.* 4, 585–595. (Introduction) **99d:93036** 93C20 (76Z05, 92C10)

Stavrinos, P. C. (*with* Balan, Vladimir; Munteanu, Gheorghe) Generalized gauge Asanov equations on $\mathrm{Osc}^{(2)}(M)$ bundle. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 21–32, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (V. Oproiu) **99f:53024** 53C07 (53C05, 53C25, 53C60)

— (*with* Miron, Radu; Balan, Vladimir; Tsagas, Grigorios T.) Deviations of stationary curves in the bundle $\mathrm{Osc}^{(2)}(M)$. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 51–60. (Tadashi Aikou) **99g:53033** 53C10 (53C05, 53C60)

— (*with* Manouselis, P.) Tensor and spinor equivalence on generalized metric tangent bundles. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 119–130. (Tadashi Aikou) **99j:53096** 53C60 (53A50)

Stavropoulos, Theodoros (*with* Papadakis, Manos) On the multiresolution analyses of abstract Hilbert spaces. (English summary) *Bull. Greek Math. Soc.* **40** (1998), 79–92. (W. R. Wade) **99k:42068** 42C15

Stavrou, Nikolaos Selfsimilar solutions to the mean curvature flow. *J. Reine Angew. Math.* **499** (1998), 189–198. (Barbara Priwitzer) **99k:53083** 53C21 (35K55)

Stavroulakis, Georgios E. (*with* Mistakidis, E. S.) ★ Nonconvex optimization in mechanics. (English summary) Algorithms, heuristics and engineering applications by the F.E.M. Nonconvex Optimization and its Applications, 21. *Kluwer Academic Publishers, Dordrecht*, 1998. xx+285 *pp. ISBN* 0-7923-4812-5 (Pekka Neittaanmäki) **99b:73032** 73K40 (47H19, 49J40, 73V25, 90C90)

— (*with* Ballmann, Josef; Jongen, Hubertus Th.) Nachruf auf Herrn Professor Panagiotis D. Panagiotopoulos 1. Januar 1950–12. August 1998. [Obituary for Prof. Panagiotis D. Panagiotopoulos (1950–1998)] *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 2, 87–90. 01A70

— Quasidifferential modelling of adhesive contact. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 455–467. (Summary)

99e:73094 73T05

— (*with* Ballmann, Josef; Jongen, Hubertus Th.) In memoriam Panagiotis D. Panagiotopoulos, Thessaloniki and Aachen, January 1, 1950–August 12, 1998. *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 147–148. 01A70

Stavroulakis, I. P. (*with* Domshlak, Yu. I.) Oscillations of first-order delay differential equations in a critical state. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 359–371. (Summary) **99a:34184** 34K15

— Oscillations of functional-differential equations. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 196–203. (Summary) **99d:34136** 34K15 (39A12)

— (*with* Kiguradze, I. T.) On the oscillation of solutions of higher order Emden-Fowler advanced differential equations. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 97–112. (Summary) **99h:34106** 34K15 (34C10)

— (*with* Domshlak, Yu. I.) Oscillations of differential equations with deviating arguments in a critical state. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 405–414. (Hiroshi Onose) **99h:34103** 34K15

— (*with* Martynyuk, A. A.) Generalized stability of motion of impulsive Lurie-Postnikov systems with structural perturbation. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 481–492. (Raúl M. Naulin) **99m:34114** 34D20 (34A37, 34D10, 93D05)

Stavrova, D. N. Unified approach to the theory of topological cardinal invariants. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 6, 5–8. 54A25

— (*with* Dontchev, Julian; Popvassilev, S.) On the η-expansion topology for the co-semi-regularization and mildly Hausdorff spaces. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 9–19. (From the summary) **99c:54028** 54D15 (54D10, 54G05)

Stazi, L. (*with* Ferrarese, Giorgio) Superfluids and Cosserat continua. (Italian. English summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 13–24 (1998). (Gérard A. Maugin) **99f:76005** 76A02 (73B99, 76A15, 76Y05, 82D50)

Şt. Cîrstea, Florica Corina (*with* Rădulescu, Vicenţiu D.) Existence and uniqueness of positive solutions to a semilinear elliptic problem in $\mathbf{R}^N$. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 417–425. (Summary) **99j:35056** 35J60 (35B05)

St-Cyr, Gaetan J. (*with* Holliday, Dennis; DeRaad, Lester L., Jr.) New equations for electromagnetic scattering by small perturbations of a perfectly conducting surface. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 10, 1427–1432. (Summary) **99e:78031** 78A45

St.-Denis, Richard (*with* Barbeau, Michel; Kabanza, Froduald) A method for the synthesis of controllers to handle safety, liveness, and real-time constraints. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1543–1559. (Bart De Schutter) **99h:93065** 93C83 (68Q75)

Steadman, B. R. Confinement of null geodesics in the van Stockum exterior. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1357–1365. (Mihai Vişinescu) **99c:83016** 83C15 (83C10)

Steane, A. M. Space, time, parallelism and noise requirements for reliable quantum computing. (English summary) *Fortschr. Phys.* **46** (1998), *no.* 4-5, 443–457. 68Q05

— Introduction to quantum error correction. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1739–1758. (Summary) **99e:81012** 81P05 (94B60)

Stearns, Richard E. (*with* Marathe, Madhav V.; Hunt, Harry B., III; Radhakrishnan, Venkatesh) Complexity of hierarchically and 1-dimensional periodically specified problems. I. Hardness results. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 225–259, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Italo José Dejter) **99c:68129** 68Q25 (03B05, 03D15, 03F20, 68Q15, 68R10)

— (*with* Shukla, Sandeep K.; Rosenkrantz, Daniel J.; Hunt, Harry B., III) The polynomial time decidability of simulation relations for finite state processes: a HORNSAT based approach. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 603–641, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Ryszard Janicki) **99h:68116** 68Q60 (03B05, 68N17, 68Q10, 68Q68)

— (*with* Marathe, Madhav V.; Hunt, Harry B., III; Rosenkrantz, Daniel J.) Theory of periodically specified problems: complexity and approximability. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 106–118, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q25)

— (*with* Hunt, Harry B., III; Marathe, Madhav V.; Radhakrishnan, Venkatesh) The complexity of planar counting problems. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1142–1167 (*electronic*). (Italo José Dejter) **99e:68052** 68Q15 (68R10)

— (*with* Marathe, Madhav V.; Hunt, Harry B., III; Radhakrishnan, Venkatesh) Approximation algorithms for PSPACE-hard hierarchically and periodically specified problems. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1237–1261 (*electronic*). (Summary) **99f:68103** 68Q25 (68Q15, 68R10)

Steblovskaya, V. R. (*with* Daletskiĭ, Yuriĭ L′vovich) On transformations of smooth measure related to parabolic and hyperbolic differential equations in infinite dimensions. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 945–963. (A. V. Uglanov) **99h:35223** 35R15 (35K99, 35L99, 60G30)

Štecha, Jan (*with* Havlena, Vladimír) Smoothing in simultaneous state and parameter estimation in a linear system. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřínek*, 1995), 153–168, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (Summary) **99c:93108** 93E11

Stechkin, B. S. (*with* Kan, I. D.; Sharkov, I. V.) On the Frobenius problem for three arguments. (Russian) *Mat. Zametki* **62** (1997), *no.* 4, 626–629; *translation in Math. Notes* **62** (1997), *no.* 3-4, 521–523 (1998). (Béla Uhrin) **99h:11022** 11D04

Stechkin, Sergeĭ Borisovich Farey sequences. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 91–113; *translation in Math. Notes* **61** (1997), *no.* 1-2, 76–95. (Hiroshi Mikawa) **99g:11103** 11M45 (11B57, 11M26, 11N56)

— (*with* Konyagin, Sergeĭ) An estimate for the number of solutions of nth degree congruence with one unknown. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 249–257. (W. Narkiewicz) **99j:11109** 11N37 (11A07)

— The Turán problem for trigonometric sums. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 335–339. (John H. Loxton) **99m:11096** 11L07

— *see also* **Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin**

Steck, E. A. (*with* Sangi, D.; Bross, Sebastian) Simulation of self-organised dislocation structures in f.c.c. and b.c.c. single crystals. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 93–112. (Summary) **99g:73059** 73E99 (73S10, 73V20)

Stedman, G. E. (*with* Anderson, Ronald; Vetharaniam, I.) Conventionality of synchronisation, gauge dependence and test theories of relativity. (English summary) *Phys. Rep.* **295** (1998), *no.* 3-4, 93–180. (Jaume J. Carot) **99b:83004** 83A05 (83–02, 83B05)

Steeb, Willi-Hans ★ Continuous symmetries, Lie algebras, differential equations and computer algebra. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xii*+360 *pp. ISBN* 981-02-2891-0 (Ian M. Anderson) **99h:58205** 58G35 (17B99, 34–04, 34A26, 35A30, 58G37)

— (*with* van Wyk, M. A.) ★ Chaos in electronics. (English summary) Mathematical Modelling: Theory and Applications, 2. *Kluwer Academic Publishers, Dordrecht*, 1997. xii+481 *pp. ISBN* 0-7923-4576-2 (François Aribaud) **99e:94004** 94A05 (34C15, 58F13, 58F40, 93D15, 94–02, 94C05)

— (*with* Stoop, R.) Chaotic family with smooth Lyapunov dependence. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part B*, 7763–7766. (Francisco Balibrea) **99b:58166** 58F13

— ★ Hilbert spaces, wavelets, generalised functions and modern quantum mechanics. (English summary) Mathematics and its Applications, 451. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii*+233 *pp. ISBN* 0-7923-5231-9 (G. C. Bohnké) **99m:81002** 81–01 (42C15, 46N50, 47N50)

— (*with* van Wyk, M. A.; Stoop, R.) Chaotic maps, control parameter, and Liapunov exponent. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 10, 2653–2655. 58F13

Steel, Allan (*with* Bosma, Wieb; Cannon, John J.) Lattices of compatibly embedded finite fields. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 351–369. (Joachim von zur Gathen) **99a:11143** 11T30 (11Y16, 68Q40)

Steel, John R. ★ The core model iterability problem. Lecture Notes in Logic, 8. *Springer-Verlag, Berlin*, 1996. iv+112 *pp. ISBN* 3-540-61938-0 (Philip D. Welch) **99k:03043** 03E45 (03E10, 03E55, 04A10, 04A15)

— (*with* Welch, Philip David) Σ^1_3 absoluteness and the second uniform indiscernible. (English summary) *Israel J. Math.* **104** (1998), 157–190. (Ralf-Dieter Schindler) **99d:03044** 03E45 (03E15)

— (*with* Schimmerling, E.) The maximality of the core model. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3119–3141. (A. Kanamori) **99m:03104** 03E45

Steel, Mark F. J. (*with* Fernández Llana, Carmen; Osiewalski, Jacek) Classical and Bayesian inference robustness in multivariate regression models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1434–1444. (I. Guttman) **99b:62100** 62J05 (62F15, 62F35, 62H05)

— Bayesian analysis of stochastic volatility models with flexible tails. (English summary) *Econometric Rev.* **17** (1998), *no.* 2, 109–143. (Summary) **99c:62264** 62M10 (62F15, 62P20)

— (*with* Fernández Llana, Carmen) On Bayesian modeling of fat tails and skewness. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 359–371. (Christian P. Robert) **99f:62041** 62F15

— (*with* Fernández Llana, Carmen) Reference priors for non-normal two-sample problems. (English summary) *Test* **7** (1998), *no.* 1, 179–205. (J. W. Pratt) **99m:62033** 62F15

— (*with* Fernández Llana, Carmen) Multivariate Student-t regression models: pitfalls and inference. (English summary) *Biometrika* **86** (1999), *no.* 1, 153–167. (Summary) **99m:62098** 62J05 (62F15, 62H10)

Steel, Michael (*with* Dress, Andreas W. M.; Moulton, Vincent L.) Trees, taxonomy, and strongly compatible multi-state characters. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 1, 1–30. (B. Zelinka) **99g:92003** 92B10 (05C05)

— (*with* Tuffley, Chris) Modeling the covarion hypothesis of nucleotide substitution. (English summary) *Math. Biosci.* **147** (1998), *no.* 1, 63–91. (Prem Narain) **99f:92014** 92D15

— (*with* Moulton, Vincent L.) Retractions of finite distance functions onto tree metrics. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 215–233. (D. Rosenblatt) **99k:05060** 05C05 (92B10, 92D10, 92D15)

Steel, Philip (*with* Shao, Jun[1]) Variance estimation for survey data with composite imputation and nonnegligible sampling fractions. (English summary) *J. Amer. Statist. Assoc.* **94** (1999), *no.* 445, 254–265. 62D05

Steel, S. J. (*with* Venter, J. H.) Identifying active contrasts by stepwise testing. (English summary) *Technometrics* **40** (1998), *no.* 4, 304–313. 62K15

Steele, J. Michael ★ Probability theory and combinatorial optimization. (English summary) CBMS-NSF Regional Conference Series in Applied Mathematics, 69. *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1997. viii+159 *pp. ISBN* 0-89871-380-3 (From the preface) **99d:60002** 60–02 (60C05, 60D05, 60E15, 60F05, 90C27)

Steele, John M. Predictions of eclipse times recorded in Chinese history. *J. Hist. Astronom.* **29** (1998), *no.* 3, 275–285. 01A25

— (*with* Stephenson, F. Richard) Eclipse observations made by Regiomontanus and Walther. *J. Hist. Astronom.* **29** (1998), *no.* 4, 331–344. 01A40

Steele, T. H. An ω-limit set for a Lipschitz function with zero topological entropy. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 281–286. (Summary) **99a:26003** 26A18

van Steen, Guido *see* **Van Steen, Guido**

van Steen, K. *see* **Van Steen, K.**

Steen, M. W. A. (*with* Bowman, Howard; Boiten, E. A.; Derrick, John) Strategies for consistency checking based on unification. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 3, 261–298. 68N99

Steenbrink, Joseph H. M. Du Bois invariants of isolated complete intersection singularities. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 5, 1367–1377. (Aleksandr G. Aleksandrov) **99f:32058** 32S35 (14J32, 32S55)

— (*with* Ebeling, Wolfgang) Spectral pairs for isolated complete intersection singularities. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 1, 55–76. (Marko Roczen) **99c:32053** 32S35 (14B05, 14D07, 32S55)

— *see also* **Singularities, 99e:00031**

Steer, D. A. (*with* Evans, T. S.; Kibble, T. W. B.) Wick's theorem for nonsymmetric normal ordered products and contractions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5726–5738. (Lech Jakóbczyk) **99k:81125** 81S05 (81T99)

— (*with* Gómez Nicola, A.) Thermal bosonisation in the sine-Gordon and massive Thirring models. (English summary) *Nuclear Phys. B* **549** (1999), *no.* 1-2, 409–449. 81T10

Stef, André (*with* Tenenbaum, Gérald) Entiers lexicographiques. (English summary) [Lexicographical integers] Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 167–184. (Y.-F. S. Pétermann) **99i:11082** 11N25 (11N37, 11N64)

Ştefan, Dragoş (*with* Panaite, Florin) When is the category of comodules a braided tensor category? *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 107–119. (Sorin Dăscălescu) **99i:18013** 18D10 (16W30)

— Hopf algebras of low dimension. (English summary) *J. Algebra* **211** (1999), *no.* 1, 343–361. (Saïd Benayadi) **99m:16067** 16W30

Ştefan, Gheorghe (*with* Maliţa, Mihaela) The eco-chip: a physical support for artificial life systems. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 260–275, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (92B05, 92D40)

Stefan, Janaqi (*with* Lescure, F.; Maamoun, M.; Meyniel, H.) Digraphs contractible onto ${}^*K_3$. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 365–369. (R. J. Douglas) **99k:05081** 05C20

Ştefănescu, Anton Arrow's theorem for fixed agenda and restricted properties. (English summary) *An. Univ. Bucureşti Mat.* **45** (1996), 77–81. (Andor Dobó) **99a:90018** 90A05

— The minimax theorem in a topological framework. *Int. J. Math. Game Theory Algebra* **8** (1999), *no.* 4, 223–230. (Tamaki Tanaka) **99m:49009** 49J35 (49K35, 54H25)

Ştefănescu, Cătălina (*with* Calude, Cristian S.; Calude, Elena) Computational complementarity for Mealy automata. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 139–150. (Summary) **99f:68136** 68Q68 (68Q45)

Ştefănescu, Doru (*with* Mignotte, Maurice) On the roots of lacunary polynomials. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 1–13. (P. L. Walker) **99k:26017** 26C10 (26D05)

Ştefănescu, Ştefan On two probabilistic algorithms for π estimation. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **24** (1997), 158–165 (1998). 65U05 (65C20)

Stefani, Gianna (*with* Agrachev, Andrei; Zezza, Pierluigi) An invariant second variation in optimal control. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 689–715. (Kevin A. Grasse) **99k:49040** 49K15 (49K27, 49N05, 58E25)

— (*with* Agrachev, Andrei; Zezza, Pierluigi) A Hamiltonian approach to strong minima in optimal control. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 11–22, *Proc. Sympos. Pure Math.*, **64**, *Amer. Math. Soc., Providence, RI*, 1999. (Peter R. Wolenski) **99i:49020** 49K15 (58E25)

Stefani, Silvana (*with* Torriero, Anna) Spectral properties of matrices and graphs. (English summary) *Matrices and graphs* (*Brescia*, 1993/1995), 31–49, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99k:05113** 05C50

— *see also* **Matrices and graphs, 99h:00029**

Štefaník, M. (*with* Horský, J.) Generating conjecture and some Einstein-Maxwell fields of high symmetry. (English summary) *Czechoslovak J. Phys.* **48** (1998), *no.* 1, 113–116. (Summary) **99a:83024** 83C22

Stefanini, Luciano (*with* Bischi, Gian-Italo; Gardini, Laura) Synchronization, intermittency and critical curves in a duopoly game. (English summary) *Math. Comput. Simulation* **44** (1998), *no.* 6, 559–585. (Summary) **99c:90164** 90D12 (90A16)

di Stefano, Gabriele *see* **Di Stefano, Gabriele**

Stefanov, Atanas (*with* Grafakos, Loukas) L^p bounds for singular integrals and maximal singular integrals with rough kernels. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 455–469. (Donald Krug) **99i:42019** 42B20 (42B30)

Stefanov, Dimitar (*with* Drensky, Vesselin) Automorphisms of free nilpotent associative algebras. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 71–90. (R. M. Bryant) **99f:16039** 16W20 (16R10, 16S10)

Stefanov, Plamen (*with* Mokhtar-Kharroubi, Mustapha; Chabi, Mohamed) Scattering theory with two L^1 spaces: application to transport equations with obstacles. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 3, 511–523. (Alexei Yu. Konstantinov) **99b:47018** 47A40 (47N20, 47N55, 82C70)

— (*with* Uhlmann, Gunther) Stability estimates for the hyperbolic Dirichlet to Neumann map in anisotropic media. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 330–358. (Gustavo Perla Menzala) **99f:35120** 35L20 (35B35, 35R30, 58G20)

— (*with* Uhlmann, Gunther) Rigidity for metrics with the same lengths of geodesics. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 83–96. (Raul Quiroga) **99e:53059** 53C22 (53C20)

— *see also* **Mokhtar-Kharroubi, Mustapha, 99c:82078**

Stefanov, Stefan M. Valid inequalities and cutting planes for some polytopes. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 285–293. (Anna Rycerz) **99b:90085** 90C10 (52B05, 52B12)

Stefanov, Valeri T. (*with* Yeo, Geoffrey F.) Explicit asymptotic results for open times in ion channel models. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 4, 947–964. (Uwe Rösler) **99e:60200** 60K20 (62E20, 92C45)

Stefanovska, L. (*with* Dimitrovski, Dragan; Kujumdzieva-Nikoloska, M.) Every Riccati equation can be solved by quadratures in a wider sense. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 3-4, 221–228. (Summary) **99g:34003** 34A05

Stefanski, A. (*with* Kapitaniak, T.; Maïstrenko, Yurii L.; Brindley, J.) Bifurcations from locally to globally riddled basins. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, *R6253–R6256*. (Pere Mumbrú) **99f:58140** 58F13 (58F14)

Stefański, Krzysztof (*with* Someda, Kiyohiko; Nakamura, Hiroki) Divergences of the semiclassical S-matrix formula in irregular scattering. (English summary) Proceedings of the XXVIII Symposium on Mathematical Physics (Toruń, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 3, 399–418. (Summary) **99b:81263** 81U20

Stefanski, L. A. (*with* Carroll, Raymond J.) Asymptotic theory for the SIMEX estimator in measurement error models. (English summary) *Advances in statistical decision theory and applications*, 151–164, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **99m:62089** 62J02 (62G09, 62J05)

— (*with* Park, Heungsun) Relative-error prediction. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 227–236. 62J99

Steffen, Eckhard (*with* Brinkmann, Gunnar) Snarks and reducibility. (English summary) *Ars Combin.* **50** (1998), 292–296. (Summary) **99i:05176** 05C75

— Classification and characterizations of snarks. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 183–203. (Roman Nedela) **99e:05104** 05C75

— (*with* Brinkmann, Gunnar) Chromatic-index-critical graphs of orders 11 and 12. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 889–900. (Sheshayya A. Choudum) **99m:05061** 05C15

— (*with* Grünewald, Stefan) Chromatic-index-critical graphs of even order. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 27–36. (Sheshayya A. Choudum) **99m:05060** 05C15

Steffen, Frauke A generalized principal ideal theorem with an application to Brill-Noether theory. *Invent. Math.* **132** (1998), *no.* 1, 73–89. (R. F. Lax) **99c:14035** 14H10 (14H60, 14M12)

— Connectedness theorems for determinantal schemes. *J. Algebraic Geom.* **8** (1999), *no.* 1, 169–179. (Aldo Conca) **99i:14057** 14M12 (13C40)

Steffen, V., Jr. (*with* Saramago, S. F. P.) Optimization of the trajectory planning of robot manipulators taking into account the dynamics of the system. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 7, 883–894. (Summary) **99f:70013** 70B15 (70Q05)

Steffens, A. Remarks on Seshadri constants. *Math. Z.* **227** (1998), *no.* 3, 505–510. (Antonio Lanteri) **99c:14009** 14C20 (14H40, 14J25)

Steffens, Karl-Georg On the lower semicontinuity of best rational Chebyshev-approximation to differentiable functions. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 369–374, *Transilvania, Cluj-Napoca*, 1997. (L. G. Labsker) **99d:41028** 41A20 (41A50, 90C31)

— A general necessary condition for the lower semicontinuity of best rational Chebyshev approximation to differentiable functions. (English summary) *East J. Approx.* **4** (1998), *no.* 3, 337–369. (Hubertus Th. Jongen) **99j:41027** 41A20 (41A50)

Stegeman, Jan D. (*with* Salinger, David L.) On some properties of the difference spectrum. (English summary) *Banach algebras '97* (*Blaubeuren*), 431–439, *de Gruyter, Berlin*, 1998. (Krishnan Parthasarathy) **99m:46125** 46J10 (43A15)

— (*with* Gatesoupe, Michel; Salinger, David L.) Deux analyses de Fourier sur l'ensemble de Cantor. (English and French summaries) [Two Fourier analyses on the Cantor set] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1311–1316. (Satoru Igari) **99i:43006** 43A25 (42B05, 43A15)

Steger, Angelika *see* **Lectures on proof verification and approximation algorithms, 99h:68060**

Steger, Tim (*with* Robertson, A. Guyan) Negative definite kernels and a dynamical characterization of property (T) for countable groups. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 247–253. (Alain Valette) **99c:22008** 22D40 (22D10, 28D15, 43A35)

— (*with* Ramagge, Jacqui; Robertson, A. Guyan) A Haagerup inequality for $\widetilde{A}_1 \times \widetilde{A}_1$ and $\widetilde{A}_2$ buildings. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 4, 702–731. (Alain Valette) **99j:20046** 20F32 (20E42, 22D25, 57M07)

— (*with* Cartwright, Donald I.) A family of $\widetilde{A}_n$-groups. (English summary) *Israel J. Math.* **103** (1998), 125–140. (Guy Rousseau) **99e:20040** 20E42 (51E24)

— (*with* Cartwright, Donald I.) Application of the Bruhat-Tits tree of $SU_3(h)$ to some $\widetilde{A}_2$ groups. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 329–344. (Guy Rousseau) **99i:11026** 11E95 (22E40, 51E24)

Steggles, L. J. Parameterised higher-order algebraic specifications. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 76–98, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (Summary) **99d:68163** 68Q65

Stegostenko, Yu. B. (*with* Ashchepkov, L. T.) Stabilization of a linear discrete control system with interval coefficients. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 3–10. (Vũ Ngoc Phát) **99k:93073** 93D15 (93B05, 93C55)

Stehlik, Milan (*with* Hnatich, J.; Horváth, D.) Large and small scale random forcing concept in magnetohydrodynamic turbulence. (English summary) *Magnetohydrodynamics* **33** (1997), *no.* 3, 217–224 (1998). 76W05 (76F99, 82C28)

Stehouwer, Herman Pieter ★ On-line lot-sizing with perceptrons. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1997. *Eindhoven University of Technology, Department of Mathematics and Computing Science, Eindhoven*, 1997. x+167 *pp. ISBN* 90-386-0561-7 (Johannes Terno) **99a:90104** 90B30

Steichen, Daniel An averaging method to study the motion of lunar artificial satellites. I. Disturbing function. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 3, 205–204. (Summary) **99b:70011a** 70F15 (70M20)

— An averaging method to study the motion of lunar artificial satellites. II. Averaging and applications. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 3, 225–247. (Summary) **99b:70011b** 70F15 (70M20)

— (*with* Giorgilli, Antonio) Long time stability for the main problem of artificial satellites. (English summary) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 3, 317–330. (Summary) **99e:70067** 70M20 (70K20)

Steidl, Gabriele (*with* Potts, Daniel; Tasche, Manfred) Kernels of spherical harmonics and spherical frames. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 287–301, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:42042** 42C15 (41A63)

— A note on fast Fourier transforms for nonequispaced grids. (English summary) *Adv. Comput. Math.* **9** (1998), *no.* 3-4, 337–352. (Manfred Tasche) **99k:65118** 65T20 (42A16, 65D15)

— (*with* Potts, Daniel; Tasche, Manfred) Fast and stable algorithms for discrete spherical Fourier transforms. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 433–450. (Markus Hegland) **99h:65229** 65T20 (33C45, 65D20)

— (*with* Potts, Daniel) Optimal trigonometric preconditioners for nonsymmetric Toeplitz systems. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 265–292. (A. Bultheel) **99f:65053** 65F10 (65T20)

— (*with* Potts, Daniel; Tasche, Manfred) Fast algorithms for discrete polynomial transforms. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1577–1590. (B. P. Parashar) **99b:65183** 65T20 (42C10)

Steif, Jeffrey E. (*with* Burton, Robert M., Jr.) Coupling surfaces and weak Bernoulli in one and higher dimensions. (English summary) *Adv. Math.* **132** (1997), *no.* 1, 1–23. (B. M. Gurevich) **99c:28043** 28D05 (28D15, 60G60, 60K35)

— (*with* Peres, Yuval) The number of infinite clusters in dynamical percolation. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 1, 141–165. (H. Kesten) **99e:60217** 60K35 (31C15, 82C43)

— (*with* Meester, Ronald) Consistent estimation of percolation quantities. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 2, 226–238. (M. Hušková) **99k:60251** 60K35 (62F99, 82B43)

Steiger, William (*with* Streinu, Ileana) Illumination by floodlights. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 57–70. (Stelian S. Dumitrascu) **99b:52042** 52C15 (52B55, 65Y25, 68U05)

— (*with* Molloy, Michael Sean O'Brien; Reed, Bruce A.) On the mixing rate of the triangulation walk. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 179–190, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:60124** 60J15 (60C05)

Steiglitz, Kenneth (*with* Papadimitriou, Christos H.) ★ Combinatorial optimization: algorithms and complexity. (English summary) Corrected reprint of the 1982 original. *Dover Publications, Inc., Mineola, NY*, 1998. *xvi*+496 *pp. ISBN* 0-486-40258-4 90–01 (68Q25, 90C05, 90C27, 90C35)

Steihaug, Trond (*with* Hossain, A. K. M. Shahadat) Computing a sparse Jacobian matrix by rows and columns. (English summary) *Optim. Methods Softw.* **10** (1998), *no.* 1, 33–48. 90C30 (65F50)

Stein, Alexander $1\frac{1}{2}$-generation of finite simple groups. *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 349–358. (Richard M. Thomas) **99h:20050** 20E32 (20D05)

Stein, Andreas (*with* Müller, Volker[2]; Thiel, Christoph) Computing discrete logarithms in real quadratic congruence function fields of large genus. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 807–822. (Martha Rzedowski-Calderón) **99i:11119** 11Y16 (11R58, 11T71, 68P25, 94A60)

Stein, Clifford (*with* Phillips, Cynthia A.; Wein, Joel) Task scheduling in networks. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 573–598. (Summary) **99k:68020** 68M10 (68M20, 68Q25, 90B12, 90B35)

— (*with* Kolliopoulos, Stavros G.) Finding real-valued single-source shortest paths in $o(n^3)$ expected time. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 125–141. (Nigel Martin) **99d:68194** 68R10 (05C85, 68Q25)

— (*with* Phillips, Cynthia A.; Schulz, Andreas S.; Shmoys, David B.; Wein, Joel) Improved bounds on relaxations of a parallel machine scheduling problem. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 413–426. (Summary) **99d:90061** 90B35 (68M20, 90C05)

— (*with* Phillips, Cynthia A.; Wein, Joel) Minimizing average completion time in the presence of release dates. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 199–223. (Johannes Terno) **99e:90051** 90B35 (90C35)

Stein, Daniel L. (*with* Newman, Charles M.) Thermodynamic chaos and the structure of short-range spin glasses. (English summary) *Mathematical aspects of spin glasses and neural networks*, 243–287, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Barbara Gentz) **99b:82056** 82B44 (60K35, 82D30)

— (*with* Newman, Charles M.) Simplicity of state and overlap structure in finite-volume realistic spin glasses. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1356–1366. (Domingos H. U. Marchetti) **99b:82057** 82B44 (60K35, 82D30)

Stein, E. (*with* Munz, Claus-Dieter; Schneider, Rudolf[2]; Sonnendrücker, Eric; Voss, Ursula; Westermann, Thomas) A finite-volume particle-in-cell method for the numerical treatment of Maxwell-Lorentz equations on boundary-fitted meshes. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 4, 461–487. (Summary) **99i:78005** 78–08

Stein, Elias M. Singular integrals: the roles of Calderón and Zygmund. *Notices Amer. Math. Soc.* **45** (1998), *no.* 9, 1130–1140. (From the text) **99f:42002** 42–03 (01A60)

— (*with* Chang, Der-Chen E.; Dafni, Galia) Hardy spaces, BMO, and boundary value problems for the Laplacian on a smooth domain in $\mathbf{R}^n$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1605–1661. (Steven George Krantz) **99f:46031** 46E15 (35J25, 42B25, 42B30)

Stein, Erwin (*with* Brink, Ulrich; Kreienmeyer, M.) Different methodologies for coupled BEM and FEM with implementation on parallel computers. *Boundary element topics* (*Stuttgart*, 1995), 317–337, *Springer, Berlin*, 1997. (*see* **99e:00017**) 65N38 (65N30, 65Y05)

— (*with* Barthold, F. J.; Ohnimus, S.; Schmidt, Matthias) Adaptive finite elements in elastoplasticity with mechanical error indicators and Neumann-type estimators. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 81–99, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73E99)

— (*with* Betsch, P.; Menzel, A.) On the parametrization of finite rotations in computational mechanics. A classification of concepts with application to smooth shells. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 3-4, 273–305. (Summary) **99a:73090** 73K15 (73V10)

— (*with* Brink, Ulrich) A posteriori error estimation in large-strain elasticity using equilibrated local Neumann problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 1-2, 77–101. (I. N. Molchanov) **99h:73074** 73V05 (73C50)

— *see also* **IUTAM Symposium: Micro- and Macrostructural Aspects of Thermoplasticity**

Stein, Esti (*with* Ben-Asher, Yosi) Basic results in automatic transformations of shared memory parallel programs into sequential programs. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 351–366, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68N05 (68N20, 68Q10)

Stein, Greg Traces of roots of unity over prime fields. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 113–121, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Igor E. Shparlinski) **99g:11145** 11T22 (11Y16, 12Y05)

Stein, J. *see* **Stein, Julia**

Stein, Joachim (*with* Pethö, Attila; Weis, Thomas; Zimmer, Horst G.) Computing the torsion group of elliptic curves by the method of Gröbner bases. *Symbolic rewriting techniques* (*Ascona*, 1995), 245–265, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Joseph H. Silverman) **99e:11071** 11G05 (11Y50, 13P10)

Stein, Julia (*with* Wernecke, K.-D.; Possinger, K.; Kalb, G.) Validating classification trees. (English summary) *Biom. J.* **40** (1998), *no.* 8, 993–1005. 62H30

Stein, O. (*with* Jongen, Hubertus Th.; Rückmann, Jan-J.) Generalized semi-infinite optimization: a first order optimality condition and examples. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 145–158. (R. Tichatschke) **99g:90151** 90C34

Stein, S. K. (*with* Mead, D. G.) Some algebra of Newton polynomials. *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 303–309. (James K. Deveney) **99h:12006** 12F20

Steinbach, Anja Ingrid Subgroups of classical groups generated by transvections or Siegel transvections I. Embeddings in linear groups. (English summary) *Geom. Dedicata* **68** (1997), *no.* 3, 281–322. (Jonathan I. Hall) **99c:20042** 20F05 (20G40, 51N30)

— Subgroups of classical groups generated by transvections or Siegel transvections. II. Embeddings in orthogonal groups. (English summary) *Geom. Dedicata* **68** (1997), *no.* 3, 323–357. (Jonathan I. Hall) **99c:20043** 20F05 (20G40, 51N30)

— Generalized quadrangles arising from groups generated by abstract transvection groups. (English summary) *Groups and geometries* (*Siena*, 1996), 189–199, *Trends Math., Birkhäuser, Basel*, 1998. (Hendrik Van Maldeghem) **99k:51005** 51E12

— Generalized quadrangles with a thick hyperbolic line weakly embedded in projective space. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 447–459. (M. J. Kallaher) **99h:51003** 51E12 (05B25, 51A45, 51A50)

— Subgroups isomorphic to $G_2(L)$ in orthogonal groups. *J. Algebra* **205** (1998), *no.* 1, 77–90. (Robert M. Guralnick) **99j:20054** 20G15

— (*with* Cuypers, Hans) Weak embeddings of generalized hexagons and groups of type G_2. (English summary) *J. Group Theory* **1** (1998), *no.* 3, 225–236. (Hendrik Van Maldeghem) **99j:51003** 51E12 (20G05)

Steinbach, Jörg A generalized temperature-dependent, non-Newtonian Hele-Shaw flow in injection and compression moulding. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 14, 1199–1222. (Sam D. Howison) **99a:76050** 76D99 (35Q72, 76A05, 86A60)

— On box schemes for elliptic variational inequalities. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 1041–1066. (Igor Bock) **99b:65150** 65N30 (49J40)

— Evolutionary obstacle problems arising in non-isothermal Hele-Shaw flows. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 327–341. (Domingo A. Tarzia) **99c:35265** 35R35 (35Q35, 76S05, 80A22)

Steinbach, Marc C. (*with* Schulz, Volker H.; Bock, Hans Georg) Exploiting invariants in the numerical solution of multipoint boundary value problems for DAEs. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 440–467 (*electronic*). (W. C. Rheinboldt) **99b:65091** 65L10 (34A09)

— (*with* Bock, Hans Georg; Kostin, Georgii V.; Longman, Richard W.) Mathematical optimization in robotics: towards automated high-speed motion planning. (English summary) *Surveys Math. Indust.* **7** (1998), *no.* 4, 303–340. (Summary) **99c:70003** 70B15 (70E99, 70Q05, 90C90, 93C85)

Steinbach, O. (*with* Wendland, Wolfgang L.) Domain decomposition and preconditioning techniques in boundary element methods. *Boundary element topics* (*Stuttgart*, 1995), 471–490, *Springer, Berlin*, 1997. (Mark Ainsworth) **99i:65135** 65N38 (65N55)

— (*with* Wendland, Wolfgang L.) The construction of some efficient preconditioners in the boundary element method. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 191–216. (Mark Ainsworth) **99j:65219** 65N38

— Fast solution techniques for the symmetric boundary element method in linear elasticity. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 185–191. (*see* **99b:73001**) 73V10 (65N38)

Steinbart, Enid M. (*with* Gundersen, Gary G.; Wang, Shupei) Solutions of nonhomogeneous linear differential equations with exceptionally few zeros. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 429–452. (Ilpo Laine) **99g:34017** 34A20 (30D35)

Steinbauer, R. *see* **Steinbauer, Roland**

Steinbauer, Robert (*with* Peherstorfer, Franz) Transformation of polynomials orthogonal on the unit circle. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 1, 55–80. (Leonid B. Golinskiĭ) **99e:42039** 42C05

— (*with* Foulquié Moreno, Ana; Marcellán, Francisco; Peherstorfer, Franz) Strong asymptotics on the support of the measure of orthogonality for polynomials orthogonal with respect to a discrete Sobolev inner product on the unit circle. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 411–425. (Summary) **99i:42036** 42C05

Steinbauer, Roland Geodesics and geodesic deviation for impulsive gravitational waves. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2201–2212. (Michael Kunzinger) **99a:83027** 83C35 (46F10, 83C10)

Steinberg, Ben Zion (*with* McCoy, John J.) A multiresolution study of effective properties of complex electromagnetic systems. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 7, 971–981. (Summary) **99c:78016** 78A45 (78–08)

Steinberg, Benjamin On pointlike sets and joins of pseudovarieties. (English summary) With an addendum by the author. *Internat. J. Algebra Comput.* **8** (1998), *no.* 2, 203–234. (Pascal Weil) **99g:20104** 20M07 (08B15, 20M35)

Steinberg, David M. Robust design: experiments for improving quality. *Design and analysis of experiments*, 199–240, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K99

— (*with* Bursztyn, Dizza) Noise factors, dispersion effects, and robust design. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 67–85. (Summary) **99a:62110** 62K05 (62N10)

— (*with* Cheng, Ching-Shui; Sun, Don X.) Minimum aberration and model robustness for two-level fractional factorial designs. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 85–93. 62K15

Steinberg, Robert Nagata's example. *Algebraic groups and Lie groups*, 375–384, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Frank D. Grosshans) **99h:13004** 13A50 (14L30, 20G15)

Steinberg, Stanly (*with* Hong, Hoon; Liska, Richard) Testing stability by quantifier elimination. (English summary) Applications of quantifier elimination (Albuquerque, NM, 1995). *J. Symbolic Comput.* **24** (1997), *no.* 2, 161–187. (Joos Heintz) **99a:34144** 34D05 (34–04, 39A10, 68Q40)

— (*with* Akers, Robert L.; Baffes, Paul; Kant, Elaine; Randall, Curt; Young, Robert L.) Automatic synthesis of numerical codes for solving partial differential equations. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 3–22. (*see* **99a:00035**) 35–04

— *see also* **Non-standard applications of computer algebra, 99a:00035** *and* **Simplification of systems of algebraic and differential equations with applications, 99a:00047**

Steinberg, Yossef New converses in the theory of identification via channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 984–998. (Summary) **99e:94003** 94A05 (94A40)

Steinbuch, Maarten (*with* Wortelboer, Pepijn M. R.; Bosgra, Okko H.) Iterative model and controller reduction using closed-loop balancing, with application to a compact disc mechanism. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 123–142. (*see* **99k:93005**) 93B11 (93B17, 93C85)

Steinby, Magnus General varieties of tree languages. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 1–43. (Do Long Van) **99m:68111** 68Q45 (03D05, 68R15)

Steinebach, Gerd (*with* Hilden, Michael) ENO-discretizations in MOL-applications: some examples in river hydraulics. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 293–308. (*see* **99e:65002**) 76M20 (86–08, 86A05)

Steinebach, Josef (*with* Eastwood, Vera R.) Detecting changes in a multivariate renewal process. (English summary) *Metrika* **46** (1997), *no.* 1, 1–19. (Lajos Horváth) **99d:62064** 62H15 (62G20)

— (*with* Frolov, Andrei N.; Martikaïnen, A. I.) On the maximal gain over head runs. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 165–181. (Anant P. Godbole) **99i:60068** 60F15

— (*with* Horváth, Lajos) On the best approximation for bootstrapped empirical processes. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 117–122. (Miguel A. Arcones) **99k:60082** 60F15

Steiner, Ferenc *see* **Optimum methods in statistics, 99a:62003**

Steiner, George (*with* Habib, Michel; Nourine, Lhouari) Gray codes for the ideals of interval orders. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 52–66. (Wolfgang Knapp) **99a:06003** 06A07 (05C45, 06B10)

Steiner, J. M. (*with* Easton, Alan K.; Zhang, De Fu) Random walk methods for the solution of the diffusion equation. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 275–282, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65M70 (76M35)

— (*with* Li, Nian; Murphy, J. O.) Overstability of a viscoelastic fluid layer heated from below. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 501–508, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76E15 (76A10)

— (*with* Yakovenko, N. Y.; Li, Nian) Solving the double eigenvalue problem using the finite element method. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 811–814, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N30

Steiner, Jacob *see* **Begehr, Heinrich G. W., (99k:01080)**

Steiner, Mark ★ The applicability of mathematics as a philosophical problem. (English summary) *Harvard University Press, Cambridge, MA*, 1998. *viii*+215 *pp. ISBN* 0-674-04097-X (Lawrence Sklar) **99m:00009** 00A30 (00A79, 81P05)

Steiner, Richard Pasting in multiple categories. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 1, 1–36 (*electronic*). (Amnon Neeman) **99e:18008** 18D05

Steingrimsson, Einar A chromatic partition polynomial. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 357–368. (E. J. Farrell) **99b:05065** 05C15 (05A17)

— (*with* Ehrenborg, Richard; Readdy, Margaret) Mixed volumes and slices of the cube. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 1, 121–126. (S. S. Kutateladze (Zbl 896.52017)) **99j:52008** 52A39

Steinhardt, Paul J. Penrose tilings and quasicrystals revisited. (English summary) *The geometric universe* (*Oxford*, 1996), 215–226, *Oxford Univ. Press, Oxford*, 1998. (Summary) **99d:52021** 52C22

Steinhauer, Mark (*with* Frehse, Jens; Málek, Josef) An existence result for fluids with shear dependent viscosity—steady flows. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3041–3049. (Adélia Sequeira) **99g:76006** 76A05 (35Q35, 76A10)

Steinig, John (*with* Sedrakian, Naïri) A particular case of Dirichlet's theorem on arithmetic progressions. *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 3–7. (Hiroshi Mikawa) **99g:11108** 11N13 (11A41)

Steiniger, Holger Point derivations on non-unital algebras. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 219–222. (B. E. Johnson) **99h:46087** 46H05 (46J05)

Steinke, G. F. Finite Möbius near-planes. (English summary) *Australas. J. Combin.* **18** (1998), 77–96. (Summary) **99g:51010** 51E25 (05B25)

— (*with* Löwen, Rainer) Nonclassical 4-dimensional Minkowski planes obtained as brothers of semiclassical 4-dimensional Laguerre planes. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 143–169. (Burkard Polster) **99j:51012** 51H15 (51H10)

Steinke, Ingo (*with* Liese, Friedrich) A note on the Hájek-Le Cam bound. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 5, 477–487. (Chandra M. Gulati) **99e:62008** 62C05 (62B15)

Steinl, G. (*with* Wunderlich, W.; Cramer, H.) An adaptive finite element approach in associated and non-associated plasticity considering localization phenomena. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 293–308, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73E99)

Steinlein, Heinrich Periodic and almost periodic orbits in discrete dynamical systems. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 243–245. (*see* **99f:58002**) 54H20 (58F03)

Steinsaltz, David Fluctuation bounds for sock-sorting and other stochastic processes. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 1, 109–123. (Summary) **99d:60019** 60E15 (60K25, 60K30)

Steinshamn, Stein Ivar (*with* Sandal, Leif K.) A stochastic feedback model for optimal management of renewable resources. (English summary) *Natur. Resource Modeling* **10** (1997), *no.* 1, 31–52. (Summary) **99c:90032** 90A16 (90A11)

Stejskal, V. (*with* Šika, Z.; Kočandrle, P.) An investigation of properties of the forward displacement analysis of the generalized Stewart platform by means of general optimization methods. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 3, 245–253. 70B15

van der Stel, Hans (*with* Barberà, Salvador; Bogomolnaia, Anna) Strategy-proof probabilistic rules for expected utility maximizers. (English summary) Axiomatics of resource allocation, 1. *Math. Social Sci.* **35** (1998), *no.* 2, 89–103. (Summary) **99d:90034** 90A43

Steland, Ansgar Bootstrapping rank statistics. (English summary) *Metrika* **47** (1998), *no.* 3, 251–264. (Li-Xing Zhu) **99j:62061** 62G09

Stell, John G. (*with* Bittner, Thomas) A boundary-sensitive approach to qualitative location. (English summary) Artificial intelligence and mathematics, VIII (Fort Lauderdale, FL, 1998). *Ann. Math. Artificial Intelligence* **24** (1998), *no.* 1-4, 93–114 (1999). (*see* **99m:68006**) 68T30

Stella, A. L. (*with* Einstein, T. L.) Survey of self-avoiding random surfaces on cubic lattices: issues, controversies, and results. *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 159–173, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (*see* **99e:82103**) 82B41 (65Y25)

Stella, F. (*with* Gaĭvoronskiĭ, A. A.) Stochastic optimization with structured distributions: the case of Bayesian nets. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 189–211. (*see* **99b:90006**) 90C15

Stella, L. (*with* Abundo, Mario; Accardi, Luigi; Rosato, N.) A stochastic model for the cooperative relaxation of proteins, based on a hierarchy of interactions between amino acidic residues. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 327–358. (Ming-Ying Leung) **99g:92020** 92D20 (60J70)

Stelle, K. S. The pattern of supergravity *p*-branes. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 384–391, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99i:83098** 83E30 (83E50)

— Counting supergravity *p*-branes. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 598–601, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:83072** 83E30 (83E50)

— (*with* Gibbons, Gary W.; Papadopoulos, George J.) HKT and OKT geometries on soliton black hole moduli spaces. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 623–658. (Summary) **99c:83053** 83C57 (53C25, 53C80, 83E30)

— *p*-brane chemistry. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 11–17, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 83E30 (81T30, 83E50)

— (*with* Lu, Hong[1]; Pope, C. N.) Multiplet structures of BPS solitons. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 537–561. (Mario Trigiante) **99a:83070** 83E50 (17B81, 83E30)

— (*with* Cremmer, E.; Lu, Hong[1]; Pope, C. N.) Spectrum-generating symmetries for BPS solitons. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 132–156. (Marco Spaans) **99h:83053** 83E30 (81T30)

— (*with* Bremer, M. S.; Lu, Hong[1]; Pope, C. N.) Dirac quantisation conditions and Kaluza-Klein reduction. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 259–294. (Gianguido Dall'Agata) **99m:81175** 81T30 (83E15, 83E30)

Stelling, Paul (*with* Gusfield, Dan; Karp, Richard M.; Wang, Lusheng) Graph traversals, genes and matroids: an efficient case of the travelling salesman problem. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 167–180. (Victor P. Il'ev) **99k:90133** 90C27 (05B35, 05C25, 05C45, 90C35)

Stellmacher, Bernd (*with* Timmesfeld, Franz Georg) Rank 3 amalgams. (English summary) *Mem. Amer. Math. Soc.* **136** (1998), *no.* 649, *viii*+123 *pp.* (Alberto Delgado) **99d:20022** 20D05 (20E08)

— (*with* Parmeggiani, Gemma) *p*-groups of small breadth. *J. Algebra* **213** (1999), *no.* 1, 52–68. (Norberto Gavioli) **99m:20037** 20D15

Stembridge, John R. The enumeration of fully commutative elements of Coxeter groups. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 3, 291–320. (I. Strazdiņš) **99b:20070** 20F55 (05A15, 05E15, 68Q45)

— On the Poincaré series and cardinalities of finite reflection groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3177–3181. (Luis Paris) **99a:20052** 20H15 (20F55)

Stempak, Krzysztof A note on Zemanian spaces. *Extracta Math.* **12** (1997), *no.* 1, 33–40. (Arpad Takači) **99a:46079** 46F12 (44A15)

— A transplantation theorem for Fourier-Bessel coefficients. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 4, 311–318. (H. S. P. Shrivastava) **99k:33036** 33C45 (33C50, 33C55, 42A16)

Stenberg, Rolf (*with* Chapelle, Dominique) An optimal low-order locking-free finite element method for Reissner-Mindlin plates. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 407–430. (Manil Suri) **99d:73088** 73V05 (65N30, 73K10)

— (*with* Chapelle, Dominique) Stabilized finite element formulations for shells in a bending dominated state. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 32–73 (*electronic*). (Igor Yu. Chudinovich) **99j:65199** 65N30 (73K15, 73V05)

Stenflo, L. (*with* Yu, Ming-Young) Plasma oscillons in spherically bounded magnetized plasmas. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3122–3125. (Summary) **99e:76133** 76X05

Stenflo, Örjan (*with* Silvestrov, Dmitrii S.) Ergodic theorems for iterated function systems controlled by regenerative sequences. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 589–608. (M. Iosifescu) **99j:60100** 60H25 (28D05, 60F05, 60F15, 60K99)

Stenger, Frank Matrices of sinc methods. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 297–310. (W. Govaerts) **99b:65014** 65D15 (65F30)

Stenholm, Stig (*with* Bardroff, Patrick J.) Teleportation of *N*-dimensional states. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 6, 4373–4376. (Summary) **99k:81051** 81P99

Stenin, A. A. (*with* Burlakov, Vladimir Mikhaĭlovich; Strakhova, N. V.) Control, optimal with respect to fuel consumption, of the angular position of a spacecraft. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 109–118, 154. 49N55 (93C95)

Sten'kin, O. V. (*with* Shil'nikov, L. P.) On bifurcations of periodic motions near a structurally unstable homoclinic curve. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 377–384, 430; *translation in Differential Equations* **33** (1997), *no.* 3, 375–383. (Sergei A. Dovbysh) **99a:34121** 34C25 (34C23, 34C37, 58F14)

Stens, R. L. (*with* Görlich, E.; Krieg, Aloys; Nessel, R. J.) Paul L. Butzer—five years as Professor Emeritus. Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 20–31. (Editors) **99m:01069b** 01A70 (47D06)

Stenull, Olaf (*with* Schuster, Heinz G.) A solvable replicator model. (English summary) *J. Phys. A* **31** (1998), *no.* 15, *L*301–*L*304. (Summary) **99a:92030** 92D25

Stenum, B. (*with* van de Konijnenberg, J. A.; Nielsen, A. H.; Rasmussen, Jens Juul) Shear-flow instability in a rotating fluid. (English summary) *J. Fluid Mech.* **387** (1999), 177–204. 76E99 (76U05)

Štěpán, Josef (*with* Beneš, Viktor) Moment decompositions of measure spaces. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 328–336, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (M. Z. Nashed) **99e:44005** 44A60 (60B05)

— How to construct a two-dimensional random vector with a given conditional structure. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 161–171, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:28005** 28A35 (60A10)

Stepanauskas, Gediminas The mean values of multiplicative functions. II. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 212–223; *translation in Lithuanian Math. J.* **37** (1997), *no.* 2, 162–170 (1998). (Ognian Trifonov) **99i:11090** 11N60 (11N37)

— Mean values of multiplicative functions on shifted numbers. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 588–599; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 443–451 (1998). (Aleksander Grytczuk) **99f:11102** 11K65 (11N37, 11N60)

Stepanets, A. I. The rate of convergence of Fourier series on classes of $\overline{\psi}$-integrals. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 8, 1069–1113; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1201–1251 (1998). (Elijah Liflyand) **99e:42002** 42A05 (42A10, 42A24)

Stepaniuk, Jaroslaw (*with* Bazan, Jan G.; Nguyen, Hung Son; Nguyen, Tuan Trung; Skowron, Andrzej) Synthesis of decision rules for object classification. (English summary) *Incomplete information: rough set analysis*, 23–57, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T10 (04A72)

— Approximation spaces, reducts and representatives. (English summary) *Rough sets in knowledge discovery*, 2, 109–126, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68T99

— Rough relations and logics. (English summary) *Rough sets in knowledge discovery*, 1, 248–260, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 04A72 (03B52)

Stepanov, A. V. On the solvability of an identification problem. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 196–208, 256, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 93B30 (34A55)

— Generalizations in the problem of Lipschitz stability. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2524–2526. (Xiao Xin Liao) **99k:34116** 34D99

Stepanov, E. O. (*with* Drakhlin, Mikhail E.) Direct methods of the calculus of variations for functionals with nonlocal transformations of argument. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 157–169, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **99h:49001** 49J10 (34K35)

— On solvability of some boundary value problems for differential equations with "maxima". (English summary) *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 315–326 (1997). (Jean Mawhin) **99a:34178** 34K10 (47H15, 47N20)

— (*with* Drakhlin, Mikhail E.) Convergence of composition operators and optimal control problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 505–512. (Isaac V. Shragin) **99k:47064** 47B38 (47N10, 49J27, 49K27)

Stepanov, G. D. Effective criteria for the sign-regularity and oscillation of Green functions for two-point boundary value problems. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 11, 121–159; *translation in Sb. Math.* **188** (1997), *no.* 11, 1687–1728. (Evgeniy I. Bravyĭ) **99c:34046** 34B27 (34L05)

Stepanov, S. A. *see* **Stepanov, Sergei Aleksandrovich**

Stepanov, S. Ya. (*with* Karapetyan, A. V.) On steady motions and relative equilibria of mechanical systems with symmetry. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 736–743; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 729–735. (Summary) **99c:70028** 70K20 (70H05, 70H33)

Stepanov, Sergei Aleksandrovich (*with* Shparlinski, Igor E.) Estimation of trigonometric sums with rational and algebraic functions. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II* (*Russian*), 5–18, 253, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11L07

— *see also* **Number theory and its applications**, **99g:11002**

Stepanov, Vladimir (*with* Lomakina, E. N.) On Hardy-type operators in Banach function spaces on the half-axis. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 21–23. (From the text) **99j:47073** 47G10 (45P05, 46E15, 47B06, 47B07)

— (*with* Lomakina, E. N.) On the Hardy-type integral operators in Banach function spaces. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 165–194. (Luboš Pick) **99g:47070** 47B38 (46E30, 47G10)

Stepanov, Vyacheslav Vyacheslavovich (*with* Müller, Gerhard) Integrability and level crossing manifolds in a quantum Hamiltonian system. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5720–5726. (Summary) **99f:81062** 81Q50

Stepanova, A. A. (*with* Chekalina, T. A.) The lattice of varieties of unars. (Russian. Russian summary) *Algebras, groups and varieties* (*Russian*), 64–68, 82, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 08B15

— Monoids with decidable and undecidable classes of polygons. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 625–632, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 542–548. (O. V. Belegradek) **99m:03019** 03B25 (03C60, 03D35, 08A60, 20M99)

Stepanova, E. N. On the space of partial selections. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 70–76. 54C65

Stepanova, T. S. On second-order nonlinear systems without moving multivalued singular points. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1997**, *no.* 2, 48–51, 79. (From the text) **99k:34008** 34A20 (34A34)

Stepanova, U. V. Tides in channels of finite length. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 209–217, 257, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 86A05 (76B99)

Stepanova, V. V. (*with* Metrikin, V. S.; Nagaev, R. F.) Periodic and stochastic auto-oscillations in a system with dry friction of hereditary type. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 859–864; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 845–850. (Summary) **99c:70029** 70K25 (70K50)

— (*with* Mikhaĭlov, A. P.; Shamraĭ, A. A.) Self-similar LS-regimes of adiabatic self-compression of a gas. (Russian) *Mat. Model.* **9** (1997), *no.* 3, 109–120. (From the text) **99b:76072** 76N15

Stepanovich, O. P. The influence of exponentially decreasing perturbations on the Demidovich characteristic exponents of diagonal systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 245–248, 287; *translation in Differential Equations* **33** (1997), *no.* 2, 245–248. (Alexander V. Lasunsky) **99d:34091** 34D08

Stepanovskiĭ, Yu. P. Sonoluminescence and black holes as sources of squeezed light. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 246–251, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 83C57

— (*with* Afanas'ev, G. N.; Eliseev, S. M.) Transition of the light velocity in the Vavilov-Čerenkov effect. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1049–1072. (Summary) **99d:78019** 78A35 (78A40)

Stepantsov, M. E. (*with* Malinetskiĭ, G. G.) Modeling of diffusion processes by cellular automata with Margolus neighborhood. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 1017–1020; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 973–975. (From the introduction) **99g:76111** 76M25 (35Q35, 76R50)

Stepan'yants, K. V. (*with* Kalmykov, M. Yu.; Kazakov, Kirill A.; Pronin, Petr I.) Detailed analysis of the dependence of 1-loop counter-terms on gauge and parametrization in Einstein gravity with a cosmological constant. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3777–3794. (Summary) **99g:83036** 83C45 (83–04)

Stepanyants, S. A. Tauberian-type theorems and gap conditions for Cesàro and Riesz summability methods. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 41–45, 111; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 37–40. 40E05 (40G05)

Stepanyantz, K. V. *see* **Stepan'yants, K. V.**

Stephan, Ernst P. (*with* Tran, Thanh) Additive Schwarz methods for the *h*-version boundary element method. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 63–84. (Summary) **99a:65169** 65N38

— (*with* Maischak, Matthias; Tran, Thanh) Domain decomposition methods for boundary integral equations of the first kind: numerical results. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 111–132. (Summary) **99c:65234** 65N55 (65N38)

— (*with* Hartmann, Thomas Joachim) Error analysis for the BEM on nonsmooth curves. *Boundary element topics* (*Stuttgart*, 1995), 339–350, *Springer, Berlin*, 1997. (*see* **99e:00017**) 65R20 (65N15, 65N38)

— (*with* Maischak, Matthias) The *hp*-version of the BEM with geometric meshes in 3D. *Boundary element topics* (*Stuttgart*, 1995), 351–362, *Springer, Berlin*, 1997. (Tian-Xiao He) **99i:65134** 65N38

— (*with* Mund, Patrick) Adaptive coupling and fast solution of FEM-BEM equations for parabolic-elliptic interface problems. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 5, 403–423. (Ke Chen) **99a:65127** 65M60 (65F10, 65M15)

— (*with* Carstensen, Carsten; Funken, S. A.) On the adaptive coupling of FEM and BEM in 2-d-elasticity. (English summary) *Numer. Math.* **77** (1997), *no.* 2, 187–221. (Rolf Rannacher) **99d:73087** 73V05 (65N30, 73V10)

— (*with* Mund, Patrick) The preconditioned GMRES method for systems of coupled FEM-BEM equations. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 131–144. (Andrei I. Tolstykh) **99m:65216** 65N30 (65F35, 65N22)

— (*with* Tran, Thanh; Zaprianov, Stefan) Wavelet-based preconditioners for boundary integral equations. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 233–249. (Andreas Rathsfeld) **99m:65229** 65N38 (45L05, 65F35, 65R20)

— (*with* Mund, Patrick; Weiße, J.) Two-level methods for the single layer potential in $\mathbf{R}^3$. (English summary) *Computing* **60** (1998), *no.* 3, 243–266. (Summary) **99b:65157** 65N38 (65N55)

— (*with* Heuer, Norbert) Boundary integral operators in countably normed spaces. (English summary) *Math. Nachr.* **191** (1998), 123–151. (Manil Suri) **99d:65367** 65R20 (45B05, 45E05, 45L10, 47G10)

— (*with* Guo, Benqi) The *h-p* version of the coupling of finite element and boundary element methods for transmission problems in polyhedral domains. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 87–107. (Rolf Rannacher) **99g:65113** 65N30 (35J99, 45B05, 45L05, 65N38)

— (*with* Heuer, Norbert) Preconditioners for the *p*-version of the Galerkin method for a coupled finite element/boundary element system. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 47–61. (Wojciech Mydlarczyk) **99a:65148** 65N30

— (*with* Tran, Thanh) Domain decomposition algorithms for indefinite hypersingular integral equations: the *h* and *p* versions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1139–1153 (*electronic*). (Summary) **99d:65356** 65N55

— (*with* Heuer, Norbert) Iterative substructuring for hypersingular integral equations in $\mathbf{R}^3$. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 739–749 (*electronic*). (Ivan K. Lifanov) **99j:65239** 65R20 (45L05, 65N30)

Stephan, Frank (*with* Beigel, Richard; Gasarch, William I.; Kummer, Martin Walter; Martin, Georgia; McNicholl, Timothy) On the query complexity of sets. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 206–217, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **99b:03057** 03D15 (03D30)

— (*with* Ott, Matthias) The complexity of learning branches and strategies from queries. (English summary) *Algorithms and computation* (*Singapore*, 1997), 283–292, *Lecture*

Notes in Comput. Sci., 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68T05 (03D15, 68Q99, 68T20)

— (*with* Jockusch, Carl G., Jr.) Correction to: "A cohesive set which is not high" [Math. Logic Quart. **39** (1993), no. 4, 515–530; MR 95d:03078]. *Math. Logic Quart.* **43** (1997), *no.* 4, 569. (From the text) **99a:03044** 03D30 (03D55)

— (*with* Case, John; Ott, Matthias; Sharma, Arun) Learning to win process-control games watching game-masters. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 31–45, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T20 (68T05)

— (*with* Case, John; Jain, Sanjay[1]; Kaufmann, Susanne; Sharma, Arun) Predictive learning models for concept drift. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 276–290, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q99)

— (*with* Ventsov, Yu. G.) Learning algebraic structures from text using semantical knowledge. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 321–335, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (16P40, 68Q99)

— Learning via queries and oracles. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 273–296. (Philip Ross Watson) **99f:03056** 03D25 (03D30, 03D80, 68R99, 68T05)

— (*with* Fortnow, Lance; Freivalds, Rūsiņš; Gasarch, William I.; Kummer, Martin Walter; Kurtz, Stuart A.; Smith, Carl H.) On the relative sizes of learnable sets. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 139–156. (Philip Ross Watson) **99c:68210** 68T05 (03D25, 03D80, 68Q99)

Stephan, Holger (*with* Khruslov, Evgenii Ya.) Splitting of some non-localized solutions of the Korteweg-de Vries equation into solitons. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 49–67. (Elena Medina Reus) **99d:35143** 35Q53

Stephan, Jennifer (*with* Bodson, Marc; Lehoczky, John) Calculation of recoverable sets for systems with input and state constraints. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 4, 247–269. (Patrick Saint-Pierre) **99k:93014** 93B03 (49M30, 65K10, 93B40)

Stephan, Ralf W. Factors and primes in two Smarandache sequences. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 4–10. 11Y55

Stephani, H. Some static perfect fluid solutions with an abelian G_3. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, *L*55–*L*57. (Alicia M. Sintes) **99f:83015** 83C15 (83C20)

Stephani, Irmtraud Embedding maps of generalized Hölder spaces—entropy and approximation. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 793–804. (Summary) **99g:46024** 46E15 (41A46)

Stephanidis, N. K. Sechseckgewebe und die Abelsche Differentialgleichung erster Art. (Greek summary) [Hexagonal webs and the Abel differential equation of the first kind] *Prakt. Akad. Athēnōn* **72** (1997), *Part A*, 18 *pp.* (Vladislav Goldberg) **99h:53017** 53A60 (53A05)

Stephanou, H. E. (*with* Sridharan, K.) Fuzzy distances for proximity characterization under uncertainty. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 427–434. 93C85 (70B15)

Stephanov, Misha (*with* Nastase, Horatiu; van Nieuwenhuizen, Peter; Rebhan, Anton) Topological boundary conditions, the BPS bound, and elimination of ambiguities in the quantum mass of solitons. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 471–514. (Summary) **99m:81150** 81T15 (81T10)

Stephen, J. B. Amalgamated free products of inverse semigroups. (English summary) *J. Algebra* **208** (1998), *no.* 2, 399–424. (Pedro V. Silva) **99k:20116** 20M18

Stephen, Michael J. (*with* Mittag, Laurence) Dual transformations in one-dimensional classical and quantum mechanics. (English summary) *J. Phys. A* **31** (1998), *no.* 20, *L*381–*L*389. (Summary) **99b:81069** 81Q99 (70H99)

Stephens, Nelson (*with* Castelino, Diane) A surrogate constraint tabu thresholding implementation for the frequency assignment problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 259–270. (*see* **99k:90002**) 90C27 (90C35)

Stephenson, D. B. (*with* Macías, Jorge; Kearsley, A.) A basic reference state suitable for anomaly-coupled ocean-atmosphere climate models. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 21–24. 86A05 (86A10)

Stephenson, D. R. (*with* Check, P.; Kriloff, C.) A classification of invertible subsets of affine root systems. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 133–142. (Duncan J. Melville) **99g:17019** 17B20 (17B67)

Stephenson, F. Richard (*with* Steele, John M.) Eclipse observations made by Regiomontanus and Walther. *J. Hist. Astronom.* **29** (1998), *no.* 4, 331–344. 01A40

— (*with* Fatoohi, Louay J.; Al-Dargazelli, Shetha S.) The Babylonian first visibility of the lunar crescent: data and criterion. *J. Hist. Astronom.* **30** (1999), *no.* 1, 51–72. 01A17

Stephenson, Kenneth A probabilistic proof of Thurston's conjecture on circle packings. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 201–291 (1998). (Oded Schramm) **99m:52024** 52C15 (30C99, 30G25, 60J15)

— (*with* Bowers, Philip L.) A "regular" pentagonal tiling of the plane. (English summary) *Conform. Geom. Dyn.* **1** (1997), 58–68 (*electronic*). (Frédéric Mathéus) **99d:52016** 52C15 (05B45, 30C20, 52C20, 57Q15)

Stěpin, A. M. (*with* Selivanova, E. N.) On the dynamic properties of geodesic flows of Liouville metrics on a two-dimensional torus. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 158–175. (Nikolai Chernov) **99f:58160** 58F17

— (*with* Vorobets, Ya. B.) Isospectrality and projective Galois geometries. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 5, 660–664. (J. S. Joel) **99m:58202** 58G25 (53C20)

— (*with* Plakhov, A. Yu.) Scattering and Coxeter groups. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 159–160; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 401–402. (Serge L. Tabachnikov) **99k:58147** 58F17 (20F55, 70F10, 70F99, 70H05)

Stěpin, S. A. On conditions for the finiteness of the point spectrum in the nonselfadjoint Friedrichs model. (Russian) Dedicated to V. I. Arnol'd on his 60th birthday. *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 83–86. (Alexei V. Rybkin) **99f:47017** 47A55 (47A10, 47B25, 81Q15)

— On the spectral properties of the nonselfadjoint operator $ie(d^2/dx^2) + q(x)$. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 205–206; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 639–641. (From the text) **99g:34159** 34L10 (34B24, 47E05)

Stępniak, Czesław Comparison of normal linear experiments by quadratic forms. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 569–584. (Chandra M. Gulati) **99h:62007** 62B15 (62H05)

— Matrix loss in comparison of linear experiments. (English summary) *Linear Algebra Appl.* **264** (1997), 341–348. (Hartmut Milbrodt) **99c:62012** 62B15 (62C99)

— Quadratic unbiased estimation of nonstandard parametric functions. (English summary) *Math. Slovaca* **48** (1998), *no.* 4, 423–428. 62F10 (62J05)

— On admissibility in estimating the mean squared error of a linear estimator. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 33–38 (19*N*). (Kurt Hoffmann) **99i:62153** 62J05 (62C15)

— Comparing normal linear experiments and transformation of observations. (English summary) *Statistics* **30** (1998), *no.* 4, 279–289. (Summary) **99m:62106** 62J05

Stepriņs, Juris (*with* Herrlich, Horst) Maximal filters, continuity and choice principles. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 697–705. (Norbert Brunner) **99m:03097** 03E25 (03E35, 04A25, 54A20, 54A35)

— (*with* Miller, Arnold W.) Orthogonal families of real sequences. *J. Symbolic Logic* **63** (1998), *no.* 1, 29–49. (Jakub Jasiński) **99i:03058** 03E15 (46C99)

— Decomposing Euclidean space with a small number of smooth sets. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1461–1480. (Krzysztof Ciesielski) **99f:04002** 04A30 (28A15)

Sterbini, Andrea (*with* Raschle, Thomas) An $O(n^3)$ time algorithm for recognizing threshold dimension 2 graphs. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 255–259. (Summary) **99j:05181** 05C85 (68R10)

de Sterck, H. *see* **De Sterck, H.**

Stergioulas, L. K. (*with* Vourdas, A.) Robust quantum state engineering using coherent states on a truncated von Neumann lattice. (English summary) *J. Modern Opt.* **45** (1998), *no.* 6, 1155–1161. (Summary) **99b:81096** 81R30

Sterk, Hans *see* **Some tapas of computer algebra, 99k:00038**

de Sterke, C. Martijn Nonlinear optics in structures with dimensional confinement. (English summary) *Nonlinear optical materials* (*Minneapolis, MN*, 1996), 109–129, *IMA Vol. Math. Appl.*, 101, *Springer, New York*, 1998. (Summary) **99e:78037** 78A60

Sterling, David (*with* Meiss, James D.) Computing periodic orbits using the anti-integrable limit. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 46–52. (Summary) **99b:58189** 58F20 (70K50)

Sterling, Ivan (*with* Martin, Geoffrey) Visualizing nonlinear electrodynamics. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 37–51, *Springer, Berlin*, 1997. (*see* **99g:68212**) 78A99 (53–04, 78–04)

— (*with* Sterling, Thomas) Two-dimensional image rotation. (English summary) *Mathematical visualization* (*Berlin*, 1997), 195–206, *Springer, Berlin*, 1998. (*see* **99k:65005**) 65D17

— (*with* Sterling, Thomas) Approximating planar rotations. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 45–56. (H. W. Guggenheimer) **99j:65262** 65Y25 (51N20)

Sterling, Thomas (*with* Sterling, Ivan) Two-dimensional image rotation. (English summary) *Mathematical visualization* (*Berlin*, 1997), 195–206, *Springer, Berlin*, 1998. (*see* **99k:65005**) 65D17

— (*with* Sterling, Ivan) Approximating planar rotations. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 45–56. (H. W. Guggenheimer) **99j:65262** 65Y25 (51N20)

Sterman, George Factorization and resummation. (English summary) *Perturbative and nonperturbative aspects of quantum field theory* (*Schladming*, 1996), 209–254, *Lecture Notes in Phys.*, 479, *Springer, Berlin*, 1997. (*see* **99d:81177**) 81V05 (81T18)

Stern, Allen Bruce (*with* Bimonte, G.; Musto, R.; Vitale, Patrizia) Deformed Chern-Simons theories. (English summary) *Phys. Lett. B* **406** (1997), *no.* 3, 205–214. (Andrey A. Bogush) **99d:81082** 81T13 (53C80, 58Z05, 81R50)

— (*with* Bimonte, G.; Musto, R.; Vitale, Patrizia) $2+1$ Einstein gravity as a deformed Chern-Simons theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4023–4047. (Paulo Moniz) **99j:83007** 83C05 (81T13)

— (*with* Baez, S.; Balachandran, A. P.; Travesset, A.) Properties of quantum Hall skyrmions from anomalies. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 32, 2627–2635. (Summary) **99g:81236** 81V70 (81T50)

Stern, Jacques (*with* Chabaud, F.) The cryptographic security of the syndrome decoding problem for rank distance codes. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 368–381, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99a:94026** 94A60

— (*with* Nguyen, Phong) Merkle-Hellman revisited: a cryptanalysis of the Qu-Vanstone cryptosystem based on group factorizations. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 198–212, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99e:94037** 94A60

— (*with* Coppersmith, Don; Vaudenay, Serge) The security of the birational permutation signature schemes. (English summary) *J. Cryptology* **10** (1997), *no.* 3, 207–221. (Kaisa Nyberg) **99e:94033** 94A60 (13P99)

— (*with* Nguyen, Phong) Cryptanalysis of the Ajtai-Dwork cryptosystem. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 223–242, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99i:94053** 94A60

— (*with* Joux, Antoine) Lattice reduction: a toolbox for the cryptanalyst. (English summary) *J. Cryptology* **11** (1998), *no.* 3, 161–185. (Summary) **99c:94031** 94A60

— (*with* Friedman, Joel; Joux, Antoine; Roichman, Yuval; Tillich, Jean-Pierre) The action of a few permutations on r-tuples is quickly transitive. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 4, 335–350. (Martin Klazar) **99e:05106** 05C80 (05A05, 94A60)

Stern, Mark A. (*with* Sethi, Savdeep) A comment on the spectrum of H-monopoles. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 47–51. (Summary) **99a:81155** 81T30 (58G10, 58G40)

— (*with* Sethi, Savdeep) D-brane bound states redux. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 675–705. (Claudio A. Scrucca) **99h:81188** 81T30 (58G40, 81Q60)

Stern, Melvin E. (*with* Radko, Timour) On the propagation of oceanic mesoscale vortices. (English summary) *J. Fluid Mech.* **380** (1999), 39–57. (Summary) **99k:86003** 86A05 (76C05)

Stern, P. R. On comparing an augmented algebraic vs a staggered predictor type implicit time integration stabilization technique of coupled hyperbolic/parabolic systems. (English summary) *Comput. & Structures* **65** (1997), *no.* 2, 261–275. (Summary) **99h:73081** 73V05 (73B30, 73V15)

Stern, R. J. *see* **Stern, Ronald Jay**

Stern, Ronald J. *see* **Stern, Ronald John**

Stern, Ronald Jay (*with* Clarke, F. H.; Ledyaev, Yu. S.) Complements, approximations, smoothings and invariance properties. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 189–219. (Alberto Seeger) **99m:49024** 49J52 (34A60, 49J24)

— (*with* Clarke, F. H.; Ledyaev, Yu. S.; Wolenski, Peter R.) ★ Nonsmooth analysis and control theory. (English summary) Graduate Texts in Mathematics, 178. *Springer-Verlag, New York*, 1998. xiv+276 *pp. ISBN* 0-387-98336-8 (Richard B. Vinter) **99a:49001** 49–02 (49J52, 58C20, 93–02)

— (*with* Clarke, F. H.; Ledyaev, Yu. S.) Asymptotic stability and smooth Lyapunov functions. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 69–114. (Zvi Artstein) **99k:34109** 34D20 (34A60, 93D05)

Stern, Ronald John Computing Donaldson invariants. (English summary) *Gauge theory and the topology of four-manifolds* (*Park City, UT*, 1994), 145–194, *IAS/Park City Math. Ser.*, 4, *Amer. Math. Soc., Providence, RI*, 1998. (Jim A. Bryan) **99e:57046** 57R57 (58D29)

— (*with* Fintushel, Ronald) Constructions of smooth 4-manifolds. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 443–452 (*electronic*). (Vicente Muñoz) **99g:57033** 57R55 (57N13, 57R57)

— (*with* Fintushel, Ronald) Knots, links, and 4-manifolds. *Invent. Math.* **134** (1998), *no.* 2, 363–400. (Paolo Lisca) **99j:57033** 57R57 (57M25, 57N13, 57R55)

— *see also* **Topics in symplectic 4-manifolds, 99b:57001**

Stern, Steven E. (*with* Hall, Peter Gavin; Park, Byeong U.) On polynomial estimators of frontiers and boundaries. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 71–98. (Summary) **99h:62035** 62G05

Sternal, Aleksandra (*with* Szmanda, Błażej) Asymptotic and oscillatory behaviour of certain difference equations. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 1, 77–86 (1997). (P. Talpalaru) **99a:39033** 39A10

— (*with* Szafrański, Zdzisław; Szmanda, Błażej) Oscillatory and asymptotic behaviour of some difference equations. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 66–74. (From the introduction) **99i:39014** 39A10

Sternberg, Natalia (*with* Godyak, Valery A.) Transition region between the plasma and the sheath for intermediate gas pressures. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 525–529, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 76X05

Sternberg, Peter Application of Poincaré inequalities to the structure of phase boundaries. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 169–187, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Rustum Choksi) **99g:49041** 49Q20 (35J60, 58E05, 73B30)

— (*with* Zumbrun, Kevin) Connectivity of phase boundaries in strictly convex domains. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 4, 375–400. (Rustum Choksi) **99c:49045** 49Q20 (49J10, 73B30)

— (*with* Bernoff, Andrew J.) Onset of superconductivity in decreasing fields for general domains. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1272–1284. (Ioan Bâldea) **99a:82099** 82D55

— (*with* Zumbrun, Kevin) A Poincaré inequality with applications to volume-constrained area-minimizing surfaces. (English summary) *J. Reine Angew. Math.* **503** (1998), 63–85. (Silvano Delladio) **99g:58028** 58E12 (49Q05)

Sternberg, Shlomo (*with* Gross, Benedict H.; Kostant, Bertram; Ramond, Pierre) The Weyl character formula, the half-spin representations, and equal rank subgroups. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 15, 8441–8442 (*electronic*). (Summary) **99f:17007** 17B10

Sternby, Jan (*with* Hillerström, Gunnar) Robustness properties of repetitive controllers. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 939–961. 93B35 (93A30)

Sterner, Erik A multigrid smoother for high Reynolds number flows. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 234–245 (*electronic*). (Summary) **99a:76121** 76M25 (65N55, 76N20)

Sterner, M. P. (*with* MacGregor, Thomas H.) Boundedness of an analytic function and the range of its fractional derivative. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 97–106. (Frode Rønning) **99m:30074** 30D50

Sternfeld, R. (*with* Killgrove, R.; Tamez, R.) Quadrangle completions and the anti-Desargues configuration. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 57–66. (Martin Funk) **99b:05026** 05B25 (05B15, 51A35, 51E20)

Sternfeld, Y. (*with* Ball, R. N.; Hagler, J. N.) The structure of atoms (hereditarily indecomposable continua). (English summary) *Fund. Math.* **156** (1998), *no.* 3, 261–278. (J. R. Isbell) **99b:54044** 54F15 (54C35)

— (*with* Levin, Michael A.) Atomic maps and the Chogoshvili-Pontrjagin claim. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4623–4632. (Summary) **99i:54020** 54C50 (54F45)

Sternheimer, Daniel (*with* Flato, Moshé; Simon, Jacques C. H.; Taflin, Erik) Nonlinear relativistic wave equations in general dimensions. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 53–70, *World Sci. Publishing, River Edge, NJ*, 1997. (R. Schimming) **99j:58205** 58G16 (22E45, 35A30, 35Q75)

— (*with* Flato, Moshé; Dito, Giuseppe) Nambu mechanics, n-ary operations and their quantization. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 43–66, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Markus J. Pflaum) **99b:58103** 58F06 (70H99, 81S10)

— (*with* Araki, Huzihiro; Flato, Moshé; Michéa, Sébastien) Some infinite-dimensional algebras arising in spin systems and in particle physics and their grand algebra. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 155–171. (Albert Jeu-Liang Sheu) **99h:81067** 81R10 (17B65, 22E70, 81R50)

Sternin, Boris Yu. (*with* Shatalov, V. E.) ★ Borel-Laplace transform and asymptotic theory. Introduction to resurgent analysis. *CRC Press, Boca Raton, FL*, 1996. x+270 *pp. ISBN* 0-8493-9435-X (J. S. Joel) **99c:44001** 44A05 (30E20, 34A20, 34E05, 58G07)

— (*with* Shatalov, V. E.) Analytic continuation of solutions of integral equations and localization of singularities. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1544–1553; *translation in Differential Equations* **32** (1996), *no.* 11, 1541–1549 (1997). (V. S. Rabinovich) **99b:35017** 35B60 (32C25, 35J99, 45B05, 45P05)

— (*with* Schulze, Bert-Wolfgang; Shatalov, V. E.) Operator algebras associated with resurgent transforms and differential equations on manifolds with singularities. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 300–333, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Alexander Tovbis) **99k:58179** 58G15 (35A20, 47D25, 47G30)

— (*with* Schulze, Bert-Wolfgang; Shatalov, V. E.) Nonstationary problems for Borel-Fuchs type equations. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 334–364, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (R. G. Airapetyan) **99i:35108** 35L80 (35C20)

— (*with* Shatalov, V. E.) Analytic continuation of fundamental solutions of elliptic equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1123–1133, 1152; *translation in Differential Equations* **33** (1997), *no.* 8, 1130–1140 (1998). (Ya. A. Roĭtberg) **99f:58185** 58G03 (35A08, 35J99)

— (*with* Shatalov, V. E.) Alien differential calculus and resurgent equations. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 4, 167–202; *translation in Izv. Math.* **61** (1997), *no.* 4, 843–875. (Alexander Tovbis) **99d:34106** 34E20 (32S40, 35C20)

— (*with* Shatalov, V. E.) The method of resurgent analysis in the theory of atomic collisions. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 2, 308–323; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 2, 1043–1055 (1998). (Alexander Tovbis) **99e:81059** 81Q20 (34E20, 81V45)

— (*with* Schulze, Bert-Wolfgang; Shatalov, V. E.) On some global aspects of the theory of partial differential equations on manifolds with singularities. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 287–305, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Robert Lauter) **99e:58189** 58G18 (35J99, 58G03)

— (*with* Nazaikinskiĭ, Vladimir E.) Wave packet transform in symplectic geometry and asymptotic quantization. (English summary) *Lie groups and Lie algebras*, 47–69, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Brian C. Hall) **99f:58088** 58F06 (58G40, 81S10, 81S30)

— (*with* Schulze, Bert-Wolfgang; Shatalov, V. E.) An operator algebra on manifolds with cusp-type singularities. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 101–140. (Robert Lauter) **99d:58162** 58G03 (35S05, 47G30)

— (*with* Schulze, Bert-Wolfgang; Shatalov, V. E.) On the index of differential operators on manifolds with conical singularities. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 141–172. (Robert Lauter) **99c:58149** 58G10 (47G30, 58G12)

Sternin, M. Yu. (*with* Larichev, O. I.) Man-machine methods for solving a multicriterial assignment problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 135–156; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 2, 1016–1031. 90C29 (90A05, 90C90)

Sterpu, M. (*with* Gorunescu, Marina; Gorunescu, Florin) Hit or miss Monte Carlo simulation for improper integrals. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 22–26 (1995). 65C10

— (*with* Gorunescu, Florin; Gorunescu, Marina) Note on a test involving repeated trials for the hit or miss Monte Carlo integration. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 42–50 (1995). 65C10 (65D30)

Sterrett, Susan G. Sounds like light: Einstein's special theory of relativity and Mach's work in acoustics and aerodynamics. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 1, 1–35. (H. Treder) **99d:01027** 01A60 (76–03, 83–03)

Stesik, O. L. (*with* Perel', M. V.) Solution of the dispersion equation under mode degeneration conditions, and the numerical prediction of conditions for mode degeneration. (Russian. Russian summary) *Problems in the diffraction and propagation of waves, No.* 27 (*Russian*), 55–63, 312, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1997. (*see* **99g:78002**) 78A40 (78–08)

Stessin, Michael (*with* Khavinson, Dmitry) Certain linear extremal problems in Bergman spaces of analytic functions. *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 933–974. (From the introduction) **99k:30080** 30H05 (46E15)

— (*with* Khavinson, Dmitry; Lance, T. L.) Wandering property in the Hardy space. *Michigan Math. J.* **44** (1997), *no.* 3, 597–606. (D. Sarason) **99a:47012** 47A15 (47B35)

Stetkær, Henrik Functional equations on abelian groups with involution. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 144–172. (László Székelyhidi) **99d:39026** 39B32

— Harmonic analysis and functional equations. *Harmonic analysis and hypergroups* (*Delhi*, 1995), 131–143, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (J. Aczél) **99d:39030** 39B52 (33C55, 43A90)

— Functional equations on abelian groups with involution. II. (English summary) *Aequationes Math.* **55** (1998), *no.* 3, 227–240. (László Székelyhidi) **99g:39031** 39B32

— Functional equations involving means of functions on the complex plane. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 47–62. (S. L. Segal) **99h:39028** 39B32

— Trigonometric functional equations of rectangular type. (English summary) *Aequationes Math.* **56** (1998), *no.* 3, 251–270. (J. Aczél) **99j:39025** 39B52

Stetsenko, O. P. On a form of coloring of graph edges into prescribed colors. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 92–93; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 643–644. (Summary) **99c:05073** 05C15

Stetsenko, V. Ya. (*with* Kurkalova, L. A.) Indecomposable generalized eigenvalue problems. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 5, 274–278 (1992). 15A18 (90C08)

Stetsyuk, P. I. Orthogonalizing linear operators in convex programming. I. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 3, 97–119, 191; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 3, 386–401 (1998). (Ştefan Ţigan) **99e:90069** 90C25

— (*with* Shor, Naum Z.) The use of a modification of the *r*-algorithm for finding the global minimum of polynomial functions. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 28–49, 187; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 482–497 (1998). (V. F. Dem′yanov) **99d:90119** 90C30 (65K05)

Stetter, H. J. *see* **Symbolic numeric algebra for polynomials, 99g:00033**

Stettner, Łukasz (*with* Duncan, T. E.; Pasik-Duncan, Bożenna) Adaptive control of a partially observed discrete time Markov process. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 3, 269–293. (Andrew James Heunis) **99b:93054** 93E35 (60J05, 90C40)

— (*with* Bielecki, T. R.) Ergodic control of a singularly perturbed Markov process in discrete time with general state and compact action spaces. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 3, 261–281. (Aleksander A. Yushkevich) **99k:60169** 60J05 (90C40)

— (*with* Motoczyński, M.) On option pricing in the multidimensional Cox-Ross-Rubinstein model. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 1, 55–72. (Summary) **99a:90043** 90A09

— (*with* Bobrik, R. V.) Stabilization of two-dimensional linear systems by Gaussian noise. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 91–103. (Peter E. Kloeden) **99b:60076** 60H10 (93D15, 93E15)

— (*with* Duncan, T. E.; Pasik-Duncan, Bożenna) Discretized maximum likelihood and almost optimal adaptive control of ergodic Markov models. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 422–446 (*electronic*). (Michael A. Kouritzin) **99g:93087** 93E20 (60J05, 62M05)

— (*with* Di Masi, G. B.) Bayesian adaptive control of discrete-time Markov processes with long-run average cost. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 55–62. (Bożenna Pasik-Duncan) **99d:93075** 93E35 (60J05)

Steudel, H. (*with* Khusnutdinova, K. R.) Second harmonic generation: Hamiltonian structures and particular solutions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3754–3764. (Luigi Martina) **99e:58102** 58F07 (35Q53, 78A40)

Steuding, Jörn Große Werte der Riemannschen Zetafunktion auf rektifizierbaren Kurven im kritischen Streifen. (German summary) [Large values of the Riemann zeta function on rectifiable curves in the critical strip] *Arch. Math. (Basel)* **70** (1998), *no.* 5, 371–376. (Andreas Guthmann) **99k:11131** 11M06

Steuer, Ralph E. Implementing the Tchebycheff method in a spreadsheet. *Essays in decision making*, 93–103, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90A05)

Steutel, Fred W. (*with* van Harn, K.) A generalization of the lifetime pairs of renewal theory. (English summary) *Advances in the theory and practice of statistics*, 89–105, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Rudolf Grübel) **99a:60096** 60K05 (60E05, 62E10)

— (*with* Pakes, Anthony G.) On the number of records near the maximum. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 2, 179–192. (John A. Bunge) **99b:60034** 60F05 (60G70, 62G30)

Stevanović, Dragan Graphs with palindromic independence polynomial. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 31–36. (Summary) **99i:05119** 05C35

— (*with* Cvetković, Dragoš M.; Simić, Slobodan K.) 4-regular integral graphs. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 89–102. (N. Trinajstić) **99m:05104** 05C50

Stevanović, Nebojša (*with* Protić, Petar V.) Some decompositions on Abel-Grassmann's groupoids. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 355–366. (Saraswathi Subbiah) **99g:20122** 20N02

Stevenhagen, P. (*with* Lenstra, Hendrik W., Jr.) Class field theory and the first case of Fermat's last theorem. *Modular forms and Fermat's last theorem (Boston, MA, 1995)*, 499–503, *Springer, New York*, 1997. (*see* **99k:11004**) 11D41 (11R37)

Stevens, Angela (*with* Othmer, Hans G.) Aggregation, blowup, and collapse: the ABCs of taxis in reinforced random walks. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 1044–1081. (István Ratkó) **99b:92001** 92B05 (60J15)

Stevens, Brett (*with* Moura, Lucia; Mendelsohn, Eric) Lower bounds for transversal covers. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 279–299. (Luisa Gargano) **99m:68144** 68R05 (05B30)

Stevens, Glenn An overview of the proof of Fermat's last theorem. *Modular forms and Fermat's last theorem (Boston, MA, 1995)*, 1–16, *Springer, New York*, 1997. (*see* **99k:11004**) 11D41 (11F80, 11G05)

— *see also* **Modular forms and Fermat's last theorem, 99k:11004**

Stevens, Irina Simple approximate circle algebras. (English summary) *Operator algebras and their applications, II (Waterloo, ON, 1994/1995)*, 97–104, *Fields Inst. Commun.*, 20, *Amer. Math. Soc., Providence, RI*, 1998. (Guoliang Yu) **99i:46055** 46L80 (46L05)

Stevens, Jan Degenerations of elliptic curves and equations for cusp singularities. *Math. Ann.* **311** (1998), *no.* 2, 199–222. (Aleksandr G. Aleksandrov) **99k:32064** 32S30 (14H52, 14J17, 14M12)

Stevens, John G. On the construction of state diagrams for cellular automata with additive rules. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 43–59. (Summary) **99j:68091** 68Q80 (58F08)

Stevens, Perdita Abstract games for infinite state processes. (English summary) *CONCUR'98: concurrency theory (Nice)*, 147–162, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

Stevens, S. E., Jr. (*with* Deaton, Russell; Garzon, Max; Rose, J. A.; Franceschetti, D. R.) DNA computing: a review. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 231–245. 68Q05 (68Q10)

— (*with* Deaton, Russell; Murphy, R. C.; Garzon, Max; Franceschetti, D. R.) Good encodings for DNA-based solutions to combinatorial problems. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 247–258, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99f:68052** 68Q05

— (*with* Gao, Yuan; Garzon, Max; Murphy, R. C.; Rose, J. A.; Deaton, Russell; Franceschetti, D. R.) DNA implementation of nondeterminism. (English summary) *DNA based computers III (Philadelphia, PA, 1997)*, 137–148, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05

Stevens, T. Christine Nonproduct group topologies for $\mathbf{R}^n$. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 284–289, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **99e:22004** 22A05 (54A10, 54B10, 54H11)

Stevenson, Katherine F. Conditions related to π_1 of projective curves. *J. Number Theory* **69** (1998), *no.* 1, 62–79. (Mohamed Saïdi) **99f:14032** 14H30 (14E20)

Stevenson, Rob A robust hierarchical basis preconditioner on general meshes. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 269–303. (Stefan A. Funken) **99c:65084** 65F35 (65F10, 65N30)

Stewart, A. G. R. (*with* Wangechi, C.; Preen, J.) Number of squfnits in a biquadratic field. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 639–646. (Franz Lemmermeyer) **99c:11132** 11R16 (11R27)

Stewart, C. *see* **Stewart, Colin B.**

Stewart, C. L. (*with* Rivat, Joël; Sárközy, András) Congruence properties of the Ω-function on sumsets. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 1–18. (Y.-F. S. Pétermann) **99m:11112** 11N64 (11N36)

Stewart, Colin B. (*with* Rattan, A.) Goldbach's conjecture for $\mathbf{Z}[x]$. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 3, 83–85. (Maurice Mignotte) **99f:11132** 11P32 (11C08)

Stewart, D. Scott (*with* Short, Mark) Cellular detonation stability. I. A normal-mode linear analysis. (English summary) *J. Fluid Mech.* **368** (1998), 229–262. (Summary) **99e:80006** 80A25 (76E99, 76N15)

— (*with* Short, Mark) The multi-dimensional stability of weak-heat-release detonations. (English summary) *J. Fluid Mech.* **382** (1999), 109–135. (Summary) **99m:80017** 80A25 (76L05, 76N10)

Stewart, David *see* **Stewart, David William**

Stewart, David E. Rigid body dynamics and measure differential inclusions. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 405–413, *Springer, Berlin*, 1997. (Manuel D. P. Monteiro Marques) **99j:70011** 70E99 (34A60, 65L99, 70F35)

— On "bang-bang damping". *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 192–193. (Oleg P. Filatov) **99i:34069** 34C99 (34A60, 70F99, 70K99)

Stewart, David William Determining almost split sequences from those over subalgebras. *Comm. Algebra* **26** (1998), *no.* 9, 2905–2913. (Wolfgang Rump) **99i:16034** 16G70

Stewart, Dawn L. (*with* Stanley, Lisa G.) A comparison of local and global projections in design sensitivity computations. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 361–373, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:65033** 65D25 (49Q12, 65N30, 73K40)

— (*with* Burns, John A.; Stanley, Lisa G.) A projection method for accurate computation of design sensitivities. (English summary) *Optimal control (Gainesville, FL, 1997)*, 40–66, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Werner Horn) **99e:65103** 65K10 (49M25, 65N30)

Stewart, G. W. (*with* Bai, Zhaojun) Algorithm 776: SRRIT: a Fortran subroutine to calculate the dominant invariant subspace of a nonsymmetric matrix. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 494–513. 65Y15

— (*with* O'Leary, Dianne P.) On the convergence of a new Rayleigh quotient method with applications to large eigenproblems. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 182–189 (*electronic*). (Summary) **99i:65037** 65F15

— On the adjugate matrix. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 151–164. (Dao Sheng Zheng) **99k:15049** 15A99 (15A18)

— (*with* Stewart, Michael) On hyperbolic triangularization: stability and pivoting. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 847–860 (*electronic*). (Guo Rong Wang) **99e:65075** 65F30 (15A23, 65G05)

Stewart, I. W. (*with* Barclay, G. J.) The behaviour of perturbations to travelling waves arising in nematic liquid crystals. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 5, 269–283. (Summary) **99i:76007** 76A15 (76E99, 82D30)

— Stability of traveling waves in smectic-*C* liquid crystals. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 5626–5633. (Summary) **99a:76009** 76A15 (76E99, 82D30)

Stewart, Ian N. ★ Czy Bóg gra w kości? (Polish. Polish summary) [Does God play dice?] Nowa matematyka chaosu. [The new mathematics of chaos] Third edition. Translated from the English by Michał Tempczyk and Włodzimierz Komar. *Wydawnictwo Naukowe PWN, Warsaw*, 1996. 368 *pp. ISBN* 83-01-11371-5 (Editors) **99f:00003** 00A05 (01A65, 58Fxx)

— ★ The magical maze. (English summary) Seeing the world through mathematical eyes. *John Wiley & Sons, Inc., New York*, 1998. xiv+268 *pp. ISBN* 0-471-19297-X (John Adam) **99a:00003** 00A08 (00A05, 00A69)

— (*with* Golubitsky, Martin; Buono, Pietro-Luciano; Collins, James J.) A modular network for legged locomotion. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 56–72. (Summary) **99d:92051** 92D50 (34C99)

Stewart, James R. (*with* Hughes, Thomas J. R.) A tutorial in elementary finite element error analysis: a systematic presentation of a priori and a posteriori error estimates. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 1–22. (Summary) **99c:65217** 65N30 (65N15, 73V05)

Stewart, John M. (*with* Hern, S. D.) The Gowdy T^3 cosmologies revisited. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1581–1593. (S. Kichenassamy) **99h:83040** 83C75 (83–08)

— The Cauchy problem and the initial-boundary value problem in numerical relativity. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2865–2889. (Simonetta Frittelli) **99k:83008** 83C05 (83–08)

— Comment on: "Dynamics of relativistic interacting gases: from a kinetic to a fluid description" [Classical Quantum Gravity **15** (1998), no. 4, 1063–1088; MR 99c:83040] by J.-P. Uzan. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3731–3736. (Summary) **99k:83051a** 83C55 (83F05)

— *see also* **Uzan, Jean-Philippe, 99k:83051b** *and* **Schwarzschild, K., (99f:83003)**

Stewart, Lorna (*with* Corneil, Derek G.; Olariu, Stephan) The ultimate interval graph recognition algorithm? (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 175–180, *ACM, New York*, 1998. (*see* **99d:68011**) 05C85 (68R10)

— (*with* Abbas, Nesrine) Clustering bipartite and chordal graphs: complexity, sequential and parallel algorithms. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 1–23. (Summary) **99j:68097** 68R10 (05C85, 68Q25)

Stewart, Mark Andrew (*with* Boucherie, Richard J.) Norton's equivalent for batch routing queueing networks with independently routing customers. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1091–1112. (Mark Kelbert) **99i:60165** 60K25 (90B12, 90B15)

Stewart, Mary *see* **Schwarzschild, K.**, (**99f:83003**)

Stewart, Michael (*with* Stewart, G. W.) On hyperbolic triangularization: stability and pivoting. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 847–860 (*electronic*). (Guo Rong Wang) **99e:65075** 65F30 (15A23, 65G05)

Stewart, N. F. (*with* Andersson, L.-E.; Peters, T. J.) Selfintersection of composite curves and surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 507–527. (Summary) **99b:65190** 65Y25 (68U05)

Stewart, P. N. (*with* Parmenter, M. M.; Spiegel, Eugene) The periodic radical of group rings and incidence algebras. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 481–487. (Howard E. Bell) **99m:16044** 16S34 (16N80)

Stewart, Theodor J. *see* **Trends in multicriteria decision making**, **99g:90012**

Stewart, William J. (*with* Fernandes, Paulo; Plateau, Brigitte) Efficient descriptor-vector multiplications in stochastic automata networks. (English summary) *J. ACM* **45** (1998), *no.* 3, 381–414. (Summary) **99f:68141** 68Q75 (68M20)

— (*with* Fernandes, Paulo; Plateau, Brigitte) Optimizing tensor product computations in stochastic automata networks. (English and French summaries) Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 325–351. (Summary) **99f:68021** 68M20 (68Q75)

Steyaert, Hans (*with* Vanderhoeft, Camille; Van Parys, Filip) Decomposition estimation: a GLM-based technique for fitting multi-linear regression models to grouped data in GLIM 4. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 3, 41–58. (Summary) **99j:62104** 62J12

Stichel, Peter C. (*with* Lukierski, Jerzy; Zakrzewski, Wojciech J.) Galilean-invariant $(2+1)$-dimensional models with a Chern-Simons-like term and $D=2$ noncommutative geometry. (English summary) *Ann. Physics* **260** (1997), *no.* 2, 224–249. (Dan Radu Grigore) **99a:58070** 58F05 (58B30, 70G50)

— (*with* Cislo, J.; Łopuszanski, J.) The most general set of Lagrange functions yielding Galilei covariant equations of motion having the same set of solutions. (English summary) *Fortschr. Phys.* **46** (1998), *no.* 1, 45–72. (Peter J. Topalov) **99e:70054** 70H35

Stichtenoth, Henning (*with* Pellikaan, Ruud; Torres, Fernando) Weierstrass semigroups in an asymptotically good tower of function fields. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 381–392. (Martha Rzedowski-Calderón) **99g:11139** 11R58 (11G20)

— The Fermat curve in characteristic p. (English summary) *Finite fields: theory, applications, and algorithms (Waterloo, ON, 1997)*, 123–129, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Arnaldo L. P. Garcia) **99k:11091** 11G20 (14G15)

Stiebe, Ralf (*with* Fernau, Henning) Regulation by valences. (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 239–248, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68090** 68Q45

Stieberger, S. (*with* Förger, Kristin) String amplitudes and $N=2$, $d=4$ prepotential in heterotic $K3\times T^2$ compactifications. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 135–160. (Gonzalo Violero) **99f:81160** 81T30 (11Z05, 32J81, 83E30)

Stiebitz, M. (*with* Kostochka, A. V.) Colour-critical graphs with few edges. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 125–137. (Zhong Fu Zhang) **99g:05080** 05C15

Stiefenhofer, Matthias Quasi-steady-state approximation for chemical reaction networks. (English summary) *J. Math. Biol.* **36** (1998), *no.* 6, 593–609. (Summary) **99k:92050** 92E20 (34C30, 34E15)

— Singular perturbation with Hopf points in the fast dynamics. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 602–629. (Jörg M. Härterich) **99f:34057** 34C23 (34C25, 34E15, 58F14, 58F22)

— Singular perturbation with limit points in the fast dynamics. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 730–758. (Robert Roussarie) **99k:34091** 34C25 (34C23, 34E20, 58F14, 58F30)

Stieltjes, Thomas Jan Recherches sur les fractions continues. [Research on continued fractions] Reprint of Ann. Fac. Sci. Toulouse **8** (1894), J76–J122. *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, J76–J122. (F. Smithies) **99d:01040** 01A75 (01A55)

— Recherches sur les fractions continues. [Research on continued fractions] Reprint of Ann. Fac. Sci. Toulouse **9** (1895), A5–A47. *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 4, A5–A47. (F. Smithies) **99d:01041** 01A75 (01A55)

Stifter, P. (*with* Bäcker, A.; Schubert, Roman) Rate of quantum ergodicity in Euclidean billiards. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5425–5447. (Jens Marklof) **99f:81056a** 81Q50 (58F11)

— (*with* Bäcker, A.; Schubert, Roman) Erratum: "Rate of quantum ergodicity in Euclidean billiards". *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5192. (Jens Marklof) **99f:81056b** 81Q50 (58F11)

Stigler, Stephen M. Adolphe Quetelet: statistician, scientist, builder of intellectual institutions. (English, French and Dutch summaries) Actualité et universalité de la pensée scientifique d'Adolphe Quetelet (Brussels, 1996). *Acad. Roy. Belg. Cl. Sci. Mém. Collect.* 8° (3) **13** (1997), 47–61. (*see* **99a:01002**) 01A70

Stijnen, Theo (*with* Verweij, Pierre J. M.; van Houwelingen, Hans C.) A goodness-of-fit test for Cox's proportional hazards model based on martingale residuals. (English and French summaries) *Biometrics* **54** (1998), *no.* 4, 1517–1526. (Summary) **99i:62110** 62G10

Štikonienė, Olga (*with* Čiegis, Raimondas; Čiegis, Remigijus) On an extension of a procedure for investigating nonlinear difference schemes. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 155–167; *translation in Lithuanian Math. J.* **37** (1997), *no.* 2, 119–128 (1998). (Sui Yang Chen) **99d:65247** 65M06

Stiles, P. J. (*with* Russell, Craig L.; Blennerhassett, P. J.) Strongly nonlinear vortices in magnetized ferrofluids. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998), *no.* 2, 146–170. (Summary) **99j:76143** 76W05 (76C05, 76E25)

Still, Georg J. Solving vector-valued approximation problems by semi-infinite optimization: numerical and genericity aspects. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995)*, 16 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:90108** 90C34 (65D15)

Stille, Michael (*with* Fine, Benjamin; Rosenberger, Gerhard) Conjugacy pinched and cyclically pinched one-relator groups. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 207–227. (David Meier) **99c:20039** 20F05 (20E06, 20E26)

Stillinger, Frank H. (*with* Sastry, Srikanth; Corti, David S.; Debenedetti, Pablo G.) Statistical geometry of particle packings. I. Algorithm for exact determination of connectivity, volume, and surface areas of void space in monodisperse and polydisperse sphere packings. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5524–5532. (Summary) **99a:82055** 82B99 (52C17)

— (*with* Sastry, Srikanth; Debenedetti, Pablo G.) Statistical geometry of particle packings. II. "Weak spots" in liquids. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5533–5543. (Summary) **99a:82056** 82B99 (52C17, 82B80)

Stillman, Michael (*with* Schenck, Henry K.) Local cohomology of bivariate splines. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 535–548. (Summary) **99d:13011** 13C10 (13D40, 52B70, 55N35, 55U99)

— (*with* La Scala, Roberto) Strategies for computing minimal free resolutions. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 4, 409–431. (Anna Guerrieri) **99k:13039** 13P10 (13D02, 68Q40)

— *see also* **Vasconcelos, Wolmer V.**, **99c:13048**

Stilwell, Daniel J. (*with* Rugh, Wilson J.) Interpolation of observer state feedback controllers for gain scheduling. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1225–1229. 93B52 (93B36)

Stinchcombe, Adam Michael Recurrence relations for powers of recursion sequences. *Fibonacci Quart.* **36** (1998), *no.* 5, 443–447. (Shiro Ando) **99j:11014** 11B37

Stinchcombe, Maxwell B. (*with* White, Halbert) Consistent specification testing with nuisance parameters present only under the alternative. (English summary) *Econometric Theory* **14** (1998), *no.* 3, 295–325. (Summary) **99b:62082** 62G10 (60B12)

Stinchcombe, R. B. (*with* Santos, Jaime Eduardo; Grynberg, M. D.) Non-universal dynamics of staggered non-equilibrium particle systems and Ising chains. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 541–549. (Summary) **99b:82070** 82C20 (82C26)

Stinson, Douglas R. (*with* Kreher, D. L.; Zhu, Lie[1]) On the maximum number of fixed points in automorphisms of prime order of 2-$(v,k,1)$ designs. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 227–243. (Giovanni Ferrero) **99d:05010** 05B05 (51A10)

— (*with* Bierbrauer, Jürgen; Gopalakrishnan, K.) A note on the duality of linear programming bounds for orthogonal arrays and codes. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 17–24. (Summary) **99a:94065** 94B65 (05B15, 90C05, 94B05)

— (*with* Tran Van Trung) Some new results on key distribution patterns and broadcast encryption. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 261–279. (Summary) **99i:94056** 94A60

— (*with* Kurosawa, Kaoru; Okada, Koji; Saido, Hajime) New combinatorial bounds for authentication codes and key predistribution schemes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 87–100. (Andrea Sgarro) **99m:94032** 94A60 (05B05, 05B15)

— (*with* Wei, Ruizhong) Combinatorial properties and constructions of traceability schemes and frameproof codes. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 41–53 (*electronic*). (Summary) **99e:94038** 94A60

— (*with* Blundo, Carlo; Frota-Mattos, Luis A.) Generalized Beimel-Chor schemes for broadcast encryption and interactive key distribution. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 313–334. (Simon R. Blackburn) **99h:94044** 94A60 (68P25)

— (*with* Wei, Ruizhong) An application of ramp schemes to broadcast encryption. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 131–135. (Summary) **99k:94042** 94A60

— Some results on nonlinear zigzag functions. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 127–138. (Summary) **99m:05032** 05B15 (94A60)

Stipsicz, András Geography of irreducible 4-manifolds. *European Congress of Mathematics, Vol. II (Budapest, 1996)*, 221–233, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (Dan Yan Gan) **99j:57026** 57R15 (57N13, 57R20)

Stiranka, A. I. On a combinatorial solution to the problem of the partitioning of a discrete set. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 2, 55–64, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 2, 195–202. (Summary) **99g:05009** 05A18

Stirling, Colin The joys of bisimulation. *Mathematical foundations of computer science, 1998 (Brno)*, 142–151, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q10 (68Q55, 68Q60)

— Decidability of bisimulation equivalence for normed pushdown processes. (English summary) Concurrency theory (Pisa, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 2, 113–131. (Gheorghe Ştefănescu) **99c:68089** 68Q10 (68Q60)

Stirling, D. S. G. (*with* Hilton, A. J. W.; Slivnik, Tomaž, Jr.) A vertex-splitting lemma, de Werra's theorem, and improper list colourings. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 91–103. (D. de Werra) **99a:05047** 05C15

Stitzinger, Ernest L. (*with* Hardy, Peter) On characterizing nilpotent Lie algebras by their multipliers, $t(L)=3,4,5,6$. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3527–3539. (Duncan J. Melville) **99h:17014** 17B30

— (*with* Turner, Rudolph M.) Concerning derivations of Lie algebras. (English summary) *Linear and Multilinear Algebra* **45** (1999), *no.* 4, 329–331. 17B40

St. John, Katherine (*with* Spencer, Joel H.) Random sparse bit strings at the threshold of adjacency. (English summary) *STACS 98 (Paris, 1998)*, 94–104, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:03017** 03C13 (03B70, 68Q99)

Stochel, Jerzy B. Representation of generalised creation and annihilation operators in Fock space. *Univ. Iagel. Acta Math. No.* 34 (1997), 135–148. (Harald Upmeier) **99a:47056** 47B99 (46E22, 46N50, 47N50, 81S05)

Stock, Gerhard (*with* Thoss, Michael) Mapping approach to the semiclassical description of nonadiabatic quantum dynamics. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 1, 64–79. (Stefan Giller) **99m:81062** 81Q20

Stock, James H. (*with* Bai, Jushan; Lumsdaine, Robin L.) Testing for and dating common breaks in multivariate time series. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 3, 395–432. (A. L. Nagar) **99k:62151** 62M10

Stockbridge, Richard H. (*with* Kurtz, Thomas G.) Existence of Markov controls and characterization of optimal Markov controls. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 609–653 (*electronic*). (Jean-Pierre Lepeltier) **99b:93051** 93E20 (60G35, 60J25)

— (*with* Mendiondo, Marta Susana) Approximation of infinite-dimensional linear programming problems which arise in stochastic control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1448–1472 (*electronic*). (O. L. V. Costa) **99e:90061** 90C15 (49M35, 90C05, 93E20)

Stocker, Horst (*with* Harris, John W.) ★ Handbook of mathematics and computational science. (English summary) *Springer-Verlag, New York*, 1998. *xxviii*+1028 *pp. ISBN* 0-387-94746-9 (Editors) **99e:00004** 00A20 (00A05, 68–00)

Stöcker, S. (*with* Curci, M. G.) Modelling and simulating the effect of cytokines on the immune response to tumor cells. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 1–13. (Summary) **99d:92016** 92C50

Stockis, Jean-Pierre (*with* Tong, Howell) On the statistical inference of a machine-generated autoregressive AR(1) model. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 781–796. (Summary) **99e:62164** 62M10

Stöckl, G. (*with* Marti, Kurt) Numerische Untersuchung inexakter stochastischer Gradientenverfahren. [Numerical investigation of inexact stochastic gradient methods] *Operations Research Proceedings* 1997 (*Jena*), 150–155, *Springer, Berlin*, 1998. (*see* **99d:90008**) 65K10 (90C25)

Stöckler, Joachim A Laurent operator technique for multivariate frames and wavelet bases. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 339–354, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 42C15 (41A63)

— The general structure of multivariate affine frames. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 287–302, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Ioan Şerb) **99c:41071** 41A65 (42C15, 46B15, 46C05)

— (*with* Jetter, Kurt) Topics in scattered data interpolation and non-uniform sampling. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 191–208, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65016** 65D05 (41A63, 65D10)

— Preconditioning of the frame algorithm. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 338–346, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F35

— (*with* Chui, Charles K.; Shi, Xianliang) Affine frames, quasi-affine frames, and their duals. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 1-2, 1–17. (Amos Ron) **99b:42037** 42C15 (42B15, 47N40)

— (*with* Jetter, Kurt; Ward, Joseph D.) Norming sets and spherical cubature formulas. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 237–244, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99i:65022** 65D32

— (*with* Jetter, Kurt; Ward, Joseph D.) Error estimates for scattered data interpolation on spheres. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 733–747. (L. L. Schumaker) **99i:41032** 41A63 (41A30, 65D15)

Stöckler, Manfred On the unity of physics in a dappled world. Comment on Nancy Cartwright: "How theories relate: takeovers or partnerships?" [Philos. Natur. **35** (1998), no. 1, 23–34]. Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 35–39. (*see* **99g:00024**) 00A79 (81P05)

Stöckmann, Hans-Jürgen (*with* Šeba, Petr) The joint energy distribution function for the Hamiltonian $H = H_0 - iWW^+$ for the one-channel case. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3439–3448. (Summary) **99b:81070** 81Q99 (82B10)

— (*with* Barth, Michael; Kuhl, U.) Global versus local billiard level dynamics: the limits of universality. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 10, 2026–2029. 58F13 (81Q50)

Stočkus, Arūnas (*with* Lagorce, Jean-Bernard; Waller, Emmanuel) Object-oriented database evolution. (English summary) *Database theory—ICDT '97* (*Delphi*), 379–393, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Stoddart, Andrew J. (*with* Petrou, Maria; Kittler, Josef) On the foundations of probabilistic relaxation with product support. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 29–48. (Summary) **99c:68220** 68T10

Stoer, Josef (*with* Wechs, Martin; Mizuno, Shinji) High order infeasible-interior-point methods for solving sufficient linear complementarity problems. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 832–862. (Jie Sun) **99j:90101** 90C33

— (*with* Wechs, Martin) Infeasible-interior-point paths for sufficient linear complementarity problems and their analyticity. (English summary) *Math. Programming* **83** (1998), *no.* 3, *Ser. A*, 407–423. (Tamás Terlaky) **99g:90150** 90C33 (65K05)

— (*with* Sonnevend, G.; Zhao, Gong Yun) Subspace methods for solving linear programming problems. (English summary) Modern applied analysis (Ilieni, 1997). *Pure Math. Appl.* **9** (1998), *no.* 1-2, 193–212. (Shu Zhong Zhang) **99m:90096** 90C05

— (*with* Wechs, Martin) On the analyticity properties of infeasible-interior-point paths for monotone linear complementarity problems. (English summary) *Numer. Math.* **81** (1999), *no.* 4, 631–645. (Bart De Schutter) **99m:90146** 90C33

Stoer, Mechthild (*with* Grötschel, Martin; Monma, C. L.) Polyhedral and computational investigations for designing communication networks with high survivability requirements. (English summary) *Oper. Res.* **43** (1995), *no.* 6, 1012–1024. (Rainer Burkard) **99b:90050** 90B12 (90C05)

— (*with* Dahl, Geir) A cutting plane algorithm for multicommodity survivable network design problems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 1, 1–11. (Summary) **99b:90045** 90B10 (90B12, 90C35)

Stoffer, Daniel On the qualitative behaviour of symplectic integrators. II. Integrable systems. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 501–520. (Benedict J. Leimkuhler) **99c:65138** 65L06 (34A45, 58F05, 70–08, 70H05)

— On the qualitative behaviour of symplectic integrators. III. Perturbed integral systems. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 521–545. (Benedict J. Leimkuhler) **99c:65139** 65L06 (34A45, 58F05, 70–08, 70H05)

Stoffer, David S. (*with* Tyler, David E.) Matching sequences: cross-spectral analysis of categorical time series. (English summary) *Biometrika* **85** (1998), *no.* 1, 201–213. (Summary) **99b:62148** 62M15

Stognii, Valerii (*with* Spichak, Stanislav) Conditional symmetry and exact solutions of the Kramers equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 450–454, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q99 (35A30)

Stöhr, Karl-Otto Local and global zeta-functions of singular algebraic curves. (English summary) *J. Number Theory* **71** (1998), *no.* 2, 172–202. (W. A. Zúñiga Galindo) **99e:11087** 11G40

— Hyperelliptic Gorenstein curves. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 1, 93–105. (Takashi Ichikawa) **99m:14049** 14H10 (14H45)

Stöhr, Michael (*with* Scholtes, Stefan) Exact penalization of mathematical programs with equilibrium constraints. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 617–652 (*electronic*). (Stephan Dempe) **99k:90179** 90C33 (65K05)

Stöhr, Ralph (*with* Guilfoyle, Sean) Invariant bases for free Lie algebras. *J. Algebra* **204** (1998), *no.* 1, 337–346. (Hartmut Laue) **99g:17012** 17B01 (20C15)

Stoica, Adrian (*with* Drăgan, Vasile; Halanay, Aristide) A property of balanced realizations for time-varying systems. *Stud. Cerc. Mat.* **47** (1995), *no.* 5-6, 375–378. 93B15 (93C10)

— (*with* Drăgan, Vasile; Halanay, Aristide) A small gain theorem for linear stochastic systems. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 243–251. (Summary) **99c:93098** 93E03 (93B36)

— (*with* Drăgan, Vasile; Halanay, Aristide) An alternative computational solution for optimal two-block Nehari and H^∞ problems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 285–301. (Anton A. Stoorvogel) **99g:93025** 93B36 (93B40)

Stoica, Emil The singular Lagrange spaces. *Libertas Math.* **18** (1998), 87–92. (László Kozma) **99j:53020** 53B40

Stoica, Gheorghe Régularité d'une équation stochastique avec des conditions au bord. (English summary) [Regularity of a stochastic equation with boundary conditions] *An. Univ. Bucureşti Mat.* **46** (1997), 73–80. (Marta Sanz Solé) **99f:60105** 60H07 (60H10, 60H30)

— (*with* Etheridge, Alison) Processus d'Antoniadis-Carmona et le principe de déviations modérées. (English and French summaries) [Antoniadis-Carmona processes and the principle of moderate deviations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 607–610. (Anatolii A. Pukhal'skiĭ) **99i:60011** 60B12

Stoica, Lucretiu (*with* Beznea, Lucian) From diffusions to processes with jumps. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 53–74, *TEV, Vilnius*, 1994. (Summary) **99f:60136** 60J35 (60J60, 60J75)

Stoica, Petre (*with* Sorelius, Joakim; Söderström, Torsten; Cedervall, Mats) Comparative study of rank test methods for ARMA order estimation. *Statistical methods in control and signal processing*, 179–216, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E10 (62M10)

Stoilov, M. N. On the connection between Pauli-Villars and higher derivative regularizations. (English summary) *Ann. Physik* (8) **7** (1998), *no.* 1, 1–8. (R. Delbourgo) **99d:81094** 81T17 (81T15)

— Comment on: "Non-abelian bosonization and higher spin symmetries" [Internat. J. Modern Phys. A **11** (1996), no. 22, 4065–4088; MR 97e:81144]. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1327–1330. (Summary) **99c:81220** 81T40 (81R10)

Stoilov, Petio Free interpolation of families of Cauchy-Stieltjes integrals and their multipliers. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 121–128. (T. H. MacGregor) **99j:30043** 30E20

Stoilova, N. I. (*with* Palev, Tchavdar D.) Highest weight irreducible representations of the quantum algebra $U_h(A_\infty)$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5832–5849. (Fabio Gavarini) **99m:17020** 17B37 (81R50)

Stoilovs, M. N. *see* **Stoilov, M. N.**

Stoilow, Simion Brief summary of my research work. Translated from the French by Doina Irina Simion. *Analysis and topology*, 1–7, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99h:00035**) 01A70 (01A75)

— *see also* **Analysis and topology**, **99h:00035**; **Andreian Cazacu, Cabiria**, **99m:01032**; **Jurchescu, Martin**, (**99h:00035**); (**99h:00035**) *and* **Marcus, Solomon**, (**99h:00035**)

Stoimenow, A. Enumeration of chord diagrams and an upper bound for Vassiliev invariants. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 1, 93–114. (Carlo Petronio) **99c:57032** 57M25 (05A16)

Stoiński, Stanisław A note on the derivative and approximation of almost periodic functions. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 23–35. (Bolis Basit) **99c:42008** 42A75 (41A30)

— On compactness of some classes of almost periodic functions. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 215–225. (A. G. Baskakov) **99m:42015** 42A75 (43A60, 46E99)

Stojaković, Mila Representation of fuzzy-valued mappings by the sequence of single-valued mappings. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 375–381. 28E10

— (*with* Gajić, Ljiljana) Equivalents of the variational principle in fuzzy and probabilistic metric spaces. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 247–255. (Christiane Tammer) **99j:49029** 49J52 (49J40, 54A40, 54E70)

Stojaković, Zoran (*with* Dudek, Wiesław A.) Single identities for varieties equivalent to quadruple systems. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 277–284. (K. T. Phelps) **99c:05041** 05B30 (08B05)

— Medial cyclic n-quasigroups. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 47–54. (Summary) **99h:20108** 20N15

Stojanoff, Demetrio (*with* Andruchow, Esteban; Corach, Gustavo; Milman, Mario) Geodesics and interpolation. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 83–91. (Summary) **99c:46063** 46L05 (46M35, 58B20)

— (*with* Andruchow, Esteban; Corach, Gustavo) Löwner's theorem and the differential geometry of the space of positive operators. (English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 70–77. (Summary) **99i:46057** 46L87 (47A63, 58B20)

— Index of Hadamard multiplication by positive matrices. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 95–108. (Summary) **99k:46103** 46L05 (15A48, 47A99)

Stojanović, Mirjana An application of the exponential cubic splines to numerical solution of a self-adjoint perturbation problem. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 38–43. (Summary) **99h:65135** 65L10 (65D07)

pop-Stojanović, Zoran *see* **Pop-Stojanović, Zoran**

Stojić, Marko (*with* Meljanac, Stjepan; Milekoviċ, Marijan) On parastatistics defined as triple operator algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 995–1005. (Władysław Adam Majewski) **99h:81097** 81S05 (81T05)

Stojić, Milić R. Relative stability, strict aperiodicity, and positive realness of real polynomials. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 297–306. (Summary) **99f:93107** 93D05 (26C10, 93D09)

Stojiljković, Rade (*with* Dimitrovski, Dragan; Rajović, Miloje) Méthode des itérations appliquée aux équations de type I. N. Vécua d'ordre supérieur aux coefficients analytiques. (French summary) [Iteration method applied to higher-order equations of I. N. Vekua type with analytic coefficients] *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 355–363. 35C99 (30G20, 35A35, 35J45)

— (*with* Rajović, Miloje; Dimitrovski, Dragan) Elementary solution of Vecua equation with analytic coefficients on $z, \overline{z}$. (English summary) *Mat. Vesnik* **49** (1997), *no.* 2, 123–128. (Kerim Koca) **99m:30095** 30G20 (35J45)

Stojmenović, Ivan (*with* Reischer, Corina; Simovici, Dan A.) An algebraic approach to entropy. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 271–280, *Hölder-Pichler-Tempsky, Vienna*, 1995. (M. Studený) **99e:94018** 94A17 (04A05)

— (*with* Zoghbi, Antoine) Fast algorithms for generating integer partitions. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 1–16 (*electronic*). (*see* **99f:68006**) 68R05 (05A17)

— (*with* Ngom, Alioune; Reischer, Corina; Simovici, Dan A.) Learning with permutably homogeneous multiple-valued multiple-threshold perceptrons. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 161–166, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 68T05

— (*with* Ngom, Alioune; Obradović, Zoran) Minimization of multivalued multithreshold perceptrons using genetic algorithms. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 209–214, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 68T05

— Optimal deadlock-free routing and broadcasting on Fibonacci cube networks. (English summary) *Util. Math.* **53** (1998), 159–166. 90B12

Stoka, Marius (*with* Duma, Andrei) Problems of geometric probability for non-regular lattices. II, III. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 143–151, 153–157. (Jan Rataj) **99c:60018** 60D05 (52A22)

— On a random variable related to a system of convex bodies in the Euclidean space E_n. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 335–341. (Irene Hueter) **99f:60024** 60D05 (52A22)

Stokes, A. N. Using conjugate gradient methods in solving the incompressible Navier-Stokes equations. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 725–732, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M25 (76D05)

Stokes, G. G. On a difficulty in the theory of sound [Philos. Mag. **XXXIII** (1848), 349–356; *Mathematical and physical papers, Vol. II*, Cambridge Univ. Press, Cambridge, 1883]. *Classic papers in shock compression science*, 71–79, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76Q05 (76N99)

Stokes, Lynne (*with* Haas, Peter J.) Estimating the number of classes in a finite population. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1475–1487. 62D05

Stokes, Nick (*with* Cleary, Paul W.) Transient natural convection at high Rayleigh number. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 207–214, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76R10

Stokes, Tim (*with* Fearnley-Sander, Desmond) Equality algebras. *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 177–191. (S. Rudeanu) **99b:08003** 08B05 (03G25, 08A30)

— Radical classes of algebras with B-action. (English summary) *Algebra Universalis* **40** (1998), *no.* 1, 73–85. (Manfred Armbrust) **99h:08002** 08A05 (16N99)

— (*with* McConnell, N. R.) Generalising quasiregularity for rings. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 5, 250–252. 16N60

Stokey, Nancy L. (*with* Alvarez, Fernando) Dynamic programming with homogeneous functions. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 167–189. (J. V. Greenman) **99m:90155** 90C39 (49L20)

Stokman, J. V. (*with* van Diejen, J. F.) Multivariable q-Racah polynomials. (English summary) *Duke Math. J.* **91** (1998), *no.* 1, 89–136. (Mizan Rahman) **99b:33039** 33D45

— (*with* Koornwinder, Tom H.) On some limit cases of Askey-Wilson polynomials. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 310–330. (Hans-Jürgen Glaeske) **99k:33052** 33D45 (42C05)

Stokolos, A. M. (*with* Di Biase, Fausto; Svensson, Olof; Weiss, Tomasz) Tangential boundary behaviour of bounded harmonic functions in the unit disc. (English summary) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 63–68, *Univ. Stud. Bologna, Bologna*, 1998. (Hiroaki Aikawa) **99f:31005** 31A20

— On the strong differentiation of integrals of functions from multidimensional Hardy classes. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 64–68; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 4, 62–66. (Luboš Pick) **99g:42029** 42B30 (46E15)

— (*with* Trebels, W.) On the rate of almost everywhere convergence of Abel-Cartwright means on $L^p(\mathbf{R}^n)$. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 373–380. (U. B. Tewari) **99k:42017** 42B05 (41A58, 42B10)

Stolarsky, Kenneth B. A prelude to the $3x + 1$ problem. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 5, 451–461. (Štefan Porubský) **99k:11037** 11B83 (39B12, 58F03)

Stolboushkin, A. P. (*with* Niwiński, Damian) $y = 2x$ vs. $y = 3x$. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 661–672. (Howard Straubing) **99a:68077** 68Q15 (03C40)

Stolfi, Jorge (*with* Gomide, Anamaria) Bases for non-homogeneous polynomial C_k splines on the sphere. (English summary) *LATIN'*98: *theoretical informatics* (*Campinas*, 1998), 133–140, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:68160** 68U05 (41A15, 65D17)

Stolin, Alexander (*with* Kulish, P. P.) Deformed Yangians and integrable models. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1207–1212. (Peter Prešnajder) **99g:81092** 81R50 (58F07)

— (*with* Khoroshkin, Sergei; Tolstoĭ, V. N.) Deformation of Yangian $Y(\mathrm{sl}_2)$. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1041–1055. (Andrew Pressley) **99b:17013** 17B37

— On the Picard group of the integer group ring of the cyclic p-group and certain Galois groups. (English summary) *J. Number Theory* **72** (1998), *no.* 1, 48–66. (M. E. Keating) **99h:13012** 13C20 (11R29, 19A31, 20C05)

Stoll, Manfred Weighted tangential boundary limits of subharmonic functions on domains in $\mathbf{R}^n$ ($n \geq 2$). (English summary) *Math. Scand.* **83** (1998), *no.* 2, 300–308. (Yoshihiro Mizuta) **99m:31013** 31B25

Stoll, Michael Bounds for the length of recurrence relations for convolutions of P-recursive sequences. (English summary) *European J. Combin.* **18** (1997), *no.* 6, 707–712. (Summary) **99f:05007** 05A15

— On the asymptotics of the growth of 2-step nilpotent groups. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 38–48. (Tatiana Smirnova-Nagnibeda) **99k:20068** 20F18 (20E25, 20F32)

— On the arithmetic of the curves $y^2 = x^l + A$ and their Jacobians. (English summary) *J. Reine Angew. Math.* **501** (1998), 171–189. (Pavlos Tzermias) **99h:11069** 11G30 (14G25, 14H40)

Stoll, P. (*with* Gerlinger, P.; Brüggemann, D.) An implicit multigrid method for the simulation of chemically reacting flows. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 322–345. (Summary) **99e:80001** 80–08 (76J20, 76M25, 80A32)

Stollmann, Peter (*with* Kirsch, Werner; Stolz, Günter) Anderson localization for random Schrödinger operators with long range interactions. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 495–507. (Frédéric Klopp) **99e:82051** 82B44 (47B39, 47B80, 47N50, 81Q10)

— Localization for random perturbations of anisotropic periodic media. (English summary) *Israel J. Math.* **107** (1998), 125–139. (Frédéric Klopp) **99k:82044** 82B44 (35R60, 47B80, 47F05, 47N55)

— (*with* Ouhabaz, El Maati) Stability of the essential spectrum of second-order complex elliptic operators. (English summary) *J. Reine Angew. Math.* **500** (1998), 113–126. (Vladimir Tulovsky) **99f:35142** 35P05 (35J15, 47F05)

— (*with* Kirsch, Werner; Stolz, Günter) Localization for random perturbations of periodic Schrödinger operators. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 3, 241–268. (Frédéric Klopp) **99c:82038** 82B44 (35J10, 35R60, 47B80, 47F05)

Stolot, Kinga (*with* Mazur, Marcin; Tabor, Jacek) Semi-hyperbolicity implies hyperbolicity in the linear case. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 121–126. (Peter E. Kloeden) **99i:58119** 58F15

Stolovitch, Laurent Complète intégrabilité singulière. (English and French summaries) [Singular complete integrability] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 733–736. (J. S. Joel) **99h:32041** 32S65 (17B10, 58F21)

Stolovitzky, Gustavo Non-isothermal inertial Brownian motion. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 240–256. (Summary) **99a:82070** 82C31

Stoltenberg-Hansen, Viggo (*with* Palmgren, Erik) A logical presentation of the continuous functionals. *J. Symbolic Logic* **62** (1997), *no.* 3, 1021–1034. (John P. Helm) **99j:03033** 03D65 (03C57)

Stolyarchuk, R. R. (*with* Slon′ovs′kii, R. V.) Stable multistep methods of numerical integration of rigid systems of differential equations. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2450–2453. (Summary) **99e:65106** 65L05

Stolyarova, N. I. Stability of systems of difference equations with single internal resonance. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 547–551, 575; *translation in Differential Equations* **33** (1997), *no.* 4, 552–556. (Michail G. Blizorukov) **99e:39067** 39A11 (39A10)

Stolz, C. (*with* Pradeilles-Duval, R. M.) Thermomechanical approach of running discontinuities. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 245–251, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73007** 73B30

Stolz, Günter (*with* Kirsch, Werner; Stollmann, Peter) Anderson localization for random Schrödinger operators with long range interactions. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 495–507. (Frédéric Klopp) **99e:82051** 82B44 (47B39, 47B80, 47N50, 81Q10)

— (*with* Kirsch, Werner; Stollmann, Peter) Localization for random perturbations of periodic Schrödinger operators. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 3, 241–268. (Frédéric Klopp) **99c:82038** 82B44 (35J10, 35R60, 47B80, 47F05)

Stolz, Stephan (*with* Kreck, Matthias) A correction on: "Some nondiffeomorphic homeomorphic homogeneous 7-manifolds with positive sectional curvature" [J. Differential Geom. **33** (1991), no. 2, 465–486; MR 92d:53043]. *J. Differential Geom.* **49** (1998), *no.* 1, 203–204. (From the text) **99h:53069** 53C30 (53C21, 57R20, 57R55)

Stolze, J. (*with* Burghardt, B.) Numerical evaluation of coherent-state path integrals in quantum dynamics. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2075–2090. 81R30 (81S40)

Stolzenburg, Frieder (*with* Höhne, Stephan; Koch, Ulrich; Volk, Martin) Constraint logic programming for computational linguistics. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 406–425, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (68N17)

— (*with* Dix, Jürgen) A framework to incorporate non-monotonic reasoning into constraint logic programming. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 47–76. (Summary) **99e:68016** 68N17 (68T27)

— An algorithm for general set unification and its complexity. (English summary) *J. Automat. Reason.* **22** (1999), *no.* 1, 45–63. (Summary) **99k:68175** 68T15 (68N17)

Stomp, Ch. (*with* Brancher, J. P.) Viscous fluid flow near a corner induced by a DC electric current distribution. (English summary) *Magnetohydrodynamics* **33** (1997), *no.* 3, 225–238 (1998). (Summary) **99e:76130** 76W05

Stone, A. H. Some topologists of the 1940s. *Handbook of the history of general topology, Vol. 1*, 105–109, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:01001**) 01A70 (01A60, 54–03)
— σ-fields of bad Borel sets. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 421–426. (Summary) **99a:54025** 54H05 (54B10, 54D10)
Stone, Charles J. (*with* Hansen, Mark H.; Kooperberg, Charles; Truong, Young K.) Polynomial splines and their tensor products in extended linear modeling. (English summary) With discussion and a rejoinder by the authors and Jianhua Z. Huang. *Ann. Statist.* **25** (1997), *no.* 4, 1371–1470. (Summary) **99e:62060** 62G05 (62G07, 62J12)
Stone, Harold S. (*with* McDiarmid, Colin; Johnson, Theodore) On finding a minimum spanning tree in a network with random weights. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 187–204. (Andrzej Ruciński) **99f:68161** 68R10 (05C05, 05C85)
Stone, Howard A. (*with* Lucas, S. K.; Sipcic, R.) An integral equation solution for the steady-state current at a periodic array of surface microelectrodes. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1615–1638. (Yury Petrovich Yatsenko) **99a:92041** 92E20 (65R20)
— (*with* Powers, Thomas R.; Zhang, Dengfu; Goldstein, Raymond E.) Propagation of a topological transition: the Rayleigh instability. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1052–1057. (Summary) **99a:76064** 76E99 (76D45)
— (*with* Lister, John R.) Capillary breakup of a viscous thread surrounded by another viscous fluid. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2758–2764. (Summary) **99i:76044** 76D45 (76E99)
— (*with* Davis, Anthony M. J.) Slow translation, rotation or oscillation of a disk in a rotating fluid: effect of a plane wall or another disk. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 495–513. (Summary) **99f:76131** 76U05 (76D07)
— (*with* Lister, John R.; Brenner, Michael P.; Day, Richard F.; Hinch, E. John) Singularities and similarity solutions in capillary breakup. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow (Haifa, 1997)*, 257–269, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D45
Stone, Marshall Harvey ★ Linear transformations in Hilbert space. Reprint of the 1932 original. American Mathematical Society Colloquium Publications, 15. *American Mathematical Society, Providence, RI*, 1990. viii+622 *pp. ISBN* 0-8218-1015-4 (P. R. Halmos) **99k:47001** 47–02 (01A75, 46–03)
Stone, Richard E. (*with* Naiman, Daniel Q.) A homological characterization of Q-matrices. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 463–478. (Stefan Scholtes) **99g:90148** 90C33
Stone, Thomas J. (*with* Babuška, Ivo M.) A numerical method with a posteriori error estimation for determining the path taken by a propagating crack. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 245–271. (Summary) **99d:73074** 73M25 (73V05)
Stoneham, A. Marshall *see* **Computational and mathematical models of microstructural evolution, 99k:73002**
Stonehewer, Stewart E. (*with* Cossey, John) On the derived length of finite dinilpotent groups. *Bull. London Math. Soc.* **30** (1998), *no.* 3, 247–250. (B. Amberg) **99a:20023** 20D40
— (*with* Cossey, John) Products of finite nilpotent groups. *Comm. Algebra* **27** (1999), *no.* 1, 289–300. (B. Amberg) **99m:20040** 20D40 (20D10, 20D15)
Stong, Richard A. Permutations of the positive integers with specified differences. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 223–231. (Arnold Knopfmacher) **99e:05006** 05A05
— Mapping $\mathbf{Z}^r$ into $\mathbf{Z}^s$ with maximal contraction. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 131–138. (Remo Badii) **99d:54015** 54E40 (68U05, 68U10)
— The average order of a permutation. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 41, 6 *pp.* (*electronic*). (E. Rodney Canfield) **99f:11122** 11N37 (05A16)
— (*with* Hernquist, E.; Newhart, Donald W.) Finding short and light codewords in BCH codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 255–260. (Summary) **99k:94054** 94B15
Stonick, Virginia L. (*with* Coetzee, Frans M.) On producing multiple solutions using repeated trials. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 241–254. (Summary) **99e:65092** 65H10 (65H20)
Stonier, D. J. (*with* Kloeden, Peter E.) Cocycle attractors in nonautonomously perturbed differential equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 211–226. (Björn Schmalfuss) **99c:58101** 58F12 (34G20, 35B40, 47H20, 54H20)
Stonier, R. J. (*with* Mohammadian, M.) Intelligent hierarchical control for obstacle-avoidance. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 733–740, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 93A13 (49N55)
Stoop, R. (*with* Steeb, Willi-Hans) Chaotic family with smooth Lyapunov dependence. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part B*, 7763–7766. (Francisco Balibrea) **99b:58166** 58F13
— (*with* Steeb, Willi-Hans; van Wyk, M. A.) Chaotic maps, control parameter, and Liapunov exponent. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 10, 2653–2655. 58F13
Stoorvogel, Anton A. The H_∞ control problem with zeros on the boundary of the stability domain. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1029–1053. (Summary) **99g:93028** 93B36 (93D09)
— (*with* Weiland, Siep; de Jager, Bram) A behavioral approach to the $\mathscr{H}_\infty$ optimal control problem. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 323–334. (Maria Letizia Corradini) **99c:93039** 93B36 (93A30)
— (*with* Heemels, W. P. M. H.; van Eijndhoven, S. J. L.) Linear quadratic regulator problem with positive controls. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 551–578. (Patrizio Colaneri) **99f:49053** 49N10 (49K15, 93C15)
Stora, R. Exercises in equivariant cohomology. *Quantum fields and quantum space time (Cargèse, 1996)*, 265–279, *NATO Adv. Sci. Inst. Ser. B Phys., 364, Plenum, New York*, 1997. (Ion V. Vancea) **99c:58029** 58D29 (55N91)
Storch, Uwe (*with* Scheja, Günter; Scheja, Ortwin) On regular sequences of binomials. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 115–132. (Aldo Conca) **99k:13017** 13C99 (20M99)
Storchak, S. N. Higher-order path integrals and their transformations. (English summary) *Path integrals: Dubna '96*, 197–202, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40
— The stochastic processes methods in path integration. (English summary) *Symmetry methods in physics, Vol. 2 (Dubna, 1995)*, 543–548, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81S40 (81S20)
Storchi, Giovanni (*with* Hansen, Pierre; Vovor, Tsevi) Paths with minimum range and ratio of arc lengths. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 89–102. (R. C. Entringer) **99a:05133** 05C85 (68R10)
Storcken, Ton (*with* Monsuur, Herman) Measuring intransitivity. (English summary) *Math. Social Sci.* **34** (1997), *no.* 2, 125–152. (Summary) **99a:90023** 90A06 (05C20, 90A05)
— (*with* Klaus, Bettina; Peters, Hans) Strategy-proof reallocation of an infinitely divisible good. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 455–470, *Brepols, Turnhout*, 1998. (Summary) **99j:90005** 90A08 (90A15, 90A80)
— (*with* Klaus, Bettina; Peters, Hans) Strategy-proof division with single-peaked preferences and individual endowments. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 297–311. (Summary) **99a:90022** 90A06
Storer, Robert H. (*with* Wu, S. David; Byeon, Eui-Seok) A graph-theoretic decomposition of the job shop scheduling problem to achieve scheduling robustness. (English summary) *Oper. Res.* **47** (1999), *no.* 1, 113–124. (Summary) **99m:90077** 90B22
Storer, Robin G. Computational magnetohydrodynamics. (English summary) *Computational physics (Canberra, 1996)*, 81–115, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:76152** 76W05 (76Mxx)
Storjohann, Arne Computing Hermite and Smith normal forms of triangular integer matrices. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 25–45. (George D. Poole) **99j:65074** 65F30 (15A21, 15A36)
Storme, Leo (*with* Blokhuis, Aart; O'Keefe, Christine M.; Payne, Stanley E.; Wilbrink, Henny) Covers of PG(3, q) and of finite generalized quadrangles. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 141–157. (W. M. Kantor) **99d:51004** 51E12 (51E14, 51E21, 51E23)
— (*with* Cherowitzo, William E.) α-flocks with oval herds and monomial hyperovals. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 2, 185–199. (Barbu C. Kestenband) **99c:51015** 51E21 (05B25)
— (*with* Penttila, Tim) Monomial flocks and herds containing a monomial oval. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 21–41. (William Cherowitzo) **99e:51008** 51E20 (05B25, 51E12, 51E21)
Størmer, Erling (*with* Haagerup, Uffe) On maximality of entropy in finite von Neumann algebras. *Operator algebras and operator theory (Shanghai, 1997)*, 99–109, *Contemp. Math.*, 228, *Amer. Math. Soc., Providence, RI*, 1998. (A. I. Danilenko) **99m:46152** 46L50 (46L10)
— (*with* Golodets, Valentin Ya.) Entropy of C^*-dynamical systems defined by bitstreams. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 859–874. (Geoffrey Price) **99m:46157** 46L55 (28D20, 46L40)
— (*with* Haagerup, Uffe) Maximality of entropy in finite von Neumann algebras. (English summary) *Invent. Math.* **132** (1998), *no.* 2, 433–455. (Dietmar H. Bisch) **99c:46069** 46L10 (28D20, 46L40, 54C70)
Stormo, Gary D. (*with* Levy, Samuel[2]) DNA sequence classification using DAWGs. (English summary) *Structures in logic and computer science*, 339–352, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (*see* **99b:68008**) 92D20
Stornaiolo, Cosimo (*with* Esposito, Giampiero) Multimomentum maps on null hypersurfaces. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 10, 1395–1403. (Jörg Frauendiener) **99d:83004** 83C05
Storozhenko, È. A. (*with* Saprikin, S.) On some analogs of converse Bernstein inequalities in L_0. Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 111–119. (Jia-Ding Cao) **99b:41006** 41A17 (41A44)
Storozhuk, K. V. (*with* Shvedov, I. A.) L_p cohomology of warped products of Lipschitz Riemannian manifolds. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 633–649, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 549–563. (Jürgen Eichhorn) **99k:58006** 58A12 (58G05)
Stortelder, W. J. H. ★ Parameter estimation in nonlinear dynamic systems. (English summary) CWI Tract, 124. *Stichting Mathematisch Centrum, Centrum voor Wiskunde en Informatica, Amsterdam*, 1998. *vi*+175 *pp. ISBN* 90-6196-482-2 (Engin Yaz) **99j:93002** 93–02 (49K15, 65C20, 93B30, 93E12)
Storti, Duane W. (*with* Ensz, Mark T.; Ganter, Mark A.) Implicit methods for geometry creation. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 509–536. (Summary) **99f:68199** 68U05
Storti, M. (*with* D'Elia, J.; Idelsohn, S.) Algebraic discrete nonlocal (DNL) absorbing boundary condition for the ship wave resistance problem. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 570–602. (Summary) **99f:76109** 76M25 (76B20)
Storvick, David (*with* Park, Chull; Skoug, David) Fourier-Feynman transforms and the first variation. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 277–292. (Kun Soo Chang) **99d:28022** 28C20 (58D30)
Stosiek, Alina (*with* Prestin, Jürgen) Approximation in Hölder norms with higher order differences. (English summary) *Rostock. Math. Kolloq. No.* 51 (1997), 33–50. (P. Vértesi) **99a:41013** 41A17 (41A05)
Stoten, D. P. (*with* Hodgson, S. P.) Passivity-based analysis of the minimal control synthesis algorithm. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 67–84. 93B50 (93B40)
— (*with* di Bernardo, Mario) Application of the minimal control synthesis algorithm to the control and synchronization of chaotic systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 925–938. 93B50 (58F13, 58F40)
— (*with* Hodgson, S. P.) Passivity-based analysis of the decentralized and extended minimal control synthesis algorithms. (English summary) *Internat. J. Control* **69** (1998), *no.* 5, 633–646. 93B51

— (*with* Hodgson, S. P.) Robustness of the minimal control synthesis algorithm with minimal phase plant dynamics of unknown order but known relative degree. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 1–17. 93D09 (93B51)

Stoth, Barbara (*with* Bronsard, Lia) The Ginzburg-Landau equations of superconductivity and the one-phase Stefan problem. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 3, 371–397. (J. R. Ockendon) **99e:82098** 82D55 (35Q55, 35R35, 58E50, 80A22)

— (*with* Garcke, Harald; Nestler, Britta) On anisotropic order parameter models for multi-phase systems and their sharp interface limits. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 87–108. (Jing Xue Yin) **99g:82023** 82B24 (35K99, 58E50)

— (*with* Merz, W.; Pulverer, K.) Construction of an asymptotic model for the oxidation process of silicon. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 711–720. (Summary) **99h:35211** 35Q80 (35R35, 80A22)

Stotskiĭ, A. A. (*with* Hedrick, J. Karl; Yip, P. Patrick) The use of sliding modes to simplify the backstepping control method. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 123–133. (Summary) **99c:93020** 93B12

— (*with* Hedrick, J. Karl; Yip, P. Patrick) A universal stabilizing controller for a cascade dynamical system. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 315–318. 93D15 (93A20)

— (*with* Bartolini, Giorgio; Ferrara, Antonella) Robustness and performance of an indirect adaptive control scheme in presence of bounded disturbances. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 789–793. 93B35 (93C40)

Stott, Jillian A. K. (*with* Denier, James P.) Wave-mean flow interactions in thermally stratified Poiseuille flow. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 2, 121–136. (Sharon O. Seddougui) **99k:76134** 76R05 (76D10, 76E05, 76E30)

Stougie, Leen (*with* Tomasgard, Asgeir; Audestad, Jan A.; Dye, Shane; van der Vlerk, Maarten H.; Wallace, Stein W.) Modelling aspects of distributed processing in telecommunication networks. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 161–184. (*see* **99e:90003**) 90B12

— (*with* Schultz, Rüdiger; van der Vlerk, Maarten H.) Solving stochastic programs with integer recourse by enumeration: a framework using Gröbner basis reductions. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 229–252. (Kurt Marti) **99i:90066** 90C15

Stoustrup, Jakob (*with* Niemann, Hans Henrik) Multiobjective control for multivariable systems with mixed-sensitivity specifications. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 225–243. 93C60 (90C29)

— (*with* Zhao, Ke-You) Computation of the maximal robust $\mathscr{H}_2$ performance radius for uncertain discrete time systems with nonlinear parametric uncertainties. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 33–43. 93B36 (93B40)

— (*with* Kliem, W.; Pommer, C.) Stability of rotor systems: a complex modelling approach. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 644–655. (Summary) **99d:70030** 70J25 (34D20)

Stout, Quentin F. (*with* MacKenzie, Philip D.) Ultrafast expected time parallel algorithms. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 1–33. (Wojciech Rytter) **99f:68082** 68Q22 (52B55)

— (*with* Hardwick, Janis; Page, Connie) Sequentially deciding between two experiments for estimating a common success probability. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1502–1511. (Summary) **99i:62182** 62L10

Stöver, Ronald (*with* Bunse-Gerstner, Angelika) On a conjugate gradient-type method for solving complex symmetric linear systems. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 105–123. (S. F. McCormick) **99j:65078** 65F50

Stowe, Dennis Injectivity and the pre-Schwarzian derivative. *Michigan Math. J.* **45** (1998), *no.* 3, 537–546. (Stephen M. Zemyan) **99h:30008** 30C25 (30C55, 30C75)

Stoy, Joseph E. (*with* Arvind[2]; Maessen, Jan-Willem; Nikhil, Rishiyur S.) A lambda calculus with letrecs and barriers. *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 19–36, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (From the introduction) **99a:68023** 68N15 (03B40)

— (*with* Arvind[2]; Maessen, Jan-Willem; Nikhil, Rishiyur S.) λ_S: an implicitly parallel λ-calculus with recursive bindings, synchronization and side effects. (English summary) *HLCL '98 3rd International Workshop on High-level Concurrent Languages* (*Nice*), 26 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 3, *Elsevier, Amsterdam*, 1998. (*see* **99g:68009**) 68N15 (03B40)

Stoyan, Dietrich Models of random sets and figures. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 87–103, *World Sci. Publishing, River Edge, NJ*, 1997. (Ilya S. Molchanov) **99i:60025** 60D05 (60G55, 62M30)

— (*with* Schlather, M.) The covariance of the Stienen model. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 157–174, *World Sci. Publishing, River Edge, NJ*, 1997. (Volker Schmidt) **99k:60027** 60D05

— (*with* Wälder, O.) Models of markings and thinnings of Poisson processes. (English summary) *Statistics* **29** (1997), *no.* 2, 179–202. (Günter Last) **99e:60116** 60G55 (62H11)

— (*with* Hahn, Ute) Unbiased stereological estimation of the surface area of gradient surface processes. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 4, 904–920. (Hui Ling Le) **99k:60019** 60D05 (62M30)

Stoyan, G. (*with* Mihálykó, C.; Ulbert, Z.) Convergence and nonnegativity of numerical methods for an integrodifferential equation describing batch grinding. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 69–81. (Philip W. Sharp) **99e:65185** 65R20 (45K05, 45L05)

Stoyan, V. A. Terminal control of hyperbolic systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 25–30, 155. (Summary) **99f:49010** 49J20 (49K20)

— On an approach to the investigation of initial-boundary value problems in mathematical physics. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 79–86, 152–153. (Summary) **99j:73048** 73D99 (35A25)

Stoyanov, Jordan M. Some problems of analysis that are solvable by methods of probability theory. (Russian) *Mathematics today '93*, *No.* 8 (*Ukrainian*), 176–194, "*Vishcha Shkola*", *Kiev*, 1993. (*see* **99a:00015**) 60–01

Stoyanov, Luchezar N. Instability and entropy for a class of dispersing billiards. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 737–742. (Edoh Amiran) **99k:58148** 58F17 (58F15)

— Exponential instability for a class of dispersing billiards. (English summary) *Ergodic Theory Dynam. Systems* **19** (1999), *no.* 1, 201–226. (Nikolai Chernov) **99m:58149** 58F20 (54H20, 58F11)

Stoyanov, Todor Some extensions of the Rolle and Gauss-Lucas theorems. (English summary) *Transform methods & special functions, Varna '96*, 473–475, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99i:30043** 30D15

Stoyanova, S. B. Invariant cubature formulas for a hyperoctahedron. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 734–741; *translation in Math. Notes* **61** (1997), *no.* 5-6, 614–620. (Gheorghe Coman) **99d:65084** 65D32 (41A55)

Stoyanovskiĭ, A. V. (*with* Novelli, Jean-Christophe; Pak, I. M.) A direct bijective proof of the hook-length formula. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 53–67. (Christian Krattenthaler) **99h:05123** 05E10 (05A15, 05A19)

— Deformations of Lie algebras, and character formulas. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 84–86; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 66–68. (From the text) **99f:17008** 17B10 (33D80)

Stoye, Jens (*with* Gusfield, Dan) Simple and flexible detection of contiguous repeats using a suffix tree (preliminary version). (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 140–152, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 68Q20 (68P05)

— (*with* Dress, Andreas W. M.; Morgenstern, B.) The number of standard and of effective multiple alignments. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 43–49. (Summary) **99b:92030** 92D20 (05A15)

Stoykov, D. S. Continuous dependence of the solution of a system of differential equations with impulses on the initial condition and on the right-hand side of the system. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 1-2, 97–113. (Lidia Skóra) **99a:34029** 34A37 (34A12)

Straach, Janell (*with* Shvaytser, Haim) Utilizing moment invariants and Gröbner bases to reason about shapes. (English summary) *Comput. Intelligence* **14** (1998), *no.* 4, 461–474. (Summary) **99e:68140** 68T10 (68Q40)

Straccia, Umberto A fuzzy description logic. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 594–599, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 03B52 (68T27)

Strachan, Rodney (*with* King, Maxwell L.; Singh, Sarjinder) Likelihood-based estimation of the regression model with scrambled responses. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 279–290. (Summary) **99i:62154** 62J05 (62D05)

Strada, S. (*with* De Nicolao, G.) Kalman filtering with mixed discrete-continuous observations. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 71–84. (Summary) **99c:93102** 93E11 (93E15)

Straetemans, F. A. J. Resolvent conditions for discretizations of diffusion-convection-reaction equations in several space dimensions. (English summary) *Appl. Numer. Math.* **28** (1998), *no.* 1, 45–67. (Reinhard Redlinger) **99f:65131** 65M12 (65M20)

Strahm, Thomas Polynomial time operations in explicit mathematics. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 575–594. (Wim Veldman) **99j:03050** 03F30 (03D15, 03F50)

— (*with* Marzetta, Markus) The μ quantification operator in explicit mathematics with universes and iterated fixed point theories with ordinals. (English summary) Logic Colloquium '95 (Haifa). *Arch. Math. Logic* **37** (1998), *no.* 5-6, 391–413. (Thomas Glaß) **99m:03122** 03F50 (03F35)

Strahringer, Selma (*with* Wille, Rudolf) Conceptual knowledge processing with ordinal scales. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 293–309, *Heyn, Klagenfurt*, 1998. (Summary) **99f:68048** 68P15

Strakhova, N. V. (*with* Burlakov, Vladimir Mikhaĭlovich; Stenin, A. A.) Control, optimal with respect to fuel consumption, of the angular position of a spacecraft. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 109–118, 154. 49N55 (93C95)

Strakhovskaya, L. G. (*with* Fedorenko, R. P.) A nuclear reactor as a stiff system. Asymptotic methods for the integration of equations of dynamics. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 4, 638–652. 82D75 (65M06)

Strakoš, Zdeněk (*with* Greenbaum, A.; Rozložník, Miroslav) Numerical behaviour of the modified Gram-Schmidt GMRES implementation. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 706–719. (From the summary) **99a:65036** 65F05

— Convergence and numerical behaviour of the Krylov space methods. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 175–196, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (Heike Faßbender) **99d:65111** 65F10 (65F30)

— (*with* Arioli, M.; Pták, Vlastimil) Krylov sequences of maximal length and convergence of GMRES. (English summary) *BIT* **38** (1998), *no.* 4, 636–643. (Summary) **99j:65039** 65F10

— (*with* Björck, Åke; Elfving, Tommy) Stability of conjugate gradient and Lanczos methods for linear least squares problems. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 720–736 (*electronic*). (Summary) **99a:65051** 65F20

Straley, Joseph P. (*with* Kolomeisky, Eugene B.) Phase diagram and correlation exponents for interacting fermions in one dimension. (English summary) *Rev. Modern Phys.* **68** (1996), *no.* 1, 175–214. (Summary) **99c:82008** 82B10 (82B21, 82B26)

Strambach, Karl (*with* Völklein, Helmut) The symplectic braid group and Galois realizations. *Geometric Galois actions*, 2, 139–150, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (John Swallow) **99j:20047** 20F36 (12F12, 14H10, 20G40)

— (*with* Brungs, Hans-Heinrich) Algebras and orthogonal groups. II. (English summary) *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 1–18. (Sebastian Walcher) **99b:17002** 17A30 (17A36, 51F25)

— (*with* Nagy, Peter T.) Loops, their cores and symmetric spaces. (English summary) *Israel J. Math.* **105** (1998), 285–322. (D. A. Robinson) **99h:20105** 20N05 (53C35)

— (*with* Magaard, Kay; Völklein, Helmut) Finite quotients of the pure symplectic braid group. (English summary) *Israel J. Math.* **106** (1998), 13–28. (John Swallow)

99j:20048 20F36 (12F12, 20G40)
— Elliptic geometry of a group. Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 189–192. (*see* **99c:00012**) 51F99
Stramer, O. (*with* Tweedie, R. L.) Existence and stability of weak solutions to stochastic differential equations with non-smooth coefficients. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 577–593. (Kiyomasa Narita) **99b:60096** 60H20 (60G40, 60J25, 62M10)
— (*with* Chan, Kung Sik) Weak consistency of the Euler method for numerically solving stochastic differential equations with discontinuous coefficients. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 1, 33–44. (Eckhard Platen) **99f:60108** 60H10 (60J20, 65U05)
Strampp, Walter (*with* Qiao, Zhi Jun) On different integrable systems sharing the same nondynamical r-matrix. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3271–3279. (Wen Xiu Ma) **99d:58088** 58F07 (35Q58)
Strandt, Sibylle Quadratic congruential generators with odd composite modulus. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 415–426, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65024** 65C10
Strang, Gilbert Wavelets from filter banks. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 59–110, *Springer, Singapore*, 1997. (*see* **99g:65001**) 94A12 (42C15, 94A11)
— Die Mathematik hinter der Satellitennavigation. [The mathematics behind satellite navigation] *Überblicke Mathematik* 1998, 76–80, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99a:00018**) 70M20
— The search for a good basis. (English summary) *Numerical analysis* 1997 (*Dundee*), 212–229, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99f:94006** 94A29 (65F30, 65T99, 94A12)
— (*with* Shen, Jianhong) Asymptotics of Daubechies filters, scaling functions, and wavelets. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 312–331. (Lars F. Villemoes) **99f:94003** 94A12 (42C15)
— (*with* Zhou, Ding-Xuan) Inhomogeneous refinement equations. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 6, 733–747. (Qing Tang Jiang) **99m:42056** 42C15 (41A25)
— The discrete cosine transform, block Toeplitz matrices, and wavelets. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 517–536, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Sushil Sharma) **99k:42069** 42C15
— The discrete cosine transform. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 135–147 (*electronic*). (Krzysztof Nowak) **99k:42070** 42C15 (65T20)
— *see also* **Chui, Charles K., 99b:42012**
Strantzalos, Polychronis (*with* Athanassopoulos, Konstantin; Petrescou, Theodoros) A class of flows on 2-manifolds with simple recurrence. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 618–635. (Krzysztof Ciesielski) **99d:58141** 58F25 (54H20)
Strasburger, Aleksander *see* **Coherent states, differential and quantum geometry, 99k:81004**
Strasser, Helmut Differentiability of statistical experiments. (English summary) *Statist. Decisions* **16** (1998), *no.* 2, 113–130. (Hartmut Milbrodt) **99h:62008** 62B15 (62B10)
Strasser, Wolfgang[1] (*with* Klein, Reinhard) Generation of multiresolution models from CAD-data for real time rendering. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 324–334, *Focus Comput. Graph., Springer, Berlin*, 1997. (*see* **99d:65003**) 65D17
— *see also* **Geometric modeling: theory and practice, 99d:65003**
Strassler, Matthew J. Duality in supersymmetric field theory: general conceptual background and an application to real particle physics. (English summary) *Perspectives of strong coupling gauge theories* (*Nagoya*, 1996), 237–250, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99b:81248** 81T60 (81T13, 81V05)
— (*with* Aharony, Ofer; Hanany, Amihay; Intriligator, Kenneth; Seiberg, Nathan) Aspects of $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 67–99. (Gustavo Dotti) **99b:81227** 81T60 (81T13)
— Duality, phases, spinors and monopoles in SO(N) and Spin(N) gauge theories. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 17, 23 *pp.* (*electronic*). (Angel Maria Uranga) **99m:81264** 81T60 (81T13)
— (*with* Hanany, Amihay; Zaffaroni, Alberto[1]) Confinement and strings in MQCD. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 87–118. (Summary) **99f:81201** 81T60 (81T13, 81T30)
— (*with* Brodie, John H.) Patterns of duality in $N = 1$ SUSY gauge theories. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 224–250. (Daniel N. Kabat) **99j:81180** 81T60 (81T13)
van Straten, Duco (*with* de Jong, Theo) Deformation theory of sandwiched singularities. *Duke Math. J.* **95** (1998), *no.* 3, 451–522. (Gerhard Pfister) **99j:14002** 14B07 (14J17, 32S30)
— (*with* Batyrev, V. V.; Ciocan-Fontanine, Ionuţ; Kim, Bumsig) Conifold transitions and mirror symmetry for Calabi-Yau complete intersections in Grassmannians. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 640–666. (Ralph Martin Kaufmann) **99m:14074** 14J32 (14D05, 14M25, 14N10, 32G20)
— (*with* Fantechi, Barbara; Göttsche, Lothar) Euler number of the compactified Jacobian and multiplicity of rational curves. (English summary) *J. Algebraic Geom.* **8** (1999), *no.* 1, 115–133. (Jim A. Bryan) **99i:14065** 14N10 (14H40, 14J28)
Stratigos, P. D. Relationships between various outer measures induced by lattice measures. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 109–120. (A. Sapounakis) **99h:28010** 28A60 (28A12, 28A33)
Strating, Patrick (*with* van Buuren, René) Fast computation of stationary inviscid flow around an airfoil. (English summary) *J. Engrg. Math.* **35** (1999), *no.* 4, 437–453. 76M20 (76B05, 76H05)
Stratis, Ioannis G. (*with* Athanasiadis, Christodoulos; Ramm, Alexander G.) Inverse acoustic scattering by a layered obstacle. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 1–8, *Plenum, New York*, 1998. (Yongzhi Xu) **99d:76090** 76Q05 (35J05, 35R30)
— (*with* Athanasiadis, Christodoulos) On a transmission problem in elasticity. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 281–300. (Ivan Andronov) **99d:73036** 73D25 (35Q72)
— (*with* Athanasiadis, Christodoulos; Kiriaki, Kiriakie) Electromagnetic wave propagation in stratified media and an application to the magnetotelluric problem. (English summary) *Math. Japon.* **47** (1998), *no.* 3, 405–416. (From the introduction) **99g:78017** 78A40 (34L40, 47E05, 86A20)
— (*with* Athanasiadis, Christodoulos; Kiriaki, Kiriakie) A spectral-theoretic approach for the solution of Maxwell's equations in stratified media. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 685–700. (B. Belinskiy) **99b:78008** 78A40 (35Q60, 78A50)
Stratmann, B. Differentiable structures on symplectic reductions. (English summary) *Transform. Groups* **3** (1998), *no.* 3, 255–267. (Peter Heinzner) **99g:32057** 32M05 (58F05)
Straub, B. (*with* Joswig, Michael) On the numerical range map. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 2, 267–283. (Hiroshi Nakazato) **99i:15039** 15A60 (47A12)
Straub, Dieter ★ Alternative mathematical theory of non-equilibrium phenomena. Mathematics in Science and Engineering, 196. *Academic Press, Inc., San Diego, CA*, 1997. xiv+377 *pp. ISBN* 0-12-673015-6 (Gérard A. Maugin) **99c:76001** 76–02 (80–02, 80A05)
— (*with* Neumaier, M.; Lauster, M.; Lippig, V.; Waibel, R.) The Duhem-Hadamard hypothesis in thermofluiddynamics. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 993–1012. (Summary) **99b:76004** 76A02 (76–05, 80A20)
Straube, Emil J. (*with* Fu, Siqi) Compactness of the $\overline{\partial}$-Neumann problem on convex domains. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 629–641. (Der-Chen E. Chang) **99h:32019** 32F20
— (*with* Boas, Harold P.; Fu, Siqi) The Bergman kernel function: explicit formulas and zeroes. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 805–811. (Anthony D. Thomas) **99f:32037** 32H10
Straubing, Howard Languages defined with modular counting quantifiers (extended abstract). *STACS* 98 (*Paris*, 1998), 332–343, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (From the introduction) **99i:68051** 68Q15 (03C80, 68Q45)
Strauch, Birger On partial classes containing all monotone and zero-preserving total Boolean functions. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 4, 510–524. (S. Rudeanu) **99a:03030** 03B50 (03G20, 06E30, 08A40)
Strauch, Oto A numerical integration method using the Fibonacci numbers. (English summary) *Grazer Mathematische Berichte*, 333, 19–33, *Grazer Math. Ber.*, 333, *Karl-Franzens-Univ. Graz, Graz*, 1997. (Summary) **99h:65038** 65D30 (11B39)
— (*with* Grabner, Peter J.; Tichy, Robert F.) Maldistribution in higher dimensions. (English summary) *Math. Pannon.* **8** (1997), *no.* 2, 215–223. (Gerhard Larcher) **99a:11094** 11K38 (11K31)
— (*with* Tóth, János T.) Asymptotic density of $A \subset \mathbf{N}$ and density of the ratio set $R(A)$. *Acta Arith.* **87** (1998), *no.* 1, 67–78. (Sergeĭ V. Konyagin) **99k:11020** 11B05
Straughan, Brian ★ Explosive instabilities in mechanics. (English summary) *Springer-Verlag, Berlin*, 1998. x+196 *pp. ISBN* 3-540-63589-0 (Gershon Wolansky) **99k:35175** 35Q72 (35B35, 73H99, 76E99)
— (*with* Payne, Lawrence E.) Analysis of the boundary condition at the interface between a viscous fluid and a porous medium and related modelling questions. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 4, 317–354. (Jürgen Socolowsky) **99c:35200** 35Q35 (76D07, 76S05)
— (*with* Payne, Lawrence E.) Structural stability for the Darcy equations of flow in porous media. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1691–1698. (Summary) **99d:76093** 76S05 (76E15)
— (*with* Ames, Karen A.) Stability and Newton's law of cooling in double diffusive flow. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 57–69. (Vladimir Mityushev) **99k:76136** 76R99 (35Q35, 80A20)
Straumann, Norbert (*with* Brodbeck, Othmar) Zero modes of the Dirac operator for regular Einstein-Yang-Mills background fields. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 585–596. (Kenji Tsuboi) **99f:58188** 58G10 (81T13, 81T20)
— (*with* Heusler, M.; Volkov, Mikhail S.) On rotational excitations and axial deformations of BPS monopoles and Julia-Zee dyons. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105021, 16 *pp.* 81T13
Straus, Ernst Gabor *see* **Arkin, Judith L., (99i:00021)**
goodman-Strauss, Chaim *see* **Goodman-Strauss, Chaim**
Strauss, Dona Papert (*with* Koçak, Mahmut) Near ultrafilters and compactifications. *Semigroup Forum* **55** (1997), *no.* 1, 94–109. (Ronnie Levy) **99f:54034** 54E15 (54D35)
— (*with* Hindman, Neil) ★ Algebra in the Stone-Čech compactification. Theory and applications. de Gruyter Expositions in Mathematics, 27. *Walter de Gruyter & Co., Berlin*, 1998. *xiv*+485 *pp. ISBN* 3-11-015420-X (Michael Tkačenko) **99j:54001** 54–02 (05D10, 22A15, 54D35, 54H99)
— (*with* Hindman, Neil) An algebraic proof of Deuber's theorem. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 167–180. (Bruce Landman) **99g:05177** 05D10
Strauss, H. R. (*with* Longcope, D. W.) An adaptive finite element method for magnetohydrodynamics. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 318–336. (Summary) **99h:76062** 76M10 (76W05)
— (*with* Marliani, Christiane) Reconnection of coalescing magnetic islands. (English summary) *Phys. Plasmas* **6** (1999), *no.* 2, 495–502. (Summary) **99j:76139** 76W05 (76M25)
Strauss, Martin Joel (*with* Buhrman, Harry; van Melkebeek, Dieter; Regan, Kenneth W.; Sivakumar, D.) A generalization of resource-bounded measure, with an application (extended abstract). (English summary) *STACS* 98 (*Paris*, 1998), 161–171, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q15
Strauss, V. A. *see* **Shtraus, V. A.**
Strauss, Walter A. (*with* Friedlander, Susan J.; Vishik, M. M.) Nonlinear instability in an ideal fluid. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 2, 187–209. (Arjen Doelman) **99a:76057** 76E30 (35Q35, 76C99)
— Stability and instability in the kinetic theory of plasmas. (English summary) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 249–258. (Summary) **99j:76148** 76X05 (35Q35, 76E25, 82D10)
Strauss, Y. (*with* Eisenberg, Eli; Horwitz, Lawrence P.) The Lax-Phillips semigroup of the unstable quantum system. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 323–332, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Ghias Hachem) **99i:81131** 81S99 (47A40, 47N50)
— (*with* Horwitz, Lawrence P.) Description of unstable systems in relativistic quantum mechanics in the Lax-Phillips theory. (English summary) Parametrized relativistic quantum theory, Part 2 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 10, 1607–1616. (Summary) **99k:81334** 81U20 (47A40, 47N50)

Strawderman, Robert L. (*with* Wells, Martin T.) Accurate bootstrap confidence limits for the cumulative hazard and survivor functions under random censoring. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1356–1374. (Lajos Horváth) **99f:62068** 62G20 (62G09, 62N05)

— (*with* Wells, Martin T.) Approximately exact inference for the common odds ratio in several 2×2 tables. (English summary) With discussion and a reply by the authors. *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1294–1320. (Summary) **99i:62044** 62F10 (62H17)

Strawderman, William E. (*with* Fourdrinier, Dominique; Wells, Martin T.) On the construction of Bayes minimax estimators. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 660–671. (N. Giri) **99e:62102** 62H12 (62C10, 62C20)

— (*with* Fourdrinier, Dominique; Wells, Martin T.) Estimation robuste pour des lois à symétrie elliptique à matrice de covariance inconnue. (English and French summaries) [Robust estimation for elliptically symmetric distributions with unknown covariance matrix] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1135–1140. (P. Laurie Davies) **99m:62084** 62H12 (62C15, 62F35)

Stray, A. (*with* Bonilla, A.; Pérez-González, Fernando[2]; Trujillo-González, R.) Approximation in weighted Hardy spaces. (English summary) *J. Anal. Math.* **73** (1997), 65–89. (Yuan Ren Lou) **99b:30058** 30E10 (30D55)

Streater, R. F. Nonlinear heat equations. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 557–564. (Lorenza Viola) **99d:82070** 82C99 (35C99, 60J65)

— A model of dense fluids. (English summary) *Quantum probability* (*Gdańsk*, 1997), 381–393, *Banach Center Publ.*, **43**, *Polish Acad. Sci., Warsaw*, 1998. (Roman Gielerak) **99k:82031** 82B30 (80A20, 82C21, 82C70)

Strebel, Kurt Extremal Teichmüller mappings with given asymptotic behaviour. *Analysis and topology*, 677–695, *World Sci. Publishing, River Edge, NJ*, 1998. (Keiichi Shibata) **99k:30032** 30C62 (30F60)

— Point shift differentials and extremal quasiconformal mappings. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 475–494. (A. Hinkkanen) **99j:30022** 30C62

Strecker, George E. (*with* Herrlich, Horst) Categorical topology—its origins, as exemplified by the unfolding of the theory of topological reflections and coreflections before 1971. *Handbook of the history of general topology, Vol.* 1, 255–341, *Kluwer Acad. Publ., Dordrecht*, 1997. (Jiří Rosický) **99f:54003** 54–03 (01A60, 18B30, 54B30)

— (*with* Herrlich, Horst) When is **N** Lindelöf? (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 553–556. (Vinodkumar) **99c:03070** 03E25 (26A03, 54A35, 54D20)

Stredulinsky, Edward (*with* Ziemer, William P.) Area minimizing sets subject to a volume constraint in a convex set. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 4, 653–677. (Carlo Bardaro) **99k:49089** 49Q10 (49N35)

Street, Anne Penfold (*with* Delaney, Cathy; Gray, Brenton D.; Gray, Ken; Maenhaut, Barbara M.; Sharry, Martin J.) Pointwise defining sets and trade cores. (English summary) *Australas. J. Combin.* **16** (1997), 51–76. (Dinesh G. Sarvate) **99b:05017** 05B05

— *see also* **Papers in honor of Anne Penfold Street**

Street, Deborah J. Block and other designs used in agriculture. *Design and analysis of experiments*, 759–808, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K10

— Orthogonal arrays as designed experiments. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 81–101. (Sanpei Kageyama) **99g:05034** 05B15 (62K15)

— (*with* Goh, Derek) Projective properties of small Hadamard matrices and fractional factorial designs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 141–148. (Summary) **99i:05045** 05B20

Street, Ross (*with* Day, Brian J.) Monoidal bicategories and Hopf algebroids. *Adv. Math.* **129** (1997), *no.* 1, 99–157. (Graham J. Ellis) **99f:18013** 18D10 (16W30)

— Fusion operators and cocycloids in monoidal categories. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 177–191. (Sorin Dăscălescu) **99d:18008** 18D10 (16W30, 17B37)

— The quantum double and related constructions. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 2, 195–206. (E. J. Taft) **99e:16054** 16W30 (18D10)

Street, W. N. (*with* Bradley, P. S.; Mangasarian, O. L.) Feature selection via mathematical programming. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 209–217. (Summary) **99c:90114** 90C30 (68T05, 90C90)

Strehmel, K. (*with* Eichler-Liebenow, C.; Nguyen Huu Cong; Weiner, Rüdiger) Linearly implicit splitting methods for higher space-dimensional parabolic differential equations. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 259–274. (Summary) **99f:65135** 65M20

— (*with* Lucht, W.) Discretization based indices for semilinear partial differential algebraic equations. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 371–386. (Xin Yuan Wu) **99m:65171** 65M12 (65M06)

— *see also* **Conference: Numerical Treatment of Differential Equations, 99e:65002**

Streibel, Mariane (*with* Harvey, Andrew C.) Tests for deterministic versus indeterministic cycles. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 5, 505–529. (Summary) **99e:62156** 62M10

Streicher, Th. (*with* Reus, B.) General synthetic domain theory—a logical approach (extended abstract). (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 293–313, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q55 (03B15, 06B35)

Streinu, Ileana (*with* Steiger, William) Illumination by floodlights. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 57–70. (Stelian S. Dumitrascu) **99b:52042** 52C15 (52B55, 65Y25, 68U05)

— (*with* O'Rourke, Joseph) The vertex-edge visibility graph of a polygon. (English summary) *Comput. Geom.* **10** (1998), *no.* 2, 105–120. (Stelian S. Dumitrascu) **99c:52014** 52B05

Streit, Ludwig (*with* Grothaus, Martin; Khandekar, Dinkar C.; da Silva, José L.) The Feynman integral for time-dependent anharmonic oscillators. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3278–3299. (T. Hida) **99c:46083** 46N50 (46G12, 60H99, 81S40)

— (*with* Grothaus, Martin; Kondrat'ev, Yu. G.) Complex Gaussian analysis and the Bargmann-Segal space. (English summary) *Methods Funct. Anal. Topology* **3** (1997), *no.* 2, 46–64. (Habib Ouerdiane) **99h:46073** 46F25 (46E50, 46G20, 60H99)

— (*with* Benth, Fred Espen) The Burgers equation with a non-Gaussian random force. *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 187–210, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Alp O. Eden) **99j:35238** 35R60 (35Q53, 60H15)

— (*with* Kondrat'ev, Yu. G.; Westerkamp, Werner; Yan, Jia An) Generalized functions in infinite-dimensional analysis. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 213–260. (Nobuaki Obata) **99m:46106** 46F25 (46E50, 60H99)

— (*with* Kondrat'ev, Yu. G.; da Silva, José L.; Us, G. F.) Analysis on Poisson and gamma spaces. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 91–117. (Isamu Dôku) **99i:60100** 60G55 (47B38, 60H99)

Strekalovskiĭ, A. S. Global optimality conditions for nonconvex optimization. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 415–434. (Summary) **99d:90086** 90C26 (90C48)

Strekolovskaya, N. S. On the retract of the exponential $\exp_2 X$ of the compact Hausdorff space X. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 77–79. 54C15 (54B20, 54D30)

— Regularity in the product of proximity spaces. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 125–129. (Summary) **99c:54041** 54E05 (54B10)

Strekopytova, M. V. Investigation of a linear system on a plane. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 709–711,720; *translation in Differential Equations* **33** (1997), *no.* 5, 713–716 (1998). (Nicolay A. Magnitskiĭ) **99b:34085** 34D05 (93D20)

Strela, Vasily Multiwavelets: regularity, orthogonality, and symmetry via two-scale similarity transform. (English summary) *Stud. Appl. Math.* **98** (1997), *no.* 4, 335–354. (Summary) **99c:42074** 42C15

— (*with* Plonka, Gerlind) From wavelets to multiwavelets. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 375–399, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Eugenio Hernández) **99h:42065** 42C15 (65T20)

— A note on construction of biorthogonal multi-scaling functions. (English summary) *Wavelets, multiwavelets, and their applications* (*San Diego, CA*, 1997), 149–157, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:42013** 42A38 (41A30, 42C15)

— (*with* Plonka, Gerlind) Construction of multiscaling functions with approximation and symmetry. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 481–510 (*electronic*). (L. Leindler) **99b:41012** 41A30 (42C15)

Strelcyn, J.-M. (*with* Maciejewski, Andrzej J.) Non-integrability of the generalized Halphen system. (English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 3–12. (José A. Castro) **99f:34011** 34A34

Strelen, Johann Christoph (*with* Bärk, Berthold; Becker, Jürgen; Jonas, Volker) Analysis of queueing networks with blocking using a new aggregation technique. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 121–142. (Summary) **99b:90062** 90B22 (60K25)

Strelkov, N. A. Universally optimal wavelets. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 1, 147–160; *translation in Sb. Math.* **188** (1997), *no.* 1, 157–171. (I. Ya. Novikov) **99k:42071** 42C15 (41A46)

Streltsov, Simon (*with* Castañon, David; Vakili, Pirooz) Optimality of index policies for a sequential sampling problem. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 145–148. (Summary) **99k:93093** 93E20 (62L15, 90C15)

Stremme, Alexander (*with* Frey, Rüdiger) Market volatility and feedback effects from dynamic hedging. (English summary) *Math. Finance* **7** (1997), *no.* 4, 351–374. (Summary) **99a:90038** 90A09

Strempel, T.-K. (*with* Groß, C.) Topologie verallgemeinerter Kegelschnitte. (German summary) [Topology of generalized conics] *Math. Semesterber.* **44** (1997), *no.* 2, 139–151. (Hellmuth Stachel) **99f:51035** 51N20

— (*with* Groß, C.) On generalizations of conics and on a generalization of the Fermat-Torricelli problem. *Amer. Math. Monthly* **105** (1998), *no.* 8, 732–743. (V. Volenec) **99k:51018** 51F99

Streuding, G. C. (*with* Chen, Guanrong) Stability analysis of controlled multiple-link robotic manipulator systems with time delays. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 1, 53–74. (Edward Jezierski) **99a:93075** 93D05 (34K35, 70B15, 93C85)

Strianese, M. (*with* Pavlotskiĭ, I. P.; Toscano, Raffaele) Continuation of the solution of differential equations to a singular set. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 313–319, 428–429; *translation in Differential Equations* **34** (1998), *no.* 3, 312–319. (Summary) **99i:34005** 34A12 (34C99, 70H35)

Stříbrná, Jitka Hardness results for weak bisimilarity of simple process algebras. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (Summary) **99i:68038** 68Q10 (68Q25)

Strichartz, Robert S. Fractals in the large. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 638–657. (Manuel Morán) **99f:28015** 28A80 (28A78)

— (*with* Lund, John-Peter; Vinson, Jade P.) Cauchy transforms of self-similar measures. (English summary) *Experiment. Math.* **7** (1998), *no.* 3, 177–190. (Summary) **99k:28012** 28A80 (30E20)

— Isoperimetric estimates on Sierpinski gasket type fractals. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1705–1752. (Christoph Bandt) **99h:28021** 28A80 (28A75)

— (*with* Ayer, Elizabeth) Exact Hausdorff measure and intervals of maximum density for Cantor sets. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3725–3741. (Christoph Bandt) **99m:28014** 28A78 (28A80)

Stricker, C. (*with* Yan, Jia An) Some remarks on the optional decomposition theorem. (English summary) *Séminaire de Probabilités, XXXII*, 56–66, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Martin Schweizer) **99j:60058** 60G44 (60G48, 90A09)

Strickland, E. Projective spaces in flag varieties. *Comm. Algebra* **26** (1998), *no.* 5, 1651–1655. (Aigli Papantonopoulou) **99e:14060** 14M15

Strickland, Neil P. (*with* Christensen, J. Daniel) Phantom maps and homology theories. (English summary) *Topology* **37** (1998), *no.* 2, 339–364. (Summary) **99k:55008** 55P42

— Morava *E*-theory of symmetric groups. (English summary) *Topology* **37** (1998), *no.* 4, 757–779. (John Hunton) **99e:55008** 55N22 (55P42, 55R40)

— (*with* Hovey, Mark) Morava *K*-theories and localisation. (English summary) *Mem. Amer. Math. Soc.* **139** (1999), *no.* 666, *viii*+100 *pp.* (J. P. C. Greenlees) **99b:55017** 55P60 (55N22, 55P42, 55T15)

van Strien, Sebastian (*with* Levin, Genadi M.) Local connectivity of the Julia set of real polynomials. (English summary) *Ann. of Math.* (2) **147** (1998), *no.* 3, 471–541. (Jacek Graczyk) **99e:58143** 58F23 (30D05, 58F03)

Stringer, S. M. (*with* Hunter, N.; Woolhouse, M. E. J.) A mathematical model of the dynamics of scrapie in a sheep flock. (English summary) *Math. Biosci.* **153** (1998), *no.* 2, 79–98. 92D30

Strintzis, Michael G. (*with* Tzovaras, Dimitrios) Use of nonlinear principal component analysis and vector quantization for image coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 8, 1218–1223. 94A12

Strobach, Niko Time and development in Kripke's *Naming and necessity*. (English summary) *Theoria (San Sebastián)* (2) **13** (1998), *no.* 33, 503–517. 03B65 (03A05, 03B45)

Strobl, Thomas (*with* Gegenberg, J.; Kunstatter, G.) Statistical mechanical entropy of two-dimensional black holes. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 254–257, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57

— (*with* Gegenberg, J.; Kunstatter, G.) Edge states and entropy of two-dimensional black holes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7651–7665. (Summary) **99c:83052** 83C57

— (*with* Düchting, Norbert; Shabanov, Sergei V.) BRST inner product spaces and the Gribov obstruction. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 485–514. (Mohamed Kachkachi) **99k:81322** 81T70 (81T13, 81T50)

Strocchi, Franco (*with* Buchholz, Detlev; Doplicher, Sergio; Morchio, Gianni; Roberts, John E.) A model for charges of electromagnetic type. *Operator algebras and quantum field theory (Rome, 1996)*, 647–660, *Internat. Press, Cambridge, MA*, 199?. (Władysław Adam Majewski) **99a:81092** 81T05 (46L60)

— (*with* Mnatsakanova, M. N.; Morchio, Gianni; Vernov, Yu. S.) Irreducible representations of the Heisenberg algebra in Krein spaces. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2969–2982. (Gerald Hofmann) **99j:81080** 81S05 (22E27, 46C20, 47B50, 47N50)

Stroeker, Roelof J. (*with* de Weger, Benjamin M. M.) Solving elliptic Diophantine equations: the general cubic case. *Acta Arith.* **87** (1999), *no.* 4, 339–365. (Guillaume Hanrot) **99m:11029** 11D25 (11G05, 11Y50)

— (*with* de Weger, Benjamin M. M.) Elliptic binomial Diophantine equations. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1257–1281. (Yuri Bilu) **99i:11122** 11Y50 (11D25)

Stroethoff, Karel Compact Toeplitz operators on Bergman spaces. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 151–160. (Daniel H. Luecking) **99i:47046** 47B35 (32A37, 47B07)

Stroffolini, Bianca (*with* Cianchi, Andrea) An extension of Hedberg's convolution inequality and applications. *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 166–186. (Juha Heinonen) **99j:41056** 41A65 (42B30)

Stroganov, Yu. G. (*with* Boos, H. E.) Kashiwara-Miwa model and elliptic IRF hierarchies. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 353–369. (Robert A. Weston) **99f:82018** 82B23 (82B20)

Strogatz, Steven H. (*with* Yeung, M. K. Stephen) Nonlinear dynamics of a solid-state laser with injection. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4421–4435. (Summary) **99h:78025** 78A60 (78A55)

Strogova, Polina Finding a finite group presentation using rewriting. *Symbolic rewriting techniques (Ascona, 1995)*, 267–276, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (D. F. Holt) **99d:20046** 20F05 (68Q42)

— (*with* Lynch, Christopher) SOUR graphs for efficient completion. (English summary) *Discrete Math. Theor. Comput. Sci.* **2** (1998), 1–25. (Summary) **99i:68072** 68Q42 (68P05)

Ströh, Anton (*with* Bapela, Manas) Every Banach algebra has the spectral radius property. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 114–117. (Naum Ya. Krupnik) **99g:46060** 46H05 (47A10)

Ströhmer, Gerhard (*with* Zajączkowski, Wojciech M.) Existence and stability theorems for abstract parabolic equations, and some of their applications. (English summary) *Singularities and differential equations (Warsaw, 1993)*, 369–382, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Rodolfo Salvi) **99c:34141** 34G20 (35K55, 47N20)

— (*with* Zajączkowski, Wojciech M.) On the existence and properties of the rotationally symmetric equilibrium states of compressible barotropic self-gravitating fluids. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1181–1220. (Gershon Wolansky) **99g:76124** 76N10 (35Q35, 76M30, 76U05)

Stroinski, Uwe Invariant cones and oscillation of linear difference equations. (English summary) *Advances in difference equations (Veszprém, 1995)*, 579–587, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39042** 39A10 (39A11)

Strojnowski, Andrzej On torsion-free groups with trivial center. (English summary) *Infinite groups 1994 (Ravello)*, 241–246, *de Gruyter, Berlin*, 1996. (Juan Pablo Rossetti) **99b:20062** 20F34

— On residually finite groups and their generalizations. (English summary) *Colloq. Math.* **79** (1999), *no.* 1, 25–35. (D. J. S. Robinson) **99k:20059** 20E26 (20C07, 20F16)

Stroll, Avrum Proper names, names, and fictive objects. *J. Philos.* **95** (1998), *no.* 10, 522–534. 03A05 (03B65)

Strömberg, A.-B. (*with* Larsson, Torbjörn; Patriksson, Michael) Ergodic convergence in subgradient optimization. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 93–120. (Summary) **99c:90123** 90C30 (49J52, 65K05)

Strömberg, Jan-Olov Computation with wavelets in higher dimensions. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 523–532 (*electronic*). (Gerlind Plonka) **99j:65250** 65T99 (41A15, 42C15)

Strömberg, N. (*with* Christensen, P. W.; Klarbring, Anders; Pang, Jong-Shi) Formulation and comparison of algorithms for frictional contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 1, 145–173. (David E. Stewart) **99c:73070** 73T05 (73V20)

Strominger, Andrew (*with* Maldacena, Juan M.; Witten, Edward) Black hole entropy in M-theory. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 2, 16 *pp.* (*electronic*). (Jeremy Michelson) **99d:83097** 83E30 (14J32, 32J81, 81T30, 83C57)

— (*with* Douglas, Michael R.; Polchinski, Joseph) Probing five-dimensional black holes with D-branes. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 3, 20 *pp.* (*electronic*). (Jeremy Michelson) **99b:83069** 83E30 (81T30, 83C57)

— Black hole entropy from near-horizon microstates. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 9, 11 *pp.* (*electronic*). (Marco Spaans) **99d:83068** 83C57 (83E30)

— (*with* Maldacena, Juan M.) Statistical entropy of de Sitter space. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 14, 5 *pp.* (*electronic*). (Marco Spaans) **99e:83037** 83C57 (81T13, 83C45, 83E30)

Stronska, Ewa On the maximal families for some special classes of strongly quasi-continuous functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 743–752. (T. H. Steele) **99g:26008** 26A15 (54C08, 54C30)

Stroock, Daniel W. (*with* Turetsky, James) Short time behavior of logarithmic derivatives of the heat kernel. (English summary) *Asian J. Math.* **1** (1997), *no.* 1, 17–33. (Ana Bela Cruzeiro) **99b:58225** 58G11 (35K15, 58G32, 60H30)

— (*with* Turetsky, James) Upper bounds on derivatives of the logarithm of the heat kernel. (English summary) *Comm. Anal. Geom.* **6** (1998), *no.* 4, 669–685. (Alberto G. Setti) **99k:58174** 58G11 (35K05)

— ★ A concise introduction to the theory of integration. (English summary) Third edition. *Birkhäuser Boston, Inc., Boston, MA*, 1999. *xiv*+253 *pp. ISBN* 0-8176-4073-8 (From the preface) **99i:28003** 28–01 (26–01)

Stroppel, Markus A characterization of quaternion planes, revisited. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 179–187. (Norbert Knarr) **99m:51024** 51H20 (51A10)

— Bemerkungen zur ersten nicht Desarguesschen ebenen Geometrie bei Hilbert. [Remarks on the first non-Desarguesian plane geometry of Hilbert] *J. Geom.* **63** (1998), *no.* 1-2, 183–195. (Rainer Löwen) **99k:51019** 51H10

— (*with* Schwachhöfer, Martin) Finding representatives for the orbits under the automorphism group of a bounded abelian group. (English summary) *J. Algebra* **211** (1999), *no.* 1, 225–239. (Manfred Dugas) **99j:20064** 20K30 (20K10)

Stroth, Gernot (*with* Baumeister, Barbara) The non-canonical gluings of two affine spaces. (English summary) *Groups and geometries (Siena, 1996)*, 9–28, *Trends Math., Birkhäuser, Basel*, 1998. (Dmitrii V. Pasechnik) **99k:51013** 51E24 (20F05, 51E20)

— (*with* Fukshansky, A.) Semiclassical parabolic systems related to M_{24}. (English summary) *Geom. Dedicata* **70** (1998), *no.* 3, 305–329. (Dmitrii V. Pasechnik) **99d:20023** 20D08 (51E24)

Strothmann, Willy-B. (*with* Czumaj, Artur) Bounded degree spanning trees (extended abstract). (English summary) *Algorithms—ESA '97 (Graz)*, 104–117, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68R10

Strotmann, Harald A new Tchebycheff-type inequality for deviations from the median. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 43–57 (1998). 62E15

Strouboulis, T. (*with* Babuška, Ivo M.; Gangaraj, S. K.) A posteriori estimation of the error in the recovered derivatives of the finite element solution. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 369–396. (Gert Lube) **99c:65194** 65N15 (65N30)

— (*with* Babuška, Ivo M.; Upadhyay, C. S.) A model study of the quality of a posteriori error estimators for finite element solutions of linear elliptic problems, with particular reference to the behavior near the boundary. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 14, 2521–2577. (Mark Ainsworth) **99a:73116** 73V05 (65N30)

— (*with* Babuška, Ivo M.; Ihlenburg, Frank; Gangaraj, S. K.) A posteriori error estimation for finite element solutions of Helmholtz' equation. II. Estimation of the pollution error. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 21, 3883–3900. (Zhangxin Chen) **99a:76080** 76M10 (65N30, 76Q05)

— (*with* Babuška, Ivo M.; Gangaraj, S. K.; Copps, K.; Datta, Dibyendu Kumar) Practical aspects of a posteriori estimation for reliable finite element analysis. (English summary) *Comput. & Structures* **66** (1998), *no.* 5, 627–664. (Summary) **99a:73117** 73V05

— (*with* Babuška, Ivo M.; Hugger, Jens; Copps, K.; Gangaraj, S. K.) The asymptotically optimal meshsize function for bi-p degree interpolation over rectangular elements. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 185–221. (Qian Li) **99d:65309** 65N30

Stroud, C. R., Jr. (*with* Bellomo, Paolo) Dispersion of Klauder's temporally stable coherent states for the hydrogen atom. (English summary) *J. Phys. A* **31** (1998), *no.* 24, *L*445–*L*450. (Summary) **99b:81089** 81R30

Strüber, Bernd Multiparameter quantum matrices over skew fields. (English summary) *J. Algebra* **208** (1998), *no.* 2, 551–574. (Mitsuhiro Takeuchi) **99m:15006** 15A21 (16K20)

Struchtrup, Henning On the number of moments in radiative transfer problems. (English summary) *Ann. Physics* **266** (1998), *no.* 1, 1–26. (Summary) **99d:85001** 85A25

— Projected moments in relativistic kinetic theory. (English summary) *Phys. A* **253** (1998), *no.* 1-4, 555–593. (Nicola Bellomo) **99e:82086** 82C40 (76P05)

— *see also* **Müller, Ingo, 99h:80001**

Struckmeier, Jens Generation of random variates using asymptotic expansions. (English summary) *Computing* **59** (1997), *no.* 4, 331–347. (Gheorghe Barbu) **99b:65008** 65C10

— Some estimates on the Boltzmann collision operator. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 7, 1023–1033. (Giuseppe Toscani) **99e:82087** 82C40 (45K05, 76P05)

— (*with* Günther, Marco; Le Tallec, Patrick; Perlat, J. P.) Numerical modeling of gas flows in the transition between rarefied and continuum regimes. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 222–241, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76115** 76M25 (76P05)

— (*with* Cercignani, Carlo; Lampis, Maria) New models for the differential cross section of a polyatomic gas in the frame of the scattering kernel theory. *Mech. Res. Comm.* **25** (1998), *no.* 3, 231–236. (Anne Nouri) **99c:82058** 82C40 (76P05)

Strugholtz, H. (*with* Pigeot, I.) Jackknifing the Mantel-Haenszel estimator in sparse contingency tables. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 433–441. (Summary) **99i:62135** 62H17

Strugov, Yu. F. Extremal mappings that are quasi-conformal in the mean, and Q_p-mappings. (Russian) *Algebra and mathematical analysis* (*Russian*), 14–30, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 30C65

— (*with* Sychev, A. V.) Various classes of n-dimensional mappings that are quasiconformal in the mean. (Russian) *Algebra and mathematical analysis* (*Russian*), 104–125, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 30C65

Struik, René (*with* Litsyn, Simon; Solé, Patrick) On the covering radius of an unrestricted code as a function of the rate and dual distance. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 177–191. (Antoine Lobstein) **99g:94023** 94B65 (94B75)

Strumia, Alberto (*with* Palese, Lidia) Supplementary balance laws and convexity conditions in the presence of massive Yang-Mills fields. I. Convex energy density of the free YM fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 225–232. (Summary) **99d:81085a** 81T13 (53C80)

— (*with* Palese, Lidia) Supplementary balance laws and convexity conditions in the presence of massive Yang-Mills fields. II. YM magneto-hydrodynamics. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 233–241. (Summary) **99d:81085b** 81T13 (53C80)

— (*with* Boillat, Guy) On the Born-Infeld electron: spin effects. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 1–11. (R. L. Ingraham) **99j:78006** 78A02 (78A97)

Struminskiĭ, Vladimir Vasil'evich *see* **Obituary: Struminskiĭ, Vladimir Vasil'evich**

Strunkov, S. P. (*with* Sidel'nikov, V. M.) On some arithmetic properties of orbit codes in a matrix space. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 185–186; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1328–1329. 94B40 (94B25)

Strunz, Walter T. (*with* Percival, Ian C.) Classical mechanics from quantum state diffusion—a phase-space approach. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1801–1813. (Günter Braunss) **99h:81115** 81S30 (81R30, 82C31)

— (*with* Percival, Ian C.) Classical dynamics of quantum localization. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1815–1830. (Günter Braunss) **99h:81116** 81S30 (81R30)

— (*with* Diósi, Lajos; Gisin, Nicolas) Non-Markovian quantum state diffusion. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1699–1712. (Constantin Syros) **99h:81103** 81S20 (60J25, 60J60)

— (*with* Diósi, Lajos; Gisin, Nicolas) Open system dynamics with non-Markovian quantum trajectories. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 9, 1801–1805. (Summary) **99k:82054** 82C10 (82C31)

Struppa, Daniele C. (*with* Sabadini, Irene) Some open problems on the analysis of the Cauchy-Fueter system in several variables. Exact WKB analysis and Fourier analysis in the complex domain (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1001 (1997), 1–21. (Michael V. Shapiro) **99e:30039** 30G35

— On the "grouping" phenomenon for holomorphic solutions of infinite order differential equations. Exact WKB analysis and Fourier analysis in the complex domain (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1001 (1997), 22–38. (Yoshifumi Ito) **99f:32011** 32A45 (30D10, 30E05, 34A35)

— Complex analysis. (Italian) *Italian mathematics after Unity* (*Italian*), 159–184, *Mat. Ital. Unità*, 1, *Marcos y Marcos, Milan*, 1998. (Editors) **99m:01028** 01A60

— (*with* Colombo, Fabrizio; Loustaunau, Philippe; Sabadini, Irene) Regular functions of biquaternionic variables and Maxwell's equations. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 183–201. (Igor M. Mitelman) **99g:32021** 32D20 (30G35, 78A25)

Strusevich, V. A. Multi-stage scheduling problems with precedence constraints. *Applications of combinatorial mathematics* (*Oxford*, 1994), 215–232, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Stanislav Palúch) **99a:90110** 90B35 (90C60)

— A greedy open shop heuristic with job priorities. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 253–270. (Frank Werner) **99k:90092** 90B35 (68Q25)

— (*with* Drobouchevitch, Inna G.) Heuristics for short route job shop scheduling problems. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 3, 359–375. (Summary) **99h:90048** 90B35 (90C35)

— (*with* Chen, Bo; Potts, Chris N.) Approximation algorithms for two-machine flow shop scheduling with batch setup times. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 255–271. (Bao Sheng Hu) **99f:90046** 90B35 (90C35)

— (*with* Shafranskiĭ, Ya. M.) The open shop scheduling problem with a given sequence of jobs on one machine. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 7, 705–731. (Summary) **99e:90053** 90B35 (90C35)

— (*with* Drobouchevitch, Inna G.) A heuristic algorithm for two-machine re-entrant shop scheduling. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 417–439. (*see* **99k:90002**) 90B35 (90C27)

— (*with* Gordon, V. S.) Earliness penalties on a single machine subject to precedence constraints: SLK due date assignment. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 157–177. 90B35 (90C90)

Strutt, John William, Lord Rayleigh Aerial plane waves of finite amplitude [Proc. Roy. Soc. London Ser. A **84** (1910), 247–284]. *Classic papers in shock compression science*, 361–404, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76N10 (35Q35, 76L05)

Struve, Horst (*with* Struve, Rolf) Leibniz als Wahrscheinlichkeitstheoretiker. (English summary) [Leibniz as a theoretician of probability theory] *Studia Leibnitiana* **29** (1997), *no.* 1, 112–122. (Summary) **99k:01019** 01A45 (60–03)

Struve, Rolf (*with* Struve, Horst) Leibniz als Wahrscheinlichkeitstheoretiker. (English summary) [Leibniz as a theoretician of probability theory] *Studia Leibnitiana* **29** (1997), *no.* 1, 112–122. (Summary) **99k:01019** 01A45 (60–03)

Struwe, Michael (*with* Müller, Stefan) Global existence of wave maps in 1 + 2 dimensions with finite energy data. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 245–259. (Caio J. C. Negreiros) **99b:58063** 58E20 (35L70)

— (*with* Freire, Alexandre; Müller, Stefan C.) Weak convergence of wave maps from (1 + 2)-dimensional Minkowski space to Riemannian manifolds. (English summary) *Invent. Math.* **130** (1997), *no.* 3, 589–617. (Caio J. C. Negreiros) **99g:58035** 58E20

— (*with* Schlatter, A. E.; Tahvildar-Zadeh, A. Shadi) Erratum: "Global existence of the equivariant Yang-Mills heat flow in four space dimensions" [Amer. J. Math. **120** (1998), no. 1, 117–128; MR 98k:58063]. *Amer. J. Math.* **120** (1998), *no.* 4, 690. 58E15 (53C07, 58G11)

— (*with* Tarantello, Gabriella) On multivortex solutions in Chern-Simons gauge theory. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 109–121. (Yisong Yang) **99c:58041** 58E15 (35J60, 53C21)

— Uniqueness of harmonic maps with small energy. (English summary) *Manuscripta Math.* **96** (1998), *no.* 4, 463–486. (Martin Fuchs) **99f:58053** 58E20

— Evolution problems in geometry and mathematical physics. (English summary) *Prospects in mathematics* (*Princeton, NJ*, 1996), 83–101, *Amer. Math. Soc., Providence, RI*, 1999. (Matteo Novaga) **99m:58075** 58E50 (35K99, 35Q99)

Strygin, Vadim V. (*with* Blatov, Igor A.; Blatova, Victoria V.; Rozhec, Yurii B.) Galerkin-Petrov method for strongly nonlinear singularly perturbed boundary value problems on special meshes. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 321–332. (George W Reddien) **99d:65225** 65L10 (34E15, 65L60, 65L70)

— (*with* Esipenko, D. G.) A hybrid method for constructing asymptotics for a nonlinear singularly perturbed Cauchy problem with rapidly oscillating conditionally periodic coefficients. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 320–325, 429; *translation in Differential Equations* **34** (1998), *no.* 3, 320–325. (Yuri V. Rogovchenko) **99k:34119** 34E05 (34E15)

— (*with* Blatov, Igor A.) On best possible order of convergence estimates in the collocation method and Galerkin's method for singularly perturbed boundary value problems for systems of first-order ordinary differential equations. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 683–715. (Summary) **99i:65079** 65L60 (34A45, 65L10)

Stryhn, Henrik (*with* Istas, Jacques) Discretely observing a white noise change-point model in the presence of blur. (English summary) *Bernoulli* **4** (1998), *no.* 2, 185–201. (Summary) **99k:62164** 62M10

Stryła, Jerzy Isometric embeddings of the reduced horizon of a Kerr-Newman black hole into Euclidean 3-space. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2303–2310. (Paul E. Ehrlich) **99m:83140** 83C57 (53C50, 53C80, 83C20)

Stuart, Andrew M. (*with* González, Oscar) On the qualitative properties of modified equations. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 169–179, *Springer, Berlin*, 1997. (Ram Krishan Sharma) **99m:65154** 65L99

— Convergence and stability in the numerical approximation of dynamical systems. *The state of the art in numerical analysis* (*York*, 1996), 145–169, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Werner M. Seiler) **99e:34018** 34A45 (34C35, 58F10, 58F15, 58F30, 65L20)

— (*with* Higham, Desmond J.) Analysis of the dynamics of local error control via a piecewise continuous residual. (English summary) *BIT* **38** (1998), *no.* 1, 44–57. (Summary) **99d:65235** 65L70 (34A45)

— (*with* Lamba, Harbir) Convergence results for the MATLAB ODE23 routine. (English summary) *BIT* **38** (1998), *no.* 4, 751–780. 65L07 (34–04, 65L20)

— (*with* Gander, Martin J.) Space-time continuous analysis of waveform relaxation for the heat equation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 2014–2031 (*electronic*). (Erwin Schechter) **99h:65164** 65M55 (65Y05)

— (*with* Budd, C. J.; Koomullil, G. P.) On the solution of convection-diffusion boundary value problems using equidistributed grids. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 591–618 (*electronic*). (André Nachbin) **99i:65100** 65M50 (65N50, 76M25, 76Rxx)

Stuart, C. A. Magnetic field wave equations for TM-modes in nonlinear optical waveguides. *Reaction diffusion systems* (*Trieste*, 1995), 377–400, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (From the introduction) **99f:78020** 78A60 (35Q60, 78A10)

— (*with* Jeanjean, H.; Lucia, M.) Branches of solutions to semilinear elliptic equations on $\mathbf{R}^N$. (English summary) *Math. Z.* **230** (1999), *no.* 1, 79–105. (Jie Yang) **99m:35060** 35J60 (35B32)

Stuart, David M. (*with* Demoulini, Sophia) Gradient flow of the superconducting Ginzburg-Landau functional on the plane. (English summary) *Comm. Anal. Geom.* **5** (1997), *no.* 1, 121–198. (Summary) **99c:58038** 58E15 (35Q55, 82D55)

— Solitons on pseudo-Riemannian manifolds. I. The sine-Gordon equation. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1815–1837. (Sen Zhong Huang) **99j:35193** 35Q53 (58G16)

Stuart, J. T. Mathematics applied in fluid motion. (English summary) Current and future challenges in the applications of mathematics (Providence, RI, 1997). *Quart. Appl. Math.* **56** (1998), *no.* 4, 787–796. (From the text) **99j:76064** 76F99 (76D99, 76E99)

Stuart, Jeffrey L. (*with* Weaver, James R.) Fiedler matrices and their factorization. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 579–594. (Aurelian Gheondea) **99f:15037** 15A57 (15A23)

Stubbe, Isar (*with* Amira, Haroun; Coecke, Bob) How quantales emerge by introducing induction within the operational approach. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 5, 554–572. (R. Gylys) **99k:81028** 81P10 (03G12, 06A23, 18B30)

Stubblebine, Stuart G. (*with* Reiter, Michael K.) Resilient authentication using path independence. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 12, 1351–1362. 68Q25 (94A60)

Stuber, Jürgen Superposition theorem proving for abelian groups represented as integer modules. (English summary) Rewriting techniques and applications (New Brunswick, NJ, 1996). *Theoret. Comput. Sci.* **208** (1998), *no.* 1-2, 149–177. (Summary) **99g:68184** 68T15 (20K99)

Stuchlík, Zdeněk (*with* Bao, Gang[4]; Østgaard, E.; Hledík, S.) Kerr-Newman-de Sitter black holes with a restricted repulsive barrier of equatorial photon motion. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084003, 8 *pp.* 83C57

— (*with* Bičák, Jiří; Balek, Vladimír) The shell of incoherent charged matter falling onto a charged rotating black hole. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 53–71. (Michael B. Mensky) **99j:83013** 83C10 (83C57)

Stuckey, Peter J. (*with* Marriott, Kim) ★ Programming with constraints. (English summary) An introduction. *MIT Press, Cambridge, MA*, 1998. *xvi*+467 *pp. ISBN* 0-262-13341-5 (Neculai Curteanu) **99f:68181** 68T20 (68N17)

— (*with* García de la Banda, Maria; Marriott, Kim; Søndergaard, Harald) Differential methods in logic program analysis. (English summary) *J. Logic Programming* **35** (1998), *no.* 1, 1–37. (Summary) **99a:68029** 68N17

— (*with* Jaffar, Joxan; Maher, Michael J.; Marriott, Kim) The semantics of constraint logic programs. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 1–46. (Summary) **99d:68041** 68N17 (68Q55)

Stuckey, W. M. Uniform spaces via topological groups and non-locality. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 235–242, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 54E15 (22A05)

Stückrad, J. (*with* Bresinsky, Henrik; Schenzel, Peter) Quasi-complete intersection ideals of height 2. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 137–145. (R. A. Wiegand) **99d:13014** 13C40 (14M05)

— (*with* Apel, Joachim; Tworzewski, Piotr; Winiarski, T.) Intersection of sequences of ideals generated by polynomials. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 1–12. (Bernard Mourrain) **99k:13035** 13P10

jakubíková-Studenovská, Danica *see* **Jakubíková-Studenovská, Danica**

Studený, Milan On separation criterion and recovery algorithm for chain graphs. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 509–516, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

— (*with* Bouckaert, Remco R.) On chain graph models for description of conditional independence structures. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1434–1495. (P. N. Rathie) **99k:62123** 62H99 (68R10)

Studniarski, Marcin Necessary optimality conditions for nonsmooth two-dimensional control systems described by Roesser's model. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 51–61. (T. Kaczorek) **99f:49035** 49K27 (49J52)

Stuetzle, Werner (*with* Bruce, Andrew G.; Gao, Hong-Ye[2]) Subset-selection and ensemble methods for wavelet de-noising. (English summary) *Statist. Sinica* **9** (1999), *no.* 1, 167–182. 62G07 (42C15)

Stufken, John Optimal crossover designs. *Design and analysis of experiments*, 63–90, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K05

— (*with* Hedayat, A. S.) Sampling designs to control selection probabilities of contiguous units. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 333–345. (Summary) **99g:62011** 62D05

— (*with* Hedayat, A. S.) Compound orthogonal arrays. (English summary) *Technometrics* **41** (1999), *no.* 1, 57–61. (Summary) **99i:62179** 62K99

Stuhler, U. (*with* Blum, Andreas) Drinfeld modules and elliptic sheaves. *Vector bundles on curves—new directions* (*Cetraro*, 1995), 110–193, *Lecture Notes in Math.*, 1649, *Springer, Berlin*, 1997. (David Goss) **99c:11071** 11G09 (14G15, 58F07)

— (*with* Hoffmann, N.; Jahnel, Jörg) Generalized vector bundles on curves. *J. Reine Angew. Math.* **495** (1998), 35–60. (Aigli Papantonopoulou) **99a:14044** 14H60

Stuhne, G. R. (*with* Peltier, W. R.) New icosahedral grid-point discretizations of the shallow water equations on the sphere. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 23–58. (Yuri N. Skiba) **99k:76118** 76M25 (76C05, 86–08, 86A05)

Stukachev, A. I. The uniformization property in hereditary finite superstructures. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 1, 123–131. (Summary) **99i:03040** 03C70

Stukopin, V. A. On the classification of Banach algebras of singular integral operators with PC-coefficients in L_p spaces on complex contours. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 3, 87–90; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 3, 212–214 (1999). (Vladimir M. Deundyak) **99k:47122** 47G10 (45E05, 46J10, 47D30)

Štulajter, F. Predictions in nonlinear regression models. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 1, 71–81. (Mamikon S. Ginovian) **99f:62078** 62J02 (62G10)

Stulpe, Werner (*with* Ruch, Ernst) Proof of the mixing theorem for statistical systems in classical physics. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 3, 329–352. (Ryszard Grząślewicz) **99m:46177** 46N30 (28D99, 46E27, 47B37)

— On the representation of quantum mechanics on a classical sample space. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 349–356. (Paul Busch) **99i:81016** 81P05 (81S30)

— *see also* **Proceedings: International Quantum Structures Association, 99e:81004**

le Stum, Bernard *see* **Le Stum, Bernard**

Stumme, Gerd Free distributive completions of partial complete lattices. (English summary) *Order* **14** (1997/98), *no.* 2, 179–189. (Summary) **99b:06007** 06A23 (06A06, 06B25, 06D10)

Stummer, Wolfgang On bounded entropy of solutions of multi-dimensional stochastic differential equations. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 327–336. (Summary) **99a:60060** 60H10

Stump, D. M. (*with* Fraser, W. B.) On the dynamical theory of twist in yarn plying. (English summary) *Math. Engrg. Indust.* **7** (1998), *no.* 1, 41–56. 73K99 (73K05)

— (*with* Fraser, W. B.) Yarn twist in the ring-spinning balloon. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 707–723. (Summary) **99e:73078** 73K99

Stump, Daniel R. A solvable non-central perturbation of the Kepler problem. (English summary) *European J. Phys.* **19** (1998), *no.* 3, 299–306. (Introduction) **99c:70014** 70F05

— Arnol'd's transformation—an example of a generalized canonical transformation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3661–3669. (Simos Ichtiaroglou) **99e:70053** 70H15 (58F05, 70H05)

Stump, David J. Reconstructing the unity of mathematics circa 1900. (English summary) First Annual Conference for the History of Philosophy of Science (Roanoke, VA, 1996). *Perspect. Sci.* **5** (1997), *no.* 3, 383–417. (Victor V. Pambuccian) **99e:00007** 00A30 (01A55, 01A60, 03–03, 51–03)

Stumpf, Harald (*with* Fauser, Bertfried) Positronium as an example of algebraic composite calculations. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 399–418. (Jayme Vaz, Jr.) **99b:81269** 81V10 (81R25)

— (*with* Borne, Thomas) Weak field gravitation as a composite particle effect. (English and French summaries) *Ann. Fond. Louis de Broglie* **23** (1998), *no.* 1, 38–53. (Summary) **99g:83022** 83C25 (83C60)

Stumpf, M. (*with* Gräf, Albert; Weißenfels, Gerhard) On coloring unit disk graphs. (English summary) *Algorithmica* **20** (1998), *no.* 3, 277–293. (Summary) **99a:68134** 68R10 (05C15, 05C85, 68Q25)

Stupariu, Mihai-Sorin Sur les courbes caractéristiques associées à l'algèbre de déformation des deux connexions linéaires. [Characteristic curves associated with the deformation algebra of two linear connections] *Stud. Cerc. Mat.* **49** (1997), *no.* 5-6, 423–427. (Andrew Bucki) **99j:53013** 53B05

Stupin, I. V. On everywhere divergent series with respect to the Vilenkin multiplicative system. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 64–66; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 44–46. (P. Simon) **99d:42053** 42C10

marková-Stupňanová, Andrea *see* **Marková-Stupňanová, Andrea**

szemplińska-Stupnicka, Wanda *see* **Szemplińska-Stupnicka, Wanda**

Stupyalis, L. Some problems in vector analysis. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 3, 342–361; *translation in Lithuanian Math. J.* **38** (1998), *no.* 3, 262–276 (1999). (Min You Qi) **99m:46176** 46N20 (26B12, 31B10, 35A25, 46E35)

Sture, Stein (*with* Tchonkova, M.) A mixed least squares method for solving problems in linear elasticity: formulation and initial results. (English summary) *Comput. Mech.* **19** (1997), *no.* 4, 317–326. (Summary) **99h:73083** 73V05 (65N30)

Sturgill, David (*with* Segre, Alberto Maria) Nagging: a distributed, adversarial search-pruning technique applied to first-order inference. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 3, 347–376. (Neculai Curteanu) **99a:03015** 03B35 (68T20)

Sturiale, G. (*with* Cammaroto, Filippo[2]; Chinni, Antonia) On an extension of Ekeland's principle for vector-valued functions. (English summary) *Optimization* **43** (1998), *no.* 1, 19–28. (Summary) **99a:49023** 49J52 (90C29, 90C48)

Sturm, Jacob (*with* Harel, Arie; Namn, Su) Migration of zeros for successive derivatives of entire functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 563–567. (Wayne Stewart Smith) **99c:30055** 30D15

Sturm, Jos F. (*with* Luo, Zhi-Quan; Zhang, Shuzhong) Superlinear convergence of a symmetric primal-dual path following algorithm for SDP. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 283–297, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C30 (65K05)

— (*with* Zhang, Shuzhong) An interior point method, based on rank-1 updates, for linear programming. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 77–87. (Summary) **99b:90079** 90C05

— (*with* Zhang, Shuzhong) On the long-step path-following method for semidefinite programming. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 145–150. (Levent Tunçel) **99m:90111** 90C25 (90C05)

— (*with* Luo, Zhi-Quan; Zhang, Shuzhong) Superlinear convergence of a symmetric primal-dual path following algorithm for semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 59–81 (*electronic*). (Levent Tunçel) **99g:90127** 90C30 (65K05)

— (*with* Zhang, Shuzhong) Symmetric primal-dual path-following algorithms for semidefinite programming. (English summary) Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96) (Delft). *Appl. Numer. Math.* **29** (1999), *no.* 3, 301–315. (Levent Tunçel) **99m:90110** 90C25 (90C05)

Sturm, Karl-Theodor (*with* Jost, Jürgen; Kendall, Wilfrid S.; Mosco, Umberto; Röckner, Michael) ★ New directions in Dirichlet forms. AMS/IP Studies in Advanced Mathematics, 8. *American Mathematical Society, Providence, RI; International Press, Cambridge, MA*, 1998. *xiv+277 pp. ISBN* 0-8218-1061-8 (Editors) **99e:31002** 31–06 (31C25, 60J35)

— The geometric aspect of Dirichlet forms. *New directions in Dirichlet forms*, 233–277, *AMS/IP Stud. Adv. Math.*, 8, *Amer. Math. Soc., Providence, RI*, 1998. (Emil Popescu) **99j:31014** 31C25 (47D07)

— Diffusion processes and heat kernels on metric spaces. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 1–55. (Zhen-Qing Chen) **99b:31008** 31C25 (58G32, 60G07, 60J60)

— How to construct diffusion processes on metric spaces. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 149–161. (Zhongmin Qian) **99c:60175** 60J60 (31C25, 58G32)

Sturm, Thomas (*with* Dolzmann, Andreas; Weispfenning, Volker) A new approach for automatic theorem proving in real geometry. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 357–380. (Summary) **99m:03021** 03B35 (03C10, 51M99, 68T15)

— (*with* Dolzmann, Andreas; Weispfenning, Volker) Real quantifier elimination in practice. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 221–247, *Springer, Berlin*, 1999. (Carlo Toffalori) **99m:13051** 13P99 (03C10, 03D15, 68Q15)

Sturmfels, Bernd Equations defining toric varieties. *Algebraic geometry—Santa Cruz* 1995, 437–449, *Proc. Sympos. Pure Math.*, 62, *Part* 2, *Amer. Math. Soc., Providence, RI*, 1997. (Nicolas Pouyanne) **99b:14058** 14M25 (13P10, 52B05, 52B20)

— Introduction to resultants. (English summary) *Applications of computational algebraic geometry* (*San Diego, CA*, 1997), 25–39, *Proc. Sympos. Appl. Math.*, 53, *Amer. Math. Soc., Providence, RI*, 1998. (Bernard Mourrain) **99a:13015** 13P05 (68Q40)

— (*with* Diaconis, Persi W.; Eisenbud, David) Lattice walks and primary decomposition. *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 173–193, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Heinrich Niederhausen) **99i:13035** 13P10 (05A15, 05E99)

— Polynomial equations and convex polytopes. *Amer. Math. Monthly* **105** (1998), *no.* 10, 907–922. (Joseph Gubeladze) **99k:12003** 12D10 (52B20)

— (*with* Diaconis, Persi W.) Algebraic algorithms for sampling from conditional distributions. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 363–397. (Arnoldo Frigessi) **99j:62137** 62M99 (13P10, 62E25)

— (*with* Bayer, Dave) Cellular resolutions of monomial modules. (English summary) *J. Reine Angew. Math.* **502** (1998), 123–140. (Andrew Kustin) **99g:13018** 13D02 (13D25)

— (*with* Peeva, Irena V.; Reiner, Victor) How to shell a monoid. *Math. Ann.* **310** (1998), *no.* 2, 379–393. (Aron Simis) **99d:13020** 13D40 (06A08, 13A02, 13P10)

— (*with* Bayer, Dave; Peeva, Irena V.) Monomial resolutions. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 31–46. (Ralf Fröberg) **99c:13029** 13D02 (13P10)

— (*with* Peeva, Irena V.) Syzygies of codimension 2 lattice ideals. *Math. Z.* **229** (1998), *no.* 1, 163–194. (Ralf Fröberg) **99g:13020** 13D02 (14M25)

Sturova, I. V. (*with* Khabakhpasheva, T. I.) Diffraction of internal waves by a submerged circular cylinder at forward speed in a two-layer fluid. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 3, 249–275. (Summary) **99g:76026** 76C10 (76V05)

— A two-dimensional problem of the uniform flow of a two-layer fluid of finite depth around a circular cylinder. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 6, 91–101. (Summary) **99m:76010** 76B10 (76V05)

Stürzbecher, Manfred Dr. med. Albert Fleck und die Suche nach seiner Fermat-Klinik. [Dr. med. Albert Fleck and the search for his Fermat clinic] Natur, Mathematik und Geschichte. *Acta Hist. Leopold. No.* 27 (1997), 339–346. (E. Gerlach) **99k:01076** 01A70

Sturzenhecker, Thomas (*with* Garcke, Harald) The degenerate multi-phase Stefan problem with Gibbs-Thomson law. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 929–941. (Gawtum Namah) **99m:80012** 80A22 (35R35)

Stute, Winfried Distributional convergence under random censorship when covariables are present. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 461–471. (Jack Cuzick) **99b:62087** 62G20 (62G05, 62N05)

— Nonparametric model checks for regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 613–641. (Jean Diebolt) **99f:62066** 62G10 (62G05)

— (*with* González-Manteiga, Wenceslao; Presedo Quindimil, M.) Bootstrap approximations in model checks for regression. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 141–149. (Arup Bose) **99e:62070** 62G09 (62J05)

— (*with* Koul, Hira L.) Regression model fitting with long memory errors. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 35–56. (Alexander G. Kukush) **99m:62090** 62J02 (62F05)

Stüttgen, T. (*with* Lasser, D.) Interior improvement of piecewise linear interpolants defined over Delaunay triangulations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 21–36. (Summary) **99c:65016** 65D05

Stutzer, Michael (*with* Kitamura, Yuichi[2]) An information-theoretic alternative to generalized method of moments estimation. (English summary) *Econometrica* **65** (1997), *no.* 4, 861–874. (Manfred Kraft) **99a:62024** 62F10 (62B10, 62P20)

Stutzman, Bryan R. (*with* Alexopoulos, Christos; Provan, J. Scott; Ratliff, H. Donald) Minimal connected enclosures on an embedded planar graph. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 25–38. (Summary) **99j:68098** 68R10 (05C10, 05C85)

Stüven, Norbert Mathematisches Problemlösen: geschlechtsabhängig? (German summary) [Mathematical problem solving: gender-dependent?] *Mitt. Math. Ges. Hamburg* **16** (1997), 87–98. (Jens Høyrup) **99g:01047** 01A80 (92J45)

Styan, George P. H. (*with* Mitra, Sujit Kumar; Puntanen, Simo) Shorted matrices and their applications in linear statistical models: a review. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 289–311, *VSP, Utrecht*, 1995. (Summary) **99h:62090** 62J05

— *see also* **Linear algebra and statistics, 99i:00019**

Styapanauskas, G. *see* **Stepanauskas, Gediminas**

Stylianopoulos, N. S. (*with* Papamichael, N.) The asymptotic behavior of conformal modules of quadrilaterals with applications to the estimation of resistance values. (English summary) *Constr. Approx.* **15** (1999), *no.* 1, 109–134. (Lai Yi Zhu) **99i:41029** 41A60 (30C20)

Stylianou, M. (*with* Tabarrok, Behrouz; Qin, Zhu) Generalized conservation checks in finite element analysis. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 7, 1295–1307. (Summary) **99h:73082** 73V05 (76M10, 80–08)

Stynes, Martin (*with* Roos, H.-G.; Tobiska, Lutz) ★ Numerical methods for singularly perturbed differential equations. (English summary) Convection-diffusion and flow problems. Springer Series in Computational Mathematics, 24. *Springer-Verlag, Berlin*, 1996. xvi+348 *pp. ISBN* 3-540-60718-8 (Gert Lube) **99a:65134** 65N12 (35B25, 65M06, 76D10, 76M10)

— (*with* Tobiska, Lutz) Error estimates and numerical experiments for streamline-diffusion-type methods on arbitrary and Shishkin meshes. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 337–352. (Summary) **99d:65228** 65L10 (76M10)

— (*with* O'Riordan, Eugene) A uniformly convergent Galerkin method on a Shishkin mesh for a convection-diffusion problem. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 36–54. (K. Najzar) **99f:65177** 65N30 (65N12)

— (*with* Franca, Leopoldo P.; Nesliturk, A.) On the stability of residual-free bubbles for convection-diffusion problems and their approximation by a two-level finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 35–49. (Andrei I. Tolstykh) **99k:65107** 65N30 (65M60, 76M10, 76Rxx)

Su, Bai Li (*with* Xie, Xue Jun; Chu, Xue Dao; Liu, Zhi Feng) Stable adaptive fuzzy control of nonlinear systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 14–20. 93C42 (93C40)

Su, Chang Ling A data encryption method using variable-length codes. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 2, 23–25. 94A60 (94A45)

Su, Chao-Ton (*with* Tong, Lee-Ing; Chang, Cheng-Chang) The optimization of an organizational restructuring problem. (English summary) *Opsearch* **35** (1998), *no.* 4, 295–322. (Summary) **99i:90057** 90B70 (90B30)

Su, Cheng (*with* Xu, Ying Qing; Li, Hua; Liu, Shen Quan[1]; Li, Dong Guo) Necessary and sufficient condition of positive root number of perspective-three-point problem. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 12, 1084–1095. 68U10 (68T10)

Su, Chun (*with* Wang, Yue Bao) A further discussion of complete convergence of B-valued random sums. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 1, 74–80. (Summary) **99e:60023** 60B12

— (*with* Chi, Xiang) Some results on the central limit theorem for nonstationary NA sequences. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 9–21. (Summary) **99a:60022** 60F05

— (*with* Ding, Ke Yue) Some limit properties of DRCE random arrays. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 241–248. (Summary) **99i:60067** 60F15 (60G09)

— (*with* Liang, Han Ying) Convergence of the logarithm law for negatively associated sequences. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 18, 1919–1925. 60F05

— (*with* Chi, Xiang) Base 2 logarithmic estimates for the moments of maxima of partial sums of series of random variables and their application. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 19, 2049–2053. 60E99

— (*with* Wang, Yue Bao; Liu, Xuguo) Equivalent conditions of complete convergence for independent weighted sums. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 939–949. (Gheorghe Stoica) **99k:60092** 60F15 (60G50)

Su, Feng (*with* Ren, Fu yao; Zhao, Xingqiu; Jiang, Feng; Qiu, Weiyuan; Qiang, Shaoxing) On fractal properties of reflection sequences from a well log and seismic trace. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 691–699. 86A15

Su, Fengqiu (*with* Guo, Bo Ling; Hong, Min-Chun) The global attractors for the Landau-Lifshitz equation of the ferromagnetic spin chain on compact manifolds. *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 213–227, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel Ševčovič) **99b:58217** 58F39 (35B40, 35Q60, 58F12, 82D40)

— (*with* Guo, Bo Ling) The global smooth solution for Landau-Lifshitz-Maxwell equation without dissipation. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 3, 193–208. (Yan Guo) **99j:35212** 35Q55

Su, Hong Ye (*with* Chu, Jian) Stabilizing controller design for a class of nonlinear time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 30–36. 93D15 (93C30)

— (*with* Wang, Jing Cheng; Chu, Jian) Memoryless robust stabilization of a class of uncertain linear time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 497–501. 93D09 (93C30)

— (*with* Wang, Jing Cheng; Chu, Jian) Robust H^∞ controller design for a class of uncertain delay systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 4, 566–569. 93B36 (93C30)

— (*with* Yu, Li[1]; Wang, Jing Cheng; Chu, Jian) Memoryless robust stabilization control for uncertain linear systems with delayed state and control. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 769–773. 93D21 (93C30)

— (*with* Wang, Jing Cheng; Chu, Jian) Output feedback stabilizing controller for linear time-varying uncertain systems with delayed state. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 939–944. 93D21 (93C30)

Su, Hongbing (*with* Elliott, George A.; Evans, David E.) Classification of inductive limits of the Toeplitz algebra tensored with $\mathscr{T}$. *Operator algebras and quantum field theory* (*Rome*, 1996), 36–50, *Internat. Press, Cambridge, MA*, 199?. (Mahmood Khoshkam) **99h:46105** 46L05 (19K35, 46L80)

— (*with* Jiang, Xinhui) A classification of simple limits of splitting interval algebras. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 50–76. (Mahmood Khoshkam) **99d:46076** 46L05 (46L80)

— (*with* Lin, Huaxin) Classification of direct limits of generalized Toeplitz algebras. (English summary) *Pacific J. Math.* **181** (1997), *no.* 1, 89–140. (Mahmood Khoshkam) **99h:46106** 46L05 (19K35, 46L80)

Su, Jen-je Does the method of data detrending matter? A study of the KPSS test against long memory alternatives. (English summary) *Econom. Lett.* **60** (1998), *no.* 2, 139–146. (Summary) **99e:62183** 62P20 (62M10)

Su, Jia Bao (*with* Li, Shu-Jie) Existence of multiple critical points for an asymptotically quadratic functional with applications. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 3, 277–289. (Maria Letizia Bertotti) **99a:58031** 58E05 (34B15, 34C25)

— (*with* Li, Shu-Jie) Existence of multiple solutions of a two-point boundary value problem at resonance. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 123–135. (Gianni Arioli) **99h:34032** 34B15 (47H15, 47N20)

— Semilinear elliptic resonance problems with unbounded nonlinear terms. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 715–720. (Xin Kang Guo) **99m:35066** 35J60 (58E05)

— Nontrivial periodic solutions for the asymptotically linear Hamiltonian systems with resonance at infinity. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 252–273. (Maria Letizia Bertotti) **99b:58194** 58F22 (34C25, 58E05, 58F05, 70H05)

Su, Jianji The number of removable edges in 3-connected graphs. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 74–87. (Cun-Quan Zhang) **99m:05096** 05C40

Su, Jianwen (*with* Dong, Guozhu) Increment boundedness and nonrecursive incremental evaluation of datalog queries (extended abstract). (English summary) *Database theory—ICDT '95* (*Prague*), 397–410, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68N17)

— (*with* Hull, Richard B.) Deductive query languages for recursively typed complex objects. (English summary) *J. Logic Programming* **35** (1998), *no.* 3, 231–261. (Marc Gyssens) **99g:68047** 68P15 (68N17, 68Q05, 68Q15)

Su, Juing Huei Quantitative robustness measure of uncertain time delay systems via nonsingularity analysis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 729–732. (Summary) **99a:93080** 93D09

— *see also* **Lou, J. S.**

Su, Kai-Le (*with* Ding, Decheng; Chen, Huo Wang) A three-valued quantificational logic of context. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 343–352, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (N. C. A. da Costa) **99j:03015** 03B45 (03B50, 03B70)

— (*with* Liu, Hai Yan; Chen, Huo Wang) A second-order quantificational logic of context. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 4, 341–347. (Summary) **99g:68194** 68T27 (03B15, 03B70)

Su, Meiyu Measured solenoidal Riemann surfaces and holomorphic dynamics. (English summary) *J. Differential Geom.* **47** (1997), *no.* 1, 170–195. (Darryl McCullough) **99a:58133** 58F23 (30D05)

Su, Ming-Yang (*with* Chen, Gen-Huey; Duh, Dyi-Rong) Topological properties of incomplete WK-recursive networks. (English summary) *Networks* **32** (1998), *no.* 1, 23–45. (Summary) **99d:68024** 68M10 (05C45, 05C85)

Su, Nong (*with* Chen, Wei Huan) The self-conjugate maximal surfaces in L^3. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 9–16. (Kichoon Yang) **99g:53011** 53A10 (53A40)

Su, Qi Fang A necessary and sufficient condition for a natural number to be the sum of two squares. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 21–23. (Zhen Fu Cao) **99g:11037** 11D09

Su, Qing (*with* Syrmos, Vassilis L.) Robust stabilization of singular systems with H_∞-bounded uncertainty. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 737–755. (Dieter Franke) **99i:93062** 93D21 (93B36, 93C05)

Su, Ru-Keng (*with* Wang, Bin^2) Two kinds of extreme black holes and their classification. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 69–73. (Summary) **99c:83063** 83C57
— (*with* Wang, Bin^2; Yu, P. K. N.) Quantum entropy of two-dimensional extreme charged dilaton black hole. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2, 47–51. (Summary) **99g:83061** 83C57
— (*with* Wang, Bin^2; Yu, P. K. N.; Young, Enoch C. M.) Can a nonextremal Reissner-Nordström black hole become extremal by assimilating an infalling charged particle and shell? (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5284–5286. 83C57
— (*with* Wang, Bin^2; Yu, P. K. N.) Geometry of the extreme Kerr black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124026, 4 *pp.* (Summary) **99k:83088** 83C57
Su, Te-Jen (*with* Liu, Pin-Lin) Robust stability of interval time-delay systems with delay-dependence. (English summary) *Systems Control Lett.* **33** (1998), *no.* 4, 231–239. (Tetsushi Sasagawa) **99h:93077** 93D09 (34D20, 34K20, 93C30)
Su, Wang-Chang Z_2 monopole of Spin(10) gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5100–5107. (Summary) **99m:81265** 81T60 (81T13)
Su, Wei Yi (*with* Liu, Guangqi) The boundedness of certain operators on Hölder and Sobolev spaces. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 1, 18–32. (James E. Daly) **99c:43012** 43A70 (47G30)
— (*with* Xu, Yong) Modification and generalization of fractal percolation. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 2, 148–154. (Summary) **99e:60225** 60K35 (82B43)
— (*with* Wu, Baoyi) The type of a class of Vilenkin convolution operators. (English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 4, 393–400. (Summary) **99m:43008** 43A70 (43A32)
— (*with* Sun, Qing Jie) A formula for the Hausdorff dimension of product sets. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 4, 401–405. (Yimin Xiao) **99k:28008** 28A78
Su, Weizhou (*with* Xie, Lihua; Gong, Zhiming) Robust input to state stabilization for minimum-phase nonlinear systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 825–842. 93D21
Su, Wen Long (*with* Luo, Hai Peng; Li, Qiao) New lower bounds of classical Ramsey numbers $R(6,12)$, $R(6,14)$ and $R(6,15)$. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 817–818. (Summary) **99f:05082** 05C55
— (*with* You, Zhi Shu; Luo, Hai Peng) A new lower bound for the Ramsey number $R_{10}(3)$. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **14** (1998), *no.* 1, 1–3. 05C55
— (*with* Luo, Hai Peng; Li, Jing Wen) Lower bounds for the Ramsey numbers $R(7,18)$, $R(7,19)$, $R(7,20)$ and $R(7,21)$. (Chinese. English and Chinese summaries) *J. Lanzhou Railway Inst.* **17** (1998), *no.* 1, 106–108. 05C55
Su, Xi Lu (*with* Zhou, Rong Xing) Qualitative analysis of a class of toral differential equations and an application. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 29–34. (Bo Zhang) **99j:34055** 34C23
Su, Xiu Ping (*with* Lin, Ya Nan) The number of complete exceptional sequences of type A_n. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 4, 469–472. (Jin Yun Guo) **99k:16029** 16G20
Su, Yangfeng (*with* Bhaya, Amit) On the Bose-Trautman condition for stability of two-dimensional linear systems. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 7, 2069–2070. 93D05
— (*with* Bhaya, Amit; Kaszkurewicz, Eugenius) A general asynchronous block iterative model with related convergence conditions. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 261–273. (De Ren Wang) **99d:65383** 65Y10 (65H10, 65J15, 65Y05)
— (*with* Bhaya, Amit; Kaszkurewicz, Eugenius; Kozyakin, V. S.) Further results on convergence of asynchronous linear iterations. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 11–24. (W. Govaerts) **99h:65087** 65F30 (65F10)
Su, Yeong-Tzay A renewal theory for perturbed Markov random walks with applications to sequential analysis. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 429–443. (Summary) **99m:60138** 60K05 (62L10)
Su, Yong-Mei (*with* Zhuo, Xin-Jian) Some results on ascending subgraph decomposition. (English summary) *Util. Math.* **55** (1999), 153–160. (Summary) **99m:05130** 05C70
Su, Yu-Lin (*with* Wu, Bing-Fei) On stationarizability for nonstationary 2-D random fields using discrete wavelet transforms. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 9, 1359–1366. (Summary) **99g:94007** 94A12 (94A11)
— (*with* Wu, Bing-Fei) Stationarization of stochastic sequences with wide-sense stationary increments or jumps by discrete wavelet transforms. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1215–1230. 60G99 (42C15)
Su, Zhendong (*with* Muscholl, Anca; Peled, Doron) Deciding properties for message sequence charts. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 226–242, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (Summary) **99d:68158** 68Q60 (68Q10)
Suantai, Sutep Banach algebra of matrix transformations of sequence spaces. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 433–438. (Summary) **99h:40015** 40J05 (46A45, 47B37)
— Representation of bounded linear operators and bounded bilinear operators on Hilbert spaces. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 54–59, *World Sci. Publishing, River Edge, NJ*, 1998. (C. W. Swartz) **99j:47041** 47B37 (46B45, 46C05, 47A05)
nguen Suan Tkhao *see* **Nguen Suan Tkhao**
Suard, Bruno (*with* Xu, Guanghan; Liu, Hui; Kailath, Thomas) Uplink channel capacity of space-division-multiple-access schemes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1468–1476. 94A40
Suardíaz, A. M. (*with* Abad, Manuel; Díaz Varela, J. Patricio; Rueda, L. A.) A note on the equational bases for subvarieties of linear symmetric Heyting algebras. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish) (Bahia Blanca, 1997)*, 119–126, *Univ. Nac. del Sur, Bahia Blanca*, 1997. (*see* **99a:00040**) 06D20
Suarez, A. (*with* Garcia Vera, Diego Antonio; Florez, E.; Montero García, Gustavo) Preconditioning Krylov methods. *Algorithms for large scale linear algebraic systems (Gran Canaria, 1996)*, 151–174, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F35
— (*with* Florez, E.; Montero García, Gustavo; García León, María Dolores; Montenegro, R.) Control of a system governed by the convection-diffusion equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 1087–1092, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93C20 (35K57)
Suárez, C. *see* **Suárez Rodríguez, M. Carmen**
Suarez, D. A. (*with* Garrido-Moctezuma, R.; Lozano Leal, Rogelio) Adaptive log control of positive real systems. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 437–449. 93E20 (93E35)
Suárez, Daniel Closed commutants of the backward shift operator. (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 371–396. (Benjamin A. Lotto) **99a:47050** 47B38 (46E20, 47B35)
— Approximation by ratios of bounded analytic functions. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 1, 254–269. (Julià Cufí) **99m:46129** 46J15 (30D50, 30E10)
— Maximal Gleason parts for H^∞. *Michigan Math. J.* **45** (1998), *no.* 1, 55–72. (Pamela Gorkin) **99b:46077** 46J20 (30D50)
cabrera Suárez, Francisco S. *see* **Cabrera Suárez, Francisco S.**
Suárez, Mayte *see* **Suárez Fariñas, Mayte**
martín Suarez, Miguel *see* **Martín Suarez, Miguel**
Suárez, Rodolfo (*with* Álvarez-Ramírez, José; Alvarez, Jesús) Regions of attraction of closed-loop linear systems with saturated linear feedback. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 4, 22 *pp.* (*electronic*). (Summary) **99g:93060** 93D05 (93B52)
— (*with* Garcia, Germain; Tabouriech, Sophie; Álvarez-Ramírez, José) Nonlinear bounded control for norm-bounded uncertain systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1254–1258. 93B36 (93C42)
cortés Suárez, Vicente *see* **Cortés Suárez, Vicente**
hernández Suárez, Víctor *see* **Hernández Suárez, Víctor**
Suárez Fariñas, Mayte (*with* Allende Alonso, Sira; Bouza Herrera, Carlos N.; Garcet Rodríguez, Sandra A.) A parametric programming algorithm for learning in artificial neural networks through linear regression curve fitting. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 55–60. 90C31 (65K05)
— (*with* Garcet Rodríguez, Sandra A.; Allende Alonso, Sira; Bouza Herrera, Carlos N.) The parametric problem of linear complementarity. Solution algorithms. Application to the fit of a multivariate linear regression model with LS-LAD criterion. (Spanish. English and Spanish summaries) *Investigación Oper.* **18** (1997), *no.* 1-3, 11–56. (Summary) **99j:62097** 62J05 (90C33)
Suárez Fernández, Manuel A new approach to nonstandard analysis. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 141–171. (Detlef Laugwitz) **99g:03069** 03H05
Suárez Granero, Antonio On the complemented subspaces of $c_0(I)$. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 35–36. (Summary) **99c:46016** 46B25
— (*with* Jiménez Sevilla, M.; Moreno, J. P.) Convex sets in Banach spaces and a problem of Rolewicz. (English summary) *Studia Math.* **129** (1998), *no.* 1, 19–29. (Wolfgang Lusky) **99b:46021** 46B20 (46B42, 46E05)
Suárez Rodríguez, M. Carmen About the orthogonality of derivatives of orthogonal polynomials on the unit circle. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995)*, 17 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:42049** 42C05 (33C45)
— (*with* Cachafeiro López, Ma. Alicia) Orthogonal polynomials related to the unit circle and differential-difference equations. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 403–421. (Antonio J. Durán) **99g:33019** 33C45
Suárez Rodríguez, P. (*with* Bayón Arnáu, L.; Alvarez Vigil, A.) Pollution emissions optimization of hydro-thermal systems. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995)*, 15 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 90C90 (76M25)
Suazo, Avelino (*with* Correa, Iván; Labra, Alicia) A characterization of a class of power associative train algebras. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 1, 47–58. (Ernest Stitzinger) **99i:17002** 17A30 (17A05)
Subanar Some problems on minimax estimation. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 531–539, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99h:62012** 62C20 (62F10)
Subasi, D. (*with* Daoud, Daoud S.) FMG cycle with the preconditioned explicit group-2 linear system. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 263–272. (Summary) **99h:65206** 65N55 (65F05, 65N22)
Subbarao, D. (*with* Uma, Ramanathan; Singh, Harvinder) Paraxial theory of self-focusing of cylindrical laser beams. I. ABCD laws. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3440–3450. (Summary) **99f:78021** 78A60 (76X05)
Subbarao, M. V. (*with* Sitaramaiah, V.) On regular ψ-convolutions. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 131–150. (W. Narkiewicz) **99c:11007** 11A25
— Product partitions and Euler pairs. (English summary) *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 3, 207–217. (David M. Bressoud) **99c:11127** 11P81 (05A17)
— (*with* Kátai, Imre) The characterization of n^{ψ} as a multiplicative function. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 4, 349–353. (Armel Mercier) **99k:11009** 11A25
— (*with* Sitaramaiah, V.) On unitary multiperfect numbers. *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 57–61. (Neville Robbins) **99h:11008** 11A25
— (*with* Sitaramaiah, V.) On the equation $\sigma^*(\sigma^*(n)) = 2n$. (English summary) *Util. Math.* **53** (1998), 101–124. (Neville Robbins) **99a:11009** 11A25
Subba Rao, S. (*with* Parthasarthy, R.) Theorems on defects of meromorphic functions. *Math. Ed. (Siwan)* **32** (1998), *no.* 1, 42–48. (Lo Yang) **99e:30022** 30D35
Subba Rao, T. Statistical analysis of nonlinear and non-Gaussian time series. (English summary) *Stochastic differential and difference equations (Győr, 1996)*, 285–298, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 62M10
— (*with* Wong, Woon) Tests for Gaussianity and linearity of multivariate stationary time series. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 373–386.

(Summary) **99c:62265** 62M10

Subba Rao, V. (*with* Rama Brahmam, G. S.) Solution of the dam-break problem using wavelets. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 253–260. (Summary) **99j:76016** 76B15 (65R10, 76M25, 86A05)

Subbiah, M. (*with* Padmini, M.) On the stability of inviscid compressible shear flows. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 811–817. (Summary) **99e:76101** 76N15 (76E05, 76J20)

— (*with* Padmini, M.) Bounds on the phase speed and growth rate of barotropic-baroclinic instability problem. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 1, 1–6. (Summary) **99k:76059** 76E20 (76U05, 76V05, 86A10)

Subbiah, Suresh (*with* Driebe, Dean J.) Spectral decomposition of the tent map with varying height. (English summary) *Chaos* **8** (1998), *no.* 4, 741–756. (Makoto Mori) **99j:58144** 58F13 (58F19)

Subbotin, A. I. (*with* Lakhtin, A. S.) Multivalued solutions of first-order partial differential equations. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 6, 33–58; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 849–873. (Andrzej Swiech) **99k:49067** 49L25 (35F20)

Subbotin, Igor Ya. (*with* De Falco, Maria; Kurdachenko, Leonid A.) Groups with only abnormal and subnormal subgroups. *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 435–442. (Gunnar Traustason) **99m:20058** 20E15 (20D35)

— (*with* Kazarin, Lev S.; Kurdachenko, Leonid A.) On groups saturated with abelian subgroups. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 4, 443–466. (Silvana Franciosi) **99j:20041** 20F22

— (*with* Kurdachenko, Leonid A.) Groups whose proper quotients are hypercentral. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 2, 224–237. (J. R. J. Groves) **99h:20060** 20F19

— (*with* Kurdachenko, Leonid A.; Petrenko, B. V.) Direct decompositions in Artinian modules over FC-hypercentral groups. (English summary) Algebra Meeting (Rio de Janeiro, 1996). *Mat. Contemp.* **14** (1998), 89–99. (B. Amberg) **99k:20009** 20C07 (20F17, 20F24)

Subbotin, Yu. N. Reconstruction of functions and derivatives. (English summary) *East J. Approx.* **3** (1997), *no.* 4, 445–456. (Kirill A. Kopotun) **99c:41042** 41A35 (41A17)

— (*with* Chernykh, N. I.) Wavelet bases in spaces of analytic functions. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 340–355. (H. Triebel) **99k:42072** 42C15 (46E15)

— (*with* Vasil'ev, Yu. S.) Markov inequalities in $\mathbf{R}^m$ that are unimprovable in the class of all convex compact bodies. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 6, 734–735. 41A63 (65Y25)

Subbotina, N. N. Asymptotic properties of minimax solutions of Isaacs-Bellman equations in differential games with fast and slow motions. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 901–908; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 883–890. (Vladimir Veliov) **99f:90209** 90D25 (49L20)

Subiza, Begoña (*with* Peris, Josep E.; Sánchez, M. Carmen) Numerical representation of choice functions. (English summary) *Ann. Oper. Res.* **80** (1998), 1–10. (Summary) **99g:90023** 90A08 (90A10)

— (*with* Peris, Josep E.) Nontrivial pseudo-utility functions. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 67–73. (Yew-Kwang Ng) **99a:90054** 90A10

— (*with* Peris, Josep E.; Sánchez, M. Carmen) Revealed preference axioms for continuous rational choice. (English summary) *J. Math. Econom.* **30** (1998), *no.* 3, 275–284. (Fouad T. Aleskerov) **99j:90016** 90A09

Subrahmanian, V. S. (*with* Eiter, Thomas; Lu, James J.) Computing non-ground representations of stable models. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 198–217, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68027** 68N17

Subrahmanyam, A. V. B. (*with* Prasada Rao, Ganti) Models in generalized MA form for identification of continuous-time systems. *Statistical methods in control and signal processing*, 121–148, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E12 (93C60)

Subrahmanyam, P. V. (*with* Sudarsanam, S. K.) A note on a functional integral equation. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 473–478. (Summary) **99i:45010** 45G10 (34K05, 47H15)

— *see also* **Lecture notes on aspects of nonlinear, functional and applicable analysis (ANFAA), 99c:00014**

Subrahmanyam, Ramesh (*with* Chandru, Vijaya; Roy, Suman) Negation as failure as resolution. (English summary) *Constraints* **3** (1998), *no.* 4, 315–329. (Summary) **99k:68027** 68N17

Subrahmanyasastri, V. V. (*with* Padmavathamm, M.) Distributive and quasi-distributive properties of arithmetic functions relative to s-regular and strong regular convolutions. (English summary) *Proc. Math. Soc.* **12** (1996), 139–144 (1997). (Summary) **99f:11008** 11A25

— (*with* Padmavathamm, M.) On certain distributive and quasi-distributive properties of arithmetic functions. *Ranchi Univ. Math. J.* **28** (1997), 51–56. 11A25

Subramanian, Ajay (*with* Resnick, Sidney I.) Heavy tailed hidden semi-Markov models. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 319–334. (S. Kalpakam) **99g:60161** 60K15 (62M10)

Subramanian, C. R. (*with* Sridharan, K.; Sudha, N.) Some properties of touching distances for polygons and polyhedra. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 1–7. (Summary) **99d:68239** 68U05 (52A10, 52A15, 70B15)

— (*with* Fürer, Martin; Veni Madhavan, C. E.) Algorithms for coloring semi-random graphs. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 2, 125–158. (Summary) **99g:68155** 68R10 (05C15, 05C85, 68Q25)

Subramanian, K. G. (*with* Emerald, J. D.) A note on Polly Cracker public-key cryptosystems. (English summary) *Graph theory and its applications* (*Tirunelveli*, 1996), 63–69, *Tata McGraw-Hill, New Delhi*, 1997. (Xiu Yuan Yu) **99e:94035** 94A60 (05C90, 94C15)

— (*with* Emerald, J. D.; Thomas, Durairaj Ginanaraj) Learning a subclass of context-free languages. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 223–231, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68T05 (68Q45)

— (*with* Sudharsan, T. V.) A note on radii problems of analytic functions. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 185–188. 30C45

— (*with* Sudharsan, T. V.; Balasubrahmanyam, P.; Silverman, Herb) Classes of uniformly starlike functions. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 309–315. (Frode Rønning) **99i:30028** 30C45

— (*with* Sudharsan, T. V.; Balasubrahmanyam, P.) On functions starlike with respect to symmetric and conjugate points. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 57–68. (Chunyi Gao) **99c:30033** 30C45

Subramanian, Sairam (*with* Klein, Philip N.) A randomized parallel algorithm for single-source shortest paths. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 205–220. (Fabrizio Luccio) **99a:68082** 68Q22 (05C38, 05C85, 68R10)

— (*with* Klein, Philip N.) A fully dynamic approximation scheme for shortest paths in planar graphs. (English summary) *Algorithmica* **22** (1998), *no.* 3, 235–249. (Summary) **99h:68134** 68R10 (05C38, 05C85, 68Q25)

Subramanian, Shivaram (*with* Sherali, Hanif D.; Ozbay, Kaan) The time-dependent shortest pair of disjoint paths problem: complexity, models, and algorithms. (English summary) *Networks* **31** (1998), *no.* 4, 259–272. (Summary) **99b:90149** 90C35 (90B10)

Subramanian Moosath, K. S. (*with* Sitaramayya, M.) Picard bundles as subbundles. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 195–209. (Rosa M. Miró-Roig) **99d:14047** 14K30 (14H40)

Subramanya, U. R. (*with* Mohan, N. R.) On the convergence of the density of the power normalized maximum. (English summary) *Calcutta Statist. Assoc. Bull.* **48** (1998), *no.* 189-190, 13–20. (Lajos Horváth) **99m:60035** 60F05 (62E20)

Subramanyam, J. Measurement and the justification of the statistical postulate in Bohm's causal interpretation of quantum mechanics. (English summary) *Synthese* **113** (1997/98), *no.* 3, 423–444. (Dennis Dieks) **99e:81026** 81P15 (81P05)

Suceavă, Bogdan Some theorems on austere submanifolds. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 109–115. (Ivko Dimitric) **99g:53022** 53B25

— Reduced and extended Kaehler geodesic structure of a curve on a submanifolds of an almost Hermitian manifold. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **60** (1998), *no.* 1-2, 3–5. 53C15 (53C22)

Suchanecki, Z. (*with* Antoniou, Ioannis) Quantum systems with diagonal singularity: their logic and intrinsic irreversibility. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 509–531. (J.-P. Antoine) **99g:81013** 81P10 (46L60, 82C03)

— (*with* Antoniou, Ioannis) Probabilistic extension and logic of complex unstable dynamical systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 1939–1958. (Robert Alicki) **99a:58125** 58F19 (81P10, 82C03)

— (*with* Antoniou, Ioannis; Gadella, M.) Some general properties of the Liouville operator. *Irreversibility and causality* (*Goslar*, 1996), 38–56, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Robert Alicki) **99j:82055** 82C10 (47N55)

— (*with* Antoniou, Ioannis; Gustafson, Karl) From stochastic semigroups to chaotic dynamics. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 110–123, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Władysław Adam Majewski) **99e:82055** 82C05 (46N55, 47A20, 47N55, 60J99)

— (*with* Antoniou, Ioannis) Extension of the dynamics of unstable systems. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 127–165. (Robert Alicki) **99f:82043** 82C10 (28D05, 47N50, 58F13)

— (*with* Antoniou, Ioannis; Gadella, M.) General properties of the Liouville operator. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1641–1654. (Władysław Adam Majewski) **99e:82059** 82C10 (47N55)

Suchenek, Marek A. Evaluation of queries under closed-world assumption. (English summary) *J. Automat. Reason.* **18** (1997), *no.* 3, 357–398. (Summary) **99e:68031** 68P15 (03B70, 68N17)

Suchey, Gilles (*with* Rossetto, Bruno; Lenzini, Thierry; Ramdani, Sofiane) Slow-fast autonomous dynamical systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2135–2145. (Summary) **99m:34101** 34C35 (34E05)

Suciu, Alexander I. (*with* Cohen, Daniel C.) Homology of iterated semidirect products of free groups. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 87–120. (Paul Igodt) **99e:20064** 20J05 (20F36, 57M05)

— (*with* Babenko, Ivan K.; Katz, Mikhail G.) Volumes, middle-dimensional systoles, and Whitehead products. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 461–471. (Athanase Papadopoulos) **99m:53084** 53C23 (53C20, 55Q15)

— (*with* Cohen, Daniel C.) Alexander invariants of complex hyperplane arrangements. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4043–4067. (Richard Randell) **99m:52019** 52B30 (20F34, 57M05)

Suciu, Dan (*with* Wong, Limsoon) On two forms of structural recursion. (English summary) *Database theory—ICDT '95* (*Prague*), 111–124, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68N15)

— Domain-independent queries on databases with external functions. (English summary) *Database theory—ICDT '95* (*Prague*), 177–190, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— (*with* Buneman, Peter; Davidson, Susan; Fernandez, Mary) Adding structure to unstructured data. (English summary) *Database theory—ICDT '97* (*Delphi*), 336–350, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68T30 (68P15)

— (*with* Breazu-Tannen, Val) A query language for NC. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 299–321. (Summary) **99d:68087** 68Q15 (03D15, 68P15)

— (*with* Paredaens, Jan) The complexity of the evaluation of complex algebra expressions. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 322–343. (Marc Gyssens) **99e:68032** 68P15 (03D15, 68Q15)

— Domain-independent queries on databases with external functions. (English summary) Database theory (Prague, 1995). *Theoret. Comput. Sci.* **190** (1998), *no.* 2, 279–315. (Lawrence V. Saxton) **99a:68049** 68P15

Suciu, Elena Alina Spectral resolutions of Hilbert modules over a function algebra. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 5-6, 429–444. (Catalin Badea) **99k:46087** 46H25 (46J10, 46M20, 47D25)

Suciu, N. (*with* Vamoş, C.; Georgescu, Adelina) Balance equations for a finite number of particles. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 1-2, 115–127. (Carlo Cercignani) **99m:82037** 82C31 (76P05)

— (*with* Gaşpar, D.) On the geometric structure of regular dilations. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 105–120, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (László Kérchy) **99h:47012** 47A20 (47A45)

Suck, Reinhard Probabilistic biclassification and random variable representations. (English summary) *J. Math. Psych.* **41** (1997), *no.* 1, 57–64. (Joachim Krauth) **99c:92065** 92G15

— A qualitative characterization of the exponential distribution. (English summary) *J. Math. Psych.* **42** (1998), *no.* 4, 418–431. (Zeno G. Swijtink) **99m:92056** 92G05 (60E05)

— Ordering orders. (English summary) *Math. Social Sci.* **36** (1998), *no.* 2, 91–104. (Joachim Krauth) **99m:92057** 92G05 (92J45)

Suda, Nobuhide (*with* Masubuchi, Izumi; Ohara, Atsumi) LMI-based controller synthesis: a unified formulation and solution. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 669–686. (Summary) **99e:93031** 93B40 (93B51)

Suda Karáné, Gizella *see* **Karáné, G. S.**

Sudakov, Benjamin (*with* Alon, Noga; Krivelevich, Michael) Finding a large hidden clique in a random graph. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 594–598, *ACM, New York*, 1998. (Summary) **99e:68114** 68R10 (05C35, 05C80, 68Q25)

— (*with* Gutin, Gregory; Yeo, Anders) Note on alternating directed cycles. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 101–107. (Summary) **99d:05050** 05C38 (05C20, 05C85)

— (*with* Krivelevich, Michael) Coloring random graphs. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 71–74. (Summary) **99e:05108** 05C80 (05C15)

— (*with* Krivelevich, Michael) The chromatic numbers of random hypergraphs. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 4, 381–403. (Tomasz J. Łuczak) **99f:05102** 05C80 (05C15, 05C65)

— (*with* Alon, Noga; Krivelevich, Michael) Finding a large hidden clique in a random graph. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 457–466. (Mark R. Jerrum) **99k:05144** 05C80 (05C85, 60C05, 68Q25, 68R10)

Sudan, Madhu (*with* Goldreich, Oded; Rubinfeld, Ronitt) Learning polynomials with queries: the highly noisy case. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 294–303, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05

— (*with* Bellare, Mihir; Goldreich, Oded) Free bits, PCPs and non-approximability—towards tight results. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 422–431, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25

— (*with* Bellare, Mihir; Coppersmith, Don; Håstad, Johan; Kiwi, Marcos A.) Linearity testing in characteristic two. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 432–441, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25

— (*with* Goldreich, Oded) Computational indistinguishability: a sample hierarchy. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 24–33, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68046** 68Q15

— Probabilistic verification of proofs. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 461–470 (*electronic*). (Lane Hemaspaandra) **99j:68038** 68Q10 (03B35, 03D15, 68Q15)

— (*with* Arora, Sanjeev; Lund, Carsten; Motwani, Rajeev; Szegedy, Mario) Proof verification and the hardness of approximation problems. (English summary) *J. ACM* **45** (1998), *no.* 3, 501–555. (Oded Goldreich) **99d:68077b** 68Q15 (03B35, 03D15, 68Q25)

— (*with* Bar-Noy, Amotz; Mayer, Alain; Schieber, Baruch) Guaranteeing fair service to persistent dependent tasks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1168–1189 (*electronic*). (H. T. Lau) **99c:90061** 90B35 (68M20, 68Q25)

Sudarsan, R. (*with* Keerthi, S. Sathiya) Numerical approaches for solution of differential equations on manifolds. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 153–193. (Benedict J. Leimkuhler) **99d:34004** 34A09 (65L06, 70–08, 70E15)

— (*with* Keerthi, S. Sathiya) An efficient approach for the numerical simulation of multibody systems. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 195–218. (Benedict J. Leimkuhler) **99d:34003** 34A09 (65L06, 70–08, 70E15)

Sudarsanam, S. K. (*with* Subrahmanyam, P. V.) A note on a functional integral equation. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 473–478. (Summary) **99i:45010** 45G10 (34K05, 47H15)

Sudarshan, E. C. G. (*with* Duck, Ian) ★ Pauli and the spin-statistics theorem. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+512 *pp. ISBN* 981-02-3114-8 (S. Gudder) **99f:81103** 81S05 (01A60, 81–02, 81–03)

— (*with* Duck, Ian) Toward an understanding of the spin-statistics theorem. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 4, 284–303. (S. Gudder) **99c:81101** 81S05 (81T05)

— (*with* Boya, Luis J.; Chisolm, Eric; Mahajan, S. M.) Exotic representations of the isotropic harmonic oscillator. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3347–3360. (Summary) **99c:81057** 81R05 (81Q05)

— (*with* Byrd, Mark) SU(3) revisited. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9255–9268. (A. Ventura) **99m:81071** 81R05 (81–02, 81V05)

Sudarsky, Daniel (*with* Zannias, T.) Spherical black holes cannot support scalar hair. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087502, 4 *pp.* (Summary) **99m:83141** 83C57

— (*with* Higuchi, Atsushi; Matsas, George E. A.) Interaction of Hawking radiation with static sources outside a Schwarzschild black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104021, 10 *pp.* 83C57

Sudbery, Anthony The quantum orthogonal mystery. (English summary) *Quantum groups* (*Karpacz*, 1994), 303–316, *PWN, Warsaw*, 1995. (Axel Schüler) **99k:58019** 58B30 (17B37)

— (*with* Lyubashenko, V. V.) Generalized Lie algebras of type A_n. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3487–3504. (Ludwig Pittner) **99f:17019** 17B37

— (*with* Dobrev, Vladimir K.) Representations of the generalized Lie algebra $\mathfrak{sl}(2)_q$. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6635–6645. (Allan I. Solomon) **99j:17018** 17B37 (81R50)

Sudborough, Ivan Hal (*with* Gu, Qian-Ping; Peng, Shietung) A 2-approximation algorithm for genome rearrangements by reversals and transpositions. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 327–339. (Michael A. Steel) **99k:92017** 92D20 (05C90, 68Q25)

Sudderth, William D. (*with* Maitra, Ashok P.) ★ Discrete gambling and stochastic games. (English summary) Applications of Mathematics, 32. *Springer-Verlag, New York*, 1996. xii+244 *pp. ISBN* 0-387-94628-4 (U. Krengel (Zbl 864.90148)) **99c:60091** 60G40 (28A12, 90D15)

— (*with* Maitra, Ashok P.) The gambler and the stopper. (English summary) *Statistics, probability and game theory*, 191–208, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (E.-A. Weiss, Jr.) **99a:90257** 90D15 (60G40)

— (*with* Ramakrishnan, Subramanian) Geometric convergence of algorithms in gambling theory. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 568–575. (Lorenzo Peccati) **99j:60056** 60G40 (90D60)

Sudershan, S. (*with* Ananthkrishnan, N.; Sudhakar, K.; Agarwal, A.) Application of secondary bifurcations to large-amplitude limit cycles in mechanical systems. *J. Sound Vibration* **215** (1998), *no.* 1, 183–188. (From the text) **99i:70027** 70K10 (34C05, 34C23)

Sudha *see* **Sudha, T. G.**

Sudha, N. (*with* Sridharan, K.; Subramanian, C. R.) Some properties of touching distances for polygons and polyhedra. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 1–7. (Summary) **99d:68239** 68U05 (52A10, 52A15, 70B15)

Sudha, T. G. (*with* Gopala Rao, A. V.; Mallesh, K. S.) On the algebraic characterization of a Mueller matrix in polarization optics. I. Identifying a Mueller matrix from its N matrix. (English summary) *J. Modern Opt.* **45** (1998), *no.* 5, 955–987. (Summary) **99c:78006a** 78A10

— (*with* Gopala Rao, A. V.; Mallesh, K. S.) On the algebraic characterization of a Mueller matrix in polarization optics. II. Necessary and sufficient conditions for Jones-derived Mueller matrices. (English summary) *J. Modern Opt.* **45** (1998), *no.* 5, 989–999. (Summary) **99c:78006b** 78A10

Sudhakar, K. (*with* Ananthkrishnan, N.; Sudershan, S.; Agarwal, A.) Application of secondary bifurcations to large-amplitude limit cycles in mechanical systems. *J. Sound Vibration* **215** (1998), *no.* 1, 183–188. (From the text) **99i:70027** 70K10 (34C05, 34C23)

Sudharsan, T. V. (*with* Subramanian, K. G.) A note on radii problems of analytic functions. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 185–188. 30C45

— (*with* Subramanian, K. G.; Balasubrahmanyam, P.; Silverman, Herb) Classes of uniformly starlike functions. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 309–315. (Frode Rønning) **99i:30028** 30C45

— (*with* Balasubrahmanyam, P.; Subramanian, K. G.) On functions starlike with respect to symmetric and conjugate points. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 57–68. (Chunyi Gao) **99c:30033** 30C45

Sudhölter, Peter Axiomatizations of game theoretical solutions for one-output cost sharing problems. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 142–171. (Summary) **99i:90023** 90A11 (90B50, 90D80)

— (*with* Peleg, Bezalel) Nucleoli as maximizers of collective satisfaction functions. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 383–411. (Tadeusz Radzik) **99h:90122** 90D06 (90D12)

Sudo, Takahiro Dimension theory of the C^*-algebras of Lie groups. Theory of paragroups and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 956 (1996), 61–89. (Alain Valette) **99a:46126** 46L80 (19K99, 22D25, 22E46, 46L05)

— (*with* Takai, Hiroshi) Stable rank of the C^*-algebras of solvable Lie groups of type I. (English summary) *J. Operator Theory* **38** (1997), *no.* 1, 67–86. (Alain Valette) **99a:46125** 46L80 (19K99, 22D25, 22E27, 46L05)

— Recent progress of noncommutative dimension theory. Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 1–11. (*see* **99d:46001**) 46L85

Suel, Torsten (*with* Plaxton, C. Greg) Lower bounds for Shellsort. (English summary) *J. Algorithms* **23** (1997), *no.* 2, 221–240. (Linda Pagli) **99b:68047** 68P10 (68Q25)

Suen, Ching-Yun W_A contractions. (English summary) *Positivity* **2** (1998), *no.* 4, 301–310. (Summary) **99i:47012** 47A20 (46L05, 47A45)

— W_p-contractions. (English summary) *Soochow J. Math.* **24** (1998), *no.* 1, 1–8. (E. Dursztˆ) **99c:47006** 47A20 (47A30, 47A80)

Suen, W.-C. Stephen (*with* Clark, W. Edwin; Shekhtman, Boris; Fisher, David C.) Upper bounds for the domination number of a graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 99–123. (Summary) **99j:05103** 05C35

— (*with* Broder, Andrei Z.; Frieze, Alan M.; Upfal, Eli) Optimal construction of edge-disjoint paths in random graphs. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 542–574 (*electronic*). (Zbigniew Palka) **99f:05068** 05C38 (05C85, 68R10, 90B10)

Suen, Wai-Mo (*with* Leung, P. T.; Liu, Yuk Tung; Tam, C. Y.; Young, Kenneth) Logarithmic perturbation theory for quasinormal modes. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3271–3286. (M. Znojil) **99f:81051** 81Q15 (34L40)

— (*with* Anninos, Peter; Camarda, Karen; Libson, Joseph; Massó, Joan; Seidel, Edward) Finding apparent horizons in dynamic 3D numerical spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024003, 12 *pp.* 83–08 (83C57)

Suetin, P. K. ★ Series of Faber polynomials. (English summary) Translated from the 1984 Russian original by E. V. Pankratiev [E. V. Pankrat'ev]. Analytical Methods and Special Functions, 1. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *xx*+301 *pp. ISBN* 90-5699-058-6 (Editors) **99m:30001** 30–02 (41A30, 41A58)

Suetov, A. P. (*with* Ismail-zade, A. T.; Korotkiĭ, A. I.; Naĭmark, B. M.; Tsepelev, I. A.) Realization of a three-dimensional hydrodynamic model of the evolution of sedimentary basins. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1190–1203; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1138–1151. (Summary) **99f:86008** 86A60 (76D05, 86–08)

Sueur, C. (*with* Rahmani, A.; Dauphin-Tanguy, G.) Approche des bond graphs pour l'analyse structurelle des systèmes linéaires. (French summary) [Bond graph approach for the structural analysis of linear systems] *Linear Algebra Appl.* **259** (1997), 101–131. (D. Stanomir) **99b:94069** 94C15 (68R10, 93A30)

Sueyoshi, Toshiyuki (*with* Sekitani, Kazuyuki) Mathematical properties of least absolute value estimation with serial correlation. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 75–92. 62M10 (90C15)

Suffel, C. (*with* Boesch, F.; Gross, Daniel) Component order connectivity. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 145–155. (*see* **99i:00021**) 05C40

— (*with* Petingi, L.; Boesch, F.) On the characterization of graphs with maximum number of spanning trees. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 155–166. (Prabir Das) **99c:05167** 05C75 (05C35)

Suffridge, Ted J. (*with* Roper, Kevin A.) Convexity properties of holomorphic mappings in $\mathbf{C}^n$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1803–1833. (Sheng Gong) **99h:32027** 32H02 (32A17, 32A30)

Sugakova, E. V. A search for change points in a flow of independent observations. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 167–172; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 181–186 (1998). (Ilya S. Molchanov) **99g:62066** 62G20 (62G05)

Sugamoto, Akio (*with* Endo, Rika; Kuriki, Rie; Nojiri, Shin'ichi) A rule of thumb derivation of Born-Infeld action for D-branes. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1309–1317. (Summary) **99c:81179** 81T30

— (*with* Kadoyoshi, Tomoko; Nojiri, Shin'ichi; Odintsov, Sergei D.) Vacuum polarization of supersymmetric D-brane in the constant electromagnetic field. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1531–1537. (Editors) **99c:81191** 81T30

— (*with* Kato, Yuriko; Nojiri, Shin'ichi) D0-brane description of the charged black hole. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3145–3150. (Summary) **99j:83046** 83C57 (83E30)

Sugano, Satoko Estimates for the operators $V^\alpha(-\Delta+V)^{-\beta}$ and $V^\alpha\nabla(-\Delta+V)^{-\beta}$ with certain nonnegative potentials V. *Tokyo J. Math.* **21** (1998), *no.* 2, 441–452. (Mihai Pascu) **99m:35041** 35J10 (35B45, 42B20)

Sugatani, Takasi (*with* Onoda, Nobuharu; Yoshida, Ken-ichi[1]) Simple algebraic extensions of rings and kernels of universal derivations. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2033–2040. (L. J. Ratliff, Jr.) **99e:13023** 13E05 (13N05)

Sugawa, Toshiyuki On the norm of pre-Schwarzian derivatives of strongly starlike functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 178–185. (Summary) **99b:30021** 30C45

— Various domain constants related to uniform perfectness. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 4, 311–345. (Summary) **99h:30043** 30F45 (30C55, 31A15)

Sugawara, Kana (*with* Takahashi, Kaoru; Ando, Toshihiko; Kato, Yasushi; Shiratori, Norio) Specification of a concurrent system based on propositional logic. (English summary) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 322–332. (Summary) **99m:68124** 68Q60 (03B70)

Sugawara, Y. (*with* Sugiyama, Katsuyuki) D-brane analyses for BPS mass spectra and U-duality. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 158–192. (Claudio A. Scrucca) **99j:81160** 81T30

Sugden, Robert (*with* Cubitt, Robin P.) The selection of preferences through imitation. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 4, 761–771. (Summary) **99g:90019** 90A06

Sugeno, Michio (*with* Narukawa, Yasuo; Murofushi, Toshiaki) Choquet integral and fuzzy measures on locally compact space. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 205–211. (Endre Pap) **99i:28027** 28E10 (28C99)

— (*with* Murofushi, Toshiaki; Fujimoto, Katsushige) Canonical separated hierarchical decomposition of the Choquet integral over a finite set. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 3, 257–272. (Endre Pap) **99i:28025** 28E10 (28C99)

— (*with* Fujimoto, Katsushige; Murofushi, Toshiaki) Canonical hierarchical decomposition of Choquet integral over finite set with respect to null additive fuzzy measure. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 345–363. (Endre Pap) **99j:28022** 28E10

— ★ Fuzzy modeling and control. (English summary) Selected works of M. Sugeno. With a foreword by Lotfi A. Zadeh. Edited and with introductory material by Hung T. Nguyen and Nadipuram R. Prasad. *CRC Press, Boca Raton, FL*, 1999. *xvi+426 pp. ISBN* 0-8493-2884-5 01A75 (93–06, 93C42)

Sugie, Jitsuro (*with* Chen, Da-Li; Matsunaga, Hideaki) On global asymptotic stability of systems of Liénard type. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 140–164. (Bo Hua Yu) **99c:34111** 34D20 (34C15)

— (*with* Katayama, Masaki) Global asymptotic stability of a predator-prey system of Holling type. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 142–158. (Stanisław Sędziwy) **99m:92040** 92D25 (34C99, 34D05)

Sugie, Toshiharu (*with* Fujimoto, Kenji) Controller design for an inverted pendulum based on approximate linearization. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 585–597. (Summary) **99b:93018** 93B18 (93C15)

— (*with* Chen, Gan) Stability analysis via structured singular value μ—real μ analysis. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 10, 521–528. 93D05 (93–02, 93D09)

— (*with* Fukushima, Hiroaki) Identification of the smallest unfalsified model set based on stochastic noisy data. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 9, 477–482. 93E10 (93E12)

— (*with* Fujimoto, Kenji) Stabilization of generalized Hamiltonian systems—canonical transformation approach. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 11, 616–622. 93D15 (93C10)

— (*with* Fujimoto, Kenji; Oga, Akira) Nonlinear controller design for linear systems via the parametrization of nonlinear stabilizing controllers. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 11, 623–629. 93D15 (93B51)

— (*with* Chen, Gan) μ-analysis and synthesis based on parameter dependent multipliers. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 365–379, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93B50)

— (*with* Tanaka, Hideyuki) New characterization of fixed-order controllers based on LMI. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 58–74. (A. Barraud) **99k:93051** 93B50 (93C05, 93D15)

— (*with* Hamamoto, Kenichi) A method for constructing linear suboptimal controllers from input-output data—LFT approach. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 1, 20–26. 49N35 (93B52)

Sugihara, Kōkichi (*with* Minakawa, Tsuyoshi) Topology oriented vs. exact arithmetic—experience in implementing the three-dimensional convex hull algorithm. (English summary) *Algorithms and computation* (*Singapore*, 1997), 273–282, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68U05 (68M07)

— Resolvable representation of polyhedra. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 243–255. (Jesús A. de Loera) **99k:52024** 52B55 (52B10)

— *see also* **Workshop: Computational Geometry, 99k:00039**

Sugihara, Masaaki (*with* Hoshino, Fumitaka; Fujino, Seiji) Verification of a numerical method for the exact solution of Burgers' equation using overload function of C++. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 11–16. (*see* **99h:65005**) 65M70

Sugihara, Yuji (*with* Saki, Yoshinori; Honji, Hiroyuki) Nonlinear evolution of 2-dimensional decaying turbulence on a rotating sphere. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 1–9. (*see* **99k:76004**) 76F99 (76U05)

Sugimoto, Hiroshi (*with* Sone, Yoshio; Aoki, Kazuo[2]) Cylindrical Couette flows of a rarefied gas with evaporation and condensation: reversal and bifurcation of flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 476–490. (Summary) **99j:76110** 76P05 (76E15, 76U05)

Sugimoto, Kenji Partial pole placement by LQ regulators: an inverse problem approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 706–708. (Summary) **99a:93047** 93B55 (49N55)

Sugimoto, Mitsuru (*with* Tsujimoto, Keiichi) A resolvent estimate and a smoothing property of inhomogeneous Schrödinger equations. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 5, 74–76. 35J10 (47F05)

Sugimoto, Nobumasa (*with* Ikeda, Kazufumi) An integral equation method for the Burgers equation that takes geometrical spreading into consideration. (Japanese. English summary) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 46–56. (*see* **99a:00032**) 35Q53 (45D05, 76Q05)

— (*with* Ogawa, Takanobu) Acoustic analysis of the pressure field in a tunnel, generated by entry of a train. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2083–2112. (From the summary) **99e:76111** 76Q05 (76N99)

Sugimoto, Noriko Learnability of translations from positive examples. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 169–178, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68N20, 68Q45)

Sugimoto, Shigeki (*with* Hirayama, Takayuki; Maekawa, Nobuhiro) Deformations of $\mathcal{N}=2$ dualities to $\mathcal{N}=1$ dualities in SU, SO and USp gauge theories. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 843–873. (Marco Spaans) **99h:81211** 81T60 (81T13)

Sugimoto, Sueo (*with* Suwa, Masaki) Gibbs random image models and sampling. *Statistical methods in control and signal processing*, 525–543, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 68U10

— (*with* Yao, Jingwu) ARMA modeling with bounded-real functions and lattice filters. (Japanese. English summary) *Mem. Inst. Sci. Engrg. Ritsumeikan Univ. No.* 57 (1998), 121–132 (1999). 93E11

— *see also* **Statistical methods in control and signal processing, 99b:93004**

Sugimura, Tatsuo (*with* Hayashi, Yukihiko; Tanaka, Kiyoshi) Data hiding under fractal image generation via random midpoint displacement method. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3221–3231. 68U05

Sugioka, Yoshihiro (*with* Cheng, Qing-Ming; Machigashira, Yoshiroh) The relation between degree and dilatation of continuous maps. *Japan. J. Math.* (*N.S.*) **24** (1998), *no.* 1, 183–190. (Francisco R. Ruiz del Portal) **99g:55004** 55M25

Sugita, Hiroshi A pseudorandom number generation method that utilizes irrational rotations—a numerical analysis approach using probability theory. (Japanese) Pseudorandom numbers and chaos (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1011 (1997), 77–88. (*see* **99a:00044**) 65C10

— (*with* Taniguchi, Setsuo) Oscillatory integrals with quadratic phase function on a real abstract Wiener space. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 229–262. (Shi Zan Fang) **99e:60126** 60H07 (46G12)

— Pseudorandom numbers from the viewpoint of computational complexity theory. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 118–124. (*see* **99f:65007**) 65C10 (68P25, 68Q15)

Sugita, Kimio (*with* Uemura, Kenji; Yaku, Takeo) Induced permutation automata and coverings of strongly connected automata. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 243–249. (G. J. Lallement) **99m:68134** 68Q70 (20M35)

Sugita, Tsukasa (*with* Kasami, Tadao; Fujiwara, Toru) The split weight (w_L, w_R) enumeration of Reed-Muller codes for $w_L + w_R < 2d_{\min}$. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 197–211, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99c:94047** 94B05

Sugiura, Mitsuo Applications of the Greek theory of ratio. (Japanese) Study of the history of mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1019 (1997), 23–29. (*see* **99d:01002**) 01A20

Sugiura, Nariaki (*with* Ishibayashi, Hiroki) Reference prior Bayes estimator for bivariate normal covariance matrix with risk comparison. (English summary) *Comm. Statist.*

Theory Methods **26** (1997), *no.* 9, 2203–2221. (N. Giri) **99e:62104** 62H12 (62C10, 62C20, 62F15)

— Exact powers of classical tests for bivariate linear hypotheses. (English summary) *Applied statistical science, III*, 377–391, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99k:62116** 62H15

Sugiyama, Katsuyuki (*with* Sugawara, Y.) D-brane analyses for BPS mass spectra and U-duality. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 158–192. (Claudio A. Scrucca) **99j:81160** 81T30

Sugiyama, Takakazu (*with* Tsukada, Shin-ichi) On the distributions of likelihood ratio criterion for equality of characteristic vectors in two populations. (English summary) *Bull. Fac. Sci. Engrg. Chuo Univ. Ser. I Math.* **40** (1997), 1–11 (1998). (Nariaki Sugiura) **99g:62080** 62H15 (62H10)

— (*with* Ushizawa, Kenji) A non-parametric method to test equality of intermediate latent roots of two populations in a principal component analysis. (English summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 2, 227–235. (Summary) **99k:62117** 62H15 (62G10)

Sugiyama, Yoshie Smooth solutions for porous medium equations. *Functional analysis and global analysis* (*Quezon City*, 1996), 273–277, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35K55 (35B65, 76S05)

Suh, Dong Youp (*with* Park, Dae Heui) Semialgebraic G CW complex structure of semialgebraic G spaces. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 371–386. (Aviva Szpirglas) **99d:14061** 14P10 (22E10, 57Q15, 57Q91)

Suh, Young Jin (*with* Sohn, Dong Joo) Classification of real hypersurfaces in complex hyperbolic space in terms of constant φ-holomorphic sectional curvatures. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 801–819. (Jürgen Berndt) **99m:53109** 53C40

— (*with* Kwon, Jung-Hwan) On semi-Riemannian submersions of codimension one. (English summary) *Math. J. Toyama Univ.* **20** (1997), 15–35. (João Lucas Marques Barbosa) **99c:53073** 53C50

— (*with* Baikoussis, Christos; Lyu, Seon Mi) Real hypersurfaces in complex space forms with η-parallel curvature tensor. (English summary) *Proceedings of the Second International Workshop on Differential Geometry* (*Taegu*, 1997), 67–76, *Kyungpook Natl. Univ., Taegu*, 1998. (Makoto Kimura) **99g:53055** 53C40

— (*with* Baikoussis, Christos; Lyu, Seon Mi) Real hypersurfaces in complex space forms with η-parallel curvature tensor. (English summary) *Bull. Greek Math. Soc.* **40** (1998), 49–55. (Jürgen Berndt) **99k:53106** 53C40

— (*with* Choi, Soon Meen; Kwon, Jung-Hwan) A Liouville-type theorem for complete Riemannian manifolds. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 301–309. (Qing Ming Cheng) **99d:53033** 53C20 (53C40, 53C42)

— (*with* Choi, Soon Meen; Ki, U-Hang) Space-like surfaces with 1-type generalized Gauss map. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 315–330. (Qing Ming Cheng) **99d:53071** 53C50 (53C40)

— (*with* Kwon, Jung-Hwan) A new characterization of homogeneous real hypersurfaces in complex space forms. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 77–90. (Jürgen Berndt) **99e:53078** 53C40

— (*with* Lee, Soo Hyo; Pérez, Juan de Dios) A characterization of Einstein real hypersurfaces in quaternionic projective space. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 165–178. (Jürgen Berndt) **99e:53064** 53C25 (53C40)

— (*with* Choi, Soon Meen; Ki, U-Hang) On the Gauss map of null scrolls. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 273–279. (Christos Baikoussis) **99h:53090** 53C50 (53A40)

— (*with* Berndt, Jürgen) Real hypersurfaces in complex two-plane Grassmannians. (English summary) *Monatsh. Math.* **127** (1999), *no.* 1, 1–14. (Lieven Vanhecke) **99k:53107** 53C40 (53C35)

— *see also* **Proceedings: Workshop on Differential Geometry, 99b:53002**

Suhadolc, Anton Professor F. Križanič (on the occasion of his seventieth birthday). (Slovenian) *Obzornik Mat. Fiz.* **45** (1998), *no.* 2, 62–64. 01A70

Suhl, Uwe H. (*with* Hilbert, Heinrich) A branch-and-cut algorithm for solving generalized multiperiod Steiner problems in graphs. (English summary) *Networks* **31** (1998), *no.* 4, 273–282. (Summary) **99c:90150** 90C35 (05C85, 90C90)

Suhov, Y. M. *see* **Sukhov, Yu. M.**

Suhov, Yu. M. *see* **Sukhov, Yu. M.**

Suhov, Yurii M. *see* **Sukhov, Yu. M.**

Sui, Ya Li A free-simplex algorithm for a kind of tracing homotopy curve. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 83–88. 65H10 (90C90)

Sui, Yun Kang (*with* Yu, Xin[3]) Unification of K-S functions and norm functions. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 5, 502–505. 90C30 (65K05)

Sui, Zhenlin (*with* Yu, Ge; Yu, Zhao Xian) q,s-Taylor's formula with q,s-remainder. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 1, 133–136. (Introduction) **99k:26004** 26A24 (39A10)

Suijs, Jeroen (*with* De Waegenaere, Anja; Borm, Peter) Stochastic cooperative games in insurance. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 3, 209–228. (Summary) **99k:62202** 62P05

Suito, H. (*with* Kawarada, Hideo; Fujita, Hiroshi[1]) Wave motion breaking upon the shore. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 145–159, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:86007** 86A05 (76M20, 86-08)

— (*with* Kawarada, Hideo; Ohtomo, T.; Périaux, Jacques) Multi-start fuzzy optimization method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 338–345, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 90C70

— (*with* Kawarada, Hideo) Vorticity reduction problem for the steady flow in a channel with a back step. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 360–373, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99j:76027** 76D05 (76M25, 90C70)

Sujatha, R. (*with* Flicker, Yuval Z.; Scheiderer, Claus) Grothendieck's theorem on non-abelian H^2 and local-global principles. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 731–750. (Philippe Gille) **99a:11129** 11R34 (11E10, 14F20, 20G10)

Sukachëva, T. G. On a model of the motion of an incompressible viscoelastic Kelvin-Voigt fluid of nonzero order. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 552–557, 576; *translation in Differential Equations* **33** (1997), *no.* 4, 557–562. (From the text) **99i:76006** 76A10 (34G20, 35Q35)

— (*with* Sviridyuk, G. A.; Dudko, L. L.) Relative σ-boundedness of linear operators. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 7, 68–73; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 7, 65–70. (Yuri Sil'chenko) **99a:47029** 47A99 (47A10, 47B99)

— On the solvability of a nonstationary problem of the dynamics of an incompressible viscoelastic Kelvin-Voigt fluid of nonzero grade. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 47–54; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 3, 44–51. (Ivan Straškraba) **99e:76006** 76A10 (35Q35)

— (*with* Sviridyuk, G. A.) On the solvability of a nonstationary problem in the dynamics of an incompressible viscoelastic fluid. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 442–450; *translation in Math. Notes* **63** (1998), *no.* 3-4, 388–395. (Piotr Biler) **99f:76012** 76A10 (34G20, 35Q35)

Sukhanov, E. V. (*with* Semigrodskikh, A. P.) On closed classes of polynomials over finite fields. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 50–62; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 593–606. (Vladimir S. Anashin) **99f:11156** 11T06

Sukharev, Aleksei G. ★ Minimax models in the theory of numerical methods. Translated from the 1989 Russian original by Olga Chuyan. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 21. *Kluwer Academic Publishers Group, Dordrecht*, 1992. *xiv+256 pp. ISBN* 0-7923-1821-8 (Editors) **99i:65002** 65–02 (65Dxx, 90C30)

Sukhatme, Uday P. (*with* Khare, Avinash) Exact solution of a class of three-body scattering problems in one dimension. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 14–18. (Summary) **99b:70008** 70F10 (81U10)

Sukhinin, E. V. (*with* Nogin, V. A.) Fractional powers of the Schrödinger operator in L_p-spaces. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 5, 608–610. 35J10 (47F05)

Sukhinin, M. F. On the solvability of the nonlinear stationary transport equation. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 1, 23–31; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 1, 366–373. (Summary) **99d:47066** 47H15 (45G10, 45K05, 47N20, 47N55, 82C70)

— A numerical method for solving quadratic programming problems with quadratic penalties applied by stages. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 932–937; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 894–899. (Summary) **99f:90075** 90C20 (49M30, 90C08)

Sukhinin, S. V. Natural oscillations around a plate in a channel. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 78–90. (Summary) **99h:73061** 73K70 (76Q05)

Sukhochëva, L. I. A new criterion for an operator to belong to the class $K(H)$. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 10, 64–66; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 10, 61–63 (1998). (Björn Textorius) **99c:47045** 47B50

— On some spectral properties of a quadratic selfadjoint matrix pencil with dominating main diagonals. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 381–390; *translation in Math. Notes* **61** (1997), *no.* 3-4, 313–320. (Vyacheslav N. Pivovarchik) **99d:15010** 15A22 (15A18, 47A56, 47B50)

Sukhoruchkin, M. A. (*with* Kopanev, È. V.; Kryukov, S. V.) Conserved currents in quantum integrable models. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 1, 34–44; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 1, 1235–1243 (1998). (Konstantin G. Selivanov) **99d:81076** 81T10 (81R10, 81T40)

Sukhov, Yu. M. (*with* Karpelevich, F. I.) A criterion of boundedness of discrete branching random walk. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 141–155, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (J. D. Biggins) **99c:60191** 60J80 (60K35)

— (*with* Boldrighini, C.) One-dimensional hard-rod caricature of hydrodynamics: "Navier-Stokes correction" for local equilibrium initial states. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 577–590. (Ellen Saada) **99a:82061** 82C21 (35Q30, 76M35, 82C05)

— (*with* Karpelevich, F. I.) Boundedness of one-dimensional branching Markov processes. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 4, 307–332. (J. D. Biggins) **99c:60190** 60J80 (60K35)

— (*with* Vvedenskaya, Nikita D.) Dobrushin's mean-field approximation for a queue with dynamic routing. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 493–526. (Sylvie Méléard) **99e:60207** 60K25 (68M20)

— (*with* Karpelevich, F. I.; Pecherskiĭ, E. A.) A phase transition for hyperbolic branching processes. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 627–642. (Luis G. Gorostiza) **99i:60159** 60J80 (60K35)

— (*with* Rose, David M.; Vvedenskaya, Nikita D.) An optimal probabilistic routing policy for a large packet-switched network. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1027–1050. (Andrew D. Barbour) **99j:60150** 60K30 (60K20, 90B12)

— (*with* Kontoyiannis, Ioannis; Algoet, P. H.; Wyner, Abraham J.) Nonparametric entropy estimation for stationary processes and random fields, with applications to English text. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1319–1327. (Summary) **99c:94015** 94A29 (62G05, 68P99, 92K20)

Sukiasyan, G. S. Finitely-additive functionals on a plane. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 4, 91–106 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 4, 75–88. (Ilya S. Molchanov) **99h:52008** 52A37 (28A10, 60D05)

Sukla, Indulata On Dirichlet convolution method. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 607–611. (Alessandro Zaccagnini) **99d:11108** 11N56 (11A25, 11N64)

Sukochev, F. A. (*with* Dodds, P. G.; de Pagter, B.; Semenov, E. M.) Symmetric functionals and singular traces. (English summary) *Positivity* **2** (1998), *no.* 1, 47–75. (Christian Le Merdy) **99m:46072** 46E30 (46L50)

— RUC-bases in Orlicz and Lorentz operator spaces. (English summary) *Positivity* **2** (1998), *no.* 3, 265–279. (Christian Le Merdy) **99k:46117** 46L50 (46B15, 46E30, 47D15)

Sukon, K. S. The block alternating group explicit method (BLAGE) to solve elliptic singular perturbation problem. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect.*

C Theme Issues **22** (1997), *no.* 2, 137–148. (Summary) **99a:65139** 65N22 (65F05)
— The block alternating group explicit method (BLAGE) to solve 2D-elliptic differential equations. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 221–229. 65N22 (65N12)
Sukumar, N. (*with* Moran, Brian; Belytschko, Ted) The natural element method in solid mechanics. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 5, 839–887. (Summary) **99g:73110** 73V05 (73V20)
Sul, Bookyung (*with* Kim, Jihn E.) Global symmetries in duals of supersymmetric $SU(N) \times SU(M)$ and application to composite axion. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 141–148. (Summary) **99b:81243** 81T60 (81V05)
Sulaiman, W. T. A general theorem concerning some absolute summability methods. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 57–64. (Summary) **99i:40010** 40F05
— (*with* Abou-Tair, I. A.) Notes on convex functions. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 69–76. (Ion Raşa) **99d:26017** 26A51 (26D15)
— Generalization concerning inclusion theorems for absolute harmonic-Cesàro method of summation. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 91–96. (B. P. Mishra) **99m:40011** 40F05 (40D25, 40G99)
— On a new absolute summability method. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 603–606. (Summary) **99h:40009** 40F05
— Characterization on the relative strength of two absolute summability methods. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 12, 13–18. (Summary) **99j:40011** 40F05
Sulakvelidze, D. Extensions of groups in categories. (Georgian. English and Russian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 181–183 (1996). 18D35
Sulanke, Robert A. Catalan path statistics having the Narayana distribution. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 369–389. (Walter M. Böhm) **99b:05004** 05A15
abu-Sulayman, Ibtesam M. *see* **Abu-Sulayman, Ibtesam M.**
Sule, V. R. Corrigendum: "Feedback stabilization over commutative rings: the matrix case" [SIAM J. Control Optim. **32** (1994), no. 6, 1675–1695; MR 95i:93129]. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2194–2195 (*electronic*). (From the text) **99e:93070** 93D15 (93D25)
Suleiman, Ibrahim A. I. (*with* Wilson, Robert A.) Covering and automorphism groups of $U_6(2)$. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 511–517. (R. W. Carter) **99d:20079** 20G40 (20D06)
— (*with* Wilson, Robert A.) Construction of exceptional covers of generic groups. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 31–38. (Summary) **99g:20031** 20D08 (20C34)
Suleiman, Mohamed Bin (*with* Malathi, V.; Taib, Bachok B.) Computing eigenvalues of periodic Sturm-Liouville problems using shooting technique and direct integration method. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 119–132. (Summary) **99k:65064** 65L10 (65L15)
Sulem, Catherine (*with* Craig, Walter; Schanz, Ulrich) The modulational regime of three-dimensional water waves and the Davey-Stewartson system. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 5, 615–667. (C. Eugene Wayne) **99i:35144** 35Q55 (35Q53, 76B15)
Sulewski, P. (*with* Barannik, L. F.) Exact solutions of the nonlinear diffusion equation $u_0 + \nabla[u^{-4/5}\nabla u] = 0$. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 429–436, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35K55 (35C05)
Sulfaro, Grazia Leontiev input-output model and graphs theory. (English summary) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **60** (1998), *no.* 3-4, 115–121. 90A14 (05C90)
Süli, Endre (*with* Houston, Paul) Finite element methods for hyperbolic problems: a posteriori error analysis and adaptivity. *The state of the art in numerical analysis* (*York*, 1996), 441–471, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Eun-Jae Park) **99i:65107** 65M60 (65M15)
— (*with* Lin, Peixiong[1]; Morton, K. W.) Characteristic Galerkin schemes for scalar conservation laws in two and three space dimensions. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 779–796. (Darrell L. Hicks) **99b:65118** 65M60 (65N30)
— (*with* Sonar, Thomas) A dual graph-norm refinement indicator for finite volume approximations of the Euler equations. (English summary) *Numer. Math.* **78** (1998), *no.* 4, 619–658. (Dennis C. Jespersen) **99c:65176** 65M15 (65M50, 76M25, 76N15)
Suliciu, I. On the thermodynamics of rate-type fluids and phase transitions. I. Rate-type fluids. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 9, 921–947. (From the summary) **99f:76009** 76A05 (73B30, 73E60, 80A22)
— On the thermodynamics of rate-type fluids and phase transitions. II. Phase transitions. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 9, 949–971. (Summary) **99f:76010** 76A05 (73B30, 73E60, 80A22)
— (*with* Mihăilescu-Suliciu, M.) Energy estimates for piecewise smooth rate type thermo-viscoelastic models with van der Waals type equilibrium surface. (English summary) *IUTAM Symposium on Rheology of Bodies with Defects* (*Beijing*, 1997), 67–86, *Solid Mech. Appl.*, 64, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99j:73062** 73F15 (73B30)
mihăilescu-Suliciu, M. *see* **Mihăilescu-Suliciu, M.**
Sulikashvili, R. S. On the motion of a symmetric gyrostat in a Newtonian force field. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 512–514; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 465–472. (Summary) **99m:70002** 70E05 (70K20)
Suliński, Adam *see* **Krempa, Jan, 99m:01074**
Suljagić, Salih Operators in quaternionic Hilbert space. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 115–117. (Summary) **99g:47017** 47A45 (47A60)
Šulka, Robert *see* **Grošek, Otokar, 99m:01062**
Sułkowski, Piotr (*with* Sokalski, Krzysztof) On the classification of quantum systems with respect to their integrability. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 8, 1943–1961. (Summary) **99g:81122** 81S99
Sullivan, Dennis P. (*with* McMullen, Curtis T.) Quasiconformal homeomorphisms and dynamics. III. The Teichmüller space of a holomorphic dynamical system. *Adv. Math.* **135** (1998), *no.* 2, 351–395. (Athanase Papadopoulos) **99e:58145** 58F23 (30C62, 30D05, 30F60)
— (*with* Body, Richard; Mimura, Mamoru; Shiga, Hiroo) p-universal spaces and rational homotopy types. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 427–442. (Edgar H. Brown, Jr.) **99e:55017** 55P60 (55P62)
Sullivan, Frances E. (*with* Key, J. D.; Novick, Beth) Binary codes of structures dual to unitals. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 119–124. (Summary) **99d:94043** 94B60
Sullivan, Francis E. (*with* Beichl, Isabel) Computational methods in random surface simulation. *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 175–192, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (*see* **99e:82103**) 82B41 (65Y25)
— (*with* Beichl, Isabel) Approximating the permanent via importance sampling with application to the dimer covering problem. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 128–147. (Summary) **99m:82021** 82B41 (15A15)
Sullivan, Joe H. (*with* Woodall, William H.) Adapting control charts for the preliminary analysis of multivariate observations. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 953–979. 62N10
Sullivan, John M. (*with* Kusner, Robert B.) Comparing the Weaire-Phelan equal-volume foam to Kelvin's foam. *Forma* **11** (1996), *no.* 3, 233–242. (Béla Uhrin) **99e:52031** 52C22 (49Q05, 53A10)
— (*with* Francis, George K.; Kusner, Robert B.; Brakke, Ken A.; Hartman, Chris; Chappell, Glenn) The minimax sphere eversion. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 3–20, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)
— (*with* Brakke, Ken A.) Using symmetry features of the surface evolver to study foams. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 95–117, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)
— (*with* Große-Brauckmann, Karsten; Kusner, Robert B.) Constant mean curvature surfaces with cylindrical ends. (English summary) *Mathematical visualization* (*Berlin*, 1997), 107–116, *Springer, Berlin*, 1998. (*see* **99k:65005**) 53A10 (53–04)
— (*with* Francis, George K.; Hartman, Chris) Computing sphere eversions. (English summary) *Mathematical visualization* (*Berlin*, 1997), 237–255, *Springer, Berlin*, 1998. (*see* **99k:65005**) 53A05 (53–04)
— (*with* Kusner, Robert B.) On distortion and thickness of knots. *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 67–78, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Kazushi Ahara) **99i:57019** 57M25
Sullivan, Michael C. An invariant of basic sets of Smale flows. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1437–1448. (Robert Ghrist) **99f:58157a** 58F15 (58F12, 58F22)
— Positive braids with a half twist are prime. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 3, 405–415. (Summary) **99b:57024** 57M25 (57M12)
— Invariants of twist-wise flow equivalence. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 475–484. (A. I. Danilenko) **99c:58137** 58F25 (58F03)
— Errata to: "An invariant of basic sets of Smale flows". *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 1047. (Robert Ghrist) **99f:58157b** 58F15 (58F12, 58F22)
— Positive knots and Robinson's attractor. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 1, 115–121. (Josefina Casasayas) **99c:57033** 57M25 (54H20, 58F22)
Sullivan, Peter M. The "modal extension principle": a question about Peacocke's approach to modality. *Mind* **107** (1998), *no.* 427, 653–660. 03B45
Sullivan, Wayne G. (*with* Lewis, John T.; Pfister, Charles E.; Russell, Raymond P.) Reconstruction sequences and equipartition measures: an examination of the asymptotic equipartition property. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1935–1947. (Robert M. Gray) **99b:94013** 94A15 (60G10)
al-Sultan, K. S. *see* **Al-Sultan, K. S.**
Sultanbekov, Foat F. Routines for investigation of concrete logics. (English summary) *Measures on projections and orthomodular posets*, 95–113, *Kazan Tracts Math.*, 4, *Kazan Math. Soc., Kazan'*, 1998. (M. J. Mączyński) **99m:81021** 81P10 (03G12, 06–04, 06C15, 81–04)
— Solving problems on finite concrete logics with the help of a PC. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 199–202. (Summary) **99f:81025** 81P10 (03G12, 06A06)
Sultangazin, U. M. *see* **Birthday: Sultangazin, U. M.**
Sumi, Hiroki On dynamics of hyperbolic rational semigroups. *J. Math. Kyoto Univ.* **37** (1997), *no.* 4, 717–733. (Gregery T. Buzzard) **99h:30028** 30D05 (30F40, 58F23)
— On dynamics of hyperbolic rational semigroups and Hausdorff dimension of Julia sets. (English summary) Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 98–112. (Walter Bergweiler) **99a:58134** 58F23 (30D05)
— On Hausdorff dimension of Julia sets of hyperbolic rational semigroups. (English summary) *Kodai Math. J.* **21** (1998), *no.* 1, 10–28. (Gregery T. Buzzard) **99h:30029** 30D05 (30F40, 58F23)
Sumi, Naoya (*with* Oka, Masatoshi) Morse-Smale diffeomorphisms and the standard family. *Tokyo J. Math.* **21** (1998), *no.* 2, 471–476. (Ketty A. de Rezende) **99k:58107** 58F09
— A class of differentiable toral maps which are topologically mixing. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 915–924. (Frederick R. Marotto) **99f:58144** 58F13 (58F15)
— Diffeomorphisms approximated by Anosov on the 2-torus and their SBR measures. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3373–3385. (M. L. Blank) **99m:58144** 58F15 (58F11)
Sumii, Eijiro (*with* Kobayashi, Naoki) A generalized deadlock-free process calculus. (English summary) *HLCL* '98 *3rd International Workshop on High-level Concurrent Languages* (*Nice*), 23 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 3, *Elsevier, Amsterdam*, 1998. (*see* **99g:68009**) 68Q10 (68Q55, 68Q60)
Sumioka, Takeshi (*with* Morimoto, Mari) Generalizations of theorems of Fuller. *Osaka J. Math.* **34** (1997), *no.* 3, 689–701. (John Clark) **99b:16031** 16L30 (16D50, 16P20, 16P60)
— (*with* Hoshino, Mitsuo) Injective pairs in perfect rings. *Osaka J. Math.* **35** (1998), *no.* 3, 501–508. (K. R. Fuller) **99i:16009** 16D50 (16D40, 16L30)

Sumita, Ushio (*with* Igaki, Nobuko) Necessary and sufficient conditions for global geometric convergence of block Gauss-Seidel iteration algorithm applied to Markov chains. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 283–293. (Summary) **99h:65233** 65U05 (60J10)

— (*with* Igaki, Nobuko; Kowada, Masashi) On a generalized $M/G/1$ queue with service degradation/enforcement. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 415–429. (K. M. Ramachandran) **99m:90075a** 90B22 (60K25)

— (*with* Igaki, Nobuko; Kowada, Masashi) Erratum: "On a generalized $M/G/1$ queue with service degradation/enforcement". *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 646. (K. M. Ramachandran) **99m:90075b** 90B22 (60K25)

Summerer, Leonhard Cubic forms as sum of cubes of linear forms. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 472–517. (Stefan Kühnlein) **99j:11038** 11E76

Summers, Danny (*with* Khabibrakhmanov, I. K.) The use of generalized Laguerre polynomials in spectral methods for nonlinear differential equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 65–70. (Summary) **99d:65294** 65M70 (65L60, 65N35)

— (*with* Xiao, Fuliang; Thorne, Richard M.) Instability of electromagnetic R-mode waves in a relativistic plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2489–2497. (Summary) **99b:76039** 76E25 (76X05, 76Y05, 85A30, 86A10)

Summers, Stephen J. Bell's inequalities and algebraic structure. *Operator algebras and quantum field theory* (*Rome*, 1996), 633–646, *Internat. Press, Cambridge, MA*, 199?. (H. Araki) **99h:46127** 46L60 (46L10, 81P15)

Summerville, Jamie (*with* Buskes, Gerard) On the biadjoint of Riesz-like homomorphisms on partially ordered vector spaces. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 473–481. (Peter Meyer-Nieberg) **99a:46008** 46A40 (47B60)

Sumners, De Witt (*with* Darcy, Isabel K.) A strand passage metric for topoisomerase action. *KNOTS '96* (*Tokyo*), 267–278, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99k:57012** 57M25 (92E10)

— (*with* Darcy, Isabel K.) Applications of topology to DNA. *Knot theory* (*Warsaw*, 1995), 65–75, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:92029** 92D20

— (*with* Soteros, C. E.; Whittington, Stuart G.) Linking of random p-spheres in $\mathbf{Z}^d$. (English summary) *J. Knot Theory Ramifications* **8** (1999), *no.* 1, 49–70. (Yuanan Diao) **99m:57023** 57Q45 (57M25, 60D05)

— *see also* **Topology and geometry in polymer science, 99e:82103**

Sun, Byung-Chan (*with* Tahk, Min-Jea) Controller reduction using a new invariant set. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 447–467. (Summary) **99c:93045** 93B50 (93B11)

Sun, C. *see* **Sun, Chengzheng**

Sun, Chang-Yong (*with* Wang, Ji-Suo; Wang, Bo-Yun) Even and odd qs-coherent states and their photon-statistical properties. (English summary) *Phys. Lett. A* **246** (1998), *no.* 5, 464–470. (Summary) **99f:81086** 81R30 (81R50, 81V80)

Sun, Che (*with* Tang, Huai-min; Wu, Ke-jian) The discontinuous-streamline diffusion method for first-order hyperbolic equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 35–44. (Summary) **99c:65185** 65M60

— (*with* Zhang, Qiang) A finite difference-streamline diffusion method for nonlinear convection-diffusion equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 213–224. (Summary) **99e:65121** 65M06 (76M20, 76Rxx)

— (*with* Shen, Hui) The finite difference streamline diffusion methods for time-dependent convection-diffusion equations. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 1, 72–85. 65N30 (76M20)

Sun, Chengzheng (*with* Cai, Wentong; Zhang, Ke Wei[1]; Turner, S. J.) Interlock avoidance in transparent and dynamic parallel program instrumentation using logical clocks. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 569–591. 68Q10 (68Q60)

Sun, Chia-Chung *see* **Sun, Jia Zhong**

Sun, Da Jun (*with* Huang, Wen Ping) Invertible elements in the adjoint semigroups of BCI-algebras. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 114–117. (Yishu Pu) **99g:06026** 06F35 (06F25, 20M99)

— (*with* Huang, Wen Ping) Periodic BCI-algebras and subgroups of adjoint monoids of BCI-algebras. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 315–320. (Summary) **99d:06025** 06F35 (20M99)

— (*with* Huang, Wen Ping) Invertible elements in adjoint semigroups of BCI-algebras. (English summary) *Soochow J. Math.* **24** (1998), *no.* 4, 323–328. (Summary) **99h:06009** 06F25 (03G25)

Sun, Dao Chun (*with* Gao, Zong Sheng) Regular growth of Taylor series. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 1, 111–120. (Jian-Hua Zheng) **99c:30054** 30D15 (30B10)

— Value distribution of random series. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 251–256. (Summary) **99d:60020** 60E99 (30D35)

— (*with* Gao, Zong Sheng) The Borel directions of the largest type of algebroid functions. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 701–710. (Lo Yang) **99e:30021** 30D35

— On the value distribution of Julia points. *Chinese Sci. Bull.* **42** (1997), *no.* 22, 1856–1857. (Zhuan Ye) **99e:30017** 30D05 (58F23)

— (*with* Gao, Zong Sheng) Filling discs of meromorphic functions of infinite order. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 44–48. (Summary) **99j:30033** 30D30

— (*with* Gao, Ling Yun) Meromorphic solutions of systems of algebraic differential equations. (English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 2, 229–234. (Ilpo Laine) **99j:34006** 34A20

Sun, De Fa (*with* Zhang, Cai Ming; Wang, Jia Ye) Determination of a parabola from four points and its application in parametric interpolation. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 546–552. 65D15 (41A10)

Sun, De Feng (*with* Han, Ji Ye) Newton-type methods for variational inequalities. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 105–118, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C33 (49J40)

— (*with* Han, Ji Ye; Zhao, Yun Bin) The finite termination of the damped Newton algorithm for linear complementarity problems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 148–154. (Summary) **99c:90137** 90C33 (65K05)

— (*with* Potra, Florian A.; Qi, Liqun) Secant methods for semismooth equations. (English summary) *Numer. Math.* **80** (1998), *no.* 2, 305–324. (Summary) **99f:65079** 65H10

— (*with* Jiang, Houyuan; Fukushima, Masao; Qi, Liqun) A trust region method for solving generalized complementarity problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 140–157 (*electronic*). (Bruce D. Craven) **99c:90134** 90C33 (65K05)

— (*with* Mifflin, Robert; Qi, Liqun) Quasi-Newton bundle-type methods for nondifferentiable convex optimization. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 583–603 (*electronic*). (J. Frédéric Bonnans) **99f:90131** 90C30 (49J45, 65K05, 90C25)

Sun, Debin (*with* Hoo, Karlene A.) A robust transition control structure for time-delay systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 150–163. (O. A. Sebakhy) **99k:93048** 93B36 (93C40)

Sun, Don X. (*with* Cheng, Ching-Shui; Steinberg, David M.) Minimum aberration and model robustness for two-level fractional factorial designs. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 85–93. 62K15

Sun, Dongchu (*with* Clarke, Bertrand S.) Reference priors under the chi-squared distance. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 2, 215–231. (Summary) **99k:62007** 62A15 (62F15)

— (*with* Ghosh, Malay; Basu, Asit P.) Bayesian analysis for a stress-strength system under noninformative priors. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 323–332. 62N05 (62F15)

Sun, F. *see* **Sun, Feng Zhu**

Sun, Fang Yu Exact soliton solutions to a class of generalized KdV equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 477–478. 35Q53

— (*with* Zheng, Shi-ming) Some simultaneous iterations for finding all zeros of a polynomial with high order convergence. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 233–240. (Summary) **99h:65106** 65H05

Sun, Feng Rong (*with* Tian, Fa Zhong) On the fast algorithm for the multipole-potential functions. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 81–88. 65D15 (65Y25)

Sun, Feng-Wen (*with* Leib, Harry) Multiple-phase codes for detection without carrier phase reference. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1477–1491. 94B05 (94B35)

Sun, Feng Zhu (*with* Waterman, Michael S.) Whole genome amplification and branching processes. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 629–668. (Ming-Ying Leung) **99e:92014** 92C40 (60J85)

— (*with* Bruno, W. J.; Torney, D. C.) Optimizing nonadaptive group tests for objects with heterogeneous priors. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1043–1059 (*electronic*). (Summary) **99a:62115** 62K99

Sun, Fuchun (*with* Sun, Zeng Qi; Guo, Muhe; Zhang, Rongjun) A stable neural network-based adaptive controller for robot manipulators. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 413–432. 93C85 (93C40)

— (*with* Lu, Wenjuan; Dai, Min) Adaptive stabilization of neural control for robot trajectory tracking. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 3, 1149–1154. 93C85 (70B15, 70Q05, 93C40)

Sun, Gui Qiu The concept of direction and the direction relation for complex numbers and their application to complex set theory. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 5, 1–5. 04A99

— n-fold number theory. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 6, 21–27. (Zhen Fu Cao) **99j:11024** 11B99

Sun, Guo Han (*with* Zhao, Pei Biao; Chen, Guang Hua) Totally umbilical submanifolds. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 4, 345–348. (Chuan Yu Ma) **99e:53082** 53C40

— (*with* Zhao, Pei Biao; Chen, Guang Hua) Completely quasiumbilical submanifolds and completely umbilical submanifolds coincide. (Chinese) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 185–186. 53B25

Sun, Guo Ji (*with* Yang, Gen Ke; Wei, Jun Hu; Zeng, Jian Chao) The uniform description of discrete, continuous and hybrid dynamics Petri nets. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 58–65. 68Q90 (68Q10)

— (*with* Hu, Feng) An iterative algorithm for M-filters for stochastic systems and its convergence. (Chinese. Chinese summary) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 7, 106–108. 93E11 (93E25)

Sun, Hai-Wei (*with* Chan, Raymond H.; Ng, Wing-fai) Circulant preconditioners for ill-conditioned boundary integral equations from potential equations. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 8, 1505–1521. (Summary) **99h:65188** 65N30 (65R20)

— (*with* Chan, Raymond H.; Chang, Qian-Shun) Multigrid method for ill-conditioned symmetric Toeplitz systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 516–529 (*electronic*). (Summary) **99b:65030** 65F10

Sun, Haijian (*with* Liu, Lin[1]; Guo, Aike) Iteration logistic map dynamics in the polar coordinates. (English summary) *Fractals* **6** (1998), *no.* 1, 11–22. (Frederick R. Marotto) **99d:58125** 58F13 (00A69, 28A80)

Sun, Heng Remarks on certain metaplectic groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 488–496. (Boris E. Kunyavskiĭ) **99k:20100** 20G35 (11F70)

Sun, Hesheng Nonlinear system of equations of mixed type and nonlinear complex equation of mixed type. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 393–401, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Andreas Müller-Rettkowski) **99b:35158** 35M10 (35A20)

Sun, Hong An[1] A study of the history of mathematical methodology. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 16–22. 01A99 (00A35)

Sun, Hong Lie A high accuracy implicit difference scheme for solving one-dimensional parabolic equations. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 3, 197–200. 65M06

— A family of highly accurate explicit difference schemes for solving parabolic differential equations in three dimensions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 6–10. (Summary) **99d:65255** 65M06

— A family of highly accurate explicit symmetric difference schemes with parameters for solving the three-dimensional heat conduction equation. (Chinese. English and Chinese

summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 25–29. 65M06

Sun, Hong Quan (*with* Xie, He Ping) The theory of fractal interpolated surface and its applications. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 4, 321–331; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 297–306 (*Chinese. English and Chinese summaries*). (S. Dubuc) **99g:65022** 65D17 (28A80)

Sun, Hong-zhou (*with* Ruan, Dong) Algebraic expressions for $O(N) \supset O(N-1)$ reduction factors for the three-rowed irreducible representations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 630–649. (Patrick J. Moylan) **99f:81073** 81R05 (20G05, 22E70)

Sun, Hongguang (*with* Pantula, Sastry G.) Testing for trends in correlated data. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 87–95. 62J05

Sun, Huafei On spacelike submanifolds of a pseudo-Riemannian space form. (English summary) *Note Mat.* **15** (1995), *no.* 2, 215–224 (1997). (Francisco J. M. Estudillo) **99b:53089** 53C50 (53C42)

— Totally real pseudo-umbilical submanifolds of a quaternion space form. *Glasgow Math. J.* **40** (1998), *no.* 1, 109–115. (Paolo Piccinni) **99a:53073** 53C40

Sun, Hui (*with* Wang, Ren Chao; Gu, Pei Liang) Imprecise preference and nontransitive preference. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 31–38. 90A05 (90C29)

Sun, Huiying (*with* Lin, Pei-Kee) Extremity in Köthe-Bochner function spaces. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 136–154. (Henryk Hudzik) **99a:46067** 46E40 (46B20, 46E30)

Sun, Hung-Min (*with* Shieh, Shiuh-Pyng) On private-key cryptosystems based on product codes. (English summary) *Information security and privacy* (*Brisbane*, 1998), 68–79, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60

— (*with* Shieh, Shiuh-Pyng) Secret sharing schemes for graph-based prohibited structures. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 131–140. (Summary) **99f:94013** 94A60

— (*with* Shieh, Shiuh-Pyng) Recursive constructions for perfect secret sharing schemes. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 87–96. (Summary) **99j:94060** 94A60

Sun, I-Fan (*with* Chang, Gerard J.; Chen, Fu-Loong; Huang, Lingling; Hwang, Frank K.; Nuan, Su-Tzu; Rothblum, Uriel G.; Wang, Jan-Wen; Yeh, Hong-Gwa) Sortabilities of partition properties. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 413–427. (Summary) **99k:90129** 90C27 (90C10)

Sun, J. *see* **Sun, Jie**

Sun, J. Q. *see* **Sun, Jian-Qiao**

Sun, Ji-guang Sensitivity analysis of the discrete-time algebraic Riccati equation. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 595–615. (M. M. Konstantinov) **99f:93094** 93C55 (15A24, 65F30, 93C73)

— Residual bounds of approximate solutions of the discrete-time algebraic Riccati equation. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 463–478. (M. M. Konstantinov) **99a:93037** 93B40 (15A24)

— Perturbation analysis of generalized singular subspaces. (English summary) *Numer. Math.* **79** (1998), *no.* 4, 615–641. (Summary) **99j:15005** 15A04

— Perturbation theory for algebraic Riccati equations. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 39–65 (*electronic*). (Vladimir B. Larin) **99d:93016** 93B25 (15A24, 65H05, 93B40)

— Structured backward errors for KKT systems. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 75–88. (Yao Zhang) **99m:15002** 15A06 (65F99, 90C30)

— Bounds for the structured backward errors of Vandermonde systems. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 45–59 (*electronic*). (Marc Van Barel) **99j:65075** 65F30 (15A06)

Sun, Ji Gui (*with* Liu, Rui Sheng; Liu, Xu Hua) Epistemic logic. I. A logical framework for knowledge and belief. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 627–637. (Summary) **99m:68196** 68T30 (03B45, 03B70, 68T27)

— (*with* Liu, Rui Sheng; Liu, Xu Hua) Epistemic logic. II. The multi-agent epistemic logic MEL. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 638–641. (From the summary) **99m:68197** 68T30 (03B45, 03B70, 68T27)

Sun, Ji Tao (*with* Zhang, Yin Ping) A necessary and sufficient condition for the oscillation of solutions of Liénard type system with multiple singular points. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 12, 1205–1210; *translated from Appl. Math. Mech.* **18** (1997), *no.* 12, 1125–1129 (*Chinese. English and Chinese summaries*). (Antonio Iván Ruiz Chaveco) **99g:34071** 34C10 (34C25)

— (*with* Zhang, Yin Ping) Stability of linear differential equations with varying coefficients. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 642–645. 34D20 (34A30)

Sun, Jia-Chang (*with* Bai, Zhong Zhi; Szyld, D. B.) The spectral analysis of the matrix multisplitting method for the one-dimensional model problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 31–38. (P. Rochus) **99h:65090** 65F50

Sun, Jia Guang (*with* Zuo, Zheng; Hu, Shi Min; Yuan, Bo) A subdivision theorem for tensor product Bézier surfaces on a rectangular domain. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 25–27. 65D17 (41A63)

Sun, Jia Ju (*with* Zhang, Rui Ping) A soliton-like solution for a nonlinear wave motion problem in elastic media. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 1, 99–102, *VIII.* 73D35

Sun, Jia Zhong (*with* Liu, Jing-Yao; Huang, Xu-Ri; Li, Ze-Sheng) On geminals and symplectic bases in quantum chemistry. (English summary) *J. Math. Chem.* **21** (1997), *no.* 2, 159–182. (A. J. Coleman) **99e:81271** 81V55 (81R05)

Sun, Jiaming An extension of the Gärtner-Ellis theorem with applications to reversible Markov chains and some stationary sequences. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 241–266. (Summary) **99f:60064** 60F10 (60G10, 60J10)

Sun, Jian (*with* Jiang, Ziwen) Second order generalized difference methods for one-dimensional parabolic equations. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 15–29. (Wei Zhong Dai) **99k:65074** 65M06

Sun, Jian Jing (*with* Zhuang, Ping Hui) L^∞ uniform convergence of a difference scheme for a singular perturbation problem involving two parameters. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 5, 634–639. 65L08 (34E15)

Sun, Jian Ping (*with* Zhang, Yan E; Lin, Wei Jun) Solving a kind of fuzzy possibilistic linear programming problems. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 3, 9–12. 90C70 (90C08)

— (*with* Zhang, Yan E; Wang, Xi Zhao) The solution of the fuzzy matrix equation $Ax = b$ and its properties. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 72–78. 15A99 (15A24)

— (*with* Ji, Ai Bing; Zhang, Yan E) Fuzzy measures on locally compact spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 36–40. 28E10 (28C15)

Sun, Jian-Qiao A nonuniform cell partition for the analysis of nonlinear stochastic systems. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 4, 867–869. 65N30 (65U05)

Sun, Jian Wu Deficiencies of a class of composite entire functions. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 3, 27–33. (Summary) **99k:30054** 30D35

— Some problems on the growth of meromorphic functions proposed by C. C. Yang. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 1, 10–15. (Summary) **99i:30049** 30D35

— On the properties of Nevanlinna characteristic functions and maximum moduli functions. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 4, 381–386. (Summary) **99j:30036** 30D35

Sun, Jian Zhong (*with* Qu, Yong Ming; Chen, Fa Lai) Approximate parametric representation of algebraic curves. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 4, 382–388. (Summary) **99c:65039** 65D17

— (*with* Chen, Fa Lai; Qu, Yong Ming) Approximate common divisors of polynomials and degree reduction for rational curves. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 486. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 437–444. 65D05 (14Q05, 65D15)

Sun, Jianguo A nonparametric test for current status data with unequal censoring. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 243–250. 62G10

Sun, Jianhua (*with* Yi, Xu Ming; Ye, Bi Quan; Shen, Yuan Tong) Wavelet-Galerkin solutions for differential equations. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 4, 403–406. (Summary) **99k:65066** 65L60 (42C15)

Sun, Jianzhong *see* **Sun, Jian Zhong**

Sun, Jiayang (*with* Woodroofe, Michael) Semi-parametric estimates under biased sampling. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 545–575. (Summary) **99g:62046** 62G05

Sun, Jie Advances in algorithms for nonsmooth optimization. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 83–96, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 90C30 (49J52, 65K05, 90–02)

— (*with* Zhao, Gong Yun) Quadratic convergence of a long-step interior-point method for nonlinear monotone variational inequality problems. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 471–491. (Guy Cohen) **99h:49014** 49J40 (90C33)

— (*with* Kuo, Hsi) Applying a Newton method to strictly convex separable network quadratic programs. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 728–745 (*electronic*). (Summary) **99b:90150** 90C35 (90B10, 90C30)

— (*with* Luo, Zhi-Quan) An analytic center based column generation algorithm for convex quadratic feasibility problems. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 217–235 (*electronic*). (Florian Jarre) **99j:90056** 90C20 (90C25)

Sun, Jin Sheng (*with* Li, Jun; Wang, Zhi Quan) D-stable robust fault-tolerant control for uncertain discrete systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 636–641. 93C55 (93C41)

Sun, Jing Xian (*with* Chen, Fang Qi) Fixed points of monotone m-weakly condensing operators. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 2, 128–132. (Yuan Guo Zhu) **99k:47138** 47H10 (47H09)

Sun, Jiong (*with* An, Jianye) On self-adjointness of the product of two n-order differential operators on $[a, b]$. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 48–55. (Anton Zettl) **99e:47059** 47E05 (34B05, 34L99)

Sun, Ke Hao Representing the cylindrical helix with NURBS curves. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 393–402. 65Y25

Sun, L. *see* **Sun, Li[1]**

Sun, Lei Two new results on ascending subgraph decomposition. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 51–55. (Summary) **99i:05197** 05C99

Sun, Li[1] (*with* Le, Nhu D.; Zidek, James V.) A note on the existence of maximum likelihood estimates for Gaussian-inverted Wishart models. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 133–137. (Summary) **99f:62073** 62H12

Sun, Li Min[2] Some properties of vector measures with values in a locally convex space. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 16–19. 46G10 (28B05)

Sun, Liang (*with* Zhang, Zhong Fu) A note on n-edge chromatic number. *Chinese Sci. Bull.* **42** (1997), *no.* 23, 1952–1954. (Gerard J. Chang) **99g:05081** 05C15

— (*with* Shan, Erfang; Kang, Liying) Some results on domination number of products of graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 103–108. (Anthony E. Barkauskas) **99b:05085** 05C35

— (*with* Zhao, Jun[3]; Yang, Gang) Two results on binary matroids. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 1–5. (Summary) **99d:05018** 05B35

Sun, Lin Ping A restarting direction for the conjugate gradient method. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **4** (1995), *no.* 2, 154–163. (Summary) **99b:65076** 65K05 (49M07, 90C30)

— A box trust region method on a subspace for unconstrained optimization. (English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 2, 176–185. (Chang Yu Wang) **99a:90196** 90C30 (65K05)

— A preconditioned conjugate gradient algorithm for large-scale unconstrained optimization. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 286–292. 90C30 (65K05)

Sun, Ling (*with* Qiu, Qi Zhang) Minimal systems of generators for central division algebra and semi-simple algebra. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 21, 1777–1780. (B. Fein) **99j:16010** 16K20

— (*with* Qiu, Qi Zhang) Minimal generating systems for rings of matrices over a division ring. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 255–258. 16S50

Sun, Liu Quan (*with* Liu, Huan Bin) The asymptotic distribution of a smoothed Bahadur-Kiefer process under random right censorship. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 97–108. (Summary) **99c:60051** 60F05 (62E20, 62G20)

— (*with* Zhou, Yong[2]) Sequential confidence bands for densities under truncated and censored data. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 31–41. (B. L. S. Prakasa Rao) **99k:62144** 62L12 (62G15)

Sun, M. *see* **Sun, Mingxuan**

Sun, Mei (*with* Sun, Zhi Hui) An algorithm for solving stack problems using nonlinear cycle number sequences. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 1, 6–11. 68P05

Sun, Ming Bao A class of inequalities associated with two n-dimensional simplexes. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 247–250. 51K05

— Extensions and improvements of an inequality of Euler in E^n. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 329–334. 52A40

Sun, Mingxuan (*with* Chen, Yangquan; Wen, Changyun) A robust high-order P-type iterative learning controller using current iteration tracking error. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 331–342. 93E35 (93E03)

— (*with* Huang, Bao Jian; Zhang, Xue Zhi) PD-type iterative learning control for a class of nonlinear systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 5, 711–714. 93E35

— Robust convergence analysis of iterative learning control systems. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 320–326. (Summary) **99f:93147** 93E35 (93B40)

— (*with* Huang, Bao Jian; Zhang, Xue Zhi) PD-type iterative learning control for a class of uncertain time-delay systems with arbitrary initial states. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 853–858. 93C30 (93B52)

— (*with* Chen, Yangquan; Wen, Changyun; Gong, Zhiming) An iterative learning controller with initial state learning. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 371–376. 93E35 (93C41)

Sun, Ningping (*with* Nakamura, Ryozo; Nakashima, Takuo) An approximate analysis of the AVL balanced tree insertion algorithm. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1006–1013. (Summary) **99a:68094** 68Q25 (68P05)

Sun, Q. *see* **Sun, Qi**

Sun, Q.-P. (*with* Song, G.-Q.; Huang, Ke Zhi) Micromechanics constitutive modeling for polycrystalline SMA. (English summary) *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 25–33, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73S10 (73B30)

Sun, Qi (*with* Hong, Shao Fang) Aurifeuillian factorizations of $q^q \pm 1$ ($q = p^n$). (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 342–348. (Jie Wu) **99g:11014** 11A51 (11Y05)

— (*with* Zhang, Qi Fan) A simple proof of a conjecture about complete mappings over finite fields. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 6, 840–842. (Zhen Fu Cao) **99m:11143** 11T06

Sun, Qing Jie (*with* Su, Wei Yi) A formula for the Hausdorff dimension of product sets. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 4, 401–405. (Yimin Xiao) **99k:28008** 28A78

Sun, Qing Ying (*with* Jiang, Zhao Lin; Gao, Lan Chang) Interpolation methods for finding the inverse matrices of level-2 (r_1, r_2)-circulant matrices of type (n_1, n_2). (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 80–84. (Summary) **99c:65077** 65F20

Sun, Qiyu (*with* Bi, Ning) Linear independence of refinable distributions supported on $[0, 2] \times [0, 2]$. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 388–395. (Mihai Neagu) **99m:42043** 42C15 (46F10)

Sun, S. M. *see* **Sun, Shu-Ming**

Sun, Shan Li (*with* Lu, Yu Feng) Localization of Toeplitz operators on Bergman space. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 373–380. (A. Böttcher) **99d:47028** 47B35 (46E15, 46J15)

— (*with* Lu, Yu Feng) Locality and the Fredholm property for Toeplitz operators on the Bergman space. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 695–700. (Ke He Zhu) **99c:47026** 47B35 (47A53)

— (*with* Lu, Yu Feng; Xu, Feng[2]) Local decomposition of the essential spectra of Toeplitz operators on $H^2(S)$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 865–870. (Ke He Zhu) **99j:47037** 47B35

— (*with* Lu, Yu Feng) Toeplitz operators on the Bergman space of an annulus. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 559–566. (Ke He Zhu) **99j:47038** 47B35

— (*with* Wang, Yuejian) Reducing subspaces of certain analytic Toeplitz operators on the Bergman space. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 147–158. (Takahiko Nakazi) **99i:47047** 47B35

Sun, Shao Peng (*with* Xia, Jian; Yang, Zuo Sheng) An oscillation-free finite element scheme without free parameters. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 4, 391–403. 65M60

Sun, Sheng Fang (*with* Mei, Han Fei) A further extension of Störmer's theorem. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 42–44. (Zhen Fu Cao) **99e:11029** 11D09

Sun, Shi Jie (*with* Rotich, J. Kibet) Regularity of the optimality criterion with respect to basic parameters in scheduling problems and its application. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 92–98. (Summary) **99a:90111** 90B35

— (*with* Chen, Han Bing) The scheduling problem in manufacturing components at a single facility. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 2, 133–141. 90B35

— (*with* Chen, Han Bing) Weighted scheduling problems in producing products with several components. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 6, 618–624. 90B35 (90C90)

Sun, Shi Liang (*with* Liu, Kun Hui) A class of stationary optimal stochastic controls of impulse type. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 191–198. 93E20 (49K45)

Sun, Shi Xin (*with* Zheng, Wen Xue) A fast algorithm for a special class of DFTs. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 6, 627–631. (Summary) **99a:65194** 65T20

Sun, Shu-Ming On the oscillatory tails with arbitrary phase shift for solutions of the perturbed Korteweg-de Vries equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1163–1177 (*electronic*). (Summary) **99a:35227** 35Q53 (34E15, 76B25)

Sun, Shu Rong (*with* Han, Zhen Lai) Existence of positive solutions for higher-order neutral delay difference equations. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 412–419. (Summary) **99c:39003** 39A10 (34K40)

— (*with* Han, Zhen Lai) Oscillation of solutions to some higher-order neutral delay difference equations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 76–80. (Summary) **99j:39006** 39A10

Sun, Tai Yi (*with* Ning, Hai Chun; Zhao, Song; Lang, Li) A linearization method for a nonlinear system with disturbances. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 50–53. 93B18 (93C41)

Sun, Tien-Yu (*with* Chen, Kai-Hui) On internal gravity waves. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 249–269. (Nikolay G. Kuznetsov) **99i:76034** 76C10 (35Q35)

Sun, Tong (*with* Bramble, James H.) A locking-free finite element method for Naghdi shells. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 119–133. (R. Kodnár) **99h:65186** 65N30 (73K15, 73V05)

— (*with* Bramble, James H.) A negative-norm least squares method for Reissner-Mindlin plates. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 901–916. (Rolf Rannacher) **99d:73086** 73V05 (65F30, 73K10)

Sun, Tze-Chien (*with* Alyass, Kussiy K.) Asymptotic distribution of the quadratic norms of the deviation of orthogonal series type density estimates. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 238–264. (Lin-Cheng Zhao) **99k:62081** 62G07

Sun, W. *see* **Sun, Wei Wei**

Sun, W.-Z. *see* **Sun, Wei Zhi**

Sun, Wei[3] (*with* Dong, Zhao; Ma, Zhi-Ming) A note on Beurling-Deny formulae in infinite-dimensional spaces. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 353–361. (Ivor E. McGillivray) **99d:31004** 31C25 (60J45)

— Weak convergence of Dirichlet processes. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 1, 8–21. (Tu Sheng Zhang) **99d:60083** 60J25 (31C25, 60F17)

Sun, Wei Wei (*with* Russell, Robert D.) Spline collocation differentiation matrices. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2274–2287. (Bruce A. Finlayson) **99a:65166** 65N35 (65F15)

— Two-dimensional mesh redistribution and solution of singular boundary value problems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 9, 797–808. (Summary) **99d:65271** 65M50 (65N50)

— Fast algorithms for high-order spline collocation systems. (English summary) *Numer. Math.* **81** (1998), *no.* 1, 143–160. (Elsayed Mohamed E. Zayed) **99j:65215** 65N35

— (*with* Li, Jian[3]) Spectral method of decoupling the vorticity and stream function for the incompressible fluid flows. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 35–40. (Summary) **99j:76094** 76M25 (65M70)

— (*with* Chang, Qian-Shun; Jia, Erhui) Difference schemes for solving the generalized nonlinear Schrödinger equation. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 397–415. (Summary) **99i:65086** 65M06

Sun, Wei Zhi (*with* Izumiya, Shyuichi) Geometric study of quasilinear first order partial differential equations. *Real analytic and algebraic singularities (Nagoya/Sapporo/Hachioji, 1996)*, 150–163, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Stanisław Janeczko) **99c:58017** 58C27 (35A30, 35F20)

Sun, Wen Chang (*with* Zhou, Xing Wei) Construction of wavelet bases with hexagonal symmetry. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 11, 1141–1144. 42C15

— (*with* Zhou, Xing Wei) Frames and sampling theorem. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 606–612. (Dale H. Mugler) **99m:94015** 94A12

Sun, Wen Yu (*with* de Sampaio, Raimundo J. B.; Yuan, Jin Yun) Unified superlinear convergence of some algorithms for LC[1] optimization. (English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 79–85 (1997). 90C30 (49J52, 65K05)

— Newton's method and quasi-Newton-SQP method for general LC[1] constrained optimization. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 1, 69–84. (Bernard Lemaire) **99f:90139** 90C30 (49J52, 65K05)

— Optimality conditions for LC[1] optimization problems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 185–191. (Fuan Zhao) **99k:90163** 90C30 (49J52, 49K99)

Sun, Wenxiang Measure-theoretic entropy for flows. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 7, 725–731. (Jérôme Buzzi) **99b:58150** 58F11 (28D20)

Sun, X. *see* **Sun, Xiao Dong[1]**

Sun, Xi (*with* Jin, Yi Hui) A bilinear adaptive control algorithm with decoupling design. (Chinese. English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **2** (1998), *no.* 4, 61–70. 93C40 (93E35)

Sun, Xiao Dong[1] (*with* Davis, Sandra; Duke, William) Probabilistic Galois theory of reciprocal polynomials. *Exposition. Math.* **16** (1998), *no.* 3, 263–270. (Maurice Mignotte) **99i:11063** 11K99 (11R32)

Sun, Xiao Jun Existence and uniqueness of strong solutions of multidimensional stochastic differential equations with non-Lipschitz coefficients. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 121–124. 60H10

Sun, Xiao-ling (*with* Zhang, Lian-sheng; Bai, Yan-qin) A SQP method for minimizing a class of nonsmooth functions. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **5** (1996), *no.* 2, 139–146. (Summary) **99a:90155** 90C25 (90C30)

— (*with* Zhang, Lian-sheng) A nonmonotone algorithm for minimizing nonsmooth composite functions. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 2, 152–162. (Khalil Mouallif) **99g:90082** 90C20 (65K05)

Sun, Xiao Qian (*with* Wang, Jing Long) Parameter estimation for the exponential distribution under the Pitman closeness criterion. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 6, 711–716. 62F10 (62C15)

— Improved estimation of the generalized precision under the squared loss. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2725–2742. (Summary) **99j:62078** 62H12 (62C15)

— (*with* Tian, Jun Zhong) The uniformly minimum variance unbiased estimator of parameters in a geometric distribution with unknown truncation parameter. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 118–120. 62C05

— (*with* Wang, Jing Long) Confidence intervals of the scale parameter of exponential distribution. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 315–320. 62E10

— (*with* You, Jin Hong) Linear admissible minimax estimates of regression coefficient matrices in a growth curve model. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 74–79. 62C15 (62J05)

— (*with* You, Jin Hong; Chen, Xue Hua) The volume ratio statistic of confidence regions for regression coefficients in GMANOVA models. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 9–14. (Summary) **99i:62128** 62H12

Sun, Xiaobai (*with* Greengard, Leslie) A new version of the fast Gauss transform. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 575–584 (*electronic*). (Manfred Tasche) **99i:65146** 65R10 (44A35)

Sun, Xie-Hua On the degree of approximation by wavelet expansions. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 1, 81–90. (Summary) **99h:42068** 42C15 (41A25)

— On Lagrange interpolation based on Hermite abscissas. (English summary) *Soochow J. Math.* **24** (1998), *no.* 3, 167–176. (Kewal Krishna Mathur) **99j:41016** 41A10

Sun, Xingping (*with* Cheney, E. W.) Interpolation on spheres by positive definite functions. (English summary) *Approximation theory*, 141–156, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Sarjoo Prasad Yadav) **99d:41002** 41–02 (41A05, 65D05)

— (*with* Levesley, Jeremy; Luo, Zu Hua) Norm estimates of interpolation matrices and their inverses associated with strictly positive definite functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2127–2134. (A. Bultheel) **99j:41005** 41A05

Sun, Xiu Zhen (*with* Li, Wen Jun) Some remarks on solving the matrix equation $AXB = C$. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 110–114. 15A24

Sun, Xun Fang (*with* Liu, Xian Bin; Chen, Qiu) Bifurcation systems of codimension 2 excited parametrically by white noise. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 5, 563–572. (Bei Ye Feng) **99b:34070** 34C23 (34F05, 58F14)

Sun, Y. J. *see* **Sun, Yeong Jeu**

Sun, Y. S. (*with* Tang, L. C.; Goh, T. N.; Ong, H. L.) Planning accelerated life tests for censored two-parameter exponential distributions. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 169–186. (Summary) **99i:62239** 62N05

Sun, Y. X. *see* **Sun, You Xian**

Sun, Ya Juan Attractors for a class of modified Navier-Stokes equations. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 5, 600–608. (Zhi Min Chen) **99d:35130** 35Q30 (35B40, 47H20, 58F39, 76D05)

Sun, Yan Rui (*with* Zhang, Xiang De) A linear-time algorithm to compute the reliability of 3-tree networks. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 439–441. 90B25 (05C85, 68M15, 68R10)

Sun, Yanqing Weak convergence of the generalized parametric empirical processes and goodness-of-fit tests for parametric models. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2393–2413. (Summary) **99m:62073** 62G10

Sun, Yeneng (*with* Khan, M. Ali) Nonatomic games on Loeb spaces. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **93** (1996), *no.* 26, 15518–15521 (*electronic*). (Summary) **99b:90165** 90D10

— (*with* Khan, M. Ali; Rath, Kali P.) On the existence of pure strategy equilibria in games with a continuum of players. (English summary) *J. Econom. Theory* **76** (1997), *no.* 1, 13–46. (Summary) **99h:90126** 90D13

— (*with* Khan, M. Ali) The capital-asset-pricing model and arbitrage pricing theory: a unification. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 8, 4229–4232. (Dave Furth) **99i:90017** 90A09 (03H05, 03H10)

— A theory of hyperfinite processes: the complete removal of individual uncertainty via exact LLN. (English summary) *J. Math. Econom.* **29** (1998), *no.* 4, 419–503. (David Ross) **99j:28020** 28E05 (03H05, 90A14)

Sun, Yeong Jeu (*with* Lien, Chang-Hua; Hsieh, Jer-Guang) Global exponential stabilization for a class of uncertain nonlinear systems with control constraint. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 674–677. (Summary) **99a:93091** 93D21 (34D20, 34H05)

— (*with* Lien, Chang-Hua; Hsieh, Jer-Guang) Robust stabilization for a class of uncertain systems with multiple time delays via linear control. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 369–378. (Olof J. Staffans) **99b:93039** 93D15 (34K35)

— (*with* Hsieh, Jer-Guang) Robust stabilization for a class of uncertain nonlinear systems with time-varying delay: Razumikhin-type approach. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 161–173. (Summary) **99b:93045** 93D21 (34K35)

Sun, Yi[1] Stochastic iterative algorithms for signal set design for Gaussian channels and optimality of the L2 signal set. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1574–1587. (John Karlof) **99a:94064** 94B60 (94A40)

Sun, Yi Jing Theorems on coupled solutions to a class of nonmixing monotone operator equations and a nonmonotone iterative method. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 400–406. (Summary) **99m:47076** 47H15 (47H17)

Sun, Yiguo (*with* Guo, Shun Sheng; Yue, Shujie; Li, Cuixiang; Yang, Ge) A pointwise approximation theorem for linear combinations of Bernstein polynomials. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 397–406. (Z. Ditzian) **99a:41028** 41A35 (41A25)

— (*with* Guo, Shun Sheng; Li, Cuixiang; Yang, Ge; Yue, Shujie) Pointwise estimate for Szasz-type operators. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 160–171. (N. S. Kambo) **99f:41027** 41A35 (41A36)

Sun, Yingfei (*with* Zhou, Meike; Fan, Tian You) The existence of generalized solutions for a nonhomogeneous boundary value problem. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 210–214. (Summary) **99j:35168** 35Q30 (35D05, 76A05)

— (*with* Li, Xianfang; Fan, Tian You) Several fundamental theorems and conservative integrals in quasicrystal elasticity theory. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 226–232. (Summary) **99j:73037** 73C99 (73B99)

Sun, Yong[2] Calculus of constructions and its axiomatization in FBO. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 5, 658–668. (Summary) **99b:68140** 68Q99 (03B15, 68N15)

— (*with* Fang, Ming) The Yale shooting problem: a case study in non-monotonic reasoning. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 5, 700–706. (Summary) **99m:68189** 68T27

Sun, Yong Qiang (*with* Jiang, Li) Theoretical study of program rewriting technology. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 4, 104–108. (Summary) **99g:68029** 68N15 (68Q42)

— (*with* Huang, Linpeng; Yuan, Wei) Hierarchical bulk synchronous parallel model and performance optimization. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 3, 224–233. 68Q05 (68Q10, 68Q22)

Sun, Yong Zhong $\circledast$-decomposable fuzzy relations and their $*$-transitivity. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 223–226. (Summary) **99c:04009** 04A72

Sun, Yongsheng (*with* Wang, Heping) Representation and approximation of multivariate periodic functions with bounded mixed moduli of smoothness. Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 356–377. (Yuri V. Kryakin) **99j:41055** 41A63 (41A46)

Sun, York-Yih (*with* Wang, Wein-So; Juang, Jyh-Ching) On the application of alternating projection under the constraint of linear matrix inequalities. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 15–22. 93B40 (65F30, 90C30)

Sun, You Xian (*with* Cao, Yong-Yan) Comment on: "Eigenvalue placement in a specified sector for variable structure control systems" [Internat. J. Control **57** (1993), no. 5, 1021–1037; MR 93m:93022] by C. A. Woodham and A. S. I. Zinober. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 721–723. (Summary) **99h:93024** 93B12 (93B55)

— (*with* Zhang, Wei Dong; Xu, Xiao Ming) Dahlin controller design for multivariable time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 64–72. 93B51

— (*with* Cheng, Chu Wang) State feedback controller design for uncertain systems with time-varying delays. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 81–84. 93D21 (93C41)

— (*with* Cao, Yong-Yan) Synthesis of a strongly positive real controller with output feedback for discrete-time systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 85–89. 93B50 (93C55)

— (*with* Chen, Su Ping) Robust performance of a reversed-frame normalized controller. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 113–118. 93B52 (93B35)

— (*with* Cao, Yong-Yan) Robust stabilization for uncertain time-varying time-delay systems with multi-state delay. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 377–381. 93D21

— (*with* Zhang, Ming Jun; Cheng, Chu Wang) Observer-based robust stabilization for uncertain delayed systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 508–511. 93D15

— (*with* Cao, Yong-Yan) Simultaneous stabilization of strictly proper MIMO plants. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 528–533. 93D15

— (*with* Pi, Dao Ying) An open-closed-loop pi-type iterative learning control scheme for discrete nonlinear time-varying systems and its convergence. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 636–639. 93B52 (93C55)

— (*with* Pi, Dao Ying) An open-closed-loop PI-type iterative learning control scheme for nonlinear systems and its convergence. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 400–403. 93E35

— (*with* Zhang, Ming Jun; Cheng, Chu Wang) Observer-based memoryless stabilization of uncertain systems with state delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 589–592. 93D21

— (*with* Cheng, Chu Wang; Song, Zhihuan) Robust stabilization of uncertain nonlinear systems with time delays in both state and control input. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 605–609. 93D21

— (*with* Song, Dong-Ping; Xing, Wei[2]) Optimal service rate allocation policy of an unreliable manufacturing system with random demands. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 621–626. 90B30 (93E03)

— (*with* Mao, Wei Jie; Cao, Yong-Yan) Output feedback stabilization of linear systems with time-varying delayed states and controls. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 972–974. 93D21 (93C30)

— (*with* Cao, Yong-Yan; Mao, Wei Jie) A new necessary and sufficient condition for static output feedback stabilizability and comments on: "Stabilization via static output feedback" [IEEE Trans. Automat. Control **38** (1993), no. 5, 764–765; MR 94d:93122] by A. Trofino-Neto and V. Kučera. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1110–1111. (Summary) **99e:93061** 93D15 (49N10)

— (*with* Cao, Yong-Yan) Robust stabilization of uncertain systems with time-varying multistate delay. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1484–1488. (Summary) **99f:93126** 93D21 (93C30)

— (*with* Cao, Yong-Yan; Cheng, Chu Wang) Delay-dependent robust stabilization of uncertain systems with multiple state delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1608–1612. (K. B. Datta) **99m:93089** 93D21

— (*with* Zhang, Ming Jun) Observer-based robust stabilization of time-delay systems with uncertain state and control input. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 11–15, 22. 93D21 (93C41)

— (*with* Cao, Yong-Yan) Simultaneous stabilization problems. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 3, 161–166. 93D21

— (*with* Cheng, Chu Wang) Robust control of linear uncertain delay systems. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 4, 282–288. 93B36 (93C30, 93D09)

— (*with* Song, Dong-Ping; Xing, Wei[2]) Optimal control of a stochastic assembly production line. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 681–700. (Yannis A. Phillis) **99g:93089** 93E20 (90B30)

— (*with* Song, Dong-Ping) Optimal control structure of an unreliable manufacturing system with random demands. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 619–622. 93E20 (49N55)

— (*with* Cao, Yong-Yan; Lam, James) Simultaneous stabilization via static output feedback and state feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1277–1282. 93D15

Sun, Yu Geng (*with* Shao, Hai Ming; Cao, Qi Guo) The best connectivity hypergraph based on the DBB design. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 6, 713–718. 05C65

Sun, Yu Xiang[1] Sufficient conditions for a matrix to be generalized diagonally dominant. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 216–223. (Gong Ning Chen) **99k:15041** 15A57

— (*with* Gao, Fu Shun) Criteria for a matrix to be an M-matrix. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 4, 535–538. 15A57

Sun, Yu Zhi (*with* Wu, Hong Lu) An absolutely stable explicit difference scheme for parabolic partial differential equations in two dimensions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 122–128. (Summary) **99e:65120** 65M06

Sun, Zeng Qi Controller design and stability analysis of continuous systems based on a fuzzy state model. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 212–216. 93C42 (93B50)

— (*with* Sun, Fuchun; Guo, Muhe; Zhang, Rongjun) A stable neural network-based adaptive controller for robot manipulators. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 413–432. 93C85 (93C40)

Sun, Zhen Dong Some notes about the nonlinear Morgan problem. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 245–249. 93C10 (93D15)

— (*with* Xia, Xiao Hua) A sufficient condition for the nonlinear Morgan problem. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 433–438. 93B17 (93C10)

Sun, Zhi-Hong On the theory of cubic residues and nonresidues. *Acta Arith.* **84** (1998), *no.* 4, 291–335. (Charles Helou) **99c:11005** 11A15 (11E25)

Sun, Zhi Hui (*with* Sun, Mei) An algorithm for solving stack problems using nonlinear cycle number sequences. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 1, 6–11. 68P05

Sun, Zhi Ren Paths through particular subgraphs of claw-free graphs. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 1, 35–40. (Summary) **99a:05087** 05C38

— (*with* Xu, Xin Ping) A sufficient condition for the existence of S-dominating cycles. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 3, 10–12. (Summary) **99a:05088** 05C38

— (*with* Li, Hao[1]; Lu, Mei) Hamiltonicity in 2-connected graphs with claws. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 223–236. (Zdeněk Ryjáček) **99b:05095** 05C45

— Long dominating cycles in graphs. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 314–320. (Feng Tian) **99k:05100** 05C38

Sun, Zhi Wei[1] (*with* Cao, Hui-Qin) On sums of distinct representatives. *Acta Arith.* **87** (1998), *no.* 2, 159–169. (Vsevolod F. Lev) **99k:11021** 11B13 (11B75)

— On covering multiplicity. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1293–1300. (Summary) **99h:11012** 11B25 (11A07, 11D68)

Sun, Zhi-Zhong A second-order difference scheme for a model of oil deposits. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 551–558. (Summary) **99c:76076** 76M20 (65M06, 76S05, 86A05)

— (*with* Zhu, Qi-Ding) On Tsertsvadze's difference scheme for the Kuramoto-Tsuzuki equation. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 289–304. (V. D. Glushenkov) **99m:65167** 65M06 (65M12)

Sunada, Toshikazu *see* **Functional analysis and global analysis, 99g:00040**

Sunaga, Jun-ichi Some arithmetic Fuchsian groups with signature $(0; e_1, e_2, e_3, e_4)$. II. (English summary) *Saitama Math. J.* **15** (1997), 15–46. (Mong Lung Lang) **99e:11050** 11F06 (20H10)

— Some arithmetic Fuchsian groups with signature $(0; e_1, e_2, e_3, e_4)$. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 2, 435–451. (Mong Lung Lang) **99a:11051** 11F06 (20H10)

Sunar, B. (*with* Koç, Çetin K.) Low-complexity bit-parallel canonical and normal basis multipliers for a class of finite fields. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 3, 353–356. (Summary) **99d:94001** 94Axx

Sunchalin, A. M. (*with* Frolov, B. N.) BRST-transformations in the quadratic theory of gravitation in spaces with torsion. (Russian) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 5, 126–128. 83D05 (81T70)

babu Sundar, S. *see* **Babu Sundar, S.**

Sundar, Subbiah (*with* Bhagavan, B. K.; Sastri, K. S.) Comparison of Lanczos and CGS solvers for solving numerical heat transfer problems. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 8, 107–117. 65M06 (65F30)

Sundaram, Ganapathy S. (*with* Patel, Sarvar) An efficient discrete log pseudo-random generator. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 304–317, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (*see* **99i:94059**) 94A60 (65C10)

Sundaram, Pon. (*with* Thandapani, E.) Asymptotic and oscillatory behavior of solutions of first order nonlinear neutral difference equations. (English summary) *Riv. Mat. Pura Appl. No.* 18 (1996), 93–105. (L. A. V. Carvalho) **99b:39013** 39A10

— (*with* Thandapani, E.; Graef, John R.; Spikes, Paul W.) Asymptotic behaviour and oscillation of solutions of neutral delay difference equations of arbitrary order. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 539–551. (Narahari Parhi) **99j:39011** 39A10 (39A11)

Sundaram, Ravi (*with* Marathe, Madhav V.; Ravi, R.) Improved results on service-constrained network design problems. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 269–276, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:68135** 68R10 (68Q25)

— (*with* Klugerman, Michael; Russell, Alexander) On embedding complete graphs into hypercubes. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 289–293. (Summary) **99c:05054** 05C10

— (*with* Russell, Alexander) A note on the asymptotics and computational complexity of graph distinguishability. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 23, 7 *pp.* (*electronic*). (Summary) **99b:05136** 05C85 (68Q15)

— (*with* Marathe, Madhav V.; Ravi, R.; Ravi, S. S.; Rosenkrantz, Daniel J.; Hunt, Harry B., III) Bicriteria network design problems. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 142–171. (Dominique Sotteau) **99h:68137** 68R10 (68M10)

— (*with* Kumar, S. Ravi; Russell, Alexander) Approximating Latin square extensions. (English summary) *Algorithmica* **24** (1999), *no.* 2, 128–138. (Summary) **99m:68088** 68Q25 (05B15)

Sundararajan, Duraisamy (*with* Ahmad, M. Omair) Fast computation of the discrete Walsh and Hadamard transforms. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 898–904. 65T20

Sundaresan, Kondagunta (*with* Rajagopalan, Minakshisundaram) Backward shifts on Banach spaces $C(X)$. II. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 199–205, *World Sci. Publishing, River Edge, NJ*, 1997. (Richard M. Crownover) **99f:47038** 47B37 (46E15, 47B38, 54H20)

Sundari, M. (*with* Sitaram, A.) An analogue of Hardy's theorem for very rapidly decreasing functions on semi-simple Lie groups. (English summary) *Pacific J. Math.* **177** (1997), *no.* 1, 187–200. (Michael Cowling) **99a:22018** 22E30 (43A30)

Sundar Rajan, B. *see* **Rajan, B. Sundar**

Sundberg, Eric Lars (*with* Quinn, Jennifer J.) Strong chromatic index in subset graphs. (English summary) *Ars Combin.* **49** (1998), 155–159. (Summary) **99e:05054** 05C15

Sundberg, Rolf (*with* Björkström, Anders) A generalized view on continuum regression. (English summary) *Scand. J. Statist.* **26** (1999), *no.* 1, 17–30. (Summary) **99m:62107** 62J07

Sundbye, Linda Global existence for the Cauchy problem for the viscous shallow water equations. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1135–1152. (Summary) **99j:35177** 35Q35 (76D99)

Šunde, J. (*with* Dragomir, Sever Silvestru; Pearce, C. E. M.) Abel-type inequalities, complex numbers and Gauss-Pólya type integral inequalities. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 95–101. (J. Sándor) **99h:26024** 26D15

— (*with* Pearce, C. E. M.; Pečarić, Josip) A generalization of Pólya's inequality to Stolarsky and Gini means. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 211–222. (Zsolt Páles) **99a:26014** 26D15

Sundell, Per (*with* Cederwall, Martin; Nilsson, Bengt E. W.) An action for the super-5-brane in $D = 11$ supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 7, 9 *pp.* (*electronic*). (Jihad Mourad) **99d:83091** 83E30 (81T30, 83E50)

— (*with* Rudychev, I.; Sezgin, Ergin) Supersymmetry in dimensions beyond eleven. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 285–294. (Summary) **99e:81245** 81T60 (81T13)

Sunder, Sivaprakasam Parallel approximation algorithms for multiprocessor scheduling. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 72–80 (*electronic*). (*see* **99d:68010**) 68M20 (68Q22)

— (*with* He, Xin[1]) Fast approximation algorithms for single machine scheduling. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 111–124 (*electronic*). (*see* **99d:68010**) 90B25 (68Q25)

— (*with* Ivković, Zoran; Ramnath, Sarnath) Fully dynamic algorithms for permutation graph coloring. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 16–35 (*electronic*). (*see* **99g:68005**) 68R10 (05C15, 05C85)

— (*with* He, Xin[1]) Scheduling interval ordered tasks in parallel. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 34–47. (Nikolai K. Krivulin) **99f:90051** 90B35 (05C85, 68M20, 68Q22)

Sunder, V. S. ★ Functional analysis. (English summary) Spectral theory. Birkhäuser Advanced Texts: Basler Lehrbücher. [Birkhäuser Advanced Texts: Basel Textbooks] *Birkhäuser Verlag, Basel*, 1997. $x+241$ *pp. ISBN* 3-7643-5892-0 (Steve Wright) **99h:47001** 47–01 (46–01)

— (*with* Wildberger, N. J.) Actions of finite hypergroups and examples. (English summary) *Harmonic analysis and hypergroups* (*Delhi*, 1995), 145–163, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Liliana Pavel) **99c:43011** 43A62 (20N20, 43A65)

— Some aspects of convexity. *Lecture notes on aspects of nonlinear, functional and applicable analysis* (*ANFAA*) (*Madras*, 1998), 1–20, *Indian Inst. Tech., Madras*, 1998. (W. W. Breckner) **99h:46005** 46A99 (52A20, 90C25)

— *see also* **Harmonic analysis and hypergroups, 99a:43001**

Sünderhauf, Philipp Smyth completeness in terms of nets: the general case. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 715–720. (W. S. Mahavier) **99c:54007** 54A20 (54E15)

— (*with* Jung, Achim) Uniform approximation of topological spaces. (English summary) *Topology Appl.* **83** (1998), *no.* 1, 23–37. (Summary) **99b:54038** 54E15 (06B35, 54D30, 54F05)

— (*with* Kopperman, Ralph; Flagg, Robert C.) Smyth completion as bicompletion. (English summary) *Topology Appl.* **91** (1999), *no.* 2, 169–180. (P. Fletcher) **99k:54020** 54E15 (54D35)

Sundholm, Göran Inference, consequence, implication: a constructivist's perspective. (English summary) Perspectives on intuitionism. *Philos. Math.* (3) **6** (1998), *no.* 2, 178–194. (Peter M. Schuster) **99j:03004** 03A05 (03F50)

Sundquist, Thomas (*with* Cormen, Thomas H.; Wisniewski, Leonard F.) Asymptotically tight bounds for performing BMMC permutations on parallel disk systems. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 105–136 (*electronic*). (Israel Koltracht) **99i:15001** 15–04 (68Q22, 68Q25)

Sundrum, Raman (*with* Schmaltz, Martin) $N = 1$ field theory duality from M theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6455–6463. (Summary) **99m:81261** 81T60 (81T13, 81T30)

Sundt, Bjørn (*with* Dhaene, Jan) On approximating distributions by approximating their De Pril transforms. (English summary) *Scand. Actuar. J.* **1998**, *no.* 1, 1–23. (Summary) **99e:62176** 62P05 (62E17)

— A generalisation of the De Pril transform. (English summary) *Scand. Actuar. J.* **1998**, *no.* 1, 41–48. (Summary) **99a:62147** 62P05 (62E15)

Suneeta, V. (*with* Kaul, Romesh K.; Govindarajan, T. R.) BTZ black hole entropy from Ponzano-Regge gravity. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 5, 349–358. (Summary) **99k:83084** 83C57 (83C27)

Suneja, S. K. (*with* Lalitha, C. S.; Khurana, Seema) Optimality and duality theorems for non-smooth multiobjective fractional programs. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 3, 243–257. 90C29 (49N15)

Sung, Chang Sup (*with* Ahn, Sung Jin) A proportional-reduction-in-impurity measure of association for categorical variables. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2083–2110. (Jiří Anděl) **99h:62013** 62C99

— (*with* Sohn, Young H.) Combat modeling of remotely targeted vehicles and a battery against a moving target. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 7, 645–667. 90B06 (90D40)

Sung, Chiung-Jue Anna A note on the existence of positive Green's function. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 199–207. (Atsushi Kasue) **99g:53046** 53C21 (53C20, 58G03)

— (*with* Oden, Kevin; Wang, Jiaping) Spectral gap estimates on compact manifolds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3533–3548. (Daniel Pollack) **99m:58197** 58G25

Sung, Li-yeng (*with* Brenner, Susanne C.) Multigrid methods for the computation of singular solutions and stress intensity factors. II. Crack singularities. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 623–643. (Harry Yserentant) **99i:65139** 65N55 (65N30, 73B50, 73V05)

— (*with* Brenner, Susanne C.) Lower bounds for two-level additive Schwarz preconditioners for nonconforming finite elements. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 585–604, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Qian Li) **99j:65196** 65N30

— (*with* Fokas, A. S.) The Cauchy problem for the Kadomtsev-Petviashvili-I equation without the zero mass constraint. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 113–138. (Sen Zhong Huang) **99h:35185** 35Q53

Sung, Myong-Hee Kähler surfaces of positive scalar curvature. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 6, 509–518. (Massimiliano Pontecorvo) **99f:32047** 32J27 (32L07, 53C55)

Sung, Shao-Chin (*with* Tanaka, Keisuke) Lower bounds of the negation-limited circuit complexity. The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 175–182. (Christoph Meinel) **99h:94090** 94C10 (68Q25)

Sung, Soo Hak (*with* Son, Jung Je; Lim, Jong In; Chee, Seongtaek) Global avalanche characteristics and nonlinearity of balanced Boolean functions. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 139–144. (Summary) **99c:94038** 94A60 (68P25)

— (*with* Chee, Seongtaek; Park, Choonsik) Global avalanche characteristics and propagation criterion of balanced Boolean functions. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 21–24. (Summary) **99k:94043** 94A60

Sung, Ting-Yi (*with* Wang, Jeng-Jung; Hsu, Lih-Hsing; Lin, Men-Yang) A new family of optimal 1-Hamiltonian graphs with small diameter. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 269–278, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 05C45 (68R10)

— (*with* Lin, Chun-Yuan; Chuang, Yen-Chu; Hsu, Lih-Hsing) Fault tolerant token ring embedding in double loop networks. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 201–207. (Summary) **99c:68025** 68M15 (68M10, 68R10)

— (*with* Ho, Tung-Yang; Hsu, Lih-Hsing; Tsai, Chang-Hsiung; Hwang, Jeng-Yan) The recognition of double Euler trails in series-parallel networks. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 216–257. (András Recski) **99m:94072** 94C15 (05C45, 05C85, 68R10)

Sung, Wing Kin (*with* Kao, Ming-Yang; Lam, Tak Wah; Ting, Hing Fung) All-cavity maximum matchings. (English summary) *Algorithms and computation* (*Singapore*, 1997), 364–373, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:05092** 05C70

Sung, Y. O. (*with* Seo, C. H.; Yoon, J. W.) On the relation between the linear complexity of FCSR and the period. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 115–123. (Summary) **99c:94037** 94A60 (11T71)

Sunitha, M. S. (*with* Vijayakumar, Ambat) A characterization of fuzzy trees. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 293–300. (Summary) **99g:05174** 05C99 (05C05)

Sunitha, T. A. Some separation properties in monotone spaces. (English summary) *Gaṇita Sandesh* **10** (1996), *no.* 2, 65–70. 54D15

Sunkel, John W. (*with* Wang, Sheng-Guo; Lin, Shield B.; Shieh, Leang-San) Observer-based controller for robust pole clustering in a vertical strip and disturbance rejection in structured uncertain systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1073–1084. (Summary) **99g:93070** 93D09 (93B55, 93C41)

Sunoj, S. M. (*with* Unnikrishnan Nair, N.) characterization of some bivariate life distributions by weighted models. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 4, 239–248. 62E10

Sunyer i Balaguer, Ferran *see* **Malet, Antoni**, **99a:01021**; **99m:01080** *and* **Drasin, David**

Suo, W. (*with* Sethi, Suresh P.; Taksar, Michael I.; Yan, Houmin) Optimal production planning in a multi-product stochastic manufacturing system with long-run average cost. (English summary) *Discrete Event Dyn. Syst.* **8** (1998), *no.* 1, 37–54. 93B30 (93E20)

Suo, X. Z. (*with* Valeta, M. P.) Second variation of energy and an associated line independent integral in fracture mechanics. II. Numerical validations. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 541–565. (Summary) **99e:73084** 73M25 (73V05)

Suo, Zhigang (*with* Yu, H. H.) A finite element method for simulating interface motion. (English summary) *Computational and mathematical models of microstructural evolution* (*San Francisco, CA*, 1998), 113–124, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 80–08 (73B30, 80A22)

Suominen, Kalevi Elliptic curves and Fermat. (Finnish. Finnish summary) *Arkhimedes* **1999**, *no.* 2, 12–16. 11G05 (11D41)

Supino, Paola Triple covers of 3-folds as canonical maps. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1475–1487. (Massimiliano Mella) **99d:14034** 14J30 (14E20, 14J15)

— A note on Campedelli surfaces. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 19–31. (Caryn Werner) **99e:14043** 14J29 (14J10)

Suprunenko, Irina D. The minimal polynomials of unipotent elements in irreducible representations of the special linear group. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 325–330. (Timo Neuvonen) **99i:20058** 20G05 (20G15)

— (*with* Zalesskiĭ, Aleksandr E.) Irreducible representations of finite classical groups containing matrices with simple spectra. *Comm. Algebra* **26** (1998), *no.* 3, 863–888. (From the introduction) **99m:20098** 20G05 (20G40)

— (*with* Brundan, Jonathan; Kleshchev, Alexander S.) Semisimple restrictions from $GL(n)$ to $GL(n-1)$. (English summary) *J. Reine Angew. Math.* **500** (1998), 83–112. (Ben Ford) **99h:20069** 20G05 (20C20, 20G15)

Suqin, Dong *see* **Dong, Su Qin**

Suquet, Ch. (*with* Oliveira, P. E.) Weak convergence in $L^p(0,1)$ of the uniform empirical process under dependence. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 363–370. (Miguel A. Arcones) **99h:60013** 60B12 (60F17, 60F25)

Suquet, Pierre (*with* Moulinec, Hervé) Numerical simulation of the effective elastic properties of a class of cell materials. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 271–280, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (*see* **99c:73001**) 73B27 (73K20, 73V20)

— (*with* Moulinec, Hervé) A numerical method for computing the overall response of nonlinear composites with complex microstructure. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 69–94. (Summary) **99c:73080** 73V05 (73K20, 73S10)

Suraj, Zbigniew Discovery of concurrent data models from experimental tables: a rough set approach. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 353–376. (Sankar Kumar Pal) **99a:68052** 68P99 (68Q90)

— The synthesis problem of concurrent systems specified by dynamic information systems. (English summary) *Rough sets in knowledge discovery*, 2, 418–448, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68Q10 (68T99)

Süral, Haldun (*with* Tripathy, Ashish; Gerchak, Yigal) Multidimensional assortment problem with an application. (English summary) *Networks* **33** (1999), *no.* 3, 239–245. 90B10 (90C35)

Suranyi, P. Solution of gauge theories induced by fundamental representation scalars. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5084–5091. 81T13 (81T25)

bayu Surarso *see* **Bayu Surarso**

Suratteau, Daniel (*with* Hauchecorne, Bertrand) ★ Des mathématiciens de A à Z. (French) [Mathematicians from A to Z] Edited by Jean-Pierre Bénézet. *Ellipses, Édition Marketing, Paris*, 1996. 383 *pp. ISBN* 2-7298-4683-2 (Editors) **99f:01001** 01–00 (01A70)

Suresh, P. K. (*with* Kuriakose, V. C.) Squeezed state representation of quantum fluctuations and semiclassical theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 165–172. 83C47 (81T20)

Sureshbabu, Natarajan (*with* Farrell, J. A.) Wavelet-based system identification for nonlinear control. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 412–417. (Summary) **99i:93017** 93B30 (93C40)

Sureson, Claude Descriptive set theory and Boolean complexity theory. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 255–260. (Summary) **99e:03028** 03D15 (03E15, 68Q15)

Surgailis, Donatas Asymptotics of solutions of Burgers' equation with random piecewise constant data. (English summary) *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 427–441, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Summary) **99i:60126** 60H15 (35B40, 35Q53, 60F17, 76F99, 76M35)

— (*with* Doukhan, Paul) Functional central limit theorem for the empirical process of short memory linear processes. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 87–92. (Miguel A. Arcones) **99i:60077** 60F17

— (*with* Sidoravicius, V.; Vares, Maria Eulália) An exclusion process with two types of particles and the hydrodynamic limit. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 2, 131–174. (Timo Seppäläinen) **99e:60222** 60K35 (82C22)

Suri, Komal (*with* Joshi, Mukesh M.; Rathie, N. R.) Some finite series of $\overline{H}$-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 241–244. (Summary) **99h:33027** 33C20 (33C60)

— (*with* Rathie, N. R.) A summation formula for $\overline{H}$-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 277–280. (Summary) **99h:33028** 33C20 (33C60)

Suri, Manil (*with* Seshaiyer, Padmanabhan) Convergence results for non-conforming hp methods: the mortar finite element method. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 453–459, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N30 (65N15)

— (*with* Schwab, Christoph; Xenophontos, Christos A.) The hp finite element method for problems in mechanics with boundary layers. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 311–333. (Summary) **99f:73083** 73V05 (76M10)

— (*with* Costabel, Martin; Dauge, Monique) Numerical approximation of a singularly perturbed contact problem. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 349–363. (Anders Klarbring) **99h:73071** 73T05 (65N99, 73C35, 73V20)

Suri, Subhash (*with* Hershberger, John) Matrix searching with the shortest-path metric. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1612–1634. (Summary) **99k:68079** 68Q25 (68U05)

— (*with* Hubbard, Philip M.; Hughes, John F.) Collision detection in aspect and scale bounded polyhedra. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 127–136, *ACM, New York*, 1998. (Summary) **99e:68165** 68U05

— (*with* Hershberger, John) Practical methods for approximating shortest paths on a convex polytope in $\mathbf{R}^3$. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 31–46. (Evangelos Kranakis) **99b:52030** 52B55 (68U05)

— (*with* Agarwal, Pankaj K.; van Kreveld, Marc) Label placement by maximum independent set in rectangles. (English summary) International Workshop on Algorithms and Data Structures (Halifax, NS, 1997). *Comput. Geom.* **11** (1998), *no.* 3-4, 209–218. (Summary) **99m:68202** 68U05

— (*with* Bshouty, Nader H.; Goldman, Sally A.; Mathias, H. David; Tamaki, Hisao) Noise-tolerant distribution-free learning of general geometric concepts. (English summary) *J. ACM* **45** (1998), *no.* 5, 863–890. (Summary) **99m:68159** 68T05 (68Q99)

— (*with* Agarwal, Pankaj K.) Surface approximation and geometric partitions. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1016–1035 (*electronic*). (Summary) **99c:68114** 68Q25 (68U05)

— *see also* **Symposium: Algorithms and Computation, 99d:68013**

Surla, Katarina (*with* Uzelac, Zorica) A spline difference scheme on a piecewise equidistant grid. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 901–909. (Summary) **99b:65093** 65L12 (65L10)

— (*with* Herceg, Dragoslav; Rapajić, Sanja) Cubic spline difference scheme on a mesh of Bakhvalov type. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 41–49. (Josef Dalík) **99k:65061** 65L10

— Exponential functions as boundary layer functions. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 159–176. (Ekkehard Wagenführer) **99m:65143** 65L10

Surpăţanu, Nicolae (*with* Lucanu, Dorel) On refinement in rewriting logic. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform. (N.S.)* **5/6** (1996/97), 67–83 (1998). (Summary) **99c:68144** 68Q42 (68Q10)

Surry, Patrick D. (*with* Radcliffe, Nicholas J.) The COMOGA method: constrained optimisation by multi-objective genetic algorithms. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 391–412. (*see* **99b:90008**) 90C27 (90C29)

Surulescu, Nicolae Successive approximations to solutions, global existence and uniqueness for Itô stochastic differential equations. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 271–281. (Bohdan Maslowski) **99k:60157** 60H10

Sury, B. On a conjecture of Chowla et al. (English summary) *J. Number Theory* **72** (1998), *no.* 1, 137–139. (F. Beukers) **99f:11005** 11A07

— Arithmetic of subgroup counting in some free products. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 347–355. (Summary) **99h:20047** 20E06

— The Chevalley-Warning theorem and a combinatorial question on finite groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 951–953. (Barbara Baumeister) **99f:20035** 20D60 (11B13)

— On permutation representations of polyhedral groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1973–1974. (Summary) **99j:20001** 20B05

Surya, Sumati (*with* Sorkin, Rafael D.) Geon statistics and UIR's of the mapping class group. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields (Mérida, 1996)*, 505–514, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99e:83048** 83E05 (83C45)

— (*with* Sorkin, Rafael D.) An analysis of the representations of the mapping class group of a multigeon three-manifold. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 21, 3749–3790. (Darryl McCullough) **99h:83047** 83E05 (20C35, 57N10)

— (*with* Vaidya, Sachindeo) Global anomalies in canonical gravity. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 391–402. (Chopin Soo) **99m:81231** 81T50 (57R57, 58G26, 81T20, 83C45)

— (*with* Marolf, Donald) Localized branes and black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124013, 7 *pp.* (Summary) **99m:83196** 83E30 (83C57)

Suryanarayan, E. R. (*with* Beauregard, Raymond A.) The Brahmagupta triangles. *College Math. J.* **29** (1998), *no.* 1, 13–17. (Andrew Bremner) **99e:11027** 11D09 (51M04)

Suryanarayana, Ch. (*with* Shankar, N. Ravi) *S*-function identities and their inner products. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 13–17. 05E05

Surzhko, S. V. (*with* Yushchenko, E. L.) Complete interpretations of Ω-languages and of free algebras of Ω-elements. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 114–121, 189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 550–554 (1998). (K. G. Peeva) **99b:68118** 68Q45 (08A70, 68Q70)

Susan-Resiga, Romeo F. (*with* McInnes, Lois C.; Keyes, David E.; Atassi, Hafiz M.) Additive Schwarz methods with nonreflecting boundary conditions for the parallel computation of Helmholtz problems. *Domain decomposition methods, 10 (Boulder, CO, 1997)*, 325–333, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65N30, 65Y05)

— (*with* Atassi, Hafiz M.) A domain decomposition method for the exterior Helmholtz problem. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 388–401. (Summary) **99g:76116** 76M25 (65N55, 76Q05)

Susarla, Vyaghreshwarudu *see* **Special Issue: Susarla, Vyaghreshwarudu, 99i:62003** *and* **Phadia, Eswar G., (99i:62003)**

Suseela, J. Suresh (*with* Arumugam, S.) Acyclic graphoidal covers and path partitions in a graph. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 67–77. (Summary) **99c:05147** 05C70

Sushchanskiĭ, V. I. (*with* Lazebnik, F. G.; Ustimenko, V. A.; Klin, Mikhail; Pöschel, R.; Vyshenskiĭ, V. A.) Lev Arkad′evich Kalužnin (1914–1990). Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 5–18. (Editors) **99m:01091** 01A70

— (*with* Kroshko, N. V.) Direct limits of symmetric and alternating groups with strictly diagonal embeddings. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 3, 173–182. (Maria S. Lucido) **99f:20048** 20E18 (20D30)

Sushkevich, T. A. Solution of a boundary value problem in transport theory for a plane layer with a horizontally inhomogeneous boundary dividing two media. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 4, 460–464. (From the text) **99d:82065** 82C70 (35Q99)

Sushko, Irina (*with* Maĭstrenko, Yuriĭ L.; Gardini, Laura) About two mechanisms of reunion of chaotic attractors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1373–1390. (Summary) **99g:58084** 58F13

Sushko, T. V. (*with* Demin, N. S.; Yakovleva, A. V.) Generalized inverse extrapolation of stochastic processes from a set of continuous and discrete observations with memory. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 48–59. 93E10

Sushko, V. G. Boundary layers for a quasilinear parabolic equation. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1999**, *no.* 1, 7–10, 51. 35K60 (35B25)

Sushkov, S. V. Particle creation near the chronology horizon. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044006, 6 *pp.* 83C47

Sushkov, Yu. A. (*with* Fattash, I.) On a class of multifunctional systems. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 67–86, 220. 93C30 (93B12)

— (*with* Mazkur, A.) Transfer functions of linear systems with variable structure. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 87–96, 220–221. 93B12 (93C05)

— (*with* Mazkur, A.; Fattash, I.) Mathematical models of multistate systems. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 84–104, 222–223. (Summary) **99k:93010** 93A30 (93C83)

Šušić, Jela (*with* Pavićević, Žarko) Boundary behavior of subharmonic functions on the unit disk. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 83–87. (Vladimir Eiderman) **99m:31005** 31A20 (30D45, 31A05)

Suslin, A. A. (*with* Panin, I. A.) On a conjecture of Grothendieck concerning Azumaya algebras. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 215–223; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 851–858. (Vyacheslav I. Yanchevskiĭ) **99b:16029** 16H05 (19E08)

Suslina, I. A. Extremal problems that arise in the minimax detection of a signal for l_q-ellipsoids with a removed l_p-ball. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 312–332, 363; *translation in J. Math. Sci. (New York)* **93** (1999), *no.* 3, 454–469. (M. P. Moklyachuk) **99a:62067** 62G10 (62C20, 62G20, 94A12)

— (*with* Ingster, Yu. I.) Minimax signal detection for Besov bodies and balls. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 1, 56–68; *translation in Problems Inform. Transmission* **34** (1998), *no.* 1, 48–59. (D. Stanomir) **99m:94018** 94A13 (62G20)

Suslina, T. A. (*with* Birman, M. Sh.) Absolute continuity of a two-dimensional periodic magnetic Hamiltonian with discontinuous vector potential. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 1–36. (George D. Raikov) **99k:81060** 81Q10 (35Q40, 47F05, 47N50)

Suslov, S. A. (*with* Roberts, A. J.) Similarity, attraction and initial conditions in an example of nonlinear diffusion. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998/99), (*E*), E1–E25 (*electronic*). 35K55 (35B99)

Suslov, Sergei K. (*with* Bustoz, Joaquin) Basic analog of Fourier series on a q-quadratic grid. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 1, 1–38. (Stamatis Koumandos) **99e:33020** 33D15 (33B10, 33C10, 42C10)

— Multiparameter Ramanujan-type q-beta integrals. (English summary) *Ramanujan J.* **2** (1998), *no.* 3, 351–369. (David M. Bressoud) **99j:33020** 33D05 (33D15, 33D20)

Süss, Wilhelm *see* **Senechal, Marjorie, 99h:01039**

Susskind, Leonard (*with* Fischler, Willy; Halyo, Edi; Rajaraman, Arvind) The incredible shrinking torus. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 2, 409–426. (Yolanda Lozano) **99d:81115** 81T30 (81T13, 81T60)

— (*with* Banks, Tom; Fischler, Willy; Klebanov, Igor R.) Schwarzschild black holes in matrix theory. II. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 8, 16 *pp.* (*electronic*). (Summary) **99d:83089** 83E30 (81T30, 83C57)

— (*with* Bigatti, D.) A note on discrete light cone quantization. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 351–353. (Summary) **99c:81166** 81T30

— (*with* McCarthy, James G.; Wilkins, Andy) Large N and the Dine-Rajaraman problem. (English summary) *Phys. Lett. B* **437** (1998), *no.* 1-2, 62–68. (Summary) **99j:81151** 81T30 (83E30, 83E50)

Susskind, Silvio (*with* Choudhury, Gagan L.; Kogan, Yakov A.) Exact and asymptotic solutions for models of new telecommunication services. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 393–407. (*see* **99a:90010**) 90B12 (90B22, 94A05)

Sussman, Gerald Jay (*with* Knight, Thomas F., Jr.) Cellular gate technology. (English summary) *Unconventional models of computation (Auckland, 1998)*, 257–272, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 92C05 (68Q05)

Sussman, Mark (*with* Almgren, Ann S.; Bell, John B.; Colella, Phillip; Howell, Louis H.; Welcome, Michael L.) An adaptive level set approach for incompressible two-phase flows. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 81–124. (Małgorzata Peszyńska) **99m:76098** 76M25 (76T05)

Sussman, Roberto A. Ideal gas sources for the Lemaître-Tolman-Bondi metrics. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1759–1766. (Edson Stédile) **99d:83017** 83C15 (83C55)

— (*with* Triginer, J.) Exact solutions of Einstein's equations with ideal gas sources. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 167–187. (Giulio Magli) **99m:83038** 83C15 (83C20, 83C55)

Sussmann, Héctor J. (*with* Kawski, Matthias) Noncommutative power series and formal Lie-algebraic techniques in nonlinear control theory. (English summary) *Operators, systems, and linear algebra (Kaiserslautern, 1997)*, 111–128, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Andrei V. Sarychev) **99a:93021** 93B25 (34E05, 34H05, 93C10)

— (*with* Sontag, Eduardo D.) Complete controllability of continuous-time recurrent neural networks. (English summary) *Systems Control Lett.* **30** (1997), *no.* 4, 177–183. (Summary) **99c:93011** 93B05 (93C83)

— (*with* Chitour, Yacine) Line-integral estimates and motion planning using the continuation method. (English summary) *Essays on mathematical robotics (Minneapolis, MN, 1993)*, 91–125, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99h:93068** 93C85 (70B15, 70Q05)

— An introduction to the coordinate-free maximum principle. (English summary) *Geometry of feedback and optimal control*, 463–557, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 49K15

— Multidifferential calculus: chain rule, open mapping and transversal intersection theorems. *Optimal control (Gainesville, FL, 1997)*, 436–487, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Heinz Schättler) **99j:49030** 49J52 (26E25, 46G99, 49K15, 58C20)
— Some optimal control applications of real-analytic stratifications and desingularization. *Singularities Symposium—Łojasiewicz 70 (Kraków, 1996; Warsaw, 1996)*, 211–232, *Banach Center Publ.*, 44, *Polish Acad. Sci., Warsaw*, 1998. (Kevin A. Grasse) **99m:49002** 49J15 (32C05, 93B20, 93C10)
— Geometry and optimal control. (English summary) *Mathematical control theory*, 140–198, *Springer, New York*, 1999. (Philip D. Loewen) **99k:49051** 49K15 (49J52, 58E25, 93B27, 93C10)
— *see also* **Essays on mathematical robotics**, **99e:70001** *and* **Differential geometry and control**, **99f:93003**
Sussmann, Yoram J. (*with* Cook, Doug; Faber, Vance; Marathe, Madhav V.; Srinivasan, Aravind) Low-bandwidth routing and electrical power networks. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 604–615, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 90B10 (68Q25, 68R10, 93C90)
— (*with* Bhatia, Randeep; Guha, Sudipto; Khuller, Samir) Facility location with dynamic distance functions. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 199–217. (Horst W. Hamacher) **99k:90094** 90B80 (90C27)
Sutanto, E. L. (*with* Mason, Julian D.; Warwick, Kevin) Mean-tracking clustering algorithm for radial basis function centre selection. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 961–977. 93B40 (93B30)
Sutcliffe, Geoff (*with* Suttner, Christian) The CADE-14 ATP system competition. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 1, 99–134. 68T15
— (*with* Suttner, Christian) The TPTP Problem Library—CNF release v 1.2.1. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 2, 177–203. (Summary) **99e:68145** 68T15 (03B35)
Suter, Bruce W. ★ Multirate and wavelet signal processing. Wavelet Analysis and its Applications, 8. *Academic Press, Inc., San Diego, CA*, 1998. xiv+199 *pp. ISBN* 0-12-677560-5 (Lars F. Villemoes) **99b:94011** 94A12 (42C15, 94–02)
Suter, David (*with* Chen, Fang) Fast evaluation of vector splines in three dimensions. (English summary) *Computing* **61** (1998), *no.* 3, 189–213. (Summary) **99k:65016** 65D07 (65Y25, 68Q25)
Suter, Ruedi Coxeter and dual Coxeter numbers. *Comm. Algebra* **26** (1998), *no.* 1, 147–153. (Witold Kraśkiewicz) **99h:17011** 17B20 (05E15)
— The number of lattice points in alcoves and the exponents of the finite Weyl groups. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 751–758. (Godofredo Iommi Amunátegui) **99a:20040** 20F55 (11P21, 17B67)
Suter, Ueli (*with* Junod, Bernard) On the vector field problem for product manifolds. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 437–461. (Július Korbaš) **99k:57056** 57R25 (55N15, 55S25)
Sutherland, Bruce R. (*with* Linden, Paul F.) Internal wave excitation from stratified flow over a thin barrier. (English summary) *J. Fluid Mech.* **377** (1998), 223–252. (Summary) **99i:76035** 76C10 (76–05, 76V05)
Sutherland, Colin E. (*with* Takesaki, Masamichi) Right inverse of the module of approximately finite-dimensional factors of type III and approximately finite ergodic principal measured groupoids. *Operator algebras and their applications, II (Waterloo, ON, 1994/1995)*, 149–159, *Fields Inst. Commun.*, 20, *Amer. Math. Soc., Providence, RI*, 1998. (Jean N. Renault) **99k:46108** 46L35 (46L40, 46L55)
— (*with* Katayama, Yoshikazu; Takesaki, Masamichi) The characteristic square of a factor and the cocycle conjugacy of discrete group actions on factors. *Invent. Math.* **132** (1998), *no.* 2, 331–380. (Claire Anantharaman-Delaroche) **99f:46096** 46L55 (46L40)
Sutherland, Roderick I. Density formalism for quantum theory. (English summary) *Found. Phys.* **28** (1998), *no.* 7, 1157–1190. (Summary) **99e:81013** 81P05
Sutherland, W. A. (*with* Crabb, M. C.; Spreafico, Mauro) Enumerating projectively equivalent bundles. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 223–242. (R. A. Piccinini) **99i:55022** 55R10 (55R25, 55R50)
Sutinen, E. (*with* Kärkkäinen, J.) Lempel-Ziv index for q-grams. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 137–154. (Summary) **99a:68081** 68Q20 (68P20)
Sütő, A. (*with* van Hemmen, J. Leo) Semiclassical quantization and resonance in spin tunnelling. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 10029–10043. (Summary) **99h:81051** 81Q20
Sutter, A. (*with* Chardaire, P.; Lutton, J.-L.) Upper and lower bounds for the two-level simple plant location problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 117–140. (Summary) **99m:90093** 90B80 (90C27)
Suttmeier, F. T. (*with* Rannacher, Rolf) A posteriori error control and mesh adaptation for FE models in elasticity and elasto-plasticity. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 275–292, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99g:73108** 73V05 (65N55)
— (*with* Rannacher, Rolf) A posteriori error control in finite element methods via duality techniques: application to perfect plasticity. (English summary) *Comput. Mech.* **21** (1998), *no.* 2, 123–133. (Summary) **99a:73127** 73V05 (65N30, 73E99)
— On FE-discretisations with least-squares stabilisation: a posteriori error control for the membrane-problem. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 2, 155–165. (Summary) **99e:73098** 73V05 (65N30, 73K10)
Suttner, Christian (*with* Sutcliffe, Geoff) The CADE-14 ATP system competition. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 1, 99–134. 68T15
— (*with* Sutcliffe, Geoff) The TPTP Problem Library—CNF release v 1.2.1. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 2, 177–203. (Summary) **99e:68145** 68T15 (03B35)
Sutton, A. P. (*with* Rautiainen, T. T.) The role of the diffusion mechanism in models of the evolution of microstructure during phase separation. (English summary) *Computational and mathematical models of microstructural evolution (San Francisco, CA, 1998)*, 65–70, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 73S10 (73B30)
Sutton, Martin (*with* Miller, Mirka; Ryan, Joseph; Slamin) Connected graphs which are not mod sum graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 287–293. (Summary) **99h:05104** 05C78 (05C40, 05C75)
Sutton, Richard K. (*with* Butler, Ronald W.) Saddlepoint approximation for multivariate cumulative distribution functions and probability computations in sampling theory and outlier testing. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 596–604. (Summary) **99b:62016** 62E17
Sutyrin, Vladislav G. (*with* Volovoi, Vitali V.; Hodges, Dewey H.; Berdichevskiĭ, V. L.) Asymptotic theory for static behavior of elastic anisotropic I-beams. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 7, 1017–1043. (Summary) **99i:73045** 73K05
Süveges, Mária (*with* Rácz, István) On the uniqueness of stationary axisymmetric ellipsoidal vacuum configurations. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 14, 1101–1107. (Alicia M. Sintes) **99e:83015** 83C20 (83C15)
Suvorova, N. G. (*with* Gorr, G. V.) On a class of polynomial solutions in the problem of the motion of a gyrostat in a magnetic field. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 781–787; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 757–763 (1998). (A. E. Zakrzhevskiĭ) **99e:70024** 70E15
Suvorova, O. V. (*with* Leshchëva, S. V.) On the φ-structure on the projective group $L_2(q)$. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 5, 725–728. (Summary) **99m:20114** 20G40 (20N05)
Suwa, Masaki (*with* Sugimoto, Sueo) Gibbs random image models and sampling. *Statistical methods in control and signal processing*, 525–543, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 68U10
Suwa, Noriyuki (*with* Sekiguchi, Tsutomu) Examples of deformations of algebraic groups and formal algebraic groups. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 44–57. (M. Miyanishi) **99m:14087** 14L15 (20G10)
Suwa, Tatsuo (*with* Ohmoto, Toru; Yokura, Shoji) A remark on the Chern classes of local complete intersections. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 5, 93–95. (Gary P. Kennedy) **99b:32053** 32S20 (14M10)
— ★ Indices of vector fields and residues of singular holomorphic foliations. (English summary) Actualités Mathématiques. [Current Mathematical Topics] *Hermann, Paris*, 1998. *viii*+204 *pp. ISBN* 2-7056-6361-4 (M. G. Soares) **99h:32042** 32S65 (32L30)
— (*with* Seade, José) An adjunction formula for local complete intersections. *Internat. J. Math.* **9** (1998), *no.* 6, 759–768. (David B. Massey) **99k:32059** 32S20 (32S55)
— Chern classes of local complete intersections with isolated singularities. Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 21–26. (Paolo Aluffi) **99j:32039** 32S20 (14C17, 57R20)
Suyalatu (*with* Wu, Cong Xin) K-strong convexity and K-strong smoothness. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 373–378. (Bor-Luh Lin) **99h:46021** 46B20 (46B10)
— (*with* Wu, Cong Xin) k-uniformly rotund spaces and k-uniformly smooth spaces. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 2, 92–95. (Marián Fabian) **99e:46021** 46B20
Suyama, Yoshihiko Explicit representation of compact conformally flat hypersurfaces. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 2, 179–196. (Jürgen Berndt) **99e:53083** 53C40 (53A30)
Suyari, Hiroki (*with* Inoue, Kei; Ohya, Masanori) A quantum information-theoretic approach to a quantum teleportation process. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 194–202. (*see* **99b:00018**) 94A05
— (*with* Ohya, Masanori; Furuichi, Shigeru) An analysis of the quantum amplification process based on quantum mutual entropy. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 225–235. (*see* **99b:00018**) 94A05 (81P99)
Suykens, J. A. K. (*with* Curran, Paul F.; Chua, Leon O.) Absolute stability theory and master-slave synchronization. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 12, 2891–2896. (Summary) **99e:93063** 93D15 (34H05, 58F40, 93C10)
— (*with* Vandewalle, Joos; De Moor, Bart) An absolute stability criterion for the Lur'e problem with sector and slope restricted nonlinearities. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 1007–1009. (Summary) **99f:93108** 93D05 (93D21)
Suzdal'nitskiĭ, I. D. (*with* Ingman, Dov) Calculation of the eigenvalue of a differential equation under non-linear parameter-dependence of its coefficients. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 4, 239–247. (Summary) **99m:65145** 65L15
Suz'ko, A. A. (*with* Velicheva, E. P.) Quantum dynamical systems with some degrees of freedom. (English summary) *Symmetry methods in physics, Vol. 2 (Dubna*, 1995), 556–564, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81Q20
— (*with* Velicheva, E. P.) Exact solutions of the nonstationary Schrödinger equation. (Russian. Russian summary) *Teoret. Mat. Fiz.* **115** (1998), *no.* 3, 410–418; *translation in Theoret. and Math. Phys.* **115** (1998), *no.* 3, 687–693. 81Q05
Suzukawa, Akio Statistical inference in a canonical correlation analysis with linear constraints. (English summary) *J. Japan Statist. Soc.* **27** (1997), *no.* 1, 93–107. (Tamas Lengyel) **99c:62163** 62H20
Suzuki, Akihiro (*with* Muto, Shigeo) Farsighted stability in the n-person prisoners' dilemma. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 207–214. (*see* **99h:90006**) 90D06
Suzuki, Akihito Psychiatry without mind in the eighteenth century: the case of British iatro-mathematicians. *Arch. Internat. Hist. Sci.* **48** (1998), *no.* 140, 119–146. 01A80
Suzuki, Alfredo T. (*with* Schmidt, Alexandre G. M.) Negative-dimensional integration: "lab testing" at two loops. (English summary) *J. High Energy Phys.* **1997**, *no.* 9, *Paper* 2, 9 *pp.* (*electronic*). (Dirk Kreimer) **99b:81162** 81T18
— (*with* Schmidt, Alexandre G. M.) Negative-dimensional integration revisited. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 8023–8039. (Summary) **99f:81135** 81T18
— (*with* Schmidt, Alexandre G. M.; Bentín, R.) Probing negative-dimensional integration: two-loop covariant vertex and one-loop light-cone integrals. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 549–560. (Summary) **99h:81144** 81T18
Suzuki, Chisato A collocation method for two-point boundary-value problems of ODE. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv*, 1994), 197–206, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 65L60

— (*with* Hagiwara, Shu) The stability of generalized linear multistep methods for Volterra integro-differential equations. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 45–52. (*see* **99i:00028**) 65R20

Suzuki, Einoshin Discovery of exception knowledge based on multi-dimensional normal approximations. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 8, 2403–2412. 68T05

Suzuki, Hideo *see* **Suzuki, Hideo[4]**

Suzuki, Hideo[3] (*with* Kobayashi, Hidetsune) The possibility of deflation of a system of algebraic equations. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 8–16. (*see* **99h:00034**) 13P10

Suzuki, Hideo[4] Delone sets and Riesz basis. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 1, 1–3. (Ole Christensen) **99a:46036** 46C05 (42B05, 46B15, 46E30)

Suzuki, Hiromasa Asymptotic characterization of stationary interfacial patterns for reaction diffusion systems. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 3, 631–667. (Arnaldo do Nascimento) **99a:35137** 35K57 (35B25, 35C20)

— Construction and stability of stationary interfacial patterns in rescaled reaction diffusion systems. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 257–262, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99b:35097** 35K57 (35B25)

Suzuki, Hiroshi The structure of certain types of Galois invariant finite subgroups of GL(3). (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 161–169. (Zhi Jie Chen) **99h:20079** 20G30 (11R33)

— Imprimitive Q-polynomial association schemes. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 2, 165–180. (Sylvia A. Hobart) **99d:05090a** 05E30

— Association schemes with multiple Q-polynomial structures. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 2, 181–196. (Sylvia A. Hobart) **99d:05090b** 05E30

Suzuki, Hisao (*with* Masuda, Takahiro) Periods and prepotential of $N = 2$ SU(2) supersymmetric Yang-Mills theory with massive hypermultiplets. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3413–3431. (Michael A. I. Flohr) **99b:81245** 81T60 (14D05, 14H52, 33C20, 81T13)

— (*with* Masuda, Takahiro; Sasaki, Toru[2]) Seiberg-Witten theory of rank two gauge groups and hypergeometric series. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3121–3144. (Summary) **99i:81248** 81T60 (14H45, 33C80, 81T13)

— (*with* Takasugi, Eiichi; Umetsu, Hiroshi) Perturbations of Kerr-de Sitter black holes and Heun's equations. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 3, 491–505. (Volker Perlick) **99j:83049** 83C57

Suzuki, Ichiro[1] (*with* Yamashita, Masafumi) Distributed anonymous mobile robots: formation of geometric patterns. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 4, 1347–1363 (*electronic*). (Summary) **99m:68142** 68Q99

Suzuki, Junji Characters for $\widehat{\mathrm{sl}(n)}_{k=1}$ from a novel thermodynamic Bethe ansatz. (English summary) *J. Phys. A* **31** (1998), *no.* 32, 6887–6896. (Rinat Kedem) **99f:81078** 81R10 (17B67, 82B20)

— (*with* Jüttner, G.; Klümper, Andreas) From fusion hierarchy to excited state TBA. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 581–600. (Deng Feng Wang) **99c:82014** 82B20

— (*with* Kuniba, Atsuo; Sakai, Kazumitsu) Continued fraction TBA and functional relations in XXZ model at root of unity. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 597–626. (Rinat M. Kashaev) **99k:82022** 82B23 (17B37, 81R50)

— Quantum Jacobi-Trudi formula and E_8 structure in the Ising model in a field. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 3, 683–700. (Murray T. Batchelor) **99g:82021** 82B23 (11Z05, 82B20)

— Spinons in magnetic chains of arbitrary spins at finite temperatures. (English summary) *J. Phys. A* **32** (1999), *no.* 12, 2341–2359. (Summary) **99m:82011** 82B20

Suzuki, Katsuhiro (*with* Watanabe, Yodai; Kambe, Tsutomu) Geometrical analysis of free rotation of a rigid body. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6073–6080. (Summary) **99e:70025** 70E15 (70K20)

Suzuki, Kazuyuki (*with* Hu, X. Joan; Lawless, Jerald F.) Nonparametric estimation of a lifetime distribution when censoring times are missing. (English summary) *Technometrics* **40** (1998), *no.* 1, 3–13. (Summary) **99a:62051** 62G05 (62N05)

Suzuki, Kenji Black hole entropy as T-duality invariant. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064025, 8 *pp.* (Summary) **99k:83085** 83C57 (81T30, 83E30)

Suzuki, Koutarou Turaev-Viro-Ocneanu invariants of the 3-dimensional sphere S^3 and the lens spaces $L(2,1)$ and $L(3,1)$. (Japanese) Research on the theory of topological quantum fields induced by $6j$-symbols (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1053 (1998), 30–40. (*see* **99k:00036**) 57M25 (57N10)

Suzuki, Masaaki On the Fatou component in $\mathbf{P}^k(\mathbf{C})$. Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 182–187. (Marco Abate) **99c:32037** 32H50

Suzuki, Masahiko The blow analytically constant stratum of real analytic singularities. (English summary) *Real analytic and algebraic singularities (Nagoya/Sapporo/Hachioji, 1996)*, 64–76, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Juan J. Nuño-Ballesteros) **99f:32057** 32S15 (32S05)

— *see also* **Errata: "Topological types of singularities of analytic functions (the work of the late Etsuo Yoshinaga)", (99a:00050)**

Suzuki, Masayuki (*with* Ando, Yoshinori) Trends in the singular perturbation method and in robust control of singularly perturbed systems. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 12, 653–660. 93–02 (34E15, 93C70)

— (*with* Hodaka, Ichijyo; Sakamoto, Noboru) Loopshaping by quadratic constraints on open-loop transfer functions. (English summary) *Learning, control and hybrid systems (Bangalore, 1998)*, 416–431, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93C80)

Suzuki, Masuo Exponential-perturbation theory in physics. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part I (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **3** (1995), *no.* 1-2, 75–80. (*see* **99b:00016**) 47A99 (47N50, 81Q99)

— Quantum analysis—non-commutative differential and integral calculi. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 2, 339–363. (Thomas Ackermann) **99j:47107** 47N50 (47A60, 47B47, 82B10)

— (*with* Asakawa, Hitoshi) Boundary scattering matrices in the Hubbard model with boundary fields. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 1–20. (Summary) **99c:82010** 82B20

— (*with* Kobayashi, Hiroto; Hatano, Naomichi) Goldberg's theorem and the Baker-Campbell-Hausdorff formula. (English summary) *Phys. A* **250** (1998), *no.* 1-4, 535–548. (Karl-Hermann Neeb) **99d:22011** 22E15

Suzuki, Nobu-Yuki Kripke frame with graded accessibility and fuzzy possible world semantics. (English summary) *Studia Logica* **59** (1997), *no.* 2, 249–269. (Jozef Šajda) **99b:03033** 03B45 (03B25, 03B52)

— An application of the Kripke sheaf semantics in intermediate predicate logics. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 131–141. (*see* **99a:03003**) 03B55

Suzuki, Noriaki Generalized normal differentials and a uniqueness theorem for harmonic functions. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 22–29. (*see* **99a:00036**) 31B05

Suzuki, Norihiko (*with* Fukui, Seiichi; Owa, Shigeyoshi) An application of Ruscheweyh derivatives for multivalent functions. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 121–125. (Summary) **99c:30034** 30C45

— An extension of P. T. Mocanu's lemma. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 186–190. (*see* **99a:00033**) 30C45

Suzuki, Osamu (*with* Ławrynowicz, Julian) Hurwitz duality theorems for Fueter and Dirac equations. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 2, 113–132. (Bernd A. Schmeikal) **99g:15038** 15A66 (30G35, 81R20)

— (*with* Ławrynowicz, Julian) The twistor theory of the Hermitian Hurwitz pair $(\mathbf{C}^4(I_{2,2}), \mathbf{R}^5(I_{2,3}))$. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 147–179. (J. T. Davidov) **99j:32035** 32L25 (15A66, 81R25)

Suzuki, Ryuichi Blow-up problems for quasilinear parabolic equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4459–4466. (Alexander L. Gladkov) **99b:35105** 35K60 (35B40)

— Existence and nonexistence of global solutions to quasilinear parabolic equations with convection. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 147–196. (Maura Ughi) **99a:35126** 35K55 (35B05, 35B60, 35K65)

— Boundedness of global solutions of one-dimensional quasilinear degenerate parabolic equations. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 119–138. (Zhuo Qun Wu) **99a:35153** 35K65 (35B35)

Suzuki, S. *see* **Suzuki, Shin'ichi**

Suzuki, Sadanori (*with* Isidori, Alberto; Tarn, Tzyh Jong) H_∞ control of nonlinear systems with sampled measurement. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 2, 12 *pp.* (*electronic*). (Summary) **99h:93042** 93B36 (93C57)

— (*with* Isidori, Alberto; Tarn, Tzyh Jong) H_∞ control of nonlinear systems with sampled measurement. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 381–392. (Peng Shi) **99h:93043** 93B36 (93C57)

Suzuki, Satoshi[2] Constructions of certain types of finite semisimple Hopf algebras. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 150–165. (*see* **99a:00029**) 16W30

— A family of braided cosemisimple Hopf algebras of finite dimension. *Tsukuba J. Math.* **22** (1998), *no.* 1, 1–29. (Fang Li) **99g:16052** 16W30

Suzuki, Shigemichi (*with* Yamashita, Hideaki) Mean waiting times of the alternating traffic with starting delays. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 442–454. (Rong Xin Wang) **99i:90047** 90B06 (60K25, 90B22)

— (*with* Yamashita, Hideaki; Ohtani, Hiroshi) An exact aggregation for inventory distribution in an automatic warehousing system. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 492–508. 90B05 (90B30)

Suzuki, Shingo (*with* Maeda, Kei-ichi) Innermost stable circular orbit of a spinning particle in Kerr spacetime. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 023005, 11 *pp.* 83C10 (83C15)

Suzuki, Shin'ichi (*with* Hosokawa, Fujitsugu) Every 2-link with two components is link-homotopic to the trivial 2-link. (English summary) *KNOTS '96 (Tokyo)*, 319–326, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57016** 57M25

— *see also* **KNOTS '96, 99i:57002**

Suzuki, Takashi[1] Curved moving planes and applications. *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon, 1996)*, 10 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Wen Xiong Chen) **99a:35097** 35J65

— (*with* Sakaguchi, Shigeru) Interior imperfect ignition cannot occur on a set of positive measure. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 2, 143–153. (Vitaly A. Volpert) **99d:35072** 35K20 (35Q99, 35R45, 80A25)

— (*with* Naito, Yūki) Radial symmetry of positive solutions for semilinear elliptic equations on the unit ball in $\mathbf{R}^n$. (English summary) *Funkcial. Ekvac.* **41** (1998), *no.* 2, 215–234. (Summary) **99i:35049** 35J65 (35B05)

— (*with* Sakaguchi, Shigeru) Nonexistence of solutions for a degenerate parabolic equation describing imperfect ignition. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 665–669. (Xiang Sheng Xu) **99d:35079** 35K55 (35B05, 35K65)

— (*with* Nagai, Toshitaka; Senba, Takasi) Keller-Segel system and the concentration lemma. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 75–80. (H. W. Vayo) **99k:35177** 35Q80 (92D50)

— Blow-up phenomena for solutions to parabolic equations: what's the problem now? (Japanese) Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 52–64. (*see* **99f:00019**) 35K60 (35B05)

— (*with* Ogawa, Takayoshi) Two-dimensional elliptic equation with critical nonlinear growth. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4897–4918. (Gianni Arioli) **99j:35066** 35J65

Suzuki, Takeshi (*with* Arakawa, Tomoyuki; Tsuchiya, Akihiro) Degenerate double affine Hecke algebra and conformal field theory. (English summary) *Topological field theory,*

primitive forms and related topics (*Kyoto*, 1996), 1–34, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Matthias Dörrzapf) **99i:17025** 17B67 (81T40)

— (*with* Arakawa, Tomoyuki) Duality between $\mathfrak{sl}_n(\mathbf{C})$ and the degenerate affine Hecke algebra. (English summary) *J. Algebra* **209** (1998), *no.* 1, 288–304. (Jie Du) **99h:17005** 17B10 (17B35, 20G05)

Suzuki, Taro (*with* Nakagawa, Koji; Ida, Tetsuo) Higher-order lazy narrowing calculus: a computation model for a higher-order functional logic language. *Algebraic and logic programming* (*Southampton*, 1997), 99–113, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (68N17)

Suzuki, Tatsuo² (*with* Fujii, Kazuyuki; Homma, Yasushi) Nonlinear Grassmann sigma models in any dimension and an infinite number of conserved currents. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 290–294. (Summary) **99i:81143** 81T10

Suzuki, Tomonari (*with* Takahashi, Wataru) Fixed point theorems and characterizations of metric completeness. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 371–382 (1997). (S. N. Mishra) **99c:54064** 54H25 (47H10, 54E40)

— (*with* Shioji, Naoki; Takahashi, Wataru) Contractive mappings, Kannan mappings and metric completeness. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3117–3124. (Hans-Peter A. Künzi) **99a:54023** 54E50 (54H25)

— (*with* Takahashi, Wataru) On weak convergence to fixed points of nonexpansive mappings in Banach spaces. (English summary) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 149–156. (Summary) **99i:47109** 47H10 (47H09)

Suzuki, Toshiaki Metaplectic Eisenstein series and the Bump-Hoffstein conjecture. *Duke Math. J.* **90** (1997), *no.* 3, 577–630. (Solomon Friedberg) **99c:11053** 11F55 (11F30, 11F66, 11F70)

— Distinguished representations of metaplectic groups. (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 70–81. (*see* **99a:11005**) 22E46 (11F70)

Suzuki, Toshio² About splitting numbers. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 2, 33–35. (Douglas R. Burke) **99m:03107** 03E55 (03E05, 03E35)

Suzuki, Yasuhito (*with* Wolter, Frank; Zakhar'yashchev, M. V.) Speaking about transitive frames in propositional languages. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 142–166. (*see* **99a:03003**) 03B45 (03B20)

— The realization of the hybrid multi-modal logic theorem prover in the term rewriting system CafeOBJ. Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 96–111. (*see* **99d:03003**) 03B45

— (*with* Wolter, Frank; Zakhar'yashchev, M. V.) Speaking about transitive frames in propositional languages. (English summary) *J. Logic Lang. Inform.* **7** (1998), *no.* 3, 317–339. (N. C. A. da Costa) **99i:03019** 03B45 (03B20)

Suzuki, Yoshiaki (*with* Hayakawa, Kisaburo; Matsumoto, Kenichiro; Yamashita, Masashi; Fujimori, Kazuo; Kimura, Hidenori) Robust H^∞-output feedback control of decoupled automobile active suspension systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 392–396. 93B36 (93C95)

Suzuki, Yuuichi (*with* Urakawa, Hajime) Eigenvalue pinching theorems on compact symmetric spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3065–3069. (Catherine Searle) **99a:53034** 53C20 (53C35)

Suzumura, Fumihiro (*with* Mizukami, Koichi) Suboptimal control strategy with output feedback from with two-criteria control problems. (Japanese. English summary) *Bull. Fac. Eng. Hiroshima Univ.* **44** (1995), *no.* 1, 17–22. 49K15 (90C29)

Suzumura, Kotaro Consequences, opportunities, and procedures. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 17–40. (Yew-Kwang Ng) **99m:90021** 90A08

Svaiter, B. F. (*with* Iusem, Alfredo N.; Da Cruz Neto, João Xavier) Central paths, generalized proximal point methods, and Cauchy trajectories in Riemannian manifolds. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 566–588 (*electronic*). (M. Teboulle) **99k:90175** 90C33 (49J40, 90C30)

Svaiter, N. F. (*with* Añaños, G. N. J.; Malbouisson, A. P. C.) Analytic regularization of the $(\overline{\psi}_i\psi_i)^2_D$ model at finite temperature and density. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3515–3521. (Summary) **99c:81140** 81T15

Svanadze, Merab Zh. On existence of eigenfrequencies in the theory of two-component elastic mixtures. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 427–437. (Tian You Fan) **99f:73027** 73C02 (73D15, 73D30)

Svanberg, Jonas (*with* Lenz, Reiner) Group-theoretical transforms, statistical properties of image spaces and image coding. (English summary) *Signal and image representation in combined spaces*, 555–575, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Summary) **99d:94008** 94A12

Svanstedt, Nils A note on bounds for non-linear multivalued homogenized operators. (English summary) *Appl. Math.* **43** (1998), *no.* 2, 81–92. (Dan Poliševski) **99c:73006** 73B27 (35B27, 47H04, 73K20)

Svedin, Uno *see* **Matter matters?, 99a:92044**

Sveen, J. Kristian (*with* Grue, John; Jensen, Atle; Rusås, Per-Olav) Properties of large-amplitude internal waves. (English summary) *J. Fluid Mech.* **380** (1999), 257–278. 76C10 (76–05)

Svendsen, B. (*with* Wu, Tianhao; Hutter, Kolumban) On shear flow of a saturated ice-sediment mixture with thermodynamic equilibrium pressure and momentum exchange. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 71–88. (Summary) **99e:86014** 86A40 (73N20, 76A05)

— (*with* Bertram, Albrecht) On frame-indifference and form-invariance in constitutive theory. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 195–207. (Summary) **99k:73008** 73B05

Svensson, Anders ★ Event prediction and bootstrap in time series. (English summary) Dissertation, Lund Institute of Technology, Lund, 1998. *Lund University, Lund Institute of Technology, Department of Mathematical Statistics, Lund*, 1998. $x+139$ *pp. ISBN* 91-628-3165-8 (From the text) **99h:62119** 62M10

Svensson, Olof On generalized Fatou theorems for the square root of the Poisson kernel and in rank one symmetric space. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 3, 467–482. (David Singman) **99c:42035** 42B25 (31A20, 43A85)

— (*with* Di Biase, Fausto; Stokolos, A. M.; Weiss, Tomasz) Tangential boundary behaviour of bounded harmonic functions in the unit disc. (English summary) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 63–68, *Univ. Stud. Bologna, Bologna*, 1998. (Hiroaki Aikawa) **99f:31005** 31A20

Šverák, Vladimír (*with* Müller, Stefan C.) Unexpected solutions of first and second order partial differential equations. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 691–702 (*electronic*). (Bruno Scheurer) **99j:35040** 35J50 (35F05, 49L25, 53C23, 73B30, 73V25)

— (*with* Pedregal, Pablo) A note on quasiconvexity and rank-one convexity for 2×2 matrices. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 107–117. (Bernard Brighi) **99i:49005** 49J10 (49K10)

Sverchkov, Sergei (*with* Abian, Alexander) The solvability of infinite systems of linear equations over division modules. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 671–675. 17A99

Sveshnikov, A. G. (*with* Al'shin, A. B.; Pletner, Yu. D.) On the solvability of a nonstationary analogue of the Lavrent'ev-Sedov-Keldysh problem for the ion-acoustic wave equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1520–1525; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1474–1479. (Piotr P. Goldstein) **99i:35161** 35Q99 (76X05, 82D10)

— (*with* Al'shin, A. B.; Pletner, Yu. D.) Unique solvability of the Dirichlet problem for the equation of ion-acoustic waves in a plasma. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 6, 749–751. 35L99 (35Q35, 76X05)

— (*with* Al'shin, A. B.; Pletner, Yu. D.) On the Dirichlet problem for the two-dimensional ion-acoustic wave equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1743–1750; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1672–1679. (From the text) **99g:76154** 76X05 (35M20, 35Q35)

— (*with* Bogolyubov, Aleksandr Nikolaevich; Delitsyn, A. L.) On the completeness of a system of eigen- and associated functions of a waveguide. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1891–1899; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1815–1823. (B. Belinskiy) **99i:35116** 35P10 (35Q99, 47A56, 78A25, 78A50)

Svetic, R. E. A function with locally uncountable rotation set. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 4, 305–314. (Summary) **99k:28023** 28D15

— (*with* Volkmer, Hans) On the ultimate Peano derivative. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 439–452. (Clifford E. Weil) **99b:26006** 26A24 (26A15)

Svetlichnaya, S. D. (*with* Yanyutin, E. G.) Unsteady deformation of elastic bodies that have the shape of an annular cylindrical segment. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 340–343; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 315–318. 73C02 (73D99)

Svetlichny, George On relativistic non-linear quantum mechanics. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 262–269, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:81022** 81P99

Svetlichny, Sergey (*with* Robbie, Desmond) Wallace semigroups and topological loops. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 329–336 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Jean-Paul Pier) **99e:22007** 22A15 (54D20, 54H11)

— (*with* Comfort, W. W.; Morris, Sidney A.; Robbie, Desmond; Tkachenko, M. G.) Suitable sets for topological groups. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 25–46. (Klaas Pieter Hart) **99g:54033** 54H11 (22A05, 54A25)

Svinin, Andrei K. On some integrable system of hyperbolic type. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 366–371, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Introduction) **99c:35237** 35Q58 (35L70)

Svinolupov, S. I. (*with* Pavlov, M. V.; Sharipov, R. A.) An invariance criterion for the integrability of systems of equations of hydrodynamic type. (Russian. English and Russian summaries) *Integrability in dynamical systems* (*Russian*), 27–48, 93, *Ross. Akad. Nauk, Inst. Mat. Vychisl. Tsentrom, Ufa*, 1994. (Iskander A. Taimanov) **99e:58106** 58F07 (35Q35)

— (*with* Khabibullin, I. T.) Integrable boundary conditions for multicomponent Burgers equations. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 888–901, 960; *translation in Math. Notes* **60** (1996), *no.* 5-6, 671–680 (1997). (Roman O. Popovich) **99e:35205** 35Q53 (35A30, 58F07)

Sviridenko, M. I. An approximate algorithm for solving a dynamic problem on the p-median for a maximum. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* **2 4** (1997), *no.* 2, 55–62, 64 (1998). (Summary) **99h:90068** 90C09

— Best possible approximation algorithm for MAX SAT with cardinality constraint. (English summary) *Approximation algorithms for combinatorial optimization* (*Aalborg*, 1998), 193–199, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (Summary) **99m:68093** 68Q25 (90C08)

— An approximate algorithm for solving the p-center problem with the triangle inequality. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* **1 5** (1998), *no.* 1, 60–63, 105. (Summary) **99g:05068** 05C12 (65Y25)

Sviridov, Yu. B. On the application of Hermite interpolation polynomials for the calculation of integrals and the solution of the Cauchy problem. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 2, 42–54, 127, 130. (Adam Marlewski) **99a:65031** 65D30 (65L05)

Sviridova, I. Varieties and algebraic algebras of bounded degree. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 233–240. (Vesselin Drensky) **99i:16049** 16R10 (15A75, 16R30)

Sviridyuk, G. A. (*with* Sukachëva, T. G.; Dudko, L. L.) Relative σ-boundedness of linear operators. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 7, 68–73; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 7, 65–70. (Yuri Sil'chenko) **99a:47029** 47A99 (47A10, 47B99)

— (*with* Sukachëva, T. G.) On the solvability of a nonstationary problem in the dynamics of an incompressible viscoelastic fluid. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 442–450; *translation in Math. Notes* **63** (1998), *no.* 3-4, 388–395. (Piotr Biler) **99f:76012** 76A10 (34G20, 35Q35)

— (*with* Fedorov, V. E.) On units of analytic semigroups of operators with kernels. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 604–616, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 522–533. (Evgeniĭ Mel'nikov) **99j:47056** 47D06 (34G10)

Svirkunov, P. N. On conditions for the symmetric instability of rotational motions of an ideal stratified fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 996–1001. (Summary) **99m:76060** 76E20 (76C10, 76U05, 76V05, 86A05)

Svirshchevskiĭ, S. R. First- and second-order nonlinear differential operators that have invariant linear spaces of maximal dimension. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 198–207; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1346–1353 (1996). (L. M. Berkovich) **99c:34013** 34A34 (34A25, 35Q53)

Svishchëv, Yu. V. (*with* Tuchkin, Yu. A.) Regularization of a boundary value problem of the diffraction of an arbitrary electromagnetic wave by an ideally conducting spherical segment. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 262–276; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 2, 252–266. (Summary) **99g:78023** 78A45 (35J05, 65N99, 78–08)

Svishchuk, A. V. ★ Random evolutions and their applications. (English summary) Mathematics and its Applications, 408. *Kluwer Academic Publishers, Dordrecht*, 1997. *xvi*+199 *pp. ISBN* 0-7923-4533-9 (Henryk Gzyl) **99i:60178** 60K35 (35R60, 47N30, 60H25, 60J25)

— (*with* Zhuravits'kiĭ, D. G.) Application of discontinuous evolution stochastic systems in financial mathematics. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 50–55. (Summary) **99a:90045** 90A09 (60H99)

— (*with* Lukīn, O. E.) Some aspects of the application of continuous evolution systems in financial mathematics. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 41–45. (Summary) **99k:60255** 60K35 (60H10, 90A09)

Svoboda, Karel *see* **Janyška, Josef, 99m:01070**

Svobodny, Thomas P. (*with* Gunzburger, Max D.; Hou, LiSheng) Optimal control problems for a class of nonlinear equations with an application to control of fluids. *Optimal control of viscous flow*, 43–62, *SIAM, Philadelphia, PA*, 1998. (Qin Xu) **99f:49008** 49J20 (35Q35, 49J27, 76D05)

— (*with* Huang, Chaocheng) Evolution of mixed-state regions in type-II superconductors. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 1002–1021 (*electronic*). (J. R. Ockendon) **99e:82099** 82D55 (35Q99, 35R35)

Svozil, Karl (*with* Krenn, Günther) Stronger-than-quantum correlations. (English summary) *Found. Phys.* **28** (1998), *no.* 6, 971–984. (Emilio Santos) **99h:81013** 81P05 (81P10)

— Analogues of quantum complementarity in the theory of automata. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 1, 61–80. (Josef Tkadlec) **99e:81020** 81P10 (03D05, 03G12, 68Q45)

— (*with* Calude, Cristian S.; Hertling, Peter H.) Kochen-Specker theorem: two geometric proofs. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 133–142. (Anatolij Dvurečenskij) **99i:81020** 81P15 (03G12, 81P10)

Svrček, Michal (*with* Bañacký, Pavol) Superconductivity: from Fröhlich to nonadiabatic theory. (English summary) *Acta Univ. Carolin. Math. Phys.* **39** (1998), *no.* 1-2, 3–39. 82D55 (82–01, 82–02)

Svrtan, Dragutin (*with* Feretić, Svjetlan) Combinatorics of diagonally convex directed polyominoes. (English and French summaries) Proceedings of the 6th Conference on Formal Power Series and Algebraic Combinatorics (New Brunswick, NJ, 1994). *Discrete Math.* **157** (1996), *no.* 1-3, 147–168. (K. G. Subramanian) **99c:05046** 05B50

— (*with* Pečarić, Josip) New refinements of the Jensen inequalities based on samples with repetitions. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 365–373. (Peter Boyadjiev) **99f:26020** 26D07 (26A51)

Svyatukha, V. A. (*with* Tsitsiashvili, G. Sh.) Decomposition effects in the method of cosinor analysis. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 173–176, 201. 65T10 (92C30)

Svyazhina, N. N. (*with* Tikhonenko, N. Ya.) The Galerkin method and the collocation method for solving singular integral equations on the real axis in the exceptional case. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1563–1565, 1584; *translation in Differential Equations* **33** (1997), *no.* 11, 1570–1573 (1998). 65R20 (45E05, 45L05)

manjari Swain, Manoja *see* **Manjari Swain, Manoja**

Swami, Ananthram (*with* Sadler, Brian M.) Analysis of multiscale products for step detection and estimation. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 1043–1051. 94A13 (94A11)

Swaminathan, B. (*with* Goldman, K. J.) An incremental distributed algorithm for computing biconnected components in dynamic graphs. (English summary) *Algorithmica* **22** (1998), *no.* 3, 305–329. (Marek Kubale) **99i:05192** 05C85 (05C40, 68Q22)

Swaminathan, Jayashankar M. (*with* Srinivasan, Ramesh) Managing individual customer service constraints under stochastic demand. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 3, 115–125. 90B05 (90C30)

Swaminathan, M. (*with* Rao, Geetha S.) On strict polynomial bases. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 183–193. (Ole Christensen) **99e:46014** 46B15

Swaminathan, R. P. (*with* Franco, John V.) Average case results for satisfiability algorithms under the random-clause-width model. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 357–391. (Summary) **99d:68103** 68Q25 (03B05, 03D15)

Swamy, P. Narayana q-deformed boson oscillators and zero point energy. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 32, 3495–3502. 82B05

Swamy, S. R. Differential subordination and Ruscheweyh derivatives. (English summary) *J. Anal.* **5** (1997), 53–58. 30C80 (30C45)

Swamy, U. M. (*with* Viswanadha Raju, D.) Fuzzy ideals and congruences of lattices. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 249–253. (Andreja Tepavčević) **99j:04003** 04A72 (06B10)

Swan, Colby C. (*with* Kosaka, Iku) A symmetry reduction method for continuum structural topology optimization. (English summary) *Comput. & Structures* **70** (1999), *no.* 1, 47–61. (Summary) **99k:73092** 73K40 (73K12)

Swan, Richard G. A simple proof of Rankin's campanological theorem. *Amer. Math. Monthly* **106** (1999), *no.* 2, 159–161. 20D60

Swanepoel, Konrad J. Cardinalities of k-distance sets in Minkowski spaces. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 759–767. (Summary) **99k:52028** 52C10 (05B25, 51K05)

— Helly-type theorems for hollow axis-aligned boxes. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2155–2162. (G. D. Chakerian) **99k:52011** 52A35

Swann, Andrew Quaternionic Kähler metrics and nilpotent orbits. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 259–267 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Roger Bielawski) **99j:53069** 53C25 (22E46)

— (*with* Pedersen, Henrik; Poon, Yat Sun) Hypercomplex structures associated to quaternionic manifolds. (English summary) *Differential Geom. Appl.* **9** (1998), *no.* 3, 273–292. (Maria Laura Barberis) **99k:53062** 53C15 (53C56)

Swann, Howard (*with* Hui, Gary Man-Kwong) On orthogonal polynomial bases for triangles and tetrahedra invariant under the symmetric group. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 438–446, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N30 (35C99, 41A63)

Swanson, Kurt (*with* Andersson, Arne; Larsson, N. J.) Suffix trees on words. (English summary) *Algorithmica* **23** (1999), *no.* 3, 246–260. (Ricardo Baeza-Yates) **99k:68032** 68P05 (68P20)

Swanson, R. C. *see* **Swanson, Roy Charles**

Swanson, Richard (*with* Kwapisz, Jaroslaw) Asymptotic entropy, periodic orbits, and pseudo-Anosov maps. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 425–439. (Konstantin Athanassopoulos) **99e:58123** 58F11 (58F15, 58F20)

Swanson, Ronald E. (*with* Miller, Paige; Heckler, Charles E.) Contribution plots: a missing link in multivariate quality control. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 775–792. (*see* **99h:93003**) 90B25 (93E35)

Swanson, Roy Charles (*with* Radespiel, R.; Turkel, Eli) On some numerical dissipation schemes. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 518–544. (Summary) **99h:76069** 76M20 (76H05, 76K05)

Swardson, Mary Anne Nearly realcompact spaces and T_2-connectifiability. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 358–361 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99b:54030** 54D05 (54D40, 54D60)

de Swart, H. E. (*with* Blondeaux, P.; Vittori, G.) Edge waves and steady currents near a vertical cliff. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover*, 1994), 191–200, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76E20, 86A05)

— (*with* Schuttelaars, H. M.) Initial formation of channels and shoals in a short tidal embayment. (English summary) *J. Fluid Mech.* **386** (1999), 15–42. 76B99 (86A05)

de Swart, Harrie *see* **Automated reasoning with analytic tableaux and related methods, 99f:03002**

Swart, Henda C. (*with* Dankelmann, Peter; Smithdorf, Vivienne) Radius-forcing sets in graphs. (English summary) *Australas. J. Combin.* **17** (1998), 39–49. (Kevin Lawrence McAvaney) **99e:05045** 05C12

— (*with* Day, D. P.; Oellermann, Ortrud R.) Bounds on the size of graphs of given order and l-connectivity. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 217–223. (Summary) **99i:05107** 05C35 (05C40)

de Swart, Henriëtte (In)definites and genericity. (English summary) *Quantifiers, deduction, and context* (*Stanford, CA*, 1993), 171–194, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03B65

— *see also* **Quantifiers, deduction, and context, 99k:03029**

de Swart, Jacques J. B. (*with* Hoffmann, Walter) Approximating Runge-Kutta matrices by triangular matrices. (English summary) *BIT* **37** (1997), *no.* 2, 346–354. (Summary) **99f:65115** 65L06

— (*with* Messina, Eleonora; van der Veen, Wolter A.) Parallel iterative linear solvers for multistep Runge-Kutta methods. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 145–167. (T. E. Simos) **99a:65089** 65L06 (65F05, 65F50, 65Y05)

— (*with* Lioen, Walter M.) Collecting real-life problems to test solvers for implicit differential equations. (English summary) Solving differential equations on parallel computers. *CWI Quarterly* **11** (1998), *no.* 1, 83–100. (*see* **99g:65011**) 65M06 (65–04)

— *see also* **Solving differential equations on parallel computers, 99g:65011**

Swartz, Charles Beppo Levi's theorem for the vector-valued McShane integral and applications. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 589–599. (R. Anantharaman) **99b:46054** 46E40 (46G10)

— (*with* Pap, Endre) Sequential continuity and boundedness for the adjoint operators. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 37–43. (P. P. Narayanaswami) **99i:47004** 47A05 (46A32)

— Uniform integrability and mean convergence for the vector-valued McShane integral. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 303–311. (R. G. Bartle) **99d:28015** 28B05 (26A39)

— Automatic continuity and boundedness of matrix mappings. II. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 60–63, *World Sci. Publishing, River Edge, NJ*, 1998. (Jan H. Fourie) **99k:47062** 47B37 (46H40)

Swarztrauber, Paul N. (*with* Spotz, William F.; Taylor, Mark Alan) Fast shallow-water equation solvers in latitude-longitude coordinates. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 432–444. 76M25 (76B15)

Swaters, Gordon E. (*with* Slomp, Carol G.) Finite-amplitude perturbations and modulational instability of a stable geostrophic front. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 149–172. (Summary) **99j:76044** 76E20 (86A10)

— Dynamics of radiating cold domes on a sloping bottom. (English summary) *J. Fluid Mech.* **364** (1998), 221–251. (Alan Shapiro) **99h:76017** 76C10 (76C20, 76U05, 86A05)

Swatton, D. J. R. (*with* Clarke, C. J. S.) The existence of Newtonian dust caustics. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2891–2899. (Marco Spaans) **99h:85003** 85A40 (70D05)

hassell Sweatman, Catherine Z. W. *see* **Hassell Sweatman, Catherine Z. W.**

Sweatman, Winston L. Vector rational interpolation algorithms of Bulirsch-Stoer-Neville form. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1923–1932. 41A20 (65D05)

Sweedler, Moss (*with* Shirayanagi, Kiyoshi) Remarks on automatic algorithm stabilization. (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 761–765. (Summary) **99h:65086** 65F30 (65G05)

Sweedyk, Elizabeth (*with* Goldberg, Leslie Ann; Goldberg, Paul W.; Phillips, Cynthia A.; Warnow, Tandy) Minimizing phylogenetic number to find good evolutionary trees. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 102–127, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **99g:92023** 92D20 (68Q25)

— (*with* Dasgupta, Bhaskar[1]; Jiang, Tao[1]; Kannan, Sampath K.; Li, Ming[1]) On the complexity and approximation of syntenic distance. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 59–82. (Peter Clote) **99j:92011** 92D20 (68Q25, 68R99, 92D15)

Sweers, Guido Hopf's lemma and two-dimensional domains with corners. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 383–419 (1997). (Russell M. Brown) **99e:35042** 35J25 (35B05)

— (*with* Freitas, Pedro) Positivity results for a nonlocal elliptic equation. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 697–715. (Rolando Magnanini) **99h:35031** 35J15 (35B05)

— (*with* Li, Shuanhu) Closed-form solution for a moving boundary problem. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1233–1235, 1239. (Summary) **99j:35015** 35C05 (35R35)

— (*with* Grunau, Hans-Christoph) The role of positive boundary data in generalized clamped plate equations. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 420–435. (Cornelius O. Horgan) **99e:35044** 35J40 (35B05, 35B50)

— (*with* Manásevich, Raúl) A noncooperative elliptic system with p-Laplacians that preserves positivity. *Nonlinear Anal.* **36** (1999), *no.* 4, *Ser. A: Theory Methods*, 511–528. (Dao Qing Dai) **99m:34040** 34B15 (35B05, 35J55, 35J65, 47H15)

Sweezy, Caroline B^q for parabolic measures. (English summary) *Studia Math.* **131** (1998), *no.* 2, 115–135. (Summary) **99e:35091** 35K20

Sweilam, N. H. Numerical simulation of the optimal control evolution dam problem. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 145–160 (1998). 49N55 (76S05)

Sweitzer, Dennis E. (*with* Taylor, Howard M.) On the current enhancement at the edge of a crack in a lattice of resistors. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 342–364. (Summary) **99f:60130** 60J15

Sweldens, Wim (*with* Calderbank, A. Robert; Daubechies, Ingrid C.; Yeo, Boon-Lock) Wavelet transforms that map integers to integers. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 332–369. (Ahmed I. Zayed) **99h:94012** 94A12 (42C15, 94B60)

— (*with* Daubechies, Ingrid C.) Factoring wavelet transforms into lifting steps. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 247–269. (R. A. Zalik) **99g:42040** 42C15 (42C05, 65T20)

— The lifting scheme: a construction of second generation wavelets. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 511–546 (*electronic*). (Lars F. Villemoes) **99e:42052** 42C15 (94A11)

Swerdlow, Noel M. Galileo's discoveries with the telescope and their evidence for the Copernican theory. *The Cambridge companion to Galileo*, 244–270, *Camb. Companions Philos., Cambridge Univ. Press, Cambridge*, 1998. (*see* **99k:01020**) 01A45

Swetits, J. J. (*with* Li, Wu[3]) The linear l_1 estimator and the Huber M-estimator. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 457–475 (*electronic*). (Kurt Marti) **99e:62034** 62F35 (90C31)

Świątek, Bożena Extending Darboux functions with finite variation. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 590–610. (Jaroslav Smítal) **99a:26011** 26B30

— (*with* Pawlak, Ryszard Jerzy) On arcs, stationary sets and retracts in the space $\Delta_{\mathcal{D}^*}$. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 91–108. (Oleksandr V. Sobchuk) **99j:54018** 54C25 (54C08)

Świątek, Grzegorz (*with* Graczyk, Jacek) Polynomial-like property for real quadratic polynomials. (English summary) *Topology Proc.* **21** (1996), 33–112. (Feliks Przytycki) **99k:58156** 58F23 (30C62, 54H20, 58F03)

— (*with* Graczyk, Jacek) Generic hyperbolicity in the logistic family. *Ann. of Math.* (2) **146** (1997), *no.* 1, 1–52. (Feliks Przytycki) **99b:58079** 58F03 (30C10, 30C62, 58F23)

— Induced hyperbolicity for one-dimensional maps. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 857–866 (*electronic*). (Xavier Buff) **99h:58162** 58F23 (30D05)

— (*with* Vargas, Edson) Decay of geometry in the cubic family. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1311–1329. (Henk P. Bruin) **99h:58161** 58F23 (30C62)

Świątkowski, Jacek Trivalent polygonal complexes of nonpositive curvature and Platonic symmetry. (English summary) *Geom. Dedicata* **70** (1998), *no.* 1, 87–110. (Nadia Benakli) **99f:57003** 57M20 (20F32)

Świder, Zbigniew Floating-point roundoff errors in first-order filters of digital controllers. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 229–247. 93C62 (93E10)

Święch, Andrzej $W^{1,p}$-interior estimates for solutions of fully nonlinear, uniformly elliptic equations. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 6, 1005–1027. (Dian K. Palagachev) **99a:35098** 35J65 (35B45, 35B65, 49L25)

— (*with* Gangbo, Wilfrid) Optimal maps for the multidimensional Monge-Kantorovich problem. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 1, 23–45. (Michele Carriero) **99f:49070** 49Q20 (28A99)

Święcicka, J. (*with* Białynicki-Birula, A.) A recipe for finding open subsets of vector spaces with a good quotient. *Colloq. Math.* **77** (1998), *no.* 1, 97–114. (Lucy Moser-Jauslin) **99g:14058** 14L30 (14M25)

Świerczkowski, S. A model of following. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 547–561. (Summary) **99i:92039** 92J40

Swierniak, Andrzej (*with* Kimmel, Marek; Polanski, Andrzej) Infinite-dimensional model of evolution of drug resistance of cancer cells. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 1–16. (J. N. Kapur) **99k:92012** 92C50

Świętanowski, Artur A new steepest edge approximation for the simplex method for linear programming. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 3, 271–281. (Summary) **99f:90058** 90C05

Swift, James W. (*with* Schenker, Jeffrey H.) Observing the symmetry of attractors. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 315–337. (Ian Melbourne) **99i:58114** 58F14 (34C35, 34D45, 58F12)

Swindle, Glen (*with* Ahn, Hyungsok; Dayal, Mohit; Grannan, Eric) Option replication with transaction costs: general diffusion limits. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 676–707. (Rüdiger Kiesel) **99j:90007** 90A09 (60G44, 60H99)

Swindlehurst, A. Lee (*with* Viberg, Mats) Bayesian approaches for robust array signal processing. *Statistical methods in control and signal processing*, 399–430, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 94A12

Swinnerton-Dyer, H. P. F. (*with* Colliot-Thélène, J.-L.; Skorobogatov, A. N.) Hasse principle for pencils of curves of genus one whose Jacobians have rational 2-division points. *Invent. Math.* **134** (1998), *no.* 3, 579–650. (David Harari) **99k:11095** 11G35 (14G25)

— (*with* Colliot-Thélène, J.-L.; Skorobogatov, A. N.) Rational points and zero-cycles on fibred varieties: Schinzel's hypothesis and Salberger's device. *J. Reine Angew. Math.* **495** (1998), 1–28. (R. T. Hoobler) **99i:14027** 14G25 (11G35, 14C25, 14D10)

— Brauer-Manin obstructions on some Del Pezzo surfaces. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 193–198. (David Harari) **99h:11071** 11G35 (14G25)

Swinney, H. L. (*with* Urbach, J. S.; Weeks, E. R.) Anomalous diffusion in quasi-geostrophic flow. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 171–197, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 76F20 (76–05, 76U05, 86A05)

Świrszcz, G. (*with* Rousseau, Christiane; Żołądek, Henryk) Cyclicity of graphics with semi-hyperbolic points inside quadratic systems. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 2, 149–189. (Sergeĭ Yu. Yakovenko) **99h:58149** 58F21 (34C05, 34C23, 58F14)

Swishchuk, Anatoly *see* **Svishchuk, A. V.**

Swistak, Piotr (*with* Bendor, Jonathan) Evolutionary equilibria: characterization theorems and their implications. (English summary) *Theory and Decision* **45** (1998), *no.* 2, 99–159. (Ross Cressman) **99m:90181** 90D40 (90D20, 92D15)

Swoyer, Chris Complex predicates and logics for properties and relations. (English summary) *J. Philos. Logic* **27** (1998), *no.* 3, 295–325. (N. C. A. da Costa) **99m:03012** 03B15 (03B65, 03B80)

Sy, Polly Wee (*with* Agapito, Julius Caesar C.; Ôtani, Mitsuharu; Paredes, Lorna I.; Rey, Reynaldo M.) Approximation of some elliptic equations in Banach spaces. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 9–13, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35J60 (35A35, 47H17)

— (*with* Calio, Gloria L.; Jing, Zhu-Jun) Qualitative analysis of a mathematical model for predator-prey system. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 31–36, *Springer, Singapore*, 1997. (Summary) **99j:92016** 92D25 (34C05, 34C23, 34D20)

— (*with* Agapito, Julius Caesar C.; Paredes, Lorna I.; Rey, Reynaldo M.) On the asymptotic behavior of solutions to $-\Delta_p u = \lambda |u|^{p-2}u$. (English summary) *Matimyás Mat.* **20** (1997), *no.* 1, 1–7. (Summary) **99m:35071** 35J65 (34B15, 35B40)

— (*with* Chan, E. B.; Hashimoto, Satoshi; Ôtani, Mitsuharu) Approximation for the first eigenvalues of some nonlinear elliptic operators in Banach spaces. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 273–283. (Summary) **99a:35060** 35J60 (35P15, 47H12)

— *see also* **Functional analysis and global analysis**, **99g:00040**

Syam, Muhammed I. (*with* Siyyam, H. I.) An accurate solution of the Poisson equation by the Chebyshev-Tau method. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 1–10. (Ji Chun Li) **99a:65129** 65M70 (76M25)

— An accurate solution of the linear time dependent partial differential equations by the Legendre tau method. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 11–16. 65M60

Syam, Siddhartha (*with* Shetty, Bala) Coordinated replenishments from multiple suppliers with price discounts. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 579–598. 90B30 (90C10, 90C90)

Syam Babu, M. (*with* Jyothi, S.) Multivalued dependencies in fuzzy relational databases and lossless join decomposition. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 3, 315–332. (Summary) **99b:68056** 68P15 (04A72)

Syarif, Admi (*with* Amano, Kazuo) A construction of approximate general solutions to a degenerate parabolic equation and its error estimate. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 75–84. (*see* **99h:00034**) 65M06 (65M12)

Syau, Yu-Ru Preinvex fuzzy mappings. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 31–39. (Summary) **99m:03111** 03E72

— On convex and concave fuzzy mappings. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 163–168. (Summary) **99i:26033** 26E50

— Some properties of convex fuzzy mappings. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 151–160. (Summary) **99m:03112** 03E72

— On sequences of fuzzy sets. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 161–168. 54A40 (03E72)

Syavavko, M. S. (*with* Pasichnik, T. V.) The transformation of parameter formal decomposition for solutions of linear differential equations in convergence continued Ritz-fractions. *Comm. Anal. Theory Contin. Fractions* **6** (1997), 36–40. (Narahari Parhi) **99b:47019** 47A50 (35C99, 40A15, 45B05, 45L05)

— Transformation of integral power series into corresponding continued fractions. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2404–2415. (Mohamed Mkaouar) **99k:40002** 40A15

Sycara, Katia (*with* Kraus, Sarit; Evenchik, Amir) Reaching agreements through argumentation: a logical model and implementation. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 1–69. (Summary) **99g:68192** 68T27 (90D12)

Sychev, A. V. (*with* Strugov, Yu. F.) Various classes of n-dimensional mappings that are quasiconformal in the mean. (Russian) *Algebra and mathematical analysis* (*Russian*), 104–125, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 30C65

Sychëv, Vladimir Vasil'evich (*with* Buldakov, E. V.; Egorov, I. V.) Certain features of similarity solutions for flows in viscous vortex cores. *Fluid Dynam.* **33** (1998), *no.* 1, 31–35; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 1, 38–43 (*Russian. Russian summary*). (Summary) **99b:76027** 76D99 (76C05)

— (*with* Buldakov, E. V.; Egorov, I. V.) Properties of similarity solutions for flows in turbulent vortex cores. *Fluid Dynam.* **33** (1998), *no.* 3, 346–350; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 3, 60–64 (*Russian. Russian summary*). (Summary) **99h:76021** 76D05 (76C05, 76F99)

Sýkora, Ondrej (*with* Shahrokhi, Farhad; Székely, László A.; Vrťo, Imrich) Bipartite crossing numbers of meshes and hypercubes. (English summary) *Graph drawing* (*Rome*,

1997), 37–46, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99e:68130** 68R10 (68U05)

Sylvan, Richard *see* **Meyer, Robert K.**

Sylvester, James Joseph *see* **Parshall, Karen V. Hunger, 99k:01072**

Sylvester, John (*with* Winebrenner, Dale P.) 1-D inverse scattering via the Riesz transform. *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 239–243, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 34L25 (34A55)

Symenoh, Z. I. (*with* Tsifra, I. M.) Equivalence transformations and symmetry of the Schrödinger equation with variable potential. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 177–184, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:35230** 35Q55 (81Q05)

— (*with* Fushchich, Vīl′gel′m Īllīch) Symmetry of equations with convection terms. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 470–479. (Stanislaus Maier-Paape) **99i:35062** 35K55 (22E70, 35A30, 35Q55)

— (*with* Fushchich, Vīl′gel′m Īllīch; Tsifra, I. M.) Symmetry of the Schrödinger equation with variable potential. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 13–22. (Sen Yue Lou) **99a:35233** 35Q55 (35A30, 35Q53)

Symeonaki, M. A. (*with* Vassiliou, P.-C. G.) The perturbed non-homogeneous Markov system in continuous time. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 3-4, 207–216. (Summary) **99b:60114** 60J20

Symes, Dominic Structure of doubly generated reflexive lattices. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 194, 229–235. (Alan Hopenwasser) **99e:47054** 47D25

Symesak, Frédéric Hankel operators on pseudoconvex domains of finite type in $\mathbf{C}^2$. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 658–672. (Richard Rochberg) **99i:47048** 47B35 (32A35, 32A37, 46E20, 47B10)

Symington, Margaret A new symplectic surgery: the 3-fold sum. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 27–53. (John B. Etnyre) **99h:57052** 57R15

Symonds, Peter The orbit space of the p-subgroup complex is contractible. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 400–405. (Kaustuv M. Das) **99f:20033** 20D30 (20J05)

— (*with* Gorbunov, V. G.; Mahowald, Mark E.) Infinite subgroups of the Morava stabilizer groups. (English summary) *Topology* **37** (1998), *no.* 6, 1371–1380. (Jan van Geel) **99m:16032** 16K20 (16U60, 55N22, 55P42)

Symvonis, Antonios Optimal stable merging. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 124–143 (*electronic*). (*see* **99f:68006**) 68P10

— Optimal algorithms for packet routing on trees. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 144–161 (*electronic*). (*see* **99f:68006**) 68M10 (68R10)

— (*with* Roberts, Alan) On-line matching routing on trees. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 282–291, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68M10

Synak, Piotr (*with* Nguyen, Sinh Hoa; Skowron, Andrzej) Discovery of data patterns with applications to decomposition and classification problems. *Rough sets in knowledge discovery*, 2, 55–97, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68Q25 (68P99, 68T99)

Synnatzschke, J. Zur Erzeugung von Algebren durch Unteralgebren mit Quadrat Null. (English summary) [On the generation of algebras by subalgebras with square zero] *Rostock. Math. Kolloq.* **1997**, *no.* 50, 53–64. (W. Żelazko) **99e:16003** 16B99 (16S15, 47D30)

Synolakis, Costas Emmanuel (*with* Kânoğlu, Utku) Long wave runup on piecewise linear topographies. (English summary) *J. Fluid Mech.* **374** (1998), 1–28. (Summary) **99g:86001** 86A05 (76B15)

Syrmos, Vassilis L. (*with* Aripirala, Ravi K. A. V.) Normalized coprime factorizations for sampled-data systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 455–474. (Summary) **99m:93062** 93C57 (93B25)

— (*with* Su, Qing) Robust stabilization of singular systems with H_∞-bounded uncertainty. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 737–755. (Dieter Franke) **99i:93062** 93D21 (93B36, 93C05)

Syroid, I.-P. P. A method for the dynamic immersion of function spaces by means of a space-donor, and the stability of reflectionless Korteweg-de Vries potentials. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 46–50. (Summary) **99j:35194** 35Q53 (34L40, 58F07)

Syros, C. Boltzmann and Zermelo versus Loschmidt and Poincaré—is there any recurrence? (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 27-28, 2785–2801. (M. Lawrence Glasser) **99k:82046** 82C03

— Principles of a new quantum theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 21, 1675–1688. (Summary) **99k:81052** 81P99

Sysak, Yaroslav P. (*with* Franciosi, Silvana; de Giovanni, Francesco) On subnormal subgroups of factorized groups. *J. Algebra* **198** (1997), *no.* 2, 469–480. (L. A. Kurdachenko) **99f:20045** 20E15 (20D40)

— (*with* Amberg, Bernhard; Dickenschied, O.) Subgroups of the adjoint group of a radical ring. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 3–15. (Silvana Franciosi) **99d:20055** 20F19 (16N20)

— (*with* Franciosi, Silvana; de Giovanni, Francesco) On ascendant subgroups of infinite groups. *Comm. Algebra* **26** (1998), *no.* 10, 3313–3333. (D. J. S. Robinson) **99f:20046** 20E15

— Radical modules over hyperabelian groups of finite torsion-free rank. (English summary) *J. Group Theory* **1** (1998), *no.* 2, 189–202. (Silvana Franciosi) **99c:20046** 20F19 (20F22)

Syski, Ryszard *see* **Dshalalow, Jewgeni H.** *and* **Cohen, J. W.**

Syskin, Sergei A. Isomorphic endomorphism near-rings. *Comm. Algebra* **26** (1998), *no.* 8, 2429–2434. (G. Alan Cannon) **99d:16052** 16Y30

Sysło, Maciej M. (*with* Le Tu, Quoc Hung; Weaver, Margaret L.; West, Douglas B.) Bandwidth and density for block graphs. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 163–176. (Yixun Lin) **99g:05158** 05C78

Systä, Tarja (*with* Aho, Isto; Mäkinen, Erkki) Remarks on the thickness of a graph. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 1–4. (Summary) **99b:05080** 05C35 (68R10)

Syusyukalov, A. I. On the approximation of functions in the class $C(\varepsilon)$ using means of sequences of Fourier sums. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 78–79; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 5, 76–77. 42A24 (42A10)

Syversveen, Anne Randi (*with* Rue, Håvard) Bayesian object recognition with Baddeley's delta loss. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 64–84. (Arnoldo Frigessi) **99b:62149** 62M30 (60G35)

Syzdykova, R. N. (*with* Myrzakulov, R.; Vijayalakshmi, S.; Lakshmanan, M.) On the simplest (2 + 1)-dimensional integrable spin systems and their equivalent nonlinear Schrödinger equations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2122–2140. (Ian A. B. Strachan) **99j:58100** 58F07 (35Q55, 58F40, 82B21)

— (*with* Myrzakulov, R.; Nugmanova, G. N.) Gauge equivalence between (2 + 1)-dimensional continuous Heisenberg ferromagnetic models and nonlinear Schrödinger-type equations. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9535–9545. (Nicolae Angelescu) **99j:82022** 82B21 (35Q55)

Szabados, J. (*with* Mastroianni, Giuseppe) On Bernstein-Markov inequalities for n-convex functions. *Mathematica* **38(61)** (1996), *no.* 1-2, 141–148. (I. Gavrea) **99f:26034** 26D15 (26A51, 41A17)

— (*with* de Bruin, M. G.; Sharma, Ambikeshwar) Birkhoff type interpolation on perturbed roots of unity. (English summary) *Approximation theory*, 167–179, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:41003** 41A05 (30E05)

— (*with* Sharma, Ambikeshwar) Quantitative results in some problems on Walsh equiconvergence. (English summary) *East J. Approx.* **4** (1998), *no.* 3, 291–309. (Weixing Zheng) **99k:41003** 41A05 (41A10)

— (*with* Horváth, Á.) Polynomial approximation and interpolation on the real line with respect to general classes of weights. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 120–131. (Z. Ditzian) **99g:41006** 41A10

— *see also* **Approximation theory, 99a:00051**

Szabłowski, Paweł J. Uniform distributions on spheres in finite-dimensional L_α and their generalizations. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 2, 103–117. (Hanfeng Chen) **99e:62093** 62H05 (62H10)

vásárhelyiné Szabó, Anna *see* **Vásárhelyiné Szabó, Anna**

Szabo, Attila (*with* Bicout, D. J.) On the Wang-Uhlenbeck problem in discrete velocity space. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 1047–1054. (Summary) **99c:82061** 82C41

Szabó, Barna A. (*with* Bertóti, E.) Adaptive selection of polynomial degrees on a finite element mesh. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 561–578. (Summary) **99a:73118** 73V05

hofer-Szabó, Gábor *see* **Hofer-Szabó, Gábor**

Szabó, László E. Quantum structures do not exist in reality. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 449–456. (S. Gudder) **99f:81026** 81P10

Szabo, Richard J. (*with* Lizzi, Fedele; Mavromatos, Nick E.) Matrix σ-models for multi D-brane dynamics. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 829–842. (Héctor H. García-Compeán) **99h:81171** 81T30 (81Q60, 81T13, 81T60)

— (*with* Lizzi, Fedele) Electric-magnetic duality in noncommutative geometry. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 303–311. (Daniela Bigatti) **99e:81149** 81T13 (58B30)

— (*with* Mavromatos, Nick E.) Spacetime quantization from non-abelian D-particle dynamics. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064016, 5 *pp.* (Summary) **99k:81261** 81T30

Szabó, Sándor Elementary 3-groups with Hajós n-property. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 627–631. (Richard J. Friedlander) **99m:20044** 20D60 (20K01)

— Factoring elementary p-groups. (English summary) *J. Algebra* **206** (1998), *no.* 1, 170–182. (Alberto Espuelas) **99f:20031** 20D15

Szabó, Zoltán (*with* Morgan, John W.; Mrowka, Tomasz S.) Product formulas along T^3 for Seiberg-Witten invariants. *Math. Res. Lett.* **4** (1997), *no.* 6, 915–929. (Dave Auckly) **99f:57039** 57R57 (57N13)

— (*with* Morgan, John W.) On h-cobordisms and Seiberg-Witten invariants. *Topics in symplectic 4-manifolds* (*Irvine, CA*, 1996), 117–124, *First Int. Press Lect. Ser., I, Internat. Press, Cambridge, MA*, 1998. (Vicente Muñoz) **99h:57061** 57R57 (57N13, 57R55, 57R80)

— Simply-connected irreducible 4-manifolds with no symplectic structures. *Invent. Math.* **132** (1998), *no.* 3, 457–466. (Paolo Lisca) **99f:57033** 57R15 (57M50, 57N13)

Szabó, Zoltán István $\mathbf{L}^p$ norm convergence of rational operators on the unit circle. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 281–292. (Summary) **99h:41022** 41A20 (41A35)

— (*with* Bokor, József; Schipp, Ferenc) Identification of rational approximate models in H^∞ using generalized orthonormal basis. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 153–158. 93B36 (93B30)

Szafraniec, Franciszek Hugon The quantum harmonic oscillator in $\mathscr{L}^2(\mathbf{R})$. (English summary) *Special functions and differential equations* (*Madras*, 1997), 206–211, *Allied Publ., New Delhi*, 1998. (V. S. Ol′khovskiĭ) **99k:81128** 81S05 (33C45, 47B25, 47N50)

— (*with* Beckers, Jules; Debergh, Nathalie) A proposal of new sets of squeezed states. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 256–260. (Summary) **99c:81076** 81R30

Szafraniec, Zbigniew (*with* Parusiński, Adam) On the Euler characteristic of fibres of real polynomial maps. (English summary) *Singularities Symposium—Łojasiewicz 70* (*Kraków*, 1996; *Warsaw*, 1996), 175–182, *Banach Center Publ.*, 44, *Polish Acad. Sci., Warsaw*, 1998. (Eugenii Shustin) **99m:14107** 14P05 (14P25)

Szafrański, Zdzisław (*with* Szmanda, Błażej) Oscillations of some difference equations. (English summary) *Fasc. Math. No.* 28 (1998), 149–155. (From the introduction) **99i:39015** 39A10

— (*with* Sternal, Aleksandra; Szmanda, Błażej) Oscillatory and asymptotic behaviour of some difference equations. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 66–74. (From the introduction) **99i:39014** 39A10

Szajowski, K. (*with* de Koning, W. L.) Discrete-time Markovian jump linear systems. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 63–80. (Ł. Stettner) **99e:93087** 93E20 (93C05, 93C55)

Szałajko, Krystyna (*with* Filar, Maria) Non-linear m-parabolic problem for a time-spatial wedge. (English and Polish summaries) *Opuscula Math. No.* 17 (1997), 5, 9, 13–21.

(Jianzhong Su) **99b:35086** 35K55

Szalay, László A Diophantine equation concerning linear recurrences. *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 121–125. (Péter Kiss) **99f:11018** 11B37 (11D61)

— (*with* Brindza, Béla; Liptai, Kálmán) On products of the terms of linear recurrences. (English summary) *Number theory* (*Eger*, 1996), 101–106, *de Gruyter, Berlin*, 1998. (T. N. Shorey) **99e:11015** 11B37 (11J86)

Szalkai, István (*with* Laflamme, Claude) Counting simplexes in $\mathbf{R}^3$. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 40, 11 *pp.* (*electronic*). (Maurice J. Ginocchio) **99g:05008** 05A15

Szałowska, A. (*with* Włodarczyk, K.) Distortion of biholomorphic maps on homogeneous domains in J^*-algebras. *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 1–8. (Jorge Mujica) **99a:46085** 46G20 (30C20, 58B12)

Szántai, T. (*with* Habib, Aziz Shafik Mohamed) On the k-out-of-r-from-n:F system with unequal element probabilities. (English summary) *New trends in mathematical programming*, 289–303, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 60K10 (90B25)

— Bounds for the reliability of k-out-of-connected-(r, s)-from-(m, n): F lattice systems. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 223–237, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99f:90041** 90B25 (90C15)

Szapiel, Wojciech (*with* Grigorian, Armen) Extreme points in some sets of complex measures. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **23** (1997), 65–75. (Summary) **99c:28007** 28A12

Szarek, Tomasz Markov operators acting on Polish spaces. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 3, 247–257. (M. Iosifescu) **99a:47018** 47A35 (28A80, 47B38, 60J05)

— (*with* Gacki, Henryk; Wedrychowicz, Stanislaw) On existence, and stability of solutions of stochastic integral equations. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 2, 175–189. (Summary) **99d:60072** 60H20 (45G10, 47H40)

Szaro, John P. Isotropy of semisimple group actions on manifolds with geometric structure. (English summary) *Amer. J. Math.* **120** (1998), *no.* 1, 129–158. (Dietrich Burde) **99b:57072** 57S20

Szász, Domokos *see* **Congress: Mathematics**, **99e:00018** *and* **99e:00019**

Száz, Árpád (*with* Mala, József) Modifications of relators. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 69–81. (Arnold W. Miller) **99a:04001** 04A05 (54E15)

— The intersection convolution of relations and the Hahn-Banach type theorems. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 3, 235–249. (S. Simons) **99m:46006** 46A22 (26E25, 54C60, 54C65)

Szczawińska, Joanna On Nemytskii operator. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 1-2, 33–37. (Summary) **99k:47179** 47H30

Szczepaniak, Piotr S. (*with* Lis, Bartosz) Solving differential equations with nonlinear perceptron. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 599–609. (Summary) **99g:65031** 65D99 (34A45, 35A35, 65L99, 65M99, 65N99, 92B20)

Szczepański, Andrzej (*with* Malfait, Wim) Almost-Bieberbach groups with (in)finite outer automorphism group. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 1, 47–62. (Juan Pablo Rossetti) **99m:20123** 20H15 (57S30)

— High-dimensional knot groups and HNN extensions of the Fibonacci groups. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 503–508. (Summary) **99e:20036** 20E06 (57M25)

— Relatively hyperbolic groups. *Michigan Math. J.* **45** (1998), *no.* 3, 611–618. (Athanase Papadopoulos) **99i:20051** 20F32 (57M07)

Szczepański, Janusz (*with* Kotulski, Z. A.) On two motions of a particle driven by equivalent ergodic and chaotic reflection laws. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 5, 865–875. (Summary) **99k:58122** 58F13 (58F11)

Szczerba, Lesław W. (*with* Krynicki, Michał) On the logic with rough quantifier. (English summary) *Incomplete information: rough set analysis*, 601–613, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03C80

Szczotka, Władysław (*with* Chang, Kuo-Hwa; Serfozo, Richard F.) Treelike queueing networks: asymptotic stationarity and heavy traffic. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 541–568. (Vladimir V. Kalashnikov) **99e:60201** 60K25 (60F17)

— (*with* Quine, Malcolm P.) Asymptotic normality of processes with a branching structure. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 833–848. (D. R. Grey) **99k:60216** 60J80 (60F17, 60J15)

Sze, Lawrence (*with* Haglund, James; Ono, Ken) Rook theory and t-cores. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 1, 9–37. (Summary) **99i:05015** 05A17

— Calculating $p(n)$ modulo small primes using quadratic forms. (English summary) *J. Number Theory* **70** (1998), *no.* 2, 121–126. (Ken Ono) **99b:11114** 11P81

Szeberényi, Imre (*with* Holmes, Philip J.; Domokos, Gábor; Schmitt, John) Constrained Euler buckling: an interplay of computation and analysis. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 175–207. (Summary) **99m:73039** 73H05

Szechtman, Fernando Weil representations of the symplectic group. *J. Algebra* **208** (1998), *no.* 2, 662–686. (Roderick Gow) **99k:20088** 20G05 (20C33)

Szefer, G. Contact problems in terms of large deformations. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 8, 523–533. 73T05 (73C50)

Szegedy, Mario (*with* Arora, Sanjeev; Lund, Carsten; Motwani, Rajeev; Sudan, Madhu) Proof verification and the hardness of approximation problems. (English summary) *J. ACM* **45** (1998), *no.* 3, 501–555. (Oded Goldreich) **99d:68077b** 68Q15 (03B35, 03D15, 68Q25)

Szeidl, György (*with* Iván, Ildikó) Macro-conditions of compatibility and strain boundary conditions for some mixed plane boundary value problems of micropolar elastostatics. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 35–45. 73B25 (73C02)

Szeidl, L. (*with* Michaletzky, György) Limit theorems for random symmetric functions. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci.* (*New York*) **89** (1998), *no.* 5, 1507–1516. (Summary) **99e:60064** 60F05

— (*with* Partsch, L.; Zolotarev, Vladimir M.) On the rate of convergence in a limit theorem for random symmetric polynomials. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 2975–2983. (Lajos Horváth) **99m:60036** 60F05

— (*with* Zolotarev, Vladimir M.) The central limit theorem without the condition of independence. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 3002–3004. (Jongsig Bae) **99m:60038** 60F05

Székely, Gábor (*with* Gupta, Arjun K.) On a paper of V. B. Nevzorov: "A characterization of exponential distributions by correlations between records" [Math. Methods Statist. **1** (1992), 49–54; MR 93m:62036]. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 122. (Summary) **99c:62032** 62E10

— (*with* Rempała, Grzegorz) On estimation with elementary symmetric polynomials. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 77–88. (Igor S. Borisov) **99e:62025** 62F12 (60F05, 62E20)

— (*with* Clark, W. Edwin; Holland, W. C.) Decompositions in discrete semigroups. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 15–23. (J. L. Chrislock) **99i:20080** 20M14

Székely, László A. (*with* Shahrokhi, Farhad; Sýkora, Ondrej; Vrťo, Imrich) Bipartite crossing numbers of meshes and hypercubes. (English summary) *Graph drawing* (*Rome*, 1997), 37–46, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99e:68130** 68R10 (68U05)

— (*with* Erdős, Péter L.) Pseudo-LYM inequalities and AZ identities. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 4, 431–443. (Douglas B. West) **99a:06001** 06A07

— (*with* Czabarka, Éva) An alternative shifting proof to Hsieh's theorem. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 117–122. (Summary) **99m:05156** 05D05

— (*with* Erdős, Péter L.; Frank, András) Minimum multiway cuts in trees. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 67–75. (Summary) **99e:05073** 05C35

— *see also* **Graph theory and combinatorial biology**, **99k:00031**

Székelyhidi, László On common eigenfunctions of difference operators. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 699–704. (Summary) **99c:39023** 39A70 (47B39)

Szekeres, George Abel's equation and regular growth: variations on a theme by Abel. (English summary) *Experiment. Math.* **7** (1998), *no.* 2, 85–100. (Jozef L. Teugels) **99m:26001** 26A12 (39B22)

— (*with* Briggs, K. M.; Dixon, Tony W.) Analytic solutions of the Cvitanović-Feigenbaum and Feigenbaum-Kadanoff-Shenker equations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 347–357. (Helena E. Nusse) **99h:58054** 58F03 (39B12)

Szekeres, Peter (*with* Senovilla, José M. M.; Sopuerta, Carlos F.) Theorems on shear-free perfect fluids with their Newtonian analogues. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 389–411. (Mattias Marklund) **99b:83045** 83C55 (76Y05, 83C05)

Szekli, Ryszard (*with* Last, Günter) Stochastic comparison of repairable systems by coupling. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 348–370. (Philip J. Boland) **99i:60162** 60K10 (62N05)

Szemerédi, Endre (*with* Komlós, János; Sárközy, Gábor N.) On the square of a Hamiltonian cycle in dense graphs. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 193–211. (Günter Schaar) **99f:05073** 05C45 (05C12)

— (*with* Komlós, János; Sárközy, Gábor N.) Blow-up lemma. (English summary) *Combinatorica* **17** (1997), *no.* 1, 109–123. (Lane Clark) **99b:05083** 05C35

— (*with* Komlós, János; Sárközy, Gábor N.) On the Pósa-Seymour conjecture. (English summary) *J. Graph Theory* **29** (1998), *no.* 3, 167–176. (Ralph Faudree) **99g:05125** 05C45 (05C35)

— (*with* Komlós, János; Sárközy, Gábor N.) An algorithmic version of the blow-up lemma. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 3, 297–312. (Mirosław Truszczyński) **99h:05113** 05C85 (68R10)

— (*with* Komlós, János; Ma, Yuan) Matching nuts and bolts in $O(n \log n)$ time. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 347–372 (*electronic*). (Summary) **99e:68071** 68Q25 (68P10, 68R10)

Szemplińska-Stupnicka, Wanda (*with* Tyrkiel, Elżbieta) Sequences of global bifurcations and the related outcomes after crisis of the resonant attractor in a nonlinear oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2437–2457. (Summary) **99b:70025** 70K50 (58F14)

— (*with* Tyrkiel, Elżbieta) Effects of multiglobal bifurcations on basin organization, catastrophes and final outcomes in a driven nonlinear oscillator at the $2T$-subharmonic resonance. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 1, 41–59. (Summary) **99e:70059** 70K50

— (*with* Tyrkiel, Elżbieta) Sequences of global bifurcations and multiple chaotic transients in a mechanical driven oscillator. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 81–91, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70K50 (58F13)

Szendrei, Ágnes Modules in general algebra. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 41–53, *Heyn, Klagenfurt*, 1998. (V. A. Artamonov) **99m:08019** 08B10 (08A40)

— (*with* Kearnes, Keith A.) Projectivity and isomorphism of strictly simple algebras. (English summary) *Algebra Universalis* **39** (1998), *no.* 1-2, 45–56. (V. A. Artamonov) **99h:08012** 08B30 (08C05)

Szendrei, Mária B. (*with* Billhardt, Bernd) A new class of embeddable E-unitary regular semigroups. (English summary) *Semigroups* (*Luino*, 1992), 27–35, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M17

Szenthe, J. *see* **New developments in differential geometry**, **99h:53002**

Szentkuti, Zsolt Periodic solutions of non-symmetric May-Leonard systems. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **18** (1994/98), 23–38 (1999). (Summary) **99m:34093** 34C25 (34C23, 92D25)

Szentmiklóssy, Z. (*with* Hajnal, András; Juhász, István) On CCC Boolean algebras and partial orders. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 537–544. (P. A. Biryukov) **99d:06006** 06A07 (03E05, 06E10)

— (*with* Juhász, István; Soukup, Lajos) What is left of CH after you add Cohen reals? (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 165–174. (Andrzej Szymański) **99d:54001** 54A25 (03E35, 03E50)

Szepessy, Anders On the stability of Broadwell shocks. *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 403–412, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Lorenzo Pareschi) **99g:76129** 76P05 (35L67, 76L05, 82C40)

Szepesvári, Csaba Non-Markovian policies in sequential decision problems. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 305–318. (Alfred Müller) **99f:90177** 90C39 (90C40)

Szepietowski, Andrzej Weak and strong one-way space complexity classes. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 299–302. (Summary) **99i:68052** 68Q15

Szeptycki, Paul J. (*with* Vaughan, Jerry E.) Almost disjoint families and property (a). (English summary) *Fund. Math.* **158** (1998), *no.* 3, 229–240. (Summary) **99j:54009** 54A25 (54A35)

Szeptycki, Paweł (*with* Martin, Mircea) Sharp inequalities for convolution operators with homogeneous kernels and applications. *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 975–988. (Maria J. Carro) **99b:42017** 42B15 (42B25, 44A35)

Szeszlér, Dávid Switchbox routing in the multilayer Manhattan model. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 155–164 (1998). (From the introduction) **99c:68137** 68Q35 (05C85, 90C35)

Szeto, George Commutator subrings of a skew group ring. (English summary) *Bull. Hong Kong Math. Soc.* **2** (1999), *no.* 2, 247–253. 16S35

Szidarovszky, Ferenc Multi-product oligopoly-oligopsony. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 367–375. (Summary) **99d:90028** 90A14 (90D10)

— (*with* Vörös, József) Quality design by multiobjective analysis. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 377–383. (Summary) **99b:90113** 90C29 (90C90)

— (*with* Shen, Bing) A heuristic algorithm for constructing optimal lookup tables in circuit design. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 8–12 (*electronic*). (Summary) **99d:65061** 65D20 (65D05)

— (*with* Cho, K. R.; Cho, Moo Ho; Choi, Kyung Soo; You, Younggap) Estimation of channel holding time distribution in cellular telephone systems. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 13–17 (*electronic*). (Summary) **99d:90049** 90B12 (94A40)

— (*with* Mahrt, L. F.) A factored form of complex analytic functions and its application to finding partial fraction decompositions. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 12–15 (*electronic*). (E. J. Barbeau) **99e:26014** 26C15 (15A06, 30C15)

— (*with* Argyros, Ioannis K.; Mahrt, L. F.) Applications of a special representation of analytic functions. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 43–47 (*electronic*). (John G. Stalker) **99h:65101** 65H05

— (*with* Lin, Chia-Hung; Yen, Jerome) Dynamic negotiation with time-varying Pareto frontier. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 99–109. (Summary) **99a:90015** 90A05 (90D12)

— (*with* Shen, Ling[2]) A stochastic bargaining process and solution concept in the discrete case. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 219–227. (Summary) **99c:90168** 90D12 (90A60)

Szigeti, Jenő (*with* Tuza, Zsolt) Generalized colorings and avoidable orientations. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 137–145. (Summary) **99b:05066** 05C15 (05C20)

— On the characteristic polynomial of supermatrices. (English summary) *Israel J. Math.* **107** (1998), 229–235. (E. Formanek) **99k:16051** 16R40 (15A18, 16W55)

Szigeti, Zoltán (*with* Bang-Jensen, Jørgen; Gabow, Harold N.; Jordán, Tibor) Edge-connectivity augmentation with partition constraints. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 306–315, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (05C40, 05C85, 68Q25)

— The two ear theorem on matching-covered graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 104–109. (Summary) **99c:05158** 05C70

Sziklai, Péter Nuclei of pointsets in PG(n, q). (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 323–327. (Johannes Ueberberg) **99f:51016** 51E20

— (*with* Blokhuis, Aart) A note on small complete caps in the Klein quadric. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 159–161. (Summary) **99d:51014** 51E22

— (*with* Szőnyi, T.) Blocking sets and algebraic curves. (English summary) *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 71–86. (J. W. P. Hirschfeld) **99k:51010** 51E21

Szikrai, Sz. (*with* Schnack, E.) Parallel coupling of FEM and BEM for 3D elasticity problems. *Boundary element topics* (*Stuttgart*, 1995), 243–264, *Springer, Berlin*, 1997. (Carsten Carstensen) **99j:73101** 73V05 (65N30, 65N38, 65Y05, 73V10)

— (*with* Schnack, E.; Türke, K.) Local effects in engineering with macro-elements. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 299–309. (*see* **99b:73001**) 73V05 (65N99, 73V10)

Szilágyi, P. *see* **Szilágyi, Péter**

Szilágyi, Paul Professor Ioan A. Rus at his 60th anniversary. *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 1–9. (Editors) **99k:01077** 01A70

Szilágyi, Péter Equivalence of the linear alternative, existence and duality theorems. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **18** (1994/98), 63–74 (1999). 90C08 (65F30)

— Nonhomogeneous linear theorems of the alternative. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **18** (1994/98), 75–89 (1999). 90C08 (65F30)

— Equivalent sets of consequences of linear inequality systems. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 125–139. (Asen L. Dontchev) **99g:90073** 90C08 (65F30)

Szilasi, J. (*with* Vincze, Cs.) On conformal equivalence of Riemann-Finsler metrics. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 167–185. (Manuel de León) **99b:53033** 53B40 (53C60)

Szili, László (*with* Tóth, János) On the origin of Turing instability. (English summary) *J. Math. Chem.* **22** (1997), *no.* 1, 39–53. (Yoram Schiffmann) **99d:92011** 92C15 (35Q80, 80A30, 92C40)

— (*with* Tóth, János) Numerical and symbolic applications of Mathematica. (English summary) *Math. Pannon.* **10** (1999), *no.* 1, 83–92. 65–04 (34–04, 34D20, 65L99, 93–04, 93D20)

Szilvási-Nagy, Márta Almost curvature continuous fitting of B-spline surfaces. (English summary) *J. Geom. Graph.* **2** (1998), *no.* 1, 33–43. 65D17 (65D07, 68U05)

Szirmai, J. (*with* Molnár, Emil; Prok, István) Classification of solid transitive simplex tilings in simply connected 3-spaces. II. Metric realizations of the maximal simplex tilings. *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 47–94. (Ren Ding) **99j:52026** 52C22 (57S30)

Szirmay-Kalos, L. (*with* Márton, G.) Worst-case versus average case complexity of ray-shooting. (English summary) *Computing* **61** (1998), *no.* 2, 103–131. (Summary) **99h:68171** 68U05 (65Y25, 68Q25)

Szkopińska, Bożena (*with* Libicka, Inga) On directional $\mathcal{J}_1$-density points. *Demonstratio Math.* **30** (1997), *no.* 3, 479–484. (B. K. Lahiri) **99d:28003** 28A05

Szlachányi, Kornél Weak Hopf algebras. *Operator algebras and quantum field theory* (*Rome*, 1996), 621–632, *Internat. Press, Cambridge, MA*, 199?. (Tomasz Brzeziński) **99a:46105** 46L05 (16W30, 81R50)

— (*with* Böhm, Gabriella) Weak C^*-Hopf algebras: the coassociative symmetry of non-integral dimensions. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 9–19, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Yvette Kosmann-Schwarzbach) **99b:16056** 16W30 (22D25, 46L99, 81R50)

— (*with* Fuchs, Jürgen; Ganchev, A. Ch.; Vecsernyés, P.) S_4 symmetry of $6j$ symbols and Frobenius-Schur indicators in rigid monoidal C^* categories. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 408–426. (Yasuyuki Kawahigashi) **99k:81111** 81R50 (18D10, 20C35)

Szlenk, Wiesław Stefan Banach and his school. (Spanish) *Miscelánea Mat. No.* 18 (1989), 78–85. 01A70 (01A72)

— *see also* **Nowicki, Tomasz, 99m:01084** *and* **Dedicated to the memory of Wiesław Szlenk**

Szmanda, Błażej (*with* Sternal, Aleksandra) Asymptotic and oscillatory behaviour of certain difference equations. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 1, 77–86 (1997). (P. Talpalaru) **99a:39033** 39A10

— (*with* Rempulska, L.) On the limitabiiity of solutions of some difference equations. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 1, 64–68. (Shu Tang Liu) **99a:39028** 39A10

— Oscillation of solutions of higher order nonlinear difference equations. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 1, 71–81. (Augustin Fruchard) **99c:39020** 39A12

— Oscillatory and asymptotic behaviour of higher order difference equations. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 171–178 (1998). (Vladimir Sh. Burd) **99f:39009** 39A10 (39A11)

— (*with* Szafrański, Zdzisław) Oscillations of some difference equations. (English summary) *Fasc. Math. No.* 28 (1998), 149–155. (From the introduction) **99i:39015** 39A10

— Properties of solutions of higher order difference equations. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 95–101. (Shao Zhu Chen) **99m:39011** 39A10 (39A12)

— (*with* Sternal, Aleksandra; Szafrański, Zdzisław) Oscillatory and asymptotic behaviour of some difference equations. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 66–74. (From the introduction) **99i:39014** 39A10

Szmigielski, Jacek (*with* Dorfmeister, J.; Gradl, H.) Systems of PDEs obtained from factorization in loop groups. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 1, 1–58. (Henrik Aratyn) **99k:58088** 58F07 (17B67, 22E67)

— (*with* Beals, Richard William; Sattinger, David H.) Acoustic scattering and the extended Korteweg-de Vries hierarchy. (English summary) *Adv. Math.* **140** (1998), *no.* 2, 190–206. (Mayumi Ohmiya) **99i:34120** 34L25 (34A55, 35Q53)

— (*with* Górski, Andrzej Z.) On pairs of difference operators satisfying $[D, X] = \mathrm{Id}$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 545–568. (Summary) **99b:81113** 81S05 (39A12, 47N50)

— (*with* Beals, Richard William; Sattinger, David H.) Multi-peakons and a theorem of Stieltjes. (English summary) *Inverse Problems* **15** (1999), *no.* 1, *L1–L4*. 35Q51 (35Q53)

Szmydt, Zofia (*with* Ziemian, Bogdan) Topological imbedding of Laplace distributions in Laplace hyperfunctions. *Dissertationes Math.* (*Rozprawy Mat.*) **376** (1998), 81 *pp.* (Stevan Pilipović) **99g:46055** 46F12 (46F15)

Szmytkowski, Radosław A unified construction of variational R-matrix methods. I. The Schrödinger equation. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4413–4438. (Summary) **99c:81260** 81U05

— Operator formulation of Wigner's R-matrix theories for the Schrödinger and Dirac equations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5231–5252. (Allina A. Suzko) **99m:81281** 81U20 (47N50)

Sznaier, Mario (*with* Bu, Juanyu) Mixed $l_1/\mathcal{H}_\infty$ control of MIMO systems via convex optimization. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1229–1241. (Takehiro Mori) **99f:93051** 93B36 (93B40)

— (*with* Rotstein, Héctor) An exact solution to general four-block discrete-time mixed $\mathcal{H}_2/\mathcal{H}_\infty$ problems via convex optimization. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1475–1480. 93B36 (90C90)

— (*with* Parrilo, Pablo A.; Sánchez Peña, Ricardo S.) A parametric extension of mixed time/frequency robust identification. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 364–369. 93B30 (93B36)

— *see also* **Bernhardsson, Bo** *and* **Errata: "Comments on: 'Mixed L^∞/H_∞ suboptimal controllers for SISO continuous time systems'"**

Sznajder, Roman (*with* Gowda, M. Seetharama) Weak univalence and connectedness of inverse images of continuous functions. (English summary) *Math. Oper. Res.* **24** (1999), *no.* 1, 255–261. (Romesh Saigal) **99m:90143** 90C33

Sznitman, Alain-Sol Capacity and principal eigenvalues: the method of enlargement of obstacles revisited. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1180–1209. (Peter Stollmann) **99a:60080** 60J45 (35P15, 82D30)

— Fluctuations of principal eigenvalues and random scales. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 337–363. (Summary) **99h:35150** 35P15 (35J25, 35R60, 60K35)

— (*with* Bolthausen, Erwin) On Ruelle's probability cascades and an abstract cavity method. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 247–276. (Barbara Gentz) **99k:60244** 60K35 (60J75, 82B44, 82D30)

— Brownian motion and random obstacles. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 301–310 (*electronic*). (Summary) **99e:60223** 60K35 (82B44)

Szőke, Róbert Adapted complex structures and Riemannian homogeneous spaces. (English summary) Complex analysis and applications (Warsaw, 1997). *Ann. Polon. Math.* **70** (1998), 215–220. (Sławomir Kołodziej) **99m:53093** 53C30 (32F07)

Szőkefalvi-Nagy, Béla *see* **Obituary: Szőkefalvi-Nagy, Béla**

Szőnyi, B. *see* **Barancsi, Éva et al., 99a:90085**

Szőnyi, T. (*with* Ebert, G. L.; Metsch, Klaus) Caps embedded in Grassmannians. (English summary) *Geom. Dedicata* **70** (1998), *no.* 2, 181–196. (Antonio Cossidente) **99c:51016** 51E22 (51E20)

— (*with* Sziklai, Péter) Blocking sets and algebraic curves. (English summary) *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 71–86. (J. W. P. Hirschfeld) **99k:51010** 51E21

— (k,n)-arcs in Galois-planes. Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 193–198. (Antonio Cossidente) **99i:51009** 51E20 (05B25)

Szpankowski, Wojciech (*with* Kirschenhofer, Peter; Prodinger, Helmut) Analysis of a splitting process arising in probabilistic counting and other related algorithms. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 4, 379–401. (A. Ya. Olenko) **99c:05021** 05A99

— (*with* Frieze, Alan M.) Greedy algorithms for the shortest common superstring that are asymptotically optimal. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 21–36. (Editors) **99c:68122** 68Q25 (68P05, 90D20)

— Asymptotics of some recurrent relations, and universal coding. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 56–61; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 142–146. (Summary) **99i:94020** 94A15 (94B05)

— (*with* Jacquet, Philippe) Analytical de-Poissonization and its applications. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 1–62. (István Ratkó) **99f:68099** 68Q25 (68P05)

Szpikowski, S. (*with* Próchniak, L.) Supersymmetry in elementary particle and nuclear physics. (English summary) *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 565–573, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81V35 (81R05, 81V25)

Szpiro, George G. A note on self-similarity in the universal sequence. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 965–973. (Summary) **99f:58109** 58F08

Sztaba, Urszula (*with* Kierat, Władysław) The generalized Fourier transforms of slowly increasing functions. *Demonstratio Math.* **30** (1997), *no.* 2, 425–428. (Hans-Jürgen Glaeske) **99b:44006** 44A15 (46F12)

Sztrik, J. (*with* Almási, B.) A queueing model for a nonreliable multiterminal system with polling scheduling. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 3974–3981. (Joseph Kreimer) **99k:90074** 90B22 (60K25)

Szűcs, A. (*with* Rimányi, R.) Pontrjagin-Thom-type construction for maps with singularities. *Topology* **37** (1998), *no.* 6, 1177–1191. (Ştefan Papadima) **99g:57031** 57R45 (55Q52, 55R65, 57R90)

Szűcs, Joseph *see* **Freidlin, Mark I., 99h:60128**

Szufla, Stanisław (*with* Szukała, Aldona) An existence theorem for the equation $x^{(m)} = f(t,x)$ in Banach spaces. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 181–188. (R. R. Akhmerov) **99a:34171** 34G20 (47H09, 47N20)

— (*with* Szukała, Aldona) Existence theorems for weak solutions of nth order differential equations in Banach spaces. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 313–319. (Sergey G. Lobanov) **99k:34139** 34G20 (34B15, 47H15)

— On the differential equation $x^{(m)} = f(t,x)$ in Banach spaces. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 101–105. (Radu Precup) **99d:34115** 34G20

Szukała, Aldona (*with* Szufla, Stanisław) An existence theorem for the equation $x^{(m)} = f(t,x)$ in Banach spaces. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 181–188. (R. R. Akhmerov) **99a:34171** 34G20 (47H09, 47N20)

— Kneser's theorem for weak solutions of the equation $x^{(m)} = f(t,x)$ in Banach spaces. *Demonstratio Math.* **31** (1998), *no.* 4, 867–874. (Sergey G. Lobanov) **99m:34143** 34G20 (47N20)

— (*with* Szufla, Stanisław) Existence theorems for weak solutions of nth order differential equations in Banach spaces. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 313–319. (Sergey G. Lobanov) **99k:34139** 34G20 (34B15, 47H15)

Szularz, M. (*with* Weston, Jim; Clint, M.) Restarting techniques for the Lanczos algorithm and their implementation in parallel computing environments: architectural influences. (English summary) *Parallel Algorithms Appl.* **14** (1999), *no.* 1, 57–77. 65F10 (65Y05)

— (*with* Weston, Jim; Clint, M.) Explicitly restarted Lanczos algorithms in an MPP environment. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 613–631. 65F30 (65Y05)

Szulc, Tomasz (*with* Johnson, Charles Royal) Further lower bounds for the smallest singular value. (English summary) *Linear Algebra Appl.* **272** (1998), 169–179. (Fumio Hiai) **99b:15009** 15A18 (15A42)

— (*with* Elsner, Ludwig) Block P-matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 1–12. (Summary) **99c:15044** 15A57

— (*with* Elsner, Ludwig) Convex combinations of matrices—nonsingularity and Schur stability chracterizations. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 301–312. (Summary) **99f:15028** 15A45

— (*with* Kołodziejczak, Barbara) Convex combinations of matrices—full rank characterization. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 215–222. (Ryszard Grząślewicz) **99m:15015** 15A30

Szumny, Waldemar (*with* Sokół, Janusz) On some extreme points of the unit ball. (English summary) *Transform methods & special functions, Varna* '96, 423–427, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:30029** 30C75

Szwankowski, Andrzej (*with* Majchrzak, Wiesław) The maximum of some functional for holomorphic and univalent functions with real coefficients. (English summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 97–106. (L. A. Aksent'ev) **99f:30040** 30C70 (30C50)

Szwarc, Ryszard Positivity of Turán determinants for orthogonal polynomials. (English summary) *Harmonic analysis and hypergroups* (*Delhi*, 1995), 165–182, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (G. Gasper) **99h:42050** 42C05 (33D45)

— Norm estimates of discrete Schrödinger operators. (English summary) *Colloq. Math.* **76** (1998), *no.* 1, 153–160. (Michael P. Lamoureux) **99c:47041** 47B39 (39A12, 47N50, 81Q10)

— The ratio and generating function of cogrowth coefficients of finitely generated groups. (English summary) *Studia Math.* **131** (1998), *no.* 1, 89–94. (Wolfgang Woess) **99d:20047** 20F05 (20F10)

— (*with* Gebuhrer, Marc-Olivier) On symmetry of discrete polynomial hypergroups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1705–1709. (Margit Rösler) **99i:43010** 43A62 (42C05)

Szwarcfiter, Jayme L. (*with* de Figueiredo, Celina Miraglia Herrera; Gimbel, John; de Mello, Célia Picinin) Sources and sinks in comparability graphs. (English summary) *Order* **14** (1997), *no.* 1, 75–83. (H. A. Jung) **99b:05138** 05C99 (06A07)

— (*with* Ortiz Z., Carmen; Maculan, Nelson) Characterizing and edge-colouring split-indifference graphs. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 209–217. (Mirko Horňák) **99b:05061** 05C15 (05C75)

— (*with* Bornstein, Claudson F.) Iterated clique graphs with increasing diameters. (English summary) *J. Graph Theory* **28** (1998), *no.* 3, 147–154. (R. Balakrishnan) **99g:05152** 05C75

— (*with* de Figueiredo, Celina Miraglia Herrera; Gimbel, John; de Mello, Célia Picinin) Even and odd pairs in comparability and in P_4-comparability graphs. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 293–297. (Summary) **99i:05188** 05C85 (68Q25)

Szwiec, W. (*with* Dziechcińska-Halamoda, Z.; Michael, Jerzy) Games without repetitions on graphs with vertex disjoint cycles. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 3, 254–258. (Summary) **99d:90143** 90D05 (05C99)

Szydlik, Stephen A note on the Poincaré polynomial of an arrangement. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 117–134. (Hiroaki Terao) **99d:52012** 52B30

Szydłowski, Marek The generalized local instability criterion from the geodesic deviation equation for simple mechanical systems. (English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 36–46. (Iskander A. Taimanov) **99f:58161** 58F17 (70H99)

— On invariant qualitative chaos in multi-black-hole spacetimes. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 6, 741–770. (Alexander N. Petrov) **99c:83061** 83C57 (83C05, 83C10)

— Dynamical trajectories of simple dynamical systems as geodesics—in searching for invariant criteria of chaos in general relativity. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 95–103. (Summary) **99a:58040** 58E10 (58F13, 83C10)

— (*with* Golda, Zdzisław) The generalized local instability criterion and approximation method. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 105–113. (Summary) **99c:53038** 53C22 (53C80, 83C15)

— The Eisenhart geometry as an alternative description of dynamics in terms of geodesics. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 887–914. (Volker Perlick) **99b:58184** 58F17 (58F05, 70H05, 83C10)

— (*with* Maciejewski, Andrzej J.; Guzik, Jacek) Dynamical trajectories of simple mechanical systems as geodesics in space with an extra dimension. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1569–1585. (Geoffrey Prince) **99k:58149** 58F17 (58F05, 70H05, 83C10)

— (*with* Maciejewski, Andrzej J.) On the integrability of Bianchi cosmological models. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2031–2043. (Alexander N. Petrov) **99g:83017** 83C20

Szyld, D. B. (*with* Bai, Zhong Zhi; Sun, Jia-Chang) The spectral analysis of the matrix multisplitting method for the one-dimensional model problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 31–38. (P. Rochus) **99h:65090** 65F50

Szylicka, Z. Hyperidentities of some generalizations of lattices. (English summary) *Algebra Universalis* **39** (1998), *no.* 1-2, 1–29. (Shelly L. Wismath) **99m:06015** 06B20 (08B05)

Szymanowski, Lech *see* **Brandt, Siegmund, 99i:62002**

Szymańska, Edyta (*with* Łuczak, Tomasz) A parallel randomized algorithm for finding a maximal independent set in a linear hypergraph. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 311–320. (Summary) **99f:05110** 05C85 (05C65, 68Q22, 68R10)

Szymanski, B. K. (*with* Flaherty, J. E.; Loy, R. M.; Dindar, M.; Shephard, M. S.; Teresco, J. D.; Ziantz, L. H.) An adaptive and parallel framework for partial differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 74–90, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65189** 65Y05 (65M60, 65N30)

Szymański, Jerzy (*with* Dondajewski, Marian) A linear algorithm for the generation of a random plane tree. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 38–41. (*see* **99g:05001**) 05C85

— Algorithms for sequential and random generation of recursive trees and dags. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 34–39. (*see* **99k:05003**) 05C85

— (*with* Dondajewski, Marian) Vertices of small degrees in random recursive dags. (English summary) *Fasc. Math. No.* 28 (1998), 31–41. (Sheshayya A. Choudum) **99j:05170** 05C80 (05C20)

Szymański, Wacław (*with* Catepillán, Ximena) Semigroup properties of factors in the polar decomposition or the operator De-Moivre formula. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3521–3526. (Lawrence Williams) **99e:47024** 47B20 (47D03)

Szymczak, Andrzej A cup product pairing and time-duality for discrete dynamical systems. (English summary) *Topology* **37** (1998), *no.* 6, 1299–1311. (James F. Reineck) **99f:58136** 58F12 (55N05, 57N65)

— (*with* Wójcik, Klaudiusz; Zgliczyński, Piotr) On the discrete Conley index in the invariant subspace. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 105–115.

(Christopher K. McCord) **99g:58079** 58F12 (54H20)

Szymczak, Thomas (*with* Brandstädt, Andreas; Le Van Bang) The complexity of some problems related to graph 3-colorability. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 59–73. (Summary) **99i:68059** 68Q25 (05C15, 05C85, 68R10)

Szymiczek, Kazimierz Hilbert's Eleventh Problem (the theory of quadratic forms over algebraic number fields). (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 129–145, *Polsk. Akad. Nauk, Warsaw*, 1997. (W. Narkiewicz) **99e:11043** 11E12 (01A60, 11-03, 11E08)

— Hilbert's Seventeenth Problem (sums of squares in rational function fields). (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 189–201, *Polsk. Akad. Nauk, Warsaw*, 1997. (Marek Szyjewski) **99f:11050** 11E25 (01A60, 11-03)

— 2-ranks of class groups of Witt equivalent number fields. Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 53–64. (Detlev W. Hoffmann) **99m:11041** 11E12 (11R29)

— *see also* **Number theory, 99i:11002**

Szynal, Anetta Zero parameter's configurations. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 133–139. (Daniel Girela) **99i:30039** 30C85 (30C35)

— (*with* Wilczek, Katarzyna) Extension operator of automorphism of the unit circle. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 141–149. (Daniel Girela) **99i:30040** 30C85 (30C35)

Szynal, Dominik (*with* Kuczmaszewska, Anna) On complete convergence for randomly indexed sums for a case without identical distributions. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 773–782. (Allan Gut) **99c:60070** 60F15 (60G40, 60G50)

— (*with* Grudzień, Zofia) Characterizations of continuous distributions via moments of the kth record values with random indices. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 4, 259–266. (D. N. Shanbhag) **99f:62022** 62E10 (60E05, 60G70, 62G30)

— (*with* Murat, Małgorzata) Non-zero inflated modified power series distributions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 3047–3064. (Summary) **99j:62013** 62E15

— (*with* Pawlas, Piotr) Relations for single and product moments of k-th record values from exponential and Gumbel distributions. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 1, 53–61. (W. Dziubdziela) **99h:62067** 62G30 (60G70)

— (*with* Grudzień, Zofia) On characterizations of continuous distributions in terms of moments of order statistics when the sample size is random. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 4017–4022. (Summary) **99j:62007** 62E10 (62G30)

— (*with* Hu, Tien Chung; Volodin, A. I.) A note on complete convergence for arrays. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 27–31. (V. K. Rohatgi) **99e:60084** 60F15 (60G50)

Szynal, Jan (*with* Lewandowski, Zdzisław) An upper bound for the Laguerre polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 529–533. (Summary) **99j:33015** 33C45

Szyszkowicz, Barbara (*with* Csörgő, Miklós) Applications of multi-time parameter processes to change-point analysis. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 159–222, *TEV, Vilnius*, 1994. (Summary) **99f:60040** 60F05 (60F15, 62G20)

— (*with* Csörgő, Miklós; Horváth, Lajos) Integral tests for suprema of Kiefer processes with application. (English summary) *Statist. Decisions* **15** (1997), *no.* 4, 365–377. (Qi Man Shao) **99c:60080** 60G15 (62G10)

— *see also* **Asymptotic methods in probability and statistics, 99f:60002**

Szyszkowski, Marcin On axial maps of the direct product of finite sets. *Colloq. Math.* **75** (1998), *no.* 1, 33–37. (From the text) **99a:04002** 04A05

–T–

Tabacco Vignati, Anita (*with* Canuto, Claudio) Multilevel decompositions of functional spaces. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 6, 715–742. (B. S. Rubin) **99e:46039** 46E35 (42C15, 46M35)

— (*with* Canuto, Claudio; Urban, Karsten) The wavelet element method. I. Construction and analysis. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 1, 1–52. (Albert Cohen) **99k:42055** 42C15 (41A15, 65T20)

Tabachnikov, S. L. On functions with zero mean with respect to a finite group. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 1, 93–94; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 1, 73–74. (Z. Rubinstein) **99a:42001** 42A05 (20B99, 42B99)

— (*with* Fuchs, Dmitry) Invariants of Legendrian and transverse knots in the standard contact space. *Topology* **36** (1997), *no.* 5, 1025–1053. (From the introduction) **99a:57006** 57M25 (58F05)

— (*with* Fuchs, Dmitry) More on paperfolding. *Amer. Math. Monthly* **106** (1999), *no.* 1, 27–35. (Igor Rivin) **99m:53009** 53A05 (51M15)

Tabachnikova, O. M. (*with* Smith, Geoff C.) Fresh orderings of groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2523–2528. (N. Ya. Medvedev) **99m:20092** 20F60

Tabaczek, J. (*with* Bilke, S.; Burda, Zdzisław; Krzywicki, Andrzej; Petersson, B.; Thorleifsson, Gudmar) 4d simplicial quantum gravity: matter fields and the corresponding effective action. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 279–286. (Summary) **99d:83030** 83C27 (83C45)

Tabak, Esteban G. (*with* Turner, C. V.; Rosales, Rodolfo R.; Majda, Andrew J.) Nonlinear interaction between long waves in the equatorial waveguide. Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 283–297. (Yuri N. Skiba) **99k:76039** 76C20 (35Q35, 76B15, 76U05, 86A10)

— (*with* Rosales, Rodolfo R.) Caustics of weak shock waves. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 206–222. (Roberto Natalini) **99b:76047** 76L05 (35L67)

Tabakova, S. (*with* Zapryanov, Zapryan) ★ Dynamics of bubbles, drops and rigid particles. (English summary) Fluid Mechanics and its Applications, 50. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xx*+514 *pp. ISBN* 0-7923-5347-1 (C. Pozrikidis) **99m:76112** 76T05 (76B99, 76D99, 76M25)

Tabanera y Palacios, René (*with* Andersen, Per Kragh; Klein, John P.; Knudsen, Kim M.) Estimation of variance in Cox's regression model with shared gamma frailties. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1475–1484. (Jack Cuzick) **99f:62049** 62G05 (62N05)

Tabanjeh, M. Abu (*with* Pan, Victor Y.; Chen, Zhao Qin; Providence, S.; Sadikou, A.) Transformations of Cauchy matrices, Trummer's problem and a Cauchy-like linear solver. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 274–284, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F30 (65Y25)

— (*with* Pan, Victor Y.; Chen, Zhao Qin; Landowne, E. I.; Sadikou, A.) New transformations of Cauchy matrices and Trummer's problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 1–5. (Summary) **99c:65078** 65F30

rahimi Tabar, M. R. *see* **Rahimi Tabar, M. R.**

Tabarrok, Behrouz (*with* Qin, Zhu; Stylianou, M.) Generalized conservation checks in finite element analysis. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 7, 1295–1307. (Summary) **99h:73082** 73V05 (76M10, 80–08)

— (*with* Zhang, Yuangao) Modifications to the Lax-Wendroff scheme for hyperbolic systems with source terms. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 1, 27–40. (Summary) **99j:73109** 73V15 (65M06)

— (*with* Shen, Q.) Stability investigation of multibody spacecraft. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 161–170. (Summary) **99k:70006** 70E15 (70M20)

Tabasso, V. (*with* Mazzi, L.) On stabilization of time-dependent affine control systems. (English summary) *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 1, 53–66. (Éva Gyurkovics) **99a:93086** 93D15 (34H05)

Tabata, Masahisa A convergence property of drag and lift coefficients obtained by surface integral computation. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 269–275, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:76024** 76D05 (76M10)

— (*with* Itoh, Hajime) A finite element analysis for a thermal convection problem with the infinite Prandtl number. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 555–570. (Summary) **99i:76089** 76M10 (65M60, 76R05, 86A60)

— Error estimates for calculations of lift and drag by nonconforming finite element methods. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 114–117. (*see* **99i:00028**) 65N06

Tabata, Minoru The linearized Boltzmann equation with an external force. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 1–21. (Silvia Totaro) **99f:82057** 82C40 (35Q99, 45K05, 47D06, 76P05)

— (*with* Eshima, Nobuoki; Takagi, Ichiro; Hiroyama, Takashi) The Cauchy problem for the system of equations describing migration motivated by regional economic disparity. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 45–64. (Vladimir Mityushev) **99i:92036** 92H20 (45K05, 90A99)

— (*with* Eshima, Nobuoki; Takagi, Ichiro) The nonlinear integro-partial differential equation describing the logistic growth of human population with migration. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 169–183. (Summary) **99g:92033** 92D25 (45K05)

Tabata, Yoshio Some problems in mathematical finance. (English summary) *J. Mong. Math. Soc. No.* 3 (1999), 50–54. 90A09

Tabatabai, M. A. (*with* Bartolucci, A. A.; Dickey, J. M.; Singh, Karan P.) On the translated exponential model with censoring. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 9–23 (*electronic*). (Summary) **99g:62031** 62F15 (62N05)

Tabatabaie, B. The tracial logarithm and automorphisms. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 527–531, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 46L80 (46L05)

Tabeling, P. (*with* Hansen, A. E.; Paret, J.) Forced and decaying 2D turbulence: experimental study. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 145–169, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 76–05 (76F99, 76M35)

pych-Taberska, Paulina *see* **Pych-Taberska, Paulina**

Taberski, Roman Integral analogues of a theorem of Leindler and Meir. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 261–273. (Gianluca Vinti) **99b:42007** 42A24 (41A35)

— On the strong exponential approximation. *Demonstratio Math.* **30** (1997), *no.* 4, 775–782. (Ion Badea) **99d:41040** 41A35

— On some means of double Fourier series. (English summary) *Comment. Math. Prace Mat.* **38** (1998), 139–148. (Summary) **99k:42019** 42B08 (42B20)

— Approximation properties of some means of Fourier series. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 275–286. (F. Móricz) **99k:42005** 42A10

Tabirca, Sabin (*with* Tabirca, Tatiana) Two functions in number theory and some uppers bounds for the Smarandache's function. (English summary) *Libertas Math.* **18** (1998), 77–86. 11A25

— (*with* Tabirca, Tatiana) The convergence of Smarandache harmonic series. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 27–35. (Summary) **99h:40001** 40A05

— (*with* Tabirca, Tatiana) Two functions in number theory and some upper bounds for the Smarandache's function. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 82–91. 11A25

— Smarandache magic squares. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 100–104. 05B15

— (*with* Tabirca, Tatiana) Some inequalities concerning Smarandache's function. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 105–113. 11A25

— (*with* Tabirca, Tatiana) A generalisation of Euler's function. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 119–122. 11A25

Tabirca, Tatiana (*with* Vasilescu, Anca; Budoi, D.) Inductive engendering of Hamming-code-matrices. (English and Romanian summaries) *Bull. Transilv. Univ. Braşov Ser. B (N.S.)* **2(37)** (1995), 19–23. (Summary) **99d:94036** 94B05

— (*with* Tabirca, Sabin) Two functions in number theory and some uppers bounds for the Smarandache's function. (English summary) *Libertas Math.* **18** (1998), 77–86. 11A25

— (*with* Tabirca, Sabin) The convergence of Smarandache harmonic series. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 27–35. (Summary) **99h:40001** 40A05

— (*with* Tabirca, Sabin) Two functions in number theory and some upper bounds for the Smarandache's function. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 82–91. 11A25

— (*with* Tabirca, Sabin) Some inequalities concerning Smarandache's function. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 105–113. 11A25

— (*with* Tabirca, Sabin) A generalisation of Euler's function. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 119–122. 11A25

González Taboada, María *see* **González Taboada, María**

Taboada, Mario (*with* Rejto, Peter) A turning point problem arising in connection with a limiting absorption principle for Schrödinger operators with generalized von Neumann-Wigner potentials. *Spectral and scattering theory* (*Newark, DE*, 1997), 131–155, *Plenum, New York*, 1998. (Philippe Briet) **99f:35030** 35J10 (34E20, 34L20, 34L25, 34L40, 81Q10)

Táboas, Plácido (*with* Moraes, Mara S. S.) Asymptotic profile of periodic solutions of a two-dimensional system of delay equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2605–2616. (Ju Rang Yan) **99b:34118** 34K15 (34E15)

— (*with* Oliva, Waldyr Muniz) Existence of periodic orbits, set of global solutions and behavior near equilibrium for Volterra equations of retarded type. (English summary) *Portugal. Math.* **54** (1997), *no.* 2, 165–186. (Summary) **99c:34163** 34K15 (45J05)

Taboch, Cohavit (*with* Codish, Michael) A semantic basis for termination analysis of logic programs and its realization using symbolic norm constraints. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 31–45, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N17

Tabor, J. *see* **Tabor, József**

Tabor, Jacek Lipschitz stability of the Cauchy and Jensen equations. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 133–144. (Themistocles M. Rassias) **99b:39034** 39B52 (39B72)

— (*with* Tabor, József) Stability of the Cauchy equation on an interval. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 153–176. (W. Smajdor) **99a:39066** 39B72

— Oscillations in Banach spaces and positive operators. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 219–232. (Markus Kunze) **99d:47075** 47H99 (58C30)

— (*with* Mazur, Marcin; Stolot, Kinga) Semi-hyperbolicity implies hyperbolicity in the linear case. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 121–126. (Peter E. Kloeden) **99i:58119** 58F15

— Oscillations in Banach spaces. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 247–248. (*see* **99f:58002**) 47H99 (58F99)

Tabor, József Iteration groups of continuous functions possessing fixed points. *Iteration theory* (*Batschuns*, 1992), 255–264, *World Sci. Publishing, River Edge, NJ*, 1996. (From the text) **99g:39025** 39B12

— A generalized notion of conjugate ideals and its applications. (English and Polish summaries) *Opuscula Math. No.* 16 (1996), 10, 18, 111–117. (Miklós Csikós) **99d:39031** 39B52

— Stability of the Cauchy type equations in $\mathscr{L}_p$ norms. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 145–158. (Themistocles M. Rassias) **99b:39035** 39B52

— Quasi-linear mappings. (English summary) *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14 (1997), 69–80. (Summary) **99a:39062** 39B52 (15A04, 39A11)

— (*with* Tabor, Jacek) Stability of the Cauchy equation on an interval. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 153–176. (W. Smajdor) **99a:39066** 39B72

Tabor, M. (*with* Goriely, A.) Nonlinear dynamics of filaments. III. Instabilities of helical rods. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2583–2601. (J. E. Marsden) **99e:73079** 73K99 (73C50, 73H10)

Tabouriech, Sophie (*with* Garcia, Germain; Suárez, Rodolfo; Álvarez-Ramírez, José) Nonlinear bounded control for norm-bounded uncertain systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1254–1258. 93B36 (93C42)

Tabucanon, Mario T. Multiobjective programming for industrial engineers. *Mathematical programming for industrial engineers*, 487–542, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C29 (90–02, 90C90)

Tabuchi, Takaaki (*with* Araki, Huzihiro) Generalization of Krinsky's commutativity proof of transfer matrices with Hamiltonians. (English summary) *Found. Phys.* **27** (1997), *no.* 11, 1485–1494. (M. Lawrence Glasser) **99c:82009** 82B20 (82B23)

bui dac Tac *see* **Bui Dac Tac**

Tacchi, Jean-Pierre (*with* Maurey, Bernard) À propos du théorème de densité de Lebesgue. (English summary) [On Lebesgue's density theorem] *Travaux mathématiques, Fasc. IX*, 1–21, *Sém. Math. Luxembourg, Centre Univ. Luxembourg, Luxembourg*, 1997. (R. A. Zalik) **99f:26002** 26A03 (03F60, 04A15, 54H05)

Tachibana, Motoi Duality and superconvergence relation in supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045015, 7 *pp.* (Summary) **99k:81188** 81T13 (81T60)

Tachikawa, Takayuki (*with* Higaki, Hiroaki; Takizawa, Makoto) Checkpoint and rollback in asynchronous distributed systems. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1058–1066. (Summary) **99a:68064** 68Q10

Tachim Medjo, Theodore On an equivalent form of the global quasi-geostrophic equations of the atmosphere. (English and Portuguese summaries) *Mat. Apl. Comput.* **16** (1997), *no.* 3, 267–286. (Yuri N. Skiba) **99m:76043** 76C15 (35Q35, 65M99, 76M20, 86A10)

Tada, Mitsuru (*with* Tatsuta, Makoto) The function $\lfloor a/m \rfloor$ in sharply bounded arithmetic. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 1, 51–57. (Thomas Strahm) **99c:03094** 03F30

Tada, Toshimasa (*with* Nakai, Mitsuru) Picard principle for negative planar potentials. *Math. Ann.* **308** (1997), *no.* 2, 319–332. (Noriaki Suzuki) **99d:31001** 31B25 (31B05, 31B35, 31C35)

— (*with* Nakai, Mitsuru) A form of classical Liouville theorem. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 9, 166–167. (Paul Bourdon) **99a:31004** 31B05

Tada, Tsukasa (*with* Aoki, Hajime; Iso, Satoshi; Kawai, Hikaru; Kitazawa, Yoshihisa) Space-time structures from IIB Matrix model. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 713–745. (Summary) **99f:81141** 81T30

Tada, Yutaka (*with* Kokado, Akira; Konisi, Gaku; Saito, Takesi) Brans-Dicke theory from $M_4 \times Z_2$ geometry. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 2, 293–303. (Jürgen Tolksdorf) **99d:83083** 83D05 (58B30)

Tadenuma, Koichi (*with* Toda, Manabu) Implementable stable solutions to pure matching problems. (English summary) Axiomatics of resource allocation, 1. *Math. Social Sci.* **35** (1998), *no.* 2, 121–132. (Summary) **99i:90011** 90A08

Tadepalli, Prasad (*with* Reddy, Chandra) Learning Horn definitions with equivalence and membership queries. (English summary) *Inductive logic programming* (*Prague*, 1997), 243–255, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (Summary) **99c:68047** 68N17 (68T05)

— (*with* Reddy, Chandra) Learning first-order acyclic Horn programs from entailment. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 23–37, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (Summary) **99m:68036** 68N17 (03B70, 68T05)

Tadeusiewicz, Michał (*with* Hałgas, Stanisław) Finding all the DC solutions of a certain class of piecewise-linear circuits. (English summary) *Circuits Systems Signal Process.* **18** (1999), *no.* 2, 89–110. 94C05

Tadić, Marko On regular square integrable representations of p-adic groups. (English summary) *Amer. J. Math.* **120** (1998), *no.* 1, 159–210. (Volker J. Heiermann) **99h:22026** 22E50

Tadich, V. (*with* Stanković, Srdjan S.) On the convergence of a stochastic gradient algorithm in the problem of learning in neural networks. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 118–134; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 2, 1002–1015. (Summary) **99k:60091** 60F15 (60F25, 93E23)

Tadie Radially symmetric functions as fixed points of some logarithmic operators. (English summary) *Potential Anal.* **9** (1998), *no.* 1, 83–89. (Marvin Ortel) **99j:31003** 31A15 (34A99, 35J60)

Tadj, Lotfi (*with* Aggoun, Lakhdar; Benkherouf, Lakdere) A stochastic inventory model with perishable and aging items. (English summary) *J. Appl. Math. Stochastic Anal.* **12** (1999), *no.* 1, 23–29. 90B05 (60J10, 60K30)

Tadjouddine, M. (*with* Eyssette, F.; Faure, C.) Sparse Jacobian computation in automatic differentiation by static program analysis. (English summary) *Static analysis* (*Pisa*, 1998), 311–326, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 65–04 (65D99)

Tadmor, E. *see* **Tadmor, Eitan**

Tadmor, E. B. (*with* Shenoy, V. B.; Miller, Ron; Rodney, D.; Phillips, Rob; Ortiz, Michael) An adaptive finite element approach to atomic-scale mechanics—the quasicontinuum method. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 3, 611–642. (Summary) **99k:73116** 73V05 (73B99, 73S10)

Tadmor, Eitan (*with* Levy, Doron) Non-oscillatory central schemes for the incompressible 2-D Euler equations. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 2-3, 321–340. (Lech Slawik) **99a:65100** 65M06 (76C99, 76M20)

— Approximate solutions of nonlinear conservation laws and related equations. (English summary) *Recent advances in partial differential equations, Venice* 1996, 325–368, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Alexander Doktor) **99c:35149** 35L65 (65Mxx)

— (*with* Liu, Xu-Dong) Third order nonoscillatory central scheme for hyperbolic conservation laws. (English summary) *Numer. Math.* **79** (1998), *no.* 3, 397–425. (Bruno Scheurer) **99h:65149** 65M06 (35L65)

— (*with* Jiang, Guang-Shan; Levy, Doron; Lin, Chi-Tien; Osher, Stanley) High-resolution nonoscillatory central schemes with nonstaggered grids for hyperbolic conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2147–2168 (*electronic*). (Rémi Vaillancourt) **99j:65145** 65M12 (35L65, 65M06)

— (*with* Jiang, Guang-Shan) Nonoscillatory central schemes for multidimensional hyperbolic conservation laws. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1892–1917 (*electronic*). (Summary) **99f:65128** 65M06 (35L65, 65M12)

— (*with* Levy, Doron) From semidiscrete to fully discrete: stability of Runge-Kutta schemes by the energy method. (English summary) *SIAM Rev.* **40** (1998), *no.* 1, 40–73 (*electronic*). (Lucas Jódar) **99d:65216** 65L06 (65L20)

Tadmor, Gilead Robust control of systems with a single input lag. (English summary) *Stability and control of time-delay systems*, 259–282, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93B36 (93B51)

— (*with* Arambel, Pablo O.) Decomposition and approximation of periodic systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 858–863. (Summary) **99m:93036** 93B51 (93C30)

Tadokoro, S. (*with* Verhoeven, R.; Hiller, Manfred) Workspace, stiffness, singularities and classification of tendon-driven Stewart platforms. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 105–114, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:70009** 70B15

Tadumadze, Tamaz (*with* Kharatishvili, Guram) The problem of optimal control for nonlinear systems with variable structure, delays and piecewise continuous prehistory. (English and Georgian summaries) Dedicated to Revaz Gamkrelidze. *Mem. Differential Equations Math. Phys.* **11** (1997), 67–88. (Stanisław Walczak) **99f:49034** 49K25 (34K35, 49K15)

Taentzer, Gabriele (*with* Andries, Marc; Engels, Gregor; Habel, Annegret; Hoffmann, Berthold; Kreowski, Hans-Jörg; Kuske, Sabine; Plump, Detlef; Schürr, Andy) Graph transformation for specification and programming. (English summary) *Sci. Comput. Programming* **34** (1999), *no.* 1, 1–54. 68Q60 (68Q50, 68R10)

Tafel, J. (*with* Wójcik, D.) Null Killing vectors and reductions of the self-duality equations. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 835–844. (Maciej Przanowski) **99f:53075** 53C80 (17B81, 58G35, 81T13)

Tafjord, Øyvind (*with* Periwal, Vipul) Finite-time amplitudes in Matrix theory. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 227–238. (Summary) **99a:81157** 81T30 (83E30, 83E50)

— (*with* Periwal, Vipul) Matrix string interactions. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 82–84. (Summary) **99c:81206** 81T30

Taflin, Erik (*with* Flato, Moshé; Sternheimer, Daniel; Simon, Jacques C. H.) Nonlinear relativistic wave equations in general dimensions. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 53–70, *World Sci. Publishing, River Edge, NJ*, 1997. (R. Schimming) **99j:58205** 58G16 (22E45, 35A30, 35Q75)

Taflove, Allen *see* **Advances in computational electrodynamics**, **99c:78001**

Tagansky, B. (*with* Boissonnat, Jean-Daniel; Sharir, Micha; Yvinec, Mariette) Voronoi diagrams in higher dimensions under certain polyhedral distance functions. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 485–519. (Rade Živaljević) **99c:52020** 52B55 (68Q25, 68U05)

Tagawa, Hiroyuki Kazhdan-Lusztig polynomials of parabolic type. *J. Algebra* **200** (1998), *no.* 1, 258–278. (Toshiyuki Tanisaki) **99f:20068** 20F55 (05E15)

Taghizadeh, N. (*with* Mamourian, Ahmad; Esrafilian, E.) On the existence of general solution of a first order elliptic systems by fixed-point theorem. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 539–545, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Yong Qing Li) **99f:35051** 35J60 (35J45, 45E05, 45G15, 47N20)

Tagiev, F. A. On the approximate-analytical solution of one boundary problem for mixed type equation. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 533–537, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 35M10 (65N12)

Tagirov, E. A. ★ Quantum mechanics in general relativity and its special-relativistic limit. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-98-71. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1998. 25 *pp.* (Summary) **99d:81101** 81T20

Tagiyev, F. A. *see* **Tagiev, F. A.**

Taglialatela, Giovanni Conditions d'hyperbolicité pour un opérateur matriciel à caractéristiques de multiplicité constante. (Italian summary) [Hyperbolicity conditions for a matrix operator with characteristics of constant multiplicity] *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 917–959. (Maria Povoas) **99a:35161** 35L45

Tagliani, Aldo (*with* Frontini, Marco) Inverse Laplace transform for positive functions and the moment problem. (Italian. English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 15–32. (Summary) **99h:44002** 44A10 (44A60)

— Inverse two-sided z transform and moment problem. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 125–138. (Fritz Keinert) **99j:44011** 44A15 (44A60, 65R10)

— (*with* Quarteroni, A.; Zampieri, E.) Generalized Galerkin approximations of elastic waves with absorbing boundary conditions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 323–341. (Summary) **99h:73088** 73V20 (73D15)

— Inverse two-sided Laplace transform for probability density functions. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 157–170. (Summary) **99b:65170** 65R10 (44A10, 65R30, 94A17)

— (*with* Frontini, Marco) Maximum entropy in the generalized moment problem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6706–6714. (P. N. Rathie) **99m:44010** 44A60 (94A17)

Taglieber, M. (*with* Aurich, R.) On the rate of quantum ergodicity on hyperbolic surfaces and for billiards. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 84–102. (Jens Marklof) **99f:81055** 81Q50 (58F11)

Tagmouti, Mohamed Ali Sur le spectre de l'opérateur de Schrödinger avec un champ magnétique constant plus un potentiel radial décroissant. (English summary) [On the spectrum of the Schrödinger operator with a constant magnetic field plus a decreasing radial potential] *J. Funct. Anal.* **156** (1998), *no.* 1, 57–74. (George D. Raikov) **99d:35117** 35P20 (35J10, 47F05, 47N50, 81Q10)

Taguchi, Yuichiro L-functions of Drin'feld modules. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 170–173. (*see* **99a:11003**) 11G40 (11G09)

Taha, T. R. (*with* Ismail, M. S.) A numerical study of compactons. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 6, 519–530. (Summary) **99j:65137** 65M06

(65M60)

Taha, Walid (*with* Benaissa, Zine-El-Abidine; Sheard, Tim) Multi-stage programming: axiomatization and type safety. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 918–929, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68N15

Tahamtani, Faramarz Spatial decay estimates for a class of nonlinear parabolic equations via the maximum principle. (English and Persian summaries) *Bull. Iranian Math. Soc.* **23** (1997), *no.* 1, 1–11. (Zi Qian Yan) **99i:35079** 35K60 (35B40)

— An energy estimate for the nonlinear biharmonic equation. (English and Farsi summaries) *Iranian J. Sci. Tech.* **21** (1997), *no.* 4, *Trans. A Sci.*, 353–361, 427. (Cornelius O. Horgan) **99e:35054** 35J60 (35B45)

— On the convergence of a time discretization scheme for the Navier-Stokes equations. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 19–27. (Summary) **99i:65088** 65M06 (65M12, 76D05, 76M20)

— (*with* Çelebi, A. Okay; Kalantarov, Varga K.) Phragmén-Lindelöf type theorems for some semilinear elliptic and parabolic equations. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 43–54. (H. J. Kuiper) **99c:35054** 35J60 (35B05, 35K55)

Tahani, Valiollah (*with* Karimi, Masoud; Gazor, Saeed) Matrix interpolation: some control applications. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 174–192. 93B40 (41A30)

— (*with* Sheikholeslam, F.) Total stability of fuzzy feedback control systems. (English and Farsi summaries) *Iranian J. Sci. Tech.* **23** (1999), *no.* 1, *Trans. B Tech.*, 27–34, 95. 93C42 (93D05)

ait-Tahar, S. *see* **Ait-Tahar, S.**

Tahara, Hidetoshi (*with* Gérard, Raymond) Holomorphic and singular solutions of non-linear singular partial differential equations. II. *Structure of solutions of differential equations* (*Katata/Kyoto*, 1995), 135–150, *World Sci. Publishing, River Edge, NJ*, 1996. (Gunter Bengel) **99a:35006** 35A20 (35G20)

— (*with* Gérard, Raymond) Formal power series solutions of nonlinear first order partial differential equations. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 133–166. (Masatake Miyake) **99d:35009** 35A20 (35C10, 35F20)

— Nonlinear partial differential equations in the complex domain. (Japanese. Japanese summary) Partial differential equations in the complex domain (Japanese)(Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1028 (1998), 42–51. (*see* **99e:35002**) 35A20

Tahara, Manabu (*with* Watanabe, Yoshiyuki) Natural almost Hermitian, Hermitian and Kähler metrics on the tangent bundles. (English summary) *Math. J. Toyama Univ.* **20** (1997), 149–160. (Emilio Musso) **99d:53032** 53C15 (53C55)

Tahata, Rataka On Kellerer-Strassen type marginal measure problem. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 441–448. (Summary) **99c:60003** 60A10

Taherizadeh, A. J. On the Artinianness of the local homology modules. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1377–1383. (J. K. Verma) **99f:13019** 13D45 (13E10)

Tahhan Bittar, E. (*with* Cichon, E. A.) Ordinal recursive bounds for Higman's theorem. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 63–84. (Cristian Calude) **99m:03077** 03D05

el-Tahir, Ali *see* **El-Tahir, Ali**

Tahiri, M. (*with* Abdesselam, Abdelouaheb) Generalized connection formalism and BRST cohomology structure for *BF* theories. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 23, 1837–1844. (Summary) **99d:81165** 81T70

— (*with* Menaa, M.) BRST–anti-BRST symmetry and observables for topological gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7312–7317. (Summary) **99k:81325** 81T70 (81T60)

Tahk, Min-Jea (*with* Jin, Jaehyun; Park, Changsu) Time-delayed state and unknown input observation. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 733–745. 93C25 (93B07)

— (*with* Sun, Byung-Chan) Controller reduction using a new invariant set. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 447–467. (Summary) **99c:93045** 93B50 (93B11)

— (*with* Nam, Kwanghee) A second-order stochastic filter involving coordinate transformation. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 603–608. 93E11

Tahri, E. H. (*with* Dobrev, Vladimir K.) Duality for multiparameter quantum deformation of the supergroup GL(m/n). (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 25, 4339–4366. (Tomasz Brzeziński) **99i:81096** 81R50 (16W30, 17B37)

— Quantum group structure on the quantum plane. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2983–2992. (Władysław Marcinek) **99d:81057** 81R50 (16W30, 17B37, 58B30)

— (*with* El Hassouni, A.) On the two-parameter quantum supergroups and quantum superplanes. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2065–2074. (Władysław Marcinek) **99e:58015** 58B30 (16W30, 17B37, 81R50)

Tahvildar-Zadeh, A. Shadi (*with* Schlatter, A. E.; Struwe, Michael) Erratum: "Global existence of the equivariant Yang-Mills heat flow in four space dimensions" [Amer. J. Math. **120** (1998), no. 1, 117–128; MR 98k:58063]. *Amer. J. Math.* **120** (1998), *no.* 4, 690. 58E15 (53C07, 58G11)

Tai, Hung-Chun (*with* Yang, Ciann-Dong; Yeh, Fang-Bo) Synthesis of robust-performance controllers using matrix experiments and analysis of variance. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1475–1498. 93B50

Tai, Jin-Yen Generalized plus-constructions and fundamental groups. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 2, 207–220. (V. P. Snaith) **99i:55017** 55P60 (19D06, 55N20)

Tai, Ray P. (*with* Aggarwal, Charu C.; Orlin, James B.) Optimized crossover for the independent set problem. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 226–234. (Summary) **99d:90088** 90C27

Tai, Xue-Cheng (*with* Frøyen, Johnny; Espedal, Magne S.; Chan, Tony F. C.) Overlapping domain decomposition and multigrid methods for inverse problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 523–529, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65210** 65N55 (35R30)

— (*with* Espedal, Magne S.; Yan, Ning-ning) A hybrid nonoverlapping domain decomposition scheme for advection dominated advection-diffusion problems. (English summary) *Numer. Algorithms* **18** (1998), *no.* 3-4, 321–336. (Zheng Hui Xie) **99k:65115** 65N55 (76M25)

— A space decomposition method for parabolic equations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 27–46. (Beny Neta) **99h:65166** 65M55 (65J15)

— (*with* Espedal, Magne S.) Rate of convergence of some space decomposition methods for linear and nonlinear problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1558–1570 (*electronic*). (Muhammad Aslam Noor) **99k:65101** 65N12 (65K10)

ben Taïb, A. *see* **Ben Taïb, A.**

Taib, Bachok B. (*with* Malathi, V.; Suleiman, Mohamed Bin) Computing eigenvalues of periodic Sturm-Liouville problems using shooting technique and direct integration method. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 119–132. (Summary) **99k:65064** 65L10 (65L15)

Taib, Ziad Branching processes and evolution. *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 321–329, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D25 (92D15)

Taïbi, D. (*with* Dellacherie, C.; Martínez, Servet A.; San Martín, Jaime) Noyaux potentiels associés à une filtration. (English and French summaries) [Potential kernels associated with a filtration] *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 6, 707–725. (Ivor E. McGillivray) **99k:60114** 60G42 (60G44, 60H05, 60J45)

Taibi, Noureddine (*with* Hamdouni, Aziz) Kane's formalism and Lie group theory. *Mech. Res. Comm.* **25** (1998), *no.* 4, 385–393. (Alexander M. Kovalev) **99f:70017** 70E15 (70–04, 70F20, 70F25)

Taibleson, M. (*with* Bui, Huy-Qui; Paluszyński, M.) Characterization of the Besov-Lipschitz and Triebel-Lizorkin spaces. The case $q < 1$. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 837–846. (Lanzhe Liu) **99d:46045** 46E35 (42B25)

Taiji, Makoto (*with* Sato, Yuzuru; Ikegami, Takashi) Self-similar sets as satisfiable Boolean expressions. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 352–370, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99h:68058** 68Q15 (03B05, 03D15, 68Q05)

— (*with* Ikegami, Takashi) Structures of possible worlds in a game of players with internal models. (English summary) *Acta Polytech. Scand. Math. Comput. Manage. Eng. Ser.* **1998**, *no.* 91, 283–292. 90D40 (03B45)

Taillard, Éric (*with* Hansen, Pierre; Mladenović, Nenad) Heuristic solution of the multisource Weber problem as a p-median problem. (English and French summaries) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 55–62. 90C25 (90B80)

Taillibert, Patrick (*with* Devienne, Philippe; Parrain, Anne; Varennes, Serge) Source-to-source Prolog program compression. (English summary) *Logic programming* (*Manchester*, 1998), 205–219, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17

— (*with* Koshelev, Misha; Longpré, Luc) Optimal enclosure of quadratic interval functions. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 351–360. (Robert Rihm) **99j:65083** 65G10 (65Y20)

Taimanov, Iskander A. Some problems concerning the topology of manifolds of positive sectional curvature. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 121–137, 190–191, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Valery Marenich) **99m:53079** 53C21 (53C20)

— Surfaces of revolution in terms of solitons. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 5, 419–435. (Ricardo Sa Earp) **99f:53005** 53A05 (53A10)

— The global Weierstrass representation and its spectrum. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 187–188; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1330–1332. (J. S. Joel) **99d:53011** 53A10 (58F07, 58G25)

— A remark on positively curved manifolds of dimensions 7 and 13. *Tensor and vector analysis*, 282–295, *Gordon and Breach, Amsterdam*, 1998. (David J. Wraith) **99k:53072** 53C20 (53C21, 53C30)

— *see also* **Algebra, geometry, analysis and mathematical physics, 99a:00019**

Tainaka, Kei-ichi (*with* Tao, Tomomi; Nishimori, Hiraku) Contact percolation process: contact process on a destructed lattice. (English summary) *J. Phys. Soc. Japan* **68** (1999), *no.* 2, 326–329. 82B43

abou-Tair, I. A. *see* **Abou-Tair, I. A.**

Taira, Hideo (*with* Maekawa, Takayoshi) Note on gauge theory on $M_4 \times Z_N$ with auxiliary field. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 6, 1029–1032. (Gennaro Miele) **99f:58020** 58B30 (81T13)

Taira, Kazuaki Analytic Feller semigroups. *Conf. Semin. Mat. Univ. Bari No.* 267 (1997), ii+29 *pp.* (Jörg-Uwe Löbus) **99e:60167** 60J35 (35J15, 47D07, 60J50)

— Boundary value problems of nonlinear elastostatics. *Generalized analytic functions* (*Graz*, 1997), 183–195, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Matthias Wilhelm Winter) **99h:73024** 73C50 (35Q72, 73C35)

— Bifurcation theory for semilinear elliptic boundary value problems. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 261–308. (Yi Hong Du) **99j:35071** 35J65 (35B32, 47H15)

— (*with* Umezu, Kenichiro) Semilinear elliptic boundary value problems in chemical reactor theory. (English summary) *J. Differential Equations* **142** (1998), *no.* 2, 434–454. (Bo Guan) **99c:35080** 35J65 (92E20)

— Feller semigroups with boundary conditions. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 157–173. (J. A. Van Casteren) **99m:47051** 47D07 (60J25)

— Introduction to semilinear elliptic boundary value problems. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 2, 127–172. (Jan Bochenek) **99d:35061** 35J65 (35B32, 35P30)

Tait, Stephen (*with* Snyder, Don) A flow-front instability in viscous gravity currents. (English summary) *J. Fluid Mech.* **369** (1998), 1–21. (Summary) **99f:76055** 76E20 (76–05, 86A05)

Taj, M. S. A. (*with* Twizell, E. H.) A family of third-order parallel splitting methods for parabolic partial differential equations. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 411–433. 65M06 (65Y05)

Tajchman, Marc (*with* Ghidaglia, Jean-Michel; Kumbaro, Anela; Le Coq, Gérard) A finite volume implicit method based on characteristic flux for solving hyperbolic systems of conservation laws. (English summary) *Proceedings of the Conference on Nonlinear*

Evolution Equations and Infinite-dimensional Dynamical Systems (*Shanghai*, 1995), 50–65, *World Sci. Publishing, River Edge, NJ*, 1997. (Miloslav Feistauer) **99m:65184** 65M60 (35L65)

Tajima, Akira (*with* Misono, Shinji) Airline crew-scheduling problem with many irregular flights. (English summary) *Algorithms and computation* (*Singapore*, 1997), 2–11, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 90B35 (90C90)

— (*with* Kyoda, Yoshiaki; Imai, Keiko; Takeuchi, Fumihiko) A branch-and-cut approach for minimum weight triangulation. (English summary) *Algorithms and computation* (*Singapore*, 1997), 384–393, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68U05

— (*with* Ninomiya, Syoiti; Tezuka, Shu) Analysis of the anomaly of ran1() generator in Monte Carlo pricing of financial derivatives. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 387–397. (Summary) **99g:65012** 65C05 (65C10, 90A09)

Tajima, Fumio Estimation of the amount of DNA polymorphism and statistical tests of the neutral mutation hypothesis based on DNA polymorphism. *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 149–164, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D15 (92D20)

Tajima, May (*with* Fraser, Niall M.) Modelling multi-issue negotiation. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 177–186, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A05 (90D12)

Tajima, Satoshi (*with* Iwama, Kazuo; Miyano, Eiji; Tamaki, Hisao) Efficient randomized routing algorithms on the two-dimensional mesh of buses. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 229–240, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68M10

Tajima, Shinichi Novikov's work on non-linear quasi-classical approximations. (Japanese) Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 36–48. (*see* **99d:00021**) 35Q53 (81Q20)

— (*with* Nakamura, Yayoi) Residue calculations for rational functions using differential operators and Horowitz's algorithm. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 23–30. (*see* **99h:00034**) 32A37 (13P99)

Tajine, M. (*with* Wagner, D.; Ronse, Christian) An approach to discretization based on the Hausdorff metric. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 67–74, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:68180** 68U10

— (*with* Elizondo, D.) Growing methods for constructing recursive deterministic perceptron neural networks and knowledge extraction. (English summary) *Artificial Intelligence* **102** (1998), *no.* 2, 295–322. (Summary) **99e:68137** 68T05

Tajmouati, A. (*with* Akkar, Mohamed) Sur les diviseurs topologiques de zéro dans les algèbres localement convexes métrisables. (English summary) [Topological divisors of zero in metrizable locally convex algebras] Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 213–218. (José E. Galé) **99c:46051** 46H05

Tajuddin, I. H. (*with* Khalique, A.) A test of symmetry based on sign statistic. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 3, 243–249. 62G10

Takaba, D. (*with* Kikkawa, S.; Mukai, Juno) Cohomotopy sets of projective planes. (English summary) *J. Fac. Sci. Shinshu Univ.* **33** (1998), *no.* 1, 1–7. (Katsumi Shimomura) **99j:55010** 55Q05 (55Q55)

Takaba, Kiyotsugu (*with* Katayama, Tohru) Discrete-time H_∞ algebraic Riccati equation and parametrization of all H_∞ filters. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1129–1149. 93B36 (93E11)

— (*with* Katayama, Tohru) Stochastic properties of the H_∞ filter. *Statistical methods in control and signal processing*, 239–256, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (Katsuji Uosaki) **99j:93108** 93E11 (93B36)

— (*with* Katayama, Tohru) H^2 output feedback control for descriptor systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 841–850. (Michel Malabre) **99f:93052** 93B36 (93C20)

— Robust $\mathscr{H}^2$ control of descriptor system with time-varying uncertainty. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 559–579. (Long Wang) **99h:93044** 93B36 (93C41)

Takáč, Peter (*with* Kaper, Hans G.) An equivalence relation for the Ginzburg-Landau equations of superconductivity. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 4, 665–675. (Summary) **99e:35211** 35Q55 (82D55)

— (*with* Fleckinger, Jacqueline) Maximum and anti-maximum principles for some elliptic problems. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 19–32, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (David L. Finn) **99c:35025** 35B50 (35J60)

— (*with* Fleckinger, Jacqueline; Gossez, Jean-Pierre; de Thélin, François) Nonexistence of solutions and an anti-maximum principle for cooperative systems with the p-Laplacian. (English summary) *Math. Nachr.* **194** (1998), 49–78. (P. Lindqvist) **99j:35078** 35J70 (35B50, 35J45)

— (*with* Fleckinger, Jacqueline; Kaper, Hans G.) Dynamics of the Ginzburg-Landau equations of superconductivity. *Nonlinear Anal.* **32** (1998), *no.* 5, 647–665. (Peter E. Zhidkov) **99c:35219** 35Q55 (35B30, 35B40, 58F39, 82D55)

— (*with* Kaper, Hans G.) Ginzburg-Landau dynamics with a time-dependent magnetic field. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 291–305. (Peter E. Zhidkov) **99c:35220** 35Q55 (35B40, 58F39, 82D55)

— (*with* Drábek, Pavel) A counterexample to the Fredholm alternative for the p-Laplacian. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1079–1087. (Tetsutaro Shibata) **99h:34028** 34B15 (34C10, 34L30, 35J65, 47H15)

Takách, G. On the sublattice-lattices of lattices. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 121–126. (Ivo Düntsch) **99a:06009** 06B05 (03G10)

Takači, Arpad (*with* Takači, Djurdjica) Second order difference equations in the field of Mikusiński operators. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 207–215, *Sci. Cult. Technol. Publ., Singapore*, 1995. (S. P. Goyal) **99k:39036** 39A10 (44A40)

— (*with* Takači, Djurdjica) On the operator solutions of difference equations. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **59(73)** (1996), 77–88. (Mihai Neagu) **99d:39013** 39A10 (44A40)

— (*with* Schmeelk, John) Wavelet transforms in generalized Fock spaces. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 657–672. (Gilbert Walter) **99a:46078** 46F12 (42C15, 44A15, 44A35)

— (*with* Takači, Djurdjica) Construction of the solutions of difference equations in the field of Mikusiński operators. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1245–1264. (S. P. Goyal) **99f:39010** 39A10 (44A40, 65J05)

— (*with* Schmeelk, John) Quasiasymptotics and the dual Fock space. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 309–319. (Summary) **99d:46053** 46F05

— (*with* Teofanov, Nenad) Corrigendum to: "A note on wavelets and S-asymptotics" [Mat. Vesnik **49** (1997), no. 3-4, 215–220]. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 65–66. 42C05 (46F10)

— (*with* Pilipović, Stevan S.; Teofanov, Nenad) Wavelets and quasiasymptotics at a point. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 40–52. (David F. Walnut) **99m:42052** 42C15

Takači, Djurdjica (*with* Takači, Arpad) Second order difference equations in the field of Mikusiński operators. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 207–215, *Sci. Cult. Technol. Publ., Singapore*, 1995. (S. P. Goyal) **99k:39036** 39A10 (44A40)

— (*with* Takači, Arpad) On the operator solutions of difference equations. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **59(73)** (1996), 77–88. (Mihai Neagu) **99d:39013** 39A10 (44A40)

— (*with* Takači, Arpad) Construction of the solutions of difference equations in the field of Mikusiński operators. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1245–1264. (S. P. Goyal) **99f:39010** 39A10 (44A40, 65J05)

Takacs, Christiane (*with* Takacs, Roland) Random walks on trees and an inequality of means. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 701–714. (Alexandre S. Gajrat) **99k:60182** 60J15 (60E15, 60J80)

Takács, Gábor Quantum affine symmetry and scattering amplitudes of the imaginary coupled $d_4^{(3)}$ affine Toda field theory. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 3, 629–648. (Konstantin G. Selivanov) **99f:81184** 81T40 (81R50, 81U20)

— (*with* Feverati, G.; Ravanini, F.) Truncated conformal space at $c = 1$, nonlinear integral equation and quantization rules for multi-soliton states. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 264–273. (Summary) **99e:81222** 81T40 (81T10)

— (*with* Feverati, G.; Ravanini, F.) Non-linear integral equation and finite volume spectrum of sine-Gordon theory. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 543–586. (Summary) **99k:81175** 81T10

Takacs, Roland (*with* Takacs, Christiane) Random walks on trees and an inequality of means. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 701–714. (Alexandre S. Gajrat) **99k:60182** 60J15 (60E15, 60J80)

Takada, H. (*with* Chao, Xiuli; Miyazawa, Masakiyo; Serfozo, Richard F.) Markov network processes with product form stationary distributions. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 4, 377–401. (Peter Gerrard Taylor) **99m:60142** 60K25 (68M20, 90B12)

Takada, Masahiro (*with* Futamase, Toshifumi) How is the local-scale gravitational instability influenced by the surrounding large-scale structure formation? (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 4, 461–486. (Summary) **99m:85005** 85A40

Takada, Shingo (*with* Barmawi, Ari Moesriami; Doi, Norihisa) Augmented encrypted key exchange using RSA encryption and confounder. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3324–3332. (Summary) **99i:94040** 94A60

Takada, Takenori (*with* Nakajima, Hisao) Theorems on the invasion process in stage-structured populations with density-dependent dynamics. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 497–514. (Summary) **99b:92048** 92D25

Takada, Yoshikazu Effects of correlated disturbances of some regression problems. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 8, 1925–1935. (Xuming He) **99a:62085** 62J02 (62F03)

— (*with* Aoshima, Makoto) Two-stage procedures for estimating a linear function of multinormal mean vectors. (English summary) *Sequential Anal.* **16** (1997), *no.* 4, 353–362. (K. F. Yu) **99c:62225** 62L10 (62F25, 62H12)

— Asymptotic improvement of the usual confidence set in a multivariate normal distribution with unknown variance. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 2, 118–130. (Christian P. Robert) **99g:62036** 62F25 (62C15, 62H12)

Takada, Yuji² (*with* Koshiba, Takeshi; Mäkinen, Erkki) Learning deterministic even linear languages from positive examples. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 63–79. (Summary) **99m:68168** 68T05 (68Q45)

Takae, Akiteru (*with* Takai, Shigemasa; Kodama, Shinzo) The extremal languages arising in supervisory control for service specifications. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 1, 161–175. (Keigo Watanabe) **99f:93101** 93C83 (68Q45)

Takagi, Hideaki (*with* Nishi, Tsuyoshi) Correlation of interdeparture times in $M/G/1$ and $M/G/1/K$ queues. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 142–151. (Summary) **99b:60162** 60K25 (90B12)

Takagi, Hiromichi Remarks on Gorenstein terminal fourfold flips. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 1, 149–164. (Jarosław A. Wiśniewski) **99d:14014** 14E30 (14J35)

— Classification of extremal contractions from smooth fourfolds of (3, 1)-type. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 315–321. (Marco Andreatta) **99h:14016** 14E30 (14J35)

Takagi, Hiroyuki (*with* Narita, Kouichi) Compact composition operators between L^p-spaces. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 129–136. (*see* **99i:00018**) 47B38

Takagi, Ichiro (*with* Tabata, Minoru; Eshima, Nobuoki; Hiroyama, Takashi) The Cauchy problem for the system of equations describing migration motivated by regional economic disparity. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 45–64. (Vladimir Mityushev) **99i:92036** 92H20 (45K05, 90A99)

— (*with* Tabata, Minoru; Eshima, Nobuoki) The nonlinear integro-partial differential equation describing the logistic growth of human population with migration. (English

summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 169–183. (Summary) **99g:92033** 92D25 (45K05)

Takagi, Izumi (*with* Ni, Wei-Ming; Wei, Juncheng) On the location and profile of spike-layer solutions to a singularly perturbed semilinear Dirichlet problem: intermediate solutions. *Duke Math. J.* **94** (1998), *no.* 3, 597–618. (Dietrich Göhde) **99h:35011** 35B25 (35J65)

— *see also* **Proceedings: Conference on Asymptotics in Nonlinear Diffusive Systems—Towards the Understanding of Singularities in Dissipative Structures, 99a:35004**

Takagi, Naofumi Powering by a table look-up and a multiplication with operand modification. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1216–1222. 68M99

Takagi, Noboru (*with* Hon-nami, Akimitsu; Nakashima, Kyoichi) A characterization of r-valued functions monotonic in an order based on regularity. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka, 1998)*, 71–76, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Takagi, Ryoichi (*with* Kim, Hyang Sook) Certain real hypersurfaces of a complex space form. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 591–606. (Jürgen Berndt) **99m:53105** 53C40

— (*with* Kim, In-Bae; Kim, Byung Hak) The rigidity for real hypersurfaces in a complex projective space. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 531–536. (Jürgen Berndt) **99j:53085** 53C42 (53C30)

— (*with* Kurihara, Hiroyuki) A note on the type number of real hypersurfaces in $\mathbf{P}_n(\mathbf{C})$. *Tsukuba J. Math.* **22** (1998), *no.* 3, 795–804. (Hiroo Naitoh) **99m:53106** 53C40

Takagi, Shin (*with* Nakamura, Takashi; Ottewill, Adrian C.) The bounce method in the theory of quantum decay. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 9–26. (Christian Grosche) **99b:81130** 81S40 (81Q05, 81Q20)

— (*with* Shibata, Junya) A note on (spin-)coherent-state path integral. (English summary) *Internat. J. Modern Phys. B* **13** (1999), *no.* 2, 107–140. (Summary) **99m:81121** 81S40 (81R30)

Takagi, Taichiro (*with* Kuniba, Atsuo; Misra, Kailash C.; Okado, Masato; Uchiyama, Jun) Crystals for Demazure modules of classical affine Lie algebras. (English summary) *J. Algebra* **208** (1998), *no.* 1, 185–215. (Ben Lewis Cox) **99h:17008** 17B10 (17B67)

— Vertex type fractions of the six-vertex model at $\Delta = -1$. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 8, 2653–2657. (Summary) **99e:82020** 82B20

— (*with* Kuniba, Atsuo; Misra, Kailash C.; Okado, Masato; Uchiyama, Jun) Characters of Demazure modules and solvable lattice models. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 555–576. (Yasmine B. Sanderson) **99m:17019** 17B37 (81R50, 82B23)

Takagi, Tsuyoshi Fast RSA-type cryptosystems using n-adic expansion. (English summary) *Advances in cryptology—CRYPTO '97 (Santa Barbara, CA, 1997)*, 372–384, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94042** 94A60

Takagi, Yoshiji A new criterion of confidence set estimation: improvement of the Neyman shortness. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 329–338. (J. W. Pratt) **99g:62037** 62F25

Takagiwa, Mutsumi (*with* Shibata, Ritei) Consistency of frequency estimates based on the wavelet transform. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 6, 641–662. (P. A. Morettin) **99b:62147** 62M15 (62G05)

Takahara, Yasuhiko (*with* Chen, Xiaohong[2]) A formal representation of DSS generator. *Systems: theory and practice*, 117–134, *Adv. Comput. Sci., Springer, Vienna*, 1998. (*see* **99g:93002**) 90B30 (93A30)

Takahashi, Daisuke (*with* Tokihiro, Tetsuji; Grammaticos, B.; Ohta, Yasuhiro; Ramani, A.) Constructing solutions to the ultradiscrete Painlevé equations. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7953–7966. (Summary) **99a:39049** 39A12 (82C20)

— (*with* Matsukidaira, Junta; Satsuma, Junkichi; Tokihiro, Tetsuji; Torii, M.) Toda-type cellular automaton and its N-soliton solution. (English summary) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 1–15. (Fernanda Botelho) **99k:58104** 58F08 (68Q80)

— (*with* Matsukidaira, Junta) Box and ball system with a carrier and ultra-discrete modified KdV equation. (English summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 1–14. (*see* **99c:00013**) 65M99 (35Q53)

— (*with* Ramani, A.; Grammaticos, B.; Ohta, Yasuhiro) The ultimate discretisation of the Painlevé equations. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 185–196. (Kuppuswamy Porsezian) **99g:39013** 39A10 (39A12, 58F37)

— (*with* Kanada, Yasumasa) Calculation of π to 51.5 billion decimal digits on distributed memory parallel processors. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2074–2083. (Summary) **99d:65063** 65D20 (11Y60)

Takahashi, Futoshi Solutions of Ginzburg-Landau type systems with higher-dimensional zero sets. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 90–98. (Introduction) **99h:35205** 35Q55 (58E20)

— A method for constructing solutions to nonlinear elliptic equations with higher-dimensional singular sets. (Japanese) Regularity, blowup and related properties of solutions to nonlinear evolution equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1045 (1998), 134–147. (*see* **99h:35003**) 35J60 (35C99)

Takahashi, Hideo Self maps of suspension of sphere bundles over spheres. *Math. J. Okayama Univ.* **38** (1996), 155–158 (1998). (J. Aguadé) **99j:55012** 55Q05

— Note on homotopy classes of self maps; $[\Sigma HP^3, \Sigma HP^3]$. *Math. J. Okayama Univ.* **38** (1996), 159–196 (1998). (M. Arkowitz) **99g:55010** 55P10

Takahashi, Hidewo Fourier transforms of crystal structures. (Japanese) *Bull. Fac. Ed. Kagoshima Univ. Natur. Sci.* **49** (1997), 39–50. 82D25 (42A05)

Takahashi, Hideyuki Value computation for the logic of the *Analects of Confucius*. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 167–174. (*see* **99i:65003**) 68N17 (03B65)

Takahashi, Iwaro Applications of M-series and M-arrays to spectral analysis and multislit imagings by difference equations on a finite field. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv, 1994)*, 216–227, *Sci. Cult. Technol. Publ., Singapore*, 1995. (From the summary) **99h:94022** 94A12 (39A10)

Takahashi, Junya[1] The first eigenvalue of the Laplacian on p-forms and metric deformations. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 2, 333–344. (Józef Dodziuk) **99e:58199** 58G25

— Upper bounds for the eigenvalues of the Laplacian on forms on certain Riemannian manifolds. (English summary) *J. Math. Sci. Univ. Tokyo* **6** (1999), *no.* 1, 87–99. (Józef Dodziuk) **99m:58201** 58G25

Takahashi, Kaoru (*with* Sugawara, Kana; Ando, Toshihiko; Kato, Yasushi; Shiratori, Norio) Specification of a concurrent system based on propositional logic. (English summary) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 322–332. (Summary) **99m:68124** 68Q60 (03B70)

Takahashi, Katsutoshi (*with* Wu, Pei Yuan) Dilation to the unilateral shifts. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 101–113. (László Kérchy) **99h:47013** 47A20 (47A45)

Takahashi, Kazukiyo (*with* Watanabe, Keiji) 3 disk mixed sensitivity problem of time-delay systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 365–376. (Summary) **99c:93035** 93B35 (93C25)

Takahashi, Kazuyoshi (*with* Terakawa, Hiroyuki) Generalized adjunction of k-very ample vector bundles on algebraic surfaces. (English summary) *Geom. Dedicata* **71** (1998), *no.* 3, 309–325. (Andrew J. Sommese) **99g:14053** 14J60 (14E25)

Takahashi, Koichi (*with* Yamamoto, Mitsuharu; Hagiya, Masami; Nishizaki, Shin-ya; Tamai, Tetsuo) Formalization of graph search algorithms and its applications. (English summary) *Theorem proving in higher order logics (Canberra, 1998)*, 479–496, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68T15 (68T20)

Takahashi, Kunihiko (*with* Akahira, Masafumi) An approximation to a percentage point of the distribution of the kurtosis statistic b_2. (Japanese) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 173–185. (*see* **99a:62005**) 62E15 (62E20)

— (*with* Akahira, Masafumi) Large-deviation approximations for the discrete distribution. (Japanese) Large deviation and statistical inference (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1055 (1998), 45–67. (*see* **99m:62007**) 62E20 (60F10)

Takahashi, Minoru Logarithmic anomalies of susceptibility for solvable models. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 312–319, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— Thermodynamical Bethe ansatz and condensed matter. (English summary) *Conformal field theories and integrable models (Budapest, 1996)*, 204–250, *Lecture Notes in Phys.*, 498, *Springer, Berlin*, 1997. (Johanna K. Erdmenger) **99i:82016** 82B23 (82B20)

Takahashi, Misa (*with* Ōsawa, Hideo; Fujisawa, Takehisa) A stochastic assembly system with resume levels. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 2, 127–146. (Summary) **99i:90045** 90B05 (60K25, 90B22)

Takahashi, Naoya (*with* Nakano, Tohru; Kambe, Tsutomu; Gotoh, Toshiyuki; Yamamoto, Kiyoshi) Conditional expectations and probability density distributions in turbulence. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 130–136. (*see* **99k:76004**) 76F99 (60E99, 76M35)

Takahashi, Nobuyoshi An application of Noether-Fano inequalities. *Math. Z.* **228** (1998), *no.* 1, 1–9. (Atanas Iliev) **99d:14041** 14J45 (14E05)

Takahashi, Norikazu (*with* Chua, Leon O.) On the complete stability of nonsymmetric cellular neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 754–758. (Summary) **99h:94085** 94C05 (68Q80, 68T05, 92B20)

Takahashi, Shigeru (*with* Fukuyama, Katusi) The central limit theorem for lacunary series. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 599–608. (F. Móricz) **99c:60041** 60F05 (42A55)

Takahashi, Shuzo (*with* Ribet, Kenneth A.) Parametrizations of elliptic curves by Shimura curves and by classical modular curves. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11110–11114. (Massimo Bertolini) **99e:11080** 11G18 (11F33, 11G05)

Takahashi, Tadashi (*with* Kadowaki, Keiji) On simple $K3$ singularity equations. (Japanese. English summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 49–56. (*see* **99h:00034**) 14B05

Takahashi, Tetsuya Character formulas for representations of GL_3 over non-Archimedean fields. (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 40–54. (Takao Watanabe) **99c:22027** 22E50 (11F70)

Takahashi, Tohru[3] (*with* Takajo, Hiroaki; Ueda, Ryuzo; Taninaka, Makoto) Study on the convergence property of the hybrid input-output algorithm used for phase retrieval. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 11, 2849–2861. (Summary) **99j:78004** 78–08 (78A55)

Takahashi, Tomohiko (*with* Kugo, Taichiro) Unoriented open-closed string field theory. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 4, 649–689. (Hitoshi Nishino) **99k:81256** 81T30 (83E30)

— (*with* Asakawa, Tsuguhiko; Kugo, Taichiro) On the generalized gluing and resmoothing theorem. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 2, 437–454. (Summary) **99m:81167** 81T30

— (*with* Asakawa, Tsuguhiko; Kugo, Taichiro) BRS invariance of unoriented open-closed string field theory. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 4, 831–879. (Ion V. Vancea) **99m:81168** 81T30 (81T70)

Takahashi, Tomokazu (*with* Kubo, Shiro; Ohji, Kiyotsugu) Characterization of the Tikhonov regularization for numerical analysis of inverse boundary value problems by using the singular value decomposition. (English summary) *Inverse problems in engineering mechanics (Nagano, 1998)*, 337–344, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 65J15 (65N30)

Takahashi, Tomokuni Certain algebraic surfaces of general type with irregularity one and their canonical mappings. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 2, 261–290. (Caryn Werner) **99d:14032** 14J29

Takahashi, Wataru (*with* Shimizu, Tomoo) Fixed points of multivalued mappings in certain convex metric spaces. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 197–203. (Simeon Reich) **99c:47094** 47H10 (47H04, 54C60, 54H25)
— (*with* Suzuki, Tomonari) Fixed point theorems and characterizations of metric completeness. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 371–382 (1997). (S. N. Mishra) **99c:54064** 54H25 (47H10, 54E40)
— Nonlinear ergodic theorems and feasibility problems. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 94–102. (*see* **99b:90009**) 47H20 (47H09, 90C30)
— Fan's existence theorem for the inequalities concerning convex functions and its applications. *Minimax theory and applications* (*Erice*, 1996), 241–260, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (S. Simons) **99j:46006** 46A22 (46N10, 47H10, 47N10, 49J35)
— (*with* Atsushiba, Sachiko) Approximating common fixed points of two nonexpansive mappings in Banach spaces. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 117–127. (Tomás Domínguez Benavides) **99d:47050** 47H10 (47H09)
— (*with* Izawa, Yasumitsu) The coalitional rationality of the Shapley value. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 597–602. (Summary) **99a:90241** 90D06
— (*with* Kim, Gang-Eun) Strong convergence of approximants to fixed points of nonexpansive nonself-mappings in Banach spaces. *Nonlinear Anal.* **32** (1998), *no.* 3, 447–454. (Simeon Reich) **99h:47063** 47H09 (47H10, 47H17)
— (*with* Shioji, Naoki) Strong convergence theorems for asymptotically nonexpansive semigroups in Hilbert spaces. *Nonlinear Anal.* **34** (1998), *no.* 1, 87–99. (Behzad Djafari-Rouhani) **99e:47071** 47H09 (47H20)
— (*with* Shioji, Naoki; Suzuki, Tomonari) Contractive mappings, Kannan mappings and metric completeness. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3117–3124. (Hans-Peter A. Künzi) **99a:54023** 54E50 (54H25)
— (*with* Suzuki, Tomonari) On weak convergence to fixed points of nonexpansive mappings in Banach spaces. (English summary) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 149–156. (Summary) **99i:47109** 47H10 (47H09)
— (*with* Izawa, Yasumitsu) Shapley values for n-person games. (Japanese) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 111–116. (*see* **99i:90002**) 90D12 (90D06)
— (*with* Atsushiba, Sachiko) Nonlinear ergodic theorems in a Banach space satisfying Opials's condition. *Tokyo J. Math.* **21** (1998), *no.* 1, 61–81. (Behzad Djafari-Rouhani) **99f:47090** 47H20 (47H09)
— (*with* Shioji, Naoki) Strong convergence of averaged approximants for asymptotically nonexpansive mappings in Banach spaces. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 53–64. (Yuly Makovoz) **99m:41055** 41A65 (41A29)
— (*with* Lau, Anthony To-Ming; Shioji, Naoki) Existence of nonexpansive retractions for amenable semigroups of nonexpansive mappings and nonlinear ergodic theorems in Banach spaces. (English summary) *J. Funct. Anal.* **161** (1999), *no.* 1, 62–75. (Summary) **99j:47079** 47H09 (47H10, 47H20)
Takahashi, Y. *see* **Takahashi, Yasushi**
Takahashi, Yasuji (*with* Kato, Mikio) Clarkson and random Clarkson inequalities for $L_r(X)$. (English summary) *Math. Nachr.* **188** (1997), 341–348. (Barry Turett) **99c:46015** 46B20 (46E40)
— (*with* Honda, Aoi; Okazaki, Yoshiaki) Generalizations of the Hlawka's inequality. *Bull. Kyushu Inst. Technol. Pure Appl. Math. No.* 45 (1998), 9–15. (Zsolt Páles) **99j:46043** 46E99 (26D15, 46B20)
— (*with* Kato, Mikio; Hashimoto, Kazuo[1]) On n-th von Neumann-Jordan constants for Banach spaces. *Bull. Kyushu Inst. Technol. Pure Appl. Math. No.* 45 (1998), 25–33. (Wolfgang Lusky) **99m:46044** 46B20 (46B10)
— (*with* Kato, Mikio) von Neumann-Jordan constant and uniformly non-square Banach spaces. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 155–169. (Wolfgang Lusky) **99m:46043** 46B20 (46B10)
— (*with* Takahasi, Sin-Ei) Some convexity constants related to Hlawka inequalities in Banach spaces. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 122–125. (*see* **99f:47002**) 46B20 (46C05)
— (*with* Kato, Mikio; Maligranda, Lech) Von Neumann-Jordan constant and some geometrical constants of Banach spaces. Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 68–74. (*see* **99f:00024**) 46B20
— (*with* Honda, Aoi; Okazaki, Yoshiaki) An extension of the Hlawka inequality. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 12–19. (*see* **99i:00029**) 26D15
— (*with* Kato, Mikio) Geometry of Banach spaces and norms of ±1 matrices. Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 165–169. (*see* **99i:00029**) 46B20
Takahashi, Yasushi (*with* Santana, A. E.; Khanna, F. C.) Galilei covariance and (4, 1)-de Sitter space. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 3, 327–336. (Summary) **99f:83029** 83C40
Takahashi, Yoshikane Solving a dynamic traveling salesman problem with an adaptive Hopfield network. (English summary) *Complex Systems* **10** (1996), *no.* 6, 449–466. (Summary) **99d:90095** 90C27 (68Q25, 68T05)
Takahashi, Yoshitaka (*with* Takine, Tetsuya) On the relationship between queue lengths at a random instant and at a departure in the stationary queue with BMAP arrivals. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 601–610. (Summary) **99a:60109** 60K25 (90B22)
— (*with* Sakai, Yutaka; Takahashi, Yutaka[3]; Hasegawa, Toshiharu) A composite queue with vacation/set-up/close-down times for SVCC in IP over ATM networks. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 68–80. (*see* **99a:90008**) 90B22 (60K25)
— (*with* Frey, Andreas) An explicit solution for an $M/GI/1/N$ queue with vacation time and exhaustive service discipline. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 430–441. (Takehisa Fujisawa) **99i:60168** 60K25 (90B22)
— *see also* **Performance evaluation of information communication networks, 99a:90008**
Takahashi, Yukio[1] (*with* Fujimoto, Kou; Makimoto, Naoki) Asymptotic properties of stationary distributions in two-stage tandem queueing systems. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 118–141. (Summary) **99e:60204** 60K25 (90B22)
Takahashi, Yutaka[3] (*with* Sakai, Yutaka; Takahashi, Yoshitaka; Hasegawa, Toshiharu) A composite queue with vacation/set-up/close-down times for SVCC in IP over ATM networks. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 68–80. (*see* **99a:90008**) 90B22 (60K25)
— (*with* Sakai, Yutaka; Hasegawa, Toshiharu) Discrete time multi-class feedback queue with vacations and close time under random order of service discipline. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 589–613. (Jian-Min Li) **99k:90079** 90B22 (60K25)
Takahasi, Sin-Ei (*with* Izuchi, Keiji) BKW-operators on the interval [0, 1]. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 477–489. (Francesco Altomare) **99a:41030** 41A35 (47B38)
— (*with* Takahashi, Yasuji) Some convexity constants related to Hlawka inequalities in Banach spaces. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 122–125. (*see* **99f:47002**) 46B20 (46C05)
— (*with* Tsukada, Makoto) Conditions for equality to hold in an inverse Jensen inequality. (Japanese. Japanese summary) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 6–11. (*see* **99i:00029**) 26D15
— The proximinality of the center of a quasicentral C^*-algebra. (Japanese. English summary) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 94–102. (*see* **99i:00018**) 46L05
— (*with* Hatori, Osamu) A structure of ring homomorphisms on commutative Banach algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2283–2288. (Volker Runde) **99j:46058** 46J05
Takai, Hiroshi (*with* Sudo, Takahiro) Stable rank of the C^*-algebras of solvable Lie groups of type I. (English summary) *J. Operator Theory* **38** (1997), *no.* 1, 67–86. (Alain Valette) **99a:46125** 46L80 (19K99, 22D25, 22E27, 46L05)
Takai, Shigemasa (*with* Kodama, Shinzo) M-controllable subpredicates arising in state feedback control of discrete event systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 553–566. 93C83 (93B05)
— On the language generated under fully decentralized supervision. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1253–1256. 93C83 (93A14)
— (*with* Kodama, Shinzo) Formulas for the extremal controllable sequences in timed-event graphs. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1465–1468. (Summary) **99e:93051** 93C83
— (*with* Takae, Akiteru; Kodama, Shinzo) The extremal languages arising in supervisory control for service specifications. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 1, 161–175. (Keigo Watanabe) **99f:93101** 93C83 (68Q45)
— (*with* Kodama, Shinzo) Characterization of all M-controllable subpredicates of a given predicate. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 541–549. (Summary) **99c:93012** 93B05 (93C83)
— Discrete event control with the max-plus algebra. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 434–439. (*see* **99g:93006**) 93C83 (93B25)
Takaishi, Takeshi (*with* Kokubu, Hiroshi; Mischaikow, Konstantin; Nishiura, Yasumasa; Oka, Hiroe) Connecting orbit structure of monotone solutions in the shadow system. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 309–364. (Anibal Rodriguez-Bernal) **99e:35107** 35K57 (34C99, 35B99, 58F39)
Takajo, Hiroaki (*with* Takahashi, Tohru[3]; Ueda, Ryuzo; Taninaka, Makoto) Study on the convergence property of the hybrid input-output algorithm used for phase retrieval. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 11, 2849–2861. (Summary) **99j:78004** 78–08 (78A55)
Takaki, Akinari (*with* Wada, Koichi; Kawaguchi, Kimio) Efficient algorithms for a mixed k-partition problem of graphs without specifying bases. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 233–248. (Summary) **99c:68202** 68R10 (68Q25)
Takaki, Osamu Strong normalization theorem for a constructive arithmetic with definition by transfinite recursion and bar induction. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 3, 350–373. (J. P. Seldin) **99h:03034** 03F05 (03F10)
Takakura, F. I. (*with* Moriconi, L.) Circulation statistics in three-dimensional turbulent flows. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 3187–3201. (Summary) **99f:76075** 76F99 (76M35)
Takakuwa, Kei (*with* Terai, Nobuhiro) A note on the Diophantine equation $a^x + b^y = c^z$. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 9, 161–164. (Eugene M. Matveev) **99f:11045** 11D61
Takami, Toshihiro Turbulence in a bend with repeated centrifugal action in opposite directions. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 53–64. (*see* **99e:76056**) 76F99
Takamura, Akira (*with* Takano, Ken'ichi) Braid structure and raising-lowering operator formalism in Sutherland model. (English summary) *J. Phys. A* **31** (1998), *no.* 25, *L473–L480*. (Summary) **99c:81284** 81V70
Takamura, Hiroyuki Nonexistence of global solutions to semilinear wave equations. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 201–208, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:35105** 35L70 (35B40)
— (*with* Ohta, Masahito) Remarks on the blow-up boundaries and rates for nonlinear wave equations. *Nonlinear Anal.* **33** (1998), *no.* 7, 693–698. (Varga Kalantarov) **99e:35153** 35L70 (35B05)
Takanami, I. A note on realizing multiple-valued logic functions using Akers' cells—cell sizes and path lengths. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 26–31, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 94C10
Takane, Martha (*with* Guo, Jin Yun; Martinez-Villa, Roberto) Koszul generalized Auslander regular algebras. (English summary) *Algebras and modules, II* (*Geiranger*,

1996), 263–283, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (G. Krause) **99k:16092** 16W50 (16E70, 16G70, 16P90)

— (*with* Boldt, Axel) The spectral classes of unicyclic graphs. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 39–49. (Summary) **99g:05128** 05C50 (05C38, 16G20)

— (*with* de la Peña, José Antonio) On the number of terms in the middle of almost split sequences over tame algebras. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3857–3868. (Ibrahim Assem) **99m:16030** 16G70 (16G60)

Takano, Hiroshi (*with* Onoda, Masaru; Ichinose, Ikuo; Matsui, Tetsuo) Finite-temperature renormalization-group study of a dissipative gauge theory with fermions. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 3, 581–620. 81T17

Takano, Keiji On standard L-functions for unitary groups. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 1, 5–9. (From the introduction) **99k:22028** 22E55 (11F70)

Takano, Ken'ichi (*with* Takamura, Akira) Braid structure and raising-lowering operator formalism in Sutherland model. (English summary) *J. Phys. A* **31** (1998), *no.* 25, *L*473–*L*480. (Summary) **99c:81284** 81V70

Takano, Kyoichi (*with* Shioda, Tsutomu) On some Hamiltonian structures of Painlevé systems. I. *Funkcial. Ekvac.* **40** (1997), *no.* 2, 271–291. (Andrei A. Kapaev) **99c:34007** 34A20 (34A34, 34C30, 58F05)

Takano, Seiji (*with* Kanagawa, Shuya; Yoshihara, Ken-ichi) Convergence of changepoint estimators for weakly dependent data. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 4, 379–392. (Summary) **99c:62143** 62G20 (60F05)

Takanobu, Satoshi On the error estimate of the integral kernel for the Trotter product formula for Schrödinger operators. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1895–1952. (Nariyuki Minami) **99i:60134** 60H30 (60J65)

— (*with* Ichinose, Takashi) Estimate of the difference between the Kac operator and the Schrödinger semigroup. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 167–197. (J. A. Van Casteren) **99e:47052** 47D07 (35J10, 47F05, 60J65)

— (*with* Ichinose, Takashi) The norm estimate of the difference between the Kac operator and the Schrödinger semigroup: a unified approach to the nonrelativistic and relativistic cases. (English summary) *Nagoya Math. J.* **149** (1998), 53–81. (J. A. Van Casteren) **99i:47075** 47D07 (35J10, 47F05, 81Q10, 82B10)

Takaoka, Masanori The distribution function of the velocity gradient in anisotropic turbulence. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 185–199. (*see* **99e:76056**) 76F99

Takaoka, Tadao Shortest path algorithms for nearly acyclic directed graphs. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 143–150. (Editors) **99g:68156** 68R10 (05C85, 68Q25)

Takasaki, Kanehisa Differential equations and computability. (Japanese. Japanese summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 39–62. (*see* **99c:00013**) 03F60

— (*with* Guha, Partha) Dispersionless hierarchies, Hamilton-Jacobi theory and twistor correspondences. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 3-4, 326–340. (Ian A. B. Strachan) **99e:58099** 58F07 (32L25)

— Gaudin model, KZ equation and an isomonodromic problem on the torus. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 2, 143–156. (J. A. H. Samtleben) **99e:32033** 32G34 (17B37, 58F07)

— Integrable hierarchies and contact terms in u-plane integrals of topologically twisted supersymmetric gauge theories. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1001–1013. (Henrik Aratyn) **99m:58114** 58F07 (58D29, 81T60)

Takase, Koichi On Siegel modular forms of half-integral weights and Jacobi forms. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 735–780. (B. Ramakrishnan) **99d:11045** 11F37 (11F46, 11F55)

Takashima, Keizo Random walk tests of pseudorandom numbers generated by cellular automata. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 148–151. (*see* **99f:65007**) 62D05 (60J15)

Takashino, H. (*with* Itoyama, Hiroshi; Koike, Michio) $N = 2$ supermultiplet of currents and anomalous transformations in supersymmetric gauge theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 1063–1069. (Summary) **99c:81243** 81T60 (81T13, 81T50)

Takaši, Kusano *see* **Kusano, Takaši**

Takasugi, Eiichi (*with* Kenmoku, Masakatsu; Kubotani, Hiroto; Yamazaki, Yuki) de Broglie-Bohm interpretation for the wave function of quantum black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4925–4934. (Summary) **99m:83117** 83C57 (83C47)

— (*with* Suzuki, Hisao; Umetsu, Hiroshi) Perturbations of Kerr-de Sitter black holes and Heun's equations. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 3, 491–505. (Volker Perlick) **99j:83049** 83C57

Takata, Isao Lowest dimensions for immersions of orientable manifolds up to unoriented cobordism. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 481–499. (Edgar H. Brown, Jr.) **99j:57029** 57R42

Takata, Toyoo (*with* Koumoto, Takuya; Kasami, Tadao; Lin, Shu) A low-weight trellis-based iterative soft-decision decoding algorithm for binary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 731–741. (Simon N. Litsyn) **99m:94059** 94B35

Takayama, Fumio (*with* Sakurai, Akira) Calculation of compressibility turbulence based on molecular gas theory. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 40–48. (*see* **99k:76004**) 76F99 (76N99, 76P05)

Takayama, Masahiro (*with* Nishitani, Tatsuo) Characteristic initial-boundary value problems for symmetric hyperbolic systems. *Osaka J. Math.* **35** (1998), *no.* 3, 629–657. (Vladimir Tulovsky) **99k:35114** 35L50

Takayama, Nobuki (*with* Sekiguchi, Jiro) Compactifications of the configuration space of six points of the projective plane and fundamental solutions of the hypergeometric system of type (3, 6). (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 3, 379–413. (Bruce Hunt) **99b:14057** 14M25 (14E05, 14N05, 33C70)

— Gröbner basis and differential equations—an example of mathematical software. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 461–467, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 34–04 (13P10)

— (*with* Oaku, Toshinori) Integrals of modules and their applications. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 163–169. (*see* **99h:00034**) 14F10

Takayama, Shigeharu On relative base point freeness of adjoint bundle. (English summary) *Nagoya Math. J.* **146** (1997), 185–197. (Laurent Manivel) **99d:32039** 32L10 (14C20)

— The Levi problem and the structure theorem for non-negatively curved complete Kähler manifolds. *J. Reine Angew. Math.* **504** (1998), 139–157. (Thierry Bouche) **99j:32034** 32L15 (32E05, 32L10, 32L20)

— Adjoint linear series on weakly 1-complete Kähler manifolds. I. Global projective embedding. *Math. Ann.* **311** (1998), *no.* 3, 501–531. (Thierry Bouche) **99k:32049** 32L10 (32C17)

— Nonvanishing theorems on an algebraic variety with large fundamental group. *J. Algebraic Geom.* **8** (1999), *no.* 1, 181–195. (Philippe P. Eyssidieux) **99k:14030** 14E20 (14C30, 14F17, 32L20)

Takayama, Takuma (*with* Wada, Junzo) Isometric shift operators on the disc algebra. *Tokyo J. Math.* **21** (1998), *no.* 1, 115–120. (S. J. Sidney) **99j:47047** 47B38 (46J15)

Takayama, Yukihide Towards cycle filling as parallelization. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 207–221. (Summary) **99b:68076** 68Q10 (68M10)

Takebayashi, Tadayoshi Chevalley groups associated to elliptic Lie algebras. *J. Algebra* **210** (1998), *no.* 2, 498–513. (Ben Lewis Cox) **99k:17044** 17B67 (20G40)

Takebe, Kata'aki *see* **Sato, Ken-ichi[1], 99k:01006**

Takebe, Katahiro *see* **Sato, Ken-ichi[1], 99k:01006** *and* **Ogawa, Tsukane, (99d:01002)**

Takebe, Takashi (*with* Kuroki, Gen) Twisted Wess-Zumino-Witten models on elliptic curves. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 1–56. (Naihuan Jing) **99g:81070** 81R10 (14H52, 17B81, 32G34, 81T40)

Takeda, Hiroshi[1] (*with* Honma, Noriyasu; Abe, Kenichi; Sato, Mitsuo) Adaptive evolution of holon networks by an autonomous decentralized method. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 1, 43–61. (From the summary) **99a:93024** 93B30 (93A14)

Takeda, Masayoshi Dirichlet forms and symmetric Markov processes (recent topics). (Japanese) *Sūgaku* **49** (1997), *no.* 1, 62–82. (Yoichi Ôshima) **99c:60163** 60J45 (31C25, 60F10, 60J25)

Takeda, Masayuki (*with* Miyazaki, Masamichi; Fukamachi, Shuichi; Shinohara, Takeshi) Speeding up the pattern matching machine for compressed texts. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 9, 2638–2648. (Summary) **99h:68061** 68Q20 (68P20)

Takeda, Yoshifumi Groups of Russell type over a curve. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 1, 93–108. (Zensho Nakao) **99i:14053** 14L15 (14H60, 14J25)

Takeda, Yuichiro A relation between standard conjectures and their arithmetic analogues. *Kodai Math. J.* **21** (1998), *no.* 3, 249–258. (Jan Nekovář) **99m:14047** 14G40 (14C15, 14C25)

— On the K-groups of spherical varieties. *Osaka J. Math.* **35** (1998), *no.* 1, 73–81. (Burt Totaro) **99h:14050** 14M17 (14C35, 19E08)

Takegoshi, Kensho On cohomology groups of nef line bundles tensorized with multiplier ideal sheaves on compact Kähler manifolds. *Osaka J. Math.* **34** (1997), *no.* 4, 783–802. (S. Dimiev) **99j:32033** 32L10 (32J27, 32L20)

— A volume estimate for strong subharmonicity and maximum principle on complete Riemannian manifolds. (English summary) *Nagoya Math. J.* **151** (1998), 25–36. (David L. Finn) **99i:53042** 53C21

— A maximum principle for P-harmonic maps with L^q finite energy. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3749–3753. (Giandomenico Orlandi) **99b:58065** 58E20 (58D15)

Takehana, Hiroaki (*with* Katayama, Yoshikazu) On automorphisms of generalized Cuntz algebras. Research on bimodules and quantum groups in operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1003 (1997), 81–93. (Michael Frank) **99d:46083** 46L40 (46H25, 46L05)

— (*with* Katayama, Yoshikazu) On automorphisms of generalized Cuntz algebras. (English summary) *Internat. J. Math.* **9** (1998), *no.* 4, 493–512. (Claudia Pinzari) **99f:46083** 46L05 (46L40)

— (*with* Choda, Marie) A finite partition in a dynamical system with entropy depending on the size. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 4, 309–315. (Summary) **99d:46089** 46L55

Takei, Yoshitsugu (*with* Aoki, Takashi; Kawai, Takahiro) WKB analysis of Painlevé transcendents with a large parameter. II. Multiple-scale analysis of Painlevé transcendents. *Structure of solutions of differential equations* (*Katata/Kyoto*, 1995), 1–49, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexander Vladimirovich Kitaev) **99g:34120** 34E20 (34A20, 34A25, 34A34)

— (*with* Kawai, Takahiro) Can we find a new deformation of (SL_J)? Conjectures and supporting evidences. Exact WKB analysis and Fourier analysis in the complex domain (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1001 (1997), 39–63. (Andrei A. Kapaev) **99f:32031** 32G34 (34A20, 34A25)

— (*with* Kawai, Takahiro) Some problems in algebraic analysis of singular perturbations. Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 15–20. (*see* **99d:00021**) 34E15 (34A20, 34E20)

— (*with* Kawai, Takahiro) WKB analysis of Painlevé transcendents with a large parameter. III. Local reduction of 2-parameter Painlevé transcendents. *Adv. Math.* **134** (1998), *no.* 1, 178–218. (Alexander Vladimirovich Kitaev) **99g:34121** 34E20 (34A20, 34A25, 34A34)

— Singular-perturbative reduction to Birkhoff normal form and instanton-type formal solutions of Hamiltonian systems. *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 6, 601–627. (Andrei A. Kapaev) **99k:34082** 34C20 (34E05, 34E20, 58F05, 58F36)

— Singular points of Painlevé equations—considerations from the viewpoint of WKB analysis. (Japanese) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1056 (1998), 5–18. (*see* **99i:35003**) 81Q20

Takeichi, Masato (*with* Iwasaki, Hideya; Hu, Zhenjiang) Towards manipulation of mutually recursive functions. (English summary) *Third Fuji International Symposium on Functional and Logic Programming* (*Kyoto*, 1998), 61–79, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:68008**) 68N15

— (*with* Xu, Liangwei; Iwasaki, Hideya) Relational definition of UNITY loop. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 646–655. (Summary) **99a:68121** 68Q60

Takeita, Kentaro (*with* Dohi, Tadashi; Osaki, Shunji) Graphical methods for determining/estimating optimal repair-limit replacement policies. (English summary) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 37–52. (*see* **99i:90002**) 90B05 (90B25)

Takemori, Fumiaki (*with* Okuyama, Yoshifumi) Robust stability evaluation of sampled-data control systems with a sector nonlinearity in a gain-phase plane. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 1, 15–32. (Dieter Franke) **99k:93071** 93D09 (93C57)

Takemoto, Hideo On a Saito's problem for the generations of von Neumann algebras by power partial isometries. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 97–104. (Carl Winsløw) **99f:46088** 46L10

Takemura, Akimichi (*with* Kuriki, Satoshi) Weights of $\overline{\chi}^2$ distribution for smooth or piecewise smooth cone alternatives. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2368–2387. (Shyamal D. Peddada) **99c:62156** 62H10 (52A39, 62H15)

— (*with* Kuriki, Satoshi) Weights of $\overline{\chi}^2$ distribution for smooth or piecewise smooth cone alternatives. (English summary) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 11–34. (*see* **99a:62005**) 62H15

Takemura, Kouichi The decomposition of level-1 irreducible highest-weight modules with respect to the level-0 actions of the quantum affine algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1467–1485. (Naihuan Jing) **99g:17034** 17B37 (17B67, 81R50)

— (*with* Saito, Yoshihisa; Uglov, D.) Toroidal actions on level 1 modules of $U_q(\widehat{\mathrm{sl}}_n)$. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 75–102. (Anjan Kundu) **99b:17015** 17B37 (17B10)

Takenaga, Kazunori Softly broken supersymmetric gauge theories through compactifications. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026004, 11 *pp.* 81T60 (81R40, 81T13)

Takenami, Toshiyuki Boundary decision problems for sequential tests and random walks. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 157–164. (*see* **99f:65007**) 62D05 (60J15, 62L10, 65C05)

Takenouchi, Osamu Sums of powers of natural numbers in the *Katsuyō sampō* of Takakazu Kan. (Japanese) Study of the history of mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1019 (1997), 61–69. (*see* **99d:01002**) 01A27

Takens, Floris Chaos in systems beyond hyperbolicity. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 364–369. (B. V. Loginov) **99f:58137** 58F12 (58F13)

— The analysis of correlation integrals in terms of extremal value theory. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 2, 197–228. (Summary) **99j:62134** 62M10

— (*with* Verbitskiĭ, E. A.) Generalized entropies. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 127–130; *translation in Math. Notes* **63** (1998), *no.* 1-2, 112–115. (M. L. Blank) **99k:58115** 58F11 (28D20)

— (*with* Verbitskiĭ, E. A.) Generalized entropies: Rényi and correlation integral approach. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 771–782. (Summary) **99b:28023** 28D20 (58F11)

Takeo, Fukiko (*with* Matsui, Mai) Julia sets of $z^2 + c$ and laminations. (English summary) *Natur. Sci. Rep. Ochanomizu Univ.* **48** (1997), *no.* 1, 1–8. (Fuyao Ren) **99e:58144** 58F23 (30D05)

— (*with* Matsudo, Mie) The limit set of cellular automata. (English summary) *Natur. Sci. Rep. Ochanomizu Univ.* **48** (1997), *no.* 1, 9–22. (Henning Fernau) **99e:68110** 68Q80 (58F08)

— Topological property of an invariant set with respect to a family of functions. (English summary) Proceedings of the First Symposium on Non-linear Analysis (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997,** *Special issue no.* 1, 45–61. (From the text) **99g:54029** 54E40 (54H25)

— (*with* Matsudo, Mie) Classification of some rules of cellular automata. (English summary) Proceedings of the First Symposium on Non-linear Analysis (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997,** *Special issue no.* 1, 63–76. (Fernanda Botelho) **99c:58087** 58F08 (68Q80)

Takesaki, Masamichi (*with* Sutherland, Colin E.) Right inverse of the module of approximately finite-dimensional factors of type III and approximately finite ergodic principal measured groupoids. *Operator algebras and their applications, II (Waterloo, ON, 1994/1995)*, 149–159, *Fields Inst. Commun.*, 20, *Amer. Math. Soc., Providence, RI*, 1998. (Jean N. Renault) **99k:46108** 46L35 (46L40, 46L55)

— (*with* Katayama, Yoshikazu; Sutherland, Colin E.) The characteristic square of a factor and the cocycle conjugacy of discrete group actions on factors. *Invent. Math.* **132** (1998), *no.* 2, 331–380. (Claire Anantharaman-Delaroche) **99f:46096** 46L55 (46L40)

— (*with* Falcone, Tony) Operator valued weights without structure theory. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 323–341. (Fyodor A. Sukochev) **99c:46067** 46L10 (46L40)

Takesue, Shinji Invariants of cellular automata. (Japanese) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 103–126. (*see* **99c:00013**) 68Q80

Takeuchi, Fumihiko (*with* Kyoda, Yoshiaki; Imai, Keiko; Tajima, Akira) A branch-and-cut approach for minimum weight triangulation. (English summary) *Algorithms and computation (Singapore, 1997)*, 384–393, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68U05

Takeuchi, Gaishi *see* **Takeuti, Gaisi**

Takeuchi, Hidekazu A generalized inverse regression estimator in multi-univariate linear calibration. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2645–2669. (M. S. Srivastava) **99c:62192** 62J05

Takeuchi, Hiroshi[2] On the first eigenvalue of the p-Laplacian in a Riemannian manifold. *Tokyo J. Math.* **21** (1998), *no.* 1, 135–140. (Jun Ling) **99j:58217** 58G25

Takeuchi, Jiro Résolubilité du problème de Cauchy pour certains opérateurs du type de Schrödinger. [Solvability of the Cauchy problem for certain Schrödinger operators] *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 4, 49–52. (Viorel Iftimie) **99d:35034** 35J10 (35G10, 35K99)

Takeuchi, Jun-ichi (*with* Nakamura, Atsuyoshi; Abe, Naoki) Efficient distribution-free population learning of simple concepts. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 53–82. (Summary) **99m:68141** 68Q99 (68T05)

Takeuchi, Kei (*with* Akahira, Masafumi) The existence of a test with the largest order of consistency in the case of a two-sided gamma type distribution. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 93–107 (1998). (J. A. Melamed) **99f:62029** 62F05 (62F12)

Takeuchi, Kiyoshi[2] On higher-codimensional boundary value problems. *New trends in microlocal analysis (Tokyo, 1995)*, 225–234, *Springer, Tokyo*, 1997. (Andrea D'Agnolo) **99i:58141** 58G07

— Microlocal inverse image and bimicrolocalization. *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 2, 135–153. (Stéphane Guillermou) **99f:32018** 32C38 (58G07)

Takeuchi, Masayuki (*with* Sato, Masako) Polynomial-time inference of regular pattern languages that include erroneous information. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 151–158. (*see* **99i:65003**) 68Q45 (68T05)

Takeuchi, Mitsuhiro Hopf algebras and knot invariants. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 134–149. (*see* **99a:00029**) 57M25 (16W30)

Takeuchi, Nobuko (*with* Kubosawa, Hitoshi) A parametrization of a torus which contains six circles through each point. (English summary) *Bull. Tokyo Gakugei Univ.* (4) **50** (1998), 33–36. 51M04

Takeuchi, Shigeru Canonical CR structures of tensor spaces of Hermitian CR manifolds. (English summary) *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **22** (1998), *no.* 2, 1–6. (From the text) **99g:32013** 32C16 (53C15)

— Canonical DR structures on the space of DR morphisms. (English summary) *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **23** (1998), *no.* 1, 9–14. (Gerd Schmalz) **99j:32007** 32C16 (53C15)

Takeuchi, Yasuhiro (*with* Hofbauer, Josef; So, Joseph W.-H.) Global stability of competition in a spatially heterogeneous environment. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 213–223. (Peter Moson) **99k:92030** 92D25 (34D99)

— (*with* Beretta, Edoardo; Solimano, Fortunata) A mathematical model for drug administration by using the phagocytosis of red blood cells. (English summary) *J. Math. Biol.* **35** (1996), *no.* 1, 1–19. (John G. Milton) **99g:92014** 92C50 (34K15, 93A30)

— (*with* Ma, Wanbiao) Stability of neutral differential-difference systems with infinite delays. *Nonlinear Anal.* **33** (1998), *no.* 4, 367–390. (Michael I. Gil') **99d:34152** 34K20 (34K40, 45J05)

Takeuchi, Yoshihiro (*with* Yokoyama, Misako) The realizations of the amalgamated free products of 3-orbifold fundamental groups. (English summary) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 166–178. (*see* **99e:30001**) 57M05 (20F38, 57M07)

Takeuchi, Yu Convergence set of the recurrence formula and Cantor's ternary set. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **2** (1995), *no.* 2, 141–165. (Vladimir Sh. Burd) **99h:39024** 39B12 (39A12)

— On an elementary functional equation. *Lect. Mat.* **18** (1997), *no.* 1, 45–49. (From the text) **99k:39067** 39B22

Takeuti, Gaisi Bounded arithmetic and fundamental problems of complexity of computation. (Japanese) *Sūgaku* **49** (1997), *no.* 2, 121–143. (Hisao Tanaka) **99i:03075** 03F30 (03D15, 68Q15)

— Frege proof system and TNC°. *J. Symbolic Logic* **63** (1998), *no.* 2, 709–738. (Jan Krajíček) **99f:03078** 03F20 (03F30, 68Q15)

Takeuti, Izumi A type theory for cyclic structure. (English summary) *Third Fuji International Symposium on Functional and Logic Programming (Kyoto, 1998), 207–226, World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:68008**) 68N15 (03B40)

Takev, M. D. On the Monte Carlo method for numerical integration. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 5, 13–16. 65C05 (65D30)

Takha, Adel' (*with* Mukhamadiev, È. M.; Baĭzaev, S.) On the normal solvability of differential equations with retarded argument. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 58–62. (From the text) **99c:34148** 34K05 (47G99)

Takhar, H. S. (*with* Nath, G. Baikunth) Unsteady flow over a stretching surface with a magnetic field in a rotating fluid. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 989–1001. (Summary) **99j:76145** 76W05 (76M25, 76U05)

Takhirov, Zh. O. On some parabolic problems with a free boundary. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 77–86 (1996). (Galina I. Bizhanova) **99f:35234** 35R35 (35B05, 35C15, 35K05)

— The Florin problem for a parabolic-hyperbolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 100–105. 35M10

— (*with* Kadirov, F. È.) On some problems with unknown boundaries for a parabolic-hyperbolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 68–76. (Introduction) **99e:35159** 35M10

— (*with* Matchanov, O. S.) The Stefan problem with unknown lateral boundaries for a degenerate parabolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 58–67 (1997). (Summary) **99e:35248** 35R35 (35K65, 80A22)

— (*with* Kadirov, F. È.) A nonlocal problem with an unknown boundary for a mixed parabolic-hyperbolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 56–63. 35M10

— (*with* Dzhuraev, T. D.) On a nonlocal problem for a quasilinear parabolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 39–44. (Ya Zhe Chen) **99f:35098** 35K60

Takhtajan, Leon A. (*with* Zograf, P. G.) Accessory parameters and Eisenstein series. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II (Russian)*, 125–129, 254, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11F12

Takiguchi, T. (*with* Huang, Lei[2]) The reconstruction of uniquely determined plane sets from two projections. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 3, 217–242. (F. W. Stallmann) **99i:65150** 65R30

Takimoto, Eiji (*with* Miyashiro, Akira; Maruoka, Akira; Sakai, Yoshifumi) Learning orthogonal F-Horn formulas. (English summary) Algorithmic learning theory

(Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 177–190. (John Shawe-Taylor) **99f:68174** 68T05 (03B05, 68Q25)

— (*with* Maruoka, Akira) Structured weight-based prediction algorithms. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 127–142, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05

— (*with* Maruoka, Akira; Vovk, Vladimir G.) Predicting like the best pruning of a decision tree based on the on-line DP. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 191–198. (*see* **99i:65003**) 68T05

Takine, Tetsuya (*with* Alfa, Attahiru Sule; Sengupta, Bhaskar) The use of non-linear programming in matrix analytic methods. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 351–367. (Summary) **99c:90050** 90B22 (60K25, 90C30)

— (*with* Takahashi, Yoshitaka) On the relationship between queue lengths at a random instant and at a departure in the stationary queue with BMAP arrivals. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 601–610. (Summary) **99a:60109** 60K25 (90B22)

— (*with* Ishizaki, Fumio; Oie, Yuji) Dynamic behavior of TCP-like window control and throughput performance. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 538–559. (Sudhangshu B. Karmakar) **99j:90029** 90B12 (90B22)

— Structured Markov chains and queueing systems. (Japanese) *Systems Control Inform.* **43** (1999), *no.* 3, 135–140. 90B22

Takiuchi, Ken-ichi (*with* Toyoda, Tadashi) Quantum field theoretical reformulation of the virial theorem. (English summary) *Phys. A* **261** (1998), *no.* 3-4, 471–481. (Summary) **99k:81350** 81V70 (81T99)

— Virial theorem for quantum many-body systems. (Japanese. English summary) *Proc. Sch. Sci. Tokai Univ.* **34** (1999), 141–149. 81V70

Takizawa, Makoto (*with* Ishida, Tsunetake; Higaki, Hiroaki) Pseudo-active replication of objects in heterogeneous clusters. (English summary) *Res. Act. Fac. Sci. Engrg. Tokyo Denki Univ.* **20** (1998), *no.* 1, 3–13. 68Q10 (68M15)

— (*with* Higaki, Hiroaki; Tachikawa, Takayuki) Checkpoint and rollback in asynchronous distributed systems. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1058–1066. (Summary) **99a:68064** 68Q10

Takriti, Samer (*with* Birge, John R.) Successive approximations of linear control models. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 165–176 (*electronic*). (Kurt Marti) **99g:90070** 90C08 (90C15, 93E20)

Taksar, Michael I. (*with* Sethi, Suresh P.; Suo, W.; Yan, Houmin) Optimal production planning in a multi-product stochastic manufacturing system with long-run average cost. (English summary) *Discrete Event Dyn. Syst.* **8** (1998), *no.* 1, 37–54. 93B30 (93E20)

— (*with* Poznyak, A. S.; Iparraguirre, A.) Robust output feedback control for linear stochastic systems in continuous time with time-varying parameters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1133–1136. 93D09 (93D21)

— (*with* Højgaard, Bjarne) Optimal proportional reinsurance policies for diffusion models with transaction costs. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 41–51. (Summary) **99i:90038** 90A46

— (*with* Zhou, Xun Yu) Optimal risk and dividend control for a company with a debt liability. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 105–122. (Angelos Dassios) **99i:90020** 90A09 (93E20)

— (*with* Beyer, Dirk M.; Sethi, Suresh P.) Inventory models with Markovian demands and cost functions of polynomial growth. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 281–323. (P. R. Parthasarathy) **99d:90041** 90B05 (90C40)

Takuji, Okamoto Demystifying dimensional analysis: the beginning of Bridgman's scrutiny of theoretical physics. *Historia Sci.* (2) **8** (1998), *no.* 1, 21–52. (Antonino Drago) **99k:01040** 01A60 (00A73)

Takuya, Mine (*with* Iwatsuka, Akira; Doi, Shin-ichi) The uniqueness of the integrated density of states for the Schrödinger operators with magnetic fields. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 32–36. (*see* **99a:00049**) 47F05 (35J10, 47N50)

ben-Tal, Aharon *see* **Ben-Tal, Aharon**

Talaat, Makhmud On cardinal invariants of spaces of linked systems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 14–19, 111; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 13–17. (M. Hušek) **99f:54009** 54A25 (54D35)

Talagrand, Michel New concentration inequalities in product spaces. (English summary) *Invent. Math.* **126** (1996), *no.* 3, 505–563. (G. Schechtman) **99b:60030** 60E15 (46B09, 46N30, 60F10)

— On boundaries and influences. (English summary) *Combinatorica* **17** (1997), *no.* 2, 275–285. (Ákos Seress) **99b:05142** 05D05 (26D15)

— Modèles de verre de spins à champ moyen et à interactions multiples: résultats rigoureux à basse température. (English and French summaries) [Rigorous low-temperature results for the mean field p-spin interaction spin glass model] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 637–640. (Barbara Gentz) **99g:82042** 82B44 (60K35, 82D30)

— (*with* Marcus, Michael B.) Continuity conditions for a class of Gaussian chaos processes related to continuous additive functionals of Lévy processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 157–179. (Werner Linde) **99i:60090** 60G15 (60G17)

— A general lower bound for Gaussian chaos. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 289–301. (Werner Linde) **99b:60053** 60G15 (60G60)

— The Sherrington-Kirkpatrick model: a challenge for mathematicians. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 2, 109–176. (Barbara Gentz) **99a:60117** 60K35 (60E15, 82B44, 82D30)

— Multiple points of trajectories of multiparameter fractional Brownian motion. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 4, 545–563. (José Rafael León) **99j:60051** 60G15 (28A78, 60G17, 60G18, 60G60)

— *see also* **High dimensional probability, 99e:60003**

Talaie, M. (*with* Hasankhani, A.; Zahedi, M. M.) Fuzzy congruence relations on a BCK-algebra. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 83–96. (Summary) **99b:06020** 06F35 (03E72, 08A30)

Talalaeva, N. V. On periodic solutions of a system of second-order differential equations with a parameter. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 68–76, *Yakut·sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 34C25

Talalov, S. V. String dynamics in $D = 4$ space-time. II. Quantum theory. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 80–89; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1309–1315 (1997). (Sergey Nikolaevich Roshchupkin) **99c:81212** 81T30 (81V05, 83E30)

Talalyan, Aleksandr Andraniki On subsystems of a trigonometric system that are complete on sets of positive measure. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 5, 94–100; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 5, 75–81 (1996). (Saulius Norvidas) **99h:42017** 42A65

— (*with* Gevorkyan, Gegham; Karagulyan, G. A.) On some linear methods for the summation of Fourier series. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 129–152; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 771–795. (J. Németh) **99i:42006** 42A24

Talalyan, F. A. On the asymptotic distribution of sequences. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 4, 200–205 (1994). (T. Šalát) **99h:11085** 11K36

Talalyan, N. A. On a linear method for the summation of multiple Fourier series. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 5, 60–70; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 5, 47–55 (1996). (J. Marshall Ash) **99g:42010** 42B08 (42A24)

— On the approximation of integrable functions by Riemann means of partial sums of their Fourier series. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 5, 71–85; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 5, 56–67 (1996). (V. A. Skvortsov) **99f:42025** 42B08 (41A30)

Talamini, V. (*with* Sartori, G.) Orbit spaces of compact coregular simple Lie groups with 2, 3 and 4 basic polynomial invariants: effective tools in the analysis of invariant potentials. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2367–2401. (Pavle Pandžić) **99g:22021** 22E70 (81R05)

Talamucci, Federico A mathematical model of phase change in fine porous media. *Differential equations and applications* (*Hangzhou*, 1996), 301–313, *Internat. Press, Cambridge, MA*, 199?. (Vadim S. Nustrov) **99c:76108** 76S05 (73B30, 80A22, 86A60)

— Freezing processes in saturated soils. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 107–138. (Summary) **99a:86007** 86A60 (76S05, 80A22)

Talata, István Solution of Hadwiger-Levi's covering problem for duals of cyclic $2k$-polytopes. (English summary) *Geom. Dedicata* **74** (1999), *no.* 1, 61–71. (John R. Reay) **99k:52019** 52B11 (52C17)

Talay, D. (*with* Benachour, Said; Roynette, B.; Vallois, Pierre) Nonlinear self-stabilizing processes. I. Existence, invariant probability, propagation of chaos. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 173–201. (Sylvie Méléard) **99j:60079** 60H10 (60J60, 60K35)

abou-Talbe, Naima M. M. *see* **Abou-Talbe, Naima M. M.**

Talbi, E. G. (*with* Hafidi, Z.; Geib, J-M.) A parallel adaptive tabu search approach. (English summary) *Parallel Comput.* **24** (1998), *no.* 14, 2003–2019. 90C27 (65Y05)

Talbot, H. (*with* Evans, Carolyn J.; Jones, Ronald) Complete ordering and multivariate mathematical morphology: algorithms and applications. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 27–34, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10

Talbot, Jean-Marc (*with* Devienne, Philippe; Tison, Sophie) Co-definite set constraints with membership expressions. (English summary) *Logic programming* (*Manchester*, 1998), 25–39, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99h:68031** 68N17 (68Q60, 68Q68)

Talcott, Carolyn *see* **Workshop: Higher-order Operational Techniques in Semantics, 99e:68003**

ait Taleb, A. *see* **Ait Taleb, A.**

Talebi, S. (*with* Niknam, A.) Jordan C^*-dynamical systems. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 589–597. (P. J. Stacey) **99f:46100** 46L70 (46L55, 46L57)

Ta Lê Loi Whitney stratification of sets definable in the structure $\mathbf{R}_{\exp}$. (English summary) *Singularities and differential equations* (*Warsaw*, 1993), 401–409, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (From the text) **99f:14074** 14P99 (32B20)

— Verdier and strict Thom stratifications in o-minimal structures. *Illinois J. Math.* **42** (1998), *no.* 2, 347–356. (Karim Bekka) **99c:32058** 32S60 (14P10)

— (*with* Zaharia, Alexandru) Bifurcation sets of functions definable in o-minimal structures. *Illinois J. Math.* **42** (1998), *no.* 3, 449–457. (A. J. Wilkie) **99f:58023** 58C25 (03C62)

Talenti, Giorgio (*with* Mugelli, Francesco) Sobolev inequalities in 2-D hyperbolic space: a borderline case. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 3, 195–228. (Alexander Yuri Brudnyi) **99m:46082** 46E35 (26D10, 34C99)

Talhouk, Raafat Existence locale et unicité d'écoulements de fluides viscoélastiques dans des domaines non bornés. (English and French summaries) [Local existence and uniqueness of viscoelastic fluid flows in unbounded domains] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 87–92. (Summary) **99k:76010** 76A10 (35Q35, 73F15)

elalaoui-Talibi, Hussain *see* **Elalaoui-Talibi, Hussain**

Taliercio, Alberto (*with* Coruzzi, Roberto) Mechanical behaviour of brittle matrix composites: a homogenization approach. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 24, 3591–3615. (Summary) **99m:73050** 73K20 (73B27, 73V05)

Talitskikh, Nikolaĭ Adrianovich *see* **Anniversary: Birth of Talitskikh, Nikolaĭ Adrianovich**

Tall, Franklin D. On quasi-Lindelöf first countable spaces. (English summary) *Topology Proc.* **22** (1997), 297–303. (Sheldon W. Davis) **99m:54012** 54D20 (03E55, 54A35)

— (*with* Junqueira, Lúcia R.) The topology of elementary submodels. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 239–266. (Mohammad Ismail) **99a:54003** 54A10 (03C62, 54A25, 54B99, 54D15, 54D30, 54D55)

— (*with* Grunberg, Renata; Junqueira, Lúcia R.) Forcing and normality. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 145–174. (Klaas Pieter Hart) **99e:54016** 54D15 (03E40, 03E55, 54D30)

Tallafha, Abdalla (*with* Jarrah, A. M.) Complementary subspaces isomorphic to a nuclear stable G_∞-space. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 3, 27–40. (Juan Carlos Díaz Alcaide) **99f:46006** 46A11 (46A45)

le Tallec, Patrick *see* **Le Tallec, Patrick**

Tallgren, L. (*with* Cherlin, Gregory; Shi, Nian Dong) Graphs omitting a bushy tree. (English summary) *J. Graph Theory* **26** (1997), *no.* 4, 203–210. (Summary) **99a:05122** 05C75

Tallini, Giuseppe Dimensions in multivalued algebraic structures. *Ital. J. Pure Appl. Math. No.* 1 (1997), 51–64 (1998). (S. Comer) **99m:20163** 20N20 (08A30)

— Composed designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 331–351. (H. Lenz) **99m:51005** 51E05 (05B25, 51A10, 51A45, 51E10)

— *see also* **Ceccherini, Pier Vittorio**, **99m:01048** *and* **Barlotti, A.**, (**99f:62005**)

Tallini, Luca G. (*with* Bose, Bella) Theory and design of adjacent asymmetric error masking codes. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 5, 544–555. (Summary) **99c:94069** 94C05

— (*with* Bose, Bella) Design of balanced and constant weight codes for VLSI systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 5, 556–572. (Summary) **99c:94061** 94B60 (68Q35, 94C05)

scafati Tallini, Maria *see* **Scafati Tallini, Maria**

Tallon, Jean-Marc Do sunspots matter when agents are Choquet-expected-utility maximizers? (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 3, 357–368. (Summary) **99d:90023** 90A10

Talman, A. J. J. (*with* van der Laan, Gerard; Yang, Zaifu) Cooperative games in permutational structure. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 427–442. (Milan Mareš) **99c:90165** 90D12

— (*with* Herings, P. Jean-Jacques) Intersection theorems with a continuum of intersection points. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 311–335. (Mihai Turinici) **99d:54016** 54F15 (90C29)

— (*with* van der Laan, Gerard; Yang, Zaifu) Existence and approximation of robust solutions of variational inequality problems over polytopes. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 333–352 (*electronic*). (Summary) **99h:90106** 90C33 (49J40)

blanc-Talon, Jacques *see* **Blanc-Talon, Jacques**

Talpalaru, Pavel On $l^p_{\omega,a}$-stability of difference equations. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 53–59. (Jaroslav Zemánek) **99b:39019** 39A11

Talpin, Jean-Pierre (*with* Nowak, David; Beauvais, Jean-René) Co-inductive axiomatization of a synchronous language. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 387–399, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68Q60 (68T15)

Talstra, J. C. (*with* Abanov, A. G.; Wiegmann, P. B.) Hierarchical structure of Azbel-Hofstadter problem: strings and loose ends of Bethe ansatz. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 571–596. (Rinat M. Kashaev) **99h:82020** 82B23 (81R50)

Talu, Y. (*with* Maclachlan, C.) p-groups of symmetries of surfaces. *Michigan Math. J.* **45** (1998), *no.* 2, 315–332. (Bruno Zimmermann) **99f:57018** 57M60

Talukdar, B. (*with* Bhattacharya, A.; Roy, U.; Ghosh, Angsula) Quantal information entropies for atoms. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1667–1680. (Summary) **99d:81022** 81P99 (94A17)

— (*with* Bhattacharya, A.; Banerji, G.; Roy, U.) Transcendental-function representation of Stark-modified hydrogenic states and atomic dipole polarizability. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1219–1226. (Summary) **99a:81033** 81Q15 (81V45)

Talvacchia, J. (*with* Singer, S. F.; Watson, Noel) Nontoric Hamiltonian circle actions on four-dimensional symplectic orbifolds. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 937–940. (Ágúst Sverrir Egilsson) **99f:57043** 57S25 (57S15, 58F05)

Talyansky, Roman (*with* Etzion, Tuvi; Roth, Ron M.) Efficient code constructions for certain two-dimensional constraints. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 794–799. 94A14

nguyen cong Tam *see* **Nguyen Cong Tam**

Tam, Bit-Shun Exterior numerical radii and antiinvariant subspaces. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 3, 195–245. (Summary) **99k:15045** 15A60

Tam, C. Y. (*with* Leung, P. T.; Liu, Yuk Tung; Suen, Wai-Mo; Young, Kenneth) Logarithmic perturbation theory for quasinormal modes. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3271–3286. (M. Znojil) **99f:81051** 81Q15 (34L40)

Tam, Christopher K. W. (*with* Fang, Jun; Kurbatskii, Konstantin A.) Non-homogeneous radiation and outflow boundary conditions simulating incoming acoustic and vorticity waves for exterior computational aeroacoustics problems. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 9, 1107–1123. (Summary) **99a:73106** 73K70 (73V15, 76M20)

— (*with* Auriault, Laurent; Cambuli, Francesco) Perfectly matched layer as an absorbing boundary condition for the linearized Euler equations in open and ducted domains. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 213–234. (Summary) **99d:76079** 76M25 (76N15)

— (*with* Auriault, Laurent) The wave modes in ducted swirling flows. (English summary) *J. Fluid Mech.* **371** (1998), 1–20. (Summary) **99h:76079** 76N10 (76C05, 76Q05)

hong Tam, Judy *see* **Hong Tam, Judy**

Tam, Luen-Fai (*with* Wan, Tom Y. H.) On quasiconformal harmonic maps. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 359–383. (Matti Vuorinen) **99b:58066** 58E20 (30C62)

— A note on harmonic forms on complete manifolds. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3097–3108. (Zhi Ren Jin) **99a:53047** 53C21 (58G30)

Tam, Tin-Yau Partial superdiagonal elements and singular values of a complex skew-symmetric matrix. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 737–754 (*electronic*). (Hua Lin Tan) **99c:15013** 15A18 (15A45)

— An extension of a convexity theorem of the generalized numerical range associated with $SO(2n+1)$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 35–44. (Yik-Hoi Au-Yeung) **99b:15036** 15A60 (15A57)

Tam, Wing-kuen (*with* Reinsel, Gregory C.) Seasonal moving-average unit root tests in the presence of a linear trend. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 5, 609–625. (Summary) **99e:62165** 62M10

Tamagawa, Akio The Grothendieck conjecture for affine curves. (English summary) *Compositio Math.* **109** (1997), *no.* 2, 135–194. (Hiroaki Nakamura) **99a:14035** 14H30 (11G20, 14E20)

— (*with* Coleman, Robert F.; Tzermias, Pavlos) The cuspidal torsion packet on the Fermat curve. (English summary) *J. Reine Angew. Math.* **496** (1998), 73–81. (Nguyen Khac-Viet) **99b:11066** 11G30 (11G10)

— *see also* **Namikawa, Yukihiko** *and* **Ihara, Yasutaka**

Tamai, Hiroyuki (*with* Ishibashi, Yasunori) Checker-jumping problem in $\mathbf{R}^n$. (English summary) *Bull. Fac. Sch. Educ. Hiroshima Univ. Part II* **20** (1998), 11–15. (Summary) **99a:05006** 05A99

Tamai, Tetsuo (*with* Yamamoto, Mitsuharu; Takahashi, Koichi; Hagiya, Masami; Nishizaki, Shin-ya) Formalization of graph search algorithms and its applications. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 479–496, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68T15 (68T20)

Tamaki, Hisao (*with* Gu, Qian-Ping) Multi-color routing in the undirected hypercube. (English summary) *Algorithms and computation* (*Singapore*, 1997), 72–81, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68016** 68M10 (68R10)

— (*with* Tokuyama, Takeshi) A characterization of planar graphs by pseudo-line arrangements. (English summary) *Algorithms and computation* (*Singapore*, 1997), 133–142, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99g:05167** 05C85 (68R10)

— (*with* Iwama, Kazuo; Miyano, Eiji; Tajima, Satoshi) Efficient randomized routing algorithms on the two-dimensional mesh of buses. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 229–240, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68M10

— (*with* Tokuyama, Takeshi) Algorithms for the maximum subarray problem based on matrix multiplication. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 446–452, *ACM, New York*, 1998. (Summary) **99d:68123** 68Q25 (15A99)

— (*with* Tokuyama, Takeshi) How to cut pseudoparabolas into segments. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 2, 265–290. (Jesús A. de Loera) **99b:52031** 52B55 (68Q20, 68U05)

— (*with* Akutsu, Tatsuya; Tokuyama, Takeshi) Distribution of distances and triangles in a point set and algorithms for computing the largest common point sets. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 307–331. (Stelian S. Dumitrascu) **99k:68190** 68U05 (52C99, 65Y25)

— (*with* Bshouty, Nader H.; Goldman, Sally A.; Mathias, H. David; Suri, Subhash) Noise-tolerant distribution-free learning of general geometric concepts. (English summary) *J. ACM* **45** (1998), *no.* 5, 863–890. (Summary) **99m:68159** 68T05 (68Q99)

— Efficient self-embedding of butterfly networks with random faults. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 614–636 (*electronic*). (Summary) **99c:68007** 68M07 (60C05, 68M10, 68Q22)

Tamaki, Mitsushi A note on the distribution of the time of the first k-record index. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 321–323. (Summary) **99b:60064** 60G70 (62G30)

Tamaki, Saneaki (*with* Kameyama, Michitaka) Code assignment algorithm for highly parallel multiple-valued k-ary operation circuits using partition theory. (English summary) *Interdiscip. Inform. Sci.* **3** (1997), *no.* 1, 13–24. (Summary) **99c:68136** 68Q35 (94C05)

Tamaki, Takashi (*with* Maeda, Kei-ichi; Torii, Takashi) Non-abelian black holes in Brans-Dicke theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4870–4884. 83D05 (83C57)

Tamanini, Italo Counting elements of least-area partitions. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 963–969. (From the text) **99f:49063** 49Q05 (49N60)

Tamano, Kenichi (*with* Feng, Xiufeng) Countably fan-tight subspaces of a countable product of Lasnev spaces are metrizable. (English summary) *Topology Proc.* **22** (1997), 191–196. (Summary) **99f:54034** 54E35 (54A25, 54B10)

— (*with* Sakai, Masami; Yajima, Yukinobu) Regular networks for metrizable spaces and Lašnev spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 121–133. (Hans-Christian Reichel) **99g:54028** 54E35 (54E40)

Tamanoi, Hirotaka Multiplicative indecomposable splittings of $MSp_{\langle 2\rangle}$. *Math. Z.* **225** (1997), *no.* 4, 577–610. (N. J. Kuhn) **99c:55007** 55N22 (57R90)

Tamari, Dov Machines logiques et problèmes de mots. I. Les machines de Turing. [Logical machines and word problems. I. Turing machines] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 55, 47–58, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 03D10 (68Q05)

— Machines logiques et problèmes de mots. II. Problèmes de mots indécidables. [Logical machines and word problems. II. Undecidable word problems] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 61, 109–119, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 03D40 (03D35, 68Q05)

Tamariz-Mascarúa, Angel The spaces C_p of continuous functions. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 265–285, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 54C35

— *see also* **Congress: Mexican Mathematical Society**, **99f:00013**

Tamarkin, Yakov Davydovich *see* **Ermolaeva, N. S.**, **99h:01035**

Tămăşan, Alexandru Extremal solutions for the discontinuous delay-equations. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 107–112. (Alberto Cabada) **99f:34096** 34K05 (34K15)

— Differentiability with respect to lag for nonlinear pantograph equations. (English summary) Modern applied analysis (Ilieni, 1997). *Pure Math. Appl.* **9** (1998), *no.* 1-2, 215–220. (Summary) **99k:34146** 34K05

Tamashiro, Manabu (*with* Nakazato, Haruo) θ-Frattini subgroups of finite solvable groups. (English summary) *Ryukyu Math. J.* **11** (1998), 65–74. (Gernot Stroth) **99m:20039** 20D25

Tamassia, Roberto (*with* Cohen, R. F.) Combine and conquer. (English summary) First European Symposium on Algorithms (Bad Honnef, 1993). *Algorithmica* **18** (1997), *no.* 3,

324–362. (Summary) **99g:68044** 68P05 (68Q20, 68Q25)
— (*with* Bertolazzi, Paola; Di Battista, Giuseppe; Mannino, Carlo) Optimal upward planarity testing of single-source digraphs. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 132–169 (*electronic*). (O. D'Antona) **99m:68146** 68R10 (05C10, 68Q20)
— (*with* Baker, James E.; Cruz, Isabel F.; Liotta, Giuseppe) Visualizing geometric algorithms over the Web. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 125–152. (*see* **99k:68001**) 68U05
— (*with* Goodrich, Michael T.) Dynamic trees and dynamic point location. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 613–637 (*electronic*). (Hans-Dietrich Hecker) **99j:68143** 68U05 (68P05, 68P10, 68Q25)
— Advances in the theory and practice of graph drawing. (English summary) ORDAL '96 (Ottawa, ON). *Theoret. Comput. Sci.* **217** (1999), *no.* 2, 235–254. (*see* **99m:68011**) 68U05

Tamássy, Lajos Metrizability of affine connections. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 131–138. (V. Oproiu) **99k:53136** 53C60 (53C05)

Tambara, D. Matrix factorization of a ternary cubic form. (English summary) *Sci. Rep. Hirosaki Univ.* **44** (1997), *no.* 1, 19–56. (Michel Van den Bergh) **99a:11049** 11E76

Ţâmbulea, Leon (*with* Gânscă, Ioan; Coman, Gheorghe) Contributions to rational Bézier curves and surfaces. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 107–116, *Transilvania, Cluj-Napoca*, 1997. (From the introduction) **99a:65023** 65D17 (41A15)

Tamburini Bellani, Maria Chiara (*with* Zucca, P.) Generation of certain matrix groups by three involutions, two of which commute. *J. Algebra* **195** (1997), *no.* 2, 650–661. (John S. Wilson) **99b:20029** 20D06 (20F05)
— (*with* Dalla Volta, Francesca; Lucchini, Andrea) On the conjugacy problem for Carter subgroups. *Comm. Algebra* **26** (1998), *no.* 2, 395–399. (Thomas A. Fournelle) **99a:20022** 20D25
— *see also* **Groups and geometries, 99c:51004**

Tamez, R. (*with* Killgrove, R.; Sternfeld, R.) Quadrangle completions and the anti-Desargues configuration. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 57–66. (Martin Funk) **99b:05026** 05B25 (05B15, 51A35, 51E20)

Tamhane, Ajit C. Multiple comparisons. *Design and analysis of experiments*, 587–630, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62J15
— (*with* Liu, Wei[4]; Dunnett, Charles W.) A generalized step-up-down multiple test procedure. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 353–363. 62F05 (92C50)

Tamim, Aly A. Submanifolds of a Finsler manifold. *J. Egyptian Math. Soc.* **6** (1998), *no.* 1, 27–37. (László Kozma) **99m:53133** 53C60
— On hypersurfaces of Finsler manifolds. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 157–167. (László Kozma) **99m:53134** 53C60

Tamir, Arie (*with* Mitchell, Joseph S. B.) A maximum b-matching problem arising from median location models with applications to the roommates problem. (English summary) *Math. Programming* **80** (1998), *no.* 2, *Ser. A*, 171–194. (Koduvayur R. Parthasarathy) **99a:90116** 90B80 (05C70)
— (*with* Pérez-Brito, Dionisio; Moreno, José A.) A polynomial algorithm for the p-centdian problem on a tree. (English summary) *Networks* **32** (1998), *no.* 4, 255–262. (Johannes Terno) **99k:90139** 90C27 (90C35)

Tamizhmani, K. M. (*with* Ramani, A.; Grammaticos, B.; Kajiwara, Kenji) Coalescence cascades and special-function solutions for the continuous and discrete Painlevé equations. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5799–5810. (Summary) **99e:34013** 34A34 (33C99, 39A12)
— (*with* Tamizhmani, Thamizharasi; Kanaga Vel, S.) Wronskian and rational solutions of the differential-difference KP equation. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7627–7633. (Wen Xiu Ma) **99m:58115** 58F07 (35Q53)
— (*with* Satsuma, Junkichi; Grammaticos, B.; Ramani, A.) Nonlinear integrodifferential equations as discrete systems. (English summary) *Inverse Problems* **15** (1999), *no.* 3, 787–791. 35Q99 (45K05)
— *see also* **Integrability of nonlinear systems, 99b:58006**

Tamizhmani, Thamizharasi (*with* Kanaga Vel, S.; Tamizhmani, K. M.) Wronskian and rational solutions of the differential-difference KP equation. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7627–7633. (Wen Xiu Ma) **99m:58115** 58F07 (35Q53)

Tamma, K. K. (*with* Zhou, Xiangmin; Sha, Desong) Transient algorithms for heat transfer: general developments and approaches for theoretically generating nth-order time-accurate operators including practically useful second-order forms. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 10, 1545–1572. (Summary) **99k:80004** 80–08

Tammelo, Risto (*with* Laas, Tõnu; Mankin, Romi) Higher-order fundamental solutions of second-order wave equations on a curved spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1595–1605. (Valter Moretti) **99e:58184** 58G16 (81T20)

Tammi, Olli The first coefficient bodies of bounded real non-vanishing univalent functions. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 177–190. (Jan Szynal) **99m:30035** 30C55

Tamon, Christino (*with* Bshouty, Nader H.; Wilson, David K.) Learning matrix functions over rings. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 91–111. (Nicolae Ţăndăreanu) **99j:68114** 68T05 (13E10)
— (*with* Bshouty, Nader H.; Wilson, David K.) On learning width two branching programs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 217–222. (Summary) **99a:68141** 68T05 (68Q99)

Tamone, G. (*with* Molinelli, S.; Patil, D. P.) On the Cohen-Macaulayness of the associated graded ring of certain monomial curves. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 433–446. (Santiago Zarzuela Armengou) **99g:13003** 13A30 (13H10, 14H20)

Tamrazov, Promarz Eremenko's extremal problem on harmonic functions. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **23** (1997), 33–50. (Shōji Kobayashi) **99g:31002** 31A05 (30C85, 31A10)
— Moduli and extremal metrics in twisted Riemannian manifolds. (Russian. Russian summary) *Nats. Akad. Nauk Ukraïn. Ïnst. Mat. Preprint* **1997**, *no.* 9, 1–25. (From the introduction) **99c:53024** 53C20
— (*with* Sarana, O. A.) Contour-solid properties of finely hypoharmonic functions. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 8, 1114–1125; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1252–1265 (1998). (Eugen Popa) **99c:31003** 31A05 (31C40)
— Eremenko's extremal problem on harmonic functions. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 4, 319–336. (Summary) **99e:31003** 31A05 (30A10, 31B05)

Tamsamani, Zouhair Sur des notions de n-catégorie et n-groupoïde non strictes via des ensembles multi-simpliciaux. (English summary) [Non-strict notions of n-category and n-groupoid obtained from multisimplicial sets] *K-Theory* **16** (1999), *no.* 1, 51–99. (Richard John Steiner) **99m:18007** 18D05 (55P15)

Tamura, Akihisa The generalized stable set problem for perfect bidirected graphs. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 401–414. (E. Olaru) **99e:05063** 05C20 (05C70, 05C85, 90C35)
— (*with* Fukuda, Komei; Namiki, Makoto) EP theorems and linear complementarity problems. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 107–119. (David E. Stewart) **99b:90136** 90C33 (68Q25)

Tamura, H. *see* **Tamura, Hiroshi**

Tamura, Hideo (*with* Iwatsuka, Akira) Asymptotic distribution of eigenvalues for Pauli operators with nonconstant magnetic fields. Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 195–202. (P. A. Mishnayevskiy) **99e:35167** 35P20 (35J10, 47F05, 47N50, 81Q10)
— (*with* Iwatsuka, Akira) Asymptotic distribution of negative eigenvalues for two-dimensional Pauli operators with nonconstant magnetic fields. *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 2, 479–515. (George D. Raikov) **99e:35168** 35P20 (35Q40, 47F05, 47N50, 81Q10)
— (*with* Doumeki, Atsushi; Ichinose, Takashi) Error bounds on exponential product formulas for Schrödinger operators. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 359–377. (J. A. Van Casteren) **99i:47086** 47F05 (35J10, 47D06, 81Q10)
— Magnetic scattering at low energy in two dimensions. Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1056 (1998), 68–74. (*see* **99m:35003**) 35P25 (35J10, 81U05)
— (*with* Iwatsuka, Akira) Asymptotic distribution of negative eigenvalues for two-dimensional Pauli operators with spherically symmetric magnetic fields. *Tsukuba J. Math.* **22** (1998), *no.* 2, 281–303. (Miklós Horváth) **99j:35159** 35P20 (35J99, 47F05, 47N50, 81Q10)

Tamura, Hiroshi (*with* Ito, K. R.) Deviation of upper bounds of critical temperature of two-dimensional O(N) spin models. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 4, 339–348. (Hugo Fort) **99e:82034** 82B26 (82B20)

Tamura, Jun-ichi Partitions of the set of positive integers, nonperiodic sequences, and transcendence. Analytic number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 961 (1996), 161–182. (Jean-Paul Allouche) **99f:11031** 11B85 (11A55, 11J81, 11P81)

Tamura, Katsutoshi (*with* Shen, Tielong; Zang, Huaiquan) Riccati equation approach to robust L_2-gain synthesis for a class of uncertain nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1177–1188. 93B36 (93C05)

Tamura, Saburo On a database of biographical dictionaries of mathematicians. (Japanese) Study of the history of mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1019 (1997), 70–76. (*see* **99d:01002**) 01A70

Tamura, Takayuki[2] Strong convergence theorems of iterations for a pair of nonexpansive mappings in Banach spaces. *Nihonkai Math. J.* **9** (1998), *no.* 1, 1–16. (Charles Ejike Chidume) **99f:47074** 47H09

Tamvakis, K. (*with* Kanti, P.; Mavromatos, Nick E.; Rizos, J.; Winstanley, Elizabeth) Dilatonic black holes in higher curvature string gravity. II. Linear stability. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6255–6264. (Summary) **99m:83116** 83C57 (83E30)

nguyễn xuân Tấn *see* **Nguyễn Xuân Tấn**

Tan, B. L. (*with* Chia, T. T.) Self-similarity and fine structures in the linear-logistic map. (English summary) *Complex Systems* **10** (1996), *no.* 5, 321–343. (Summary) **99e:58064** 58F03

Tan, C. A. (*with* Yang, Bingen; Bergman, L. A.) On the problem of a distributed parameter system carrying a moving oscillator. (English summary) *Dynamics and control of distributed systems*, 69–94, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99b:73002**) 73K12 (73D30)

Tan, C. L. (*with* Shiah, Y. C.) Exact boundary integral transformation of the thermoelastic domain integral in BEM for general 2D anisotropic elasticity. (English summary) *Comput. Mech.* **23** (1999), *no.* 1, 87–96. (Summary) **99m:73075** 73V10 (73B30)

Tan, Choon Peng Conditions for using ergodic coefficients generated by Hölder norms. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 540–543, *World Sci. Publishing, River Edge, NJ*, 1998. (Adolf Rhodius) **99k:15037** 15A51 (15A60)

Tan, Eng-Chye (*with* Zhu, Chen-Bo) Poincaré series of holomorphic representations. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 1, 111–126. (Veena Sharma) **99f:22027** 22E46
— (*with* Zhu, Chen-Bo) On certain distinguished unitary representations supported on null cones. (English summary) *Amer. J. Math.* **120** (1998), *no.* 5, 1059–1076. (Michael Wüstner) **99h:22019** 22E46 (20G05)

Tan, Geok-Choo P-nilpotent completion is not idempotent. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 481–487. (Carles Casacuberta) **99i:20045** 20F14 (20E18, 55P60)
— (*with* Chew, Tuan-Seng; Wong, Woon-Kwong) On absolutely Henstock integrable functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 799–803. (Summary) **99d:26011** 26A39
— (*with* Chew, Tuan-Seng) On the convergence of (L) $\int_{X_n} f$ for nonabsolute integrals. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 353–361. (O. Lipovan) **99m:26016** 26A42

Tan, H. H. *see* **Tan, Hwee Huat**

Tan, Hai Ou On subspaces of Bloch space and series with Hadamard gaps. (English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 3, 214–223. (Bi Yun Yao) **99k:30062** 30D50 (30B10, 30D45, 46E10)

— (*with* Xiao, Jie[1]) p-Bergman spaces, α-Bloch spaces, little α-Bloch spaces, and Cesàro means. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 187–196. (Summary) **99g:46021** 46E10 (30D45, 30H05, 47B35)

— (*with* Xiao, Jie[1]) Two applications of generalized Carleson measures to meromorphic Besov-type spaces. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 15, 1260–1264. (H. Wallin) **99m:46087** 46E35 (28A99, 30H05)

— (*with* Xiao, Jie[1]) Two applications of generalized Carleson measures on meromorphic Besov type spaces. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 10, 1047–1050. 46E35 (30H05)

Tan, Hongzhou (*with* Mao, Zong Yuan; Chow, Tommy W. S.) Blind identifiability of truncated quadratic nonlinear models using spectra analyses. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 965–968. 93B30 (93E12)

Tan, Hualin (*with* Rugh, Wilson J.) Pseudolinearization and nonlinear optimal control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 386–391. (Ülle Kotta) **99c:93024** 93B18 (93B40)

— (*with* Rugh, Wilson J.) Nonlinear overtaking optimal control: sufficiency, stability, and approximation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1703–1718. (Arie Leizarowitz) **99j:49061** 49L20 (49M30, 93E20)

Tan, Hwee Huat (*with* Goh, Say Song; Lee, Seng Luan) Orthogonal expansions and multilevel algorithms. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 88–96, *Springer, Singapore*, 1997. (Summary) **99h:42059** 42C15 (41A15, 65D07)

— (*with* Lee, Seng Luan; Sharma, Ambikeshwar) Spline interpolation and wavelet construction. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 249–276. (Charles K. Chui) **99f:42068** 42C15 (41A15, 65D15)

Tan, J. C. (*with* Sewell, E. C.) Scheduling jobs with sequence dependent setups on coupled lines. (English summary) *Industrial applications of combinatorial optimization*, 109–124, *Appl. Optim.*, 16, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:90005**) 90B35 (90C27)

Tan, Ji Zhi (*with* Shen, Bo Qian) The existence of limit cycles for a centrally symmetric cubic system with a cubic curve solution $xy^2 + y = x^3$. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 629–632. (Mao An Han) **99m:34071** 34C05

Tan, Jian Rong (*with* Li, Wei Qing; Peng, Qun Sheng) A global recognition method based on patch structure. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 753–758. 68U07

— (*with* Fang, Kui; Zhu, Guo-qing) C^2- (C^3-) continuous interpolation spline curve and surface. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 238–245. (Summary) **99c:65030** 65D17

Tan, Jichang (*with* Lin, I-Peng) Recursive modes for precise analysis of logic programs. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 277–290, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17

Tan, Jie-qing Interpolating multivariate rational splines in $\mathbf{R}^r$. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **4** (1995), *no.* 2, 185–192. (Summary) **99a:41050** 41A63 (41A15, 65D07)

— Interpolating rational splines in three-dimensional space. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 181–187. (Summary) **99d:65033** 65D07 (65D05)

— Algorithms for lacunary vector valued rational interpolants. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 2, 169–182. (Summary) **99m:65022** 65D05 (41A05)

Tan, Jie Qun A new method of obtaining the maximal flow in a network. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 2, 9–12. 90C35 (90B10)

Tan, Jinsong On isospectral graphs. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 2, 117–124. (Summary) **99h:05087** 05C50

Tan, K.-K. *see* **Tan, Kok-Keong**

Tan, Kok-Choon (*with* Teo, Chung-Piaw; Ou, Jihong) Multi-item inventory staggering problems: heuristics and bounds. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 584–593, *ACM, New York*, 1998. (*see* **99d:68011**) 90B05 (90C90)

Tan, Kok-Keong (*with* Chowdhury, Mohammad S. R.) New minimax inequalities and applications. (English summary) *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 1–36. (Carlo Bardaro) **99d:49018** 49J35 (47H10, 54H25)

— (*with* Yuan, Xian-Zhi) Generalized games and non-compact quasi-variational inequalities. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 635–661. (Summary) **99f:90214** 90D44 (47H19, 47N10, 49J40, 90C48)

— (*with* Yuan, Xian-Zhi; Isac, George; Yu, Jian) The study of minimax inequalities, abstract economics and applications to variational inequalities and Nash equilibria. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 2, 135–166. (Xie Ping Ding) **99j:49018** 49J40 (49J35, 58E35, 90A14)

— (*with* Wu, Zhou[2]) A note on abstract economies with upper semicontinuous correspondence. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 21–22. (Summary) **99m:90041** 90A14

— (*with* Zhang, Shi Sheng) Iteration processes for approximating fixed points of operators of monotone type. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 433–445. (Tomás Domínguez Benavides) **99d:47057** 47H10

— (*with* Chowdhury, Mohammad S. R.) Applications of pseudo-monotone operators with some kind of upper semicontinuity in generalized quasi-variational inequalities on non-compact sets. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2957–2968. (Summary) **99a:47103** 47H19 (49J10)

— (*with* Edelstein, Michael; Radjavi, Heydar) Boundedness stability properties of linear and affine operators. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 111–125. (Summary) **99b:47002** 47A05 (15A04, 47B15, 47B20)

— (*with* Chowdhury, Mohammad S. R.) Study of generalized quasi-variational inequalities for lower and upper hemi-continuous operators on non-compact sets. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 121–134. (Igor[r] V. Konnov) **99k:47167** 47H19 (47H04, 49J40)

Tan, Kok Kiong (*with* Wang, Qing-Guo; Lee, Tong-Heng) ★ Finite spectrum assignment for time-delay systems. Lecture Notes in Control and Information Sciences, 239. *Springer-Verlag London, Ltd., London*, 1999. *viii*+117 *pp. ISBN* 1-85233-065-1 (T. Kaczorek) **99k:93003** 93–02 (93B55, 93C30)

Tan, Lei Hausdorff dimension of subsets of the parameter space for families of rational maps. (A generalization of Shishikura's result). (English summary) *Nonlinearity* **11** (1998), *no.* 2, 233–246. (Fuyao Ren) **99b:58202** 58F23 (30D05)

Tan, Liansheng (*with* Fan, Wentao) The disturbance rejection in singular systems. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 523–528. 93D21 (93C30)

Tan, Nguyen Xuan *see* **Nguyễn Xuân Tấn**

Tan, Qijian (*with* Bai, Donghua) A free boundary problem arised from nonlinear degenerate equations of parabolic type with the second boundary value. (English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 6, 723–730. (Antonio Fasano) **99f:35104** 35K60 (35R35, 76A05, 76S05)

Tan, Richard B. (*with* Bodlaender, Hans L.; van Leeuwen, Jan; Thilikos, Dimitris M.) On interval routing schemes and treewidth. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 92–109. (Dominique Sotteau) **99g:68149** 68R10 (68M10, 68Q25)

— (*with* Flammini, Michele; Gambosi, Giorgio; Nanni, Umberto) Multidimensional interval routing schemes. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 115–133. (Summary) **99d:68021** 68M10

Tan, Roger C. E. (*with* Andrew, Alan L.) Computing derivatives of eigenvectors corresponding to multiple eigenvalues of nonsymmetric matrix functions. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 409–414, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65F15 (15A18)

— (*with* Andrew, Alan L.) Computation of derivatives of repeated eigenvalues and the corresponding eigenvectors of symmetric matrix pencils. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 78–100 (*electronic*). (S. F. McCormick) **99g:65044** 65F15 (15A22)

Tan, Shaohua (*with* Chai, Joo-Siong; Chen, Qi; Hang, Chang Chieh) A general fuzzy control scheme for nonlinear processes with stability analysis. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 179–195. 93C42

— (*with* Yu, Yi) Complementarity and equivalence relationships between convex fuzzy systems with symmetry restrictions and wavelets. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 423–438. 93C42 (42C15)

Tan, Sheng-Li On the slopes of the moduli spaces of curves. *Internat. J. Math.* **9** (1998), *no.* 1, 119–127. (Montserrat Teixidor i Bigas) **99k:14042** 14H10

Tan, Victor A regularized Siegel-Weil formula on U(2, 2) and U(3). *Duke Math. J.* **94** (1998), *no.* 2, 341–378. (Dipendra Prasad) **99f:11065** 11F70 (11F27, 22E55)

— (*with* Lum, Kai Hing) Intertwining operators for vertex representations of toroidal Lie algebras. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 239–246. (Dražen Adamović) **99j:17044** 17B69 (17B10)

Tan, Xin Xin (*with* Shen, Bo Qian) A condition for the existence of limit cycles of a centrally symmetric cubic system with two parabolic solutions. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 496–500. 34C05

Tan, Xuehou (*with* Song, Xiaoyu) Channel routing on a hexagonal grid. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 263–279 (*electronic*). (*see* **99f:68006**) 68Q35

— (*with* Song, Xiaoyu) Routing multiterminal nets on a hexagonal grid. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 245–255. 68Q35

— Edge guards in straight walkable polygons. (English summary) *Internat. J. Comput. Geom. Appl.* **9** (1999), *no.* 1, 63–79. (J. M. Wills) **99m:52015** 52B05 (52C10)

Tan, Ya (*with* Zhuang, Jian Nan) Second-order necessary conditions for nonsmooth optimization. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 141–153. (Jane Juan-Juan Ye) **99m:90137** 90C30 (49J52)

Tan, Yao-Hua (*with* van der Torre, Leendert W. N.) The temporal analysis of Chisholm's paradox. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 650–655, *MIT Press, Cambridge, MA*, 1998. (Summary) **99f:03018** 03B45 (03A05, 68T30)

— (*with* Sadighi Firozabadi, Babak; Lee, Ronald M.) Formal definitions of fraud. (English summary) *Norms, logics and information systems* (*Bologna*, 1998), 275–287, *Frontiers Artificial Intelligence Appl.*, 49, *IOS, Amsterdam*, 1999. (*see* **99k:03014**) 68T27 (90A15)

Tan, Yi Jia Minimal fuzzy ideals in a fuzzy semigroup. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 10–15. 20M99

Tan, Yongji (*with* Li, Da Qian; Zheng, Songmu; Shen, Weixi) ★ Boundary value problems with equivalued surface and resistivity well-logging. (English summary) Pitman Research Notes in Mathematics Series, 382. *Longman, Harlow*, 1998. *xiv*+210 *pp. ISBN* 0-582-27632-2 (Alexander S. Denisjuk) **99h:35230** 35R30 (35J15, 65N30, 86–08, 86A20)

Tan, YouJun (*with* Liu, Zhang-Ju) Generalized Lie bialgebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2293–2319. (Aleksandr A. Mikhalev) **99f:17023** 17B55 (16W30, 58F07)

Tan, Zeguang (*with* Burkard, Rainer E.) The simple block iterative algorithm of an extended entropy model and its convergence. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 1, 96–105. (Summary) **99b:90093** 90C26 (65K05)

Tan, Zhen-Qiang (*with* Shen, You-Gen) Metric of dynamic black hole in higher-dimensional de Sitter background space-time. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 3, 339–342. (Nora Bretón Báez) **99f:83053** 83C57 (83C15)

Tan, Zhengyu (*with* Zhang, Chenghui; Cui, Naxin) A new solution method for state equations of nonlinear system. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 175–183. (From the summary) **99j:34014** 34A45 (65L06)

Tanabe, Kazuyuki Infinite Galois theory of semisimple rings. *Math. J. Okayama Univ.* **38** (1996), 53–82 (1998). (George Szeto) **99h:16052** 16W20 (16S20)

— (*with* Nagahara, Takasi) Infinite outer Galois theory of semisimple rings. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3909–3922. (H. F. Kreimer) **99h:16051** 16W20 (16K40)

Tanabe, Kenichiro On the centralizer algebra of the unitary reflection group $G(m, p, n)$. (English summary) *Nagoya Math. J.* **148** (1997), 113–126. (Fabio Gavarini) **99d:20014** 20C15 (20F55)

Tanabe, Koichi Affine surfaces with parallel cubic form relative to the dual connection. *Kobe J. Math.* **15** (1998), *no.* 1, 85–89. (Suhyoung Choi) **99k:53008** 53A15

Tanabe, Kosai (*with* Yoshinaga, Naotaka; Enami, Ken'ichi) Angular momentum- and particle number-projections from cranking HFB self-consistent solution. *Symmetries in*

science, X (*Bregenz*, 1997), 421–433, *Plenum, New York*, 1998. (*see* **99f:81004**) 81R05

Tanabe, Kunio *see* **Akaike, Hirotugu, 99h:01040**

Tanabe, Masaharu A bound for the theorem of de Franchis. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2289–2295. (Masakazu Shiba) **99j:30046** 30F10

Tanabe, Nobuhiko (*with* Asada, Akira) A remark on infinite-dimensional Gaussian integral in a Sobolev space. (English summary) *J. Fac. Sci. Shinshu Univ.* **32** (1997), *no.* 2, 61–67. (Zhongmin Qian) **99d:58031** 58D20 (58G32, 60B05)

Tanabe, Takahito (*with* Yabe, Hiroshi; Yamashita, Hiroshi[2]) A primal-dual interior point method for large-scale nonlinear optimization problems. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 204–211. (*see* **99i:00028**) 90C30 (90C06)

Tanaev, A. B. (*with* Vall, A. N.; Korenblit, S. E.; Leviant, V. M.) A dynamical mapping method in nonrelativistic models of quantum field theory. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 492–502. (Lech Jakóbczyk) **99b:81146** 81T10

Tanaev, Vyacheslav S. (*with* Sot·skov, Yu. N.; Werner, Frank) Stability radius of an optimal schedule: a survey and recent developments. (English summary) *Industrial applications of combinatorial optimization*, 72–108, *Appl. Optim.*, 16, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:90058** 90B35 (90–02, 90C27)

Tanahashi, Kōtarō (*with* Fujii, Masatoshi; Jiang, Jian Fei; Kamei, Eizaburo) A characterization of chaotic order and a problem. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 149–156. (From the introduction) **99k:47039** 47A63

— (*with* Yamagami, Shigeru) Exponential ordering on bounded self-adjoint operators. (Japanese summary) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 39–47. (From the text) **99k:47042** 47A63 (47B15)

— The Furuta inequality with negative powers. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1683–1692. (Summary) **99i:47033** 47A63 (47B15)

Tanaka, Atsuhiro (*with* Kino, Issei) Lumpability in LRU stack with Markovian page references. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 91–117. (Summary) **99b:68039** 68N25

Tanaka, Hidehiko (*with* Magnaghi, Antonio) A topological approach for strict local testability. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 199–208. (Summary) **99k:68095** 68Q45

Tanaka, Hidekazu (*with* Akahira, Masafumi) The comparison of estimators of a reliability function in the Weibull case. (Japanese) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 1–10. (*see* **99a:62005**) 62N05

Tanaka, Hideo (*with* Diamond, Phil) Fuzzy regression analysis. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 349–387, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 62J05 (04A72)

— (*with* Guo, Peijun) Possibility analysis and its applications. Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 10–18. (*see* **99h:90006**) 90A05

Tanaka, Hideyuki (*with* Sugie, Toshiharu) New characterization of fixed-order controllers based on LMI. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 58–74. (A. Barraud) **99k:93051** 93B50 (93C05, 93D15)

Tanaka, Hiroshi[1] Limit theorems for a Brownian motion with drift in a white noise environment. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 11, 1807–1816. (Kiyoshi Kawazu) **99a:60085** 60J60 (60J65, 60J70)

— (*with* Kawazu, Kiyoshi) A diffusion process in a Brownian environment with drift. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 189–211. (Wan Ding Ding) **99c:60170** 60J60 (60F05, 60F15, 60K35)

— (*with* Kawazu, Kiyoshi) Invariance principle for a Brownian motion with large drift in a white noise environment. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 1, 129–137. (Wan Ding Ding) **99e:60174** 60J60 (60F17)

Tanaka, Jun-ichi Extensions of almost periodic functions and Hardy spaces. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 47–55. (*see* **99i:00018**) 42A75 (11M26, 46E99, 47N99)

Tanaka, K. *see* **Tanaka, Kensuke**

Tanaka, Kaori Semiclassical study of the magnetization of a quantum dot. (English summary) *Ann. Physics* **268** (1998), *no.* 1, 31–60. (Summary) **99g:81052** 81Q20

— (*with* Brack, M.; Meier, Peter) Uniform trace formulae for SU(2) and SO(3) symmetry breaking. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 331–353. (Summary) **99j:81065** 81R40 (81Q15)

Tanaka, Kazunaga Multiple positive solutions for some nonlinear elliptic systems. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 15–45. (Jean-Noël Corvellec) **99m:35082** 35J65 (35B05, 35J55, 58E05)

Tanaka, Kazuo[1] (*with* Ikeda, Takayuki; Wang, Hua O.) A unified approach to controlling chaos via an LMI-based fuzzy control system design. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 10, 1021–1040. 93C42 (58F13, 58F40)

Tanaka, Kazuyuki[1] Non-standard analysis in WKL_0. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 396–400. (Summary) **99c:03096** 03F35 (03F60, 03H05)

Tanaka, Keisuke (*with* Sung, Shao-Chin) Lower bounds of the negation-limited circuit complexity. The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 175–182. (Christoph Meinel) **99h:94090** 94C10 (68Q25)

Tanaka, Kensuke (*with* Kimura, Yutaka; Sawasaki, Yoichi) Weak convergence for nonexpansive set-valued mappings. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 88–93. (*see* **99b:90009**) 49J52 (47H05)

— (*with* Liu, Jen-Chwan; Kimura, Yutaka) Generalized fractional programming. (English summary) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 1–13. (Joachim Käschel) **99m:90141** 90C32

— (*with* Kimura, Yutaka; Sawasaki, Yoichi) A non-cooperative equilibrium of n-person game with fractional loss functions. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 215–220. (*see* **99h:90006**) 90D06

— (*with* Lai, Hang Chin; Liu, Jen-Chwan) Necessary and sufficient conditions for minimax fractional programming. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 2, 311–328. (Eugenia Duca) **99m:90140** 90C32 (49N15)

Tanaka, Kiyoshi (*with* Hayashi, Yukihiko; Sugimura, Tatsuo) Data hiding under fractal image generation via random midpoint displacement method. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3221–3231. 68U05

Tanaka, M. *see* **Tanaka, Masataka**

Tanaka, Masahiro[1] (*with* Wang, Shu Ning; Dai, Jian She) A parametric approach for l_1 robust identification. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1282–1286. 93B30 (93B36)

Tanaka, Masataka *see* **Inverse problems in engineering mechanics, 99k:80001**

Tanaka, Minoru[3] (*with* Itoh, Jin-ichi) The dimension of a cut locus on a smooth Riemannian manifold. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 571–575. (James J. Hebda) **99k:53068** 53C20 (28A78)

Tanaka, Mitsuhiro Disappearance of waves in modulated train of surface gravity waves. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 392–398, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76E30)

— Research into numerical schemes for ocean waves. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 162–172. (*see* **99f:76003**) 86–08

Tanaka, Mitsuru[2] (*with* Kawahara, Genta; Kida, Shigeo; Yanase, Shinichiro) Wrap, tilt and stretch of vorticity lines around a strong thin straight vortex tube in a simple shear flow. (English summary) *J. Fluid Mech.* **353** (1997), 115–162. (Yuri N. Skiba) **99f:76040** 76D05 (76C05, 76F10)

Tanaka, N. *see* **Tanaka, Nobuatsu**

Tanaka, Naoki Extension or blow up of classical solutions to quasilinear evolution equations in Banach spaces. *Nonlinear Anal.* **29** (1997), *no.* 11, 1287–1301. (Varga Kalantarov) **99k:34140** 34G20 (47H20)

— (*with* Lin, Yuhua) Nonlinear abstract wave equations with strong damping. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 46–61. (Reinhard Racke) **99h:34088** 34G20 (35L70)

— *see also* **Oka, Hirokazu, 99a:45020**

Tanaka, Nelson I. (*with* Schonmann, Roberto H.) Lack of monotonicity in ferromagnetic Ising model phase diagrams. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 234–245. (Yvan Velenik) **99b:60171** 60K35 (82B20, 82B26)

Tanaka, Nobuatsu A wavelet-based conjugate gradient method for solving Poisson equations. (English summary) *Wavelets and their applications*, 45–73, *SIAM, Philadelphia, PA*, 1998. (*see* **99h:00019**) 65N35 (65T20)

— A review of wavelet-based conjugate gradient method for solving Poisson equations. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 71–79. (*see* **99a:00043**) 65N99 (65F30)

— Wavelet-preconditioned conjugate gradient Poisson solver and its use in parallel processing. (English summary) *Comput. Mech.* **23** (1999), *no.* 2, 190–198. 65N30 (65F30, 65Y05)

Tanaka, S. *see* **Tanaka, Satoshi**[2]

Tanaka, Satoru (*with* Kanagawa, Shuya) The accuracy of testing methods for pseudorandom numbers and approximation methods for SDEs. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 21–45. (*see* **99f:65007**) 65C05 (11K45, 60H10)

Tanaka, Satoshi[1] (*with* Namiki, Mikio; Ohba, Ichiro; Mizutani, Masashi; Komoike, Nobuyuki; Kanenaga, Masahiko) Stochastic quantization of bottomless systems based on kerneled Langevin equation. (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **5** (1996), *no.* 2, 105–124 (1997). (Summary) **99b:82078** 82C31

Tanaka, Satoshi[2] Forced oscillations of first order nonlinear neutral differential equations. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 23–41. (Binggen Zhang) **99a:34199** 34K15 (34K40)

Tanaka, Shōtarō (*with* Kubo, A.; Sato, N.) The fan problem and its history in the Japanese mathematics. (English summary) *Gurukula Kangri Vijñāna Patrikā Āryabhaṭa* **1** (1998), 15–24. (Andrea Bréard) **99m:01008** 01A27

Tanaka, Taka-Aki Algebraic independence results related to linear recurrences. *Osaka J. Math.* **36** (1999), *no.* 1, 203–227. (P. Bundschuh) **99m:11082** 11J85 (11B37, 11J91)

Tanaka, Tamaki (*with* Yamada, Syuuji) An outer approximation method for a concave minimization problem. (Japanese. Japanese summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 1–13. (*see* **99b:90009**) 90C26 (90C30)

— On set-valued minimax problems. (English summary) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 91–96. (*see* **99f:00024**) 90C29 (49K35)

— (*with* Petrosyan, L. A.; Ayoshin, Dmitri A.) Construction of a time consistent core in multichoice multistage games. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 198–206. (Summary) **99j:90132** 90D20 (90D12)

— (*with* Shimizu, Toshiyuki[2]) Network optimization for congestion alleviation problems. (Japanese) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 93–110. (*see* **99i:90002**) 90C35 (90B10)

Tanaka, Tatsuji Correction to the paper: "On Chow forms of elliptic quartic curves" [Rep. Fac. Sci. Engrg. Saga Univ. Math. **25** (1997), no. 1-2, 1–4; MR 98a:14045]. *Rep. Fac. Sci. Engrg. Saga Univ. Math.* **26/27** (1998), *no.* 1, 11. (From the text) **99h:14034** 14H45 (14N05)

Tanaka, Toshiaki (*with* Hada, Satoshi) On the existence of 3-round zero-knowledge protocols. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 408–423, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94046** 94A60 (68Q15)

Tanaka, Toshifumi Four-genera of quasipositive knots. (English summary) *Topology Appl.* **83** (1998), *no.* 3, 187–192. (Martin Scharlemann) **99h:57019** 57M25 (57N70)

— Unknotting numbers of quasipositive knots. (English summary) *Topology Appl.* **88** (1998), *no.* 3, 239–246. (Katura Miyazaki) **99g:57014** 57M25 (57N70)

Tanaka, Y. *see* **Tanaka, Yutaka**[1]

Tanaka, Yasuhiko (*with* Hayashi, Makoto[1]) On the finite simple groups all of whose 2-local subgroups are solvable. *J. Algebra* **210** (1998), *no.* 2, 365–384. (Jian Hua Huang) **99k:20033** 20D05 (20D08, 20E32)

Tanaka, Yoshio (*with* Liu, Chuan) Spaces having σ-compact-finite k-networks, and related matters. *Topology Proc.* **21** (1996), 173–200. (Sheldon W. Davis) **99c:54036** 54D50 (54D55, 54E40)

— (*with* Ikeda, Yoshito) Closed projections. *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 25–32. (Ilija Kovačević) **99f:54014** 54C10 (54D20)

— (*with* Liu, Chuan) Star-countable k-networks, and quotient images of locally separable metric spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 317–325. (Summary) **99c:54012** 54B15 (54C10, 54E35, 54E40)

— k-networks, and spaces having the weak topology with respect to closed covers of metric subspaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 427–438. (Summary) **99c:54037** 54D50 (54E99)

— (*with* Murota, Toshio) Generalizations of $w\Delta$-spaces, and developable spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 439–452. (Gary Gruenhage) **99c:54011** 54B10 (54E18, 54E30, 54E35)

— Metrizability of decomposition spaces of metric spaces. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 9–19. (Thomas W. Rishel) **99d:54006** 54B15 (54C10, 54D55, 54E35)

Tanaka, Yutaka[1] *see* **Data science, classification, and related methods, 99b:62002**

Tanana, V. P. ★ Methods for solution of nonlinear operator equations. Inverse and Ill-posed Problems Series. *VSP, Utrecht*, 1997. *ii*+241 *pp. ISBN* 90-6764-272-X (Otmar Scherzer) **99h:47077** 47H17 (65J20)

— ★ Methods for solving operator equations. Inverse and Ill-posed Problems Series. *VSP, Utrecht*, 1997. *ii*+223 *pp. ISBN* 90-6764-237-1 (Anton Suhadolc) **99k:65051** 65J20 (47A50, 47N40, 65J10)

— (*with* Menikhes, L. D.) On convergence of approximations in the regularization method and the Tikhonov regularization method on the nth order. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 3, 243–262. (Otmar Scherzer) **99i:65063** 65J20 (47A50)

— On the approximate solution of nonlinear operator equations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1175–1183, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 1017–1025. (Anton Suhadolc) **99j:65109** 65J20 (47H17)

Tanasi, Corrado (*with* Poénaru, Valentin) Representations of the Whitehead manifold Wh^3 and Julia sets. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, 655–694. (Rafael Oswaldo Ruggiero) **99k:57005** 57M20 (57N10, 58F23)

— (*with* Poénaru, Valentin) Some remarks on geometric simple connectivity. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 1–12. (Terry Lawson) **99k:57047** 57N15 (57M20, 57N50, 57R60, 57R80)

Tanbay, B. Direct sums and the Schur property. (English summary) *Turkish J. Math.* **22** (1998), *no.* 3, 349–354. (Summary) **99k:46021** 46B20 (46B10)

Tanca, Letizia (*with* Cortesi, Agostino; Dovier, Agostino; Quintarelli, Elisa) Operational and abstract semantics of a query language for semi-structured information. (English summary) *Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming (DDLP'98) (Manchester*, 1998), 127–139, *GMD Rep.*, 22, *GMD—Forschungszentrum Informationstech., St. Augustin*, 1998. (*see* **99g:68052**) 68P15 (68Q55)

Tancredi, Gonzalo Chaos in the solar system. (Spanish) *Chaos in Uruguay* (*Spanish*) (*Piriápolis*, 1996), 73–98, *Univ. Repúb., Montevideo*, 1997. (*see* **99m:58004**) 85A05 (58F13, 58F40)

— *see also* **Chaos in Uruguay, 99m:58004**

Tandori, Károly (*with* Móricz, Ferenc) Integrability behaviour of the maximal partial sum of orthogonal series. (English summary) *Math. Pannon.* **10** (1999), *no.* 1, 5–15. (J. Musielak) **99m:42051** 42C15 (46E30)

Taneichi, Nobuhiro (*with* Sekiya, Yuri; Imai, Hideyuki) A power approximation of the test of homogeneity for multinomial populations based on a normalizing transformation. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1677–1691. 62G10

Taneja, Vidya S. *see* **MSI-2000, 99f:62009**

Tanemura, Masaharu Problems of optimal configuration of points on the sphere. (Japanese. English and Japanese summaries) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 2, 359–381. 52B20 (65C05)

Tang, Arsalang (*with* Baker, Christopher T. H.) Stability analysis of continuous implicit Runge-Kutta methods for Volterra integro-differential systems with unbounded delays. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 153–173. (Jean-Paul Kauthen) **99a:45021** 45L05 (34K05, 45J05, 65R20)

— (*with* Baker, Christopher T. H.) Stability of grazing systems with infinite delays. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 309–317. (Summary) **99d:92044** 92D40 (34K20)

Tang, Ben Rong (*with* Shi, Jun) A high-speed algorithm for binary double operands addition. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 22–26. 68M07

Tang, Bingyong (*with* Wang, Xinmin[3]; Ruan, Jiong) A note on synchronization with heterogeneous driving. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2239–2241. (Summary) **99m:34102** 34C35

Tang, Boxin (*with* Cheng, Ching-Shui; Martin, Richard John) Two-level factorial designs with extreme numbers of level changes. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1522–1539. (Damaraju Raghavarao) **99k:62142** 62K15

— Selecting Latin hypercubes using correlation criteria. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 965–977. 62K10

Tang, C. Y. *see* **Tang, Francis C. Y.**

Tang, Chao Fractal dimension of Julia set for nonanalytic maps. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 1001–1008. (Xavier Buff) **99j:58176** 58F23

Tang, Chuan Feng (*with* Hou, Cheng Jun) Hyperreflexivity and quasitriangular algebras of nest algebras. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **22** (1996), *no.* 3, 17–19. 47D25

Tang, Chuan Yi (*with* Peng, Shen Lung; Ho, Chin-Wen; Hsu, Tsan-sheng; Ko, Ming-Tat) A linear-time algorithm for constructing an optimal node-search strategy of a tree. (English summary) *Computing and combinatorics (Taipei*, 1998), 279–288, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25 (05C85, 68R10)

— (*with* Wu, Bang Ye; Chao, Kun-Mao) Approximation and exact algorithms for constructing minimum ultrametric trees from distance matrices. (English summary) *Computing and combinatorics (Taipei*, 1998), 299–308, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25 (92D15)

— (*with* Wu, Bang Ye; Lancia, Giuseppe; Bafna, Vineet; Chao, Kun-Mao; Ravi, R.) A polynomial time approximation scheme for minimum routing cost spanning trees. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA*, 1998), 21–32, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)

— (*with* Lu, Chin Lung) Solving the weighted efficient edge domination problem on bipartite permutation graphs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 203–211. (Anthony E. Barkauskas) **99i:05190** 05C85 (05C35, 05C70)

— (*with* Shyu, Daw-Jong; Wang, Biing-Feng) Efficient emulations for X-trees and m-ary trees. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 2, 95–116. 90B12 (65Y05)

— (*with* Yen, William C. K.) An optimal algorithm for solving the searchlight guarding problem on weighted two-terminal series-parallel graphs. (English summary) *Acta Inform.* **36** (1999), *no.* 2, 143–172. (Summary) **99k:68085** 68Q25 (05C85, 68R10)

— (*with* Wu, Bang Ye; Chao, Kun-Mao) An efficient algorithm for the length-constrained heaviest path problem on a tree. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 63–67. (Summary) **99j:68111** 68R10 (68M10)

Tang, Chun-Lei Some existence results for periodic solutions of non-autonomous second order systems. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **8** (1997), *no.* 1-6, 13–19. (Maria Letizia Bertotti) **99b:34076** 34C25 (58F22)

— (*with* Gao, Qi Ju) Elliptic resonant problems at higher eigenvalues with an unbounded nonlinear term. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 56–66. (Thomas Bartsch) **99e:35075** 35J65 (58E05)

— Existence and multiplicity of periodic solutions for nonautonomous second order systems. *Nonlinear Anal.* **32** (1998), *no.* 3, 299–304. (Hasna Riahi) **99d:34074** 34C25 (58F22)

— Periodic solutions for nonautonomous second order systems with sublinear nonlinearity. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3263–3270. (Gabriella Tarantello) **99a:34122** 34C25

Tang, Dei-In Testing the hypothesis of a normal mean lying outside a convex cone. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 6, 1517–1534. (Summary) **99b:62095** 62H15

Tang, Feng Jun (*with* Huang, Zhen Xun; Ruan, Jiong) Hopf bifurcation of generalized Liénard equations parametrized by delay. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 469–476. (Bo Zhang) **99m:34166** 34K15 (34C23, 34C25, 34K20)

Tang, Francis C. Y. (*with* Kim, Goansu) On generalized free products of residually finite p-groups. (English summary) *J. Algebra* **201** (1998), *no.* 1, 317–327. (Katalin Bencsath) **99a:20028** 20E26 (20E06, 20F05)

Tang, Guo Xing (*with* Fan, Long Zhen) The value of investment opportunity and investment decision—a geometric Brownian motion model. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 8–12. 90A09

Tang, Guochun (*with* Foulds, Leslie R.) Single machine scheduling with controllable processing times and compression costs. II. Heuristics for the general case. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 1, 124. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 1, 75–84. 90B35

Tang, Guoping Decomposition of solutions of homogeneous linear equations. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 2, 133–135. (Summary) **99h:15004** 15A06

— Hermitian groups and K-theory. (English summary) *K-Theory* **13** (1998), *no.* 3, 209–267. (Charles Weibel) **99b:19006** 19G38

Tang, Guoqing (*with* Wang, Zidong; Chen, Xue Min) Robust controller design for uncertain linear systems with circular pole constraints. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 1045–1054. 93B51

Tang, Heng Sheng (*with* Luo, Wei[1]; Ou, Chun Hua) Oscillation properties of the difference equation $x_{n+1} = F(x_n)$. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 70–73. (Summary) **99e:39043** 39A10

— (*with* Li, Xianyi; Liu, Yachun; Xiao, Gongfu) A conjecture by G. Ladas. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 39–44. (Michail G. Blizorukov) **99e:39029** 39A10

— (*with* Ou, Chun Hua; Luo, Wei[1]) Boundedness, persistence and asymptotic stability on the delay difference equation $x_{n+1} = f(x_n, x_{n-1}, \cdots, x_{n-k})$. (English summary) *Ann. Differential Equations* **15** (1999), *no.* 1, 38–47. 39A11 (39A10)

Tang, Hengyong (*with* Zhao, Dayu) Computing Karmarkar's projections in stochastic linear programming. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 486. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 409–416. 90C15 (90C08)

Tang, Huai-min (*with* Sun, Che; Wu, Ke-jian) The discontinuous-streamline diffusion method for first-order hyperbolic equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 35–44. (Summary) **99c:65185** 65M60

Tang, Huan Wen (*with* Zhang, Li Wei) A maximum entropy algorithm with parameters for solving minimax problem. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 1-2(42), 47–59. (Summary) **99b:90128** 90C30 (49K35)

— (*with* Qin, Xue Zhi; Wang, Xue Hua) A study of an efficient algorithm for large system optimization. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 1–8. 90C30 (90C06)

— (*with* Zhang, Li Wei) A further study on a penalty function of Bertsekas. (English summary) *Advances in nonlinear programming (Beijing*, 1996), 345–351, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C30 (49M30)

— (*with* Narisa) Existence of solutions to a static nonlinear input-output model. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 2, 125–128.

(Summary) **99d:90029** 90A15

— (*with* Chen, Guo Qing) The maximum entropy method and exponential penalty functions. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 297–300. 90C30 (65K05)

Tang, Hui-Chin (*with* Kao, Chiang) Several extensively tested multiple recursive random number generators. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 129–136. 65C10

Tang, Ji Ye (*with* Zhong, Wan Xie) Parallel algorithms for precise integration of convection-diffusion equations. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **39** (1999), *no.* 1, 17–21. 65M06 (65Y05)

Tang, Jia Fu (*with* Wang, Ding Wei; Ip, A.; Fung, R. Y. K.) A hybrid genetic algorithm for a type of nonlinear programming problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 11–21. 90C30 (65K05)

— (*with* Wang, Ding Wei) A fuzzy optimal solution method based on genetic algorithms for a symmetric fuzzy nonlinear programming model. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 525–530. 90C70 (90C30)

— (*with* Wang, Ding Wei) A model based on genetic algorithms for a class of nonlinear programming problems with fuzzy resources. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 58–67. 90C70

Tang, Jia Shan The support of super-Brownian motions on a hyperbolic space. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 751–760. (Summary) **99e:60193** 60J80 (60J57)

Tang, Jian Guo Gram matrices and positive matrices. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 4, 83–86. (Chang Kun Liu) **99d:15020** 15A48

Tang, Jiangang Invertibility of morphisms in the category of L-fuzzy left R-modules. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 503–507. 16D99

Tang, Jun[2] (*with* Chen, Ting[1]) A bargaining model with incomplete information under a rational conjecture. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 16–23. (Summary) **99i:90044** 90A60

Tang, K. S. (*with* Man, K. F.; Kwong, S.) ★Genetic algorithms. (English summary) Concepts and designs. With 1 IBM-PC floppy disk (3.5 inch; HD). Advanced Textbooks in Control and Signal Processing. *Springer-Verlag London, Ltd., London*, 1999. *xii*+344 *pp. ISBN* 1-85233-072-4 (Publisher's description) **99m:90001** 90–02 (65K05, 90C27, 90C90)

Tang, K. Y. (*with* Graham, W. R.; Peraire, Jaime) Optimal control of vortex shedding using low-order models. I. Open-loop model development. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 945–972. 49N55 (76D05)

— (*with* Graham, W. R.; Peraire, Jaime) Optimal control of vortex shedding using low-order models. II. Model-based control. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 973–990. 49N55 (76D05)

Tang, Kwei (*with* Ch'ên, Yen Liang) Minimum time paths in a network with mixed time constraints. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 10, 793–805. (Summary) **99g:90044** 90B10 (90C35)

Tang, L. C. (*with* Goh, T. N.; Sun, Y. S.; Ong, H. L.) Planning accelerated life tests for censored two-parameter exponential distributions. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 169–186. (Summary) **99i:62239** 62N05

Tang, Lei (*with* Baeder, James D.) Uniformly accurate finite difference schemes for p-refinement. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1115–1131 (*electronic*). (Summary) **99i:65089** 65M06 (41A10, 65D25)

Tang, Lei-Han (*with* Tian, Guang-Shan) Reaction-diffusion-branching models of stock price fluctuations. (English summary) *Phys. A* **264** (1999), *no.* 3-4, 543–550. (Summary) **99m:90030** 90A09

Tang, Li Hua (*with* Leng, Gang Song) More on higher-dimensional generalized Pedoe inequalities and their applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 1, 14–21. (Summary) **99f:52010** 52A40

Tang, Li Min (*with* Qi, Zhao Hui) Conformal parameters for finite rotational tensors and their application in multibody systems. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 6, 711–718. 70B10 (70E99)

— (*with* Zhang, Hong Qing[1]; Chao, Lu) Taylor polynomial stepwise refinement algorithm for Lie and high symmetries of partial differential equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 3, 213–220; *translated from Appl. Math. Mech.* **19** (1998), *no.* 3, 195–201 (*Chinese. English and Chinese summaries*). (Summary) **99c:35013** 35A30 (35–04, 58G35)

— (*with* Qi, Zhao Hui) Mixed state Hamilton elements. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **39** (1999), *no.* 1, 12–16. 73V05

Tang, Li Zhong[2] A Gröbner basis criterion for birational equivalence of affine varieties. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 275–283. (Georgy Khristov Georgiev) **99a:14022** 14E05 (13P10)

Tang, Lin (*with* Jiang, Yin Sheng) Almost everywhere convergence of Bochner-Riesz means of conjugate Fourier series at the critical index. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 3, 5–9. 42B25

— (*with* Lu, Shan Zhen; Yang, Da Chun) Boundedness of commutators on homogeneous Herz spaces. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 10, 1023–1033. (Kenneth F. Andersen) **99m:42027** 42B20 (46E30)

Tang, Linwei (*with* Li, Liangying) Note on the oscillation of the solution for generalized Liénard equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 219–223. (Summary) **99e:34037** 34C10

Tang, M. *see* **Tang, Mo Xun**

Tang, Man-Lai Small-sample study of the use of mid-p power divergence goodness-of-fit tests. (English summary) *J. Statist. Comput. Simulation* **62** (1998), *no.* 1-2, 137–180. (Summary) **99m:62074** 62G10

Tang, Min (*with* Li, Jun[5]; Hu, Zhan Yi) A comparison between the randomized Hough transformation and the Tabu search algorithm in geometric primitive extraction. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **22** (1999), *no.* 1, 56–65. 90C27 (68T10, 68U10)

Tang, Mo Xun (*with* Erbe, Lynn H.) Existence and multiplicity of positive solutions to nonlinear boundary value problems. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 313–320. (*see* **99g:00038**) 35J65 (34B15, 35B05)

— (*with* Erbe, Lynn H.) Uniqueness of positive radial solutions of $\Delta u + K(|x|)\gamma(u) = 0$. (English summary) *Differential Integral Equations* **11** (1998), *no.* 4, 663–678. (Summary) **99j:35046** 35J60 (34A12, 35B05)

— (*with* Erbe, Lynn H.) Uniqueness of positive radial solutions of $\Delta u + f(|x|, u) = 0$. (English summary) *Differential Integral Equations* **11** (1998), *no.* 5, 725–743. (Summary) **99j:35047** 35J60 (34B15, 35B05)

— (*with* Dai, Guo Ren) Coexistence region and global dynamics of a harvested predator-prey system. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 193–210 (*electronic*). (H. A. DeKleine) **99j:92017** 92D25 (34C05, 34C37)

Tang, Qi Mathematical behavior of solutions of the Ginzburg-Landau system. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 209–217, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35Q55 (58E50, 82D55)

— (*with* Bauman, Patricia; Phillips, Daniel) Stable nucleation for the Ginzburg-Landau system with an applied magnetic field. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 1, 1–43. (Peter E. Zhidkov) **99g:58040** 58E50 (35Q55, 82D55)

— (*with* Chen, Zhi Ming[1]; Elliott, Charles M.) Justification of a two-dimensional evolutionary Ginzburg-Landau superconductivity model. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 1, 25–50. (Darko Kapor) **99b:35197** 35Q60 (35K55, 82D55)

Tang, Qian-Yu (*with* Chen, Han-Fu) Convergence rate of ordinal optimization for stochastic discrete event systems. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 23–43. 93E20 (93C83)

Tang, Qing Gan (*with* Deng, Yuan Bei) Oscillation of difference equations with several delays. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 2, 1–3. (Summary) **99i:39016** 39A10

Tang, Ren Wei Solution methods for the Odaka equation. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 3, 137–142. 51N25

Tang, Rong Xi (*with* Jing, Ling; Xi, Ping) Application of the finite element method in deformable curve and surface modeling. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 245–251. 65D17 (65N30)

— (*with* Jin, Wen Hua; He, Tao; Liu, Xiao Ping; Tang, Wei Qing) A fast convex hull algorithm for planar point sets based on sorted simple polygons. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 533–539. (Summary) **99k:68194** 68U05

Tang, S. K. (*with* Chow, K. W.; Ko, N. W. M.; Leung, R. C. K.) Inviscid two-dimensional vortex dynamics and a soliton expansion of the sinh-Poisson equation. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1111–1119. (Summary) **99a:76020** 76C05 (35Q35, 35Q51)

Tang, San Yi (*with* Chen, Ju Fang; Xiao, Yan Ni) Permanence and positive solution of nonautonomous Lotka-Volterra with diffusion cooperative system. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 2, 50–58. (Kaiqi Xiong) **99a:92025** 92D25 (34C25, 34D99)

— (*with* Xiao, Yan Ni; Chen, Ju Fang) Permanence of nonautonomous Kolmogorov systems with diffusion. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 3, 37–41. (Joseph So) **99e:92030** 92D25 (34D20, 34D40)

— (*with* Chen, Ju Fang) Existence and uniqueness of periodic solutions for higher-order quasilinear discrete systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 1, 16–19. (Summary) **99i:39030** 39A12

— (*with* Xiao, Yan Ni; Chen, Ju Fang) Permanence and periodic solution in competitive system with feedback controls. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 33–37. (Summary) **99c:92062** 92D40 (34C25, 34D05, 92D25)

— (*with* Xiao, Yan Ni; Chen, Ju Fang) Positive periodic solutions of competitive Kolmogorov diffusion systems with interference constants. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 39–47. (Summary) **99f:92026** 92D25 (34C99)

— (*with* Xiao, Yan Ni) Stability of a Volterra integrodifferential model with diffusion. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 1, 37–41. (Summary) **99e:34110** 34K20 (45J05, 45M10, 92D40)

— (*with* Xiao, Yan Ni) Oscillations of neutral differential equations with deviating arguments. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 22–24. (Yuan-Tong Xu) **99k:34157** 34K15

Tang, Shanjian The maximum principle for partially observed optimal control of stochastic differential equations. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1596–1617 (*electronic*). (E. N. Barron) **99f:49040** 49K45 (93E20)

Tang, Shao Wu (*with* Feng, Zhen Xing; Li, Zheng Xiu) An application of the boundary element method to problems of transient heat conduction with moving boundary. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 4, 371–377. 65N38 (80–08)

— (*with* Feng, Zhen Xing) On analytical treatment of all boundary and volume integrals in BEM. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 4, 407–409. 65N38 (65D30)

Tang, Shaoqiang Steady states of some models for van der Waals fluids. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 163–167. 35L60 (76A99, 80A22)

— (*with* Hsieh, D. Y.; Wang, Xiao Ping[1]; Wu, L. X.) Dissipative nonlinear evolution equations and chaos. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 3, 233–266. (Summary) **99g:35133** 35Q99 (58F13, 58F39)

Tang, Shou Gao (*with* Cao, Zhi Yuan) Complex fundamental solutions for semi-infinite plane and infinite plane with hole under various boundary conditions. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 4, 335–344; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 311–319 (*Chinese. English and Chinese summaries*). (Summary) **99c:73015** 73C02 (73V35)

Tang, Shu Min (*with* Teng, Zhi Dong) Qualitative analysis of nonautonomous Kolmogorov population models. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 1, 1–7. (Summary) **99d:92031** 92D25

Tang, Si Shan *see* **Dang, Si Shan**

Tang, Siu-Hung (*with* Zworski, Maciej) From quasimodes to reasonances. *Math. Res. Lett.* **5** (1998), *no.* 3, 261–272. (B. Hellwig) **99i:47088** 47F05 (35P05)

Tang, Tai-Man The maximal ideal spaces of a class of C^*-algebras of pseudodifferential operators. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 733–740.

(Boris A. Plamenevsky) **99k:47127** 47G30 (35S05, 46L99)

Tang, Tao (*with* Teng, Zhen-Huan) Monotone difference schemes for two-dimensional nonhomogeneous conservation laws. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 229–243, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99e:65118** 65M06 (35L65)

— Convergence analysis for operator-splitting methods applied to conservation laws with stiff source terms. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1939–1968 (*electronic*). (So-Hsiang Chou) **99f:65132** 65M12 (35L65)

Tang, Ting Zai The niche numbers of four classes of adhesive graphs. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 479–484. (Summary) **99m:05140** 05C75

Tang, W. M. (*with* Qin, Hong[3]; Lee, W. W.; Rewoldt, G.) Gyrokinetic perpendicular dynamics. (English summary) *Phys. Plasmas* **6** (1999), *no.* 5, *part* 1, 1575–1588. 76X05

Tang, Wai-Shing (*with* Goh, Say Song; Lee, Seng Luan; Shen, Zuowei) Multilevel projections on spaces of periodic functions. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 22–29, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 41A65 (46E30)

— (*with* Goh, Say Song; Lee, Seng Luan; Shen, Zuowei) Construction of Schauder decomposition on Banach spaces of periodic functions. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 61–91. (Kazaros Kazarian) **99b:46033** 46E30 (41A65, 42C15, 46B15, 47A58)

Tang, Wan Sheng (*with* Zhao, Sheng Min; Li, Guang Quan; Zheng, Pi E) Optimal control of systems with continuous boundary conditions. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 9–15. 49K20 (93C20)

Tang, Wei-jun A boundary element method for a nonlinear boundary value problem in steady-state heat transfer in dimension three. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 427–440. (Mark Ainsworth) **99b:65159** 65N38

— (*with* Guan, Zhi; Han, Hou De) Boundary element approximation of Steklov eigenvalue problem for Helmholtz equation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 165–178. (Mark Ainsworth) **99b:65160** 65N38 (65N25)

— (*with* Fu, Hong-yuan; Shen, Long-jun) On the coupling of boundary integral and finite element methods for Signorini problems. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 561–570. (Summary) **99i:73075** 73V05 (65N30, 73V10, 73V25)

— Boundary element approximation of Steklov eigenvalue problem for Helmholtz equation in three dimensions. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 241–252. (Zheng Hui Xie) **99e:65148** 65N25 (35J05)

Tang, Wei-Pai (*with* Barth, Timothy J.; Chan, Tony F. C.) A parallel non-overlapping domain-decomposition algorithm for compressible fluid flow problems on triangulated domains. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 23–41, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Dennis C. Jespersen) **99g:76099** 76M25 (65M55, 65Y05, 76N10, 76R99)

— (*with* Golub, Gene H.; Huang, Lan Jie; Simon, Horst D.) A fast Poisson solver for the finite difference solution of the incompressible Navier-Stokes equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1606–1624 (*electronic*). (Jean-Luc Guermond) **99e:65116** 65M06 (65F30, 76D05, 76M20)

Tang, Wei Qing (*with* Jin, Wen Hua; He, Tao; Liu, Xiao Ping; Tang, Rong Xi) A fast convex hull algorithm for planar point sets based on sorted simple polygons. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 533–539. (Summary) **99k:68194** 68U05

Tang, X. H. *see* **Tang, Xian Hua**

Tang, Xi Lin (*with* Liu, Zhong Kui) Subdirect reducibility of a class of inverse semigroups. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 3, 397–403. (Heng Wu Zheng) **99m:20150** 20M18

— (*with* Wang, Li Min[3]) Congruence lattices of regular semigroups with inverse transversals. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1243–1255. (Branka P. Alimpić) **99a:20065** 20M17

— Semigroups with the congruence extension property. (English summary) *Semigroup Forum* **56** (1998), *no.* 2, 228–264. (Eckehart Hotzel) **99i:20079** 20M10 (08A30)

Tang, Xian Hua Necessary and sufficient conditions for oscillation of solutions to a class of neutral difference equations with variable coefficients. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **23** (1996), *no.* 6, 20–26. (Wan Biao Ma) **99b:39012** 39A10

— Existence of positive solutions for a class of neutral differential equations with variable delay. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 87–90. (Summary) **99c:34166** 34K15

— Bounded positive solutions of neutral difference equations. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **15** (1997), *no.* 5, 127–129. (Summary) **99a:39034** 39A10

— Oscillation of solutions to nonlinear first-order differential equations with deviating arguments. (Chinese) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 3, 294–298. (Xiang Sheng Xie) **99a:34200** 34K15

— (*with* Shen, Jian Hua) Oscillations of higher order neutral differential equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 56–67. (I. P. Stavroulakis) **99d:34137** 34K15 (34K40)

— (*with* Shen, Jian Hua) Comparison theorems for a class of neutral differential equations and their application. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 339–344. (Bao Tong Cui) **99h:34108** 34K15 (34K40)

— (*with* Shen, Jian Hua) New oscillation criteria for linear delay differential equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 53–61. (Klaus Morgenthal) **99j:34108** 34K15

— (*with* Duan, Zhen Hua) Oscillation criteria for solutions of nonlinear neutral difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 67–70. (Summary) **99k:39008** 39A10

— (*with* Duan, Zhen Hua) Oscillation criteria for solutions of odd-order neutral nonlinear delay differential equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 98–102. 34K15 (34K40)

— (*with* Yu, Jian She) Oscillation and existence of positive solutions for odd-order neutral equations with "integrally small" coefficients. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 286–296. (Hiroshi Onose) **99b:34120** 34K15 (34K40)

— (*with* Peng, D. H.; Wang, Zhi Cheng[1]) Sharp conditions for the oscillation of nonlinear neutral delay difference equations. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 7, 1–10. (I. P. Stavroulakis) **99k:39033** 39A10

Tang, Xiangdong Semilattices of $\mathscr{L}^{**}$-simple semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 37–41. (Summary) **99b:20091** 20M10

Tang, Xianjiang (*with* Mu, Chunlai) L^p-L^q estimates for higher order perturbed hyperbolic equation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 31–38. (Summary) **99b:35122** 35L30 (35B45)

Tang, Xiao Wo (*with* Zhang, Zhong Zhen) New algorithms for the shortest path problems with negative weights. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 432–436, 444. 90C08 (90C20)

— (*with* Chen, Hai Rong) Equilibrium solution and dynamic analysis of the general Cournot model. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 6, 649–655. 90A14

— (*with* Zeng, Yong; Chen, Ke[2]) A supplement to criterion for determining redundant methods of optimal combining forecasts. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 190–193. 62P20

Tang, Xin Yi (*with* Li, Lin[1]) Qualitative analysis of a class of biochemical reaction models. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 75–80. (Lan-Sun Chen) **99i:92005** 92C40 (34C05, 34D20, 92E20)

Tang, Xinhua (*with* Zhou, Shaoqian; Ding, Lixin; Zhang, Jian[1]) Linearization learning method of BP neural networks. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 35–39. (Summary) **99h:68147** 68T05

Tang, Yan Bin Traveling wave solutions for a class of cross-diffusion systems. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 119–121, 34. 35K57 (35B99)

Tang, Yi (*with* Yan, Jiaren; Zhou, Guanghui) Soliton dynamics of NLS equation at the presence of perturbations. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 4, 537–540. 35Q55 (35B20)

— (*with* Yan, Jiaren; Zhou, Guanghui; Chen, Zhenhua) Direct approach to the study of soliton perturbations of the nonlinear Schrödinger equation and the sine-Gordon equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 1064–1073. (Summary) **99c:35233** 35Q55 (35Q53)

Tang, Yiming (*with* Shi, Weihui) A numerical invariant of nonlinear partial differential equations. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 202–204. (Akira Asada) **99c:58006** 58A20 (35A20, 35A30, 35Q30)

Tang, Yin Cai (*with* Fei, He Liang) Statistical analysis with software of progressive stress accelerated life testing under Weibull distribution. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 407–413. 62N05 (90B25)

Tang, Ying Hui Some notes on the $GI/G/1$ repairable queueing system. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 437–440. 90B22 (60K25)

Tang, Yong (*with* Meng, Zhi Qing) Existence of a kind of generalized subdifferential for set-valued functions. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 99–101. 49J52

Tang, You Rong (*with* Liu, Zai Ming; Hou, Zhen Ting) The ergodicity and equilibrium distribution of generalized birth and death processes. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 25–32. (Summary) **99c:60195** 60J80

Tang, Yuan Sheng C^∞ even solutions of the Feigenbaum functional equation. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 253–258. (Wei Nian Zhang) **99a:39058** 39B22 (58F03)

— The properties of R-spaces in connection with arithmetic functions. II. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 1, 1–5. (Summary) **99f:11011** 11A25

— On the regularity properties of multiplicative functions. I, II. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 409–417, 419–426. (Summary) **99m:11109** 11N56 (11A25)

Tang, Yuezhong (*with* Zhang, Nai Yao; Li, Yan Da) Stable fuzzy adaptive control for a class of nonlinear systems. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 279–288. 93C42

Tang, Yun Computation of obstruction sets and bifurcation problems. (English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 1, 33–44. (Romeo F. Thomas) **99j:58149** 58F14

— (*with* Wang, Xiaofeng[2]; Wang, Duo) Recognition and classification for $O(n)$-equivariant bifurcations with $O(n)$-codimension less than 5. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 391–400. (Ian Melbourne) **99k:58130** 58F14 (34C23, 34C35)

— (*with* Wang, Xiaofeng[2]; Wang, Duo) Isomorphism between systems of equivariant singularities. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 26–45. (Michael Dellnitz) **99m:58033** 58C27 (58E40)

Tang, Yun-Hai (*with* Yang, Jaw-Yen; Lee, Shih-Tuen) A high-order streamline Godunov scheme for steady supersonic/hypersonic equilibrium flows. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 3-4, 261–289. (Summary) **99c:76078** 76M20 (76J20, 76K05)

Tang, Z. B. Optimal sequential sampling policy of partitioned random search and its approximation. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 431–448. (Summary) **99i:90067** 90C15 (90C30)

Tang, Ze Sheng (*with* Li, Jie) Real-time continuous multiresolution rendering of 3D complex models. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 481–491. 68U05 (65T20)

— (*with* Ma, Feng; Xia, Shao Wei; Tong, Xin) An SOM-PNN classifier for probabilistic segmentation and visualization of volume data. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 9, 819–824. 68T10

— (*with* Wang, La Zhu; Zuo, Wan Li) A theorem for curved surface conversion. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 3, 16–19. 65D17

Tang, Zhi Ming (*with* Wang, Yong Jiu) Gravitational field of electro-magnetic charge and magnetic moment. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 2, 23–28. 83C22

Tang, Zhong (*with* Baugh, James; Finkelstein, David Ritz; Saller, Heinrich) General covariance is Bose-Einstein statistics. (English summary) *On Einstein's path* (*New York*, 1996), 67–80, *Springer, New York*, 1999. (Sebastiano Sonego) **99m:83065** 83C45 (81P99)

Tang, Zizhou (*with* Peng, Jia Gui) Harmonic maps from spheres to spheres. *Topology* **37** (1998), *no.* 1, 39–43. (Xue Shan Zhang) **99b:58064** 58E20 (55Q40)

Tang, Zong Xian (*with* Li, Quan Lin) Analysis of the $M_1 + M_2/G^x(M/G)/1$ matching queueing system with L^2-policy vacation and repairable server. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **16** (1996), *no.* 3, 193–203. (Summary) **99f:90038** 90B22

Tangmanee, Suwon A proof of the well-posed Tricomi equation. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 468–474, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 35M10

— *see also* **Proceedings: Mathematical Conference, 99g:00046**

Tanguay, Celena (*with* Bach, Eric; Condon, Anne E.; Glaser, Elton) DNA models and algorithms for NP-complete problems. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 172–186. (Robert M. Baer) **99m:68048** 68Q05 (68Q25, 92D20)

Tanguiane, Andranick S. Election of vice-president and adding new members to representative bodies. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 1, 23–45. (Ivar Petersen) **99a:90072** 90A28 (92K10)

dauphin-Tanguy, G. *see* **Dauphin-Tanguy, G.**

Tani, Atusi On Burgers' original model system of turbulence with two components in the secondary motion. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 218–225, *World Sci. Publishing, River Edge, NJ*, 1997. (Alain Miranville) **99k:76074** 76F20 (35Q53)

— (*with* Noguchi, Yuuichirou; Nodera, Takashi) Stable patterns in nonlinear diffusion equations on discrete lattices. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 188–195. (*see* **99i:00028**) 39A12 (35K55, 65M99)

— (*with* Noguchi, Yuuichirou; Nodera, Takashi) Pattern formation in the spatially discrete Cahn-Hilliard equation. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2049–2059. (Summary) **99e:92011** 92C15

Tanigawa, Harumi Grafting, harmonic maps and projective structures on surfaces. (English summary) *J. Differential Geom.* **47** (1997), *no.* 3, 399–419. (William Goldman) **99c:32029** 32G15 (57M50)

— (*with* Shiga, Hiroshige) Projective structures with discrete holonomy representations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 813–823. (William Goldman) **99d:32025** 32G15

Tanigawa, T. (*with* Hoshino, Hiroki; Imabayashi, R.; Kusano, Takaši) On second-order half-linear oscillations. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 199–216. (E. Müller-Pfeiffer) **99c:34059** 34C10

Tanigawa, Yoshio (*with* Furuya, Jun) Estimation of a certain function related to the Dirichlet divisor problem. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 171–189, *VSP, Utrecht*, 1997. (Jörn Steuding) **99j:11106** 11N37 (11N56)

— (*with* Kiuchi, Isao) The mean value theorem of the divisor problem for short intervals. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 6, 445–453. (Gennady Bachman) **99j:11108** 11N37

— (*with* Akiyama, Shigeki) Calculation of values of L-functions associated to elliptic curves. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1201–1231. (Joe P. Buhler) **99m:11070** 11G40 (11G05, 11Y35)

Taniguchi, Hiroaki On embeddings of projective spaces. (English summary) *Util. Math.* **54** (1998), 25–31. (Summary) **99i:51001** 51A05

Taniguchi, Kazuo Gevrey regularizing effect for a nonlinear Schrödinger equation in one space dimension. *J. Math. Soc. Japan* **50** (1998), *no.* 4, 1015–1026. (Elaine Machtyngier) **99h:35206** 35Q55 (35J10)

— (*with* Fujiwara, Daisuke; Kumano-go, Naoto) A simple proof of the Kumano-go–Taniguchi theorem. (Japanese) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1056 (1998), 59–67. (*see* **99m:35003**) 35S30

Taniguchi, Keisuke (*with* Asada, Hideki; Shibata, Masaru) Irrotational and incompressible ellipsoids in the first post-Newtonian approximation of general relativity. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 4, 703–735. (Summary) **99k:83025** 83C25

Taniguchi, Kenichi (*with* Nakata, Akio; Higashino, Teruo) Time-action alternating model for verifying symbolic bisimulation equivalence of timed processes. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 98–110. (*see* **99a:68004**) 68Q10 (68Q60)

— (*with* Fukada, Atsushi; Kaji, Tadashi; Higashino, Teruo; Mori, Masaaki) A conformance testing for communication protocols modeled as a set of DFSMs. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 8, 2519–2527. 68Q60

— (*with* Fukada, Atsushi; Nakata, Akio; Higashino, Teruo) Generation of test cases with timing constraints from timed I/O automata. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 85–94. (Summary) **99m:68127** 68Q68 (68Q60, 90B35)

Taniguchi, Kenji Uniqueness of algebras of Weyl group invariant differential operators. (Japanese) Representation theory of groups and homogeneous spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1008 (1997), 65–80. (*see* **99a:17002**) 17B66 (16S32)

Taniguchi, Masaharu An improvement in construction of internal transition layers. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 151–158, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99h:35014** 35B25 (34B15, 34E15)

Taniguchi, Masahiko (*with* Harada, Tatsunori) On Teichmüller space of complex dynamics by entire functions. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 257–266. (Summary) **99b:58197** 58F23 (30D05)

— (*with* Matsuzaki, Katsuhiko) ★ Hyperbolic manifolds and Kleinian groups. Oxford Mathematical Monographs. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1998. $x+253$ *pp. ISBN* 0-19-850062-9 (I. Kra) **99g:30055** 30F40 (20H10, 30F10)

Taniguchi, Masanobu (*with* Sato, Toshiyuki; Kakizawa, Yoshihide) Large deviation results for statistics of short- and long-memory Gaussian processes. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 17–29. (Gutti J. Babu) **99k:62181** 62M99 (60F10)

Taniguchi, Masaru Mixed problem for hyperbolic equations of second order. I. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 45–79. (E. C. Young) **99b:35114** 35L05 (35L20)

Taniguchi, N. (*with* Caux, J.-S.; Tsvelik, Alexei M.) Disordered Dirac fermions: multifractality termination and logarithmic conformal field theories. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 671–696. (Summary) **99d:81138** 81T40 (82B44)

Taniguchi, Ruriko (*with* Okamoto, Masashi) Contributions of variates and items in canonical discriminant analysis of type-mixed data. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 151–158. (Summary) **99i:62140** 62H30

Taniguchi, Setsuo On the exponential decay of oscillatory integrals on an abstract Wiener space. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 424–443. (Shi Zan Fang) **99e:60127** 60H07

— (*with* Sugita, Hiroshi) Oscillatory integrals with quadratic phase function on a real abstract Wiener space. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 229–262. (Shi Zan Fang) **99e:60126** 60H07 (46G12)

Taniguchi, Tadashi Non-c_1-self-dual quaternionic Yang-Mills connections and L_2-gap theory. *Tsukuba J. Math.* **22** (1998), *no.* 1, 121–129. (Jaime Muñoz Masqué) **99k:53041** 53C07 (53C25)

Taniguchi, Takeshi Almost sure exponential stability for stochastic partial functional-differential equations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 965–975. (Tomás Caraballo) **99i:60127** 60H15 (34K30, 35R10, 35R60)

Taniguchi, Toyosaburo *see* **Murakami, Shingo, (99g:00051)**

Tanii, Yoshiaki (*with* Araki, Minako) Duality symmetries in nonlinear gauge theories. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1139–1149. (Summary) **99k:81180** 81T13

Tanikawa, Akio On the rate of convergence of Borovkov's multidimensional ergodic Markov chain. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 328–339. (Esa Nummelin) **99b:60106** 60J10

Tanikawa, Kiyotaka (*with* Umehara, Hiroaki) Oscillatory orbits in the planar three-body problem with equal masses. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 3, 167–180. (Summary) **99g:70018** 70F07

Tanimoto, Masayuki New varieties of Gowdy space-times. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4891–4898. (J. B. Griffiths) **99h:83014** 83C20

Tanimoto, Mitsumori (*with* Yaoita, Akira; Nakajima, Kazuo; Osano, Minetada) Evaluation of the efficiency of the partially solving method (PSM) in comparison with the Gaussian elimination method. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 443–459. (A. Barraud) **99m:65055** 65F05 (65F50, 65Y20)

Tanimoto, Shinji On best simultaneous approximation. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 275–279. (S. P. Singh) **99k:41024** 41A28

Tanimura, Osamu (*with* Hori, Shoichi) Solution with real value of deformation parameter for Ernst equation in gravitational field caused by rotating source. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 783–799. (János Kánnár) **99h:83011** 83C15 (83C20)

— Solution of the Ernst equation for a real value of the deformation parameter. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 3, 523–533. (Summary) **99m:83047** 83C20

Tanimura, Shogo Topology and inequivalent quantizations of abelian sigma model. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 213–216, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81118** 81T10

— (*with* Kobayashi, Hiroyuki; Tsutsui, Izumi) Quantum mechanically induced Hopf term in the O(3) nonlinear sigma model. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 667–687. (Bernd J. Schroers) **99d:81075** 81T10

Tanin, Egemen (*with* Beigel, Richard) The geometry of browsing (invited paper). (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 331–340, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68U30 (90C27)

Taninaka, Makoto (*with* Takajo, Hiroaki; Takahashi, Tohru[3]; Ueda, Ryuzo) Study on the convergence property of the hybrid input-output algorithm used for phase retrieval. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 11, 2849–2861. (Summary) **99j:78004** 78–08 (78A55)

Tanino, Tetsuzo (*with* Kuk, Hun; Kim, Do Sang) Sensitivity analysis in multiobjective optimization problems. Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 14–23. (*see* **99b:90009**) 90C29 (90C31)

— (*with* Inuiguchi, Masahiro) Portfolio selection as a source of possibilistic information. (Japanese. Japanese summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 1–9. (*see* **99h:90006**) 90A09

Tanio, Hitoe Regular homotopy invariants of closed curves and the Gauss problem. (Japanese) Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 80–94. (*see* **99a:58003**) 53A04

Tanisaki, Toshiyuki (*with* Kang, Seok-Jin) Universal R-matrices and the center of the quantum generalized Kac-Moody algebras. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 2, 347–360. (Naihuan Jing) **99e:17024** 17B37

— Highest weight modules associated to parabolic subgroups with commutative unipotent radicals. (English summary) *Algebraic groups and their representations* (*Cambridge*, 1997), 73–90, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 517, *Kluwer Acad. Publ., Dordrecht*, 1998. (William M. McGovern) **99m:20099** 20G05 (22E47)

— (*with* Kamita, Atsushi; Morita, Yoshiyuki) Quantum deformations of certain prehomogeneous vector spaces. I. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 527–540. (Shao-Ming Fei) **99i:17019** 17B37 (17B10, 20G05)

— (*with* Kashiwara, Masaki) On Kazhdan-Lusztig conjectures [translation of Sūgaku **47** (1995), no. 3, 269–285; MR 97k:17039]. Sugaku Expositions. *Sugaku Expositions* **11**

(1998), *no.* 2, 177–195. (*see* **99h:00040**) 17B67 (17B10, 20G05, 22E65)

Taniyama, Kouki (*with* Motohashi, Tomoe) Delta unknotting operation and vertex homotopy of graphs in $\mathbf{R}^3$. (English summary) *KNOTS '96* (*Tokyo*), 185–200, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57021** 57M25 (57M15)

— Total curvature of graphs in Euclidean spaces. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 2, 135–155. (Wolfgang Kühnel) **99m:05050** 05C10 (53A04, 57M15)

Tanizaki, Hisashi On the nonlinear and nonnormal filter using rejection sampling. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 314–319. 93E11

Tankeev, S. G. On Frobenius traces. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 1, 165–200; *translation in Izv. Math.* **62** (1998), *no.* 1, 157–190. (Ivica Gusić) **99h:14046** 14K15 (11G10)

— Algebraic cycles on a simple $4p$-dimensional abelian variety over a number field. (English summary) Algebraic geometry, 6. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 4, 2287–2321. (Alexander E. Polishchuk) **99m:14079** 14K15 (11G10, 14C25, 14C30, 17B10)

breazu-Tannen, Val *see* **Breazu-Tannen, Val**

Tannenbaum, Allen R. (*with* Cockburn, Juan C.) Multivariable stability margin optimization: a spectral tangential interpolation approach. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 577–590. 93D09

— (*with* Yezzi, Anthony, Jr.) Differential invariants and curvature flows in active vision. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 196–213, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Jayant M. Shah) **99c:68262** 68U10 (53A55, 93A30)

— (*with* Yezzi, Anthony, Jr.) Gradients, curvature, and visual tracking. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 375–390, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99g:49037** 49N55 (49Q20)

— (*with* Bercovici, Hari; Foias, Ciprian) On skew Toeplitz operators. II. *Nonselfadjoint operator algebras, operator theory, and related topics*, 23–35, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Warren R. Wogen) **99g:47013** 47A20 (47B35, 93B25)

— (*with* Mitter, Sanjoy K.) The legacy of George Zames [1934–1997]. *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 590–595. 01A70

— (*with* Angenent, Sigurd; Sapiro, Guillermo) On the affine heat equation for non-convex curves. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 601–634. (Anders Linnér) **99d:58039** 58E10 (58G11)

— (*with* Georgiou, Tryphon T.) Switching surfaces and Groebner bases. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 81–89, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 49K15 (13P10, 93B17, 93B40)

— (*with* Berg, Jordan; Yezzi, Anthony, Jr.) Curve evolution models for real-time identification with application to plasma etching. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 99–102. 93C20 (93C95)

Tannenhauser, Jonathan (*with* Ooguri, Hirosi; Robins, Harlan) Glueballs and their Kaluza-Klein cousins. (English summary) *Phys. Lett. B* **437** (1998), *no.* 1-2, 77–81. (Summary) **99g:83080** 83E30 (81T13, 83E15)

Tanner, Gregor (*with* Rost, Jan-Michael) Two-electron atoms: from resonances to fragmentation. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 274–303, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45

Tanner, Robert (*with* Zaitsev, F. S.; Longinov, V. V.; O'Brien, M. R.) Difference schemes for the time evolution of three-dimensional kinetic equations. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 239–264. (Summary) **99j:82003** 82–08 (76M20, 76P05, 82C80)

Tanno, Shukichi (*with* Konno, Tatsuo) Geodesics and Killing vector fields on the tangent sphere bundle. (English summary) *Nagoya Math. J.* **151** (1998), 91–97. (Oguz C. Durumeric) **99k:53086** 53C22 (53C25)

— Curvatures of the product of two 3-spheres with deformed metrics. *Osaka J. Math.* **35** (1998), *no.* 2, 263–277. (Bang-yen Chen) **99i:53036** 53C20

Tanno, Takehisa (*with* Iwata, Shigeki) Computer calculation of the minimal number of comparators for merging (4, 7)- and (5, 6)-networks. (Japanese. Japanese summary) Discrete algorithms and computational complexity (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1054 (1998), 40–53. (*see* **99m:68009**) 68Q25 (68P10)

Tanović-Miller, N. (*with* Ramanujan, M. S.) A generalization of the Hausdorff-Young theorem. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 4, 279–303. (Asuman Aksoy) **99m:46012** 46A45 (46B45)

Tanré, D. (*with* Scheerer, Hans) Lusternik-Schnirelmann category and algebraic R-local homotopy theory. (English summary) *Canad. J. Math.* **50** (1998), *no.* 4, 845–862. (Aniceto Murillo) **99h:55010** 55P50 (55P62)

Tanriver, U. (*with* Choudhury, S. Roy) Non-classical symmetries and the singular manifold method revisited. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1487–1494. (Summary) **99a:35012** 35A30 (35Q53)

Tantawy, Abdalla S. (*with* Dahiya, R. S.) Oscillation and asymptotic properties of solutions of third order functional-differential equations. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 117–126. (Hiroshi Onose) **99j:34109** 34K15 (34K25)

Tanteri, C. (*with* Dacorogna, Bernard) On the different convex hulls of sets involving singular values. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 6, 1261–1280. (Hongyuan Zha) **99k:15013** 15A18 (52A05)

Tanveer, S. (*with* Fokas, A. S.) A Hele-Shaw problem and the second Painlevé transcendent. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 169–191. (Summary) **99b:76029** 76D99 (34A34, 35J99, 35Q35, 76D45, 76S05)

— (*with* Kunka, M. D.; Foster, M. R.) Dendritic crystal growth for weak undercooling. II. Surface energy effects on nonlinear evolution. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 673–710. (Summary) **99m:80014** 80A22

Tanyi, B. A. (*with* Darlington, J.; Pantelides, C. C.; Rustem, Berç) Robust optimisation of nonlinear systems under parametric uncertainty. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 43–48, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C15 (90C30)

pham dinh Tao *see* **Pham Dinh Tao**

Tao, Changsheng (*with* Cheng, Ji Lin; Guo, Yuan Yu; Jin, Zhaosen; Chen, Baohua) Optimal experimental methods of the large-scale mathematical programming and applications. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 465–470. 90C30 (90C06)

Tao, Chin-Wang (*with* Mamlook, Rustom; Thompson, Wiley E.) An advanced fuzzy controller. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 541–545. 93C42

Tao, Gang Model reference adaptive control with L^{1+a} tracking. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 859–870. 93C40 (93B50)

— (*with* Tian, Ming) Adaptive dead-zone compensation for output-feedback canonical systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 791–812. 93B55 (93B10)

— (*with* Ling, Yi) Adaptive backstepping control design for linear multivariable plants. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1289–1304. 93B50

— (*with* Tian, Ming) Discrete-time adaptive control of systems with multisegment piecewise-linear nonlinearities. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 719–723. (Summary) **99a:93061** 93C40 (93E35)

— A robust adaptive law for l^{1+a} modeling errors. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 186–190. (Summary) **99j:93061** 93C40 (93E10)

Tao, Ji-yuan (*with* Li, Zheng-yuan; Ye, Qi-xiao) A mathematical analysis for a diffusive epidemic model with criss-cross dynamics. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 183–193, *Internat. Press, Cambridge, MA*, 199?. (H. W. Hethcote) **99c:92055** 92D30 (35K57, 35Q80)

Tao, Jin-He (*with* Huang, Tian Yi; Yi, Zhao-Hua) First post-Newtonian angular momentum in relativistic celestial mechanics. (English summary) *Astrophys. Space Sci.* **254** (1997), *no.* 2, 173–186. (Summary) **99g:83023** 83C25 (70F15, 70H40)

Tao, Renji (*with* Chen, Shi Hua[1]; Chen, Xuemei) FAPKC3: a new finite automaton public key cryptosystem. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 4, 289–305. (Winfried Müller) **99a:94040** 94A60 (68P25, 68Q70)

— (*with* Chen, Shi Hua[1]) A necessary condition on invertibility of finite automata. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 637–643. (Summary) **99a:68128** 68Q70

Tao, Ruihua On k-cordiality of cycles, crowns and wheels. *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 227–229. (Martin Bača) **99h:05105** 05C78

Tao, Terence (*with* Keel, Markus) Local and global well-posedness of wave maps on $\mathbf{R}^{1+1}$ for rough data. *Internat. Math. Res. Notices* **1998**, *no.* 21, 1117–1156. (Vladimir Tulovsky) **99k:58180** 58G16 (35L15)

— (*with* Vargas, Ana; Vega, Luis) A bilinear approach to the restriction and Kakeya conjectures. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 4, 967–1000. (Anthony Carbery) **99f:42026** 42B10 (42B25)

Tao, Tomomi (*with* Tainaka, Kei-ichi; Nishimori, Hiraku) Contact percolation process: contact process on a destructed lattice. (English summary) *J. Phys. Soc. Japan* **68** (1999), *no.* 2, 326–329. 82B43

Tao, Xianping (*with* Yi, Bo; Cioni, G.; Colagrossi, A.) Intuitive minimal abduction in sequent calculi. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 209–219. (Summary) **99b:68179** 68T27 (03B70)

Tao, You Shan (*with* Ding, Shi Jin; Yin, Hong-Ming) A chemical diffusion process with reaction taking place at free boundary. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 1, 49–74. (Alberto Valli) **99d:35183** 35R35 (35K57, 80A32)

— Classical solution of Verigin problem with surface tension. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 528. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 393–404. (Galina I. Bizhanova) **99a:35280** 35R35 (35K20, 76S05)

— (*with* Gao, Guo Zhu) Oscillation of forced neutral differential equations with positive and negative coefficients. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 271–280. (A. F. Ivanov) **99g:34147** 34K15

— The Cauchy problem for some nonlinear hyperbolic equations of first order. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 4, 411–414. 35L60

Tao, Zhang Hua (*with* Zhao, Dong Mei; Guo, Yao Huang) A noninferior matrix method for solving multi-objective dynamic programming problems. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 204–208. 90C29 (90C39)

Taormina, A. (*with* Bowcock, Peter; Hayes, M. R.) Characters of admissible representations of the affine superalgebra $s\hat{l}(2|1;\mathbf{C})_k$. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 739–763. (Jun'ichi Shiraishi) **99f:81074** 81R10 (11F22, 17B67)

et-Taoui, Boumediene *see* **Et-Taoui, Boumediene**

Tapaswi, P. K. (*with* Mukhopadhyay, Asish; Chattopadhyay, J.) A delay differential equations model of plankton allelopathy. (English summary) *Math. Biosci.* **149** (1998), *no.* 2, 167–189. (K. Smítalová) **99m:92050** 92D40 (34K15)

Tapi, U. D. (*with* Thakur, S. S.; Verma, Priti) Pairwise P-connectedness between sets. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 188–190. 54D05

— (*with* Thakur, S. S.; Malviya, R.) Pairwise fuzzy semiclosed mappings. *J. Indian Acad. Math.* **20** (1998), *no.* 2, 125–134. 54A40 (54C10, 54E55)

— (*with* Thakur, S. S.; Rathore, G. P. S.) Quasi weak pre-open set. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 114–117. 54E55

— (*with* Ganguly, Ashok; Chandel, Raghvendra Singh) Some results on general topology. (English summary) *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 1–5. 54D10 (54D15)

muñoz Tapia, R. *see* **Muñoz Tapia, R.**

Tapia, Richard A. (*with* Cores, D.) Perturbation lemma for the Newton method with application to the SQP Newton method. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 271–280. (Summary) **99b:65068** 65H10 (90C30)

— (*with* González-Lima, María D.; Potra, Florian A.) On effectively computing the analytic center of the solution set by primal-dual interior-point methods. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 1–25 (*electronic*). (Florian Jarre) **99d:90069** 90C05

Tapia, Víctor The high-energy geometric structure of space-time: fourth-rank geometry. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 359–365, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83D05

— (*with* Ross, Dennis K.) Conformal fourth-rank gravity, non-vanishing cosmological constant and anisotropy. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 245–249. (Manoel F. Borges) **99a:83060** 83D05

— (*with* Ujevic, Maximiliano) Universal field equations for metric-affine theories of gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3719–3729. (Christopher Kohler) **99j:83063** 83D05

Tapia García, J. M. (*with* Martín Andrés, A.) On determining the P-value in 2×2 multinomial trials. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 33–49. (Graham J. G. Upton) **99g:62081** 62H17

Tapia-Recillas, H. (*with* Renteria, C.) Some linear codes arising from the Veronese surface over GF(4). (English summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish)* (*Queretaro*, 1994), 155–162, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99g:94021** 94B05 (13D40)

— (*with* Renteria, C.) Theta functions: an application to coding theory. (Spanish) *Miscelánea Mat. No.* 23 (1996), 39–54. 94B05 (11T71)

— (*with* Vega, G.; Daltabuit, E.) Some results on regular mappings. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 321–328, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99c:94039** 94A60

— (*with* Gutiérrez, J. N.) Hamming codes and the Fano plane. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society (Spanish)* (*San Luis Potosi*, 1996), 49–54, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Summary) **99j:94065** 94B05

— (*with* Renteria, C.) A note on the weights of the subfield subcode of the generalized binary Reed-Muller code. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 93–97. (Summary) **99k:94049** 94B05

— (*with* Gutiérrez, J. N.) A MacWilliams identity for poset-codes. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 63–73. (Jaume Pujol) **99m:94044** 94B05

Tapiero, Charles S. (*with* Vallois, Pierre) Range reliability in random walks. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 325–345. (Kyle Siegrist) **99a:60074** 60J15 (60K10, 90B25)

Tapiéro, R. (*with* Mikelić, Andro; Shillor, Meir) Homogenization of an elastic material with inclusions in frictionless contact. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 287–307. (Alain Brillard) **99i:73064** 73T05 (35B27, 73B27, 73C02)

Taplin, Ross H. The reverse Kalman filter. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2547–2558. 93E11 (62M20)

— Alternative equations for combining the results of Kalman filters. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 2, 231–238. 62M10

Tapp, Alain (*with* Brassard, Gilles; Høyer, Peter) Quantum cryptanalysis of hash and claw-free functions (invited paper). (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 163–169, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99g:94013** 94A60

Tapp, C. (*with* Knabner, Peter; Thiele, K.) Adaptive finite volume discretization of density driven flows in porous media. Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 115–136. (Zhangxin Chen) **99j:65156** 65M55 (76M10, 76S05)

Tapsoba, Théodore Suites automatiques et papiers pliés. (English and French summaries) [Automatic sequences and folded papers] *IMHOTEP J. Afr. Math. Pures Appl.* **1** (1997), *no.* 1, 31–40. (M. Mendès France) **99c:11023** 11B85 (68R15)

Taqqu, Murad S. (*with* Teverovsky, Vadim) On estimating the intensity of long-range dependence in finite and infinite variance time series. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 177–217, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62M10 (60G18)

— (*with* Cioczek-Georges, Renata) Sufficient conditions for the existence of conditional moments of stable random variables. (English summary) *Stochastic processes and related topics*, 35–67, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Katsuya Kojo) **99j:60024** 60E07 (62J02)

— (*with* Giraitis, Liudas) Central limit theorems for quadratic forms with time-domain conditions. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 377–398. (Miguel A. Arcones) **99c:60043** 60F05 (62M10)

— (*with* Kallsen, Jan) Option pricing in ARCH-type models. (English summary) *Math. Finance* **8** (1998), *no.* 1, 13–26. (Summary) **99f:90015** 90A09

— (*with* Giraitis, Liudas; Terrin, Norma) Limit theorems for bivariate Appell polynomials. II. Non-central limit theorems. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 3, 333–367. (Vladimir Zaiats) **99g:60046** 60F05 (62M10)

— *see also* **Stochastic processes and related topics, 99e:60007** *and* **Practical guide to heavy tails, 99f:62010**

casadio Tarabusi, Enrico *see* **Casadio Tarabusi, Enrico**

Tarafdar, E. Pareto optimum. (English summary) *Gurukula Kangri Vijñāna Patrikā Āryabhata* **1** (1998), 119–130. 90C29 (90–01)

Tarafdar, M. (*with* Mayra, A.) On nearly Kahler manifold with conservative, concircular and H-projective curvature tensor. *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 491–493. 53C15

Tarakanov, V. E. Estimates for the independence number of a hypergraph, and Ryser's conjecture. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 873–883; *translation in Math. Notes* **61** (1997), *no.* 5-6, 731–738. (Sergeĭ L. Bezrukov) **99e:05093** 05C65

— (*with* Malyshev, F. M.) Generalized de Bruijn graphs. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 540–548; *translation in Math. Notes* **62** (1997), *no.* 3-4, 449–456 (1998). (Daniel Turzík) **99i:05182** 05C75

Taraldsen, Gunnar Measurability of intersections of measurable multifunctions. (English summary) *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 459–472. (Summary) **99a:28009** 28B20 (47A10, 47F05, 54C60)

Tarama, Shigeo Remarks on L^2-wellposed Cauchy problem for some dispersive equations. *J. Math. Kyoto Univ.* **37** (1997), *no.* 4, 757–765. (Jorge Hounie) **99f:35006** 35A07 (35R25)

Taran, V. N. (*with* Kostoglotov, A. A.) Suboptimal estimation of the parameters of dynamical systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 85–94; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 588–595. (Pham Tran Nhu) **99a:93105** 93E12 (34C35, 34D08, 93B30)

Tarancón, A. (*with* Campos, Isabel; Cruz, A.) First order signatures in 4D pure compact U(1) gauge theory with toroidal and spherical topologies. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 328–334. (Summary) **99b:81255** 81T80 (81T13, 81T25)

Tarandova, Raina On the construction of planar bipartite 3-regular 3-connected graph with two types of faces. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 152–153, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 05C75

Tarannikov, Yu. V. On the class of Boolean functions uniformly distributed over balls with degree 1. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 5, 17–21, 72–73; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 5, 18–22. (Juraj Hromkovič) **99c:06016** 06E30 (94A60, 94C10)

Tarantello, Gabriella (*with* Struwe, Michael) On multivortex solutions in Chern-Simons gauge theory. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 109–121. (Yisong Yang) **99c:58041** 58E15 (35J60, 53C21)

— (*with* Ricciardi, Tonia) On a periodic boundary value problem with exponential nonlinearities. (English summary) *Differential Integral Equations* **11** (1998), *no.* 5, 745–753. (Xin Kang Guo) **99m:34043** 34B15 (35J65, 58E05)

Tarantino, Angelo Marcello On extreme thinning at the notch tip of a neo-Hookean sheet. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 179–190. (Summary) **99a:73044** 73C50

Taranto, Glauco N. (*with* Shiau, Jaw-Kuen; Chow, Joe H.) A decentralized control design method for model-matching robustness problems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 401–416. 93A14 (93B51)

Tarantsev, A. A. Application of regression analysis to the construction of anisotropic and hysteresis models. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 5, 185–188; *translation in Automat. Remote Control* **59** (1998), *no.* 5, *part* 2, 761–763. 93E12 (93A30)

Tarapov, I. E. The force, acting upon a body with a permeable boundary in a hydrodynamic flow, interacting with an electromagnetic field. (English summary) *Magnetohydrodynamics* **34** (1998), *no.* 1, 54–66. (Summary) **99h:76095** 76W05 (78A25)

Taras'ev, A. M. (*with* Mel'nikova, N. V.) Gradients of local linear hulls in finite-difference operators for Hamilton-Jacobi equations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 422–431; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 409–417. (Nina N. Subbotina) **99e:49037** 49M07 (49L25, 90D12)

— (*with* Mel'nikova, N. V.) Synthesis of optimal guaranteed control in grid approximation schemes. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 570–583; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 553–565. (Summary) **99d:49067** 49N35 (49L20, 93B52)

— (*with* Mel'nikova, N. V.) Optimal synthesis in grid schemes for quasiconvex approximation functions. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 576–585; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 537–544. (Summary) **99m:49050** 49M25 (49N35)

Tarashnina, Svetlana I. Nash equilibria in differential pursuit game with one pursuer and m evaders. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 4, 189–197. (A. M. Tarasyev) **99m:90179** 90D25

Tarasov, A. S. On the complexity of convex stereohedra. (Russian) *Mat. Zametki* **61** (1997), *no.* 5, 797–800; *translation in Math. Notes* **61** (1997), *no.* 5-6, 668–671. (Béla Uhrin) **99c:52033** 52C22 (52B05)

Tarasov, R. P. (*with* Zakharov, E. V.; Safronov, S. I.) Numerical solution of boundary integral equations by reduction to a problem with a finite nonabelian symmetry group. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1227–1232, 1295; *translation in Differential Equations* **33** (1997), *no.* 9, 1233–1238 (1998). (Summary) **99e:65186** 65R20 (45L05)

— (*with* Zakharov, E. V.; Zagorodnov, I. A.) Hypersingular integral equations in problems of diffraction by a cube. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 38–42. 78A45 (45E05, 65R20, 78–08)

— (*with* Zakharov, E. V.; Safronov, S. I.) Iterative methods for solving boundary equations of canonical form in boundary value problems with symmetries. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 734–739; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 704–710. (Summary) **99d:65373** 65R20 (65N99)

Tarasov, V. *see* **Tarasov, V. O.**

Tarasov, V. E. Quantum dissipative systems. III. Definition and algebraic structure. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 1, 73–85; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 1, 57–67. (Summary) **99f:81112** 81S30 (81S10, 82C10)

— Quantum dissipative systems. IV. Analogues of the Lie algebra and the Lie group. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 2, 214–227; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 2, 168–178. (Summary) **99f:81113** 81S30 (17B37, 81S10)

Tarasov, V. O. (*with* Varchenko, A. N.) Geometry of q-hypergeometric functions as a bridge between Yangians and quantum affine algebras. *Invent. Math.* **128** (1997), *no.* 3, 501–588. (V. A. Golubeva) **99h:33063** 33D80 (17B37, 81R50)

— (*with* Nazarov, M. L.) On irreducibility of tensor products of Yangian modules. *Internat. Math. Res. Notices* **1998**, *no.* 3, 125–150. (Andrew Pressley) **99b:17014** 17B37 (17B35)

— (*with* Nazarov, M. L.) Representations of Yangians with Gelfand-Zetlin bases. *J. Reine Angew. Math.* **496** (1998), 181–212. (Andrew Pressley) **99c:17030** 17B37

Tarasyuk, Igor V. Place bisimulation equivalences for design of concurrent and sequential systems. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 16 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (Summary) **99m:68058** 68Q10 (68Q55, 68Q60)

— Equivalence concepts for developing parallel systems using Petri nets. (Russian. Russian summary) *Programmirovanie* **1998**, *no.* 4, 19–39; *translation in Program. Comput. Software* **24** (1998), *no.* 4, 162–175. (Summary) **99k:68121** 68Q90 (68Q10)

Tarasyuk, Svyatoslav I. (*with* Kondratyuk, A. A.) Compact operators and normal families of subharmonic functions. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 227–231, *Prometheus, Prague*, 1996. (Albert Baernstein, II) **99a:31003** 31B05 (30D45)

— (*with* Mikityuk, Ya. V.) On sequences of compact operators. (Ukrainian. English and Russian summaries) *Mat. Stud.* **8** (1997), *no.* 1, 111–112, 127. 47B07 (47A05)

Tarazaga, Pablo (*with* Johnson, Charles Royal) Approximate semidefinite matrices in a linear variety. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 861–871 (*electronic*). (B. N. Moyls) **99g:15032** 15A57 (15A60, 90C30)

Tarbouriech, Sophie (*with* Burgat, Christian) Comments on the paper: "Some new results on closed-loop stability in the presence of control saturation" [Internat. J. Control **62** (1995), no. 3, 619–631] by A. W. Lee and J. K. Hedrick. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1203–1207. 93D05 (93B52)

— Local stabilization of continuous-time delay systems with bounded inputs. (English summary) *Stability and control of time-delay systems*, 302–317, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (93C30)

— (*with* Burgat, Christian) Intelligent anti-windup for systems with input magnitude saturation. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1085–1100. (Summary) **99f:93098** 93C83 (93C40)

Tardella, Fabio (*with* Giannessi, Franco) Connections between nonlinear programming and discrete optimization. *Handbook of combinatorial optimization, Vol.* 1, 149–188, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C30)

— (*with* Queyranne, Maurice; Spieksma, Frits) A general class of greedily solvable linear programs. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 892–908. (Rainer Burkard) **99j:90067** 90C27 (90C05, 90C08)

Tardella, Luca (*with* Muliere, Pietro) Approximating distributions of random functionals of Ferguson-Dirichlet priors. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 283–297. (Summary) **99i:62007** 62A15 (62F15)

— (*with* Perone Pacifico, M.; Salinetti, G.) A note on the geometry of Bayesian global and local robustness. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 51–64. (Marek Męczarski) **99h:62025** 62F15 (62F35)

Tardelli, P. An approximation of stochastic control problems for jump processes. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 773–803. (Summary) **99i:93065** 93E03 (49K45, 60J75, 93E25)

Tardif, Claude (*with* Hahn, Geňa) Graph homomorphisms: structure and symmetry. (English summary) *Graph symmetry* (*Montreal, PQ*, 1996), 107–166, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 497, *Kluwer Acad. Publ., Dordrecht*, 1997. (Pavol Hell) **99c:05091** 05C25 (05C15)

— Homomorphismes du graphe de Petersen et inégalités combinatoires. (English and French summaries) [Homomorphisms of the Petersen graph and combinatorial inequalities] *Ann. Sci. Math. Québec* **22** (1998), *no.* 1, 87–94. (Robert J. Simpson) **99d:05048** 05C35

— Graph products and the chromatic difference sequence of vertex-transitive graphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 193–200. (Michael O. Albertson) **99c:05074** 05C15 (05C75)

— (*with* Larose, Benoit; Laviolette, François) On normal Cayley graphs and hom-idempotent graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 7, 867–881. (Marston Conder) **99h:05100** 05C75 (05C25)

Tardif, Serge (*with* Jubinville, Chantal) Distribution-free analysis of a replicated Latin square design by the method of weighted rankings and generalized weighted rankings. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 95–122. (Summary) **99d:62051** 62G10 (62K99)

Tardos, Éva (*with* Kleinberg, Jon M.) Approximations for the disjoint paths problem in high-diameter planar networks. (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 61–73. (Qiao Li) **99i:68092** 68R10 (68M10)

— *see also* **Symposium: Discrete Algorithms, 99a:68015**

Tardos, Gábor Transversals of d-intervals—comparing three approaches. *European Congress of Mathematics, Vol. II* (*Budapest*, 1996), 234–243, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (Martin Kochol) **99i:05201** 05D15 (05B40)

— (*with* Raz, Ran; Verbitskiĭ, O. V.; Vereshagin, Nikolai) Arthur-Merlin games in Boolean decision trees. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 58–67, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q05)

— (*with* Barrington, David A. Mix) A lower bound on the mod 6 degree of the OR function. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 99–108. (Christoph Meinel) **99k:68068** 68Q15 (68Q25)

Tareeva, E. E. (*with* Irz, D. Yu.; Ryzhov, V. N.) Statistical mechanics of a vortex system in a thin superconducting film in a ring approximation. II. Allowance for the finite thickness of the film and the bending of vortices. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 337–347; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 1035–1042 (1996). (Tatiana Allen) **99f:82062** 82D55

— (*with* Irz, D. Yu.; Ryzhov, V. N.) Statistical mechanics of a vortex system in a thin superconducting film in a ring approximation. III. Allowance for the finite size of the vortex core. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **107** (1996), *no.* 1, 100–114; *translation in Theoret. and Math. Phys.* **107** (1996), *no.* 1, 499–510. (Tatiana Allen) **99f:82063** 82D55

Ţarfulea, Nicolae Estimates for positive solutions of some nonlinear elliptic equations. (Italian. English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 70–73 (1994). 35J65 (35B05, 35B45)

— Existence and behavior of positive symmetric radial solutions for the problem $-\Delta u = \lambda u|u|^{q-1} + u|u|^{p-1}$ in $\mathbf{R}^N$ ($N \geq 2$). (Romanian) *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 28–37 (1995). 35J60 (34A12, 35B05)

— Existence of positive solutions of some nonlinear Neumann problems. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 9–18 (1998). (Summary) **99h:35067** 35J65 (35B05)

— About the generalized Jacobians. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 139–146. (Summary) **99h:49028** 49J52 (58C20)

— Positive solutions of nonlinear elliptic equations involving the p-Laplacian and indefinite nonlinearities. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 31–42. (Summary) **99f:35063** 35J65

— On a reaction-diffusion system involving the critical exponent. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 2, 461–472. (Summary) **99j:35111** 35K57 (35B32)

Targonski, György *see* **Iteration theory (ECIT 94), 99h:58001** *and* **Reich, Ludwig**

Targonskiĭ, E. A. Local formations with a system of super-solvable subformations. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 44–59, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10

Tari, F. (*with* Bruce, J. W.; Giblin, Peter J.) Families of surfaces: height functions and projections to planes. *Math. Scand.* **82** (1998), *no.* 2, 165–185. (Maria Carmen Romero-Fuster) **99j:53001** 53A05 (57R45, 58C27)

— (*with* Bruce, J. W.; Giblin, Peter J.) Families of surfaces: focal sets, ridges and umbilics. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 243–268. (Maria Carmen Romero-Fuster) **99h:58018** 58C27 (53A05, 57R45)

Taricco, Giorgio (*with* Viterbo, Emanuele) Performance of high-diversity multidimensional constellations. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1539–1543. 94A40

Tarieladze, V. I. (*with* Vakhaniya, N. N.) On singularity and equivalence of Gaussian measures. *Real and stochastic analysis*, 367–389, *Probab. Stochastics Ser., CRC, Boca Raton, FL*, 1997. (Yoshiaki Okazaki) **99g:60081** 60G30

— On Ito-Nisio type theorems for DS-groups. (English summary) *Georgian Math. J.* **4** (1997), *no.* 5, 477–500. (V. J. Paulauskas) **99b:60008** 60B10 (28C10, 60B15)

— (*with* Chasco Ugarte, Ma. Jesús; Nguyen Duy Tien) Some remarks on random series in Banach spaces. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 129–141. (Xia Chen) **99f:60010** 60B11 (46B15, 60G50)

Tariq, N. (*with* Das, Anadijiban; Aruliah, D.; Biech, T.) Spherically symmetric collapse of an anisotropic fluid body into an exotic black hole. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4202–4227. (Summary) **99f:83043** 83C57 (83C55)

Tarkalanov, K. D. Homomorphisms of semigroup-automata and those of their state-semigroups. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 51–60. 20M35

Tarkhanov, Nikolai N. (*with* Aizenberg, Lev; Fedosov, Boris V.) Residues of closed differential forms. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 1–19. (D. Lehmann) **99k:58005** 58A12 (55R40, 57R20)

— (*with* Nacinovich, Mauro; Shlapunov, A. A.) Duality in the spaces of solutions of elliptic systems. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 207–232. (Steven George Krantz) **99e:46032** 46E10 (35J99, 46N20)

— (*with* Schulze, Bert-Wolfgang) Green pseudodifferential operators on manifolds with edges. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 171–200. (Boris A. Plamenevsky) **99e:58182** 58G15 (35S05, 47G30)

— (*with* Burenkov, Viktor I.; Schulze, Bert-Wolfgang) Extension operators for Sobolev spaces commuting with a given transform. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 291–296. (Georgi E. Karadzhov) **99d:46046** 46E35 (47G30)

— (*with* Fedosov, Boris V.; Schulze, Bert-Wolfgang) On the index of elliptic operators on a wedge. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 164–209. (Robert Lauter) **99j:58193** 58G10 (35S15, 47G30)

— (*with* Dorschfeldt, Christoph) Golubev series for solutions of elliptic equations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 581–594. (Xinhua Ji) **99d:35008** 35A20 (35C10, 35J45)

Tarlakovskiĭ, D. V. (*with* Gorshkov, A. G.) Resulting reactions in a nonstationary contact problem for an elastic anisotropic half-space. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 799–809; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 789–797. (Summary) **99c:73073** 73T05 (73B40)

Tarlecki, Andrzej (*with* Mossakowski, Till; Pawłowski, Wiesław) Combining and representing logical systems using model-theoretic parchments. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 349–364, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 03G30 (03C52, 18B99, 68Q60, 68Q65)

Tarlini, M. (*with* Bonechi, F.; Giachetti, Riccardo; Sorace, E.) Homogeneous spaces and special functions from the 2-dim Euclidean quantum groups. *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 19–25, *PWN, Warsaw*, 1997. (From the introduction) **99i:33026** 33D80 (17B37)

— (*with* Giachetti, Riccardo; Sorace, E.; Bonechi, F.) The quantum Galilei group and its representations. *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 65–78, *PWN, Warsaw*, 1997. (Anatol Nowicki) **99f:81092** 81R50 (17B81)

— (*with* Gonera, Cezary; Kosiński, Piotr; Maślanka, Paweł) Projective representations of κ-Galilei group. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8473–8482. (Roberto Casalbuoni) **99h:81087** 81R50

— (*with* Bonechi, F.; Giachetti, Riccardo; Sorace, E.) Induced representations of the one-dimensional quantum Galilei group. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 309–318. (Vladimir S. Mazorchuk) **99c:17023** 17B37 (17B10, 81R50)

Tarman, I. Hakan (*with* Sirovich, Lawrence) Extensions to Karhunen-Loève based approximation of complicated phenomena. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 3-4, 359–368. (Summary) **99a:76122** 76M25 (76F99, 76R10)

Tarn, Tzyh Jong (*with* Suzuki, Sadanori; Isidori, Alberto) H_∞ control of nonlinear systems with sampled measurement. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 2, 12 *pp.* (*electronic*). (Summary) **99h:93042** 93B36 (93C57)

— (*with* Xi, Ning) Event-based planning and control for robotic systems: theory and implementation. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 31–59, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99g:93056** 93C85 (70B15, 70Q05)

— (*with* Suzuki, Sadanori; Isidori, Alberto) H_∞ control of nonlinear systems with sampled measurement. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 381–392. (Peng Shi) **99h:93043** 93B36 (93C57)

Tarnai, Tibor Note on packings in Grassmannian space $G(3, 1)$. (English summary) *J. Math. Chem.* **23** (1998), *no.* 3-4, 415–419. (Summary) **99g:52034** 52C15 (05B40, 05C70)

Tarnanen, Hannu Upper bounds on permutation codes via linear programming. (English summary) *European J. Combin.* **20** (1999), *no.* 1, 101–114. (Summary) **99m:94069** 94B65 (05E30, 90C08)

Tärnlund, Sten-Åke (*with* Lau, Kung-Kiu; Ornaghi, Mario) Steadfast logic programs. (English summary) *J. Logic Programming* **38** (1999), *no.* 3, 259–294. (Summary) **99j:68014** 68N17

Tarnopol'skiĭ, B. L. (*with* Ivanova, A. N.; Manevich, L. I.) Mathematical modeling of structure formation in a polymer blend. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 2, 300–308. 82D60

— (*with* Ivanova, A. N.) On the bifurcation of inhomogeneous stationary states in the problem of phase separation of a polymer blend. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 4, 653–659. 82D10

Tarnovskiĭ, A. G. On some polynomial solvable cases of cutting stock, pallet loading and scheduling problems. *Operations Research Proceedings* 1996 (*Braunschweig*), 134–138, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C35 (90B35)

Tarokh, Vahid (*with* Vardy, Alexander; Zeger, Kenneth) Universal bound on the performance of lattice codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 670–681. (Summary) **99j:94074** 94B35

— (*with* Naguib, Ayman; Seshadri, Nambi; Calderbank, A. Robert) Combined array processing and space-time coding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 4, 1121–1128. 94A05 (78A55)

Tarrach, Rolf (*with* Sanpera, Anna; Vidal, Guifré) Local description of quantum inseparability. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 826–830. (S. Gudder) **99f:81024** 81P10 (81P15)

— (*with* Latorre, José I.; Pascual de Sans, Pedro) Minimal optimal generalized quantum measurements. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 7, 1351–1354. (Summary) **99d:81017** 81P15

— (*with* Vidal, Guifré) Robustness of entanglement. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 1, 141–155. (Emanuel H. Knill) **99m:81025** 81P15 (94A15)

Tarrazo, Manuel Calculating uncertainty intervals in approximate equation systems. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 1, 59–67. (Summary) **99c:65094** 65G10

Tarrés i Freixenet, Juan General topology from its beginnings to Hausdorff. (Spanish) *History of mathematics in the XIXth century, Part 2* (*Spanish*) (*Madrid*, 1993), 191–211, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1994. (M. Valdivia) **99a:01015** 01A55 (01A60, 54–03)

— History of the topological concept of curve. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 1, 60–77. (J. S. Joel) **99g:01024** 01A55 (01A60)

Tarricone, L. (*with* Esposito, Alessandra; Catalano, M. S. Fiorenzo; Malucelli, F.) A new matrix bandwidth reduction algorithm. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 99–107. 65F30 (90C08)

Tarrío, A. Invariant and semi-invariant submanifolds of a metric para-φ-manifold with parallelizable kernel. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 419–430 (1998). (Ion Mihai) **99h:53078** 53C40 (53C15)

Tarsi, Michael (*with* Bienia, Wojciech; Goddyn, Luis A.; Gvozdjak, Pavol; Sebő, András) Flows, view obstructions, and the lonely runner. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 1–9. (Prabir Das) **99c:90043** 90B10 (05C99)

— (*with* Goddyn, Luis A.; Zhang, Cun Quan) On (k, d)-colorings and fractional nowhere-zero flows. (English summary) *J. Graph Theory* **28** (1998), *no.* 3, 155–161. (Prabir Das) **99c:05063** 05C15

Tarski, Alfred A decision method for elementary algebra and geometry. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 24–84, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 01A75 (03B25, 03C10, 03C60, 03C62, 12L05)

— *see also* **Sagüillo, Jose-Miguel**, **99e:03007a**; **Murawski, Roman**, **99k:01038** *and* **Givant, Steven**, **99m:01059**

Tartaglia, A. Is the EPR paradox really a paradox? (English summary) *European J. Phys.* **19** (1998), *no.* 3, 307–311. (Emilio Santos) **99h:81015** 81P05

— Lengths on rotating platforms. (English summary) *Found. Phys. Lett.* **12** (1999), *no.* 1, 17–28. 83A05

Tartakovskiĭ, Aleksandr Minimax invariant regret solution to the N-sample slippage problem. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 4, 491–508 (1998). (G. P. Bhattacharjee) **99h:62009** 62C10 (62C15, 62F03, 62F15)

— Asymptotically optimal sequential tests for nonhomogeneous processes. (English summary) *Sequential Anal.* **17** (1998), *no.* 1, 33–61. (Adhir K. Basu) **99c:62226** 62L10 (60G40)

Tartar, Luc Homogenization and hyperbolicity. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 785–805 (1998). (Alexander A. Pankov) **99k:35020** 35B27 (35L05, 35Q60, 35Q72, 49J45, 73B27)

— Imbedding theorems of Sobolev spaces into Lorentz spaces. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 479–500. (Luboš Pick) **99k:46060** 46E35 (46M35)

Tartir, Jamal (*with* Just, Winfried) A κ-normal, not densely normal Tychonoff space. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 901–905. (Vinodkumar) **99f:54028** 54D15

Tarui, Jun (*with* Toda, Seinosuke) On the computational complexity of accessibility decision problems (extended abstract). (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 79–86. (*see* **99i:65003**) 68Q25 (68Q15)

Taruya, Atsushi (*with* Nambu, Yasusada) Solutions of gauge-invariant cosmological perturbations in the long-wavelength limit. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2761–2772. (Summary) **99f:83022** 83C25 (83F05)

Tarvainen, P. (*with* Faragó, István) Qualitative analysis of one-step algebraic models with tridiagonal Toeplitz matrices. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 3, 177–192. (Ji Chun Li) **99j:65072** 65F30 (65C20, 65M06, 65M60)

Tarzia, Domingo A. (*with* Briozzo, Adriana C.; Natale, María F.) Determination of unknown thermal coefficients for Storm's-type materials through a phase-change process. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 329–340. (Toyohiko Aiki) **99k:80005** 80A22 (35R30)

Tasaka, Takashi Theta functions. II. *Math. J. Okayama Univ.* **38** (1996), 93–108 (1998). (Thomas R. Shemanske) **99j:11046** 11F27

Tasaki, Hiroyuki The group of tangent vectors to a Lie group and the differential of its exponential mapping. *Kyungpook Math. J.* **38** (1998), *no.* 1, 205–209. (Joachim Hilgert) **99h:22007** 22E15

Tasaki, S. (*with* Gilbert, Thomas; Dorfman, J. R.) An analytical construction of the SRB measures for baker-type maps. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 424–443. (Esa A. Järvenpää) **99f:58133** 58F11

Tasche, Dirk On the second Borel-Cantelli lemma for strongly mixing sequences of events. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 381–394. (Summary) **99a:60036** 60F20 (60F15)

Tasche, Manfred (*with* Potts, Daniel; Steidl, Gabriele) Kernels of spherical harmonics and spherical frames. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 287–301, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:42042** 42C15 (41A63)

— (*with* Potts, Daniel; Steidl, Gabriele) Fast and stable algorithms for discrete spherical Fourier transforms. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 433–450. (Markus Hegland) **99h:65229** 65T20 (33C45, 65D20)

— (*with* Potts, Daniel; Steidl, Gabriele) Fast algorithms for discrete polynomial transforms. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1577–1590. (B. P. Parashar) **99b:65183** 65T20 (42C10)

Taschow, Ulrich Die Bedeutung der Musik als Modell für Nicole Oresmes Theorie *De configurationibus qualitatum et motuum*. (English and German summaries) [The significance of music as a model for Nicole Oresume's theory *De configurationibus qualitatum et motuum*] *Early Sci. Med.* **4** (1999), *no.* 1, 37–90. 01A35 (00A79)

Taşçı, Dursun (*with* Oturanç, Galip) The lower bounds for the zeros of a polynomial with real or complex coefficients. (English and Turkish summaries) *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B* **20** (1997), *no.* 1-2, 211–220. 30C15

Taşçı, F. (*with* Bayramoğlu, M.; İsmailov, S.) Higher trace formulas for Sturm Liouville equation with unbounded operator coefficient in finite interval. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 199–208. (Vladimir Vasil'evich Dubrovskiĭ) **99b:34098** 34G10 (34B24, 34L40)

López Tascón, Carlos *see* **López Tascón, Carlos**

Taşdelen, Fatma (*with* Özalp, Nuri) Some extensions of Gallop's formulas. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 85–95 (1997). (Themistocles M. Rassias) **99d:39014** 39A10 (35C99, 35L99)

Taşeli, H. (*with* Zafer, A.) Two-sided eigenvalue bounds for the spherically symmetric states of the Schrödinger equation. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 83–100. (Gh. Adam) **99m:65146** 65L15 (34L15, 35J10, 81Q05)

— Exact solutions for vibrational levels of the Morse potential. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 779–788. (Summary) **99b:81040** 81Q05 (81V55)

— (*with* Eid, R.) The confined system approximation for solving non-separable potentials in three dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 3095–3114. (Summary) **99a:81026** 81Q05 (81–08)

Tashima, Shigeo (*with* Yasuda, Kazunori) The covariance assignment problem for a descriptor system. (Japanese) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 12, 706–708. 93E12 (93D15)

Tashiro, Hidetoshi Computational playability of backward-induction solutions and Nash equilibria: an application of recursion theory to game theory. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 167–173. (*see* **99a:03003**) 90D05 (03D80, 90D10)

— Computational playability of backward induction solutions. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 112–118. (*see* **99d:03003**) 03B80 (03B35)

Tashkinov, A. A. (*with* Vil'deman, V. È.; Sokolkin, Yu. V.) ★ Механика неупругого деформирования и разрушения композиционных материалов. (Russian. Russian summary) [Mechanics of inelastic deformation and fracture of composite materials] *Fizmatlit "Nauka"*, *Moscow*, 1997. 288 *pp. ISBN* 5-02-015078-9 (Gennady S. Mishuris) **99m:73051** 73K20 (73B27, 73M25, 73S10)

Ta-Shma, Paula (*with* Beeri, Catriel; Milo, Tova) Towards a language for the fully generic queries. *Database programming languages* (*Estes Park, CO*, 1997), 239–259, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15

Tashpulatov, B. T. Kloosterman-type formulas for quadratic forms of the type $x_1^2 + x_2^2 + 2(x_3^2 + x_4^2 + x_5^2) + 2 \cdot 4^k x_6^2$. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 76–82. (Vladimir G. Zhuravlev) **99g:11049** 11E25 (11D85, 11E20)

— Formulas for the number of representations of the natural number of the quadratic form $x_1^2 + x_2^2 + 2(x_3^2 + x_4^2) + 2 \cdot 4^k(x_5^2 + x_6^2)$. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 79–88. (Vladimir G. Zhuravlev) **99g:11050** 11E25 (11D85, 11E20)

— A formula for the number of representations of the natural number of the quadratic form $(2x_1 - 1)^2 + \cdots + (2x_{r-1} - 1)^2 + 4x_r^2 + \cdots 4x_{n-1}^2 + 4^{k+1}x_n^2$. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 61–69. (Vladimir G. Zhuravlev) **99g:11051** 11E25 (11D85, 11E20)

— Kloosterman-type formulas for ternary quadratic forms of type $x_1^2 + 4x_2^2 + 4^{k+1}x_3^2$ and the absence of such forms of Liouville type. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 69–74; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 4, 67–72. (Vladimir G. Zhuravlev) **99g:11052** 11E25 (11D85, 11E20)

Tashpulatov, S. M. Investigation of the spectrum of the energy operator of a two-magnon system in the two- and three-dimensional isotropic Heisenberg ferromagnet with interaction up to second nearest neighbor. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 77–85. (From the introduction) **99f:82014** 82B20

— Investigation of the spectrum of the energy operator of a two-magnon system in the two- and three-dimensional anisotropic Heisenberg ferromagnet with second nearest neighbor interaction. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 88–98. (From the introduction) **99f:82015** 82B20

Tasić, V. (*with* Riley, David Michael) Mal'cev nilpotent algebras. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 1, 22–27. (Yuliy Billig) **99k:16050** 16R40 (20M07)

Taskinen, Jari (*with* Bierstedt, Klaus D.; Bonet, José) Associated weights and spaces of holomorphic functions. (English summary) *Studia Math.* **127** (1998), *no.* 2, 137–168. (Raymond Mortini) **99a:46037** 46E10 (32A37)

Tasnádi, Tamás Hard chaos in magnetic billiards (on the hyperbolic plane). (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3783–3804. (Edoh Amiran) **99h:58128** 58F13 (78A25)

Tasso, H. (*with* Throumoulopoulos, G. N.) Axisymmetric ideal magnetohydrodynamic equilibria with incompressible flows. (English summary) *Phys. Plasmas* **5** (1998), *no.* 6,

2378–2383. (Summary) **99c:76118** 76W05

Tassoulas, John L. (*with* Guddati, Murthy N.) Characteristics methods for transient analysis of wave propagation in unbounded media. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 187–206. (Summary) **99j:65152** 65M25 (65M70, 73D15, 73V20, 76M25, 76Q05)

Tata, M. (*with* Maleki, H. R.; Mashinchi, M.) Fuzzy numbers and its application to fuzzy programming. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 331–337, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 90C70

Tata, Xerxes What is supersymmetry and how do we find it? (English summary) *Particles and fields* (*Campos do Jordão*, 1997), 404–492, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99j:81188** 81T60 (81R40)

Tătar, D. Compiling definite clause grammars. (English summary) *Stud. Univ. Babeş-Bolyai Inform.* **1** (1996), *no.* 1, 45–56. (Summary) **99c:68206** 68S05

Tătar, Radu (*with* Tătaru, Liviu) Koszul-Tate cohomology for an Sp(2)-covariant quantization of gauge theories with linearly dependent generators. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 12, 1981–1994. (Bani Mitra Södermark) **99i:81258** 81T70 (58D29)

— (*with* Edelstein, José D.; Tătaru, Liviu) Rules for localized overlappings and intersections of *p*-branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 3, 27 *pp.* (*electronic*). (Marco Spaans) **99e:81185** 81T30 (83E30)

— (*with* Ahn, Changhyun; Oh, Kyungho) Orbifolds of $AdS_7 \times S^4$ and six-dimensional (0, 1) SCFT. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 109–116. (Summary) **99i:83085** 83E30 (81T30, 81T40)

— (*with* Ahn, Changhyun; Oh, Kyungho) $Sp(N_c)$ gauge theories and the M theory fivebrane. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 086002, 12 *pp.* (Summary) **99k:81289** 81T60 (81T13, 81T30)

— (*with* de Mello Koch, Robert) Higher derivative terms from threebranes in F theory. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 99–108. (Summary) **99k:81316** 81T60 (81T30)

— (*with* Ahn, Changhyun; Oh, Kyungho) Comments on SO/Sp gauge theories from brane configurations with an O6 plane. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046001, 8 *pp.* (Summary) **99m:81233** 81T60 (81T13, 81T30)

Tatarkiewicz, Krzysztof Hilbert's Thirteenth Problem. (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 153–162, *Polsk. Akad. Nauk, Warsaw*, 1997. (Summary) **99h:01032** 01A60 (12–03, 26–03)

— Hilbert's problems and the calculus of variations. (The history of Hilbert's Nineteenth and Twenty-third Problems in the twentieth century). (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 211–236, *Polsk. Akad. Nauk, Warsaw*, 1997. (*see* **99b:01001**) 49–03 (01A60, 49J05, 58E30)

— Professor Sobociński and colleague Bum. (Polish) *Wiadom. Mat.* **34** (1998), 123–146. (Roman Murawski) **99m:01092** 01A70 (03–03)

Tataronis, J. A. (*with* Torasso, R.; Salat, A.) The ideal magnetohydrodynamic continuous spectra of a cylindrical plasma: solution of the initial value problem. (English summary) *Phys. Plasmas* **5** (1998), *no.* 10, 3789–3792. (Summary) **99g:76153** 76W05

Tataru, Daniel The wave equation with Neuman controls: on Lions's *F* space. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 279–285, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Werner Horn) **99f:93016** 93B05 (35B37, 35L10, 93C20)

— On the regularity of boundary traces for the wave equation. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 1, 185–206. (Keisuke Uchikoshi) **99e:35129** 35L20 (35B65, 35S15)

— Local and global results for wave maps. I. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1781–1793. (Thierry Cazenave) **99j:58209** 58G16 (35Q75, 58G17)

Tătaru, Liviu (*with* Vancea, Ion V.; Blaga, Paul A.) BRST cohomology in 2D. Conformal gravity in BV approach. *Mathematica* **39(62)** (1997), *no.* 1, 117–135. (Mohamed Kachkachi) **99d:81167** 81T70

— (*with* Tătar, Radu) Koszul-Tate cohomology for an Sp(2)-covariant quantization of gauge theories with linearly dependent generators. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 12, 1981–1994. (Bani Mitra Södermark) **99i:81258** 81T70 (58D29)

— (*with* Edelstein, José D.; Tătar, Radu) Rules for localized overlappings and intersections of *p*-branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 3, 27 *pp.* (*electronic*). (Marco Spaans) **99e:81185** 81T30 (83E30)

— (*with* Constantinescu, Radu D.) Hamiltonian sp(3) BRST symmetry: existence theorems. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 269–274. (Bani Mitra Södermark) **99h:81216** 81T70 (58F40)

Tate, John WC-groups over p-adic fields [MR **21** #4162]. *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 156, 265–277, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 14K15 (11G10)

— On the conjectures of Birch and Swinnerton-Dyer and a geometric analog. *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 306, 415–440, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 11G40 (14G10)

— The work of David Mumford [MR **54** #2393]. *Fields Medallists' lectures*, 219–223, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70

— Finite flat group schemes. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 121–154, *Springer, New York*, 1997. (*see* **99k:11004**) 14L15

— (*with* Katz, Nicholas M.) Bernard Dwork (1923–1998). *Notices Amer. Math. Soc.* **46** (1999), *no.* 3, 338–343. (From the text) **99m:01071** 01A70

Tate, Ranjeet S. *see* **Kijowski, Jerzy**, **99m:81023**

Tate, Stephen R. (*with* Kao, Ming-Yang) On-line difference maximization. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 78–90 (*electronic*). (Summary) **99k:68080** 68Q25 (90A09, 90D15)

Tateo, Roberto (*with* Dorey, Patrick; Pocklington, A. J.; Watts, Gerard M. T.) TBA and TCSA with boundaries and excited states. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 641–663. (Summary) **99e:82038** 82B27 (81T40)

Tateoka, Jun (*with* Sato, Naonobu) On the old mathematical problems in Akita Prefecture. (Japanese. English summary) *Mem. College Ed. Akita Univ. Natur. Sci. No.* 53 (1998), 25–45. (Summary) **99m:01007** 01A27

Tatjer, J. C. (*with* Bosch, Miquel) Smooth linearization for strongly dissipative two-dimensional maps. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:58170** 58F36

Tatlı, Hasan (*with* Şen, Zekai; Sönmez, İbrahim) Comment on: "Grade estimation using fuzzy set algorithms" [Math. Geol. **29** (1997), no. 2, 291–305; MR 97k:86013] by T. D. Pham. With a reply by Pham. *Math. Geol.* **30** (1998), *no.* 8, 1033–1042. 86A32 (04A72)

Tatout, Frederic (*with* Bardos, Claude; Masrour, Tawfik) Observation and control of elastic waves. (English summary) *Singularities and oscillations* (*Minneapolis, MN*, 1994/1995), 1–16, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (Guenter Leugering) **99c:93056** 93C20 (35Q72, 58G40, 73D30, 93B05, 93B07)

Ta-Tsien, Li *see* **Li, Da Qian**

Tatsumi, Hisayuki (*with* Araki, Tomoyuki; Mukaidono, Masao; Yamamoto, Fujio) Minimization of incompletely specified regular ternary logic functions and its application to fuzzy switching functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 289–296, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (03B52)

— (*with* Araki, Tomoyuki; Mukaidono, Masao; Tokumasu, Shinji) Upper and lower bounds on the number of fuzzy/c switching functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 297–303, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B52

Tatsumi, Tomomasa Independence of intersection velocity and the velocity distribution in uniform turbulence. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 29–39. (*see* **99k:76004**) 76F99

Tatsuta, Makoto (*with* Tada, Mitsuru) The function $\lfloor a/m \rfloor$ in sharply bounded arithmetic. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 1, 51–57. (Thomas Strahm) **99c:03094** 03F30

— Realizability for constructive theory of functions and classes and its application to program synthesis. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 358–367, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03079** 03F65 (68Q60)

Tatsuuma, Nobuhiko Group topologies of inductive limits of topological groups and unitary representations. (Japanese) Infinite-dimensional measure theory and representation theory of infinite-dimensional groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1017 (1997), 1–23. (*see* **99d:22001**) 22A05

— (*with* Shimomura, Hiroaki; Hirai, Takeshi) On group topologies and unitary representations of inductive limits of topological groups and the case of the group of diffeomorphisms. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 551–578. (M. Rajagopalan) **99k:22003** 22A05 (54H11, 58D05)

Tattersall, James (*with* McMurran, Shawnee) Mary Cartwright (1900–1998). *Notices Amer. Math. Soc.* **46** (1999), *no.* 2, 214–220. (From the text) **99k:01067** 01A70

Täuber, Uwe C. (*with* Cardy, John L.) Field theory of branching and annihilating random walks. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 1–56. (Alexandre S. Gajrat) **99k:82067** 82C41 (60J15, 60K35, 82C28)

Taubert, K. (*with* Oberle, H. J.) Existence and multiple solutions of the minimum-fuel orbit transfer problem. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 243–262. (Michael E. Fisher) **99a:49008** 49J15 (49N55, 70M20, 70Q05)

Taubes, Clifford Henry The work of Maxim Kontsevich. Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 119–126 (*electronic*). (J. Stasheff) **99i:58002** 58–02 (01A70, 14H10, 57M25, 58F06, 81Q30)

— The geometry of the Seiberg-Witten invariants. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 493–504 (*electronic*). (Véronique Lizan) **99j:57035** 57R57 (58D10, 58D27, 58G30)

— The structure of pseudo-holomorphic subvarieties for a degenerate almost complex structure and symplectic form on $S^1 \times B^3$. (English summary) *Geom. Topol.* **2** (1998), 221–332 (*electronic*). (François Lalonde) **99m:57029** 57R57 (58D10, 58D29)

— The work of [Fields medalist] Maxim Kontsevich. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 3, 44–48. 14–00 (01A70, 14H10, 32G15, 58F06)

Tauraso, Roberto Common fixed points of commuting holomorphic maps of the polydisc which are expanding on the torus. *Adv. Math.* **138** (1998), *no.* 1, 92–104. (Marco Abate) **99g:32053** 32H99 (58F15, 58F23)

— (*with* Abate, Marco) The Julia-Wolff-Carathéodory theorem(s). (English summary) *Complex geometric analysis in Pohang* (1997), 161–172, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Steven George Krantz) **99i:32008** 32A40 (32A10, 32A30)

Tausch, Johannes (*with* White, Jacob) Second-kind integral formulations of the capacitance problem. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 217–232. (Summary) **99j:78013** 78A30 (45L05, 65R20, 78–08)

— (*with* Allgower, Eugene L.; Georg, Kurt; Miranda, Rick) Numerical exploitation of equivariance. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 12, 795–806. (Summary) **99h:65226** 65T20 (47H15, 58E40)

Taussky-Todd, Olga *see* **Special Issue: Taussky-Todd, Olga**, **99c:01028**; **Kisilevsky, H.**, **99g:11134**; **Bauer, Friedrich L.**, (**99c:01028**); **Schneider, Hans**, (**99c:01028**); **Hanlon, Phillip J.**, (**99c:01028**); **Johnson, Charles Royal**, (**99c:01028**); **Laffey, Thomas J.**, (**99c:01028**); **Publications about Olga Taussky Todd**, (**99c:01028**) *and* **Publications of Olga Taussky Todd**, (**99c:01028**)

Tautenhahn, Ulrich (*with* Hofmann, Bernd) On ill-posedness measures and space change in Sobolev scales. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 979–1000. (Otmar Scherzer) **99d:65191** 65J20 (46N40, 47A50, 47B38)

— Optimality for ill-posed problems under general source conditions. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 377–398. (Hans-Jürgen Reinhardt) **99g:65073** 65J20 (65M30)

Tavakol, R. K. (*with* Zalaletdinov, R. M.) On the domain of applicability of general relativity. (English summary) *Found. Phys.* **28** (1998), *no.* 2, 307–331. (Markku Lehto) **99b:83061** 83C99

— (*with* Rebouças, M. J.; Teixeira, A. F. F.) Topology and fragility in cosmology. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 535–543. (Gagik T.

Ter-Kazarian) **99c:83019** 83C20 (53C80, 83F05)
— (*with* Mena, Filipe C.) Evolution of the density contrast in inhomogeneous dust models. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, 435–452. 83C55
— (*with* Clancy, Dominic; Lidsey, James E.) Initial conditions in string cosmology. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 063511, 5 *pp.* 83F05 (83E30)
Tavaré, Simon (*with* Griffiths, Robert C.) The age of a mutation in a general coalescent tree. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 273–295. (Summary) **99b:92023** 92D10 (92D15)
— *see also* **Progress in population genetics and human evolution, 99h:92016**
Tavares, D. M. (*with* Romero, Carlos Augusto) Comments on the geometry of the conical space-time. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2077–2084. (János Kánnár) **99h:83012** 83C15
Tavares, J. N. Generalized holonomies. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 311–328. (Ambar Sengupta) **99f:58009** 58B25 (53C80)
Tavener, S. J. (*with* Cliffe, K. A.) Marangoni-Bénard convection with a deformable free surface. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 193–227. (Summary) **99f:76122** 76R10 (76E15, 76M10)
Tavgen′, O. I. (*with* Mateĭko, O. M.) Linear representations of the automorphism groups of free groups. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 48–59, *Gomel. Gos. Univ., Gomel′*, 1997. (Ĭ. Ya. Subbotin) **99k:20016** 20C15 (20E05, 20F28)
— (*with* Mateĭko, O. M.) Linear representations of degrees 2 and 3 of the automorphism group of a free group of rank 2. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 3, 5–9, 123. (Abram I. Saksonov) **99c:20006** 20C15 (20E05, 20F28)
Tavsanoglu, Vedat (*with* Joy, Mark P.) An equilibrium analysis of CNN's. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 1, 94–98. (Summary) **99c:92009** 92B20 (68T05, 94C05)
— (*with* Arik, Sabri) A comment on: "Comments on: 'Necessary and sufficient condition for absolute stability of neural networks'" [IEEE Trans. Circuits Systems I Fund. Theory Appl. **42** (1995), no. 8, 497–499; MR 96j:92005] by E. Kaszkurewicz and A. Bhaya. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 595. (Summary) **99g:92007** 92B20 (68T05, 90C35)
Tawn, Jonathan A. (*with* Bortot, Paola) Models for the extremes of Markov chains. (English summary) *Biometrika* **85** (1998), *no.* 4, 851–867. (Summary) **99j:62124** 62M10 (62M05)
Tay, E. G. (*with* Koh, K. M.) Optimal orientations of products of paths and cycles. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 163–174. (J. Richard Lundgren) **99c:05080** 05C20 (05C38)
— (*with* Koh, K. M.) On optimal orientations of Cartesian products of graphs. I. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 115–136. (K. B. Reid) **99g:05089** 05C20
— (*with* Koh, K. M.) On optimal orientations of Cartesian products of even cycles. (English summary) *Networks* **32** (1998), *no.* 4, 299–306. (Summary) **99g:05090** 05C20 (05C38)
Taya, Hisao (*with* Ozaki, Manabu) On the Iwasawa λ_2-invariants of certain families of real quadratic fields. *Manuscripta Math.* **94** (1997), *no.* 4, 437–444. (Manfred Kolster) **99a:11122** 11R23 (11R11)
— (*with* Ozaki, Manabu) A note on the Iwasawa λ-invariants of real abelian number fields. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 2, 109–116. (Cornelius Greither) **99j:11129** 11R23
Tayal, Vipin (*with* Nagar, Daya K.) Distribution of the determinant of a noncentral complex Wishart matrix. (English summary) *Gaṇita Sandesh* **10** (1996), *no.* 2, 97–103. 62H10
— Exact non-null distribution of LRC for testing homogeneity of covariance matrices of completely symmetric Gaussian models. (English summary) *Gaṇita Sandesh* **11** (1997), *no.* 1, 45–50. 62H10 (62H15)
Tayler, Alan Breach *see* **Ockendon, H., 99k:01071**
Taylor, A. M. Robert (*with* Smith, Richard J.) Additional critical values and asymptotic representations for seasonal unit root tests. (English summary) *J. Econometrics* **85** (1998), *no.* 2, 269–288. (Summary) **99d:62087** 62M10 (62P20)
— Testing for unit roots in monthly time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 349–368. (Summary) **99d:62088** 62M10
Taylor, B. A. (*with* Gail, H. Richard; Hantler, S. L.) Non-skip-free $M/G/1$ and $G/M/1$ type Markov chains. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 733–758. (John P. Lehoczky) **99f:60156** 60K25 (60J10, 90B22)
— (*with* Braun, Rüdiger W.; Meise, Reinhold) An example concerning radial Phragmén-Lindelöf estimates for plurisubharmonic functions on algebraic varieties. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 24–29. (Norman Levenberg) **99d:32016** 32F05
— (*with* Gail, H. Richard; Hantler, S. L.) Matrix-geometric invariant measures for $G/M/1$ type Markov chains. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 537–569. (Peter Gerrard Taylor) **99f:60157** 60K25
Taylor, Brian D. (*with* Rota, Gian-Carlo; Shen, Jianhong) All polynomials of binomial type are represented by Abel polynomials. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 731–738 (1998). (Maurice J. Ginocchio) **99j:05018** 05A40
— Difference equations via the classical umbral calculus. *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 397–411, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Alessandro Di Bucchianico) **99h:39011** 39A10 (05A40)
Taylor, C. C. *see* **Taylor, Charles C.**
Taylor, Charles A. (*with* Hughes, Thomas J. R.; Zarins, Christopher K.) Finite element modeling of blood flow in arteries. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 155–196. (Summary) **99d:92014** 92C35 (76M10, 76Z05, 92C10)
Taylor, Charles C. (*with* Mardia, Kanti V.; Southworth, H. R.) On bias in maximum likelihood estimators. (English summary) *J. Statist. Plann. Inference* **76** (1999), *no.* 1-2, 31–39. 62F10
Taylor, D. E. (*with* Rylands, L. J.) Matrix generators for the orthogonal groups. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 3, 351–360. (A. G. Earnest) **99d:20078** 20G40
Taylor, Darrin (*with* Nikoukhah, Ramine; Levy, Bernard C.; Willsky, Alan S.) Graph structure and recursive estimation of noisy linear relations. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 4, 37 *pp.* (*electronic*). (Summary) **99g:93080** 93E11 (93E10)
Taylor, David A. (*with* Holmes, Philip J.) Simple models for excitable and oscillatory neural networks. (English summary) *J. Math. Biol.* **37** (1998), *no.* 5, 419–446. (Summary) **99g:92011** 92C05 (34C15, 34C23, 92C15, 92C20)
Taylor, David G. (*with* Khan, Wasim) Adaptive control of ac motor drives with inverter non-linearities. (English summary) *Internat. J. Control* **72** (1999), *no.* 9, 784–798. 93C90 (90C40)
Taylor, Edward C.[2] (*with* Comar, Timothy D.) Geometrically convergent Kleinian groups and the lowest eigenvalue of the Laplacian. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 601–623. (Ken-ichi Ohshika) **99f:58210** 58G25 (57M50)
Taylor, G. A. (*with* Bailey, Chris; Cross, Mark; Chow, P. M. Y.) Discretisation procedures for multi-physics phenomena. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 3–17. (*see* **99k:65002**) 73V20 (76M25)
Taylor, G. I. The conditions necessary for discontinuous motion in gases [Proc. Roy. Soc. London Ser. A **84** (1910), 371–377]. *Classic papers in shock compression science*, 409–416, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76Nxx (35Q35, 76L05)
Taylor, Howard M. (*with* Karlin, Samuel) ★ An introduction to stochastic modeling. Third edition. *Academic Press, Inc., San Diego, CA*, 1998. *xii*+631 *pp. ISBN* 0-12-684887-4 (From the preface) **99c:60001** 60-01
— (*with* Sweitzer, Dennis E.) On the current enhancement at the edge of a crack in a lattice of resistors. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 342–364. (Summary) **99f:60130** 60J15
Taylor, Howard S. (*with* Main, Jörg; Mandelshtam, Vladimir A.; Wunner, Günter) Harmonic inversion as a general method for periodic orbit quantization. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1015–1035. (Roberto Artuso) **99f:81053** 81Q20 (11M06, 11Z05, 81Q50)
Taylor, J. B. *see* **Taylor, John Bryan**
Taylor, J. C. *see* **Taylor, John Clayton**
Taylor, J. E. *see* **Taylor, John E.**
Taylor, J. G. *see* **Taylor, John G.**
Taylor, Jean E. (*with* Almgren, Fred) Soap bubble clusters. *Forma* **11** (1996), *no.* 3, 199–207. (J. E. Brothers) **99e:49052** 49Q05 (53A10, 58E12)
— (*with* Wiegand, Sylvia M.) AWM in the 1990s: a recent history of the Association for Women in Mathematics. *Notices Amer. Math. Soc.* **46** (1999), *no.* 1, 27–38. (Editors) **99k:01084** 01A74 (01A80)
Taylor, John Prime ideals of fixed rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3463–3488. (Nikolaus Vonessen) **99m:16054** 16W20 (16D25)
Taylor, John Bryan Influence of continuous spectrum on ballooning instabilities in plasmas with shear-flow. (English summary) *Phys. Plasmas* **6** (1999), *no.* 6, 24425–2429. 76X05
Taylor, John Clayton (*with* Andraši, A.) Renormalization of Wilson operators in Minkowski space. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 417–425. (Summary) **99a:81107** 81T15
Taylor, John E. (*with* Bendsøe, Martin P.; Washabaugh, Peter D.) A formulation for optimal continuum structures with a decomposition of material properties into specified and designable parts. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 255–264. (Summary) **99k:73088** 73K40 (49Q10)
— (*with* Achtziger, Wolfgang; Bendsøe, Martin P.) Bounds on the effect of progressive structural degradation. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 6, 1055–1087. (Summary) **99b:73031** 73K40 (73K99, 73V20)
— *see also* **Recent advances in structural modelling and optimization, 99k:73003**
Taylor, John G. *see* **Neural networks and their applications, 99b:68161**
Taylor, Keith F. (*with* Schulz, Eckart) Extensions of the Heisenberg group and wavelet analysis in the plane. *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 217–225, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Gerald B. Folland) **99m:42053** 42C15 (22E30, 44A15)
Taylor, M. D. (*with* Caron, R. M.; Li, Xin[3]; Mikusiński, Piotr; Sherwood, H.) Nonsquare "doubly stochastic" matrices. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 65–75, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Ryszard Grząślewicz) **99b:15025** 15A51 (15A48)
— (*with* Li, Xin[3]; Mikusiński, Piotr; Sherwood, H.) In quest of Birkhoff's theorem in higher dimensions. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 187–197, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Ryszard Grząślewicz) **99b:15027** 15A51 (15A48)
— (*with* Li, Xin[3]; Mikusiński, Piotr; Sherwood, H.) On approximation of copulas. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 107–116, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:60009** 60E05 (62H05)
— (*with* Li, Xin[3]; Mikusiński, Piotr) Strong approximation of copulas. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 608–623. (Roger B. Nelsen) **99j:60029** 60E99 (46N30, 46S50, 47B38, 60B10)
— (*with* Shivamoggi, Bhimsen K.; Kida, Shigeo) On some mathematical aspects of the direct-interaction approximation in turbulence theory. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 639–658. (Roland Schiestel) **99m:76074** 76F99 (76M25)
Taylor, M. J. *see* **Taylor, Mark J.**
Taylor, Mark Alan (*with* Spotz, William F.; Swarztrauber, Paul N.) Fast shallow-water equation solvers in latitude-longitude coordinates. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 432–444. 76M25 (76B15)
Taylor, Mark J. (*with* Peake, N.) The long-time impulse response of compressible swept-wing boundary layers. (English summary) *J. Fluid Mech.* **379** (1999), 333–350. (Summary) **99k:76126** 76N20 (76E99)
Taylor, Martin J. (*with* Chinburg, Ted; Erez, Boas; Pappas, Georgios) On the ε-constants of arithmetic schemes. *Math. Ann.* **311** (1998), *no.* 2, 377–395. (Nigel Byott) **99d:11121** 11R33 (14G40)

— (*with* Chinburg, Ted; Erez, Boas; Pappas, Georgios) Localizations of Grothendieck groups and Galois structure. (English summary) *Recent progress in algebra (Taejon/Seoul, 1997)*, 47–63, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Cornelius Greither) **99i:20012** 20C10 (11R33, 14H25, 19E20, 20C15)

Taylor, Michael E. Estimates for approximate solutions to acoustic inverse scattering problems. *Inverse problems in wave propagation (Minneapolis, MN, 1995)*, 463–499, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Yongzhi Xu) **99a:35272** 35R30 (35J05, 65M30, 76Q05)

— Microlocal analysis on Morrey spaces. *Singularities and oscillations (Minneapolis, MN, 1994/1995)*, 97–135, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (Luigi Rodino) **99a:35010** 35A27 (35S05, 46E35, 46N20)

— (*with* Pinsky, Mark A.) Pointwise Fourier inversion: a wave equation approach. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 6, 647–703. (Sundaram Thangavelu) **99d:42019** 42B10 (35A25, 35L05)

— Estimates on scattered waves. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 101–112. (Hideo Soga) **99a:35036** 35J05 (35L05, 35P25)

Taylor, Peter G. (*with* Bean, Nigel; Pollett, P. K.) The quasistationary distributions of level-independent quasi-birth-and-death processes. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 389–406. (Erik A. van Doorn) **99b:60101** 60J10 (60J80)

— (*with* Latouche, G.; Pearce, C. E. M.) Invariant measures for quasi-birth-and-death processes. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 443–460. (Erik A. van Doorn) **99b:60102** 60J10 (60J80)

— (*with* van Dijk, Nico M.) Strong stochastic bounds for the stationary distribution of a class of multicomponent performability models. (English summary) *Oper. Res.* **46** (1998), *no.* 5, 665–674. (Summary) **99f:90042** 90B25 (90B30)

Taylor, R. *see* **Taylor, Ross**

Taylor, R. L. *see* **Taylor, Robert Leroy**

Taylor, Richard L. (*with* Darmon, Henri; Diamond, Fred) Fermat's last theorem. *Current developments in mathematics*, 1995 (*Cambridge, MA*), 1–154, *Internat. Press, Cambridge, MA*, 1994. (M. Ram Murty) **99d:11067a** 11G18 (11D41, 11F80, 11G05)

— (*with* Darmon, Henri; Diamond, Fred) Fermat's last theorem. *Elliptic curves, modular forms & Fermat's last theorem (Hong Kong, 1993)*, 2–140, *Internat. Press, Cambridge, MA*, 1997. (M. Ram Murty) **99d:11067b** 11G18 (11D41, 11F80, 11G05)

— Icosahedral Galois representations. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 337–347. (Chandrashekhar Khare) **99d:11057** 11F80 (11F33)

— (*with* Conrad, Brian; Diamond, Fred) Modularity of certain potentially Barsotti-Tate Galois representations. *J. Amer. Math. Soc.* **12** (1999), *no.* 2, 521–567. (Ian Kiming) **99i:11037** 11F80 (11G05, 11G18, 11R39)

Taylor, Robert Leroy (*with* Zienkiewicz, O. C.; Oñate, Eugenio) A hierarchical finite element method based on the partition of unity. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 73–84. (Summary) **99a:73128** 73V05

— (*with* Zienkiewicz, O. C.; Rojek, J.; Pastor, M.) Triangles and tetrahedra in explicit dynamic codes for solids. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 3, 565–583. (Summary) **99f:73085** 73V05

— (*with* Piltner, R.) A systematic construction of **B**-bar functions for linear and non-linear mixed-enhanced finite elements for plane elasticity problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 5, 615–639. (Summary) **99j:73099** 73V05

Taylor, Ross Thermodynamics with Maple. I. Symbolic computation. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 101–119. (From the introduction) **99f:80001** 80–04 (34–04, 34A09, 68Q40)

— Thermodynamics with Maple. II. Numerical and graphical applications. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 121–146. (Summary) **99f:80002** 80–04 (34–04, 34A09, 68Q40, 80–08)

Taylor, S. (*with* Evans, David John[2]; Lambert, A.; Milne, A. M.) A study of transmission and reflection characteristics of an aircraft antenna using INGRID. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 363–373, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (78A50)

Taylor, S. James (*with* Perkins, Edwin A.) The multifractal structure of super-Brownian motion. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 1, 97–138. (Steven N. Evans) **99b:28011** 28A80 (28A78, 60D05, 60G57)

— (*with* Shieh, Narn-Rueih) Logarithmic multifractal spectrum of stable occupation measure. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 249–261. (Yimin Xiao) **99g:60078** 60G17 (28A80, 60J30)

Taylor, T. R. (*with* Antoniadis, Ignatios; Partouche, H.) Lectures on heterotic-type I duality. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 58–71. (Summary) **99a:81123** 81T30 (83E30)

— (*with* Antoniadis, Ignatios; Partouche, H.) Lectures on heterotic-type I duality. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 3–16. (Summary) **99b:81171** 81T30 (83E30)

Taylor, Udayan (*with* Downey, Rodney G.; Fellows, Michael R.) The parameterized complexity of relational database queries and an improved characterization of $W[1]$. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 194–213, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99j:68040** 68Q15 (68P15, 68Q25)

Taylor, Washington, IV (*with* Kabat, Daniel) Spherical membranes in M(atrix) theory. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 181–206. (C. Gauthier) **99g:81169** 81T30

— (*with* Castelino, Judith; Lee, Sangmin) Longitudinal 5-branes as 4-spheres in Matrix theory. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 334–350. (Marco Spaans) **99h:81159** 81T30

— (*with* Van Raamsdonk, Mark) Angular momentum and long-range gravitational interactions in Matrix theory. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 227–244. (Summary) **99g:81188** 81T30

— (*with* Kabat, Daniel) Linearized supergravity from Matrix theory. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 297–305. (Summary) **99c:83094** 83E30 (81T30, 83E50)

— (*with* Van Raamsdonk, Mark) Three-graviton scattering in Matrix theory revisited. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 248–254. (Summary) **99i:81204** 81T30 (83E30, 83E50)

— (*with* Carroll, Sean M.; Ortiz, Miguel E.) Boundary fields and renormalization group flow in the two-matrix model. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046006, 15 *pp.* 82B28 (81T17, 82B41)

Taylor-Robinson, M. M. (*with* Hawking, Stephen W.) Bulk charges in eleven dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025006, 15 *pp.* (Summary) **99m:83202** 83E50 (83C57)

Tayur, Sridhar (*with* Kapuściński, Roman) A capacitated production-inventory model with periodic demand. (English summary) *Oper. Res.* **46** (1998), *no.* 6, 899–911. (Summary) **99h:90036** 90B05

Tazawa, Shinsei (*with* Nara, Chiê) Enumeration of unlabelled graphs with specified degree parities. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 255–264. (E. M. Palmer) **99a:05066** 05C30

Tazzioli, Rossana *see* **Beltrami, Eugenio, 99j:01011**

Tchamitchian, Philippe (*with* Auscher, Pascal; McIntosh, Alan G. R.) Heat kernels of second order complex elliptic operators and applications. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 22–73. (Yehuda Pinchover) **99e:47062** 47F05 (35J15, 47A60)

— (*with* Frik, P. G.; Grossmann, Alex) Wavelet analysis of signals with gaps. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4091–4107. (Summary) **99d:94007** 94A12 (42C15)

Tchangani, A. P. (*with* Richard, Jean-Pierre; Goubet-Bartholoméüs, A.; Dambrine, M.) Nonlinear delay systems: tools for a quantitative approach to stabilization. (English summary) *Stability and control of time-delay systems*, 218–240, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (34K35, 93C30)

— (*with* Dambrine, M.; Richard, Jean-Pierre) Stability, attraction domains, and ultimate boundedness for nonlinear neutral systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 291–298. (Michael I. Gil') **99d:34154** 34K20

— (*with* Dambrine, M.; Richard, Jean-Pierre; Kolmanovskii, Vladimir B.) Stability of nonlinear differential equations with distributed delay. *Nonlinear Anal.* **34** (1998), *no.* 7, 1081–1095. (T. A. Burton) **99d:34153** 34K20

Tcheremchantsev, Serguei *see* **Cheremshantsev, S. E.**

Tchernov, Vladimir The most refined Vassiliev invariant of degree one of knots and links in $\mathbf{R}^1$-fibrations over a surface. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 2, 257–266. (Esther Pérez) **99b:57025** 57M25 (55R05)

Tchernychev, Andrei (*with* Sideris, Athanasios) A multiplier approach for the robust design of discrete-time control systems with real/complex uncertainties. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 851–859. (Summary) **99d:93028** 93B51 (93C55)

— (*with* Sideris, Athanasios) μ/k_m-design with time-domain constraints. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1622–1627. (Summary) **99h:93045** 93B36 (93B50, 93D21)

— (*with* Sideris, Athanasios) Robust discrete-time control design with time-varying parametric uncertainties. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 4, 199–213. (Summary) **99m:93039** 93B51 (93C41, 93C55)

Tchernykh, I. D. *see* **Chernykh, I. D.**

Tcheugoué Tébou, Louis Roder Sur quelques résultats d'observabilité liés à l'équation des ondes perturbée. (English and French summaries) [On some observability results for perturbed wave equations] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 277–281. (Florin Iacob) **99j:35122** 35L05 (35B20, 93B07)

— Stabilization of the wave equation with localized nonlinear damping. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 502–524. (A. V. Perzhan) **99c:35167** 35L70 (35B35, 35L05)

Tchistiakov, V. (*with* van Gils, S. A.) About convergence of numerical approximations to homoclinic twist bifurcation points in Z_2-symmetric systems in $\mathbf{R}^4$. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 107–116. (Summary) **99d:65238** 65L99 (34C23)

Tchizawa, Kiyoyuki (*with* Kakiuchi, Nobuhiko) On a duck solution and delay in the FitzHugh-Nagumo equation. (English summary) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 56–70. (Tewfik Sari) **99c:34074** 34C23 (03H05, 03H10, 34E15, 92C20)

— (*with* Kakiuchi, Nobuhiko) On another type of ducks in the FitzHugh-Nagumo equation. (English summary) Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 101–104. (Summary) **99h:34011** 34A34 (03H05, 34C23, 34E05)

Tchoń, Krzysztof Singularity avoidance in redundant robot kinematics: a dynamical system approach. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 401–412. (Summary) **99d:70008** 70B15 (93C85)

— The method of equivalence in robotics. *Systems: theory and practice*, 253–268, *Adv. Comput. Sci., Springer, Vienna*, 1998. (*see* **99g:93002**) 70B15 (70Q05, 93C85)

Tchonkova, M. (*with* Sture, Stein) A mixed least squares method for solving problems in linear elasticity: formulation and initial results. (English summary) *Comput. Mech.* **19** (1997), *no.* 4, 317–326. (Summary) **99h:73083** 73V05 (65N30)

Tchou, N. A. Homogenization for the Heisenberg operator. (English summary) *Homogenization and applications to material sciences (Nice, 1995)*, 413–420, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (A. F. M. ter Elst) **99d:35019** 35B27 (22E25, 22E30, 35H05, 35J99)

— (*with* Biroli, Marco; Mosco, Umberto) Homogenization by the Heisenberg group. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 809–831. (A. F. M. ter Elst) **99d:35020** 35B27 (22E25, 22E30, 35H05, 35J99)

— (*with* Dal Maso, Gianni; De Cicco, V.; Notarantonio, Lino) Limits of variational problems for Dirichlet forms in varying domains. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 1, 89–116. (Paolo Acquistapace) **99e:35039** 35J25 (31C15, 49J45)

Tchrakian, D. H. (*with* Spruck, Joel; Yang, Yisong) Multiple instantons representing higher-order Chern-Pontryagin classes. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 737–751. (Michael Murray) **99c:53020** 53C07 (58E15, 81T13)

— (*with* Arthur, Kieran; Brihaye, Yves) Interaction energy of generalized abelian Higgs vortices. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3031–3042. (Summary) **99c:58037** 58E15 (81–08, 81T13)

— (*with* O'Keeffe, D.; Yang, Yisong) Sigma models coupled with abelian gauge fields. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5824–5831. (Jesús Muciño-Raymundo) **99j:81120** 81T13 (81T10)

— (*with* Kleihaus, Burkhard; Kunz, Jutta) Interaction energy of 't Hooft-Polyakov monopoles. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2523–2529. (Summary) **99g:81131** 81T13

— (*with* Brihaye, Yves) Solitons/instantons in d-dimensional SO(d) gauged O($d+1$) Skyrme models. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 891–911. (Bernd J. Schroers) **99f:58059** 58E50 (81T13)

Tchumburidze, M. To the plane theory of dynamic problems of generalized couple-stress thermoelasticity. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 181–185. 73B30 (35Q72, 73C99)

— About matrices of singular and fundamental solutions for equations of the generalised couple-stress thermoelasticity plane theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 28–33. 73B30 (73C02)

Tchuryumov, Alexei (*with* Komrakov, B. P.) Micromodules. (English summary) *Lie groups and Lie algebras*, 181–198, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Floyd L. Williams) **99e:17008** 17B10 (17B20)

Te, Gu Si Late Qing mathematicians' knowledge about the properties of dijia numbers. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 2, 62–68. (Shi Rong Guo) **99g:01008** 01A25 (11–03)

Tebaldi, Claudio (*with* Bortone, Carlo) Adaptive Lotka-Volterra systems as neural networks. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 379–396. (Summary) **99j:92015** 92D25 (34C05, 34D45, 92B20)

— (*with* Profilo, Gabriella; Soliani, Giulio) Some exact solutions of the two-dimensional Navier-Stokes equations. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 459–471. (Summary) **99a:76038** 76D05 (35Q30)

tcheugoué Tébou, Louis Roder *see* **Tcheugoué Tébou, Louis Roder**

Teboulle, Marc (*with* Doljansky, Moshe) An interior proximal algorithm and the exponential multiplier method for semidefinite programming. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 1–13 (*electronic*). (Alfredo N. Iusem) **99k:90151** 90C30 (90C25)

Téchené, Jean-Jacques Les aspects fondamentaux de l'admissibilité en approximation quadratique d'applications linéaires. (English summary) [Fundamental aspects of admissibility in the quadratic approximation of linear mappings] *Linear Algebra Appl.* **264** (1997), 389–419. (David Birkes) **99c:62200** 62J99 (62C15)

— (*with* Pousse, Alain) Quelques propriétés extrémales des valeurs singulières d'un opérateur compact et leurs applications aux analyses factorielles d'une probabilité ou d'une fonction aléatoire. II. Critères d'analyses factorielles linéaires d'une probabilité ou d'une fonction aléatoire. (English summary) [Some extremal properties of the singular values of a compact operator and their application to the factor analysis of a probability or a random function. II. Linear factor analysis criteria for a probability or a random function] *Probab. Math. Statist.* **18** (1998), *no.* 1, 1–18 (19*N*). (Jacques Dauxois) **99k:47182** 47N30 (47B07, 62H25)

Teclezghi, Beimnet (*with* Schein, Boris M.) Endomorphisms of finite symmetric inverse semigroups. (English summary) *J. Algebra* **198** (1997), *no.* 1, 300–310. (Karl Byleen) **99c:20089** 20M18 (20M20)

— (*with* Schein, Boris M.) Endomorphisms of symmetric semigroups of functions on a finite set. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 3921–3938. (I. S. Ponizovskiĭ) **99k:20114** 20M15 (20M20)

— (*with* Schein, Boris M.) Endomorphisms of finite full transformation semigroups. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2579–2587. (P. G. Trotter) **99b:20093** 20M15 (20M20)

morales-Técotl, Hugo A. *see* **Morales-Técotl, Hugo A.**

Tecuceanu, G. (*with* Popeea, Cristiana) On the open-loop LQ Stackelberg dynamic optimization: the closed-loop implementation of the optimal strategies. (English summary) *Politeh. Univ. Buchar. Sci. Bull. Ser. C Electr. Eng.* **59** (1997), *no.* 1-4, 207–225. 90D25 (49K15)

Tedeev, A. F. (*with* Bonafede, S.; Cirmi, G. R.) Finite speed of propagation for the porous media equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1381–1398 (*electronic*). (Vladimir Grebenev) **99g:35068** 35K60 (35B05, 76S05)

Tedeschi, Giulio A characterization of the surface of a sphere. (Italian. English and Italian summaries) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **131** (1997), 149–156. (Summary) **99i:54050** 54F65

Teebagy, Nicholas ★ The math behind Wall Street. (English summary) How the market works and how to make it work for you. With an introduction by Amir D. Aczel. *Four Walls Eight Windows, New York*, 1998. *xx*+100 *pp. ISBN* 1-56858-111-4 90A09 (90–01)

Teel, Andrew R. (*with* Christofides, Panagiotis D.; Daoutidis, Prodromos) Robust semi-global output tracking for nonlinear singularly perturbed systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 639–666. 93D21 (93C70)

— (*with* Kapoor, Navneet; Daoutidis, Prodromos) An anti-windup design for linear systems with input saturation. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 559–574. (Summary) **99d:93026** 93B51 (93C05)

— Connections between Razumikhin-type theorems and the ISS nonlinear small gain theorem. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 960–964. (Summary) **99d:93063** 93D21 (34K20, 93D05)

Teets, Donald A. (*with* Whitehead, Karen) Computation of planetary orbits. *College Math. J.* **29** (1998), *no.* 5, 397–404. (Ll. G. Chambers) **99k:01094** 01A99 (70F15)

Tégen, R. M. Some properties of polynomial approximation for three-point BVP. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 133–140. 65L60 (65L10)

Teghem, Jacques, Jr. (*with* Stancu-Minasian, I. M.) Duality for fractional transportation problem. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 121–133. (Chanchal Singh) **99c:90130** 90C32 (49N15)

— (*with* Ulungu, Ekunda Lukata) Solving multi-objective knapsack problem by a branch-and-bound procedure. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 269–278, *Springer, Berlin*, 1997. (Summary) **99d:90107** 90C29 (90C10)

— (*with* Visée, M.; Pirlot, Marc; Ulungu, Ekunda Lukata) Two-phases method and branch and bound procedures to solve the bi-objective knapsack problem. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 139–155. (*see* **99a:90011**) 90C27 (90C29)

Tegmark, Max Is "the theory of everything" merely the ultimate ensemble theory? (English summary) *Ann. Physics* **270** (1998), *no.* 1, 1–51. (Frank Antonsen) **99k:81025** 81P05 (81P10)

Tegus *see* **Te, Gu Si**

nikbakht-Tehrani, Mahmoud *see* **Nikbakht-Tehrani, Mahmoud**

Teicher, Henry On the Marcinkiewicz-Zygmund strong law for U-statistics. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 279–288. (Winfried Stute) **99c:60071** 60F15

— Strong laws for martingale differences and independent random variables. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 4, 979–995. (Allan Gut) **99i:60074** 60F15 (60G42)

Teicher, Mina Braid groups, algebraic surfaces and fundamental groups of complements of branch curves. (English summary) *Algebraic geometry—Santa Cruz* 1995, 127–150, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Eriko Hironaka) **99a:14046** 14J15 (20F36)

— Chern classes of fibered products of surfaces. (English summary) *Doc. Math.* **3** (1998), 321–332 (*electronic*). (Chandrashekharapura R. Pradeep) **99k:14056** 14J10 (14J25)

— On Emmy Noether. *The heritage of Emmy Noether* (*Ramat-Gan*, 1996), 1–3, *Israel Math. Conf. Proc.*, 12, *Bar-Ilan Univ., Ramat Gan*, 1999. (*see* **99g:01001**) 01A70

— *see also* **Heritage of Emmy Noether, 99g:01001**

Teichner, Peter (*with* Freedman, Michael Hartley; Hain, Richard M.) Betti number estimates for nilpotent groups. (English summary) *Fields Medallists' lectures*, 413–434, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (Karel Dekimpe) **99d:20052** 20F18 (20J05, 57M07, 57N10)

— Symmetric surgery and boundary link maps. *Math. Ann.* **312** (1998), *no.* 4, 717–735. (G. Burde) **99k:57054** 57Q45 (57N35, 57R65)

Teigland, Rune (*with* Gjesdal, Thor) Accuracy and stability of semi-implicit finite difference advection schemes. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 647–655. 76M20 (65N06)

— (*with* Salvesen, Hans-Christen) Non-reflecting boundary conditions applicable to general purpose CFD simulators. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 523–540. (Summary) **99e:76094** 76M25 (76L05)

Teillaud, M. (*with* de Berg, Mark; Cheong, O.; Devillers, Olivier; van Kreveld, Marc) Computing the maximum overlap of two convex polygons under translations. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 613–628. (Summary) **99h:52015** 52B55 (68U05)

Teissier, Bernard Three facts of valuation theory. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 7, 107–110. (Joachim Gräter) **99k:12012** 12J20 (13A18, 14M25)

Teitelbaum, Jeremy Euclid's algorithm and the Lanczos method over finite fields. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1665–1678. (Igor E. Shparlinski) **99a:11145** 11Y16 (11T99, 65F50, 94A60)

Teitelboim, C. (*with* Deser, Stanley; Gomberoff, A.; Henneaux, Marc) p-brane dyons and electric-magnetic duality. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 179–204. (Summary) **99i:81147** 81T13

Teitloff, Timothy C. (*with* Brawley, Joel V.) Similarity to symmetric matrices over finite fields. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 3, 261–274. (Gary L. Mullen) **99g:15017** 15A33 (11T06)

Teixeira, A. F. F. (*with* Rebouças, M. J.; Tavakol, R. K.) Topology and fragility in cosmology. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 535–543. (Gagik T. Ter-Kazarian) **99c:83019** 83C20 (53C80, 83F05)

— (*with* Rebouças, M. J.) Causal anomalies in Kaluza-Klein gravity theories. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3181–3191. (Summary) **99c:83079** 83E15 (81T50)

— (*with* Rebouças, M. J.) Riemannian space-times of Gödel type in five dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2180–2192. (Nora Bretón Báez) **99m:83035** 83C15 (83C20, 83E15)

— (*with* Bernui, A.; Gomero, G. I.; Rebouças, M. J.) Radiation damping in FRW space-times with different topologies. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4699–4706. 83F05 (83C15)

Teixeira, F. S. (*with* Meister, Erhard; Penzel, F.; Speck, F.-O.) Some interior and exterior boundary-value problems for the Helmholtz equation in a quadrant. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 169–178, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Summary) **99e:35028** 35J05 (45E05, 47G10)

— (*with* Moura Santos, A.; Speck, F.-O.) Minimal normalization of Wiener-Hopf operators in spaces of Bessel potentials. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 501–531. (R. V. Duduchava) **99h:47034** 47B35 (35S05, 45E10, 47N20)

Teixeira, Marco Antonio (*with* Sotomayor, Jorge) Regularization of discontinuous vector fields. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 207–223, *World Sci. Publishing, River Edge, NJ*, 1998. (Robert Roussarie) **99h:58102** 58F10 (34C25, 34C35, 34D30, 58F09)

— (*with* Silva, Elves Alves de B. e) A version of Rolle's theorem and applications. (English summary) *Bol. Soc. Brasil. Mat.* (*N.S.*) **29** (1998), *no.* 2, 301–327. (Viktor G. Zvyagin) **99i:58029** 58E05

— (*with* da Rocha Medrado, João Carlos) Symmetric singularities of reversible vector fields in dimension three. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 122–131. (Rodrigo Bamon) **99b:58191** 58F21 (34C05, 58F36)

Teixeira, R. G. (*with* Pimentel, B. M.; Tomazelli, J. L.) Hamilton-Jacobi approach to Berezinian singular systems. (English summary) *Ann. Physics* **267** (1998), *no.* 1, 75–96. (Frans Cantrijn) **99i:58064** 58F05 (58C50, 70G99, 70H20)

Teixidor i Bigas, Montserrat Hilbert stability versus slope stability for vector bundles of rank two. *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 385–397, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Tohru Nakashima) **99k:14024** 14D25 (14H60)

— Stable extensions by line bundles. *J. Reine Angew. Math.* **502** (1998), 163–173. (Tohru Nakashima) **99j:14010** 14D20 (14H60)

— A Riemann singularity theorem for generalised Brill-Noether loci. (English summary) *Math. Nachr.* **196** (1998), 251–257. (Enrique Arrondo) **99k:14055** 14H60 (14H40)

Teïz, A. *see* **Thayse, André**

Tejada, Débora María Construction of 3-manifolds and branched coverings. (Spanish. English and Spanish summaries) *Lect. Mat.* **18** (1997), *no.* 1, 3–21. (Summary) **99h:57042** 57N10 (57M12)

Tejel, F. Javier (*with* García, Alfredo; Hernando, C.; Hurtado, Ferran; Noy, M.) Packing trees into planar graphs. (English summary) *Graph drawing (Rome, 1997)*, 383–390, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99g:05060** 05C10 (68R10)

— (*with* García, Alfredo) A lower bound for the number of polygonizations of N points in the plane. (English summary) *Ars Combin.* **49** (1998), 3–19. (W. Moser) **99g:52030** 52C10 (05A16)

— (*with* García, Alfredo; Jodrá, Pedro) An efficient algorithm for on-line searching of minima in Monge path-decomposable tridimensional arrays. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 3–9. (Summary) **99j:68051** 68Q25 (65Y20, 68U05, 90C27)

Tejomurtula, Sreenivas (*with* Kak, Subhash C.) Inverse kinematics in robotics using neural networks. (English summary) *Inform. Sci.* **116** (1999), *no.* 2-4, 147–164. 70B15

Tekin, Bayram (*with* Saririan, Kamran; Hosotani, Yutaka) Complex monopoles in the Georgi-Glashow-Chern-Simons model. (English summary) *Nuclear Phys. B* **539** (1999), *no.* 3, 720–738. 81V05

Tekmen, M. (*with* Dereli, T.) Wu-Yang monopoles and non-abelian Seiberg-Witten equations. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 22, 1803–1807. (S. Timothy Swift) **99m:81140** 81T13 (53C07, 53C80)

Tél, Tamás (*with* Breymann, Wolfgang; Vollmer, Jürgen) Entropy balance, time reversibility, and mass transport in dynamical systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 396–408. (Summary) **99f:58119** 58F11 (58F40)

— *see also* **Chaos and irreversibility, 99d:58003**

Telang, Vivek P. (*with* Herro, Mark A.) Error control coding for the N-user mod-2 multiple-access channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1632–1642. 94A40

Telatar, İ. Emre (*with* Lapidoth, Amos) The compound channel capacity of a class of finite-state channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 973–983. (Summary) **99d:94016** 94A40

Telega, Józef Joachim (*with* He, Qi-Chang; Curnier, Alain) Unilateral contact of two solids subject to large deformations: formulation and existence results. (English summary) *Proc. Roy. Soc. London Ser. A* **452** (1996), *no.* 1955, 2691–2717. (P. D. Panagiotopoulos) **99c:73074** 73T05 (49N55, 58E35)

— (*with* Tokarzewski, Stanisław) Inequalities for two-point Padé approximants to the expansions of Stieltjes functions in a real domain. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 3, 285–297. (Summary) **99h:41024** 41A21 (73K20)

— (*with* Tokarzewski, Stanisław) Two-point Padé approximants for Stieltjes functions and their application to composite materials. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 417–434. (Summary) **99d:41029** 41A21 (73K20)

— (*with* Gałka, A.; Gambin, B.) Variational bounds on the effective moduli of anisotropic piezoelectric composites. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 4, 675–689. (David J. Bergman) **99m:73061** 73R05 (73K20, 78A99)

— (*with* Bielski, W. R.) Existence of solutions to obstacle problems for linear and nonlinear elastic plates. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 55–66. (Meir Shillor) **99j:73090** 73T05 (73V25)

— (*with* Gałka, A.) Dynamic contact problems for systems with finite degrees of freedom: the case of piecewise regular constraints. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 479–495. (Anders Klarbring) **99g:73096** 73T05 (73D99)

Teleiko, A. Equivariant Hilbert cubes and their functorial representations. (English summary) *Methods Funct. Anal. Topology* **3** (1997), *no.* 2, 72–82. (Taras Banakh) **99e:57033** 57N20 (54B20, 54E45, 54F15, 54H99)

Telek, Miklós (*with* Pfening, András; Fodor, Gábor) Analysis of the completion time of Markov reward models and its application. (English summary) *Acta Cybernet.* **13** (1998), *no.* 4, 439–452. 90C40

— (*with* Pfening, András; Fodor, Gábor) An effective numerical method to compute the moments of the completion time of Markov reward models. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 59–65. (Summary) **99g:65132** 65U05 (90C40)

Teleman, Andrei Dumitru Moduli spaces of stable bundles on non-Kählerian elliptic fibre bundles over curves. *Exposition. Math.* **16** (1998), *no.* 3, 193–248. (Vasile Brînzănescu) **99e:32028** 32G13 (14D20, 32L05)

— (*with* Okonek, Ch.; Schmitt, Alexander) Master spaces for stable pairs. *Topology* **38** (1999), *no.* 1, 117–139. (Jean-Marc Drezet) **99h:14010** 14D20

Teleman, Kostake Relativistic eccentric anomalies. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5925–5933. (Hans P. Künzle) **99i:70015** 70F05 (70H40)

Teleman, Silviu On the Borel enveloping C^*-algebra of a C^*-algebra. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 2, 213–254. (Cho Ho Chu) **99h:46114** 46L05 (46L10)

Telle, Jan Arne (*with* Kratochvíl, Jan; Proskurowski, Andrzej) Complexity of colored graph covers. I. Colored directed multigraphs. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 242–257, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68113** 68Q25 (05C85, 68R10)

— (*with* Kratochvíl, Jan; Proskurowski, Andrzej) Covering regular graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 1–16. (Michael Hofmeister) **99a:05035** 05C10 (90C35)

— (*with* Proskurowski, Andrzej) Algorithms for vertex partitioning problems on partial k-trees. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 529–550. (Hans L. Bodlaender) **99c:68200** 68R10 (05C05, 05C70, 05C85, 68Q25)

— (*with* Aspvall, Bengt; Proskurowski, Andrzej) Memory requirements for table computations in partial k-tree algorithms. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 222–233, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68R10 (05C85, 68Q25)

— (*with* Bodlaender, Hans L.; Gustedt, Jens) Linear-time register allocation for a fixed number of registers. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 574–583, *ACM, New York*, 1998. (*see* **99d:68011**) 68N20

— (*with* Heggernes, Pinar) Partitioning graphs into generalized dominating sets. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 128–142. (Fabrizio Luccio) **99j:68108** 68R10 (05C85, 68Q25)

— (*with* Kratochvíl, Jan; Proskurowski, Andrzej) Complexity of graph covering problems. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 3, 173–195. (Stanisław P. Radziszowski) **99m:68086** 68Q25 (05C70, 05C85, 68R10)

Teller, Paul Continuing the discussion on: "Critical review: P. Teller's *Interpretive introduction to quantum field theory*" [Philos. Sci. **63** (1996), no. 2, 302–314] by N. Huggett and R. Weingard. (English summary) *Philos. Sci.* **65** (1998), *no.* 1, 151–161. 81P05

Teller, Seth (*with* Coorg, Satyan) Temporally coherent conservative visibility. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 105–124. (Summary) **99m:68208** 68U05

Telles, Guilherme P. (*with* Meidanis, João; Porto, Oscar) On the consecutive ones property. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 325–354. (A. A. Chernyak) **99k:05043** 05B20

Téllez, G. (*with* Jancovici, B.) Two-dimensional Coulomb systems on a surface of constant negative curvature. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 953–977. (Summary) **99e:82008** 82B05 (82B21)

Téllez, Manuel Aguirre *see* **Aguirre Téllez, Manuel Antonio**

aguirre Téllez, Manuel Antonio *see* **Aguirre Téllez, Manuel Antonio**

Tello, J. I. (*with* Díaz Díaz, Jesús Ildefonso) On a problem lacking a classical solution in lubrication theory. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 429–434, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (Alexander Yurjevich Chebotarev) **99g:76041** 76D08 (35Q35)

Tello, L. (*with* Díaz Díaz, Jesús Ildefonso) Multiplicity of solutions for a nonlinear elliptic problem in climatology. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 86A10 (35J60)

— (*with* Hetzer, Georg) On a "multilayer" nonlinear parabolic system in climatology. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 471–476, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (Summary) **99e:86004** 86A10 (35B40, 35K55, 35Q80)

— (*with* Arcoya, David; Díaz Díaz, Jesús Ildefonso) S-shaped bifurcation branch in a quasilinear multivalued model arising in climatology. (English summary) *J. Differential Equations* **150** (1998), *no.* 1, 215–225. (Yoram Schiffmann) **99k:58037** 58E07 (35B32, 35K55, 35Q80, 86A10)

Telöken, Klaus Limit theorems for probability measures on totally disconnected groups. *Semigroup Forum* **58** (1999), *no.* 1, 69–84. (Michael Voit) **99j:60005** 60B10 (60B15, 60F17)

Telyakovskiĭ, D. S. On the weakening of the asymptotic monogeneity condition. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 902–911, 960; *translation in Math. Notes* **60** (1996), *no.* 5-6, 681–687 (1997). (Stanislav Ponomarev) **99d:30001** 30A05

Telyakovskiĭ, S. A. Localization of integrability conditions for trigonometric series. (Russian) In honor of the ninetieth birthday of Academician S. M. Nikol'skiĭ (Russian). *Trudy Mat. Inst. Steklov.* **210** (1995), *Teor. Funktsiĭ i Differ. Uravn.*, 264–273. (Naza Tanović-Miller) **99b:42009** 42A32 (42A16)

— On the behavior of sine series with convex coefficients near the origin. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 462–463. (J. Németh) **99i:42008** 42A32

— (*with* Temlyakov, V. N.) On the convergence of Fourier series of functions of several variables of bounded variation. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 583–595; *translation in Math. Notes* **61** (1997), *no.* 3-4, 484–494. (Elijah Liflyand) **99e:42020** 42B05 (42A20)

— On partial sums of Fourier series of functions of bounded variation. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 378–386. (Bolis Basit) **99m:42008** 42A24

Temam, Roger (*with* Wang, Xiao Ming[1]) Asymptotic analysis of the linearized Navier-Stokes equation in a 2D channel at high Reynolds number. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 165–172, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00025**) 76D05 (35Q30, 65M15)

— (*with* Rosa, Ricardo) Finite-dimensional feedback control of a scalar reaction-diffusion equation via inertial manifold theory. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 382–391, *Springer, Berlin*, 1997. (Jian Hong Wu) **99k:93052** 93B52 (93C20)

— Inertial manifolds and slow manifolds. *The mathematics of models for climatology and environment (Puerto de la Cruz, 1995)*, 181–214, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (Almut Burchard) **99h:34089** 34G20 (35K99, 47H20, 58F39)

— (*with* Wang, Xiao Ming[1]) On the behavior of the solutions of the Navier-Stokes equations at vanishing viscosity. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 807–828 (1998). (Chang Hao Lin) **99j:35169** 35Q30 (76D05, 76D30)

— (*with* Wang, Xiao Ming[1]) The convergence of the solutions of the Navier-Stokes equations to that of the Euler equations. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 29–33. (Sergey Nikolaevich Alekseenko) **99a:35204** 35Q30 (35B25, 76D05, 76D30)

— (*with* Wang, Xiao Ming[1]) Boundary layers for Oseen's type equation in space dimension three. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 227–246 (1998). (José Luiz Boldrini) **99a:35205** 35Q30 (76D05, 76D10, 76D30)

— (*with* Moise, Ioana; Ziane, Mohammed) Asymptotic analysis of the Navier-Stokes equations in thin domains. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 249–282. (Ivan Straškraba) **99h:35166** 35Q30 (76D05, 76D30)

— (*with* Cabral, Marco; Costa, Bruno; Wang, Shou Hong) The primitive equations of the atmosphere with chemistry. (English summary) *Équations aux dérivées partielles*

et applications, 271–308, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Bruno Scheurer) **99i:86012** 86A10 (35Q99, 76C99, 80A32)
— (*with* Abergal, Frédéric) Optimal control of turbulent flows. *Optimal control of viscous flow*, 97–107, *SIAM, Philadelphia, PA*, 1998. (Tsvetomir Tsachev) **99f:49027** 49K20 (35Q35, 76D05, 76F99, 93C20)
— (*with* Samelson, R. M.; Wang, Shou Hong) Some mathematical properties of the planetary geostrophic equations for large-scale ocean circulation. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 147–173. (Summary) **99i:86010** 86A05 (35Q99, 76U05)
— (*with* Wang, Xiao Ming[1]) Boundary layer for Chaffee-Infante type equation. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 217–226. (Andreas Unterreiter) **99d:35088** 35K57 (35B10, 35B25, 76D10)
— (*with* Moise, Ioana; Simonnet, E.; Ziane, Mohammed) Numerical simulation of differential systems displaying rapidly oscillating solutions. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 201–214. (Summary) **99d:65241** 65L99
— (*with* Bewley, Thomas R.; Moin, Parviz) Control of turbulent flows. *Systems modelling and optimization (Detroit, MI, 1997)*, 3–11, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C20 (76F99, 76M99, 93–02)
Temarel, P. (*with* Djidjeli, K.; Price, W. G.; Twizell, E. H.) A linearized implicit pseudo-spectral method for certain non-linear water wave equations. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 977–993. (Summary) **99i:76108** 76M25 (65N35, 76B15, 76B25)
Temesvári, Ágota H. (*with* Horváth, Jenő) Über die Enge von Kugelpackungen und Dicke von Punktsystemen im sphärischen Raum. (English summary) [On the closeness of packings of balls and the thickness of point systems in spherical space] 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 93–104. (Summary) **99a:52030** 52C17
Temgoua Kagou, Anatole The duals of Bergman spaces in Siegel domains of type II. (English and French summaries) *IMHOTEP J. Afr. Math. Pures Appl.* **1** (1997), *no.* 1, 41–86. (Emil Straube) **99c:32048** 32M15 (32N10, 46E15)
— (*with* Bekolle, David) Molecular decompositions and interpolation. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 2, 150–177. (Gregor Herbort) **99e:32035** 32H10 (32A07, 32M10, 46E22)
Temirbulatov, S. I. (*with* Tepikin, P. B.) A linearized ill-posed plane problem of gas dynamics. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 44–52. (Yu. G. Rykov) **99f:76115** 76N15 (35Q35, 76J20)
Temirgaliev, N. T. On the efficiency of numerical integration algorithms associated with the theory of divisors in cyclotomic fields. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 2, 297–301; *translation in Math. Notes* **61** (1997), *no.* 1-2, 242–245. (Summary) **99b:65025** 65D30 (11Y16)
— On the construction of probability measures of functional classes. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 397–402. (Dominik Szynal) **99k:60034** 60E05 (60B11)
Temizer, Ô. Faruk On the kernel of the equivalent equations. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 33–36. (Summary) **99g:45002** 45D05 (45E10)
Temizyürek, Ahmet (*with* Ekici, Naime) A basis of the metabelian Lie product of Lie algebras. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 191–198. (Plamen Koshlukov) **99g:17011** 17B01 (17B30)
Temkin, S. Radial pulsations of a fluid sphere in a sound wave. (English summary) *J. Fluid Mech.* **380** (1999), 1–38. (Summary) **99k:76132** 76Q05 (76N99)
Temlyakov, V. N. (*with* DeVore, Ronald A.) Nonlinear approximation in finite-dimensional spaces. *J. Complexity* **13** (1997), *no.* 4, 489–508. (Luis Verde-Star) **99c:41053** 41A46 (65D15, 94A12)
— (*with* Telyakovskiĭ, S. A.) On the convergence of Fourier series of functions of several variables of bounded variation. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 583–595; *translation in Math. Notes* **61** (1997), *no.* 3-4, 484–494. (Elijah Liflyand) **99e:42020** 42B05 (42A20)
— (*with* Andrianov, A. V.) On two methods for generalizing the properties of systems of functions of one variable to their tensor product. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 32–43. (Kirill A. Kopotun) **99k:41052** 41A63 (41A17, 41A35)
— The best m-term approximation and greedy algorithms. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 3, 249–265. (Günther Nürnberger) **99f:41037** 41A58 (41A65)
— (*with* DeVore, Ronald A.; Konyagin, Sergeĭ) Hyperbolic wavelet approximation. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 1–26. (Amos Ron) **99d:42055** 42C15 (41A17, 41A63, 46E99)
— Greedy algorithm and m-term trigonometric approximation. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 569–587. (Eduard Belinskii) **99k:42006** 42A10 (41A30)
— Non-linear m-term approximation with regard to the multivariate Haar system. (English summary) *East J. Approx.* **4** (1998), *no.* 1, 87–106. (Eduard Belinskii) **99d:41047** 41A50 (42C10)
— On two problems in the multivariate approximation. (English summary) *East J. Approx.* **4** (1998), *no.* 4, 505–514. (Ion Badea) **99m:41050** 41A63 (41A17)
Temme, Dirk The point spectrum of unitary dilations in Kreĭn spaces. (English summary) *Math. Nachr.* **194** (1998), 205–224. (L. Rodman) **99k:47075** 47B50 (47A10, 47A20)
Temme, F. P. Multicolour models of natural embedding for $SU(2 \le m \le 4) \times \mathscr{S}_{10} \downarrow \mathscr{D}_5$ NMR spin symmetry: determinacy of nuclear spin weights for (1, 12)-car-^{11}B-boranes. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 133–142. (Summary) **99k:81349** 81V55 (81R05)
— n-body democratic recoupling and role of Schur fn. products on S_n, a NMR dual-group view pertinent to coherence-transfer. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 143–153. (Summary) **99k:81348** 81V45 (20C30, 81R05)
Temme, Nico M. Bernoulli polynomials old and new: problems in complex analysis and asymptotics. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 559–576, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (L. Skula) **99a:11020** 11B68
— Analytical methods for a selection of elliptic singular perturbation problems. (English summary) *Recent advances in differential equations (Kunming, 1997)*, 131–148, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99c:35018** 35B25 (35J15)
— (*with* Driver, Kathy A.) On polynomials related with Hermite-Padé approximations to the exponential function. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 101–122. (Knut Petras) **99j:41028** 41A21
— (*with* Driver, Kathy A.) Asymptotics and zero distribution of Padé polynomials associated with the exponential function. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 97–114. (Summary) **99b:41008** 41A21 (30C15, 30E15, 33C10)
Temnenko, V. A. Oscillations of an unstretched string. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2479–2483. (Summary) **99g:73068** 73K03 (73D35)
— (*with* Makhina, G. A.) Nonlinear oscillation of a freely suspended string. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2484–2488. (Summary) **99g:73047** 73D35 (73K03, 73V20)
Temo Beko, De Loso Équation aux dérivées partielles de Hamilton-Jacobi pour le problème variationnel multidimensionnel. (English and French summaries) [Hamilton-Jacobi partial differential equations for the multidimensional variational problem] *Problèmes variationnels en mathématiques appliquées (Kinshasa, 1995)*, 127–140, *Ann. Fac. Sci. Univ. Kinshasa, Num. Spécial* 3, *Presses Univ. Kinshasa, Kinshasa*, 1997. (Kazushige Ueno) **99a:58166** 58H10 (35F20)
Tempczyk, Michał *see* **Stewart, Ian N., 99f:00003**
Temperley, H. N. V. The enumeration of self-avoiding walks and domains on a lattice. *Combinatorics, geometry and probability (Cambridge, 1993)*, 535–539, *Cambridge Univ. Press, Cambridge*, 1997. (From the text) **99h:82042** 82B41 (05A15, 82D60)
Temple, Blake (*with* Smoller, J. A.) Multi-dimensional shock-waves for relativistic fluids. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 377–391, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Norbert Noutchegueme) **99a:83010** 83C05 (35Q35, 76L05, 76Y05, 83C55)
— (*with* Smoller, J. A.) On the Oppenheimer-Volkoff equations in general relativity. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 2, 177–191. (Alan D. Rendall) **99f:83038** 83C55 (83C20)
— (*with* Smoller, J. A.) Shock-wave solutions in closed form and the Oppenheimer-Snyder limit in general reality. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 15–33 (*electronic*). (Norbert Noutchegueme) **99c:83006** 83C05 (35Q75, 76L05, 83C55)
Temple, J. A. G. (*with* Lewis, Patricia A.; Walker, E. J.; Wickham, G. R.) Calculation of diffraction coefficients for a semi-infinite crack embedded in an infinite anisotropic linearly elastic body. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1781–1803. 73D25 (76Q05)
Tempo, Roberto (*with* Blanchini, Franco; Dabbene, F.) Computation of the minimum destabilizing volume for interval and affine families of polynomials. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1159–1163. 93D15 (93B40)
— (*with* Bai, Er-Wei; Qiu, Li) Unfalsified weighted least squares estimates in set-membership identification. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 1, 41–49. (Summary) **99c:94006** 94A12
— (*with* Bai, Er-Wei; Ye, Yinyu) Recent results on the analytic center approach for bounded error parameter estimation. (English summary) *Learning, control and hybrid systems (Bangalore, 1998)*, 245–253, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B30 (93B40)
von Tempski, Oliver (*with* Kochengin, S. A.; Oliker, Vladimir I.) On the design of reflectors with prespecified distribution of virtual sources and intensities. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 661–678. (I. Kay) **99g:78011** 78A05 (78A40)
Ten, V. V. Topological obstructions to integrability by a redundant set of integrals. (Russian) *Mat. Zametki* **62** (1997), *no.* 5, 798–800; *translation in Math. Notes* **62** (1997), *no.* 5-6, 669–671 (1998). (Iskander A. Taimanov) **99f:58162** 58F17 (70H05)
— Local integrals of geodesic flows. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 87–89. (J. S. Joel) **99h:58144** 58F17
cerda Tena, Emilio *see* **Cerda Tena, Emilio**
Tenba, Masaaki ★ Introduction to transcendental numbers: proof of the Mahler-Manin conjecture. (Japanese) Seminar on Mathematical Sciences, 26. *Keio University, Department of Mathematics, Yokohama*, 1998. *viii*+47 *pp.* (From the introduction) **99m:11081** 11J81
Ten Berge, Jos M. F. *see* **ten Berge, Jos M. F.**
Ten Bosch, A. *see* **ten Bosch, A.**
Tendeau, Frédéric Computing abstract decorations of parse forests using dynamic programming and algebraic power series. (English summary) AMiLP '95 (Enschede). *Theoret. Comput. Sci.* **199** (1998), *no.* 1-2, 145–166. (Summary) **99c:68165** 68Q52
Tendero, Antonio (*with* Balibrea Gallego, Francisco) Lyapunov exponents and metric entropy in dynamical systems. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 195–200, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 28D05 (58F11)
Teneketzis, Demosthenis (*with* Sampath, Meera; Lafortune, Stéphane) Active diagnosis of discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 908–929. (Li Yi Dai) **99j:90035** 90B25 (93E03)
Tenenbaum, Gérald In memoriam Paul Erdős (1913–1996). (French) *Gaz. Math. No.* 71 (1997), 13–25. 01A70
— (*with* Nair, Mohan) Short sums of certain arithmetic functions. *Acta Math.* **180** (1998), *no.* 1, 119–144. (A. J. Hildebrand) **99j:11110** 11N37 (11N25, 11N32)
— (*with* Balazard, Michel) Sur la répartition des valeurs de la fonction d'Euler. (English summary) [On the distribution of the values of the Euler function] *Compositio Math.* **110** (1998), *no.* 2, 239–250. (Y.-F. S. Pétermann) **99a:11107** 11N37 (11L07, 11N25)
— (*with* Stef, André) Entiers lexicographiques. (English summary) [Lexicographical integers] Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 167–184. (Y.-F. S. Pétermann) **99i:11082** 11N25 (11N37, 11N64)
Tenenblat, K. (*with* Borisenko, A. A.; Rabelo, M. L.) On saddle submanifolds of Riemannian manifolds. (English summary) *Geom. Dedicata* **67** (1997), *no.* 2, 233–243.

(Yu Xin Dong) **99c:53025** 53C21 (53C42)

Tenenhaus, Michel ★ La régression PLS. (French. French summary) [PLS regression] Théorie et pratique. [Theory and application] *Éditions Technip, Paris*, 1998. *x*+254 *pp.* *ISBN* 2-7108-0735-1 (Summary) **99e:62119** 62J05 (62–01)

Teng, Ching-Cheng (*with* Hsiao, Feng-Hsiag; Pan, Shing-Tai) An efficient algorithm for finding the D-stability bound of discrete singularly perturbed systems with multiple time delays. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 1–17. (Lian Wang) **99k:93078** 93D15 (93C30, 93C70)

Teng, Choh Man Possible world partition sequences: a unifying framework for uncertain reasoning. (English summary) *Uncertainty in artificial intelligence (Portland, OR, 1996)*, 517–524, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T27 (68T30)

— Cooperative combination of default logic and autoepistemic logic. (English summary) *Learning and reasoning with complex representations (Cairns, 1996)*, 267–283, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68T27 (03B70)

Teng, Hong Fei (*with* Feng, En Min; Wang, Xi Lu; Wang, Xiu Mei) A global optimization algorithm for layout problems with behavior constraints. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 98–104. 90C90 (90C30)

Teng, Jinn-Tsair (*with* Chern, Maw-Sheng; Yang, Hui-Ling; Wang, Yuchung J.) Deterministic lot-size inventory models with shortages and deterioration for fluctuating demand. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 65–72. (Summary) **99m:90060** 90B05 (90C90)

Teng, Michelle H. (*with* Shi, Aimin; Wu, Theodore Yaotsu) Propagation of solitary waves through significantly curved shallow water channels. (English summary) *J. Fluid Mech.* **362** (1998), 157–176. (Summary) **99c:76039** 76D33 (35Q35, 35Q51, 76B25)

Teng, Shang-Hua (*with* Gremban, Keith D.; Miller, Gary L.) Moments of inertia and graph separators. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 1, 79–104. (Summary) **99j:05126** 05C40

— (*with* Eichstaedt, Matthias; Lu, Qi) Parallel profile matching for large scale webcasting. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 17–28, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05 (90C27)

— (*with* Li, Xiang-Yang) Dynamic load balancing for parallel adaptive mesh refinement. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 144–155, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N55 (65N25)

— Combinatorial aspects of geometric graphs. (English summary) *Comput. Geom.* **9** (1998), *no.* 4, 277–287. (Jesús A. de Loera) **99c:68201** 68R10 (05C99, 65Y25, 68U05)

— (*with* Miller, Gary L.; Thurston, William P.; Vavasis, Stephen A.) Geometric separators for finite-element meshes. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 364–386 (*electronic*). (I. Norman Katz) **99d:65396** 65Y25 (65M60, 65N30)

— Provably good partitioning and load balancing algorithms for parallel adaptive *N*-body simulation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 635–656 (*electronic*). (Summary) **99a:70006** 70–08 (05C85, 68Q22, 70F10, 76M25, 85–08)

— (*with* Gilbert, John R.; Miller, Gary L.) Geometric mesh partitioning: implementation and experiments. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 2091–2110 (*electronic*). (Summary) **99d:65391** 65Y25

— (*with* Cao, Feng[1]; Du, Ding Zhu; Hsu, D. Frank) Fault tolerance properties of pyramid networks. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 1, 88–93. (Summary) **99j:68002** 68M10 (68M15)

— Low energy and mutually distant sampling. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 52–67. (Evangelos Kranakis) **99j:68046** 68Q20 (68U05, 90C26)

— (*with* Kao, Ming-Yang; Occhiogrosso, Neill) Simple and efficient graph compression schemes for dense and complement graphs. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 351–359. (Summary) **99k:05150** 05C85

— *see also* **Solving irregularly structured problems in parallel, 99h:65007**

Teng, Zhen-Huan Optimal error estimates for viscosity method and monotone scheme to Riemann problem. *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 419–431, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Darrell L. Hicks) **99d:65267** 65M25 (35L60, 76L05, 76M20, 76N10)

— (*with* Tang, Tao) Monotone difference schemes for two-dimensional nonhomogeneous conservation laws. (English summary) *Recent advances in differential equations (Kunming, 1997)*, 229–243, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99e:65118** 65M06 (35L65)

— A new approach to error estimates for conservation laws. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 2-3, 137–142. 65M15 (65M60)

— First-order L^1-convergence for relaxation approximations to conservation laws. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 8, 857–895. (Alberto Valli) **99f:65133** 65M12 (35L65)

Teng, Zhi Dong (*with* Tang, Shu Min) Qualitative analysis of nonautonomous Kolmogorov population models. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 1, 1–7. (Summary) **99d:92031** 92D25

Tenhagen, Andreas (*with* Feuring, Thomas; Buckley, James J.; Lippe, Wolfram-M.) Stability analysis of neural net controllers using fuzzy neural networks. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 303–313. (*see* **99k:93004**) 93C42 (93D05)

Teniou, Boudjemaa (*with* Drabla, S.; Sofonea, Mircea) Analysis of a frictionless contact problem for elastic bodies. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 75–88. (Alain Brillard) **99f:73075** 73T05 (49J45, 73C02, 73V25)

— (*with* Rochdi, Mohamed) Frictional contact problems for nonlinear elastic materials. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 491–504. (Meir Shillor) **99j:73093** 73T05 (73C50, 73V25)

Teniou, Djamal E. (*with* Ammar-Khodja, Farid; Benabdallah, Assia) Stability of coupled systems. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 3, 327–340. (Angelo Favini) **99b:34097** 34G10 (34D05, 35B35, 47D06, 47N20, 93C20)

Ten Kroode, A. P. E. *see* **ten Kroode, A. P. E.**

Tennant, Neil The full price of truth. *Analysis (Oxford)* **58** (1998), *no.* 3, 221–228. 03A05

Tennenholtz, Moshe (*with* Fitoussi, David) Minimal social laws. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 26–31, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T01 (90A08, 92H10)

— (*with* Monderer, Dov) Optimal auctions revisited. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 32–37, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90A60 (90A09)

— On stable social laws and qualitative equilibria. (English summary) *Artificial Intelligence* **102** (1998), *no.* 1, 1–20. (Summary) **99g:90018** 90A05

Tenneriello, C. (*with* Wen, Xian Zhang; Ma, Zhi En; Fergola, P.) Effects of toxicants on chemostat models with *n* populations competing for a critical nutrient. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 1, 43–61. (Summary) **99b:92049** 92D25

— (*with* Guo, San Gang; Ma, Zhi En; Fergola, P.) The threshold of population survival in a polluted chemostat model. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 117–127. (Summary) **99h:92026** 92D25

— (*with* Ma, Zhi En; Guo, San Gang; Fergola, P.) Effects of toxicants on chemostat model with time variable nutrient input and washout. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 342–350. (Summary) **99j:92019** 92D25 (34C99)

Tenney, D. A. (*with* Majerus, J. N.; Mimnagh, M. L.; Jannone, J. A.; Lamphear, S. P.) Blending hierarchical economic decision matrices (EDM) with FE and stochastic modeling. II. Detailing EDM. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 219–234. 73K25 (73K15)

Ten Pas, P. *see* **ten Pas, P.**

Tenreiro, Carlos Asymptotic distribution for a discrete version of integrated square error of multivariate density kernel estimators. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 133–151. (Vladimir Zaiats) **99e:62061** 62G05 (60F05)

Tent, Katrin (*with* Brouns, Leen; Van Maldeghem, Hendrik) Groups of projectivities of generalized quadrangles. (English summary) *Geom. Dedicata* **73** (1998), *no.* 2, 165–180. (Norbert Knarr) **99m:51006** 51E12

Tenti, G. (*with* Stastna, M.; Sivaloganathan, S.; Drake, James M.) Brain biomechanics: an exact solution, and asymptotics of slow variations, for the time dependent equations of consolidation theory. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 415–425. (*see* **99m:34001**) 73P20 (76Z99, 92C10, 92C50)

Tentyukov, M. N. (*with* Donets, E. E.; Tsulaia, Mirian M.) Evolution of nonlinear perturbations inside Einstein-Yang-Mills black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064008, 12 *pp.* 83C57

Tentzeris, Emmanouil (*with* Katehi, Linda P. B.; Harvey, James F.) Time-domain analysis using multiresolution expansions. *Advances in computational electrodynamics*, 111–162, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78003** 78–08 (65M06, 78A45)

Teo, Chung-Piaw (*with* Bertsimas, Dimitris; Vohra, Rakesh V.) On dependent randomized rounding algorithms. (English summary) *Integer programming and combinatorial optimization (Vancouver, BC, 1996)*, 330–344, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (From the text) **99b:90097** 90C27 (65G05, 90C35)

— (*with* Ou, Jihong; Tan, Kok-Choon) Multi-item inventory staggering problems: heuristics and bounds. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 584–593, *ACM, New York*, 1998. (*see* **99d:68011**) 90B05 (90C90)

— (*with* Sethuraman, Jay) The geometry of fractional stable matchings and its applications. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 874–891. (R. N. Kaul) **99k:90140** 90C27 (68Q25, 90D12)

— (*with* Bertsimas, Dimitris) From valid inequalities to heuristics: a unified view of primal-dual approximation algorithms in covering problems. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 503–514. (András Faragó) **99f:90158** 90C35 (90C27)

Teo, Edward Statistical entropy of charged two-dimensional black holes. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 57–62. (Summary) **99c:83062** 83C57 (83E30)

— Black hole absorption cross-sections and the anti-de Sitter-conformal field theory correspondence. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 269–274. (Summary) **99f:83070** 83E30 (81T30, 83C57)

— Rotating traversable wormholes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024014, 6 *pp.* (Summary) **99m:83174** 83E05 (83C15)

Teo, K. L. *see* **Teo, Kok Lay**

Teo, Kee-Leong (*with* Peng, Yee-Hock; Little, Charles H. C.; Wang, Hong[3]) Chromatic equivalence classes of certain generalized polygon trees. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 103–114. (Summary) **99f:05040** 05C15

Teo, Kok Lay (*with* Liu, Wan Quan; Yan, Wei Yong) Optimal simultaneous stabilization of descriptor systems via output feedback. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 595–613. 93D15 (93C30)

— (*with* Pan, Li Ping) Near-optimal solutions of a generalized time optimal control problem. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 601–612. (Han Sheng Wu) **99k:49008** 49J15 (49M30)

— (*with* Lee, H. W. J.; Cai, Xiao-Qiang) An optimal control approach to nonlinear mixed integer programming problems. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 87–105. (Summary) **99d:90078** 90C11

— (*with* Lee, H. W. J.; Rehbock, V.) Suboptimal local feedback control for a class of constrained discrete time nonlinear control problems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 133–148. (Summary) **99j:93044** 93B52 (93C55)

— (*with* Liu, Wan Quan; Sreeram, V.; Gao, Feng[1]) Feedback control of singular decentralized systems with direct control feedthrough. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 831–841. 93B52 (93A14)

— (*with* Lee, H. W. J.; Rehbock, V.) Control parametrization enhancing technique for time optimal control and optimal three-valued control problems. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 617–631. (Ernest Scheiber) **99j:49074** 49M30 (49M25)

— (*with* Li, Duan; Liu, Yanqun) Perturbation feedback control in general multiple linear-quadratic control problems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 303–315. (Summary) **99e:49045** 49N10 (93B52)

— (*with* Rehbock, V.; Wang, Song) Computing optimal control with hyperbolic partial differential equation. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998), *no.* 2,

266–287. (Fredi Tröltzsch) **99m:49051** 49M25 (49K20, 65M06)
— (*with* Liu, Wan Quan; Yan, Wei Yong; Sreeram, V.) On initial jumps for singular systems in connection with LQ optimal control. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1207–1213. 49N10 (93E20)
— (*with* Liu, Yanqun; Jennings, L. S.; Wang, Song) On a class of optimal control problems with state jumps. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 65–82. (Summary) **99d:49037** 49K15 (49M30)
— (*with* Liu, Wan Quan; Sreeram, V.) Model reduction for state-space symmetric systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 209–215. (Summary) **99d:93008** 93B11 (93C05)
— (*with* Jennings, L. S.; Lee, H. W. J.; Rehbock, V.) The control parameterization enhancing transform for constrained optimal control problems. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 314–335. (Summary) **99k:49073** 49M30 (49K15)
— (*with* Yang, Xiao Qi) Necessary optimality conditions for bicriterion discrete optimal control problems. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 392–402. (Summary) **99k:49052** 49K15 (90C29)
— (*with* Liu, Yanqun; Ito, Satoshi) A dual parameterization approach to linear-quadratic semi-infinite programming problems. (English summary) *Optim. Methods Softw.* **10** (1999), *no.* 3, 471–495. 90C34
— *see also* **Dynamics and optimization, 99g:49003**

Teo, Patrick C. (*with* Hel-Or, Yacov) Canonical decomposition of steerable functions. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 83–95. (Summary) **99c:68257** 68U10 (22E99)
— (*with* Sapiro, Guillermo; Wandell, Brian A.) Anisotropic smoothing of posterior probabilities. *Dynamical systems, control, coding, computer vision* (*Padova*, 1998), 419–432, *Progr. Systems Control Theory*, 25, *Birkhäuser, Basel*, 1999. (*see* **99k:93006**) 68U10

Teodorescu, Radu Intertwining liftings and Schur contractions. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 2, 234–241. (George R. Exner) **99k:47017** 47A20

Teodorović, Dušan (*with* Vukadinović, Katarina) ★ Traffic control and transport planning. A fuzzy sets and neural networks approach. International Series in Intelligent Technologies, 13. *Kluwer Academic Publishers, Boston, MA*, 1998. *xviii*+387 *pp. ISBN* 0-7923-8380-X 90B06 (03B52, 03E72, 90C70)

Teodorovich, È. V. Asymptotic regimes of solutions of the diffusion equation with a nonlinear sink: the renormalization group approach. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 443–454; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 407–417. (Summary) **99m:82036** 82C28 (80A20)

Teodoru, Georgeta (*with* Drăgan, Vladimir) Continuous dependence of parameter of the solutions for differential hyperbolic inclusions. (French summary) *Mem. Secţ. Ştiinţ. Acad. Română Ser. IV* **19** (1996), 99–107 (1998). (Summary) **99m:35280** 35R70 (35B30, 35L70)

Teofanov, Nenad On the wavelet transform. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 228–231, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 42C15
— (*with* Takači, Arpad) Corrigendum to: "A note on wavelets and S-asymptotics" [Mat. Vesnik **49** (1997), no. 3-4, 215–220]. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 65–66. 42C05 (46F10)
— (*with* Pilipović, Stevan S.; Takači, Arpad) Wavelets and quasiasymptotics at a point. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 40–52. (David F. Walnut) **99m:42052** 42C15

Teolis, Anthony ★ Computational signal processing with wavelets. (English summary) Applied and Numerical Harmonic Analysis. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xxiv*+324 *pp. ISBN* 0-8176-3909-8 (Lars F. Villemoes) **99h:94023** 94A12 (42C15, 94–02)

Teotonio-Sobrinho, Paulo (*with* Balachandran, A. P.; Bimonte, G.; Landi, Giovanni; Lizzi, Fedele) Lattice gauge fields and noncommutative geometry. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 4, 353–385. (Eli J. Hawkins) **99b:58022** 58B30 (06B35, 81T25)
— (*with* Ercolessi, Elisa; Landi, Giovanni) Noncommutative lattices and the algebras of their continuous functions. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 4, 439–466. (Yuri A. Kordyukov) **99k:46128** 46L89 (06A06, 46L05, 54C35)

Tepavčević, Andreja (*with* Chajda, Ivan; Šešelja, Branimir) Lattices of compatible relations satisfying a set of formulas. (English summary) *Algebra Universalis* **40** (1998), *no.* 1, 51–58. (Ewa Graczyńska) **99k:08002** 08A30 (08A05)
— (*with* Šešelja, Branimir) On generation of finite posets by meet-irreducibles. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 269–275. (V. Novák) **99m:06002** 06A06 (06B15, 06D05)
— (*with* Chajda, Ivan; Šešelja, Branimir) Weak congruences in algebras having restricted similarity types. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 27–38. (Pavol Zlatoš) **99g:08001** 08A30 (08A05, 08A62, 08A65)
— (*with* Šešelja, Branimir) On a representation of posets by fuzzy sets. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 127–132. (Claudi Alsina) **99f:06003** 06A06 (04A72)

Tepikin, P. B. (*with* Temirbulatov, S. I.) A linearized ill-posed plane problem of gas dynamics. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 44–52. (Yu. G. Rykov) **99f:76115** 76N15 (35Q35, 76J20)

Teply, Mark L. (*with* Rim, Seog-Hoon) Weak Baer modules localized with respect to a torsion theory. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 173–176. (Theodore Faticoni) **99i:16058** 16S90 (16D70)

Teplyaev, A. V. Spectral analysis on infinite Sierpiński gaskets. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 537–567. (Serge Nicaise) **99j:35153** 35P05 (35J25, 47F05)

Tepper, David (*with* Catto, Sultan; Huntley, Jonathan; Jorgenson, Jay) On an analogue of Selberg's eigenvalue conjecture for $SL_3(\mathbf{Z})$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3455–3459. (Werner Hoffmann) **99b:11055** 11F72 (22E40)

Terada, Kenjiro (*with* Murota, Kazuo; Ikeda, Kiyohiro) Bifurcation mechanism underlying echelon-mode formation. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 423–448. (Summary) **99m:73042** 73H05 (73B10)

Terada, Mikiharu (*with* Mukouchi, Yasuhito; Sato, Masako) Prefix free generating sets of formal languages. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 143–150. (*see* **99i:65003**) 68Q45

Terai, Naoki (*with* Nishi, Akihiro) Second and third Betti numbers of Stanley-Reisner rings of Boolean lattices. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 48–52, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 13D02 (06A06)
— Betti numbers of 3-dimensional Gorenstein Stanley-Reisner rings. (Japanese summary) Research into the homological characteristics of graded commutative rings (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 964 (1996), 62–71. (*see* **98e:13002**) 13D02 (13F50)

Terai, Nobuhiro (*with* Takakuwa, Kei) A note on the Diophantine equation $a^x + b^y = c^z$. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 9, 161–164. (Eugene M. Matveev) **99f:11045** 11D61
— A note on certain exponential Diophantine equations. *Number theory* (*Eger*, 1996), 479–487, *de Gruyter, Berlin*, 1998. (Dimitrios Poulakis) **99d:11032** 11D61 (11J86)
— (*with* Kagawa, Takaaki) Squares in Lucas sequences and some Diophantine equations. *Manuscripta Math.* **96** (1998), *no.* 2, 195–202. (Aleksander Grytczuk) **99i:11019** 11D25 (11B39)

Terakawa, Hiroyuki On the Kawamata-Viehweg vanishing theorem for a surface in positive characteristic. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 5, 370–375. (Toshiyuki Katsura) **99k:14031** 14F17 (14J99)
— (*with* Takahashi, Kazuyoshi) Generalized adjunction of k-very ample vector bundles on algebraic surfaces. (English summary) *Geom. Dedicata* **71** (1998), *no.* 3, 309–325. (Andrew J. Sommese) **99g:14053** 14J60 (14E25)
— Higher order embeddings of algebraic surfaces of Kodaira dimension zero. *Math. Z.* **229** (1998), *no.* 3, 417–433. (Adrian Langer) **99m:14013** 14C20 (14J28)
— The d-very ampleness on a projective surface in positive characteristic. (English summary) *Pacific J. Math.* **187** (1999), *no.* 1, 187–199. (Sandra Di Rocco) **99m:14014** 14C20 (14J29)

Terán Martinez, Gabriel (*with* Meyer auf der Heide, Friedhelm) Communication-efficient parallel multiway and approximate minimum cut computation. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 316–330, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68198** 68R10 (05C85, 68Q22)

Ter-Antonyan, V. M. (*with* Mardoyan, L. G.; Sisakyan, A. N.) 8D oscillator as a hidden SU(2) monopole. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1746–1750. (Summary) **99i:81033** 81Q05
— (*with* Nersesyan, A. P.) Anyons, monopoles, and Coulomb problem. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1756–1761. (Summary) **99j:81084** 81S10 (81V70)

Terao, Hiroaki (*with* Solomon, Louis) The double Coxeter arrangement. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 2, 237–258. (Luis Paris) **99c:52018** 52B30 (05E15, 20F55)

Teraoka, Yoshinobu (*with* Zhang, Yongxin) A noncooperative analysis of spatial duopoly with discriminatory pricing. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 205–212. (*see* **99b:90009**) 90A12 (90D10)
— (*with* Zhang, Yongxin) A location game of spatial competition. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 187–190. 90A25 (90B85, 90D80)
— (*with* Hohjo, Hitoshi) Sphere of influence games with generalized values and expenses. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 241–249. (*see* **99h:90006**) 90D05
— (*with* Iwasaki, Akinori; Ohtagaki, Hirokazu; Nakagawa, Yuji; Narihisa, Hiroyuki) Approximate method for separable nonconvex programs. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 115–122. (Summary) **99j:90061** 90C26 (90C30)

Terashima, Seiji (*with* Yang, Sung-Kil) ADE confining phase superpotentials. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 453–469. (Summary) **99d:81162** 81T60 (14H45, 81T13)
— (*with* Yang, Sung-Kil) Exceptional Seiberg-Witten geometry with massive fundamental matters. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 102–108. (Summary) **99b:81249** 81T60 (32J81, 81T13)

Terasoma, Tomohide Determinants of q-hypergeometric functions and another proof of the Askey conjecture. *Math. Z.* **226** (1997), *no.* 3, 499–512. (Ronald J. Evans) **99b:33042** 33D60 (05A30, 11L99)
— Cohomological Radon transform and mixed twisted Ehrhart polynomial. Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 44–48. (Andrzej Kozlowski) **99h:14007** 14D07 (14F99)

Teräsvirta, Timo (*with* Brännäs, Kurt; De Gooijer, Jan G.) Testing linearity against nonlinear moving average models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2025–2035. 62M10
— (*with* Granger, Clive W. J.) A simple nonlinear time series model with misleading linear properties. (English summary) *Econom. Lett.* **62** (1999), *no.* 2, 161–165. (Summary) **99k:62161** 62M10 (62P20)

Terbeck, Wolfgang (*with* Davies, P. Laurie) Interactions and outliers in the two-way analysis of variance. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1279–1305. (Wojciech Zieliński) **99j:62099** 62J10 (62F35)

Ter Brugge, Mark H. *see* **ter Brugge, Mark H.**

Terdik, György (*with* Iglói, E.) Bilinear stochastic systems with long range dependence in continuous time. *Stochastic differential and difference equations* (*Győr*, 1996), 299–307, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 62M10
— (*with* Máth, J.) A new test of linearity of time series based on the bispectrum. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 6, 737–753. (Summary) **99j:62135** 62M10
— (*with* Leonenko, Nikolai N.; Sikorskii, Alla Yu.) On spectral and bispectral estimator of the parameter of non-Gaussian data. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 159–182. (Vladimir Zaiats) **99d:62090** 62M15 (62F12, 62M10)

Teregulov, I. G. (*with* Timergaliev, S. N.) On the solvability of a geometrically nonlinear problem in the theory of shallow shells. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**,

no. 7, 53–61; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 7, 50–58 (1999). (Petr E. Tovstik) **99h:73051** 73K15 (35Q72, 73V35)

— (*with* Timergaliev, S. N.) On the solvability of a physically nonlinear problem in the theory of shallow shells under finite displacements. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 70–80. (L. P. Lebedev) **99k:73084** 73K15 (35J60)

Terekhin, M. T. (*with* Nasykhova, L. G.) Existence of a bifurcation value for a parameter of a system of differential equations with deviating argument. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 799–805; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 894–900 (1998). (Klaus Morgenthal) **99d:34138** 34K15 (34C23)

Terekhov, I. (*with* Camp, T.) Time efficient deadlock resolution algorithms. *Inform. Process. Lett.* **69** (1999), *no.* 3, 149–154. 68Q10

Ter Elst, A. F. M. *see* **ter Elst, A. F. M.**

Terent'ev, E. D. (*with* Ryzhov, Oleg S.) Streamwise absolute instability of a three-dimensional boundary layer at high Reynolds numbers. (English summary) *J. Fluid Mech.* **373** (1998), 111–153. (Sharon O. Seddougui) **99k:76065** 76E99 (76D10, 76N20)

Terenzi, A. (*with* Cannata, Francesco) Perturbation theory in Bohmian mechanics. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 4, 347–356. (Summary) **99e:81014** 81P05

Terenzi, Paolo A positive answer to the basis problem. (English summary) *Israel J. Math.* **104** (1998), 51–124. (Wolfgang Lusky) **99g:46010** 46B15 (46B07, 46B20, 46B28)

— A complement to the paper: "A positive answer to the basis problem" [Israel J. Math **104** (1998), 51–124; MR 99g:46010]. (English summary) *Israel J. Math.* **108** (1998), 345–348. (Summary) **99m:46025** 46B15

Terenziani, Paolo (*with* Brusoni, Vittorio; Console, Luca; Theseider Dupré, Daniele) A spectrum of definitions for temporal model-based diagnosis. (English summary) *Artificial Intelligence* **102** (1998), *no.* 1, 39–79. 68T27

de Teresa, Luz Exact controllability of the radial solutions of the semilinear wave equation in $\mathbf{R}^3$. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 221–245. (Enrique Zuazua) **99g:93014** 93B05 (35B37, 35L70, 93C20)

— Approximate controllability of a semilinear heat equation in $\mathbf{R}^N$. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2128–2147 (*electronic*). (Angelo Favini) **99j:93011** 93B05 (35K55, 93C20)

Teresco, J. D. (*with* Flaherty, J. E.; Loy, R. M.; Dindar, M.; Shephard, M. S.; Szymanski, B. K.; Ziantz, L. H.) An adaptive and parallel framework for partial differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 74–90, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65189** 65Y05 (65M60, 65N30)

Ter Haar Romeny, Bart M. *see* **ter Haar Romeny, Bart M.**

Terhal, Barbara M. (*with* Smolin, John A.) Single quantum querying of a database. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1822–1826. (Summary) **99e:68033** 68P15 (68Q05, 81P99)

Terhalle, Werner F. Coordinatizing **R**-trees in terms of universal c-trees. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 183–196. (Gary Gordon) **99g:05055** 05C05 (05B35)

— **R**-trees and symmetric differences of sets. (English summary) *European J. Combin.* **18** (1997), *no.* 7, 825–833. (Christian Herrmann) **99e:05035** 05B35 (52B99)

— (*with* Dress, Andreas W. M.) The tree of life and other affine buildings. Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 565–574 (*electronic*). (Charles A. Semple) **99k:05051** 05B35 (05C05, 92B10, 92D15)

Terhoeven, Peter (*with* Klein, Rupert; Geratz, Karl Josef; Munz, Claus-Dieter; Roller, Sabine; Denet, Bruno; Searby, Geoffrey) Numerical techniques for multi-scale weakly compressible reactive flows. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 242–259, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99j:76091** 76M25 (76N10, 80–08, 80A25)

Terjanian, Guy Équations diophantiennes p-adiques (d'après J. Ax et S. Kochen). [p-adic Diophantine equations (after J. Ax and S. Kochen)] *Séminaire Bourbaki, Vol. 9, Exp. No.* 299, 323–335, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 11D88 (11U07)

Terjéki, J. (*with* Makay, G.) On the asymptotic behavior of the pantograph equations. *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 2, 12 *pp.* (*electronic*). (Hildebrando Munhoz Rodrigues) **99a:34215** 34K25

Ter-Krikorov, A. M. Fundamental solution of the internal wave equation for a medium with discontinuous Brunt-Väisälä frequency. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 621–627; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 601–607. (Summary) **99c:76024** 76C10 (35Q35, 76V05)

— (*with* Sekoyan, A. Kh.) Internal waves induced by potential vortices. *Fluid Dynam.* **33** (1998), *no.* 1, 96–101; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 1, 118–123 (*Russian. Russian summary*). (Summary) **99c:76023** 76C10 (76V05)

Terlaky, Tamás (*with* Klafszky, Emil) On the ellipsoid method. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/98), *no.* 2, 269–280. 90C05 (65K05)

— (*with* Jansen, Benjamin; Roos, Cornelis) Introduction to the theory of interior point methods. (English summary) *Interior point methods of mathematical programming*, 3–34, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05

— (*with* Jansen, Benjamin; Roos, Cornelis) Target-following methods for linear programming. (English summary) *Interior point methods of mathematical programming*, 83–124, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05

— (*with* Illés, Tibor; Roos, Cornelis) Polynomial affine-scaling algorithms for $P_*(\kappa)$ linear complementary problems. (English summary) *Recent advances in optimization* (*Trier*, 1996), 119–137, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (S. R. Mohan) **99a:90211** 90C33

— (*with* Warners, Joost P.; Roos, Cornelis; Jansen, Benjamin) A potential reduction approach to the frequency assignment problem. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 251–282. (Ulrich Faigle) **99b:90106** 90C27 (90C26)

— (*with* de Klerk, E.; Roos, Cornelis) Infeasible-start semidefinite programming algorithms via self-dual embeddings. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 215–236, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Jos F. Sturm) **99b:90091** 90C25 (90C05)

— (*with* de Klerk, E.; Roos, Cornelis) A nonconvex weighted potential function for polynomial target following methods. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 3–14. (*see* **99b:90006**) 90C05

— (*with* de Klerk, E.; Roos, Cornelis) Polynomial primal-dual affine scaling algorithms in semidefinite programming. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 51–69. (Michael L. Dowling) **99e:90071** 90C26 (90C30)

— (*with* Quist, A. J.; de Klerk, E.; Roos, Cornelis) Copositive relaxation for general quadratic programming. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 185–208. (Summary) **99a:90145** 90C20

— (*with* Greenberg, Harvey J.; Holder, Allen G.; Roos, Cornelis) On the dimension of the set of Rim perturbations for optimal partition invariance. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 207–216 (*electronic*). (Shu Zhong Zhang) **99m:90095** 90C05 (90C31)

— *see also* **Interior point methods of mathematical programming**, **99a:90005** *and* **Proceedings: Workshop on High Performance Optimization Techniques**, **99i:90004**

Terlutte, Alain (*with* Latteux, Michel; Simplot, David) Iterated length-preserving rational transductions (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 286–295, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q45 (68Q70)

Terman, David (*with* Kopell, Nancy; Bose, Amitabha) Dynamics of two mutually coupled slow inhibitory neurons. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 241–275. (Joseph So) **99h:92010** 92C20 (34C25, 34D15)

Termini, Settimo On some developments in information science. (Italian. Italian summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 971–989. (*see* **99d:00031**) 68T27 (03E72)

Termonia, P. (*with* De Jonghe, F.; Troost, Walter; Vandoren, Stefan) The topological twist and BRST anti-BRST gauge fixing in $N = 2$ Landau-Ginzburg models. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 283–284, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T10 (81T40)

— (*with* Claus, Piet; de Wit, Bernard; Faux, M.; Kleijn, B.; Siebelink, R.) $N = 2$ supergravity Lagrangians with vector-tensor multiplets. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 148–178. (Sergiu I. Vacaru) **99f:83072** 83E50

Terng, Chuu-Lian (*with* Thorbergsson, Gudlaugur) Taut immersions into complete Riemannian manifolds. (English summary) *Tight and taut submanifolds* (*Berkeley, CA*, 1994), 181–228, *Math. Sci. Res. Inst. Publ.*, 32, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99m:53122** 53C42

Terning, John Duals for SU(N) SUSY gauge theories with an antisymmetric tensor: five easy flavors. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 149–157. (Summary) **99a:81178** 81T60 (81V05)

— (*with* Csáki, Csaba; Schmaltz, Martin; Skiba, Witold) Gauge theories with tensors from branes and orientifolds. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7546–7560. (Summary) **99k:81297** 81T60 (81T13)

— (*with* Appelquist, Thomas; Ratnaweera, Anuradha; Wijewardhana, L. C. R.) Phase structure of an SU(N) gauge theory with N_f flavors. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105017, 11 *pp.* 81V05 (81T13)

— (*with* Csáki, Csaba; Ooguri, Hirosi; Oz, Yaron) Glueball mass spectrum from supergravity. (English summary) *J. High Energy Phys.* **1999**, *no.* 1, *Paper* 17, 21 *pp.* (*electronic*). (Summary) **99m:83200** 83E50 (81T13, 81T30, 83E30)

— (*with* Csáki, Csaba; Oz, Yaron; Russo, Jorge G.) Large N QCD from rotating branes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065012, 12 *pp.* (Summary) **99k:81229** 81T30 (83E50)

Terno, Daniel R. (*with* Peres, Asher) Optimal distinction between non-orthogonal quantum states. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7105–7111. (Frank Antonsen) **99f:81034** 81P99

— (*with* Peres, Asher) Convex probability domain of generalized quantum measurements. (English summary) *J. Phys. A* **31** (1998), *no.* 38, *L671–L675*. (S. Gudder) **99g:81023** 81P15

Ternovskiĭ, V. A. Special basis invariants of degrees 24 and 30 for the group E_8. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2509–2512. (Andrew Woldar) **99k:13008** 13A50 (20G05)

bilbao Terol, Amelia *see* **Bilbao Terol, Amelia**

Terol-Villalobos, Iván R. Morphological image segmentation using sequential nonincreasing filters. (English summary) *III Ibero-American Workshop on Pattern Recognition* (*Spanish*) (*México City*, 1998), 197–205, *Inst. Cibern. Mat. Fis., Havana*, 1998. (*see* **99k:68016**) 68U10

— Toggle mappings and some related transformations: a study of contrast enhancement. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 11–18, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (65Y25)

Terracini, Susanna (*with* Montecchiari, Piero; Nolasco, Margherita) Multiplicity of homoclinics for a class of time recurrent second order Hamiltonian systems. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 6, 523–555. (Vittorio Coti Zelati) **99b:58052** 58E05 (34C37, 58F05, 58F15, 70H05)

— (*with* Montecchiari, Piero; Nolasco, Margherita) A global condition for periodic Duffing-like equations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3713–3724. (Boris Buffoni) **99m:34107** 34C37 (58E05, 58F15)

pérez Terrazas, J. Efren *see* **Pérez Terrazas, J. Efren**

Terrell, William J. An input-output representation for implicit linear time-varying systems. (English summary) *Linear Algebra Appl.* **271** (1998), 221–234. (K. Amborski) **99e:93035** 93C15 (34A09, 34H05, 93B17)

Terreni, B. (*with* Acquistapace, P.) Classical solutions of nonautonomous Riccati equations arising in parabolic boundary control problems. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 3, 361–409. (Mary Ann Horn) **99m:49037** 49K20 (34G20, 35K99, 47D06, 93C20)

Terrenoire, M. (*with* Nicoloyannis, N.; Tounissoux, D.) Pertinence for a classification. (English summary) *Advances in data science and classification* (*Rome*, 1998), 177–184, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Terrin, Norma (*with* Giraitis, Liudas; Taqqu, Murad S.) Limit theorems for bivariate Appell polynomials. II. Non-central limit theorems. (English summary) *Probab. Theory*

Related Fields **110** (1998), *no.* 3, 333–367. (Vladimir Zaiats) **99g:60046** 60F05 (62M10)

Terry, John R. (*with* Ashwin, Peter; Thornburg, K. Scott, Jr.; Roy, Rajarshi) Blowout bifurcation in a system of coupled chaotic lasers. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*. 7186–7189. (Summary) **99g:78026** 78A60 (58F13, 58F40)

Tersenov, A. S. On a class of degenerate nonuniformly parabolic equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 6, 94–97, 113; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 63–65 (1997). (Summary) **99g:35074** 35K65

— On quasilinear non-uniformly elliptic equations in some non-convex domains. *Comm. Partial Differential Equations* **23** (1998), *no.* 11-12, 2165–2185. (Naoyuki Ishimura) **99k:35031** 35J15

Tersian, Stepan *see* **Terziyan, Stepan A.**

Tersoff, J. (*with* Spencer, Brian J.) Equilibrium shapes of islands in epitaxially strained solid films. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 255–269, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (*see* **99c:73001**) 73B99

Tertikas, Achilles Critical phenomena in linear elliptic problems. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 42–66. (Elvira Mascolo) **99d:35039** 35J20 (49J20)

lópez-de-Teruel, Pedro E. *see* **López-de-Teruel, Pedro E.**

Terui, Akira (*with* Sasaki, Tateaki) Upper bounds for the error of the root of a single variable polynomial with an error term. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 106–110. (*see* **99h:00034**) 65H05 (65F15)

Terui, Kazushige (*with* Okada, Mitsuhiro) Completeness proofs for linear logic based on the proof search method (preliminary report). (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 57–75. (*see* **99d:68014**) 03F50

Teruya, Tamotsu Normal intermediate subfactors. Theory of paragroups and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 956 (1996), 90–115. (From the introduction) **99f:46090** 46L37

— The Jordan-Hölder theorem for normal sub-Hopf algebras. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 213–219. (*see* **99a:00029**) 16W30

— Normal intermediate subfactors. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 469–490. (Carl Winsløw) **99e:46080** 46L37

Tervo, Jouko (*with* Juntunen, M.; Kaipio, J. P.) Root modulus constraints in autoregressive model estimation. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 709–718. (Summary) **99h:62115** 62M10

— (*with* Nihtilä, Markku T.) Stability for linearized control system related to a fixed-bed bioreactor. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 24 *pp.* (*electronic*). (Summary) **99h:93088** 93D15 (92B05)

— (*with* Kolmonen, P.) Data fitting model for the kernel of integral operator from radiation therapy. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 59–77. (Summary) **99k:92013** 92C50 (45G10)

— An FEM scheme of a PDE system from bioreactor theory with stability results. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1230–1248 (*electronic*). (Qian Li) **99d:65291** 65M60

Terwiesch, Peter (*with* Astolfi, Alessandro) Robust end-point optimizing feedback for nonlinear dynamic processes. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 995–1014. 93B52 (93D21)

Terwijn, Sebastiaan A. (*with* Torenvliet, Leen) Arithmetical measure. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 277–286. (Rodney G. Downey) **99m:03085** 03D30 (03D55, 28A99)

Terzi, Silvia (*with* Bassan, Bruno) A factorial covariance structure model for space-time multivariate stochastic processes. (English and Italian summaries) *Metron* **56** (1998), *no.* 1-2, 155–170. 62J10

Terziev, P. A. (*with* Dobrev, Vladimir K.; Roussev, R. P.) Induced representations of $U_q(so(3))$ with subrepresentations of integer spin only. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9269–9277. (Roberto Casalbuoni) **99i:81097** 81R50 (17B37)

Terziler, M. (*with* Rybakov, V. V.; Gencer, C.) Description of self-admissible quasi-characterizing inference rules. (English summary) *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 4, 164–171. 03B55 (03B45)

Terzioğlu, T. (*with* Chalov, P. A.; Zakharyuta, V. P.) First type power Köthe spaces and m-rectangular invariants. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 30–44. (Plamen Dzhakov) **99e:46009** 46A45 (46A04)

— (*with* Djakov, P. B.; Önal, S.; Yurdakul, M.) Strictly singular operators and isomorphisms of Cartesian products of power series spaces. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 1, 57–65. (M. S. Ramanujan) **99a:46012** 46A45 (47A05)

— *see also* **Dedicated to Professor Vyacheslav Pavlovich Zahariuta, 99a:00052**

Terziyan, Stepan A. Nontrivial solutions to the semilinear Kohn-Laplace equation on $\mathbf{R}^3$. (English summary) *Electron. J. Differential Equations* **1999,** *No.* 12, 11 *pp.* (*electronic*). (Summary) **99m:35067** 35J60 (58E05)

Tesar, Esther Hunt Probability polynomials for imbeddings of closed-end ladders. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 30–33. (Summary) **99k:05069** 05C10

— A survey of random topological graph theory. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 45–49. (*see* **99h:05003**) 05C10

Teschendorff, A. (*with* Papadopoulos, George J.) Instantons at angles. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 115–122. (Krzysztof Galicki) **99g:53032** 53C07 (53C80, 81T13, 81T30)

— (*with* Papadopoulos, George J.) Multi-angle five-brane intersections. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 159–166. (Summary) **99h:81180** 81T30

Teschl, Gerald Spectral deformations of Jacobi operators. (English summary) *J. Reine Angew. Math.* **491** (1997), 1–15. (Mayumi Ohmiya) **99b:39025** 39A70 (47B39)

— Trace formulas and inverse spectral theory for Jacobi operators. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 175–202. (M. Krishna) **99i:47065** 47B39 (34C10, 39A10, 47A10, 47N50, 81U40)

— (*with* Bulla, W.; Gesztesy, Fritz; Holden, Helge) Algebro-geometric quasi-periodic finite-gap solutions of the Toda and Kac-van Moerbeke hierarchies. (English summary) *Mem. Amer. Math. Soc.* **135** (1998), *no.* 641, $x+79$ *pp.* (Mihai Pascu) **99b:58109** 58F07 (35Q55, 39A12)

— Deforming the point spectra of one-dimensional Dirac operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2873–2881. (Boris M. Levitan) **99a:34230** 34L40 (34B05, 34L05, 47E05, 81Q10)

Tesei, Alberto (*with* Hanouzet, Bernard; Natalini, Roberto) On the Chapman-Jouguet limit for a combustion model. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 619–636 (*electronic*). (Denis Serre) **99b:76046** 76L05 (35L60, 80A25)

Tesfaye, Addisu (*with* Tomizuka, Masayoshi) Robust digital tracking with perturbation estimation via the Euler operator. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 239–256. 93C57 (93C41)

— (*with* Tomizuka, Masayoshi) Authors' reply to: "Comments on: 'Zeros of discretized continuous systems expressed in the Euler operator—an asymptotic analysis'" [IEEE Trans. Automat. Control **43** (1998), no. 9, 1308–1310; 1 640 175] by S. R. Weller. *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1310. 93B60

— *see also* **Weller, Steven R.**

Teshaboev, A. O. (*with* Rakhimov, I. U.) Some properties of Markov decomposable branching processes with final type. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 66–71 (1996). (Fima Klebaner) **99e:60192** 60J80

— (*with* Rakhimov, I. U.) Limit theorems for branching processes with immigration. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 62–70. 60J80

Teshima, Tomoki (*with* Iwasaki, Hironori; Aoyama, Tomoo) Logical interpolation. (Japanese. English summary) *Mem. Fac. Engrg. Miyazaki Univ. No.* 27 (1998), 117–120. 03B50

Teshukov, V. M. A model of long-wave approximation for a shear gas flow in a channel of variable cross section. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 1, 15–27; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 1, 12–23. (Summary) **99b:76075** 76N15 (35Q35, 76H05)

— *see also* **Korobkin, A. A., 99k:76127**

Tesi, Maria Carla Geometrical entanglement in lattice models of ring polymers: torsion and writhe. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 83–97, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82D60 (82B41, 82B80)

— (*with* Orlandini, Enzo; Janse van Rensburg, E. J.; Whittington, Stuart G.) Entropic exponents of knotted lattice polygons. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 9–21, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Summary) **99f:82065** 82D60 (57M25)

— (*with* Uberti, R.; Janse van Rensburg, E. J.; Orlandini, Enzo; Whittington, Stuart G.) Minimal links in the cubic lattice. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 89–100, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Yuanan Diao) **99h:57020** 57M25

— (*with* Janse van Rensburg, E. J.; Orlandini, Enzo; Whittington, Stuart G.) Topological entanglement complexity of polymer chains in confined geometries. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 135–157, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Summary) **99f:82066** 82D60 (57M25)

— (*with* Orlandini, Enzo; Janse van Rensburg, E. J.; Whittington, Stuart G.) Asymptotics of knotted lattice polygons. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5953–5967. (Summary) **99g:82031** 82B41 (82B80, 82D60)

— (*with* Orlandini, Enzo) Knotted polygons with curvature in Z^3. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9441–9454. (Timo Seppäläinen) **99k:82035** 82B41 (82D60, 92D20)

— (*with* Orlandini, Enzo; Whittington, Stuart G.) A self-avoiding walk model of random copolymer adsorption. (English summary) *J. Phys. A* **32** (1999), *no.* 3, 469–477. (E. J. Janse van Rensburg) **99m:82028** 82B41 (82D60)

Teske, Edlyn A space efficient algorithm for group structure computation. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1637–1663. (Claus-Peter Schnorr) **99a:11146** 11Y16 (20K01, 68Q25)

Teskin, O. I. Two-stage procedure for the control of reliability by one control level. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 878–883. (*see* **99b:62004**) 62N05

Tesler, Glenn (*with* Garsia, Adriano) Plethystic formulas for Macdonald q,t-Kostka coefficients. (English summary) *Adv. Math.* **123** (1996), *no.* 2, 144–222. (Mark D. Haiman) **99j:05189e** 05E05 (33C80, 33D80)

Tessarotto, Massimo (*with* Pozzo, Monica) Relativistic guiding-center dynamics in the presence of strong flows. (English summary) *Phys. Plasmas* **5** (1998), *no.* 6, 2232–2243. (Summary) **99b:76100** 76X05 (76Y05)

Tessieri, L. (*with* Izrailev, F. M.; Ruffo, Stefano) Classical representation of the one-dimensional Anderson model. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5263–5270. (Summary) **99c:82037** 82B44

Tessitore, Anthony (*with* Usmen, Nilufer) Ergodicity, state prices, and long bond returns. (English summary) *Math. Finance* **8** (1998), *no.* 1, 85–91. (Summary) **99d:90020** 90A09

Tessitore, Gianmario (*with* Zabczyk, Jerzy) Invariant measures for stochastic heat equations. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 2, 271–287. (Giambattista Giacomin) **99k:60167** 60H15 (35K05, 35R60)

— (*with* Zabczyk, Jerzy) Strict positivity for stochastic heat equations. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 83–98. (Ralf Manthey) **99j:60097** 60H15

Tessitore, Maria Elisabetta (*with* Cannarsa, Piermarco) On the behaviour of the value function of a Mayer optimal control problem along optimal trajectories. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 81–88, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Fabio Camilli) **99g:49020** 49K15 (49L20)

— (*with* Gozzi, Fausto) Optimality conditions for Dirichlet boundary control problems of parabolic type. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 34 *pp.* (*electronic*). (Fredi Tröltzsch) **99j:49049** 49K20 (34G20, 35K55, 47N10, 49K27, 49N35)

Testa, Massimo Some observations on broken symmetries. (English summary) *J. High Energy Phys.* **1998,** *no.* 4, *Paper* 2, 15 *pp.* (*electronic*). (R. Delbourgo) **99b:81154** 81T15 (81R40, 81T25)

Testerman, Donna M. (*with* Seitz, Gary M.) Subgroups of type A_1 containing semiregular unipotent elements. *J. Algebra* **196** (1997), *no.* 2, 595–619. (Martin W. Liebeck) **99b:20082** 20G15 (20E07)

Testov, V. A. On an analogue of the fundamental theorem of arithmetic in ordered groupoids. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 910–915; *translation in Math. Notes* **62** (1997), *no.* 5-6, 762–766 (1998). (Summary) **99d:06027** 06F99

Teta, A. (*with* Dell'Antonio, Gianfausto; Figari, R.) Diffusion of a particle in presence of N moving point sources. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 4, 413–424. (Paolo Acquistapace) **99k:81331** 81U10 (47D06, 47N50, 81Q10)

— (*with* Adami, R.) On the Aharonov-Bohm Hamiltonian. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 43–53. (Liu Yang) **99a:81030** 81Q10 (81U05)

— (*with* Brasche, Johannes; Figari, R.) Singular Schrödinger operators as limits of point interaction Hamiltonians. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 163–178. (Summary) **99a:35040** 35J10 (35P05, 81Q10)

Tetali, Prasad (*with* Randall, Dana) Analyzing Glauber dynamics by comparison of Markov chains. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 292–304, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68122** 68Q25 (68R05, 90C40)

— (*with* McShine, Lisa) On the mixing time of the triangulation walk and other Catalan structures. *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 147–160, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Robert P. Dobrow) **99k:68125** 68R05 (05A10, 60J15, 68Q25)

Tetlalmatzi Montiel, M. (*with* Cruz-Sampedro, J.) Does there exist a countable infinite sigma-algebra? (Spanish) *Miscelánea Mat. No.* 26 (1997), 29–31. (Richard Becker) **99m:28004** 28A05

Tetunashvili, Sh. T. Uniqueness theorems for some multiple functional series for summation methods. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 1, 31–34. 42A63

— Uniqueness theorems for multiple trigonometric series. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 3, 390–391 (1995). 42A10

— On null series in the Haar and Walsh systems. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 1, 27–28 (1995). 42C10

— On the convergence of multiple trigonometric series. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **114** (1997), 99–104. (Summary) **99c:42014** 42B05

Tetzlaff, Ulrich A. W. (*with* Kuhn, Heinrich) Performance evaluation of repair systems with priorities. (English and German summaries) *Operations Research Proceedings* 1996 (*Braunschweig*), 242–247, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B05

Teugels, Jozef L. (*with* Beirlant, J.; Vynckier, P.) Some thoughts on extreme values. (English summary) *Probability towards* 2000 (*New York*, 1995), 58–73, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Summary) **99d:60055** 60G70 (62G30)

— (*with* Schoutens, Wim) Lévy processes, polynomials and martingales. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 335–349. (N. H. Bingham) **99k:60118** 60G44 (33C45, 60J30)

— (*with* Van Horebeek, Johan) Generalized graphical models for discrete data. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 41–47. (P. A. K. Covey-Crump) **99h:62071** 62H05

— (*with* Silvestrov, Dmitrii S.) Asymptotics of multivariate extremes with random sample size. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 391–400. (H. Vishnu Hebbar) **99h:60045** 60F05 (60G70)

Teukolsky, Saul A. Black hole collisions, toroidal black holes, and numerical relativity. (English summary) *Black holes and relativistic stars* (*Chicago, IL*, 1996), 123–136, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C57 (83–08)

— (*with* Baumgarte, Thomas W.; Cook, Gregory B.; Scheel, Mark A.; Shapiro, Stuart L.) General relativistic models of binary neutron stars in quasiequilibrium. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7299–7311. 83F05

— (*with* Scheel, Mark A.; Baumgarte, Thomas W.; Cook, Gregory B.; Shapiro, Stuart L.) Treating instabilities in a hyperbolic formulation of Einstein's equations. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044020, 12 *pp.* (Summary) **99k:83002** 83–08 (83C57)

Teusink, Frank (*with* Marchiori, Elena) Termination of logic programs with delay declarations. (English summary) *J. Logic Programming* **39** (1999), *no.* 1-3, 95–124. (Summary) **99k:68030** 68N17

Tevdoradze, Z. A. Computation of the Maslov class for the Lagrange and the Kovalevskaya problems of the motion of a rigid body about a fixed point. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 45–48. 70E15 (58F05, 70H05)

— Arnold-Maslov's class and conjecture of Fomenko. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 3, 470–473 (1996). (Knut Smoczyk) **99m:58100** 58F05 (57R20)

— Vertical cohomologies and their application to completely integrable Hamiltonian systems. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 483–500. (Peter J. Topalov) **99h:58207** 58H10 (58F05, 58F07, 70H05)

Tevelëv, E. A. (*with* Kordonskiĭ, V. È.) Unstable linear actions of connected semisimple complex algebraic groups. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 107–118; *translation in Sb. Math.* **186** (1995), *no.* 1, 107–119. (Ivan V. Arzhantsev) **99h:14048** 14L30

Teverovsky, Vadim (*with* Taqqu, Murad S.) On estimating the intensity of long-range dependence in finite and infinite variance time series. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 177–217, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62M10 (60G18)

Ţevy, I. (*with* Dogaru, Oltin; Udrişte, Constantin) Extrema constrained by a family of curves and local extrema. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 605–621. (Hubertus Th. Jongen) **99c:49004** 49J10 (49Q20)

Tevzadze, R. N. Optimization problems for controlled processes of diffusion type with infinite phase constraints. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 16–19. 49J20 (49K20, 93C20)

— (*with* Mania, M.) Solution of Bellman's equation by means of a system of nonlinear singular integral equations. *Mem. Differential Equations Math. Phys.* **13** (1998), 121–129. (Andrzej Swiech) **99h:35090** 35K55 (45G15, 49L25, 93E20)

Tevzadze, T. Sh. An estimate for the partial integral modulus of smoothness of a function of several variables. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 1, 16–29 (1996). 41A30

— On some classes of a function of several variables. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 4, *Suppl.*, 685–693 (1996). 42B25 (46E30)

— Multiple Fourier series with nonnegative coefficients. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 183–184. 42B10

— On estimate of full integral modulus of smoothness of function of several variables. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 2, 194–196. 42B15

Tew, Jeffrey D. (*with* Joshi, Shirish; Sherali, Hanif D.) An enhanced response surface methodology (RSM) algorithm using gradient deflection and second-order search strategies. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 7-8, 531–541. 90C30 (65K05)

Tew, R. H. (*with* Engineer, J. C.; King, John Robert) Diffraction by slender bodies. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 2, 129–158. (John A. DeSanto) **99e:76104** 76Q05 (78A45)

— (*with* Rogoff, Z. M.) A multiple-scales analysis of total internal reflection at a fluid-solid interface. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 3067–3094. (Summary) **99a:73055** 73D25 (73K70, 76Q05)

Tewari, U. B. The multiplier problem. *Math. Student* **65** (1996), *no.* 1-4, 45–56. (Walter R. Bloom) **99d:43005** 43A22 (43–02)

— (*with* Agrawal, Manju Rani) On existence of finite universal Korovkin sets in Segal algebras. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 81–90. (Francesco Altomare) **99e:41018** 41A36 (41A15, 43A15, 46J10)

Tewary, V. K. Lattice statics Green's function for modeling of dislocations in crystals. (English summary) *Computational and mathematical models of microstructural evolution* (*San Francisco, CA*, 1998), 15–20, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 73S10

Tewes, Meike (*with* Volkmann, Lutz) On the cycle structure of in-tournaments. (English summary) *Australas. J. Combin.* **18** (1998), 293–301. (Summary) **99g:05094** 05C20 (05C38)

— (*with* Volkmann, Lutz) Vertex deletion and cycles in multipartite tournaments. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 769–779. (Summary) **99i:05094** 05C20 (05C38)

Tey, Joaquín (*with* Arocha Pérez, Jorge Luis) The size of minimum 3-trees: cases 3 and 4 mod 6. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 157–166. (Kevin Lawrence McAvaney) **99k:05122** 05C65 (05C15, 05C35)

Teyssandier, P. (*with* Tucker, Robin W.; Wang, Charles H.-T.) On an interpretation of non-Riemannian gravitation. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 987–994. (Summary) **99m:53037** 53B50 (83D05)

Tezduyar, T. (*with* Mittal, S.) A unified finite element formulation for compressible and incompressible flows using augmented conservation variables. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 229–243. (Summary) **99d:76061** 76M10

Tezuka, Hirokazu Positive energy bound state solutions in relativistic Coulomb potential. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 1, 39–50. (Adriaan Tip) **99a:81027** 81Q05 (81V45)

Tezuka, Michishige (*with* Kamiyama, Yasuhiko; Toma, Tsuguyoshi) Homology of the configuration spaces of quasi-equilateral polygon linkages. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4869–4896. (Donald W. Kahn) **99e:55030** 55R55 (55N99)

Tezuka, Shu (*with* Tajima, Akira; Ninomiya, Syoiti) Analysis of the anomaly of ran1() generator in Monte Carlo pricing of financial derivatives. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 387–397. (Summary) **99g:65012** 65C05 (65C10, 90A09)

— Weyl sequences and van der Corput sequences. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 125–128. (*see* **99f:65007**) 11K45

— (*with* Mizuta, Hideyuki; Sekine, Tatsuo) Acceleration of low-discrepancy sequences. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 84–91. (*see* **99i:00028**) 90A09

Thacker, Neil A. (*with* Aherne, Frank J.; Rockett, Peter I.) The Bhattacharyya metric as an absolute similarity measure for frequency coded data. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 4, 363–368. 62B10

Thaden, Lawrence J. Constructing an MVL patterned after Boolean logic using a practical approach. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 192–199, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Thaheld, Fred H. Can we determined the role of the observer in quantum mechanics? (English and French summaries) *Phys. Essays* **11** (1998), *no.* 2, 235–240. 81P05

do duc Thai *see* **Do Duc Thai**

nguyen Thai Son *see* **Nguyen Thai Son**

Thakkar, D. K. On one point countable compactifications of k-spaces. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 101–104 (1996). (Summary) **99a:54019** 54D35 (54D55)

Thakur, Balwant Singh (*with* Banerjee, Amitabh) A note on a theorem of Tas, Telci and Fisher. (English summary) Chinese translation in Appl. Math. Mech. **19** (1998), no. 4, 307–309. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 4, 333–334. (Summary) **99c:54061** 54H25

— (*with* Jung, Jong Soo; Sahu, Daya Ram) Strong convergence theorems for asymptotically nonexpansive mappings in Banach spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 53–69. (Behzad Djafari-Rouhani) **99g:47127** 47H09 (47H10)

— (*with* Jung, Jong Soo; Sharma, Birendra Kumar) Fixed point theorems for generalized uniformly Lipschitzian semigroups. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 71–79. (Mo Tak Kiang) **99b:47100** 47H20 (47H09, 47H10)

— (*with* Jung, Jong Soo; Sahu, Daya Ram) Fixed points of a certain class of mappings in spaces with uniformly normal structure. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 677–680. (Louis A. Talman) **99b:47105** 47H10 (54H25)

— (*with* Sharma, Birendra Kumar; Jung, Jong Soo) On some fixed point theorems for mappings with generalized Lipschitzian iterates. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 187–198. (Hong Kun Xu) **99j:47081** 47H09 (47H10)

— (*with* Jung, Jong Soo; Cho, Yeol Je) Random fixed points of asymptotically regular mappings. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 61–71. 47H40 (47H10)

Thakur, Dinesh S. (*with* Beals, Robert M.) Computational classification of numbers and algebraic properties. *Internat. Math. Res. Notices* **1998**, *no.* 15, 799–818. (Jean-Paul Allouche) **99g:11028** 11B85 (11J99, 68Q45)

— (*with* Allouche, Jean-Paul) Automata and transcendence of the Tate period in finite characteristic. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1309–1312. (M. Mendès France) **99h:11056** 11G07 (11B85, 11J81)

Thakur, L. B. (*with* Shankhapal, R. M.; Harihar, Ajay K.; Patel, S. R.) On modified algorithm for primal-dual linear programming. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 7–18. (Summary) **99a:90126** 90C05

Thakur, Maneesh L. (*with* Parimala, R.; Sridharan, Ramaiyengar) A classification theorem for Albert algebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1277–1284. (B. N. Allison) **99b:17041** 17C40

Thakur, S. S. (*with* Singh, Surendra) Fuzzy M-semipreopen and fuzzy M-semipreclosed mappings. (English summary) *Vikram Math. J.* **14** (1994), 17–22. 54A40

— (*with* Tapi, U. D.; Verma, Priti) Pairwise P-connectedness between sets. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 188–190. 54D05

— (*with* Philip, Annamma) Pairwise fuzzy β-closed mappings. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 171–172. 54A40

— (*with* Singh, Surendra) On fuzzy semi-preopen sets and fuzzy semi-precontinuity. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 383–391. 54A40

— (*with* Tapi, U. D.; Malviya, R.) Pairwise fuzzy semiclosed mappings. *J. Indian Acad. Math.* **20** (1998), *no.* 2, 125–134. 54A40 (54C10, 54E55)

— (*with* Tapi, U. D.; Rathore, G. P. S.) Quasi weak pre-open set. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 114–117. 54E55

Thaler, Maximilian The Dynkin-Lamperti arc-sine laws for measure preserving transformations. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4593–4607. (F. M. Dekking) **99k:28021** 28D05 (60F05, 60K05)

Thalheim, Bernhard (*with* Demetrovics, János; Katona, Gyula O. H.; Miklós, D.; Seleznev, O. V.) The average length of keys and functional dependencies in (random) databases. (English summary) *Database theory—ICDT '95* (*Prague*), 266–279, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— (*with* Schewe, Klaus-Dieter) Limitations of rule triggering systems for integrity maintenance in the context of transition specifications. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 277–304. (Summary) **99h:68040** 68P15

— (*with* Demetrovics, János; Katona, Gyula O. H.; Miklós, D.; Seleznev, O. V.) Functional dependencies in random databases. *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 127–140. (Lawrence V. Saxton) **99m:68041** 68P15 (15A52)

— (*with* Demetrovics, János; Katona, Gyula O. H.; Miklós, D.; Seleznev, O. V.) Asymptotic properties of keys and functional dependencies in random databases. (English summary) Database theory (Prague, 1995). *Theoret. Comput. Sci.* **190** (1998), *no.* 2, 151–166. (Summary) **99d:68063** 68P15

Thall, Peter F. (*with* Staniswalis, Joan G.; Salch, John) Semiparametric regression analysis for recurrent event interval counts. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1334–1353. (Summary) **99c:62114** 62G05 (62P10)

Thalmaier, Anton (*with* Arnaudon, Marc) Stability of stochastic differential equations in manifolds. (English summary) *Séminaire de Probabilités, XXXII*, 188–214, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Jean Picard) **99i:60115** 60H10 (58G32)

— Some remarks on the heat flow for functions and forms. (English summary) *Electron. Comm. Probab.* **3** (1998), 43–49 (*electronic*). (Elton Pei Hsu) **99i:58157** 58G32 (58G11, 60G44)

— (*with* Wang, Feng Yu) Gradient estimates for harmonic functions on regular domains in Riemannian manifolds. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 109–124. (Emilio Ramón Negrín) **99g:58132** 58G32 (31B05, 60J35)

— (*with* Arnaudon, Marc) Complete lifts of connections and stochastic Jacobi fields. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 3, 283–315. (Feng-Yu Wang) **99c:58168** 58G32 (60H30)

Thalos, Mariam The trouble with superselection accounts of measurement. (English summary) *Philos. Sci.* **65** (1998), *no.* 3, 518–544. (S. Gudder) **99j:81021** 81P15

Tham, Yiu Kwok Routing in asymmetrical multiconnection three-stage Clos networks. (English summary) *Networks* **32** (1998), *no.* 2, 77–83. (Summary) **99i:94081** 94C15 (05C85)

Thamer, Kareem J. (*with* Agrawal, Purshottam Narain) Approximation of unbounded functions by a new sequence of linear positive operators. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 660–672. (Shun Sheng Guo) **99f:41017** 41A25 (41A28, 41A36)

Thamerus, Markus Different nonlinear regression models with incorrectly observed covariates. (English summary) *Econometrics in theory and practice*, 31–44, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 62J02 (62J12, 62P20)

Thandapani, E. (*with* Sundaram, Pon.) Asymptotic and oscillatory behavior of solutions of first order nonlinear neutral difference equations. (English summary) *Riv. Mat. Pura Appl. No.* 18 (1996), 93–105. (L. A. V. Carvalho) **99b:39013** 39A10

— (*with* Agarwal, Ravi P.; Pandian, Subbiah) Oscillatory property for second-order nonlinear difference equations via Lyapunov's second method. *Advances in nonlinear dynamics*, 11–21, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Binggen Zhang) **99a:39001** 39A10

— (*with* Sundaram, Pon.; Graef, John R.; Spikes, Paul W.) Asymptotic behaviour and oscillation of solutions of neutral delay difference equations of arbitrary order. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 539–551. (Narahari Parhi) **99j:39011** 39A10 (39A11)

— (*with* Arul, R.) Oscillation theory for a class of second order quasilinear difference equations. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 229–238. (P. W. Eloe) **99c:39009** 39A10

— (*with* Manuel, M. Maria Susai; Graef, John R.; Spikes, Paul W.) Monotone properties of certain classes of solutions of second-order difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 291–297. (Binggen Zhang) **99k:39037** 39A10 (39A12)

— (*with* Pandian, Subbiah) Asymptotic and oscillatory behavior of solutions of general nonlinear difference equations of second order. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 413–421. (Vladimir Sh. Burd) **99k:39038** 39A10

— (*with* Manuel, M. Maria Susai) Oscillatory and nonoscillatory behavior of a second order quasilinear differential equation. (English summary) *Differential Equations Dynam. Systems* **6** (1998), *no.* 3, 289–301. (M. Cecchi) **99k:34158** 34K15 (34K25)

— Note on: "Oscillation theorems for certain second order nonlinear difference equations" [J. Math. Anal. Appl. **204** (1996), no. 3, 813–829; MR 97i:39006] by P. J. Y. Wong and R. P. Agarwal. *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 349–355. (Allan C. Peterson) **99g:39015** 39A10 (39A11)

— (*with* Ramayyan, A.) Second order linear difference equations over discrete Hardy fields. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 2, 181–187. (Vichian Laohakosol) **99g:39014** 39A10 (12H10)

— (*with* Ramuppillai, L.) Oscillation theorems for certain class of nonlinear difference equations. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 513–519. (Summary) **99d:39019** 39A12 (39A11)

— (*with* Arul, R.) Oscillatory and asymptotic behavior of solutions of higher order damped nonlinear difference equations. (English summary) *Czechoslovak Math. J.* **49(124)** (1999), *no.* 1, 149–161. (Vladimir Sh. Burd) **99m:39018** 39A11

nguyễn quôc Tháng *see* **Nguyễn Quôc Tháng**

Thang, Dang Hung *see* **Đặng Hùng Thắng**

Thắng, Nguyễn Quôc *see* **Nguyễn Quôc Tháng**

Thangaraj, D. (*with* Nathan, Arokia) A rotated monotone difference scheme for the two-dimensional anisotropic drift-diffusion equation. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 445–461. (Summary) **99d:65256** 65M06

Thangavel, K. (*with* Kanniappan, P.) Modified Fourier's method of solving linear programming problems. (English summary) *Opsearch* **35** (1998), *no.* 1, 45–56. (Summary) **99b:90078** 90C05

Thangavelu, Sundaram On Paley-Wiener properties of the Heisenberg group. *Current Sci.* **73** (1997), *no.* 6, 519–522. (Gerald B. Folland) **99c:43004** 43A30 (22E30, 43A80)

— ★ Harmonic analysis on the Heisenberg group. (English summary) Progress in Mathematics, 159. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xiv*+192 *pp. ISBN* 0-8176-4050-9 (Gerald B. Folland) **99h:43001** 43–02 (43A20, 43A22, 43A30, 43A80)

— (*with* Ratnakumar, P. K.) Spherical means, wave equations, and Hermite-Laguerre expansions. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 253–290. (J. V. Baxley) **99h:33047** 33C45

— (*with* Radha, Ramakrishnan) Weyl multipliers for invariant Sobolev spaces. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 31–40. (Gerald B. Folland) **99g:46045** 46E35 (42B15, 44A15, 47B38)

dinh ngoc Thanh *see* **Dinh Ngoc Thanh**

nguyen Thanh Lan *see* **Nguyen Thanh Lan**

vo Thanh Liem *see* **Vo Thanh Liem**

nguyen Thanh Long *see* **Nguyen Thanh Long**

nguyen Thanh Quang *see* **Nguyen Thanh Quang**

nguyen Thanh Van *see* **Nguyen Thanh Van**

Thao, Nguyen T. (*with* Vetterli, Martin) Set-theoretic compression with an application to image coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 7, 1051–1056. (Summary) **99i:94014** 94A12

— (*with* Goyal, Vivek K.; Vetterli, Martin) Quantized overcomplete expansions in $\mathbf{R}^N$: analysis, synthesis, and algorithms. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 16–31. (Summary) **99a:94004** 94A12

Thao, Nguyen Xuan (*with* Kakichev, V. A.; Vũ Kim Tuấn) On the generalized convolutions for Fourier cosine and sine transforms. (English summary) *East-West J. Math.* **1** (1998), *no.* 1, 85–90. (N. K. Karapetyants) **99m:42011** 42A38 (44A35, 45E10)

Thapliyal, S. (*with* Faitakis, Yannis E.; Kantor, Jeffrey C.) An LMI approach to the evaluation of alarm thresholds. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 659–667. 93B30

Tharwat, A. (*with* Zimmermann, Karel) Some optimization problems on solubility sets of separable max-min equations and inequalities. *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 2, 45–57. (Summary) **99b:90125** 90C30 (90C70)

Thas, Charles Desmic systems of tetrahedra associated with a Morley-Petersen-Study configuration. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 190–199. (Stanley E. Payne) **99e:51019** 51M04 (51M15)

Thas, Joseph Adolphe (*with* Van Maldeghem, Hendrik) Sub-weakly embedded singular and degenerate polar spaces. (English summary) *Geom. Dedicata* **65** (1997), *no.* 3, 291–298. (Stanley E. Payne) **99a:51003** 51A50

— Generalized quadrangles of order (s, s^2). II. *J. Combin. Theory Ser. A* **79** (1997), *no.* 2, 223–254. (Dina Smit-Ghinelli) **99e:51004** 51E12 (05B25)

— Embeddings of geometries in finite projective spaces: a survey. (English summary) *Groups and geometries* (*Siena*, 1996), 201–214, *Trends Math., Birkhäuser, Basel*, 1998. (Summary) **99h:51006** 51E14 (51E12, 51E15)

— Some new classes of extended generalized quadrangles of order $(q+1, q-1)$. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 461–467. (Norbert Knarr) **99f:51010** 51E12 (51E20, 51E24)

— Finite geometries, varieties and codes. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 397–408 (*electronic*). (Maria Scafati Tallini) **99m:51008** 51E15 (05B05, 51E20, 51E21, 94B27)

— (*with* Van Maldeghem, Hendrik) Flat lax and weak lax embeddings of finite generalized hexagons. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 733–751. (Stanley E. Payne) **99k:51006** 51E12 (51E20)

— (*with* Bloemen, I.; Van Maldeghem, Hendrik) Translation ovoids of generalized quadrangles and hexagons. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 19–62. (Horst Struve) **99h:51001** 51E12 (51E20, 51E23)

— 3-regularity in generalized quadrangles: a survey, recent results and the solution of a longstanding conjecture. (English summary) Combinatorics '98 (Mondello). *Rend. Circ.*

Mat. Palermo (2) *Suppl. No.* 53 (1998), 199–218. (Summary) **99h:51004** 51E12
— *see also* **Finite geometry and combinatorics, 99a:51001**
Thatcher, Marcus J. (*with* Morgan, Michael J.) Stability of string defects in models of non-abelian symmetry breaking. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065017, 13 *pp.* (Summary) **99k:81272** 81T30 (81V22)
Thäter, Gudrun (*with* Passerini, Arianna; Patria, M. Cristina) Steady flow of a viscous incompressible fluid in an unbounded "funnel-shaped" domain. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 43–62. (Benoît P. Desjardins) **99f:35171** 35Q35 (76D05)
— (*with* Sohr, Hermann) Imaginary powers of second order differential operators and L^q-Helmholtz decomposition in the infinite cylinder. *Math. Ann.* **311** (1998), *no.* 3, 577–602. (Zinovi Sheftel) **99h:35035** 35J15 (47F05)
Thatte, Bhalchandra D. A reconstruction problem related to balance equations. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 279–284. (Y. Roditty) **99b:05101** 05C60
— A reconstruction problem related to balance equations. II. The general case. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 281–284. (Y. Roditty) **99k:05120** 05C60
ton That Tri *see* **Ton That Tri**
Thavaneswaran, A. (*with* Singh, Jagbir[1]; Ordoukhani, N.) A note on optimal smoothers for semimartingales. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 350–353, *Narosa, New Delhi*, 1998. (Miguel A. Arcones) **99j:62051** 62G05 (60G48, 62M99)
— (*with* Macpherson, B. D.; Abraham, Bovas) An application of filtering to statistical process control. (English summary) *Quality improvement through statistical methods* (*Cochin*, 1996), 109–120, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99h:62122** 62M20 (62N10)
— (*with* Samanta, M.) On a test of independence in a multivariate exponential distribution. (English summary) *Quality improvement through statistical methods* (*Cochin*, 1996), 381–389, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62011**) 62F03 (62N05)
— (*with* Peiris, M. Shelton) Hypothesis testing for some time-series models: a power comparison. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 151–156. (Summary) **99e:62166** 62M10
Thayse, André (*with* Gribomont, E. Pascal; Hulin, G.; et al.) ★ Логический подход к искусственному интеллекту. (Russian. Russian summary) [A logical approach to artificial intelligence] От модальной логики к логике баз данных. [From modal logic to the logic of databases] Translated from the 1989 French original by G. P. Gavrilov, P. P. Permyakov and A. A. Ivanova. Translation edited and with a preface by Gavrilov. "*Mir*", *Moscow*, 1998. 494 *pp. ISBN* 5-03-002519-7 (Olga M. Kosheleva) **99m:68190** 68T27 (03B45, 03B70, 68–01, 68P15)
Théberge, F. (*with* Simonian, Alain D.; Roberts, James W.; Mazumdar, Ravi R.) Asymptotic estimates for blocking probabilities in a large multi-rate loss network. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 806–829. (Peter Gerrard Taylor) **99c:60211** 60K30 (60F10, 90B15)
doan The Hieu *see* **Doan The Hieu**
Theis, U. (*with* Dragon, Norbert; Ivanov, Evgeniĭ Alekseevich[2]; Kuzenko, Sergei M.; Sokatchev, E.) $N = 2$ rigid supersymmetry with gauged central charge. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 411–450. (Ilya Shapiro) **99k:81303** 81T60 (81T13)
Theisel, Holger On geometric continuity of isophotes. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 419–426, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65Y25
Theisen, Stefan (*with* Brandhuber, Andreas; Itzhaki, Nissan; Sonnenschein, Jacob; Yankielowicz, Shimon) On the M-theory approach to (compactified) 5D field theories. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 127–134. (Gonzalo Violero) **99a:81129** 81T30 (81T13, 81T60, 83E30)
— (*with* Pawełczyk, Jacek) $AdS_5 \times S^5$ black hole metric at $O(\alpha'^3)$. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 10, 6 *pp.* (*electronic*). (Summary) **99k:83124** 83E30 (81T30, 83C57)
— (*with* Rey, Soo-Jong; Yee, Jung-Tay) Wilson-Polyakov loop at finite temperature in large-N gauge theory and anti-de Sitter supergravity. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 171–186. (Summary) **99d:83098** 83E30 (81T30, 83E50)
— (*with* Lerche, Wolfgang; Schweigert, Christoph; Minasian, Ruben) A note on the geometry of CHL heterotic strings. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 53–59. (Summary) **99c:81198** 81T30
colliot-Thélène, J.-L. *see* **Colliot-Thélène, J.-L.**
de Thélin, François (*with* Fleckinger, Jacqueline; Gossez, Jean-Pierre; Takáč, Peter) Nonexistence of solutions and an anti-maximum principle for cooperative systems with the p-Laplacian. (English summary) *Math. Nachr.* **194** (1998), 49–78. (P. Lindqvist) **99j:35078** 35J70 (35B50, 35J45)
đinh Thế Lục *see* **Đinh Thế Lục**
Theobald, Thorsten (*with* Meinel, Christoph) On the influence of the state encoding on OBDD-representations of finite state machines. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 408–417, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68038** 68Q05 (68Q68)
Theocaris, Pericles S. (*with* Sokolis, Dimitrios P.) Spectral decomposition of the compliance tensor for anisotropic plates. (English summary) *J. Elasticity* **51** (1998), *no.* 2, 89–103. (Summary) **99h:73012** 73B40 (73K10)
— (*with* Panagiotopoulos, Panagiotis D.; Panagouli, O. K.; Mistakidis, E. S.) On debonding and delamination effects in adhesively bonded cracks on fractal type. (English summary) *J. Elasticity* **51** (1998), *no.* 3, 177–201. (Summary) **99j:73086** 73M25 (73K20, 73V25)
Theodor, Y. (*with* Shaked, Uri) Output-feedback mixed H_∞/H_2 control—a dynamic game approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 263–279. 93B36 (90D25)
Theodorescu, Radu (*with* Cuculescu, Ion) Multivariate unimodality revisited. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 525–553. (F. W. Steutel) **99i:60027** 60E05 (52A20, 52A30)
— (*with* Cuculescu, Ion) Multiplicative strong unimodality. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 205–214. (D. N. Shanbhag) **99g:60026** 60E05 (62E10)
— (*with* Abdous, Belkacem) Mean, median, mode. IV. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 3, 356–359. (Summary) **99k:62031** 62E15
Theodosopoulos, Theodore V. Some remarks on the optimal level of randomization in global optimization. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 303–318, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (J. Mockus) **99k:90164** 90C30 (65K05, 90C15)
Theofilis, Vassilios On the resolution of critical flow regions in inviscid linear and nonlinear instability calculations. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 111–129. (*see* **99d:76001**) 76F99 (76E30, 76E99)
Théorêt, Pierre Hyperbinomials multiples. (English and French summaries) [Multiple hyperbinomials] *Ann. Sci. Math. Québec* **21** (1997), *no.* 2, 167–176. (Alain J. Phares) **99h:39012** 39A10
Théra, Michel (*with* Adly, Samir; Buttazzo, Giuseppe) Critical points for nonsmooth energy functions and applications. *Nonlinear Anal.* **32** (1998), *no.* 6, 711–718. (Vitaly B. Moroz) **99b:49013** 49J52 (35J85, 35R05, 46N20, 58E35)
Théret, David Rotation numbers of Hamiltonian isotopies in complex projective spaces. *Duke Math. J.* **94** (1998), *no.* 1, 13–27. (Karl Friedrich Siburg) **99e:58078** 58F05 (57S25)
Thérien, Denis (*with* Maciel, Alexis) Threshold circuits of small majority-depth. (English summary) *Inform. and Comput.* **146** (1998), *no.* 1, 55–83. (Christoph Meinel) **99k:68082** 68Q25 (68Q05, 68Q15, 94C10)
— (*with* Caussinus, Hervé; McKenzie, Pierre; Vollmer, Heribert) Nondeterministic NC^1 computation. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 200–212. (Summary) **99m:68059** 68Q15
Thérond, Jean-Daniel Les idéaux de l'anneau des entiers d'un corps quadratique. (French summary) [The ideals of the ring of integers of a quadratic field] *Publications du Centre de Recherches en Mathématiques Pures. Sér. II, Tome* 13, 17–24, *Publ. Centre Rech. Math. Pures Sér. II*, 13, *Univ. Neuchâtel, Neuchâtel*, 1995. (*see* **99g:00032**) 11R11
— Zyklische kubische monogene Erweiterungen der ganzalgebraischen Zahlen eines quadratischen Körpers. (French summary) [Cyclic cubic monogenic extensions of the algebraic integers of a quadratic field] *Arch. Math. (Basel)* **72** (1999), *no.* 3, 180–184. (Franz Lemmermeyer) **99m:11120** 11R04 (11R16)
Théry, L. (*with* Harrison, John Robert) A skeptic's approach to combining HOL and Maple. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 279–294. 68T15 (68Q40)
Theseider Dupré, Daniele (*with* Brusoni, Vittorio; Console, Luca; Terenziani, Paolo) A spectrum of definitions for temporal model-based diagnosis. (English summary) *Artificial Intelligence* **102** (1998), *no.* 1, 39–79. 68T27
Thess, A. (*with* Boos, Waldemar) Cascade of structures in long-wavelength Marangoni instability. (English summary) *Phys. Fluids* **11** (1999), *no.* 6, 1484–1494. 76E15
— (*with* Zikanov, O.; Nepomnyashchy, A.) Finite-time singularity in the vortex dynamics of a string. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part B*, 3637–3640. (Summary) **99k:73075** 73K03 (76C05)
Theunissen, M. (*with* Nicolis, C.; Nicolis, Grégoire) Recurrence times in quasi-periodic motion: statistical properties, role of cell size, parameter dependence. (English summary) *J. Statist. Phys.* **94** (1999), *no.* 3-4, 437–467. (Summary) **99m:58165** 58F27
Thévenaz, Philippe (*with* Unser, Michael; Aldroubi, Akram) Shift-orthogonal wavelet bases. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 7, 1827–1836. (Summary) **99i:94004** 94A11 (42C15, 94A12)
The Wutam Consortium Basic properties of wavelets. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 575–594. (Hans W. Volkmer) **99i:42056** 42C15
dao trong Thi *see* **Dao Trong Thi**
Thiagarajan, P. S. (*with* Madhusudan, P.) Controllers for discrete event systems via morphisms. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 18–33, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:93065** 93C83 (68Q60)
Thiagarajan, Visalakshi (*with* Datta, Ajoy K.; Gonzalez, Teofilo F.) Self-stabilizing algorithms for tree metrics. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 1, 121–133. (Summary) **99c:68010** 68M10 (68Q10)
Thiam, M'Bayang (*with* Lellahi, Seyed-Kazem; Spyratos, Nicolas) Object functional dependencies and the semantics of class extensions. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 867–888 (*electronic*). (Summary) **99h:68038** 68P15
Thibault, J. P. *see* **Transfer phenomena in magnetohydrodynamic and electroconducting flows, 99k:76007**
Thibault, L. (*with* Jourani, Abderrahim) Qualification conditions for calculus rules of coderivatives of multivalued mappings. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 66–81. (B. Mordukhovich) **99f:49021** 49J52 (46G05, 46N10, 58C06)
— (*with* Amahroq, T.; Jourani, Abderrahim) A general metric regularity in Asplund Banach spaces. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 215–226. (Ada Bottaro Aruffo) **99h:49021** 49J52 (46A99, 46G99, 90C48)
— (*with* Combari, C.; Elhilali Alaoui, A.; Levy, Adam B.; Poliquin, R. A.) Convex composite functions in Banach spaces and the primal lower-nice property. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3701–3708. (Doug Ward) **99b:49016** 49J52 (46G05, 46N10, 58C20)
Thibes, R. (*with* Barcelos-Neto, J.) Two-form gauge fields in the Becchi-Rouet-Stora-Tyutin superspace. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5669–5692. (Rie Kuriki) **99j:81189** 81T70
— (*with* Amorim, R.; Braga, Nelson R. F.) Axial and gauge anomalies in the field-antifield quantization of the generalized Schwinger model. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 325–330. (Mohamed Kachkachi) **99k:81287** 81T50 (81T13, 81T70)
Thibon, Jean-Yves (*with* Leclerc, Bernard) The Robinson-Schensted correspondence, crystal bases, and the quantum straightening at $q = 0$. (English summary) The Foata Festschrift. *Electron. J. Combin.* **3** (1996), *no.* 2, *Research Paper* 11, *approx.* 24 *pp.* (*electronic*). (From the introduction) **99c:05203** 05E10 (05E15)
— (*with* Duchamp, Gérard; Klyachko, Aleksandr Anatol'evich; Krob, Daniel) Noncommutative symmetric functions. III. Deformations of Cauchy and convolution algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 159–216. (Arun Ram) **99m:05161** 05E05 (15A15, 20F36)

— (*with* Krob, Daniel) Noncommutative symmetric functions. IV. Quantum linear groups and Hecke algebras at $q = 0$. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 4, 339–376. (Jian Yi Shi) **99c:05196** 05E05 (17B37, 20C30)

— (*with* Leclerc, Bernard) q-deformed Fock spaces and modular representations of spin symmetric groups. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6163–6176. (Christine Bessenrodt) **99c:17029** 17B37 (20C20, 81R50)

— (*with* Toumazet, Frédéric; Wybourne, Brian G.) Symmetrized squares and cubes of the fundamental unirreps of Sp($2n$, **R**). (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1073–1086. (Veena Sharma) **99h:22020** 22E46 (20G05, 22E30, 81R05)

— (*with* Foda, Omar; Leclerc, Bernard; Okado, Masato; Welsh, Trevor A.) RSOS models and Jantzen-Seitz representations of Hecke algebras at roots of unity. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 31–42. (Summary) **99a:20007** 20C30 (17B10)

laurent-Thiébaut, C. *see* **Laurent-Thiébaut, C.**

Thiel, Christoph (*with* Müller, Volker[2]; Stein, Andreas) Computing discrete logarithms in real quadratic congruence function fields of large genus. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 807–822. (Martha Rzedowski-Calderón) **99i:11119** 11Y16 (11R58, 11T71, 68P25, 94A60)

Thiel, Larry (*with* Ding, Yuan; Houghten, Sheridan; Lam, Clement Wing Hong; Smith, Suzan; Tonchev, Vladimir D.) Quasi-symmetric 2-(28, 12, 11) designs with an automorphism of order 7. (English summary) *J. Combin. Des.* **6** (1998), *no.* 3, 213–223. (Mohan S. Shrikhande) **99a:05011** 05B05

Thiele, Christoph M. (*with* Lacey, Michael T.) L^p estimates on the bilinear Hilbert transform for $2 < p < \infty$. *Ann. of Math.* (2) **146** (1997), *no.* 3, 693–724. (Loukas Grafakos) **99b:42014** 42A50 (42B20)

— (*with* Lacey, Michael T.) On Calderón's conjecture for the bilinear Hilbert transform. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 9, 4828–4830 (*electronic*). (Kenneth F. Andersen) **99e:42013** 42A50 (44A15)

Thiele, E.-J. *see* **Mathematics in Berlin, 99k:01080**

Thiele, Helmut On closure operators in fuzzy deductive systems and fuzzy algebras. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 304–309, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B52 (03G25)

Thiele, K. (*with* Knabner, Peter; Tapp, C.) Adaptive finite volume discretization of density driven flows in porous media. Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 115–136. (Zhangxin Chen) **99j:65156** 65M55 (76M10, 76S05)

Thiele, L. (*with* Heckler, Christian) Complexity analysis of a parallel lattice basis reduction algorithm. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1295–1302 (*electronic*). (Claus-Peter Schnorr) **99f:11159** 11Y16 (11H06, 68Q22, 68Q25)

Thiele, Torsten (*with* Pach, János; Tóth, Géza) Three-dimensional grid drawings of graphs. (English summary) *Graph drawing* (*Rome*, 1997), 47–51, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99e:68129** 68R10 (68U05)

— (*with* Pach, János; Tóth, Géza) Three-dimensional grid drawings of graphs. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 251–255, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52031** 52C10

— A lower bound on the independence number of arbitrary hypergraphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 213–221. (J. R. Griggs) **99k:05126** 05C65 (05C70, 05D05)

Thielmann, Thomas (*with* Lück, Wolfgang; Schick, Thomas) Torsion and fibrations. (English summary) *J. Reine Angew. Math.* **498** (1998), 1–33. (Andrew W. Hassell) **99e:58203** 58G26 (57Q10)

Thielscher, Michael A theory of dynamic diagnosis. (English summary) Commentary is available at http://www.ida.liu.se/ext/etai/received/rac/002/aip.html. *Electron. Trans. Artif. Intell.* **1** (1997), *no.* 4, 73–104 (*electronic*). (Summary) **99g:68196** 68T27

— Reasoning about actions: steady versus stabilizing state constraints. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 339–355. (Summary) **99g:68197** 68T27

— (*with* Gabbay, Dov M.; Nossum, Rolf) Agents in proactive environments. (English summary) *J. Logic Comput.* **9** (1999), *no.* 1, 25–45. (Summary) **99j:68132** 68T27 (03B70)

Thiemann, Peter (*with* Barthe, Gilles; Hatcliff, John) Monadic type systems: pure type systems for impure settings (preliminary report). *Second Workshop on Higher-order Operational Techniques in Semantics* (*HOOTS II*) (*Stanford, CA*, 1997), 67 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 10, *Elsevier, Amsterdam*, 1998. (*see* **99e:68003**) 68N15 (03B70, 68Q55)

Thiemann, T. Quantum spin dynamics (QSD). (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 839–873. (Stephen F. Sawin) **99j:83037** 83C45 (83C27)

— Quantum spin dynamics (QSD). II. The kernel of the Wheeler-DeWitt constraint operator. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 875–905. (Stephen F. Sawin) **99j:83038** 83C45 (83C27)

— Quantum spin dynamics (QSD). III. Quantum constraint algebra and physical scalar product in quantum general relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1207–1247. (Jorge A. Pullin) **99m:83082a** 83C45 (81V17)

— Quantum spin dynamics (QSD). IV. 2 + 1 Euclidean quantum gravity as a model to test 3 + 1 Lorentzian quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1249–1280. (Jorge A. Pullin) **99m:83082b** 83C45 (81V17)

— Quantum spin dynamics (QSD). V. Quantum gravity as the natural regulator of the Hamiltonian constraint of matter quantum field theories. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1281–1314. (Jorge A. Pullin) **99m:83082c** 83C45 (81V17)

— Quantum spin dynamics (QSD). VI. Quantum Poincaré algebra and a quantum positivity of energy theorem for canonical quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1463–1485. (Jorge A. Pullin) **99m:83082d** 83C45 (81V17)

— Kinematical Hilbert spaces for fermionic and Higgs quantum field theories. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1487–1512. (Ambar Sengupta) **99h:83025** 83C45 (81S99)

— The inverse loop transform. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1236–1248. (Jorge A. Pullin) **99b:58041** 58D20 (58Z05, 81T13, 83C45)

— Closed formula for the matrix elements of the volume operator in canonical quantum gravity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3347–3371. (Dana S. Fine) **99c:83034a** 83C45 (22E70)

— A length operator for canonical quantum gravity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3372–3392. (Dana S. Fine) **99c:83034b** 83C45 (22E70)

Thieme, Horst R. Quasi-compact semigroups via bounded perturbation. (English summary) *Advances in mathematical population dynamics—molecules, cells and man* (*Houston, TX*, 1995), 691–711, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Paolo Acquistapace) **99i:47070** 47D06 (35K99, 47A10, 47A55, 92D25)

— Remarks on resolvent positive operators and their perturbation. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 1, 73–90. (Vladimir E. Fedorov) **99a:47063** 47D06 (34G10)

— Balanced exponential growth of operator semigroups. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 30–49. (Paolo Acquistapace) **99g:47101** 47D06 (34K25, 47A10)

— (*with* Diekmann, Odo; Gyllenberg, Mats; Metz, J. A. J.) On the formulation and analysis of general deterministic structured population models. I. Linear theory. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 349–388. (V. N. Razzhevaikin) **99k:92025** 92D25

— (*with* van den Driessche, P.) Global stability in cyclic epidemic models with disease fatalities. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 459–472, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Miklós Farkas) **99m:92048** 92D30 (34K20, 45J05, 45M10)

— Uniform weak implies uniform strong persistence for non-autonomous semiflows. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2395–2403. (Peter Moson) **99j:54042** 54H20 (92D30)

phan-Thien, Nhan *see* **Phan-Thien, Nhan**

phan Thien Danh *see* **Phan Thien Danh**

Thien Danh, P. *see* **Phan Thien Danh**

Thienel, Stefan (*with* Jünger, Michael) Introduction to ABACUS—a branch-and-cut system. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 83–95. 90C11 (90–04)

Thierauf, Thomas (*with* Buhrman, Harry; Fortnow, Lance) Nonrelativizing separations. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 8–12, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68043** 68Q15

— (*with* Agrawal, Manindra) The satisfiability problem for probabilistic ordered branching programs. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 81–90, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68039** 68Q15

— (*with* Buhrman, Harry; Kadin, J.) Functions computable with nonadaptive queries to NP. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 77–92. (Summary) **99d:68080** 68Q15

Thierrin, Gabriel (*with* Ito, Masami[1]; Kari, Lila) Two operators on languages related to shuffle products. *Proceedings of the* 20*th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 34–38, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M35 (68Q45)

— (*with* Kari, Lila) Word insertions and primitivity. (English summary) *Util. Math.* **53** (1998), 49–61. (Véronique Bruyère) **99f:68165** 68R15 (68Q45)

Thies, M. (*with* Lenz, F.) Polyakov loop dynamics in the center symmetric phase. (English summary) *Ann. Physics* **268** (1998), *no.* 2, 308–358. (Massimo Di Pierro) **99h:81135** 81T13

— (*with* Seeger, M.) $(1 + 1)$-dimensional QCD with static quarks as supersymmetric quantum mechanics. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 027701, 4 *pp.* 81V05 (81Q60)

trần vũ thiệu *see* **Trần Vũ Thiệu**

Thieu, Tran Vu *see* **Trần Vũ Thiệu**

Thieullen, Ph. Ergodic reduction of random products of two-by-two matrices. (English summary) *J. Anal. Math.* **73** (1997), 19–64. (Cesar E. Silva) **99j:28017** 28D05 (58F11)

le Thi Hoai An *see* **Le Thi Hoai An**

Thilaka, B. (*with* Vijayakumar, Arunachalam; Kumar, B. Krishna) On semi-Markov compartmental models with branching particles under the influence of disasters. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1101–1122. (Summary) **99b:60149** 60J85

tran Thi Le *see* **Tran Thi Le**

Thilikos, Dimitris M. (*with* Bodlaender, Hans L.; van Leeuwen, Jan; Tan, Richard B.) On interval routing schemes and treewidth. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 92–109. (Dominique Sotteau) **99g:68149** 68R10 (68M10, 68Q25)

Thill, William (*with* Chapman, Scott T.) On a generalisation of a theorem of Zaks and Skula. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 79–83. (Robert O. Stanton) **99g:20098** 20K01 (13C20)

Thilliez, Vincent Sur les fonctions composées ultradifférentiables. (English and French summaries) [Ultradifferentiable composite functions] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 6, 499–524. (Wiesław Pleśniak) **99e:58018** 58C25 (26E10, 46E99)

Thiran, J. P. (*with* Le Bailly, B.) Optimum parameters for the generalized ADI method. (English summary) *Numer. Math.* **80** (1998), *no.* 3, 377–395. (Günther Nürnberger) **99i:41015** 41A20 (65D99)

Thirring, Walter E. ★ Selected papers of Walter E. Thirring. With commentaries. With a foreword by Elliott H. Lieb. Collected Works, 8. *American Mathematical Society, Providence, RI*, 1998. xiv+729 *pp. ISBN* 0-8218-0812-5 (H. Araki) **99b:01026** 01A75 (46L60, 81–03, 82–03)

Thirwani, Deepa (*with* Arora, Savita; Khanna, Saroj) An algorithm for solving fixed charge bi-criterion transportation problem with restricted flow. (English summary) *Optimization* **40** (1997), *no.* 2, 193–206. (Summary) **99a:90090** 90B06 (90C29)

— A note on fixed-charge bi-criterion transportation problem with enhanced flow. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 565–571. (Summary) **99b:90080** 90C08 (90B06)

Thistle, J. G. Control synthesis for discrete event systems. *Dynamical systems, control, coding, computer vision* (*Padova*, 1998), 481–493, *Progr. Systems Control Theory*, 25, *Birkhäuser, Basel*, 1999. (*see* **99k:93006**) 93C83 (93C30)

Thistle, Paul D. Social structure, economic performance and Pareto optimality. (English summary) *Theory and Decision* **45** (1998), *no.* 2, 161–173. (Summary) **99k:90019** 90A08

(90C29)

Thistlethwaite, Morwen On the structure and scarcity of alternating links and tangles. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 7, 981–1004. (Stephen P. Humphries) **99k:57031** 57M25

— (*with* Hoste, Jim; Weeks, Jeffrey R.) The first 1,701,936 knots. *Math. Intelligencer* **20** (1998), *no.* 4, 33–48. (C. Kearton) **99i:57015** 57M25

nguyen Thi Tinh *see* **Nguyen Thi Tinh**

cocozza-Thivent, Christiane *see* **Cocozza-Thivent, Christiane**

nguyen van Thoai *see* **Nguyen Van Thoai**

Thoai, Nguyen V. *see* **Nguyen Van Thoai**

Thoai, Nguyen Van *see* **Nguyen Van Thoai**

Thoft-Christensen, P. (*with* Jensen, F. M.) Reliability based optimization of passive fire protection on offshore topsides. *Systems modelling and optimization* (*Detroit, MI*, 1997), 309–317, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90B25

Tholen, Walter (*with* Clementino, Maria Manuel) Separated and connected maps. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 3, 373–401. (Summary) **99h:18005** 18B30 (18A32, 54B30, 54C10, 54D05)

— (*with* Janelidze, George; Márki, László) Locally semisimple coverings. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 3, 281–289. (Hans-E. Porst) **99d:18010** 18E10 (16N99, 55U35)

Tholudur, Arun (*with* Ramirez, W. Fred) Obtaining smoother singular arc policies using a modified iterative dynamic programming algorithm. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1115–1128. 90C39 (93E20)

— (*with* Ramirez, W. Fred) System modelling using neural network parameter functions. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 887–898. (*see* **99h:93003**) 93A30 (93B30, 93C83)

Thom, Réné The role of qualitative dynamics in applied sciences. *Geometric dynamics* (*Rio de Janeiro*, 1981), 784–788, *Lecture Notes in Math.*, 1007, *Springer, Berlin*, 1983. (*see* **84m:58003**) 01A60 (00A69, 58Fxx)

— Les géodésiques dans les variétés à courbure négative (d'après E. Hopf). [Geodesics in negatively curved manifolds (after E. Hopf)] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 28, 203–213, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 58F17

— Sous-variétés et classes d'homologie des variétés différentiables. [Submanifolds and homology classes of differentiable manifolds] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 78, 271–277, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 57R20 (57R40)

— Sur les variétés-bords. [On bounding manifolds] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 89, 357–364, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 57R75 (57R20)

— Les singularités des applications différentiables. [The singularities of differentiable mappings] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 134, 357–369, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 58C27

— La classification des immersions (d'après Smale) [MR **21** #4429]. [The classification of immersions (after Smale)] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 157, 279–289, *errata pp.* 216–217, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 57R42

— Travaux de Milnor sur le cobordisme. [Works of Milnor on cobordism] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 180, 169–177, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 57R75

— Travaux de Moser sur la stabilité des mouvements périodiques [MR **31** #2468]. [Works of Moser on the stability of periodic motions] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 264, 297–309, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 58F22 (34C25, 58F10, 70K99)

— Propriétés différentielles locales des ensembles analytiques (d'après H. Whitney). [Local differential properties of analytic sets (after H. Whitney)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 281, 69–80, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 32C25

— L'émergence des structures. [The emergence of structures] *The emergence of complexity in mathematics, physics, chemistry and biology* (*Vatican City*, 1992), 43–64, *Pontif. Acad. Sci. Scr. Varia*, 89, *Pontif. Acad. Sci., Vatican City*, 1996. (J. S. Joel) **99d:01006** 01A05 (00A05)

— Autobiography of René Thom. *Fields Medallists' lectures*, 70–76, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (55–03, 57–03)

— Sur les travaux de Stephen Smale [MR **38** #1703]. [On the works of Stephen Smale] *Fields Medallists' lectures*, 129–132, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (57–03)

— *see also* **Hopf, H.**, (**99b:00010**)

Thoma, Apostolos The group $Z_2 \times Z_n$ and regular polygonal paths. *Amer. Math. Monthly* **105** (1998), *no.* 9, 840–841. 52B05

Thoma, Luboš (*with* Rödl, Vojtěch) On the size of set systems on $[n]$ not containing weak (r, Δ)-systems. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 166–173. (Summary) **99g:05176** 05D05

— (*with* Łuczak, Tomasz) Convergence of probabilities for the second order monadic properties of a random mapping. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 3, 277–295. (György Turán) **99f:03039** 03C13 (03C85, 05A16, 60A99)

Thomas, B. *see* **Pernaud-Thomas, Bernadette**

pernaud-Thomas, Bernadette *see* **Pernaud-Thomas, Bernadette**

Thomas, Charles B. Almost linear actions by $SL_2(p)$ on S^{2n-1}. (English summary) *Forum Math.* **9** (1997), *no.* 6, 751–760. (Summary) **99a:57032** 57S25 (57S17)

— (*with* Geiges, Hansjörg) Contact structures on 7-manifolds. *Geometry, topology, and dynamics* (*Montreal, PQ*, 1995), 53–67, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Rostislav Matveyev) **99e:57039** 57R15 (53C15)

Thomas, D. A. *see* **Thomas, Doreen A.**

Thomas, D. G. *see* **Thomas, Durairaj Ginanaraj**

Thomas, D. K. (*with* Darus, M.) α-logarithmically convex functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1049–1059. (Carl P. McCarty) **99k:30018** 30C45

— (*with* Darus, M.) On the Fekete-Szegő theorem for close-to-convex functions. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 125–132. (Wolfram Koepf) **99e:30015** 30C45

Thomas, Doreen A. (*with* Brazil, M.; Rubinstein, Joachim H.; Weng, J. F.; Wormald, Nicholas C.) Minimal Steiner trees for rectangular arrays of lattice points. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 2, 181–208. (From the text) **99d:05022** 05C05

— (*with* Covington, Jacinta) A homogenizable fishy poorset. (English summary) *J. Algebra* **211** (1999), *no.* 2, 625–639. (Gerhard Behrendt) **99m:20003** 20B27 (06A06, 08A35)

— (*with* Brazil, M.; Weng, J. F.) A polynomial time algorithm for rectilinear Steiner trees with terminals constrained to curves. (English summary) *Networks* **33** (1999), *no.* 2, 145–155. (Summary) **99j:05174** 05C85 (68Q35, 68R10)

Thomas, Durairaj Ginanaraj (*with* Emerald, J. D.; Subramanian, K. G.) Learning a subclass of context-free languages. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 223–231, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68T05 (68Q45)

Thomas, E. G. F. Vector-valued integration with applications to the operator-valued H^∞ space. (English summary) Distributed parameter systems: analysis, synthesis and applications, Part 2. *IMA J. Math. Control Inform.* **14** (1997), *no.* 2, 109–136. (M. M. Rao) **99d:28016** 28B05 (42B30, 46G10, 47B99)

Thomas, F. (*with* Castellet, A.) An algorithm for the solution of inverse kinematics problems based on an interval method. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 393–402, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Thomas, Gabriel The problem of defining the singular points of quasi-linear differential-algebraic systems. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 49–79. (Georg M. Reinhart) **99e:34010** 34A26 (12H05, 34A09)

Thomas, George Rubin (*with* Griggs, Jerrold R.; Simonovits, Miklós) Extremal graphs with bounded densities of small subgraphs. (English summary) *J. Graph Theory* **29** (1998), *no.* 3, 185–207. (W. G. Brown) **99m:05076** 05C35 (05C15)

Thomas, Hywel Rhys (*with* Zhou, Zhengming) An analysis of factors that govern the minimum time step size to be used in the finite element analysis of diffusion problems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 9, 809–819. (Summary) **99e:65134** 65M60

Thomas, Jean-Marie (*with* Trujillo, David) Finite volume methods for elliptic problems: convergence on unstructured meshes. *Numerical methods in mechanics* (*Concepción*, 1995), 163–174, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (Larisa V. Maslovskaya) **99f:65188** 65N50 (65N12)

— (*with* Barrenechea, Gabriel R.; Gatica, Gabriel N.) Primal mixed formulations for the coupling of FEM and BEM. I. Linear problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 7–32. (Leonid Yasnitsky) **99d:65310** 65N30 (73V05, 73V10)

— (*with* Capatina-Papaghiuc, Daniela) Nonconforming finite element methods without numerical locking. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 163–186. (Qian Li) **99j:65162** 65M60

Thomas, K. V. (*with* Ajmal, Naseem) The join of fuzzy algebraic substructures of a group and their lattices. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 213–224. (H. V. Kumbhojkar) **99k:20126** 20N25

Thomas, Launey J., III (*with* Wichmann, Eyvind H.) On a class of distributions of interest in quantum field theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1680–1719. (S. Sakai) **99d:81070** 81T05 (46F05, 46L60, 46N50)

— (*with* Wichmann, Eyvind H.) Standard forms of local nets in quantum field theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2643–2681. (Stephen J. Summers) **99c:81129** 81T05 (46L60)

Thomas, Lawrence E. (*with* Lieb, Elliott H.) Exact ground state energy of the strong-coupling polaron. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 511–519. (Nicolae Angelescu) **99a:81034a** 81Q15 (81R30, 81V70)

— (*with* Lieb, Elliott H.) Erratum: "Exact ground state energy of the strong-coupling polaron". *Comm. Math. Phys.* **188** (1997), *no.* 2, 499–500. (Nicolae Angelescu) **99a:81034b** 81Q15 (81R30, 81V70)

Thomas, Marc P. Elements in the radical of a Banach algebra obeying the unbounded Kleinecke-Shirokov conjecture. (English summary) *Banach algebras '97* (*Blaubeuren*), 475–487, *de Gruyter, Berlin*, 1998. (J. Peter McClure) **99j:46055** 46H40 (46J05)

Thomas, Michael[2] (*with* Özbudak, Ferruh) A note on towers of function fields over finite fields. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3737–3741. (Summary) **99f:11150** 11R58

Thomas, Pascal J. (*with* Do Duc Thai) $\mathbf{D}^*$-extension property without hyperbolicity. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 1125–1130. (Marek Jarnicki) **99j:32012** 32D15 (32H15)

— Sampling sets for Hardy spaces of the disk. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2927–2932. (Oscar Blasco) **99a:30035** 30D55 (46E15, 46J15)

Thomas, Peter D. (*with* Poliakoff, Janet F.; Wong, Yew Kee) An analysis of biarc algorithms for 2-D curves. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 401–408, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65053** 65D17 (65D07)

— (*with* Poliakoff, Janet F.; Wong, Yew Kee) An automated curve fairing algorithm for cubic B-spline curves. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 73–85. (Vasily A. Chernecky) **99m:65037** 65D17 (65Y25)

Thomas, R. M. *see* **Thomas, Richard M.**

Thomas, Rachel Products of two idempotent transformations over arbitrary sets and vector spaces. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 59–71. (Miroslav D. Ćirić) **99h:20100** 20M20 (08A35)

Thomas, Rekha R. Gröbner bases in integer programming. *Handbook of combinatorial optimization, Vol.* 1, 533–572, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C10 (90–02, 90C27)

Thomas, Richard M. (*with* Ruškuc, N.) Syntactic and Rees indices of subsemigroups. (English summary) *J. Algebra* **205** (1998), *no.* 2, 435–450. (E. F. Robertson) **99g:20101** 20M05 (20F05)

Thomas, Robin An update on the four-color theorem. *Notices Amer. Math. Soc.* **45** (1998), *no.* 7, 848–859. (Adrian Riskin) **99g:05082** 05C15

Thomas, Simon R. Groups acting on infinite-dimensional symplectic spaces. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 4, 333–336. (A. A. Makhnev) **99j:20004** 20B27

— The automorphism tower problem. II. (English summary) *Israel J. Math.* **103** (1998), 93–109. (H. Dugald Macpherson) **99h:20062** 20F28 (03E35)
— The nonexistence of a binary homogeneous pseudoplane. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 135–137. (John T. Baldwin) **99f:03043** 03C45 (03C10)
Thomas, Steve (*with* Côté, Jean; Gravel, Sylvie; Roch, Michel; Méthot, André; Patoine, Alain; Caveen, James; Valin, Michel; Staniforth, Andrew) Forecasting with a variable-resolution global model. (English summary) *Numerical methods in fluid mechanics*, 23–32, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 86–08 (86A10)
Thomas, Steven (*with* Skoulakis, Spyros) Logarithmic conformal field theory solutions of two-dimensional magnetohydrodynamics. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 301–310. (Summary) **99i:76077** 76F99 (76W05, 81T40)
Thomas, Wolfgang Languages, automata, and logic. *Handbook of formal languages, Vol.* 3, 389–455, *Springer, Berlin*, 1997. (R. Suzanne Zeitman) **99j:68069** 68Q45 (03B15, 03C75, 03D05, 68Q68)
Thomas-Agnan, Christine (*with* Diack, Cheikh A. T.) A nonparametric test of the non-convexity of regression. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 4, 335–362. (Summary) **99e:62076** 62G10
Thomason, Andrew (*with* Häggkvist, Roland) Oriented Hamilton cycles in oriented graphs. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 339–353, *Cambridge Univ. Press, Cambridge*, 1997. (Chinh T. Hoang) **99b:05092** 05C45 (05C20)
— Graph products and monochromatic multiplicities. (English summary) *Combinatorica* **17** (1997), *no.* 1, 125–134. (Summary) **99i:05087** 05C15
— (*with* Schelp, Richard H.) A remark on the number of complete and empty subgraphs. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 217–219. (Summary) **99b:05084** 05C35
— (*with* Bollobás, Béla) Proof of a conjecture of Mader, Erdős and Hajnal on topological complete subgraphs. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 883–887. (Stanislav Jendrol') **99i:05103** 05C35 (05C40)
Thomason, Richmond H. Representing and reasoning with context. (English summary) *Artificial intelligence and symbolic computation* (*Plattsburgh, NY*, 1998), 29–41, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 03B45 (03B35, 03B65, 68S05)
Thomassé, Stéphan (*with* Guiduli, Barry; Gyárfás, András; Weidl, Peter) 2-partition-transitive tournaments. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 181–196. (J. W. Moon) **99c:05079** 05C20
Thomassen, Carsten Independent dominating sets and a second Hamiltonian cycle in regular graphs. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 104–109. (A. G. Thomason) **99b:05096** 05C45 (05C35, 05C55)
Thomassen, Jan B. Two-dimensional bosonization from variable shifts in the path integral. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 12, 745–749. 81T40 (81S40)
Thome, Néstor (*with* Bru, Rafael) Group inverse and group involutory matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 207–218. (Summary) **99h:15006** 15A09 (15A23)
Thomée, V. (*with* Vasudeva Murthy, A. S.) A numerical method for the Benjamin-Ono equation. (English summary) *BIT* **38** (1998), *no.* 3, 597–611. (Zhong Wu Chu) **99j:65183** 65M99
— (*with* Schatz, A. H.; Wahlbin, Lars B.) Stability, analyticity, and almost best approximation in maximum norm for parabolic finite element equations. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1349–1385. (Erwin Schechter) **99h:65171** 65M60
— (*with* Bakaev, Nikolai Yu.; Larsson, Stig) Long time behaviour of backward difference type methods for parabolic equations with memory in Banach space. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 185–206. (Wei Zhong Dai) **99j:65143** 65M12 (34K30)
Thomopoulos, N. A. (*with* Lenas, P.; Vayenas, D. V.; Pavlou, S.) Oscillations of two competing microbial populations in configurations of two interconnected chemostats. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 43–63. (Summary) **99b:92044** 92D25
— (*with* Vayenas, D. V.; Pavlou, S.) On the coexistence of three microbial populations competing for two complementary substrates in configurations of interconnected chemostats. (English summary) *Math. Biosci.* **154** (1998), *no.* 2, 87–102. (Summary) **99j:92021** 92D25
Thomova, Z. (*with* Winternitz, Pavel; Zakrzewski, Wojciech J.) Solutions of $(2+1)$-dimensional spin systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3927–3944. (Muthusamy Lakshmanan) **99f:82048** 82C21 (34A05, 34A34)
— (*with* Winternitz, Pavel) Maximal abelian subgroups of the isometry and conformal groups of Euclidean and Minkowski spaces. (English and French summaries) *J. Phys. A* **31** (1998), *no.* 7, 1831–1858. (Mariano A. del Olmo) **99k:81087** 81R05 (17B81, 22E60, 22E70)
Thompson, Abigail (*with* Hass, Joel) Neon bulbs and the unknotting of arcs in manifolds. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 235–242. (Katura Miyazaki) **99c:57043** 57M99 (57N10, 57N37)
— Algorithmic recognition of 3-manifolds. (English summary) *Bull. Amer. Math. Soc. (N.S.)* **35** (1998), *no.* 1, 57–66. (Katura Miyazaki) **99g:57016** 57M40 (57N10, 57N12)
Thompson, Brian S. (*with* Choi, Seung-Bok; Lee, Hyuc-Bum) Compliant control of a two-link flexible manipulator by constraint Hamiltonian system. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 3, 293–306. (Summary) **99g:70006** 70B15 (70Q05, 73K99)
Thompson, Caroline H. EPR, magic and the nature of light. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 209–218, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05
Thompson, Christopher R. (*with* Blaes, Omer) Magnetohydrodynamics in the extreme relativistic limit. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3219–3234. 76W05 (76Y05, 85A30)
Thompson, David F. (*with* Pruyn, John S.) On characterizing sensitivity-based and traditional formulations for quantitative feedback theory. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 536–545. 93B52 (93D21)
Thompson, G. *see* **Thompson, George**
Thompson, Gary M. (*with* Brusco, Michael J.; Jacobs, Larry W.) A morphing procedure to supplement a simulated annealing heuristic for cost- and coverage-correlated set-covering problems. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 611–627. (*see* **99k:90002**) 90C27 (90C35)
Thompson, George (*with* Blau, Matthias; Hussain, Faheem) Some general aspects of coset models and topological Kazama-Suzuki models. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 541–598. (Summary) **99e:81218** 81T40 (58D29)
— (*with* Blau, Matthias; Hussain, Faheem) Grassmannian topological Kazama-Suzuki models and cohomology. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 599–652. (Summary) **99e:81219** 81T40 (58D29)
— (*with* Blau, Matthias) Euclidean SYM theories by time reduction and special holonomy manifolds. (English summary) *Phys. Lett. B* **415** (1997), *no.* 3, 242–252. (Krzysztof Galicki) **99e:81230** 81T60 (53C25, 53C80, 81T13)
— (*with* Boulahouache, Chaouki) One-loop effects in various dimensions and D-branes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 31, 5409–5423. (Summary) **99i:81151** 81T15 (81T13, 81T60)
— (*with* Gava, E.; Morales, Jose F.; Narain, K. S.) Bound states of type I D-strings. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 95–108. (Summary) **99k:81238** 81T30 (58Z05, 81T40)
Thompson, Gerard Variational and integrable connections. (English summary) *J. Phys. A* **31** (1998), *no.* 21, 4991–5000. (Ian M. Anderson) **99g:53027** 53C05 (49N45, 58E30, 70H05)
Thompson, H. B. (*with* Chen, Yu Qing; Zhang, Shi Sheng; Yuan, Xian-Zhi) Nonlinear accretive operators and semigroups in locally convex spaces. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 215–234. (Vladimir E. Fedorov) **99j:47076** 47H06 (34A60, 34G20, 47H20)
— (*with* Abadi) Existence for nonlinear boundary value problems. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 4, 41–52. (Joseph E. Paullet) **99i:34030** 34B15
Thompson, J. M. T. (*with* Champneys, A. R.; Hunt, Giles W.) Localization and solitary waves in solid mechanics. *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2077–2081. (Muthiah Daniel) **99f:73034** 73D35 (35Q72)
— (*with* Popov, Atanas Alexandrov; Croll, J. G. A.) Bifurcation analyses in the parametrically excited vibrations of cylindrical panels. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 3, 205–225. (Summary) **99g:73075** 73K12 (73K15)
— (*with* Macmillen, F. B. J.) Bifurcation analysis in the flight dynamics design process? A view from the aircraft industry. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1745, 2321–2333. (Summary) **99e:70063** 70K99 (34C23)
— (*with* van der Heijden, G. H. M.) Homoclinic orbits, spatial chaos and localized buckling. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 127–138, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70H05 (34C37, 58F13, 58F40)
— (*with* van der Heijden, G. H. M.; Champneys, A. R.) Spatially complex localisation in twisted elastic rods constrained to lie in the plane. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 1, 59–79. (Summary) **99h:73040** 73K05 (73H05)
— (*with* van der Heijden, G. H. M.; Champneys, A. R.) The spatial complexity of localized buckling in rods with noncircular cross section. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 198–221 (*electronic*). (Summary) **99g:73066** 73H05 (34C37, 58F40, 73K05)
Thompson, John G. Sylow 2-subgroups of simple groups. *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 345, 543–545, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 20E32 (20D20)
— (*with* Völklein, Helmut) Symplectic groups as Galois groups. *J. Group Theory* **1** (1998), *no.* 1, 1–58. (Noriko Yui) **99c:12007** 12F12
Thompson, M. *see* **Thompson, Mark**
Thompson, M. E. ★ Theory of sample surveys. (English summary) Monographs on Statistics and Applied Probability, 74. *Chapman & Hall, London*, 1997. xiv+305 *pp. ISBN* 0-412-31780-X (Rahul Mukerjee) **99c:62028** 62D05
Thompson, Mark (*with* Rubio, Obidio) Hausdorff dimension of functionally invariant sets for rotating internal weakly viscoelastic fluids. *Nonlinear Anal.* **32** (1998), *no.* 2, 201–223. (Anibal Rodriguez-Bernal) **99k:76011** 76A10 (34G20, 35Q35, 47H20, 58F40)
Thompson, Peter (*with* Chen, Lin-An) Trimmed least squares estimator as best trimmed linear conditional estimator for linear regression model. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1835–1849. (Xuming He) **99k:62124** 62J05
Thompson, R. T. (*with* Dempster, M. A. H.) Parallelization and aggregation of nested Benders decomposition. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 163–187. (*see* **99b:90006**) 90C15 (65Y05)
Thompson, Robert C. (*with* Day, Jane; So, Wasin) The spectrum of a Hermitian matrix sum. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 289–332. (F. Szidarovszky) **99f:15009** 15A18 (47A75)
Thompson, Robert D. The L_2-localization of $W(n)$. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 1931–1944. (N. J. Kuhn) **99b:55019** 55P60 (55Q25, 55Q40, 55T15)
Thompson, Robin (*with* Cullis, Brian; Gogel, Bev; Verbyla, Arūnas) Spatial analysis of multi-environment early generation variety trials. (English and French summaries) *Biometrics* **54** (1998), *no.* 1, 1–18. (Summary) **99a:62149** 62P10
Thompson, Simon (*with* Bowman, Howard) A tableau method for interval temporal logic with projection. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 108–123, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B45)
Thompson, T. Scott (*with* Ichimura, Hidehiko) Maximum likelihood estimation of a binary choice model with random coefficients of unknown distribution. (English summary) *J. Econometrics* **86** (1998), *no.* 2, 269–295. (V. K. Srivastava) **99m:62162** 62P20 (62J12)
Thompson, Wiley E. (*with* Mamlook, Rustom; Tao, Chin-Wang) An advanced fuzzy controller. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 541–545. 93C42
Thomsen, Bent (*with* Thomsen, Lone Leth) Towards global computations guided by concurrency theory. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 92–98. 68Q10

Thomsen, Gerd (*with* Knüppel, Frieder) Involutions and commutators in orthogonal groups. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 1–36. (Alexander J. Hahn) **99m:20103** 20G15 (11E88)

Thomsen, Jesper Funch Irreducibility of $\overline{M}_{0,n}(G/P,\beta)$. *Internat. J. Math.* **9** (1998), *no.* 3, 367–376. (Alexandre I. Kabanov) **99g:14032** 14H10 (14M17, 14N10)

Thomsen, Klaus On the reduced C^*-exponential length. *Operator algebras and quantum field theory* (*Rome*, 1996), 59–64, *Internat. Press, Cambridge, MA*, 199?. (Sze-Kai Tsui) **99b:46090** 46L05 (46L80)

— (*with* Dorofeev, S. V.) Factors from ergodic theory and group-subgroup subfactors. (English summary) *J. Ramanujan Math. Soc.* **12** (1997), *no.* 2, 239–262. (Paul Jolissaint) **99d:46090** 46L55 (22D25, 28D05, 46L35)

Thomsen, Lone Leth (*with* Thomsen, Bent) Towards global computations guided by concurrency theory. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 92–98. 68Q10

Thomsen, Wolfgang (*with* Rüschendorf, Ludger) Closedness of sum spaces and the generalized Schrödinger problem. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 576–590; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 3, 483–494 (1998). (Anton Wakolbinger) **99j:60044** 60F25 (28A20, 28A35, 60A10)

Thomson, Brian S. (*with* Freiling, Chris; Rinne, D.) A Riemann-type integral based on the second symmetric derivative. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 539–556. (James Foran) **99c:26004** 26A24 (26A42)

— σ-finite Borel measures on the real line. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 185–192. (J. Král) **99f:28005** 28A12 (26A46)

Thomson, David L. (*with* Hofri, Micha) Matrix transposition on a mesh with blocking transmissions. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 4, 561–566. (Editors) **99m:65084** 65F30 (65Y05)

Thomson, G. R. (*with* Constanda, Christian) Representation theorems for the solutions of high-frequency harmonic oscillations in elastic plates. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 55–59. (Summary) **99c:73024** 73D30 (35Q72, 73K10)

Thomson, Joseph John *see* **Maxwell, James Clerk**, **99k:01087a**

Thomson, M. (*with* Aziz, K. I.) Robustness of a minimal observer synthesis algorithm. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 141–154. 93B35 (93B40)

Thomson, Russell Ages of mutations on a coalescent tree. (English summary) *Math. Biosci.* **153** (1998), *no.* 1, 41–61. (Summary) **99i:92012** 92D15 (92D20)

Thomson, William, Lord Kelvin On the division of space with minimum partitional area. Reprint of Philos. Mag. **24** (1887), no. 151, 503–514. *Forma* **11** (1996), *no.* 3, 183–194. (J. E. Brothers) **99d:53012** 53A10 (01A55, 01A75, 49Q05, 53–03)

Thorbergsson, Gudlaugur (*with* Terng, Chuu-Lian) Taut immersions into complete Riemannian manifolds. (English summary) *Tight and taut submanifolds* (*Berkeley, CA*, 1994), 181–228, *Math. Sci. Res. Inst. Publ.*, 32, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99m:53122** 53C42

— Smooth tight immersions. *Jahresber. Deutsch. Math.-Verein.* **100** (1998), *no.* 1, 23–35. (Wolfgang Kühnel) **99f:53066** 53C42 (57R70)

Thorisson, Hermann Coupling. (English summary) *Probability towards* 2000 (*New York*, 1995), 319–339, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Mikhail Sverchkov) **99f:60097** 60G99 (60B99, 60G60)

Thorlacius, Lárus (*with* Lowe, David A.) Hot string soup. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 363–364, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

— (*with* Callan, Curtis G., Jr.) World-sheet dynamics of string junctions. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 121–136. (Angel Maria Uranga) **99k:81225** 81T30

Thorleifsson, Gudmar (*with* Bilke, S.; Burda, Zdzisław; Krzywicki, Andrzej; Petersson, B.; Tabaczek, J.) 4d simplicial quantum gravity: matter fields and the corresponding effective action. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 279–286. (Summary) **99d:83030** 83C27 (83C45)

— Three-dimensional simplicial gravity and degenerate triangulations. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 278–294. (Summary) **99i:83026** 83C27

Thorleifsson, H. The Poisson transform for split reductive symmetric spaces. *Math. Scand.* **79** (1996), *no.* 2, 297–319. (Aleksander Strasburger) **99f:43004** 43A32 (22E46, 43A85, 43A90, 46F99)

Thornburg, K. Scott, Jr. (*with* Ashwin, Peter; Terry, John R.; Roy, Rajarshi) Blowout bifurcation in a system of coupled chaotic lasers. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7186–7189. (Summary) **99g:78026** 78A60 (58F13, 58F40)

Thorne, James D. (*with* Hall, Christopher D.) Minimum-time continuous-thrust orbit transfers. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 4, 411–432. 70M20 (70Q05)

Thorne, Kip S. Probing black holes and relativistic stars with gravitational waves. (English summary) *Black holes and relativistic stars* (*Chicago, IL*, 1996), 41–77, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C57 (83B05, 83C35)

Thorne, Richard M. (*with* Xiao, Fuliang; Summers, Danny) Instability of electromagnetic R-mode waves in a relativistic plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2489–2497. (Summary) **99b:76039** 76E25 (76X05, 76Y05, 85A30, 86A10)

Thornton-Trump, A. B. (*with* Wu, Qiong; Sepehri, N.) Lyapunov feedback control of base-excited inverted pendulums. (English summary) *Sci. Iran.* **3** (1996), *no.* 1-3, 21–32. 93B52 (70Q05)

— (*with* Wu, Qiong; Sepehri, N.) Lyapunov stability control of inverted pendulums with general base point motion. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 801–818. (Summary) **99g:93061** 93D05 (70K20, 70Q05)

Thorpe, B. (*with* Mirza, M. Y.) Some new o-Tauberian theorems for double series. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 185–198, *New Age, New Delhi*, 1997. (Summary) **99d:40002** 40E05 (40B05, 40G05)

— The norm of powers of the indefinite integral operator on (0, 1). (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 5, 543–548. (Summary) **99g:47069** 47B38 (26D15, 45P05, 47A30, 47G10)

— (*with* Mirza, M. Y.) Tauberian constants for double series. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 170–182. (Hubert Tietz) **99k:40003** 40B05 (40E20)

Thorpe, M. F. (*with* Choy, T. C.; Alexopoulos, Aris) Dielectric function for a material containing hyperspherical inclusions to $O(c^2)$. I. Multipole expansions. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1973–1992. (Summary) **99g:78013** 78A30 (73B27, 78–08)

— (*with* Choy, T. C.; Alexopoulos, Aris) Dielectric function for a material containing hyperspherical inclusions to $O(c^2)$. II. Method of images. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1993–2013. (Summary) **99g:78014** 78A30 (73B27, 78–08)

Thorup, Anders Parameter spaces for quadrics. (English summary) *Parameter spaces* (*Warsaw*, 1994), 199–216, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Ragni Piene) **99f:14069** 14N10 (14M15)

— (*with* Laksov, Dan) These are the differentials of order n. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1293–1353. (Reinhold Hübl) **99f:13026** 13N05 (14F10)

Thorup, Mikkel Structured programs have small tree-width and good register allocation (extended abstract). (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 318–332, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (68N05)

— (*with* Henzinger, Monika R.) Sampling to provide or to bound: with applications to fully dynamic graph algorithms. (English summary) Proceedings of the Workshop on Randomized Algorithms and Computation (Berkeley, CA, 1995). *Random Structures Algorithms* **11** (1997), *no.* 4, 369–379. (Summary) **99c:68125** 68Q25 (05C85, 68R10)

— (*with* Alstrup, Stephen; Holm, Jacob; de Lichtenberg, Kristian) Direct routing on trees (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 342–349, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10 (68R10)

— Faster deterministic sorting and priority queues in linear space. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 550–555, *ACM, New York*, 1998. (*see* **99d:68011**) 68P10 (68P05)

— Floats, integers, and single source shortest paths. (English summary) *STACS* 98 (*Paris*, 1998), 14–24, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q20 (68M99, 68R10)

— (*with* Farach-Colton, Martin) String matching in Lempel-Ziv compressed strings. (English summary) *Algorithmica* **20** (1998), *no.* 4, 388–404. (Summary) **99a:68086** 68Q25 (68P99)

— All structured programs have small tree width and good register allocation. (English summary) *Inform. and Comput.* **142** (1998), *no.* 2, 159–181. (Hans L. Bodiaender) **99d:68200** 68R10 (05C05, 68N20, 68Q20)

Thoss, Michael (*with* Stock, Gerhard) Mapping approach to the semiclassical description of nonadiabatic quantum dynamics. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 1, 64–79. (Stefan Giller) **99m:81062** 81Q20

Thoulouze-Pratt, Elaine (*with* Cocu, M.; Raous, M.) Constructive aspects of functional analysis for the treatment of frictional contact. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 109–120. (Ján Lovíšek) **99h:73070** 73T05 (73E60, 73F99, 73V25)

Thouvenot, Jean-Paul An example of discontinuity in the computation of the Lyapunov exponents. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 370–372. (A. I. Danilenko) **99g:28034** 28D05

Thouverez, F. (*with* Jezequel, L.) Identification of a localized non-linearity. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 935–945. (Summary) **99b:73034** 73K50 (73K12, 93B30)

Thron, W. J. Frederic Riesz' contributions to the foundations of general topology. *Handbook of the history of general topology, Vol.* 1, 21–29, *Kluwer Acad. Publ., Dordrecht*, 1997. (Introduction) **99e:01022** 01A60 (01A70, 54–03)

Throumoulopoulos, G. N. (*with* Tasso, H.) Axisymmetric ideal magnetohydrodynamic equilibria with incompressible flows. (English summary) *Phys. Plasmas* **5** (1998), *no.* 6, 2378–2383. (Summary) **99c:76118** 76W05

phan viet Thu *see* **Phan Viet Thu**

Thuijsman, F. (*with* Vrieze, O. J.) Total reward stochastic games and sensitive average reward strategies. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 175–196. (Summary) **99j:90129** 90D15

— (*with* Flesch, J.; Vrieze, O. J.) Simplifying optimal strategies in stochastic games. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1331–1347 (*electronic*). (Vivek S. Borkar) **99f:90204** 90D15 (90D05, 90D20, 93E20)

Thuillier, Frank (*with* Bauer, Michel) Representatives of the Thom class of a vector bundle. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 29–45. (Bai-Ling Wang) **99m:58208** 58G40 (55N91, 57R20, 58D29)

— Some remarks on topological 4D-gravity. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 221–229. (Jürgen Tolksdorf) **99i:83044** 83C45 (58D29, 81T70)

Thuillier, H. (*with* Giakoumakis, Vassilis; Roussel, F.) On P_4-tidy graphs. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 17–41 (*electronic*). (Chinh T. Hoang) **99c:05162** 05C75 (05C15, 05C35)

Thukral, Virender (*with* Singh, Dinesh[1]) Invariant subspaces of shifts on the Hardy spaces of the circle and the torus. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 301–311, *New Age, New Delhi*, 1997. (Summary) **99g:47012** 47A15 (30D55, 46E15)

Thül, M. (*with* Eisenbiegler, J.; Gottlieb, Johannes; Löwe, Welf; Schlaeger, S.; Zimmermann, Wolf D.) Parallel CG-methods—automatically optimized for PC- and workstation-clusters. (English summary) *High performance algorithms for structured matrix problems*, 181–197, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65Y05

Thumm, M. (*with* Katsenelenbaum, B. Z.; Mercader del Río, L.; Pereyaslavets, M.; Sorolla Ayza, M.) ★ Theory of nonuniform waveguides. (English summary) The cross-section method. IEE Electromagnetic Waves Series, 44. *Institution of Electrical Engineers (IEE), London*, 1998. *xvi*+249 *pp. ISBN* 0-85296-918-X (A. S. Silbergleit) **99f:78017** 78A50 (35Q99, 78A40)

Thunder, Jeffrey Lin Higher-dimensional analogs of Hermite's constant. *Michigan Math. J.* **45** (1998), *no.* 2, 301–314. (Damien Roy) **99f:11082** 11H06 (11R29, 11R42, 11R56)

— (*with* Roy, Damien) Addendum and erratum to: "An absolute Siegel's lemma" [J. Reine Angew. Math. **476** (1996), 1–26; MR 97h:11075]. *J. Reine Angew. Math.* **508** (1999), 47–51. (Michel Waldschmidt) **99m:11078** 11J13 (11H50, 11J61, 11R56)

Thuraiswamy, A. (*with* Arumugam, S.) Total domatic number of a graph. I. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 513–515. (Summary) **99c:05096** 05C35

Thürey, Volker A simplification of the Eilenberg-Steenrod axioms. II. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 2, 207–213. (Donald M. Davis) **99m:55006** 55N40

Thurman, Robert E. Maximal capacity, Robin capacity, and minimum energy. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 621–636. (Introduction) **99f:31004** 31A15

Thürmann, Christian (*with* Harborth, Heiko) Limited snakes of polyominoes. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 211–218. (*see* **99i:00023**) 05B50

Thurston, William P. How to see 3-manifolds. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2545–2571. (Colin C. Adams) **99i:57030** 57M50 (57N10)

— (*with* Miller, Gary L.; Teng, Shang-Hua; Vavasis, Stephen A.) Geometric separators for finite-element meshes. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 364–386 (*electronic*). (I. Norman Katz) **99d:65396** 65Y25 (65M60, 65N30)

— *see also* **Wall, C. T. C., (99b:00010)**

Thuswaldner, Jörg Maximilian q-difference equations and their applications to combinatorial problems. (English summary) *IX. Mathematikertreffen Zagreb-Graz* (*Motovun*, 1995), 103–112, *Grazer Math. Ber.*, 328, *Karl-Franzens-Univ. Graz, Graz*, 1996. (Summary) **99a:39035** 39A10 (05A30)

— The fundamental lemma of Kubilius and the model of Kubilius in number fields. (English summary) *Number theory* (*Eger*, 1996), 489–499, *de Gruyter, Berlin*, 1998. (I. Kátai) **99j:11133** 11R44

— (*with* Derfel, Gregory; Tichy, Robert F.; Vogl, Fritz) Asymptotic analysis of a class of functional equations. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 91–105. (P. N. Rathie) **99c:39032** 39B32 (39B22)

— The sum of digits function in number fields: distribution in residue classes. (English summary) *J. Number Theory* **74** (1999), *no.* 1, 111–125. (Peter J. Grabner) **99m:11134** 11R45 (11A63)

Thwaites, Bryan *see* **Obituary: Lighthill, Michael James**

Thylwe, Karl-Erik (*with* Korsch, H. Jürgen) The "Ermakov-Lewis" invariants for coupled linear oscillators. (English summary) *J. Phys. A* **31** (1998), *no.* 14, *L*279–*L*285. (P. G. L. Leach) **99g:34029** 34A30 (34C20, 70J05)

Tian, B. *see* **Tian, Bo**

Tian, Bao Guang The minimum variance sum of a combined ridge and principal components estimate. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 93–95. 62J05 (62J07)

Tian, Bo (*with* Zhao, Ke Yi; Gao, Yi Tian) Some analytical solutions for the (2 + 1)-dimensional nonintegrable and integrable dispersive long wave equations. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 133–135. 35Q51 (35C99)

— (*with* Gao, Yi Tian) Generalized variable-coefficient KP equation. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2299–2301. 35Q53

Tian, Bo Ping (*with* Xu, Cheng De) One-sided dyadic moving average representations of multidimensional dyadic stationary sequences. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 1, 50–52. (Summary) **99i:60086** 60G10

Tian, Cheng Ke (*with* Huang, Zhi Min) A generalization of a theorem about continuous convex functions and its application. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 2, 21–23, 36. 26A51

Tian, Chou (*with* Tian, Yong Bo) Formulas for the solutions of the Lax system of equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 541–546. 35Q53 (58F07)

Tian, Chuan-Jun (*with* Zhang, Bing Gen) Nonexistence and existence of positive solutions for difference equations with unbounded delay. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 1–8. (Summary) **99d:39015** 39A10

— (*with* Xie, Sheng Li; Cheng, Sui Sun) Measures for oscillatory sequences. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 149–161. (André Hautot) **99k:39039** 39A10

— (*with* Zhang, Bing Gen) New oscillation criteria for a class of nonlinear delay differential equations. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 35–45. (Vladimir Sh. Burd) **99c:34167** 34K15

Tian, F. *see* **Tian, Feng[1]**

Tian, Fa Zhong (*with* Sun, Feng Rong) On the fast algorithm for the multipole-potential functions. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 81–88. 65D15 (65Y25)

Tian, Fan Ji Contraction principles for random series in Hilbert spaces and in separable Banach spaces. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 433–435. 60G50

— The Boutroux-Cartan theorem in a general metric space. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 317–320. 30D35

Tian, Fei-Ran (*with* Ye, Jian) On the Whitham equations for the semiclassical limit of the defocusing nonlinear Schrödinger equation. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 6, 655–692. (Summary) **99m:35239** 35Q55 (35L80, 35Q05, 58F07)

Tian, Feng Dirichlet boundary value problems for a class of degenerate second-order nonlinear elliptic equations of rank zero. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **28** (1998), *no.* 4, 699–704. 35J65 (35J70)

Tian, Feng[1] (*with* Liu, Yiping; Wu, Zheng Sheng) Sequences concerning Hamiltonicity of graphs. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 1, 19–28, 34. (Prabir Das) **99c:05126** 05C45

— (*with* Wei, Bing[1]) Some new localization theorems on Hamiltonian properties. (English summary) *Australas. J. Combin.* **17** (1998), 61–67. (Summary) **99a:05094** 05C45

— (*with* Shi, Minyong; Li, Yanjun) Tree decompositions for a class of graphs. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 221–232. (E. J. Farrell) **99i:05064** 05C05 (05C70)

Tian, Feng[3] (*with* Lin, Xiao Song[2]; Wang, Zhenghan) Burau representation and random walks on string links. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 289–302. (J. S. Birman) **99b:57015** 57M25 (20F36)

Tian, Gang (*with* Li, Jun[1]) Algebraic and symplectic geometry of Gromov-Witten invariants. *Algebraic geometry—Santa Cruz* 1995, 143–170, *Proc. Sympos. Pure Math.*, 62, *Part* 2, *Amer. Math. Soc., Providence, RI*, 1997. (From the text) **99j:14004** 14C17 (14D20, 14N10, 58D10)

— (*with* Siebert, Bernd) On quantum cohomology rings of Fano manifolds and a formula of Vafa and Intriligator. *Asian J. Math.* **1** (1997), *no.* 4, 679–695. (Andreas Gathmann) **99d:14060** 14N10 (14J45)

— (*with* Chen, Jingyi) Minimal surfaces in Riemannian 4-manifolds. *Geom. Funct. Anal.* **7** (1997), *no.* 5, 873–916. (From the introduction) **99m:53112** 53C42 (58E12)

— Kähler-Einstein metrics with positive scalar curvature. (English summary) *Invent. Math.* **130** (1997), *no.* 1, 1–37. (Thalia D. Jeffres) **99e:53065** 53C25 (32L07, 53C55)

— (*with* Ruan, Yongbin) Higher genus symplectic invariants and sigma models coupled with gravity. *Invent. Math.* **130** (1997), *no.* 3, 455–516. (Bernd Siebert) **99d:58030** 58D10 (14N10, 57R57, 58D29)

— (*with* Li, Jun[1]) The quantum cohomology of homogeneous varieties. *J. Algebraic Geom.* **6** (1997), *no.* 2, 269–305. (Andreas Gathmann) **99b:14060** 14N10 (14M17)

— (*with* Li, Jia Yu[1]) A blow-up formula for stationary harmonic maps. *Internat. Math. Res. Notices* **1998**, *no.* 14, 735–755. (Martin Fuchs) **99d:58049** 58E20

— (*with* Li, Jun[1]) Virtual moduli cycles and Gromov-Witten invariants of algebraic varieties. *J. Amer. Math. Soc.* **11** (1998), *no.* 1, 119–174. (Ralph Martin Kaufmann) **99d:14011** 14D20 (14D15, 14N10)

— (*with* Liu, Gang) Floer homology and Arnold conjecture. *J. Differential Geom.* **49** (1998), *no.* 1, 1–74. (Jean-Claude Sikorav) **99m:58047** 58E05 (55N35, 57R15, 57R70, 58F05)

— (*with* Xin, Zhouping) One-point singular solutions to the Navier-Stokes equations. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 135–145. (Zhi Min Chen) **99j:35170** 35Q30 (76D05)

Tian, Gu Ji (*with* Jiang, Hui You[2]) The property of being of nonmonotone type for Weierstrass-Mandelbrot functions. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 181–183. 26A27

Tian, Guang-Shan (*with* Tang, Lei-Han) Reaction-diffusion-branching models of stock price fluctuations. (English summary) *Phys. A* **264** (1999), *no.* 3-4, 543–550. (Summary) **99m:90030** 90A09

Tian, Guang Yue (*with* Wang, Jun Ming) The general ball-packing problem in Banach spaces. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 28–31. (Summary) **99d:46021** 46B20 (52C17)

Tian, Guo Hua A remark on Dedekind domains. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 18–19. 13F05

Tian, Guo Liang (*with* Fang, Kai-Tai; Xie, Min Yu) Uniform designs on convex polyhedra. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 14, 1472–1475. 52A22

— The comparison between polynomial regression and orthogonal polynomial regression. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 289–294. (Summary) **99c:62174** 62J02 (62K05, 65U05)

Tian, Guo Min (*with* Tu, Xiao Qing) Comments on: "An improved Razumikhin-type theorem and its application" [IEEE Trans. Automat. Control **39** (1994), no. 4, 839–841; MR 95e:34070] by B. G. Xu and Y. Q. Liu, and a related result. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 36–39. (Summary) **99k:34171** 34K20

Tian, Jie Mei (*with* Gao, Yan) Research on linearization of adaptive systems and a design method. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol.* (*Chin. Ed.*) **17** (1997), *no.* 3, 296–300. (*see* **99a:93004**) 93C40 (93B51)

Tian, Jin Wen (*with* Gao, Qian) Bootstrap kernel estimators for density functionals. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 455–458. (Summary) **99m:62051** 62G05

— (*with* Hu, Bi Jin; Huang, Jian Zhong[2]; Fu, Cai Fang; Zhu, Hong Zhang; Cui, Jiong Cheng) LMS estimation and inversion in lithology. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 3, 246–250. 86A32 (62M09)

— (*with* Gao, Qian; Huang, Jian Zhong[2]) The Bouligand dimension of some graphs based on wavelet series. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 115–118. 42A16 (28A78)

Tian, Jun[1] (*with* Wei, Dong; Wells, Raymond O., Jr.; Burrus, Charles S.) A new class of biorthogonal wavelet systems for image transform coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 7, 1000–1013. (Summary) **99j:94004** 94A11

Tian, Jun Zhong (*with* Sun, Xiao Qian) The uniformly minimum variance unbiased estimator of parameters in a geometric distribution with unknown truncation parameter. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 118–120. 62C05

Tian, Li A representation for linear functionals on a space with indefinite metric. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 24–26. 46C20

Tian, Li Xin (*with* Lu, Dian Chen; Liu, Zeng Rong) Wavelet basis analysis in perturbed periodic KdV equation. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 11, 1053–1058; *translated from Appl. Math. Mech.* **19** (1998), *no.* 11, 975–979 (*Chinese. English and Chinese summaries*). 35Q53 (35B99, 35C10)

Tian, Ming (*with* Tao, Gang) Adaptive dead-zone compensation for output-feedback canonical systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 791–812. 93B55 (93B10)

— (*with* Tao, Gang) Discrete-time adaptive control of systems with multisegment piecewise-linear nonlinearities. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 719–723. (Summary) **99a:93061** 93C40 (93E35)

Tian, Nai Shuo (*with* Hou, Yu Mei) The PH structure of $M/M/c$ queueing systems with synchronous vacations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 5–8. 60K25

Tian, Qingchun Class field theory for arithmetic surfaces. (English summary) *K-Theory* **13** (1998), *no.* 2, 123–149. (David Harari) **99b:11071** 11G45 (14G40, 19F05)

Tian, Shen (*with* Liu, Xing Quan; Xia, Chuan Wu) The uniformly normal structure of Orlicz sequence spaces l_M^0 with Orlicz norm. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 22–27. (Bor-Luh Lin) **99f:46028** 46B45 (46E30)

— (*with* Hao, Cuixia; Wang, Ting Fu; Yao, Hui Li) On the points of uniform rotundity in directions of weakly compact sets in Orlicz spaces. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 109–133. (Marian Nowak) **99a:46048** 46E30 (46B20)

— (*with* Cui, Yun An; Zhu, Hong Wei) L_N^o uniformly rotund points of Orlicz spaces L_M. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 50–54. (Bor-Luh Lin) **99a:46056** 46E30 (46B20)

Tian, Songlin (*with* So, Shing-Seung; Chen, Guanghui) Concerning circles in taxicab geometry. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 5, 727–733. (David C. Kay) **99c:51023** 51K99

Tian, Wei Wen (*with* Pu, Dingguo) A class of Broyden algorithms with revised search directions. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), no. 2, 93–109. (Mihai Turinici) **99f:90133** 90C30 (65K05, 90C25)

— (*with* Wu, Dong Hua; Huang, Wei[2]) An actual algorithm for global optimization. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 5, 482–486. 90C30 (65K05)

Tian, Xin (*with* Malomed, Boris A.; Grimshaw, R. H. J.) Gap solitons in a coupled Korteweg-de Vries system. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 324–334, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:35211** 35Q53 (65M99, 76B25)

— (*with* Grimshaw, R. H. J.) k-soliton structures, period-doubling and spatial chaos in the periodically forced Korteweg-de Vries equation. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 225–251. (Summary) **99f:35176** 35Q53 (58F39)

— (*with* Banner, Michael L.) On the determination of the onset of breaking for modulating surface gravity water waves. (English summary) *J. Fluid Mech.* **367** (1998), 107–137. (Summary) **99d:76008** 76B15

Tian, Yan (*with* Zhou, Di; Wu, Fang Tong) Generalized pseudodifferential operators with multiple symbols. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 37–43. (Qing Yi) **99m:35282** 35S05 (47G30)

Tian, Yawei (*with* Jiang, Murong) Wave solutions for the Ginzburg-Landau-BBM equations. I. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 4, 218–221. 35Q55

Tian, Yong Bo (*with* Tian, Chou) Formulas for the solutions of the Lax system of equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 541–546. 35Q53 (58F07)

— (*with* Cheng, Yi[1]) Solutions of CDG equation and modified CDG equation. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 3, 381–384. 35Q53

— Necessary and sufficient conditions for oscillation of solutions to retarded systems of equations. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 1, 74–78. (Summary) **99d:34139** 34K15

Tian, Youliang (*with* Zhang, Wei Ping[1]) Holomorphic Morse inequalities in singular reduction. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 3, 345–352. (Kenji Tsuboi) **99f:58190** 58G10 (58E05, 58F06)

Tian, Yu-Chu (*with* Gao, Furong) Adaptive control of chaotic continuous-time systems with delay. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 1–12. (Summary) **99c:93052** 93C10 (34K35, 93C40)

Tian, Yu Ping *see* **Tian, Yu Ping[2]**

Tian, Yu Ping[1] Robust absolute stability of systems with multiple nonlinearities and unmodeled dynamics. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 16–23. 93D09 (93D10)

— (*with* Huang, Yi[2]; Feng, Chun Bo) Robust stability of multivariable systems with nonlinear and linear structured uncertainties. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 531–541. (Jacek Kabziński) **99m:93076** 93D09 (93B36)

— (*with* Huang, Yi[2]; Xu, Ke Kang; Feng, Chun Bo) Eigenstructure assignment via dynamic output feedback. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 280–288. (Krzysztof Kuźmiński) **99i:93024** 93B55

Tian, Yu Ping[2] Curvature of SP-Sasakian manifolds with a quarter-symmetric metric connection. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 63–68. (Sheng Jiang) **99k:53102** 53C25

Tian, Yuping *see* **Tian, Yu Ping[1]**

Tian, Zi Hong The existence spectrum of the self-converse directed triple system DTS(v, λ). (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 531–534. (Summary) **99c:05031** 05B07

Tianxing, Yao *see* **Yao, Tian Xing**

Tiba, Dan (*with* Bergounioux, Maïtine) Optimal control for the obstacle problem with state constraints. (English summary) *Control and partial differential equations (Marseille-Luminy, 1997)*, 7–19 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Martin Fuchs) **99k:49011** 49J20 (35J85, 49M29)

— (*with* Sprekels, Jürgen) Propriétés de bang-bang généralisées dans l'optimisation des plaques. (English and French summaries) [Generalized bang-bang properties in the optimization of plates] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 705–710. (Summary) **99h:49034** 49K20 (49Q10, 73K10, 73K40)

— (*with* Sprekels, Jürgen) A duality approach in the optimization of beams and plates. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 486–501 (*electronic*). (Pekka Neittaanmäki) **99j:73074** 73K40 (49N15, 73K05, 73K10, 73V25)

Tibăr, Mihai (*with* Siersma, Dirk) Topology of polynomial functions and monodromy dynamics. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 655–660. (Kevin Houston) **99k:32068** 32S40

— Topology at infinity of polynomial mappings and Thom regularity condition. (English summary) *Compositio Math.* **111** (1998), *no.* 1, 89–109. (Mathew Timm) **99a:32058** 32S55 (14B05, 58A35)

— Asymptotic equisingularity and topology of complex hypersurfaces. *Internat. Math. Res. Notices* **1998**, *no.* 18, 979–990. (Kevin Houston) **99k:32057** 32S15 (32S55)

Tiberio, Umberto (*with* Gilotti, Anna Luisa) On the intersection of a certain class of maximal subgroups of a finite group. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 89–94. (Mohammad-Reza Darafsheh) **99e:20026** 20D15 (20D25)

Tibiletti, C. *see* **Marchionna Tibiletti, Cesarina**

marchionna Tibiletti, Cesarina *see* **Marchionna Tibiletti, Cesarina**

Tibshirani, Robert J. (*with* Hastie, Trevor) Classification by pairwise coupling. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 451–471. (A. D. Gordon) **99e:62113** 62H30 (62J15)

— (*with* Berhane, Kiros) Generalized additive models for longitudinal data. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 4, 517–535. 62G07

Tichatschke, R. (*with* Kaplan, A. A.) Proximal penalty method for ill-posed parabolic optimal control problems. (English summary) *Control and estimation of distributed parameter systems (Vorau, 1996)*, 169–182, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Walter Alt) **99e:49043** 49M37 (49J40, 65K10)

— (*with* Kaplan, A. A.) Regularized penalty method for non-coercive parabolic optimal control problems. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 5–27. (Fredi Tröltzsch) **99f:49051** 49M29 (49N10, 65K05, 90C48)

— (*with* Levitin, E. S.) On smoothing of parametric minimax-functions and generalized max-functions via regularization. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 199–220. (V. F. Dem'yanov) **99k:90172** 90C31 (49M30)

— (*with* Levitin, E. S.) A branch-and-bound approach for solving a class of generalized semi-infinite programming problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 299–315. (Jan Rückmann) **99i:90103** 90C34 (49M39)

— (*with* Kaplan, A. A.) Proximal point methods and nonconvex optimization. (English summary) Workshop on Global Optimization (Trier, 1997). *J. Global Optim.* **13** (1998), *no.* 4, 389–406. (Summary) **99k:90122** 90C26

— (*with* Kaplan, A. A.) Proximal methods in view of interior-point strategies. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 399–429. (Tamás Terlaky) **99g:90123** 90C30 (65K05)

Tichavský, Petr (*with* Händel, Peter; Savaresi, Sergio M.) Large error recovery for a class of frequency tracking algorithms. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 417–436. 93E35 (93E10)

— (*with* Boček, Pavel) Detection of influential points by convex hull volume minimization. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 5, 515–534. (Summary) **99i:62122** 62H10

Tichý, Pavel *see* **Michael, Michaelis**

Tichý, Petr (*with* Zítko, Jan) Derivation of BiCG from the conditions defining Lanczos' method for solving a system of linear equations. (English summary) *Appl. Math.* **43** (1998), *no.* 5, 381–388. (Marc Van Barel) **99j:65052** 65F10

Tichy, Robert F. (*with* Grabner, Peter J.; Klinger, B.) Discrepancies of point sequences on the sphere and numerical integration. (English summary) *Multivariate approximation (Witten-Bommerholz, 1996)*, 95–112, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Gheorghe Coman) **99d:65069** 65D30 (65D15)

— (*with* Scheicher, Klaus; Tomantschger, K. W.) Elementary inequalities in hypercomplex numbers. (English summary) *Anz. Österreich. Akad. Wiss. Math.-Natur. Kl.* **134** (1997), 3–10 (1998). (J. Lõhmus) **99j:30053** 30G35 (26D20)

— (*with* Grabner, Peter J.; Herendi, Tamás) Fractal digital sums and codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 1, 33–39. (Michael Drmota) **99c:11150** 11T23 (11A63, 11T71, 94B99)

— (*with* Grabner, Peter J.; Strauch, Oto) Maldistribution in higher dimensions. (English summary) *Math. Pannon.* **8** (1997), *no.* 2, 215–223. (Gerhard Larcher) **99a:11094** 11K38 (11K31)

— Diophantine properties of digital expansions. (English summary) *Number theory (Eger, 1996)*, 501–522, *de Gruyter, Berlin*, 1998. (Jörg M. Thuswaldner) **99g:11016** 11A63 (11K16)

— (*with* Derfel, Gregory; Thuswaldner, Jörg Maximilian; Vogl, Fritz) Asymptotic analysis of a class of functional equations. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 91–105. (P. N. Rathie) **99c:39032** 39B32 (39B22)

— (*with* Pethő, Attila) On two-parametric quartic families of Diophantine problems. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 2, 151–171. (Yuri Bilu) **99e:11031** 11D25 (11D57, 11J86, 11R27)

— Numerical analysis of Jacobi series—a quasi-Monte-Carlo approach. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 473–481. (Summary) **99d:65078** 65D30 (33C45, 65C05)

— (*with* Grabner, Peter J.) Equidistribution and Brownian motion on the Sierpiński gasket. (English summary) *Monatsh. Math.* **125** (1998), *no.* 2, 147–164. (Jörg-Uwe Lõbus) **99g:60007** 60B05 (11K41, 60J65)

Tichy, Wolfgang (*with* Flanagan, Éanna É.) How unique is the expected stress-energy tensor of a massive scalar field? (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124007, 18 *pp.* 83C47 (81T20)

Tidd, C. W. (*with* Kendall, Bruce E.; Schaffer, W. M.; Olsen, Lars F.) The impact of chaos on biology: promising directions for research. (English summary) *The impact of chaos on science and society (Tokyo, 1991)*, 190–218, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92B05 (58F13)

Tidriri, Moulay D. Asymptotic analysis of a coupled system of kinetic equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 7, 637–642. (Laurent Desvillettes) **99m:76099** 76P05 (35L99, 82C40)

— Local and global estimates for the solutions of convection-diffusion problems. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 137–157. (Vitaly A. Volpert) **99k:35034** 35J25 (35Q30, 76R05)

— (*with* Le Tallec, Patrick) Application of maximum principles to the analysis of a coupling time marching algorithm. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 158–169. (Vitaly A. Volpert) **99k:35035** 35J25 (35Q30, 65N12, 76R05)

— (*with* Le Tallec, Patrick) Convergence analysis of domain decomposition algorithms with full overlapping for the advection-diffusion problems. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 585–606. (Włodzimierz Proskurowski) **99i:65101** 65M55 (76M10)

Tie, B. (*with* Aubry, Denis; Lucas, D.) Adaptive strategy for transient/coupled problems. Applications to thermoelasticity and elastodynamics. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 325–332, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73B30)

Tie, Jingzhi The explicit solution of the $\overline{\partial}$-Neumann problem in a non-isotropic Siegel domain. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1299–1322. (Vincent Thilliez) **99b:32021** 32F20 (32F15, 35N15)

Tieber, G. (*with* Kummer, Wolfgang) Universal conservation law and modified Noether symmetry in 2D models of gravity with matter. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044001, 10 *pp.* (Summary) **99m:83058** 83C40 (83C57)

Tiefenbach, Andreas The representation of series-parallel-ordered sets. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 37–48 (1998). (Summary) **99b:06005** 06A06

— On certain varieties of semigroups. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 145–152. (Attila Nagy) **99i:20078** 20M07

Tieman, Alexander F. (*with* Houba, Harold; Brinksma, Rene) The Nash bargaining solution for decision weight utility functions. (English summary) *Econom. Lett.* **60** (1998), *no.* 1, 41–48. (Summary) **99f:90021** 90A10 (90A60)

Tiemblo, Alfredo (*with* Tresguerres, Romualdo) Invariant foliation of dynamical spacetimes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 2, 239–262. (Charles G. Torre) **99h:53103** 53C80 (53C50, 83C05)

— (*with* Barbero G., J. Fernando; Tresguerres, Romualdo) Husain-Kuchař model: time variables and nondegenerate metrics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6104–6112. (Summary) **99m:83010** 83C05

Tiemeyer, A. (*with* Abels, Herbert) Compactness properties of locally compact groups. (English summary) *Transform. Groups* **2** (1997), *no.* 2, 119–135. (M. Rajagopalan) **99f:22007** 22B05 (22B10, 57M07)

nguyen duy Tien *see* **Nguyen Duy Tien**

Tienari, J. (*with* Möttönen, Jyrki; Hettmansperger, Thomas P.; Oja, Hannu) On the efficiency of affine invariant multivariate rank tests. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 118–132. (Margaret P. Gessaman) **99j:62067** 62G10 (62H15)

Tienari, Matti (*with* Mustonen, Vesa) An eigenvalue problem for generalized Laplacian in Orlicz-Sobolev spaces. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **129** (1999), *no.* 1, 153–163. (Summary) **99m:35078** 35J65 (49J10)

ha Tien Ngoan *see* **Ha Tien Ngoan**

phạm Tien Son *see* **Phạm Tien Son**

nguyen Tien Zung *see* **Nguyen Tien Zung**

Tiep, Pham Huu (*with* Zalesskiĭ, Aleksandr E.) Some characterizations of the Weil representations of the symplectic and unitary groups. (English summary) *J. Algebra* **192** (1997), *no.* 1, 130–165. (Toshiaki Shoji) **99d:20074** 20G05 (20C33, 20G40)

— (*with* Fleischmann, Peter; Lempken, Wolfgang) The p-intersection subgroups in quasi-simple and almost simple finite groups. (English summary) *J. Algebra* **207** (1998), *no.* 1, 1–42. (Robert M. Guralnick) **99j:20021** 20D06 (20G40)

— (*with* Dummigan, N. P.) Congruences for certain theta series. *J. Number Theory* **71** (1998), *no.* 1, 86–105. (Rainer Schulze-Pillot) **99k:11065** 11F27 (11H56)

— (*with* Scharlau, Rudolf) Symplectic group lattices. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 2101–2139. (Gerhard Hiss) **99k:20010** 20C10 (11E12, 11H06, 20C15)

Tier, Charles (*with* Knessl, Charles) Heavy traffic analysis of a Markov-modulated queue with finite capacity and general service times. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 257–323 (*electronic*). (Summary) **99g:60172** 60K25 (35Q99)

Tierney, Luke A note on Metropolis-Hastings kernels for general state spaces. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 1–9. (Summary) **99a:60066** 60J05 (62–04, 65C05)

Tieszen, Richard Gödel's path from the incompleteness theorems (1931) to phenomenology (1961). *Bull. Symbolic Logic* **4** (1998), *no.* 2, 181–203. (John W. Dawson, Jr.) **99f:01023** 01A70 (01A60, 03–03, 03A05)

— *see also* **Perspectives on intuitionism, 99a:03004**

Tietäväinen, Aimo A. (*with* Charpin, Pascale; Zinov'ev, V. A.) On binary cyclic codes with distance $d = 3$. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 3–14; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 287–296 (1998). (Summary) **99d:94037** 94B15

— Vinogradov's method and some applications. *Number theory and its applications* (*Ankara*, 1996), 261–282, *Lecture Notes in Pure and Appl. Math.*, 204, *Dekker, New York*, 1999. (Simon N. Litsyn) **99k:11186** 11T23 (94B65)

Tietjen, Gary L. (*with* Beckman, Richard J.) Correction: "Two-sided tolerance limits for balanced random-effects ANOVA models" [Technometrics **31** (1989), no. 2, 185–197; MR 90f:62230]. *Technometrics* **40** (1998), *no.* 3, 269. 62J10 (62F15)

Tietz, Hubert (*with* Zeller, Karl) Tauber-Bedingungen für Verfahren mit Abschnittskonvergenz. (English summary) [Tauberian conditions for methods with sectional convergence] *Acta Math. Hungar.* **81** (1998), *no.* 3, 241–247. (S. Baron) **99m:40005** 40C05 (40E05)

— (*with* Baron, S.) Produktsätze für Verfahren zur Limitierung von Doppelfolgen. II. (German and Russian summaries) [Product theorems for summability methods of double sequences. II] *Anal. Math.* **24** (1998), *no.* 3, 163–170. (F. Móricz) **99j:40008** 40C15 (40B05)

— (*with* Zeller, Karl) An elementary proof for the O_R-theorem of Hardy and Littlewood. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 632–635. (From the introduction) **99c:40007** 40E05

Tietze, H. *see* **Reitberger, Heinrich, 99d:01035**

Tieudjo, D. (*with* Moldavanskiĭ, David I.) Endomorphisms of the group $G_{mn} = \langle a, b;\ [a^m, b^n] = 1\rangle\ m, n > 1$. (English summary) *Afrika Mat.* (3) **9** (1998), 11–18. (L. Ribes) **99i:20044** 20F05 (20E06)

Ţigăeru, Cătălin Riemannian foliations with geodesic elements of holonomy. *An. Univ. Bucureşti Mat.* **45** (1996), 91–95. (From the introduction) **99e:53032** 53C12

— v-projective symmetries of fibered manifolds. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 3, 347–352. (Andrew Bucki) **99h:53029** 53C05 (53B10)

— Variational equations along integral curves of a projectable system of vector fields. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 583–596. (A. Morimoto) **99g:53028** 53C05

Ţigan, Ştefan Iulius Linearization procedure and Kortanek-Evans optimality conditions for symmetric pseudo-concave programming. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 113–120. (Summary) **99b:90094** 90C26

— (*with* Stancu-Minasian, I. M.) On some methods for solving fractional programming problems with inexact data. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 6, 517–532. 90C32

— Optimality conditions for symmetric generalized convex programatic and applications. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 4, 487–500. 90C25 (90C48)

— (*with* Stancu-Minasian, I. M.) On sensitivity coefficient for the linear-fractional programming. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 159–166, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 90C32 (90C31)

van Tiggelen, B. A. (*with* Lacoste, D.; Rikken, G. L. J. A.; Sparenberg, A.) Optics of a Faraday-active Mie sphere. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1636–1642. (Summary) **99b:78005** 78A10 (78A05)

Tiggelman, Jeroen (*with* Hordijk, Arie; Loeve, Anneke) Analysis of a finite-source customer assignment model with no state information. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 317–336. (Summary) **99c:90052** 90B22 (60K25)

Tiglio, Manuel H. No time machine construction in open $2 + 1$ gravity with timelike total energy-momentum. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064018, 5 *pp.* (Summary) **99m:83157** 83C75

Tignol, Jean-Pierre (*with* Gatsinzi, J.-B.) Involutions and Brauer-Severi varieties. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 149–160. (Anne Quéguiner-Mathieu) **99g:16023** 16K20 (16W10)

— Algebras with involution and classical groups. *European Congress of Mathematics, Vol. II* (*Budapest*, 1996), 244–258, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (B. Fein) **99g:16025** 16K20 (16W10, 20G15)

Tiihonen, Timo Shape calculus and FEM in smooth domains. (English summary) *Finite element methods* (*Jyväskylä*, 1997), 259–267, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Sergei Pavlovich Ohezin) **99c:49041** 49Q10 (65D17)

— Finite element approximation of nonlocal heat radiation problems. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1071–1089. (V. Soundalgekar) **99h:65172** 65M60 (65M15, 80–08)

— Fixed point methods for internal free boundary problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 399–413. (Georg S. Weiss) **99k:49068** 49M07 (35R35, 65K10)

— (*with* Kärkkäinen, Kari T.) Free surfaces: shape sensitivity analysis and numerical methods. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 8, 1079–1098. (Summary) **99k:49091** 49Q15 (76B99)

Tiit, E.-M. Mixture of extremal distributions—a model alternative to the log-linear model. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 703–714, *TEV, Vilnius*, 1994. (Summary) **99e:62098** 62H10

— Discussion on the paper of C. M. Cuadras: "Increasing the correlations with the response variable may not increase the coefficient of determination: a PCA interpretation" [in *New trends in probability and statistics, Vol. 3 (Tartu/Pühajärve, 1994)*, 75–83, VSP, Utrecht, 1994; see MR 99g:62004]. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 85–92, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62H25 (62H20)

— (*with* Käärik, E.) Arrays of multivariate statistics and their representation. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 313–324, *VSP, Utrecht*, 1995. (Summary) **99h:62069** 62H05

— *see also* **New trends in probability and statistics, 99g:62004**

Tijdeman, R. On complementary triples of Sturmian bisequences. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 3, 419–424. (Patrice Séébold) **99d:68210** 68R15 (11B85)

— Exponential Diophantine equations 1986–1996. *Number theory* (*Eger*, 1996), 523–539, *de Gruyter, Berlin*, 1998. (F. Beukers) **99f:11046** 11D61 (11–03)

— (*with* Saradha, N.; Shorey, T. N.) Corrections to the paper: "On values of a polynomial at arithmetic progressions with equal products" [Acta Arith. **72** (1995), no. 1, 67–76; MR 96j:11041]. *Acta Arith.* **84** (1998), *no.* 4, 385–386. (István Gaál) **99g:11043** 11D75 (11C08, 11D41)

— Intertwinings of periodic sequences. (English summary) *Indag. Math. (N.S.)* **9** (1998), *no.* 1, 113–122. (Pierre Liardet) **99f:68167** 68R15

Tijini, Ahmed (*with* Sablonnière, Paul) Approximation de contours convexes par des splines paramétrées périodiques convexes C^1, quadratiques ou cubiques. (English and French summaries) [Approximation of convex contours by quadratic or cubic convex periodic parameterized C^1-splines] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 729–746. (A. Bultheel) **99m:65023** 65D05 (65D07)

Tijms, Henk C. (*with* Gouweleeuw, Frank N.) Computing loss probabilities in discrete-time queues. (English summary) *Oper. Res.* **46** (1998), *no.* 1, 149–154. 90B12

Tijs, Stef (*with* Rafels, Carles) On the cores of cooperative games and the stability of the Weber set. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 491–499. (Summary) **99a:90254** 90D12

— (*with* Koster, Maurice) General aggregation of demand and cost sharing methods. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 137–164. (Summary) **99i:90037** 90A40 (90D40)

— (*with* Otten, Gert-Jan; Borm, Peter; Peleg, Bezalel) The MC-value for monotonic NTU-games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 37–47. (Summary) **99b:90173** 90D12

— (*with* Patrone, Fioravante; Pieri, Graziano; Torre, Anna) On consistent solutions for strategic games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 191–200. (Milan Mareš) **99k:90211** 90D10 (90A14)

— (*with* Meca-Martínez, Ana; Sánchez-Soriano, J.; García-Jurado, Ignacio) Strong equilibria in claim games corresponding to convex games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 211–217. (Milan Mareš) **99k:90218** 90D12

— (*with* Dutta, Bhaskar; van den Nouweland, Anne) Link formation in cooperative situations. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 245–256. (Summary) **99j:90121** 90D12

Tijsseling, Arris S. (*with* Zhang, Li-xiang; Huang, Wen-hu; Vardy, Alan E.) Normal modes of fluid-structure interaction in internal flows. (English summary) *J. Hydrodyn. Ser. B* (*English Ed.*) **10** (1998), *no.* 4, 71–89. 73K70

Tikekar, Ramesh (*with* Dadhich, Naresh; Patel, L. K.) A duality relation for fluid spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, L27–L29. (Summary) **99a:83040** 83C50

Tikhomirov, A. A. The main component of the moduli space of mathematical instanton vector bundles on $\mathbf{P}^3$. Algebraic geometry, 2. *J. Math. Sci.* (*New York*) **86** (1997), *no.* 5, 3004–3087. (Tohru Nakashima) **99e:14012** 14D20 (14J60)

Tikhomirov, A. S. On optimal Markov monotone symmetric random search. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 1973–1982; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1894–1902. (Summary) **99h:90075** 90C15 (65C99, 65K99, 90C42)

Tikhomirov, V. V. Optimal control of some non-self-conjugate boundary-value problems. Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 94–101. (Shuzi Zhou) **99e:49007** 49J20 (49K20, 93C20)

Tikhomirov, Vladimir (*with* Ioffe, Alexandre D.) Some remarks on variational principles. (Russian) *Mat. Zametki* **61** (1997), *no.* 2, 305–311; *translation in Math. Notes* **61** (1997), *no.* 1-2, 248–253. (Françoise Berquier) **99d:49017** 49J27 (49J52)

— (*with* Demidov, Sergeĭ S.) This is how we remember him (80th anniversary of the birth of G. E. Shilov [1917–1975]: meditations over old photographs). (Russian) With a letter from the Shilov family archives. *Voprosy Istor. Estestvoznan. i Tekhn.* **1997**, *no.* 4, 115–129. 01A70

— The phenomenon of the Moscow mathematical school. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 147–162, *Brepols, Turnhout*, 1998. (Summary) **99k:01079** 01A72 (01A60, 01A70)

— (*with* Bobylev, N. A.; Gorin, E. A.; Ishlinskiĭ, A. Yu.; Novikov, Sergeĭ Petrovich) Mark Aleksandrovich Krasnosel'skiĭ. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 199–201; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 195–198. (Editors) **99m:01042** 01A70

— *see also* **Congress: Mathematicians, 99h:00039**

Tikhonenko, N. Ya. (*with* Bilaĭ, V. V.) On the theory of solvability and approximate solution of infinite Wiener-Hopf systems with difference and sum indices. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1220–1226, 1294; *translation in Differential Equations* **33** (1997), *no.* 9, 1226–1232 (1998). (R. V. Duduchava) **99h:47031** 47B35 (45E10)

— (*with* Svyazhina, N. N.) The Galerkin method and the collocation method for solving singular integral equations on the real axis in the exceptional case. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1563–1565, 1584; *translation in Differential Equations* **33** (1997), *no.* 11, 1570–1573 (1998). 65R20 (45E05, 45L05)

— (*with* Tsymbalyuk, E. P.) Projection methods for solving the exceptional case of convolution-type equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 62–69; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 7, 59–66 (1999). (Alexander S. Denisjuk) **99i:65149** 65R20 (45E10, 45L05)

Tikhonenko, O. M. (*with* Fedzyanin, D. V.) The total demand volume and waiting time distribution for an unreliable queueing system with an infinite number of servers. (Belorussian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 115–117, 144. 90B22

Tikhonov, Andreĭ Nikolaevich (*with* Leonov, A. S.; Yagola, A. G.) ★ Nonlinear ill-posed problems. Vol. 1, 2. (English summary) Translated from the Russian. Applied Mathematics and Mathematical Computation, 14. *Chapman & Hall, London*, 1998. *xxii+221 pp. ISBN* 0-412-78660-5 (Editors) **99g:65074** 65J20 (47H15, 47H17, 47N40)

Tikhonov, O. E. On matrix-subadditive functions and a relevant trace inequality. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 25–28. (Frank Hansen) **99i:47034** 47A63 (15A45)

Tikhonov, V. S. Toward determination of the eigenvalues of problems on description of the rotation of deep-water drill columns. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2474–2478. (Summary) **99f:70033** 70K99 (34B15, 34E15, 73K12)

Tikhov, M. S. Asymptotics of statistical estimates from censored samples for distributions with regularly varying tails. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 531–552; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 495–512 (1998). (Jack Cuzick) **99f:62035** 62F10 (62G05)

Tikku, Ashok (*with* Khargonekar, Pramod P.) Probabilistic search algorithms for robust stability analysis and their complexity properties. (English summary) *Learning, control and hybrid systems (Bangalore, 1998)*, 25–45, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93D09 (93B40)

Tikoo, Mohan On strict and simple type extensions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 239–247. (S. A. Naimpally) **99b:54035** 54D35 (54D25)

— (*with* Palmer, Leonard; Ahuja, Mangho) Finding Pythagorean triple preserving matrices. *Missouri J. Math. Sci.* **10** (1998), *no.* 2, 99–105. (Morris Newman) **99b:11021** 11C20 (11D09)

Tiktopoulos, George Variational wave functionals in quantum field theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6429–6440. 81T80

Tiku, Moti L. (*with* Robinson, Laurence D.; Dorroh, J. Robert; Lien, Da-Hsiang Donald) The effects of covariate adjustment in generalized linear models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1653–1675. 62J12

van Til, Robert P. *see* **Van Til, Robert P.**

van Tilborg, Henk C. A. (*with* Verheul, Eric R.) Constructions and properties of k out of n visual secret sharing schemes. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 2, 179–196. (Winfried Müller) **99b:94043** 94A60 (11T71)

— (*with* Heijnen, Petra) Two observations concerning optimum cyclic burst-correcting codes. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 111–120. (Summary) **99k:94053** 94B15

— (*with* Heijnen, Petra; Verhoeff, Tom; Weijs, Sander) Some new binary, quasi-cyclic codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1994–1996. 94B15

Tilbury, Dawn (*with* Pappas, George J.; Lygeros, John; Sastry, S. Shankar) Exterior differential systems in control and robotics. *Essays on mathematical robotics (Minneapolis, MN, 1993)*, 271–372, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Irl Bivens) **99j:58012** 58A15 (58A17, 70B15, 70Q05, 93C85)

Tilgner, A. Magnetohydrodynamic flow in precessing spherical shells. (English summary) *J. Fluid Mech.* **379** (1999), 303–318. (Summary) **99k:76156** 76W05 (76U05, 86A25)

Tillé, Yves (*with* Deville, Jean-Claude) Unequal probability sampling without replacement through a splitting method. (English summary) *Biometrika* **85** (1998), *no.* 1, 89–101. (S. Gabler) **99k:62020** 62D05

Tiller, Petr The approximate symmetries of the vacuum Einstein equations. (English summary) The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 163–168. (Jürgen Tolksdorf) **99b:83022** 83C20 (58G35)

Tiller, Wayne (*with* Piegl, Les A.) Algorithm for computing the product of two B-splines. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 337–344, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17 (65Y25)

— (*with* Piegl, Les A.) Computing the derivative of NURBS with respect to a knot. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 925–934. (Summary) **99e:65032** 65D25

Tilley, B. S. (*with* Weidman, P. D.) Oblique two-fluid stagnation-point flow. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 2, 205–217. (Summary) **99a:76051** 76D99

Tilley, Daniel (*with* Maartens, Roy) Perturbations in inflationary cosmologies with smooth exit. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5491–5501. (Salvatore Capozziello) **99h:83068** 83F05 (83C25)

Tilli, Paolo Singular values and eigenvalues of non-Hermitian block Toeplitz matrices. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 59–69 (1998). (Dao Sheng Zheng) **99g:15012** 15A18 (15A57)

— (*with* Miranda, Mario) Block Toeplitz matrices and preconditioning. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 79–86 (1998). (F. Szidarovszky) **99e:65079** 65F35 (15A12, 15A57, 65F15)

— Locally Toeplitz sequences: spectral properties and applications. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 91–120. (Gong Ning Chen) **99g:47057** 47B35 (15A57)

— A note on the spectral distribution of Toeplitz matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 147–159. (Summary) **99j:65063** 65F15 (15A18, 15A57)

Tillich, Jean-Pierre (*with* Solé, Patrick) On the dual distance and the gap of a binary code. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 333–336. (Summary) **99h:94064** 94B15 (05C90)

— (*with* Delorme, Charles) The spectrum of de Bruijn and Kautz graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 307–319. (W.-K. Chen) **99g:05132** 05C50 (05C20)

— (*with* Friedman, Joel; Joux, Antoine; Roichman, Yuval; Stern, Jacques) The action of a few permutations on r-tuples is quickly transitive. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 4, 335–350. (Martin Klazar) **99e:05106** 05C80 (05A05, 94A60)

Tillmann, Ulrike On the homotopy of the stable mapping class group. (English summary) *Invent. Math.* **130** (1997), *no.* 2, 257–275. (Darryl McCullough) **99k:57036** 57M99 (19L20, 55P47, 55Q50, 55S12, 55U99)

— (*with* Cohen, Frederick R.) Toward homology operations for mapping class groups. (English summary) *Homotopy theory via algebraic geometry and group representations (Evanston, IL, 1997)*, 35–46, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (J. M. Boardman) **99k:55019** 55S12 (57M20)

Tilouine, Jacques ★ Deformations of Galois representations and Hecke algebras. *Published for The Mehta Research Institute of Mathematics and Mathematical Physics, Allahabad; by Narosa Publishing House, New Delhi*, 1996. *xii+108 pp. ISBN* 81-7319-106-9 (Ian Kiming) **99i:11038** 11F80 (11F33, 11R34, 11R39)

— Hecke algebras and the Gorenstein property. (English summary) *Modular forms and Fermat's last theorem (Boston, MA, 1995)*, 327–342, *Springer, New York*, 1997. (*see* **99k:11004**) 11F25 (13H10)

— Deformations of Siegel-Hilbert Hecke eigensystems and their Galois representations. *Number theory (Tiruchirapalli, 1996)*, 195–225, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Alexey A. Panchishkin) **99a:11067** 11F80 (11F33, 11F41, 11F67, 11F85)

Timashev, A. N. On asymptotic expansions of Stirling numbers of the first and second kinds. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 3, 148–159; *translation in Discrete Math. Appl.* **8** (1998), *no.* 5, 533–544. (A. Ya. Olenko) **99m:11021** 11B73

Timashov, A. N. Local theorems on large deviations in the inverse allocation problem. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 353–357, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60F10 (60C05)

— Asymptotic expansions in local theorems on large deviations in the equiprobable allocation scheme. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 359–365, *VSP, Utrecht*, 1997. (Summary) **99f:60054** 60F05 (60C05, 60F10)

Time, I. V. (*with* Spiridonov, A. V.) Application of smoothing splines for filtering signals with strong noise. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 75–82; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 1, 967–972. (Summary) **99j:93107** 93E11 (93E14, 94A12)

Timergaliev, S. N. (*with* Teregulov, I. G.) On the solvability of a geometrically nonlinear problem in the theory of shallow shells. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 53–61; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 7, 50–58 (1999). (Petr E. Tovstik) **99h:73051** 73K15 (35Q72, 73V35)

— (*with* Teregulov, I. G.) On the solvability of a physically nonlinear problem in the theory of shallow shells under finite displacements. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 70–80. (L. P. Lebedev) **99k:73084** 73K15 (35J60)

Timkovskiĭ, V. G. Is a unit-time job shop not easier than identical parallel machines? (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 2, 149–162. (Summary) **99c:90070** 90B35 (68Q25)

— (*with* Rubinov, A. R.) String noninclusion optimization problems. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 456–467 (*electronic*). (Erkki Mäkinen) **99e:68058** 68Q20 (68Q25)

Timm, Mathew Links of certain singularities. (English summary) *Missouri J. Math. Sci.* **7** (1995), *no.* 2, 76–86. (Summary) **99e:32065** 32S50 (14B05)

— (*with* Robinson, Derek J. S.) On groups that are isomorphic with every subgroup of finite index and their topology. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 91–104. (Howard Smith) **99d:20038** 20E15 (20F34)

Timmermann, Gisela (*with* Lösche, Ralf; Schwetlick, Hubert) A modified block Newton iteration for approximating an invariant subspace of a symmetric matrix. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra

Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 381–400. (Summary) **99e:65085** 65H05 (15A18, 65F15, 65H17, 65H20)

Timmermann, Klaus E. (*with* Nowak, Robert D.) Multiscale modeling and estimation of Poisson processes with application to photon-limited imaging. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 846–862. (Summary) **99m:94016** 94A12 (62F15)

Timmesfeld, Franz Georg Presentations for certain Chevalley groups. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 85–117. (Chon Hu Cheng) **99m:20106** 20G15 (20F05, 20G35)

— (*with* Stellmacher, Bernd) Rank 3 amalgams. (English summary) *Mem. Amer. Math. Soc.* **136** (1998), *no.* 649, *viii*+123 *pp.* (Alberto Delgado) **99d:20022** 20D05 (20E08)

Timneanu, E. N. (*with* Bizdadea, C.; Saliu, S. O.) On the irreducible BRST quantization of spin-$\frac{5}{2}$ gauge fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 501–507. (Jan Sładkowski) **99a:81181** 81T70 (81T13)

— (*with* Bizdadea, C.; Iordache, Mihai; Saliu, S. O.) An irreducible BRST approach of topological Yang-Mills theory. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 3, 262–273. (Bani Mitra Södermark) **99e:81248** 81T70 (81T13)

Timofeev, A. Ju. *see* **Timofeev, A. Yu.**

Timofeev, A. V. *see* **Timofeev, Adil V.**

Timofeev, A. Yu. (*with* Reissig, Michael) Leray-Volevich conditions for systems of evolution equations basing on the generalized derivative in the sense of Gelfond-Leontjev. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 251–268. 35A20 (35K99)

— On the theory of series of exponentials. (English summary) *Generalized analytic functions* (*Graz*, 1997), 151–153, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 30B50

Timofeev, Adil V. Controllability, robustness and invariance of reversible systems with nonlinear dynamics. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 2, 171–174. 93B35 (93B05, 93C10)

Timofeev, Alexej *see* **Timofeev, A. Yu.**

Timofeev, E. A. Modeling of a neuron that transmits by the density of impulse flow. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 3, 190–199; *translation in Automat. Remote Control* **58** (1997), *no.* 3, *part* 2, 484–491. (Juraj Hromkovič) **99f:68058** 68Q05 (68T10)

Timofeev, Nikolai M. An additive divisor problem with a growing number of factors. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 391–406; *translation in Math. Notes* **61** (1997), *no.* 3-4, 321–332. (Ognian Trifonov) **99b:11110** 11N37 (11L05)

— Distribution in the mean in progressions of numbers with a large number of prime factors. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 403–414. (Z. Kryžius) **99i:11083** 11N25 (11N37, 11N64, 11N69)

— (*with* Indlekofer, Karl-Heinz) Estimates for multiplicative functions on the set of shifted primes. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 3, 195–221. (A. J. Hildebrand) **99k:11126** 11K65 (11N37)

— (*with* Indlekofer, Karl-Heinz) A mean-value theorem for multiplicative functions on the set of shifted primes. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 153–165. (R. C. Baker) **99e:11125** 11N64 (11N36)

Timofeeva, N. K. Matrices in combinatorial optimization problems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 104–113, 156. 90C27 (90C10)

Timofeyev, I. (*with* Burtsev, S. P.; Camassa, Roberto) Numerical algorithms for the direct spectral transform with applications to nonlinear Schrödinger type systems. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 166–186. (Summary) **99g:34036** 34A45 (34A55, 34L25, 78–08, 78A60)

Timonen, Jussi (*with* Rybin, Andrei; Kastelewicz, Georg; Bogolyubov, N. M.) The su(1, 1) Tavis-Cummings model. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4705–4723. (K. Wódkiewicz) **99e:81277** 81V80 (81R30)

— (*with* Kandhai, D.; Koponen, A.; Hoekstra, Alfons; Kataja, M.; Sloot, P. M. A.) Implementation aspects of 3D lattice-BGK: boundaries, accuracy, and a new fast relaxation method. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 482–501. (Summary) **99m:76093** 76M25

Timoshenko, E. I. On primitive elements of free groups of the varieties $\mathfrak{A}\mathfrak{N}_n$. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 884–889; *translation in Math. Notes* **61** (1997), *no.* 5-6, 739–743. (A. I. Budkin) **99g:20048** 20E10 (20F16)

— On the definability of the endomorphisms of a free group of the variety $\mathfrak{A}\mathfrak{N}$ by a finite set of values. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 916–920; *translation in Math. Notes* **62** (1997), *no.* 5-6, 767–770 (1998). (Summary) **99d:20049** 20F16 (20E10)

Timoshin, O. A. Best approximation of a derivative, and analogues of Landau's inequality in a half-space. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 387–399. (Ha Huy Bang) **99j:41030** 41A25 (41A50)

— Best approximation of the operator of the second mixed derivative. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 1, 201–210; *translation in Izv. Math.* **62** (1998), *no.* 1, 191–200. (Grzegorz Lewicki) **99c:41043** 41A35 (41A50)

Timoshin, S. N. (*with* Bowles, R. I.; Caporn, P.) Nonlinear shortwave Tollmien-Schlichting instability in a boundary layer on a film-coated wall. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3223–3256. (Summary) **99h:76043** 76E30 (76D10)

Timoshkin, A. I. On necessary and sufficient conditions for the existence of a checking test of length 2 for single-output functional elements. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 4, 18–20, 101. 94C12

Timóteo, V. S. (*with* Lima, Celso L.) Effect of q-deformation in the NJL gap equation. (English summary) *Phys. Lett. B* **448** (1999), *no.* 1-2, 1–5. (Summary) **99k:81345** 81V25 (81R50)

Timotin, Dan (*with* Bakonyi, Mihály) On a conjecture of Cotlar and Sadosky on multidimensional Hankel operators. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1071–1075. (Pedro Alegría) **99b:47032** 47B35 (32A35, 46J15)

— (*with* Li, Wing Suet) The central Ando dilation and related orthogonality properties. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 1–16. (László Kérchy) **99d:47007** 47A20

Timoumi, Mohsen Closed orbits for a class of Hamiltonian systems. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 1–10. (Maria Letizia Bertotti) **99e:34051** 34C25 (58E05, 58F22)

Tinaglia, Calogero Some results on a linear problem of Frobenius. (Italian. English summary) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 231–244, *Univ. Stud. Bologna, Bologna*, 1998. (Summary) **99e:11026** 11D04

Tindel, Samy (*with* Nualart, David) On two-parameter non-degenerate Brownian martingales. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 4, 317–335. (Rainer Buckdahn) **99h:60114** 60H07 (60H15)

Tinebra, Fabrizio (*with* Degasperis, A.; De Lillo, S.) Solutions of $1 + 1$ relativistic field models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 497–531. (Luigi Martina) **99b:81140** 81T10 (35Q40, 35Q51)

— Exact Lorentz anomaly in two dimensions. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 987–1000. (Summary) **99m:81232** 81T50 (81T16)

Tineo, Antonio (*with* Ahmad, Shair) Almost periodic solutions of second order systems. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 389–395. (Summary) **99a:34127** 34C27 (34C11)

— Geometric study of the asymptotic behavior of a periodic competitor-competitor-mutualist model. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 1, 69–80. (Hal Leslie Smith) **99b:92059** 92D40 (34C25, 92D25)

— (*with* Rivero Mendoza, Jesús) Cooperative systems and time-varying discrete diffusion for single species. *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 346–357. (Hal Leslie Smith) **99a:34123** 34C25 (92D25)

— First-order ordinary differential equations with several bounded separate solutions. *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 359–372. (Mauro Marini) **99g:34073** 34C11 (34B15, 34C25)

Ting, Hing Fung (*with* Kao, Ming-Yang; Lam, Tak Wah; Sung, Wing Kin) All-cavity maximum matchings. (English summary) *Algorithms and computation* (*Singapore*, 1997), 364–373, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:05092** 05C70

Ting, Lu (*with* Knio, Omar M.) Vortical flow outside a sphere and sound generation. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 972–981. (Rupert Klein) **99a:76024** 76C05 (76Q05)

Ting, T. C. T. The remarkable nature of cylindrically anisotropic elastic materials exemplified by an anti-plane deformation. (English summary) *J. Elasticity* **49** (1997/98), *no.* 3, 269–284. (Summary) **99d:73015** 73B40 (73B50)

— (*with* Barnett, David M.) Classifications of surface waves in anisotropic elastic materials. (English summary) *Wave Motion* **26** (1997), *no.* 3, 207–218. (Summary) **99i:73033** 73D20 (73B40)

— Change between the six groups of anisotropic elasticity solutions by a continuous change of elastic constants. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 157–161, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 73B40 (73D15)

— Symmetric representation of stress and strain in the Stroh formalism and physical meaning of the tensors $\mathbf{L}, \mathbf{S}, \mathbf{L}(\theta)$ and $\mathbf{S}(\theta)$. (English summary) *J. Elasticity* **50** (1998), *no.* 1, 91–96. (Summary) **99e:73023** 73B40 (73C05)

Tingfu, Wang *see* **Wang, Ting Fu**

Tingley, M. A. (*with* Field, C. A.) Small sample asymptotics: applications in robustness. *Robust inference*, 513–536, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35 (62E17)

phan nhat Tinh *see* **Phan Nhat Tinh**

Tinhofer, Gottfried (*with* Muzychuk, Mikhail E.) Recognizing circulant graphs of prime order in polynomial time. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 25, 28 *pp.* (*electronic*). (Koduvayur R. Parthasarathy) **99c:05186** 05C85

Tini, Simone (*with* Maggiolo-Schettini, Andrea) Projectable semantics for statecharts. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 13 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q60)

Tinniswood, A. D. (*with* Tyrrell, A. M.; Cloude, S. R.) Parallel computation of RCS prediction using time domain integral equations. *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 187–197, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08

Tinoco-Ruiz, J. G. (*with* Barrera Sánchez, Pablo) Smooth and convex grid generation over general plane regions. (English summary) *Math. Comput. Simulation* **46** (1998), *no.* 2, 87–102. (W. Govaerts) **99e:65129** 65M50 (65N50)

— (*with* Barrera Sánchez, Pablo) Area control in generating smooth and convex grids over general plane regions. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 19–32. (Summary) **99m:65232** 65N50 (65D17, 65M50, 65Y25)

Tinone, H. (*with* Aoshima, N.) Parameter identification of robot arm with repetitive control. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 225–238. 93C85 (93B30)

Tintarev, Kyril Isotopic linking and critical points of functionals. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4145–4149. (Jean-Noël Corvellec) **99d:58037** 58E05

Tin-Zhu, Huang *see* **Huang, Ting Zhu**

Ţiplea, Ferucio Laurenţiu (*with* Procopiuc, Octavian; Procopiuc, Cecilia-Magdalena; Ene, Cristian) On the power and complexity of parallel communicating grammar systems. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 53–78, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (68Q05)

— (*with* Ene, Cristian) Hierarchies of Petri net languages and a super-normal form. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 3, 187–204. (Anna Bagyinszkiné-Orosz) **99a:68113** 68Q45 (68Q90)

Tipp, Ulrich Local height pairings of Heegner points on Drinfeld curves. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 344–356, *World Sci. Publishing, River Edge, NJ*, 1997. (Yoshinori Hamahata) **99f:11073** 11G09 (11F67, 11G40)

— (*with* Rück, Hans-Georg) A Gross-Zagier formula for function fields. *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 121–137, *Springer, Berlin*, 1999. (Yoshinori Hamahata) **99k:11098** 11G40 (11G09)

Tippett, Michael K. (*with* Marchesin, Dan) Bounds for solutions of the discrete algebraic Lyapunov equation. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 214–218. (Vladimir B. Larin) **99m:65087** 65F30 (93C05)

Tipunin, I. Yu. (*with* Semikhatov, A. M.) The structure of Verma modules over the $N = 2$ superconformal algebra. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 129–173. (Matthias Dörrzapf) **99j:81053** 81R10 (17B68, 17B81)

Tirao, Juan (*with* Ayala, Victor) Linear control systems on Lie groups and controllability. (English summary) *Differential geometry and control (Boulder, CO, 1997)*, 47–64, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Jimmie D. Lawson) **99j:93005** 93B05 (22E60, 58E25, 93B29)

Tirapegui, Enrique (*with* Cerda, Enrique) On the linear evolution of the surface of a viscous incompressible fluid. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **7** (1996), *no.* 7-12, 301–320 (1997). (Summary) **99b:76028** 76D99 (76E99)

— (*with* Cerda, Enrique) Faraday's instability in viscous fluid. (English summary) *J. Fluid Mech.* **368** (1998), 195–228. (Summary) **99e:76048** 76E30 (76D33)

Tıraş, Yücel Integral closure of an ideal relative to a module and Δ-closure. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 381–386. (Sunsook Noh) **99a:13004** 13B22

Tırnaklı, U. (*with* Özeren, S. F.; Büyükkılıç, Fevzi; Demirhan, Doğan) Landau diamagnetism within Tsallis thermostatistics and quantum groups. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **2** (1998), *no.* 1, 101–106. (Summary) **99e:82010** 82B05

Tirole, Jean (*with* Maskin, Eric) Unforeseen contingencies and incomplete contracts. (English summary) *Rev. Econom. Stud.* **66** (1999), *no.* 1, 83–114. (Summary) **99m:90055** 90A60

Tirosh, Dina Finite and infinite sets: definitions and intuitions. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 3, 341–349. 00A35

Tirozzi, Brunello (*with* Feng, Jian Feng) An analysis on neural dynamics with saturated sigmoidal functions. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 71–99. (Summary) **99d:92006** 92B20 (58F40)

— (*with* Feng, Jian Feng) Capacity of the Hopfield model. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3383–3391. (Matthias Löwe) **99a:82071** 82C32 (92B20)

— (*with* Reutskiy, S. Yu.) Quasi-Trefftz spectral method for separable linear elliptic equations. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 47–74. (Summary) **99h:65202** 65N35

— *see also* **Bovier, Anton, 99f:82052**

Tirskiĭ, G. A. Hydrodynamic models in problems of hypersonic flow around blunt bodies by a rarefied gas. (Russian) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 903–930; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 875–900 (1998). (Anatoliĭ V. Dubinskiĭ) **99f:76113** 76N10 (76J20, 76K05, 76P05)

Tiryaki, Aydin (*with* Çelebi, A. Okay) Nonoscillation and asymptotic behaviour for third order nonlinear differential equations. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 677–685. (Ondřej Došlý) **99k:34072** 34C10

pointet-Tischler, Nicole *see* **Pointet-Tischler, Nicole**

Tišer, Jaroslav (*with* Preiss, David) Positivity principle for more concentrated measures. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 236–246. (Adolf R. Mirotin) **99g:28027** 28C15

— (*with* Gregor, Jiří) On Hadamard powers of polynomials. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 4, 372–378. (R. Wallisser) **99k:26016** 26C10 (12D10, 30C15, 34K20, 93D20)

Tishby, Naftali (*with* Ron, Dana; Singer, Yoram) On the learnability and usage of acyclic probabilistic finite automata. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 133–152. (Sanjay Jain) **99e:68136** 68T05 (68Q68)

Tishchenko, Aleksandr Vladimirovich Wreath products of varieties, and semi-Archimedean varieties of semigroups. (Russian) *Tr. Mosk. Mat. Obs.* **57** (1996), 218–238; *translation in Trans. Moscow Math. Soc.* **1996**, 203–222 (1997). (G. Pollák) **99d:20101** 20M07 (08B25)

— Wreath product of the atoms of the lattice of semigroup varieties. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 4(322), 219–220. 20M07

Tishchenko, E. S. (*with* Abanin, A. V.) Spaces of ultra-differentiable functions, and a generalization of the Paley-Wiener-Schwartz theorem. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 2, 5–8, 88. 46E10 (46F05)

Tishchenko, V. N. (*with* Obernikhina, N. N.) Failure of bridges in thin plates. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2455–2458. (Summary) **99f:73067** 73M25

Tishin, P. M. (*with* Bastos, M. A.; Karlovich, Yu. I.; Spitkovsky, Ilya M.) On a new algorithm for almost periodic factorization. (English summary) *Recent progress in operator theory (Regensburg, 1995)*, 53–74, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (A. Böttcher) **99g:47034** 47A68 (39A10, 42A75, 45E10, 47B35)

— (*with* Bastos, M. A.; Karlovich, Yu. I.; dos Santos, A. F.) The corona theorem and the existence of canonical factorization of triangular AP-matrix functions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 494–522. (A. Böttcher) **99f:47022a** 47A68 (15A23, 39A10, 45E10, 47A75, 47B35)

— (*with* Bastos, M. A.; Karlovich, Yu. I.; dos Santos, A. F.) The corona theorem and the canonical factorization of triangular AP matrix functions—effective criteria and explicit formulas. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 523–550. (A. Böttcher) **99f:47022b** 47A68 (15A23, 39A10, 45E10, 47A75, 47B35)

Tishkin, V. F. (*with* Lebo, I. G.; Rozanov, V. B.; Nikishin, V. V.; Popov, I. V.; Favorskiĭ, A. P.) Numerical simulation of Richtmyer-Meshkov instability. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 346–356, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99 (76M25)

— (*with* Abakumov, M. V.; Gavrilyuk, K. V.; Esikova, N. B.; Lukshin, An. V.; Mukhin, S. I.; Sosnin, N. V.; Favorskiĭ, A. P.) A mathematical model of the hemodynamics of a cardio-vascular system. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 892–898, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 895–901 (1998). (Introduction) **99b:92017** 92C50 (92–08, 92C30)

— (*with* Samarskiĭ, Aleksandr Andreevich; Chetverushkin, B. N.; Gol'din, V. Ya.; Kalitkin, N. N.; Sobol', I. M.) Boris Leonidovich Rozhdestvenskiĭ (on the occasion of his seventieth birthday). (Russian) *Mat. Model.* **10** (1998), *no.* 9, 123–124. 01A70

Tiskin, Alexandre Bulk-synchronous parallel multiplication of Boolean matrices. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 494–506, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q22 (15–04)

Tison, Sophie (*with* Devienne, Philippe; Talbot, Jean-Marc) Co-definite set constraints with membership expressions. (English summary) *Logic programming (Manchester, 1998)*, 25–39, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99h:68031** 68N17 (68Q60, 68Q68)

— (*with* Gilleron, Rémi; Tommasi, Marc) Set constraints and automata. (English summary) *Inform. and Comput.* **149** (1999), *no.* 1, 1–41. (Sauro Tulipani) **99m:68120** 68Q60 (68N17, 68Q68)

Titani, Satoko Completeness of global intuitionistic set theory. *J. Symbolic Logic* **62** (1997), *no.* 2, 506–528. (From the text) **99d:03045** 03E70 (03F55)

— Numbers in a lattice valued set theory. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 174–192. (*see* **99a:03003**) 03E70

— Universe of quantum set theory. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 48–62. (*see* **99d:03003**) 03G12 (03E70)

Titeux, I. (*with* Yakubov, Yakov) Completeness of root functions for elasticity problems in a strip. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 761–786. (Vyacheslav N. Pivovarchik) **99g:73028** 73C02 (35P10, 35Q72, 73K10)

Titi, Edriss S. (*with* Novo, Julia; García-Archilla, Bosco) An efficient form of the nonlinear Galerkin method. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 13 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M60

— (*with* Ferrari, Andrew B.) Gevrey regularity for nonlinear analytic parabolic equations. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 1–16. (Jianzhong Su) **99a:35116** 35K55 (35B65)

— (*with* Oliver, Marcel) Analyticity of the attractor and the number of determining nodes for a weakly damped driven nonlinear Schrödinger equation. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 49–73. (Igor D. Chueshov) **99g:35121** 35Q55 (34G20, 35B40, 47H20, 58F39)

— (*with* García-Archilla, Bosco; Novo, Julia) Postprocessing the Galerkin method: a novel approach to approximate inertial manifolds. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 941–972 (*electronic*). (Summary) **99b:65115** 65M60 (34G20, 47H20)

— (*with* García-Archilla, Bosco; Novo, Julia) An approximate inertial manifolds approach to postprocessing the Galerkin method for the Navier-Stokes equations. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 893–911. (Tsorng-Whay Pan) **99i:65104** 65M60 (34G20, 35Q30, 47H20, 76D05)

Titov, Mikhail (*with* Fedorov, Ya. V.; Sommers, Hans-Jürgen) Statistics of S-matrix poles for chaotic systems with broken time reversal invariance: a conjecture. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, R1195–R1198. 81Q50

— (*with* Sommers, Hans-Jürgen; Fedorov, Ya. V.) S-matrix poles for chaotic quantum systems as eigenvalues of complex symmetric random matrices: from isolated to overlapping resonances. (English summary) *J. Phys. A* **32** (1999), *no.* 5, L77–L87. 81Q50 (81U20, 82B41)

Titov, S. S. On the Cauchy problem in Banach scales with compact embeddings. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1167–1175, *iv*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 1028–1036. (Vladimir Tulovsky) **99f:34094** 34G20 (35A05)

Tits, André L. (*with* Balakrishnan, Venkataramanan) Small-μ theorems with frequency-dependent uncertainty bounds. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 3, 220–243. (Elena De Santis) **99m:93077** 93D09 (93C05, 93C73)

— (*with* Balakrishnan, Venkataramanan; Lee, Li) Robustness under bounded uncertainty with phase information. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 50–65. (Pablo A. Iglesias) **99m:93026** 93B35 (93B51, 93D21)

Tits, Jacques Groupes semi-simples complexes et géométrie projective. [Complex semisimple groups and projective geometry] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 112, 115–125, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 22E46

— Sous-algèbres des algèbres de Lie semi-simples (d'après V. Morozov, A. Malčev, E. Dynkin et F. Karpelevitch). [Subalgebras of semisimple Lie algebras (after V. Morozov, A. Mal'tsev, E. Dynkin and F. Karpelevich)] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 119, 197–214, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 17B20

— Les "formes réelles" de groupes de type E_6 [MR **21** #4981]. [The "real forms" of groups of type E_6] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 162, 351–365, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 20D06

— Les groupes simples de Suzuki et de Ree. [The Suzuki and Ree simple groups] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 210, 65–82, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 20D08

— Structures et groupes de Weyl. [Weyl structures and groups] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 288, 169–183, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 20G15

— The work of Gregori Aleksandrovitch Margulis [MR 82g:01075]. *Fields Medallists' lectures*, 263–269, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70

Titterington, D. Michael (*with* Cheng, Ming-Yen; Hall, Peter Gavin) Optimal design for curve estimation by local linear smoothing. (English summary) *Bernoulli* **4** (1998), *no.* 1, 3–14. (Christos P. Kitsos) **99c:62204** 62K05 (62G05, 62J05, 62L05)

— (*with* Rydén, Tobias) Computational Bayesian analysis of hidden Markov models. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 2, 194–211. 62F15

— (*with* Dunmur, A. P.) The influence of initial conditions on maximum likelihood estimation of the parameters of a binary hidden Markov model. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 67–73. 62M05

Tittmann, Peter (*with* Gorlov, V. V.) A unified approach to the reliability of recurrent structures. (English summary) *Advances in stochastic models for reliability, quality and safety (Schierke, 1997)*, 261–273, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 90B25 (05C85, 68M15, 90C35)

— (*with* Gorlov, V. V.; Sadovnichiĭ, V. I.) On the reliability polynomials of some communication systems. (Russian. English and Russian summaries) *Vestn. Belorus. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1998**, *no.* 3, 3–9, 78. 94C12 (90B25)

Tittus, Michael (*with* Egardt, Bo) Control design for integrator hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 491–500. (John Tsinias) **99d:93029** 93B51 (93C30)

Titus, Steven R. (*with* Hero, Alfred O.; Piramuthu, Robinson; Fessler, Jeffrey A.) Minimax emission computed tomography using high-resolution anatomical side information and *B*-spline models. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 920–938. (Summary) **99m:94011** 94A12 (92C55)

Titvalnen, A. *see* **Tietäväinen, Aimo A.**

Tiunchik, A. A. Minimization of the height of parallel forms of algorithms by the branching method. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 12–17, 139. 68Q22 (68Q25)

Tiwari, Ashish (*with* Bachmair, Leo) *D*-bases for polynomial ideals over commutative Noetherian rings. (English summary) *Rewriting techniques and applications (Sitges, 1997)*, 113–127, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Franz Pauer) **99c:13050** 13P10 (68Q40)

Tiwari, Narendra Kumar (*with* Namdeo, R. K.) Some results of fixed points in Hausdorff spaces. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 13–18. 54H25

Tiwari, Pranav K. (*with* Nolan, Jennifer M.; Sivaraman, Vijay; Savage, Carla D.) Graphical basis partitions. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 241–261. (C. C. Rousseau) **99j:05014** 05A17 (05C99, 11Y55)

Tiwari, Prasoon (*with* Chandra, Ashok K.; Raghavan, Prabhakar; Ruzzo, Walter L.; Smolensky, Roman) The electrical resistance of a graph captures its commute and cover times. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 312–340. (Mark R. Jerrum) **99h:60140** 60J15 (05C90, 94C05)

Tiwari, S. *see* **Tiwari, Sudarshan**

Tiwari, S. C. *see* **Tiwari, Suresh Chandra**

Tiwari, S. K. (*with* Ram, Shri) Inhomogeneous plane symmetric models in a scalar-tensor theory. (English summary) *Astrophys. Space Sci.* **259** (1998), *no.* 1, 91–97. 83D05

— (*with* Ram, Shri) Generalized Einstein-Rosen space-times with scalar waves. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 705–710. 83C15

Tiwari, Shiv Kumar (*with* Pande, H. D.; Srivastava, Ravindra Kumar) Existence of affine motion in a R-$\oplus$ recurrent Finsler space. *J. Nat. Acad. Math. India* **10** (1992/96), 126–135 (1997). (László Kozma) **99a:53019** 53B40

Tiwari, Shraddha (*with* Giri, R. D.) On the commutativity of s-unital rings and periodic rings. (English summary) *Math. Today (Ahmedabad)* **14** (1996), 45–56. 16U80

Tiwari, Sudarshan (*with* Klar, Axel) An adaptive domain decomposition procedure for Boltzmann and Euler equations. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 223–237. (Summary) **99c:76088** 76M25 (65M55, 76P05)

— Coupling of the Boltzmann and Euler equations with automatic domain decomposition. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 710–726. (Summary) **99d:76080** 76M25 (76P05)

Tiwari, Suresh Chandra Unfair to Hardy. Reply to: "Srinivasa Ramanujan: a different perception on his life and times" [Current Sci. **75** (1998), no. 3, 326–327; 1641547] by K. Murukesapillai and C. Santiapillai. *Current Sci.* **75** (1998), *no.* 9, 873–874. 01A70 (01A80)

Tiwary, Kalishankar (*with* Debnath, S. C.) Some common fixed point theorems for compatible mappings. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 317–325. 54H25

— (*with* Lahiri, B. K.) Fixed point theorem for set-valued mappings in reflexive Banach spaces. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 107–111. (E. Tarafdar) **99k:47144** 47H10 (47H04)

Tix, C. Strict positivity of a relativistic Hamiltonian due to Brown and Ravenhall. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 3, 283–290. (Mihai Pascu) **99b:81047** 81Q10 (35P05, 35Q40)

Tjelmeland, Håkon (*with* Besag, Julian) Markov random fields with higher-order interactions. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 415–433. 62M40 (60G60)

Tjiok, Mouw-ching The role of Kripke semantics in reasoning of knowledge and time. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 402–422, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 68Q60 (03B45, 03B70)

Tjøstheim, Dag (*with* Hjellvik, Vidar; Yao, Qiwei) Linearity testing using local polynomial approximation. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 295–321. (Theo Gasser) **99i:62099** 62G09 (62G05)

Tjur, Tue Nonlinear regression, quasi likelihood, and overdispersion in generalized linear models. (English summary) *Amer. Statist.* **52** (1998), *no.* 3, 222–227. (Summary) **99g:62089** 62J02 (62J12)

Tkáč, Michal (*with* Smutný, Peter) On cubic polyhedral graphs with prescribed adjacency properties of their faces. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 197–206. (Stanislav Jendrol') **99j:05123** 05C38 (05C75, 52B10)

Tkačenko, M. *see* **Tkachenko, M. G.**

Tkačenko, M. G. *see* **Tkachenko, M. G.**

Tkačenko, Michael *see* **Tkachenko, M. G.**

Tkačenko, Michael G. *see* **Tkachenko, M. G.**

Tkačenko, Mikhail *see* **Tkachenko, M. G.**

Tkačenko, Mikhail G. *see* **Tkachenko, M. G.**

Tkach, L. I. (*with* Bulgakov, A. I.) Perturbation of a convex-valued operator by a Hammerstein-type multivalued mapping with nonconvex images, and boundary value problems for functional-differential inclusions. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 6, 3–32; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 821–848. (Tzanko D. Donchev) **99k:47128** 47H04 (34K10, 47H30)

Tkach, V. I. (*with* Rosales, J. J.; Martínez, J.) Action for the FRW model and complex matter field with local supersymmetry. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3755–3762. (Alfredo Macías) **99i:83106** 83E50 (81Q60, 83F05)

— (*with* Lyakhovskiĭ, V. D.) BRST algebra quantum double and quantization of the proper time cotangent bundle. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2869–2880. (Władysław Marcinek) **99e:81096** 81R50 (17B37, 81T60, 81T70)

Tkachenko, A. I. (*with* Lebedev, D. V.) Control of the spherical motion of a spacecraft in the Earth's magnetic field. II. Orientation and stabilization. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 5–18, 153. 93C85 (70M20, 70Q05)

Tkachenko, M. G. (*with* Hernández, Constancio) Subgroups of **R**-factorizable groups. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 371–378. (I. I. Guran) **99i:54051** 54H11 (22A05, 22D05, 54C50)

— (*with* Alas, O. T.; Protasov, I. V.; Tkachuk, Vladimir V.; Wilson, Richard Gordon; Yashchenko, I. V.) Almost all submaximal groups are paracompact and σ-discrete. (English summary) *Fund. Math.* **156** (1998), *no.* 3, 241–260. (Klaas Pieter Hart) **99c:54050** 54H11 (54D20, 54G05)

— (*with* Villegas-Silva, Luis M.) Refining connected topological group topologies on abelian torsion-free groups. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 281–288. (James Chew) **99b:22002** 22A05 (54H11)

— (*with* Villegas-Silva, Luis M.) Refining connected topological group topologies on abelian torsion groups. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 77–90. (W. W. Comfort) **99c:54052** 54H11 (22A05, 54A25, 54D05)

— (*with* Comfort, W. W.; Morris, Sidney A.; Robbie, Desmond; Svetlichny, Sergey) Suitable sets for topological groups. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 25–46. (Klaas Pieter Hart) **99g:54033** 54H11 (22A05, 54A25)

— Introduction to topological groups. (English summary) *Topology Appl.* **86** (1998), *no.* 3, 179–231. (Summary) **99b:54064** 54H11 (22A05, 54A25, 54D45)

Tkachenko, N. V. New solutions in the problem of the motion of a gyrostat in a magnetic field. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 84–89. (Summary) **99k:70007** 70E15

Tkachenko, V. Ī. On unitary almost periodic difference systems. (English summary) *Advances in difference equations (Veszprém, 1995)*, 589–596, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39044** 39A10

— On uniformly stable linear quasiperiodic systems. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 981–987; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1102–1108 (1998). (Summary) **99i:34067** 34C37 (34A30, 34C20, 34C35, 34D99, 58F27)

Tkachenko, Vadim (*with* Avishai, Yshai; Berend, Daniel) Trace maps. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 30, 3525–3542. (Jean-Paul Allouche) **99b:82045** 82B44 (11B85, 58F03)

Tkachev, D. L. (*with* Blokhin, A. M.) ★ Mixed problems for the wave equation in coordinate domains. *Nova Science Publishers, Inc., Commack, NY*, 1998. 133 *pp.* *ISBN* 1-56072-592-3 (V. D. Sharma) **99m:35137** 35Lxx (76-01, 76N10)

Tkachëv, V. G. Minimal tubes of finite integral curvature. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 181–190, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 159–167. (Valery Marenich) **99e:53094** 53C42

Tkacheva, L. A. Hydrodynamic characteristics of a wing in a stratified fluid near a screen. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 1, 28–34; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 1, 24–29. (Summary) **99c:76007** 76B05 (76V05)

Tkachuk, K. S. (*with* Mukhin, A. B.) Estimates for the concentration of convolutions of symmetric unimodal distributions. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 63–70. (R. Theodorescu) **99f:60033** 60E15

Tkachuk, V. M. Supersymmetry of a nonstationary Pauli equation. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1859–1866. (Jiu Qing Liang) **99g:81059** 81Q60 (81Q05)

— Quasi-exactly solvable potentials with two known eigenstates. (English summary) *Phys. Lett. A* **245** (1998), *no.* 3-4, 177–182. (Violeta V. Tretynyk) **99j:81047** 81Q60 (81Q05)

Tkachuk, Vladimir V. (*with* Alas, O. T.; Protasov, I. V.; Tkachenko, M. G.; Wilson, Richard Gordon; Yashchenko, I. V.) Almost all submaximal groups are paracompact and σ-discrete. (English summary) *Fund. Math.* **156** (1998), *no.* 3, 241–260. (Klaas Pieter Hart) **99c:54050** 54H11 (54D20, 54G05)

— Mapping metric spaces and their products onto $C_p(X)$. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 113–122. (J. E. Vaughan) **99h:54013** 54B10 (54C10, 54E35)

— When do connected spaces have nice connected preimages? (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3437–3446. (W. Stephen Watson) **99a:54015** 54D05 (54A25, 54C10, 54G15)

— (*with* Balogh, Zoltán T.; Gruenhage, Gary) Additivity of metrizability and related properties. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 91–103. (Summary) **99b:54039** 54E35 (54A25, 54B05, 54B10)

Tkadlec, Josef Greechie diagrams of small quantum logics with small state spaces. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 203–209. (V. Ya. Kreinovich) **99k:81031** 81P10 (03G12)

Tkebuchava, G. E. On unconditional convergence in the spaces $L^p(I^d)$, $0 < p < \infty$, $d \geq 1$, of series in the Haar system. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 25–28. 41A58

— On the properties of some integral operators. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 13–15. 42B25 (47G10)

— On multiple Fourier, Fourier-Walsh and Fourier-Haar series in nonreflexive separable Orlicz spaces. (English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 199–202 (1995). 42B08

— (*with* Finet, C.) Walsh-Fourier series and their generalizations in Orlicz spaces. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 405–418. (Sándor Fridli) **99e:42042** 42C10 (46E30)

Tkebuchava, R. S. Optimal correction of a Markov process in a stationary regime. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 49–52. 65K99 (90C40)

Tkhai, V. N. Fixed sets and symmetric periodic motions of reversible mechanical systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 959–971; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 941–952. (Summary) **99c:34088** 34C35 (70E15, 70F07)

nguen suan Tkhao *see* **Nguen Suan Tkhao**

Tkhuan, N. N. (*with* Zakharov, V. A.; Ban, D. V.; Dang Van Hung) On the reconstruction of a process net from the firing sequence of a Petri net. (Russian. Russian summary)

Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet. **1998**, *no.* 2, 31–34, 49; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 49–54. 68Q90

Tleubergenov, M. I. On the solvability of the stochastic Helmholtz problem. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 53–63. (Summary) **99e:34079** 34F05 (60H10, 70H35, 70L05)

— The method of moment functions in the stochastic Helmholtz problem. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 5, 56–65. (Summary) **99f:34084** 34F05 (60H10)

— On the representation of the second-order Itô equation as an equation with a Lagrangian structure. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 54–63. (Summary) **99e:70065** 70L05 (34F05, 60H10, 70H35)

— On conditions for reducing a second-order stochastic equation to an equivalent equation with Lagrangian structure. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 78–90. (Summary) **99d:70039** 70L05 (34F05, 60H10, 70H35)

To, C. W. S. On the stochastic averaging method of energy envelope. *J. Sound Vibration* **212** (1998), *no.* 1, 165–172. (Introduction) **99b:70028** 70L05 (34C29, 34F05)

— (*with* Li, De Ming) Degenerated Hopf bifurcations in a stochastically disturbed non-linear system. *J. Sound Vibration* **219** (1999), *no.* 2, 359–369. (Klaus R. Schenk-Hoppé) **99k:70023** 70L05 (34C23, 34F05, 70K40, 73K35)

To, Philip P. (*with* Lee, Tony T.) Non-blocking routing properties of Clos networks. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 181–195, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:94066** 94C10 (90B10)

To, Wing-Keung (*with* Weng, Lin) The asymptotic behavior of Green's functions for quasi-hyperbolic metrics on degenerating Riemann surfaces. (English summary) *Manuscripta Math.* **93** (1997), *no.* 4, 465–480. (Christopher M. Judge) **99e:58190** 58G18 (58G03)

— (*with* Weng, Lin) Curvature of the L^2-metric on the direct image of a family of Hermitian-Einstein vector bundles. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 649–661. (Thierry Bouche) **99d:32038** 32L07 (53C07)

— Weighted L^2-cohomology of bounded domains with smooth compact quotients. *Michigan Math. J.* **45** (1998), *no.* 2, 333–345. (Gregor Herbort) **99g:32044** 32H10 (32H15)

Toader, Anca-Maria Relations between minimizing sequences in a problem of shape optimization. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 530–535, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 49Q10 (49J45)

Toader, Gh. A measure of convexity of sequences. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 103–111. (Ronald M. Mathsen) **99g:26029** 26A51

— (*with* Pečarić, Josip) On the dual cone of a cone of sequences. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 79–83. (Ion Raşa) **99g:26028** 26A51 (26D20)

Toader, Rodica (*with* Dal Maso, Gianni) A capacity method for the study of Dirichlet problems for elliptic systems in varying domains. (English summary) *Rend. Sem. Mat. Univ. Padova* **96** (1996), 257–277. (Zinovi Sheftel) **99b:35038** 35J25 (35B40)

— (*with* Cortesani, Guido) Finite element approximation of non-isotropic free-discontinuity problems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 921–940. (I. N. Molchanov) **99a:65120** 65M60 (73V05, 73V25)

— Scattering in domains with many small obstacles. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 321–338. (Plamen D. Stefanov) **99b:35165** 35P25 (35L05, 47A40, 49J99)

nguyen trong Toan *see* **Nguyen Trong Toan**

Tobias, S. M. (*with* Meunier, N.; Proctor, M. R. E.; Sokolov, D. D.; Soward, Andrew M.) Asymptotic properties of a nonlinear $\alpha\omega$-dynamo wave: period, amplitude and latitude dependence. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 249–285. (Summary) **99k:85006** 85A30 (76W05, 85A20)

— Properties of nonlinear dynamo waves. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 287–343. (Summary) **99k:85007** 85A30 (76W05, 85A20)

Tobies, Renate Promotionen von Frauen in Mathematik—ausgewählte Aspekte einer historiographischen Untersuchung. [Doctorates in mathematics earned by women—selected aspects of a historiographical investigation] *Mitt. Math. Ges. Hamburg* **16** (1997), 39–63. (Karl-Heinz Schlote) **99d:01044** 01A80 (01A70)

Tobin, Roger L. (*with* Wie, Byung-Wook) On the relationship between dynamic Nash and instantaneous user equilibria. (English summary) *Networks* **32** (1998), *no.* 2, 141–163. 90B06 (90C35)

Tobiska, Lutz (*with* Roos, H.-G.; Stynes, Martin) ★ Numerical methods for singularly perturbed differential equations. (English summary) Convection-diffusion and flow problems. Springer Series in Computational Mathematics, 24. *Springer-Verlag, Berlin*, 1996. xvi+348 *pp. ISBN* 3-540-60718-8 (Gert Lube) **99a:65134** 65N12 (35B25, 65M06, 76D10, 76M10)

— (*with* Stynes, Martin) Error estimates and numerical experiments for streamline-diffusion-type methods on arbitrary and Shishkin meshes. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 337–352. (Summary) **99d:65228** 65L10 (76M10)

— (*with* John, Volker; Maubach, Joseph M.) Nonconforming streamline-diffusion-finite-element-methods for convection-diffusion problems. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 165–188. (N. Gass) **99a:65151** 65N30 (65N15, 76M10, 76Rxx)

— (*with* John, Volker; Matthies, G.; Schieweck, F.) A streamline-diffusion method for nonconforming finite element approximations applied to convection-diffusion problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 85–97. (Dennis C. Jespersen) **99h:65169** 65M60 (65N30, 76M10, 76Rxx)

— (*with* Layton, William J.) A two-level method with backtracking for the Navier-Stokes equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 2035–2054 (*electronic*). (Françoise Brossier) **99g:65115** 65N30 (76D05, 76M10)

Tocci, D. (*with* Lorenzutta, S.; Maino, G.; Dattoli, G.; Torre, Amalia) A note on generalized Bessel functions and Fourier series. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 541–548. (Summary) **99c:33006** 33C10 (42B05)

Tocci, Michael D. (*with* Kelley, C. T.; Miller, Cass T.; Kees, Christopher E.) Inexact Newton methods and the method of lines for solving Richards' equation in two space dimensions. (English summary) *Comput. Geosci.* **2** (1998), *no.* 4, 291–309 (99). 65H10 (65M20, 76M25, 76S05)

— (*with* Kelley, C. T.; Miller, Cass T.) Termination of Newton/chord iterations and the method of lines. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 280–290 (*electronic*). (Summary) **99c:65104** 65H10 (65M20, 65N40, 76M25, 76S05)

Tochishita, Teruyuki (*with* Kuratsuji, Hiroshi; Mizui, Masayuki) Quantum mechanics of guiding center motion in strong magnetic field (coherent state path integral approach). (English summary) Conference on Geometry and Mathematical Physics (Zlatograd, 1995). *Serdica Math. J.* **23** (1997), *no.* 2, 177–186. (Jiu Qing Liang) **99g:81078** 81R30 (81S40)

Tocquet, Anne-Sophie (*with* Durot, Cécile) Goodness of fit test for isotonic regression. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 199–204. (Summary) **99g:62055** 62G10

Tod, Kenneth Paul (*with* Eastwood, Michael G.) Local constraints on Einstein-Weyl geometries. (English summary) *J. Reine Angew. Math.* **491** (1997), 183–198. (Andrew Swann) **99a:53056** 53C25

— (*with* Moroz, Irene M.; Penrose, Roger) Spherically-symmetric solutions of the Schrödinger-Newton equations. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2733–2742. (Summary) **99j:83057** 83C99 (81P99)

— *see also* **Geometric universe, 99b:00015**

Toda, Hiro Y. (*with* Yamada, Hiroshi[3]) Inference in possibly integrated vector autoregressive models: some finite sample evidence. (English summary) *J. Econometrics* **86** (1998), *no.* 1, 55–95. (Bert M. Steece) **99m:62145** 62M10 (62P20)

Toda, Kouichi (*with* Yu, Song-Ju; Sasa, Narimasa; Fukuyama, Takeshi) *N* soliton solutions to the Bogoyavlenskii-Schiff equation and a quest for the soliton solution in (3 + 1) dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3337–3347. (Summary) **99b:35188** 35Q53

Toda, Manabu (*with* Tadenuma, Koichi) Implementable stable solutions to pure matching problems. (English summary) Axiomatics of resource allocation, 1. *Math. Social Sci.* **35** (1998), *no.* 2, 121–132. (Summary) **99i:90011** 90A08

Toda, Masahito Two-dimensional conformally invariant geometric variational problems. Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 7–10. (*see* **99a:58003**) 58E12

Toda, Nobushige On the fine cluster set of holomorphic curves. (English summary) *Bull. Nagoya Inst. Tech.* **49** (1997), 123–130. (George L. Csordas) **99b:30052** 30D40 (30D30)

— On the number of asymptotic points of holomorphic curves. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 10, 176–180. (From the introduction) **99m:32031** 32H30

— (*with* Ishizaki, Katsuya) Unicity theorems for meromorphic functions sharing four small functions. (English summary) *Kodai Math. J.* **21** (1998), *no.* 3, 350–371. (Bao Qin Li) **99k:30050** 30D35

Toda, Seinosuke (*with* Tarui, Jun) On the computational complexity of accessibility decision problems (extended abstract). (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 79–86. (*see* **99i:65003**) 68Q25 (68Q15)

Todd, John Arthur *see* **Atiyah, Michael F., 99k:01043**

Todd, Michael J. On adjusting parameters in homotopy methods for linear programming. (English summary) *Approximation theory and optimization (Cambridge, 1996)*, 201–220, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99a:90129** 90C05

— Erratum: "Probabilistic models for linear programming" [Math. Oper. Res. **16** (1991), no. 4, 671–693; MR 93a:90042]. *Math. Oper. Res.* **23** (1998), *no.* 3, 767–768. (Summary) **99h:90066** 90C08 (49K45, 90C15)

— (*with* Ye, Yinyu) Approximate Farkas lemmas and stopping rules for iterative infeasible-point algorithms for linear programming. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 1–21. (Levent Tunçel) **99h:90064** 90C05 (46N10)

— (*with* Nesterov, Yu. E.) Primal-dual interior-point methods for self-scaled cones. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 324–364 (*electronic*). (Michael L. Dowling) **99f:90056** 90C05 (65Y20, 90C25)

— (*with* Toh, Kim-Chuan; Tütüncü, R. H.) On the Nesterov-Todd direction in semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 769–796 (*electronic*). (Jos F. Sturm) **99f:90140** 90C30 (90C05, 90C25)

taussky-Todd, Olga *see* **Taussky-Todd, Olga**

Todd, Petra (*with* Heckman, James; Ichimura, Hidehiko; Smith, Jeffrey Andrew) Characterizing selection bias using experimental data. (English summary) *Econometrica* **66** (1998), *no.* 5, 1017–1098. (Summary) **99d:62098** 62P20 (62G05)

Toder, G. B. (*with* Bukhbinder, I. L.; Pershin, V. D.) On a canonical formulation of string theory in massive background fields. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 382–385, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T30

Todesco, E. (*with* Gemmi, M.; Giovannozzi, Massimo) Evaluation of nonlinear resonances in 4D symplectic mappings. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 485–496. (Summary) **99b:70017** 70H05 (34C20, 70–02, 70–08, 70K30)

Todinca, Ioan (*with* Bouchitté, Vincent) Minimal triangulations for graphs with "few" minimal separators. (English summary) *Algorithms—ESA '98 (Venice)*, 344–355, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:05147** 05C85 (68R10)

Todoran, Eneia (*with* den Hartog, Jerry; de Vink, E. P.) Comparative metric semantics for commit in or-parallel logic programming. (English summary) *Logic programming (Port Washington, NY, 1997)*, 101–115, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68Q55)

Todorčević, Stevo B. (*with* Farah, Ilijas) ★ Some applications of the method of forcing. (English summary) Yenisei Series in Pure and Applied Mathematics. *Yenisei, Moscow; Lycée, Troitsk*, 1995. iv+148 *pp. ISBN* 5-88623-014-9 (Eva Coplakova) **99f:03001** 03–02 (03E05, 03E35, 03E40)

— Definable ideals and gaps in their quotients. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 213–226, *Kluwer Acad. Publ., Dordrecht*, 1998. (Miroslav Repický) **99f:03066** 03E15 (03E05, 03E47)

— Oscillations of sets of integers. *Adv. in Appl. Math.* **20** (1998), *no.* 2, 220–252. (A. Kanamori) **99b:03065** 03E05

— (*with* Di Prisco, Carlos Augusto) Perfect-set properties in $L(\mathbf{R})[U]$. (English summary) *Adv. Math.* **139** (1998), *no.* 2, 240–259. (Miroslav Repický) **99m:03102** 03E45 (03E15, 03E40, 03E55)

— Gaps in analytic quotients. (English summary) *Fund. Math.* **156** (1998), *no.* 1, 85–97. (Miroslav Repický) **99i:03059** 03E15 (03E05)

Todorov, Andreĭ Nikolov (*with* Jorgenson, Jay) Enriques surfaces, analytic discriminants, and Borcherds's Φ function. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 249–264. (I. Dolgachev) **99e:14042** 14J28 (11F22, 14J15, 32N15, 58G26)

Todorov, Ivan T. (*with* Stanev, Yassen S.) Monodromy representation of the mapping class group $\mathcal{B}_n$ for the su_2 Knizhnik-Zamolodchikov equation. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 201–222, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (V. A. Golubeva) **99a:32025** 32G34 (17B81, 20F36, 81T40)

— (*with* Dubois-Violette, Michel) Generalized cohomologies and the physical subspace of the SU(2) WZNW model. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 2, 183–192. (Kazuto Oshima) **99b:81104** 81R50 (17B81, 81T40, 81T70)

— (*with* Georgiev, L. S.) Rational conformal field theory extensions of $W_{1+\infty}$ in terms of bilocal fields. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5762–5771. (Stanislav Z. Pakuliak) **99j:81165** 81T40 (17B68, 81R10)

— (*with* Hadjiivanov, L. K.; Isaev, A. P.; Ogievetskiĭ, O. V.; Pyatov, P. N.) Hecke algebraic properties of dynamical R-matrices. Application to related quantum matrix algebras. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 427–448. (Andrei G. Bytsko) **99k:81114** 81R50 (17B37)

— Bimodules over nest algebras and Deddens' theorem. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1771–1780. (Randall Crist) **99i:47076** 47D25

Todorov, M. D. *see* **Applications of mathematics in engineering, 99d:00013** *and* **99m:00024**

Todorov, Maxim I. (*with* Helbig, S.) Unicity results for general linear semi-infinite optimization problems using a new concept of active constraints. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 1, 21–43. (Jan Rückmann) **99i:90102** 90C34 (49M39, 90C29)

— Necessary and sufficient conditions for global lower semicontinuity in linear semi-infinite optimization. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 415–429. (Sven-Åke Gustafson) **99i:90104** 90C34 (65K05, 90C31)

Todorov, Pavel G. Counterexamples to a lemma of M. Kostova for multiplier sequences for algebraic polynomials. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 5–8. 30C15

— A natural verification of the Sendov conjecture for the canonical cubic equation and other results for the location of its roots. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **7** (1996), *no.* 7-12, 387–403 (1997). (Gregory P. B. Dresden) **99i:30010** 30C15 (12D05, 26C10)

— On the Hermite method for the factorization of algebraic polynomials. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 7–11. (J. Rokne) **99c:65098** 65H05 (12D05)

— A conjecture for the coefficients of the inverse functions of the Nevanlinna univalent functions of the classes N_1 and N_2. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 113–120. (W. C. Royster) **99i:30029** 30C45 (30C50)

— Sharp estimates for the coefficients of the inverse functions of the Nevanlinna univalent functions of the classes N_1 and N_2. (English summary) *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 91–102. (Summary) **99h:30019** 30C45 (30C50, 30C70)

Todorov, T. D. *see* **Todorov, Todor Dimitrov[2]**

Todorov, T. S. On a class of Nelson-type examples for higher order partial differential operators. *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 373–388. (Petru A. Kozhukhar') **99b:47070** 47F05 (35E20, 47B25)

— (*with* Epifanio, G.; Trapani, C.) Sets of compatible non-self-adjoint observables as examples of partial GW^* and von Neumann algebraic structures in a complex Hilbert space. (English summary) *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 165–176, *World Sci. Publishing, River Edge, NJ*, 1997. (Gerald Hofmann) **99e:46076** 46L10 (46L60, 47D40, 81Q10)

Todorov, Todor Dimitrov[1] (*with* Oberguggenberger, Michael) An embedding of Schwartz distributions in the algebra of asymptotic functions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 417–428. (From the introduction) **99m:46097** 46F05 (03H05)

Todorov, Todor Dimitrov[2] Finite element interpolations of surfaces. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 6, 23–26. 65D15 (65N30)

Todorova, Ekaterina Self-intersection local time of generalized Gaussian processes over time rectangles. (English summary) *Fourth Symposium on Probability Theory and Stochastic Processes* (*Spanish*) (*Guanajuato*, 1996), 157–168, *Aportaciones Mat. Notas Investigación*, 12, *Soc. Mat. Mexicana, México*, 1996. (Luis G. Gorostiza) **99i:60146** 60J55 (60G20)

Todorova, Grozdena Cauchy problem for a nonlinear wave equation with nonlinear damping and source terms. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 191–196. (Summary) **99e:35154** 35L70

— Stable and unstable sets for the Cauchy problem for a nonlinear wave equation with nonlinear damping and source terms. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 2, 117–122. (Summary) **99j:35144** 35L70 (35B35)

Todorović, K. (*with* Burić, N.; Mudrinić, M.) Universal scaling of critical quasiperiodic orbits in a class of twist maps. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7847–7854. (Summary) **99h:58163** 58F27

Toffalori, Carlo An undecidability theorem for lattices over group rings. (English summary) Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 241–262. (Françoise Point) **99h:03020** 03C60 (03D35, 16S34, 20C05)

— (*with* Baratella, Stefano) The theory of $\mathbf{Z}C(2)^2$-lattices is decidable. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 2, 91–104. (Thanases Pheidas) **99i:03051** 03B25 (03C60, 03D35)

— The decision problem for $\mathbf{Z}C(p^3)$-lattices with p prime. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 2, 127–142. (Thanases Pheidas) **99i:03052** 03D35 (03B25, 03C60)

— Wildness implies undecidability for lattices over group rings. *J. Symbolic Logic* **62** (1997), *no.* 4, 1429–1447. (Thanases Pheidas) **99i:03053** 03D35 (03D30, 16S34)

Toffoletto, Frank R. (*with* Klouček, Petr) The three-dimensional non-conforming finite element solution of the Chapman-Ferraro problem. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 549–560. (Summary) **99m:86009** 86A10 (86–08)

Toffoli, Tommaso *see* **PhysComp96, 99j:81006**

Toft, B. (*with* Hanson, Denis; Loten, C. O. M.) On interval colourings of bi-regular bipartite graphs. (English summary) *Ars Combin.* **50** (1998), 23–32. (Summary) **99i:05082** 05C15

Togashi, Atsushi On typing systems for the polyadic π-calculus. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 125–142. (Summary) **99c:68090** 68Q10 (68Q55, 68Q60)

— (*with* Kanezashi, Fumiaki; Lu, Xiaosong) A derivation method of formal specifications from system requirements. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 310–321. 68Q60

Togawa, K. (*with* Wakuta, Kazuyoshi) Solution procedures for multi-objective Markov decision processes. (English summary) *Optimization* **43** (1998), *no.* 1, 29–46. (Summary) **99a:90230** 90C40 (90C29)

Togawa, Yoshio (*with* Sawada, Ken; Watanabe, Nobuya) Stable and unstable manifolds of periodic points of Kupka-Smale systems. *Nonlinear Anal.* **33** (1998), *no.* 6, 611–615. (Michael Hurley) **99d:58138** 58F20 (58F09, 58F22)

Tognetti, V. (*with* Cuccoli, A.; Vaia, R.; Verrucchi, P.) Effective potential and effective Hamiltonian in quantum statistical mechanics for condensed matter physics. (English summary) *Path integrals: Dubna* '96, 32–41, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99k:82009** 82B10

— (*with* Cuccoli, A.; Vaia, R.; Verrucchi, P.) Quantum effects in two-dimensional magnetic systems. (English summary) *Path integrals: Dubna* '96, 273–277, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 82B20

— (*with* Cuccoli, A.; Giachetti, Riccardo; Vaia, R.) Effective potential, Mori product and quantum dynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 22, *L*419–*L*424. (M. Lawrence Glasser) **99f:82045** 82C10

Togni, O. (*with* Amar, D.) Irregularity strength of trees. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 15–38. (R. H. Schelp) **99g:05157** 05C78 (05C05)

Tognoli, Alberto Approximation theorems in real analytic and algebraic geometry. *Lectures in real geometry* (*Madrid*, 1994), 113–166, *de Gruyter Exp. Math.*, 23, *de Gruyter, Berlin*, 1996. (From the introduction) **99e:32008** 32C05 (14P15)

— (*with* Ronga, Félice; Vust, Thierry) The number of conics tangent to five given conics: the real case. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 391–421. (Ragni Piene) **99d:14059** 14N10 (14P25)

Toh, Kim-Chuan (*with* Todd, Michael J.; Tütüncü, R. H.) On the Nesterov-Todd direction in semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 769–796 (*electronic*). (Jos F. Sturm) **99f:90140** 90C30 (90C05, 90C25)

— (*with* Driscoll, Tobin A.; Trefethen, Lloyd N.) From potential theory to matrix iterations in six steps. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 547–578 (*electronic*). (Andreas Rathsfeld) **99f:65049** 65F10 (31A99, 65N99)

— (*with* Trefethen, Lloyd N.) The Chebyshev polynomials of a matrix. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 400–419 (*electronic*). (Vladimir B. Larin) **99m:15028** 15A60 (41A30)

Toh, Sadayoshi (*with* Araki, Keisuke; Kawahara, Takuji) Stability of a modon structure: multipole expansion analysis. (English summary) *Wave Motion* **28** (1998), *no.* 1, 69–78. (Summary) **99a:76017** 76C05 (76C20, 76X05)

Tohmé, Fernando (*with* Sandholm, Tuomas; Larson, Kate; Andersson, Martin; Shehory, Onn) Anytime coalition structure generation with worst case guarantees. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 46–53, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90B12

— (*with* London, Silvia) A mathematical representation of economic evolution. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 8, 29–40. (Summary) **99b:90034** 90A16

wong-Toi, Howard *see* **Wong-Toi, Howard**

Toint, Philippe L. (*with* Conn, Andrew R.; Scheinberg, Katya) On the convergence of derivative-free methods for unconstrained optimization. (English summary) *Approximation theory and optimization* (*Cambridge*, 1996), 83–108, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99c:90115** 90C30 (65K05)

— (*with* Conn, Andrew R.; Gould, Nicholas I. M.) Methods for nonlinear constraints in optimization calculations. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 363–390, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99c:90116** 90C30 (65K05)

Toivanen, Jari (*with* Heikkola, Erkki; Kuznetsov, Yuriĭ Alekseevich[1]; Neittaanmäki, Pekka) Fictitious domain methods for the numerical solution of two-dimensional scattering problems. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 89–109. (Summary) **99d:65347** 65N55

— (*with* Rossi, Tuomo) Parallel fictitious domain method for a non-linear elliptic Neumann boundary value problem. (English summary) Czech-US Workshop in Iterative Methods and Parallel Computing, Part I (Milovy, 1997). *Numer. Linear Algebra Appl.* **6** (1999), *no.* 1, 51–60. (*see* **99m:65008**) 65N55 (65N50)

Toivonen, Hannu T. (*with* Pensar, J.) A worst-case approach to optimal tracking control with robust performance. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 17–32. 93B36 (93D15)

— (*with* Sågfors, Mats F.) The sampled-data H_∞ problem: a unified framework for discretization-based methods and Riccati equation solution. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 289–309. 93B36 (93C57)

— (*with* Sågfors, Mats F.; Lennartson, Bengt) H_∞ control of multirate sampled-data systems: a state-space approach. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 415–428. (Anton A. Stoorvogel) **99e:93030** 93B36 (93C57)

— A mixed H_2/H_∞ control problem for sampled-data systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 579–602. (Peng Shi) **99g:93029** 93B36 (93C57)

Tojo, Koji Kähler C-spaces and k-symmetric spaces. *Osaka J. Math.* **34** (1997), *no.* 4, 803–820. (O. Kowalski) **99e:53069** 53C30 (53C35, 53C55)
— Circles in symmetric spaces (joint research with Katsuya Mashimo). Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 70–74. (Hiroo Naitoh) **99d:53048** 53C30 (53C35, 53C40)
Tojo, Satoshi (*with* Murakawa, Yoshihiko; Kunifuji, Susumu) Imperfect information flow of agents communication in arrow logic. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1266–1281 (*electronic*). (*see* **99g:68006**) 68T27 (03B45, 03B70)
Tojo, Takashi (*with* Kawai, Toshiharu; Sakane, Eisaku) Schwarzschild space-time in gauge theories of gravity. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 6, 971–992. (Gheorghe Zet) **99g:83068** 83D05
Tok, T. (*with* Ford, Christopher; Mitreuter, U. G.; Wipf, A.; Pawlowski, J. M.) Monopoles, Polyakov loops, and gauge fixing on the torus. (English summary) *Ann. Physics* **269** (1998), *no.* 1, 26–50. (Massimo Di Pierro) **99j:81119** 81T13 (53C80)
Tokad, Yilmaz (*with* Ramahi, Ahmed) On the fourth order finite screw system: general displacement of a point in a rigid body. (English summary) *Acta Mech.* **130** (1998), *no.* 1-2, 41–53. (Summary) **99d:70007** 70B15
— (*with* Ramahi, Ahmed) On the finite screw cylindroid represented as a 2-system of screws. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 2, 111–125. (Summary) **99b:70003** 70B10
— (*with* Ramahi, Ahmed) On the kinematics of three-link spatial cam mechanisms. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 4, 349–361. (Summary) **99e:70012** 70B15
Tokarchuk, M. V. (*with* Kobryn, A. E.; Omelyan, I. P.) The modified group expansions for construction of solutions to the BBGKY hierarchy. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 973–994. (R. L. Ingraham) **99j:82053** 82C05 (82C40)
Tokarev, D. D. (*with* Kolev, Dimitar) Riemann's invariants and GSC method. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv, 1994)*, 88–93, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 35L60
Tokarev, V. V. A limiting transformation of probabilistic controls into a guaranteed control for discrete-continuous problems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 127–138; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 2, 106–115. (Andrzej Świerniak) **99c:93116** 93E20 (90B35)
Tokareva, I. V. (*with* Gurovich, V. Ts.) The quantum evolution of the closed Friedman [Friedmann] universe with "bouncing off". (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 21–30. (Luis J. Garay) **99m:83071** 83C45
Tokarzewski, Jerzy System zeros analysis via the Moore-Penrose pseudoinverse and SVD of the first nonzero Markov parameter. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1285–1291. 93C05 (93B60)
Tokarzewski, Stanisław (*with* Telega, Józef Joachim) Inequalities for two-point Padé approximants to the expansions of Stieltjes functions in a real domain. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 3, 285–297. (Summary) **99h:41024** 41A21 (73K20)
— (*with* Telega, Józef Joachim) Two-point Padé approximants for Stieltjes functions and their application to composite materials. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 417–434. (Summary) **99d:41029** 41A21 (73K20)
— (*with* Andrianov, Igor V.; Olevskiĭ, V. I.) A modified Adomian decomposition method. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 334–339; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 309–314. (Summary) **99m:34017** 34A45 (73K10, 73V99)
Tokieda, Tadashi F. Mechanical ideas in geometry. *Amer. Math. Monthly* **105** (1998), *no.* 8, 697–703. 51M04 (70C20)
Tokihiro, Tetsuji (*with* Takahashi, Daisuke; Grammaticos, B.; Ohta, Yasuhiro; Ramani, A.) Constructing solutions to the ultradiscrete Painlevé equations. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7953–7966. (Summary) **99a:39049** 39A12 (82C20)
— (*with* Matsukidaira, Junta; Satsuma, Junkichi; Takahashi, Daisuke; Torii, M.) Toda-type cellular automaton and its N-soliton solution. (English summary) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 1–15. (Fernanda Botelho) **99k:58104** 58F08 (68Q80)
— Two-dimensional Toda cellular automaton. Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 16–21. (Fernanda Botelho) **99j:58112** 58F08 (68Q80)
— (*with* Nagai, Atsushi; Satsuma, Junkichi; Willox, Ralph; Kajiwara, Kenji) Two-dimensional soliton cellular automaton of deautonomized Toda-type. (Japanese summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 15–27. (*see* **99c:00013**) 68Q80 (58F08)
— (*with* Willox, Ralph; Loris, Ignace; Satsuma, Junkichi) The fermionic approach to Darboux transformations. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 745–762. (Alexander V. Shapovalov) **99h:58175** 58F37 (35A30)
— (*with* Nagai, Atsushi; Satsuma, Junkichi) The Toda molecule equation and the ε-algorithm. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1565–1575. (Gh. Adam) **99d:65010** 65B10 (41A21, 58F07, 65D99)
— (*with* Nagai, Atsushi; Satsuma, Junkichi) Ultra-discrete Toda molecule equation. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 383–388. (Sen Yue Lou) **99h:58058** 58F03 (58F08)
— (*with* Willox, Ralph; Ohta, Yasuhiro; Gilson, Claire R.; Satsuma, Junkichi) Quadrilateral lattices and eigenfunction potentials for N-component KP hierarchies. (English summary) *Phys. Lett. A* **252** (1999), *no.* 3-4, 163–172. (Reda A. Zait) **99m:58118** 58F07 (35Q53)
Tokiwa, Y. (*with* Kurokiba, Masaki) On parabolic equations with quadratic nonlinear terms. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 101–113. (Maura Ughi) **99d:35075** 35K55
Tokuda, Isao (*with* Aihara, Kazuyuki; Nagashima, Tomomasa) Adaptive annealing for chaotic optimization. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5157–5160. 90C27 (90B10)
Tokuda, Taro (*with* Xu, Baoguang; Liu, Zhen Hong[1]) Connected factors in $K_{1,n}$-free graphs containing a (g, f)-factor. (English summary) *Graphs Combin.* **14** (1998), *no.* 4, 393–395. (Summary) **99h:05096** 05C70
— A degree condition for the existence of $[a, b]$-factors in $K_{1,n}$-free graphs. (English summary) *Tokyo J. Math.* **21** (1998), *no.* 2, 377–380. (Summary) **99k:05132** 05C70
Tokue, Ai (*with* Yamamura, Kiyotaka; Kawata, Hitomi) Interval solution of nonlinear equations using linear programming. (English summary) *BIT* **38** (1998), *no.* 1, 186–199. (Miodrag Petković) **99h:65100** 65G10 (65H10)
Tokumasu, Shinji (*with* Tatsumi, Hisayuki; Araki, Tomoyuki; Mukaidono, Masao) Upper and lower bounds on the number of fuzzy/c switching functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka, 1998)*, 297–303, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B52
Tokunaga, Hiro-o Dihedral coverings branched along maximizing sextics. *Math. Ann.* **308** (1997), *no.* 4, 633–648. (Ulf Persson) **99d:14021** 14H45 (14J27, 14J28)
— Some examples of Zariski pairs arising from certain elliptic $K3$ surfaces. *Math. Z.* **227** (1998), *no.* 3, 465–477. (Enrique Artal Bartolo) **99a:14055** 14J28 (14E20, 14F45, 14J27)
— Irreducible plane curves with the Albanese dimension 2. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1935–1940. (Giorgio Bolondi) **99j:14030** 14H30
Tokunaga, Ken-ichi A topological characterization of SU. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 319–328. (Jay A. Wood) **99i:55024** 55R45 (57T10, 57T25)
Tokura, Akira (*with* Itoyama, Hiroshi) US$p(2k)$ matrix model: nonperturbative approach to orientifolds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026002, 15 *pp.* (Summary) **99k:81246** 81T30
— (*with* Itoyama, Hiroshi) USp$(2k)$ matrix model: F-theory connection. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 1, 129–138. (Summary) **99a:81142** 81T30
Tokushige, N. (*with* Frankl, Peter) Some inequalities concerning cross-intersecting families. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 247–260. (Robert J. Simpson) **99i:05006** 05A05 (05D05)
Tokuyama, Takeshi (*with* Tamaki, Hisao) A characterization of planar graphs by pseudo-line arrangements. (English summary) *Algorithms and computation (Singapore, 1997)*, 133–142, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99g:05167** 05C85 (68R10)
— (*with* Tamaki, Hisao) Algorithms for the maximum subarray problem based on matrix multiplication. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 446–452, *ACM, New York*, 1998. (Summary) **99d:68123** 68Q25 (15A99)
— (*with* Aggarwal, Alok) Consecutive interval query and dynamic programming on intervals. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 1–24. (Mechthild Opperud) **99d:90135** 90C39 (05C85, 68Q25, 68R10)
— (*with* Tamaki, Hisao) How to cut pseudoparabolas into segments. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 2, 265–290. (Jesús A. de Loera) **99b:52031** 52B55 (68Q20, 68U05)
— (*with* Akutsu, Tatsuya; Tamaki, Hisao) Distribution of distances and triangles in a point set and algorithms for computing the largest common point sets. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 307–331. (Stelian S. Dumitrascu) **99k:68190** 68U05 (52C99, 65Y25)
Toland, John Francis (*with* Buffoni, Boris; Dancer, Edward Norman) Sur les ondes de Stokes et une conjecture de Levi-Civita. (English and French summaries) [On Stokes waves and a conjecture of Levi-Civita] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1265–1268. (Summary) **99g:76014** 76B15 (35Q30)
— (*with* Jeanjean, Louis) Bounded Palais-Smale mountain-pass sequences. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 23–28. (Vicenţiu Rădulescu) **99g:58022** 58E05 (47H99, 49J52)
— (*with* Williams, David) On the Schur test for L_2-boundedness of positive integral operators with a Wiener-Hopf example. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 2, 543–560. (Summary) **99k:47123** 47G10 (47A68, 47B38, 47B65)
Tolar, J. Graded contractions of Lie algebras: some physical applications. (English summary) *Lie theory and its applications in physics (Clausthal, 1995)*, 226–238, *World Sci. Publishing, River Edge, NJ*, 1996. (Eric Y. Leung) **99e:81068** 81R05 (17B81)
— (*with* Trávníček, P.) Graded contractions of sp(3, **R**). (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 343–357. (J. Lõhmus) **99c:81062** 81R05 (22E15)
ayerbe Toledano, J. M. *see* **Ayerbe Toledano, J. M.**
Toledano, R. (*with* Aimar, H.; Forzani, Liliana) Balls and quasi-metrics: a space of homogeneous type modeling the real analysis related to the Monge-Ampère equation. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 377–381. (Wen Xiong Chen) **99j:35043** 35J60 (42B25)
Toledo, D. (*with* Bazeia, D.; Nascimento, J. R. S.; Ribeiro, R. F.) Soliton stability in systems of two real scalar fields. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8157–8166. (Summary) **99b:58073** 58E50 (70G50)
Toledo, J. *see* **Toledo da Silva, João**
Toledo, Julián (*with* Andreu, F.; Mazón, J. M.; Segura de León, Sergio) Entropy solutions for a degenerated parabolic equation. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida, 1996)*, 151–161, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:35148** 35K65 (35R70)
— (*with* Andreu, F.; Mazón, J. M.; Simondon, F.) Attractor for a degenerate nonlinear parabolic equation with a nonlinear flux. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics (Tarragona, 1998)*, 1–7, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 35K60 (34G20, 35B40, 47H20, 58F39)
— (*with* Andreu, F.; Mazón, J. M.; Simondon, F.) Attractor for a degenerate nonlinear diffusion problem with nonlinear boundary condition. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 347–377. (Sergei A. Vakulenko) **99j:35102** 35K57 (35B40)
— (*with* Andreu, F.; Mazón, J. M.; Segura de León, Sergio) Existence and uniqueness for a degenerate parabolic equation with L^1-data. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 285–306. (Ya Zhe Chen) **99c:35125** 35K65 (35K60)
de Toledo, Maria C. (*with* de Oliveira, César R.) Equivalence of some quantum stability concepts. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 2, 145–153. (Vladimir Georgescu) **99h:81121** 81S99 (81Q50, 81U99)
Toledo, Rodolfo On Hardy-norm of operators with property Δ. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 3, 177–189. (Da Chun Yang) **99f:42044** 42B30 (43A75, 47A30, 47B38)

Toledo, Sivan (*with* Leiserson, Charles E.; Rao, Satish) Efficient out-of-core algorithms for linear relaxation using blocking covers. (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 332–344. (Summary) **99f:65070** 65F99 (65F50)

— Locality of reference in LU decomposition with partial pivoting. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 1065–1081. (Dao Sheng Zheng) **99a:65039** 65F05 (15A23, 65Y20)

— (*with* Edelman, Alan; McCorquodale, Peter) The future fast Fourier transform? (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1094–1114 (*electronic*). (Manfred Tasche) **99m:65253** 65T20 (65Y20)

Toledo da Silva, João On $\overline{\partial}$-Neumann's problem in generalized functions framework. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 329–338. (Summary) **99j:35016** 35D05 (35N15, 46F10)

Tolev, D. I. On the number of representations of an odd integer as a sum of three primes, one of which belongs to an arithmetic progression. Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 415–432. (Alessandro Zaccagnini) **99g:11123** 11P32 (11P55)

Tolhuizen, Ludo M. G. M. (*with* Hollmann, Henk D. L.; van Lint, Jacobus Hendricus; Linnartz, Jean-Paul) On codes with the identifiable parent property. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 121–133. (Wolfgang Willems) **99h:94075** 94B60 (94B65)

Tolimieri, Richard (*with* An, Myoung) ★ Time-frequency representations. (English summary) Applied and Numerical Harmonic Analysis. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xiv+284 *pp. ISBN* 0-8176-3918-7 (Lars F. Villemoes) **99e:94013** 94A12 (20K01, 42C15, 43A25, 94A11)

Tolio, T. (*with* Gershwin, S. B.) Throughput estimation in cyclic queueing networks with blocking. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 207–229. (Summary) **99b:90063** 90B22 (60K25)

Tolkachev, E. A. (*with* Pletyukhov, M. V.) 8D oscillator and 5D Kepler problem: the case of nontrivial constraints. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 93–100. (Ivailo M. Mladenov) **99m:81048** 81Q05 (22E70, 81R05)

— (*with* Pletyukhov, M. V.) Evolution of twofold degenerate two-level system. Geometrical effects. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 1073–1082. (Summary) **99i:81058** 81Q99 (58Z05)

Tolkachev, G. V. (*with* Osipov, E. P.) Sugawara construction for the birepresentation of the Moufang loop. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 93–102. (Edgar G. Goodaire) **99c:17043** 17D10 (22A30)

Tölke, Jürgen Zu den isotropen Kreistripeln mit kongruenten Apollonischen Berührkreisen. [On the isotropic circle triples with congruent Apollonius circles of contact] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 267–277 (1998). (V. Volenec) **99h:51020** 51N25

— Ein Beispiel einer kinematisch induzierten Lieschen Kreisverwandtschaft der isotropen Ebene. (English summary) [An example of a kinematically induced Lie circular transformation in the isotropic plane] *J. Geom.* **63** (1998), *no.* 1-2, 196–200. (Hans Sachs) **99m:53025** 53A17 (53A40)

Tolksdorf, Jürgen The Einstein-Hilbert-Yang-Mills-Higgs action and the Dirac-Yukawa operator. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2213–2241. (Raimar Wulkenhaar) **99d:81179** 81V22 (58B30, 58G40)

Tollefson, Jeffrey L. Normal surface Q-theory. (English summary) *Pacific J. Math.* **183** (1998), *no.* 2, 359–374. (Joan Porti) **99c:57047** 57N10 (57Q35)

Tolli, Filippo Failure of global regularity of $\overline{\partial}_b$ on a convex domain with only one flat point. (English summary) *Pacific J. Math.* **185** (1998), *no.* 2, 363–398. (Vincent Thilliez) **99i:32023** 32F20

Tollis, Ioannis G. (*with* Papakostas, Achilleas) Interactive orthogonal graph drawing. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1297–1309. 68R10 (65Y10, 68U05)

Tollmien, Cordula Von Hypatia bis Emmy Noether. Frauen in der Mathematik—exemplarische Lebensläufe. [From Hypatia to Emmy Noether. Women in mathematics—exemplary lives] *Mitt. Math. Ges. Hamburg* **16** (1997), 7–24. (D. J. Struik) **99c:01026** 01A70 (01A80)

Tolman, Sue (*with* Lerman, Eugene; Meinrenken, Eckhard; Woodward, Chris T.) Nonabelian convexity by symplectic cuts. (English summary) *Topology* **37** (1998), *no.* 2, 245–259. (Michel Brion) **99a:58069** 58F05 (57S15)

Tolmasky, Carlos F. Exponentially growing solutions for nonsmooth first-order perturbations of the Laplacian. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 116–133 (*electronic*). (Mourad Choulli) **99d:35031** 35J05 (35B05, 35R30)

Toloi, Clélia M. C. (*with* Mentz, Raul P.; Morettin, Pedro A.) On residual variance estimation in autoregressive models. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 2, 187–208. (Jiří Anděl) **99b:62141** 62M10

— (*with* Mentz, Raul P.; Morettin, Pedro A.) On least-squares estimation of the residual variance in the first-order moving average model. (English summary) *Comput. Statist. Data Anal.* **29** (1999), *no.* 4, 485–499. 62M10

Tolokonnikov, L. A. Sound transmission through an inhomogeneous anisotropic layer adjoining viscous fluids. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 1029–1035. 73D99 (76Q05)

Tolokonnikov, S. L. (*with* Karlikov, V. P.) On a vortex in a jet flowing along a wall with an angle. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 6, 25–29, 79. (Summary) **99e:76019** 76C05

Tolpaev, V. A. (*with* Serbina, L. I.) Computation of the permeability tensor for media with cylindrical laws of the distribution of the main directions of anisotropy. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 2, 41–42, 89. 76S05

— Solution of boundary value problems with mixed boundary conditions in a rectangular multilayer domain. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 4, 47–55, 125. 35C99 (65T20)

Tolstik, A. L. (*with* Feranchuk, I. D.) Operator method for coupled anharmonic oscillators. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2115–2128. 81Q05

Tolstoĭ, V. N. (*with* Khoroshkin, Sergei) Twisting of quantized Lie (super)algebras. (English summary) *Quantum groups* (*Karpacz*, 1994), 63–84, *PWN, Warsaw*, 1995. (Ian M. Musson) **99g:17032** 17B37

— (*with* Lukierski, Jerzy; Ruegg, H.) Quantum κ-Poincaré 1994. *Quantum groups* (*Karpacz*, 1994), 359–378, *PWN, Warsaw*, 1995. (Alexei Zhedanov) **99h:81091** 81R50 (17B37)

— (*with* Lukierski, Jerzy; Nowicki, Anatol) Twisted Poincaré algebras. (English summary) *Quantum groups* (*Karpacz*, 1994), 379–388, *PWN, Warsaw*, 1995. (Adriana M. Criscuolo) **99m:81098** 81R50 (17B37)

— q-deformation of Yangian $Y(\mathrm{sl}_2)$. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 179–186, *World Sci. Publishing, River Edge, NJ*, 1996. (Roberto Casalbuoni) **99e:81106** 81R50 (17B37)

— Connection between Yangians and quantum affine algebras. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 99–117, *PWN, Warsaw*, 1997. (Vladimir A. Stukopin) **99m:17024** 17B37 (81R50)

— (*with* Lukierski, Jerzy) Cartan-Weyl basis for quantum affine superalgebra $U_q(\widehat{\mathrm{osp}}(1|2))$. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1231–1239. (Mariano A. del Olmo) **99k:81118** 81R50 (17B37)

— (*with* Khoroshkin, Sergei; Stolin, Alexander) Deformation of Yangian $Y(\mathrm{sl}_2)$. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1041–1055. (Andrew Pressley) **99b:17013** 17B37

Tolstonogov, A. A. Continuous selectors of multivalued mappings with nonclosed decomposable values, and their properties. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 311–313. (Summary) **99a:54013** 54C65 (46N10, 47H04)

— (*with* Tolstonogov, D. A.) L_p-continuous extremal selections of multivalued mappings with decomposable values. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 4, 455–457. (Longin Rybiński) **99c:54026** 54C65 (46B20, 47H04)

— Continuous selectors of fixed point sets of multifunctions with decomposable values and their applications. (English summary) Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 132–150. (Luc Doyen) **99d:47047** 47H04 (47H10, 54C60, 54C65)

— Continuous selectors of fixed point sets of multifunctions with decomposable values. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 2, 129–147. (Stoyan Nedev) **99j:54023** 54C65 (34A60)

— (*with* Tolstonogov, D. A.) On the "bang-bang" principle for nonlinear evolution inclusions. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **6** (1999), *no.* 1, 101–118. (Giovanni Colombo) **99m:34028** 34A60 (34G20, 47H15, 93C20)

Tolstonogov, D. A. (*with* Tolstonogov, A. A.) L_p-continuous extremal selections of multivalued mappings with decomposable values. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 4, 455–457. (Longin Rybiński) **99c:54026** 54C65 (46B20, 47H04)

— (*with* Tolstonogov, A. A.) On the "bang-bang" principle for nonlinear evolution inclusions. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **6** (1999), *no.* 1, 101–118. (Giovanni Colombo) **99m:34028** 34A60 (34G20, 47H15, 93C20)

Tolstoy, V. N. *see* **Tolstoĭ, V. N.**

Tolstykh, Andrei I. Two-step fifth-order methods for evolutionary problems with positive operators. (English summary) *Positivity* **2** (1998), *no.* 3, 193–219. (Leonid K. Antanovskiĭ) **99j:65142** 65M06 (65L12)

Tolstykh, V. K. (*with* Volodin, Nikolaĭ Aleksandrovich) Optimal control by heat flow in continuous casting steel. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 480–483, *Springer, Berlin*, 1997. (*see* **99a:90009**) 49J20 (49K20)

Tom, Michael Mudi Remarks on global solutions of some generalizations of the KP equations. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 220–224, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q53

— *see also* **Applied analysis, 99e:00016**

Toma, Antonela Properties of the partial convolution product. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 61–69. 46F10

— The Fourier transformation and the partial convolution product. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 279–284. (Summary) **99k:42012** 42A38 (46F12)

Toma, Tsuguyoshi (*with* Kamiyama, Yasuhiko; Tezuka, Michishige) Homology of the configuration spaces of quasi-equilateral polygon linkages. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4869–4896. (Donald W. Kahn) **99e:55030** 55R55 (55N99)

Toma, Vladimír (*with* Červeňanský, J.) On quasi-Dini systems. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 13–16. (Summary) **99g:26003** 26A15 (54C35)

Tómács, Tibor (*with* Fazekas, István) Strong laws of large numbers for pairwise independent random variables with multidimensional indices. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 149–161. (J. Hüsler) **99k:60039** 60E15

Tomala, Tristan Pure equilibria of repeated games with public observation. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 93–109. (Françoise Forges) **99d:90149** 90D10 (90D20)

Toman, David (*with* Chomicki, Jan) Datalog with integer periodicity constraints. (English summary) *J. Logic Programming* **35** (1998), *no.* 3, 263–290. (Summary) **99b:68037** 68N17 (68P15)

Toman, Eduard (*with* Olejár, Daniel) On the order and the number of cliques in a random graph. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 499–510. (Lyuben R. Mutafchiev) **99f:05103** 05C80 (60C05)

Tomantschger, K. W. (*with* Scheicher, Klaus; Tichy, Robert F.) Elementary inequalities in hypercomplex numbers. (English summary) *Anz. Österreich. Akad. Wiss. Math.-Natur. Kl.* **134** (1997), 3–10 (1998). (J. Lõhmus) **99j:30053** 30G35 (26D20)

Tomaras, T. N. (*with* Iliopoulos, J.; Tsamis, N. C.; Woodard, R. P.) Perturbative quantum gravity and Newton's law on a flat Robertson-Walker background. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 419–446. (Summary) **99g:83035** 83C45

— (*with* Bachas, Constantin P.; Rai, Balram) New string excitations in the two-Higgs-doublet standard model. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 12, 2443–2446. (Summary) **99k:81343** 81V15 (81T30, 81V10)

Tomarelli, Franco (*with* Savaré, Giuseppe) Superposition and chain rule for bounded Hessian functions. (English summary) *Adv. Math.* **140** (1998), *no.* 2, 237–281. (Alexander A. Pankov) **99k:35005** 35A15 (49Q20)

Tomari, Masataka (*with* Ishii, Shihoko) Hypersurface non-rational singularities which look like canonical from its Newton boundary. Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 34–58. (Jan Stevens) **99m:32044** 32S25 (14B05, 32S05)

Tomaru, Tadashi Maximal ideal cycles of $z^n = f(x, y)$. (Japanese) CR geometry and isolated singularities (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1037 (1998), 97–106. (*see* **99f:32001**) 32S30

Tomáš, Jiří (*with* Kolář, Ivan) Gauge-natural transformations of some cotangent bundles. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 3–9. (Vadim V. Shurygin) **99c:58005** 58A20 (53A55)

— Natural operators on vector fields on the cotangent bundles of the bundles of (k, r)-velocities. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 113–124. (Vadim V. Shurygin) **99k:58011** 58A20 (53A55)

Tomás, Maria Santos (*with* Alsina, Claudi; Guijarro Carranza, Piedad) Some remarkable lines of triangles in real normed spaces and characterizations of inner product structures. (English summary) *Aequationes Math.* **54** (1997), *no.* 3, 234–241. (Nicole Brillouët-Belluot) **99b:39031** 39B52 (39B05, 46B20, 46C15)

— (*with* Guijarro Carranza, Piedad) Perpendicular bisectors and orthogonality. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 6, 491–496. (Themistocles M. Rassias) **99a:39059** 39B52 (46C15)

— (*with* Monreal, Amadeo) On some functional equations arising in computer graphics. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 61–72. (Dumitru Acu) **99f:39031** 39B05 (39B22, 65Y25)

— (*with* Alsina, Claudi; Cruells, P.) Isosceles trapezoids, norms and inner products. (English summary) *Arch. Math.* (*Basel*) **72** (1999), *no.* 3, 233–240. (Wolfgang Lusky) **99m:46060** 46C50 (46B20, 46C15, 51F20)

Tomaschitz, Roman Cosmic ether. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 1121–1139. (Enric Verdaguer) **99k:83138** 83F05 (83A05)

— Topological evolution and cosmic chaos. (English summary) *Bull. Calcutta Math. Soc.* **91** (1999), *no.* 1, 59–64. 83F05 (58F13)

Tomasgard, Asgeir (*with* Audestad, Jan A.; Dye, Shane; Stougie, Leen; van der Vlerk, Maarten H.; Wallace, Stein W.) Modelling aspects of distributed processing in telecommunication networks. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 161–184. (*see* **99e:90003**) 90B12

Tomasi, Jacopo (*with* Cancès, Eric; Le Bris, Claude; Mennucci, Benedetta) Integral equation methods for molecular scale calculations in the liquid phase. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 35–44. (Summary) **99j:92030** 92E20 (92C40)

Tomasino, T. (*with* Marty, Ph.; Martin Witkowski, L.; Trombetta, P.; Garandet, J. P.) On the stability of rotating MHD flows. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 327–343, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76E25 (76U05, 76W05)

Tomassini, Adriano Curvature homogeneous metrics on principal fibre bundles. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 287–295. (Antonio Valdés) **99c:53053** 53C30 (53C10)

— Homogeneous G-geometries and uniformization. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 71–74. 53C10 (32L25, 53C56)

Tomassini, Giuseppe Geometric properties of the solutions of Levi equations in $\mathbf{C}^2$. (Italian) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 245–252, *Univ. Stud. Bologna, Bologna*, 1998. (Paulo Domingos Cordaro) **99i:32025** 32F99

Tomaszewski, Witold (*with* Gawron, Piotr W.) On arrangement of regular cyclic subgroup in symmetric group. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 49–57. (Hiroyoshi Yamaki) **99i:20008** 20B30 (20B35)

Tomazelli, J. L. (*with* Pimentel, B. M.; Teixeira, R. G.) Hamilton-Jacobi approach to Berezinian singular systems. (English summary) *Ann. Physics* **267** (1998), *no.* 1, 75–96. (Frans Cantrijn) **99i:58064** 58F05 (58C50, 70G99, 70H20)

scalia-Tomba, Gianpaolo *see* **Scalia-Tomba, Gianpaolo**

Tomberlin, James E. *see* **Mind, causation, and world, 99f:00011** *and* **Language, mind, and ontology, 99k:03028**

Tomboulides, Ananias G. (*with* Orszag, Steven A.) A quasi-two-dimensional benchmark problem for low Mach number compressible codes. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 691–706. (Summary) **99i:76130** 76M25 (76N10, 80A32)

Tombuyses, B. (*with* DeLuca, P. R.; Smidts, C.) Backward Monte Carlo for probabilistic dynamics. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 493–505. (*see* **99d:65008**) 90B35 (65C05)

Tomczak-Jaegermann, Nicole (*with* Komorowski, Ryszard A.) Erratum to: "Banach spaces without local unconditional structure" [Israel J. Math. **89** (1995), no. 1-3, 205–226; MR 96g:46007]. (English summary) *Israel J. Math.* **105** (1998), 85–92. (Summary) **99g:46008** 46B15 (46B20)

Tom Dieck, Tammo *see* **tom Dieck, Tammo**

Tomé, Murilo F. (*with* Cuminato, José A.; Filho, Antonio Castelo; Boaventura, Maurilio) Simulation of free surface flows in a distributed memory environment. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 77–92. (*see* **99k:65002**) 76M20 (76M25)

Tome, R. M. B. *see* **Benazic Tome, Renato Mario**

benazic Tome, Renato Mario *see* **Benazic Tome, Renato Mario**

Tomé, Wolfgang ★ Path integrals on group manifolds. The representation independent propagator for general Lie groups. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xviii*+213 *pp. ISBN* 981-02-3355-8 (Christian Grosche) **99f:58032** 58D30 (81S40)

Tomei, Carlos (*with* Malta, Iaci; Saldanha, Nicolau C.) Critical sets of proper Whitney functions in the plane. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 181–228. (Robert Roussarie) **99g:58011** 58C27 (57R45)

— (*with* Malta, Iaci; Saldanha, Nicolau C.) Morin singularities and global geometry in a class of ordinary differential operators. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 137–169. (P. T. Church) **99f:34029** 34B15 (34A26, 47H15, 58C27)

— (*with* Saldanha, Nicolau C.) Spectra of semi-regular polytopes. (English summary) *Bol. Soc. Brasil. Mat.* (*N.S.*) **29** (1998), *no.* 1, 25–51. (J. Böhm) **99f:52013** 52B11 (05C50, 15A18, 51M20)

— (*with* Leite, R. S.; Richa, T. R. W.) Geometric proofs of some theorems of Schur-Horn type. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 149–173. (Constantin Udrişte) **99k:15033** 15A42 (15A45, 15A57)

Tomei, Patrizio (*with* Marino, Riccardo) Robust adaptive state-feedback tracking for nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 84–89. (Summary) **99k:93079** 93D15 (93C40)

— Robust adaptive control of robots with arbitrary transient performance and disturbance attenuation. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 654–658. 93C85

— (*with* Marino, Riccardo; Peresada, Sergei) Global adaptive output feedback control of induction motors with uncertain rotor resistance. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 967–983. 93C95 (93D21)

Tomes, Jörg (*with* Wegelin, Michael; Oppenländer, Jörg; Güttinger, Werner; Dangelmayr, Gerhard) Synchronized patterns in hierarchical networks of neuronal oscillators with $\mathbf{D}_3 \times \mathbf{D}_3$ symmetry. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 213–232. (Summary) **99f:92004** 92C15 (34C23)

Tomescu, Ioan Optimum Huffman forests. (English summary) *J.UCS* **3** (1997), *no.* 7, 813–820 (*electronic*). (Summary) **99h:94041** 94A45 (68P05)

— Chromatic coefficients of linear uniform hypergraphs. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 229–235. (David E. Woolbright) **99d:05067** 05C65 (05C15)

Tomescu, Marius (*with* Gyiman, Carmen) Fuzzy integrals defined by T-norm. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 167–171, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 28E10

Tomi, F. (*with* Kutev, Nikolai) Existence and nonexistence for the exterior Dirichlet problem for the minimal surface equation in the plane. *Differential Integral Equations* **11** (1998), *no.* 6, 917–928. (Zhi Ren Jin) **99m:35062** 35J60 (49Q05, 58E12)

Tomilov, Yu. On asymptotic periodicity of solutions to some infinite-dimensional difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 597–604, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39068** 39A11 (39A10, 47A99)

— On the spectral bound of the generator of a C_0-semigroup. (English summary) *Studia Math.* **125** (1997), *no.* 1, 23–33. (Volker Wrobel) **99c:47060** 47D06

Tominaga, A. Periodic points of small periods of mappings of B-spaces. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 93–98 (1998). (Summary) **99g:54041** 54H20 (54F15)

Tominaga, Norio Analysis of a family of strongly commuting self-adjoint operators with applications to perturbed Dirac operators. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 3, 565–596. (Vladimir Georgescu) **99b:81048** 81Q10 (47B25, 47F05, 47N50, 81Q15)

Tomioka, Kazuyuki (*with* Chung, Yong Moo; Aoki, Nobuo) Topological properties of differentiable maps derived from 2-toral endomorphisms. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 105–123. (Michael Hurley) **99b:58179** 58F15 (58F14)

Tomita, Artur Hideyuki On infinite products of countably compact groups. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 362–370 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99b:54065** 54H11 (03E50, 22A99, 54B10, 54D20)

— On the square of Wallace semigroups and topological free abelian groups. (English summary) *Topology Proc.* **22** (1997), 331–349. (Klaas Pieter Hart) **99k:22007** 22A15 (54A35, 54B10, 54H11)

— (*with* Trigos-Arrieta, F. Javier) Suitable sets in products of topological groups and in groups equipped with the Bohr topology. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 389–402, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Ljubiša Kočinac) **99m:22002** 22A05 (03E50, 22A10, 22B05, 54D30, 54D65, 54H11)

— On sequentially compact both-sides cancellative semigroups with sequentially continuous addition. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 67–74. (James Chew) **99h:54056** 54H11 (22A15)

Tomiţă, Tiberiu-Florin On a mixed boundary value problem with discontinuous nonlinearity. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 19–27 (1998). 35J65

Tomiyama, Jun Representations of topological dynamical systems and C^*-algebras. *Operator algebras and operator theory* (*Shanghai*, 1997), 351–364, *Contemp. Math.*, 228, *Amer. Math. Soc., Providence, RI*, 1998. (Valentin Deaconu) **99m:46158** 46L55 (54H20)

— (*with* Boyle, Mike) Bounded topological orbit equivalence and C^*-algebras. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 317–329. (Claire Anantharaman-Delaroche) **99d:46088** 46L55 (54H20)

— Full groups, normalizers for homeomorphism C^*-algebras. (Japanese) Exact C^*-algebras and related topics (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1046 (1998), 53–59. (*see* **99i:46001**) 46L05

Tomiyama, Masato (*with* Yamazaki, Norio) Characterization of the group association scheme of the symmetric group. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 237–255. (Sung-Yell Song) **99b:05145** 05E30 (05E10)

— On distance-regular graphs with height two. II. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 2, 197–220. (Dmitri Fon-Der-Flaass) **99f:05128** 05E30 (05C12)

Tomizawa, Sadao (*with* Seo, Takashi; Yamamoto, Hideharu) Power-divergence-type measure of departure from symmetry for square contingency tables that have nominal categories. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 3, 387–398. 62H17

— (*with* Saitoh, Kayo) Generalized measure of departure from global symmetry for square contingency tables with ordered categories. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 3, 289–303. 62H17

Tomizawa, Shigemitsu (*with* Oda, Hodaka; Sakai, Norisuke; Sakai, Tadakatsu) M theory and the "integrating in" method with an antisymmetric tensor. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066002, 7 *pp.* (Summary) **99k:81266** 81T30 (81T13, 81T60)

Tomizuka, Masayoshi (*with* Tesfaye, Addisu) Robust digital tracking with perturbation estimation via the Euler operator. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 239–256. 93C57 (93C41)

— (*with* Tesfaye, Addisu) Authors' reply to: "Comments on: 'Zeros of discretized continuous systems expressed in the Euler operator—an asymptotic analysis'" [IEEE Trans. Automat. Control **43** (1998), no. 9, 1308–1310; 1 640 175] by S. R. Weller. *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1310. 93B60
— *see also* **Weller, Steven R.**
Tomkins, R. J. Acknowledgement: "Refinement of a zero-one law for maxima" [Statist. Probab. Lett. **27** (1996), no. 1, 67–69; MR 97d:60064]. *Statist. Probab. Lett.* **32** (1997), *no.* 4, 431. (From the text) **99a:60032** 60F15 (60G70)
— (*with* Li, Deli) Compact laws of the iterated logarithm for **B**-valued random variables with two-dimensional indices. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 443–459. (Xia Chen) **99e:60019** 60B12
Tomkinson, M. J. Groups as the union of proper subgroups. *Math. Scand.* **81** (1997), *no.* 2, 191–198. (N. D. Gupta) **99g:20042** 20D60 (20D10)
Tomlin, Claire (*with* Sastry, S. Shankar) Bounded tracking for non-minimum phase nonlinear systems with fast zero dynamics. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 819–847. 93D15
— (*with* Pappas, George J.; Sastry, S. Shankar) Conflict resolution for air traffic management: a study in multiagent hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 509–521. (*see* **99a:93006**) 93C95 (90D26)
Tomlinson, Alexander I. (*with* Garg, Vijay Kumar) Using the causal domain to specify and verify distributed programs. (English summary) *Acta Inform.* **34** (1997), *no.* 9, 667–686. (Ryszard Janicki) **99h:68113** 68Q60 (68Q10)
Tomlinson, John (*with* Zhang, Zhimin; Martin, Clyde F.) Splines and linear control theory. (English summary) *Acta Appl. Math.* **49** (1997), *no.* 1, 1–34. (Summary) **99d:41021** 41A15 (49K15)
Tommasi, Marc (*with* Gilleron, Rémi; Tison, Sophie) Set constraints and automata. (English summary) *Inform. and Comput.* **149** (1999), *no.* 1, 1–41. (Sauro Tulipani) **99m:68120** 68Q60 (68N17, 68Q68)
Tomoda, Toshiaki (*with* Midorikawa, Shoichi[2]; Horibata, Takatoshi; Muraoka, Mitsuo) Recurrence relations for counting the number of permutations with forbidden successive numbers. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 9, 2551–2562. 05A05 (68R05)
Tomonaga, Sin-itiro ★ The story of spin. (English summary) Translated from the 1974 Japanese original and with a preface by Takeshi Oka. *University of Chicago Press, Chicago, IL*, 1997. xii+258 *pp. ISBN* 0-226-80793-2 (Arne Schirrmacher) **99d:81002** 81–03 (01A60, 81R05)
Tomonobu, Masahiko The desingularizations of the closures $\tilde{\Sigma}^{n-p+1,1}f$, $\tilde{\Sigma}^{n-p+1,1,1}f$, $\tilde{\Sigma}^{n-p+1,1,1,1}f$, $\tilde{\Sigma}^{n-p+1,1,1,1,1}f$ of the Thom-Boardman singularities of a generic map-germ f of corank 1. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 47–54. (Claudio Martins Mendes) **99g:58012** 58C27
Tomovski, Živorad An application of the Hausdorff-Young inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 527–532. (Summary) **99i:26030** 26D15 (42B25)
Tomoyasu, Kazuo Singular compactifications of product spaces. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 525–536. (Antonio Aizpuru Tomás) **99j:54027** 54D35 (54D40)
Tompa, F. *see* **Proceedings: Conference of Computing and Information, 99g:68005**
Tompa, Martin (*with* Beame, Paul; Borodin, Allan; Raghavan, Prabhakar; Ruzzo, Walter L.) A time-space tradeoff for undirected graph traversal by walking automata. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1051–1072 (*electronic*). (From the text) **99m:68077** 68Q25 (05C40, 68Q05, 68R10)
Tompits, Hans (*with* Egly, Uwe) Is non-monotonic reasoning always harder? (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl*, 1997), 60–75, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:03074** 03F20 (03B60, 03D15, 68T27)
— (*with* Egly, Uwe) On proof complexity of circumscription. (English summary) *Automated reasoning with analytic tableaux and related methods (Oisterwijk*, 1998), 141–155, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03F20 (03B35)
Tompson, R. V. (*with* Ivchenko, I. N.; Loyalka, S. K.) The polynomial expansion method for boundary value problems of transport in rarefied gases. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 955–966. (Summary) **99j:76108** 76P05 (76M25, 82C40)
Toms, D. J. (*with* McKenzie-Smith, J. J.) ζ-function regularization, the multiplicative anomaly, and finite temperature quantum field theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105001, 10 *pp.* 81T16 (81T50)
Ton, Dao-Rong *see* **Tong, Dao Rong**
Tonchev, Vladimir D. (*with* Jaffe, David B.) Computing linear codes and unitals. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 39–52. (Ian Blake) **99a:51008** 51E20 (05B05, 94B05)
— (*with* Ding, Yuan; Houghten, Sheridan; Lam, Clement Wing Hong; Smith, Suzan; Thiel, Larry) Quasi-symmetric 2-(28, 12, 11) designs with an automorphism of order 7. (English summary) *J. Combin. Des.* **6** (1998), *no.* 3, 213–223. (Mohan S. Shrikhande) **99a:05011** 05B05
— (*with* Janko, Zvonimir) New designs with block size 7. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 152–157. (Summary) **99c:05024** 05B05
Tondo, G. (*with* Morosi, Carlo) On a class of dynamical systems both quasi-bi-Hamiltonian and bi-Hamiltonian. (English summary) *Phys. Lett. A* **247** (1998), *no.* 1-2, 59–64. (Robert Brouzet) **99h:58066** 58F05
Tonegawa, Yoshihiro On the regularity of a chemical reaction interface. *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1181–1207. (Elena Comparini) **99i:35058** 35K20 (35R35, 80A32)
— (*with* Padilla, Pablo) On the convergence of stable phase transitions. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 6, 551–579. (Muthusamy Vanninathan) **99b:58054** 58E15 (35B25, 49Q20, 82B26)
Tonelli, Pedro A. (*with* San Martin, Luiz A. B.) Transitive actions of semigroups in semi-simple Lie groups. (English summary) *Semigroup Forum* **58** (1999), *no.* 1, 142–151. (Ivan V. Arzhantsev) **99j:22010** 22E15 (22A15)
Toner, John (*with* Tu, Yuhai) Flocks, herds, and schools: a quantitative theory of flocking. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4828–4858. (Mark D. Roberts) **99m:92051** 92D50
Tonev, T. (*with* Jafari, F.; Toneva, E.; Yale, K.) Holomorphic flows, cocycles, and coboundaries. *Michigan Math. J.* **44** (1997), *no.* 2, 239–253. (Wayne Stewart Smith) **99c:47050** 47D03 (47B38)
Toneva, E. (*with* Jafari, F.; Tonev, T.; Yale, K.) Holomorphic flows, cocycles, and coboundaries. *Michigan Math. J.* **44** (1997), *no.* 2, 239–253. (Wayne Stewart Smith) **99c:47050** 47D03 (47B38)
Tong, C. O. (*with* Wong, S. C.; Lee, C. K.) Finite element solution for the continuum traffic equilibrium problems. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 7, 1253–1273. 90B06 (49N55, 90C90)
Tong, Chong Sze (*with* Shiu, Wai Chee; Lam, Peter Che Bor) Wiener number of some polycyclic graphs. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 10–15. (Summary) **99m:05054** 05C12 (05C90)
Tong, Christopher (*with* Glukhovskiĭ, A. B.) The structure of energy conserving low-order models. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 334–343. (Summary) **99k:76008** 76A02 (76F99)
Tong, D. *see* **Tong, David**
Tong, Dao Rong The Galois connection between weak torsion and sub-product classes of l-groups. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 511–516. (Jiří Rachůnek) **99i:06019** 06F15 (08B26)
Tong, David (*with* Dorey, Nicholas; Khoze, Valentin V.; Mattis, Michael P.; Vandoren, Stefan) Instantons, three-dimensional gauge theory, and the Atiyah-Hitchin manifold. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 59–93. (Summary) **99a:81168** 81T60 (53C25, 58D27, 81T13)
— (*with* Fraser, Christophe) Instantons, three-dimensional gauge theories, and monopole moduli spaces. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085001, 13 *pp.* (Summary) **99k:81305** 81T60 (58D27, 81T13, 81T30)
Tong, Dian Min (*with* Guan, Xi-Wen; Zhou, Huan-Qiang) The Lax pair and its boundary K-matrix for an XYZ open spin chain. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 4, 796–801. (Deng Feng Wang) **99a:82032** 82B23 (82B20)
— (*with* Wang, Mei Shan; Guan, Xi-Wen; Yang, Shan-De) Hidden local gauge invariance for an OSp(1, 2) spin chain. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 9, 1826–1833. (Summary) **99e:82031** 82B23 (81U40)
Tong, Fu[2] (*with* Wu, Maokang; Miao, Huaikou) Some properties and theorems of belief logic. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 242–244. (David Makinson) **99c:03027** 03B45 (68T27)
Tong, Howell (*with* Cheng, Bing) A theory of wavelet representation and decomposition for a general stochastic process. *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 115–129, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (P. A. Morettin) **99e:60100** 60G10 (62M15)
— (*with* Stockis, Jean-Pierre) On the statistical inference of a machine-generated autoregressive AR(1) model. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 781–796. (Summary) **99e:62164** 62M10
— (*with* Cheng, Bing) k-stationarity and wavelets. *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 129–144. (P. A. Morettin) **99e:62154** 62M10 (42C15)
— (*with* Yao, Qiwei) Cross-validatory bandwidth selections for regression estimation based on dependent data. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 387–415. (Summary) **99c:62123** 62G05
Tong, Jingcheng The mean value theorems of Lagrange and Cauchy. *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 3, 456–458. 26A24
Tong, Lang (*with* Zeng, Hanks H.; Johnson, C. Richard, Jr.) Relationships between the constant modulus and Wiener receivers. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1523–1538. 94A05
Tong, Lee-Ing (*with* Su, Chao-Ton; Chang, Cheng-Chang) The optimization of an organizational restructuring problem. (English summary) *Opsearch* **35** (1998), *no.* 4, 295–322. (Summary) **99i:90057** 90B70 (90B30)
Tong, Li-Da (*with* Chang, Gerard J.; Hwang, Frank K.) Characterizing bit permutation networks. (English summary) *Advances in switching networks (Princeton, NJ*, 1997), 157–167, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (W.-K. Chen) **99h:94088** 94C10 (90B12, 94C05)
Tong, Mao-Da (*with* Chen, Wai-Kai) Analysis of VLSI robust exponential stability with left coprime factorization. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 3, 335–360. (Summary) **99c:68138** 68Q35 (93D09)
Tong, Ming An (*with* Mu, De Jun; Dai, Hang; Dai, Guan Zhong) Parallel methods for LQ optimization. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 755–758. 49M30 (65Y05)
Tong, Ming Sheng (*with* Liu, Changhe; Huan, Zhongdan) Uniqueness of the viscosity solutions for the initial value problem of one type of second order partial differential equation. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 6–11. (Naoki Yamada) **99f:35082** 35K55 (35B05, 35D05)
— (*with* Li, Cheng Yue; Fan, Tian You) Nontrivial homoclinic orbits of second-order singular periodic Hamiltonian systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 20, 2147–2153. 58E05 (34C37, 58F05, 70H05)
Tong, Robert P. (*with* Blake, John R.; Keen, Giles S.; Wilson, Miles) Acoustic cavitation: the fluid dynamics of non-spherical bubbles. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 251–267. (Summary) **99m:76100** 76Q05 (76B10, 78A99)
Tong, Shao Cheng (*with* Chai, Tian You) Stable fuzzy direct adaptive control for a class of nonlinear systems. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 609–619. (Summary) **99d:93043** 93C42 (93C10)
— (*with* Li, Qingguo; Chai, Tian You) Fuzzy adaptive control for a class of nonlinear systems. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 31–39. 93C42 (93C40)
— (*with* Chai, Tian You) Fuzzy direct adaptive control for a class of nonlinear systems. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 379–387. 93C42
— (*with* Wang, Leizhen; Chai, Tian You) Stable fuzzy indirect adaptive control for a class of decentralized nonlinear systems. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 1–14. 93C42

Tong, Wen Ting (*with* Hao, Zhi Feng) Free quadratic bialgebra. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 158. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 3, 244–248. (Horia Pop) **99a:16031** 16W30
— (*with* Chen, Huan Yin) Power problems over regular rings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 815–822. (Weimin Xue) **99c:16010** 16E50
— (*with* Zhu, Xiao Sheng) Categories of power stably free modules and their K_0 groups. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1239–1246. (Reinhard C. Laubenbacher) **99b:16009** 16E20 (19A99)
Tong, Wu The limit of a biholomorphic invariant on a class of bounded pseudoconvex domains. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 427–431. (Weiping Yin) **99c:32020** 32F15 (32H10)
— (*with* Yin, Wei Ping) Invariant Kähler metrics and curvatures on a class of pseudoconvex domains. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 831–838. (Shanyu Ji) **99c:32004** 32C17 (32F15, 32H15)
Tong, Xin (*with* Ma, Feng; Xia, Shao Wei; Tang, Ze Sheng) An SOM-PNN classifier for probabilistic segmentation and visualization of volume data. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 9, 819–824. 68T10
Tong, Yu Sun A class of perturbations of the Laplacian. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 2, 176–183. (Qing Fang) **99i:35022** 35J15 (35B20, 35J05, 47F05)
Tong, Zhanye (*with* Sameh, Ahmed H.) On an iterative method for saddle point problems. (English summary) *Numer. Math.* **79** (1998), *no.* 4, 643–646. (Summary) **99f:65054** 65F10
Tonge, Andrew (*with* Benítez, Carlos; Sarantopoulos, Yannis) Lower bounds for norms of products of polynomials. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 395–408. (Ignacio Zalduendo) **99h:46077** 46G20
Tönges, Udo (*with* Koolen, J. H.; Moulton, Vincent L.) The coherency index. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 205–222. (Summary) **99g:54027** 54E35
nguyen To Nhu *see* **Nguyen To Nhu**
Toni, B. Branching of periodic orbits from Kukles isochrones. (English summary) *Electron. J. Differential Equations* **1998**, *Paper No.* 13, 10 *pp.* (*electronic*). (I. D. Iliev) **99e:34034** 34C05 (34C20, 34C23, 58F21)
Toni, Francesca (*with* Kakas, Antonios C.; Kowalski, Robert A.) The role of abduction in logic programming. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 235–324, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99c:68039** 68N17 (03B70, 68T27)
— (*with* Kowalski, Robert A.; Wetzel, Gerhard) Executing suspended logic programs. (English summary) *Fund. Inform.* **34** (1998), *no.* 3, 203–224. 68N17
Tonietti, Tito M. Arithmetic and Arithmetisierung: Felix Klein and Hermann Minkowski. (Italian) *Epistemology of mathematics*. 1992–1993 *Seminars (Italian) (Siena/Bologna/Pavia)*, 189–214, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 01A55 (00A30, 01A60)
Tonin, Mario (*with* Pasti, Paolo; Sorokin, D. P.) Comment on: "Covariant duality symmetric actions" [Phys. Rev. D (3) **53** (1996), no. 10, 5974–5977; MR 97a:81167] by A. Khoudeir and N. R. Pantoja. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2473–2474. (Summary) **99a:81104** 81T13
— (*with* Bandos, Igor A.; Pasti, Paolo; Sorokin, D. P.) Superbrane actions and geometrical approach. (English summary) *Supersymmetry and quantum field theory (Kharkov*, 1997), 79–91, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81217** 81T30
— (*with* Dall'Agata, Gianguido; Lechner, Kurt) $D = 10$, $N =$ IIB supergravity: Lorentz-invariant actions and duality. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 17, 30 *pp.* (*electronic*). (J. A. H. Samtleben) **99i:83101** 83E50
— (*with* Dall'Agata, Gianguido; Lechner, Kurt) Large covariant actions for $N = 1$, $D = 6$ supergravity theories with chiral bosons. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 179–198. (Gagik T. Ter-Kazarian) **99f:83073** 83E50 (81T30, 81T60, 83E30)
— (*with* Pasti, Paolo; Sorokin, D. P.) On gauge-field superbrane actions in AdS superbackgrounds. (English summary) *Phys. Lett. B* **447** (1999), *no.* 3-4, 251–256. (Summary) **99m:83193** 83E30 (81T30)
Tonkonog, S. L. (*with* Èskin, L. D.) On some symmetries and invariant solutions of the equations of the dynamics of a non-Newtonian fluid. II. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 55–62; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 3, 52–59. (Victor V. Zharinov) **99f:76011** 76A05 (35Q35)
Tonks, A. (*with* Brown, Ronald; Golasiński, Marek; Porter, Timothy) Spaces of maps into classifying spaces for equivariant crossed complexes. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 157–172. (Pilar C. Carrasco) **99j:18015** 18G55 (18D20, 55P91)
Tønnesen-Friedman, Christina Wiis Extremal Kähler metrics on minimal ruled surfaces. (English summary) *J. Reine Angew. Math.* **502** (1998), 175–197. (Jimmy Petean) **99g:58026** 58E11 (32L07, 53C55)
Tono, Keita On the fundamental group of the complement of certain affine hypersurfaces. (English summary) *Manuscripta Math.* **97** (1998), *no.* 1, 75–79. (Alexandru Dimca) **99g:14023** 14F35
Tonolo, Alberto On a duality with "less than usual" reflexive abstract modules. (English summary) *Abelian groups, module theory, and topology (Padua*, 1997), 403–409, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (J. Zelmanowitz) **99m:16071** 16W80 (16D90)
— (*with* Colpi, Riccardo; D'Este, Gabriella) Corrigendum: "Quasi-tilting modules and counter equivalences" [J. Algebra **191** (1997), no. 2, 461–494; MR 98g:16003]. *J. Algebra* **206** (1998), *no.* 1, 370. (Lidia Angeleri Hügel) **99g:16008** 16D90 (16E30, 16G20)
Tonon, Fulvio (*with* Bernardini, Alberto) A random set approach to the optimization of uncertain structures. (English summary) *Comput. & Structures* **68** (1998), *no.* 6, 583–600. (Summary) **99f:73061** 73K40 (73V30)
Ton That Tri The irreducible modular representations of parabolic subgroups of general linear groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 1, 41–47. (R. H. Dye) **99b:20079** 20G05 (20C20, 20G40)
Tontiruttananon, Channarong (*with* Tugnait, Jitendra K.) Identification of linear systems via spectral analysis given time-domain data: consistency, reduced-order approximation, and performance analysis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1354–1373. (Summary) **99e:93025** 93B30 (93C80, 93E12)
Tookey, R. M. (*with* Ali, J. M.; Ball, J. V.; Ball, A. A.) The generalised Cornu spiral and its application to span generation. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 37–47. (Summary) **99j:65259** 65Y25 (65D15)
Toom, André Tails in harnesses. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 347–364. (Massimo Campanino) **99e:60224** 60K35 (82B24)
— On periodic processes of percolation cellular automata. (English summary) *Resenhas* 3 (1998), *no.* 3, 351–357. (Yu Zhang) **99g:60193** 60K35 (68Q80)
Toomanian, M. (*with* Chavosh Khatamy, R.) Representation of 3-braids. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 95–101, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 57M25
Toomer, G. J. *see* **Ptolemy of Alexandria, 99g:01004**
Toomey, Fergal Bursty traffic and finite capacity queues. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 45–62. (Yannis A. Phillis) **99d:90056** 90B22 (60K25, 90B12)
Toomire, Bruce (*with* Zweifel, Paul F.) Boundary conditions in quantum transport theory. (English summary) Proceedings of the International Conference on Latest Developments and Fundamental Advances in Radiative Transfer (Los Angeles, CA, 1996). *Transport Theory Statist. Phys.* **26** (1997), *no.* 4-5, 629–636. (Luisa Arlotti) **99a:82087** 82C70
— (*with* Zweifel, Paul F.) Quantum transport theory. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 347–359. (Summary) **99d:82066** 82C70
Top, Jaap (*with* van der Put, Marius) Analytic compactification and modular forms. *Drinfeld modules, modular schemes and applications (Alden-Biesen*, 1996), 113–140, *World Sci. Publishing, River Edge, NJ*, 1997. (Yoshinori Hamahata) **99h:11060** 11G09 (11F11, 11G18)
— (*with* van der Put, Marius) Algebraic compactification and modular interpretation. *Drinfeld modules, modular schemes and applications (Alden-Biesen*, 1996), 141–166, *World Sci. Publishing, River Edge, NJ*, 1997. (Yoshinori Hamahata) **99k:11084** 11G09 (11F11)
— (*with* van Geemen, Bert; van der Kallen, Wilberd; Verberkmoes, Alain) Hecke eigenforms in the cohomology of congruence subgroups of SL(3, **Z**). (English summary) *Experiment. Math.* **6** (1997), *no.* 2, 163–174. (Joachim Schwermer) **99a:11059** 11F67 (11F75)
— Laudatio for Professor J. H. van Lint, speaker of the 7th Johann Bernoulli Lecture. (Dutch) *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 3, 173–182. 01A70
Topalov, P. İ. (*with* Matveev, V. S.) Jacobi fields of integrable geodesic flows. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 103–116. (Evgenii Zhuzhoma) **99k:58145** 58F17 (53C22)
— The Poincaré map in regular neighborhoods of singular Liouville leaves of an integrable Hamilton system. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 79–86. (J. S. Joel) **99h:58069** 58F05 (70H05)
Töpfer, Thomas Zero order estimates for functions satisfying generalized functional equations of Mahler type. *Acta Arith.* **85** (1998), *no.* 1, 1–12. (John H. Loxton) **99d:11076** 11J85
Topkis, Donald M. ★ Supermodularity and complementarity. (English summary) Frontiers of Economic Research. *Princeton University Press, Princeton, NJ*, 1998. *xii*+272 *pp. ISBN* 0-691-03244-0 (Hans Peters) **99i:90024** 90A11 (90D10, 90D12)
Topliss, M. E. (*with* Peregrine, D. H.) The impact of water waves upon a wall. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover*, 1994), 83–98, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15
Topolewska, Maria (*with* Łenski, Włodzimierz) On the rate of strong summability of double Fourier series. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 337–363. (S. Baron) **99m:42017** 42B08 (40G05, 41A17, 42A10)
Toponogov, V. A. A uniqueness theorem for convex surfaces without umbilic points in which the principal curvatures are connected by a certain relation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1176–1180, *iv*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 1037–1040. (Valery Marenich) **99h:53089** 53C45 (53A05)
— *see also* **Rovenskiĭ, Vladimir, 99b:53043**
Topp, Jerzy (*with* Vestergaard, Preben Dahl) Interpolation theorems for the (r, s)-domination number of spanning trees. (English summary) *Australas. J. Combin.* **17** (1998), 99–107. (Summary) **99a:05078** 05C35 (05C05)
— (*with* Vestergaard, Preben Dahl) Interpolation theorems for domination numbers of a graph. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 207–221. (Vadim E. Zverovich) **99h:05069** 05C35
Toppan, Francesco On coset reductions of KP hierarchies. (English summary) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 123–128; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 861–865 (1996). (Alexander V. Shapovalov) **99d:58091** 58F07
— On "bosonic, fermionic and mixed" supersymmetric 2-dimensional integrable models. (English summary) *Problems of quantum field theory (Alushta*, 1996), 400–406, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:58102** 58F07 (81T40)
— Super-Toda models associated to any (super-)Lie algebra. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz*, 1996), 241–251, *PWN, Warsaw*, 1997. (Zheng-Mao Sheng) **99i:58085** 58F07 (17B81)
— (*with* Sorokin, D. P.) An $n = (1, 1)$ super-Toda model based on OSp(1|4). (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 2, 139–152. (Josep Herrero) **99d:81146** 81T40 (17B81, 81R10, 81T60)
— (*with* Constantinidis, C. P.; Devecchi, Fernando P.) Two-dimensional $N = 1, 2$ supersymmetric chiral and dual models. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2095–2109. (Summary) **99e:81233** 81T60
Topping, Peter Miles Rigidity in the harmonic map heat flow. (English summary) *J. Differential Geom.* **45** (1997), *no.* 3, 593–610. (Joseph F. Grotowski) **99d:58050** 58E20 (58G11)
— Mean curvature flow and geometric inequalities. (English summary) *J. Reine Angew. Math.* **503** (1998), 47–61. (Barbara Priwitzer) **99m:53080** 53C21 (58E35)
Topunov, Michael V. Problem of regulation of the cardiovascular system as a bilinear control problem. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 14, 1365–1377. (V. Kolmanovskiĭ) **99h:49053** 49N55 (92C35, 92C50)

Topuriya, S. B. Boundary properties of a differential Poisson integral in a half-space and the representation of a function of two variables. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 2, 235–238 (1996). 31A20 (26B40)

— Boundary properties of the derivatives of the Poisson integral in a half-space. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 3, 453–457 (1996). 42B20 (31A20)

— Generalized derivatives and boundary properties of differentiated Poisson integrals for a disk and a half-plane. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 329–332. 42B25 (26B05)

— (*with* Chikobava, N.) Summability of the Fourier series over generalized spherical functions by the Abel and (C,α) methods. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 48–51. 42B08

— (*with* Macharashvili, N.) On $H(C,\alpha,2)$ and (C,α) summability of Fourier series over generalized spherical functions of $L_p(S^3)$ class functions. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 14–18. 42C10 (42B08)

— Generalized Laplacian and boundary properties of differentiated Poisson integrals for a half-space. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 2, 164–167. (Peter A. McCoy) **99i:35011** 35C15 (31B10, 35J05, 42B25)

— Generalized partial derivatives of functions of many variables and boundary value problems. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 3, 324–327. (Summary) **99h:35009** 35A30 (26B05, 42B25)

— Generalized total differentials of many variable functions and boundary value problems. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 1, 22–26. 35A30 (42B10)

— Generalized spherical derivatives and boundary value problems. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 2, 181–184. (Summary) **99h:35008** 35A30 (26B05, 42B25)

— Boundary properties of second-order partial derivatives of the Poisson integral for a half-space $\mathbf{R}^{k+1}_+$ $(k>1)$. (English summary) *Georgian Math. J.* **5** (1998), *no.* 4, 385–400. (Olof Svensson) **99m:31014** 31B25

Torabi, R. (*with* Khosrovshahi, G. B.) Maximal trades. (English summary) *Ars Combin.* **51** (1999), 211–223. (Summary) **99j:05022** 05B05

Torán, Jacobo (*with* Díaz, Josep; Serna, Maria José; Spirakis, Paul G.) ★ Paradigms for fast parallel approximability. (English summary) Cambridge International Series on Parallel Computation, 8. *Cambridge University Press, Cambridge*, 1997. viii+158 *pp.* *ISBN* 0-521-43170-0 (Juraj Hromkovič) **99b:68092** 68Q22 (68–02, 68Q15, 68Q25)

— (*with* Jenner, Birgit) The complexity of obtaining solutions for problems in NP and NL. (English summary) *Complexity theory retrospective, II*, 155–178, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15, 68Q25)

— (*with* Jenner, Birgit; McKenzie, Pierre) A note on the hardness of tree isomorphism. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 101–105, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q25 (68Q15)

— (*with* Beals, Robert M.; Chang, Richard; Gasarch, William I.) On finding the number of graph automorphisms. (English summary) *Chicago J. Theoret. Comput. Sci.* **1999**, *Article* 1, 28 *pp.* (*electronic*). (Dieter Kratsch) **99m:68076** 68Q25 (05C60, 05C85, 68Q15)

Torasso, Pierre Méthode des orbites de Kirillov-Duflo et représentations minimales des groupes simples sur un corps local de caractéristique nulle. [The Kirillov-Duflo orbit method and minimal representations of simple groups over a local field of characteristic zero] *Duke Math. J.* **90** (1997), *no.* 2, 261–377. (Gordan Savin) **99c:22028** 22E50 (22E47)

Torasso, R. (*with* Tataronis, J. A.; Salat, A.) The ideal magnetohydrodynamic continuous spectra of a cylindrical plasma: solution of the initial value problem. (English summary) *Phys. Plasmas* **5** (1998), *no.* 10, 3789–3792. (Summary) **99g:76153** 76W05

Torban, Dina (*with* Arasu, K. T.) New weighing matrices of weight 25. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 11–15. (H. Kharaghani) **99h:05017** 05B20 (05B25)

Torbeyns, A. F. (*with* Akritas, Michael G.) Pearson-type goodness-of-fit tests for regression. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 3, 359–374. (Arnold Janssen) **99c:62130** 62G10 (62J05)

Torcaso, Fred (*with* Lee, Tzong-Yow) Wave propagation in a lattice KPP equation in random media. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1179–1197. (Kazuaki Taira) **99h:60168** 60K35 (35Q99, 35R60, 60F10)

Torczon, Virginia (*with* Booker, Andrew J.; Dennis, J. E., Jr.; Frank, Paul D.; Serafini, David B.) Optimization using surrogate objectives on a helicopter test example. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 49–58, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 90C90 (93C95)

Tordesillas, Antoinette (*with* Shi, Jingyu) Indentation of a double shearing dilatant granular material by a smooth rigid wedge. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 633–646. (Summary) **99g:73060** 73E99 (73E05)

— (*with* Hill, James M.; Shi, Jingyu; Wu, Yong-Hong) The velocity field for the punch problem for dilatant granular materials. (English summary) *Quart. J. Mech. Appl. Math.* **52** (1999), *no.* 1, 99–110. 73E99

Torelli, Alessandro A vortex free boundary problem: existence and uniqueness results for the physical solution. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 279–298. (Henrik Shahgholian) **99h:76016** 76C05 (35J99, 35R35)

— On a new weak formulation for the jet free boundary problem with gravity. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 821–843. (Alberto Valli) **99j:76006** 76B10 (35R35)

Torenvliet, Leen (*with* Buhrman, Harry; Fortnow, Lance) Using autoreducibility to separate complexity classes. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 520–527, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15 (03D15)

— (*with* Buhrman, Harry) Randomness is hard. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 249–260, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99h:68088** 68Q30

— (*with* Terwijn, Sebastiaan A.) Arithmetical measure. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 277–286. (Rodney G. Downey) **99m:03085** 03D30 (03D55, 28A99)

— (*with* Buhrman, Harry; Hoene, Albrecht) Splittings, robustness, and structure of complete sets. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 637–653 (*electronic*). (Uwe Schöning) **99d:68079** 68Q15 (03D15, 03D20)

Torgašev, Aleksandar On reflexivity of a quaternion normed space. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 2, 57–64. (Summary) **99g:46007** 46B10

— Spectrum of the line graph of a complete bipartite infinite graph. (Serbo-Croatian summary) *Zb. Rad. (Kragujevac) No.* 19 (1997), 5–10. (Cyriel Van Nuffelen) **99e:05090** 05C50

— Tangent spheres of a Hilbert space simplex. (English and Serbo-Croatian summaries) *Zb. Rad. (Kragujevac) No.* 19 (1997), 11–16. (Summary) **99b:52018** 52A99 (46C99)

— On operators with the same local spectra. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 77–83. (Jörg Eschmeier) **99c:47005** 47A11

Torgersen, Erik (*with* Greenshtein, Eitan) Ordering of sequentially sampled exponential experiments. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 325–329. (Peter Watts Jones) **99i:62185** 62L15

Torgersen, Todd C. (*with* Nagy, James G.; Pauca, V. Paul; Plemmons, Robert J.) Degradation reduction in optics imagery using Toeplitz structure. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 269–288 (1998). (Summary) **99e:78008** 78–08 (65Y20, 68U10, 94A12)

Torgerson, Mark (*with* Rychlik, Marek) Algebraic non-integrability of the Cohen map. (English summary) *New York J. Math.* **4** (1998), 57–74 (*electronic*). (Dov Aharonov) **99c:39025** 39B12

Torigoe, Norio Percentage point approximations of the doubly noncentral F distribution. (Japanese) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 161–172. (*see* **99a:62005**) 62E15 (62E20)

Torii, M. (*with* Matsukidaira, Junta; Satsuma, Junkichi; Takahashi, Daisuke; Tokihiro, Tetsuji) Toda-type cellular automaton and its N-soliton solution. (English summary) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 1–15. (Fernanda Botelho) **99k:58104** 58F08 (68Q80)

Torii, Takashi (*with* Tamaki, Takashi; Maeda, Kei-ichi) Non-abelian black holes in Brans-Dicke theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4870–4884. 83D05 (83C57)

— (*with* Maeda, Kei-ichi) Stability of a dilatonic black hole with a Gauss-Bonnet term. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084004, 13 *pp.* 83C57

— (*with* Maeda, Kengo; Narita, Makoto) Do naked singularities generically occur in generalized theories of gravity? (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 24, 5270–5273. (Summary) **99i:83066** 83C57 (83C75, 83E30)

— (*with* Maeda, Kengo; Narita, Makoto) Toward the no-scalar-hair conjecture in asymptotically de Sitter spacetime. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064027, 8 *pp.* (Summary) **99k:83086** 83C57

Torlone, Riccardo (*with* Montesi, Danilo) A rewriting technique for the analysis and the optimization of active databases. (English summary) *Database theory—ICDT '95 (Prague)*, 238–251, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68Q42)

— (*with* Atzeni, Paolo) Efficient database updates with independent schemes. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1112–1135 (*electronic*). (Summary) **99k:68046** 68P15

Törmä, Päivi Transitions in quantum networks. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 11, 2185–2189. (Emanuel H. Knill) **99h:81026** 81P99 (82B20)

Tornambè, Antonio Modeling and control of impact in mechanical systems: theory and experimental results. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 294–309. (David E. Stewart) **99k:70019** 70F35 (70–05, 70Q05, 93C85)

— (*with* Indri, Marina) Impact model and control of two multi-DOF cooperating manipulators. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1297–1303. 93C85

Tornatore, Elisabetta Stochastic equations for a viscous gas. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 153–156. 76N15 (35Q35, 35R60, 60H15, 76M35)

Törner, Günter (*with* Brungs, Hans-Heinrich) Ideal theory of right cones and associated rings. (English summary) *J. Algebra* **210** (1998), *no.* 1, 145–164. (David F. Anderson) **99k:20113** 20M12 (16U99)

Torney, D. C. (*with* Knill, Emanuel; Bruno, W. J.) Non-adaptive group testing in the presence of errors. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 261–290. (Ding Zhu Du) **99m:92021** 92D20

— (*with* Bruno, W. J.; Sun, Feng Zhu) Optimizing nonadaptive group tests for objects with heterogeneous priors. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1043–1059 (*electronic*). (Summary) **99a:62115** 62K99

Torng, Eric (*with* Motwani, Rajeev; Saraswat, Vijay) Online scheduling with lookahead: multipass assembly lines. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 331–340. (Summary) **99f:90049** 90B35

Toro, E. F. (*with* Ivings, M. J.; Causon, D. M.) On Riemann solvers for compressible liquids. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 395–418. (Summary) **99e:76088** 76M25 (76L05)

— *see also* **Numerical methods for wave propagation, 99f:65006**

wills-Toro, Luis Alberto *see* **Wills-Toro, Luis Alberto**

Toro, Tatiana Doubling and flatness: geometry of measures. *Notices Amer. Math. Soc.* **44** (1997), *no.* 9, 1087–1094. (W. P. Ziemer) **99d:28010** 28A75 (31B25)

de Toro Arias, S. (*with* Vanneste, Ch.) A new construction for spinor wave equations. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **3** (1998), *no.* 4, 517–534. (Francois Vanderseypen) **99g:81073** 81R20

ansari-Toroghy, H. *see* **Ansari-Toroghy, H.**

Torokhtiĭ, A. P. (*with* Howlett, P. G.) Weak interpolation and approximation of non-linear operators on the space $\mathcal{C}([0,1])$. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 1025–1043. (D. K. Ugulava) **99j:41003** 41A05 (41A35, 65D05)

Torondzhadze, T. A. (*with* Lazrieva, N.; Mania, M.; Shervashidze, T.) In memory of Professor R. Chitashvili. *Proc. A. Razmadze Math. Inst.* **115** (1997), 3–15. (Editors) **99m:01076** 01A70

— (*with* Lazrieva, N.) Robust estimators in discrete time statistical models. Contiguous alternatives. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **115** (1997), 59–96. (M. P. Moklyachuk) **99m:62037** 62F35 (62C20)
— (*with* Lazrieva, N.) Influence functionals for discrete time statistical models. Weakly contiguous alternatives. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **115** (1997), 97–120. (Summary) **99i:62058** 62F35
Toronov, Vladislav Yu. (*with* Vladimirov, A. G.; Derbov, Vladimir L.) The complex Lorenz model: geometric structure, homoclinic bifurcation and one-dimensional map. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 4, 723–729. (Summary) **99f:34073** 34C37 (34C23, 34D45, 58F14)
Toropova, A. I. (*with* Pavlenko, Yu. G.; Naumov, N. D.) An integrable Hamiltonian system: a relativistic particle in the field of a traveling inhomogeneous wave. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 42–46, 80. (Summary) **99e:78021** 78A35 (70H05, 70H20, 78A25)
Toropova, M. M. (*with* Zhigalko, Yu. P.) Analytic solutions of problems of oscillations of elastic plates and shells with patch-type supports. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 47–54. (From the text) **99i:73051** 73K15 (73D30, 73K12, 73T05)
Torquato, Salvatore Effective stiffness tensor of composite media. I. Exact series expansions. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 9, 1421–1448. (Yury Grabovsky) **99i:73005** 73B27 (73B35, 73K20, 73S10)
— (*with* Gibiansky, L. V.) New method to generate three-point bounds on effective properties of composites: application to viscoelasticity. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 4, 749–783. (David J. Bergman) **99f:73006** 73B27 (73F99, 73K20)
— Effective stiffness tensor of composite media. II. Applications to isotropic dispersions. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1411–1440. (Summary) **99g:73009** 73B27 (73K20, 73S10)
— (*with* Berlyand, L.; Rintoul, M. D.) First-passage percolation, semi-directed Bernoulli percolation, and failure in brittle materials. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 603–623. (Summary) **99e:73080** 73M25 (73V30, 82B43)
— (*with* Truskett, Thomas M.; Debenedetti, Pablo G.) Density fluctuations in many-body systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7369–7380. (Summary) **99g:82005** 82B05
Torr, Douglas G. (*with* Vargas, Jose G.) Teleparallel Kähler calculus for spacetime. (English summary) *Found. Phys.* **28** (1998), *no.* 6, 931–958. (Jayme Vaz, Jr.) **99g:58006** 58A14 (58A10, 83C99)
Torr, P. H. S. Geometric motion segmentation and model selection. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1321–1340. (Tamas Lengyel) **99h:68179** 68U10 (68T10)
Torrano Giménez, E. (*with* Barrios, Dolores; López Lagomasino, G.; Martínez-Finkelshtein, Andrei) On the domain of convergence and poles of complex *J*-fractions. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 177–200. (Summary) **99b:30003** 30B70 (40A15)
Torre, A. *see* **Torre, Alicia**
de la Torre, A. C. (*with* Iguain, J. L.) Manifest and concealed correlations in quantum mechanics. (English summary) *European J. Phys.* **19** (1998), *no.* 6, 563–568. (S. Gudder) **99j:81011** 81P05 (81P15)
de la Torre, Alberto On the adjoint of the maximal function. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 189–194, *Prometheus, Prague*, 1996. (Luboš Pick) **99b:42025** 42B25
Torre, Alicia (*with* Lain, L.) Traces of *p*th-order reduced density matrices: symmetric group approach. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5811–5817. 81V70
Torre, Amalia (*with* Dattoli, G.; Lorenzutta, S.; Maino, G.) Theory of multiindex multivariable Bessel functions and Hermite polynomials. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 179–197 (1998). (U. C. Jain) **99h:33011** 33C10 (33C45)
— (*with* Dattoli, G.; Lorenzutta, S.) Miscellaneous identities of generalized Hermite polynomials. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 337–343 (1998). (Summary) **99c:33019** 33C50
— (*with* Dattoli, G.) *q*-Bessel functions: the point of view of the generating function method. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 329–345. (Summary) **99m:33009** 33D15
— (*with* Lorenzutta, S.; Maino, G.; Dattoli, G.; Tocci, D.) A note on generalized Bessel functions and Fourier series. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 541–548. (Summary) **99c:33006** 33C10 (42B05)
— (*with* Lorenzutta, S.; Maino, G.; Dattoli, G.; Chiccoli, C.) Infinite-variable Bessel functions of the Anger type and the Fourier expansions. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 163–176. (R. K. Saxena) **99f:33002** 33C10 (33C70, 42C99, 46F25)
— (*with* Dattoli, G.; Ottaviani, P. L.; Vázquez, Luis) Evolution operator equations: integration with algebraic and finite-difference methods. Applications to physical problems in classical and quantum mechanics and quantum field theory. *Riv. Nuovo Cimento Soc. Ital. Fis.* (4) **20** (1997), *no.* 2, 133 *pp.* (Oleg Yu. Shvedov) **99a:81006** 81–08 (33C80, 34G20, 47N20, 65M06, 81Q05)
— (*with* Dattoli, G.; Lorenzutta, S.; Maino, G.) Generalized Bessel functions and Kapteyn series. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 117–125. (N. Hayek Calil) **99d:33003** 33C10
— (*with* Dattoli, G.; Carpanese, M.) Operational rules and arbitrary order Hermite generating functions. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 98–111. (N. K. Thakare) **99k:33025** 33C45
— (*with* Dattoli, G.) Generalised generating functions and Lienard-Wiechert integral. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 271–273. (Summary) **99d:78021** 78A35 (05A15)
Torre, Anna (*with* Patrone, Fioravante; Pieri, Graziano; Tijs, Stef) On consistent solutions for strategic games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 191–200. (Milan Mareš) **99k:90211** 90D10 (90A14)
Torre, Charles G. (*with* Varadarajan, Madhavan) Quantum fields at any time. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064007, 17 *pp.* (Summary) **99k:81326** 81T70
girón gonzález-Torre, Fco. Javier *see* **Girón González-Torre, Fco. Javier**
van der Torre, Leendert W. N. (*with* Tan, Yao-Hua) The temporal analysis of Chisholm's paradox. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 650–655, *MIT Press, Cambridge, MA*, 1998. (Summary) **99f:03018** 03B45 (03A05, 68T30)
martín de la Torre, Pau *see* **Martín de la Torre, Pau**
la Torre, Salvatore *see* **La Torre, Salvatore**
Torrea Hernández, José Luis (*with* Harboure, Eleonor; Segovia, Carlos) Boundedness of commutators of fractional and singular integrals for the extreme values of *p*. *Illinois J. Math.* **41** (1997), *no.* 4, 676–700. (Andreas Seeger) **99j:42025** 42B25 (42B30)
— (*with* Menárguez, M. Trinidad) Some inequalities arising from vector-valued Dirac deltas. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 301–319. (C. Carton-Lebrun) **99g:46050** 46E40 (42B25, 46F10)
Torrealba, R. (*with* Martín, Isbelia; Restuccia, A.) On the stability of compactified $D = 11$ supermembranes: global aspects of the bosonic sector. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 1-2, 117–128. (Summary) **99j:81150** 81T30
rodríguez Torreblanca, C. *see* **Rodríguez Torreblanca, C.**
Torrecillas, B. *see* **Torrecillas Jover, Blas**
Torrecillas, Blas *see* **Torrecillas Jover, Blas**
Torrecillas, J. Gómez *see* **Gómez Torrecillas, José**
gómez Torrecillas, José *see* **Gómez Torrecillas, José**
Torrecillas Jover, Blas (*with* Dăscălescu, Sorin; Năstăsescu, C.; Van Oystaeyen, Freddy) Duality theorems for graded algebras and coalgebras. *J. Algebra* **192** (1997), *no.* 1, 261–276. (William Chin) **99c:16042** 16W50 (16S40, 16W30)
— (*with* García Rozas, J. R.) Torsion injective covers and resolvents. *Tsukuba J. Math.* **21** (1997), *no.* 3, 795–808. (J. K. Luedeman) **99b:16048** 16S90 (16D90, 16E10)
— (*with* García Rozas, J. R.) Existence of covers over fixed rings. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 159–165, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (M. Teply) **99e:16038** 16S90 (16S35)
— (*with* Escoriza, J.) Multiplication objects in commutative Grothendieck categories. *Comm. Algebra* **26** (1998), *no.* 6, 1867–1883. (C. Năstăsescu) **99d:18012** 18E15 (16W50)
— (*with* Asensio, M. J.; López Ramos, J. A.) Gorenstein gr-flat modules. *Comm. Algebra* **26** (1998), *no.* 10, 3195–3209. (Nan Qing Ding) **99i:16007** 16D40 (16W50)
— (*with* Van Oystaeyen, Freddy; Zhang, Yin Huo) Coflat monomorphisms of coalgebras. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 2, 171–183. (José A. Anquela) **99e:16055** 16W30
Torregrosa, G. (*with* Goberna, Miguel A.; Mira López, Juan A.) Redundancy in linear inequality systems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 529–548. (Jan Rückmann) **99i:90062** 90C08 (65F30, 90C31, 90C34)
— (*with* López, Marco Antonio; Mira López, Juan A.) On the stability of infinite-dimensional linear inequality systems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 1065–1077. (Edward J. Anderson) **99j:90092** 90C31 (15A39, 65K99)
Torregrosa, J. R. *see* **Torregrosa Sánchez, Juan Ramón**
Torregrosa, Joan (*with* Cima, Anna; Gasull, Armengol) Index and multiplicity. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*) (*Vic*, 1995), 15 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99j:58025** 58C27 (55M25)
— (*with* Cima, Anna; Gasull, Armengol) On the relation between index and multiplicity. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 757–768. (Christian Fenske) **99j:58024** 58C27 (55M25, 57R45)
— (*with* Gasull, Armengol) Center problem for several differential equations via Cherkas' method. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 322–343. (Pavao Mardešić) **99k:34057** 34C05
Torregrosa Sánchez, Juan Ramón (*with* Jordán Lluch, Cristina; Urbano, Ana M.) On the Rodman-Shalom conjecture regarding the Jordan form of completions of partial upper triangular matrices. (English summary) *Electron. J. Linear Algebra* **3** (1998), 103–118 (*electronic*). (V. V. Sergeĭchuk) **99g:15014** 15A21
— (*with* Jordán Lluch, Cristina; Urbano, Ana M.) An algorithm for nilpotent completions of partial Jordan matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 315–325. (Hugo Jan Woerdeman) **99f:15017** 15A21 (15A57)
de la Torre Mayado, Marina (*with* Mateos Guilarte, Juan; Muñoz Porras, José María) Elliptic theta functions and the fractional quantum Hall effect. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 297–332. (Martin Schlichenmaier) **99k:14049** 14H42 (14D20, 14H60, 81V70, 82D20)
Torrens, J. J. (*with* Pasadas, M.; López de Silanes, M. C.) Approximation of offset curves and surfaces by discrete smoothing D^m-splines with tangent conditions. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 329–336, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D10 (65D07, 65Y25)
— (*with* Kouibia, A.; Pasadas, M.) Fairness approximation by modified discrete smoothing D^m-splines. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 295–302, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65047** 65D17 (65D07, 65D10)
— Discrete smoothing D^m-splines: applications to surface fitting. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 477–484, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41020** 41A15 (65D07, 65D10)
Torres, Carlos R. (*with* Ochoa, José; Castillo, José E.; Hanazaki, Hideshi) Numerical simulation of flow past a sphere in vertical motion within a stratified fluid. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 67–76. (*see* **99k:65002**) 76M25 (76V05)
Torres, Diego F. (*with* Schunck, Franz E.; Liddle, Andrew R.) Brans-Dicke boson stars: configurations and stability through cosmic history. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3701–3718. 83D05 (83F05)
Torres, Fernando (*with* Pellikaan, Ruud; Stichtenoth, Henning) Weierstrass semigroups in an asymptotically good tower of function fields. (English summary) *Finite Fields Appl.* 4 (1998), *no.* 4, 381–392. (Martha Rzedowski-Calderón) **99g:11139** 11R58 (11G20)

— (*with* Fuhrmann, Rainer) On Weierstrass points and optimal curves. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 25–46. (Chao Ping Xing) **99e:11081** 11G20 (14G15, 14H55, 51E15, 51E20)

Torres, Francisco (*with* Freire Macías, Emilio; Ponce, Enrique) Filippov transformations in piecewise linear systems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 273–278, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34A30 (34C25)

Torres, J. J. (*with* Garrido, P. L.; Marro, J.) Neural networks with fast time-variation of synapses. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7801–7816. (Dimitri Petritis) **99e:82075** 82C32 (92B20)

luna Torres, Joaquín *see* **Luna Torres, Joaquín**

Torres, José-Leonel (*with* Christen, J. Andrés; Barrera, Julio) A statistical feature of genetic sequences. (English summary) *Biom. J.* **40** (1998), *no.* 7, 855–863. 62P10

turull Torres, Jose Maria *see* **Turull Torres, Jose Maria**

Torres, Pedro J. Asymptotic stability in a periodic equation with a repulsive singular nonlinearity. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)*(*Vic*, 1995), 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34D05

— (*with* Martínez-Amores, Pedro) Dynamics of a periodic differential equation with a singular nonlinearity of attractive type. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 431–435, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C25 (34D99)

— Solving a paradox about discontinuous damping. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 190–191. (Oleg P. Filatov) **99i:34068** 34C99 (34A60, 70F99, 70K99)

— Bounded solutions in singular equations of repulsive type. *Nonlinear Anal.* **32** (1998), *no.* 1, 117–125. (M. Cecchi) **99a:34105** 34C11 (34C25)

— (*with* Campos, Juan[2]) On the structure of the set of bounded solutions on [of] a periodic Liénard equation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1453–1462. (Alessandro Fonda) **99h:34062** 34C25

Torres, Roberto (*with* Illanes, Alejandro) The dimension of Whitney levels of a finite graph. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 263–273. (James T. Rogers, Jr.) **99b:54013** 54B20 (54C50)

Torres, Rodolfo H. Mean oscillation of functions and the Paley-Wiener space. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 283–297. (Christoph M. Thiele) **99i:42029** 42B25 (47B35)

— Maxwell's equations and dielectric obstacles with Lipschitz boundaries. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 157–169. (Volker Vogelsang) **99e:35216** 35Q60 (35L50, 78A45)

Torres-Cházaro, Adolfo (*with* Vallejo, Ernesto) Sets of uniqueness and minimal matrices. (English summary) *J. Algebra* **208** (1998), *no.* 2, 444–451. (Michael Szalay) **99k:05013** 05A17 (05B20, 15A36)

Torres del Castillo, G. F. The Teukolsky-Starobinsky identities in the Reissner-Nordström solution. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 203–213, *Univ. Montréal, Montreal, QC*, 1997. (Brian Edgar) **99b:83025** 83C25 (83C15, 83C35, 83C60)

— (*with* Mondragón-Sánchez, J. A.) Invariance of the massless field equations under changes of the metric. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 379–387. (Sunil D. Maharaj) **99d:83027** 83C22 (83C50)

— (*with* Pérez-Pérez, J. C.) Perturbations of solutions of the Einstein-Weyl equations: an example. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 047501, 4 *pp.* (Summary) **99m:83039** 83C15 (83C25, 83C60)

— On the connection between the Kepler problem and the isotropic harmonic oscillator in classical mechanics. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 4, 333–338. (Summary) **99d:70016** 70F05

— (*with* Calvario Acócal, J. L.) On the dynamical symmetry of the quantum Kepler problem. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 4, 344–352. (Summary) **99e:81069** 81R05 (70F05, 81Q05)

— Equivalent Hamiltonians by means of the Hamilton-Jacobi equation. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 6, 540–545. (Charles G. Torre) **99m:83027** 83C10

— (*with* Aceves de la Cruz, F.) Connection between the Kepler problem and the Maxwell fish-eye. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 6, 546–549. (From the introduction) **99j:70012** 70F05 (78A05)

— (*with* López Ortega, A.) The three-dimensional Kepler problem and the four-dimensional isotropic harmonic oscillator. (English and Spanish summaries) *Rev. Mexicana Fís.* **45** (1999), *no.* 1, 1–8. (Peter N. Zhevandrov) **99m:81050** 81Q05 (70F05)

— Symmetry of the Kepler problem in classical mechanics. (English and Spanish summaries) *Rev. Mexicana Fís.* **45** (1999), *no.* 3, 234–238. 70F05 (70H33)

Torres-Vega, Go. (*with* Morales-Guzmán, J. D.; Zúñiga-Segundo, A.) Special functions in phase space: Mathieu functions. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6725–6739. (Bing Hong Wang) **99i:81084** 81R30 (33E10, 81S30)

Torriero, Anna (*with* Stefani, Silvana) Spectral properties of matrices and graphs. (English summary) *Matrices and graphs* (*Brescia*, 1993/1995), 31–49, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99k:05113** 05C50

— (*with* Abaffy, Jozsef; Bertocchi, Maria) Perturbations of M-matrices via ABS methods and their applications to input-output analysis. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 145–170. (Horst Hollatz) **99d:65087** 65F05 (90A11)

Torrini, Maurizio La correspondance de Galilée entre chronique et histoire des sciences. [Between chronicle and history of science: Galileo's correspondence] *Rev. Histoire Sci.* **52** (1999), *no.* 1, 139–154. 01A45

Torrisi, M. (*with* Tracinà, R.) Equivalence transformations and symmetries for a heat conduction model. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 3, 473–487. (Summary) **99a:35262** 35Q99 (80A20)

— (*with* Senthil Velan, M.) Equivalence transformations and approximate solutions of a nonlinear heat conduction model. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 10005–10016. (Summary) **99h:80007** 80A20 (80–08)

Torsney, B. (*with* López-Fidalgo, J.; Ardanuy Albájar, Ramón) MV-optimization in weighted linear regression. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 39–50, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05 (62J05)

Tort, A. C. (*with* Cougo-Pinto, M. V.; Farina de Souza, Carlos; Negrão, M. R.) Bosonic Casimir effect in external magnetic field. (English summary) *J. Phys. A* **32** (1999), *no.* 24, 4457–4462. 81T20

— (*with* Cougo-Pinto, M. V.; Farina de Souza, Carlos; Santos, F. C.) QED vacuum between a conducting and a permeable plate. (English summary) *J. Phys. A* **32** (1999), *no.* 24, 4463–4474. 81V10

Tortora, Alfonso On the lifting problem in codimension two. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 41–51 (1998). (Summary) **99c:14066** 14M07

Tortorelli, Daniel A. (*with* Pedersen, Pauli) Constitutive parameters and their evolution. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 295–310. (Summary) **99k:73096** 73K99 (73B99)

Tosan, E. (*with* Zair, C. E.) Computer aided geometric design with IFS techniques. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 443–452, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00014**) 65D17

— (*with* Zair, C. E.) Fractal geometric modeling in computer graphics. (English summary) Fractal 97 (Estes Park, CO). *Fractals* **5** (1997), *suppl.*, 45–61. (*see* **99f:00017**) 65Y25 (28A80)

Toscani, Giuseppe (*with* Lions, Pierre-Louis) Diffusive limit for finite velocity Boltzmann kinetic models. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 3, 473–513. (Reinhard Illner) **99g:76127** 76P05 (35Q35, 82C40)

— (*with* Gabetta, E.; Pareschi, Lorenzo) Relaxation schemes for nonlinear kinetic equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2168–2194. (Hans Babovsky) **99c:76096** 76P05 (65C20, 82C40)

— (*with* Carrillo, José A.) Exponential convergence toward equilibrium for homogeneous Fokker-Planck-type equations. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 13, 1269–1286. (Carlo Cercignani) **99h:82055** 82C31 (76P05, 82C40)

— (*with* Jin, Shi; Pareschi, Lorenzo) Diffusive relaxation schemes for multiscale discrete-velocity kinetic equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2405–2439 (*electronic*). (Anne Nouri) **99k:76100** 76M20 (76P05, 82C40)

— (*with* Carlen, Eric Anders; Gabetta, E.) Propagation of smoothness and the rate of exponential convergence to equilibrium for a spatially homogeneous Maxwellian gas. (English summary) *Comm. Math. Phys.* **199** (1999), *no.* 3, 521–546. (Carlo Cercignani) **99k:82060** 82C40 (76P05)

Toscano, Raffaele (*with* Pavlotskiĭ, I. P.; Strianese, M.) Continuation of the solution of differential equations to a singular set. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 313–319, 428–429; *translation in Differential Equations* **34** (1998), *no.* 3, 312–319. (Summary) **99i:34005** 34A12 (34C99, 70H35)

Toschi, F. (*with* Benzi, R.; Tripiccione, R.) On the heat transfer in Rayleigh-Bénard systems. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 901–918. 76F99 (76E15)

— (*with* Biferale, L.; Boffetta, G.; Celani, A.) Multi-time, multi-scale correlation functions in turbulence and in turbulent models. (English summary) *Phys. D* **127** (1999), *no.* 3-4, 187–197. 76F99

Tose, Nobuyuki (*with* Andronikof, Emmanuel) Elliptic boundary value problems in the space of distributions. *New trends in microlocal analysis* (*Tokyo*, 1995), 165–169, *Springer, Tokyo*, 1997. (Andrea D'Agnolo) **99i:58139** 58G07 (35D05, 35J99, 46F10)

— (*with* Okada, Yasunori) A dependence domain for a class of micro-differential equations with involutive double characteristics. Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 61–65. (Jean-Marc Delort) **99d:58170** 58G17 (35A27, 58G07)

— (*with* Liess, Otto; Okada, Yasunori) A remark on 2-microhyperbolicity. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 3, 39–42. (P. Schapira) **99c:58147** 58G07

Toselli, Andrea Some results on Schwarz methods for a low-frequency approximation of time-dependent Maxwell's equations in conductive media. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 530–537, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99f:65145** 65M60 (35Q60, 65M55)

Toshihiko, Ikawa Spacelike maximal surfaces with constant scalar normal curvature in a normal contact Lorentzian manifold. (English summary) *Bull. Malaysian Math. Soc.* (2) **21** (1998), *no.* 1, 31–36. (Regina Castro) **99m:53128** 53C50 (53C40)

Toshimitsu, Takeshi Strongly q-additive functions and algebraic independence. *Tokyo J. Math.* **21** (1998), *no.* 1, 107–113. (A. J. van der Poorten) **99j:11084** 11J85

Tošić, R. (*with* Pantović, J.; Vojvodić, G.) The cardinality of functionally complete algebras on a three element set. (English summary) *Algebra Universalis* **38** (1997), *no.* 2, 136–140. (Ágnes Szendrei) **99i:08002** 08A40 (03B50)

Toskano, R. *see* **Toscano, Raffaele**

Tossings, P. (*with* Alexandre, P.; Nguyen, Van Hien) The perturbed generalized proximal point algorithm. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 223–253. (De Ren Wang) **99e:65095** 65J15 (47H17, 49M99, 65K10)

Tosun, Murat (*with* Aydemir, İsmail) On the $(k+1)$-dimensional space-like ruled surfaces in the Minkowski space $\mathbf{R}^n_1$. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 27–36 (1998). (Alan S. McRae) **99h:53021** 53B30 (53A25, 53A40)

— (*with* Aydemir, İsmail; Kuruoğlu, Nuri) Properties of 2-dimensional space-like ruled surfaces in the Minkowski space $\mathbf{R}^n_1$. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 93–101 (1998). (Alan S. McRae) **99h:53023** 53B30 (53A25, 53A40)

— (*with* Kuruoğlu, Nuri) On $(K+1)$-dimensional time-like ruled surface in the Minkowski space $\mathbf{R}^n_1$. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 1–9. (V. Oproiu) **99h:53016** 53A35 (53A25)

Totaro, Silvia (*with* Mancini, Simona) Particle transport problems with general multiplying boundary conditions. (English summary) *Transport Theory Statist. Phys.* **27** (1998), *no.* 2, 159–176. (Luisa Arlotti) **99g:82077** 82C70

— Interaction between algae and photons: derivation of a simplified model. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 223–240. (Summary) **99h:92042** 92D40 (82C70)

— (*with* Lauro, Giuliana) A semilinear Cauchy problem with a time dependent source on the boundary. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 317–331. (Edward W. Larsen) **99j:82063** 82C40 (35Q99)

— (*with* Mancini, Simona) Transport problems with nonhomogeneous boundary conditions. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 371–382. (Luisa Arlotti) **99k:82069** 82C70

Tóth, Bálint Limit theorems for weakly reinforced random walks on **Z**. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 321–337. (Summary) **99f:60131** 60J15

— (*with* Ermakov, Alexei; Werner, Wendelin) On some annihilating and coalescing systems. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 845–870. (Daniel Ueltschi) **99g:82058** 82C22 (60K35)

— (*with* Werner, Wendelin) The true self-repelling motion. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 3, 375–452. (Thomas Polaski) **99i:60092** 60G18 (60J25, 60K35)

Tóth, Béla (*with* Mészáros, Gabriella) Indicator functions in solving nonlinear systems of equations. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 87–95. 65H10

Tóth, G. *see* **Tóth, Géza**

fejes Tóth, Gábor *see* **Fejes Tóth, Gábor**

Tóth, Gábor[1] ★ Glimpses of algebra and geometry. (English summary) Undergraduate Texts in Mathematics. Readings in Mathematics. *Springer-Verlag, New York*, 1998. *xviii*+308 *pp. ISBN* 0-387-98213-2 (Victor V. Pambuccian) **99d:00002** 00A05 (51-01)

— Universal constraints on the range of eigenmaps and spherical minimal immersions. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1423–1443. (Yuan-Jen Chiang) **99f:53067** 53C42

Tóth, Géza (*with* Pach, János; Thiele, Torsten) Three-dimensional grid drawings of graphs. (English summary) *Graph drawing (Rome, 1997)*, 47–51, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99e:68129** 68R10 (68U05)

— (*with* Pach, János) Graphs drawn with few crossings per edge. (English summary) *Combinatorica* **17** (1997), *no.* 3, 427–439. (J. Lauri) **99b:05043** 05C10

— (*with* Pach, János) A generalization of the Erdős-Szekeres theorem to disjoint convex sets. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 437–445. (Summary) **99b:52038** 52C10

— (*with* Valtr, Pavel) Note on the Erdős-Szekeres theorem. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 457–459. (Summary) **99e:52022** 52C10

— (*with* Károlyi, Gyula; Pach, János; Valtr, Pavel) Ramsey-type results for geometric graphs. II. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 375–388. (András Gyárfás) **99i:05145** 05C55 (52C10)

— (*with* Pach, János; Thiele, Torsten) Three-dimensional grid drawings of graphs. (English summary) *Advances in discrete and computational geometry (South Hadley, MA, 1996)*, 251–255, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52031** 52C10

Tóth, János (*with* Szili, László) On the origin of Turing instability. (English summary) *J. Math. Chem.* **22** (1997), *no.* 1, 39–53. (Yoram Schiffmann) **99d:92011** 92C15 (35Q80, 80A30, 92C40)

— (*with* Gaveau, Bernard; Moreau, Michel) Dissipation of energy and of information in nonequilibrium reaction-diffusion systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5351–5354. (Summary) **99f:82041** 82C05

— (*with* Szili, László) Numerical and symbolic applications of Mathematica. (English summary) *Math. Pannon.* **10** (1999), *no.* 1, 83–92. 65–04 (34–04, 34D20, 65L99, 93–04, 93D20)

Tóth, János T. (*with* Bukor, Jozsef; Erdős, Paul[1]; Šalát, Tibor) Remarks on the (R)-density of sets of numbers. II. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 517–526. (W. Narkiewicz) **99e:11013** 11B05 (11K16)

— (*with* Strauch, Oto) Asymptotic density of $A \subset \mathbf{N}$ and density of the ratio set $R(A)$. *Acta Arith.* **87** (1998), *no.* 1, 67–78. (Sergeĭ V. Konyagin) **99k:11020** 11B05

— (*with* Bukor, Jozsef; Filakovszky, Péter) On the Diophantine equation $x_1x_2\cdots x_n = h(n)(x_1 + x_2 + \cdots + x_n)$. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 123–130. (Lajos Hajdu) **99k:11050** 11D72

Tóth, László (*with* Sándor, József) On certain arithmetic functions associated with the unitary divisors of a number. *Notes Number Theory Discrete Math.* **3** (1997), *no.* 1, 1–8. (Jean-Marie De Koninck) **99c:11006** 11A25

Toth, Paolo (*with* Fischetti, Matteo; Salazar González, Juan José) A branch-and-cut algorithm for the symmetric generalized traveling salesman problem. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 378–394. (Summary) **99f:90091** 90C27 (90C35)

— (*with* Martello, Silvano) Upper bounds and algorithms for hard 0-1 knapsack problems. (English summary) *Oper. Res.* **45** (1997), *no.* 5, 768–778. (Jesús A. de Loera) **99j:90050** 90C10 (90C27)

— (*with* Pisinger, David) Knapsack problems. (English summary) *Handbook of combinatorial optimization, Vol.* 1, 299–428, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C35)

— (*with* Escudero, Laureano F.; Martello, Silvano) On tightening 0-1 programs based on extensions of pure 0-1 knapsack and subset-sum problems. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 379–404. (*see* **99b:90006**) 90C27

— (*with* Fischetti, Matteo; Salazar González, Juan José) Solving the orienteering problem through branch-and-cut. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 133–148. (Anton Volgenant) **99f:90092** 90C27 (90C35)

Totik, Vilmos (*with* Saff, Edward B.) ★ Logarithmic potentials with external fields. Appendix B by Thomas Bloom. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 316. *Springer-Verlag, Berlin*, 1997. xvi+505 *pp. ISBN* 3-540-57078-0 (D. S. Lubinsky) **99h:31001** 31–02 (30C10, 41A10, 42C05)

— Counterexample to a problem on tensor product approximation. (English summary) *J. Approx. Theory* **94** (1998), *no.* 2, 300–305. (Summary) **99c:41015** 41A10

— (*with* Mastroianni, Giuseppe) Jackson type inequalities for doubling and A_p weights. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 83–99. (Kairat T. Mynbaev) **99g:41013** 41A17

Totok, A. A. Actions of Hopf algebras. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 149–160; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 147–157. (Vladimir A. Stukopin) **99d:16048** 16W30

Totoki, Yasushi (*with* Yada, Tetsushi; Asai, Kiyoshi[2]; Ishikawa, Masato) Generation of hidden Markov model describing complex motif in DNA sequences. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 750–767. 92D20

Touati, Abderrahmen (*with* Chaâbane, Faouzi; Maâouia, Faïza) Généralisation du théorème de la limite centrale presque-sûr pour les martingales vectorielles. (English and French summaries) [Generalization of the almost-sure central limit theorem for vectorial martingales] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 229–232. (Dominique Lépingle) **99i:60061** 60F15 (60F05, 60G42)

Toubassi, Elias (*with* Jarisch, Ralf; Mutzbauer, Otto) Characterizing a class of simply presented modules by relation arrays. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 5, 349–357. (Luigi Salce) **99i:13016** 13C13 (20K21)

Toubiana, Eric (*with* Rosenberg, Harold) Simply connected minimal surfaces in $\mathbf{R}^3$ transverse to horizontal planes. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 1, 89–100. (Yi Fang) **99e:53011** 53A10

Toubol, Alain High temperature regime for a multidimensional Sherrington-Kirkpatrick model of spin glass. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 4, 497–534. (Francis Comets) **99c:60218** 60K35 (82B44, 82D30)

Toueg, Sam (*with* Jayanti, Prasad; Chandra, Tushar Deepak) Fault-tolerant wait-free shared objects. (English summary) *J. ACM* **45** (1998), *no.* 3, 451–500. (Behrooz Parhami) **99g:68010** 68M07 (68Q10, 90B25)

— (*with* Aguilera, Marcos Kawazoe) Failure detection and randomization: a hybrid approach to solve consensus. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 890–902 (*electronic*). (Summary) **99h:68062** 68Q22 (68M15, 68Q10)

— (*with* Aguilera, Marcos Kawazoe; Chen, Wei[6]) Using the heartbeat failure detector for quiescent reliable communication and consensus in partitionable networks. (English summary) *Theoret. Comput. Sci.* **220** (1999), *no.* 1, 3–30. 68M15

Tougelidis, G. (*with* Simos, T. E.) New variable-step algorithms for computing eigenvalues of the one-dimensional Schrödinger equation. (English summary) *Comput. Mech.* **21** (1998), *no.* 4-5, 424–428. (Summary) **99c:81033** 81Q05 (81–08)

Tougeron, Jean-Claude Stabilité des applications différentiables (d'après J. Mather). [Stability of differentiable mappings (after J. Mather)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 336, 375–390, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 58C27

Touhami, N. (*with* Lagraa, M.) Lie-algebraic structure from inhomogeneous Hopf algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 5007–5014. (Władysław Marcinek) **99g:81093** 81R50 (16W30, 17B37)

Touhami, Sefiane (*with* Lobry, Claude; Sari, Tewfik) On Tykhonov's theorem for convergence of solutions of slow and fast systems. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 19, 22 *pp.* (*electronic*). (Antoine Delcroix) **99g:34108** 34D15 (03H05, 34E15)

Touhey, Pat Chaos: the evolution of a definition. *Irish Math. Soc. Bull. No.* 40 (1998), 60–70. (Frederick R. Marotto) **99h:58129** 58F13

Touihri, R. (*with* Ben Hadid, H.; Henry, Daniel) Effect of a constant and uniform magnetic field on Rayleigh-Bénard instabilities in cylindrical cavities. (English summary) *Advances in fluid mechanics, II (Udine, 1998)*, 161–170, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76E15 (76E25, 76W05)

Toulemonde, C. (*with* Gontier, C.) Sticking motions of impact oscillators. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 2, 339–366. (Summary) **99a:70035** 70K40 (70–08)

Toumazet, Frédéric (*with* Thibon, Jean-Yves; Wybourne, Brian G.) Symmetrized squares and cubes of the fundamental unirreps of $\mathrm{Sp}(2n, \mathbf{R})$. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1073–1086. (Veena Sharma) **99h:22020** 22E46 (20G05, 22E30, 81R05)

Toumazou, Vincent (*with* Frayssé, Valérie) A note on the normwise perturbation theory for the regular generalized eigenproblem. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 1, 1–10. (Summary) **99a:65048** 65F15

Toumi, Ahmed A well adapted approach to block-diagonalization of large scale systems. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 6, 553–570. (Summary) **99i:65084** 65L99

Toumi, I. (*with* Cortes, J.; Debussche, A.) A density perturbation method to study the eigenstructure of two-phase flow equation systems. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 463–484. (Jian-Ping Zhu) **99k:76099** 76M20 (76T05)

Tounissoux, D. (*with* Nicoloyannis, N.; Terrenoire, M.) Pertinence for a classification. (English summary) *Advances in data science and classification (Rome, 1998)*, 177–184, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Tounsi, Bahloul (*with* Amar, Makhlouf) Study of the Ince equation. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 1–8, *VSP, Utrecht*, 1998. (Summary) **99g:34002** 34A05 (70F05)

Touré, Alfred Le fibré unitaire et la variété des géodésiques du projectif complexe. (English and French summaries) [Unit tangent bundle and manifold of geodesics of complex projective space] *Afrika Mat.* (3) **9** (1998), 87–104. (O. Kowalski) **99c:53054** 53C30 (53C22)

Touré, Hamidou (*with* Maliki, Mohamed) Solution généralisée locale d'une équation parabolique quasi linéaire dégénérée du second ordre. (English and French summaries) [Local generalized solution of a second-order degenerate quasilinear parabolic equation] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 1, 113–133. (Marcelo M. Santos) **99k:35086** 35K55 (35B30, 35D05)

Touré, Saliou (*with* Kangni, Kinvi) Transformation de Fourier sphérique de type δ. (English and French summaries) [Spherical Fourier transform of type δ] *Ann. Math. Blaise Pascal* **3** (1996), *no.* 2, 117–133. (Krishnan Parthasarathy) **99c:22007** 22D10 (43A90)

Tourigny, Yves (*with* Hülsemann, Frank) A new moving mesh algorithm for the finite element solution of variational problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1416–1438 (*electronic*). (Beny Neta) **99f:65178** 65N30

Tourin, Agnès (*with* Zariphopoulou, Thaleia) Viscosity solutions and numerical schemes for investment/consumption models with transaction costs. *Numerical methods in*

finance, 245–269, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (N. H. Bingham) **99c:90023** 90A09 (65M06)

— (*with* Arisawa, Mariko) Regularizing effects for a class of first-order Hamilton-Jacobi equations. *Nonlinear Anal.* **29** (1997), *no.* 12, 1405–1419. (Martino Bardi) **99b:35020** 35F25 (49L20)

Tourky, Rabee A new approach to the limit theorem on the core of an economy in vector lattices. (English summary) *J. Econom. Theory* **78** (1998), *no.* 2, 321–328. (Summary) **99d:90036** 90A56

Tournour, Michel A. (*with* Atalla, Noureddine) A novel acceleration method for the variational boundary element approach based on multipole expansion. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 7, 1199–1214. (Summary) **99d:73097** 73V10 (73K12, 76Q05)

Tourrenc, Philippe ★ Relativity and gravitation. (English summary) Translated from the 1992 French original by Andrew King. *Cambridge University Press, Cambridge*, 1997. *xiv*+242 *pp. ISBN* 0-521-45685-1 (Jaume J. Carot) **99e:83001** 83-01 (83B05)

Tourrette, Loïc Artificial boundary conditions for the linearized compressible Navier-Stokes equations. II. The discrete approach. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 151–179. (Summary) **99e:76095** 76M25 (76N10)

Tourville, Suzanne Existence and uniqueness of solutions for a modified Navier-Stokes equation in $\mathbf{R}^2$. *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 97–121. (Vladimir V. Shelukhin) **99a:35206** 35Q30 (76D05)

Tousi, M. (*with* Dibaei, M. T.) The structure of dualizing complex for a ring which is (S_2). *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 503–516. (P. Schenzel) **99k:13020** 13D25

Toussaint, G. (*with* Asberg, B.; Blanco Viejo, Gregoria; Bose, Prosenjit; García López de Lacalle, Jesús; Overmars, Mark H.; Wilfong, Gordon; Zhu, Binhai) Feasibility of design in stereolithography. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 61–83. (Joos Heintz) **99c:65260** 65Y25 (65D17, 68U05, 68U07)

Tousset, Eric (*with* Lecomte, Pierre B. A.; Mathonet, Pierre) Comparison of some modules of the Lie algebra of vector fields. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 4, 461–471. (Sen Yue Lou) **99c:17038** 17B66 (58H15)

— (*with* Marichal, Jean-Luc; Mathonet, Pierre) Characterization of some aggregation functions stable for positive linear transformations. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 293–314. 90C70 (90C08)

Toutenburg, Helge (*with* Srivastava, Virendra Kumar) Estimation of regression coefficients subject to interval constraints. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 273–282. (Goetz Trenkler) **99k:62130** 62J05

— (*with* Trenkler, Götz) Using first differences as a device against multicollinearity. *Econometrics in theory and practice*, 131–135, *Physica, Heidelberg*, 1998. (Introduction) **99j:62147** 62P20 (62J05)

— (*with* Rao, Calyampudi Radhakrishna; Srivastava, Virendra Kumar) Pitman nearness comparisons of Stein-type estimators for regression coefficients in replicated experiments. (English summary) *Statist. Papers* **39** (1998), *no.* 1, 61–74. (Shyamal D. Peddada) **99g:62097** 62J05 (62C15)

Toutounian, Faezeh The exact convergence and divergence domains of the SOR methods for 4-cyclic matrices. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 555–564, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99a:65042** 65F10

— The stable $A^{\mathrm{T}}A$-orthogonal s-step Orthomin(k) algorithm with the CADNA library. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 105–119. (Summary) **99h:65058** 65F10 (65–04)

Touzani, Rachid (*with* Clain, Stéphane) Solution of a two-dimensional stationary induction heating problem without boundedness of the coefficients. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 7, 845–870. (J. M. H. Peters) **99f:35043** 35J60 (35K05, 80A20)

Touzene, Abderezak (*with* Benmaiza, Mohamed) One-to-all broadcast algorithm for constant degree 4 Cayley graphs. (English summary) *Parallel Comput.* **25** (1999), *no.* 3, 249–264. (Summary) **99k:68126** 68R10 (68M10)

Touzi, Nizar (*with* Florens, Jean-Pierre; Renault, Eric) Testing for embeddability by stationary reversible continuous-time Markov processes. (English summary) *Econometric Theory* **14** (1998), *no.* 6, 744–769. (Summary) **99h:62107** 62M05 (62P20)

— (*with* Hansen, Lars Peter; Scheinkman, José Alexandre) Spectral methods for identifying scalar diffusions. (English summary) *J. Econometrics* **86** (1998), *no.* 1, 1–32. (Yuzo Hosoya) **99m:62136** 62M10 (62P20)

Tovar, Francisco (*with* Paluszny, Marco; Patterson, Richard R.) G^2 composite cubic Bézier curves. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 49–71. (Bert Jüttler) **99m:65036** 65D17 (14H45, 53A04, 65Y25)

Tovar, Luis Manuel (*with* Aulaskari, Rauno) On the function spaces $\mathcal{B}^p$ and Q_q. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 203–208. (Summary) **99b:30054** 30D50

— (*with* Shapiro, M. V.) On a class of integral representations related to the two-dimensional Helmholtz operator. (English summary) *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 229–244, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Igor M. Mitelman) **99b:30064** 30G35 (35C15, 35J05)

Tovbis, Alexander (*with* Tsuchiya, Masa; Jaffé, Charles) Exponential asymptotic expansions and approximations of the unstable and stable manifolds of singularly perturbed systems with the Hénon map as an example. (English summary) *Chaos* **8** (1998), *no.* 3, 665–681. (Jürgen Scheurle) **99j:58189** 58F30 (34C37, 65Q05, 70K99)

— Erratum: "Homoclinic connections and numerical integration" [Numer. Algorithms **14** (1997), no. 1, 261–267; MR 98c:58153]. *Numer. Algorithms* **17** (1998), *no.* 3-4, 355. 65L06 (65D32)

— (*with* Gingold, Harry) Solutions of finitely smooth nonlinear singular differential equations and problems of diagonalization and triangularization. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 757–778 (*electronic*). (Donald A. Lutz) **99g:34114** 34E05 (34C99)

Tovey, Craig A. (*with* Klabjan, D.; Nemhauser, George L.) The complexity of cover inequality separation. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 35–40. (Anton Volgenant) **99k:90200** 90C60 (90C10)

Tovmasyan, N. E. (*with* Kosheleva, T. M.) The Riemann-Hilbert problem for second-order improper elliptic equations. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 3, 60–75; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 3, 52–66. (Summary) **99e:35043** 35J25

— (*with* Kosheleva, T. M.) Exterior boundary value problems for second-order elliptic equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 256–259, 287; *translation in Differential Equations* **34** (1998), *no.* 2, 260–263. (Summary) **99j:35038** 35J25

Tovstik, P. E. Axisymmetric deformation of thin shells of revolution made of a nonlinearly elastic material. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 660–673; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 639–651. (Summary) **99c:73052** 73K15 (73C50)

Towers, D. A. On modular* subalgebras of a Lie algebra. *J. Algebra* **190** (1997), *no.* 2, 461–473. (From the introduction) **99b:17038** 17B99

Towghi, Nasser Random Fourier series and absolute summability. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 749–765. (F. Móricz) **99i:42012** 42A61 (42A28)

— (*with* Javidi, B.; Li, Jerome) Decision regions of Fourier-plane nonlinear filtering for image recognition. (English summary) *J. Opt. Soc. Amer. A* **16** (1999), *no.* 1, 85–96. (Summary) **99j:78008** 78A10

Townley, Stuart (*with* Curtain, Ruth F.; Logemann, Hartmut; Zwart, H. J.) Well-posedness, stabilizability, and admissibility for Pritchard-Salamon systems. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 4, 38 *pp.* (*electronic*). (Joseph A. Ball) **99e:93040** 93C25 (93D15)

— (*with* Logemann, Hartmut) Adaptive control of infinite-dimensional systems without parameter estimation: an overview. (English summary) Distributed parameter systems: analysis, synthesis and applications, Part 2. *IMA J. Math. Control Inform.* **14** (1997), *no.* 2, 175–206. (Summary) **99f:93087** 93C40 (93–02, 93C25)

— (*with* Logemann, Hartmut; Ryan, E. P.) Integral control of infinite-dimensional linear systems subject to input saturation. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1940–1961 (*electronic*). (R. F. Datko) **99f:93078** 93C20 (93D15)

— (*with* Rebarber, Richard) Generalized sampled data feedback control of distributed parameter systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 229–240. (Vasile Drăgan) **99f:93081** 93C25 (93B52, 93C57)

— (*with* Logemann, Hartmut; Ryan, E. P.) Integral control of linear systems with actuator nonlinearities: lower bounds for the maximal regulating gain. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1315–1319. 93B51 (93D15)

— (*with* Rebarber, Richard) Robustness with respect to delays for exponential stability of distributed parameter systems. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 230–244 (*electronic*). (R. F. Datko) **99i:93061** 93D21 (34K20, 34K35, 93C20)

Townsend, Paul K. (*with* Cederwall, Martin) The manifestly SL(2; **Z**)-covariant superstring. (English summary) *J. High Energy Phys.* **1997**, *no.* 9, *Paper* 3, 9 *pp.* (*electronic*). (Sergey Nikolaevich Roshchupkin) **99a:81130** 81T30

— (*with* Claus, Piet; Van Proeyen, Antoine; Kallosh, Renata; Kumar, Jason) Conformal theory of M2, D3, M5 and "D1 + D5" branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 4, 27 *pp.* (*electronic*). (Sergey A. Cherkis) **99g:81154** 81T30 (83E30)

— (*with* Bergshoeff, E. A.) Super D-branes revisited. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 226–238. (Sergey Nikolaevich Roshchupkin) **99m:81173** 81T30 (83E30)

— M-branes at angles. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 88–92. (Summary) **99c:81213** 81T30

— M(embrane) theory on T^9. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 11–16. (C. Gauthier) **99h:81190** 81T30

— (*with* Bergshoeff, E. A.; Gomis, Joaquim) M-brane intersections from worldvolume superalgebras. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 109–118. (Mario Trigiante) **99d:81106** 81T30 (83E30)

— (*with* Gomis, Joaquim; Mateos, David; Simón, Joan) Brane-intersection dynamics from branes in brane backgrounds. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 231–236. (Summary) **99c:81182** 81T30

— (*with* Claus, Piet; Derix, Martijn; Kallosh, Renata; Kumar, Jason; Van Proeyen, Antoine) Black holes and superconformal mechanics. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 21, 4553–4556. (Gil De Oliveira-Neto) **99k:83063** 83C57 (83E30)

Towsley, Don (*with* Liu, Zhen[1]; Nain, Philippe) Exponential bounds with applications to call admission. (English summary) *J. ACM* **44** (1997), *no.* 3, 366–394. (Peter Gerrard Taylor) **99a:60105** 60K25 (68M20, 90B22)

— (*with* Zhang, Zhi Li[1]; Liu, Zhen[1]) Closed-form deterministic end-to-end performance bounds for the generalized processor sharing scheduling discipline. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 457–481. (Summary) **99d:68034** 68M20 (90B35)

Toyama, Yoshihito (*with* Aoto, Takahito) On composable properties of term rewriting systems. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 114–128, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (Summary) **99d:68131** 68Q42

— (*with* Aoto, Takahito) Persistency of confluence. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1134–1147 (*electronic*). (Summary) **99h:68096** 68Q42

— (*with* Aoto, Takahito) Termination transformation by tree lifting ordering. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 256–270, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99e:68078** 68Q42

— (*with* Sakai, Masahiko) Semantics and strong sequentiality of priority term rewriting systems. (English summary) Rewriting techniques and applications (New Brunswick, NJ, 1996). *Theoret. Comput. Sci.* **208** (1998), *no.* 1-2, 87–110. (Editors) **99h:68099** 68Q42

— *see also* **Symposium: Functional and Logic Programming**, **99g:68008**

Toyoda, Tadashi (*with* Takiuchi, Ken-ichi) Quantum field theoretical reformulation of the virial theorem. (English summary) *Phys. A* **261** (1998), *no.* 3-4, 471–481. (Summary) **99k:81350** 81V70 (81T99)

Toyoda, Toshiyuki Essay on Quételet and Maxwell: from la physique sociale to statistical physics. *Rev. Questions Sci.* **168** (1997), *no.* 3, 279–302. (Pierre Crépel) **99g:01025** 01A55

— History of the birth of information theory: the achievements of Satosi Watanabe. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 102–116. (*see* **99b:00018**) 01A70 (94–03, 94A15)

Toyoizumi, Hiroshi (*with* Shanthikumar, J. George; Wolff, Ronald W.) Block renewal processes and their application to modeling. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 53–67. (Summary) **99b:60163** 60K25 (90B22)

Tozhiev, T. Kh. (*with* Bakoev, M. T.) The Monte Carlo method for solving the Cauchy problem for the generalized equation of nonisotropic diffusion. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 15–23. 65C10 (65M06)

Traat, I. On the Cornish-Fisher expansion in finite population. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 35–41, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62E20 (62D05)

Trabucco, Juan C. (*with* Quiroz, Adolfo J.) Kolmogorov-Smirnov type statistics for testing multivariate normality. (English summary) *Publ. Mat. Urug.* **7** (1997), 67–82 (1998). (Hartmut Milbrodt) **99i:62109** 62G10 (62H15)

Trabucho, L. (*with* Chenais, D.; Mascarenhas, M. L.) On the optimization of nonperiodic homogenized microstructures. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 5, 559–597. (Dan Poliševski) **99j:73007** 73B27 (35B27, 49J45, 73K40)

— (*with* Monnier, Jérôme) Existence and uniqueness of a solution to an adaptive elasticity model. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 217–228. (Hilmi Demiray) **99e:73085** 73P20 (73B99, 73C99)

Tracas, N. D. (*with* Leontaris, G. K.) Modular weights, $U(1)$'s and mass matrices. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 206–210. (Summary) **99a:81201** 81V22 (81V17, 83E50)

Tracinà, R. (*with* Torrisi, M.) Equivalence transformations and symmetries for a heat conduction model. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 3, 473–487. (Summary) **99a:35262** 35Q99 (80A20)

Tracy, Craig A. (*with* Widom, Harold) On exact solutions to the cylindrical Poisson-Boltzmann equation with applications to polyelectrolytes. (English summary) *Phys. A* **244** (1997), *no.* 1-4, 402–413. (Vitor R. Vieira) **99h:82081** 82D99 (58F40, 81V55)

— (*with* Widom, Harold) Asymptotics of a class of solutions to the cylindrical Toda equations. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 697–721. (Spyridon Kamvissis) **99b:35205** 35Q99 (47G10, 47N20, 58F19)

— (*with* Widom, Harold) Correlation functions, cluster functions, and spacing distributions for random matrices. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 809–835. (Estelle L. Basor) **99m:82030** 82B44 (82B41)

Tracy, Derrick S. (*with* Osahan, Sukhminder S.) On the efficiency of determinant sampling. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 3, 385–394. (S. Gabler) **99b:62009** 62D05

— (*with* Singh, Housila Prasad; Singh, Rajesh[1]) A class of almost unbiased estimators for finite populations mean using two auxiliary variables. (English summary) *Biom. J.* **40** (1998), *no.* 6, 753–766. 62D05

— (*with* Singh, Housila Prasad) A modified ratio-cum-product estimator. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 201–212. (Summary) **99i:62017** 62D05

— (*with* Mangat, N. S.) Comparisons of distinct units based estimators in unrelated question randomized response model. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 229–240. 62D05

Traczyk, Paweł A new proof of Markov's braid theorem. *Knot theory* (*Warsaw*, 1995), 409–419, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (From the text) **99g:57015** 57M25

— *see also* **Knot theory, 99c:57002**

Trad, Ahmed (*with* Duvaut, Georges; Ouariri, Hassan) Nouvelle méthode de calcul de la diffraction en haute fréquence. (English and French summaries) [New method for calculating the diffraction field at high frequency] *Équations aux dérivées partielles et applications*, 481–496, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99g:76133** 76Q05 (76M25)

Träff, Jesper L. (*with* Zaroliagis, Christos D.) A simple parallel algorithm for the single-source shortest path problem on planar digraphs. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 183–194, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (Summary) **99h:68069** 68Q22 (05C85, 68R10)

Trager, Barry (*with* Gianni, Patrizia; Seppälä, Mika; Silhol, Robert) Riemann surfaces, plane algebraic curves and their period matrices. (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 789–803. (Gabino González Diez) **99m:14055** 14H40 (14H55, 30F10, 30F30, 30F35)

Tragoudas, Spyros (*with* Haralambides, James) Bipartitioning into overlapping sets. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 296–310 (*electronic*). (*see* **99f:68006**) 68R10 (68Q25)

Trahan, Jerry L. (*with* Bourgeois, Anu G.; Vaidyanathan, Ramachandran) Tighter and broader complexity results for reconfigurable models. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 271–282. (Summary) **99f:68019** 68M10

Trajdos, Marianna (*with* Korczak, Wiesława) ★ Wektory, pochodne, całki. (Polish. Polish summary) [Vectors, derivatives, integrals] Second edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 77 *pp. ISBN* 83-01-12440-7 26–01

Trajković, Miroslav (*with* Hedley, Mark) Recursive formulae for piecewise polynomial approximation of discrete functions. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 31–35. (Summary) **99g:65018** 65D15 (41A10)

Trajstman, A. C. Inference about the number of resident bacterial strains when sampling from plate colonies. (English summary) *Biom. J.* **40** (1998), *no.* 5, 533–542. 62P10

Trakhinin, Yu. L. (*with* Blokhin, A. M.; Merazhov, I. Z.) Investigation on stability of electrohydrodynamic shock waves. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 87–114 (1998). (V. D. Sharma) **99e:76125** 76W05 (35Q35, 76E25, 76L05)

— (*with* Blokhin, A. M.; Merazhov, I. Z.) On the stability of shock waves in a continuum with bulk charge. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 29–39. (Introduction) **99i:76081** 76L05 (76E99, 76W05)

— (*with* Blokhin, A. M.) Stability of fast parallel and transversal MHD shock waves in plasma with pressure anisotropy. (English summary) *Acta Mech.* **135** (1999), *no.* 1-2, 57–71. (Summary) **99m:76116** 76W05 (76E25, 76L05)

— (*with* Blokhin, A. M.) Stability of fast parallel MHD shock waves in polytropic gas. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 2, 197–211. (Summary) **99m:76117** 76W05 (76E25, 76E30, 76L05)

Trakhtenbrot, B. A. On the power of compositional proofs for nets: relationships between completenesses and modularity. *Fund. Inform.* **30** (1997), *no.* 1, 83–95. (Editors) **99a:68120** 68Q60 (68Q05, 68Q90)

Traldi, Lorenzo (*with* Rodriguez, Jose Antonio) (K, j)-domination and (K, j)-reliability. (English summary) *Networks* **30** (1997), *no.* 4, 293–306. (A. A. Chernyak and A. I. Adintsova) **99d:68199** 68R10 (05B35, 05C85, 68M15)

— Clutters and circuits. II. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 437–456. (Raul Cordovil) **99j:05048** 05B35

— Two universal reliability problems. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 199–204. (Summary) **99k:68149** 68R10

— A note on reliability and expected value. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 95–99. (*see* **99i:00023**) 05A05 (05B35)

Tralle, A. E. (*with* Andrzejewski, Wojciech) On solvmanifolds and a conjecture of Benson and Gordon from the Hamiltonian viewpoint. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 279–292. (John F. Oprea) **99j:53031** 53C15 (57S30, 58F05)

— *see also* **Homotopy and geometry, 99k:57001**

Tralli, A. (*with* Radi, E.; Bigoni, D.) On uniqueness for frictional contact rate problems. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 275–296. (Summary) **99j:73092** 73T05

Tran, H. T. (*with* Kottler, N. E.; Wessell, D. E.) A complete steady state model of solute and water transport in the kidney. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 6, 63–82. (Summary) **99m:92008** 92C35 (65L99)

Tran, Nicholas An easy case of sorting by reversals. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 83–89, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99a:68133** 68R05 (68P10)

Tran, Quoc-Nam A symbolic-numerical method for finding a real solution of an arbitrary system of nonlinear algebraic equations. (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 739–760. (Summary) **99h:65108** 65H10

Tran, T. A. (*with* Lu, Hong[1]; Pope, C. N.; Xu, K. W.) Classification of p-branes, NUTs, waves and intersections. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 98–154. (Jeremy Michelson) **99a:83067** 83E30 (81T30)

Tran, T. M. (*with* Brunner, S.; Fivaz, M.; Vaclavik, J.) Global approach to the spectral problem of microinstabilities in tokamak plasmas using a gyrokinetic model. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3929–3949. (Summary) **99h:76096** 76X05 (76E25)

Tran, Thanh (*with* Stephan, Ernst P.) Additive Schwarz methods for the h-version boundary element method. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 63–84. (Summary) **99a:65169** 65N38

— (*with* Maischak, Matthias; Stephan, Ernst P.) Domain decomposition methods for boundary integral equations of the first kind: numerical results. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 111–132. (Summary) **99c:65234** 65N55 (65N38)

— (*with* Stephan, Ernst P.; Zaprianov, Stefan) Wavelet-based preconditioners for boundary integral equations. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 233–249. (Andreas Rathsfeld) **99m:65229** 65N38 (45L05, 65F35, 65R20)

— (*with* Sloan, Ian H.) Tolerant qualocation—a qualocation method for boundary integral equations with reduced regularity requirement. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 1, 85–115. (Carsten Carstensen) **99f:65179** 65N30 (45L05, 65R20)

— (*with* Stephan, Ernst P.) Domain decomposition algorithms for indefinite hypersingular integral equations: the h and p versions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1139–1153 (*electronic*). (Summary) **99d:65356** 65N55

Tran, Thi Le *see* **Tran Thi Le**

Tranæs, Torben Tie-breaking in games of perfect information. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 1, 148–161. (Summary) **99c:90179** 90D40 (90A14)

— (*with* Groes, Ebbe; Jacobsen, Hans Jørgen; Sloth, Birgitte) Nash equilibrium with lower probabilities. (English summary) *Theory and Decision* **44** (1998), *no.* 1, 37–66. (Peter Borm) **99f:90195** 90D10

Trandafir, Romică On numerical simulation of Galton-Watson chains. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 125–130. 60J80

lê dũng tráng *see* **Lê Dũng Tráng**

Trangenstein, John (*with* Garaizar, Xabier) Adaptive mesh refinement and front-tracking for shear bands in an antiplane shear model. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 750–779 (*electronic*). (Summary) **99g:73055** 73E99 (65M55, 73V20)

Tran-Ngoc-Bich, Pascal (*with* Gawędzki, Krzysztof) Self-duality of the SL_2 Hitchin integrable system at genus 2. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 3, 641–670. (Francesco Bottacin) **99g:14011** 14D20 (14H60, 14K25, 58F07)

Tran-Ngoc Danh (*with* Daykin, David E.) Bezrukov-Gronau order is not optimal. *Rostock. Math. Kolloq.* **1997**, *no.* 50, 45–46. (Sergeĭ L. Bezrukov) **99h:05116** 05D05

— (*with* Daykin, David E.) Sets of 0, 1 vectors with minimal sets of subvectors. (English summary) *Rostock. Math. Kolloq.* **1997**, *no.* 50, 47–52. (Sergeĭ L. Bezrukov) **99h:05117** 05D05

pham Tran Nhu *see* **Pham Tran Nhu**

Tran Thi Le (*with* Nguyen, Van Nhan; Dinh Ngoc Thanh; Dang Duc Trong) A moment approach to some problems in heat conduction. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 148–153. (*see* **99i:00026**) 35R30 (35K05)

Tran Van Nhung (*with* Trinh Tuan Anh) Three species competition in periodic environment. *Acta Math. Vietnam.* **22** (1997), *no.* 2, 395–405. (Thomas C. Gard) **99b:34077** 34C25 (34C27, 34D45, 92D25)

Tran Van Trung (*with* Stinson, Douglas R.) Some new results on key distribution patterns and broadcast encryption. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 261–279. (Summary) **99i:94056** 94A60

Trần Vũ Thiệu (*with* Sinh, Tran Xuan) A new bounding technique in branch-and-bound algorithms for mixed integer programming. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 357–366. (Summary) **99h:90071** 90C11

Traoré, Sado (*with* Volle, Michel) Quasi-convex conjugation and Mosco convergence. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 369–388 (1996). (T. Zolezzi) **99b:49012** 49J45 (49N15)

Trapani, C. (*with* Epifanio, G.; Todorov, T. S.) Sets of compatible non-self-adjoint observables as examples of partial GW^* and von Neumann algebraic structures in a complex Hilbert space. (English summary) *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 165–176, *World Sci. Publishing, River Edge, NJ*, 1997. (Gerald Hofmann) **99e:46076** 46L10 (46L60, 47D40, 81Q10)

— (*with* Antoine, J.-P.; Bagarello, Fabio) Extension of representations in quasi *-algebras. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 2, 241–264. (W. Timmermann) **99i:47077** 47D40 (46L60, 47N50, 82B10)

Trapp, Heinz W. (*with* Reiffen, Hans-Jörg) ★ Einführung in die Analysis. (German. German summary) [Introduction to analysis] Differentiation und Integration. [Differentiation and integration] Osnabrücker Studien zur Mathematik. [Osnabrück Studies in Mathematics] *Universitätsverlag Rasch, Osnabrück*, 1999. *xii*+397 *pp. ISBN* 3-932147-89-8 26–01

Trapp, Rolland (*with* Chavez, J. D.) The cyclic cutwidth of trees. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 25–32. (Xue Liang Li) **99g:05053** 05C05 (05C10, 68R10, 90C35)

— (*with* Birman, Joan S.) Braided chord diagrams. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 1, 1–22. (Sergey S. Anisov) **99c:57010** 57M25 (55M25)

Trappmann, Henryk (*with* Ziegler, Günter M.) Shellability of complexes of trees. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 168–178. (Volker Strehl) **99f:05122** 05E25 (05C05, 57M15)

Traschen, Jennie (*with* Kastor, David) Very effective string model? (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4862–4869. (Summary) **99m:83188** 83E30 (81T30, 83C57)

— (*with* Dowker, Fay; Kastor, David) *U* duality, D-branes, and black hole emission rates: agreements and disagreements. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124025, 13 *pp.* (Summary) **99k:83118** 83E30 (83C57)

Trasler, S. A. (*with* Howls, C. J.) Weyl's wedges. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1911–1928. (Christian Grosche) **99f:81057** 81Q50

Traub, Joseph (*with* Hut, Piet; Ruelle, David) Varieties of limits to scientific knowledge. (English summary) *Complexity* **3** (1998), *no.* 6, 33–38. 00A30 (00A35)

rausch de Traubenberg, M. *see* **Rausch de Traubenberg, M.**

Traustason, Gunnar A note on supersoluble Fitting classes. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 1, 1–8. (Jian Hua Huang) **99a:20016** 20D10 (20F17)

— A constructive approach to Zel'manov's global nilpotency theorem for n-Engel Lie algebras over a field of characteristic zero. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 3, 317–326. (Vesselin Drensky) **99d:17015** 17B30 (17B01)

— On groups in which every subgroup is subnormal of defect at most three. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 397–420. (H. Heineken) **99d:20054** 20F18 (20E15, 20F12)

Trauth, K. A. (*with* Wierzbicki, T.; Atkins, A. G.) On diverging concertina tearing. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 4, 990–997. 73M25 (73K10)

Trautman, Andrzej (*with* Cahen, Michel; Gutt, Simone) Pin structures and the Dirac operator on real projective spaces and quadrics. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 391–399, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Hans-Bert Rademacher) **99d:58160** 58G03 (53A50, 58G25)

— Pythagorean spinors and Penrose twistors. *The geometric universe* (*Oxford*, 1996), 411–419, *Oxford Univ. Press, Oxford*, 1998. (Hans-Bert Rademacher) **99d:32041** 32L25 (15A66, 81R25)

— On complex structures in physics. (English summary) *On Einstein's path* (*New York*, 1996), 487–501, *Springer, New York*, 1999. (Andreas Bette) **99m:81105** 81R99 (15A66, 32C16)

Trautmann, Siegfried (*with* Korn, Ralf) Optimal control of option portfolios and applications. (English and German summaries) *OR Spektrum* **21** (1999), *no.* 1-2, 123–146. (Summary) **99j:90013** 90A09

Travaglini, Gabriele (*with* Bellisai, Diego) Instanton calculus and SUSY gauge theories on asymptotically locally Euclidean manifolds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025008, 6 *pp.* (Summary) **99m:81239** 81T60 (81T13, 81T20)

Travaglini, Giancarlo (*with* Brandolini, Luca; Colzani, Leonardo) Average decay of Fourier transforms and integer points in polyhedra. *Ark. Mat.* **35** (1997), *no.* 2, 253–275. (Driss Essouabri) **99e:42021** 42B08 (11P21, 42B10)

Traverso, Carlo (*with* Caboara, Massimo; Conti, Pasqualina) Yet another ideal decomposition algorithm. *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 39–54, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (From the introduction) **99c:13051** 13P10 (68Q40)

Traves, William N. Nakai's conjecture for varieties smoothed by normalization. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2245–2248. (Karen E. Smith) **99j:13021** 13N10 (16S32)

Travesset, A. (*with* Baez, S.; Balachandran, A. P.; Stern, Allen Bruce) Properties of quantum Hall skyrmions from anomalies. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 32, 2627–2635. (Summary) **99g:81236** 81V70 (81T50)

Travis, Betty Uniqueness of initial value problems. (English and Spanish summaries) *Divulg. Mat.* **5** (1997), *no.* 1-2, 39–41 (1998). (Oleg M. Odarich) **99g:34012** 34A12

— (*with* Navarro, Ramón) On Sturmian theory. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 479–483. (Summary) **99d:34051** 34C10

Trávníček, P. (*with* Tolar, J.) Graded contractions of sp(3, **R**). (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 343–357. (J. Lõhmus) **99c:81062** 81R05 (22E15)

Trdlička, Jan (*with* Rolim, José D. P.; Tvrdík, Pavel; Vrťo, Imrich) Bisecting de Bruijn and Kautz graphs. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 87–97. (Summary) **99a:05057** 05C20

Treatman, Stefan G. Euclidean systems. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 277–291. (David A. Clark) **99m:11129** 11R29 (13F07)

Trebels, W. (*with* Stokolos, A. M.) On the rate of almost everywhere convergence of Abel-Cartwright means on $L^p(\mathbf{R}^n)$. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 373–380. (U. B. Tewari) **99k:42017** 42B05 (41A58, 42B10)

— (*with* Liflyand, E. R.) On asymptotics for a class of radial Fourier transforms. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 103–114. (Eduard Belinskii) **99g:42011** 42B10

Trebeschi, Paola (*with* Bucur, Dorin) Shape optimisation problems governed by nonlinear state equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 945–963. (Sergei Pavlovich Ohezin) **99i:49048** 49Q10 (49J45)

Treder, Hans-Jürgen (*with* von Borzeszkowski, Horst-Heino) Classical gravity and quantum matter fields in unified field theory. (English summary) *Quantum gravity* (*Erice*, 1995), 32–42, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:83064** 83D05

— (*with* von Borzeszkowski, Horst-Heino) Mixed field theories and Weyl-Cartan geometry. (English summary) *Quantum gravity* (*Erice*, 1995), 43–53, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:83065** 83D05

— (*with* von Borzeszkowski, Horst-Heino) Implications of Mach's principle: dark matter and observable gravitons. *Causality and locality in modern physics* (*Toronto, ON*, 1997), 155–164, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (C. S. Sharma) **99m:83210** 83F05 (83C99)

— *see also* **Quantum gravity, 99f:83004**

Tredicce, J. R. (*with* Coullet, P.; Daboussy, D.) Optical excitable waves. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5347–5350. (Summary) **99g:78027** 78A60

Trefethen, Lloyd N. (*with* Jónsson, G. F.) A numerical analyst looks at the "cutoff phenomenon" in card shuffling and other Markov chains. (English summary) *Numerical analysis* 1997 (*Dundee*), 150–178, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Sergei A. Nemnyugin) **99i:65155** 65U05 (65F30)

— (*with* Driscoll, Tobin A.) Schwarz-Christoffel mapping in the computer era. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 533–542 (*electronic*). (N. Papamichael) **99i:30012** 30C30 (31A05, 65E05)

— (*with* Viswanath, D.) Condition numbers of random triangular matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 564–581 (*electronic*). (Summary) **99b:65061** 65F35 (15A12, 15A52, 65U05)

— (*with* Driscoll, Tobin A.; Toh, Kim-Chuan) From potential theory to matrix iterations in six steps. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 547–578 (*electronic*). (Andreas Rathsfeld) **99f:65049** 65F10 (31A99, 65N99)

— (*with* Toh, Kim-Chuan) The Chebyshev polynomials of a matrix. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 400–419 (*electronic*). (Vladimir B. Larin) **99m:15028** 15A60 (41A30)

Treiber, Dietmar Zur Kurvendiskussion der Potenzsummenpolynome. (German summary) [On the curve discussion of power sum polynomials] *Elem. Math.* **53** (1998), *no.* 3, 119–125. (L. Skula) **99m:11020** 11B68

Treibich, Armando (*with* Verdier, Jean-Louis) Au-delà des potentiels et revêtements tangentiels hyperelliptiques exceptionnels. (English and French summaries) [Beyond hyperelliptic potentials and exceptional hyperelliptic tangential covers] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1101–1106. (Emma Previato) **99a:14041** 14H52 (14H40, 14J26, 58F07)

— (*with* Verdier, Jean-Louis) Au delà des potentiels et revêtements tangentiels hyperelliptiques exceptionnels. (English and French summaries) [Beyond exceptional hyperelliptic tangential covers and potentials] *Publ. Mat. Urug.* **7** (1997), 83–90 (1998). 14H55

Treil', S. R. (*with* Nazarov, Fedor) The hunt for a Bellman function: applications to estimates for singular integral operators and to other classical problems of harmonic analysis. (Russian. Russian summary) *Algebra i Analiz* **8** (1996), *no.* 5, 32–162; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 5, 721–824. (Aleš Založnik) **99d:42026** 42B20 (45P05, 49L20)

— (*with* Nazarov, Fedor) The weighted norm inequalities for Hilbert transform are now trivial. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 7, 717–722. (B. Muckenhoupt) **99j:42010** 42A50 (44A15, 47B38)

— Unconditional bases of invariant subspaces of a contraction with finite defects. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1021–1054. (Dan Timotin) **99g:47018** 47A45 (30E05, 46B15, 47A15, 47A57)

— (*with* Nazarov, Fedor; Vol'berg, A. L.) Cauchy integral and Calderón-Zygmund operators on nonhomogeneous spaces. *Internat. Math. Res. Notices* **1997**, *no.* 15, 703–726. (Joan Verdera) **99e:42028** 42B20 (30E20, 47B38)

— (*with* Vol'berg, A. L.) Wavelets and the angle between past and future. (English summary) *J. Funct. Anal.* **143** (1997), *no.* 2, 269–308. (V. V. Peller) **99k:42073** 42C15 (47B38)

— (*with* Nazarov, Fedor; Vol'berg, A. L.) Weak type estimates and Cotlar inequalities for Calderón-Zygmund operators on nonhomogeneous spaces. *Internat. Math. Res. Notices* **1998**, *no.* 9, 463–487. (Javier Duoandikoetxea) **99f:42035** 42B20

Treinen, Ralf (*with* Dershowitz, Nachum) An on-line problem database. *Rewriting techniques and applications* (*Tsukuba*, 1998), 332–342, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68Q42

— (*with* Müller, Martin[2]; Niehren, Joachim) The first-order theory of ordering constraints over feature trees. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 432–443, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68101** 68S05 (03B70, 03D15, 03D35, 68T30)

— (*with* Backofen, Rolf) How to win a game with features. (English summary) International Conference on Constraints in Computational Logics (Munich, 1994). *Inform. and Comput.* **142** (1998), *no.* 1, 76–101. (B. H. Mayoh) **99c:68140** 68Q40 (03B25, 03B70)

— The first-order theory of linear one-step rewriting is undecidable. (English summary) Rewriting techniques and applications (New Brunswick, NJ, 1996). *Theoret. Comput. Sci.* **208** (1998), *no.* 1-2, 179–190. (From the introduction) **99j:68064** 68Q42 (03D05, 03D35)

Trejo Ortiz, Alejandro A. R. (*with* Fernández Anaya, Guillermo) Regular expression simplification. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 59–71. (*see* **99a:00035**) 68Q45 (68N20, 68Q40)

Trejos, Javier (*with* Murillo, Alex; Piza, Eduardo) Global stochastic optimization techniques applied to partitioning. (English summary) *Advances in data science and classification* (*Rome*, 1998), 185–190, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 90C15 (90C90)

Trelat, E. (*with* Bonnard, B.; Chyba, M.) Sub-Riemannian geometry, one-parameter deformation of the Martinet flat case. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 1, 59–76. (Anders Linnér) **99f:58056** 58E25 (93B29)

Treliński, Gustaw (*with* Dyrda, Kazimiera; Janicka-Żuk, Irena) Tadeusz Prucnal (1939–1998). (Polish) *Wiadom. Mat.* **34** (1998), 167–170. (Editors) **99m:01054** 01A70

Trell, Erik An alternative solution to Fermat's last theorem: infinite ascent in isotopic geometry. (English summary) *Hadronic J. Suppl.* **12** (1997), *no.* 2, 217–240. 11D41 (51N20)

— Isotopic proof and re-proof of Fermat's last theorem verifying Beal's conjecture. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 3, 299–318. 11D41

Trelles, O. (*with* Ceron, C.; Dopazo, J.; Zapata, E. L.; Carazo, J. M.) Parallel implementation of DNAml program on message-passing architectures. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 701–716. 92D20

Tremblay, Richard (*with* Fugère, B. J.) Generating functions related to pairs of inverse functions. (English summary) *Transform methods & special functions, Varna '96*, 484–495, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99k:33037** 33C45 (26A33)

Tremblay, S. (*with* Winternitz, Pavel) Solvable Lie algebras with triangular nilradicals. (English and French summaries) *J. Phys. A* **31** (1998), *no.* 2, 789–806. (Rolf Farnsteiner) **99i:17011** 17B30

Treml, Miroslav Some partitions of positive integers. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 267–271. (Summary) **99k:05015** 05A18

Trémon, Michel On the degree of polynomials connecting two idempotents of a Banach algebra. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 233–235. (Summary) **99f:46068** 46H05 (46L05)

Trenčevski, K. (*with* Kera, S.) One conjecture concerning the permutation products on manifolds. *Math. Balkanica (N.S.)* **12** (1998), *no.* 3-4, 425–429. 57S17

Trench, William F. Linear asymptotic equilibrium and uniform, exponential, and strict stability of linear difference systems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 261–267. (Summary) **99j:39016** 39A11

— (*with* Harris, Bennette; Krueger, Robert) Trench's canonical form for a disconjugate nth-order linear difference equation. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 55–71. (I. P. Stavroulakis) **99k:39016** 39A10 (39A12)

— Invertibly convergent infinite products of matrices. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 255–263. (K. Chandrasekhara Rao) **99m:40001** 40A20

Trenk, Ann N. (*with* Shull, Randy) Cliques that are tolerance digraphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 119–134. (Martin G. Everett) **99c:05087** 05C20 (06A07)

— (*with* Fiduccia, Charles M.; Scheinerman, Edward R.; Zito, Jennifer S.) Dot product representations of graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 113–138. (Michael Jacobson) **99c:05161** 05C75

Trenkler, Götz (*with* Ihorst, G.) A general investigation of mean square error matrix superiority in linear regression. (English and Italian summaries) *Statistica (Bologna)* **56** (1996), *no.* 1, 15–25. (Summary) **99m:62108** 62J07 (62C15)

— (*with* Groß, Jürgen) On the equality of usual and Amemiya's partially generalized least squares estimator. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2075–2086. (I. S. Alalouf) **99c:62178** 62J05

— (*with* Groß, Jürgen) When do linear transforms of ordinary least squares and Gauss-Markov estimator coincide? (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 2, 175–178. (Summary) **99i:62144** 62J05

— (*with* Toutenburg, Helge) Using first differences as a device against multicollinearity. *Econometrics in theory and practice*, 131–135, *Physica, Heidelberg*, 1998. (Introduction) **99j:62147** 62P20 (62J05)

— (*with* Groß, Jürgen) On the equality of linear statistics in general Gauss-Markov model. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 189–194, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62J05

— (*with* Groß, Jürgen; Liski, Erkki P.) Necessary and sufficient conditions for superiority of misspecified restricted least squares regression estimator. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 109–116. (R. Kala) **99m:62100** 62J05

— (*with* Groß, Jürgen) On the product of oblique projectors. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 3, 247–259. (Summary) **99j:15023** 15A27 (15A09)

— On the eigenvalues of 3×3 magic squares. *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 2, 307–308. 15A18

— (*with* Groß, Jürgen; Troschke, Sven-Oliver) On semi-orthogonality and a special class of matrices. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 169–182. (R. Kala) **99m:15013** 15A24 (15A03, 15A63, 62J05)

Trenogin, Vladilen A. Invertibility of nonlinear operators and parameter continuation method. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 189–197, *Plenum, New York*, 1998. (Summary) **99d:47067** 47H15 (47H12)

— Lyusternik's theorem and the best parametrization of solutions of nonlinear equations. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 87–90; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 68–71. (Ulrich Kosel) **99e:47087** 47H15 (58E07)

Trent, T. T. (*with* Moore, Robert Laurens) Interpolation in inflated Hilbert spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 499–507. (Victor Kaftal) **99c:47067** 47D25

Trentelman, H. L. (*with* Willems, Jan C.) Every storage function is a state function. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 249–259. (Eduardo Aranda-Bricaire) **99a:93050** 93C15 (93A30, 93C05)

— (*with* Willems, Jan C.) On quadratic differential forms. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1703–1749 (*electronic*). (Kevin A. Grasse) **99i:93005** 93A10 (93B25, 93D20)

Trepode, S. (*with* Gastaminza, S.; de la Peña, José Antonio; Platzeck, María Inés; Redondo, María Julia) Finite-dimensional algebras with vanishing Hochschild cohomology. *J. Algebra* **212** (1999), *no.* 1, 1–16. (Thierry Lambre) **99m:16009** 16E40 (16G20)

Trépreau, Jean-Marie (*with* Cordaro, Paulo D.) On the solvability of linear partial differential equations in spaces of hyperfunctions. *Ark. Mat.* **36** (1998), *no.* 1, 41–71. (Min You Qi) **99d:35006** 35A07 (35D05, 46F15, 58G07)

Treschev, D. *see* **Treshchëv, Dmitriĭ V.**

Treschev, Dmitry *see* **Treshchëv, Dmitriĭ V.**

Treschev, Dmitry V. *see* **Treshchëv, Dmitriĭ V.**

Tresguerres, Romualdo (*with* Macías, Alfredo; Mielke, Eckehard W.; Morales-Técotl, Hugo A.) Torsion and non-metricity in metric-affine gravity. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 494–501, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83D05

— (*with* Tiemblo, Alfredo) Invariant foliation of dynamical spacetimes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 2, 239–262. (Charles G. Torre) **99h:53103** 53C80 (53C50, 83C05)

— (*with* Barbero G., J. Fernando; Tiemblo, Alfredo) Husain-Kuchař model: time variables and nondegenerate metrics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6104–6112. (Summary) **99m:83010** 83C05

Treshchëv, Dmitriĭ V. Splitting of separatrices from the point of view of symplectic geometry. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 890–906; *translation in Math. Notes* **61** (1997), *no.* 5-6, 744–757. (Vassili G. Gelfreich) **99e:58079** 58F05 (34C37, 58F15, 70H05)

— (*with* Pronin, Andrei V.) On the inclusion of analytic maps into analytic flows. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 14–24. (Iskander A. Taimanov) **99i:58131** 58F25 (58F05)

— Dynamics in a neighborhood of separatrices of an area-preserving map. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 3–15, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Vassili G. Gelfreich) **99h:58138** 58F15 (34C37, 58F30)

— Closures of asymptotic curves in a two-dimensional symplectic map. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 3, 305–314. (Ernest Fontich) **99h:58139** 58F15 (34C35, 34C37, 58F20)

— Width of stochastic layers in near-integrable two-dimensional symplectic maps. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 21–43. (Tere M. Seara) **99m:58167** 58F30 (34C35)

— (*with* Bolotin, Sergei V.) Unbounded growth of energy in nonautonomous Hamiltonian systems. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 365–388. (Ugo C. Bessi) **99m:58086** 58F05 (34C99, 58F27, 70H05)

Treskov, Yu. P. (*with* Silva, Geraldo Nunes; Tsurkov, V. I.) The hierarchical model of the branch planning with random coefficients. (English summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 4, 118–126. 90C20 (90A11, 93A13)

Tresser, Charles (*with* Brucks, K.; Galeeva, R.; Mumbrú, Pere; Rockmore, Daniel N.) On the $*$-product in kneading theory. (English summary) *Fund. Math.* **152** (1997), *no.* 3, 189–209. (Summary) **99c:54055** 54H20

— (*with* Hu, Jun^2) Period doubling, entropy, and renormalization. (English summary) *Fund. Math.* **155** (1998), *no.* 3, 237–249. (Joan Carles Tatjer) **99j:58142** 58F13 (58F03, 58F11)

Tretiakov, Grigori L. *see* **Tret'yakov, G. L.**

Tretter, Christiane (*with* Langer, Heinz) Spectral properties of the Orr-Sommerfeld problem. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1245–1261. (Hendrik S. V. de Snoo) **99e:34119** 34L10 (47E05, 76E05)

— (*with* Langer, Heinz) Spectral decomposition of some nonselfadjoint block operator matrices. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 339–359. (Vladimir Derkach) **99d:47004** 47A10 (34B05, 47B25)

— *see also* **Differential and integral operators**, **99d:47001** *and* **Recent progress in operator theory**, **99d:47002**

Tretyak, A. I. Chronological calculus, high-order necessary conditions for optimality, and perturbation methods. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 1, 77–126. (Summary) **99j:49043** 49K15 (34H05, 49J15, 93B29)

Tret'yakov, A. A. (*with* Malozëmov, V. N.; Pevnyĭ, A. B.) A fast wavelet transform for discrete periodic signals and images. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 77–85; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 161–168. (Summary) **99h:94008** 94A11 (65T20)

— (*with* Izmailov, Alekseĭ Feridovich) On the application of nonsmooth optimization methods for solving nonlinear operator equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1452–1460. (C. Ilioi) **99m:65120** 65J15 (47H17, 90C30)

Tret'yakov, G. L. (*with* Kibzun, A. I.) On the smoothness of the criterial function in the quantile optimization problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 9, 69–80; *translation in Automat. Remote Control* **58** (1997), *no.* 9, *part* 1, 1459–1468 (1998). (Summary) **99c:90083** 90C15

— New approximation approach for stochastic programming problems with probability function. *Operations Research Proceedings* 1997 (*Jena*), 206–211, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C15

Tretyakova, Nina N. Multidimensional integral transformations of Fourier type. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 2, 30–36, 124. (Summary) **99c:43005** 43A30 (22E45, 43A65)

— Resulting functions of some Lie groups and their applications. *Panamer. Math. J.* **7** (1997), *no.* 4, 1–11. (A. M. Gavrilik) **99f:33018** 33C80 (22E46, 33C45)

— Integral transforms connected with the group representations. (English summary) *Transform methods & special functions, Varna '96*, 496–501, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 26A33 (33C80, 44A05)

Treu, Giulia An existence result for a class of non-convex problems of the calculus of variations. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 31–44. (Baisheng Yan) **99g:49004** 49J10

— (*with* Celada, Pietro; Perrotta, Stefania) Existence of solutions for a class of nonconvex minimum problems. *Math. Z.* **228** (1998), *no.* 1, 177–199. (Bernhard Kawohl) **99b:49002**

49J10 (49J45, 49Q10)

Treumann, Rudolf A. Kinetic theoretical foundation of Lorentzian statistical mechanics. (English summary) *Phys. Scripta* **59** (1999), *no.* 1, 19–26. (Summary) **99i:82035** 82C40

— Generalized-Lorentzian thermodynamics. (English summary) *Phys. Scripta* **59** (1999), *no.* 3, 204–214. (Summary) **99m:80007** 80A10

Treves, Alessandro *see* **Conference: General Relativity and Gravitational Physics, 99e:83002**

Trèves, François Thèse d'Hörmander. I. (French summary) [Hörmander's thesis. I] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 130, 323–332, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 35Exx

— Thèse d'Hörmander. II. (French summary) [Hörmander's thesis. II] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 135, 371–379, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 35Exx

soto-Treviño, C. *see* **Soto-Treviño, C.**

Treviño, George (*with* Andreas, Edgar L.) Detrending turbulence time series with wavelets. (English summary) *Current topics in nonstationary analysis* (*San Diego, CA*, 1995), 35–73, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:86011** 86A10 (42C15, 62M10, 76F99)

— *see also* **Current topics in nonstationary analysis, 99g:60003**

Trevisan, Luca Approximating satisfiable satisfiability problems [extended abstract]. (English summary) *Algorithms—ESA '97* (*Graz*), 472–485, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68Q25 (68Q15)

— (*with* Rolim, José D. P.) A case study of de-randomization methods for combinatorial approximation algorithms. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 319–334, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Nikolay N. Ivanov) **99h:90067** 90C09 (68Q25, 90C10, 90C27)

— (*with* Serna, Maria José; Xhafa, Fatos) The (parallel) approximability of non-Boolean satisfiability problems and restricted integer programming. (English summary) *STACS 98* (*Paris*, 1998), 488–498, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 90C10 (90C27)

— Parallel approximation algorithms by positive linear programming. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 72–88. (Summary) **99a:90130** 90C05 (68Q25, 90C08)

— (*with* Clementi, Andrea E. F.; Rolim, José D. P.) Recent advances towards proving P=BPP. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 64 (1998), 96–103. (Summary) **99b:68081** 68Q15 (03D15)

— (*with* Rolim, José D. P.) A case study of de-randomization methods for combinatorial approximation algorithms. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 219–236. (Summary) **99k:90138** 90C27 (90C15)

— (*with* Xhafa, Fatos) The parallel complexity of positive linear programming. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 4, 527–533. (Klaus Meer) **99m:90161** 90C60 (90C05)

Trevisan, Vilmar (*with* Jacobs, David P.) Constructing the characteristic polynomial of a tree's adjacency matrix. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 139–145. (Summary) **99j:05138** 05C50 (05C05)

ton that Tri *see* **Ton That Tri**

Tri, Nguyen Dinh *see* **Nguyễn Đình Trí**

Tri, Ton That *see* **Ton That Tri**

Triantafyllidis, N. (*with* Scherzinger, W.) Asymptotic analysis of stability for prismatic solids under axial loads. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 6, 959–1007. (Summary) **99b:73027** 73H05 (73E99, 73K05)

Triantafyllou, George S. (*with* Shen, Lian[1]; Zhang, Xiang; Yue, Dick K. P.) The surface layer for free-surface turbulent flows. (English summary) *J. Fluid Mech.* **386** (1999), 167–212. 76M25 (76F99)

Tribe, Roger (*with* Mueller, Carl Eric) Finite width for a random stationary interface. (English summary) *Electron. J. Probab.* **2** (1997), *no.* 7, 27 *pp.* (*electronic*). (Richard B. Sowers) **99g:60106** 60H15 (35R60)

— (*with* Adler, Robert J.) Uniqueness for a historical SDE with a singular interaction. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 515–533. (Luis G. Gorostiza) **99g:60181** 60K35 (60G57, 60H20, 60J80)

Tribouley, Karine (*with* Viennet, Gabrielle) $\mathbf{L}_p$ adaptive density estimation in a β mixing framework. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 2, 179–208. (José Rafael León) **99d:62043** 62G05

Tribuzy, Renato (*with* Gutierrez, Carlos; Guadalupe, Irwen; Guíñez, Víctor) Lines of curvature on surfaces immersed in $\mathbf{R}^4$. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 233–251. (Ronaldo Alves Garcia) **99b:53011** 53A07

— (*with* Eschenburg, J.-H.) Associated families of pluriharmonic maps and isotropy. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 295–310. (Anne-Joëlle Vanderwinden) **99i:58038** 58E20 (53C35, 53C42)

Trick, Michael A. (*with* Chandru, Vijaya) The search for optimal Lagrange multipliers. (English summary) *J. Indian Inst. Sci.* **78** (1998), *no.* 2, 131–151. (Guntram Scheithauer) **99k:90128** 90C27 (90C35)

— (*with* Mehrotra, Anuj) Cliques and clustering: a combinatorial approach. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 1, 1–12. (Summary) **99b:90148** 90C35 (05C90)

Tričković, Ivana Transformation of the state diagram of the unified modeling language into a Petri nets model. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 187–195. 68Q90

Tričković, Slobodan B. (*with* Ilić, Snežana M.) A family of simultaneous methods for finding zeros of analytic functions. (English summary) *Filomat No.* 11 (1997), 41–47. (Summary) **99b:65067** 65H05 (30C15)

— (*with* Petković, Ljiljana D.; Petković, Miodrag S.) Slope methods of higher order for the inclusion of complex roots of polynomials. (English summary) *Reliab. Comput.* 3 (1997), *no.* 4, 349–362. (De Ren Wang) **99c:65093** 65G10 (65H05)

— (*with* Stanković, Miomir S.; Danković, Bratislav M.) Some inequalities involving harmonic numbers. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 493–498, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99c:26019** 26D15 (05A20, 11B68)

— (*with* Petković, Miodrag S.; Herceg, Djordje) On Euler-like methods for the simultaneous approximation of polynomial zeros. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 295–315. (Iliya Makrelov) **99e:65088** 65H05 (30C15)

— (*with* Petković, Miodrag S.; Herceg, Djordje) Higher order Euler-like methods. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 129–136. (Nikolay Vesselinov Kyurkchiev) **99j:65090** 65H05

Triebel, Hans ★ Fractals and spectra. Related to Fourier analysis and function spaces. Monographs in Mathematics, 91. *Birkhäuser Verlag, Basel*, 1997. viii+271 *pp. ISBN* 3-7643-5776-2 (P. Szeptycki) **99b:46048** 46E35 (28A80, 35Sxx, 46N20, 47G30)

— Gaussian decompositions in function spaces. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 174–184. (B. S. Rubin) **99g:46046** 46E35 (46F05)

Trieling, R. R. (*with* van Heijst, GertJan F.) Kinematic properties of monopolar vortices in a strain flow. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 6, 319–341. (Summary) **99g:76023** 76C05 (76–05, 76V05)

— (*with* Linssen, A. H.; van Heijst, GertJan F.) Monopolar vortices in an irrotational annular shear flow. (English summary) *J. Fluid Mech.* **360** (1998), 273–294. (Summary) **99a:76029** 76C05 (76–05, 86A05, 86A10)

Trif, Damian (*with* Petrila, Titus) Numerical alternative method scheme for Burgers' equation. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 87–96. (Dennis C. Jespersen) **99c:65188** 65M70 (65N35)

— (*with* Mureşan, Viorica) Newton's method for nonlinear differential equations with linear deviating argument. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 89–95. (Introduction) **99f:65105** 65L05 (34K05)

— (*with* Petrila, Titus) An improved viscous step for a Navier-Stokes algorithm in complex geometries. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 311–318. (Timothy Nigel Phillips) **99j:76097** 76M25 (65M99, 76D05)

— On sinc methods for evolution equations. (English summary) Modern applied analysis (Ilieni, 1997). *Pure Math. Appl.* **9** (1998), *no.* 1-2, 233–240. (Summary) **99k:76119** 76M25 (65M99, 76D05)

Trif, Tiberiu Singularities and equicontinuity of certain families of set-valued mappings. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 353–365. (Summary) **99j:46092** 46N10 (47H04, 49J52, 54C60)

Triffet, T. (*with* Green, H. S.) ★ Sources of consciousness. The biophysical and computational basis of thought. Advanced Series in Neuroscience, 5. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. viii+358 *pp. ISBN* 981-02-2921-6 (A. Rapoport) **99b:92068** 92J10 (92J30)

— (*with* Green, H. S.) Modelling the brain processes of conscious states. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 8, 27–38. 92J10

Trifogli, C. Focal loci of algebraic hypersurfaces: a general theory. (English summary) *Geom. Dedicata* **70** (1998), *no.* 1, 1–26. (A. Sinan Sertöz) **99b:14045** 14J70 (14N05)

Trifonov, D. A. Robertson intelligent states. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 5941–5957. (J.-P. Antoine) **99b:81027** 81P15 (81R30)

— Barut-Girardello coherent states for $\mathrm{u}(p,q)$ and $\mathrm{sp}(N,\mathbf{R})$ and their macroscopic superpositions. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5673–5696. (Apostolos Vourdas) **99j:81063** 81R30

Trifonov, S. I. Cyclicity of elementary polycycles of generic smooth vector fields. (Russian) *Tr. Mat. Inst. Steklova* **213** (1997), *Differ. Uravn. s Veshchestv. i Kompleks. Vrem.*, 152–212. (Pavao Mardešić) **99i:58115** 58F14 (34C05, 34C23, 58F21)

Triggiani, Roberto An abstract setting for differential Riccati equations in optimal control problems for hyperbolic/Petrowski-type P.D.E.'s with boundary control and slightly smoothing observation. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 435–484. (Summary) **99i:49023** 49K20 (35B37, 47N20)

— Carleman estimates and exact boundary controllability for a system of coupled non-conservative Schrödinger equations. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 453–504 (1997). (Elaine Machtyngier) **99a:93052** 93C20 (35Q55, 93B05)

— (*with* Lasiecka, Irena; Yao, Peng-Fei) Exact controllability for second-order hyperbolic equations with variable coefficient-principal part and first-order terms. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 111–122. (Florin Iacob) **99a:35158** 35L10 (35B37, 93B05, 93C20)

— (*with* Lasiecka, Irena) Analyticity, and lack thereof, of thermo-elastic semigroups. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 199–222 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Birgit Jacob) **99m:35243** 35Q72 (47D06, 49Q20, 73B30, 93C20)

— (*with* Chang, Sung Kag) Spectral analysis of thermo-elastic plates with rotational forces. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 84–115, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (R. Kodnár) **99g:35126** 35Q72 (73B30, 73D30, 73K10, 73K50, 93C20)

— (*with* Chang, Sung Kag; Lasiecka, Irena) Finite element compensators for thermoelastic systems with boundary controls and point observations. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 115–130. (Kirsten Anna Morris) **99h:73007** 73B30 (65N30, 73K50, 73V05, 93C20)

Trigiante, Donato Multipoint methods for linear Hamiltonian systems. *Advances in nonlinear dynamics*, 335–348, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (B. M. Herbst) **99i:34022** 34A45 (34B05, 65L99)

— (*with* Brugnano, Luigi) ★ Solving differential problems by multistep initial and boundary value methods. (English summary) Stability and Control: Theory, Methods and Applications, 6. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *xvi*+418 *pp. ISBN* 90-5699-107-8 (Iulian Coroian) **99m:65001** 65–02 (34A09, 34A45, 34B15, 65Lxx)

— (*with* Brugnano, Luigi) Parallel implementation of block boundary value methods on nonlinear problems: theoretical results. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 127–141. (Ram Krishan Sharma) **99k:65060** 65L10 (65Y99)

— (*with* Brugnano, Luigi) Boundary value methods: the third way between linear multistep and Runge-Kutta methods. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 269–284. (Summary) **99i:65071** 65L06

— On a system of difference equations arising in the cyclic reduction. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 369–384. (Summary) **99b:65057** 65F30 (39A10, 39A11)

Trigiante, Mario (*with* Andrianopoli, Laura; D'Auria, Riccardo; Ferrara, Sergio; Fré, Pietro) R-R scalars, U-duality and solvable Lie algebras. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 617–629. (Summary) **99f:81140** 81T30 (81R05)
— (*with* Andrianopoli, Laura; D'Auria, Riccardo; Ferrara, Sergio; Fré, Pietro) $E_{7(7)}$ duality, BPS black-hole evolution and fixed scalars. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 463–518. (Krzysztof Galicki) **99e:83061** 83E50 (81T60, 83C57, 83E30)
Triginer, J. (*with* Sussman, Roberto A.) Exact solutions of Einstein's equations with ideal gas sources. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 167–187. (Giulio Magli) **99m:83038** 83C15 (83C20, 83C55)
Trigos-Arrieta, F. Javier (*with* Comfort, W. W.; Soundararajan, T.) Determining a weakly locally compact group topology by its system of closed subgroups. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 248–261, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Dieter Remus) **99d:22002** 22A05 (22D05, 54H11)
— (*with* Tomita, Artur Hideyuki) Suitable sets in products of topological groups and in groups equipped with the Bohr topology. (English summary) *Abelian groups, module theory, and topology (Padua, 1997)*, 389–402, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Ljubiša Kočinac) **99m:22002** 22A05 (03E50, 22A10, 22B05, 54D30, 54D65, 54H11)
Trigub, R. M. The Fourier transformation and its applications. (Russian) *Mathematics today '94, No. 9 (Ukrainian)*, 8–40, "*Vishcha Shkola*", *Kiev*, 1995. (*see* **99a:00016**) 42A38
— A generalization of the Euler-Maclaurin formula. (Russian) *Mat. Zametki* **61** (1997), *no.* 2, 312–316; *translation in Math. Notes* **61** (1997), *no.* 1-2, 253–257. (Elijah Liflyand) **99d:42006** 42A16 (40A25, 42A20)
— On the approximation of functions by polynomials with positive coefficients. (English summary) *East J. Approx.* **4** (1998), *no.* 3, 379–389. (A. B. Pevnyĭ) **99h:41012** 41A10 (41A29)
Trigub, S. G. (*with* Kozachenko, Yu. V.) Application of the Fourier method to boundary value problems with random initial conditions. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 72–81; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 77–86. (A. Ya. Olenko) **99e:35249** 35R60 (35L20, 60G35)
Trihan, Fabien Fonction L unité d'un groupe de Barsotti-Tate. (English summary) [Unit L-function of a Barsotti-Tate group] *Manuscripta Math.* **96** (1998), *no.* 4, 397–419. (Abdellah Mokrane) **99k:14036** 14F30 (14G10)
Trillas, E. (*with* Castro, J. L.) The logic of neural networks. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 23–37. (Summary) **99c:03032** 03B50 (68T05, 92B20)
Trillo, Stefano (*with* Bang, Ole; Kivshar, Yu. S.; Buryak, Alexander V.; De Rossi, Alfredo) Two-dimensional solitary waves in media with quadratic and cubic nonlinearity. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5057–5069. (Summary) **99h:78023** 78A60 (35Q51)
Trîmbiţaş, R. Adjunctions and data collections. (English summary) *Stud. Univ. Babeş-Bolyai Inform.* **1** (1996), *no.* 1, 81–92. (Summary) **99b:68059** 68P15
Trimèche, Khélifa ★ Generalized wavelets and hypergroups. (English summary) *Gordon and Breach Science Publishers, Amsterdam*, 1997. xii+354 *pp. ISBN* 90-5699-080-2 (A. Schwartz) **99h:43014** 43A62 (33C80, 42C15)
— (*with* Ben Salem, N.) Mehler integral transforms associated with Jacobi functions with respect to the dual variable. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 691–720. (S. P. Goyal) **99a:44003** 44A15
— (*with* Jaafar, L.) Wavelets on the product of Euclidean hypergroup and Chébli-Trimèche hypergroup. *Functional analysis*, 203–220, *Narosa, New Delhi*, 1998. (Gerald B. Folland) **99k:43007** 43A62 (42C15)
— Wavelets on hypergroups. (English summary) *Harmonic analysis and hypergroups (Delhi, 1995)*, 183–213, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Walter R. Bloom) **99b:43005** 43A62 (42A38, 43A15, 43A32)
— (*with* Ben Salem, N.) Results on the Jacobi functions with respect to the dual variable as eigenfunctions and applications. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 2, 56–61. (J. P. Singhal) **99g:33018** 33C45 (39A70, 44A15)
— (*with* Mourou, Mohamed Ali) Calderón's formula associated with a differential operator on $(0, \infty)$ and inversion of the generalized Abel transform. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 229–245. (Margit Rösler) **99j:43002** 43A32 (42C15, 43A62)
— (*with* Lazhari, M. N.; Rachdi, L. T.) Asymptotic expansion and generalized Schläfli integral representation for the eigenfunction of a singular second-order differential operator. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 263–292. (Christiane Tretter) **99a:34225** 34L20 (33C45, 34B30, 34E05)
— (*with* Mourou, Mohamed Ali) Calderón's reproducing formula associated with the Bessel operator. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 97–109. (B. S. Rubin) **99b:42047** 42C99
— (*with* Nessibi, M. M.; Rachdi, L. T.) The local central limit theorem on the product of the Chébli-Trimèche hypergroup and the Euclidean hypergroup $\mathbf{R}^n$. (English summary) *J. Math. Sci. (Calcutta)* **9** (1998), *no.* 2, 109–123. (Michael Voit) **99m:60017** 60B15 (43A62, 60F05)
— (*with* Mourou, Mohamed Ali) Inversion of the Weyl integral transform and the Radon transform on $\mathbf{R}^n$ using generalized wavelets. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 73–83. (David F. Walnut) **99k:44004** 44A12 (42B10)
Trinajstić, Nenad (*with* Pogliani, Lionello; Randić, Milan) Much ado about nothing—an introductive inquiry about zero. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 729–744. (Summary) **99e:01038** 01A99 (00A30, 00A99)
Trinchero, R. (*with* Montani, H.) Quantum mechanics over a q-deformed $(0+1)$-dimensional superspace. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4173–4182. (Summary) **99d:81043** 81Q60 (81R50)
— (*with* Coquereaux, Robert; García, A. O.) Finite-dimensional quantum group covariant differential calculus on a complex matrix algebra. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 221–232. (Adriana M. Criscuolo) **99j:58018** 58B30 (17B37, 81R50)
Trinh Tuan Anh (*with* Tran Van Nhung) Three species competition in periodic environment. *Acta Math. Vietnam.* **22** (1997), *no.* 2, 395–405. (Thomas C. Gard) **99b:34077** 34C25 (34C27, 34D45, 92D25)
— On the almost periodic n-competing species problem. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 35–48. (Alan R. Hausrath) **99f:34069** 34C27 (34D05, 92D40)
Trinidad Menárguez, M. *see* **Menárguez, M. Trinidad**
Trione, Susana Elena (*with* Aguirre Téllez, Manuel Antonio; Cerutti, Rubén Alejandro) Tables of Fourier, Laplace and Hankel transforms of n-dimensional generalized functions. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 3, 235–284. (Gopi Ahuja) **99b:46062** 46F12 (44A10)
— The integral representation of the Riesz kernel $W_a(u, m)$. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 171–174. (Khélifa Trimèche) **99m:47059** 47G10 (46N20)
Tripathi, Anand (*with* Day, Khaled) Characterization of parallel paths in arrangement graphs. (English and Arabic summaries) *Kuwait J. Sci. Engrg.* **25** (1998), *no.* 1, 35–49. (Summary) **99f:05113** 05C90 (68R10)
Tripathi, Gautam A matrix extension of the Cauchy-Schwarz inequality. (English summary) *Econom. Lett.* **63** (1999), *no.* 1, 1–3. 26A15 (15A45)
Tripathi, L. M. (*with* Tripathi, V. N.; Pandey, S. B.) On the degree of approximation to a function by triangular matrix of its Legendre series. (English summary) *Bull. Calcutta Math. Soc.* **90** (1998), *no.* 3, 205–210. 41A25
Tripathi, Mukut Mani Almost semi-invariant submanifolds of trans-Sasakian manifolds. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 225–245. (Luis M. Hervella) **99a:53029** 53C15 (53C25, 53C40)
Tripathi, Ram C. (*with* Gupta, Pushpa L.; Gupta, Ramesh C.) On the monotonic properties of discrete failure rates. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 255–268. (A. M. Abouammoh) **99d:62010** 62E15 (60K10, 62N05)
Tripathi, S. P. Twisted actions of cyclic groups. (English summary) *Nat. Acad. Sci. Lett.* **21** (1998), *no.* 7-8, 250–252. (Summary) **99h:55003** 55M35
— On the Hopficity of the polynomial rings. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 133–136. (Summary) **99c:16025** 16S36
Tripathi, Sanjay (*with* Patel, N. V.) On absolute Cesàro summability of infinite series. *Math. Ed. (Siwan)* **31** (1997), *no.* 1, 55–60. (J. Németh) **99c:40010** 40G05 (40F05)
Tripathi, T. P. (*with* Chaubey, Yogendra P.) Optimum probabilities of selection in PPS-sampling based on super population model and multivariate information. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 365–369, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05
Tripathi, V. N. (*with* Tripathi, L. M.; Pandey, S. B.) On the degree of approximation to a function by triangular matrix of its Legendre series. (English summary) *Bull. Calcutta Math. Soc.* **90** (1998), *no.* 3, 205–210. 41A25
Tripathy, A. K. (*with* Parhi, N.) Oscillatory behavior of second order difference equations. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 79–100. (Vladimir Sh. Burd) **99k:39032** 39A10
Tripathy, Ashish (*with* Süral, Haldun; Gerchak, Yigal) Multidimensional assortment problem with an application. (English summary) *Networks* **33** (1999), *no.* 3, 239–245. 90B10 (90C35)
Tripathy, Binod Chandra Matrix maps on the power-series convergent on the unit disc. (English summary) *J. Anal.* **6** (1998), 27–31. (Summary) **99m:40006** 40C05
— On statistical convergence. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 4, 299–303. (Summary) **99j:40002** 40A05
Tripathy, Chaitanya Kumar (*with* Acharya, Sarat Kumar) Convergence of mixing transforms of random sequences. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 1-2, 23–27. 60G50 (60G42)
Tripathy, Prasanta K. Self-dual Maxwell Chern-Simons solitons in $1+1$ dimensions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5166–5173. (Summary) **99m:81147** 81T13 (81T10)
Tripiccione, R. (*with* Benzi, R.; Toschi, F.) On the heat transfer in Rayleigh-Bénard systems. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 901–918. 76F99 (76E15)
Tripodi, Leandro (*with* Lima, Celso L.) On a q-covariant form of the BCS approximation. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 7–13. (Marcelo R. Ubriaco) **99d:81188** 81V70 (81R50)
Tripsiannis, Gregory A. On modified multivariate Polya and inverse Polya distributions of order k. (English summary) *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 43–53. 62E15 (60C05)
— (*with* Antzoulakos, Demetris L.) On multivariate inverse Polya and related distributions of order k. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 4, 205–212. (Summary) **99c:62036** 62E15 (60C05)
Tristán, Luis A. (*with* Rojo, Jesús) Singularities and energy absorption in magnetohydrodynamics. (English and Spanish summaries) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76W05 (76X05)
Trittmann, U. (*with* Armoni, Adi; Frishman, Yitzhak; Sonnenschein, Jacob) The spectrum of multi-flavor QCD_2 and the non-abelian Schwinger equation. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 503–515. (Summary) **99h:81224** 81V05 (81T13)
Tritton, D. J. (*with* Groves, Mark D.) Lyapunov exponents for the Miles' spherical pendulum equations. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 83–98. (Summary) **99m:70018** 70K50
Trivedi, M. M. (*with* Rao, J. Krishna; Annapurna, M.) Static charged isothermal gaseous spheres in general relativity. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1143–1149. 83C55
Trivedi, Pravin K. (*with* Cameron, A. Colin) Count data models for financial data. (English summary) *Statistical methods in finance*, 363–391, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62134** 62P20 (90A09)
— (*with* Cameron, A. Colin) ★ Regression analysis of count data. (English summary) Econometric Society Monographs, 30. *Cambridge University Press, Cambridge*, 1998. *xviii*+411 *pp. ISBN* 0-521-63567-5 (Jon Stene) **99m:62002** 62-01 (62J12, 62M10)
Trivedi, Sandip P. (*with* Lykken, Joseph; Poppitz, Erich) M(ore) on chiral gauge theories from D-branes. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 51–74. (Christophe Grojean) **99f:81203** 81T60 (81T13, 81T30)
— (*with* Das, Sumit R.) Three-brane action and the correspondence between $N = 4$ Yang Mills theory and anti-de Sitter space. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 142–149. (Summary) **99m:81244** 81T60 (81T13, 81T30, 83E30)
Trivedi, Vijaylaxmi Hilbert functions, Castelnuovo-Mumford regularity and uniform Artin-Rees numbers. (English summary) *Manuscripta Math.* **94** (1997), *no.* 4, 485–499. (Liam O'Carroll) **99a:13007** 13D45 (13D40, 13H15)

Trivellato, F. (*with* Bertolazzi, Enrico; Firmani, Bruno) Finite volume modelling of free surface draining vortices. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 175–185. (*see* **99k:65002**) 76M25 (76C05, 76D05)

Trkal, Viktor *see* **Brdička, Miroslav**

Trlifaj, Jan (*with* Růžička, Pavel; Žemlička, Jan) Criteria of steadiness. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 359–371, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Riccardo Colpi) **99k:16005** 16D10 (03C60, 13E10)

Trlifaj, L. A simple and direct periodic solution of the Korteweg-de Vries equations. (English summary) *Czechoslovak J. Phys.* **48** (1998), *no.* 5, 523–528. (Summary) **99f:35181** 35Q53 (35B10)

Trnková, V. (*with* Sichler, J.) Clones in topology and algebra. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 243–260. (Andreĭ A. Krokhin) **99m:08005** 08A05 (08A40, 08A62, 08C05, 54C05)

Troadec, J. P. (*with* Richard, P.; Oger, L.; Gervois, A.) Tessellation of binary assemblies of spheres. (English summary) *Phys. A* **259** (1998), *no.* 1-2, 205–221. (Summary) **99e:82095** 82D20

Trobo, M. L. (*with* Manías, M. V.; Naón, Carlos M.) Non-local Thirring model at finite temperature. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 721–737. (Summary) **99d:81077** 81T10

— (*with* Edelstein, José D.; Brito, F. A.; Bazeia, D.) Kinks inside supersymmetric domain ribbons. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7561–7569. (Summary) **99k:81304** 81T60

Troccoli, M. (*with* Cirillo, E. N. M.; Gonnella, G.; Maritan, A.) Correlation functions by cluster variation method for Ising model with NN, NNN, and plaquette interactions. (English summary) *J. Statist. Phys.* **94** (1999), *no.* 1-2, 67–89. (Summary) **99m:82008** 82B20 (82B80)

Troch, Inge *see* **Symposium: Mathematical Modelling, 99d:00030**

Trodden, Mark (*with* Davis, Stephen C.; Davis, Anne-Christine) Cosmic strings, zero modes, and supersymmetry breaking in non-abelian $N = 1$ gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5184–5188. (Summary) **99m:81245** 81T60 (81R40, 81T13)

Troelstra, A. S. Realizability. *Handbook of proof theory*, 407–473, *Stud. Logic Found. Math.*, 137, *North-Holland, Amsterdam*, 1998. (Stewart Shapiro) **99f:03084** 03F55 (03F30, 03F35)

— Concepts and axioms. (English summary) Perspectives on intuitionism. *Philos. Math.* (3) **6** (1998), *no.* 2, 195–208. (Peter M. Schuster) **99j:03005** 03A05 (03F55)

Troesch, Albert Droites discrètes et calendriers. (English and French summaries) [Discrete straight lines and calendars] *Math. Inform. Sci. Humaines No.* 141 (1998), 11–41. (H. W. Guggenheimer) **99h:01046** 01A99

Troestler, C. Strongly indefinite variational problems with lack of compactness. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 536–540, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 58E05 (35J65)

Trofimchuk, O. Yu. Periodic solutions of an abstract integro-differential equation. (Russian) *Mathematics today '97, No.* 11 (*Russian*), 87–95, *Nauchn. Izdat. "TViMS", Kiev*, 1997. (C. Corduneanu) **99h:45016** 45J05 (34K30, 45M15)

Trofimchuk, Sergei I. (*with* Gupta, Chaitan P.) Solvability of a multi-point boundary value problem and related a priori estimates. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 1, 45–60. (Johnny Henderson) **99f:34020** 34B10 (34B15)

— (*with* Gupta, Chaitan P.) Existence of a solution of a three-point boundary value problem and the spectral radius of a related linear operator. *Nonlinear Anal.* **34** (1998), *no.* 4, 489–507. (S. K. Ntouyas) **99d:34029** 34B10 (34B15, 47A99, 47N20)

— (*with* Gupta, Chaitan P.) A Wirtinger type inequality and a three point boundary value problem. (English summary) *Dynam. Systems Appl.* **8** (1999), *no.* 1, 127–132. (Summary) **99m:26025** 26D10

Trofimov, A. V. Isomorphy types of superatomic Boolean algebras with one distinguished ideal [translation of Vychisl. Sistemy No. 156, Strukt. Algoritm. Svoĭstva Vychislimosti (1996), 123–147]. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 4, 79–96. (Vlad Boicescu) **99g:06017** 06E05

Trofimov, V. A. (*with* Varentsova, S. A.) Lagrangian of the process of the generation of the second wave harmonic of femtosecond light pulses. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 7, 993–995, 1008. 78A60

— A nonlinear wave equation in the laser optics of femtosecond pulses. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 7, 1002–1004, 1008. 78A60

— On a new approach to modeling the nonlinear propagation of ultrashort laser pulses. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 835–839; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 805–809. (Summary) **99c:78018** 78A60 (78–08)

— An invariant of the propagation of femtosecond pulses in a nonlinearly absorbing medium. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 2055–2059; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1974–1977. 78A60

Trofimov, V. I. The existence of nonconstant harmonic functions on infinite vertex-symmetric graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 519–523. (Wolfgang Woess) **99g:05102** 05C25 (31C20)

Trofimov, V. V. *see* **Tensor and vector analysis, 99g:53001**

Trofimova, M. M. A search for a partially known word in a dictionary. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 4, 77–92, 96. (Summary) **99b:68048** 68P10 (68P20)

Trofino-Neto, Alexandre *see* **Cao, Yong-Yan et al., 99e:93061**

Troger, H. (*with* Osipov, G. V.; Glatz, L.) Suppressing chaos in the Duffing oscillator by impulsive actions. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 307–321. (Introduction) **99b:58163** 58F13 (34D45, 70K50, 93C15)

Troitskaya, S. D. On a boundary value problem for hyperbolic equations. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 2, 193–224; *translation in Izv. Math.* **62** (1998), *no.* 2, 399–428. (Tie Hu Qin) **99f:35121** 35L20

Troitskiĭ, E. V. Compact group actions on Hilbert modules and C^*-elliptic complexes. *Tensor and vector analysis*, 251–281, *Gordon and Breach, Amsterdam*, 1998. (Yuri A. Kordyukov) **99m:46142** 46L05 (46L80, 58G12)

von Trojan, A. (*with* Noye, John) An explicit three-level fifth-order finite-difference method for advection. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 603–610, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M20

Trojnar-Spelina, Lucyna On some integral operators in the class of functions with negative coefficients. (English summary) *Transform methods & special functions, Varna '96*, 502–507, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:30017** 30C45

— Univalence of certain analytic functions. *Demonstratio Math.* **31** (1998), *no.* 2, 467–476. (Alan D. Gluchoff) **99i:30032** 30C55

Trokhimenko, V. S. v-regular Menger algebras. *Algebra Universalis* **38** (1997), *no.* 2, 150–164. (Ivan Chajda) **99h:08006** 08A40 (20M30)

Tröltzsch, Fredi A survey on second order optimality conditions for the optimal control of partial differential equations. *Operations Research Proceedings* 1997 (*Jena*), 168–175, *Springer, Berlin*, 1998. (From the introduction) **99f:49033** 49K20 (49–02)

— (*with* Goldberg, Helmuth) On a SQP-multigrid technique for nonlinear parabolic boundary control problems. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 154–177, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Walter Alt) **99e:49039** 49M15 (49J20, 49M25, 65M55)

— (*with* Bergounioux, Maïtine) Optimal control of linear bottleneck problems. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 235–250 (*electronic*). (Edward J. Anderson) **99e:49005** 49J20 (49K20)

— (*with* Goldberg, Helmuth) On a Lagrange-Newton method for a nonlinear parabolic boundary control problem. (English summary) *Optim. Methods Softw.* **8** (1998), *no.* 3-4, 225–247. (Summary) **99a:49040** 49M29 (49J20, 93C20)

Trombetta, P. (*with* Marty, Ph.; Martin Witkowski, L.; Tomasino, T.; Garandet, J. P.) On the stability of rotating MHD flows. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 327–343, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76E25 (76U05, 76W05)

Trombetti, Cristina On the lower semicontinuity and relaxation properties of certain classes of variational integrals. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 25–51. (Bernard Brighi) **99e:49016** 49J45 (49J20)

Trombetti, Guido (*with* Alvino, Angelo; Ferone, Vincenzo) A remark on the regularity of solutions of nonlinear elliptic equations. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 2, 459–472 (1997). (Xi Ping Zhu) **99a:35079** 35J65 (35B65)

— (*with* Alvino, Angelo; Ferone, Vincenzo) A priori estimates for a class of non-uniformly elliptic equations. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 381–391. (Summary) **99f:35034** 35J25 (35B45)

— (*with* Alvino, Angelo; Ferone, Vincenzo) On the properties of some nonlinear eigenvalues. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 437–451 (*electronic*). (Maria J. Esteban) **99d:35119** 35P30 (35J05, 49R05)

Tromeur-Dervout, D. (*with* Garbey, M.) A new parallel solver for the nonperiodic incompressible Navier-Stokes equations with a Fourier method: application to frontal polymerization. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 316–331. (Summary) **99g:76105** 76M25 (65Y05, 76D05, 80–08, 80A25)

Trommel, H. (*with* Broersma, H. J.) Closure concepts for claw-free graphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 231–238. (Summary) **99a:05119** 05C75 (05C45)

— (*with* Veldman, H. J.; Verschut, A.) Pancyclicity of claw-free Hamiltonian graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 781–789. (Summary) **99k:05101** 05C38 (05C45)

Tromp, John (*with* Kececioglu, John D.; Li, Ming[1]) Inferring a DNA sequence from erroneous copies. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 3–13. (Satoru Miyano) **99e:92022** 92D20 (68Q30, 68T05)

— (*with* Dasgupta, Bhaskar[1]; He, Xin[1]; Jiang, Tao[1]; Li, Ming[1]; Wang, Lusheng; Zhang, Louxin) Computing distances between evolutionary trees. *Handbook of combinatorial optimization, Vol.* 2, 35–76, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90C35)

— (*with* Buhrman, Harry; Franklin, Matthew; Garay, Juan A.; Hoepman, Jaap-Henk; Vitányi, Paul) Mutual search (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 481–489, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q10 (68R10)

Troncoso, Ricardo (*with* Zanelli, Jorge) New gauge supergravity in seven and eleven dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 101703, 5 *pp.* (Summary) **99m:83206** 83E50

Tröndle, G. (*with* Jäger, Monika; Antes, H.) Efficient calculation of acoustic fields by boundary element method. *Boundary element topics* (*Stuttgart*, 1995), 9–29, *Springer, Berlin*, 1997. (*see* **99e:00017**) 76M15 (65N38, 76Q05)

Tronel, Gérard On some modifications of the Newton-Kantorovich method. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 10, 27–33; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 1, 1575–1580 (1998). (A. V. Dzhishkariani) **99m:65121** 65J15

dang duc Trong *see* **Dang Duc Trong**

Trong, D. D. *see* **Dang Duc Trong**

Trong, Dang Duc *see* **Dang Duc Trong**

dao Trong Thi *see* **Dao Trong Thi**

nguyen Trong Toan *see* **Nguyen Trong Toan**

Tronin, S. N. Retracts and retractions of free algebras. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998,** *no.* 1, 67–78; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 1, 65–77. (Vesselin Drensky) **99b:16042** 16S10 (17A50)

Trooshin, Igor Yu. *see* **Trushin, I. Yu.**

Troost, Jan (*with* Sevrin, Alexander) Off-shell formulation of $N = 2$ non-linear σ-models. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 3, 623–646. (Summary) **99a:81177** 81T60 (81T30)

— (*with* Grisaru, Marcus T.; Massar, M.; Sevrin, Alexander) The quantum geometry of $N = (2, 2)$ non-linear σ-models. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 53–58. (Summary) **99a:81172** 81T60 (81T15, 81T30, 81T40)

Troost, Walter (*with* De Jonghe, F.; Termonia, P.; Vandoren, Stefan) The topological twist and BRST anti-BRST gauge fixing in $N = 2$ Landau-Ginzburg models. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 283–284, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T10 (81T40)

— (*with* Craps, Ben; Roose, Frederik; Van Proeyen, Antoine) The definitions of special geometry. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 390–395, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81183** 81T60 (53C25, 53C80)

— (*with* Craps, Ben; Roose, Frederik; Van Proeyen, Antoine) What is special Kähler geometry? (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 565–613. (Krzysztof Galicki) **99e:53061** 53C25 (32G81, 53C55, 53C80, 83E50)

— (*with* Craps, Ben; Roose, Frederik; Van Proeyen, Antoine) Special Kähler geometry: does there exist a prepotential? *Strings, branes and dualities* (*Cargèse*, 1997), 449–454, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 53C25 (53C80, 83E30)

— *see also* **Kiritsis, Elias**, **99d:81121**

Tropp, E. A. (*with* Polovko, Yu. A.; Romanova, E. P.) Contrast structures and rotating stall in MHD flows. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 395–408, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76W05 (76U05)

Troschke, Sven-Oliver (*with* Groß, Jürgen; Trenkler, Götz) On semi-orthogonality and a special class of matrices. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 169–182. (R. Kala) **99m:15013** 15A24 (15A03, 15A63, 62J05)

Troskie, C. G. (*with* Chalton, D. O.) Detection of outliers in the presence of multicollinearity. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 273–292, *VSP, Utrecht*, 1996. (Summary) **99g:62098** 62J05 (62J07)

Trost, Johannes (*with* Cannata, Francesco; Junker, Georg) Schrödinger operators with complex potential but real spectrum. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 219–226. (Peter N. Zhevandrov) **99g:81034** 81Q05 (81Q20)

— (*with* Friedrich, Harald) Accurate WKB wave functions for weakly attractive inverse-square potentials. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1683–1686. (Summary) **99m:81058** 81Q20

Trotman, David Multiplicity as a C^1 invariant. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 215–221, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Massimo Ferrarotti) **99a:32050** 32S05

Trotsenko, D. A. Suspensions of sets, and quasi-symmetric mappings. (Russian) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 186, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (*see* **99a:00019**) 54B17 (54C99)

— Fractal lines and quasiconformal mappings. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1387–1396, *iv*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1206–1214. (E. Złotkiewicz) **99f:30037** 30C65 (28A80)

Trotsenko, V. A. Variational methods for solving nonlinear boundary problems of statics of hyper-elastic membranes. (English summary) *J. Nonlinear Math. Phys.* **6** (1999), *no.* 1, 35–50. (Summary) **99i:73078** 73V25 (73K10, 73K15)

Trott, Mitchell (*with* Sindhushayana, N. T.; Marcus, Brian) Homogeneous shifts. *IMA J. Math. Control Inform.* **14** (1997), *no.* 3, 255–287. (From the introduction) **99b:94048** 94B10

Trotta, R. Loredana (*with* Alonso Rodríguez, Ana; Valli, Alberto) Coercive domain decomposition algorithms for advection-diffusion equations and systems. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 1, 51–76. (Tsorng-Whay Pan) **99j:65224** 65N55 (76M25)

Trotter, P. G. (*with* Pastijn, F.) Complete congruences on lattices of varieties and of pseudovarieties. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 2, 171–201. (Ivan Chajda) **99m:08021** 08B15 (08A30, 20M07)

Trotter, William T. New perspectives on interval orders and interval graphs. (English summary) *Surveys in combinatorics*, 1997 (*London*), 237–286, *London Math. Soc. Lecture Note Ser.*, 241, *Cambridge Univ. Press, Cambridge*, 1997. (Douglas B. West) **99c:05168** 05C75 (05C60, 06A07)

— (*with* Fishburn, Peter C.) Dimensions of split semiorders. (English summary) *Order* **14** (1997/98), *no.* 2, 171–178. (Summary) **99b:06006** 06A07

— (*with* Brightwell, Graham R.) The order dimension of planar maps. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 515–528. (Douglas B. West) **99c:06003** 06A07 (05C10, 05C35, 52B05)

— (*with* Winkler, Peter M.) Ramsey theory and sequences of random variables. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 221–238. (Graham Brightwell) **99e:60035** 60C05 (05D10, 06A07, 60F99)

Troubetzkoy, S. Complexity lower bounds for polygonal billiards. (English summary) *Chaos* **8** (1998), *no.* 1, 242–244. (Roberto Markarian) **99a:58109** 58F11 (58F03)

— (*with* Chernov, Nikolai I.; Markarian, Roberto) Conditionally invariant measures for Anosov maps with small holes. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1049–1073. (Heber Enrich) **99k:58111** 58F11 (28D05)

— (*with* Chernov, Nikolai I.) Ergodicity of billiards in polygons with pockets. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1095–1102. (András Krámli) **99h:58104** 58F11

Troupe, J. (*with* Rosensteel, G.) Algebraic nonlinear collective motion. (English summary) *Ann. Physics* **270** (1998), *no.* 1, 126–154. (A. Ventura) **99m:81081** 81R05 (81V35)

Trout, Jody (*with* Higson, Nigel; Kasparov, G. G.) A Bott periodicity theorem for infinite-dimensional Euclidean space. (English summary) *Adv. Math.* **135** (1998), *no.* 1, 1–40. (Evgeniĭ V. Troitskiĭ) **99j:19005** 19K35 (19L47, 46L80, 57R67, 58G12)

Trouvé, Alain (*with* Gaudron, Isabelle) Fluctuations of empirical means at low temperature for finite Markov chains with rare transitions in the general case. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 2, 215–251. (Laurent Miclo) **99i:60054** 60F10 (60J10, 62M10, 65C05)

— (*with* Piccioni, Mauro; Scarlatti, Sergio) A variational problem arising from speech recognition. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 753–771 (*electronic*). (Ilya S. Molchanov) **99c:49038** 49N55 (68T10)

Trovalusci, P. (*with* Masiani, R.) Material symmetries of micropolar continua equivalent to lattices. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 14, 2091–2108. (Summary) **99i:73002** 73B10 (73B25)

Trow, Paul Lifting covers of sofic shifts. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 327–342. (Fred W. Roush) **99b:58082** 58F03

Trowbridge, C. W. (*with* Bryant, C. F.; Emson, C. R. I.; Simkin, J.; Nitta, K.) A comparison of Lorentz and Coulomb gauges in the solution of Maxwell's equations. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 301–312, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78002** 78–08 (78A25)

Troxel, Andrea B. (*with* Lipsitz, Stuart R.; Harrington, David P.) Marginal models for the analysis of longitudinal measurements with nonignorable non-monotone missing data. (English summary) *Biometrika* **85** (1998), *no.* 3, 661–672. (Summary) **99i:62045** 62F10

Troy, William C. (*with* Mizel, V. J.; Peletier, L. A.) Periodic phases in second order materials, and higher order model equations. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 32–43, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Naoyuki Ishimura) **99g:73031** 73C50 (35Q72, 49J10, 73B05, 73V25)

— (*with* Peletier, L. A.; Rotariu-Bruma, A. I.) A generalisation of the extended Fisher-Kolmogorov equation with an application to pulse propagation along optical fibers. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 66–76, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (*see* **99d:35004**) 35K55 (35Q51, 78A60)

— (*with* Mizel, V. J.; Peletier, L. A.) Periodic phases in second-order materials. *Arch. Ration. Mech. Anal.* **145** (1998), *no.* 4, 343–382. (Matthias Wilhelm Winter) **99j:73011** 73B30 (34B15, 34C25, 49J45, 73V25, 80A22)

— (*with* Peletier, L. A.) Multibump periodic travelling waves in suspension bridges. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 631–659. (Alan R. Champneys) **99h:34038** 34B15 (34C25, 35Q72, 73D35, 73K05)

— (*with* Hastings, Stuart P.) There are asymmetric minimizers for the one-dimensional Ginzburg-Landau model of superconductivity. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 1–18 (*electronic*). (Summary) **99h:35197** 35Q55 (35B99)

Troya, José M. (*with* Alba, Enrique) A survey of parallel distributed genetic algorithms: a structured and extensive overview on an up-to-date search paradigm. (English summary) *Complexity* **4** (1999), *no.* 4, 31–52. 68T05 (68Q22, 90C27)

Troyan, V. N. (*with* Ryzhikov, G. A.) Diffraction tomography: construction and interpretation of tomographic functionals. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **218** (1994), *Mat. Vopr. Teor. Rasprostr. Voln.* 24, 176–196, 225; *translation in J. Math. Sci.* (*New York*) **86** (1997), *no.* 3, 2773–2786. (Valeri G. Yakhno) **99m:73032** 73D50 (35R30, 44A12, 73D25, 86A15, 86A22)

Troyanov, Marc (*with* Gol'dshtein, Vladimir) Sur la non-résolubilité du p-laplacien sur $\mathbf{R}^n$. (English and French summaries) [On the nonsolvability of the p-Laplacian on $\mathbf{R}^n$] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1185–1187. (Summary) **99g:35037** 35J60

— L'horizon de SOL. (English summary) [The horizon of SOL] *Exposition. Math.* **16** (1998), *no.* 5, 441–479. (Rafael Oswaldo Ruggiero) **99j:58155** 58F17 (53C20)

Truax, D. Rodney (*with* Nieto, Michael Martin; Fernández, Francisco M.) Reply to: "Generating functions for Hermite polynomials of arbitrary order" [Phys. Lett. A **237** (1998), no. 3, 189–191; MR 99h:33036] by F. M. Fernández. (English summary) *Phys. Lett. A* **237** (1998), *no.* 3, 192–193. (A. M. Gavrilik) **99h:33037** 33C45 (81R30)

Truax, Donald R. (*with* Kim, Gie-Whan) Conditional large deviations for density case. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 137–144. (N. R. Chaganty) **99e:60077** 60F10

Trubatch, A. David (*with* Ablowitz, Mark J.; Ohta, Yasuhiro) On discretizations of the vector nonlinear Schrödinger equation. (English summary) *Phys. Lett. A* **253** (1999), *no.* 5-6, 287–304. (Summary) **99m:35215** 35Q55 (35A35, 65M06)

Trubian, Marco (*with* Righini, Giovanni) Data-dependent bounds for the general and the asymmetric Stacker-Crane problems. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 235–242. (Summary) **99j:68056** 68Q25 (90B35)

Trubitsyn, Yu. È. On semigroups specified by one defining relation with the Church-Rosser property. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 114–118; *translation in Math. Notes* **61** (1997), *no.* 1-2, 96–99. (Boris M. Schein) **99d:20096** 20M05

Trubowitz, Eugene (*with* Feldman, Joel S.; Knörrer, Horst; Sinclair, Robert) Superconductivity in a repulsive model. Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 154–191. (Klaus Ziegler) **99a:82100** 82D55 (82B26)

Trucks, Mathias A KMS-like state of Hadamard type on Robertson-Walker spacetimes and its time evolution. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 387–404. (Rainer Verch) **99j:81128** 81T20 (81T05, 82C10, 82C26)

— *see also* **Proceedings: International Quantum Structures Association**, **99e:81004**

Trudeau, Sonia (*with* Chaubey, Yogendra P.; Garrido, José) On the computation of aggregate claims distributions: some new approximations. (English summary) *Insurance Math. Econom.* **23** (1998), *no.* 3, 215–230. 62P05

Trudinger, Neil S. Weak solutions of Hessian equations. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 7-8, 1251–1261. (Bernhard Kawohl) **99a:35077** 35J60 (35D05, 35G20)

— On new isoperimetric inequalities and symmetrization. (English summary) *J. Reine Angew. Math.* **488** (1997), 203–220. (Bernhard Kawohl) **99a:35076** 35J60 (35B30)

— (*with* Wang, Xu-Jia) A Poincaré type inequality for Hessian integrals. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 4, 315–328. (Gilles Carron) **99d:58163** 58G03 (35K60)

True, Hans (*with* Jensen, Carsten Nordstrøm; Golubitsky, Martin) Symmetry, generic bifurcations, and mode interaction in nonlinear railway dynamics. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 387–396, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70K99 (34C23)

Trueba, José L. (*with* Rañada, Antonio F.) A topological mechanism of discretization for the electric charge. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 196–200. (You Quan Li) **99d:78015** 78A25 (81V10)

Trueman, Colin (*with* Wan, K. Kong; Bradshaw, Jason; Harrison, F. E.) Classical systems, standard quantum systems, and mixed quantum systems in Hilbert space. (English summary) *Found. Phys.* **28** (1998), *no.* 12, 1739–1783. (S. Gudder) **99k:81027** 81P05 (81P15, 81S05)

Truemper, Klaus ★ Effective logic computation. (English summary) A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+476 *pp. ISBN* 0-471-23886-4 (Ulrich Faigle) **99j:68057** 68Q25 (03B35, 65F30, 68N17, 68T15)

Truffet, L. (*with* Moulki, M.; Beylot, André-Luc; Becker, Monique) An aggregation technique to evaluate the performance of a two-stage buffered ATM switch. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 373–392. (*see* **99a:90010**) 90B12 (90B22, 94A05)

Trugenberger, Carlo A. (*with* Diamantini, M. Cristina) Geometric aspects of confining strings. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 151–167. (Summary) **99i:81179** 81T30 (82B26)

— (*with* Diamantini, M. Cristina) Surfaces with long-range correlations from non-critical strings. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 196–202. (Summary) **99a:81134** 81T30

Truini, P. (*with* Dobrev, Vladimir K.; Biedenharn, L. C.) Polynomial solutions of q-difference equations and Gel'fand-Weyl-Zetlin basis. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 447–461, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99b:81101** 81R50 (17B37, 39A10)

— (*with* Iordanescu, R.) Quantum groups and Jordan structures. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **57/58** (1995/96), *no.* 1-4, 43–60. (Aleksandr Panov) **99c:17027** 17B37 (17C90)

— (*with* Dobrev, Vladimir K.) Gel'fand pattern and polynomial representations of quantum groups. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 159–170, *World Sci. Publishing, River Edge, NJ*, 1996. (Roberto Casalbuoni) **99e:17018** 17B37 (81R50)

— (*with* Dobrev, Vladimir K.) Polynomial realization of the $U_q(\mathrm{sl}(3))$ Gel'fand-(Weyl)-Zetlin basis and irregular irreps at roots of unity. *Symmetries in science, X* (*Bregenz*, 1997), 79–119, *Plenum, New York*, 1998. (Roberto Casalbuoni) **99i:81095** 81R50 (17B37)

Trujillo, David (*with* Thomas, Jean-Marie) Finite volume methods for elliptic problems: convergence on unstructured meshes. *Numerical methods in mechanics* (*Concepción*, 1995), 163–174, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (Larisa V. Maslovskaya) **99f:65188** 65N50 (65N12)

Trujillo, Guadalupe (*with* González-Vega, Laureano) Multivariate Sturm-Habicht sequences: real root counting on n-rectangles and triangles. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 119–130. (Francisco Jesús Castro-Jiménez) **99h:12001** 12D10 (13P05)

Trujillo, J. *see* **Trujillo, Juan J.**

Trujillo, James (*with* Karniadakis, George Em) A penalty method for the vorticity-velocity formulation. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 32–58. (Summary) **99j:76101** 76M25 (76D05)

Trujillo, Juan J. (*with* Bonilla, B.; Rivero, Margarita) On fractional order continuity, integrability and derivability of real functions. (English summary) *Transform methods & special functions, Varna* '96, 48–55, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26005** 26A33

— (*with* Hayek Calil, Nácere; Rivero, Margarita; Bonilla, B.; Moreno Piquero, Juan Carlos) On existence of solutions of ordinary differential equations of fractional order. (English summary) *Transform methods & special functions, Varna* '96, 150–158, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26006** 26A33 (34A12)

— (*with* Rivero, Margarita; Bonilla, B.) On a new generalized Taylor's formula. (English summary) *Transform methods & special functions, Varna* '96, 508–516, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26010** 26A33

Trujillo-González, R. (*with* Bonilla, A.; Pérez-González, Fernando[2]; Stray, A.) Approximation in weighted Hardy spaces. (English summary) *J. Anal. Math.* **73** (1997), 65–89. (Yuan Ren Lou) **99b:30058** 30E10 (30D55)

Trukhin, M. P. (*with* Korotaeva, L. N.; Chentsov, A. G.) On the routing of connections. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 175–192. (Ignacy Kaliszewski) **99k:90192** 90C39 (90B12, 90C35)

Truman, A. *see* **Truman, Aubrey**

Truman, Alan W. An analysis of sub-rate control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 365–392. 93A30 (93B30)

— A subrate weighted minimum-variance control law. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 93–115. 93E03 (93E10)

Truman, Aubrey (*with* Zhao, Huai Zhong) Stochastic Burgers' equations and their semi-classical expansions. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 231–248. (Reade H. Ryan) **99i:35186** 35R60 (35Q53, 60H15)

thornton-Trump, A. B. *see* **Thornton-Trump, A. B.**

Trump, M. A. (*with* Schieve, W. C.) Classical scattering in the covariant two-body Coulomb potential. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1211–1236. (Summary) **99g:81227** 81U05

— (*with* Schieve, W. C.) Perihelion precession in the special relativistic two-body problem. (English summary) Parametrized relativistic quantum theory, Part 1 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 9, 1407–1416. (Summary) **99k:70009** 70F05 (70H40, 83A05)

Trunfio, Giuseppe A. (*with* Garcea, Giovanni; Casciaro, Raffaele) Mixed formulation and locking in path-following nonlinear analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 247–272. (Summary) **99i:73069** 73V05 (65N55)

lê quang Trung *see* **Lê Quang Trung**

Trung, N. V. *see* **Ngô Việt Trung**

Trung, Ngô Viêt *see* **Ngô Việt Trung**

Truong, Công Nghê On non-linear elliptic equations and the stability of soap film. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 353–361. (Yong Qing Li) **99e:35076** 35J65 (35B35, 46N20, 58E12)

Truong, Young K. (*with* Stone, Charles J.; Hansen, Mark H.; Kooperberg, Charles) Polynomial splines and their tensor products in extended linear modeling. (English summary) With discussion and a rejoinder by the authors and Jianhua Z. Huang. *Ann. Statist.* **25** (1997), *no.* 4, 1371–1470. (Summary) **99e:62060** 62G05 (62G07, 62J12)

— (*with* Kim, Haesook T.) Nonparametric regression estimates with censored data: local linear smoothers and their applications. (English and French summaries) *Biometrics* **54** (1998), *no.* 4, 1434–1444. 62G05

Truong-Van, Benoit (*with* Truong Xuan Duc Ha) Existence of viable solutions for a nonconvex stochastic differential inclusion. (English summary) *Discuss. Math. Differential Incl.* **17** (1997), *no.* 1-2, 107–131. (Summary) **99b:60100** 60H99 (34A60, 34F05, 49J24)

Truong Xuan Duc Ha (*with* Truong-Van, Benoit) Existence of viable solutions for a nonconvex stochastic differential inclusion. (English summary) *Discuss. Math. Differential Incl.* **17** (1997), *no.* 1-2, 107–131. (Summary) **99b:60100** 60H99 (34A60, 34F05, 49J24)

Trushin, I. Yu. (*with* Freiling, Gerhard) Abel-summability of eigenfunction expansions of three-point boundary value problems. (English summary) *Math. Nachr.* **190** (1998), 129–148. (Reinhard Mennicken) **99c:34191** 34L10 (34B10)

Trushkov, V. V. (*with* Omel'yanov, G. A.) Geometric correction in the problem of the motion of a free boundary. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 151–153; *translation in Math. Notes* **63** (1998), *no.* 1-2, 137–139. (From the text) **99c:35264** 35R35 (35K10)

Truskett, Thomas M. (*with* Torquato, Salvatore; Debenedetti, Pablo G.) Density fluctuations in many-body systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7369–7380. (Summary) **99g:82005** 82B05

Truskinovsky, Lev (*with* Vainchtein, A.; Healey, Timothy J.; Rosakis, Phoebus) The role of the spinodal region in one-dimensional martensitic phase transitions. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 29–48. (Summary) **99a:73030** 73B30 (73C50, 73V25)

— (*with* Ngan, Shing-Chung) Thermal trapping and kinetics of martensitic phase boundaries. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 1, 141–172. (Summary) **99j:73013** 73B30 (80A22)

Trusov, P. V. (*with* Gitman, Michael B.; Fedoseev, Sergei A.) On the stochastic optimization problems of plastic metal working processes under stochastic initial conditions. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 111–125. (Summary) **99j:90052** 90C15 (90C70, 90C90)

Truszczyński, Mirosław (*with* Marek, V. Wiktor) Revision programming, database updates and integrity constraints. (English summary) *Database theory—ICDT* '95 (*Prague*), 368–382, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— (*with* Denecker, Marc; Marek, V. Wiktor) Fixpoint 3-valued semantics for autoepistemic logic. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 840–845, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 03B70 (03B45, 03B50)

— (*with* Cholewinski, Pawel) Extremal problems in logic programming and stable model computation. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 219–242. (Summary) **99i:68017** 68N17

— *see also* **Learning and reasoning with complex representations, 99f:68003**

Tryggvason, G. (*with* Agresar, G.; Linderman, J. J.; Powell, K. G.) An adaptive, Cartesian, front-tracking method for the motion, deformation and adhesion of circulating cells. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 346–380. (Summary) **99b:92013** 92C40 (76M25, 92C05)

Trystram, D. (*with* Dumitrescu, Bogdan; Doreille, M.; Roch, J.-L.) Two-dimensional block partitionings for the parallel sparse Cholesky factorization. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 17–38 (1998). (R. P. Tewarson) **99d:65088** 65F05 (65F50)

— (*with* Konig, Jean-Claude; Rao, P. S.) Analysis of gossiping algorithms with restricted buffers. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 2, 117–133. 90B12 (65Y05)

Trzaska, Zdzisław W. On 2-D polynomials and discrete-continuous systems. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 881–905. (Summary) **99c:93073** 93C55 (12D05, 93B60)

Trzęsowski, A. Kinematics of edge dislocations. I. Involutive distributions of local slip planes. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2877–2893. (Dimitris C. Lagoudas) **99g:73017** 73B99 (53B50, 73S10)

— Kinematics of edge dislocations. II. Orowan-type kinematic relations. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2895–2911. (Dimitris C. Lagoudas) **99g:73018** 73B99 (53B50, 73E05, 73S10)

Tsabar, David (*with* Elitzur, Shmuel; Giveon, Amit; Kutasov, David) Branes, orientifolds and chiral gauge theories. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 251–268. (David S. Berman) **99f:81196** 81T60 (81T13)

Tsachev, Tsvetomir J. (*with* Angelov, Vasil G.) A coincidence theorem for densifying mappings and applications. *Demonstratio Math.* **31** (1998), *no.* 2, 365–376. (Józef Banaś) **99h:47064** 47H10 (34G10, 47H09)

Tsadiras, Athanasios K. (*with* Margaritis, Konstantinos G.) Two neuron fuzzy cognitive map dynamics. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 1-2, 47–75. (Summary) **99j:68121** 68T05

Tsagas, Christos G. (*with* Barrow, John D.) Gauge-invariant magnetic perturbations in perfect-fluid cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3523–3544. 83C55 (83F05)

Tsagas, Grigorios T. Spectrum of the Laplace operator for symmetric manifolds and determination of (G_2, g_0). (English summary) Proceedings of the Second International Workshop on Differential Geometry and its Applications (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **3** (1995), *no.* 2, 143–152. (J. Alfredo Jiménez) **99a:58160** 58G25 (53C35)

— (*with* Michaleas, Ch.) The spectrum of the exceptional Lie groups. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 3, 221–232. (J. Alfredo Jiménez) **99a:58161a** 58G25 (17B25, 22E30)

— (*with* Michaleas, Ch.) The spectra of the classical simple Lie groups. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 3, 273–282. (J. Alfredo Jiménez) **99a:58161b** 58G25 (17B25, 22E30)

— Spectra geometry for Ricci manifolds. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 95–108,

BSG Proc., 1, *Geom. Balkan Press, Bucharest*, 1997. (Haruo Kitahara) **99j:58218** 58G25 (35P15)

— (*with* Miron, Radu; Balan, Vladimir; Stavrinos, P. C.) Deviations of stationary curves in the bundle $\mathrm{Osc}^{(2)}(M)$. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 51–60. (Tadashi Aikou) **99g:53033** 53C10 (53C05, 53C60)

— (*with* Ledger, A. J.) Some properties of the flag manifolds. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 211–226. (Introduction) **99d:53049** 53C30

— (*with* Agrafiotou, X.) Construction of system of differential equations by means of special Lie algebras. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 3, 197–200. 17B30 (34A30)

— *see also* **Proceedings: Workshop on Global Analysis, Differential Geometry and Lie Algebras, 99d:53001** *and* **99e:53001**

Tsai, Chang-Hsiung (*with* Ho, Tung-Yang; Sung, Ting-Yi; Hsu, Lih-Hsing; Hwang, Jeng-Yan) The recognition of double Euler trails in series-parallel networks. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 216–257. (András Recski) **99m:94072** 94C15 (05C45, 05C85, 68R10)

Tsai, Cheng-Chih A Penrose transform for complex Euclidean 5-space. (English summary) *Tamsui Oxf. J. Math. Sci.* **13** (1997), 1–15. (Michael G. Eastwood) **99e:32054** 32L25 (32M10)

Tsai, Chih-Ling (*with* McQuarrie, Allan D. R.) ★ Regression and time series model selection. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xxii*+455 *pp. ISBN* 981-02-3242-X (Kajal Lahiri) **99m:62141** 62M10 (62J05)

— (*with* Léon, Larry F.) Assessment of model adequacy for Markov regression time series models. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 1165–1175. 62M99

— (*with* Cai, Zongwu; Hurvich, Clifford M.) Score tests for heteroscedasticity in wavelet regression. (English summary) *Biometrika* **85** (1998), *no.* 1, 229–234. (Summary) **99c:62170** 62J02 (62G05)

— (*with* Shi, Peide) A note on the unification of the Akaike information criterion. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 551–558. (Summary) **99a:62008** 62B10

Tsai, Chih-Yang (*with* Bienstock, Daniel; Chopra, Sunil; Günlük, Oktay) Minimum cost capacity installation for multicommodity network flows. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 177–199. (Summary) **99c:90044** 90B10 (90C35)

Tsai, Ching-Chih (*with* Haddad, Abraham H.) Averaging, aggregation and optimal control of singularly perturbed stochastic hybrid systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 31–50. 93E03 (93C10)

— Composite stabilization of singularly perturbed stochastic hybrid systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1005–1020. (George Yin) **99j:93087** 93D15 (93C70, 93E15)

Tsai, Chiung-Chiou (*with* Kuo, Tsang-Hai) Second order quasilinear elliptic problems in a ball. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 2, 101–110. (Summary) **99d:35057** 35J65

Tsai, Dong-Ho (*with* Chow, Bennett) Expansion of convex hypersurfaces by nonhomogeneous functions of curvature. *Asian J. Math.* **1** (1997), *no.* 4, 769–784. (John Urbas) **99e:53047** 53C21 (35K55, 58G11)

Tsai, I-Hsun Chow varieties and finiteness theorems for dominant maps. *J. Algebraic Geom.* **7** (1998), *no.* 4, 611–625. (Sándor J. Kovács) **99f:14017** 14E05 (14J99)

Tsai, Jason Sheng Horng (*with* Yan, Jun-Juh; Kung, Fan-Chu) Robust stabilization of large-scale systems with nonlinear uncertainties via decentralized state feedback. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 951–961. (Summary) **99b:93046** 93D21 (93A14)

— (*with* Yan, Jun-Juh; Kung, Fan-Chu) Robust stability analysis of interval systems with multiple time-varying delays: evolutionary programming approach. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 711–720. 93D09

Tsai, Jichiang (*with* Wang, Yi-Min; Kuo, Sy-Yen) Evaluations of domino-free communication-induced checkpointing protocols. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 31–37. 68Q10

Tsai, Kuo-Hui (*with* Wang, Da-Wei[1]) Lower bounds for wide-sense non-blocking Clos network. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 213–218, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 90B10 (90C35)

Tsai, L.-W. The Jacobian analysis of a parallel manipulator using reciprocal screws. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 327–336, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Tsai, Long-Yi (*with* Fu, Sheng-Chen) Oscillation in nonlinear difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 193–201. (T. J. Mahar) **99k:39061** 39A12 (34C10)

Tsai, Ming-Chun (*with* Fu, Hung-Lin; Škoviera, Martin) The maximum genus, matchings and the cycle space of a graph. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 329–339. (Arthur T. White) **99d:05023** 05C10 (05C38, 05C70)

Tsai, Nan-Chyuan (*with* Ray, Asok) Stochastic optimal control under randomly varying distributed delays. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1179–1202. 93E20 (93C15)

Tsai, S. F. (*with* Sheu, T. W. H.; Fang, Chao-Ching) Application of an element-by-element BiCGSTAB iterative solver to a monotonic finite element model. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 57–70. 65N30 (65F30)

Tsai, Shan-Ho (*with* Feldmann, Heiko; Guttmann, Anthony J.; Jensen, Iwan; Shrock, Robert) Study of the Potts model on the honeycomb and triangular lattices: low-temperature series and partition function zeros. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2287–2310. (Summary) **99b:82019** 82B20 (82B26)

— (*with* Roček, Martin; Shrock, Robert) Chromatic polynomials for families of strip graphs and their asymptotic limits. (English summary) *Phys. A* **252** (1998), *no.* 3-4, 505–546. (Zhibo Chen) **99c:05070** 05C15

— (*with* Shrock, Robert) Ground-state entropy of the Potts antiferromagnet on cyclic strip graphs. (English summary) *J. Phys. A* **32** (1999), *no.* 17, *L*195–*L*200. 82B20

Tsai, Tai-Peng On Leray's self-similar solutions of the Navier-Stokes equations satisfying local energy estimates. (English summary) *Arch. Rational Mech. Anal.* **143** (1998), *no.* 1, 29–51. (Alexander Yurjevich Chebotarev) **99j:35171** 35Q30 (76D05)

Tsaĭ, Titszin A strapdown inertial navigational system based on a canonical gravitational gradiometer. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 884–887; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 819–822 (1999). 70E99 (70M20)

Tsai, Tsang-Hsi Uniform CLT for Markov chains with a countable state space. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 481–498. (Sophia Kalpazidou) **99b:60035** 60F05 (60J10)

Tsai, Wei Yann (*with* Paik, Myunghee Cho) On using the Cox proportional hazards model with missing covariates. (English summary) *Biometrika* **84** (1997), *no.* 3, 579–593. (Summary) **99c:62280** 62N05 (62J12)

— (*with* Crowley, John) A note on nonparametric estimators of the bivariate survival function under univariate censoring. (English summary) *Biometrika* **85** (1998), *no.* 3, 573–580. (Summary) **99k:62195** 62N05 (62G05)

— (*with* Liu, Ping Yu) A modified logrank test for censored survival data under order restrictions. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 57–63. 62G10

Tsai, Y. S. (*with* Shyr, H. J.) Free submonoids in the monoid of languages. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 213–222. (Véronique Bruyère) **99f:68139** 68Q70 (20M35, 68Q45, 94A45)

Tsai, Yao-Chuan The UR data model revisited. (English summary) *Internat. J. Inform. Management Sci.* **10** (1999), *no.* 1, 47–71. 68P15

Tsai, Yi-Feng (*with* Farouki, Rida T.; Yuan, Guo-Feng) Contour machining of free-form surfaces with real-time PH curve CNC interpolators. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 1, 61–76. 65D17 (41A63)

Tsaih, R. R. An explanation of reasoning neural networks. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 2, 37–44. 68T05

Tsakalidis, Athanasios (*with* Makris, Christos) Algorithms for three-dimensional dominance searching in linear space. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 6, 277–283. (Summary) **99c:68252** 68U05

Tsakmakis, Ch. (*with* Kamlah, M.) Use of isotropic thermoelasticity laws in finite deformation viscoplasticity models. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 2, 73–88. (Summary) **99m:73035** 73E60 (73B30, 73E05, 73G20)

Tsalamengas, John L. Direct singular integral equation methods in scattering and propagation in strip- or slot-loaded structures. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 10, 1560–1570. 78–08

Tsalidis, Stavros Topological Hochschild homology and the homotopy descent problem. *Topology* **37** (1998), *no.* 4, 913–934. (Stanisław Betley) **99j:19002** 19D50 (55P42, 55P91)

Tsallagova, O. N. (*with* Lazebnik, A. I.) Construction of the convex hulls of functions in the realization of the branch and bound method. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 143–151; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 575–580. (Summary) **99i:90072** 90C25 (90C35)

Tsallis, Constantino (*with* Borland, Lisa; Plastino, Angel Ricardo) Information gain within nonextensive thermostatistics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6490–6501. (A. K. Rajagopal) **99k:82002a** 82B03 (82B30)

— (*with* de Magalhães, A. C. N.; Salinas, S. R.) Aperiodic interactions on hierarchical lattices: an exact criterion for the Potts ferromagnet criticality. (English summary) *J. Phys. A* **31** (1998), *no.* 33, *L*567–*L*573. (Summary) **99d:82016** 82B20

— (*with* Borland, Lisa; Plastino, Angel Ricardo) Erratum: "Information gain within generalized [non-extensive] thermostatistics". *J. Math. Phys.* **40** (1999), *no.* 4, 2196. (A. K. Rajagopal) **99k:82002b** 82B03 (82B30)

Tsalugelashvili, N. (*with* Vepkhvadze, T.) On the representation of numbers by certain quadratic forms in ten variables. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 45–55, *VSP, Utrecht*, 1997. (Rainer Schulze-Pillot) **99m:11047** 11E25

— On the representation of numbers by certain quadratic forms in nine variables. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 1, 16–19. (Vladimir G. Zhuravlev) **99m:11044** 11E25

— The construction of the bases of some eight step cusp form spaces. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 3, 359–361. (Michael C. Berg) **99k:11058** 11E45 (11F37)

Tsalyuk, Z. B. (*with* Derbenëv, V. A.) Asymptotics of the resolvent of an unstable Volterra equation with a difference kernel. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 88–94; *translation in Math. Notes* **62** (1997), *no.* 1-2, 74–79 (1998). (Summary) **99a:45005** 45D05 (45J05, 45M05, 45P05)

Tsamardinos, Ioannis (*with* Muscettola, Nicola; Morris, Paul) Fast transformation of temporal plans for efficient execution. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 254–261, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20 (68T27)

Tsamatos, P. Ch. (*with* Ntouyas, S. K.) Global existence for second order functional semilinear equations. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 3, 223–228. (Ioan I. Vrabie) **99b:34113** 34K05 (34K30)

— (*with* Ntouyas, S. K.) On the solvability of a boundary value problem for a second order differential equation with deviating arguments. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 525–538. (Summary) **99d:34122** 34K10

— (*with* Ntouyas, S. K.) Global existence for functional semilinear Volterra integrodifferential equations in Banach spaces. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 67–82. (C. Corduneanu) **99d:34156** 34K30 (35R10, 45K05)

— Boundary value problems for functional-differential equations with nonlinear boundary conditions. (English summary) *Arch. Math.* (*Brno*) **34** (1998), *no.* 2, 257–266. (Eduardo Liz) **99f:34098** 34K10 (34B15)

— (*with* Ntouyas, S. K.) Existence results for boundary value problems for differential equations with deviating arguments. (English summary) *Fasc. Math. No.* 28 (1998), 127–133. (William K. C. Yin) **99h:34096** 34K10

— (*with* Ntouyas, S. K.) Nagumo type conditions for second order differential equations with deviating arguments. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 29–41. (Lidia Skóra) **99m:34149** 34K05 (34K10)

Tsamis, N. C. (*with* Woodard, R. P.) Nonperturbative models for the quantum gravitational back-reaction on inflation. (English summary) *Ann. Physics* **267** (1998), *no.* 2, 145–192. (Enric Verdaguer) **99m:83086** 83C47 (83C45, 83F05)

— (*with* Iliopoulos, J.; Tomaras, T. N.; Woodard, R. P.) Perturbative quantum gravity and Newton's law on a flat Robertson-Walker background. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 419–446. (Summary) **99g:83035** 83C45

— (*with* Woodard, R. P.) Matter contributions to the expansion rate of the universe. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 21–28. (Summary) **99b:83041** 83C45 (83F05)

Tsamopoulos, John (*with* Housiadas, Kostas) Unsteady flow of an axisymmetric annular film under gravity. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2500–2516. (Summary) **99g:76049** 76D99

Tsamparlis, Michael Conformal reduction of a spacetime metric. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2901–2908. (Patrick Dolan) **99i:53070** 53C50 (53C80, 83C15)

— (*with* Nikolopoulos, Dimitris; Apostolopoulos, Pantelis S.) Computation of the conformal algebra of $1 + 3$ decomposable spacetimes. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2909–2921. (Sunil D. Maharaj) **99k:83036** 83C40

Tsang, Danny H. K. (*with* Gu, Jun; Du, Bin[2]; Wang, Wei) Multispace search for quorumcast routing. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 295–314, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68013** 68M10 (05C05, 05C85, 90B12)

Tsang, Edward P. K. (*with* Howarth, Richard J.) Spatio-temporal conflict detection and resolution. (English summary) *Constraints* **3** (1998), *no.* 4, 343–361. 90B35 (90C90)

Tsang, Wai Wan (*with* Marsaglia, George) The Monty Python method for generating random variables. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 3, 341–350. (Summary) **99k:65014** 65C10 (60E99)

Tsao, Anna (*with* Chern, Shiing-Shen; Kailath, Thomas; Kostant, Bertram; Moore, Calvin C.) Louis Auslander (1928–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 3, 390–395. (Editors) **99k:01053** 01A70

Tsao, Chen-Hai Andy (*with* Hwang, J. T. Gene) Improved confidence estimators for Fieller's confidence sets. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 299–310. (Summary) **99e:62033** 62F25 (62C15)

— Conditional coverage probability of confidence intervals in errors-in-variables and related models. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 165–170. (K. K. Ferentinos) **99k:62063** 62F25

Tsao, H.-S. J. (*with* Fang, Shu Cherng; Rajasekera, J. R.) ★ Entropy optimization and mathematical programming. International Series in Operations Research & Management Science, 8. *Kluwer Academic Publishers, Boston, MA*, 1997. x+343 *pp. ISBN* 0-7923-9939-0 (John J. Dinkel) **99b:90119** 90C30 (90–02, 94A17)

Tsapelas, Theothosios (*with* Petakos, Kyriakos) Reliability analysis for systems in a random environment. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 1021–1031. (Carl M. Harris) **99b:90066** 90B25 (60K10, 62N05)

Tsarenko, V. N. (*with* Kalla, Shyam L.; Virchenko, Nina) On some fractional order integral transforms generated by orthogonal polynomials. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 209–219. (K. C. Gupta) **99h:44007** 44A15 (26A33, 33C45, 44A20)

Tsar'kov, D. V. (*with* Zakharov, V. A.) Efficient algorithms for testing formulas of the temporal logic CTL on a model, and their application for verifying parallel programs. (Russian) *Programmirovanie* **1998**, *no.* 4, 3–18; *translation in Program. Comput. Software* **24** (1998), *no.* 4, 151–161. (From the introduction) **99m:68125** 68Q60 (03B70)

Tsar'kov, I. G. Smoothing of functions on the Hilbert ball. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 410–419. (Grzegorz Lewicki) **99m:41057** 41A65 (46C99)

Tsarpalias, A. (*with* Argyros, S. A.; Mercourakis, S.) Convex unconditionality and summability of weakly null sequences. (English summary) *Israel J. Math.* **107** (1998), 157–193. (G. J. O. Jameson) **99m:46021** 46B15 (40H05)

— A note on the Ramsey property. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 583–587. (Arnold W. Miller) **99c:04005** 04A20 (04A15)

Tsatsomeros, Michael J. (*with* McDonald, Judith J.; Olesky, D. Dale; Schneider, Hans; van den Driessche, P.) Z-pencils. (English summary) *Electron. J. Linear Algebra* **4** (1998), 32–38 (*electronic*). (Ronald L. Smith) **99h:15013** 15A22 (05C50, 15A48)

— (*with* McDonald, Judith J.; Nabben, Reinhard; Neumann, Michael; Schneider, Hans) Inverse tridiagonal Z-matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 75–97. (Summary) **99i:15037** 15A57 (15A09)

Tsay, Jyh-Jong (*with* Ding, Kuo-Shun; Ho, Ching-Tien) Matrix transpose on meshes with wormhole and XY routing. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 41–59. (Summary) **99d:15022** 15A99 (68M10, 68Q22)

Tsay, Ruey S. (*with* Li, Hong) A unified approach to identifying multivariate time series models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 770–782. (Summary) **99b:62137** 62M10 (62F15)

— Testing and modeling multivariate threshold models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1188–1202. 62M10

Tsay, Sun-Yuan (*with* Hwang, Jyh-Haur; Hwang, Chyi) Numerical computation of cross-covariance functionals for linear systems with multiple time delays. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 4, 409–423. 65K10 (93E11)

Tsay, Wen-Jen On the power of Durbin-Watson statistic against fractionally integrated processes. (English summary) *Econometric Rev.* **17** (1998), *no.* 4, 361–386. (Summary) **99i:62220** 62M10 (62P20)

Tschantz, Steven T. (*with* Ratcliffe, John G.) Volumes of integral congruence hyperbolic manifolds. *J. Reine Angew. Math.* **488** (1997), 55–78. (Kerry N. Jones) **99b:11076** 11H06 (11F06, 20H05, 57N15)

— (*with* Ratcliffe, John G.) Gravitational instantons of constant curvature. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2613–2627. (Athanase Papadopoulos) **99k:53127** 53C50 (51M10, 53C80, 57M50, 57N13, 83C99)

Tschinkel, Yu. (*with* Bogomolov, Fedor A.) Density of rational points on Enriques surfaces. *Math. Res. Lett.* **5** (1998), *no.* 5, 623–628. (Constantin D. Manoil) **99m:14040** 14G05 (14G25, 14J27, 14J28)

Tse, David N. C. (*with* Hanly, Stephen V.) Linear multiuser receivers: effective interference, effective bandwidth and user capacity. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 641–657. 94A05

Tse, K. L. (*with* Chasnov, J. R.) A Fourier-Hermite pseudospectral method for penetrative convection. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 489–505. (Summary) **99b:76067** 76M25 (76R05, 80A20)

Tsebers, A. O. Magnetic fluid free surface instability in a rotating field. *Magnetohydrodynamics* **34** (1998), *no.* 2, 116–122. 76E25 (76U05, 76W05)

— (*with* Flament, C.; Pacitto, G.; Bacri, J.-C.; Drikis, I.) Viscous fingering in a magnetic fluid. I. Radial Hele-Shaw flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2464–2472. (Summary) **99g:76149** 76W05 (76E25, 76S05)

Tsegel'nik, V. V. On two classes of exact self-similar solutions of the Boussinesq system. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 132–133, 144. 35Q35

— Self-similar solutions of some systems of nonlinear partial differential equations. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 61–63, 141. 35A25

Tseĭtlin, M. G. (*with* Fedorova, A. N.) Wavelets in optimization and approximations. (English summary) 2nd IMACS Symposium on Mathematical Modelling (Vienna, 1997). *Math. Comput. Simulation* **46** (1998), *no.* 5-6, 527–534. (*see* **99d:00030**) 42C15

— (*with* Fedorova, A. N.) Wavelet approach to mechanical problems. Symplectic group, symplectic topology and symplectic scales. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 31–40, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99i:58067** 58F06 (42C15, 58F05)

— (*with* Fedorova, A. N.) Wavelet approach to polynomial mechanical problems. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 101–108, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70–08 (42C15)

Tsekanovskiĭ, Eduard (*with* Gesztesy, Fritz; Makarov, Konstantin A.) An addendum to Krein's formula. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 594–606. (M. M. Malamud) **99g:47047** 47B25 (47A20)

Tsekrekos, P. C. A note on compressible ordered normed spaces. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 2, 111–119. (Gerard Buskes) **99c:47047** 47B60 (46B40)

Tselnik, David S. On trigonometric series expansions of twelve Jacobian elliptic functions. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 715–730. (Summary) **99e:33025** 33E05

— Erratum: "On representation and series expansions of $F(z)$" [J. Math. Anal. Appl. **211** (1997), no. 2, 527–544; MR 98i:30042]. *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 274. 30D30

Tseng, H. C. *see* **Tseng, Hsen Che**

Tseng, H. Chris (*with* Liu, J. Gary) Information storage in Hopfield model with reduced complexity. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 347–362. 68T05 (92B20)

Tseng, Hsen Che (*with* Chen, Masao R. Y.) On the second law of thermodynamics and contact geometry. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 329–344. (Renuka Datta) **99c:80001** 80A05 (53C80, 80A10)

Tseng, Paul (*with* Bertsekas, Dimitri P.; Polymenakos, Lazaros C.) ϵ-relaxation and auction methods for separable convex cost network flow problems. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 103–126, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (Summary) **99i:90106** 90C35 (90B10)

— Alternating projection-proximal methods for convex programming and variational inequalities. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 951–965. (M. Teboulle) **99a:90156** 90C25 (47H19, 49J40, 90C33)

— Merit functions for semi-definite complementarity problems. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 159–185. (Levent Tunçel) **99m:90147** 90C33

— Search directions and convergence analysis of some infeasible path-following methods for the monotone semi-definite LCP. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 4, 245–268. (Summary) **99e:90102** 90C33 (90C08)

— An incremental gradient(-projection) method with momentum term and adaptive stepsize rule. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 506–531 (*electronic*). (Min Sun) **99d:90120** 90C30 (49M07)

Tsepelev, I. A. (*with* Korotkiĭ, A. I.) On an inverse dynamic problem for Goursat-Darboux system. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 19 *pp.* (*electronic*). (Guan Quan Zhang) **99j:35232** 35R30 (65M30)

— (*with* Ismail-zade, A. T.; Korotkiĭ, A. I.; Naĭmark, B. M.; Suetov, A. P.) Realization of a three-dimensional hydrodynamic model of the evolution of sedimentary basins. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1190–1203; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1138–1151. (Summary) **99f:86008** 86A60 (76D05, 86–08)

Tsereteli, I. On one question, concerning dimension theory of Tychonoff spaces. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 2, 210–215. (Summary) **99f:54044** 54F45

Tseskis, A. L. Notices on quantum gravity. (English summary) *Phys. Scripta* **58** (1998), *no.* 6, 664–667. (Summary) **99h:83026** 83C45

Tseytlin, Arkady A. Closed strings in uniform magnetic field backgrounds. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 466–487, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81205** 81T30 (83E30)

— Composite black holes in string theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 602–607, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57 (83E30)

— (*with* Klebanov, Igor R.; Rajaraman, Arvind) Intermediate scalars and the effective string model of black holes. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 157–176. (Summary) **99a:83066** 83E30 (81T30, 83C57)

— (*with* Russo, Jorge G.) Green-Schwarz superstring action in a curved magnetic Ramond-Ramond background. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 14, 11 *pp.* (*electronic*). (Marco Cavaglià) **99c:81208** 81T30 (83E30, 83E50)

— (*with* Chepelev, I.) Long-distance interactions of branes: correspondence between supergravity and super Yang-Mills descriptions. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 73–113. (Sergey Nikolaevich Roshchupkin) **99c:81173** 81T30 (83E30)

— (*with* Chepelev, I.) On membrane interaction in matrix theory. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 69–85. (Summary) **99c:81174** 81T30 (83E30)

— (*with* Liu, Hong[2]) $D = 4$ super Yang-Mills, $D = 5$ gauged supergravity and $D = 4$ conformal supergravity. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 88–108.

(Summary) **99g:81212** 81T60 (81T13, 81T30, 83E50)
— (*with* Gubser, Steven S.; Klebanov, Igor R.) Coupling constant dependence in the thermodynamics of $\mathcal{N} = 4$ supersymmetric Yang-Mills theory. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 202–222. (Summary) **99m:81249** 81T60 (81T13, 81T15, 81T30, 83C57)
— Interactions between branes and Matrix theories. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 99–110. (Summary) **99d:81163** 81T60 (81T13, 81T30, 83E30)
— (*with* Itzhaki, Nissan; Yankielowicz, Shimon) Supergravity solutions for branes localized within branes. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 298–304. (Summary) **99c:83093** 83E30 (83E50)
— (*with* Metsaev, R. R.) Supersymmetric D3 brane action in $AdS_5 \times S^5$. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 281–288. (Summary) **99f:81174** 81T30 (83E30)
— (*with* Cvetič, Mirjam) Sigma model of near-extreme rotating black holes and their microstates. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 381–394. (Summary) **99h:83035** 83C57 (81T40)
— (*with* Yankielowicz, Shimon) Free energy of $N = 4$ super Yang-Mills in Higgs phase and non-extremal D3-brane interactions. (English summary) *Nuclear Phys. B* **541** (1999), *no.* 1-2, 145–162. (Summary) **99m:81266** 81T60 (81T13, 81T30)
Tshikuna-Matamba, T. Sur les G_l-submersions métriques presque de contact. (English summary) [G_l-almost contact metric submersions] *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 42–51 (1998). (José A. Oubiña) **99j:53032** 53C15
Tsiatis, Anastasios A. (*with* Hu, Ping^2; Davidian, Marie) Estimating the parameters in the Cox model when covariate variables are measured with error. (English and French summaries) *Biometrics* **54** (1998), *no.* 4, 1407–1419. 62N05
Tsifra, I. M. (*with* Symenoh, Z. I.) Equivalence transformations and symmetry of the Schrödinger equation with variable potential. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 177–184, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:35230** 35Q55 (81Q05)
— Conformal invariance of the Maxwell-Minkowski equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 307–312, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 78A25
— (*with* Fushchich, Vīl'gel'm Īlīch; Symenoh, Z. I.) Symmetry of the Schrödinger equation with variable potential. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 13–22. (Sen Yue Lou) **99a:35233** 35Q55 (35A30, 35Q53)
Tsiganchev, Dimitar (*with* Drensky, Vesselin) New polynomial identities for 2×2 generic matrices in characteristic 2. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 83–91. (Yu. N. Mal'tsev) **99i:16047** 16R10
Tsiganov, A. V. *see* **Tsyganov, A. V.**
Tsigroshvili, Z. P. On a model with a large number of rare events. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 3, 380–385 (1995). 62P99
— (*with* Maglaperidze, N. O.; van Pul, M.) Goodness-of-fit tests for parametric hypotheses on the distribution of point processes. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 60–77. (Martin Jacobsen) **99m:62071** 62G10 (62M07)
Tsikalenko, T. V. (*with* Albeverio, Sergio; Kondrat'ev, Yu. G.; Röckner, Michael) Uniqueness of Gibbs states for quantum lattice systems. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 2, 193–218. (Summary) **99d:82009** 82B10 (60H30, 60K35, 82B31)
Tsikh, A. K. (*with* Passare, Mikael; Cheshel', A. A.) Multiple Mellin-Barnes integrals as periods on Calabi-Yau manifolds with several moduli. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 3, 381–394; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 3, 1544–1555 (1997). (V. V. Chueshev) **99d:32026** 32G20 (14J15, 14J32, 32A27, 32G05, 33E20)
— (*with* Zhdanov, O. N.) Computation of multiple Mellin-Barnes integrals by means of multidimensional residues. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 2, 154–156. (Harold P. Boas) **99k:32007** 32A27 (33B15, 33E20)
— (*with* Zhdanov, O. N.) Investigation of multiple Mellin-Barnes integrals by means of multidimensional residues. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 281–298, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 245–260. (Faizo A. Shamoyan) **99j:30044** 30E20 (33B15, 44A20)
Tsikh, I. A. (*with* Kytmanov, A. M.) On the holomorphic continuation of CR-hyperfunctions into a fixed domain. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1319–1334, *iii*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1146–1159. (Sergey Ivashkovich) **99e:32015** 32D15 (32A45)
Tsĭkhanenka, A. M. *see* **Tikhonenko, O. M.**
Tsikhistavi, Z. È. Spectral asymptotics of polynomial pencils of differential operators in $\mathbf{R}^n$. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 257–260 (1991). 47A56 (47F05)
Tsiklauri, Z. The classes of functions and (C, α) summability of a Fourier series according to the system of generalized spherical functions. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 21–23. 42A05 (42A10)
— The classes of functions and summability of a Fourier series by Abel method according to the system of generalized spherical functions. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 3, 331–332. 42A24
— The transformation of Fourier series according to generalized spherical functions. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 1, 20–21. 42C10
Tsimikas, John V. (*with* Ledolter, Johannes) Analysis of multi-unit variance components models with state space profiles. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 147–164. (S. M. Pandit) **99e:62168** 62M20 (60G35, 62M10)
Tsimpis, Dimitrios Nahm equations and boundary conditions. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 287–290. (Introduction) **99e:81246** 81T60 (81T13)
Tsin, Yung H. (*with* Wang, Cao An) Finding constrained and weighted Voronoi diagrams in the plane. (English summary) *Comput. Geom.* **10** (1998), *no.* 2, 89–104. (Summary) **99a:52020** 52B55 (68U05)
Tsing, N. K. (*with* Lam, James; Tso, H. K.) Robust deadbeat regulation. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 587–602. (Summary) **99m:93094** 93D21 (93B35)
Tsingelis, Michael (*with* Kehayopulu, Niovi) The ideal extensions of ordered semigroups. (English summary) Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 89–93. (*see* **99a:00037**) 20M99
— (*with* Kehayopulu, Niovi) On weakly commutative ordered semigroups. *Semigroup Forum* **56** (1998), *no.* 1, 32–35. (Juturu Hanumanthachari) **99b:06014** 06F05 (20M99)
— (*with* Kehayopulu, Niovi) On separative ordered semigroups. *Semigroup Forum* **56** (1998), *no.* 2, 187–196. (B. Pondělíček) **99c:06017** 06F05 (20M10)
Tsinias, J. Versions of Sontag's input to state stability condition and output feedback global stabilization. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 1, 17 *pp.* (*electronic*). (Summary) **99h:93089** 93D15 (93C10)
— Control Lyapunov functions, input-to-state stability and applications to global feedback stabilization for composite systems. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 2, 31 *pp.* (*electronic*). (Éva Gyurkovics) **99h:93090** 93D15 (93D25)
— Stochastic input-to-state stability and applications to global feedback stabilization. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 907–930. (V. N. Fomin) **99j:93111** 93E15 (60H10, 93D15, 93D25)
Tsinober, A. Turbulence: beyond phenomenology. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 85–143, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Summary) **99g:76066** 76Fxx
Tsintsadze, Zurab The Lagrange principle of taking restrictions off and its application to linear optimal control problems in the presence of mixed restrictions and delays. (English and Georgian summaries) Dedicated to Revaz Gamkrelidze. *Mem. Differential Equations Math. Phys.* **11** (1997), 105–128. (Vladimir I. Sumin) **99k:49058** 49K25 (49N15)
Tsionas, Efthymios G. Monte Carlo inference in econometric models with symmetric stable disturbances. (English summary) *J. Econometrics* **88** (1999), *no.* 2, 365–401. 62P20
Tsiotras, George Analysis of a two-level queuing production system with finite dedicated buffers. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 315–321. 90B22 (90B30)
Tsiotras, Panagiotis (*with* Rotea, Mario A.; Corless, Martin) Suboptimal control of rigid body motion with a quadratic cost. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 55–81. (Summary) **99j:93067** 93C85 (70E15, 70Q05)
— Further passivity results for the attitude control problem. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1597–1600. 93D21 (93C95)
— (*with* Corless, Martin; Rotea, Mario A.) Optimal control of rigid body angular velocity with quadratic cost. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 507–532. (Alexander M. Kovalev) **99a:70046** 70Q05 (49K15, 70E15, 93C15, 93D15)
— (*with* Luo, Jihao) Exponentially convergent control laws for nonholonomic systems in power form. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 87–95. (Summary) **99g:93032** 93B50 (70F25, 70Q05, 93C85)
— (*with* Krstić, Miroslav) Inverse optimal stabilization of a rigid spacecraft. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1042–1049. 93D15 (93C95)
Tsiporkova-Hristoskova, Elena (*with* De Baets, Bernard; Kerre, Etienne E.) Continuity of fuzzy multivalued mappings. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 335–348. (Osmo Kaleva) **99b:54008** 54A40 (26E50, 54C60)
— (*with* De Baets, Bernard; Kerre, Etienne E.) On the structure of the classes of stable and pure fuzzy sets. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 225–240. (Summary) **99d:03050** 03E72 (54A40)
— (*with* Kerre, Etienne E.) Composition, Cartesian and direct products of fuzzy multivalued mappings. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 325–346. (From the summary) **99m:03113** 03E72
Tsirelson, Boris Within and beyond the reach of Brownian innovation. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 311–320 (*electronic*). (Akio Noda) **99i:60082** 60G07 (60H10, 60J60, 60J65)
— (*with* Vershik, Anatoliĭ Moiseevich) Examples of nonlinear continuous tensor products of measure spaces and non-Fock factorizations. *Rev. Math. Phys.* **10** (1998), *no.* 1, 81–145. (Kalyanapuram R. Parthasarathy) **99c:60085** 60G20 (46L99, 46N50, 60A10)
Tsirikos, A. S. (*with* Paraskevopoulos, P. N.) Disturbance rejection with simultaneous linear exact model matching for a class of nonlinear systems. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1299–1325. (Summary) **99f:93122** 93D15 (93C10)
Tsirlin, A. M. (*with* Mironova, V. A.; Sobolev, V. A.) Optimal control of flows of raw materials and finished goods by price variations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 91–100; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 2, 229–236. 90A16 (90A53)
— (*with* Belyaeva, N. P.) Optimal control of the buying and selling of stock shares. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 135–143; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 568–574. (Summary) **99k:90021** 90A09 (90A12, 90A16)
Tsironis, G. P. (*with* Hennig, D.) Wave transmission in nonlinear lattices. (English summary) *Phys. Rep.* **307** (1999), *no.* 5-6, 333–432. (Summary) **99i:81056** 81Q99 (82D99)
Tsitouras, Ch. (*with* Papageorgiou, George) Continuous extensions to high order Runge-Kutta methods. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 273–291. (Summary) **99m:65135** 65L06
— (*with* Simos, T. E.) Explicit high order methods for the numerical integration of periodic initial-value problems. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 15–26. (Summary) **99c:65129** 65L05
— High-order zero-dissipative Runge-Kutta-Nyström methods. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 157–161. (Summary) **99d:65220** 65L06
— (*with* Papageorgiou, George; Famelis, I. Th.) A P-stable singly diagonally implicit Runge-Kutta-Nyström method. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 345–353. 65L06
— A high-order explicit Runge-Kutta pair for initial value problems with oscillating solutions. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 6, 31–36. (Summary) **99k:65059** 65L06
Tsitovich, I. I. (*with* Malyutov, M. B.) On sequential search for significant variables of unknown function. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 155–178, *VSP, Utrecht*, 1996. (Alexander V. Gnedin) **99c:62216** 62L05 (94A99)
— (*with* Malyutov, M. B.) Sequential search for the essential variables of an unknown function. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4,

88–107; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 362–377 (1998). (D. Stanomir) **99k:94011** 94A12

Tsitsiashvili, G. Sh. (*with* Svyatukha, V. A.) Decomposition effects in the method of cosinor analysis. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 173–176, 201. 65T10 (92C30)

— Construction and investigation of a probabilistic model of a sliding regime. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 187–192, 201. (Summary) **99i:60180** 60K99 (60H30, 93B12)

— Some applied problems of stability of stochastic models. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci. (New York)* **89** (1998), *no.* 5, 1576–1581. (*see* **99d:00033**) 60K99

— Asymptotic analysis of the queueing system $G|G|1|\infty$ with group servicing. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci. (New York)* **91** (1998), *no.* 3, 3005–3007. (Gerard Hooghiemstra) **99k:60238** 60K25

Tsitsiklis, John N. (*with* Blondel, Vincent D.) The Lyapunov exponent and joint spectral radius of pairs of matrices are hard—when not impossible—to compute and to approximate. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 1, 31–40. (Summary) **99h:65238a** 65Y20 (15A42, 34D08, 68Q25)

— (*with* Blondel, Vincent D.) Lyapunov exponents of pairs of matrices. A correction: "The Lyapunov exponent and joint spectral radius of pairs of matrices are hard—when not impossible—to compute and to approximate". *Math. Control Signals Systems* **10** (1997), *no.* 4, 381. (From the text) **99h:65238b** 65Y20 (15A42, 34D08, 68Q25)

— (*with* Bertsimas, Dimitris; Paschalidis, Ioannis Ch.) On the large deviations behavior of acyclic networks of $G/G/1$ queues. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 1027–1069. (Anatolii A. Pukhal'skiĭ) **99j:60139** 60K25 (60F10)

— (*with* Polymenakos, Lazaros C.; Bertsekas, Dimitri P.) Implementation of efficient algorithms for globally optimal trajectories. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 278–283. (Panos M. Pardalos) **99d:49057** 49M25 (90C30)

— (*with* Bertsimas, Dimitris; Paschalidis, Ioannis Ch.) Asymptotic buffer overflow probabilities in multiclass multiplexers: an optimal control approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 315–335. (Summary) **99a:93108** 93E20 (90B25)

— (*with* Blondel, Vincent D.) Overview of complexity and decidability results for three classes of elementary nonlinear systems. (English summary) *Learning, control and hybrid systems (Bangalore, 1998)*, 46–58, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B40 (65Y20, 68Q25, 93C10)

Tsitskishvili, Avtandil Solution of the Schwarz differential equation. (English and Georgian summaries) Dedicated to Revaz Gamkrelidze. *Mem. Differential Equations Math. Phys.* **11** (1997), 129–156. (V. A. Tkachenko) **99i:34009** 34A20

Tso, H. K. (*with* Lam, James; Tsing, N. K.) Robust deadbeat regulation. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 587–602. (Summary) **99m:93094** 93D21 (93B35)

Tso, K. (*with* Chow, K. W.; Lai, Wing Chiu Derek; Shek, C. K.) Positon-like solutions of nonlinear evolution equations in $(2+1)$ dimensions. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1901–1912. (Summary) **99i:35135** 35Q53

Tso, Kaising (*with* Zhu, Xi-Ping) An integrability condition for Monge-Ampère equations on a Kähler manifold. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 46–58. (Shanyu Ji) **99b:32015** 32F07 (35J99)

Tso, S. K. (*with* Li, Han-Xiong) Duality of conventional fuzzy logic control. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 4, 577–596. 93C42

Tso, Taicheng Existence theory of the initial value problem for the GBBM equation. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 3, 303–314. (Summary) **99m:35213** 35Q53 (35K55)

Tsodikov, A. D. Asymptotic efficiency of a proportional hazards model with cure. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 237–244. 62F12 (62N05, 62P10)

Tsogka, C. (*with* Joly, Patrick; Bécache, E.) Fictitious domain method applied to the scattering by a crack of transient elastic waves in anisotropic media: a new family of mixed finite elements leading to explicit schemes. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 322–326, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 73V20 (73D25)

Tsotsos, J. K. (*with* Parodi, P.; Lancewicki, R.; Vijh, A.) Empirically-derived estimates of the complexity of labeling line drawings of polyhedral scenes. (English summary) *Artificial Intelligence* **105** (1998), *no.* 1-2, 47–75. (Evangelos Kranakis) **99i:68065** 68Q25 (68T99)

Tsou, Sheung Tsun *see* **Geometric universe, 99b:00015**

Tsoukiàs, Alexis (*with* Greco, Salvatore; Matarazzo, Benedetto; Słowiński, Roman) Exploitation of a rough approximation of the outranking relation in multicriteria choice and ranking. (English summary) *Trends in multicriteria decision making (Cape Town, 1997)*, 45–60, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90A05)

Tsoutsinos, G. I. A duality scheme for convex control problems with time-delay. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 344–364. (M. Margarida Amorim Ferreira) **99j:49053** 49K25 (34K35, 49N15)

Tsuboi, Akito (*with* Pillay, Anand) Amalgamations preserving $\aleph_0$-categoricity. *J. Symbolic Logic* **62** (1997), *no.* 4, 1070–1074. (G. Cherlin) **99m:03062** 03C35 (03C45)

— (*with* Ikeda, Koichiro; Pillay, Anand) On theories having three countable models. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 161–166. (G. Cherlin) **99m:03061** 03C15 (03C35, 03C45)

Tsuboi, Takashi Irrational foliations of $S^3 \times S^3$. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 605–623. (Robert A. Wolak) **99k:57060** 57R32 (57R30, 57R50, 58F18, 58H99)

Tsuboi, Zengo Analytic Bethe ansatz and functional equations for Lie superalgebra $\mathrm{sl}(r+1|s+1)$. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7975–7991. (Summary) **99f:82024** 82B23 (17B81, 81R05)

Tsuchida, Takayuki (*with* Wadati, Miki) Bi-Hamiltonian structure of modified Volterra model. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 869–873. (Summary) **99i:39031** 39A12 (58F05)

Tsuchida, Tetsuo (*with* Fujiwara, Daisuke) The time slicing approximation of the fundamental solution for the Schrödinger equation with electromagnetic fields. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 299–327. (Vitali A. Liskevich) **99b:35029** 35J10 (35A08, 47N50, 81Q05, 81V10)

— Inverse boundary value problems for Dirac operators with small potentials. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 15–31. (*see* **99a:00049**) 35R30 (35Q40, 81Q05)

— An inverse boundary value problem for Dirac operators with small potentials. *Kyushu J. Math.* **52** (1998), *no.* 2, 361–382. (Christian Remling) **99b:35234** 35R30 (35J10)

Tsuchimoto, Yoshifumi Constructions on non-commutative schemes. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 85–95. (P. Abellanas) **99d:14001** 14A22

Tsuchiya, Akihiro (*with* Arakawa, Tomoyuki; Suzuki, Takeshi) Degenerate double affine Hecke algebra and conformal field theory. (English summary) *Topological field theory, primitive forms and related topics (Kyoto, 1996)*, 1–34, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Matthias Dörrzapf) **99i:17025** 17B67 (81T40)

Tsuchiya, Asato (*with* Fukuma, Masafumi; Kawai, Hikaru; Kitazawa, Yoshihisa) String field theory from IIB matrix model. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 153–164. (Summary) **99d:81116** 81T30

Tsuchiya, Kenichi (*with* Sha, Weiming; Nakabayashi, Koichi) The linear stability of thermally stratified rotating channel flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 439–449. 76E99 (76U05)

Tsuchiya, Masa (*with* Tovbis, Alexander; Jaffé, Charles) Exponential asymptotic expansions and approximations of the unstable and stable manifolds of singularly perturbed systems with the Hénon map as an example. (English summary) *Chaos* **8** (1998), *no.* 3, 665–681. (Jürgen Scheurle) **99j:58189** 58F30 (34C37, 65Q05, 70K99)

Tsuchiya, Osamu Determinant formula for the six-vertex model with reflecting end. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5946–5951. (Deng Feng Wang) **99h:82018** 82B20 (81U40)

— Two-component one-dimensional gas with integrable open boundary conditions. (English summary) *J. Phys. A* **31** (1998), *no.* 41, 8333–8340. (Nicolae Angelescu) **99k:82026** 82B23 (82B10)

Tsuchiya, Takahiro (*with* Matsunawa, Tadashi) Discrete multivariate model building based on a statistical fundamental difference equation. (Japanese. Japanese summary) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 1, 227–240. 62H05 (62E15)

Tsuchiya, Takashi Affine scaling algorithm. (English summary) *Interior point methods of mathematical programming*, 35–82, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05

— (*with* Monteiro, Renato D. C.) Polynomiality of primal-dual algorithms for semidefinite linear complementarity problems based on the Kojima-Shindoh-Hara family of directions. (English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 138–152. (Tamás Terlaky) **99c:90135** 90C33

— (*with* Megiddo, Nimrod; Mizuno, Shinji) A modified layered-step interior-point algorithm for linear programming. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 339–355. (S. S. Chadha) **99h:90063** 90C05

— A scaling-invariant self-dual subfamily of the Monteiro-Tsuchiya family of search directions for the primal-dual algorithms for semidefinite programming. (Japanese. English and Japanese summaries) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 2, 283–296. 90C30 (90C08)

— New trends in optimization: interior point algorithms and related topics. I. Synopsis and history; interior point algorithms for linear programming problems. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 4, 218–226. 90C05 (90C08)

— New trends in optimization—interior point algorithms and related topics. II. Primal-dual methods for linear programming problems. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 6, 334–343. 90C05 (90–02)

— New trends in optimization algorithms: interior point algorithms and related topics. IIJ. Semidefinite programming problems. I. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 460–469. (*see* **99g:93006**) 90C30 (90–02)

— New trends in optimization—interior point algorithms and related topics. IV. Semidefinite programming problems. II. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 10, 550–559. 90C30 (90–02, 90C05)

— New trends in optimization—interior point algorithms and related topics. V. Primal-dual interior point methods for second-order cone programming problems and primal interior point methods for self-concordant barrier functions. I. (Japanese. Japanese summary) *Systems Control Inform.* **42** (1998), *no.* 12, 677–686. 90C20 (90–02)

Tsuda, Kôichi (*with* Kawamura, Kazuhiro) Universal spaces for finite-dimensional closed images of locally compact metric spaces. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 175–193. (V. J. Mancuso) **99c:54044** 54E40 (54C99, 54D30, 54F45, 54F65)

Tsuda, Motomu (*with* Shirafuji, Takeshi) Minimal off-shell version of $N=1$ chiral supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087702, 4 *pp.* (Summary) **99m:83207** 83E50

— (*with* Shirafuji, Takeshi) Construction of $N=2$ chiral supergravity compatible with the reality condition. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 69–77. (Piet Termonia) **99m:83208** 83E50 (81T60)

Tsuda, Noritsugu (*with* Egawa, H. S.) Random surfaces in three-dimensional simplicial gravity. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 223–230. (Summary) **99c:83021** 83C27 (83C45)

— (*with* Oda, Satsuki; Yukawa, Tetsuyuki) Grand-canonical simulation of two-dimensional simplicial gravity. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 875–884. (Summary) **99d:83033** 83C27 (83–08)

Tsuda, Yoshiyuki Construction of approximately exact tests for the difference of exponential means. (Japanese) Large deviation and statistical inference (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1055 (1998), 117–124. (*see* **99m:62007**) 62F05

Tsue, Yasuhiko (*with* Kuriyama, Atsushi; da Providência, João; Yamamura, Masatoshi) Modification of the conventional Holstein-Primakoff boson representation for the su(1, 1)-algebra and its classical counterpart. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 819–829. (Dennis Bonatsos) **99m:81075** 81R05 (20C35, 22E70)

Tsugē, S. (*with* Ishibashi, K.; Nakagawa, T. M. S.) Solitary-wave solution of turbulence with application to Bénard convection. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 227–236, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 76F99

Tsui, Chia-Chi High-performance state feedback, robust, and output feedback stabilizing control—a systematic design algorithm. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 560–563. 93D15 (93B51)

— A new dynamic output feedback compensator design for pole assignment. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 665–674. (Summary) **99m:93044** 93B55 (93C80)

Tsui, Kai-yuen (*with* Weymark, John A.) Social welfare orderings for ratio-scale measurable utilities. (English summary) *Econom. Theory* **10** (1997), *no.* 2, 241–256. (Prasanta K. Pattanaik) **99c:90010** 90A07 (90A08)

— Multidimensional inequality and multidimensional generalized entropy measures: an axiomatic derivation. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 145–157. (Summary) **99i:90008** 90A05 (90A14)

Tsui, Kam-Wah (*with* Leu, Ching-Ho) Discriminant analysis of survey data. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 2, 273–290. (Summary) **99g:62013** 62D05 (62H30)

— (*with* Leu, Ching-Ho) The effect of sampling design on Anderson's expansion of the distribution of Fisher's sample discriminant function. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1115–1130. (Summary) **99j:62089** 62H30

Tsui, Kwok-Leung (*with* Shao, Jun[1]) Form tolerance estimation using jackknife methods. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 119–133. (Summary) **99f:62056** 62G05

Tsui, Sze-Kai (*with* Hou, Xue Zhang) A control theory for Cartesian flexible robot arms. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 265–288. (Clementina D. Mladenova) **99h:93069** 93C85 (70B15, 70Q05, 73K50, 93D15)

— (*with* Hou, Xue Zhang) A mathematical model for control of flexible robot arms. *Systems modelling and optimization (Detroit, MI, 1997)*, 391–398, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C85 (70B15, 70Q05, 93A30)

Tsuiki, Hideki A computationally adequate model for overloading via domain-valued functors. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 4, 321–349. (Summary) **99d:68046** 68N17 (68Q55)

Tsuji, Hidekazu Propagation of soliton waves in a stratified fluid. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 161–171. (*see* **99a:00032**) 76V05 (76C10)

— (*with* Oikawa, Masayuki) Generation of long waves due to topography in two-layer fluids with one very deep layer. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 180–190. (*see* **99f:76003**) 76V05 (76C99)

Tsuji, Kohkichi Application of Petri nets to intelligent systems. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 454–459. (*see* **99g:93006**) 93C83 (93C95)

Tsuji, Kumiko Error estimate of elliptic integral by Chebyshev collocation method. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 415–422, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65N35

Tsuji, Marcelo Many-valued logics and Suszko's Thesis revisited. (English summary) *Studia Logica* **60** (1998), *no.* 2, 299–309. (Piotr Wojtylak) **99b:03040** 03B50

— *see also* **Contemporary Brazilian research in logic, 99g:03003**

Tsuji, Miki (*with* Kajiwara, Joji; Shon, Kwang Ho) Localization of global existence of holomorphic solutions of holomorphic differential equations with infinite-dimensional parameter. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 687–700. (Hidetoshi Tahara) **99m:32039** 32K99 (32C35, 32F15, 34A20)

— Extension problem of holomorphic functions. (English summary) CR geometry and isolated singularities (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1037 (1998), 116–121. (Francine A. Meylan) **99j:32015** 32D15

Tsuji, Mikio Extension of solutions for Monge-Ampère equations of hyperbolic type. *Singularities and differential equations (Warsaw, 1993)*, 437–447, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Introduction) **99d:35109** 35L70 (58C27)

— Geometric approach to blow-up phenomena in non-linear problems. *Real analytic and algebraic singularities (Nagoya/Sapporo/Hachioji, 1996)*, 164–180, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Shyūichi Izumiya) **99c:35006** 35A20 (35B05, 35Lxx, 58C27)

Tsuji, Takae Semi-local units modulo global units. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 188–197. (*see* **99a:11003**) 11R23 (11R27)

— Semi-local units modulo cyclotomic units. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 81–88. (Masakazu Yamagishi) **99h:11124** 11R23

Tsuji, Takeshi p-adic Hodge theory in the semi-stable reduction case. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 207–216 (*electronic*). (Guy Laffaille) **99g:14020** 14F30

— On p-adic Hodge theory. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 63–75. (Nobuo Tsuzuki) **99k:14037** 14F30 (14F20, 14F40)

Tsuji, Teruo (*with* Yang, Zi-Jiang; Sagara, Setsuo) Multiresolution approach to identification of system impulse response. *Statistical methods in control and signal processing*, 149–177, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E12 (93C57)

— (*with* Yang, Zi-Jiang; Hachino, Tomohiro) On-line identification of continuous time-delay systems combining least-squares techniques with a genetic algorithm. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 23–42. 93B30 (93C30)

Tsuji, Yoshiyuki (*with* Nakamura, Ikuo) Probability density function in the log-law region of low Reynolds number turbulent boundary layer. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 647–658. (Summary) **99j:76065** 76F99 (76M35)

Tsujii, Masato A transversality condition for quadratic family at Collet-Eckmann parameter. Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 99–101. (*see* **99h:58002**) 58F11

Tsujii, Yoshiki (*with* Mori, Takakazu; Yasugi, Mariko) Computability structures on metric spaces. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 351–362, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:03030** 03D45 (03F65)

Tsujikawa, Tohru Stability of aggregating patterns in a chemotaxis model including growth. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai, 1994)*, 159–165, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35Q80 (35B35, 92C15, 92C35)

Tsujimaru, S. (*with* Antonuccio, F.; Lunin, O.; Pinsky, Stephen S.; Pauli, Hans-Christian) DLCQ spectrum of $\mathcal{N} = (8, 8)$ super Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105024, 11 *pp.* (Summary) **99m:81234** 81T60 (81T13)

— (*with* Antonuccio, F.; Pauli, Hans-Christian; Pinsky, Stephen S.) DLCQ bound states of $\mathcal{N} = (2, 2)$ super-Yang-Mills theory at finite and large N. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125006, 9 *pp.* (Summary) **99m:81235** 81T60 (81T13)

Tsujimoto, Keiichi (*with* Sugimoto, Mitsuru) A resolvent estimate and a smoothing property of inhomogeneous Schrödinger equations. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 5, 74–76. 35J10 (47F05)

Tsujimoto, Satoshi (*with* Hirota, Ryogo) Pfaffian representation of solutions to the discrete BKP hierarchy in bilinear form. (English summary) *J. Phys. Soc. Japan* **65** (1996), *no.* 9, 2797–2806. (Francisco Balibrea) **99c:39021** 39A12 (58F07)

— The structure of solutions to discrete soliton equations. (Japanese) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 28–36. (*see* **99a:00024**) 58F07 (39A12)

— (*with* Hirota, Ryogo) Ultradiscrete KdV equation. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1809–1810. (Summary) **99i:39032** 39A12 (35Q53, 58F07)

Tsujioka, Kunio Remarks on controllability of Euler-Bernoulli equations with a singular boundary condition. (English summary) *Saitama Math. J.* **15** (1997), 73–83. (Sergei A. Avdonin) **99b:93012** 93B05 (34G20, 35Q72, 73K50, 93C20)

Tsujishita, Toru (*with* Johnstone, Peter; Power, Anthony John; Watanabe, Hiroshi[6]; Worrell, James) An axiomatics for categories of transition systems as coalgebras. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 207–213, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q55 (03B70, 18B05, 68Q10)

Tsukada, Kazumi Holomorphic maps of compact generalized Hopf manifolds. (English summary) *Geom. Dedicata* **68** (1997), *no.* 1, 61–71. (Shanyu Ji) **99a:53083** 53C55 (53C56)

Tsukada, Makoto (*with* Takahasi, Sin-Ei) Conditions for equality to hold in an inverse Jensen inequality. (Japanese. Japanese summary) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 6–11. (*see* **99i:00029**) 26D15

Tsukada, Shin-ichi (*with* Sugiyama, Takakazu) On the distributions of likelihood ratio criterion for equality of characteristic vectors in two populations. (English summary) *Bull. Fac. Sci. Engrg. Chuo Univ. Ser. I Math.* **40** (1997), 1–11 (1998). (Nariaki Sugiura) **99g:62080** 62H15 (62H10)

— Three statistics for hypothesis testing of intermediate latent vector of covariance matrix and their bootstrap tests. (English summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 2, 163–174. (Summary) **99m:62086** 62H15

Tsukada, Takaharu Stability of optical caustics with r-corners. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 633–650. (Enrique Outerelo Domínguez) **99m:58032** 58C27 (58C28)

Tsukahara, Hiroshi (*with* Inami, Takeo) Test of Guttmann and Enting's conjecture in the eight-vertex model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 4, 1067–1070. (Summary) **99b:82024** 82B20

Tsukamoto, Ichiro Perturbation method for linear almost periodic systems. *Japan. J. Math. (N.S.)* **23** (1997), *no.* 1, 89–155. (Russell A. Johnson) **99a:34129** 34C27 (34E10)

Tsukamoto, Taro (*with* Chiba, Takeshi; Maeda, Kei-ichi; Nakao, Ken-ichi) Two boosted black holes in asymptotically de Sitter space-time: relation between mass and apparent horizon formation. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6119–6126. (Summary) **99m:83105** 83C57

Tsukamoto, Tatsuya (*with* Negami, Seiya) Note on spatial graphs with good drawings. *KNOTS '96 (Tokyo)*, 91–98, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99k:57004** 57M15

— Any knot is inevitable in a regular projection of a planar graph. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 161–180. (Lorenzo Traldi) **99b:57005** 57M15 (05C10, 57M25)

— (*with* Ohyama, Yoshiyuki) On Habiro's C_n-moves and Vassiliev invariants of order n. (English summary) *J. Knot Theory Ramifications* **8** (1999), *no.* 1, 15–26. (Leonid Plachta) **99m:57010** 57M25

Tsukibayashi, Shomei The joint distribution and moments of an extreme of the dependent variable and the concomitant of an extreme of the independent variable. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1639–1651. 62G30

Tsukiyama, Kouzou (*with* Ōshima, Hideaki) Bundle map theory in the category of weak Hausdorff k-spaces. (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **31** (1998), 27–55. (Summary) **99b:55028** 55R05 (55R10)

Tsukuda, Shuichi On maps from BS^1 to classifying spaces of certain gauge groups. II. *J. Math. Kyoto Univ.* **37** (1997), *no.* 3, 547–552. (T. Arleigh Crawford) **99b:55031** 55R35 (55P10, 55P60)

— On isomorphism classes of gauge groups. (English summary) *Topology Appl.* **87** (1998), *no.* 3, 173–187. (T. Arleigh Crawford) **99c:58022** 58D15 (53C07)

Tsukui, Yasuyuki Transformations of edge-coloured cubic graphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 183–194. (A. Vijayakumar) **99b:05067** 05C15

— Edge-irreducible quartic graphs. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 201–215. (David Burns) **99c:05169** 05C75

Tsulaia, Mirian M. (*with* Donets, E. E.; Tentyukov, M. N.) Evolution of nonlinear perturbations inside Einstein-Yang-Mills black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064008, 12 *pp.* 83C57

Tsunashima, Hironobu (*with* Kutami, Mamoru) On some properties of simple unit-regular rings. *Comm. Algebra* **26** (1998), *no.* 11, 3821–3835. (Weimin Xue) **99h:16019** 16E50

Tsuneda, Akio (*with* Kohda, Tohru) Chaotic binary sequences with their applications to communications. (English summary) Pseudorandom numbers and chaos (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1011 (1997), 89–106. (Summary) **99d:94018** 94A55 (65C10)

Tsuno, Naoto (*with* Nodera, Takashi) The speedup of the GMRES(m) method using the early restarting procedure. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 4, 1760–1773. 65F30

Tsunogai, Hiroshi (*with* Hashimoto, Ki-ichiro) On the Sato-Tate conjecture for QM-curves of genus two. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1649–1662. (Ben Moonen) **99m:11072** 11G40 (11G15, 14G10, 14K15)

Tsur, Dekel (*with* Shamir, Ron) The maximum subforest problem: approximation and exact algorithms (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 394–399, *ACM, New York*, 1998. (*see* **99d:68011**) 05C05 (05C85, 68Q25, 68R10)

Tsurkov, V. I. (*with* Mironov, A. A.) A triplanar transportation problem with a minimax criterion. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 6, 743–746. 90C08

— (*with* Silva, Geraldo Nunes; Treskov, Yu. P.) The hierarchical model of the branch planning with random coefficients. (English summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 4, 118–126. 90C20 (90A11, 93A13)

— Properties of solutions of Euler gas dynamic equations for bosons in the case of cylindrical and spherical symmetry. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 1054–1056; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 1007–1009. (Summary) **99f:82058** 82C40 (76N15, 76P05)

Tsurumi, Kazuyuki Applications of the Schwarz lemma in $\mathbf{C}^n$. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 191–197. (*see* **99a:00033**) 32A30

Tsuruoka, Nobuhiko (*with* Inoue, Makoto[2]) Rook problem on a fractal lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4565–4572. (Igor Rivin) **99k:05011** 05A16

Tsurusaki, Kazuyoshi (*with* Iwamoto, Seiichi; Fujita, Toshiharu) Conditional decision-making in a fuzzy environment. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 150–162. (*see* **99b:90009**) 90A05

— (*with* Fujita, Toshiharu) Stochastic optimization of multiplicative functions with negative value. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 351–373. (Summary) **99h:90073** 90C15

Tsurusaki, Kyoichi (*with* Deguchi, Tetsuo) Numerical analysis on topological entanglements of random polygons. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 320–329, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 92D20 (57M25, 82B41)

— (*with* Deguchi, Tetsuo) Numerical application of knot invariants and universality of random knotting. (English summary) *Knot theory (Warsaw, 1995)*, 77–85, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Stuart G. Whittington) **99e:57010** 57M25 (82B41)

Tsushima, Yukio (*with* Hieda, Yoshimasa) On $S_R(H)$-blocks for finite groups. *J. Algebra* **202** (1998), *no.* 2, 583–588. (P. Donovan) **99d:20017** 20C20

Tsutaya, Kimitoshi Global existence of small amplitude solutions for the Klein-Gordon-Zakharov equations. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 226–229, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35Q53 (35L15)

— (*with* Ozawa, Tohru; Tsutsumi, Yoshio) Well-posedness in energy space for the Cauchy problem of the Klein-Gordon-Zakharov equations with different propagation speeds in three space dimensions. *Math. Ann.* **313** (1999), *no.* 1, 127–140. (Jean-Marc Delort) **99m:35169** 35L70

Tsutsui, Izumi (*with* Miyazaki, Hitoshi) Quantum mechanically induced Wess-Zumino term in the principal chiral model. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 3017–3024. (Summary) **99h:81195** 81T40

— (*with* Kobayashi, Hiroyuki; Tanimura, Shogo) Quantum mechanically induced Hopf term in the O(3) nonlinear sigma model. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 667–687. (Bernd J. Schroers) **99d:81075** 81T10

— (*with* Kimura, Masaomi; Kobayashi, Hiroyuki) Hopf term, fractional spin and soliton operators in the O(3) non-linear sigma model. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 624–642. (Bernd J. Schroers) **99h:81219** 81T70

Tsutsumi, Masayoshi (*with* Ishiwata, Tetsuya) Numerical studies of blow-up of solutions to some degenerate parabolic equations. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 238–251, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 35K65 (35B05, 35K60, 65M70)

— (*with* Kasai, Hironori) The Meissner effect and the Ginzburg-Landau equations in the presence of an applied magnetic field. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 311–321, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Yisong Yang) **99k:82080** 82D55 (35Q55, 78A99)

— (*with* Nawa, Hayato) On blowup for the pseudo-conformally invariant nonlinear Schrödinger equation. II. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 4, 373–383. (Nakao Hayashi) **99a:35241** 35Q55 (35B05)

— (*with* Ōishi, Takeshi) Identifiability of spatially-varying coefficients in the (generalized) Korteweg-de Vries equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 333–341. (Vladislav G. Dubrovsky) **99e:35245** 35R30 (35Q53)

— An introduction to the work of Tohru Ozawa. (Japanese) *Sūgaku* **50** (1998), *no.* 4, 399–403. 01A70

Tsutsumi, Yoshio (*with* Ozawa, Tohru; Tsutaya, Kimitoshi) Well-posedness in energy space for the Cauchy problem of the Klein-Gordon-Zakharov equations with different propagation speeds in three space dimensions. *Math. Ann.* **313** (1999), *no.* 1, 127–140. (Jean-Marc Delort) **99m:35169** 35L70

Tsuzuki, Masao Elliptic factors of Selberg zeta functions. *Duke Math. J.* **88** (1997), *no.* 1, 29–75. (Shin-ya Koyama) **99b:11099** 11M36 (11F72)

— Real Shintani functions and multiplicity free property for the symmetric pair $(\mathrm{SU}(2,1), \mathrm{S}(\mathrm{U}(1,1)\times\mathrm{U}(1)))$. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 663–727. (Roger Zierau) **99f:11066** 11F70 (11F67, 22E46, 33C05)

Tsuzuki, Nobuo Finite local monodromy of overconvergent unit-root F-isocrystals on a curve. (English summary) *Amer. J. Math.* **120** (1998), *no.* 6, 1165–1190. (Jean-Yves Étesse) **99k:14038** 14F30 (14F35)

— Slope filtration of quasi-unipotent overconvergent F-isocrystals. (English summary) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 2, 379–412. (Guy Laffaille) **99e:14023** 14F30

— The local index and the Swan conductor. (English summary) *Compositio Math.* **111** (1998), *no.* 3, 245–288. (Abdellah Mokrane) **99g:14021** 14F30 (12F10)

Tsvelik, Alexei M. (*with* Caux, J.-S.; Kogan, Ian I.; Lewis, Alexander S.) Logarithmic operators and dynamical extension of the symmetry group in the bosonic $SU(2)_0$ and SUSY $SU(2)_2$ WZNW models. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 469–484. (From the introduction) **99e:81221** 81T40 (81R10)

— (*with* Caux, J.-S.; Taniguchi, N.) Disordered Dirac fermions: multifractality termination and logarithmic conformal field theories. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 671–696. (Summary) **99d:81138** 81T40 (82B44)

— (*with* Gogolin, Alexander O.; Nersesyan, Aleksandr Artëmovich; Yu, Lu) Zero-modes and thermodynamics of disordered spin-$\frac{1}{2}$ ladders. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 705–730. (Summary) **99j:82048** 82B44

Tsvetkov, Dimiter Petkov (*with* Georgiev, Svetlin Georgiev) A time-dependent biochemical system. (English summary) *Mat. Vesnik* **49** (1997), *no.* 2, 115–122. (Summary) **99f:92007** 92C45 (34C99, 34D99, 92C40, 92E20)

— (*with* Grammatikopoulos, Myron K.) An extension of the characterization of oscillations to arbitrary functional-differential equations via the Laplace transform. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 418–428. (Vladimir Sh. Burd) **99d:34131** 34K15 (34K40)

Tsybakov, A. B. (*with* Härdle, Wolfgang; Kerkyacharian, Gérard; Picard, Dominique) ★ Wavelets, approximation, and statistical applications. (English summary) Lecture Notes in Statistics, 129. *Springer-Verlag, New York*, 1998. *xviii+265 pp. ISBN* 0-387-98453-4 (José Rafael León) **99f:42065** 42C15 (41A30, 42–02, 62G07)

— (*with* Härdle, Wolfgang; Yang, Lijian) Nonparametric vector autoregression. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 221–245. (Jean Diebolt) **99f:62108** 62M10 (62G07)

— (*with* Guerre, Emmanuel) Exact asymptotic minimax constants for the estimation of analytical functions in L_p. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 1, 33–51. (Philippe Barbe) **99m:62060** 62G07 (62G20)

Tsyfra, Ivan *see* **Tsifra, I. M.**

Tsygan, Boris (*with* Nest, Ryszard) The Fukaya type categories for associative algebras. *Deformation theory and symplectic geometry (Ascona, 1996)*, 285–300, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (J. Stasheff) **99b:16011** 16E40 (18G50, 18G60, 55U35, 58B30)

— (*with* Bressler, Paul; Nest, Ryszard) A Riemann-Roch type formula for the microlocal Euler class. *Internat. Math. Res. Notices* **1997**, *no.* 20, 1033–1044. (Markus J. Pflaum) **99g:58118** 58G12 (14C40, 32L10, 58F06)

— (*with* Nest, Ryszard) On the cohomology ring of an algebra. (English summary) *Advances in geometry*, 337–370, *Progr. Math.*, 172, *Birkhäuser Boston, Boston, MA*, 1999. (Kevin P. Knudson) **99k:16018** 16E40 (16S80)

— *see also* **Advances in geometry**, **99h:00015**

Tsyganov, A. V. The classical r-matrix method and superintegrable systems. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 428–447; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1140–1156 (1998). (Piotr G. Grinevich) **99c:58083** 58F07

— Superintegrable systems on the loop algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2075–2092. (Iskander A. Taimanov) **99e:58108** 58F07

— Superintegrable systems in the classical r-matrix method. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1797–1802. (Rinat M. Kashaev) **99m:58116** 58F07 (81R50)

— The Stäckel systems and algebraic curves. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 279–298. (Iskander A. Taimanov) **99j:58103** 58F07 (14H40, 14H45, 70H05)

Tsygvintsev, A. V. (*with* Borisov, Adriyan V.) Kovalevskaya exponents and integrable systems of classical dynamics. I, II. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 15–28, 29–37. (Summary) **99g:70022** 70H05 (34A34, 58F05, 58F07, 70E15, 76C05)

— (*with* Borisov, Adriyan V.) Kovalevskaya's method in the dynamics of a rigid body. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 30–36; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 27–32. (Summary) **99c:70007** 70E15 (34A25, 58F05, 70F25)

Tsylova, E. G. An estimate for the number of trials up to a given number of outcomes in the polynomial scheme with joint outcomes. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci. (New York)* **88** (1998), *no.* 6, 894–900. (*see* **99b:62004**) 60C05

Tsymbalyuk, E. P. (*with* Tikhonenko, N. Ya.) Projection methods for solving the exceptional case of convolution-type equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 62–69; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 7, 59–66 (1999). (Alexander S. Denisjuk) **99i:65149** 65R20 (45E10, 45L05)

Tsynkov, S. V. Numerical solution of problems on unbounded domains. A review. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 465–532. (Paul Andrew Martin) **99i:65116** 65Nxx (65–02, 73V20, 76M25)

Tsypkin, Yakov Zalmanovich (*with* Parks, P. C.; Vishnyakov, A. N.; Warwick, Kevin) Stability of solutions of linear difference equations with periodic coefficients. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 959–966. 93D05 (39A11)

— Stochastic discrete systems with internal models. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 21–26, 295. 93E03 (93C55)

— (*with* Polyak, B. T.) Stability of linear difference equations with unmodelled higher order terms. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 539–546. (Summary) **99a:39046** 39A11 (93D10)

— (*with* Aved'yan, Eduard D.; Bittanti, Sergio) Kalman estimation with Brownian disturbances. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1195–1205. (V. N. Fomin) **99f:93132** 93E11

— *see also* **Bissell, C. C.**

Tsytovich, Vadim N. (*with* de Angelis, U.) Kinetic theory of dusty plasmas. I. General approach. (English summary) *Phys. Plasmas* **6** (1999), *no.* 4, 1093–1106. 76X05 (82D10)
Tu, Caifeng Periodic limited competition systems with invariant functions. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 437–446. (Xu-Sheng Zhang) **99k:34074** 34C11 (92D40)
— (*with* Jiang, Ji Fa) The coexistence of a community of species with limited competition. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 233–245. (F. Berezovskaya) **99c:92061** 92D40 (34D99)
— (*with* Jiang, Ji Fa) Global stability and permanence for a class of type K monotone systems. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 2, 360–378 (*electronic*). (Hal Leslie Smith) **99j:34073** 34D20 (34C35, 90A16, 92D25)
Tu, Chih-Chien (*with* Cheng, Hsuanjen) Spectral methods for graph bisection problems. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 7-8, 519–530. 90C30 (90C35)
Tu, F. K. (*with* Shyr, H. J.) Some algebraic properties of semicodes. (English summary) *Soochow J. Math.* **24** (1998), *no.* 1, 59–71. (Dong Yang Long) **99c:68205** 68R15 (68Q70)
Tu, Feng Sheng (*with* Chen, Qiu Shuang; Qi, Xiang Tong) Input control and scheduling in job shops. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 49–56. 90B35 (90C90)
— (*with* Gong, Xiangyang; Chen, Wanyi) The stability and design of nonlinear neural networks. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 1–7. (Summary) **99b:92003** 92B20
— (*with* Jia, Chun Fu) A-shaped property of optimal solutions for stochastic single machine scheduling. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 25–29. 90B35 (90C15)
Tu, Jean Louis La conjecture de Novikov pour les feuilletages hyperboliques. (English and French summaries) [The Novikov conjecture for hyperbolic foliations] *K-Theory* **16** (1999), *no.* 2, 129–184. (Marta Macho Stadler) **99m:46163** 46L87 (19K35)
Tu, Kuang-Yang (*with* Shamma, Jeff S.) Output feedback control for systems with constraints and saturations: scalar control case. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 1–11. (Vladimir Veliov) **99j:93055** 93C15 (93B52, 93C41)
Tu, Lihuang Asymptotic Hodge theory in several variables: the flat case. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 527. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 277–282. (Vasile Brînzănescu) **99c:32054** 32S35 (14D07, 32J25)
Tu, Ming-Hsien (*with* Shaw, Jiin-Chang) Nonlocal extended conformal algebras associated with multiconstraint KP hierarchy and their free field realizations. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 16, 2723–2737. (Summary) **99i:58083** 58F07 (81R10)
— (*with* Huang, Wen-Jui; Shaw, Jiin-Chang) Matrix formulation of Hamiltonian structures of constrained KP hierarchy. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3738–3753. (Henrik Aratyn) **99d:58082** 58F07 (35Q53)
— (*with* Shaw, Jiin-Chang) Binary Darboux-Bäcklund transformations for the Manin-Radul super KdV hierarchy. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4773–4784. (Jérôme Leon) **99e:58164** 58F37 (58F07)
— (*with* Shaw, Jiin-Chang) The hidden algebraic structure of the Kaup-Broer hierarchy. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4319–4328. (Henrik Aratyn) **99d:58090** 58F07 (35Q55)
— (*with* Shaw, Jiin-Chang) A note on the gauge equivalence between the Manin-Radul and Laberge-Mathieu super KdV hierarchies. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4805–4810. (Carlo Morosi) **99e:58107** 58F07 (35Q53)
— (*with* Shaw, Jiin-Chang) On the Miura and Bäcklund transformations associated with the supersymmetric Gelfand-Dickey bracket. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 979–986. (F. Pempinelli) **99f:58179** 58F37 (35Q53, 58F07)
le Tu, Quoc Hung *see* **Le Tu, Quoc Hung**
Tu, Shih-Tong (*with* Chyan, Ding-Kuo; Leu, Shing-Hwa) Commutativity of Leibniz rule in fractional calculus. (English summary) *J. Fract. Calc.* **14** (1998), 77–82. (Summary) **99g:26017** 26A33
Tu, Tianliang (*with* Tu, Xingyuan) Remarks on the paper: "On Hermite-Fejer interpolation in a Jordan domain" [Trans. Amer. Math. Soc. **323** (1991), no. 1, 93–109; MR 91c:41007] by C. K. Chui and X. C. Shen. (English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 463–467. (Summary) **99m:41006** 41A05 (30E05)
Tu, Xiao Jie (*with* Dai, Bin Xiang) Bounded oscillation of solutions to a class of difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 77–79. (Binggen Zhang) **99a:39036** 39A10
— (*with* Dai, Bin Xiang) Oscillation for a class of nonlinear neutral difference equations. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 1, 1–6. (Shu Nian Zhang) **99e:39011** 39A10
Tu, Xiao Qing (*with* Tian, Guo Min) Comments on: "An improved Razumikhin-type theorem and its application" [IEEE Trans. Automat. Control **39** (1994), no. 4, 839–841; MR 95e:34070] by B. G. Xu and Y. Q. Liu, and a related result. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 36–39. (Summary) **99k:34171** 34K20
— (*with* Du, Zhi Han) Non-eigenvector algorithms for the weight vector of a generalized judgment matrix in AHP. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 48–53. 65F15 (90C08)
Tu, Xin M. (*with* Kowalski, Jeanne; Day, Roger S.; Mendoza-Blanco, José R.) On the rate of convergence of the ECME algorithm for multiple regression models with t-distributed errors. (English summary) *Biometrika* **84** (1997), *no.* 2, 269–281. (Murray A. Jorgensen) **99a:62094** 62J05
Tu, Xingyuan (*with* Tu, Tianliang) Remarks on the paper: "On Hermite-Fejer interpolation in a Jordan domain" [Trans. Amer. Math. Soc. **323** (1991), no. 1, 93–109; MR 91c:41007] by C. K. Chui and X. C. Shen. (English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 463–467. (Summary) **99m:41006** 41A05 (30E05)
Tu, Yuhai (*with* Toner, John) Flocks, herds, and schools: a quantitative theory of flocking. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4828–4858. (Mark D. Roberts) **99m:92051** 92D50
Tu, Zhen-han Normality criteria for families of holomorphic mappings of several complex variables into $\mathbf{P}^N(\mathbf{C})$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1039–1049. (Min Ru) **99f:32042** 32H20 (32H30)
hoang duong Tuan *see* **Hoang Duong Tuan**
Tuan, H. D. *see* **Hoang Duong Tuan**
Tuan, Tai-Chang (*with* Goldstein, D. B.) Secondary flow induced by riblets. (English summary) *J. Fluid Mech.* **363** (1998), 115–151. (Summary) **99b:76042** 76F99
Tuan, Tai-Ching (*with* Jwo, Jung-Sing) On container length and connectivity in unidirectional hypercubes. (English summary) *Networks* **32** (1998), *no.* 4, 307–317. (Summary) **99h:68020** 68M10 (90B35)
Tuan, Vu Kim *see* **Vũ Kim Tuấn**
trinh Tuan Anh *see* **Trinh Tuan Anh**
lê Tuân Hoa *see* **Lê Tuân Hoa**
Tucciarelli, Tullio (*with* Karatzas, George P.; Pinder, George F.) A primal method for the solution of the groundwater quality management problem. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 463–473. 90C90
Tuchkin, Yu. A. Regularization of a class of systems of integro-differential equations of mathematical physics. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 47–51. 65R20 (45L05, 65J15)
— (*with* Svishchëv, Yu. V.) Regularization of a boundary value problem of the diffraction of an arbitrary electromagnetic wave by an ideally conducting spherical segment. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 262–276; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 2, 252–266. (Summary) **99g:78023** 78A45 (35J05, 65N99, 78–08)
— (*with* Poedinchuk, A. E.; Shestopalov, V. P.) The method of the Riemann-Hilbert problem in the theory of the diffraction of waves by screens of arbitrary cross section. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1314–1328. (B. Belinskiy) **99k:78029** 78A45 (45E05)
González-Tuchmann, Agustín *see* **González-Tuchmann, Agustín**
Tuck, E. O. (*with* Gourlay, T. P.) One-dimensional theory for flow past a ship in a channel of variable depth. (English summary) *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 206–211. 76B99
— (*with* Vanden-Broeck, Jean-Marc) Ploughing flows. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 5, 463–483. (Summary) **99g:76012** 76B10
— (*with* Scullen, D. C.) Tandem submerged cylinders each subject to zero drag. (English summary) *J. Fluid Mech.* **364** (1998), 211–220. (Summary) **99b:76013** 76B15
— (*with* Simakov, S. T.) Splash formation at the nose of a smoothly curved body in a stream. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 4, 421–436. (Summary) **99m:76011** 76B10 (76M25)
— (*with* Wiryanto, L. H.) On steady periodic interfacial waves. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 71–84. (Summary) **99m:76025** 76B15
Tucker, Howard G. (*with* Finkelstein, Mark; Veeh, Jerry Alan) Point processes without topology. (English summary) *Statistics, probability and game theory*, 65–81, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Günter Last) **99d:60052** 60G55 (60G57)
— (*with* Finkelstein, Mark; Veeh, Jerry Alan) Confidence intervals for the number of unseen types. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 423–430. (Warren Esty) **99f:62045** 62F25
— (*with* Finkelstein, Mark; Veeh, Jerry Alan) Extinguishing the distinguished logarithm problems. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2773–2777. (Lin-Cheng Zhao) **99m:60029** 60E10 (60F05)
Tucker, Mark R. (*with* Walker, Daniel J.) A discrete norm bounded linear time-varying control problem on the finite horizon. (English summary) *Internat. J. Control* **71** (1998), *no.* 2, 359–390. (Olof J. Staffans) **99g:93030** 93B36 (93C05)
Tucker, P. A. *see* **Tucker, Paul A.**
Tucker, P. J. Y. (*with* Jones, Christopher Andrew) Magnetic and thermal instabilities in a plane layer. I. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 201–227. (Summary) **99k:76060** 76E25 (76U05, 76W05, 86A25)
Tucker, Paul A. (*with* Hu, Te Chiang) Optimal alphabetic trees for binary search. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 137–140. (Summary) **99d:68052** 68P05 (68P10)
Tucker, Robin W. (*with* Teyssandier, P.; Wang, Charles H.-T.) On an interpretation of non-Riemannian gravitation. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 987–994. (Summary) **99m:53037** 53B50 (83D05)
— (*with* Wang, Charles H.-T.) Dark matter gravitational interactions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 933–954. (Summary) **99a:83075** 83F05
Tuckerman, Laurette S. (*with* Barkley, Dwight) Stability analysis of perturbed plane Couette flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1187–1195. 76E99 (76F10)
Tuckey, Curtis (*with* McKinzie, Mark) Hidden lemmas in Euler's summation of the reciprocals of the squares. *Arch. Hist. Exact Sci.* **51** (1997), *no.* 1, 29–57. (Herman J. J. te Riele) **99c:11003** 11-03 (01A50, 11Y60, 26-03)
Tucsnak, Marius On the pointwise stabilization of a string. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 287–295, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (R. F. Datko) **99f:93123** 93D15 (35B27, 35L10, 93C20)
— (*with* Jaffard, Stéphane; Zuazua, Enrique) Singular internal stabilization of the wave equation. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 184–215. (Irina F. Sivergina) **99g:93073** 93D15 (35L70, 93C20)
— *see also* **Control and partial differential equations, 99g:00037**
Tudor, Constantin (*with* León, Jorge A.; Ruiz de Chávez, Juan) On equivalence of solutions to anticipating semilinear stochastic equations on the Poisson space. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 649–661. (Rainer Buckdahn) **99f:60100** 60H05 (60H10)
— A product formula for multiple Poisson-Itô integrals. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 339–345. (David Nualart) **99k:60141** 60H05
— (*with* Tudor, Maria) Approximate solutions for multiple stochastic equations with respect to semimartingales. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 761–768. (Denis R. Bell) **99b:60097** 60H20 (60H30)
— Almost periodically distributed solutions for diffusion equations in duals of nuclear spaces. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 219–238. (Andrej A. Dorogovtsev) **99d:60066** 60H10 (35R20, 35R60, 60J60)

— Large deviations for stable Itô equations. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 103–111. (Bohdan Maslowski) **99i:60059** 60F10 (60H10)
— (*with* León, Jorge A.) A chaos approach to the anticipating calculus for the Poisson process. (English summary) *Stochastics Stochastics Rep.* **62** (1998), *no.* 3-4, 217–250. (Summary) **99a:60055** 60H07 (60J75)
Tudor, Maria Approximate solutions for integrodifferential and Volterra stochastic equations. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 3-4, 285–292. (Introduction) **99k:45024** 45J05 (45D05)
— Newton's method for stochastic integrodifferential equations. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 137–142. (Eckhard Platen) **99m:60093** 60H10 (45L05)
— (*with* Tudor, Constantin) Approximate solutions for multiple stochastic equations with respect to semimartingales. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 761–768. (Denis R. Bell) **99b:60097** 60H20 (60H30)
Tuffin, Bruno A new permutation choice in Halton sequences. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 427–435, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65018** 65C05
— Variance reduction order using good lattice points in Monte Carlo methods. (English summary) *Computing* **61** (1998), *no.* 4, 371–378. (Summary) **99j:65008** 65C05
— Comments on: "On the use of low discrepancy sequences in Monte Carlo methods" [Monte Carlo Methods Appl. **2** (1996), no. 4, 295–320; MR 97m:65018]. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 1, 87–90. (Summary) **99d:65019** 65C05 (11K38)
Tuffley, Chris (*with* Steel, Michael) Modeling the covarion hypothesis of nucleotide substitution. (English summary) *Math. Biosci.* **147** (1998), *no.* 1, 63–91. (Prem Narain) **99f:92014** 92D15
Tuganbaev, Askar A. Rings over which each module has a maximal submodule. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 407–415; *translation in Math. Notes* **61** (1997), *no.* 3-4, 333–339. (Jan Trlifaj) **99c:16003** 16D10 (16R99)
— (*with* Puninskiĭ, G. E.) ★ Кольца и модули. (Russian) [Rings and modules] *Izdatel'stvo "SOYuZ"* (*Moskovskiĭ Gosudarstvennyĭ Sotsial'nyĭ Universitet*), *Moscow*, 1998. *viii*+420 *pp. ISBN* 5-7139-0101-7 (Jan Trlifaj) **99i:16002** 16–02 (03C60, 16D40, 16D50, 16P60)
— ★ Semidistributive modules and rings. (English summary) Mathematics and its Applications, 449. *Kluwer Academic Publishers, Dordrecht*, 1998. *x*+352 *pp. ISBN* 0-7923-5209-2 (Mary H. Wright) **99k:16002** 16–02 (16D80, 16L99, 16P70)
— Modules over hereditary rings. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 4, 145–160; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 623–638. (Edmund R. Puczyłowski) **99f:16007** 16D80 (16D40, 16D50, 16E60)
— Endomorphism rings of strictly indecomposable modules. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 207–208; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 642–643. 16S50
Tugnait, Jitendra K. Stochastic system identification using polyspectra. *Statistical methods in control and signal processing*, 355–374, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (Winston T. Lin) **99h:93104** 93E10 (93C35)
— Identification of multivariable stochastic linear systems via polyspectral analysis given noisy input-output time-domain data. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1084–1100. (Zbigniew Nahorski) **99m:93104** 93E12
— (*with* Tontiruttananon, Channarong) Identification of linear systems via spectral analysis given time-domain data: consistency, reduced-order approximation, and performance analysis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1354–1373. (Summary) **99e:93025** 93B30 (93C80, 93E12)
— Identification of multivariable stochastic linear systems via spectral analysis given time-domain data. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 5, 1458–1463. (Summary) **99j:94014** 94A12
Tuĭchiev, O. D. (*with* Safonov, V. F.) Regularization of singularly perturbed integral equations with rapidly varying kernels and their asymptotics. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1199–1210, 1294; *translation in Differential Equations* **33** (1997), *no.* 9, 1203–1215 (1998). (Nicolay A. Magnitskiĭ) **99i:45004** 45D05 (45M05)
— (*with* Bobodzhanov, A. A.) A singularly perturbed integral equation with a degenerate kernel. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1537–1542, 1582; *translation in Differential Equations* **33** (1997), *no.* 11, 1542–1546 (1998). (Wojciech Mydlarczyk) **99k:45001** 45A05 (45J05, 45M05)
Tuĭkina, S. R. On an inverse problem of sorbtion dynamics with nonlinear flow velocity. (English summary) Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 4, 327–334. (Summary) **99j:76120** 76R50 (35Q35, 35R30, 76M20)
— Numerical methods for solving some inverse problems of sorption dynamics. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 4, 16–19, 50. 65M70 (76R50)
Tuinstra, Hilde (*with* Broersma, H. J.; Huck, Andreas; Kloks, Ton; Koppius, Otto; Kratsch, Dieter; Müller, Haiko) Degree-preserving forests. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 713–721, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q25)
— (*with* Broersma, H. J.) Independence trees and Hamilton cycles. (English summary) *J. Graph Theory* **29** (1998), *no.* 4, 227–237. (David A. Pike) **99j:05052** 05C05 (05C45)
Tukey, John Wilder *see* **Practice of data analysis, 99b:62003; Biography: Tukey, John Wilder, (99b:62003); Curriculum vitae of John Wilder Tukey, (99b:62003); Ph.D. theses directed by John W. Tukey, (99b:62003); Partial list of John W. Tukey's grandstudents, (99b:62003)** *and* **Fernholz, Luisa T., (99b:62003)**
Tukhtasinov, M. On the numerical solution of a problem in the theory of differential games in distributed systems. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 86–94 (1996). 90D25 (65M60)
— On start control in systems with distributed parameters. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1998), 73–80. 93C20 (93B05)
Tukodova, O. M. (*with* Pryakhina, O. D.; Freĭgeĭt, M. R.) Solution of nonstationary coupled electromechanical problems for layered media. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 1031–1042; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 995–1006 (1998). (Summary) **99c:73066** 73R05 (78A99)
— (*with* Pryakhina, O. D.; Smirnova, A. V.) The method of fictitious absorption in dynamic problems of electro-elasticity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 834–839; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 771–776 (1999). 73R05 (73D99)
Tula, Giovanni (*with* Passoni, Giuseppe; Alfonsi, Giancarlo; Cardu, Umberto) A wavenumber parallel computational code for the numerical integration of the Navier-Stokes equations. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 593–611. 65M06 (65Y05)
Tulczyjew, Włodzimierz Marek (*with* Bhaskara, H. K.; Lacomba, Ernesto A.; Rama, K. K.) Generating functions, Morse families and characteristics of resistive nonlinear branch networks. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 213–223. (Summary) **99c:94066** 94C05 (58F05, 58F40)
— *see also* **Geometrical structures for physical theories, 99a:58001** *and* **99a:58002**
Tuleuov, B. I. Smooth bores in a two-layer fluid with a free surface. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 3, 87–92; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 3, 407–411. (From the text) **99b:76014** 76B15
Tulin, M. P. (*with* Li, Jiyue J.) On the stability and nonlinear dynamics of ocean-like wave systems with energy continuously distributed in direction. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 59–70. (Summary) **99m:76020** 76B15 (76E20, 76E30, 86A05)
Tulley, D. (*with* Atkinson, M. D.) The combinatorics of some abstract data types. (English summary) *Applications of combinatorial mathematics* (*Oxford*, 1994), 1–13, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Fabrizio Luccio) **99a:68131** 68R05 (05A99, 68P05)
Tulli, V. (*with* Camiz, Sergio) A comparison of algorithms for computing the eigenvalues and the eigenvectors of symmetrical matrices. (English summary) *Matrices and graphs* (*Brescia*, 1993/1995), 72–91, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99k:65032** 65F15 (15A18, 65Y05, 65Y20)
— (*with* Bellacicco, Antonio) Cluster identification in a signed graph by eigenvalue analysis. (English summary) *Matrices and graphs* (*Brescia*, 1993/1995), 233–242, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:00029**) 62H30 (05C50)
Tullini, N. (*with* Savoia, Marco; Horgan, Cornelius O.) End effects for anti-plane shear deformations of periodically laminated strips with imperfect bonding. (English summary) *J. Elasticity* **50** (1998), *no.* 3, 227–244. (Summary) **99f:73028** 73C10 (73B40)
Tulovsky, Vladimir On an interpretation of Hörmander's condition of local solvability. (English summary) *Indag. Math.* (*N.S.*) **9** (1998), *no.* 1, 123–140. (Luigi Rodino) **99d:35007** 35A07 (35P10, 35S05)
Tulupova, L. A. (*with* Gleba, A. V.) Symmetry properties of a generalized system of Burgers equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 463–466, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53 (35Q30)
Tulyaganov, R. B. (*with* Bondarenko, B. A.; Karachik, V. V.) Distribution of Eulerian and Stirling numbers mod p in arithmetical triangles. (Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 102 (1996), 133–140, 146. (Charles Laywine) **99c:05006** 05A10 (11B68, 11B73)
Tulyaganov, S. T. Summation of values of multiplicative functions. I. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 105–116. (Ognian Trifonov) **99k:11146a** 11N37 (11K65)
— Summation of values of multiplicative functions. II. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 99–114. (Ognian Trifonov) **99k:11146b** 11N37 (11K65)
Tulyaganova, M. I. (*with* Faĭnleĭb, A. S.) On the regular case of the Halasz theorem. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 85–90. (W. Narkiewicz) **99f:11123** 11N37 (11K65)
Tulyakov, S. V. An ergodic property of the space of functions with a unique invariant mean value. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 2, 8–13, 103; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 2, 6–9. (V. V. Mukhin) **99b:47016** 47A35 (43A07)
Tůma, Jiří (*with* Ploščica, Miroslav; Wehrung, Friedrich) Congruence lattices of free lattices in non-distributive varieties. *Colloq. Math.* **76** (1998), *no.* 2, 269–278. (Ivo Düntsch) **99j:06005** 06B10 (06B15, 06B25, 08A05)
Tůma, Miroslav (*with* Maryška, Jiří; Rozložník, Miroslav) The potential fluid flow problem and the convergence rate of the minimal residual method. (English summary) *Numer. Linear Algebra Appl.* **3** (1996), *no.* 6, 525–542. (Summary) **99a:76087** 76M10 (65N30, 76S05)
— (*with* Benzi, Michele) Numerical experiments with two approximate inverse preconditioners. (English summary) *BIT* **38** (1998), *no.* 2, 234–241. (Summary) **99c:65082** 65F35 (65F10, 65F50)
Tumanov, Alexander Thin discs and a Morera theorem for CR functions. *Math. Z.* **226** (1997), *no.* 2, 327–334. (From the introduction) **99k:32014** 32C16
— (*with* Berenstein, Carlos A.; Ebenfelt, Peter; Gindikin, S. G.; Helgason, Sigurdur) ★ Integral geometry, Radon transforms and complex analysis. Lectures given at the 1st C.I.M.E. Session held in Venice, June 3–12, 1996. Edited by E. Casadio Tarabusi, M. A. Picardello and G. Zampieri. Lecture Notes in Mathematics, 1684. *Springer-Verlag, Berlin*; *Centro Internazionale Matematico Estivo* (*C.I.M.E.*), *Florence*, 1998. *viii*+160 *pp. ISBN* 3-540-64207-2 (Editors) **99c:00011** 00B25 (32–06)
— Analytic discs and the extendibility of CR functions. *Integral geometry, Radon transforms and complex analysis* (*Venice*, 1996), 123–141, *Lecture Notes in Math.*, 1684, *Springer, Berlin*, 1998. (Francine A. Meylan) **99f:32024** 32F40 (32D15)
— (*with* Aizenberg, Lev; Vidras, Alekos) The class of holomorphic functions representable by Carleman formula. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **27** (1998), *no.* 1, 93–105 (1999). (Eleonora A. Storozhenko) **99j:30040** 30E20 (32A25, 32A35)
Tuminaro, Ray S. (*with* Giraud, Luc) Schur complement preconditioners for anisotropic problems. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 1–18. 65N55 (65F30)
Tunaru, Radu Information divergence: an axiomatic derivation. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 51–54 (1994). 94A15
— About inductive probability. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 50–55 (1995). 60A05

Tunç, Cemil On the asymptotic behaviour of solutions of certain fourth order non-autonomous differential equations. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 95–105. (From the text) **99e:34060** 34D05 (34C11)
— Nonoscillation criteria for a class of nonlinear differential equations of third order. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 131–137. (From the text) **99d:34052** 34C10
— A ultimate boundedness result for the solutions of certain fifth order non-linear differential equations. (English summary) *Punjab Univ. J. Math. (Lahore)* **30** (1997), 125–141. (From the introduction) **99m:34116** 34D40
— On the ultimate boundedness result for the solutions of certain fourth order differential equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 475–485. (Xiao Qiang Zhao) **99j:34075** 34D40 (34D20)
Tuncbilek, Cihan H. (*with* Sherali, Hanif D.) New reformulation linearization/convexification relaxations for univariate and multivariate polynomial programming problems. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 1, 1–9. (Summary) **99f:90061** 90C08 (65K05, 90C30)
Tunçel, Levent Primal-dual symmetry and scale invariance of interior-point algorithms for convex optimization. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 708–718. (Shinji Mizuno) **99k:90119** 90C25 (52A41, 90C60)
— (*with* Güler, Osman) Characterization of the barrier parameter of homogeneous convex cones. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 55–76. (Guillermo L. Hansen) **99f:90124** 90C30 (49M30)
Tuneski, Atanasko (*with* Vukobratovic, Miomir) Mathematical model of multiple manipulators: cooperative compliant manipulation on dynamical environments. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 8, 1211–1239. (Summary) **99h:70009** 70B15
ha dang cao Tung *see* **Ha Dang Cao Tung**
Tung, Chi Chao (*with* Huang, Norden E.; Shen, Zheng; Long, Steven R.; Wu, Manli C.; Shih, Hsing H.; Zheng, Quanan; Yen, Nai-Chyuan; Liu, Henry H.) The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 903–995. (Summary) **99d:76082** 76M35 (62M10, 86–08)
Tungatarov, A. B. (*with* Berkembaev, E. N.) On a nonlinear Carleman-Vekua equation with a singular point. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 15–20. (Guo Chun Wen) **99f:35042** 35J60 (30G20, 35J70)
Tungsarote, Rarai Some investigations on the Bose-Srivastava algebra related to the multidimensional partially balanced association scheme. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 363–372. (Summary) **99i:05210** 05E30
Tunitskiĭ, D. V. On global solutions of hyperbolic Monge-Ampère equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 5, 25–28, 123. (Summary) **99k:35131** 35L70 (35B60)
— On the contact equivalence of Monge-Ampère equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 39–42, 123–124. (J. S. Joel) **99m:58011** 58A15 (58H15)
— On the global solvability of hyperbolic Monge-Ampère equations. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 5, 177–224; *translation in Izv. Math.* **61** (1997), *no.* 5, 1069–1111. (Summary) **99k:35132** 35L70
Tunnell, Jerrold B. (*with* Rohrlich, David E.) An elementary case of Serre's conjecture. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 299–309. (Chandrashekhar Khare) **99a:11066** 11F80 (11F11)
Tuo, Qing (*with* Zhou, Kai Shan) Generalized mixed Riemann-Hilbert-Carleman boundary value problems for a class of second-order elliptic systems. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 45–49. 35J55
— (*with* Li, Qi Sheng[1]) Several characterizations of semisimple rings. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 13–15. 16K40
— Generalized index and dimension formulas for vector spaces. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 4, 47–49. 15A03 (16D10)
Tuomela, Jukka On singular points of quasilinear differential and differential-algebraic equations. (English summary) *BIT* **37** (1997), *no.* 4, 968–977. (Michael Hanke) **99a:34003** 34A09 (34A26, 34C05, 58F21)
— (*with* Vacus, Olivier) Algebraic derivation of discrete absorbing boundary conditions for the wave equation. (English summary) *Numer. Math.* **80** (1998), *no.* 3, 419–459. (Gholam-Ali Zakeri) **99k:65098** 65M99
Tuomela, Raimo (*with* Balzer, Wolfgang) Collective acceptance and collective social notions. *Synthese* **117** (1998/99), *no.* 2, 175–205. 03B80
Tuong Ha-Duong *see* **Ha-Duong, Tuong**
Tupchiev, V. A. Functional solutions of the problem of the decay of a discontinuity. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 280–288; *translation in Math. Notes* **63** (1998), *no.* 1-2, 242–249. (Vyacheslav V. Chistyakov) **99h:35130** 35L65
le Tu Quoc Thang *see* **Le Tu Quoc Thang**
Tur, A. V. (*with* Maurice, S.; Blanc, M.; Yanovskiĭ, V. V.) Solutions of the plasma equilibrium within the magnetic field of a point dipole. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3101–3115. (Summary) **99f:76132** 76W05 (85A30)
Tur, N. (*with* Nekrutkin, V.) Processes for the solution of the Boltzmann equation. *Probability theory and mathematical statistics (St. Petersburg*, 1993), 227–234, *Gordon and Breach, Amsterdam*, 1996. (Carlo Cercignani) **99j:82064** 82C40 (76P05)
Turaev, D. V. (*with* Rom-Kedar, Vered) On smooth Hamiltonian flows limited to ergodic billiards. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas (Carry-Le Rouet*, 1997), 17–50, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (András Krámli) **99h:58113** 58F11 (28D10, 34C35)
— (*with* Fiedler, Bernold) Normal forms, resonances, and meandering tip motions near relative equilibria of Euclidean group actions. (English summary) *Arch. Ration. Mech. Anal.* **145** (1998), *no.* 2, 129–159. (Ian Melbourne) **99m:58171** 58F36 (34C20, 34C35, 35K99, 58F14)
— (*with* Shil'nikov, L. P.) An example of a wild strange attractor. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 2, 137–160; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 291–314. (A. Morimoto) **99d:58126** 58F13
— (*with* Rom-Kedar, Vered) Elliptic islands appearing in near-ergodic flows. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 575–600. (Nikolai Chernov) **99c:58123** 58F15 (34C37, 58F11)
— (*with* Bunimovich, Leonid A.) Localized solutions in lattice systems and their bifurcations caused by spatial interactions. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1539–1545. (Hans Henrik Rugh) **99k:58126** 58F14 (34C35, 58F10, 70K99)
— (*with* Pisarevskii, V.; Shilnikov, A.) Asymptotic normal forms for equilibria with a triplet of zero characteristic exponents in systems with symmetry. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 19–27. (James A. Murdock) **99m:58172** 58F36 (34C20)
Turaev, Vladimir G. (*with* Kassel, Christian; Rosso, Marc) ★ Quantum groups and knot invariants. (English, French, German and Russian summaries) Panoramas et Synthèses [Panoramas and Syntheses], 5. *Société Mathématique de France, Paris*, 1997. vi+115 *pp. ISBN* 2-85629-055-8 (Ruth Lawrence) **99b:57011** 57M25 (16W60, 17B37, 18D10, 57N10)
— (*with* Natanzon, Sergei) Systems of correlators and solutions of the WDVV equations. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 2, 399–410. (Alexandre I. Kabanov) **99e:58033** 58D29 (32G34, 81T40)
— (*with* Kassel, Christian) Chord diagram invariants of tangles and graphs. *Duke Math. J.* **92** (1998), *no.* 3, 497–552. (Sergei V. Chmutov) **99b:57012** 57M25 (57M15)
— Reciprocity for Gauss sums on finite abelian groups. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 205–214. (Charles Helou) **99f:11103** 11L05 (11E39)
— *see also* **Knot theory, 99c:57002**
Turán, György (*with* Vatan, Farrokh) Linear decision lists and partitioning algorithms for the construction of neural networks. (English summary) *Foundations of computational mathematics (Rio de Janeiro*, 1997), 414–423, *Springer, Berlin*, 1997. (Sanjay Jain) **99k:68166** 68T05 (68Q15, 92B20)
Turán, Pál The work of Alan Baker [MR **54** #2394]. *Fields Medallists' lectures*, 157–159, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (11–03)
Turbé, Nicole On propagation in an electromagnetic waveguide with concentrated dissipation. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 7, 897–915. (B. Belinskiy) **99i:78021** 78A40 (35Q60, 78A50)
Turbek, Peter The full automorphism group of the Kulkarni surface. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 265–276. (Peter J. Nicholls) **99a:20051** 20H10 (30F35)
— Sufficient conditions for a group of automorphisms of a Riemann surface to be its full automorphism group. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 285–300. (Grzegorz Gromadzki) **99c:14045** 14H55 (30F10)
Turbin, A. F. (*with* Kolesnik, A. D.) The equation of symmetric Markovian random evolution in a plane. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 67–87. (Di He Hu) **99e:60159** 60J25
Turbiner, A. V. (*with* Ize, Jorge; Minzoni, Antonmaría) Weierstrass today. (Spanish) Dedicated to the memory of Karl Weierstrass (Spanish). *Miscelánea Mat. No.* 25 (1997), 97–100. (I. Grattan-Guinness) **99m:01036** 01A70
— (*with* Rosenbaum, Marcos; Capella, Antonio) Solvability of the G_2 integrable system. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 22, 3885–3903. (Kazuhiro Hikami) **99g:81245** 81V70 (58F07)
— Hidden algebra of three-body integrable systems. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1473–1483. (Violeta V. Tretynyk) **99g:81248** 81V70 (58F07)
Turchetti, Giorgio (*with* Di Sebastiano, Annamaria) Interpolation of discrete Hamiltonian systems. (English summary) *Analysis and modelling of discrete dynamical systems (Aussois*, 1996), 181–227, *Adv. Discrete Math. Appl.*, 1, *Gordon and Breach, Amsterdam*, 1998. (Summary) **99m:58087** 58F05 (58F27, 58F36, 70–08, 70H05)
Turcotte, Donald L. ★ Fractals and chaos in geology and geophysics. (English summary) Second edition. *Cambridge University Press, Cambridge*, 1997. xii+398 *pp. ISBN* 0-521-56733-5 (Radyadour Kh. Zeytounian) **99a:86001** 86–01 (58F13)
Turcotte, Jeffrey S. (*with* O'Reilly, Oliver M.) Elastic rods with moderate rotation. (English summary) *J. Elasticity* **48** (1997), *no.* 3, 193–216. (Stan Chiriţă) **99d:73052** 73K05
Turdebek, N. Bekjan PL-convexity of complex spaces and inequalities for analytic martingales. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 64–73. (Summary) **99e:60115** 60G46 (46G99, 60B11, 60E15)
Turek, John (*with* Schwiegelshohn, Uwe; Ludwig, Walter; Wolf, Joel L.; Yu, Philip S.) Smart SMART bounds for weighted response time scheduling. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 237–253 (*electronic*). (Mukkai S. Krishnamoorthy) **99e:68061** 68Q22 (68M20, 68Q25)
Turetsky, James (*with* Stroock, Daniel W.) Short time behavior of logarithmic derivatives of the heat kernel. (English summary) *Asian J. Math.* **1** (1997), *no.* 1, 17–33. (Ana Bela Cruzeiro) **99b:58225** 58G11 (35K15, 58G32, 60H30)
— (*with* Stroock, Daniel W.) Upper bounds on derivatives of the logarithm of the heat kernel. (English summary) *Comm. Anal. Geom.* **6** (1998), *no.* 4, 669–685. (Alberto G. Setti) **99k:58174** 58G11 (35K05)
Turett, Barry (*with* Dowling, Patrick N.; Lennard, Christopher J.) Asymptotically perturbed norms of classical sequence spaces with applications to fixed point theory. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **51** (1997), *no.* 2, 67–98. (S. Swaminathan) **99m:46032** 46B20 (47H10)
— (*with* Dowling, Patrick N.; Randrianantoanina, Narcisse) Remarks on James's distortion theorems. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 49–54. (Summary) **99b:46014** 46B20
— (*with* Ryan, Raymond A.) Geometry of spaces of polynomials. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 698–711. (Ignacio Zalduendo) **99g:46015** 46B28 (46E50, 46G20)
Turgeon, Jean M. (*with* Abrham, Jaromir) Additive permutations with repeated elements. (English summary) *Ars Combin.* **48** (1998), 73–80. (Summary) **99a:05002** 05A05
Turgut, Aysel (*with* Hacısalihoğlu, H. Hilmi) Spacelike ruled surfaces in the Minkowski 3-space. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 83–91 (1998). (Alan S. McRae) **99h:53022** 53B30 (53A25, 53A40)
— (*with* Hacısalihoğlu, H. Hilmi) Timelike ruled surfaces in the Minkowski 3-space. II. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 33–46. (Jerzy Krawczyk)

99h:53015 53A25 (53A40)

Turgut, O. T. (*with* Rajeev, S. G.) Geometric quantization and two-dimensional QCD. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 493–517. (Edwin Langmann) **99b:81254** 81T70 (58E05, 58F06, 81S10, 81T40, 81V05)

Turhan, Ö. A generalized Bolotin's method for stability limit determination of parametrically excited systems. (English summary) *J. Sound Vibration* **216** (1998), *no.* 5, 851–863. (Alexander P. Seyranian) **99j:70025** 70J25 (70J40, 70K28, 73K12)

Turi, Daniele Categorical modelling of structural operational rules: case studies. (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 127–146, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q55

— (*with* Rutten, Jan) On the foundations of final coalgebra semantics: non-well-founded sets, partial orders, metric spaces. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 5, 481–540. (Summary) **99j:68079** 68Q55 (18B99)

Turi, Janos (*with* Hartung, Ferenc; Herdman, Terry L.) Parameter identification in classes of hereditary systems of neutral type. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 147–160. (Shin-ichi Nakagiri) **99m:34188** 34K40 (34K35, 93B30)

— (*with* Györi, István; Hartung, Ferenc) Preservation of stability in delay equations under delay perturbations. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 290–312. (Peter Dormayer) **99a:34212** 34K20

— (*with* Hagen, Thomas) A semigroup approach to a class of semilinear parabolic differential equations. *Nonlinear Anal.* **34** (1998), *no.* 1, 17–35. (Paolo Acquistapace) **99h:34085** 34G20 (35K55, 47D06)

Turiel, Francisco-Javier (*with* Boualem, Hassan; Brouzet, Robert; Rakotondralambo, Joseph) Fibration lagrangienne munie d'une pseudo-métrique compatible. (English and French summaries) [Lagrangian fibration endowed with a compatible pseudometric] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1201–1204. (Carlo Morosi) **99i:53024** 53C15 (58F05)

Turini, Franco (*with* Brogi, Antonio; Contiero, Simone) Composing general logic programs. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 273–288, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17

— (*with* Brogi, Antonio; Contiero, Simone) Programming by combining general logic programs. (English summary) *J. Logic Comput.* **9** (1999), *no.* 1, 7–24. (Summary) **99k:68026** 68N17 (03B70)

Turinici, Gabriel (*with* Maday, Yvon) Analyse numérique de la méthode des variables adiabatiques pour l'approximation de l'hamiltonien nucléaire. (English and French summaries) [Numerical analysis of the adiabatic variable method for the approximation of the nuclear Hamiltonian] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 397–402. (Summary) **99f:81230** 81V35 (81–08)

Turinici, Mihai (*with* Bantaş, Gh.) Existence results for the zeros of open maps. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 21–38 (1997). (Claudio H. Morales) **99k:47137** 47H10 (47H15)

— Differential mean value properties for quasi-continuous functions. I. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 281–300 (1998). (Maria H. Papatriantafillou) **99m:46109a** 46G05 (26A15, 26A24, 26E20)

— Differential comparison results over exceptional sets. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 17–27. (Lidia Skóra) **99a:34201** 34K15

— Differential mean value properties for quasi-continuous functions. II. *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 147–158. (Maria H. Papatriantafillou) **99m:46109b** 46G05 (26A15, 26A24, 26E20)

Turitsyn, Sergei K. (*with* Aceves, Alejandro B.; Jones, Christopher K. R. T.; Zharnitsky, Vadim; Mezentsev, Vladimir K.) Hamiltonian averaging in soliton-bearing systems with a periodically varying dispersion. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 3843–3846. (Summary) **99m:78012** 78A60 (35Q55)

Türke, K. (*with* Schnack, E.) Coupling of BEM and FEM for elastic structures. *Boundary element topics* (*Stuttgart*, 1995), 265–289, *Springer, Berlin*, 1997. (Carsten Carstensen) **99j:73102** 73V05 (65N30, 65N38, 73V10)

— (*with* Schnack, E.) New developments in the iterative solution of boundary element systems for 2D and 3D boundary value problems. (English summary) *Boundary element research in Europe* (*Southampton*, 1998), 3–12, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 73V10 (65N38)

— (*with* Schnack, E.; Szikrai, Sz.) Local effects in engineering with macro-elements. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 299–309. (*see* **99b:73001**) 73V05 (65N99, 73V10)

Turkel, Eli High-order methods. *Advances in computational electrodynamics*, 63–109, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Luis Vázquez) **99h:65152** 65M06 (65M12, 78–08)

— (*with* Yefet, A.) Absorbing PML boundary layers for wave-like equations. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 533–557. (Introduction) **99g:78008** 78–08 (76M25, 76Q05)

— (*with* Singer, I.) High-order finite difference methods for the Helmholtz equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 343–358. (Bernd Heinrich) **99i:65118** 65N06

— (*with* Swanson, Roy Charles; Radespiel, R.) On some numerical dissipation schemes. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 518–544. (Summary) **99h:76069** 76M20 (76H05, 76K05)

— Preconditioning techniques in computational fluid dynamics. (English summary) *Annual review of fluid mechanics, Vol.* 31, 385–416, *Annu. Rev. Fluid Mech.*, 31, *Annual Reviews, Palo Alto, CA*, 1999. (Summary) **99k:76120** 76M25 (65F30, 65M06)

— *see also* **Absorbing boundary conditions, 99c:65002**

Turki-Moalla, Kaoukeb Rates of convergence and law of the iterated logarithm for U-processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 4, 869–906. (Miguel A. Arcones) **99i:60075** 60F15

Turkington, Bruce (*with* DiBattista, Mark T.; Majda, Andrew J.) Prototype geophysical vortex structures via large-scale statistical theory. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 3-4, 235–283. (Summary) **99j:76020** 76C05 (85A30, 86A10)

— Statistical equilibrium measures and coherent states in two-dimensional turbulence. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 7, 781–809. (Alexandre J. Chorin) **99k:76082** 76F99 (35Q99, 60K40, 76M35, 82C99)

Turkington, Darrell A. Efficient estimation in the linear simultaneous equations model with vector autoregressive disturbances. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 51–74. (Summary) **99b:62166** 62P20 (62F12, 62M10)

Türkşen, I. Burhan (*with* Kreinovich, Vladik; Yager, Ronald R.) A new class of fuzzy implications. Axioms of fuzzy implication revisited. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 267–272. (Summary) **99g:03025** 03B52 (68T27)

Turlach, Berwin A. (*with* Hall, Peter Gavin) Enhancing convolution and interpolation methods for nonparametric regression. (English summary) *Biometrika* **84** (1997), *no.* 4, 779–790. (Andreas Futschik) **99i:62092** 62G07

— (*with* Hall, Peter Gavin; Park, Byeong U.) A note on design transformation and binning in nonparametric curve estimation. (English summary) *Biometrika* **85** (1998), *no.* 2, 469–476. 62G05

Turmanov, M. A. On quasidecompositions of torsion-free abelian groups of finite rank. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 450–455, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 394–397. (L. Bican) **99d:20088** 20K15

Turnbull, Bruce W. (*with* Jennison, Christopher) Distribution theory of group sequential t, χ^2 and F-tests for general linear models. (English summary) *Sequential Anal.* **16** (1997), *no.* 4, 295–317. (Mohamed Tahir) **99g:62090** 62J05 (62L10)

Turner, C. V. (*with* Tabak, Esteban G.; Rosales, Rodolfo R.; Majda, Andrew J.) Nonlinear interaction between long waves in the equatorial waveguide. Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 283–297. (Yuri N. Skiba) **99k:76039** 76C20 (35Q35, 76B15, 76U05, 86A10)

Turner, Edward C. (*with* Voce, Daniel A.) Tame automorphisms of finitely generated abelian groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 277–287. (S. Janakiraman) **99g:20100** 20K30 (20F05)

Turner, G. S. (*with* McLachlan, Robert I.; Quispel, G. R. W.) Numerical integrators that preserve symmetries and reversing symmetries. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 586–599 (*electronic*). (Werner M. Seiler) **99b:65083** 65L05 (34A50, 70–08, 70H33)

Turner, Gavin (*with* Houle, Michael E.) Dimension-exchange token distribution on the mesh and the torus. (English summary) *Parallel Comput.* **24** (1998), *no.* 2, 247–265. (Summary) **99c:68014** 68M10 (68Q22)

Turner, James *see* **Turner, James M.**

Turner, James C., Jr. (*with* Cao, Yanzhao; Gunzburger, Max D.) On exact controllability and convergence of optimal controls to exact controls of parabolic equations. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 67–83, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Sergei A. Ivanov) **99e:93006** 93B05 (35K10, 49J20, 93C20)

Turner, James M. Relations in the homotopy of simplicial abelian Hopf algebras. (English summary) *J. Pure Appl. Algebra* **134** (1999), *no.* 2, 163–206. (Kathryn P. Hess) **99m:55022** 55S05 (16W30, 18G30, 55T20, 55U10)

— (*with* Goerss, P. G.) Homotopy theory of simplicial abelian Hopf algebras. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 2, 167–206. (Donald M. Davis) **99k:18017** 18G30 (16E40, 18G55, 55U99)

Turner, Paul R. (*with* Hunton, John Robert) Coalgebraic algebra. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 297–313. (Andrew J. Baker) **99g:16048** 16W30 (18G15, 55N20)

Turner, Rudolph M. (*with* Stitzinger, Ernest L.) Concerning derivations of Lie algebras. (English summary) *Linear and Multilinear Algebra* **45** (1999), *no.* 4, 329–331. 17B40

Turner, S. J. (*with* Cai, Wentong; Zhang, Ke Wei[1]; Sun, Chengzheng) Interlock avoidance in transparent and dynamic parallel program instrumentation using logical clocks. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 569–591. 68Q10 (68Q60)

Turnovec, František Power, power indices and intuition. *Control Cybernet.* **26** (1997), *no.* 4, 613–615. 90A12

— Monotonicity of power indices. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 199–214, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A05 (90A07)

Turnšek, Aleksej On normal derivations and orthogonality. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **45** (1998), *no.* 6, 171–176. 15A45 (15A60, 47B47)

Turnwald, Gerhard On the continuity of the evaluation mapping associated with a group and its character group. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3413–3415. (Dieter Remus) **99d:22005** 22A05 (22D05)

Turo, Jan Carathéodory approximation solutions to a class of stochastic functional-differential equations. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 121–128. (Summary) **99b:60085** 60H10

— Mixed problems for quasilinear hyperbolic systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2329–2340. (L. Hsiao) **99a:35266** 35R10 (35L60)

— Approximate solutions to a class of stochastic functional evolution equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 11–18. (Summary) **99c:60121** 60H10 (34K50)

Turok, Neil G. (*with* Cornish, Neil J.) Ringing the eigenmodes from compact manifolds. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2699–2710. (Jens Marklof) **99k:58186** 58G25 (83F05)

— (*with* Brax, Ph.) Exponentially small couplings between twisted fields of orbifold string theories. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3255–3274. (Summary) **99c:81167** 81T30

— (*with* Hawking, Stephen W.) Open inflation without false vacua. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 25–32. (Viqar Husain) **99f:83084** 83F05 (83C45)

— (*with* Hawking, Stephen W.) Open inflation, the four form and the cosmological constant. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 271–278. (Marco Spaans) **99e:83063** 83F05 (83C47)

— (*with* Uzan, Jean-Philippe; Deruelle, Nathalie) Conservation laws and cosmological perturbations in curved universes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12,

7192–7199. (Summary) **99k:83037** 83C40 (83C15)

Turova, Tatyana S. Exponential rate of convergence of an infinite neuron model with local connections. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 2, 173–193. (Min Ping Qian) **99e:92005** 92B20 (60J70, 60K15)

Turova-Botkina, V. L. (*with* Patsko, V. S.) Numerical study of the homicidal chauffeur game. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 363–371, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 90D25 (49J15)

Turovskaya, Lyudmila (*with* Samoĭlenko, Yuriĭ S.) Semilinear relations and $*$-representations of deformations of so(3). (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 21–40, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Fang Li) **99a:17024** 17B37 (47B15, 47B25, 47D40, 81R50)

— (*with* Samoĭlenko, Yuriĭ S.; Popovych, Stanislav) Representations of a cubic deformation of su(2) and parasupersymmetric commutation relations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 372–383, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Marcelo R. Ubriaco) **99c:81105** 81S05 (81Q60, 81R50)

— (*with* Samoĭlenko, Yuriĭ S.) On representations of $*$-algebras by unbounded operators. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 80–83; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 289–291 (1998). (W. Timmermann) **99b:46080** 46K10 (47D40)

Turpin, Andrew (*with* Moffat, Alistair) Efficient construction of minimum-redundancy codes for large alphabets. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1650–1657. (Summary) **99i:94037** 94A45

Turrini, Cristina (*with* Bertolini, Marina) Surfaces in $\mathbf{P}^4$ with no quadrisecant lines. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 31–36. (Kristian Ranestad) **99f:14042** 14J25

— (*with* Lanteri, Antonio) Elliptic surfaces with a nef line bundle of genus two. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 361–381. (Yoshiaki Fukuma) **99m:14010** 14C20 (14J27)

— (*with* Arrondo, Enrique; Bertolini, Marina) Congruences of small degree in $G(1,4)$. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3249–3266. (Giorgio Ottaviani) **99k:14081** 14M15 (14M06)

— *see also* **Arrondo, Enrique, 99k:14082**

Turski, A. J. (*with* Zawistowski, Z. J.) Nonlocal equations of Schrödinger type for Langmuir wave in Vlasov plasmas. (English summary) *J. Tech. Phys.* **39** (1998), *no.* 1, 115–131. (Tadeusz Nadzieja) **99k:82075** 82D10 (35Q55)

— (*with* Zawistowski, Z. J.) Symmetries of nonlocal NLS equation for Langmuir waves in Vlasov plasmas. (English summary) *J. Tech. Phys.* **39** (1998), *no.* 2, 297–314. (George Rowlands) **99k:76165** 76X05 (35Q55, 82D10)

Turski, Jacek Harmonic analysis on SL(2, **C**) and projectively adapted pattern representation. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 1, 67–91. (Sergei S. Platonov) **99h:22010** 22E30 (43A85, 68T10, 68U10)

Turský, Tomáš (*with* Andres, Jan) On the method of Esclangon. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 7–20 (1997). (Boris Zadvorniĭ) **99f:34008** 34A30

Turteltaub, Sergio Adiabatic phase boundary propagation in a thermoelastic solid. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 2, 117–142. (From the introduction) **99b:73012** 73B30 (80A22)

Turull Torres, Jose Maria (*with* Matera, Guillermo) The space complexity of elimination theory: upper bounds. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 267–276, *Springer, Berlin*, 1997. (Summary) **99j:65255** 65Y10 (65F05, 68Q25)

Turunen, Esko Rules of inference in fuzzy sentential logic. (English summary) *Fuzzy Sets and Systems* **85** (1997), *no.* 1, 63–72. (Richard A. Alò) **99f:03024** 03B52

— *see also* **Mattila, Jorma K., 99h:03013**

Turunen, V. (*with* Vainikko, Gennadi) On symbol analysis of periodic pseudodifferential operators. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 9–22. (A. Böttcher) **99b:47077** 47G30 (35S05, 58G15, 65N38)

Tüshaus, Ulrich (*with* Wahl, Christoph) Holding costs minimization with service level constraints in an arborescent distribution network. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 271–276, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B10 (90C35)

Tushnits'kiĭ, Ĭ. Ya. Localization of topologies on distributive lattices. (Ukrainian. English and Russian summaries) *Mat. Stud.* **8** (1997), *no.* 2, 180–188, 237. (Summary) **99m:06036** 06F30

Tusnády, G. (*with* Komlós, János) Pointwise bounded approximation. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 261–271. (Lajos Horváth) **99h:60062** 60F15 (60G50)

Tusserkani, R. (*with* Hajiabolhassan, H.; Mehrabadi, M. L.) Minimal coloring and strength of graphs. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 353–357, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:05057** 05C15

— (*with* Hajiabolhassan, H.; Mehrabadi, M. L.; Zaker, M.) Improving Erdős-Kubicka bounds. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 565–567, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C15

— (*with* Hajiabolhassan, H.; Mehrabadi, M. L.; Zaker, M.) Minimal defining sets in vertex coloring of graphs. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 587–589, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C15

— (*with* Eslahchi, Ch.; Hajiabolhassan, H.; Mehrabadi, M. L.) A counterexample for Hilton-Johnson's conjecture on list-coloring of graphs. (English summary) *Australas. J. Combin.* **18** (1998), 127–131. (Summary) **99g:05075** 05C15

— (*with* Hajiabolhassan, H.; Mehrabadi, M. L.; Zaker, M.) A characterization of uniquely vertex colorable graphs using minimal defining sets. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 233–236. (Summary) **99k:05137** 05C75 (05C15)

Tuszyński, J. A. (*with* Dixon, J. M.; Nip, M. L. A.) Calculations of one-electron energies of multi-electron atoms through nonlinear field theory methods. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 29–38, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:81280** 81V45

Tutek, Zvonimir (*with* Aganović, Ibrahim) Nonstationary micropolar fluid flow through porous medium. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3171–3178. (From the text) **99b:76082** 76S05 (76A99)

— (*with* Aganović, Ibrahim; Jurak, M.; Marušić-Paloka, Eduard) Moderately wrinkled plate. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 273–297. (Veronique Lods) **99d:73053** 73K10 (35B27)

Tutescu, L. (*with* Prodanescu, I.) On a conjecture concerning the Smarandache function. *Smarandache Notions J.* **9** (1998), *no.* 1-2, 104–105. 11A25

Tutik, R. S. (*with* Dobrovolska, I. V.) Semiclassical treatment of logarithmic perturbation theory. (English summary) *J. Phys. A* **32** (1999), *no.* 3, 563–568. 81Q20

Tutschke, Wolfgang ★ Inhomogeneous equations in complex analysis. Functional-analytic methods of complex analysis in the complex plane and in higher dimensions. Textos de Matemática. Série B [Texts in Mathematics. Series B], 5. *Universidade de Coimbra, Departamento de Matemática, Coimbra*, 1995. *vi*+41 *pp.* (Manfred W. Kracht) **99h:35004** 35Axx (30E25, 30G20, 30G35, 32A30, 35Dxx)

— (*with* Florian, Helmut; Püngel, J.) Matrix differential transformations. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 103–117. (Summary) **99m:35014** 35A30 (15A54, 34A25, 35C05)

— Another approach to complex integration. (English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 17–20. (Summary) **99g:30052** 30E20

— Generalized analytic functions in mathematical analysis. *Generalized analytic functions* (*Graz*, 1997), 3–15, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (A. Vijayakumar) **99i:30069** 30G99

— The contraction-mapping principle—some associated optimization problems. *Generalized analytic functions* (*Graz*, 1997), 69–72, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 47H10 (30E25, 90C30)

— *see also* **Generalized analytic functions, 99d:00020**

Tutte, W. T. ★ Graph theory as I have known it. (English summary) With a foreword by U. S. R. Murty. Oxford Lecture Series in Mathematics and its Applications, 11. *The Clarendon Press, Oxford University Press, New York*, 1998. *vi*+156 *pp. ISBN* 0-19-850251-6 (E. Keith Lloyd) **99i:05001** 05-03 (01A60, 01A70)

Tutubalin, V. N. (*with* Barabasheva, Yu. M.; Grigoryan, Aleksandr Arkad'evich; Devyatkova, G. N.; Uger, E. G.) Differential equations in ecology: historical-methodological reflection. (Russian. English and Russian summaries) *Voprosy Istor. Estestvoznan. i Tekhn.* **1997**, *no.* 3, 141–151, 173. (Summary) **99g:92001** 92-03 (92D40)

Tütüncü, R. H. (*with* Todd, Michael J.; Toh, Kim-Chuan) On the Nesterov-Todd direction in semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 769–796 (*electronic*). (Jos F. Sturm) **99f:90140** 90C30 (90C05, 90C25)

Tutz, Gerhard (*with* Kauermann, Göran) Locally weighted least squares in categorical varying-coefficient models. (English summary) *Econometrics in theory and practice*, 119–130, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 62H17 (62J02, 62J12)

— (*with* Kauermann, Göran) On model diagnostics using varying coefficient models. (English summary) *Biometrika* **86** (1999), *no.* 1, 119–128. 62J12

hoàng Tụy *see* **Hoàng Tụy**

Tuy, Hoang *see* **Hoàng Tụy**

Tuyls, P. Comparing quantum dynamical entropies. (English summary) *Quantum probability* (*Gdańsk*, 1997), 411–420, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Matthew J. Donald) **99k:46122** 46L55 (28D20, 46L60, 81S99)

Tuynman, Gijs M. Functions of class C^k without derivatives. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 417–435. (Andreas Kriegl) **99d:46065** 46G05 (46M15, 58A50, 58C50)

— Un principe variationnel pour les variétés symplectiques. (English and French summaries) [A variational principle for symplectic manifolds] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 339–342. (Miguel T. Abreu) **99i:58045** 58E30 (58E05, 58F05)

Tuza, Zsolt Lower bounds for a class of depth-two switching circuits. (English summary) *Matrices and graphs* (*Brescia*, 1993/1995), 7–18, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99j:94084** 94C10 (15A45)

— (*with* Szigeti, Jenö) Generalized colorings and avoidable orientations. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 137–145. (Summary) **99b:05066** 05C15 (05C20)

— Graph colorings with local constraints—a survey. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 161–228. (Peter Mihók) **99e:05055** 05C15 (68R10, 90C35)

— (*with* Bondy, J.-A.) A weighted generalization of Turán's theorem. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 267–275. (Summary) **99c:05097** 05C35

— (*with* Kellerer, Hans^2; Kotov, Vladimir; Speranza, Maria Grazia) Semi on-line algorithms for the partition problem. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 235–242. (Summary) **99c:90148** 90C35 (68Q25, 90B25)

— (*with* Bazgan, Cristina; Santha, Miklos) Efficient approximation algorithms for the subset-sums equality problem. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 387–396, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q25

— (*with* Bazgan, Cristina; Santha, Miklos) On the approximation of finding a(nother) Hamiltonian cycle in cubic Hamiltonian graphs (extended abstract). (English summary) *STACS* 98 (*Paris*, 1998), 276–286, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q25

— (*with* Fouquet, Jean-Luc; Hahn, Geña; Woodrow, Robert E.) On magnitude networks. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 75–84. (Introduction) **99k:68134** 68R10 (05C85)

— (*with* Kratochvíl, Jan; Voigt, Margit) Complexity of choosing subsets from color sets. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 139–148. (Summary) **99d:05081** 05C85 (68Q25)

— (*with* Kratochvíl, Jan; Voigt, Margit) Brooks-type theorems for choosability with separation. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 43–49. (Vasanti N. Bhat-Nayak) **99a:05049** 05C15

— (*with* Bodlaender, Hans L.; Deogun, Jitender S.; Jansen, Klaus; Kloks, Ton; Kratsch, Dieter; Müller, Haiko) Rankings of graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 168–181 (*electronic*). (Peter Damaschke) **99b:68143** 68R10 (05C15, 05C78, 05C85)

— (*with* Speranza, Maria Grazia) On-line approximation algorithms for scheduling tasks on identical machines with extendable working time. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 491–506. (Summary) **99m:90092** 90B35 (90C27)

— (*with* Bylka, Stanisław; Idzik, Adam) Maximum cuts: improvements and local algorithmic analogues of the Edwards-Erdős inequality. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 39–58. (Italo José Dejter) **99i:05104** 05C35 (68R10)

— (*with* Jendroľ, Stanislav; Madaras, Tomáš; Soták, Roman) On light cycles in plane triangulations. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 453–467. (Summary) **99j:05055** 05C10 (05C38, 52B10)

— (*with* Bazgan, Cristina; Santha, Miklos) On the approximation of finding a(nother) Hamiltonian cycle in cubic Hamiltonian graphs. (English summary) *J. Algorithms* **31** (1999), *no.* 1, 249–268. (A. G. Thomason) **99m:05146** 05C85 (05C45, 68Q25, 68R10)

— (*with* Amoura, A. K.; Bampis, E.; Manoussakis, Y.) A comparison of heuristics for scheduling multiprocessor tasks on three dedicated processors. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 49–61. 68M20

Tuzhilin, Alekseĭ Avgustinovich (*with* Ivanov, A. O.) Geometry of the set of minimal networks of a given topology with a fixed boundary. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 6, 119–152; *translation in Izv. Math.* **61** (1997), *no.* 6, 1231–1263. (Summary) **99c:05052** 05C10 (52A20)

— Minimal binary trees with a regular boundary: the case of skeletons with five ends. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 907–921; *translation in Math. Notes* **61** (1997), *no.* 5-6, 758–769. (A. D. Korshunov) **99g:05056** 05C05

Tuziak, Roman Finitely many-valued paraconsistent systems. (English summary) *Logic Log. Philos. No.* 5 (1997), 121–127. (Summary) **99d:03023** 03B53 (03B50)

Tuzik, A. I. On the index of a singular integral equation with a finite commutative group of direct and inverse Carleman shifts. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 18–20, 139. 45E05 (47G10)

Tuzikov, A. V. (*with* Margolin, G. L.) Symmetry measures of convex sets. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 2, 109–114, 143–144. (Pavel S. Pankov) **99e:52012** 52A99

— (*with* Roerdink, Jos B. T. M.; Heijmans, Henk J. A. M.; Sheĭnin, S. A.) Measures and indices of reflection symmetry for convex polyhedra. (English summary) *Mathematical morphology and its applications to image and signal processing (Amsterdam, 1998)*, 59–65, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Christian Ronse) **99k:52014** 52A38 (51M16, 52A39, 52B15, 68U05, 68U10)

Tuzson, Ágnes On convergence of algebraic collocation method for a two-point boundary value problem with impulse effect. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1995), *no.* 1, 111–119. 65L60

— On extension of the modified collocation method for periodic impulsive BVPs. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* 36 (1996), *no.* 2, 141–148. 65L60

Tveito, Aslak (*with* Winther, Ragnar) ★ Introduction to partial differential equations. (English summary) A computational approach. Texts in Applied Mathematics, 29. *Springer-Verlag, New York*, 1998. *xvi+392 pp. ISBN* 0-387-98327-9 (Darrell L. Hicks) **99k:65001** 65–01 (35–01)

— (*with* Cai, Xing; Langtangen, Hans Petter; Nielsen, Bjørn Fredrik) A finite element method for fully nonlinear water waves. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 544–568. (Summary) **99b:76049** 76M10 (76B15)

Tverberg, Helge Proof of Reay's conjecture on certain positive-dimensional intersections. (English summary) *Advances in discrete and computational geometry (South Hadley, MA, 1996)*, 369–374, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52007** 52A37 (52A10, 52A20)

Tvergaard, Viggo Interaction of very small voids with larger voids. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 30, 3989–4000. (Summary) **99d:73075** 73M25

Tveter, Frank Thomas Deriving the Hamilton equations of motion for a nonconservative system using a variational principle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1495–1500. (Ranislav Bulatović) **99a:70026** 70H05 (70H30)

Tvorogov, S. D. The Green function for some problems of nonlinear electrodynamics. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 2, 64–70; *translation in Russian Phys. J.* **41** (1998), *no.* 2, 147–151. (Summary) **99e:78038** 78A60 (78A25)

Tvrdík, Pavel (*with* Harbane, Rabah; Heydemann, Marie-Claude) Uniform homomorphisms of de Bruijn and Kautz networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 279–301. (Neville G. F. Sancho) **99d:68025** 68M10 (05C20, 68R10)

— (*with* Rolim, José D. P.; Trdlička, Jan; Vrťo, Imrich) Bisecting de Bruijn and Kautz graphs. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 87–97. (Summary) **99a:05057** 05C20

Tvrdý, Milan Linear integral equations in the space of regulated functions. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 210–218. (Anatolij Semenovich Kalitvin) **99i:45002** 45A05 (34K05, 45D05, 47G10)

— Linear integral equations in the space of regulated functions. (English summary) *Math. Bohem.* **123** (1998), *no.* 2, 177–212. (Summary) **99k:45012** 45F05 (45D05)

Twamley, J. Quantum distribution functions for radial observables. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4811–4819. (Günter Braunss) **99h:81117** 81S30

Twardowska, Krystyna On support theorems for stochastic nonlinear partial differential equations. *Stochastic differential and difference equations (Győr, 1996)*, 309–317, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Marek Capiński) **99e:60141** 60H15 (35Q30, 35R60, 76D05)

Twareque Ali, S. *see* **Ali, S. Twareque**

Twarock, Reidun q-quantum mechanics on S^1. *Symmetries in science, IX (Bregenz, 1996)*, 331–344, *Plenum, New York*, 1997. (Pavel Šťovíček) **99e:81107** 81R50 (81S99)

— (*with* Patera, Jiří; Pelantová, Edita) Quasicrystal Lie algebras. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 209–213. (Summary) **99d:17029** 17B68

Tweddle, Ian (*with* Latif, Abdul) Some results on coincidence points. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 111–117. 54H25 (54C60, 54E40)

Tweed, John (*with* Kerr, Gilbert; Melrose, G.) Antiplane shear of a strip containing a periodic array of rigid line inclusions. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 4, 505–512. (Summary) **99h:73053** 73K20

Tweedie, R. L. (*with* Scott, D. J.) Explicit rates of convergence of stochastically ordered Markov chains. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 176–191, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Summary) **99f:60122** 60J05

— (*with* Stramer, O.) Existence and stability of weak solutions to stochastic differential equations with non-smooth coefficients. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 577–593. (Kiyomasa Narita) **99b:60096** 60H20 (60G40, 60J25, 62M10)

— (*with* Foss, S. G.) Perfect simulation and backward coupling. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 187–203. (Mark R. Jerrum) **99f:60123** 60J10 (68Q25)

— (*with* Foss, S. G.; Corcoran, J. N.) Simulating the invariant measures of Markov chains using backward coupling at regeneration times. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 303–320. (Olle Häggström) **99d:60079** 60J10 (60K25)

Twerda, Aris (*with* Verweij, Robbert L.; Peeters, Tim W. J.) Parallel computing for reacting flows using adaptive grid refinement. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 538–546, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99g:76118** 76M25 (65Y05, 80–08, 80A25)

Twizell, E. H. (*with* Cao, Qing Jie; Zhang, Tian De; Li, Jiu Ping; Price, G. W.; Djidjeli, K.) Soliton solutions of a class of generalized N-dimensional nonlinear Schrödinger equations and their properties. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2166–2173. (Summary) **99c:35217** 35Q55

— (*with* Cao, Qing Jie; Zhang, Tian De; Djidjeli, K.; Price, G. W.) Soliton solutions of a class of generalized nonlinear Schrödinger equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 389–398. (Hong Yuan Fu) **99b:65096** 65M06 (35Q55)

— (*with* Bratsos, A. G.) A family of parametric finite-difference methods for the solution of the sine-Gordon equation. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 117–137. (Meng Zhao Qin) **99d:65246** 65M06

— (*with* Djidjeli, K.; Price, W. G.; Temarel, P.) A linearized implicit pseudo-spectral method for certain non-linear water wave equations. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 977–993. (Summary) **99i:76108** 76M25 (65N35, 76B15, 76B25)

— (*with* Taj, M. S. A.) A family of third-order parallel splitting methods for parabolic partial differential equations. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 411–433. 65M06 (65Y05)

— (*with* Bratsos, A. G.) An explicit finite-difference scheme for the solution of the Kadomtsev-Petviashvili equation. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 175–187. 65M06

— (*with* Siddiqi, Shahid S.) Spline solutions of linear tenth-order boundary-value problems. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 345–362. 65L05 (65D07)

— (*with* Zhang, Tian De; Cao, Qing Jie; Price, G. W.; Djidjeli, K.) Applications of the weighted scheme for GNLS equations in solving soliton solutions. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 525–541. (Summary) **99f:35198** 35Q55 (65M06)

— (*with* Cao, Qing Jie; Djidjeli, K.; Price, W. G.) Periodic and chaotic behaviour in a reduced form of the perturbed generalized Korteweg-de Vries and Kadomtsev-Petviashvili equations. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 201–221. (Summary) **99j:35182** 35Q53 (58F39, 65D99, 65M99)

Twomey, J. B. Radial variation of functions in Dirichlet-type spaces. *Mathematika* **44** (1997), *no.* 2, 267–277. (Daniel Girela) **99d:30033** 30D40 (30B30, 42B08, 46E20)

Tworzewski, Piotr (*with* Chądzyński, Jacek; Krasiński, Tadeusz) On the intersection multiplicity of analytic curves in $\mathbb{C}^m$. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 163–169. (Rüdiger Achilles) **99a:32005** 32B10 (14C17)

— (*with* Apel, Joachim; Stückrad, J.; Winiarski, T.) Intersection of sequences of ideals generated by polynomials. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 1–12. (Bernard Mourrain) **99k:13035** 13P10

Tyan, Feng (*with* Bernstein, Dennis S.) Dynamic output feedback compensation for linear systems with independent amplitude and rate saturations. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 89–116. 93D15 (93B52)

semenov-Tyan-Shanskiĭ, M. A. *see* **Semenov-Tyan-Shanskiĭ, M. A.**

Tybor, W. (*with* Backhouse, N. B.; Rembieliński, Jakub) Class operators for compact Lie groups. Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 9–15. (Leticia Barchini) **99f:22020** 22E46 (22C05, 43A85)

Tyc, Andrzej (*with* Restuccia, Gaetana) Regularity in characteristic p of the invariants of (co)actions of certain finite Hopf algebras and formal groups. (Italian. English summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 1011–1019. (Enric Nart) **99d:16047** 16W30 (14L05)

— An elementary proof of the Weitzenböck theorem. *Colloq. Math.* **78** (1998), *no.* 1, 123–132. (Frank D. Grosshans) **99i:13007** 13A50

Tychinin, V. A. Non-local symmetry of the 3-dimensional Burgers-type equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2 (Kyiv, 1997)*, 172–176, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53

— One geometric model for non-local transformations. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2 (Kyiv, 1997)*, 483–487, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 58F37 (35A30)

Tye, S.-H. Henry (*with* Kakushadze, Zurab; Shiu, Gary; Vtorov-Karevsky, Yan) A review of three-family grand unified string models. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 15, 2551–2598. (Angel Maria Uranga) **99e:81198** 81T30 (81V22, 83E30)

— (*with* Kakushadze, Zurab; Shiu, Gary) Type IIB orientifolds, F-theory, type I strings on orbifolds and type I-heterotic duality. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 25–87. (Gysbert Zwart) **99m:81195** 81T30 (83E30)

— (*with* Kakushadze, Zurab; Shiu, Gary) Type IIB orientifolds with NS-NS antisymmetric tensor backgrounds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 086001, 7 *pp.* (Summary) **99k:81248** 81T30

— (*with* Shiu, Gary) TeV scale superstring and extra dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 106007, 13 *pp.* 81V22 (81T30)
— (*with* Kakushadze, Zurab) Three generations in type I compactifications. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 126001, 9 *pp.* (Summary) **99m:81197** 81T30 (81V22)
— (*with* Dvali, Gia) Brane inflation. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 72–82. (Summary) **99k:81234** 81T30 (81V17)
Tygel, Martin (*with* Ursin, Bjørn) Weak-contrast edge and vertex diffractions in anisotropic elastic media. (English summary) *Wave Motion* **29** (1999), *no.* 4, 363–373. (Summary) **99m:73029** 73D25 (73B40)
Tyler, David E. (*with* Stoffer, David S.) Matching sequences: cross-spectral analysis of categorical time series. (English summary) *Biometrika* **85** (1998), *no.* 1, 201–213. (Summary) **99b:62148** 62M15
— (*with* Mendes, Beatriz Vaz de Melo) Bias robustness of the C*M*-estimates of location and scale. (English summary) *Rebrape* **12** (1998), *no.* 1, 41–53. 62F35
Tylli, Hans-Olav (*with* Liu, Pei De; Saksman, Eero) Small composition operators on analytic vector-valued function spaces. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 295–309. (Andreas Haldimann) **99e:47036** 47B38 (46E15)
Tymchatyn, E. D. (*with* Yang, Chang Cheng) Characterizing continua by disconnection properties. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 348–358. (A. H. Stone) **99h:54047** 54F15 (54D05, 54F50)
— (*with* Walker, Russell B.) Taming the Cantor fence. (English summary) *Topology Appl.* **83** (1998), *no.* 1, 45–52. (Leonard R. Rubin) **99f:54055** 54H20
— (*with* Levin, Michael A.) On the dimension of almost n-dimensional spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2793–2795. (Klaas Pieter Hart) **99m:54022** 54F45 (54F50)
Tymczak, C. J. (*with* Japaridze, G. S.; Handy, Carlos R.; Wang, Xiao-Qian) New perspective on inner product quantization. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 17, 3673–3677. (Summary) **99b:81134** 81S99
Tymoczko, A. Thomas *see* **New directions in the philosophy of mathematics, 99m:00011**
Typel, S. (*with* Wang, Shun Jin; Weiguny, A.; Wiese, H.) Response of a quantum system to a time-dependent external field and dynamical symmetry of the system. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5585–5598. (Summary) **99c:82045** 82C10
Tyrkiel, Elżbieta (*with* Szemplińska-Stupnicka, Wanda) Sequences of global bifurcations and the related outcomes after crisis of the resonant attractor in a nonlinear oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2437–2457. (Summary) **99b:70025** 70K50 (58F14)
— (*with* Szemplińska-Stupnicka, Wanda) Effects of multiglobal bifurcations on basin organization, catastrophes and final outcomes in a driven nonlinear oscillator at the 2T-subharmonic resonance. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 1, 41–59. (Summary) **99e:70059** 70K50
— (*with* Szemplińska-Stupnicka, Wanda) Sequences of global bifurcations and multiple chaotic transients in a mechanical driven oscillator. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 81–91, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70K50 (58F13)
Tyrrell, A. M. (*with* Tinniswood, A. D.; Cloude, S. R.) Parallel computation of RCS prediction using time domain integral equations. *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 187–197, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08
Tyrtyshnikov, E. E. (*with* Goreĭnov, S. A.) Conjugate gradients for indefinite symmetric matrices. (Russian. Russian summary) *Matrix methods and algorithms (Russian)*, 47–66, *Ross. Akad. Nauk, Inst. Vychisl. Mat., Moscow*, 1993. (M. Znojil) **99a:65043** 65F10
— Mosaic-skeleton approximations. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 47–57 (1998). (Summary) **99f:15005** 15A03 (65F30, 68Q25)
— (*with* Zamarashkin, N. L.) On eigen and singular value clusters. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 71–78 (1998). (Hongyuan Zha) **99d:15008** 15A18
— (*with* Goreĭnov, S. A.; Zamarashkin, N. L.) A theory of pseudoskeleton approximations. (English summary) *Linear Algebra Appl.* **261** (1997), 1–21. (Summary) **99d:15015** 15A42
— (*with* Erëmin, A. Yu.; Zamarashkin, N. L.) Clusters, preconditioners, convergence. (English summary) *Linear Algebra Appl.* **263** (1997), 25–48. (Assem Deif) **99c:65073** 65F15
— (*with* Goreĭnov, S. A.; Zamarashkin, N. L.) Pseudoskeleton approximations by submatrices of greatest size. (Russian) *Mat. Zametki* **62** (1997), *no.* 4, 619–623; *translation in Math. Notes* **62** (1997), *no.* 3-4, 515–519 (1998). (Weiyi Su) **99e:41017** 41A30
— (*with* Zamarashkin, N. L.) On the distribution of the eigenvectors of Toeplitz matrices under weakened requirements for the generating function. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 161–162; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1333–1334. (Jacek Kabziński) **99a:15003** 15A18 (15A57, 47B35)
— (*with* Ivakhnenko, V. I.; Smirnov, Yu. G.) The electric field integral equation: theory and algorithms. *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 251–262, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Marius Mitrea) **99h:78020** 78A45 (45L05, 65N30, 65R20, 78–08)
Tyshkevich, Regina I. (*with* Mel'nikov, O. I.; Sarvanov, V.; Emelichev, V. A.; Zverovich, Igor E.) ★ Exercises in graph theory. (English summary) Translated from the Russian by Nikolai Korneenko. Kluwer Texts in the Mathematical Sciences, 19. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *viii+354 pp. ISBN* 0-7923-4906-7 (From the introduction) **99c:05001** 05–01
— (*with* Zverovich, Vadim E.) Line hypergraphs: a survey. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 209–222. (Nigel Martin) **99j:05149** 05C65
Tyson, Jeremy Quasiconformality and quasisymmetry in metric measure spaces. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 525–548. (Olli Martio) **99i:30038** 30C65
Tyson, Rebecca (*with* Lubkin, S. R.; Murray, James D.) Model and analysis of chemotactic bacterial patterns in a liquid medium. (English summary) *J. Math. Biol.* **38** (1999), *no.* 4, 359–375. 92D25
Tyssedal, John (*with* Box, George) Projective properties of certain orthogonal arrays. (English summary) *Biometrika* **83** (1996), *no.* 4, 950–955. (E. Seiden) **99a:62113** 62K15 (05B15, 05B20)
Tyszkiewicz, Jerzy Fine hierarchies of generic computation. (English summary) *Database theory—ICDT '97 (Delphi)*, 125–139, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99d:68067** 68P15 (03D15)
— Queries and algorithms computable by polynomial time existential reflective machines (extended abstract). (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 498–507, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q05 (68P15, 68Q15)
— Queries and algorithms computable by polynomial time existential reflective machines. (English summary) *Fund. Inform.* **32** (1997), *no.* 1, 91–105. (Minoru Ito) **99h:68041** 68P15 (68Q05, 68Q15)
— A note on the Kolmogorov data complexity and nonuniform logical definitions. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 4, 187–195. (Bruno Poizat) **99b:03047** 03C13 (03C40, 03C80, 03D15, 68Q40)
— The Kolmogorov expressive power of Boolean query languages. (English summary) Database theory (Prague, 1995). *Theoret. Comput. Sci.* **190** (1998), *no.* 2, 317–361. (Andreas Blass) **99g:68102** 68Q30 (03C13, 03C80, 03D15, 68Q15)
Tyurin, A. N. Six lectures on four-manifolds. *Transcendental methods in algebraic geometry (Cetraro, 1994)*, 186–246, *Lecture Notes in Math.*, 1646, *Springer, Berlin*, 1996. (Zhenbo Qin) **99b:57044** 57N13 (14J29, 57R57)
Tyurin, S. A. Classification of tori in the Zassenhaus algebra. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 69–76; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 2, 66–73. (Serge M. Skryabin) **99g:17041** 17B50
Tyurin, V. M. On the invertibility of linear partial differential equations in some function spaces on $\mathbf{R}^n$. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1419–1425, 1440; *translation in Differential Equations* **33** (1997), *no.* 10, 1425–1431 (1998). (Summary) **99i:35014** 35G05 (46E35, 47F05)
— On some coercive inequalities for linear partial differential operators. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 650–659, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 564–572. (Vladimir P. Burskiĭ) **99i:47089** 47F05 (35B45, 35G05, 46N20)
Tyutin, I. V. (*with* Gitman, D. M.) Pseudoclassical description of higher spins in $(2+1)$ dimensions. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 428–434, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81132** 81S99
Tyutin, V. V. (*with* Gromov, E. M.) Stationary waves in a third-order nonlinear Schrödinger equation. (English summary) *Wave Motion* **28** (1998), *no.* 1, 13–24. (Summary) **99b:35192** 35Q55
Tyutyanov, V. N. On the existence of solvable normal subgroups in finite groups. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 755–758; *translation in Math. Notes* **61** (1997), *no.* 5-6, 632–634. (Alla S. Detinko) **99d:20025** 20D10 (20D20)
Tyutyunnik, L. I. (*with* Volosov, V. V.) Development and investigation of robust algorithms for guaranteed ellipsoidal estimation of the state of multidimensional linear discrete dynamical systems. I. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 31–43, 155–156. (Summary) **99d:93072** 93E12 (93B12)
— (*with* Volosov, V. V.) Development and investigation of robust algorithms for guaranteed ellipsoidal estimation of the state of multidimensional linear discrete dynamical systems. II. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 52–65, 150. (Summary) **99k:93092** 93E12 (93B12)
Tzafestas, Costas S. (*with* Rigatos, Gerasimos G.; Tzafestas, Spyros G.) Design of fault-tolerant control systems: passive and active approaches. (English summary) *Systems Sci.* **24** (1998), *no.* 4, 5–28. 93B50 (90B25)
Tzafestas, Spyros G. (*with* Kyriannakis, Efthimios; Anthopoulos, Yiannis) Model-based predictive control of large-scale systems using a neural estimator. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 585–598. 93B30 (93C40)
— (*with* Tzamtzi, Maria P.) Robustness of a spectral assignment method applied to a flexible beam. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 859–872. 93B55 (73K05, 73K50)
— (*with* Tzamtzi, Maria P.) On the robust stability of linear systems with parametric uncertainty. (English summary) *Systems Sci.* **24** (1998), *no.* 3, 59–65. 93D09
— (*with* Tzafestas, Costas S.; Rigatos, Gerasimos G.) Design of fault-tolerant control systems: passive and active approaches. (English summary) *Systems Sci.* **24** (1998), *no.* 4, 5–28. 93B50 (90B25)
Tzafriri, L. (*with* Kalton, Nigel J.) The behaviour of Legendre and ultraspherical polynomials in L_p-spaces. (English summary) *Canad. J. Math.* **50** (1998), *no.* 6, 1236–1252. (Walter Schempp) **99k:33042** 33C55 (33C45, 42B05, 46E30)
Tzamtzi, Maria P. (*with* Tzafestas, Spyros G.) Robustness of a spectral assignment method applied to a flexible beam. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 859–872. 93B55 (73K05, 73K50)
— (*with* Tzafestas, Spyros G.) On the robust stability of linear systems with parametric uncertainty. (English summary) *Systems Sci.* **24** (1998), *no.* 3, 59–65. 93D09
Tzanakis, Constantinos (*with* Grecos, Alkis P.) Generalized Moyal structures in phase-space, master equations and their classical limit. I. General formalism. (English summary) *Phys. A* **256** (1998), *no.* 1-2, 87–111. (Akira Yoshioka) **99k:81136** 81S10 (81S30)
— (*with* Grecos, Alkis P.; Hatjimanolaki, Polyxeni) Generalized Moyal structures in phase-space, master equations and their classical limit. II. Applications to harmonic oscillator models. (English summary) *Phys. A* **256** (1998), *no.* 1-2, 112–128. (Akira Yoshioka) **99k:81137** 81S10 (81S30)
— Unfolding interrelations between mathematics and physics, in a presentation motivated by history: two examples. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 1, 103–118. 00A79
Tzani, R. (*with* Floratos, E. G.; Leontaris, G. K.; Polychronakos, Alexios P.) Instanton solutions of the self-dual membrane in various dimensions. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 125–130. (Summary) **99a:81137** 81T30 (81T60)
Tzannes, V. On countable first countable connected Hausdorff spaces. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 145–154. (Summary) **99h:54032** 54D05 (54C10, 54C30, 54D10)

Tzavelas, George A note on the uniqueness of the quasi-likelihood estimator. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 125–130. (Summary) **99d:62019** 62F10

Tze, Chia-Hsiung (*with* Gürsey, Feza) ★ On the role of division, Jordan and related algebras in particle physics. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xvi*+461 *pp. ISBN* 981-02-2863-5 (Stefano De Leo) **99g:81061** 81R05 (16K20, 17A35, 17C60, 81V22)

Tzeng, C. Y. Optimal control of a ship for a course-changing maneuver. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 281–297. (Summary) **99a:49045** 49N55 (49J15)

Tzeng, Wen-Guey On-line dominating set problems for graphs. *Handbook of combinatorial optimization, Vol.* 2, 525–542, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C35 (05C35, 90–02)

Tzermias, Pavlos Arithmetic of cyclic quotients of the Fermat quintic. *Acta Arith.* **84** (1998), *no.* 4, 375–384. (Dino J. Lorenzini) **99c:11077** 11G30 (14G05)

— Torsion parts of Mordell-Weil groups of Fermat Jacobians. *Internat. Math. Res. Notices* **1998**, *no.* 7, 359–369. (Dino J. Lorenzini) **99c:11078** 11G30 (14G05)

— (*with* Coleman, Robert F.; Tamagawa, Akio) The cuspidal torsion packet on the Fermat curve. (English summary) *J. Reine Angew. Math.* **496** (1998), 73–81. (Nguyen Khac-Viet) **99b:11066** 11G30 (11G10)

— Algebraic points of low degree on the Fermat curve of degree seven. (English summary) *Manuscripta Math.* **97** (1998), *no.* 4, 483–488. (Joseph H. Silverman) **99j:11075** 11G30

Tzes, Anthony (*with* Le, Ke) Adaptive weighted minimum prediction uncertainty control. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 657–672. 93C40 (93C41)

— (*with* Kiriakidis, Kiriakos; Grivas, Apostolos) Quadratic stability analysis of the Takagi-Sugeno fuzzy model. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 1–14. (Summary) **99j:90115** 90D05 (90C70)

Tzivion, Shalva (*with* Reisin, Tamir G.; Levin, Zev) A numerical solution of the kinetic collection equation using high spectral grid resolution: a proposed reference. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 527–544. (Summary) **99i:82002** 82–08 (86–08)

eilam-Tzoreff, Tali *see* **Eilam-Tzoreff, Tali**

Tzou, H. S. (*with* Venkayya, V. B.; Hollkamp, J. J.) Orthogonal sensing and control of continua with distributed transducers—distributed structronic system. (English summary) *Dynamics and control of distributed systems*, 304–370, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99b:73002**) 93C20 (73K15, 73K50)

— *see also* **Dynamics and control of distributed systems, 99b:73002**

Tzoumas, M. (*with* Hadjidimos, Apostolos; Noutsos, D.) Towards the determination of the optimal *p*-cyclic SSOR. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 1–14. (Summary) **99c:65055** 65F10

Tzouvaras, Athanassios The order structure of continua. (English summary) *Synthese* **113** (1997/98), *no.* 3, 381–421. (E. Mendelson) **99f:54042** 54F15 (03B30)

— Modeling vagueness by nonstandardness. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 385–396. (Pavol Zlatoš) **99j:03049** 03E72 (03H05)

Tzovaras, Dimitrios (*with* Strintzis, Michael G.) Use of nonlinear principal component analysis and vector quantization for image coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 8, 1218–1223. 94A12

Tzvetkov, Nickolay Global existence for semilinear massless Dirac equation with small data. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 359–374. (Ghias Hachem) **99k:35153** 35Q40

— Existence of global solutions to nonlinear massless Dirac system and wave equation with small data. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 193–211. (Miklós Horváth) **99i:35133** 35Q40 (35L70)

–U–

Ubaĭdullaev, K. Kh. On a nonparametric estimate for an unknown distribution function. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 99–109. (Sh. A. Khashimov) **99i:62095** 62G07

Überall, H. (*with* Gérard, A.; Guran, Ardéshir) Generalized Debye series for acoustic scattering from objects of separable geometric shape. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 147–176. (Summary) **99i:73035** 73D25 (73K70, 76Q05)

Uberti, M. A note on Shiu's immunization results. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 3, 195–200. (Summary) **99a:90061** 90A14

Uberti, R. (*with* Janse van Rensburg, E. J.; Orlandini, Enzo; Tesi, Maria Carla; Whittington, Stuart G.) Minimal links in the cubic lattice. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 89–100, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Yuanan Diao) **99h:57020** 57M25

Übi, Evald On computing a stable least squares solution to the linear programming problem. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 4, 251–259. (Summary) **99k:90099** 90C05 (90C20)

Uchaikin, V. V. (*with* Slobodenyuk, V. A.) The fractal nature of the asymptotic solution of an integral equation with stable (in Lévy's sense) kernel. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci. (New York)* **89** (1998), *no.* 5, 1570–1575. (Summary) **99k:82058** 82C31 (60E07)

— Renewal theory for anomalous transport processes. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci. (New York)* **92** (1998), *no.* 4, 4085–4096. (Vladimir Boure) **99k:60219** 60K05 (60K40, 82C70)

— (*with* Korobko, D.) On the existence of a nonzero mass density for a fractal set of independent pointlike masses with a power-type distribution. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci. (New York)* **92** (1998), *no.* 4, 4097–4103. (Summary) **99k:85009** 85A40

Uchida, Kenko (*with* Kojima, Akira; Fujita, Masayuki[1]) H_∞ control attenuating initial-state uncertainties. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 245–252. 93B36 (93C41)

— (*with* Watanabe, Ryo) Gain scheduling—development toward adaptive/nonlinear control. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 6, 306–311. 93C40 (93E12)

— (*with* Azuma, Takehito; Watanabe, Ryo) Robust H_∞ control for linear systems with uncertain parameters and scheduling parameters. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 297–305. 93B36 (93C41)

Uchida, Masayuki Joint distributions of numbers of success-runs until the first consecutive k successes in a higher-order two-state Markov chain. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 2, 203–222. (Christian P. Robert) **99m:62019** 62E10

— On number of occurrences of success runs of specified length in a higher-order two-state Markov chain. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 3, 587–601. (J. Glaz) **99m:60019** 60C05 (60J10)

Uchida, Motoo Kashiwara's microlocal analysis of the Bergman kernel for domains with corner. (English summary) *New trends in microlocal analysis* (*Tokyo*, 1995), 235–242, *Springer, Tokyo*, 1997. (Gregor Herbort) **99e:32036** 32H10 (58G15)

— A remark on finiteness and duality of $\mathscr{D}$-modules. Algebraic analysis methods in microlocal analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 983 (1997), 150–155. (Orlando Neto) **99g:32020** 32C38

Uchida, Yoshiaki Two-bridge knots with generalized unknotting number one. (English summary) *KNOTS '96* (*Tokyo*), 109–113, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57023** 57M25

Uchikoshi, Keisuke Stokes operators for microhyperbolic equations. (English summary) *New trends in microlocal analysis* (*Tokyo*, 1995), 81–99, *Springer, Tokyo*, 1997. (Todor V. Gramchev) **99m:35008** 35A08 (35L30, 58G07)

— Stokes operators for microhyperbolic equations. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 3, 507–545. (Leonid Friedlander) **99k:35008** 35A27 (35L99, 35S99)

— Cauchy problems for mixed-type operators. (Japanese) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1056 (1998), 40–45. (*see* **99m:35003**) 35M10

Uchimura, Keisuke Attracting basins of certain nonholomorphic maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1517–1526. (Walter Bergweiler) **99j:58177** 58F23 (30D05)

— Dynamical systems of certain non-holomorphic maps. Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 78–83. (Fuyao Ren) **99m:58156** 58F23 (30D05)

Uchino, Yukiko (*with* Satoh, Takakazu) Function field modular forms and higher-derivations. *Math. Ann.* **311** (1998), *no.* 3, 439–466. (Thomas R. Shemanske) **99j:11044** 11F25 (11F55)

Uchiyama, Atsushi Berger-Shaw's theorem for p-hyponormal operators. (English summary) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 110–121. (Fuad Kittaneh) **99i:47042** 47B20 (47B10)

Uchiyama, Jun (*with* Kimura, Kazuhiro[1]; Shiraishi, Jun'ichi) A level-one representation of the quantum affine superalgebra $U_q(\widehat{\mathfrak{sl}}(M+1|N+1))$. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 367–378. (Naihuan Jing) **99a:17021** 17B37 (17B69, 81R50)

— (*with* Kuniba, Atsuo; Misra, Kailash C.; Okado, Masato; Takagi, Taichiro) Crystals for Demazure modules of classical affine Lie algebras. (English summary) *J. Algebra* **208** (1998), *no.* 1, 185–215. (Ben Lewis Cox) **99h:17008** 17B10 (17B67)

— (*with* Kuniba, Atsuo; Misra, Kailash C.; Okado, Masato; Takagi, Taichiro) Characters of Demazure modules and solvable lattice models. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 555–576. (Yasmine B. Sanderson) **99m:17019** 17B37 (81R50, 82B23)

Uchiyama, Kôhei Wiener's test for random walks with mean zero and finite variance. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 368–376. (Kyle Siegrist) **99g:60126** 60J15 (31C20, 60J45)

— Scaling limit for a mechanical system of interacting particles. II. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 3, 681–701. (Peter Eichelsbacher) **99h:82052** 82C22 (60K35)

— Green's functions for random walks on $\mathbf{Z}^N$. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 1, 215–240. (M. G. Shur) **99f:60132** 60J15 (31C20, 60J45)

Uchiyama, Mitsuru Norms and determinants of products of logarithmic functions of positive semi-definite operators. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 279–284. (Frank Hansen) **99c:47007** 47A30 (15A15, 15A45, 47A56)

— Korovkin-type theorems in C^*-algebras. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 20–32. (*see* **99f:47002**) 46L05 (41A65)

Uckelmann, Ludger (*with* Rüschendorf, Ludger) On optimal multivariate couplings. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 261–273, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:90234** 90C48 (49K45, 60E05, 62H05)

— Optimal couplings between one-dimensional distributions. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 275–281, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:60012** 60E05 (62H05)

Uddin, Mudassir Multivariate density estimation by projection pursuit methods. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 2-3, 113–135. (Summary) **99e:62062** 62G05 (62H40)

Uddin, Nizam (*with* Morgan, John P.) Efficient block designs for settings with spatially correlated errors. (English summary) *Biometrika* **84** (1997), *no.* 2, 443–454. (R. J. Martin) **99c:62212** 62K05 (62K10)

— Row-column designs for comparing two treatments in the presence of correlated errors. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 75–81. (Summary) **99b:62111** 62K05

— (*with* Morgan, John P.) Errata: "Efficient block designs for settings with spatially correlated errors" [Biometrika **84** (1997), no. 2, 443–454; MR 99c:62212]. *Biometrika* **86** (1999), *no.* 1, 233. 62K05 (62K10)

Uderzo, Amos On a generalized differentiability of operators. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 205–224. (Simon Fitzpatrick) **99d:49036** 49J52 (46N10, 49J10, 90C48)

— (*with* Giannessi, Franco) A multifunction approach to extremum problems having infinite-dimensional image. I. Composition and selection. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 771–785. (Alberto Seeger) **99i:49001** 49J05 (49K05)

Udilov, V. V. Investigation of the dynamics of a nonlinear oscillator of Duffing-van der Pol type based on versal models. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 14–27, 153. (Summary) **99e:34043** 34C15 (34C25)

Udono, Tetsuro Fundamental groups of compact geodesic completely affine flat 4-dimensional manifolds. (Japanese) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 131–142. (*see* **99e:30001**) 57M05 (22E40, 53C21)

Udrea, Gheorghe The Diophantine equations $x^2 - k = T_n(a^2 \pm 1)$. *Fibonacci Quart.* **36** (1998), *no.* 4, 335–338. (Andrej Dujella) **99f:11038** 11D25 (11B37)

— The Diophantine equations $x^2 - k = 2 \cdot T_n((b^2 \pm 2)/2)$. *Portugal. Math.* **55** (1998), *no.* 3, 255–259. (Nikos Tzanakis) **99k:11053** 11D99 (11B83)

— Chebyshev polynomials and some methods of approximation. *Portugal. Math.* **55** (1998), *no.* 3, 261–269. 41A50 (41–02)

Udrişte, Aneta (*with* Udrişte, Constantin) Magnetic dynamics around electrical circuits. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 109–122, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (Robert L. Warnock) **99m:78010** 78A30

— (*with* Udrişte, Constantin) Electromagnetic dynamical systems. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 129–140. (Summary) **99a:78016** 78A25 (53C80)

— (*with* Udrişte, Constantin; Postolache, Mihai; Mazilu, T.) Equilibrium sets of magnetic fields around electric circuits. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 125–136, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Robert L. Warnock) **99m:78009** 78A30

Udrişte, Constantin (*with* Udrişte, Sorin) Biot-Savart-Laplace dynamical systems. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 125–136. (Summary) **99c:78012** 78A25 (58F05, 70H05)

— (*with* Udrişte, Aneta) Magnetic dynamics around electrical circuits. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 109–122, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (Robert L. Warnock) **99m:78010** 78A30

— Optimization methods on Riemannian manifolds. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 4, 339–358. (Summary) **99k:90198** 90C48 (58E30)

— (*with* Udrişte, Aneta) Electromagnetic dynamical systems. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 129–140. (Summary) **99a:78016** 78A25 (53C80)

— (*with* Hirică, Iulia Elena) Family of projective projections on tensors and connections. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 139–156. (Josef Janyška) **99k:53015** 53B10 (15A72, 53A45)

— (*with* Şandru, Ovidiu-Ilie; Dumitrescu, Constantin A.; Zlătescu, A.) Ţiţeica indicatrix and figuratrix. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 117–124, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Makoto Matsumoto) **99i:53020** 53B40

— (*with* Postolache, Mihai; Mazilu, T.; Udrişte, Aneta) Equilibrium sets of magnetic fields around electric circuits. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 125–136, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Robert L. Warnock) **99m:78009** 78A30

— (*with* Mihăilescu, Viorel) Connexions ayant la propriété tensorielle associées à une transformation projective quaternionique. (French summary) [Connections with the tensor property associated with a quaternionic projective transformation] *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 53–59. (V. Oproiu) **99k:53016** 53B15

— (*with* Dogaru, Oltin; Ţevy, I.) Extrema constrained by a family of curves and local extrema. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 605–621.

(Hubertus Th. Jongen) **99c:49004** 49J10 (49Q20)
— Convex programs on Finsler manifolds. (English summary) *New developments in differential geometry, Budapest* 1996, 443–457, *Kluwer Acad. Publ., Dordrecht*, 1999. (Hubertus Th. Jongen) **99k:90199** 90C48 (53C60, 90C25)
Udrişte, Sorin (*with* Udrişte, Constantin) Biot-Savart-Laplace dynamical systems. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 125–136. (Summary) **99c:78012** 78A25 (58F05, 70H05)
Udwadia, F. E. (*with* Kalaba, R. E.) The explicit Gibbs-Appell equation and generalized inverse forms. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 277–288. (David A. Levinson) **99a:70022** 70F25 (70H35)
— (*with* Kalaba, R. E.) A unified approach for the recursive determination of generalized inverses. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 125–130. (Summary) **99h:65073** 65F20
Ue, Masaaki Exotic group actions in dimension four and Seiberg-Witten theory. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 4, 68–70. (From the summary) **99f:57040** 57R57 (57S17)
Ueberberg, Johannes Möbiusebenen oder Die Geometrie der Kugel. [Möbius planes or The geometry of the sphere] *Überblicke Mathematik* 1996/97, 111–125, *Überbl. Math., Vieweg, Braunschweig*, 1997. (L. Bitay) **99i:51003** 51B10
Ueberhuber, Christoph W. (*with* Krommer, Arnold R.) ★ Computational integration. (English summary) *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xx*+445 *pp. ISBN* 0-89871-374-9 (John P. Coleman) **99g:65027** 65D30 (65–02, 65Y05)
Ueda, Akiho (*with* Ikeda, Tsutomu) Parallel computation of interfacial dynamics. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto*, 1996; *Anacapri*, 1996), 52–61, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:65234** 65Y05 (65M55)
Ueda, Hideharu Meromorphic functions f and g that share two values CM and two other values in the sense of $E_k(\beta, f) = E_k(\beta, g)$. *Kodai Math. J.* **21** (1998), *no.* 3, 273–284. (Gary G. Gundersen) **99k:30055** 30D35
Ueda, Hideo On an algebra of a certain class of operators in a slab domain in $\mathbf{R}^2$. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 5, 477–495. (Luigi Rodino) **99h:35240** 35S05 (35J25, 47G30)
Ueda, Hiromasa (*with* Sha, Weiming; Nakabayashi, Koichi) An accurate second-order approximation factorization method for time-dependent incompressible Navier-Stokes equations in spherical polar coordinates. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 47–66. (Summary) **99a:76102** 76M20 (76D05)
Ueda, K. *see* **Ueda, Kazunori**
Ueda, Kaoru On the incentives to cultivate favored minorities: a note. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 1, 132–143. (Summary) **99k:90060** 90A58
Ueda, Kazunori *see* **Advances in computing science—ASIAN'97**, **99b:68001**
Ueda, Kenji A sequence of Bézier curves generated by successive pedal-point constructions. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc*, 1996), 427–434, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17
— Spherical Pythagorean-hodograph curves. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer*, 1997), 485–492, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:65029** 65D17
Ueda, Masaru On newforms of half-integral weight and very-newforms. (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 32–39. (Yasushi Tokuno) **99d:11046** 11F37
— On twisting operators and newforms of half-integral weight. II. Complete theory of newforms for Kohnen space. (English summary) *Nagoya Math. J.* **149** (1998), 117–171. (Thomas R. Shemanske) **99c:11050** 11F37 (11F25)
Ueda, Ryuzo (*with* Takajo, Hiroaki; Takahashi, Tohru[3]; Taninaka, Makoto) Study on the convergence property of the hybrid input-output algorithm used for phase retrieval. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 11, 2849–2861. (Summary) **99j:78004** 78–08 (78A55)
Ueda, Yoshisuke Strange attractors and the origin of chaos. *The impact of chaos on science and society (Tokyo*, 1991), 324–354, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 58F13 (01A60)
Uehara, Kiyohiko (*with* Hirota, Kaoru) Parallel and multistage fuzzy inference based on families of α-level sets. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 159–195. (From the summary) **99f:68194** 68T35
Uehara, Kuniaki (*with* Oosugi, Yoshitaka) Constructing a minimal instance-base by storing prototypical instances. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 2949–2959. 68T05
Uehara, Kunihiko (*with* Saito, Takesi) Parallel transport in gauge theory on $M_4 \times Z_2$ geometry. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2390–2395. (Kamran Kaviani) **99c:81139** 81T13 (58B30, 81V15)
Uehara, Ryuhei A measure of parallelization for the lexicographically first maximal subgraph problems. (English summary) *Graph-theoretic concepts in computer science (Berlin*, 1997), 333–341, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68124** 68Q25 (68R10)
Uehara, Shigenori (*with* Sakai, Katsuro) A Hilbert cube compactification of the Banach space of continuous functions. (English summary) *Topology Appl.* **92** (1999), *no.* 2, 107–118. (Taras Banakh) **99m:57018** 57N20 (46E15)
Uehara, Tsuyoshi (*with* Kohno, Yoshifumi) A congruence relation for generalized Fibonacci numbers and its formal-group-law interpretation. (English summary) *Rep. Fac. Sci. Engrg. Saga Univ. Math.* **26/27** (1998), *no.* 1, 1–10. (F. Beukers) **99f:11019** 11B39 (11A07)
Ueki, Naomasa Asymptotics of the infimum of the spectrum of Schrödinger operators with magnetic fields. *J. Math. Kyoto Univ.* **37** (1997), *no.* 4, 615–638. (Vladimir Tulovsky) **99f:35153** 35P20 (35J10, 47F05, 58G32, 60J65)
Ueki, Taro (*with* Larsen, Edward W.) A kinetic theory for nonanalog Monte Carlo particle transport algorithms: exponential transform with angular biasing in planar-geometry anisotropically scattering media. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 406–431. (Summary) **99d:82069** 82C80 (65C20, 82C70)
Ueltschi, D. (*with* Gruber, Ch.) Falicov-Kimball model: ground states and flux phase problem. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin*, 1995), 118–125, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20 (82D35)
Uematsu, Kazuhiro On numerical classification of singular fibers in pencils of curves of genus $g \geq 2$. *Japan. J. Math. (N.S.)* **23** (1997), *no.* 2, 281–301. (Paolo Cragnolini) **99c:14036** 14H10 (14J29)
Uemura, Kenji (*with* Yaku, Takeo; Sugita, Kimio) Induced permutation automata and coverings of strongly connected automata. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 243–249. (G. J. Lallement) **99m:68134** 68Q70 (20M35)
Uemura, Toshihiro (*with* Kuwae, Kazuhiro) Weak convergence of symmetric diffusion processes. II. (English summary) *Probability theory and mathematical statistics (Tokyo*, 1995), 266–275, *World Sci. Publishing, River Edge, NJ*, 1996. (Zhen-Qing Chen) **99e:60176** 60J60 (31C25, 60F17)
— (*with* Kuwae, Kazuhiro) Weak convergence of symmetric diffusion processes. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 2, 159–182. (Zhen-Qing Chen) **99e:60175** 60J60 (31C25, 60F17)
Uemura, Y. *see* **Uemura, Yoshiki**
Uemura, Yasuo (*with* Hasegawa, Aki; Kobayashi, Satoshi[2]; Yokomori, Takashi) Tree adjoining grammars for RNA structure prediction. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 277–303. (Itsuo Takanami) **99j:68076** 68Q50 (68Q45, 92D20)
Uemura, Yoshiki (*with* Sakawa, Masatoshi; Nishizaki, Ichiro) Interactive fuzzy programming for multilevel linear programming problems. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 71–86. 90C70 (90C08)
— A satisficing method of introducing the concepts of fuzzy goal and fuzzy constraints into the DEA. (English summary) *Control Cybernet.* **27** (1998), *no.* 3, 465–469. 90C70 (90C08)
— A comparative study of the fuzzy linear model and the DEA in evaluation of efficiency of the DMUs. (English summary) *Control Cybernet.* **27** (1998), *no.* 3, 471–477. 90C70 (90C08)
Ueno, K. *see* **Ueno, Kenji**
Ueno, Keisuke (*with* Nagasawa, Takeyuki) Initial-final value problems for ordinary differential equations and applications to equivariant harmonic maps. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 545–555. (J. Eells) **99e:58051** 58E20 (34B15)
Ueno, Ken (*with* Furukawa, Koichi; Murakami, Tomoko; Ozaki, Tomonobu; Shimazu, Keiko) On a sufficient condition for the existence of most specific hypothesis in Progol. (English summary) *Inductive logic programming (Prague*, 1997), 157–164, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)
Ueno, Kenji *see* **Integrable systems and algebraic geometry**, **99i:14002**
Ueno, Kimio (*with* Nishizawa, Michitomo) Quantum groups and zeta-functions. (English summary) *Quantum groups (Karpacz*, 1994), 115–126, *PWN, Warsaw*, 1995. (Rinat M. Kashaev) **99k:11136** 11M35 (11B65, 17B37)
— (*with* Nishizawa, Michitomo) Multiple gamma functions and multiple q-gamma functions. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 5, 813–838. (Bruce C. Berndt) **99b:33003** 33B15 (33D05)
Ueno, Masataka (*with* Hirayama, Minoru; Kanno, Mika; Yamakoshi, Hitoshi) Non-abelian Stokes theorem for loop variables associated with nontrivial loops. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 4, 817–830. (Bogusław Broda) **99k:81183** 81T13 (58Z05)
Ueno, S. *see* **Ueno, Sueo**
Ueno, Shuichi (*with* Halldórsson, Magnús M.; Nakao, Hiroshi; Kajitani, Yoji) Approximating Steiner trees in graphs with restricted weights. (English summary) *Networks* **31** (1998), *no.* 4, 283–292. (Summary) **99c:05048** 05C05 (90C27)
— (*with* Yamada, Toshinori) Fault-tolerant graphs for tori. (English summary) *Networks* **32** (1998), *no.* 3, 181–188. (Summary) **99d:68027** 68M10 (05C85)
— (*with* Matsubayashi, Akira) Small congestion embedding of graphs into hypercubes. (English summary) *Networks* **33** (1999), *no.* 1, 71–77. (Summary) **99j:05056** 05C10 (05C85, 68R10)
Ueno, Sueo (*with* Kalaba, R. E.; Natsuyama, H. H.) The estimation of parameters in time-dependent transport problems: dynamic programming and associative memories. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 41–45. 90C29
Ueno, Tatsuya (*with* Fairlie, David B.) Integrable top equations associated with projective geometry over Z_2. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7785–7790. (Ian A. B. Strachan) **99j:58071** 58F05 (14H55, 58F07, 70E15, 70H05)
— General solution of 7D octonionic top equation. (English summary) *Phys. Lett. A* **245** (1998), *no.* 5, 373–381. (Luis Ugarte) **99j:58104** 58F07 (58F05, 70E15, 70H99)
Uenohara, Michihiro (*with* Kanade, Takeo) Optimal approximation of uniformly rotated images: relationship between Karhunen-Loeve expansion and discrete cosine transform. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 1, 116–119. 94A12
Ueyama, Daishin (*with* Nishiura, Yasumasa) A hidden bifurcational structure for self-replicating dynamics. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai*, 1997), 123–138, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99c:92012** 92C15 (35K57, 35Q80, 92E99)
— Dynamics of self-replicating patterns in the one-dimensional Gray-Scott model. (English summary) *Hokkaido Math. J.* **28** (1999), *no.* 1, 175–210. (From the text) **99m:35110** 35K55 (35B32, 58F39)
Uezu, Tatsuya (*with* Fujiwara, Yuka) On the bifurcation of trapezoid maps—an example of a class of one-dimensional maps with a superconvergent period doubling cascade. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 1, 39–52. (Frederick R. Marotto) **99m:58134** 58F13 (58F14)
Ufnarovskiĭ, V. A. (*with* Cojocaru, Svetlana) BERGMAN under MS-DOS and Anick's resolution. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 139–147. (Summary) **99e:16017** 16E99 (16S30, 68Q40)
— (*with* Green, Edward L.[1]; Mora, Teo) The non-commutative Gröbner freaks. *Symbolic rewriting techniques (Ascona*, 1995), 93–104, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Vesselin Drensky) **99i:16050** 16S15 (13P10, 68Q40, 68Q42)

Ufuktepe, U. (*with* Zhao, Zhong Xin) Positive solutions of nonlinear elliptic equations in the Euclidean plane. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3681–3692. (Ross Pinsky) **99k:35068** 35J65 (35B05)

Ugalde, Edgardo (*with* Urías, Jesús; Salazar-Anaya, Gelasio) Synchronization of cellular automaton pairs. (English summary) *Chaos* **8** (1998), *no.* 4, 814–818. (Jean-Paul Allouche) **99j:68092** 68Q80 (58F08)

Ugarte, Luis (*with* Cordero, Luis A.; Fernández, Marisa; Gray, Alfred) Nilpotent complex structures on compact nilmanifolds. (English summary) Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 83–100. (Francisco M. Cabrera) **99b:53091** 53C56

— (*with* Fernández, Marisa) Canonical cohomology of compact G_2-nilmanifolds. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 127–138 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Francisco M. Cabrera) **99j:53030** 53C15 (53C10)

— (*with* Fernández, Marisa) Dolbeault cohomology for G_2-manifolds. (English summary) *Geom. Dedicata* **70** (1998), *no.* 1, 57–86. (Francisco M. Cabrera) **99b:53038** 53C10 (53C25, 53C30)

Ugarte, Ma. Dolores *see* **Brezinski, Claude, 99c:01002**

chasco Ugarte, Ma. Jesús *see* **Chasco Ugarte, Ma. Jesús**

Ugbebor, O. O. (*with* Onah, S. E.) Solution of a two-dimensional stochastic investment problem. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 1, 75–82. (Summary) **99j:90015** 90A09 (93E20)

Uger, E. G. (*with* Tutubalin, V. N.; Barabasheva, Yu. M.; Grigoryan, Aleksandr Arkad′evich; Devyatkova, G. N.) Differential equations in ecology: historical-methodological reflection. (Russian. English and Russian summaries) *Voprosy Istor. Estestvoznan. i Tekhn.* **1997**, *no.* 3, 141–151, 173. (Summary) **99g:92001** 92–03 (92D40)

Uggla, Claes (*with* Nilsson, Ulf S.) Rigidly rotating stationary cylindrically symmetric perfect fluid models. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2931–2945. (Summary) **99c:83015** 83C15 (83C20)

— (*with* Goliath, Martin; Nilsson, Ulf S.) Spatially self-similar spherically symmetric perfect-fluid models. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 167–186. (Nora Bretón Báez) **99b:83018** 83C20 (83C15)

— (*with* Nilsson, Ulf S.; Marklund, Mattias) Static perfect fluid cylinders. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3336–3346. (Maciej Przanowski) **99e:83033** 83C55 (83C20)

— (*with* Jantzen, R. T.) The kinematical role of automorphisms in the orthonormal frame approach to Bianchi cosmology. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 353–368. (Leonardo Fernández-Jambrina) **99m:83043** 83C20

Ughi, Emanuela On the completeness of certain caps. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 131–136. (Christine M. O'Keefe) **99h:51011** 51E22

Uglanov, A. V. Four counterexamples to the Fubini theorem. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 124–127; *translation in Math. Notes* **62** (1997), *no.* 1-2, 104–107 (1998). (S. A. Peregudov) **99e:28008** 28A35

Uglešić, N. (*with* Červar, B.) Which conditions for an approximate resolution are essential? (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 101–108. (Leonard R. Rubin) **99h:54018** 54B35

Uglov, D. (*with* Saito, Yoshihisa; Takemura, Kouichi) Toroidal actions on level 1 modules of $U_q(\hat{\mathrm{sl}}_n)$. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 75–102. (Anjan Kundu) **99b:17015** 17B37 (17B10)

Ugolini, S. (*with* Albeverio, Sergio; Morato, Laura M.) Non-symmetric diffusions and related Hamiltonians. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 195–204. (J. A. Van Casteren) **99j:60117** 60J60 (35Q40, 81P20, 81Q10)

Ugol′nikov, A. B. On the complexity of schemes in incomplete bases. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 2, 58–61; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 2, 42–44. (From the text) **99e:94056** 94C10 (03G05, 06E30)

Ugrinovskiĭ, V. A. Robust H_∞ control in the presence of stochastic uncertainty. (English summary) *Internat. J. Control* **71** (1998), *no.* 2, 219–237. (Rabah Rabah) **99i:93021** 93B36 (90D25, 93E05)

Ugulava, D. (*with* Chantladze, T.; Kandelaki, N.; Lomtadze, A.) Professor Iotam Kartsivadze [1918–1997]. *Mem. Differential Equations Math. Phys.* **13** (1998), 154–158. 01A70

Uğurlu, H. Hüseyin On the geometry of time-like surfaces. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 211–223 (1998). (Alan S. McRae) **99h:53024** 53B30 (53A40)

Ugurtas, Bartu (*with* Carlès, Pierre) The onset of free convection near the liquid-vapour critical point. I. Stationary initial state. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 69–82. (Summary) **99j:76118** 76R10 (76E15)

Uguzzoni, Francesco (*with* Lanconelli, E.) On the Poisson kernel for the Kohn Laplacian. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 4, 659–677 (1998). (Marco Bramanti) **99h:35027** 35H05 (35B05, 35B45, 35J99, 58G03)

— (*with* Lanconelli, E.) Asymptotic behavior and non-existence theorems for semilinear Dirichlet problems involving critical exponent on unbounded domains of the Heisenberg group. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 139–168. (Chu Li Fu) **99d:35058** 35J65 (22E25, 22E30, 35B05)

— A Liouville-type theorem on halfspaces for the Kohn Laplacian. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 117–123. (Summary) **99b:35026** 35J05 (31B05, 31C05, 35B05)

Uhlig, Frank Partial convergence and sign convergence of matrix powers via eigen c-ads. (English summary) *Electron. J. Linear Algebra* **3** (1998), 75–92 (*electronic*). (K. Chandrasekhara Rao) **99d:15023** 15A99 (15A18)

Uhlig, P. X. (*with* Cox, Steven J.; Kawohl, Bernd) On the optimal insulation of conductors. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 253–263. (Summary) **99k:49005** 49J10 (49Q10, 80A20)

Uhlmann, F. H. (*with* Mladenov, V. M.; Leenaerts, D. M. W.) Estimation of the basin of attractions in CNN's. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 571–574. (Summary) **99b:92005** 92B20 (58F40, 68T05)

Uhlmann, Gunther (*with* Nakamura, Gen[1]) A layer stripping algorithm in elastic impedance tomography. *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 375–384, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Vladimir A. Sharafutdinov) **99e:35244** 35R30 (44A12, 73D50)

— Inverse boundary value problems for partial differential equations. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 77–86 (*electronic*). (Yongzhi Xu) **99i:35178** 35R30 (35J99, 73C02, 78A25)

— (*with* Lassas, Matti; Cheney, Margaret) Uniqueness for a wave propagation inverse problem in a half-space. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 679–684. (Gustavo Perla Menzala) **99f:35224** 35R30 (35J10)

— (*with* Stefanov, Plamen) Stability estimates for the hyperbolic Dirichlet to Neumann map in anisotropic media. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 330–358. (Gustavo Perla Menzala) **99f:35120** 35L20 (35B35, 35R30, 58G20)

— (*with* Stefanov, Plamen) Rigidity for metrics with the same lengths of geodesics. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 83–96. (Raul Quiroga) **99e:53059** 53C22 (53C20)

Uhlmann, Jeffrey (*with* Boroujerdi, Ali) An efficient algorithm for computing least cost paths with turn constraints. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 317–321. (Summary) **99e:68118** 68R10 (68Q25)

Uhrig, Christian (*with* Mehlhorn, Kurt; Müller, M.; Näher, Stefan; Schirra, Stefan; Seel, Michael; Ziegler, Joachim Rudolf) A computational basis for higher-dimensional computational geometry and applications. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 289–303. (*see* **99b:68003**) 68U05 (52B55)

— (*with* Mehlhorn, Kurt; Näher, Stefan; Seel, Michael; Seidel, Raimund; Schilz, Thomas; Schirra, Stefan) Checking geometric programs or verification of geometric structures. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 85–103. (Summary) **99k:68196** 68U05 (52B55, 68Q60)

Uhrin, B. A common root of three minimization problems. (English summary) *New trends in mathematical programming*, 305–314, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99e:90097** 90C30 (90–02)

Uil′yamson, K. *see* **Williamson, Clifton James**

Uip, P. P. *see* **Yip, P. Patrick**

Uiterdijk, M. On a theorem by W. von Wahl. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 961–978. (Eugenio Sinestrari) **99b:34111** 34G20 (35K60, 47D06, 47N20)

Ujevic, Maximiliano (*with* Tapia, Victor) Universal field equations for metric-affine theories of gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3719–3729. (Christopher Kohler) **99j:83063** 83D05

Ujino, Hideaki (*with* Shiroishi, Masahiro; Wadati, Miki) SO(4) symmetry of the transfer matrix for the one-dimensional Hubbard model. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2341–2358. (Shao-Ming Fei) **99d:82019** 82B20 (81U40, 82B23)

— (*with* Nishino, Akinori; Wadati, Miki) Fock spaces for the Calogero models with distinguishable particles. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 8, 2658–2665. (Summary) **99g:81249** 81V70

— (*with* Nishino, Akinori; Wadati, Miki) New nonsymmetric orthogonal basis for the Calogero model with distinguishable particles. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 459–464. (Kazuhiro Hikami) **99k:81351** 81V70 (33D80, 58F07)

Ukai, Hiroyuki (*with* Kando, Hisashi) Design of reduced-order multirate observers and stabilizing multirate controllers via singular perturbation theory. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 6, 435–445. 93B07 (93D15)

Ukai, O. (*with* Jameson, Leland; Adachi, T.; Yuasa, A.) Wavelet-based numerical methods. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 4, 267–280. 76M25 (65–02, 65T20, 76M10)

Ukai, Seiji (*with* Min, Lu; Kazhikhov, A. V.) Global solutions to the Cauchy problem of the Stokes approximation equations for two-dimensional compressible flows. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 985–1006. (Benoît P. Desjardins) **99f:35166** 35Q30 (76N10)

— (*with* Min, Lu) Non-relativistic global limits of weak solutions of the relativistic Euler equation. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 525–537. (Ming Mei) **99i:76134** 76N10 (35B40, 35Q30, 76Y05)

— (*with* Itaya, Akihiko) Periodic points of logistic map with diffusion. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 1–20. (Volker Matthias Gundlach) **99d:58136** 58F20 (34C25)

— (*with* Min, Lu; Kazhikhov, A. V.) Global solutions to the Cauchy problem of the Stokes approximation equations for two-dimensional compressible flow. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 155–174. (Vladimir V. Shelukhin) **99d:76085** 76N10 (35Q30)

ziv-Ukelson, Michal *see* **Ziv-Ukelson, Michal**

Ukhalov, A. Yu. Almost periodic solutions of systems of differential equations with fast and slow times in the case of degeneracy. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 451–456; *translation in Math. Notes* **63** (1998), *no.* 3-4, 396–400. (Summary) **99e:34053** 34C27 (34C29)

Ukhinov, S. A. (*with* Yurkov, D. I.) Monte Carlo method of calculating the derivatives of polarized radiation. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 5, 425–444. (Summary) **99i:78006** 78–08 (45L05, 65C05)

Ukhlov, A. D. (*with* Vodop′yanov, S. K.) Sobolev spaces and (P, Q)-quasiconformal mappings of Carnot groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 776–795, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 665–682. (M. Yu. Vasil′chik) **99m:46090** 46E35 (30C65)

Ukita, Yoshifumi (*with* Maeda, Yasunari; Matsushima, Toshiyasu; Hirasawa, Shigeichi) The optimal algorithms for the reinforcement learning problem separated into a learning period and a control period. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1116–1126. (Summary) **99a:68144** 68T05

— (*with* Matsushima, Toshiyasu; Hirasawa, Shigeichi) A note on decision-theoretic formulation for learning from queries. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 2937–2948. (Summary) **99i:68107** 68T05 (90A05)

Ukkonen, Esko (*with* Fredriksson, Kimmo) A rotation invariant filter for two-dimensional string matching. (English summary) *Combinatorial pattern matching* (*Piscataway*,

NJ, 1998), 118–125, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 68Q20

— (*with* Brāzma, Alvis; Jonassen, Inge; Vilo, Jaak) Pattern discovery in biosequences. (English summary) *Grammatical inference (Ames, IA*, 1998), 257–270, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 92D20

Uko, Livinus U. Strongly nonlinear generalized equations. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 65–76. (Daniel Goeleven) **99a:47098** 47H15 (47H19, 49J40, 65K10)

— A generalized truncation method for multivalued parabolic problems. (English summary) *J. Math. Soc. Japan* **50** (1998), *no.* 3, 719–735. (Tomáš Roubiček) **99h:34090** 34G20 (35K85, 65J15, 65M15)

Ulanovskii, A. M. When is half-line convergence to an infinitely divisible law ν equivalent to weak convergence to ν? (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 245–256. (H.-J. Roßberg) **99g:60035** 60E07 (60F05)

— How fast can a subharmonic function decay along a ray? *Proc. London Math. Soc.* (3) **76** (1998), *no.* 1, 175–202. (D. Drasin) **99c:30048** 30C80 (30D20)

Ulanowski, Z. (*with* Zakovic, S.; Bartholomew-Biggs, M. C.) Application of global optimization to particle identification using light scattering. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 1053–1067. 78–08 (78A45)

Ulbert, Z. (*with* Stoyan, G.; Mihálykó, C.) Convergence and nonnegativity of numerical methods for an integrodifferential equation describing batch grinding. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 69–81. (Philip W. Sharp) **99e:65185** 65R20 (45K05, 45L05)

Ulecia García, María Teresa (*with* Fernández y Fernández-Arroyo, Fidel José; Jiménez Guerra, Pedro) A Radon-Nikodým theorem for vector polymeasures. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 2, 189–200. (Brian Jefferies) **99m:28026** 28B05 (46G10)

Ülger, Ali A note on weakly compact homomorphisms between uniform algebras. (English summary) *Bull. Polish Acad. Sci. Math.* **47** (1999), *no.* 1, 1–5. (Summary) **99m:46126** 46J10

Ulich, Gabriele Provably convergent methods for the linear and nonlinear Shape from Shading problem. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 69–82. (Summary) **99d:65057** 65D17 (65Y25, 68U10)

Ulidowski, Irek (*with* Phillips, Iain) Ordered SOS rules and weak bisimulation. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 195–206. (*see* **99a:68004**) 68Q10 (68Q55, 68Q60)

Uljanov, Vladimir (*with* Blyth, W. F.) Numerical solution of weakly singular Fredholm integral equations using Walsh functions. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 137–143, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65R20 (45L05)

Ülker, K. (*with* Hortaçsu, M.) Gravitational shock waves and vacuum fluctuations. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1415–1420. (Summary) **99a:83035** 83C47

— (*with* Enginer, Y.; Hortascu, M.; Kaya, Rüstem; Özdemir, N.; Yapiskan, B.) Quantum fluctuations of some gravitational waves. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1029–1048. 83C35 (83C47)

Ullah, Aman (*with* Li, Qi[1]) Estimating partially linear panel data models with one-way error components. (English summary) *Econometric Rev.* **17** (1998), *no.* 2, 145–166. (Summary) **99b:62162** 62P20

Ullán de Celis, Antonio (*with* Sánchez, Luisa) Some properties of Gurariĭ's modulus of convexity. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 5, 399–406. (Stephen J. Dilworth) **99j:46021** 46B20

Ullery, William (*with* Hill, Paul) On commutative group algebras of mixed groups. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 4029–4038. (Peter V. Danchev) **99d:20008** 20C07 (16U60, 20K10, 20K21)

— (*with* Goeters, H. Pat) Critical typesets of bracket groups. *Comm. Algebra* **26** (1998), *no.* 11, 3541–3551. (Otto Mutzbauer) **99h:20088** 20K15

— (*with* Hill, Paul) The balanced-projective dimension of units in commutative modular group algebras. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 143–157. (Michael Dokuchaev) **99h:16047** 16U60 (16S34, 20C07)

Ullman, Jeffrey D. (*with* Hopcroft, John E.) ★ Wprowadzenie do teorii automatów, języków i obliczeń. (Polish. Polish summary) [Introduction to automata theory, languages, and computation] Translated from the 1979 English original by Beata Konikowska. *Wydawnictwo Naukowe PWN, Warsaw*, 1994. 480 *pp. ISBN* 83-01-11298-0 (Editors) **99a:68001** 68–01 (03–01, 03Dxx, 68Q05, 68Q15, 68Q45)

— Information integration using logical views. (English summary) *Database theory—ICDT '97 (Delphi)*, 19–40, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68060** 68P15

Ullmo, Emmanuel (*with* Abbes, Ahmed) Auto-intersection du dualisant relatif des courbes modulaires $X_0(N)$. [Self-intersection of the relative dualizing sheaf of the modular curves $X_0(N)$] *J. Reine Angew. Math.* **484** (1997), 1–70. (Carlo Gasbarri) **99e:11077; EA 99m** 11G18 (11G30, 11G35, 14G40)

— Positivité et discrétion des points algébriques des courbes. [Positivity and discreteness of algebraic points of curves] *Ann. of Math.* (2) **147** (1998), *no.* 1, 167–179. (Yuichiro Takeda) **99e:14031** 14G40 (11G30, 14H25, 14H40)

— (*with* Michel, Philippe) Points de petite hauteur sur les courbes modulaires $X_0(N)$. (English summary) [Points of small height on the modular curves $X_0(N)$] *Invent. Math.* **131** (1998), *no.* 3, 645–674. (Carlo Gasbarri) **99c:11074** 11G18 (14G35, 14G40)

Ullrich, Peter The genesis of Hensel's p-adic numbers. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen*, 1995), 163–178, *Brepols, Turnhout*, 1998. (Summary) **99k:01029** 01A55 (01A60, 11–03, 13–03)

Ulm, Michael The interval of resolvent-positivity for the biharmonic operator. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 481–489. (Michael A. Perel'muter) **99c:34190** 34L05 (35P99, 47E05)

Ulmeanu, Anatoli Paul (*with* Ionescu, Dumitru Cezar) The computer-assisted analysis of the semi-Markovian stochastic Petri nets and an application. (English summary) *Statistical and probabilistic models in reliability (Bucharest*, 1997), 307–320, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 68Q90 (68Q10)

Ulrich, Bernd (*with* Polini, Claudia) Linkage and reduction numbers. *Math. Ann.* **310** (1998), *no.* 4, 631–651. (Alberto Corso) **99g:13017** 13C40 (13A30, 13H10, 14M06)

— (*with* Johnson, Mark Ray) Serre's condition R_k for associated graded rings. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2619–2624. (C. P. L. Rhodes) **99m:13006** 13A30 (13H10)

Ulrich, Dolph New single axioms for positive implication. (English summary) *Bull. Sect. Logic Univ. Łódź* **28** (1999), *no.* 1, 39–42. 03B20

Ulrych, Tadeusz J. (*with* Sacchi, Mauricio D.; Walker, Colin J.) Interpolation and extrapolation using a high-resolution discrete Fourier transform. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 1, 31–38. 65T20 (65D15)

Ultes-Nitsche, Ulrich Towards the construction of an abstract state-space from a partial-order representation of the concrete one. (English summary) *MFCS'98 Workshop on Concurrency (Brno*, 1998), 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (Summary) **99j:68039** 68Q10 (68Q60)

Uludağ, A. Muhammed On possible deterioration of smoothness under the operation of convolution. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 335–358. (Paul Embrechts) **99m:60026** 60E05 (46F10)

Ulungu, Ekunda Lukata (*with* Teghem, Jacques, Jr.) Solving multi-objective knapsack problem by a branch-and-bound procedure. (English summary) *Multicriteria analysis (Coimbra*, 1994), 269–278, *Springer, Berlin*, 1997. (Summary) **99d:90107** 90C29 (90C10)

— (*with* Visée, M.; Teghem, Jacques, Jr.; Pirlot, Marc) Two-phases method and branch and bound procedures to solve the bi-objective knapsack problem. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 139–155. (*see* **99a:90011**) 90C27 (90C29)

Ulusoy, Gündüz (*with* Sivrikaya-Şerifoğlu, Funda) Parallel machine scheduling with earliness and tardiness penalties. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 8, 773–787. 90B35

Ul'yanov, Petr Lavrent'evich On moduli of continuity and Fourier-Haar series. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 612–615. (W. R. Wade) **99b:42034** 42C10

— *see also* **Bakhalov, N. S. et al., 99m:01039** *and* **Dedicated to P. L. Ul'yanov**

Ul'yanova, O. V. (*with* Pavlenko, V. N.) The method of upper and lower solutions for elliptic-type equations with discontinuous nonlinearities. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 69–76. (Siegfried Carl) **99m:35079** 35J65 (35B05, 35R05)

Ul'yanova, V. I. (*with* Abramov, A. A.; Dyshko, A. L.; Konyukhova, N. B.; Levitina, T. V.) Methods for solving some multiparameter spectral problems in mathematical physics. (Russian. Russian summary) *Computational modelling and computing in physics (Dubna*, 1996), 293–299, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 35J25 (65N25)

— (*with* Abramov, A. A.) A method for solving selfadjoint multiparameter spectral problems for weakly coupled systems of ordinary differential equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 566–571; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 5, 552–557. (Summary) **99b:34037** 34B05 (34A45)

— (*with* Abramov, A. A.) A method for solving selfadjoint multiparameter spectral problems for systems of equations with singularities. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1636–1640; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1566–1570. (Vladimir P. Maksimov) **99j:34019** 34B05 (34A45, 34B24, 65L10)

Um, Chung In (*with* Yeon, Kyu Hwang; Walls, Dan F.; George, Thomas F.; Pandey, Lakshmi N.) Quantum correspondence for linear canonical transformations on general Hamiltonian systems. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1765–1774. (Summary) **99e:81123** 81S30 (81S40)

Um, Yonghwan (*with* Randles, Ronald H.) Nonparametric tests for the multivariate multi-sample location problem. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 801–812. (Summary) **99h:62061** 62G10

Uma, R. *see* **Uma, Ramanathan**

Uma, R. N. (*with* Engels, Daniel W.; Karger, David R.; Kolliopoulos, Stavros G.; Sengupta, Sudipta[2]; Wein, Joel) Techniques for scheduling with rejection. (English summary) *Algorithms—ESA '98 (Venice)*, 490–501, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 90B35

— (*with* Savelsbergh, Martin W. P.; Wein, Joel) An experimental study of LP-based approximation algorithms for scheduling problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA*, 1998), 453–462, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35 (68M20, 68Q25)

Uma, Ramanathan (*with* Subbarao, D.; Singh, Harvinder) Paraxial theory of self-focusing of cylindrical laser beams. I. ABCD laws. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3440–3450. (Summary) **99f:78021** 78A60 (76X05)

Umakantha, N. Represental approach to quantum mechanics. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 1, 96–122. (Summary) **99b:81016** 81P05

Umamaheswaram, S. (*with* Sowjanya Kumari, I.) Conjugacy criteria for a two-dimensional linear Hamiltonian system. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 441–452. (E. Müller-Pfeiffer) **99g:34070** 34C10

— *see also* **New directions in applied mathematics, 99g:00043**

Umanskiĭ, Yan L. (*with* Lerman, L. M.) ★ Four-dimensional integrable Hamiltonian systems with simple singular points (topological aspects). (English summary) Translated from the Russian manuscript by A. Kononenko and A. Semenovich. Translations of Mathematical Monographs, 176. *American Mathematical Society, Providence, RI*, 1998. *xii*+177 *pp. ISBN* 0-8218-0375-1 (Christine Médan) **99b:58115** 58F07 (58F05, 70H05)

Umar, Abdullahi Enumeration of certain finite semigroups of transformations. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 291–297. (K. D. Magill, Jr.) **99f:20101** 20M20 (05A15, 54H11)

Umarov, S. R. (*with* Saĭdamatov, È. M.) On conditions for the discreteness of the spectrum for a general pseudo-differential operator. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 133–135, 144; *translation in Differential Equations* **33** (1997), *no.* 1, 136–138. (Viorel Iftimie) **99f:35145** 35P05 (35S15, 47G30)

— (*with* Nazarova, M. Kh.) On the weak well-posedness of some boundary value problems generated by a singular Bessel operator. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 63–70. (Ya. A. Roĭtberg) **99f:35220** 35R20 (35J70)

— Nonlocal boundary value problems for pseudodifferential and operator-differential equations. II. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 375–382, 430; *translation in Differential Equations* **34** (1998), *no.* 3, 374–381. (Summary) **99k:35184** 35R20 (34G10, 35S15)

Umasankar, C. (*with* Venkata Ramana, V. V.) On a class of assignment problems. (English summary) *Opsearch* **35** (1998), *no.* 2, 127–138. 90C27 (90C35)

Umayahara, Kazutaka (*with* Miyamoto, Sadaaki) Two methods of fuzzy c-means and classification functions. (English summary) *Advances in data science and classification (Rome, 1998)*, 105–110, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Umbach, Dale (*with* Ali, Mir Masoom) Conservative spacing for the Fréchet distribution. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 1, 1–9. (Summary) **99h:62068** 62G30 (62G05)

Umbetzhanov, D. U. (*with* Asanova, A. T.) Bounded and almost periodic solutions of equations with operators of fractional order. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 64–71. (Bolis Basit) **99g:35013** 35B15 (26A33, 35B05)

— On the investigation of periodic solutions of integral equations of Abel-Volterra type. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 5, 65–68. (From the text) **99d:45005** 45E10 (45M15)

sánchez Umbría, Juan Jose *see* **Sánchez Umbría, Juan Jose**

Ume, Jeong-Sheok An elementary proof of H. Alzer's inequality. (English summary) *Nonlinear Anal. Forum* **1** (1995), 84–86. (Summary) **99e:26021** 26D15

— Convergence of the Ishikawa iteration process for two mappings. (English summary) *Nonlinear Anal. Forum* **2** (1996), 1–9. (B. E. Rhoades) **99i:47110a** 47H10 (47H17, 65J15)

— Convergence theorems for two mappings in Banach spaces. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 415–423. (B. E. Rhoades) **99i:47110b** 47H10 (47H17)

— Fixed point theorems related to Ćirić's contraction principle. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 630–640. 54H25

— On a generalized Ishikawa iteration scheme. *Nonlinear Anal. Forum* **3** (1998), 125–136. (B. E. Rhoades) **99h:47073** 47H10 (47H17)

— (*with* Kim, Jong Kyu; Cho, Yeol Je) Some fixed point theorems in complete semi-metric spaces. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 63–67 (*electronic*). 54H25

Umeda, Tomio General eigenfunction expansions for relativistic Schrödinger operators. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 131–137. (*see* **99a:00049**) 35P10 (35J10, 47F05)

Umeda, Tôru (*with* Noumi, Masatoshi; Wakayama, Masato) Dual pairs, spherical harmonics and a Capelli identity in quantum group theory. (English summary) *Compositio Math.* **104** (1996), *no.* 3, 227–277. (Anthony Joseph) **99c:17020** 17B35 (17B37, 33D80)

— A page of history: Alfredo Capelli and invariant theory. (Japanese) Study of the history of mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1019 (1997), 98–119. (*see* **99d:01002**) 01A55 (01A60)

— The Capelli identities, a century after. *Selected papers on harmonic analysis, groups, and invariants*, 51–78, *Amer. Math. Soc. Transl. Ser.* 2, 183, *Amer. Math. Soc., Providence, RI*, 1998. (Michel Brion) **99c:17021** 17B35 (13A50, 17B37, 20G05)

— (*with* Wakayama, Masato) Another look at the differential operators on quantum matrix spaces and its applications. (English summary) *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 1, 53–80. (Jia-Chen Ye) **99c:17032** 17B37 (16S32, 33D80)

— Newton's formula for $\mathfrak{gl}_n$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3169–3175. (Ian M. Musson) **99a:17018** 17B35

Umegaki, Atsuki (*with* Hibino, Takeshi) Families of elliptic Q-curves defined over number fields with large degrees. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 1, 20–24. (Alain Kraus) **99d:11059** 11G05

— A construction of everywhere good Q-curves with p-isogeny. (English summary) *Tokyo J. Math.* **21** (1998), *no.* 1, 183–200. (Joseph H. Silverman) **99d:11062** 11G05

Umehara, Hiroaki (*with* Tanikawa, Kiyotaka) Oscillatory orbits in the planar three-body problem with equal masses. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 3, 167–180. (Summary) **99g:70018** 70F07

Umehara, Masaaki (*with* Kato, Shin; Yamada, Kōtarō) General existence of minimal surfaces with prescribed flux. II. *Topics in complex analysis, differential geometry and mathematical physics (St. Konstantin, 1996)*, 116–135, *World Sci. Publishing, River Edge, NJ*, 1997. (Rabah Souam) **99g:53012** 53A10

— A computation of the basic invariant J^+ for closed 2-vertex curves. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 1, 105–113. (Summary) **99b:57026** 57M25

— (*with* Rossman, Wayne; Yamada, Kōtarō) Irreducible constant mean curvature 1 surfaces in hyperbolic space with positive genus. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 449–484. (Luis J. Alías) **99a:53025; EA 99m** 53A10 (53A35, 53C42)

— (*with* Yamada, Kōtarō) A duality on CMC-1 surfaces in hyperbolic space, and a hyperbolic analogue of the Osserman inequality. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 1, 229–237. (Roger Chen) **99e:53012** 53A10

— (*with* Rossman, Wayne; Yamada, Kōtarō) Flux for mean curvature 1 surfaces in hyperbolic 3-space, and applications. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2147–2154. (Rabah Souam) **99j:53011** 53A10

Umeki, Makoto Faraday surface waves: chaos, solitons, and pattern formation. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 98–109. (*see* **99a:00032**) 76B15 (35Q51, 76B25)

Umemura, Hiroshi Lie-Drach-Vessiot theory—infinite-dimensional differential Galois theory. *CR-geometry and overdetermined systems (Osaka, 1994)*, 364–385, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Daniel Bertrand) **99c:12010** 12H05 (34A34, 58H15)

— (*with* Watanabe, Humihiko) Solutions of the third Painlevé equation. I. (English summary) *Nagoya Math. J.* **151** (1998), 1–24. (Alexander Vladimirovich Kitaev) **99k:34016** 34A34 (12H05, 34A05)

— Painlevé equations and classical functions [translation of Sūgaku **47** (1995), no. 4, 341–359; MR 97g:34017]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 1, 77–100. (*see* **99a:00057**) 34A34 (33C99, 34A20)

Umeno, Ken Discretization of nonintegrable systems: nonequilibrium statistical aspects and theoretical computation aspects. (Japanese) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 119–131. (*see* **99a:00024**) 35Q58 (65M99)

Umeno, Yukiko (*with* Shiroishi, Masahiro; Wadati, Miki) Fermionic R-operator for the fermion chain model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1930–1935. (Summary) **99c:82028** 82B23 (81U40)

— (*with* Shiroishi, Masahiro; Wadati, Miki) Fermionic R-operator and integrability of the one-dimensional Hubbard model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 7, 2242–2254. (Andrey V. Tsiganov) **99h:82019** 82B20 (82B23)

Umesh, K. N. Dexterous mechanisms for robot locomotion. (English summary) International Conference on Advances in Mechanical Engineering (ICAME) (Bangalore, 1995). *Mech. Mach. Theory* **33** (1998), *no.* 8, 1153–1165. (*see* **99g:70013**) 70B15

Umetsu, Hiroshi (*with* Suzuki, Hisao; Takasugi, Eiichi) Perturbations of Kerr-de Sitter black holes and Heun's equations. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 3, 491–505. (Volker Perlick) **99j:83049** 83C57

Umetsu, Noriyuki Singularities of hyperfunctions with regular parameters. (Japanese) Partial differential equations in the complex domain (Japanese)(Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1028 (1998), 94–105. (*see* **99e:35002**) 46F15 (58G07)

Umezu, Kenichiro (*with* Taira, Kazuaki) Semilinear elliptic boundary value problems in chemical reactor theory. (English summary) *J. Differential Equations* **142** (1998), *no.* 2, 434–454. (Bo Guan) **99c:35080** 35J65 (92E20)

— Semilinear elliptic boundary value problems in chemical reactor theory. (Japanese. English summary) Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 99–117. (*see* **99d:35005**) 35Q80 (80A32)

Umirbaev, U. U. (*with* Gupta, Chander Kanta) Systems of linear equations over associative algebras and the occurrence problem for Lie algebras. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 411–427. (Vesselin Drensky) **99m:16039** 16R10 (16R40, 16S15, 17B30, 17B60)

Umland, Kristin (*with* Adem, Alejandro; Karagueuzian, Dikran; Milgram, R. James) The cohomology of the Lyons group and double covers of alternating groups. *J. Algebra* **208** (1998), *no.* 2, 452–479. (David J. Green) **99m:20128** 20J06 (20D08)

Umnyashkin, S. V. (*with* Efimov, A. V.; Pospelov, A. S.) Some properties of multiplicative orthonormal systems, which are used in digital signal processing. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 137–182. (W. R. Wade) **99m:94010** 94A12 (42C10)

Ünal, M. (*with* Gesztesy, Fritz) Perturbative oscillation criteria and Hardy-type inequalities. (English summary) *Math. Nachr.* **189** (1998), 121–144. (Günter Stolz) **99a:34069** 34B24 (34C10, 34L20, 47E05)

Ünal, Nuri Path integral quantization of a spinning particle. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 755–762. (Takashi Miura) **99k:81155** 81S40

— (*with* Açikgöz, I.) Vacuum polarization in self-field quantum electrodynamics. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 815–828. (Summary) **99f:81218** 81V10

Unbehauen, Heinz (*with* Patra, Amit) Identification of a class of nonlinear continuous-time systems using Hartley modulating functions. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1431–1451. 93B35 (93C60)

— (*with* Bandyopadhyay, B.; Patre, B. M.) A new algorithm for compensator design for higher-order system via reduced model. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 917–920. 93B51 (93B11)

— (*with* Wang, Zidong; Zeng, Hanqing) H_2/H_∞ control for linear systems with variance constraints: the state estimation feedback case. (English summary) *Systems Sci.* **24** (1998), *no.* 3, 29–47. 93B36 (93E10)

— (*with* Wang, Zidong) Robust H_2/H_∞-state estimation for systems with error variance constraints: the continuous-time case. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1061–1065. 93E10 (93B36)

— (*with* Wang, Zidong; Zhu, Jihong) Robust filter design with time-varying parameter uncertainty and error variance constraints. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 30–38. (Ryszard Gessing) **99k:93091** 93E11 (93B35)

— (*with* Daniel-Berhe, S.) An approach for estimating abruptly changing parameters of integrable nonlinear continuous-time systems. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 15–26. 93E10

— (*with* Wang, Zidong) Design of robust obervers for a class of nonlinear state delayed systems with parametric uncertainty. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 27–39. 93B07 (93B35)

Unbehauen, Rolf (*with* Reif, Konrad; Weinzierl, Klaus; Zell, Andreas) Nonlinear feedback stabilization by tangential linearization. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 673–687. 93D15

— (*with* Luo, Fa Long; Reif, Konrad; Li, Yan Da) Analog approach for the eigen-decomposition of positive definite matrices. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 49–61. (Summary) **99b:15012** 15A18 (15A48, 68T05)

— (*with* Reif, Konrad; Weinzierl, Klaus; Zell, Andreas) A homotopy approach for nonlinear control synthesis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1311–1318. 93B50 (93B40)

— (*with* Yang, Xiao) New stability test algorithm for two-dimensional digital filters. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 739–741. (Summary) **99c:94070** 94C05

— (*with* Li, Wenzhe; Lin, Ji-Nan) Canonical representation of piecewise-polynomial functions with nondegenerate linear-domain partitions. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 8, 838–848. (A. Bultheel) **99j:41013** 41A10 (41A30)

— (*with* Reif, Konrad; Sonnemann, Frank) Nonlinear state observation using H_∞-filtering Riccati design. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 203–208. 93E11 (93B36)

Underwood, Robert Gene Isogenies of polynomial formal groups. (English summary) *J. Algebra* **212** (1999), *no.* 2, 428–459. (Lindsay N. Childs) **99m:14084** 14L05 (14K15, 16W30)

Ünel, G. (*with* Arik, Metin) Stirling probability and q-bosons. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1121–1125. (Summary) **99d:81054** 81R50 (81S05)

— (*with* Arik, Metin; Kayserilioğlu, U.) Quantum-group description of decaying particles. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9117–9122. (Jacob Katriel) **99i:81087a** 81R50

— (*with* Arik, Metin; Kayserilioğlu, U.) Corrigendum: "Quantum-group description of decaying particles". *J. Phys. A* **32** (1999), *no.* 3, 569. (Jacob Katriel) **99i:81087b** 81R50

Unemi, Tatsuo A simple evolvable development system in Euclidean space. (English summary) *Mathematical and computational biology* (*Aizu-Wakamatsu City*, 1997), 103–110, *Lectures Math. Life Sci.*, 26, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92007** 92C15 (92–08, 92D15)

Ungar, Abraham A. From Pythagoras to Einstein: the hyperbolic Pythagorean theorem. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1283–1321. (Helmuth K. Urbantke) **99k:51026** 51P05 (20N05, 51M10, 83A05)

Ungar, Lyle H. (*with* De Veaux, Richard D.; Schumi, Jennifer; Schweinsberg, Jason) Prediction intervals for neural networks via nonlinear regression. (English summary) *Technometrics* **40** (1998), *no.* 4, 273–282. 62G05

Ungar, Š. (*with* Scitovski, R.; Jukić, D.) Approximating surfaces by moving total least squares method. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 219–232. (Yu Yu Feng) **99f:65031** 65D17

Ungarish, Marius (*with* Huppert, Herbert E.) The effects of rotation on axisymmetric gravity currents. (English summary) *J. Fluid Mech.* **362** (1998), 17–51. (From the summary) **99c:76112** 76U05 (76C99, 86A05)

von Unge, Rikard (*with* Lowe, David A.) Constraints on higher derivative operators in maximally supersymmetric gauge theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 14, 6 *pp.* (*electronic*). (C. Gauthier) **99m:81257** 81T60 (81T13, 81T15)

— (*with* Gonzalez-Rey, Francisco; Roček, Martin; Wiles, S.; Lindström, Ulf) Feynman rules in $N = 2$ projective superspace. I. Massless hypermultiplets. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 426–448. (Ilya Shapiro) **99f:81198** 81T60 (81T18)

— (*with* Gonzalez-Rey, Francisco) Feynman rules in $N = 2$ projective superspace. II. Massive hypermultiplets. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 449–466. (Ilya Shapiro) **99f:81199** 81T60 (81T18)

— (*with* Periwal, Vipul) Accelerating D-branes. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 71–76. (Summary) **99b:81205** 81T30

— (*with* Randall, Lisa; Shirman, Y.) Brane boxes: bending and beta functions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105005, 7 *pp.* (Summary) **99m:81259** 81T60 (81T13, 81T30)

Unger, Josef (*with* Reich, Ludwig) ★ Derivationen höherer Ordnung als Lösungen von Funktionalgleichungen. (German) [Derivations of higher order as solutions of functional equations] Grazer Mathematische Berichte [Graz Mathematical Reports], 336. *Karl-Franzens-Universität Graz, Graz*, 1998. *ii*+83 *pp.* (B. Crstici) **99k:39068** 39B22 (13B02, 39–01)

Unger, Luise (*with* Happel, Dieter) Complements and the generalized Nakayama conjecture. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 293–310, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Riccardo Colpi) **99i:16024** 16G10 (16E10, 16G70)

Unger, Walter (*with* Bezrukov, Sergei; Monien, Burkhard; Wechsung, Gerd) Embedding ladders and caterpillars into the hypercube. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 21–29. (Summary) **99c:68188** 68R10 (05C10, 68M10)

Ungerboeck, Gottfried (*with* Forney, G. David, Jr.) Modulation and coding for linear Gaussian channels. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2384–2415. (Summary) **99i:94034** 94A40

Ungerer, Elna (*with* Hattingh, Johannes H.) Minus k-subdomination in graphs. II. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 141–151. (Summary) **99f:05060** 05C35

— (*with* Hattingh, Johannes H.; Henning, Michael A.) Partial signed domination in graphs. (English summary) *Ars Combin.* **48** (1998), 33–42. (Summary) **99a:05075** 05C35

— (*with* Hattingh, Johannes H.; McRae, Alice A.) Minus k-subdomination in graphs. III. (English summary) *Australas. J. Combin.* **17** (1998), 69–76. (Summary) **99f:05061** 05C35

Unguendoli, Francesco Deterministic spin models with glassy behavior. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 171–174. 82B44 (82B23, 82D30)

— (*with* Borsari, I.; Camia, F.; Graffi, S.) Absence of glassy behaviour in the deterministic spherical and XY models. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1127–1139. (Summary) **99c:82011** 82B20

Unnikrishnan Nair, N. (*with* Asha, G.) Bivariate failure rates in discrete time. (English summary) *Quality improvement through statistical methods* (*Cochin*, 1996), 339–350, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62011**) 62N05

— (*with* Sunoj, S. M.) characterization of some bivariate life distributions by weighted models. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 4, 239–248. 62E10

— *see also* **Quality improvement through statistical methods**, **99f:62011**

Unno, Hiroshi (*with* Miyadera, Youzou; Anzai, Koushi; Yaku, Takeo) Depth-first layout algorithm for trees. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 187–194. (Summary) **99c:68253** 68U05

Uno, Chikara (*with* Hirose, Keiichi; Isogai, Eiichi) The convergence rate of fixed-width sequential confidence intervals for a parameter of an exponential distribution. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 199–209. (Z. Govindarajulu) **99d:62077** 62L12

Uno, Katsuhiro Cases of Dade's conjecture. Group theory and combinatorial mathematics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 991 (1997), 16–27. (Gerhard Hiss) **99b:20021** 20C20 (20C15, 20C30)

Uno, Takeaki Algorithms for enumerating all perfect, maximum and maximal matchings in bipartite graphs. (English summary) *Algorithms and computation* (*Singapore*, 1997), 92–101, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:05111** 05C85 (05C70, 68R10)

— (*with* Yagiura, Mutsunori) Fast algorithms to enumerate all common intervals of two permutations and their applications. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 120–123. (*see* **99b:90009**) 90C29 (90C27)

Unruh, W. G. (*with* Aharonov, Y.; Oppenheim, J.; Popescu, Sandu; Reznik, B.) Measurement of time of arrival in quantum mechanics. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 6, 4130–4139. (Michael B. Mensky) **99h:81019** 81P15

Unser, Michael (*with* Aldroubi, Akram; Abry, Patrice) Construction of biorthogonal wavelets starting from any two multiresolutions. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1130–1133. 94A11 (42C15)

— (*with* Thévenaz, Philippe; Aldroubi, Akram) Shift-orthogonal wavelet bases. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 7, 1827–1836. (Summary) **99i:94004** 94A11 (42C15, 94A12)

— (*with* Müller, Frank; Brigger, Patrick; Illgner, Klaus) Multiresolution approximation using shifted splines. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2555–2558. 94A11

— (*with* Blu, Thierry) Approximation error for quasi-interpolators and (multi-)wavelet expansions. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 2, 219–251. (L. Leindler) **99m:41025** 41A25 (42C15)

Unsworth, Keith (*with* Seymour, Chris) Interactive shape preserving interpolation by curvature continuous rational cubic splines. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 87–117. (Julio Guacaneme Dix) **99m:65038** 65D17 (65Y25)

— (*with* Goodman, Tim N. T.) Convexity-preserving B-spline modification. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 155–164. (Summary) **99k:65018** 65D07 (41A29)

Unt, Väino Alternative asymptotic wave solutions of the field equations. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 2, 128–137. (Richard Hansen) **99e:83021** 83C30 (83C20, 83C45)

Unterberger, André Quantization: some problems, tools, and applications. (English summary) *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 285–298, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Brian C. Hall) **99f:58204** 58G15 (35S99, 47G30, 81R30, 81S30)

— Quantization, symmetries and relativity. (English summary) *Perspectives on quantization* (*South Hadley, MA*, 1996), 169–187, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Harald Upmeier) **99a:58150** 58G15 (81S10, 81S30)

Unterkofler, Karl (*with* Dickson, Ronnie; Gesztesy, Fritz) A new approach to the Boussinesq hierarchy. (English summary) *Math. Nachr.* **198** (1999), 51–108. (Victor V. Zharinov) **99m:35204** 35Q53 (34L40, 58F07, 76B25)

Unterreiter, Andreas The thermal equilibrium solution of a generic bipolar quantum hydrodynamic model. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 69–88. (Summary) **99c:58050** 58E50 (49J10, 76M30, 76Y05, 82D99)

— (*with* Ben Abdallah, Naoufel) On the stationary quantum drift-diffusion model. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 251–275. (Tuncay Aktosun) **99j:35178** 35Q40 (35J10, 81V80, 82D99)

Ünver, İhsan On distributions of the semi-Markovian random walk with reflecting and delaying barriers. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 231–242. (Summary) **99b:60153** 60K15

Uozumi, Takashi (*with* Inagaki, Hironobu; Ono, Koich) The agents' characteristics which generate cooperative behavior in an iterated game with variable payoff. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1056–1064. 90D12 (68T99)

Uozumi, Tomotsugu (*with* Yagasaki, Kazuyuki) Erratum: "A new approach for controlling chaotic dynamical systems" [Phys. Lett. A **238** (1998), no. 6, 349–357; MR 98j:58077]. *Phys. Lett. A* **253** (1999), *no.* 5-6, 375. 58F13 (58F40, 93C10)

Upadhyay, C. S. (*with* Babuška, Ivo M.; Strouboulis, T.) A model study of the quality of a posteriori error estimators for finite element solutions of linear elliptic problems, with particular reference to the behavior near the boundary. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 14, 2521–2577. (Mark Ainsworth) **99a:73116** 73V05 (65N30)

Upadhyay, Ranjit Kumar (*with* Iyengar, S. R. K.; Rai, Vikas) Chaos: an ecological reality? (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1325–1333. 92D40 (58F13)

Upadhyay, Satyanshu K. (*with* Singh, Umesh; Singh, Rajesh[2]) A decision-theoretic interval estimator for one parameter exponential distribution. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 21–29. 62F25 (62C10)

— (*with* Pathak, Ram Shankar) Convolution in $(W^p_{M,a})'$-space. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 57–65. (Stevan Pilipović) **99a:46074** 46F10 (46F12)

Upfal, Eli (*with* Borodin, Allan; Raghavan, Prabhakar; Schieber, Baruch) How much can hardware help routing? (English summary) *J. ACM* **44** (1997), *no.* 5, 726–741. (Luisa Gargano) **99b:68012** 68M10 (68Q22, 68R10)

— Design and analysis of dynamic processes: a stochastic approach (invited paper). (English summary) *Algorithms—ESA '98* (*Venice*), 26–34, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q25

— (*with* Broder, Andrei Z.; Frieze, Alan M.) Dynamic packet routing on arrays with bounded buffers. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 273–281, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99g:68012** 68M10

— (*with* Pelc, Andrzej) Reliable fault diagnosis with few tests. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 323–333. (Summary) **99m:68020** 68M15

— (*with* Shavit, Nir; Zemach, Asaph) A steady state analysis of diffracting trees. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 403–423. (Summary) **99b:68075** 68Q10

— (*with* Broder, Andrei Z.; Frieze, Alan M.) Static and dynamic path selection on expander graphs: a random walk approach. (English summary) *Random Structures Algorithms* **14** (1999), *no.* 1, 87–109. (Tatiana Smirnova-Nagnibeda) **99m:05144** 05C80 (60J15)

— (*with* Broder, Andrei Z.; Frieze, Alan M.; Suen, W.-C. Stephen) Optimal construction of edge-disjoint paths in random graphs. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 542–574 (*electronic*). (Zbigniew Palka) **99f:05068** 05C38 (05C85, 68R10, 90B10)

— (*with* Raghavan, Prabhakar) Stochastic contention resolution with short delays. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 710–720 (*electronic*). (Summary) **99d:68121** 68Q25 (60K30, 68M20)

Upmeier, Harald (*with* Hagenbach, U.) Toeplitz C^*-algebras over non-convex cones and their facial representations. (English summary) *Lie theory and its applications in physics*

(*Clausthal*, 1995), 53–68, *World Sci. Publishing, River Edge, NJ*, 1996. (Raúl E. Curto) **99m:46134** 46L05 (17C20, 22E30, 47B35)

— Toeplitz-Berezin quantization and non-commutative differential geometry. *Linear operators* (*Warsaw*, 1994), 385–400, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (Albert Jeu-Liang Sheu) **99c:32049** 32M15 (46L87, 47B35, 58B30, 58F06)

— (*with* Hagenbach, U.) Toeplitz C^*-algebras over non-convex cones and pseudo-symmetric spaces. *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 109–131, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Raúl E. Curto) **99h:47033** 47B35 (17C20, 32M15, 46L99, 47C15)

— (*with* Arazy, Jonathan) Discrete series representations and integration over boundary orbits of symmetric domains. (English summary) *Perspectives on quantization* (*South Hadley, MA*, 1996), 1–22, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Jacques Faraut) **99c:32045** 32M15 (22E46, 43A85, 47B35)

Upreti, Jaya (*with* Negi, Ganesh Singh) Conformal infinitesimal transformation in generalised almost contact metric structure manifold. (English summary) *Ultra Sci. Phys. Sci.* **11** (1999), *no.* 1, 88–91. 53C15

Urabe, Tohsuke On weak Hironaka theorem. II. (Japanese) Research on local and global singularity theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1050 (1998), 49–54. (*see* **99j:58003**) 14E15

Urakawa, Hajime Spectra of the discrete and continuous Laplacians on graphs and Riemannian manifolds. *Interdiscip. Inform. Sci.* **3** (1997), *no.* 2, 95–109. (Robert Brooks) **99c:58165** 58G25 (05C50, 35J05, 35P05, 58G99)

— (*with* Furuhata, Hitoshi; Matsuzoe, Hiroshi) Open problems in affine differential geometry and related topics. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 2, 125–127. 53A15 (53–02)

— (*with* Katsuda, Atsushi) The first eigenvalue of the discrete Dirichlet problem for a graph. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 217–225. (Summary) **99a:05100** 05C50

— (*with* Suzuki, Yuuichi) Eigenvalue pinching theorems on compact symmetric spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3065–3069. (Catherine Searle) **99a:53034** 53C20 (53C35)

Uralegaddi, B. A. (*with* Desai, A. R.) Convolutions of univalent functions with positive coefficients. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 279–285. (Herb Silverman) **99k:30026** 30C45

Uralegaddi, Suguna B. (*with* Sarangi, S. M.) On generalisation of meromorphic univalent functions with negative coefficients. *Mathematica* **38(61)** (1996), *no.* 1-2, 189–197. (K. S. Padmanabhan) **99a:30020** 30C45

Ural′tseva, N. N. *see* **Krylov, Nicolai V., 99g:35002** *and* **Some questions of mathematical physics and function theory, 99h:00043**

Uranga, Angel M. (*with* Hanany, Amihay) Brane boxes and branes on singularities. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 13, 42 *pp.* (*electronic*). (Claudio A. Scrucca) **99e:81196** 81T30 (81T60)

— Towards mass deformed $N = 4$ $SO(n)$ and $Sp(k)$ theories from brane configurations. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 241–277. (Douglas J. Smith) **99i:81252** 81T60 (81T13, 81T30)

Uras, Füsun Error in Demartres's paper and the correct result. (English and Turkish summaries) *Istanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 71–84 (1997). (Basil J. Papantoniou) **99b:53010** 53A05

Urazhdin, S. V. (*with* Novozhilova, L. S.) Analytic computation of the energy characteristics of slip-line fields in problems of plane plastic deformation. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 322–329; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 311–318. (Summary) **99d:73045** 73E05 (73V20)

Urbach, J. S. (*with* Weeks, E. R.; Swinney, H. L.) Anomalous diffusion in quasi-geostrophic flow. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 171–197, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 76F20 (76–05, 76U05, 86A05)

Urbain, Xavier (*with* Marché, Claude) Termination of associative-commutative rewriting by dependency pairs. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 241–255, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68Q42

Urban, Herbert Modelle für die euklidische und äquiforme Dreiecksgeometrie. (German summary) [Models for the Euclidean and equiform geometry of the triangle] *Math. Semesterber.* **44** (1997), *no.* 2, 121–130. (Victor V. Pambuccian) **99d:51019** 51M05 (51M10)

Urban, Karsten (*with* Dahmen, Wolfgang; Kunoth, Angela) Wavelets in numerical analysis and their quantitative properties. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 93–130, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Andreas Rieder) **99j:65246** 65T99 (42C15, 65N99)

— (*with* Canuto, Claudio; Tabacco Vignati, Anita) The wavelet element method. I. Construction and analysis. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 1, 1–52. (Albert Cohen) **99k:42055** 42C15 (41A15, 65T20)

— (*with* Dahmen, Wolfgang; Kunoth, Angela) Biorthogonal spline wavelets on the interval—stability and moment conditions. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 2, 132–196. (Gilbert Walter) **99m:42046** 42C15 (41A15)

Urbaniak, R. (*with* Cornuéjols, Gérard; Weismantel, Robert; Wolsey, Laurence A.) Decomposition of integer programs and of generating sets. (English summary) *Algorithms—ESA '97* (*Graz*), 92–103, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 90C10

Urbaniec, Piotr A note on multivalued Baire category theorem. (English summary) *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 1, 11–15. (Marek Balcerzak) **99f:54023** 54C60 (26E25, 54E50, 54E52)

Urbanik, Kazimierz Multiplicative decomposability of probability measures. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **51** (1997), *no.* 1, 173–179. (F. W. Steutel) **99c:60026** 60E07 (60E10)

Urbanke, Rüdiger (*with* Rimoldi, Bixio) Lattice codes can achieve capacity on the AWGN channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 273–278. (Summary) **99a:94013** 94A24 (94A40)

Urbano, Ana M. (*with* Jordán Lluch, Cristina; Torregrosa Sánchez, Juan Ramón) On the Rodman-Shalom conjecture regarding the Jordan form of completions of partial upper triangular matrices. (English summary) *Electron. J. Linear Algebra* **3** (1998), 103–118 (*electronic*). (V. V. Sergeichuk) **99g:15014** 15A21

— (*with* Jordán Lluch, Cristina; Torregrosa Sánchez, Juan Ramón) An algorithm for nilpotent completions of partial Jordan matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 315–325. (Hugo Jan Woerdeman) **99f:15017** 15A21 (15A57)

Urbano, José Miguel (*with* Rodrigues, José-Francisco) On the stationary Boussinesq-Stefan problem with constitutive power-laws. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 4, 555–566. (Peter G. Danilaev) **99b:80008** 80A22 (35R35, 73B30, 76A05)

Urbano, Luis (*with* Adrián de Pérez, Trina; Juanatey, Margarita; Banchs, Rafael) Wavelet transform and filter banks theory relationship. A revision. (English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 2, 107–123. 42C15

Urbano-Blanco, J. M. (*with* Rosales, J. C.; García-Sánchez, Pedro A.) On Cohen-Macaulay subsemigroups of $\mathbf{N}^2$. *Comm. Algebra* **26** (1998), *no.* 8, 2543–2558. (Joseph Gubeladze) **99g:13032** 13H10 (20M14, 20M25)

Urbańska-Motyka, Agnieszka (*with* Gnot, Stanisław; Zmyślony, Roman) Nonnegative maximum likelihood estimation in a linear model of variance components. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 2, 215–224. (Summary) **99b:62102** 62J05 (62J10)

Urbański, Mariusz Geometry and ergodic theory of conformal non-recurrent dynamics. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1449–1476. (Feliks Przytycki) **99j:58178** 58F23 (28A80, 28D99, 58F11)

— (*with* Mauldin, R. Daniel) Dimension and measures for a curvilinear Sierpinski gasket or Apollonian packing. (English summary) *Adv. Math.* **136** (1998), *no.* 1, 26–38. (Claude Tricot) **99h:28015** 28A78 (28A80, 52C15)

— (*with* Hanus, Paweł) Complex continued fractions with restricted entries. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 27, 9 *pp.* (*electronic*). (Thomas Ward) **99i:58128** 58F23 (58F03)

— (*with* Denker, Manfred; Mauldin, R. Daniel; Nitecki, Z.) Conformal measures for rational functions revisited. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 161–173. (Sanju L. Velani) **99j:58122** 58F11 (28D99, 30D05, 58F23)

Urbański, Paweł Double vector bundles in classical mechanics. (English summary) Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 4, 405–421. (Gerard Thompson) **99h:53038** 53C15 (58F05, 70G99, 70H35)

— (*with* Grabowski, Janusz) Tangent and cotangent lifts and graded Lie algebras associated with Lie algebroids. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 5, 447–486. (Summary) **99k:58199** 58H05 (17B70, 58F05)

— (*with* Grabowski, Janusz) Lie algebroids and Poisson-Nijenhuis structures. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 195–208. (Raúl Ibáñez) **99c:58180** 58H05 (17B66, 58F05)

Urbański, Ryszard Pairs of sets with convex union. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 791–798. (I. Namioka) **99b:46007** 46A55 (52A07)

— On a family of pairwise convex sets. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 275–284. (Diethard Pallaschke) **99c:52002** 52A07 (49J52, 90C31)

— On cutting frustum. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 165–172. (Diethard Pallaschke) **99c:52003** 52A07 (49J52, 90C31)

— (*with* Pallaschke, Diethard) Decompositions of compact convex sets. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 333–342. (Stefan Scholtes) **99f:52007** 52A20 (49J52, 52A10, 90C48)

— (*with* Pallaschke, Diethard) Critical points and point derivations for Lipschitz functions. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 165–172. (S. Rolewicz) **99k:49037** 49J52 (26A16, 52A41)

Urbantke, Helmuth K. (*with* Baumgartner, B.; Breitenecker, M.) On group structure in Copernican quasicrystallography. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 845–848. (Summary) **99m:20122** 20H15 (82D25)

— (*with* Krammer, Werner) K-loops, gyrogroups and symmetric spaces. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 310–327. (Abraham A. Ungar) **99i:83003** 83A05 (51P05)

Urbas, John Oblique boundary value problems for equations of Monge-Ampère type. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 1, 19–39. (Gary M. Lieberman) **99h:35068** 35J65

— Complete noncompact self-similar solutions of Gauss curvature flows. I. Positive powers. *Math. Ann.* **311** (1998), *no.* 2, 251–274. (Naoyuki Ishimura) **99c:53072** 53C45 (35J60, 53C21)

— Self-similar solutions of Gauss curvature flows. (English summary) *Monge Ampère equation: applications to geometry and optimization* (*Deerfield Beach, FL*, 1997), 157–172, *Contemp. Math.*, 226, *Amer. Math. Soc., Providence, RI*, 1999. (Barbara Priwitzer) **99k:53084** 53C21 (35J60, 35K55)

Urbina, Jaime (*with* Naulin, Raúl) Asymptotic integration of linear ordinary differential equations of order n. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 129–141. (Ivan N. Grod) **99f:34075** 34C99 (34D05)

— (*with* Naulin, Raúl) Asymptotic behavior of differential equations. (English summary) *Libertas Math.* **18** (1998), 13–21. (Rimma A. Prokhorova) **99k:34104** 34D05 (34C11)

Urbina, Wilfredo (*with* Bárcenas, Diómedes) Measurable multifunctions in nonseparable Banach spaces. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1212–1226. (Christian Hess) **99e:28021** 28B20 (47H04, 47N70, 49J27)

— (*with* Morán, Maria D.) Invariant subspaces and commutant for the Gaussian Hilbert transform (English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 102–105. (Summary) **99h:42069** 42C20 (47A15, 47B38)

Urbinati, Fabrizio (*with* Pennestrì, Ettore) Kinematic and dynamic analyses of the tripode joint. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 4, 355–367. 70B15

Urbonas, A. P. Sur la mobilité maximale des espaces L_n à connexion linéaire. (Lithuanian summary) [Maximal mobility of L_n-spaces with linear connection] *Liet. Mat. Rink.*

38 (1998), *no.* 2, 265–275; *translation in Lithuanian Math. J.* **38** (1998), *no.* 2, 205–212 (1999). (Andrew Bucki) **99j:53014** 53B05 (53A55)

Urchenko, O. G. Towards a semantic query language [translation of Vychisl. Sistemy No. 152 (1995), Teor. Vychisl. i Yazyki Spets., 20–37, 214; MR 99b:68128]. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 3, 81–95. (*see* **99b:00028**) 68P15 (68Q55)

Urchs, Max Deductive models and practical reasoning. (English summary) *Logic Log. Philos. No.* 5 (1997), 149–165. 03A05 (92J10)

— *see also* **Bressan, Aldo**

Urciuolo, M. (*with* Ferreyra, E.; Godoy, T.) L^p-L^q estimates for convolution operators with n-dimensional singular measures. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 4, 475–484. (Javier Duoandikoetxea) **99c:42020b** 42B15 (47B38)

— (*with* Ferreyra, E.; Godoy, T.) Boundedness properties of some convolution operators with singular measures. *Math. Z.* **225** (1997), *no.* 4, 611–624. (Javier Duoandikoetxea) **99c:42020a** 42B15 (47B38)

— (*with* Ferreyra, E.; Godoy, T.) Endpoint bounds for convolution operators with singular measures. (English summary) *Colloq. Math.* **76** (1998), *no.* 1, 35–47. (Andreas Seeger) **99f:42033** 42B20

Uren, Norman F. (*with* Li, Ping[5]) Analytical solution for the point source potential in an anisotropic 3-D half-space. I. Two-horizontal-layer case. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 9–27. (Summary) **99a:78020** 78A40 (86A20)

— (*with* Li, Ping[5]) Analytical solution for the point source potential in an anisotropic 3-D half-space. II. With two-vertical boundary planes. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 29–52. (Summary) **99a:78021** 78A40 (86A20)

— (*with* Li, Ping[5]) Analytical solution for the electric potential due to a point source in an arbitrarily anisotropic half-space. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 2, 129–140. (Summary) **99a:78031** 78A55 (86A20)

Ureña, J. N. (*with* Marano, Miguel; Marcolini, Marta) A counterexample for the discrete Pólya algorithm. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 817–821, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65D99

rodriguez Uria, M. Victoria *see* **Rodriguez Uria, M. Victoria**

Urías, Jesús (*with* Salazar-Anaya, Gelasio) Internal symmetries of cellular automata via their polynomial representation. (English summary) *Chaos* **8** (1998), *no.* 3, 711–716. (Summary) **99d:68171** 68Q80

— (*with* Salazar-Anaya, Gelasio; Ugalde, Edgardo) Synchronization of cellular automaton pairs. (English summary) *Chaos* **8** (1998), *no.* 4, 814–818. (Jean-Paul Allouche) **99j:68092** 68Q80 (58F08)

Uribe, Alejandro (*with* Paul, Thierry) Weighted trace formula near a hyperbolic trajectory and complex orbits. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4009–4015. (Philippe Briet) **99g:58127** 58G25 (35J10, 35P25)

— (*with* Borthwick, David) Erratum to: "Almost complex structures and geometric quantization" [Math. Res. Lett. **3** (1996), no. 6, 845–861; MR 98e:58084]. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 211–212. (From the text) **99c:58061** 58F06 (58G15)

— (*with* Paul, Thierry) Weighted Weyl estimates near an elliptic trajectory. (English summary) *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 145–165. (G. V. Rozenblyum) **99g:58122** 58G18 (35J10, 35P20, 58G25, 81Q20)

cruz-Uribe, David *see* **Cruz-Uribe, David**

Urieli, Sharon (*with* Porat, Moshe; Cohen, Nir) Optimal reconstruction of images from localized phase. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 838–853. 94A12

Urquhart, Alasdair The number of lines in Frege proofs with substitution. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 1, 15–19. (Anthony M. Ungar) **99c:03088** 03F20 (03B05, 03F07)

Urquiza, Santiago (*with* Desimone, Hernan; Arrieta, Hernan; Pardo, Enrique) Solution of Stokes equations by moving least squares. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 907–920. 65N55 (76M25)

Urrea, Marcel (*with* Gastaldi, Carlota; Fernández de Córdoba, Pedro) Decision theory: von Neumann's contributions. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 37–42. (Summary) **99f:90211** 90D40 (01A60, 90D05)

de Urries, F. J. (*with* Julve, J.) Ostrogradski formalism for higher-derivative scalar field theories. (English summary) *J. Phys. A* **31** (1998), *no.* 33, 6949–6964. (Hans P. Künzle) **99f:70025** 70G50 (58E30)

olóriz Urriza, Esteban *see* **Olóriz Urriza, Esteban**

jiménez-Urroz, Jorge *see* **Jiménez-Urroz, Jorge**

Urrutia, Jorge (*with* de Loera, J. A.; Santos, F.) The number of geometric bistellar neighbors of a triangulation. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 131–142. (Joseph Gubeladze) **99k:52025** 52B70

— (*with* Neumann-Lara, Víctor; Rivera-Campo, Eduardo) A note on covering the edges of a graph with bonds. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 633–636. (Summary) **99i:05170** 05C70

Urrutia, Luis F. (*with* Macías, Alfredo; Morales-Técotl, Hugo A.; Morales, N.) 5D Chern-Simons cosmology. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 502–507, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83E15 (83C99)

— (*with* Morales-Técotl, Hugo A.; Vergara, J. David) Reality conditions as second class constraints. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields* (*Mérida*, 1996), 541–544, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99d:83005** 83C05

— (*with* Gambini, Rodolfo; Morales-Técotl, Hugo A.; Vergara, J. David) Loop variables for compact two-dimensional quantum electrodynamics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3711–3724. (Summary) **99k:81340** 81V10

— (*with* Montesinos-Velásquez, Merced; Morales-Técotl, Hugo A.; Vergara, J. David) Real sector of the nonminimally coupled scalar field to self-dual gravity. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1504–1517. (Alexander N. Petrov) **99m:83163** 83C99 (83D05)

hiriart-Urruty, Jean-Baptiste *see* **Hiriart-Urruty, Jean-Baptiste**

Urruty, Patrick (*with* Plouvier-Debaigt, Anne; Donné, Bruno; Gagneux, Gérard) Solutions renormalisées pour des modèles des milieux poreux. (English and French summaries) [Renormalized solutions for some porous media models] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1091–1095. (Elias Tuma) **99b:35109** 35K65 (35Q35, 76S05)

Ursescu, Corneliu Multifunction openness and set tangency. (French summary) *Mem. Secţ. Ştiinţ. Acad. Română Ser. IV* **17** (1994), 79–85 (1997). (Longin Rybiński) **99b:49021** 49J52 (47H04)

— C_0-semigroups, characteristics method, and generic differential equations. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 283–290. (Uljana A. Anufrieva) **99m:34132** 34G10 (47D06)

— Multifunction openness and calculus of adjacent and tangent sets. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 143–150. (Zsolt Páles) **99m:49030** 49J52 (46N10, 47H04, 54C60)

Ursin, Bjørn (*with* Tygel, Martin) Weak-contrast edge and vertex diffractions in anisotropic elastic media. (English summary) *Wave Motion* **29** (1999), *no.* 4, 363–373. (Summary) **99m:73029** 73D25 (73B40)

Ursini, A. (*with* Agliano, P.) On subtractive varieties. IV. Definability of principal ideals. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 355–389. (A. A. Iskander) **99j:08002** 08B05

Ursu, V. I. On equations algorithmically solvable in commutative Moufang loops. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 531–534. (Summary) **99h:20107** 20N05

— On some lattices of quasivarieties of commutative Moufang's loops. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997,** *no.* 1, 106–112, 133, 135. (Sheila Oates-Williams) **99b:08007** 08C15 (20N05)

Ursul, M. I. (*with* Costash, A. I.) Bounded subsets in some topological rings. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995,** *no.* 2-3, 36–42, 113, 116. (Dikran Dikranjan) **99c:16048** 16W80

— Some classes of locally compact rings. *Mathematica* **38(61)** (1996), *no.* 1-2, 209–219. (Witold Więsław) **99a:16043** 16W80

— (*with* Costash, A. I.) Examples of minimal topological groups. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997,** *no.* 3, 86–92, 106, 110. (M. Hušek) **99h:54055** 54H11 (22A05)

Uryas'ev, S. P. (*with* Kibzun, A. I.) Differentiabiiity of probability function. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 6, 1101–1128. (M. Riedel) **99k:60032** 60E05 (62E30)

Urzyczyn, Paweł Type reconstruction in F_ω. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 4, 329–358. (Harold Schellinx) **99e:03040** 03F50 (03B40)

Us, G. F. Towards a coloured noise analysis. (English summary) *Methods Funct. Anal. Topology* **3** (1997), *no.* 2, 83–99. (Jan Ubøe) **99g:60079** 60G20 (46N30)

— (*with* Kachanovskiĭ, N. A.) Biorthogonal Appell systems in analysis on dually nuclear spaces. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 69–72; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 53–56. (Introduction) **99c:46041** 46Gxx

— (*with* Kondrat'ev, Yu. G.; da Silva, José L.; Streit, Ludwig) Analysis on Poisson and gamma spaces. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 91–117. (Isamu Dôku) **99i:60100** 60G55 (47B38, 60H99)

Usábel, Miguel A. Applications to risk theory of a Monte Carlo multiple integration method. (English summary) *Insurance Math. Econom.* **23** (1998), *no.* 1, 71–83. (Summary) **99m:62155** 62P05

Usai, Elio (*with* Bartolini, Giorgio; Ferrara, Antonella) Applications of a sub-optimal discontinuous control algorithm for uncertain second order systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 4, 299–319. (Summary) **99a:93012** 93B12 (93C41, 93C85)

— (*with* Bartolini, Giorgio; Ferrara, Antonella; Pisano, Alessandro) Adaptive reduction of the control effort in chattering-free sliding-mode control of uncertain nonlinear systems. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 51–71. (Summary) **99c:93049** 93C10 (93B12)

— (*with* Bartolini, Giorgio; Ferrara, Antonella; Punta, E.) Chattering elimination in the hybrid control of constrained manipulators via first/second order sliding mode control. (English summary) *Dynam. Control* **9** (1999), *no.* 2, 99–124. 93C85 (93B12)

Usami, Hiroyuki Applications of Riccati inequalities to elliptic equations. (Japanese) Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 89–100. (*see* **99f:00019**) 35J99 (34A40)

Ušan, Janez On congruences on n-groups. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 2, 89–100. (Wiesław A. Dudek) **99i:20090** 20N15

— On congruence classes of n-groups. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 75–89. (Elena Brožíková) **99i:20091** 20N15

Usanetashvili, M. Conjugation problem for a second order hyperbolic system with discontinuous coefficients. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 40–43. 35L80 (35R05)

— An oblique derivative problem for a second order elliptic equation with a parabolic degeneration on a part of boundary. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 336–337 (1997). 35J25 (35J70)

— The Dirichlet problem for a second order elliptic systems with parabolic degeneration on a part of boundary. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 29–30. 35J25

— Weighted problems for second order elliptic equations degenerated on a whole boundary. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 2, 168–169. 35J70

— On the Dirichlet problem for a second order elliptic system with degeneration on the entire domain boundary. (English summary) *Georgian Math. J.* **6** (1999), *no.* 4, 395–400. 35J70 (35J25)

Usenko, V. M. (*with* Batunina, V. P.) Near-filters and semigroups of linear transformations. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 153–156, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20M20

— Affine parametrizations of semigroups, and semigroups of ultraendomorphisms. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 170–176, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20M20

— (*with* Velichko, V. E.) Left ideals of an endomorphism semigroup of a free group. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 9–12, *Gomel. Gos. Univ., Gomel'*, 1998. (*see* **99g:20008**) 20M20 (20E05)

— (*with* Zakusilo, A. I.) On triangular products of monoids. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 13–21, *Gomel. Gos. Univ., Gomel'*, 1998. (Grigori I. Žitomirskiĭ) **99k:20112** 20M10

Usha, R. (*with* Prema, K.) Pulsatile flow of particle-fluid suspension model of blood under periodic body acceleration. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 2, 175–192. 76Z05 (76T05, 92C35)

Ushakov, N. G. (*with* Kankainen, A.) A consistent modification of a test for independence based on the empirical characteristic function. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci. (New York)* **89** (1998), *no.* 5, 1486–1494. (Summary) **99e:62080** 62G10

— On discrete unimodality. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci. (New York)* **91** (1998), *no.* 3, 3008–3013. (F. W. Steutel) **99m:60027** 60E05 (60E10, 60E15)

Ushakov, R. P. A unified approach to the proof of classical inequalities. (Russian) *Mathematics today '95, No.* 10 (*Russian*), 61–66, *Nauchn. Izdat. "TViMS", Kiev*, 1995. (Darko Veljan) **99d:26025** 26D15

Ushakov, V. G. *see* **Ushakov, Vladimir Georgievich**

Ushakov, V. I. (*with* Kungurtseva, A. V.; Kuznetsov, G. A.) ★ Функции многих переменных. (Russian. Russian summary) [Functions of several variables] Предел, непрерывность, дифференцируемость. [Limit, continuity, differentiability] *Chelyabinsk. Gos. Univ., Chelyabinsk*, 1997. 88 *pp. ISBN* 5-230-19982-2 26–01

Ushakov, V. N. (*with* Khripunov, A. P.) On the approximate construction of solutions in game-theoretic control problems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 413–421; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 401–408. (A. M. Tarasyev) **99d:49068** 49N35 (90D25)

— (*with* Babalyev, T. Kh.) An inverse problem in the theory of differential inclusions. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 451–456, 572; *translation in Differential Equations* **34** (1998), *no.* 4, 447–453. (Corneliu Ursescu) **99m:34024** 34A60

Ushakov, Vitaliĭ Gennadievich Curves with continuous curvatures in Euclidean spaces. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 393–401. (V. Oproiu) **99d:53004** 53A04

Ushakov, Vladimir Georgievich (*with* Nagapetyan, M. G.) Inverse problems in some single-server systems. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 1, 9–15. (Vladimir V. Kalashnikov) **99j:60144** 60K25

Ushakova, A. P. Estimates of stability of characterization of additive types of distributions. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci. (New York)* **89** (1998), *no.* 5, 1582–1589. (*see* **99d:00033**) 60E05 (62E10)

Ushakumari, P. V. (*with* Krishnamoorthy, A.) The queueing system $M/M^{X(R)}/\infty$. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 17–28. 60K25 (90B22)

— (*with* Krishnamoorthy, A.) On the queueing system $GI_D^X/M_D^R/\infty$. (English summary) *Optimization* **43** (1998), *no.* 2, 157–168. (Summary) **99d:60106** 60K25 (90B22)

— (*with* Krishnamoorthy, A.) On a bulk arrival bulk service infinite server queue. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 585–595. (Summary) **99a:60110** 60K25 (90B22)

Ushijima, Teruo (*with* Yokomatsu, Daisaku) Determination of the leading terms in conformal mapping of wings by means of finite element calculations. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 118–124. (*see* **99i:00028**) 76B05 (30C30, 65E05, 76M10)

— *see also* **Recent developments in domain decomposition methods and flow problems, 99g:00054**

Ushiki, Shigehiro Écalle's renewal function and complex dynamical systems. (Japanese) Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 173–175. (*see* **99h:58002**) 30D05

Ushio, Kazuhiko $\hat{S}_k$-factorization of symmetric complete tripartite digraphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 791–797. (Summary) **99i:05171** 05C70

— Cycle-factorization of symmetric complete multipartite digraphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 273–278. (Summary) **99k:05133** 05C70 (05C20, 05C38)

Ushio, Toshimitsu (*with* Kodama, Shinzo) The theory of discrete event systems—past and present. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 415–420. (*see* **99g:93006**) 93C83 (93–02)

Ushiro, Yasunori A generalization of Strassen's method for matrix multiplication. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 61–69. (*see* **99i:00028**) 65F30 (15–04)

Ushirobira, Rosane On the orbit method for the Lie algebra of vector fields on a curve. (English summary) *J. Algebra* **203** (1998), *no.* 2, 596–620. (Janusz Grabowski) **99c:17039** 17B66

Ushizawa, Kenji (*with* Sugiyama, Takakazu) A non-parametric method to test equality of intermediate latent roots of two populations in a principal component analysis. (English summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 2, 227–235. (Summary) **99k:62117** 62H15 (62G10)

Ushkov, V. Yu. (*with* Mel'nikova, I. V.; Anufrieva, U. A.) Degenerate distribution semigroups and well-posedness of the Cauchy problem. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 247–256. (Summary) **99d:47037** 47D06 (34A60, 34G10, 46F10)

Ushveridze, A. G. Quasi-exactly solvable models and W-algebras. (English summary) *Lie theory and its applications in physics (Clausthal, 1995)*, 258–272, *World Sci. Publishing, River Edge, NJ*, 1996. (Josep Herrero) **99m:81084** 81R10 (17B68, 34L30, 58F07)

— New fundamental symmetries of integrable systems and partial Bethe ansatz. (English summary) *Ann. Physics* **266** (1998), *no.* 1, 81–134. (Andrey V. Tsiganov) **99f:81214** 81U40 (58F07, 81R50, 82B20)

— Quasi-exactly solvable deformations of Gaudin models and "quasi-Gaudin algebras". (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 4, 281–292. (Summary) **99e:82030** 82B23

— Quasi-exact solvability in local field theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 8, 593–604. (Summary) **99e:81168** 81T25 (82B23)

Uskov, V. N. (*with* Omel'chenko, Aleksandr Vladimirovich) Decay of a centered Prandtl-Meyer compression wave in a steady gas flow. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 3, 59–68. 76L05 (76N15)

Uskova, N. B. Estimates for spectral expansions of the eigenvectors of some classes of perturbed differential operators. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 564–566, 576; *translation in Differential Equations* **33** (1997), *no.* 4, 571–574. (Summary) **99b:47007** 47A10 (34L10, 47E05)

Usman, Anila (*with* Hall, George) Equilibrium states for predictor-corrector methods. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 275–308. (Ming Zhu Liu) **99i:65068** 65L05

Usmanov, Shukhrat (*with* Ayupov, Shavkat A.; Rakhimov, Abdugafur) ★ Jordan, real and Lie structures in operator algebras. (English summary) Mathematics and its Applications, 418. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+225 *pp. ISBN* 0-7923-4684-X (Cho Ho Chu) **99g:46100** 46L70 (17B60, 17C50, 46L10)

— Continuous decomposition of real von Neumann algebras of type III. (English summary) *Algebra and operator theory (Tashkent, 1997)*, 111–116, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00012**) 46L10 (46L45)

Usmanov, Z. D. Complex analysis methods in the theory of infinitesimal bendings of surfaces with a flat point. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 219–222. (Kichoon Yang) **99h:53005** 53A05 (30G20)

— Generalized analytic functions in differential geometry. *Generalized analytic functions (Graz, 1997)*, 127–138, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (V. Oproiu) **99k:53004** 53A05 (30G20)

Usmen, Nilufer (*with* Tessitore, Anthony) Ergodicity, state prices, and long bond returns. (English summary) *Math. Finance* **8** (1998), *no.* 1, 85–91. (Summary) **99d:90020** 90A09

Uspenskaya, N. V. Remembrance of a short life [M. P. Bronshteĭn, 1906–1938]. (Russian) *Priroda* **1998**, *no.* 6, 126–127. 01A70

Uspenskiĭ, S. V. (*with* Vasil'eva, E. N.) On the algebraic moments of the solution of the first initial-boundary value problem for the S. L. Sobolev equation in the case of special domains. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 286–297. (Vladimir P. Burskiĭ) **99i:35113** 35M20 (35G15, 35Q35)

Uspenskiĭ, V. A. (*with* Muchnik, An. A.; Semenov, Aleksei L'vovich) Mathematical metaphysics of randomness. (English summary) *Theoret. Comput. Sci.* **207** (1998), *no.* 2, 263–317. (Cristian Calude) **99h:68091** 68Q30 (60A05)

Uspenskiĭ, Vladimir V. The Roelcke compactification of unitary groups. (English summary) *Abelian groups, module theory, and topology (Padua, 1997)*, 411–419, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Douglass L. Grant) **99i:22003** 22A10 (47D03, 54H15)

— (*with* Dikranjan, Dikran N.) Categorically compact topological groups. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 149–168. (Ljubiša Kočinac) **99c:22001** 22A05 (22C05, 54D25, 54D30, 54H11)

— (*with* Dranishnikov, A. N.; Keesling, James) On the Higson corona of uniformly contractible spaces. (English summary) *Topology* **37** (1998), *no.* 4, 791–803. (Erik K. Pedersen) **99k:57049** 57N99 (19K35, 46L80, 54E99, 58G12)

— A selection theorem for C-spaces. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 351–374. (Valentin Gutev) **99d:54013** 54C65 (54D20, 54F45, 54F65)

— Preface. Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 1–3. (*see* **99a:22001**) 22Axx

— (*with* Reznichenko, E. A.) Pseudocompact Mal'tsev spaces. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 83–104. (Michael Tkačenko) **99e:54019** 54D30 (22A30, 54C35)

— *see also* **Special Issue: Topological groups, 99a:22001**

Uspensky, Vladimir A. *see* **Uspenskiĭ, V. A.**

Ustimenko, A. P. Colored cause-effect structures. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 5, 219–225. (Summary) **99h:68050** 68Q10 (68Q90)

Ustimenko, V. A. (*with* Sushchanskiĭ, V. I.; Lazebnik, F. G.; Klin, Mikhail; Pöschel, R.; Vyshenskiĭ, V. A.) Lev Arkad'evich Kalužnin (1914–1990). Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 5–18. (Editors) **99m:01091** 01A70

— On the varieties of parabolic subgroups, their generalizations and combinatorial applications. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 223–238. (Theo Grundhöfer) **99h:20053** 20E42 (17B67)

— (*with* Hemmeter, Joe; Woldar, Andrew J.) Orbital schemes of $B_3(q)$ acting on 2-dimensional totally isotropic subspaces. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 487–498. (Paul-Hermann Zieschang) **99f:05123** 05E30 (20G15)

— (*with* Lazebnik, F. G.; Woldar, Andrew J.) Polarities and $2k$-cycle-free graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 503–513. (Summary) **99i:05123** 05C38

Ustinov, N. V. The reduced self-dual Yang-Mills equation, binary and infinitesimal Darboux transformations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 976–985. (Ian A. B. Strachan) **99a:58095** 58F07 (58F37, 81T13)

Ustinov, Yu. A. (*with* Medyanik, S. N.) Homogeneous solutions and the problem of dislocations in an elastic annulus. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 3, 59–63, 112. (Summary) **99j:73025** 73C02 (73S10)

Üstünel, Ali Suleyman (*with* Zakai, Moshe) The change of variables formula on Wiener space. (English summary) *Séminaire de Probabilités, XXXI*, 24–39, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (David Nualart) **99b:60074** 60H07 (60H05)

— (*with* Zakai, Moshe) A monotonicity method for some elliptic SPDEs. (English summary) *Statistics and control of stochastic processes (Moscow, 1995/1996)*, 315–322, *World Sci. Publishing, River Edge, NJ*, 1997. (Björn Schmalfuss) **99i:60128** 60H15 (35J65, 35R60, 47H05, 47N30)

— (*with* Zakai, Moshe) Degree theory on Wiener space and an application to a class of SPDEs. *Stochastic differential and difference equations (Győr, 1996)*, 339–343, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Rainer Buckdahn) **99i:60114** 60H07 (28C20, 60H15)

— Stochastic analysis on Lie groups. (English summary) *Stochastic analysis and related topics, VI (Geilo, 1996)*, 129–158, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*,

1998. (Ana Bela Cruzeiro) **99m:60018** 60B15 (58D20, 58G32, 60H07)
— (*with* Decreusefond, Laurent) On the conditional characteristic functions of second order Wiener functionals. (English summary) *Stochastic analysis and related topics, VI (Geilo, 1996)*, 235–244, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Marta Sanz Solé) **99j:60069** 60H05 (60G30, 60J65)
— (*with* Decreusefond, Laurent) Fractional Brownian motion: theory and applications. (English and French summaries) *Systèmes différentiels fractionnaires (Paris, 1998)*, 75–86, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Miguel A. Arcones) **99m:60082** 60H05 (60G18, 60J65)
— (*with* Zakai, Moshe) On the uniform integrability of the Radon-Nikodým densities for Wiener measure. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 642–663. (Kun Soo Chang) **99j:60055** 60G30 (46G12, 60B11)
— *see also* **Stochastic analysis and related topics**, **99e:60006**
Usui, Sampei Torelli-type problems. (Japanese) *Sūgaku* **49** (1997), *no.* 3, 235–252. (Syoji Tsuboi) **99d:14008** 14C34 (14D07, 32G05, 32G20)
Utard, Gil (*with* Bougé, Luc; Cachera, David; Le Guyadec, Yann; Virot, Bernard) Formal validation of data-parallel programs: a two-component assertional proof system for a simple language. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 71–107. (Dorothy Bollman) **99c:68169** 68Q60
Utemaganbetov, Z. S. (*with* Otelbaev, M. O.; Boleeva, M. K.) On an approximate solution of a class of nonlinear equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 33–38. (Summary) **99e:65098** 65J15 (47H17)
— (*with* Otelbaev, M. O.) On a numerical method for solving boundary value problems for second-order differential equations. (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1998**, *no.* 1, 40–44. 65L10
Uteshev, A. Yu. (*with* Cherkasov, Timofei M.) The search for the maximum of a polynomial. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 5, 587–618. (De Ren Wang) **99d:65158** 65H05 (68Q40)
Uteuliev, N. U. (*with* Saparbaev, A. D.) An algorithm for solving a stochastic problem. (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1997**, *no.* 3, 68–72. 90C15
Utev, Sergei (*with* Bradley, Richard C.) On second-order properties of mixing random sequences and random fields. (English summary) *Probability theory and mathematical statistics (Vilnius, 1993)*, 99–120, *TEV, Vilnius*, 1994. (Summary) **99f:60092** 60G60 (60G10)
— (*with* Lefèvre, Claude) Asymptotic behavior of the final number of susceptible individuals in generalized epidemic processes. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 858–868, *ii–iii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 753–763. (Przemysław Matuła) **99m:60034** 60F05 (92D30)
— (*with* Merlevède, Florence; Peligrad, Magda) Sharp conditions for the CLT of linear processes in a Hilbert space. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 681–693. (Alexander V. Bulinskiĭ) **99e:60022** 60B12
— (*with* Barbour, A. D.) Solving the Stein equation in compound Poisson approximation. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 449–475. (Małgorzata Majsnerowska) **99h:60040** 60F05 (62E17, 62F05)
— (*with* Becker, Niels G.) A limit result for *U*-statistics of binary variables. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 853–856. (N. C. Weber) **99g:60067** 60F15
Uthayakumaran, N. (*with* Sampath, S.) Markov systematic sampling. (English summary) *Biom. J.* **40** (1998), *no.* 7, 883–895. (Summary) **99k:62023** 62D05
Utkin, Lev V. (*with* Gurov, S. V.) Steady-state reliability of repairable systems by combined probability and possibility assumptions. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 193–202. 90B25 (90C70)
Utkin, Vadim I. (*with* Guldner, Jürgen) Tracking the gradient of artificial potential fields: sliding mode control for mobile robots. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 417–432. 93B12 (93C85)
— (*with* Bartolini, Giorgio; Ferrara, Antonella; Zolezzi, T.) A control vector simplex approach to variable structure control of nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 4, 321–335. (Summary) **99a:93013** 93B12 (93C10, 93C41)
— (*with* Orlov, Yu. V.) Unit sliding mode control in infinite-dimensional systems. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 7–20. (T. Zolezzi) **99e:93014** 93B12 (93B25)
— (*with* Haskara, İbrahim; Özgüner, Ümit) On sliding mode observers via equivalent control approach. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1051–1067. (Summary) **99h:93025** 93B12 (93B07)
Utrobin, V. A. (*with* Kondrat'ev, Vyacheslav Vasil'evich; Balabanov, A.) Information model of decision making process for image recognition. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 2, 123–145. 68U10
— (*with* Kondrat'ev, Vyacheslav Vasil'evich) The symmetry of five-dimensional Euclidean space. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 178–181. (Z. Nádeník) **99d:51018** 51M05 (82D25)
Utting, Mark (*with* Fidge, Colin) Refinement of infeasible real-time programs. (English summary) *Formal Methods Pacific '97 (Wellington)*, 243–262, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99b:68126** 68Q60 (68Q10)
Utts, Jessica M. (*with* Westfall, Peter H.; Johnson, Wesley O.) A Bayesian perspective on the Bonferroni adjustment. (English summary) *Biometrika* **84** (1997), *no.* 2, 419–427. (Michael J. Evans) **99a:62018** 62F03 (62F04, 62F15)
Utyuzhnikov, S. V. (*with* Muzafarov, I. F.) Application of compact difference schemes to the investigation of unsteady flows of a compressible gas. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 3, 74–83. 76M20 (76N15)
Utzet, Frederic How many times should a deck of cards be shuffled? A problem of probability theory and group theory. (Catalan) *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 1, 65–79. 60C05
Uvah, Josaphat A. Monotone method for first order nonlinear delay differential systems with singular coefficients. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 11–20. (Alberto Cabada) **99g:34133** 34K05
Uvarov, D. L. An optimal algorithm for the cleaning of regular hammocks. (Russian) *Programmirovanie* **1998**, *no.* 2, 68–80; *translation in Program. Comput. Software* **24** (1998), *no.* 2, 91–99. 68N15
Uwano, Yoshio A geometric approach to a quantum counterpart of a saddle-node bifurcation in a 1:1 resonant perturbed oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 5, 941–950. (Summary) **99g:81056** 81Q50 (34C23, 70K40)
Uysal, S. Aynur (*with* Altay, Sezgin) The equi-conjugate pair of curves relative to the congruence (λ) in a Weyl hypersurface. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 24–29. (D. I. Papuc) **99k:53021** 53B25
— (*with* Özen, F.) Extended Darboux functions relative to the congruence (λ) in a Weyl hypersurface. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 3, 5–8. (V. Oproiu) **99d:53018** 53B25
Uzan, Jean-Philippe Dynamics of relativistic interacting gases: from a kinetic to a fluid description. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1063–1088. (Summary) **99c:83040** 83C55 (83F05)
— The no-defect conjecture and its implications. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2711–2718. (Marco Spaans) **99g:83085** 83F05
— Reply to: "Comment on: 'Dynamics of relativistic interacting gases: from a kinetic to a fluid description'" [Classical Quantum Gravity **15** (1998), no. 11, 3731–3736; MR 99k:83051a] by J. M. Stewart. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3737–3738. (Summary) **99k:83051b** 83C55 (83F05)
— (*with* Deruelle, Nathalie; Turok, Neil G.) Conservation laws and cosmological perturbations in curved universes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7192–7199. (Summary) **99k:83037** 83C40 (83C15)
— (*with* Deruelle, Nathalie; Langlois, David) Erratum: "Cosmological perturbations seeded by topological defects: setting the initial conditions" [Phys. Rev. D (3) **56** (1997), no. 12, 7608–7620; MR 98j:83109]. *Phys. Rev. D* (3) **58** (1998), *no.* 8, 089901, 1 *p.* 83F05
— *see also* **Stewart, John M.**, **99k:83051a**
Uzawa, Tohru Compactifications of symmetric varieties. (English summary) Representation theory of groups and homogeneous spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1008 (1997), 81–100. (*see* **99a:17002**) 14M17 (14L30)
Uzelac, Zorica (*with* Surla, Katarina) A spline difference scheme on a piecewise equidistant grid. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 901–909. (Summary) **99b:65093** 65L12 (65L10)
Uzer, T. (*with* Govinder, K. S.; Heil, T. G.) Approximate Noether symmetries. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 127–131. (Mircea Crasmareanu) **99a:70027** 70H33 (58F35, 70F05)
Uzes, C. A. (*with* Barut, Asim Orhan) Spinor field as elementary excitations of a system of scalar fields. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 741–753. (Jayme Vaz, Jr.) **99i:81077** 81R25
Uzunov, I. M. (*with* Gerdzhikov, V. S.; Evstatiev, E. G.; Kaup, D. J.; Diankov, G. L.) Stability and quasi-equidistant propagation of NLS soliton trains. (English summary) *Phys. Lett. A* **241** (1998), *no.* 6, 323–328. (Summary) **99a:81198** 81V10

–V–

Vaaler, Jeffrey D. (*with* Mossinghoff, Michael J.; Pinner, Christopher G.) Perturbing polynomials with all their roots on the unit circle. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1707–1726. (E. J. Barbeau) **99b:26024** 26C10 (12D10, 30C15, 65H05)

Väänänen, Keijo (*with* Matala-Aho, Tapani) On approximation measures of q-logarithms. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 15–31. (Yann Bugeaud) **99e:11098** 11J82 (11J61)

van der Vaart, A. W. Infinite-dimensional M-estimation. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 715–733, *TEV, Vilnius*, 1994. (Summary) **99e:62035** 62F35 (62G05)

— On a model of Hasminskii and Ibragimov. (English summary) *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 297–308, *Gordon and Breach, Amsterdam*, 1996. (J. A. Melamed) **99k:62045** 62F10 (62G05)

— (*with* Murphy, S. A.) Semiparametric likelihood ratio inference. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1471–1509. (Philippe Barbe) **99c:62140** 62G15 (62F25, 62G20)

Vabishchevich, Petr N. Numerical solution of problems with singularities on locally condensing grids. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 1, 61–68. 65N06

— (*with* Samarskiĭ, Aleksandr Andreevich; Matus, Petr P.) Difference schemes of increased order of approximation on nonuniform grids for elliptic equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 9–14, 124. (Summary) **99a:65130** 65N06

— (*with* Samarskiĭ, Aleksandr Andreevich) Operator-difference schemes for problems in mathematical physics. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 363–371, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M06 (65N06)

— (*with* Samarskiĭ, Aleksandr Andreevich; Vasil′ev, Vasiliĭ Ivanovich) Iterative solution of a retrospective inverse problem of heat conduction. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 372–376, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M70

— (*with* Samarskiĭ, Aleksandr Andreevich) Factorized domain decomposition difference schemes for convection-diffusion problems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 967–974, 1006; *translation in Differential Equations* **33** (1997), *no.* 7, 972–980 (1998). (Włodzimierz Proskurowski) **99d:65274** 65M55 (65M12, 65M15, 76M20, 76R50)

— (*with* Borukhov, V. T.) Numerical solution of an inverse problem of source reconstructions in a parabolic equation. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 11, 93–100. 65M70 (65J20)

— (*with* Samarskiĭ, Aleksandr Andreevich; Matus, Petr P.) Stability and convergence of two-level difference schemes in integral with respect to time norms. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1055–1070. (Mohammad Asadzadeh) **99i:65094** 65M12 (65M06)

— (*with* Samarskiĭ, Aleksandr Andreevich; Lemeshevskiĭ, S. V.; Matus, Petr P.) Difference schemes for the problem of the conjugation of equations of hyperbolic and parabolic types. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 954–962, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 825–833. (Sui Yang Chen) **99j:65148** 65M12 (35M10, 65M06)

— (*with* Verakhovskiĭ, V. A.) Vector schemes of domain decomposition for second-order evolution equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 5–9, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 1–8. (Summary) **99d:65275** 65M55

— (*with* Samarskiĭ, Aleksandr Andreevich) Difference schemes for nonstationary convection-diffusion problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 207–219; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 2, 199–210. (V. D. Glushenkov) **99h:65153** 65M06 (76M20)

— (*with* Matus, Petr P.; Samarskiĭ, Aleksandr Andreevich) Difference schemes of second-order accuracy on nonuniform grids. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 413–424; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 399–410. (V. D. Glushenkov) **99h:65182** 65N06 (65N15)

Vacaru, Sergiu I. Tensorial integration on spaces with local anisotropy. (English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Fiz. Tekhn.* **1996**, *no.* 1, 46–51. (László Kozma) **99b:53018** 53A45 (53B40)

— Locally anisotropic stochastic processes in fiber bundles. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 123–140, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (Catherine Doss-Bachelet) **99m:58207** 58G32 (60J60)

— Spinors and field interactions in higher order anisotropic spaces. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 11, 50 *pp.* (*electronic*). (Ilya Shapiro) **99h:83049** 83E15 (53C15, 53C60, 53C80, 81T20)

Vacca, Gian Paolo (*with* Alberghi, G. L.; Casadio, Roberto; Venturi, Giovanni) Gravitational collapse of a shell of quantized matter. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 131–147. 83C55 (83C47)

Vaccaro, J. A. (*with* Joshi, Amitabh) Position-momentum and number-phase Wigner functions and their respective displacement operators. (English summary) *Phys. Lett. A* **243** (1998), *no.* 1-2, 13–19. (Summary) **99b:81127** 81S30

Vaccaro, R. (*with* Verdoscia, L.) A high-level dataflow system. (English summary) *Computing* **60** (1998), *no.* 4, 285–305. (Summary) **99c:68091** 68Q10

Vaccaro, Ugo (*with* Blundo, Carlo; Cresti, Antonella; De Santis, Alfredo) Fully dynamic secret sharing schemes. (English summary) *Theoret. Comput. Sci.* **165** (1996), *no.* 2, 407–440. (Summary) **99a:94024** 94A60 (68P25)

— (*with* De Marco, Gianluca; Gargano, Luisa) Concurrent multicast in weighted networks. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 193–204, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68M10 (68Q25, 90B12)

— (*with* De Bonis, Annalisa; Gargano, Luisa) Improved algorithms for chemical threshold testing problems. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 127–136, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q20 (68Q25)

— (*with* Gargano, Luisa; Rescigno, Adele A.) Minimum time broadcast in faulty star networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 97–119. (A. T. Amin) **99e:68123** 68R10 (05C85, 68M10, 68M15)

— (*with* Blundo, Carlo; De Santis, Alfredo; Herzberg, Amir; Kutten, Shay; Yung, Moti) Perfectly secure key distribution for dynamic conferences. (English summary) *Inform. and Comput.* **146** (1998), *no.* 1, 1–23. (Luis Hernández Encinas) **99j:94039** 94A60

— (*with* Blundo, Carlo; De Santis, Alfredo) On secret sharing schemes. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 1, 25–32. (Summary) **99e:94031** 94A60

— (*with* De Marco, Gianluca) Broadcasting in hypercubes and star graphs with dynamic faults. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 6, 321–326. (Summary) **99c:68024** 68M15 (68M10)

— (*with* De Bonis, Annalisa) Improved algorithms for group testing with inhibitors. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 57–64. (Summary) **99d:68092** 68Q20 (68Q25, 92B05)

— (*with* Rescigno, Adele A.) Highly fault-tolerant routing in the star and hypercube interconnection networks. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 221–230. (Summary) **99f:68017** 68M10 (68M15)

— (*with* Bermond, Jean-Claude; Gargano, Luisa; Rescigno, Adele A.) Fast gossiping by short messages. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 917–941 (*electronic*). (A. T. Amin) **99d:68184** 68R10 (68M10, 90B12, 94C15)

Vacchi, Claudia On the second eigenvalue of the Laplacian for the intersection of two domains. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 335–337. 35P15 (35J25)

Vacchini, B. (*with* Lanz, L.) Time scales in quantum mechanics by a scattering map. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 545–553. (R. L. Ingraham) **99f:82047** 82C10 (81P15, 81V70)

Vachaspati, Tanmay Field configurations with half-integer angular momentum in purely bosonic theories without topological charge. (English summary) *Phys. Lett. B* **427** (1998), *no.* 3-4, 323–326. (Summary) **99b:81145** 81T10

— (*with* Heo, Junseong) Z_3 strings and their interactions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 065011, 7 *pp.* (Summary) **99k:81176** 81T10

Vaclavik, J. (*with* Brunner, S.; Fivaz, M.; Tran, T. M.) Global approach to the spectral problem of microinstabilities in tokamak plasmas using a gyrokinetic model. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3929–3949. (Summary) **99h:76096** 76X05 (76E25)

Vacus, Olivier (*with* Tuomela, Jukka) Algebraic derivation of discrete absorbing boundary conditions for the wave equation. (English summary) *Numer. Math.* **80** (1998), *no.* 3, 419–459. (Gholam-Ali Zakeri) **99k:65098** 65M99

Vadachkoriya, A. L. The equality $p\text{-Ind}\, X = p\text{Ind}\, \beta_p X$ for p-normal bitopological spaces. (English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 176–179 (1995). 54F45 (54E55)

Vadali, S. R. (*with* Singh, Tarunraj) Robust time-delay control of multimode systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1319–1339. 93C25 (93B35)

Vadasz, Peter Coriolis effect on gravity-driven convection in a rotating porous layer heated from below. (English summary) *J. Fluid Mech.* **376** (1998), 357–375. 76E15 (76U05)

Vadhan, Salil (*with* Bellare, Mihir; Halevi, Shai; Sahai, Amit) Many-to-one trapdoor functions and their relation to public-key cryptosystems. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 283–298, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94038** 94A60

— (*with* Sahai, Amit) Manipulating statistical difference. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 251–270, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, **43**, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68099** 68Q25 (60E05, 68Q15)

Vadovičová, Iveta Geometrization of alternation tensor. (English summary) *Stud. Univ. Žilina Math. Phys. Ser.* **11** (1997), 55–61. (I. Kolář) **99i:53021** 53C05 (58A20)

Văduva, Ion Bootstrap method in density estimation. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 3, 397–406. 62G09

— (*with* Popescu, Ileana) A rejection method for simulating multivariate Lomax distribution. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 687–695. (Summary) **99h:65012** 65C05 (60E05)

Vaessens, R. J. M. (*with* Aarts, E. H. L.; Lenstra, Jan Karel) A local search template. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 11, 969–979. (Jacques A. Ferland) **99g:90100** 90C27 (90C30)

Vaezi, H. (*with* Shahbazov, A. I.) Compact sums of weighted composition operators on $C(X)$. (English, Russian and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 168–172. (Summary) **99k:47070** 47B38 (47B07)

— (*with* Shahbazov, A. I.) Nuclearity of finite sums of weighted composition operators on $C(X)$. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 569–572, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Oscar Blasco) **99g:47064** 47B38 (47B10)

Vafa, Cumrun Geometric origin of Montonen-Olive duality. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 158–166. (Gonzalo Violero) **99a:81179** 81T60 (81T30)

— (*with* Hori, Kentaro; Ooguri, Hirosi) Non-abelian conifold transitions and $N = 4$ dualities in three dimensions. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 147–174. (Angel Maria Uranga) **99a:81140** 81T30 (32G81, 32S45, 81T60, 83E30)

— (*with* Bershadsky, Michael; Johansen, Andrei; Pantev, Tony G.; Sadov, Vladimir) F-theory, geometric engineering and $N = 1$ dualities. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 153–164. (Gonzalo Violero) **99b:81178** 81T30 (14J32, 14J60, 32J18, 32J81)

— (*with* Zwiebach, Barton) $N = 1$ dualities of SO and USp gauge theories and T-duality of string theory. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 143–156. (C. Gauthier) **99c:81249** 81T60 (81T13, 81T30)

— (*with* Klemm, Albrecht Otto; Mayr, Peter) BPS states of exceptional non-critical strings. (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 177–194. (Summary) **99a:81145** 81T30 (14J32, 32G81)

— (*with* Hori, Kentaro; Ooguri, Hirosi) Non-abelian conifold transitions and $N = 4$ dualities in three dimensions. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 205–238, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Douglas J. Smith) **99m:81192** 81T30 (14J32, 32J81, 81T60)
— (*with* Leung, Nai-Chung Conan) Branes and toric geometry. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 91–118. (Harald Skarke) **99f:81170** 81T30 (14M25, 32J81)
— (*with* Gopakumar, Rajesh) Branes and fundamental groups. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 2, 399–411. (Angel Maria Uranga) **99e:81192** 81T30 (83E30)
— On $N = 1$ Yang-Mills in four dimensions. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 3, 497–503. (Angel Maria Uranga) **99i:81253** 81T60 (81T13, 81T30, 83E30)
— Geometric physics. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 537–556 (*electronic*). (Marcos Mariño) **99j:81003** 81–02 (14J32, 32J81, 81T30)
— (*with* Bershadsky, Michael; Kakushadze, Zurab) String expansion as large N expansion of gauge theories. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 59–72. (Angel Maria Uranga) **99i:81170** 81T30 (81T60, 83E30)
— (*with* Minahan, Joseph A.; Nemeschansky, D.; Warner, N. P.) E-strings and $N = 4$ topological Yang-Mills theories. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 581–623. (Bruce Hunt) **99j:81152** 81T30 (32J81, 58D27, 81T60)
Vafai, A. (*with* Mofid, M.; Farahani, K.) Finite element solution of Dirichlet's nonlinear partial differential equation with mixed boundary conditions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 81–88. (Summary) **99j:65210** 65N30 (65M60, 65N30)
Vafiadis, D. (*with* Karcanias, N.; Leventides, J.) Algebraic, algebrogeometric methods and symbolic computations in linear control problems. *Symbolic methods in control system analysis and design*, 273–294, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93C05)
Vagabov, A. I. An initial-boundary value problem for the nonlinear heat equation in an n-dimensional rectangular domain. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 6, 782–788, 861; *translation in Differential Equations* **34** (1998), *no.* 6, 779–785. 35K60
Vagabov, I. A. (*with* Sharapudinov, I. I.) On the convergence of de la Vallée-Poussin means for Fourier-Jacobi sums. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 569–586, 640; *translation in Math. Notes* **60** (1996), *no.* 3-4, 425–437 (1997). (N. B. Pogosyan) **99f:42010** 42A20
Vagarshakyan, A. A. Uniqueness theorems for the Fourier transform. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 3, 86–91; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 3, 75–80. (Elijah Liflyand) **99h:42013** 42A38 (42A63)
— Weighted Dirichlet classes. *Algebra i Analiz* **9** (1997), *no.* 2, 3–29; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 2, 177–197. (Emil Popescu) **99h:30051** 30H05 (31A10, 42B20, 46E35)
Våge, Gjermund Stability and vanishing viscosity for a class of SPDEs related to turbulent transport. (English summary) *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 379–386, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99h:35239** 35R60 (35B35, 35D99, 35Q35, 76F99, 76M35)
— (*with* Potthoff, J.; Watanabe, Hisao) Generalized solutions of linear parabolic stochastic partial differential equations. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 1, 95–107. (Fred Espen Benth) **99b:60095** 60H15 (60H07)
— Variational methods for PDEs applied to stochastic partial differential equations. *Math. Scand.* **82** (1998), *no.* 1, 113–137. (Tu Sheng Zhang) **99i:60129** 60H15 (35A15, 35R60)
Vaggione, Diego (*with* Gramaglia, Hector) A note on distributive double p-algebras. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 321–327. (Vlad Boicescu) **99m:06021** 06D15
Vágó, Zs. Excitation and performance in continuous-time stochastic adaptive LQ-control. *Stochastic differential and difference equations* (*Győr*, 1996), 319–327, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 93E35 (93C40)
Vahabzadeh, Bijan Al-Khayyām's conception of ratio and proportionality. (English and French summaries) *Arabic Sci. Philos.* **7** (1997), *no.* 2, 159, 161, 247–263. (J. L. Berggren) **99b:01006** 01A30 (01A20)
Vaia, R. (*with* Cuccoli, A.; Tognetti, V.; Verrucchi, P.) Effective potential and effective Hamiltonian in quantum statistical mechanics for condensed matter physics. (English summary) *Path integrals: Dubna '96*, 32–41, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99k:82009** 82B10
— (*with* Cuccoli, A.; Tognetti, V.; Verrucchi, P.) Quantum effects in two-dimensional magnetic systems. (English summary) *Path integrals: Dubna '96*, 273–277, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 82B20
— (*with* Cuccoli, A.; Giachetti, Riccardo; Tognetti, V.) Effective potential, Mori product and quantum dynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 22, *L*419–*L*424. (M. Lawrence Glasser) **99f:82045** 82C10
Vaidman, Lev Interaction-free measurements. *The geometric universe* (*Oxford*, 1996), 349–355, *Oxford Univ. Press, Oxford*, 1998. (*see* **99b:00015**) 81P15
— Time-symmetrized quantum theory. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 729–739. (S. Gudder) **99m:81024** 81P15 (81P05)
— On schizophrenic experiences of the neutron or why we should believe in the many-worlds interpretation of quantum theory. (English summary) *Internat. Stud. Philos. Sci.* **12** (1998), *no.* 3, 245–261. (Koichiro Matsuno) **99k:81026** 81P05 (00A30, 00A79, 81P15)
— (*with* Goldenberg, Lior; Wiesner, Stephen) Quantum gambling. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 16, 3356–3359. (Summary) **99m:81031** 81P99
Vaidya, A. M. Densities of integer sequences. (English summary) *Math. Ed.* **10** (1994), *no.* 3, 163–169. (Georges Grekos) **99g:11017** 11B13 (11B05, 11P05, 11P32)
— Densities of integer sequences. *Math. Student* **65** (1996), *no.* 1-4, 241–251. (Georges Grekos) **99c:11013** 11B13 (11B05, 11P05, 11P32)
Vaidya, A. N. (*with* de Lima Rodrigues, R.; da Silva Filho, P. B.) SUSY QM and solitons from two coupled scalar fields in two dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125023, 6 *pp.* (Summary) **99k:81076** 81Q60 (81T40)
— (*with* da Silva Filho, P. B.; de Lima Rodrigues, R.) A class of double-well like potentials in 1 + 1 dimensions via SUSY QM. (English summary) *J. Phys. A* **32** (1999), *no.* 12, 2395–2402. 81Q60
Vaidya, Prabhakar G. A new method to embed time-series data and for parameter identification. (English summary) *J. Indian Inst. Sci.* **78** (1998), *no.* 4, 257–265. 62M10
— (*with* He, Rong) An analysis of the trans-spectral-coherence for Duffing oscillators undergoing chaos. (English summary) *J. Sound Vibration* **212** (1998), *no.* 3, 435–454. (Summary) **99b:70026** 70K50
Vaidya, Sachindeo (*with* Surya, Sumati) Global anomalies in canonical gravity. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 391–402. (Chopin Soo) **99m:81231** 81T50 (57R57, 58G26, 81T20, 83C45)
— (*with* Balachandran, A. P.; Bimonte, G.; Govindarajan, T. R.; Gupta, K. S.; John, Varghese) Current oscillations, interacting Hall discs and boundary CFTs. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1061–1085. (Summary) **99k:81276** 81T40 (81R10, 81V10)
Vaidyanathan, Ramachandran (*with* Trahan, Jerry L.; Bourgeois, Anu G.) Tighter and broader complexity results for reconfigurable models. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 271–282. (Summary) **99f:68019** 68M10
Vaidyanathaswamy, R. ★ Set topology. (English summary) Reprint of the second (1960) edition. *Dover Publications, Inc., Mineola, NY*, 1999. *viii*+305 *pp. ISBN* 0-486-40456-0 (Editors) **99i:54002** 54–01
— *see also* **Balachandran, V. K.** *and* **Narasinga Rao, A.**
Vaienti, Sandro (*with* Liverani, Carlangelo; Saussol, Benoit) Conformal measure and decay of correlation for covering weighted systems. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1399–1420. (Nikolai Chernov) **99j:58127** 58F11 (58F19)
Vaĭgant, V. A. (*with* Kazhikhov, A. V.) On the existence of global solutions of two-dimensional Navier-Stokes equations of a compressible viscous fluid. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 445–448. (From the text) **99c:35189** 35Q30 (76N10)
Vaillancourt, Rémi (*with* Ruedin, A. M. C.; Skigin, Diana C.) Computer solution of the scattering problem for a groove in a metallic plane using the modal method. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 98–119. (Summary) **99d:78030** 78A45 (30D05, 78–08)
— (*with* Ashino, Ryuichi; Nagase, Michihiro) A construction of multiwavelets. (Japanese. Japanese summary) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 1–22. (*see* **99f:35004**) 42C15 (65T20)
— (*with* Ashino, Ryuichi; Nagase, Michihiro) Gabor, wavelet and chirplet transforms in the study of pseudodifferential operators. (English summary) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 23–45. (Summary) **99f:35237** 35S05 (35A22, 42C15, 47G30)
— (*with* Karoui, Abderrazek) Nonseparable biorthogonal wavelet bases of $L^2(\mathbf{R}^n)$. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 135–151, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Hans W. Volkmer) **99k:42061** 42C15 (94A12)
Vainberg, B. R. (*with* Kuchment, Peter) On embedded eigenvalues of perturbed periodic Schrödinger operators. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 67–75, *Plenum, New York*, 1998. (Evgeni L. Korotyaev) **99e:35032** 35J10 (35P05, 47F05, 47N50, 81Q10)
— Asymptotic expansion as $t \to \infty$ of the solutions of exterior boundary value problems for hyperbolic equations and quasiclassical approximations [MR 91g:35003]. *Partial differential equations, V*, 53–89, 241–247, *Encyclopaedia Math. Sci.*, 34, *Springer, Berlin*, 1999. (*see* **99i:35002**) 35–02 (35B40, 35J55, 35L40, 35P25)
— (*with* Angell, Thomas S.; Kleinman, Ralph E.) Asymptotic methods for an optimal antenna problem. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 242–260 (*electronic*). (Summary) **99f:49058** 49N55 (35J05, 78A50)
Vainchtein, A. (*with* Healey, Timothy J.; Rosakis, Phoebus; Truskinovsky, Lev) The role of the spinodal region in one-dimensional martensitic phase transitions. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 29–48. (Summary) **99a:73030** 73B30 (73C50, 73V25)
Vainerman, Leonid 2-cocycles and twisting of Kac algebras. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 697–721. (Robert S. Doran) **99b:46113** 46L89 (22D25, 22D35, 46L05)
— (*with* Gurevich, Dmitriĭ I.) Non-commutative analogues of q-special polynomials and a q-integral on a quantum sphere. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1771–1780. (T. Tuong Truong) **99g:33051** 33D80 (33C45)
Vainikko, Gennadi (*with* Bruckner, Gottfried; Prössdorf, Siegfried) Error bounds of discretization methods for boundary integral equations with noisy data. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 25–37. (Summary) **99a:65187** 65R20 (45L05)
— (*with* Pedas, Arvet) Superconvergence of piecewise polynomial collocations for nonlinear weakly singular integral equations. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 4, 379–406. (Javad Abdalkhani) **99d:65370** 65R20 (45L05)
— (*with* Saranen, J.) Fast solvers of integral and pseudodifferential equations on closed curves. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1473–1491. (A. V. Dzhishkariani) **99f:65206** 65R20 (45E10, 45L05, 47G30)
— (*with* Turunen, V.) On symbol analysis of periodic pseudodifferential operators. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 9–22. (A. Böttcher) **99b:47077** 47G30 (35S05, 58G15, 65N38)
Vainsencher, Israel (*with* Rojas, Jacqueline Fabiola) Conical sextuplets. (English summary) *Comm. Algebra* **24** (1996), *no.* 11, 3437–3457. (From the introduction) **99c:14003** 14C05 (14E05)
— (*with* Coray, Daniel; Manoil, Constantin) Nonminimal rational curves on $K3$ surfaces. *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 299–317. (Dag E. Sommervoll) **99a:14052** 14J28 (14H45)
— Generic singularities of hyperplane sections of a surface in $\mathbf{P}^4$. (English and Portuguese summaries) Workshop on Real and Complex Singularities (São Carlos, 1996). *Mat. Contemp.* **12** (1997), 199–219. (Gary P. Kennedy) **99j:14051** 14N10 (14H20)
Vaĭnshteĭn, A. D. (*with* Shapiro, Boris Z.; Shapiro, Mikhail) Kazhdan-Lusztig polynomials for certain varieties of incomplete flags. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 345–355. (Harry Tamvakis) **99b:14054** 14M15 (05E15)

Vainshtein, D. L. (*with* Neĭshtadt, A. I.; Vasil'ev, A. A.) Chaotic advection in a cubic Stokes flow. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 227–242. (Vered Rom-Kedar) **99g:76070** 76F20 (34C23, 58F13, 58F40)

Vainstein, F. S. Low redundancy polynomial checks for numerical computation. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 6, 439–447. (Jean-Marie Chesneaux) **99a:65065** 65G99

— (*with* Osetinskiĭ, N. I.) Classification of systems under state and output transformations. Optimization and control, I. *J. Math. Sci. (New York)* **88** (1998), *no.* 5, 659–674. (Allen Tannenbaum) **99f:93031** 93B25 (14D25, 93B10)

Vaintrob, Arkady Melvin-Morton conjecture and primitive Feynman diagrams. (English summary) *Internat. J. Math.* **8** (1997), *no.* 4, 537–553. (Alexander Balinsky) **99b:57027** 57M25

Vairaktarakis, George L. (*with* Kouvelis, Panagiotis) Incorporation dynamic aspects and uncertainty in 1-median location problems. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 147–168. 90B80 (90C90)

Vairo, Antonio The Barbieri-Remiddi solution of the bound-state problem in QED. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 829–841. (*see* **99f:81002**) 81V10

Väisälä, Jussi Questions on quasiconformal maps in space. *Quasiconformal mappings and analysis (Ann Arbor, MI, 1995)*, 369–374, *Springer, New York*, 1998. (M. Yu. Vasil'chik) **99c:30046** 30C65

— Relatively and inner uniform domains. (English summary) *Conform. Geom. Dyn.* **2** (1998), 56–88 (*electronic*). (J. Ferrand) **99e:30014** 30C65

— (*with* Martio, Olli; Srebro, Uri) Normal families, multiplicity and the branch set of quasiregular maps. (English summary) *Ann. Acad. Sci. Fenn. Math.* **24** (1999), *no.* 1, 231–252. (Matti Vuorinen) **99m:30043** 30C65 (30D45)

Vaish, Akhil K. (*with* Chaganty, Narasinga R.) On inequalities for outlier detection in statistical data analysis. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 4, 235–243. (Juliet Popper Shaffer) **99f:62085** 62J15 (15A42, 62J10)

Vaishampayan, Sarita Group invariant solutions and optimal system of two-dimensional wave equation. (English summary) *Differential Equations Dynam. Systems* **6** (1998), *no.* 3, 275–288. (Summary) **99j:35123** 35L05 (17B05, 35A30)

Vaishampayan, V. A. (*with* Batllo, J.-C.) Asymptotic analysis of multiple description quantizers. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 278–284. (Summary) **99a:94017** 94A29

Vaisman, Izu On the geometric quantization of the symplectic leaves of Poisson manifolds. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 3, 265–275. (Johannes Huebschmann) **99a:58079** 58F06

— A note on holomorphic symplectic manifolds. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 823–835. (J. T. Davidov) **99k:53132** 53C56 (53C15, 58F05)

— On the twistor spaces of almost Hermitian manifolds. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 4, 335–356. (J. T. Davidov) **99h:53096** 53C55 (32L25, 53C15)

Vaisman, Konstantin S. (*with* Zhukovskiĭ, V. I.; Molostvov, V. S.) Non-cooperative games under uncertainty. *Game theory and applications, III*, 189–222, *Nova Sci. Publ., Commack, NY*, 1997. (Nina N. Subbotina) **99a:90249** 90D10 (90D06)

— Equilibrium in non-cooperative game. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 4, 199–219. (Milan Mareš) **99m:90168** 90D10 (90D06)

Vaitkus, Pranas (*with* Čekanavičius, Vydas) Large deviations for signed compound Poisson approximations. (English summary) *Statist. Decisions* **15** (1997), *no.* 4, 379–396. (Małgorzata Majsnerowska) **99b:60039** 60F10 (60G50)

Vâjâitu, Marian The ideal generated by the values of a polynomial over a Dedekind ring. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 155–161. (Stephen McAdam) **99m:13037** 13F05

— (*with* Zaharescu, Alexandru) A finiteness theorem for a class of exponential congruences. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2225–2232. (Jeffrey Lin Thunder) **99j:11003** 11A07

Vâjâitu, Viorel Invariance of q-completeness with corners under finite holomorphic surjections. *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 5, 713–718. (Zhiqin Lu) **99j:32018** 32F10

— One-dimensional fibering over q-complete spaces. (English summary) *Nagoya Math. J.* **151** (1998), 99–106. (Giuseppe Tomassini) **99i:32020** 32F10

— Cohomological q-convexity versus local q-completeness with corners. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 161–168. (Sergey Ivashkovich) **99e:32021** 32F10

— On increasing unions of q-complete manifolds. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 235–244. (Giuseppe Tomassini) **99i:32021** 32F10

Vajda, Igor (*with* Morales, Domingo; Pardo, Leandro) Some new statistics for testing hypotheses in parametric models. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 1, 137–168. (Adnan M. Awad) **99a:62019** 62F05 (62B10)

— (*with* Rukhin, Andrew L.) Change-point estimation as a nonlinear regression problem. (English summary) *Statistics* **30** (1997), *no.* 3, 181–200. (Summary) **99a:62084** 62J02 (62F10)

— (*with* Janžura, Martin) On asymptotically optimal estimates for general observations. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 1, 27–45. (Francis Comets) **99c:62062** 62F12 (62F35, 62M05, 62M40)

— (*with* van der Meulen, Edward C.) Global statistical information in exponential experiments and selection of exponential models. (English summary) *Appl. Math.* **43** (1998), *no.* 1, 23–51. (Friedrich Liese) **99c:62009** 62B10 (62B15, 62F05)

— (*with* Menéndez, M. L.; Morales, Domingo; Pardo, Leandro) Two approaches to grouping of data and related disparity statistics. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 609–633. (K. K. Ferentinos) **99g:62009** 62B10 (62F03)

— (*with* Berlinet, Alain; van der Meulen, Edward C.) About the asymptotic accuracy of Barron density estimates. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 999–1009. (Summary) **99d:94010** 94A15 (94A17)

— Global information in statistical experiments and consistency of likelihood-based estimates and tests. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 3, 245–263. (P. N. Rathie) **99k:62011** 62B15 (62F03, 62F10)

— (*with* Menéndez, M. L.; Morales, Domingo; Pardo, Leandro) Asymptotic distributions of φ-divergences of hypothetical and observed frequencies on refined partitions. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 1, 71–89. (Jan Beirlant) **99f:62065** 62G10

Vajda, Steven (*with* Conolly, Brian) ★ A mathematical kaleidoscope. (English summary) Applications in industry, business and science. Albion Mathematics & Applications Series. *Albion Publishing Limited, Chichester*, 1995. 268 *pp. ISBN* 1-898563-21-7 90-01 (90A99, 90C90, 90D80)

— *see also* **New trends in mathematical programming**, **99c:90004** *and* **Krarup, Jakob**, (**99c:90004**)

Vajnovszki, Vincent On the loopless generation of binary tree sequences. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 113–117. 68R05

— (*with* Pallo, Jean) Parallel algorithms for listing well-formed parentheses strings. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 1, 19–28. (Summary) **99c:68113** 68Q22 (68R05)

Vajravelu, K. (*with* Mohapatra, Ram Narayan; Yin, Yunfeng) An improved quasilinearization method for second order nonlinear boundary value problems. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 55–62. (Summary) **99e:34026** 34B15 (34A45)

— (*with* Mohapatra, Ram Narayan; Yin, Yunfeng) Cubic and quartic convergence for first-order periodic boundary-value problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 465–480. (Alberto Cabada) **99h:34021** 34A45 (34B15)

Vajteršic, Marián Massively parallel algorithms for a multiplication of matrices. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 469–478. (Summary) **99b:65188** 65Y05 (65F05)

— (*with* Bečka, Martin) Block-Jacobi SVD algorithms for distributed memory systems. I. Hypercubes and rings. (English summary) *Parallel Algorithms Appl.* **13** (1999), *no.* 3, 265–287. (Summary) **99k:65029** 65F10 (65Y05)

Vakakis, Alexander F. (*with* Pilipchuk, V. N.) Nonlinear normal modes and wave transmission in a class of periodic continuous systems. (English summary) *Dynamics and control of distributed systems*, 95–120, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99f:73035** 73D35 (73D25, 73K12)

— (*with* Azeez, M. F. A.) Analytic approximation of the homoclinic orbits of the Lorenz system at $\sigma = 10$, $b = 8/3$ and $\rho = 13.926\cdots$. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 3, 245–257. (Summary) **99a:34139** 34C37 (34A45, 65L07)

— (*with* Pilipchuk, V. N.; Azeez, M. F. A.) Sensitive dependence on initial conditions of strongly nonlinear periodic orbits of the forced pendulum. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 3, 223–237. 70K40

— (*with* Salenger, Gary) Generation of localization in a discrete chain with periodic boundary conditions: numerical and analytical results. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1730–1747 (*electronic*). (Summary) **99d:70033** 70K25 (70–08)

— (*with* Boeckle, G.; Salenger, Gary) Exact solutions for transient wave propagation in a two-dimensional array of particles. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 759–770. (Summary) **99i:70025** 70J99 (73D30)

Vakarchuk, M. B. (*with* Babenko, Vladislav F.) On inequalities of Kolmogorov-Hörmander type for functions bounded on a discrete grid. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 988–992; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1109–1113 (1998). (Summary) **99i:41010** 41A17

— On a connection between complex spline approximation and continuous differentiability of functions on a curve. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 3–5; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 5, 1–3. (From the text) **99c:41064** 41A63 (41A15)

Vakarelov, Dimit"r (*with* Deneva, Ana) Modal logics for local and global similarity relations. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 295–304. (Zoran Ognjanović) **99m:03033** 03B45 (03B70, 68T27)

— Information systems, similarity relations and modal logics. (English summary) *Incomplete information: rough set analysis*, 492–550, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03B70 (03B45, 68T30)

— (*with* Goranko, Valentin) Modal logics of structures. *Bull. Sect. Logic Univ. Łódź* **28** (1999), *no.* 1, 1–10. 03B45

Vakhaniya, N. N. An algorithm for reduction of the feasible solution set for the generalized scheduling problem. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 189–194. (Summary) **99f:68023** 68M20

— (*with* Tarieladze, V. I.) On singularity and equivalence of Gaussian measures. *Real and stochastic analysis*, 367–389, *Probab. Stochastics Ser., CRC, Boca Raton, FL*, 1997. (Yoshiaki Okazaki) **99g:60081** 60G30

— Polya's characterization theorem for complex random variables. (English summary) *J. Complexity* **13** (1997), *no.* 4, 480–488. (M. Riedel) **99b:62013** 62E10 (60E05)

Vakhitova, A. A. (*with* Mel'nikov, B. F.) Some more on the finite automata. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 495–505. (I. Meznik) **99k:68099** 68Q45 (68Q68)

Vakhitova, N. K. (*with* Akhatov, I. Sh.; Galeeva, G. Ya.; Nigmatulin, R. I.; Khismatullin, D. B.) On weak oscillations of a gas bubble in a spherical volume of a compressible fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 952–962; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 921–930 (1998). (Summary) **99c:76090** 76N10

Vakhnenko, V. O. (*with* Parkes, E. J.) The two loop soliton solution of the Vakhnenko equation. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1457–1464. (Summary) **99h:35181** 35Q51

Vakhrameev, S. A. A bang-bang theorem with a finite number of switchings for nonlinear smooth control systems. Dynamic systems, 4. *J. Math. Sci. (New York)* **85** (1997), *no.* 3, 2002–2016. (Heinz Schättler) **99j:49044** 49K15 (49J30)

Vakili, Pirooz (*with* Castañon, David; Streltsov, Simon) Optimality of index policies for a sequential sampling problem. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 145–148. (Summary) **99k:93093** 93E20 (62L15, 90C15)

Vakilian, R. (*with* Shubin, C.; Wolff, Thomas) Some harmonic analysis questions suggested by Anderson-Bernoulli models. *Geom. Funct. Anal.* **8** (1998), *no.* 5, 932–964. (Keisaku Kumahara) **99k:43005** 43A50 (82B44)

keski-Vakkuri, Esko *see* **Keski-Vakkuri, Esko**

Vakman, David ★ Signals, oscillations, and waves. A modern approach. The Artech House Signal Processing Library. *Artech House, Inc., Boston, MA*, 1998. *xiv*+207 *pp. ISBN*

0-89006-814-3 (D. Stanomir) **99g:94005** 94A12 (78A40, 93-02, 94-02)

Vaksman, L. L. Integral intertwining operators and quantum homogeneous spaces. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 355–363; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1476–1483 (1996). (Władysław Marcinek) **99a:32046** 32M99 (16W30, 35C99, 35J99, 81R50)

— (*with* Shklyarov, D. L.) Integral representations of functions in the quantum disk. I. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 3, 286–308. (Alexei Zhedanov) **99g:81098** 81R50 (33D80)

Vakulenko, A. V. (*with* Kashirin, V. V.) Subspaces and quotient spaces of spaces of power series of the first type. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 1, 3–9, 93. (Yu. A. Abramovich) **99g:46005** 46A45

Vakulenko, S. A. Reaction-diffusion systems with prescribed large time behaviour. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 4, 373–410. (Gunter Bengel) **99a:35138** 35K57 (35B40, 58F12, 58F39)

— (*with* Molotkov, I. A.) The initial stage of evolution of displacement fronts in a nonlinear filtration problem. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 108–114; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 103–109. (Summary) **99b:76088** 76S05 (35K99, 76E15)

— (*with* Aèro, Ė. L.) Kinematics of nonlinear oriented deformations in nematic liquid crystals in a homogeneous magnetic field. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 479–490; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 463–473. (Summary) **99c:76004** 76A15 (76E99, 82D30)

— (*with* Gordon, P. V.) Propagation and scattering of kinks in a nonhomogeneous nonlinear medium. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 384–394; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1104–1112 (1998). (Piotr P. Goldstein) **99f:35182** 35Q53 (35B99, 76B25)

— (*with* Gordon, P. V.) Periodic kinks in reaction-diffusion systems. (English summary) *J. Phys. A* **31** (1998), *no.* 3, *L67–L70*. (Yoshio Yamada) **99c:35109** 35K57 (35B10, 35Q55)

— (*with* Gordon, P. V.) Neural networks with prescribed large time behaviour. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9555–9570. (Summary) **99h:92004** 92B20

do Val, J. B. R. (*with* Costa, O. L. V.; Geromel, José C.) A convex programming approach to H_2 control of discrete-time Markovian jump linear systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 557–579. 93E20 (90C25, 93B36)

— (*with* Geromel, José C.; Costa, O. L. V.) Uncoupled Riccati iterations for the linear quadratic control problem of discrete-time Markov jump linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1727–1733. (Summary) **99g:93031** 93B40 (49N10, 90C40, 93E20)

— (*with* Costa, O. L. V.) Jump LQ-optimal control for discrete-time Markovian systems with stochastic inputs. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 843–858. (L. C. Godara) **99g:93086** 93E20 (90B25, 90C40)

Vala, Jiří On one mathematical model of creep in superalloys. (English summary) *Appl. Math.* **43** (1998), *no.* 5, 351–380. (Mircea Sofonea) **99g:73063** 73F15 (35Q72, 73F99, 73K20)

Valabrega, Paolo (*with* Roggero, Margherita) On the smallest degree of a surface containing a space curve. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 123–138. (Luca Chiantini) **99b:14029** 14H50 (14J25)

sáenz Valadez, E. Corina *see* **Sáenz Valadez, E. Corina**

Valadier, Michel Admissible functions in two-scale convergence. (English summary) *Portugal. Math.* **54** (1997), *no.* 2, 147–164. (Richard Becker) **99a:46134** 46N10 (49Q20)

— (*with* Castaing, Charles) Weak convergence using Young measures. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 7–17. (Erik J. Balder) **99m:60010** 60B10 (28A33, 46E27)

Valanis, K. C. A gradient thermodynamic theory of self-organization. (English summary) *Acta Mech.* **127** (1998), *no.* 1-4, 1–23. (Summary) **99a:73031** 73B30 (73S10, 80A10)

— Plastic propagation of band-waves in solids. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 1, 91–112. (Mircea Sofonea) **99e:73052** 73E70 (73B30, 73D15, 73D20)

— Diffusion potential and well-posedness in non-associative plasticity. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 36, 5173–5188. (Summary) **99f:73039** 73E05

Valaristos, Antonios Equicontinuity of iterates of circle maps. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 453–458. (A. H. Stone) **99c:54060** 54H20

Valášek, M. (*with* Znamenáček, J.) An efficient implementation of the recursive approach to flexible multibody dynamics. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 3, 227–251. (Summary) **99g:73077** 73K12 (70B15, 70E99, 73V05)

Valavi, A. G. (*with* Raina, Ajay K.) Flexible regenerative supervision of sequential behaviour. (English summary) *Sādhanā* **23** (1998), *no.* 2, 151–165. (Jan H. van Schuppen) **99m:93066** 93C83 (93C55, 93C85)

Valbuena, M. *see* **Valbuena M., Magdely**

mora-Valbuena, Oriol *see* **Mora-Valbuena, Oriol**

Valbuena M., Magdely (*with* Galué, Leda; Ali, Ismail) Some properties of the finite Laplace transform. (English summary) *Transform methods & special functions, Varna '96*, 517–522, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:44002** 44A10

r.-grandjeán l.-Valcárcel, Alfredo *see* **R.-Grandjeán L.-Valcárcel, Alfredo**

Valcher, Maria Elena Controllability and reachability criteria for discrete time positive systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 511–536. 93B05 (93C55)

— (*with* Fornasini, Ettore) Recent developments in 2D positive systems theory. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 713–735. (Summary) **99c:93063** 93C30 (93–02, 93A30)

— (*with* Fornasini, Ettore) Multidimensional systems with finite support behaviors: signal structure, generation, and detection. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 760–779 (*electronic*). (Shojiro Sakata) **99c:93067** 93C35 (93B05, 94A55)

— State observers for discrete-time linear systems with unknown inputs. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 397–401. (Summary) **99j:93016** 93B07 (93C55)

Valckenborgh, Frank Closure structures and the theorem of decomposition in classical components. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 75–86. (Summary) **99f:81017** 81P05 (81P15)

— (*with* Coecke, Bob) Hidden measurements, automorphisms, and decompositions in context-dependent components. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 311–321. (Summary) **99j:81019** 81P15 (81P05)

Valderrama Bonnet, Mariano J. (*with* Ruiz-Medina, M. D.) Two-parameter diffusions random fields. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 391–402. (Gheorghe Stoica) **99e:60179** 60J60 (60G60, 60H05)

Valdés, A. (*with* Muñoz Masqué, Jaime) A report on functorial connections and differential invariants. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 549–567. (Vadim V. Shurygin) **99b:53039** 53C10 (53A55)

núñez Valdés, J. *see* **Núñez Valdés, J.**

Valdés, J. L. (*with* Biscay, R.; Jimenez, Juan Carlos) Geometric selection of centers for radial basis function approximations involved in intensive computer simulations. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 295–306. 65D15

nápoles Valdés, Juan E. *see* **Nápoles Valdés, Juan E.**

velasco Valdés, Julián *see* **Velasco Valdés, Julián**

Valdés, P. A. *see* **Valdés-Sosa, Pedro A.**

Valdés Castro, Concepción Bounds for mean characteristics of a queueing system with limited waiting time. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 101–105. 60K25 (90B22)

— (*with* Burgos Ariosa, Tomás) Queuing system with multiple vacations and limited waiting time. (Spanish. English and Spanish summaries) *Investigación Oper.* **18** (1997), *no.* 1-3, 87–94. 60K25 (90B22)

Valdés-Sosa, Pedro A. (*with* Riera, J. J.; Fuentes, M. E.; Ohárriz, Y.) EEG-distributed inverse solutions for a spherical head model. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 1009–1019. 78A55

Valdéz Almaguer, Alejandra (*with* López Estrada, Jesús) The Gauss-Jordan method. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society (Spanish)* (*Colima*, 1995), 225–233, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 65F10

Valdivia, Manuel Complemented subspaces and interpolation properties in spaces of polynomials. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 1–30. (Summary) **99d:46026** 46B28 (46G20)

— Some properties of basic sequences in Banach spaces. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 331–361. (G. J. O. Jameson) **99d:46008** 46B15

— (*with* Schmets, Jean) Analytic extension of non-quasi-analytic Whitney jets of Beurling type. (English summary) *Math. Nachr.* **195** (1998), 187–197. (A. A. Borichev) **99m:46064** 46E10 (26E05, 26E10, 46F05, 47B38)

Valeev, K. G. (*with* Khalil, G. S.) Investigation of the solutions of linear systems of difference equations with random coefficients. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 139–144. (Onésimo Hernández Lerma) **99g:60118** 60J10 (93E15)

— (*with* Dzhalladova, I. A.) On a generalization of the averaging method. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 906–911; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1016–1022 (1998). (Jan I. Seidler) **99k:34127** 34F05 (34C29)

— (*with* Lapshin, A. L.) Optimizations of solutions of a linear control system. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1429–1431; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1607–1609 (1998). 93E20 (49K45)

València, Marta (*with* Bonet, Carles; Sauzin, David; Seara, Tere) Adiabatic invariant of the harmonic oscillator, complex matching and resurgence. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1335–1360 (*electronic*). (Jian Gong You) **99h:34058** 34C15 (34A20, 34E05, 70H05, 70K99)

sánchez Valencia, Víctor *see* **Sánchez Valencia, Víctor**

Valenciano Llovera, Federico (*with* Ruiz, Luis M.; Zarzuelo Zarzosa, José Manuel) The family of least square values for transferable utility games. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 109–130. (Milan Mareš) **99j:90126** 90D12

— (*with* Ruiz, Luis M.; Zarzuelo Zarzosa, José Manuel) Some new results on least square values for TU games. (English summary) *Top* **6** (1998), *no.* 1, 139–158. (Summary) **99e:90119** 90D12

— *see also* **Games and politics, 99h:90007**

Valent, Galliano (*with* Ismail, Mourad E. H.) On a family of orthogonal polynomials related to elliptic functions. *Illinois J. Math.* **42** (1998), *no.* 2, 294–312. (Dmitriy S. Kalyuzhniy) **99k:30066** 30E05 (33E05)

Valent, Tullio A perturbation problem in the presence of affine symmetries. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 4, 253–266. (John M. Ball) **99a:47099** 47H15 (47N20, 73C50, 73G05)

Valenta, Vladimír (*with* Culik, Karel, II; Kari, Jarkko) Compression of silhouette-like images based on WFA. (English summary) *J.UCS* **3** (1997), *no.* 10, 1100–1113 (*electronic*). (Summary) **99f:68204** 68U10 (68Q45, 68Q68)

Valente, Chiara (*with* Marino, Luca; Saccomandi, Giuseppe) A note about three-dimensional exact dynamical solutions for neo-Hookean materials. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 1–4. (From the introduction) **99h:73023** 73C50 (73D15, 73D35, 73G05)

Valente, Vanda Relaxed exact spectral controllability of membrane shells. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 7, 551–562. (Introduction) **99i:73055** 73K50 (35Q72, 73K15, 93B05, 93C20)

— (*with* Miara, Bernadette) Contrôlabilité exacte d'une coque de Koiter par action sur sa frontière. (English and French summaries) [Exact controllability of a Koiter shell by a boundary action] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 269–273. (Vilmos Komornik) **99j:93009** 93B05 (73K15, 73K50)

Valenti, Angela On permanental identities of symmetric and skew-symmetric matrices in characteristic p. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 118–124. (Plamen Koshlukov) **99g:16028** 16R10 (16R50)

— (*with* Giambruno, Antonio; Sehgal, Sudarshan K.) Symmetric units and group identities. (English summary) *Manuscripta Math.* **96** (1998), *no.* 4, 443–461. (E. Jespers) **99k:16067** 16U60 (16S34, 16W10)

Valenti, Giovanna (*with* Currò, Carmela) Asymptotic wave propagation in a non-Newtonian compressible fluid with small dissipation. (English summary) *J. Engrg.*

Math. **33** (1998), *no.* 4, 403–419. (Summary) **99e:76003** 76A05 (76N10)

Valentin, Frederic G. C. (*with* Achdou, Yves; Pironneau, Olivier) Shape control versus boundary control. (English summary) *Équations aux dérivées partielles et applications*, 1–18, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Pekka Neittaanmäki) **99j:49080** 49Q10 (35L05, 76M30)

— (*with* Achdou, Yves; Mohammadi, Bijan; Pironneau, Olivier) Domain decomposition & wall laws. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 1–14, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:76070** 76M25 (76D10)

— (*with* Achdou, Yves; Le Tallec, Patrick; Pironneau, Olivier) Constructing wall laws with domain decomposition or asymptotic expansion techniques. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 215–232. (Tomás Chacón Rebollo) **99h:76027** 76D10 (65M55, 76F99, 76M25)

— (*with* Achdou, Yves; Pironneau, Olivier) Effective boundary conditions for laminar flows over periodic rough boundaries. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 187–218. (Timothy Nigel Phillips) **99j:76086** 76M25

Valentini, M. (*with* Bigoni, D.; Serkov, S. K.; Movchan, A. B.) Asymptotic models of dilute composites with imperfectly bonded inclusions. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 24, 3239–3258. (Leonid V. Gibiansky) **99d:73005** 73B27 (73K20, 73M25)

Valentini, Silvio (*with* Negri, Sara) Tychonoff's theorem in the framework of formal topologies. *J. Symbolic Logic* **62** (1997), *no.* 4, 1315–1332. (Vinodkumar) **99d:54005** 54B10 (03E25, 03F65, 54A99)

miranda-Valenzuela, J. C. *see* **Miranda-Valenzuela, J. C.**

Valenzuela, O. (*with* Rojas, I.; Anguita, M.; Prieto Espinosa, Alberto) Analysis of the operators involved in the definition of the implication functions and in the fuzzy inference process. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 367–389. (Summary) **99h:03016** 03B52

sánchez-Valenzuela, O. A. *see* **Sánchez-Valenzuela, O. A.**

Valerio, Vladimiro Projective knowledge and perspective of lines in the works of Ptolemy and in late Hellenistic culture. (Italian) *Nuncius Ann. Storia Sci.* **13** (1998), *no.* 1, 265–298. (H. W. Guggenheimer) **99h:01010** 01A20

Valério de Carvalho, J. M. Exact solution of bin-packing problems using column generation and branch-and-bound. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 629–659. (*see* **99k:90002**) 90C10 (90C27)

Valeriote, Matthew A. Decidable equational classes. (English summary) *Algebraic model theory* (*Toronto, ON*, 1996), 207–221, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (Sauro Tulipani) **99c:03045** 03C05 (03B25, 08B05)

Valero, José (*with* Balibrea Gallego, Francisco) On dimension of attractors of differential inclusions. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 383–388, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34G20 (34A60, 35K60, 47H20, 58F39)

— (*with* Mel'nik, V. S.) On attractors of multivalued semi-flows and differential inclusions. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 1, 83–111. (Igor D. Chueshov) **99e:34087** 34G20 (34A60, 35R70, 47H04, 47H20, 58F12)

Valero, Luis (*with* Moreno, Carlos) The set of equivalent classes of invariant star products on $(G;\beta_1)$. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 3-4, 360–378. (Markus J. Pflaum) **99d:58074** 58F06 (81S10)

avila-Vales, Eric Jose *see* **Avila-Vales, Eric Jose**

Valeta, M. P. (*with* Suo, X. Z.) Second variation of energy and an associated line independent integral in fracture mechanics. II. Numerical validations. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 541–565. (Summary) **99e:73084** 73M25 (73V05)

Valette, Alain On the Haagerup inequality and groups acting on $\widetilde{A}_n$-buildings. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 4, 1195–1208. (Wolfgang Woess) **99f:43001** 43A05 (51E24, 60J15)

— Graphes de Ramanujan et applications. (French summary) [Ramanujan graphs and applications] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 829, 4, 247–276. (Dave Witte) **99k:11079** 11F99 (05C50, 05C75, 11F85, 11T99)

— (*with* Béguin, Cédric; Żuk, Andrzej) On the spectrum of a random walk on the discrete Heisenberg group and the norm of Harper's operator. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 4, 337–356. (Nobuaki Obata) **99e:60025** 60B15 (39A70, 60J15)

— On Godement's characterisation of amenability. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 153–158. (Mohammed E. B. Bekka) **99e:43003** 43A07 (22D25, 43A35, 46L80)

— (*with* Burger, Marc) Idempotents in complex group rings: theorems of Zalesskii and Bass revisited. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 219–228. (E. Formanek) **99j:16016** 16S34

Valicenti, S. (*with* Janowski, E. J.; Ladas, G.) Lyness-type equations with period two coefficients. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 327–334, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39022** 39A10

Valid, R. ★ The nonlinear theory of shells through variational principles. (English summary) From elementary algebra to differential geometry. With a foreword by O. C. Zienkiewicz. *John Wiley & Sons, Ltd., Chichester*, 1995. *xviii+477 pp. ISBN* 0-471-95494-2 (Petr E. Tovstik) **99k:73085** 73K15 (73Hxx, 73V05, 73V25)

Valiente-Kroon, Juan Antonio Conserved quantities for polyhomogeneous spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2479–2491. (Charles G. Torre) **99i:83027** 83C30 (83C40)

Valiev, A. D. (*with* Demidov, A. S.) On nonnegative trigonometric polynomials with a fixed mean that pass through given points. (Russian) *Mat. Zametki* **62** (1997), *no.* 3, 468–471; *translation in Math. Notes* **62** (1997), *no.* 3-4, 390–392 (1998). (Song Ping Zhou) **99f:42006** 42A15 (42A05)

Valiev, M. K. Application of temporal logic to the specification of programs. (Russian) *Programmirovanie* **1998**, *no.* 2, 3–9; *translation in Program. Comput. Software* **24** (1998), *no.* 2, 47–51. 68Q60

Valigi, Paolo (*with* Grasselli, Osvaldo Maria) Decoupling with stability for linear periodic systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 751–766. 93D15

Valin, Michel (*with* Côté, Jean; Gravel, Sylvie; Roch, Michel; Méthot, André; Patoine, Alain; Caveen, James; Thomas, Steve; Staniforth, Andrew) Forecasting with a variable-resolution global model. (English summary) *Numerical methods in fluid mechanics*, 23–32, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 86–08 (86A10)

Valiño, Luis (*with* Martín Yague, Jesús; Dopazo, César) Dynamics of velocity gradient invariants in turbulence: restricted Euler and linear diffusion models. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2012–2025. (Summary) **99d:76050** 76F99

Valkeila, Esko (*with* Dzhaparidze, K. O.; Spreij, Peter) On Hellinger processes for parametric families of experiments. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 41–61, *World Sci. Publishing, River Edge, NJ*, 1997. (Dieter Mussmann) **99m:62147** 62M99 (60G99, 62B15)

— An inequality for the local asymptotic normality. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 323–342, *World Sci. Publishing, River Edge, NJ*, 1997. (Tapas Samanta) **99m:62022** 62E20 (60E15)

Valkering, Theo P. (*with* de Boer, Pieter-Tjerk; Hoekstra, Hugo J. W. M.) Soliton switching in directional couplers. (English summary) *Japan J. Indust. Appl. Math.* **16** (1999), *no.* 1, 65–99. (Summary) **99k:78031** 78A60 (35Q55)

Val'kov, A. Yu. (*with* Aksenova, E. V.; Romanov, V. P.) Green's function of wave field in media with one-dimensional large-scale periodicity. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 1184–1192. (Summary) **99k:78019** 78A40 (34E20, 35J05)

Val'kovskiĭ, V. A. (*with* Zerbino, D. D.) Realization of arithmetic computations in codes with alternating signs in cellular automata. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 2, 49–64, 153. 68Q80 (68M07)

Vall, A. N. (*with* Korenblit, S. E.; Leviant, V. M.; Tanaev, A. B.) A dynamical mapping method in nonrelativistic models of quantum field theory. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 492–502. (Lech Jakóbczyk) **99b:81146** 81T10

Valla, Giuseppe (*with* Conca, Aldo; Herzog, Jürgen; Ngô Viêt Trung) Diagonal subalgebras of bigraded algebras and embeddings of blow-ups of projective spaces. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 859–901. (Aron Simis) **99d:13001** 13A30 (13C40, 13D45, 13H10)

— Problems and results on Hilbert functions of graded algebras. *Six lectures on commutative algebra* (*Bellaterra*, 1996), 293–344, *Progr. Math.*, 166, *Birkhäuser, Basel*, 1998. (Ngô Viêt Trung) **99k:13022** 13D40 (13-02, 13H10)

— (*with* Robbiano, Lorenzo) Hilbert-Poincaré series of bigraded algebras. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 521–540. (Ralf Fröberg) **99j:13011** 13D40 (13A30)

— (*with* Simis, Aron; Ngô Viêt Trung) The diagonal subalgebra of a blow-up algebra. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 305–328. (Claudia Polini) **99b:13004** 13A30 (13D40, 14E05)

Vallauri, Maurizio (*with* Canuto, Enrico; Donati, Francesco) Manufacturing algebra: a new mathematical tool for discrete-event modelling of manufacturing systems. *Systems: theory and practice*, 269–312, *Adv. Comput. Sci., Springer, Vienna*, 1998. (*see* **99g:93002**) 90B30 (93A30)

Vallduví, Enric *see* **Symposium: Logic, Language and Computation, 99m:03006**

Valle, Antonio (*with* Parés, Carlos; Macías, Jorge; Castro-Díaz, M. J.) Numerical resolution of a shallow water system using a duality method. Application to the Alboran Sea. (English summary) *Équations aux dérivées partielles et applications*, 759–786, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Meng Zhao Qin) **99m:65193** 65M60 (65M12, 76M10)

del Valle, E. (*with* Hennart, J. P.) Mesh-centered finite differences from nodal finite elements for elliptic problems. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 4, 439–465. (Summary) **99e:65144** 65N06

arellano-Valle, Reinaldo B. *see* **Arellano-Valle, Reinaldo B.**

Valle Basagoiti, M. A. (*with* Egusquiza, I. L.; Feinstein, Alexander; Pérez Sebastián, M. A.) On the entropy and the density matrix of cosmological perturbations. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1927–1936. 83F05 (83C25)

Vallée, Brigitte Algorithms for computing signs of 2×2 determinants: dynamics and average-case analysis. (English summary) *Algorithms—ESA '97* (*Graz*), 486–499, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68U05 (65F40)

— (*with* Daudé, Hervé; Flajolet, Philippe) An average-case analysis of the Gaussian algorithm for lattice reduction. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 397–433. (M. Znojil) **99a:65196** 65U05 (68Q25)

— (*with* Clément, Julien; Flajolet, Philippe) The analysis of hybrid trie structures. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 531–539, *ACM, New York*, 1998. (*see* **99d:68011**) 68P05

Vallée, Claude (*with* Hamdouni, Aziz; Elamri, Khalid; Millet, Olivier) Compatibility of large deformations in nonlinear shell theory. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 855–864. (Summary) **99f:73056** 73K15 (73C50)

— (*with* Hamdouni, Aziz; Elamri, Khalid; Millet, Olivier) Intrinsic formulation of compatibility conditions in nonlinear shell theory. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 421–429. (Summary) **99a:73093** 73K15

Vallée, G. (*with* Maamache, M.; Provost, J.-P.) Unitary equivalence and phase properties of the quantum parametric and generalized harmonic oscillators. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 3, 1777–1780. (Summary) **99m:81045** 81Q05 (81R30)

Vallée, Robert Evolution of uncertainty about the state of a dynamical system. (English summary) *Kybernetes* **27** (1998), *no.* 8-9, 989, 1007–1011. 93C41 (93E03)

Vallejo, Ernesto (*with* Torres-Cházaro, Adolfo) Sets of uniqueness and minimal matrices. (English summary) *J. Algebra* **208** (1998), *no.* 2, 444–451. (Michael Szalay) **99k:05013** 05A17 (05B20, 15A36)

Vallejo, Javier (*with* Avilés, Rafael; Ajuria, Goizalde; Bilbao, Armando) Lagrange multipliers and the primal-dual method in the non-linear static equilibrium of multibody systems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 5, 463–472. (Summary) **99a:70007** 70B15 (70-08, 73K99, 73V25)

Vallet, Bruno Local invariant surfaces for holomorphic volume preserving vector fields. (English summary) *Bull. Sci. Math.* **121** (1997), *no.* 3, 165–181. (Author's review (Zbl 872.58055)) **99e:58162** 58F36 (58F27)

Vallet, Guy Solution forte pour des équations intégro-différentielles non linéaires paraboliques. (English and French summaries) [Strong solutions for parabolic nonlinear integrodifferential equations] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 335–356. (Maura Ughi) **99c:35103** 35K55 (35D05, 45K05)

Valli, Alberto (*with* Alonso Rodríguez, Ana) Finite element approximation of heterogeneous time-harmonic Maxwell equations via a domain decomposition approach. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 227–232, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 65M60 (78–08)

— (*with* Alonso Rodríguez, Ana; Trotta, R. Loredana) Coercive domain decomposition algorithms for advection-diffusion equations and systems. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 1, 51–76. (Tsorng-Whay Pan) **99j:65224** 65N55 (76M25)

— (*with* Alonso Rodríguez, Ana) Unique solvability for high-frequency heterogeneous time-harmonic Maxwell equations via the Fredholm alternative theory. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 6, 463–477. (Ioannis G. Stratis) **99c:35238** 35Q60 (78A40)

— (*with* Alonso Rodríguez, Ana) An optimal domain decomposition preconditioner for low-frequency time-harmonic Maxwell equations. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 607–631. (Muthusamy Vanninathan) **99i:78002** 78–08 (65N30, 65N55)

Vallières, Michel (*with* Daniels, Vincent J.; Yuan, Jian-Min) Chaotic scattering on a billiard. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1519–1531. (Roberto Markarian) **99b:58207** 58F27 (58F13, 81Q50)

Vallois, Pierre (*with* Benachour, Said; Chassaing, Philippe; Roynette, B.) Processus associés à l'équation des milieux poreux. [Processes associated with the porous-medium equation] *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 793–832 (1997). (Kazuaki Taira) **99c:35099** 35K55 (35Q35, 60H10, 60J65, 76M35, 76S05)

— (*with* Tapiero, Charles S.) Range reliability in random walks. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 325–345. (Kyle Siegrist) **99a:60074** 60J15 (60K10, 90B25)

— (*with* Russo, Francesco) Product of two multiple stochastic integrals with respect to a normal martingale. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 47–68. (Constantin Tudor) **99b:60071** 60H05 (60G44)

— (*with* Benachour, Said; Roynette, B.; Talay, D.) Nonlinear self-stabilizing processes. I. Existence, invariant probability, propagation of chaos. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 173–201. (Sylvie Méléard) **99j:60079** 60H10 (60J60, 60K35)

— (*with* Benachour, Said; Roynette, B.) Nonlinear self-stabilizing processes. II. Convergence to invariant probability. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 203–224. (Sylvie Méléard) **99j:60080** 60H10 (60J60, 60K35)

Valls, Claudia (*with* Simó, Carles) The classical Arnold example of diffusion with two equal parameters. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 357–362, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 58F05 (34C99, 70H05)

Valmorin, Vincent (*with* Marti, Jean-André; Nuiro, Silvère Paul) Algèbres différentielles et problème de Goursat non linéaire à données irrégulières. (English and French summaries) [Differential algebras and nonlinear Goursat problem with irregular data] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 1, 135–159. (Vyacheslav V. Chistyakov) **99k:35012** 35A30 (35D05, 35L20, 46F10)

— (*with* Marti, Jean-André; Nuiro, Silvère Paul) A nonlinear Goursat problem with irregular data. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 229–246. (Summary) **99d:35025** 35G20 (46F10)

Valnes, Ole Andreas (*with* Andersson, Helge I.) Slip-flow boundary conditions for non-Newtonian lubrication layers. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 4, 211–217. 76D08 (76D10)

Valorani, Mauro (*with* Favini, Bernardo) On the numerical integration of multi-dimensional initial boundary value problems for the Euler equations in quasi-linear form. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 6, 781–814. (M. M. Sussman) **99m:65168** 65M06 (76H05, 76M25, 76N10)

Valtancoli, Paolo (*with* Lusanna, Luca) Dirac's observables for the Higgs model. I. The abelian case. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 26, 4769–4796. (Sergiu I. Vacaru) **99c:81134** 81T13

— (*with* Lusanna, Luca) Dirac's observables for the Higgs model. II. The non-abelian SU(2) case. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 26, 4797–4821. (Sergiu I. Vacaru) **99c:81135** 81T13

— (*with* Lusanna, Luca) Dirac's observables for the SU(3) × SU(2) × U(1) standard model. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4605–4690. (Massimo Di Pierro) **99j:81205** 81V22 (81T13)

— (*with* Cappelli, Andrea; Vergnano, Luca) Isomonodromic properties of the Seiberg-Witten solution. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 469–501. (Massimo Di Pierro) **99i:81224** 81T60 (14D05, 81T13, 81T40)

— Exact results in Chern-Simons supergravity. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 433–459. (Manoel F. Borges) **99f:83078** 83E50 (81V17)

Valtchev, Petko An algorithm for minimal insertion in a type lattice. (English summary) *Comput. Intelligence* **15** (1999), *no.* 1, 63–78. (Summary) **99j:68011** 68N15 (06B05)

Valtonen, Mauri J. (*with* Chernin, A. D.) Intermittent chaos in three-body dynamics. (English summary) *New Astron. Rev.* **42** (1998), *no.* 1, 41–66. (Summary) **99f:70019** 70F07 (58F13, 70K50)

Valtr, Pavel Graph drawing with no k pairwise crossing edges. (English summary) *Graph drawing* (*Rome*, 1997), 205–218, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99e:68166** 68U05 (68R10)

— (*with* Bárány, Imre) A positive fraction Erdős-Szekeres theorem. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 335–342. (Summary) **99a:52024** 52C10

— (*with* Tóth, Géza) Note on the Erdős-Szekeres theorem. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 457–459. (Summary) **99e:52022** 52C10

— On geometric graphs with no k pairwise parallel edges. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 461–469. (Hiroshi Maehara) **99a:05138** 05C99

— (*with* Károlyi, Gyula; Pach, János; Tóth, Géza) Ramsey-type results for geometric graphs. II. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 375–388. (András Gyárfás) **99i:05145** 05C55 (52C10)

— Guarding galleries where no point sees a small area. (English summary) *Israel J. Math.* **104** (1998), 1–16. (Martin Henk) **99c:52024** 52B55 (68U05)

— On the density of subgraphs in a graph with bounded independence number. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 146–158. (A. G. Thomason) **99e:05078** 05C35 (05C55)

— On galleries with no bad points. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 193–200. (J. M. Wills) **99m:52016** 52B05 (52B10, 52C10)

— On an extremal problem for colored trees. (English summary) *European J. Combin.* **20** (1999), *no.* 1, 115–121. (Pak-Ken Wong) **99k:05061** 05C05 (05C15)

Valuyeva, J. On some fan-tightness type properties. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 415–421. (Richard Wilson) **99h:54004** 54A25 (54C35)

— A remark on combinatorics of open covers and C_p-spaces. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 183–187. (Summary) **99f:54021** 54C35 (54D20)

Vaman, Diana (*with* Vişinescu, Mihai) Spinning particles in Taub-NUT space. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3790–3793. (Summary) **99k:83009** 83C10

Vamanamurthy, Mavina K. (*with* Aseev, Vladislav V.; Vuorinen, Matti K.) Quasiadditive properties and bi-Lipschitz conditions. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 98–130. (J. Matkowski) **99f:39041** 39B72 (26D07, 30C62)

— (*with* Anderson, G. D.; Qiu, Songliang) Elliptic integral inequalities, with applications. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 195–207. (J. M. H. Peters) **99k:33061** 33E05 (26A48, 26A51, 26D07)

— (*with* Qiu, Songliang; Vuorinen, Matti K.) Some inequalities for the growth of elliptic integrals. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1224–1237 (*electronic*). (G. D. Anderson) **99k:33063** 33E05 (30C62)

Vamoş, C. (*with* Georgescu, Adelina; Suciu, N.) Balance equations for a finite number of particles. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 1-2, 115–127. (Carlo Cercignani) **99m:82037** 82C31 (76P05)

Vámos, Peter (*with* Albu, Toma) Global Krull dimension and global dual Krull dimension of valuation rings. *Abelian groups, module theory, and topology* (*Padua*, 1997), 37–54, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Marco Fontana) **99k:13012** 13C15 (13F30, 16D90)

— (*with* Merisi, Piercarlo) On rings whose Morita class is represented by matrix rings. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 297–315. (Lillian Hupert) **99f:16008** 16D90 (13C20)

Vamvakos, Socrates (*with* Anantharam, Venkat) On the departure process of a leaky bucket system with long-range dependent input traffic. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 191–214. (Summary) **99c:60210** 60K25

lê hông Vân *see* **Lê Hông Vân**

le Van, A. *see* **Le Van, A.**

truong-Van, Benoit *see* **Truong-Van, Benoit**

le Van, C. *see* **Le Van, C.**

Vanaja, N. (*with* Malik, Saroj) Weak relative injective M-subgenerated modules. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 221–238, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Kaushal Ajitabh) **99e:16005** 16D50

— (*with* Al-attas, Ali Omer) Direct sum of local modules with extending factor modules. *Osaka J. Math.* **34** (1997), *no.* 2, 381–409. (Mamoru Kutami) **99b:16004** 16D70 (16D50)

Van Assche, Walter Compact Jacobi matrices: from Stieltjes to Krein and $M(a, b)$. 100 ans après Th.-J. Stieltjes. *Ann. Fac. Sci. Toulouse Math.* (6) **1996,** *Special issue*, 195–215. (Olav Njåstad) **99b:42031** 42C05 (40A15, 47A10, 47A57)

— (*with* Delbeke, Lieve) A wavelet based estimator for the parameter of self-similarity of fractional Brownian motion. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 14 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (P. A. Morettin) **99k:62073** 62G05 (42C15, 60J65, 62M07)

— (*with* Dehesa, Jesús S.; Yáñez, Rafael J.) Information entropy of classical orthogonal polynomials and their application to the harmonic oscillator and Coulomb potentials. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 1, 91–110. (K. Pan) **99b:33015** 33C45 (33C55, 81Q05, 94A17)

— (*with* Jones, William B.) Asymptotic behavior of the continued fraction coefficients of a class of Stieltjes transforms including the Binet function. *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 257–274, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Olav Njåstad) **99m:30006** 30B70 (33B15, 40A15)

— (*with* Chen, Yang[1]; Ismail, Mourad E. H.) Tau-function constructions of the recurrence coefficients of orthogonal polynomials. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 2, 141–168. (Mayumi Ohmiya) **99b:33013** 33C45 (39A10, 82B41)

— (*with* Kuijlaars, A. B. J.) A problem of Totik on fast decreasing polynomials. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 97–112. (V. Totik) **99b:26026** 26D05 (31A99)

— (*with* Parthasarathy, P. R.; Lenin, R. B.; Schoutens, Wim) A birth and death process related to the Rogers–Ramanujan continued fraction. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 297–315. (Erik A. van Doorn) **99g:60156** 60J80 (30B70, 40A15, 60K25)

— (*with* Kuijlaars, A. B. J.) A contact problem in elasticity related to weighted polynomials on the real line. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 575–587. (Summary) **99g:73098** 73T05 (41A10, 42C05)

Vanasse, Charles (*with* Dionne, Georges; Gagné, Robert) Inferring technological parameters from incomplete panel data. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 303–327. 62P20

Van Baal, Pierre *see* **van Baal, Pierre**

le Van Bang *see* **Le Van Bang**

Van Barel, Marc (*with* Kravanja, Peter) A fast block Hankel solver based on an inversion formula for block Loewner matrices. (English summary) Toeplitz matrices: structures,

algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 147–164 (1998). (Zdeněk Dostál) **99g:65035** 65F05 (15A09, 15A57)
— (*with* Bultheel, Adhemar) ★ Linear algebra, rational approximation and orthogonal polynomials. Studies in Computational Mathematics, 6. *North-Holland Publishing Co., Amsterdam*, 1997. xviii+446 *pp. ISBN* 0-444-82872-9 (Editors) **99e:65001** 65–01 (15–01, 65D15, 65F25)
— (*with* Kravanja, Peter) A fast Hankel solver based on an inversion formula for Loewner matrices. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 275–295. (Zhenyue Zhang) **99i:65030** 65F05 (15A06, 15A09)
— (*with* Kravanja, Peter) A stabilized superfast solver for indefinite Hankel systems. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 335–355. (Summary) **99g:65057** 65F30 (65F10)
Van Beckum, F. P. H. *see* **van Beckum, F. P. H.**
Van Beijeren, Henk *see* **van Beijeren, Henk**
Van Bendegem, Jean Paul In defence of discrete space and time. *Logique et Anal. (N.S.)* **38** (1995), *no.* 150-152, 127–150. (Philip L. Quinn) **99e:03012** 03B30
Van Benthem, Johan *see* **van Benthem, Johan**
Van Berkel, C. A. M. *see* **van Berkel, C. A. M.**
Van Berkum, E. E. M. *see* **van Berkum, E. E. M.**
Van Breugel, Franck *see* **van Breugel, Franck**
Van Brummelen, Glen Mathematical methods in the tables of planetary motion in Kūshyār ibn Labbān's *Jāmiʿ Zīj*. (English, German and Persian summaries) *Historia Math.* **25** (1998), *no.* 3, 265–280. (Julio Samsó-Moya) **99h:01013** 01A30
Van-Brunt, Bruce *see* **van-Brunt, Bruce**
Van Buuren, René *see* **van Buuren, René**
Van Campen, D. H. *see* **van Campen, D. H.**
Van Casteren, J. *see* **van Casteren, J.**
Vance, Pamela H. (*with* Barnhart, Cynthia; Johnson, Ellis L.; Nemhauser, George L.; Savelsbergh, Martin W. P.) Branch-and-price: column generation for solving huge integer programs. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 316–329. (Summary) **99g:90074** 90C10 (90–04)
— (*with* Meller, Russell D.; Narayanan, Venkat) Optimal facility layout design. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 117–127. 90B80 (90C90)
Vancea, Ion V. (*with* Tătaru, Liviu; Blaga, Paul A.) BRST cohomology in 2D. Conformal gravity in BV approach. *Mathematica* **39(62)** (1997), *no.* 1, 117–135. (Mohamed Kachkachi) **99d:81167** 81T70
— Observables of Euclidean supergravity. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 17, 3121–3124. (Jürgen Tolksdorf) **99f:83079a** 83E50
— (*with* Pauna, N.) On local constraints of $D = 4$ Euclidean supergravity in terms of Dirac eigenvalues. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 38, 3091–3097. (Summary) **99i:83105** 83E50
— Euclidean supergravity in terms of Dirac eigenvalues. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045005, 14 *pp.* (Summary) **99k:83135** 83E50
— Erratum: "Observables of Euclidean supergravity". *Phys. Rev. Lett.* **80** (1998), *no.* 6, 1355. (Jürgen Tolksdorf) **99f:83079b** 83E50
Vancliff, Michaela (*with* Van Rompay, Kristel) Embedding a quantum nonsingular quadric in a quantum $\mathbf{P}^3$. (English summary) *J. Algebra* **195** (1997), *no.* 1, 93–129. (Michel Van den Bergh) **99a:16040** 16W50 (14A22)
— (*with* Van Rompay, Kristel; Willaert, Luc) Some quantum $\mathbf{P}^3$s with finitely many points. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1193–1208. (Stefaan Caenepeel) **99c:16045** 16W50 (14A22)
nguyen Van Co *see* **Nguyen Van Co**
Vancostenoble, Judith Weak asymptotic stability of second-order evolution equations by nonlinear and nonmonotone feedbacks. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 140–154 (*electronic*). (Nickolai A. Lar'kin) **99j:35145** 35L70 (35B40)
Van Cutsem, Bernard (*with* Ycart, Bernard) Random dendrograms for classifiability testing. (English summary) *Data science, classification, and related methods (Kobe*, 1996), 133–144, *Stud. Classification Data Anal. Knowledge Organ., Springer, Tokyo*, 1998. (*see* **99b:62002**) 62H30
— (*with* Ycart, Bernard) Indexed dendrograms on random dissimilarities. (English summary) *J. Classification* **15** (1998), *no.* 1, 93–127. (Tamas Lengyel) **99h:62085** 62H30
Van Daalen, E. F. G. *see* **van Daalen, E. F. G.**
Van Daele, Alfons Multiplier Hopf algebras and duality. (English summary) *Quantum groups and quantum spaces (Warsaw*, 1995), 51–58, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (M. Bettina Richmond) **99g:16053** 16W30 (22D35, 46L89)
— (*with* Kustermans, J.) C^*-algebraic quantum groups arising from algebraic quantum groups. (English summary) *Internat. J. Math.* **8** (1997), *no.* 8, 1067–1139. (Tomasz Brzeziński) **99a:46130** 46L89 (16W30, 17B37, 46L05)
— (*with* Maes, Ann) Notes on compact quantum groups. (English summary) *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 73–112. (Aldo J. Lazar) **99g:46105** 46L89 (16W30)
Van Daele, M. (*with* De Meyer, H.; Vanden Berghe, Guido; Van Hecke, T.) On the generation of mono-implicit Runge-Kutta-Nyström methods by mono-implicit Runge-Kutta methods. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 147–167. (Kevin Burrage) **99a:65086** 65L06
— (*with* Vanden Berghe, Guido; Van Hecke, T.; De Meyer, H.) Mono-implicit Runge-Kutta-(Nyström) methods for the numerical integration of first- and second-order ODEs. (English summary) *Special functions and differential equations (Madras*, 1997), 379–402, *Allied Publ., New Delhi*, 1998. (Iulian Coroian) **99j:65125** 65L06
— (*with* De Meyer, H.; Van Hecke, T.; Vanden Berghe, Guido) On a class of P-stable mono-implicit Runge-Kutta-Nyström methods. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 1, 69–82. (Yun Kang Liu) **99d:65221** 65L06 (65L20)
— (*with* Vanden Berghe, Guido; De Meyer, H.; Ixaru, L. Gr.) Exponential-fitted four-step methods for $y'' = f(x, y)$. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 299–309. (Summary) **99a:65084** 65L05
— (*with* Van Hecke, T.; Vanden Berghe, Guido; De Meyer, H.) Comment on: "A two-stage fourth-order 'almost' *P*-stable method for oscillatory problems" [J. Comput. Appl. Math. **89** (1998), no. 1, 115–118] by M. M. Chawla and M. A. Al-Zanaidi. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 297–300. 65L05 (65L06, 65L20)
Van Dal, René *see* **van Dal, René**
Van Dalen, Benno *see* **van Dalen, Benno**
Van Dalen, Dirk *see* **van Dalen, Dirk**
Van Dam, Andries *see* **van Dam, Andries**
Van Dam, Edwin R. *see* **van Dam, Edwin R.**
Vandamme, Juliette Problème de Riemann-Hilbert pour une représentation de monodromie triangulaire supérieure de dimension 5. (English and French summaries) [The Riemann-Hilbert problem for an upper-triangular monodromy representation of dimension 5] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1069–1072. (Masaaki Yoshida) **99i:34010** 34A20 (32G34)
Van Damme, Ruud *see* **van Damme, Ruud**
Van Deemen, Adrian The probability of the paradox of voting for weak preference orderings. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 2, 171–182. (Summary) **99j:90022** 90A28
Van Deemter, Kees *see* **van Deemter, Kees**
Van de Fliert, B. W. *see* **van de Fliert, B. W.**
Vandekerkhove, Pierre Recuit simulé avec un estimateur séquentiel de l'énergie. (English and French summaries) [Simulated annealing with a sequential estimator of the energy] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1003–1006. (Summary) **99g:90101** 90C27 (90C30)
Van de Konijnenberg, J. A. *see* **van de Konijnenberg, J. A.**
Van de Leur, J. W. *see* **van de Leur, J. W.**
Vandell, Robert (*with* Bau, Sheng; Beineke, Lowell W.) Decycling snakes. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 79–87. (Summary) **99j:05117** 05C38
Vandembroucq, Damien (*with* L'vov, Victor S.; Podivilov, Evgenii; Pomyalov, Anna; Procaccia, Itamar) Improved shell model of turbulence. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1811–1822. 76F99
Van den Ban, E. P. *see* **van den Ban, E. P.**
Van den Berg, Hugo A. *see* **van den Berg, Hugo A.**
Van den Berg, Jacob *see* **van den Berg, Jacob**
Van den Berg, Jan Bouwe *see* **van den Berg, Jan Bouwe**
Van den Berg, John E. *see* **van den Berg, John E.**
Van den Berg, M. *see* **van den Berg, M.**
Van den Bergh, Michel *see* **van den Bergh, Michel**
Vanden Berghe, Guido (*with* De Meyer, H.; Van Hecke, T.; Van Daele, M.) On the generation of mono-implicit Runge-Kutta-Nyström methods by mono-implicit Runge-Kutta methods. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 147–167. (Kevin Burrage) **99a:65086** 65L06
— (*with* Van Hecke, T.; Van Daele, M.; De Meyer, H.) Mono-implicit Runge-Kutta-(Nyström) methods for the numerical integration of first- and second-order ODEs. (English summary) *Special functions and differential equations (Madras*, 1997), 379–402, *Allied Publ., New Delhi*, 1998. (Iulian Coroian) **99j:65125** 65L06
— (*with* Van Daele, M.; De Meyer, H.; Van Hecke, T.) On a class of P-stable mono-implicit Runge-Kutta-Nyström methods. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 1, 69–82. (Yun Kang Liu) **99d:65221** 65L06 (65L20)
— (*with* Van Daele, M.; De Meyer, H.; Ixaru, L. Gr.) Exponential-fitted four-step methods for $y'' = f(x, y)$. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 299–309. (Summary) **99a:65084** 65L05
— (*with* Ixaru, L. Gr.; De Meyer, H.) CP methods for the Schrödinger equation revisited. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 289–314. (Summary) **99b:65081** 65L05 (65L15, 65L70, 81Q15)
— (*with* Van Hecke, T.; Van Daele, M.; De Meyer, H.) Comment on: "A two-stage fourth-order 'almost' *P*-stable method for oscillatory problems" [J. Comput. Appl. Math. **89** (1998), no. 1, 115–118] by M. M. Chawla and M. A. Al-Zanaidi. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 297–300. 65L05 (65L06, 65L20)
— *see also* **Special functions and differential equations, 99h:33002**
Vandenberghe, Lieven (*with* Boyd, Stephen) Connections between semi-infinite and semidefinite programming. (English summary) *Semi-infinite programming*, 277–294, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99c:90143** 90C34 (90C30)
— (*with* Lobo, Miguel Sousa; Boyd, Stephen; Lebret, Hervé) Applications of second-order cone programming. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 193–228. (Jos F. Sturm) **99k:90103** 90C08 (90C20, 90C90, 93B40)
— (*with* Boyd, Stephen; Wu, Shao-Po) Determinant maximization with linear matrix inequality constraints. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 499–533 (*electronic*). (Mei-Qin Chen) **99g:90086** 90C25 (65F30)
— (*with* Boyd, Stephen) Applications of semidefinite programming. (English summary) Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96) (Delft). *Appl. Numer. Math.* **29** (1999), *no.* 3, 283–299. (Summary) **99k:90165** 90C30 (90C25, 90C90)
Van den Bosch, P. P. J. *see* **van den Bosch, P. P. J.**
Van den Brink, René *see* **van den Brink, René**
Vanden-Broeck, Jean-Marc (*with* Asavanant, J.) Nonlinear free-surface flows emerging from vessels. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 297–303, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99i:76012** 76B10
— (*with* Asavanant, J.) Free-surface supercritical splashless flows past a two-dimensional symmetrical rectilinear body. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 6, 811–822. (Summary) **99f:76029** 76B20
— (*with* Tuck, E. O.) Ploughing flows. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 5, 463–483. (Summary) **99g:76012** 76B10
— A model for the free-surface flow due to a submerged source in water of infinite depth. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 528–538. (Summary) **99a:76010** 76B10
— (*with* Schultz, William W.; Jiang, Lei[2]; Perlin, Marc) Highly nonlinear standing water waves with small capillary effect. (English summary) *J. Fluid Mech.* **369** (1998), 253–272. (Summary) **99f:76028** 76B15 (76B45, 76M25)

— (*with* Kriegsmann, James J.; Miksis, Michael J.) Pressure driven disturbances on a thin viscous film. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1249–1255. (Summary) **99a:76045** 76D45 (76D99)

— (*with* Milewski, P. A.) Time dependent gravity-capillary flows past an obstacle. (English summary) *Wave Motion* **29** (1999), *no.* 1, 63–79. (Summary) **99j:76015** 76B15 (76B45)

Van den Bussche, Jan (*with* Kuijpers, Bart; Paredaens, Jan) On topological elementary equivalence of spatial databases. (English summary) *Database theory—ICDT '97 (Delphi)*, 432–446, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99a:68044** 68P15 (03B70)

— (*with* Cabibbo, Luca) Converting untyped formulas to typed ones. (English summary) *Acta Inform.* **35** (1998), *no.* 8, 637–643. (Summary) **99d:03027** 03B70 (03B10)

— (*with* Paredaens, Jan; Van Gucht, Dirk) First-order queries on finite structures over the reals. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1747–1763 (*electronic*). (Marc Gyssens) **99g:68050** 68P15 (03B70, 03C07, 03C10, 03C13)

— (*with* Gemis, M.; Paredaens, Jan; Peelman, P.) Expressiveness and complexity of generic graph machines. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 231–249. (Marc Gyssens) **99m:68051** 68Q05 (68P15, 68R10)

Van den Dries, Lou *see* **van den Dries, Lou**

Van den Driessche, P. *see* **van den Driessche, P.**

Van den Driz, Lu *see* **van den Dries, Lou**

Vanden Eijnden, E. Studying random differential equations as a tool for turbulent diffusion. (English summary) *Phys. Rev. E* (3) **58** (1998), *no. 5, part A, R5229–R5232.* (Summary) **99h:76052** 76F99 (76M35)

Van den Essen, Arno *see* **van den Essen, Arno**

Vanden Eynden, C. (*with* El-Zanati, S. I.; Plantholt, M.) Graph decompositions into generalized cubes. (English summary) *Ars Combin.* **49** (1998), 237–247. (Summary) **99c:05150** 05C70

— (*with* El-Zanati, S. I.) Cycle factorizations of cycle products. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 267–275. (Summary) **99c:05112** 05C38 (05C70)

Van den Heuvel, Jan *see* **van den Heuvel, Jan**

Van den Heuvel, P. C. J. *see* **van den Heuvel, P. C. J.**

Van den Hof, J. M. *see* **van den Hof, J. M.**

Van den Hof, Paul M. J. (*with* de Vries, Douwe K.) Frequency domain identification with generalized orthonormal basis functions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 656–669. (Summary) **99a:93026** 93B30 (93C80)

Van den Honert, Robin C. *see* **van den Honert, Robin C.**

Van den Nouweland, Anne *see* **van den Nouweland, Anne**

Van de Pol, Jaco *see* **van de Pol, Jaco**

Vanderbauwhede, André (*with* Ciocci, Maria Cristina) Bifurcation of periodic orbits for symplectic mappings. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 485–500. (Summary) **99b:58170** 58F14 (34C23, 58F05, 70H05)

Van der Burg, A. H. P. *see* **van der Burg, A. H. P.**

Vanderburgh, William L. Empirical equivalence and approximative methods in the *New astronomy*: a defence of Kepler against the charge of fraud. *J. Hist. Astronom.* **28** (1997), *no.* 4, 317–336. (William R. Shea) **99a:01011** 01A45

Vandergheynst, P. (*with* Antoine, J.-P.) Wavelets on the n-sphere and related manifolds. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 3987–4008. (Summary) **99e:42045** 42C15

Van der Giessen, Erik *see* **van der Giessen, Erik**

Van der Heijden, G. H. M. *see* **van der Heijden, G. H. M.**

Van der Heijden, Matthieu C. *see* **van der Heijden, Matthieu C.**

VanderHeyden, W. B. (*with* Kashiwa, B. A.) Compatible fluxes for van Leer advection. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 1–28. (Summary) **99g:76096** 76M20 (65M99, 76D99)

Vanderhoeft, Camille (*with* Steyaert, Hans; Van Parys, Filip) Decomposition estimation: a GLM-based technique for fitting multi-linear regression models to grouped data in GLIM 4. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 3, 41–58. (Summary) **99j:62104** 62J12

Van der Hoek, John *see* **van der Hoek, John**

Van der Hoek, Wiebe *see* **van der Hoek, Wiebe**

Van der Hoeven, Joris *see* **van der Hoeven, Joris**

Van der Hofstad, R. W. *see* **van der Hofstad, R. W.**

Van der Hout, R. *see* **van der Hout, R.**

Van der Houwen, P. J. *see* **van der Houwen, P. J.**

Van der Jeugt, Joris The Jordanian deformation of SU(2) and Clebsch-Gordan coefficients. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1283–1289. (A. M. Gavrilik) **99f:81101** 81R50 (17B37)

— (*with* Pitre, S. N.; Srinivasa Rao, K.) Transformation and summation formulas for multiple hypergeometric series, and the 9-j coefficient. *Special functions and differential equations (Madras, 1997)*, 171–177, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 33C70 (33D70, 81R05)

— (*with* Fack, V.; Pitre, S. N.) Racah coefficients, general recoupling coefficients and graph theoretical methods. (English summary) *Special functions and differential equations (Madras, 1997)*, 178–183, *Allied Publ., New Delhi*, 1998. (Summary) **99i:81061** 81R05 (05C90)

— Orthogonal polynomial identities from tensor product decompositions. *Special functions and differential equations (Madras, 1997)*, 184–191, *Allied Publ., New Delhi*, 1998. (From the text) **99i:33013** 33C45 (33C80, 39A70)

— (*with* Srinivasa Rao, K.) Transformations of single and double hypergeometric series from the triple sum series for the 9-j coefficient. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 891–905. (R. G. Buschman) **99g:33044** 33C70 (33C20, 33C65)

— (*with* Jagannathan, Ramaswamy) Realizations of su(1, 1) and U_q(su(1, 1)) and generating functions for orthogonal polynomials. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 5062–5078. (Alexei Zhedanov) **99h:33057** 33C80 (17B37, 33D80)

— Representations and Clebsch-Gordan coefficients for the Jordanian quantum algebra $\mathcal{U}_h$(sl(2)). (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1495–1508. (Summary) **99m:81101** 81R50 (17B37)

— *see also* **Special functions and differential equations, 99h:33002**

Van der Kallen, Wilberd *see* **van der Kallen, Wilberd**

VanderKam, Jeffrey M. L^∞ norms and quantum ergodicity on the sphere. *Internat. Math. Res. Notices* **1997**, *no.* 7, 329–347. (Jens Bolte) **99d:58175** 58G25 (11F72, 58G18, 81Q50)

— Correction to: "L^∞ norms and quantum ergodicity on the sphere" [Internat. Math. Res. Notices **1997**, no. 7, 329–347; MR 99d::58175]. *Internat. Math. Res. Notices* **1998**, *no.* 1, 65. (Jens Bolte) **99d:58176** 58G25 (11F72, 58G18, 81Q50)

Van der Laan, Gerard *see* **van der Laan, Gerard**

Van der Laan, Mark J. *see* **van der Laan, Mark J.**

Van der Laan, Paul *see* **van der Laan, Paul**

Van der Leeuw, Johannes Leonardus *see* **van der Leeuw, Johannes Leonardus**

Van der Linden, Wim J. *see* **van der Linden, Wim J.**

Van der Lubbe, Jan C. A. *see* **van der Lubbe, Jan C. A.**

Van der Lugt, Anna *see* **van der Lugt, Anna**

Van der Mee, C. V. M. *see* **van der Mee, C. V. M.**

Van der Mei, R. D. *see* **van der Mei, R. D.**

Van der Merwe, Abraham Johannes *see* **van der Merwe, Abraham Johannes**

Van der Merwe, Andries B. *see* **van der Merwe, Andries B.**

Van der Merwe, Brink *see* **van der Merwe, Brink**

Van der Merwe, C. A. *see* **van der Merwe, C. A.**

Van der Merwe, Lucas C. *see* **van der Merwe, Lucas C.**

Van der Meulen, Edward C. *see* **van der Meulen, Edward C.**

Vander Meulen, Kevin N. (*with* Gregory, David A.) Decompositions of complete multigraphs related to Hadamard matrices. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 158–167. (Jaroslav Ivančo) **99d:05070** 05C70 (05B20, 05C50)

Vanderperre, Edmond J. On the reliability of Gaver's parallel system sustained by a cold standby unit and attended by two repairmen. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 2, 171–180. (Summary) **99c:90058** 90B25

— (*with* Makhanov, S. S.; Sonthipaumpoon, K.) A renewal integral equation related to a multiple cold standby system. (English summary) *Opsearch* **35** (1998), *no.* 2, 154–158. 90B25

Van der Poort, Edo S. *see* **van der Poort, Edo S.**

Vanderpooten, Daniel (*with* Krawiec, Krzysztof; Słowiński, Roman) Learning decision rules from similarity based rough approximations. (English summary) *Rough sets in knowledge discovery*, 2, 37–54, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68T05

Van der Put, Marius *see* **van der Put, Marius**

Van der Putten, Roberto A note on the local invertibility of Sobolev functions. (English summary) *Math. Scand.* **83** (1998), *no.* 2, 255–264. (H. Triebel) **99m:46088** 46E35

Van der Schaar, Jan Pieter *see* **van der Schaar, Jan Pieter**

Van der Schaft, Arjan *see* **van der Schaft, Arjan**

Van der Sluis, O. *see* **van der Sluis, O.**

Van der Sman, R. G. M. *see* **van der Sman, R. G. M.**

Van der Stappen, A. Frank *see* **van der Stappen, A. Frank**

Vandersteen, Gerd On the use of compensated total least squares in system identification. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1436–1441. (Summary) **99e:93088** 93E24 (93E12)

— (*with* Pintelon, Rik; Guillaume, Patrick; Rolain, Yves) Analyses, development, and applications of TLS algorithms in frequency domain system identification. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 983–1004 (*electronic*). (Kurt Marti) **99e:93077** 93E10 (93E12)

— (*with* Schoukens, Johan; Pintelon, Rik; Guillaume, Patrick) Frequency-domain identification of linear systems using arbitrary excitations and a nonparametric noise model. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 343–347. 93B30 (93C80)

— (*with* Pintelon, Rik; Schoukens, Johan; Rolain, Yves) Identification of invariants of (over)parameterized models: finite sample results. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1073–1077. 93E10

— (*with* Schoukens, Johan) Measurement and identification of nonlinear systems consisting of linear dynamic blocks and one static nonlinearity. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1266–1271. 93B30 (93C10)

Van der Stel, Hans *see* **van der Stel, Hans**

Vanderstraeten, Denis (*with* Keunings, Roland) A parallel solver based on the dual Schur decomposition of general finite element matrices. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 23–46. 65M55 (65Y05, 76M10)

Van der Torre, Leendert W. N. *see* **van der Torre, Leendert W. N.**

Van der Vaart, A. W. *see* **van der Vaart, A. W.**

Van der Veen, Alle-Jan *see* **van der Veen, Alle-Jan**

Van der Veen, Jack A. A. *see* **van der Veen, Jack A. A.**

Van der Veen, Wolter A. *see* **van der Veen, Wolter A.**

Van der Vegt, J. J. W. *see* **van der Vegt, J. J. W.**

Van der Ven, H. *see* **van der Ven, H.**

Van der Vlerk, Maarten H. *see* **van der Vlerk, Maarten H.**

Van der Vlugt, M. *see* **van der Vlugt, M.**

Van der Vorst, Henk A. Iterative methods for linear systems and implementation on parallel computers. *Iterative methods in scientific computing (Hong Kong, 1995)*, 1–44, *Springer, Singapore*, 1997. (*see* **99g:65001**) 65F10 (65Y05)

— (*with* Golub, Gene H.) Closer to the solution: iterative linear solvers. (English summary) *The state of the art in numerical analysis (York, 1996)*, 63–92, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99b:65034** 65F10 (15A06)

— (*with* Golub, Gene H.) 150 years old and still alive: eigenproblems. (English summary) *The state of the art in numerical analysis (York, 1996)*, 93–119, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99b:65051** 65F15 (15A18)

— (*with* Sleijpen, Gerard L. G.) Iterative Bi-CG type methods and implementation aspects. (English summary) *Algorithms for large scale linear algebraic systems (Gran Canaria, 1996)*, 217–253, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (Zuhe Shen) **99f:65055** 65F10

— (*with* Sleijpen, Gerard L. G.; Meijerink, Ellen) Efficient expansion of subspaces in the Jacobi-Davidson method for standard and generalized eigenproblems. (English

summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 75–89 (*electronic*). (Summary) **99i:65040** 65F15
— (*with* Chan, Tony F. C.; de Pillis, Lisette) Transpose-free formulations of Lanczos-type methods for nonsymmetric linear systems. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 51–66. (Summary) **99d:65101** 65F10
— (*with* Fokkema, Diederik R.; Sleijpen, Gerard L. G.) Jacobi-Davidson style QR and QZ algorithms for the reduction of matrix pencils. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 94–125 (*electronic*). (Summary) **99e:65061** 65F15
VanderVorst, R. C. A. M. (*with* Kalies, William D.; Kwapisz, Jaroslaw) Homotopy classes for stable connections between Hamiltonian saddle-focus equilibria. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 337–371. (Patricio L. Felmer) **99g:34102** 34C37 (34C35, 58F05, 58F15, 70H05)
Van der Waerden, Bartel Leendert *see* **van der Waerden, Bartel Leendert**
Vanderwerff, Jon D. (*with* Borwein, Jonathan M.) Convex functions on Banach spaces not containing l_1. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 1, 10–18. (Li Xin Cheng) **99a:46020** 46B20 (46A55, 46G05, 46N10, 52A41)
— (*with* Bartlett, Michael O.; Giles, John R.) Structural implications of norms with Hölder right-hand derivatives. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 415–425. (Marián Fabian) **99b:46011** 46B20 (46G05)
— Mazur intersection properties for compact and weakly compact convex sets. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 225–230. (Summary) **99a:46026** 46B20 (46A55)
Van der Woude, J. W. A graph-theoretic method for computing a formal representation of the largest controlled invariant subspace of a structured system. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 885–897. 93B40 (93B10)
Van de Sand, Gerd *see* **van de Sand, Gerd**
Van de Vel, M. *see* **van de Vel, M.**
Vande Velde, Koen (*with* Lőrinczi, József; Maes, Christian) Transformations of Gibbs measures. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 1, 121–147. (Aernout C. D. van Enter) **99i:60174** 60K35 (60G60, 82B20, 82B43)
Van de Velde, Steef *see* **van de Velde, Steef**
Van de Ven, A. A. F. *see* **van de Ven, A. A. F.**
Vandevoorde, David (*with* Luk, Franklin T.) Decomposing a signal into a sum of exponentials. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 329–357, *Springer, Singapore*, 1997. (*see* **99g:65001**) 94A12 (65F30)
— (*with* Boley, Daniel L.; Luk, Franklin T.) A fast method to diagonalize a Hankel matrix. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 41–52. (Marc Van Barel) **99j:65053** 65F15
Van de Vorst, G. Alfred L. *see* **van de Vorst, G. Alfred L.**
Van de Vosse, F. N. *see* **van de Vosse, F. N.**
Van de Walle, Bartel (*with* De Baets, Bernard; Kerre, Etienne E.) A plea for the use of Łukasiewicz triplets in the definition of fuzzy preference structures. I. General argumentation. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 349–359. 90A06 (90C70)
— (*with* De Baets, Bernard; Kerre, Etienne E.) A plea for the use of Łukasiewicz triplets in the definition of fuzzy preference structures. II. The identity case. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 303–310. (Summary) **99m:90013** 90A06 (90C70)
Vandewalle, Joos (*with* Radu, Cristian; Govaerts, René) Witness hiding restrictive blind signature scheme. (English summary) *Cryptography and coding* (*Cirencester*, 1997), 283–294, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (Summary) **99h:94054** 94A60
— (*with* Suykens, J. A. K.; De Moor, Bart) An absolute stability criterion for the Lur'e problem with sector and slope restricted nonlinearities. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 1007–1009. (Summary) **99f:93108** 93D05 (93D21)
— (*with* Dehaene, Jeroen; Moonen, Marc) Analysis of a class of continuous-time algorithms for principal component analysis and subspace tracking. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 3, 364–372. (Summary) **99k:94006** 94A12
Vandewalle, Stefan (*with* Janssen, Jan) On SOR waveform relaxation methods. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2456–2481. (V. L. Makarov) **99a:65096** 65L60
Van de Water, Willem *see* **van de Water, Willem**
Van de Woestyne, I. (*with* Dillen, Franki; Verstraelen, Leopold; Walrave, J.) The surface of Scherk in $\mathbf{E}^3$: a special case in the class of minimal surfaces defined as the sum of two curves. *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 257–267. (João Lucas Marques Barbosa) **99j:53007** 53A10
Vande Wouwer, A. (*with* Saucez, P.; Schiesser, W. E.) An adaptive method of lines solution of the Korteweg-de Vries equation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 13–25. (Summary) **99a:65170** 65N40
Van Diejen, J. F. *see* **van Diejen, J. F.**
Van Dijk, Gerrit *see* **van Dijk, Gerrit**
Van Dijk, Herman K. *see* **van Dijk, Herman K.**
Van Dijk, Marten *see* **van Dijk, Marten**
Van Dijk, Nico M. *see* **van Dijk, Nico M.**
Van Dijk, W. *see* **van Dijk, W.**
nguyen Van Dong *see* **Nguyen Van Dong**
Van Dongen, M. E. H. *see* **van Dongen, M. E. H.**
Van Dooren, Paul (*with* Sreedhar, J.) Periodic descriptor systems: solvability and conditionability. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 310–313. (Summary) **99i:93039** 93C55 (93C30)
Van Dooren, R. Comments on: "Harmonic balance and continuation techniques in the dynamic analysis of Duffing's equation" [J. Sound Vibration **202** (1997), no. 5, 717–731; MR 98b:70001] by K. B. Blair, C. M. Krousgrill and T. N. Farris. *J. Sound Vibration* **221** (1999), *no.* 3, 525–529. 34C15 (70K40, 70K50)
Van Doorn, Erik A. *see* **van Doorn, Erik A.**
Vandoren, Stefan (*with* De Jonghe, F.; Termonia, P.; Troost, Walter) The topological twist and BRST anti-BRST gauge fixing in $N = 2$ Landau-Ginzburg models. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 283–284, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T10 (81T40)
— (*with* Dorey, Nicholas; Khoze, Valentin V.; Mattis, Michael P.; Tong, David) Instantons, three-dimensional gauge theory, and the Atiyah-Hitchin manifold. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 59–93. (Summary) **99a:81168** 81T60 (53C25, 58D27, 81T13)
— (*with* De Jaegher, J.; de Wit, Bernard; Kleijn, B.) Special geometry in hypermultiplets. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 553–582. (Krzysztof Galicki) **99h:53057** 53C25 (53C55, 53C80, 81T60, 83E50)
— (*with* Dorey, Nicholas; Khoze, Valentin V.; Mattis, Michael P.) Yang-Mills instantons in the large-N limit and the AdS/CFT correspondence. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 145–151. (Summary) **99k:81302** 81T60 (81T13, 81T30)
Van Dorp, J. René *see* **van Dorp, J. René**
Van Duijn, C. J. *see* **van Duijn, C. J.**
Van Duin, Arno C. N. *see* **van Duin, Arno C. N.**
Van Dyck, Jozef (*with* Caers, Jef) Nonparametric tail estimation using a double bootstrap method. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 2, 191–211. 62G09
Van Dyk, David *see* **van Dyk, David**
Van Dyke, Milton Long series in mechanics: Janzen-Rayleigh expansion for a circle. (English and Italian summaries) Topics in fluid mechanics (Turin, 1998). *Meccanica* **33** (1998), *no.* 5, 517–522. (Summary) **99j:76066** 76H05 (76J20)
— *see also* **Annual review of fluid mechanics, 99h:76001**
Van Eeden, Constance *see* **van Eeden, Constance**
Van Eijck, Jan *see* **van Eijck, Jan**
Van Eijk, Rogier M. *see* **van Eijk, Rogier M.**
Van Eijndhoven, S. J. L. *see* **van Eijndhoven, S. J. L.**
Vaněk, Petr (*with* Mandel, Jan; Brezina, Marian) Two-level algebraic multigrid for the Helmholtz problem. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 349–356, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (78–08)
Van Enk, S. *see* **van Enk, S.**
Van Enter, Aernout C. D. *see* **van Enter, Aernout C. D.**
Van Es, A. J. *see* **van Es, A. J.**
Van Eupen, Marijn *see* **van Eupen, Marijn**
Van Fleet, Patrick J. *see* **van Fleet, Patrick J.**
Van Fraassen, Bas C. *see* **van Fraassen, Bas C.**
Vang, Dzhingfa *see* **Wang, Jingfa**
Van Garderen, Kees Jan *see* **van Garderen, Kees Jan**
Van Gastel, Martine (*with* van den Bergh, Michel) Graded modules of Gelfand-Kirillov dimension one over three-dimensional Artin-Schelter regular algebras. (English summary) *J. Algebra* **196** (1997), *no.* 1, 251–282. (Jan Okniński) **99c:16020** 16P90 (16W50, 16W80)
Van Geel, J. (*with* Yanchevskiĭ, V. I.) Indices of hyperelliptic curves over p-adic fields. (English summary) *Manuscripta Math.* **96** (1998), *no.* 3, 317–333. (Genady Lazarevich Margolin) **99e:11084** 11G20 (11S15, 11S25)
— *see also* **Drinfeld modules, modular schemes and applications, 99b:11002**
Van Geemen, Bert *see* **van Geemen, Bert**
Vangel, Mark G. ANOVA estimates of variance components for quasi-balanced mixed models. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 139–148. (Summary) **99e:62124** 62J10 (62F10)
Van Gemmeren, Martin *see* **van Gemmeren, Martin**
Van Gils, S. A. *see* **van Gils, S. A.**
Van Glabbeek, R. J. *see* **van Glabbeek, R. J.**
Van Gool, Luc J. Projective subgroups for grouping. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1251–1266. (Gilbert Crombez) **99e:68168** 68U10
Van Groesen, E. Wave groups in uni-directional surface-wave models. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 215–226. (Summary) **99f:76026** 76B15
— (*with* Pudjaprasetya, S. R.; Soewono, E.) The splitting of solitary waves running over a shallower water. (English summary) *Wave Motion* **29** (1999), *no.* 4, 375–389. (Summary) **99m:76029** 76B25
Van Gucht, Dirk (*with* Paredaens, Jan; Van den Bussche, Jan) First-order queries on finite structures over the reals. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1747–1763 (*electronic*). (Marc Gyssens) **99g:68050** 68P15 (03B70, 03C07, 03C10, 03C13)
Van Hamel, Joost *see* **van Hamel, Joost**
Van Hameren, André *see* **van Hameren, André**
nguyen Van Hao *see* **Nguyen Van Hao**
Van Harn, K. *see* **van Harn, K.**
Van Hartskamp, Michael *see* **van Hartskamp, Michael**
Vanhecke, Lieven (*with* García-Río, Eduardo) Conformal geodesic transformations. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 2, 13–36. (José Carmelo González-Dávila) **99b:53023** 53B20 (53B25, 53C22)
— (*with* González-Dávila, J. C.; González-Dávila, M. C.) Transversally symmetric immersions. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 273–294. (Paolo Piccinni) **99b:53027** 53B25 (53C40)
— (*with* García-Río, Eduardo) Geodesic transformations and space forms. (English summary) *Math. J. Toyama Univ.* **20** (1997), 57–77. (José Carmelo González-Dávila) **99c:53044** 53C25
— Scalar curvature invariants and local homogeneity. (English summary) Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 275–287. (Jürgen Berndt) **99a:53035** 53C20 (53C25, 53C30)
— (*with* Calvaruso, G.) Special ball-homogeneous spaces. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 789–800. (Vicente Miquel) **99d:53044** 53C30 (53C20)
— (*with* Bueken, P.) Weakly disk-homogeneous spaces. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 3, 249–270. (Jürgen Berndt) **99h:53056** 53C25 (53C30)

— (*with* Calvaruso, G.) Semi-symmetric ball-homogeneous spaces and a volume conjecture. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 109–115. (O. Kowalski) **99d:53045** 53C30 (53C35)

— (*with* Berndt, Jürgen; Ricci, Fulvio) Weakly symmetric groups of Heisenberg type. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 275–284. (Rosa Anna Marinosci) **99f:53052** 53C35 (53C30)

— (*with* González-Dávila, J. C.) D'Atri spaces and C-spaces in flow geometry. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 487–499. (Jürgen Berndt) **99c:53046** 53C25 (53C30)

— (*with* García-Río, Eduardo) Holomorphic geodesic transformations. (English summary) *Kodai Math. J.* **21** (1998), *no.* 1, 46–60. (Liviu Ornea) **99e:53058** 53C22 (53C55)

— (*with* González-Dávila, J. C.) New examples of weakly symmetric spaces. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 309–314. (Jürgen Berndt) **99e:53073** 53C35 (53C30)

— (*with* García-Río, Eduardo) Divergence-preserving geodesic transformations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 6, 1309–1323. (Jürgen Berndt) **99j:53015** 53B20 (53C22)

— (*with* Berndt, Jürgen; Prüfer, Friedbert) Totally geodesic submanifolds of symmetric-like Riemannian manifolds. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 463–475. (Anna M. Fino) **99i:53054** 53C40 (53C30)

— (*with* García-Río, Eduardo; Vázquez-Abal, María Elena) Notes on harmonic tensor fields. (English summary) *New developments in differential geometry, Budapest* 1996, 123–142, *Kluwer Acad. Publ., Dordrecht*, 1999. (María Falcitelli) **99k:53035** 53C05 (53C50)

Van Hecke, T. (*with* De Meyer, H.; Vanden Berghe, Guido; Van Daele, M.) On the generation of mono-implicit Runge-Kutta-Nyström methods by mono-implicit Runge-Kutta methods. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 147–167. (Kevin Burrage) **99a:65086** 65L06

— (*with* Vanden Berghe, Guido; Van Daele, M.; De Meyer, H.) Mono-implicit Runge-Kutta-(Nyström) methods for the numerical integration of first- and second-order ODEs. (English summary) *Special functions and differential equations* (*Madras*, 1997), 379–402, *Allied Publ., New Delhi*, 1998. (Iulian Coroian) **99j:65125** 65L06

— (*with* Van Daele, M.; De Meyer, H.; Vanden Berghe, Guido) On a class of P-stable mono-implicit Runge-Kutta-Nyström methods. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 1, 69–82. (Yun Kang Liu) **99d:65221** 65L06 (65L20)

— (*with* Vanden Berghe, Guido; Van Daele, M.; De Meyer, H.) Comment on: "A two-stage fourth-order 'almost' P-stable method for oscillatory problems" [J. Comput. Appl. Math. **89** (1998), no. 1, 115–118] by M. M. Chawla and M. A. Al-Zanaidi. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 297–300. 65L05 (65L06, 65L20)

Vanheeghe, P. (*with* Bell, D. J.) The Riemann representation for a PI feedback control around a delay element. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 1021–1028. 93B52 (93C30)

Van Hees, Martin A game-theoretic logic of norms and actions. (English summary) *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 155-156, 229–241. (Charles F. Kielkopf) **99f:03027** 03B60 (90D44)

Van Heijst, GertJan F. *see* **van Heijst, GertJan F.**

Van Hemmen, J. Leo *see* **van Hemmen, J. Leo**

Van Hentenryck, Pascal A gentle introduction to NUMERICA. (English summary) *Artificial Intelligence* **103** (1998), *no.* 1-2, 209–235. 90-04 (90C30, 90C90)

— (*with* Michel, Laurent) LOCALIZER: a modeling language for local search. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 1–14. 90C27 (90-04)

Van Heule, Dirk (*with* Hoogewijs, Albert; Slaats, Noemie) The non-definedness notion in expert systems. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 53–62. (Summary) **99j:68140** 68T35 (03B50, 03B70)

nguyen Van Ho *see* **Nguyen Van Ho**

Van Hoesel, Stan (*with* Wagelmans, Albert P. M.) On the complexity of postoptimality analysis of 0/1 programs. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 251–263. (Summary) **99k:90108** 90C10 (68Q25, 90C60)

Van Holten, J. W. *see* **van Holten, J. W.**

Van Horebeek, Johan (*with* Teugels, Jozef L.) Generalized graphical models for discrete data. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 41–47. (P. A. K. Covey-Crump) **99h:62071** 62H05

Van Horssen, W. T. *see* **van Horssen, W. T.**

Van Houtum, G. J. *see* **van Houtum, G. J.**

Van Houwelingen, Hans C. *see* **van Houwelingen, Hans C.**

Van Hove, H. (*with* Verschoren, Alain) What is "epistasis"? (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 69–77. (Summary) **99c:68219** 68T05

Vanhove, Pierre BPS saturated amplitudes and non-perturbative string theory. *Strings, branes and dualities* (*Cargèse*, 1997), 467–470, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 81T30

dang Van Hung *see* **Dang Van Hung**

Vaninskiĭ, K. L. Symplectic structures and volume elements in the function space for the cubic Schrödinger equation. *Duke Math. J.* **92** (1998), *no.* 2, 381–402. (Henrik Aratyn) **99d:58092** 58F07 (14H45, 34L40, 35Q55)

Van Inwagen, P. *see* **van Inwagen, P.**

Van Iseghem, J. (*with* Graves-Morris, P. R.) Row convergence theorems for vector-valued Padé approximants. (English summary) *J. Approx. Theory* **90** (1997), *no.* 2, 153–173. (Summary) **99c:41032** 41A21 (65D15)

Vanka, S. P. (*with* Robichaux, J.; Balachandar, S.) Three-dimensional Floquet instability of the wake of square cylinder. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 560–578. (Summary) **99j:76054** 76E99 (76D25)

Van Keer, Roger (*with* Dupré, L. R.; Melkebeek, J. A. A.) Computational methods for the evaluation of the electromagnetic losses in electrical machinery. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 4, 385–443. (Summary) **99j:78005** 78-08 (78A55)

— (*with* De Schepper, H.) A variational approximation method for 2nd order elliptic eigenvalue problems in a composite structure with nonstandard boundary conditions. (English summary) *Computing* **60** (1998), *no.* 1, 55–72. (V. L. Makarov) **99b:65134** 65N25 (65N15, 65N30)

— (*with* Dupré, L. R.; Melkebeek, J. A. A.) Complementary 2-D finite element procedures for the magnetic field analysis using a vector hysteresis model. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1005–1023. (Summary) **99f:78001** 78-08

— (*with* De Schepper, H.) On a variational approximation method for 2nd order eigenvalue problems in a multi-component domain with nonlocal Dirichlet transition conditions. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 971–993. (Stefan A. Funken) **99j:65187** 65N25 (35J25)

— (*with* Dupré, L. R.) Finite element methods for nonlinear elliptic and parabolic problems with memory properties. *Bull. Belg. Math. Soc. Simon Stevin* **6** (1999), *no.* 1, 1–67. (Preface) **99m:65002** 65–02 (65M60, 65N30)

Van Keilegom, Ingrid (*with* Veraverbeke, Noël) Estimation and bootstrap with censored data in fixed design nonparametric regression. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 467–491. (Shaw-Hwa Lo) **99f:62060** 62G07 (62G09)

— (*with* Veraverbeke, Noël) Bootstrapping quantiles in a fixed design regression model with censored data. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 115–131. (Lajos Horváth) **99e:62071** 62G09 (62G20)

Van Kemenade, Cees H. M. *see* **van Kemenade, Cees H. M.**

Van Kemenade, Vincent *see* **van Kemenade, Vincent**

nguyễn Văn Khuê *see* **Nguyễn Văn Khuê**

Van Khue, N. *see* **Nguyễn Văn Khuê**

Van Kreveld, Marc *see* **van Kreveld, Marc**

Van Laak, O. *see* **van Laak, O.**

Van Lancker, P. (*with* Sommen, Franciscus) A product for special classes of monogenic functions and tensors. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 1013–1026. (C. S. Sharma) **99b:30065** 30G35 (15A66, 15A69, 58A10)

— Clifford analysis on the sphere. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 201–215, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (John Ryan) **99i:30068** 30G35 (15A66, 30–02, 35Cxx, 44A15, 46Exx, 46Fxx)

Van Leeuwen, Hans *see* **van Leeuwen, Hans**

Van Leeuwen, Jan *see* **van Leeuwen, Jan**

Van Leeuwen, Marc A. A. *see* **van Leeuwen, Marc A. A.**

Van Leijenhorst, D. C. *see* **van Leijenhorst, D. C.**

Van Lieshout, M. N. M. *see* **van Lieshout, Marie-Colette N. M.**

Van Lieshout, Marie-Colette N. M. *see* **van Lieshout, Marie-Colette N. M.**

Van Linder, B. *see* **van Linder, B.**

Van Lint, Jacobus Hendricus *see* **van Lint, Jacobus Hendricus**

đỗ Văn Lu'u *see* **Đỗ Văn Lu'u**

Van Maaren, Hans *see* **van Maaren, Hans**

Van Maldeghem, Hendrik (*with* Thas, Joseph Adolphe) Sub-weakly embedded singular and degenerate polar spaces. (English summary) *Geom. Dedicata* **65** (1997), *no.* 3, 291–298. (Stanley E. Payne) **99a:51003** 51A50

— (*with* Van Steen, K.) Moufang affine buildings have Moufang spherical buildings at infinity. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 237–241. (Andreas E. Schroth) **99b:51009** 51E24 (20E42)

— Ovoids and spreads arising from involutions. (English summary) *Groups and geometries* (*Siena*, 1996), 231–236, *Trends Math., Birkhäuser, Basel*, 1998. (Stanley E. Payne) **99h:51005** 51E12 (51E23)

— Some consequences of a result of Brouwer. (English summary) *Ars Combin.* **48** (1998), 185–190. (Stanley E. Payne) **99d:51005** 51E12

— (*with* Mühlherr, Bernhard) On certain twin buildings over tree diagrams. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 393–402. (Harald Gottschalk) **99g:51009** 51E24

— On the dimensions of the root groups of full subquadrangles of Moufang quadrangles arising from algebraic groups. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 469–475. (Elena Brožíková) **99e:51005** 51E12

— (*with* Thas, Joseph Adolphe) Flat lax and weak lax embeddings of finite generalized hexagons. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 733–751. (Stanley E. Payne) **99k:51006** 51E12 (51E20)

— (*with* Bloemen, I.; Thas, Joseph Adolphe) Translation ovoids of generalized quadrangles and hexagons. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 19–62. (Horst Struve) **99h:51001** 51E12 (51E20, 51E23)

— (*with* Van Steen, K.) Characterizations by automorphism groups of some rank 3 buildings. I. Some properties of half strongly-transitive triangle buildings. (English summary) *Geom. Dedicata* **73** (1998), *no.* 2, 119–142. (Norbert Knarr) **99m:51019** 51E24 (20E42, 51C05)

— (*with* Brouns, Leen; Tent, Katrin) Groups of projectivities of generalized quadrangles. (English summary) *Geom. Dedicata* **73** (1998), *no.* 2, 165–180. (Norbert Knarr) **99m:51006** 51E12

— *see also* **Finite geometry and combinatorics, 99a:51001**

nguyen Van Mau *see* **Nguyen Van Mau**

Van Melkebeek, Dieter *see* **van Melkebeek, Dieter**

Van Mieghem, Jan A. (*with* Eberly, Janice C.) Multi-factor dynamic investment under uncertainty. (English summary) *J. Econom. Theory* **75** (1997), *no.* 2, 345–387. (N. H. Bingham) **99c:90018** 90A09

Van Mill, Jan *see* **van Mill, Jan**

nguyễn Văn Minh *see* **Nguyễn Văn Minh**

Van Minh, N. *see* **Nguyễn Văn Minh**

Van Minh, Nguyen *see* **Nguyễn Văn Minh**

Van Moerbeke, P. *see* **van Moerbeke, P.**

Van Nauta Lemke, Hans R. *see* **van Nauta Lemke, Hans R.**

Van Neerven, J. M. A. M. *see* **van Neerven, J. M. A. M.**

Vannella, Giuseppina Some qualitative properties of the solutions of an elliptic equation via Morse theory. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 297–312. (Alexander Doktor) **99c:35150** 35L65 (58E05)

— Some applications of Morse theory to elliptic problems. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 157–160. (Introduction) **99i:35041** 35J60 (58E05)

Vannelli, Anthony (*with* Kennings, Andrew; Chin, Paulina) Interior point approaches for the VLSI placement problem. (English summary) *Interior point methods of mathematical programming*, 501–528, *Appl. Optim.*, *5*, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C35 (90C90)

Van Ness, John W. (*with* Cheng, Chi-Lun) Errors in variables in econometrics. (English summary) *Econometrics in theory and practice*, 3–13, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 62P20 (62J05)

— (*with* Yang, Jim J.) Robust discriminant analysis: training data breakdown point. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 67–83. (Peter A. Lachenbruch) **99g:62085** 62H30

Vanneste, Ch. (*with* de Toro Arias, S.) A new construction for spinor wave equations. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **3** (1998), *no.* 4, 517–534. (Francois Vanderseypen) **99g:81073** 81R20

Vanneste, Jacques (*with* Bokhove, O.; Warn, T.) A variational formulation for barotropic quasi-geostrophic flows. (English summary) *Geophys. Astrophys. Fluid Dynam.* **88** (1998), *no.* 1-2, 67–79. (Summary) **99d:76095** 76U05 (76M30, 86A05)

— (*with* Shepherd, T. G.) On the group-velocity property for wave-activity conservation laws. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 6, 1063–1068. (Alan Shapiro) **99e:76024** 76C10 (76C15, 86A05, 86A10)

— A nonlinear critical layer generated by the interaction of free Rossby waves. (English summary) *J. Fluid Mech.* **371** (1998), 319–344. (Summary) **99f:76037** 76C20 (86A10)

tran Van Nhung *see* **Tran Van Nhung**

Van Nieuwenhuizen, Peter *see* **van Nieuwenhuizen, Peter**

Van Nieuwstadt, Michiel J. *see* **van Nieuwstadt, Michiel J.**

Vanninathan, Muthusamy (*with* Conca, Carlos; Planchard, Jacques) ★ Fluids and periodic structures. (English summary) RAM: Research in Applied Mathematics, 38. *John Wiley & Sons, Ltd., Chichester; Masson, Paris*, 1995. *xii*+333 *pp. ISBN* 0-471-96059-4 (Ma. Eugenia Pérez Martinez) **99k:73094** 73K70 (35B27, 47A55, 47N20, 65M06, 73B27, 73D30)

— (*with* Saint Jean Paulin, Jeannine) Vibrations of thin elastic structures and exact controllability. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 6, 765–803. (Guenter Leugering) **99c:93010** 93B05 (73K10, 73K12, 73K50)

— (*with* Cioranescu, Doina) Exact controllability in thin perforated domains. (English summary) *Équations aux dérivées partielles et applications*, 383–412, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Fu Ru Jiang) **99i:35010** 35B27 (73D30, 73K50, 93B05, 93C20)

— Wavelets, PDEs and numerical analysis. (English summary) *J. Indian Inst. Sci.* **78** (1998), *no.* 2, 93–107. 65R10 (42C15)

— Some issues in dynamical systems. (English summary) *J. Indian Inst. Sci.* **78** (1998), *no.* 4, 235–248. (Alexander Loskutov) **99m:58078** 58Fxx (34–01, 34C35, 54H20, 58–01)

Vannitsem, Stéphane (*with* Losson, Jérôme; Nicolis, Grégoire) Aperiodic mean-field evolutions in coupled map lattices. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 4921–4932. (Summary) **99b:58154** 58F12 (58F13)

Vännman, Kerstin Distribution and moments in simplified form for a general class of capability indices. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 1, 159–179. (Summary) **99c:62282** 62N10

— Families of capability indices for one-sided specification limits. (English summary) *Statistics* **31** (1998), *no.* 1, 43–66. (Summary) **99a:62144** 62N10

Van Noort, M. *see* **van Noort, M.**

Van Nooyen, R. R. P. *see* **van Nooyen, R. R. P.**

Vannucci, M. (*with* Brown, P. J.; Fearn, T.) Multivariate Bayesian variable selection and prediction. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 627–641. (Summary) **99a:62029** 62F15 (62J05)

Van Ommering, R. C. *see* **van Ommering, R. C.**

Van Oorschot, Paul C. *see* **van Oorschot, Paul C.**

Van Oostrom, Vincent *see* **van Oostrom, Vincent**

Van Ophuysen, Gerrit *see* **van Ophuysen, Gerrit**

Van Overloop, Jeroen (*with* Denecker, Koen; Sommen, Franciscus) The general quadratic Radon transform. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 615–633. (Sergey Egorovich Sysoev) **99j:44005** 44A12

Van Oyen, Mark P. (*with* Kim, Eungab; Rieders, Maria) General dynamic programming algorithms applied to polling systems. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1197–1221. (Florica Luban) **99i:90055** 90B35 (90C39)

— (*with* Kim, Eungab) Beyong the $c\mu$ rule: dynamic scheduling of a two-class loss queue. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 17–36. (Srinivas Chakravarthy) **99k:60231** 60K25 (90B22)

— (*with* Kim, Eungab) Dynamic scheduling to minimize lost sales subject to set-up costs. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 193–229. (Summary) **99g:90058** 90B35 (60K30)

Van Oystaeyen, Freddy (*with* Radwan, Abdelaziz) Micro-structure sheaves, formal sheaves and quantum sections over projective schemes. *Anneaux et modules* (*Colmar*, 1991), 97–117, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (A. Verschoren) **99b:16047** 16S60 (16W60)

— (*with* Dăscălescu, Sorin; Năstăsescu, C.; Torrecillas Jover, Blas) Duality theorems for graded algebras and coalgebras. *J. Algebra* **192** (1997), *no.* 1, 261–276. (William Chin) **99c:16042** 16W50 (16S40, 16W30)

— (*with* Dăscălescu, Sorin; Raianu, Ş.) Smash (co)products from adjunctions. *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 103–110, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Jeffrey Bergen) **99g:16047** 16W30 (16S40)

— (*with* Zhang, Yin Huo) Brauer groups of actions. *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 299–309, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Sorin Dăscălescu) **99g:18006** 18D10 (13A20, 16W30)

— (*with* Beattie, Margaret; Dăscălescu, Sorin; Raianu, Ş.) The categories of Yetter-Drinfel′d modules, Doi-Hopf modules and two-sided two-cosided Hopf modules. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 223–237. (Stefaan Caenepeel) **99h:16054** 16W30

— (*with* Zhang, Yin Huo) Finite-dimensional Hopf algebras coacting on coalgebras. *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 1–14. (Mitsuhiro Takeuchi) **99b:16063** 16W30

— (*with* Zhang, Yin Huo) Embedding the Hopf automorphism group into the Brauer group. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 359–367. (Stefaan Caenepeel) **99h:16066** 16W30 (16H05)

— (*with* Li, Hui Shi) Reductions and global dimension of quantized algebras over a regular commutative domain. *Comm. Algebra* **26** (1998), *no.* 4, 1117–1124. (Surender K. Jain) **99c:16008** 16E10 (16P60)

— (*with* Zhang, Yin Huo) The Brauer group of a braided monoidal category. *J. Algebra* **202** (1998), *no.* 1, 96–128. (Sorin Dăscălescu) **99c:18006** 18D10 (13A20, 16H05, 16W30)

— (*with* Bavula, Vladimir) Krull dimension of generalized Weyl algebras and iterated skew polynomial rings: commutative coefficients. (English summary) *J. Algebra* **208** (1998), *no.* 1, 1–34. (Timothy J. Hodges) **99f:16021** 16P60 (16S36)

— (*with* Torrecillas Jover, Blas; Zhang, Yin Huo) Coflat monomorphisms of coalgebras. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 2, 171–183. (José A. Anquela) **99e:16055** 16W30

Van Parys, Filip (*with* Vanderhoeft, Camille; Steyaert, Hans) Decomposition estimation: a GLM-based technique for fitting multi-linear regression models to grouped data in GLIM 4. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 3, 41–58. (Summary) **99j:62104** 62J12

Van Proeyen, Antoine (*with* Craps, Ben; Roose, Frederik; Troost, Walter) The definitions of special geometry. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 390–395, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81183** 81T60 (53C25, 53C80)

— (*with* Craps, Ben; Roose, Frederik; Troost, Walter) What is special Kähler geometry? (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 565–613. (Krzysztof Galicki) **99e:53061** 53C25 (32G81, 53C55, 53C80, 83E50)

— (*with* Claus, Piet; Kallosh, Renata; Kumar, Jason; Townsend, Paul K.) Conformal theory of M2, D3, M5 and "D1 + D5" branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 4, 27 *pp.* (*electronic*). (Sergey A. Cherkis) **99g:81154** 81T30 (83E30)

— (*with* Claus, Piet; Kallosh, Renata) M 5-brane and superconformal (0, 2) tensor multiplet in six dimensions. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 117–150. (Marco Spaans) **99g:81155** 81T30 (83E30)

— (*with* Claus, Piet; Derix, Martijn; Kallosh, Renata; Kumar, Jason; Townsend, Paul K.) Black holes and superconformal mechanics. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 21, 4553–4556. (Gil De Oliveira-Neto) **99k:83063** 83C57 (83E30)

— (*with* Craps, Ben; Roose, Frederik; Troost, Walter) Special Kähler geometry: does there exist a prepotential? *Strings, branes and dualities* (*Cargèse*, 1997), 449–454, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 53C25 (53C80, 83E30)

— *see also* **Kiritsis, Elias**, **99d:81121**

Van Pul, M. *see* **van Pul, M.**

Van Raamsdonk, Femke *see* **van Raamsdonk, Femke**

Van Raamsdonk, Mark (*with* Taylor, Washington, IV) Angular momentum and long-range gravitational interactions in Matrix theory. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 227–244. (Summary) **99g:81188** 81T30

— (*with* Taylor, Washington, IV) Three-graviton scattering in Matrix theory revisited. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 248–254. (Summary) **99i:81204** 81T30 (83E30, 83E50)

— (*with* Naud, J.; Nemenman, I.; Periwal, Vipul) Minimal subtraction and the Callan-Symanzik equation. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 1-2, 533–539. (Summary) **99m:81154** 81T17 (81V10)

Van Rees, G. H. J. *see* **van Rees, G. H. J.**

Van Rens, B. J. E. *see* **van Rens, B. J. E.**

Van Ritbergen, T. *see* **van Ritbergen, T.**

Van Roessel, H. J. (*with* Sri Namachchivaya, N.) On the calculation of Lyapunov and moment Lyapunov exponents for noise driven coupled oscillators. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 391–398, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 34C15 (34D08, 34F05)

Van Rompay, Kristel (*with* Vancliff, Michaela) Embedding a quantum nonsingular quadric in a quantum $\mathbf{P}^3$. (English summary) *J. Algebra* **195** (1997), *no.* 1, 93–129. (Michel Van den Bergh) **99a:16040** 16W50 (14A22)

— (*with* Vancliff, Michaela; Willaert, Luc) Some quantum $\mathbf{P}^3$s with finitely many points. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1193–1208. (Stefaan Caenepeel) **99c:16045** 16W50 (14A22)

Van Rooij, Arnoud C. M. *see* **van Rooij, Arnoud C. M.**

Van Rootselaar, Bob *see* **van Rootselaar, Bob**

Van Rossum-Wijsmuller, Marijke *see* **van Rossum-Wijsmuller, Marijke**

Van Schuppen, J. H. *see* **van Schuppen, J. H.**

Van Siclen, Clinton DeW. Information measure of location precision. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 287–293. (Summary) **99d:90068** 90B80 (90C90)

Van Steen, Guido Some rigid geometry. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 88–102, *World Sci. Publishing, River Edge, NJ*, 1997. (Ernst-Ulrich Gekeler) **99g:11079** 11G20 (14G20, 32P05)

Van Steen, K. (*with* Van Maldeghem, Hendrik) Moufang affine buildings have Moufang spherical buildings at infinity. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 237–241. (Andreas E. Schroth) **99b:51009** 51E24 (20E42)

— (*with* Van Maldeghem, Hendrik) Characterizations by automorphism groups of some rank 3 buildings. I. Some properties of half strongly-transitive triangle buildings. (English summary) *Geom. Dedicata* **73** (1998), *no.* 2, 119–142. (Norbert Knarr) **99m:51019** 51E24 (20E42, 51C05)

Vansteenkiste, Ghislain C. (*with* Yuan, Zhiguo; Wen, Chuanyuan) Improving the observer-based FDI design for efficient fault isolation. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 197–218. 93B07 (93B30)

Vansteenkiste, N. (*with* Quesne, C.) C_l-extended harmonic oscillator and (para)supersymmetric quantum mechanics. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 21–28. (Parthasarathi Majumdar) **99i:81054** 81Q60 (81S05)

Vanstone, Scott A. (*with* Menezes, Alfred J.; van Oorschot, Paul C.) ★ Handbook of applied cryptography. With a foreword by Ronald L. Rivest. CRC Press Series on Discrete Mathematics and its Applications. *CRC Press, Boca Raton, FL*, 1997. xxviii+780 *pp. ISBN* 0-8493-8523-7 (Yvo Desmedt) **99g:94015** 94A60 (00A20, 00A69, 11T71, 68P25, 94–00, 94–01)

— (*with* Müller, Volker[2]; Zuccherato, Robert) Discrete logarithm based cryptosystems in quadratic function fields of characteristic 2. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 159–178. (Thomas W. Cusick) **99c:94033** 94A60 (11T71)

Van Straten, Duco *see* **van Straten, Duco**

Van Strien, Sebastian *see* **van Strien, Sebastian**

Vantaggi, Barbara (*with* Capotorti, Andrea; Coletti, Giulianella) Non-additive ordinal relations representable by lower or upper probabilities. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika (Prague)* **34** (1998), *no.* 1, 79–90. (Maria-Teresa Lamata) **99g:68199** 68T30 (03B48)

vo Van Tan *see* **Vo Van Tan**

nguyen Van Thoai *see* **Nguyen Van Thoai**

Van 't Hof, Bastiaan *see* **van 't Hof, Bastiaan**

Van Tiggelen, B. A. *see* **van Tiggelen, B. A.**

Van Til, Robert P. (*with* Lipset, Robert; Sengupta, Sankar) Development of a model for a two-station serial transfer line subject to machine and buffer failure. (English summary) *Math. Comput. Model. Dyn. Syst.* **4** (1998), *no.* 3, 231–246. 90B25 (93C83)

— (*with* Lipset, Robert; Sengupta, Sankar) Steady-state performance analysis of serial transfer lines subject to machine and buffer failure. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 319–325. 93C83 (90B30)

Van Tilborg, Henk C. A. *see* **van Tilborg, Henk C. A.**

tran Van Trung *see* **Tran Van Trung**

Van Trung, Tran *see* **Tran Van Trung**

Vanualailai, Jito (*with* Ha, Jun-Hong; Nakagiri, Shin-ichi) A solution to the two-dimensional findpath problem. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 4, 373–401. (Clementina D. Mladenova) **99j:93068** 93C85 (70B15, 70Q05)

— (*with* Ha, Jun-Hong) A collision avoidance control problem for moving objects and a robot arm. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 135–148. (Inge Troch) **99a:70008** 70B15 (70Q05, 90D25, 93C85)

Van Veldhuizen, M. *see* **van Veldhuizen, M.**

Van Vleck, Erik S. (*with* Dieci, Luca) Piecewise smooth orthonormal factors for fundamental solution matrices. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 104–111, *Springer, Berlin*, 1997. (Summary) **99i:65028** 65F05 (65F30)

— (*with* Rodríguez-Bernal, Aníbal) Complex oscillations in a closed thermosyphon. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 41–56. (Summary) **99e:76115** 76R99 (34C35, 58F40, 76F20)

— (*with* Morey, Chris; Scales, John) A feedback algorithm for determining search parameters for Monte Carlo optimization. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 263–281. (Summary) **99g:90076** 90C15 (65C05)

— (*with* Rodríguez-Bernal, Aníbal) Diffusion induced chaos in a closed loop thermosyphon. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1072–1093 (*electronic*). (Woodford W. Zachary) **99d:76041** 76E30 (35Q35, 58F40, 76R99)

— (*with* Cahn, John W.; Mallet-Paret, John) Traveling wave solutions for systems of ODEs on a two-dimensional spatial lattice. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 455–493 (*electronic*). (Igor D. Chueshov) **99j:35220** 35Q99 (34K15, 35K57, 70K99, 73D99)

— *see also* **Proceedings: Conference on Numerical Analysis of Hamiltonian Differential Equations, 99g:65008**

Van Vlierden, Annouk (*with* Dhooghe, Paul F.) Projective geometry on the bundle of volume forms. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 66–83. (Andrew Bucki) **99d:53016** 53B10 (53A20, 53C20)

Van Vuuren, Jan H. *see* **van Vuuren, Jan H.**

Van Wamelen, Paul *see* **van Wamelen, Paul**

Van Wassenhove, Luk N. (*with* Kroon, Leo G.; Salomon, Marc) Exact and approximation algorithms for the tactical fixed interval scheduling problem. (English summary) *Oper. Res.* **45** (1997), *no.* 4, 624–638. (Summary) **99g:90059** 90B35 (90C27)

— (*with* Crauwels, H. A. J.; Potts, Chris N.) Local search heuristics for the single machine total weighted tardiness scheduling problem. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 341–350. 90B35

Van Wijngaarden, Leen *see* **van Wijngaarden, Leen**

Van Willigenburg, Stephanie *see* **van Willigenburg, Stephanie**

Van Winter, Clasine *see* **van Winter, Clasine**

Van Wonderen, A. J. *see* **van Wonderen, A. J.**

Van Wyk, Leon *see* **van Wyk, Leon**

Van Wyk, Leonard (*with* Meier, John; Meinert, Holger) Higher generation subgroup sets and the Σ-invariants of graph groups. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 1, 22–44. (Ross Geoghegan) **99f:57002** 57M07 (20F32)

— (*with* Becker, Jennifer; Horak, Matthew) Presentations of subgroups of Artin groups. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 1, 3–14. (Susan Hermiller) **99f:20052** 20F05 (20F36)

— (*with* Levy, Joshua David; Parker, Cameron) Finite presentations of subgroups of graph groups. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 2, 70–82. (Vladimir I. Trofimov) **99d:20044** 20F05 (05C25)

Van Wyk, M. A. *see* **van Wyk, M. A.**

Van Zandt, Timothy (*with* Horsley, Anthony; Wrobel, A. J.) Berge's maximum theorem with two topologies on the action set. (English summary) *Econom. Lett.* **61** (1998), *no.* 3, 285–291. (Summary) **99j:90002** 90A05 (90A06)

Van Zanten, A. J. *see* **van Zanten, A. J.**

VanZanten, Margreet C. *see* **vanZanten, Margreet C.**

Vanzo, Luciano (*with* Elizalde, Emilio; Zerbini, Sergio) Zeta-function regularization, the multiplicative anomaly and the Wodzicki residue. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 613–630. (Thomas Ackermann) **99e:58202** 58G26 (58G15, 81T50)

— (*with* Bytsenko, Andrei A.; Zerbini, Sergio) Quantum correction to the entropy of the (2 + 1)-dimensional black hole. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4917–4924. (Summary) **99m:83101** 83C57

— (*with* Klemm, Dietmar; Moretti, Valter) Rotating topological black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6127–6137. (Summary) **99m:83121** 83C57 (83C20)

— (*with* Elizalde, Emilio; Filippi, Antonio; Zerbini, Sergio) One-loop effective potential for a fixed charged self-interacting bosonic model at finite temperature with its related multiplicative anomaly. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7430–7443. (Summary) **99k:81195** 81T16 (58G26, 81T50)

— (*with* Klemm, Dietmar) Quantum properties of topological black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104025, 15 *pp.* (Summary) **99k:83073** 83C57 (81T20)

— (*with* Bytsenko, Andrei A.; Zerbini, Sergio) One-loop quantum holography for higher-dimensional black holes. (English summary) *Phys. Lett. B* **449** (1999), *no.* 3-4, 168–172. (Summary) **99m:83102** 83C57

Van Zuijlen, M. C. A. *see* **van Zuijlen, M. C. A.**

Vanžura, Jiří (*with* Čadek, Martin) Various structures in 8-dimensional vector bundles over 8-manifolds. (English summary) *Homotopy and geometry (Warsaw, 1997)*, 183–197, *Banach Center Publ.*, 45, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99m:57024** 57R22 (55R25, 57R25)

— (*with* Čadek, Martin) On 4-fields and 4-distributions in 8-dimensional vector bundles over 8-complexes. *Colloq. Math.* **76** (1998), *no.* 2, 213–228. (R. E. Stong) **99b:55030** 55R25 (57R22, 57R25)

— (*with* Čadek, Martin) Almost quaternionic structures on eight-manifolds. *Osaka J. Math.* **35** (1998), *no.* 1, 165–190. (P. G. Walczak) **99f:57031** 57R15 (57R20)

Vanžurová, Alena Polynomial structures with double roots. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 187–196. (Andrew Bucki) **99k:53063** 53C15

— Tensor approach to multidimensional webs. (English summary) *Math. Bohem.* **123** (1998), *no.* 3, 225–242. (Vladislav Goldberg) **99h:53018** 53A60

Van Zwet, Willem R. *see* **van Zwet, Willem R.**

Vapnik, Vladimir N. ★ Statistical learning theory. Adaptive and Learning Systems for Signal Processing, Communications, and Control. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xxvi*+736 *pp. ISBN* 0-471-03003-1 (Ilya S. Molchanov) **99h:62052** 62G07 (68T05)

Váquez, C. (*with* Besada Morais, Manuel) Weakly smooth preferences on Banach lattices. (English summary) *Econom. Lett.* **59** (1998), *no.* 1, 65–69. (Summary) **99b:90026** 90A10 (46N10, 90A06)

Varadarajan, Kalathoor (*with* Deo, Satya) Hopfian and co-Hopfian groups. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 17–24. (L. R. Vermani) **99a:20055** 20J05 (57M07)

— Perfect modules. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 1-2, 1–9. (J. L. García Hernández) **99d:16035** 16S50 (16L30)

Varadarajan, Kasturi R. (*with* Agarwal, Pankaj K.; Har-Peled, Sariel; Sharir, Micha) Approximating shortest paths on a convex polytope in three dimensions. (English summary) *J. ACM* **44** (1997), *no.* 4, 567–584. (Ruth Silverman) **99c:68241** 68U05

— (*with* Agarwal, Pankaj K.; Arge, Lars; Murali, T. M.; Vitter, Jeffrey Scott) I/O-efficient algorithms for contour-line extraction and planar graph blocking (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 117–126, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68P20)

Varadarajan, Madhavan Quantum gravity effects in the CGHS model of collapse to a black hole. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3463–3473. (Summary) **99m:83142** 83C57 (83C45)

— (*with* Torre, Charles G.) Quantum fields at any time. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064007, 17 *pp.* (Summary) **99k:81326** 81T70

Varadarajan, V. S. (*with* Kolk, Johan A. C.) On the transverse symbol of vectorial distributions and some applications to harmonic analysis. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 1, 67–96. (Robert S. Doran) **99d:22025** 22E46 (22E30, 46E40, 46F10)

— ★ Algebra in ancient and modern times. (English summary) Mathematical World, 12. *American Mathematical Society, Providence, RI*; *Hindustan Book Agency, Delhi*, 1998. *xvi*+142 *pp. ISBN* 0-8218-0989-X (Victor J. Katz) **99d:01007** 01A05 (11–03, 12–03)

— (*with* Mittra, Raj) Numerically efficient solution of dense linear system of equations arising in electromagnetic scattering problems. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 263–274, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65F10, 78A45)

— (*with* Lledó, M. A.) SU(2) Poisson-Lie T duality. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 247–257. (David S. Berman) **99i:81246** 81T60 (81T30)

— ★ The selected works of V. S. Varadarajan. *American Mathematical Society, Providence, RI*; *International Press, Cambridge, MA*, 1999. *xvi*+630 *pp. ISBN* 0-8218-1068-5 (Rebecca Herb) **99j:01030** 01A75 (22–03)

— Essay review of André Weil: *The apprenticeship of a mathematician* [Birkhäuser, Basel, 1992; MR 93j:01015b]. *Notices Amer. Math. Soc.* **46** (1999), *no.* 4, 448–456. 01A70

Varadhan, S. R. S. Nongradient models in hydrodynamic scaling. *Analysis, geometry and probability*, 397–416, *Texts Read. Math.*, 10, *Hindustan Book Agency, Delhi*, 1996. (Pablo A. Ferrari) **99j:60162** 60K35 (82C22)

— The work of Pierre-Louis Lions [see MR 97c:00049]. *Fields Medallists' lectures*, 555–559, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70

— (*with* Yau, Horng-Tzer) Diffusive limit of lattice gas with mixing conditions. (English summary) *Asian J. Math.* **1** (1997), *no.* 4, 623–678. (Claudio Landim) **99k:60256** 60K35 (82C22)

— *see also* **Differential equations: La Pietra, 99g:35004** *and* **Probability theory and applications, 99k:60002**

Varadharajan, Srinivasa (*with* Lakshminarayanan, Vasudevan) Approximate solutions to the scalar wave equation: the decomposition method. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1394–1400. (Summary) **99a:78019** 78A40

Varadi, Peter C. (*with* O'Reilly, Oliver M.) A unified treatment of constraints in the theory of a Cosserat point. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 205–223. (Summary) **99c:73040** 73K05 (73K12)

Várady, Lajos (*with* Hoffmann, Miklós) Free-form surfaces for scattered data by neural networks. (English summary) *J. Geom. Graph.* **2** (1998), *no.* 1, 1–6. 68U05 (65D17)

Várady, Tamás (*with* Hermann, Thomas[1]; Kovács, Zoltán) Special applications in surface fitting. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 14–31, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65021** 65D17 (65D10)

— (*with* Hoffmann, Christoph M.) Vertex blending: problems and solutions. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 501–527, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65058** 65D17

Varagnolo, M. (*with* Vasserot, E.) Double-loop algebras and the Fock space. *Invent. Math.* **133** (1998), *no.* 1, 133–159. (Alexander N. Rudyĭ) **99g:17035** 17B37 (81R10, 81R50)

Varanasi, Mahesh K. Decision feedback multiuser detection: a systematic approach. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 219–240. 94A13

Varas, Fernando Analysis of the propagation of reaction fronts in a one-dimensional model of the combustion of solids. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1001–1006, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 80A25

Varchenko, A. N. ★ Multidimensional hypergeometric functions and representation theory of Lie algebras and quantum groups. Advanced Series in Mathematical Physics, 21. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. x+371 *pp. ISBN* 981-02-1880-X (V. Leksin) **99i:32029** 32G34 (17B37, 22E70, 33–02, 33D80)

— (*with* Felder, Giovanni) Three formulae for eigenfunctions of integrable Schrödinger operators. (English summary) *Compositio Math.* **107** (1997), *no.* 2, 143–175. (Yvette Kosmann-Schwarzbach) **99a:17010** 17B10 (17B37, 33C80, 35J10, 35Q40, 82B23)

— (*with* Frenkel, Igor B.; Kirillov, Alexander A., Jr.) Canonical basis and homology of local systems. (English summary) *Internat. Math. Res. Notices* **1997**, *no.* 16, 783–806. (From the introduction) **99j:17019** 17B37 (17B10)

— (*with* Tarasov, V. O.) Geometry of q-hypergeometric functions as a bridge between Yangians and quantum affine algebras. *Invent. Math.* **128** (1997), *no.* 3, 501–588. (V. A. Golubeva) **99h:33063** 33D80 (17B37, 81R50)

— (*with* Gusein-Zade, Sabir M.) Verlinde algebras and the intersection form on vanishing cycles. (English summary) *Selecta Math. (N.S.)* **3** (1997), *no.* 1, 79–97. (Sergei V. Chmutov) **99b:32057** 32S30 (14B05, 81R10, 81T40)

— (*with* Etingof, Pavel) Geometry and classification of solutions of the classical dynamical Yang-Baxter equation. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 77–120. (V. A. Golubeva) **99e:32032** 32G34 (17B67, 35Q99, 81T40)

Vardanyan, V. A. Realization of logic functions by combinational circuits that can be tested for path delay faults. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 2-4, 38–42 (1997). (From the text) **99i:94079** 94C10

Vardapetyan, L. (*with* Demkowicz, L.) Modeling of electromagnetic absorption/scattering problems using hp-adaptive finite elements. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 103–124. (Tom Roberts) **99b:78003** 78–08 (65N12, 65N22, 78A45)

— (*with* Demkowicz, L.) hp-adaptive finite elements in electromagnetics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 331–344. (Summary) **99k:78004** 78–08 (65M60)

Varden, Stuart (*with* Gargano, Michael L.; LoSacco, Frank) Self descriptive lists. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 53–54. (*see* **99i:05002**) 05A99

Vardi, Moshe Y. Reasoning about the past with two-way automata. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 628–641, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (03B45, 03B70, 68Q45)

— (*with* Alur, Rajeev; Henzinger, Thomas A.; Kupferman, Orna) Alternating refinement relations. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 163–178, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68116** 68Q60 (68Q10)

— (*with* Feigenbaum, Joan; Kannan, Sampath K.; Viswanathan, Mahesh) Complexity of problems on graphs represented as OBDDs (extended abstract). (English summary) *STACS 98* (*Paris*, 1998), 216–226, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q25 (68R10)

— (*with* Kupferman, Orna) Freedom, weakness, and determinism: from linear-time to branching-time. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 81–92, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q60

— Linear vs. branching time: a complexity-theoretic perspective. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 394–405, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q60 (03D15, 68Q25)

— (*with* Kupferman, Orna) Verification of fair transition systems. (English summary) *Chicago J. Theoret. Comput. Sci.* **1998**, *Article* 2, 37 *pp.* (*electronic*). (Robert P. Kurshan) **99c:68173** 68Q60 (68Q25, 68Q68)

— Computational model theory: an overview. (English summary) *Log. J. IGPL* **6** (1998), *no.* 4, 601–623. (Andrey Morozov) **99m:03060** 03C13 (03–02, 03C80, 03D15, 68Q15, 68Q25)

— *see also* **Database theory—ICDT '95, 99a:68006**

Vardoulakis, I. (*with* Georgiadis, H. G.) SH surface waves in a homogeneous gradient-elastic half-space with surface energy. (English summary) *J. Elasticity* **47** (1997), *no.* 2, 147–165. (Summary) **99m:73027** 73D20 (73C99)

— (*with* Exadaktylos, G. E.) Surface instability in gradient elasticity with surface energy. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 18, 2251–2281. (Paul Andrew Martin) **99g:73035** 73C99 (73H10)

— (*with* Georgiadis, H. G.) Anti-plane shear Lamb's problem treated by gradient elasticity with surface energy. (English summary) *Wave Motion* **28** (1998), *no.* 4, 353–366. (Summary) **99g:73040** 73D20 (73D25)

— (*with* Exadaktylos, G. E.) The asymptotic solution of anisotropic gradient elasticity with surface energy for a mode-II crack. *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 87–98, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 73M25

Vardulakis, A. I. G. *see* **Karampetakis, N. P.**

Vardy, Alan E. (*with* Zhang, Li-xiang; Huang, Wen-hu; Tijsseling, Arris S.) Normal modes of fluid-structure interaction in internal flows. (English summary) *J. Hydrodyn. Ser. B* (*English Ed.*) **10** (1998), *no.* 4, 71–89. 73K70

Vardy, Alexander (*with* Forney, G. David, Jr.) Generalized minimum-distance decoding of Euclidean-space codes and lattices. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1992–2026. (Stefan Dodunekov) **99c:94058** 94B35 (11H31)

— The intractability of computing the minimum distance of a code. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1757–1766. (Giorgio Faina) **99a:94047** 94B05

— (*with* Blaum, Mario; Bruck, Jehoshua) Interleaving schemes for multidimensional cluster errors. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 730–743. (Summary) **99c:94055** 94B20

— (*with* Etzion, Tuvi) On perfect codes and tilings: problems and solutions. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 205–223 (*electronic*). (Simon N. Litsyn) **99f:94017** 94B25 (05B45)

— (*with* Tarokh, Vahid; Zeger, Kenneth) Universal bound on the performance of lattice codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 670–681. (Summary) **99j:94074** 94B35

— Density doubling, double-circulants, and new sphere packings. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 271–283. (Christine Bachoc) **99c:52029** 52C17 (11H31, 94B15)

martínez Varela, A. M. *see* **Martínez Varela, A. M.**

díaz Varela, J. Patricio *see* **Díaz Varela, J. Patricio**

Varela, Januario (*with* Bautista, Serafín) On the co-completeness of the category of Hausdorff uniform spaces. (English summary) *Rev. Colombiana Mat.* **31** (1997), *no.* 2, 109–114. (Summary) **99i:18007** 18B30 (18A30, 54B30)

Varenne, J. P. (*with* Bougrini, H.; Piriou, Alain) Propagation et interaction des symboles principaux pour les ondes conormales semi-linéaires. [Propagation and interaction of principal symbols for semilinear conormal waves] *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 333–370. (Alan Jeffrey) **99c:35003** 35A20 (35L60)

Varennes, Serge (*with* Devienne, Philippe; Parrain, Anne; Taillibert, Patrick) Source-to-source Prolog program compression. (English summary) *Logic programming* (*Manchester*, 1998), 205–219, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17

Varentsova, S. A. (*with* Trofimov, V. A.) Lagrangian of the process of the generation of the second wave harmonic of femtosecond light pulses. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 7, 993–995, 1008. 78A60

Vares, Maria Eulália Large deviations and metastability. *Disordered systems* (*Temuco*, 1991/1992), 1–62, *Travaux en Cours*, 53, *Hermann, Paris*, 1996. (Christian Maes) **99c:60060** 60F10 (60K35, 82C22, 82C26)

— (*with* Sidoravicius, V.; Surgailis, Donatas) An exclusion process with two types of particles and the hydrodynamic limit. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 2, 131–174. (Timo Seppäläinen) **99e:60222** 60K35 (82C22)

— *see also* **School: Probability, 99i:60002**

gérard-Varet, Louis-André *see* **Gérard-Varet, Louis-André**

Varga, Andras Periodic Lyapunov equations: some applications and new algorithms. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 69–87. 93B40 (65F30)

— Computation of inner-outer factorizations of rational matrices. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 684–688. (C. Praagman) **99h:93048** 93B40 (65F30, 93B25)

Varga, Csaba (*with* Farkas, Gavril) A multiplicity theorem in equivariant case. *Mathematica* **38(61)** (1996), *no.* 1-2, 221–226. (Andrzej Szulkin) **99b:58072** 58E40 (34C25, 58E05)

— (*with* Varga, Viorica) A note on linking problems in equivariant case. *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 113–119. (Miguel Ramos) **99g:58023** 58E05 (49J52, 58E40)

— (*with* Pintea, Cornel) A note on homology and homotopy groups of fiber spaces. *Mathematica* **39(62)** (1997), *no.* 1, 95–101. (Götz Brunner) **99e:55020** 55Q05 (55N99, 55R05, 55R10)

— (*with* Curt, Paula) Jack, Miller and Mocanu lemma for holomorphic mappings in $\mathbf{C}^n$. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 39–45. (T. J. Suffridge) **99m:32023** 32H02 (30C45)

— (*with* Motreanu, Dumitru) A nonsmooth equivariant minimax principle. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 115–130. (Vitaly B. Moroz) **99m:49027** 49J52 (35J99, 35R70, 47H15, 58E05)

Varga, Katalin Nearly unstable AR models with coefficient matrices in Jordan normal form. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 9, 1–10. (A. Ya. Olenko) **99i:62221** 62M10 (62F12, 65F99, 65U05)

Varga, Peter[2] Finite groups and quantum Yang-Baxter equation. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 295–298. (Andrey V. Tsiganov) **99e:82021** 82B20 (81R50, 82B23)

— Minimax games, spin glasses, and the polynomial-time hierarchy of complexity classes. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6487–6492. (Summary) **99a:82098** 82D30 (90D40)

Varga, Richard S. (*with* Pritsker, I. E.) Weighted polynomial approximation in the complex plane. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 475–492. (Juan Carlos Fariña Gil) **99j:41015** 41A10 (30E10)

— In memoriam: Garrett Birkhoff: January 10, 1911–November 11, 1996. *J. Approx. Theory* **95** (1998), *no.* 1, *iv*, 1–4. (Editors) **99m:01093** 01A70

— (*with* Krautstengl, Alan) On Geršgorin-type problems and ovals of Cassini. (English summary) *Electron. Trans. Numer. Anal.* **8** (1999), 15–20 (*electronic*). (F. Szidarovszky) **99k:15020** 15A18

Varga, Viorica (*with* Varga, Csaba) A note on linking problems in equivariant case. *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 113–119. (Miguel Ramos) **99g:58023** 58E05 (49J52, 58E40)

Vargas, Ana (*with* Tao, Terence; Vega, Luis) A bilinear approach to the restriction and Kakeya conjectures. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 4, 967–1000. (Anthony Carbery) **99f:42026** 42B10 (42B25)

— (*with* Duoandikoetxea, Javier) Maximal operators associated to Fourier multipliers with an arbitrary set of parameters. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A*

128 (1998), *no.* 4, 683–696. (Rodolfo Torres) **99h:42033** 42B25 (42A45)

Vargas, Edson (*with* Świątek, Grzegorz) Decay of geometry in the cubic family. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1311–1329. (Henk P. Bruin) **99h:58161** 58F23 (30C62)

Vargas, Jorge (*with* Soto-Andrade, Jorge) Intertwining operators for $L^2(E)$. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1419–1427. (Ronald J. Evans) **99d:11132** 11T99

Vargas, Jose G. (*with* Torr, Douglas G.) Teleparallel Kähler calculus for spacetime. (English summary) *Found. Phys.* **28** (1998), *no.* 6, 931–958. (Jayme Vaz, Jr.) **99g:58006** 58A14 (58A10, 83C99)

castellanos Vargas, Víctor *see* **Castellanos Vargas, Víctor**

Vargas Jarillo, Cristóbal (*with* Dobrokhotov, Sergeĭ Yu.; Quezada Batalla, Roberto; Zhevandrov, P. N.) In memoriam: Víctor Martínez Olivé. (Spanish) *Miscelánea Mat. No.* 23 (1996), 1–15. 01A70

— Origin and development of the Weierstrass approximation theorem. (Spanish) Dedicated to the memory of Karl Weierstrass (Spanish). *Miscelánea Mat. No.* 25 (1997), 47–58. (*see* **99i:00034**) 41–03 (01A55)

Vargas Moniz, P. *see* **Moniz, Paulo Rodrigues Lima Vargas**

Vargiu, Francesco (*with* Di Battista, Giuseppe; Liotta, Giuseppe) Spirality and optimal orthogonal drawings. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1764–1811 (*electronic*). (Peter B. Gibbons) **99g:05162** 05C85 (05C10, 68U05, 90C27)

Várilly, J. C. (*with* Estrada, Ricardo; Gracia-Bondía, J. M.) On summability of distributions and spectral geometry. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 219–248. (Éric Leichtnam) **99a:58153** 58G18 (46F99, 58B30, 58G11, 58G26)

— (*with* Figueroa, Héctor; Gracia-Bondía, J. M.; Lizzi, Fedele) A nonperturbative form of the spectral action principle in noncommutative geometry. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 329–339. (Daniela Bigatti) **99e:58179** 58G15 (46L87, 58B30, 58G40, 81V22)

Varin, V. P. (*with* Bruno, Alexander D.) The limit problems for the equation of oscillations of a satellite. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 1, 1–40. (Summary) **99f:70029** 70K99 (34C15, 70M20)

Varisco, Ada Structure of E_3-rings. (English summary) *Matematiche* (*Catania*) **51** (1996), *suppl.*, 229–239 (1997). (William D. Blair) **99b:16052** 16U99

Varisov, A. K. (*with* Aseev, Vladislav V.) Geometric definition for quasiconformality and plane labyrinths. (Russian and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 3–8. (Jixiu Chen) **99j:30019** 30C62

csuhaj-Varjú, Erzsébet *see* **Csuhaj-Varjú, Erzsébet**

Varjú, Katalin (*with* Ryder, Lewis H.) The effect of Schwarzschild field on spin 1/2 particles compared to the effect of a uniformly accelerating frame. (English summary) *Phys. Lett. A* **250** (1998), *no.* 4-6, 263–269. (Summary) **99i:81162** 81T20

Varlamov, Vladimir V. On the initial-boundary value problem for the damped Boussinesq equation. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 431–444. (Summary) **99a:35228** 35Q53 (76B15)

Varlet, J. C. (*with* Vaz de Carvalho, Júlia) Axioms in the variety of double MS-algebras. II. (English summary) *Bull. Soc. Roy. Sci. Liège* **66** (1997), *no.* 6, 391–404. (Summary) **99d:06015** 06D30

Varley, Eric (*with* Seymour, Brian R.) A simple derivation of the N-soliton solutions to the Korteweg-deVries equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 904–911 (*electronic*). (Summary) **99a:35229** 35Q53

Varley, Robert (*with* Adams, Malcolm R.; McCrory, Clint; Shifrin, T.) Conic Lagrangian singularities. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 155–178. (Stanisław Janeczko) **99i:57049** 57R45 (58F05)

Varma, Arun Kumar *see* **Approximation theory, 99a:00051** *and* **Sharma, Ambikeshwar, (99a:00051)**

Varma, Badri N. (*with* Bagga, Jay S.) Hamiltonian properties in bipartite graphs. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 71–85. (Summary) **99m:05098** 05C45

Varma, Sushama K. (*with* Shrivastava, Umesh Kumar; Yadav, Ramadhar Singh) On uniform $F(a, q)$ summability of Fourier series. *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 449–456. 42A24

— (*with* Srivastava, U. K.) On degree of approximation of functions in the Hölder metric. (English summary) *Ganita* **48** (1997), *no.* 1, 11–20. (Alexandru Leonte) **99a:41020** 41A25

Varnell, R. Craig (*with* Cook, Diane J.) Adaptive parallel iterative deepening search. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 139–166 (*electronic*). 68T20

Varnhagen, Raimund (*with* Isakov, Sergei B.; Leinaas, Jon Magne; Myrheim, Jan; Polychronakos, Alexios P.) Algebra of observables for identical particles in one dimension. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 151–160. (Summary) **99e:81112** 81S05

Varnhorn, Werner Boundary value problems and integral equations for the Stokes resolvent in bounded and exterior domains of $\mathbf{R}^n$. *Theory of the Navier-Stokes equations*, 206–224, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Vladimir V. Shelukhin) **99h:35173** 35Q30 (76D05)

rostami Varnos Fadrani, D. *see* **Rostami Varnos Fadrani, D.**

Varona, Juan L. (*with* Benito, Manuel) Advances in aliquot sequences. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 389–393. (Richard T. Bumby) **99c:11162** 11Y55 (11A25)

Varone, Sacha C. Trees related to realizations of distance matrices. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 337–346. (J. M. S. Simões-Pereira) **99k:05114** 05C50 (05C05, 05C15, 54E35)

Varopoulos, Nicholas T. Measure algebras of a locally compact abelian group. *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 282, 81–90, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 43A10 (22B99)

— Potential theory in conical domains. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 335–384. (Mario Bonk) **99i:60145** 60J45 (31B15)

Varošanec, S. (*with* Abramovich, Shoshana; Pečarić, Josip) New generalization of Gauss-Pólya's inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 331–342. (Zsolt Páles) **99f:26025** 26D15

Varouchas, Jean Démonstration élémentaire d'une identité de Lorenz. (English summary) [Elementary proof of a Lorenz identity] *Ramanujan J.* **2** (1998), *no.* 4, 495–498. (Ken Ono) **99m:11045** 11E25 (11B65)

Varricchio, Stefano (*with* de Luca, Aldo) A finiteness condition for semigroups. (English summary) *Semigroups* (*Luino*, 1992), 42–50, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M99

— (*with* de Prophetis, Lucio) Recognizability of rectangular pictures by Wang systems. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 4, 269–288. (Rani Siromoney) **99h:68107** 68Q45

— (*with* Melideo, Giovanna) Learning unary output two-tape automata from multiplicity and equivalence queries. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 87–102, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (Summary) **99m:68170** 68T05 (68Q45, 68Q68)

Varro, R. (*with* Burgueño, C.; Mallol, Cristián) Dérivations de Peirce et une classe d'algèbres de Bernstein Jordan d'ordre 2. (French summary) [Peirce derivations and a class of second-order Bernstein-Jordan algebras] *Algebras Groups Geom.* **15** (1998), *no.* 2, 239–244. (Consuelo Martínez) **99m:17043** 17D92 (17A36)

Vârsan, C. ★ Lie algebra in differential equations. Seminar Series in Mathematics. Analysis, 2. "*Ovidius*" *University Constanţa, Constanţa*, 1997. *vi*+78 *pp.* (Janusz Grabowski) **99f:35008** 35A30 (17B66, 34A26, 34H05, 35L40, 93B27)

Varshamov, R. R. On a method for ordering a set of integers. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 3, 131–140 (1996). 11B75

Varshavsky, Yakov p-adic uniformation of unitary Shimura varieties. *Inst. Hautes Études Sci. Publ. Math. No.* 87 (1998), 57–119. (From the text) **99m:14045** 14G35 (11G18, 14G20)

Varsos, D. (*with* Raptis, E.) On the profinite topology of the automorphism group of a residually torsion free nilpotent group. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 735–738. (Summary) **99h:20061** 20F28 (20F18)

Vartak, M. N. *see* **Patwardhan, G. A.**

Vartanian, A. H. (*with* Kitaev, A. V.) Leading-order temporal asymptotics of the modified nonlinear Schrödinger equation: solitonless sector. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1311–1339. (Summary) **99g:35119** 35Q55 (34L25)

Várterész, Magdolna Iterations generated by tangential convex functions for solving equations. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **18** (1994/98), 219–235 (1999). 65H05

Varvarigos, Emmanouel A. (*with* Yeh, Chi-Hsiang) New efficient majority circuits for the computation of some basic arithmetic functions. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 114–136 (*electronic*). (*see* **99g:68005**) 68Q25

— Optimal communication algorithms for Manhattan Street networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 303–326. (Summary) **99c:68023** 68M10 (05C90, 90B12)

Varzi, Achille C. Reasoning about space: the hole story. *Logic Log. Philos. No.* 4 (1996), 3–39. (Décio Krause) **99m:03020** 03B30 (54A99)

Varzugin, G. G. (*with* Gut·shabash, E. Sh.; Lipovskiĭ, V. D.) Errata: "A boundary value problem for a two-dimensional stationary Heisenberg magnet with nontrivial background. II" [Teoret. Mat. Fiz. **104** (1995), no. 3, 513–529; MR 98k:82051]. (Russian) *Teoret. Mat. Fiz.* **106** (1996), *no.* 1, 175. 82B20 (35Q60, 82C31)

Vasantha Kandasamy, W. B. A note on group rings which are F-rings. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 251–252. 16S34 (20C05)

— On n-harmonious subgroups of a group. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 457–458. 20D99

— (*with* Meiyappan, D.) Note on lower and upper approximations in a fuzzy group. (English summary) *Ganita Sandesh* **11** (1997), *no.* 2, 85–90 (1998). 20N25

— Loop algebras of Moufang loops. *Math. Forum* **11** (1997), 21–25. 20N05

— On semi-nilpotent elements of a ring. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 143–147. 16N40

— On a quasi-subset theoretic relation in a ring. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 9–10. 16B99

— Group-loop-rings. *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 13–14. 20N05

— A note on f-group rings without non-zero nilpotents. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 15–17. 16W80

— (*with* Meiyappan, D.) Fuzzy symmetric subgroups and conjugate fuzzy subgroups of a group. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 905–913. (Branimir Šešelja) **99m:20165** 20N25

— Inner associative rings. (English summary) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 217–218. 17A01

— On SS-ring. *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 68–69. 16S99

— On fuzzy near matrix rings. *Math. Ed.* (*Siwan*) **32** (1998), *no.* 3, 169–171. 16W99 (16Y30)

— Strongly modular lattices. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 106–113. (Summary) **99c:06011** 06C05

— On plane sphere intersecting problem. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 137–138. 51M04

— Matrices over the Boolean algebra [0, 1]. *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 9–10. 15A33

Vásárhelyiné Szabó, Anna (*with* Rapcsák, Tamás) On a relation between problems of calculus of variations and mathematical programming. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 238–248, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 49K05 (90C31)

Vasco, D. W. Regularization and trade-off associated with nonlinear geophysical inverse problems: penalty homotopies. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 1033–1052. (Summary) **99e:86009** 86A22 (65D99, 65M30, 86–08, 86A15)

Vasconcelos, Giovani L. Exact solutions for N steady fingers in a Hele-Shaw cell. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part B*, 6858–6860. (Summary) **99i:76048** 76D99 (76S05)

— Motion of a finger with bubbles in a Hele-Shaw cell: an exact solution. (English summary) *Phys. Fluids* **11** (1999), *no.* 6, 1281–1283. 76D99 (76S05)

Vasconcelos, Wolmer V. ★ Computational methods in commutative algebra and algebraic geometry. (English summary) With chapters by David Eisenbud, Daniel R. Grayson, Jürgen Herzog and Michael Stillman. Algorithms and Computation in Mathematics, 2. *Springer-Verlag, Berlin*, 1998. xii+394 *pp. ISBN* 3-540-60520-7 (P. Schenzel) **99c:13048** 13Pxx (13–02, 14–02, 14Qxx)

— Cohomological degrees of graded modules. *Six lectures on commutative algebra* (*Bellaterra*, 1996), 345–392, *Progr. Math.*, 166, *Birkhäuser, Basel*, 1998. (David A. Jorgensen) **99j:13012** 13D99 (13A02)
— (*with* Doering, Luisa Rodrigues; Gunston, Tor) Cohomological degrees and Hilbert functions of graded modules. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 493–504. (Claudia Polini) **99h:13019** 13D40 (13H10)
— (*with* Simis, Aron; Villarreal, Rafael H.) The integral closure of subrings associated to graphs. (English summary) *J. Algebra* **199** (1998), *no.* 1, 281–289. (Sarah Glaz) **99c:13004** 13A30 (13B22, 13B25)
— (*with* Glaz, Sarah) The content of Gaussian polynomials. *J. Algebra* **202** (1998), *no.* 1, 1–9. (Daniel D. Anderson) **99c:13003** 13A15 (13B25)
— (*with* Corso, Alberto; Huneke, Craig) On the integral closure of ideals. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 331–347. (Stephen McAdam) **99b:13010** 13B22
Vaserstein, Leonid (*with* Wheland, Ethel) Rigid relations in GL_2F. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 25–31. (Oliver H. King) **99f:20076** 20G15
— (*with* Cherly, Jørgen; Gallardo, Luis; Wheland, Ethel) Solving quadratic equations over polynomial rings of characteristic two. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 131–142. (Gábor Hetyei) **99e:13030** 13P05 (12Y05, 68Q40)
Vashakmadze, T. Some problems of computational mechanics of rigid deformed body. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1996), *no.* 6, 39–56. (Igor Yu. Chudinovich) **99e:73067** 73K10 (73R05, 73V20)
Vasić, Bane V. Spectral analysis of maximum entropy multitrack modulation codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1574–1587. (Summary) **99i:94018** 94A14 (94B12)
Vasicek, O. A. (*with* Keilson, Julian) Monotone measures of ergodicity for Markov chains. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 283–288. (Summary) **99e:60151** 60J10
Vašíček, Osvald Bayesian identification of macroeconomic model. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřinek*, 1995), 169–185, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 62P20 (62F15)
Vasilache, T. (*with* Prepeliţă, Valeriu; Doroftei, M.) Peano Baker series convergence for matrix valued functions of bounded variation. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 111–118. (Gianluca Vinti) **99k:26010** 26A45 (26A39, 34A12)
— On the global nonsingularity of algebraic representations of gradient systems in finite-dimensional Lie algebras. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. D Mech. Engrg.* **60** (1998), *no.* 1-2, 15–26. 17B10
Vasil'chik, M. Yu. A conversible characteristic for the traces of functions in Sobolev spaces on the piecewise smooth boundary of a plane domain. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 3, 126–150. (H. Triebel) **99c:46031** 46E35
— Some applications of integral representations to studying boundary properties of differentiable functions [translation of *Proceedings of the Institute of Mathematics, 31* (Russian), 58–99, Izdat. Ross. Akad. Nauk, Sibirsk. Otdel., Inst. Mat., Novosibirsk, 1996]. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 4, 97–150. (H. Triebel) **99c:46032** 46E35
Vasilenko, O. N. Some algorithms for constructing large prime numbers. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 5, 62–64; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 5, 50–51. (J. S. Joel) **99c:11155** 11Y11
Vasilenko, S. I. Optimal schedules for problems with various routes. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998,** *no.* 3, 77–79. 90C35 (90C08)
Vasilescu, Anca (*with* Tabirca, Tatiana; Budoi, D.) Inductive engendering of Hamming-code-matrices. (English and Romanian summaries) *Bull. Transilv. Univ. Braşov Ser. B (N.S.)* **2(37)** (1995), 19–23. (Summary) **99d:94036** 94B05
Vasil'ev, A. A. (*with* Neĭshtadt, A. I.; Vainshtein, D. L.) Chaotic advection in a cubic Stokes flow. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 227–242. (Vered Rom-Kedar) **99g:76070** 76F20 (34C23, 58F13, 58F40)
— (*with* Itin, A. P.; Neĭshtadt, A. I.) On dynamics of four globally phase-coupled oscillators with close frequencies. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 9–18. (Peter Ashwin) **99k:34078** 34C15 (34C29, 58F21)
Vasil'ev, A. F. On the enumeration of local formations with the Kegel condition. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 86–93, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10
— On the influence of primary $\mathfrak{F}$-subnormal subgroups on the structure of finite groups. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 31–39, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20D35
— (*with* Vasil'eva, T. I.) On finite groups in which the principal factors are simple groups. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997,** *no.* 11, 10–14; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 11, 8–12 (1998). (A. A. Makhnev) **99d:20026** 20D10 (20F16)
— A problem in the theory of formations of finite groups. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 52–58; *translation in Math. Notes* **62** (1997), *no.* 1-2, 44–49 (1998). (Ĭ. Ya. Subbotin) **99c:20018** 20D10
Vasil'ev, A. I. On an inverse problem in the theory of best approximation in F-spaces. (English summary) Dedicated to P. L. Ul'yanov. *East J. Approx.* **4** (1998), *no.* 2, 201–215. (Wiesław Pleśniak) **99e:41027** 41A65 (46A16)
Vasil'ev, A. Ju. *see* **Vasil'ev, A. Yu.**
Vasil'ev, A. N. (*with* Vyazovskiĭ, M. I.) A proof of the openness of the Gross-Neveu model in dimensional regularization $d = 2 + 2\varepsilon$. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 1, 85–99; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 1, 1277–1288 (1998). (A. L. Rebenko) **99c:81142** 81T15
— (*with* Adzhemyan, Loran Ts.; Antonov, N. V.) Renormalization group, operator product expansion, and anomalous scaling in a model of advected passive scalar. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1823–1835. (Summary) **99f:76073** 76F99 (81T17)
— (*with* Mikhaĭlov, A. P.) Self-similar solutions of the Cauchy problem for the nonlinear heat equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 788–800; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 758–770. (Summary) **99c:35104** 35K55 (35K05, 80A20)
Vasil'ev, A. V. *see* **Vasil'ev, Andreĭ Viktorovich**
Vasil'ev, A. Yu. Moduli of families of curves, and invariant metrics on the Teichmüller space. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 986–994, *i*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 868–875. (Vasily A. Chernecky) **99g:32036** 32G15 (30F45, 30F60)
— (*with* Khokhlov, Yu. E.; Prokhorov, D. V.) On geometrical properties of free boundaries in the Hele-Shaw flows moving boundary problem. *Lobachevskii J. Math.* **1** (1998), 3–12 (*electronic*). (Peter A. McCoy) **99m:76054** 76D99 (30C35, 35R35, 76S05)
Vasil'ev, Alexander N. *see* **Vasil'ev, A. N.**
Vasil'ev, Andreĭ Viktorovich Minimal permutation representations of finite simple exceptional groups of twisted type. (Russian. Russian summary) *Algebra i Logika* **37** (1998), *no.* 1, 17–35, 122; *translation in Algebra and Logic* **37** (1998), *no.* 1, 9–20. (A. S. Kondrat'ev) **99m:20115** 20G40 (20B15, 20D06)
Vasil'ev, F. P. (*with* Amochkina, T. V.; Nedić, Anđelija) On a regularized variant of the second-order continuous gradient projection method. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995,** *no.* 3, 39–46; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995,** *no.* 3, 33–39. 90C30 (65K05)
— (*with* Amochkina, T. V.; Antipin, A. S.) Continuous regularized variable-metric proximal minimization method. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 314–321. (Vera V. Kovačević-Vujčić) **99j:90078** 90C30 (90C25)
— (*with* Ivanitskiĭ, A. Yu.; Jaćimović, Milojica) Pointwise residual method for solving linear lexicographical problems. (English summary) *Math. Montisnigri* **8** (1997), 217–229. (Luis N. Vicente) **99c:90085** 90C20 (65K05)
— (*with* Amochkina, T. V.; Antipin, A. S.) A continuous linearization method with a variable metric for convex programming problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1459–1466; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1415–1421. (Vera V. Kovačević-Vujčić) **99c:90086** 90C25
— (*with* Antipin, A. S.) Regularization methods for the search for a fixed point of extremal mappings. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998,** *no.* 1, 11–14, 52; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998,** *no.* 1, 16–21. (G. M. Ostrovsky) **99d:90121** 90C30 (49M37, 65K10)
— Stability criteria for the general linear programming problem. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998,** *no.* 2, 17–20, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998,** *no.* 2, 24–29. (Rumena Kaltinska) **99g:90068** 90C05 (90C31)
— On the stability of regularization methods in linear programming. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998,** *no.* 4, 19–23, 50. (R. Tichatschke) **99k:90100** 90C05 (65K05, 90C31)
— (*with* Aliakbarov, S. M.; Mukhamadiev, È. M.) Justification of the dynamic programming method for problems of standardization type. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 740–748; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 711–718. (Summary) **99c:90153** 90C39 (49L20)
— (*with* Ivanitskiĭ, A. Yu.; Morozov, Vladimir A.) The pointwise residual method for solving some problems of linear algebra and linear programming. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1140–1152; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1090–1102. (C. Ilioi) **99f:90059** 90C05 (65F35)
Vasil'ev, I. L. (*with* Plashchinskiĭ, P. V.) Discrete Mellin transforms and convolutions. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 46–48, 123. (Summary) **99a:44004** 44A35 (44A10, 44A15)
Vasil'ev, K. G. On the algebraic independence of the periods of Abelian integrals. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 5, 681–691, 799; *translation in Math. Notes* **60** (1996), *no.* 5-6, 510–518 (1997). (Eugene M. Matveev) **99c:11094** 11J89 (11J85)
Vasil'ev, M. A. Higher-spin-matter interactions in 2 + 1 dimensions. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 219–226, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99i:81145** 81T10
— Higher-spin gauge interactions of matter fields in 2 + 1 dimensions. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 253–267, *PWN, Warsaw*, 1997. (Summary) **99d:81087** 81T13 (81R05)
— Higher-spin-matter interactions in 3D anti-de Sitter space. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 612–617, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T20 (83C47)
Vasil'ev, N. B. (*with* Leontovich, A. M.) An estimate for the randomness of the overlap of figures. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 1, 87–111; *translation in Problems Inform. Transmission* **34** (1998), *no.* 1, 76–96. (Jan Rataj) **99k:60028** 60D05 (52A22, 60E15, 60F05)
Vasil'ev, N. S. Nash equilibrious routing in ring networks. *Game theory and applications, III*, 147–159, *Nova Sci. Publ., Commack, NY*, 1997. (N. N. Petrov) **99a:90221** 90C35 (90B10, 90B12, 90D40)
— Nash equilibrious routing in ring networks. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 4, 221–233. (Prabir Das) **99g:90047** 90B12 (90C35)
— On the consistency of Pareto and Nash optimality principles in the problem of the control of routing in a ring network. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 590–595; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 568–573. (Summary) **99m:90154** 90C35 (90C27, 90C29)
Vasil'ev, R. K. (*with* Frioui, Assia) Construction des opérateurs linéaires polynomiaux de classe S_2. (English and French summaries) [Construction of linear polynomial operators of class S_2] Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 427–444. (Allan Pinkus) **99g:41032** 41A35 (41A25)
Vasil'ev, S. N. A method for the synthesis of deducibility conditions for Horn and some other formulas. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1034–1046, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 896–906. (Petr Jirků) **99c:03044** 03B70 (03B35, 68T15)
— (*with* Sivasundaram, S.) On controllability of nonlinear systems under phase restrictions and persistent perturbations. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 2,

163–172. (M. Krastanov) **99h:93020** 93B05 (93C10)

Vasil'ev, V. A. On Edgeworth equilibria for some types of nonclassical markets [translation of *Models and methods of optimization (Russian)*, 3–52, 149, Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk, 1994; MR 98b:90027]. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 3, 96–150. (*see* **99b:00028**) 90A60 (90A14)

— On the identification of dynamical systems of autoregressive type. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 107–119; *translation in Automat. Remote Control* **58** (1997), *no.* 12, *part* 2, 1929–1939 (1998). (Alexander I. Matasov) **99c:93111** 93E12 (62M10)

— (*with* Koshkin, G. M.) Estimation of density functions of distributions from dependent observations. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 45–60; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 324–338 (1998). (Summary) **99c:62115** 62G05

— The Shapley functional and polar forms of homogeneous polynomial games. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 4, 109–150. (Yuri Nazarovich Sotskov) **99k:90221** 90D12 (90D13)

Vasil'ev, V. B. Integral equations associated with boundary value problems for the Laplace equation in a plane angle. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1185–1191, 1293; *translation in Differential Equations* **32** (1996), *no.* 9, 1187–1193 (1997). (V. S. Rabinovich) **99a:35037** 35J05 (45G05, 45P05)

— On general boundary value problems for some classes of pseudodifferential equations in the quarter plane. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 995–997, 1007; *translation in Differential Equations* **33** (1997), *no.* 7, 1003–1005 (1998). (Viorel Iftimie) **99b:35227** 35S15 (47G30)

— Dirichlet and Neumann problems for some classes of pseudodifferential equations in the quarter plane. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1136–1138, 1152; *translation in Differential Equations* **33** (1997), *no.* 8, 1144–1146 (1998). 35S15

— Integral operators of potential type associated with elliptic problems in nonsmooth domains. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1167–1173, 1293; *translation in Differential Equations* **33** (1997), *no.* 9, 1171–1177 (1998). (V. S. Rabinovich) **99i:47094** 47G30 (35J99, 35S05)

— On some classes of pseudo-differential equations in cones. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 14–17. (A. I. Atanasov) **99d:35195** 35S05 (47G30)

Vasil'ev, V. I. Reduction theory in extrapolation problems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 239–257, 300. (Witold Pedrycz) **99g:68181** 68T10

Vasil'ev, Vasil S. (*with* Genova, K.; Kirilov, L.) A method for solving a class of multiple-criteria analysis problems. (English summary) Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems (Sozopol, 1997). *Pliska Stud. Math. Bulgar.* **12** (1998), 245–254. (*see* **99k:49002**) 90C29

Vasil'ev, Vasilii Ivanovich (*with* Samarskiĭ, Aleksandr Andreevich; Vabishchevich, Petr N.) Iterative solution of a retrospective inverse problem of heat conduction. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 372–376, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M70

Vasil'ev, Yu. S. (*with* Subbotin, Yu. N.) Markov inequalities in $\mathbf{R}^m$ that are unimprovable in the class of all convex compact bodies. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 6, 734–735. 41A63 (65Y25)

Vasil'ev, Yu. V. (*with* Srivastava, Hari M.; Yakubovich, S. B.) A class of index transforms with Whittaker's function as the kernel. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 375–394. (R. G. Buschman) **99k:44013** 44A20 (33C15, 44A15)

Vasil'eva, A. B. (*with* Nikitin, Andreĭ G.) On the stability of periodic contrast structures in the spatially two-dimensional case. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1355–1361, 1438; *translation in Differential Equations* **32** (1996), *no.* 10, 1351–1357 (1997). (Jolanta Przybycin) **99a:35014** 35B25 (35J65)

— (*with* Anikeeva, V. A.; Plotnikov, A. A.) Calculations of contrast structures in singularly perturbed equations and systems. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 65–69, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M12 (34E15)

— (*with* Butuzov, V. F.; Nefëdov, N. N.) Asymptotic theory of contrast structures (a survey). (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 4–32; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1068–1091. (Daniel Ševčovič) **99k:34121** 34E15 (34C99, 34E05, 35B25, 93C20)

— (*with* Davydova, M. A.) On a contrast structure of step type for a class of second-order nonlinear singularly perturbed equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 938–947; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 900–908. (Leonid V. Kalachev) **99k:34122** 34E15 (34B15)

Vasil'eva, A. L. (*with* Gulyaev, V. I.; Koshkin, V. L.) Chaotization of the oscillations of a double mathematical pendulum. (Russian. English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 87–103. (Jacek A. Tuszyński) **99e:70058** 70K50 (34C15, 58F13, 70K40)

Vasileva, Daniela (*with* Dimova, Stefka; Kaschiev, M. S.; Koleva, Milena) Numerical analysis of radially nonsymmetric blow-up solutions of a nonlinear parabolic problem. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 81–97. (Erwin Schechter) **99j:65165** 65M60 (35B40, 35K55, 65M06)

Vasil'eva, E. N. (*with* Uspenskiĭ, S. V.) On the algebraic moments of the solution of the first initial-boundary value problem for the S. L. Sobolev equation in the case of special domains. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 286–297. (Vladimir P. Burskiĭ) **99i:35113** 35M20 (35G15, 35Q35)

Vasil'eva, E. V. (*with* Pilyugin, S. Yu.; Pliss, Viktor Aleksandrovich) Local properties of plane homoclinic structures, and Hausdorff dimension. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 595–601, 716; *translation in Differential Equations* **33** (1997), *no.* 5, 599–605 (1998). (A. Ya. Narmanov) **99f:58138** 58F12

Vasil'eva, N. S. (*with* Evtukhov, V. M.) Asymptotic representations of regular solutions of a second-order semilinear differential equation. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 2, 228–234 (1996). 34E05

Vasil'eva, T. I. (*with* Vasil'ev, A. F.) On finite groups in which the principal factors are simple groups. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 11, 10–14; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 11, 8–12 (1998). (A. A. Makhnev) **99d:20026** 20D10 (20F16)

Vasilevich, D. V. Gauge invariance and gauge independence in quantum gravity. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 328–330, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C45

— (*with* Alexandrov, Sergei; Grigentch, I. P.) SU(2)-invariant reduction of (3 + 1)-dimensional Ashtekar gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 573–580. (Jorge A. Pullin) **99g:83030** 83C45

— (*with* Bordag, M.; Kirsten, Klaus) Path-integral quantization of electrodynamics in dielectric media. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2381–2389. (Summary) **99a:81197** 81V10 (81S40)

— The Faddeev-Popov trick in the presence of boundaries. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 93–98. (Summary) **99a:81118** 81T20 (81T13)

— (*with* Alexandrov, Sergei) Path integral for the Hilbert-Palatini and Ashtekar gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124029, 13 *pp.* (Summary) **99k:83038** 83C45 (81T70)

— (*with* Elizalde, Emilio) Heat kernel coefficients for Chern-Simons boundary conditions in QED. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 3, 813–822. (Giampiero Esposito) **99m:58183** 58G11 (58G20, 81V10)

Vasilevich, N. D. (*with* Prokhorovich, T. N.) A second-order system of Fuchs type. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1704–1706, 1727–1728; *translation in Differential Equations* **32** (1996), *no.* 12, 1699–1701 (1997). (V. V. Chueshev) **99a:34013** 34A20 (30B40, 34A25)

— (*with* Prokhorovich, T. N.) On a special case of a Fuchsian system. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 123–125, 144. (J. S. Joel) **99m:32049** 32S40 (34A20)

Vasilevska, Violeta (*with* Šekutkovski, Nikita) Two approaches to proper shape theory. (English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 51–66. (Summary) **99j:54021** 54C56

Vasilevskiĭ, N. L. C^*-algebras generated by orthogonal projections and their applications. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 1, 113–132. (Kenneth R. Davidson) **99e:46074** 46L05 (22D25, 47B35, 47D25)

— (*with* Shapiro, M. V.) On the Bergman kernel function in quaternion analysis. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 84–88; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 2, 81–85. (Wolfgang Sprössig) **99g:35022** 35C15 (30C40, 30G20, 46E22)

Vasilevskiĭ, Yu. V. (*with* Hoppe, Ronald H. W.; Iliash, Yu.; Kuznetsov, Yurīĭ Alekseevich[1]; Wohlmuth, Barbara I.) Analysis and parallel implementation of adaptive mortar element methods. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 223–248. (Dao Qi Yang) **99m:65237** 65N55

Vasilić, M. Geometric σ-models. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 29–42. (Sergiu I. Vacaru) **99c:83074** 83C99 (81T99)

Vasiliev, A. A. *see* **Vasil'ev, A. A.**

Vasiliev, M. A. *see* **Vasil'ev, M. A.**

Vasiliev, Nicolai S. *see* **Vasil'ev, N. S.**

Vasilieva, Olga Generalization of the maximum principle for control problems with boundary conditions. (English summary) *J. Mong. Math. Soc. No.* 3 (1999), 41–49. 49K15

Vasil'kevich, S. I. (*with* Slastikov, V. V.) On the compactness of the solution set of the Navier-Stokes equation. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 17–20. (Summary) **99k:35146** 35Q30 (35B99, 76D05)

— (*with* Slastikov, V. V.) On necessary conditions for the optimality of controls for multidimensional equations of hydrodynamics. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 1, 130–137, 156. (Summary) **99d:49044** 49K20 (76D05, 76M30)

Vasil'kov, D. M. (*with* Hempel, Lorenz) On the computational aspects of the pile problem. *Operations Research Proceedings* 1997 (*Jena*), 120–125, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C35 (05C20)

Vasil'kov, G. V. (*with* Dezhina, I. Yu.; Rankhel', A. O.) On rheological models of elastoviscoplastic media. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 3, 21–35, 111. (Summary) **99j:73056** 73E60

Vasilyev, F. P. *see* **Vasil'ev, F. P.**

Vasilyev, Oleg V. (*with* Morinishi, Y.; Lund, Thomas S.; Moin, Parviz) Fully conservative higher order finite difference schemes for incompressible flow. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 90–124. (Summary) **99a:76100** 76M20

— (*with* Lund, Thomas S.; Moin, Parviz) A general class of commutative filters for LES in complex geometries. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 82–104. (Summary) **99e:76096** 76M25 (76F99)

Vasin, A. A. (*with* Boros, Endre; Gurvich, V. A.) Stable families of coalitions and normal hypergraphs. (English summary) *Math. Social Sci.* **34** (1997), *no.* 2, 107–123. (Frank Thuijsman) **99b:90170** 90D12 (05C65, 92H30)

Vasin, I. A. A nonlinear inverse problem of the simultaneous reconstruction of the evolution of two coefficients in Navier-Stokes equations. II. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1095–1100, 1151; *translation in Differential Equations* **33** (1997), *no.* 8, 1102–1107 (1998). (Marek Capiński) **99i:35179** 35R30 (35Q30, 76D05)

Vasin, V. V. Approximation-iterative algorithms for solving ill-posed problems with a priori information. (Russian) *Conditionally well-posed problems in mathematical physics and analysis* (*Russian*), 64–74, *Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk*, 1992. (A. A. Fonarev) **99d:65173** 65J10 (47A50)

Vaskevich, V. L. (*with* Sobolev, Sergeĭ L'vovich) ★ Курбатурные формулы. (Russian) [Cubature formulas] Edited and with a contribution by M. D. Ramazanov. *Izdatel'stvo Rossīĭskoĭ Akademii Nauk, Sibirskoe Otdelenie, Institut Matematiki im. S. L. Soboleva, Novosibirsk*, 1996. 484 *pp. ISBN* 5-86134-020-X (I. P. Mysovskikh) **99g:65029a** 65D32 (41A55, 46N40, 65-02)

— (*with* Sobolev, Sergeĭ L'vovich) ★ The theory of cubature formulas. (English summary) Translated from the 1996 Russian original and with a foreword by S. S. Kutateladze. Revised by Vaskevich. Mathematics and its Applications, 415. *Kluwer Academic*

Publishers Group, Dordrecht, 1997. xxii+416 *pp. ISBN* 0-7923-4631-9 (I. P. Mysovskikh) **99g:65029b** 65D32 (41A55, 46N40, 65-02)

Vasky, Roman (*with* Bucko, Jozef; Frick, Marietjie; Mihók, Peter) Uniquely partitionable graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 103–113. (Summary) **99b:05107** 05C70

sánchez Vásquez, Alejandra *see* **Sánchez Vásquez, Alejandra**

cifuentes Vásquez, José Carlos *see* **Cifuentes Vásquez, José Carlos**

Vasquez, O. (*with* Lezama, O.) On the simultaneous basis property in Prüfer domains. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 169–176. (J. W. Brewer) **99c:13041** 13F05

Vassallo, Nicla *Analysis* versus *Laws*: Boole's explanatory psychologism versus his explanatory anti-psychologism. (English summary) *Hist. Philos. Logic* **18** (1997), *no.* 3, 151–163. (Roman Murawski) **99c:01017** 01A55 (03–03, 03A05)

Vasserot, E. (*with* Varagnolo, M.) Double-loop algebras and the Fock space. *Invent. Math.* **133** (1998), *no.* 1, 133–159. (Alexander N. Rudyĭ) **99g:17035** 17B37 (81R10, 81R50)

— Affine quantum groups and equivariant K-theory. (English summary) *Transform. Groups* **3** (1998), *no.* 3, 269–299. (Teimuraz Pirashvili) **99j:19007** 19L47 (17B37)

Vasseur, Alexis (*with* Besnard, D.; Ducros, F.; Loreaux, Ph.; Mimouni, S.) Turbulent mixing modeling and simulation. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 294–302, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76F99 (76M25)

— Kinetic semidiscretization of scalar conservation laws and convergence by using averaging lemmas. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 465–474 (*electronic*). (Mohammad Asadzadeh) **99m:65174** 65M12 (35L35)

Vasseur, Christian (*with* Koncar, Vladan) Nonlinear predictive control, robustness evaluation. (English summary) *Systems Sci.* **23** (1997), *no.* 4, 37–48 (1998). 93D21 (93B36)

Vasseur, Xavier (*with* Piquet, Jean) Multigrid preconditioned Krylov subspace methods for three-dimensional numerical solutions of the incompressible Navier-Stokes equations. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 1–32. (Summary) **99c:65235** 65N55 (65F10, 76D05, 76M20)

Vassilas, Nikolaos Theoretical analysis of the batch variant of the self-organizing feature map algorithm for 1-D networks mapping a continuous 1-D input space. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 1-2, 77–103. (Summary) **99j:68122** 68T05

Vassilev, A. T. (*with* Ewing, Richard E.; Lazarov, Raïcho D.; Pasciak, Joseph E.) Mathematical modeling, numerical techniques, and computer simulation of flows and transport in porous media. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 13–30, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76S05 (76M25)

Vassilev, V. *see* **Vasil'ev, Vasil S.**

Vassilev, Vassil Mitev Symmetry groups and equivalence transformations in the nonlinear Donnell-Mushtari-Vlasov theory for shallow shells. (English and Bulgarian summaries) *J. Theoret. Appl. Mech.* **27** (1997), *no.* 2, 5, 43–51. (Summary) **99c:73053** 73K15 (73B10)

Vassilevich, D. V. *see* **Vasilevich, D. V.**

Vassilevich, Dmitri *see* **Vasilevich, D. V.**

Vassilevich, Dmitri V. *see* **Vasilevich, D. V.**

Vassilevski, Panayot S. (*with* Wade, J. G.) A comparison of multilevel methods for total variation regularization. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 255–270 (*electronic*). (Summary) **99a:65079** 65K05 (65J20, 65N99)

— (*with* Margenov, Svetozar D.) Algebraic two-level preconditioning of non-conforming FEM systems. (English summary) *Large-scale scientific computations of engineering and environmental problems (Varna, 1997)*, 239–248, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F10 (65N30)

— A block-factorization (algebraic) formulation of multigrid and Schwarz methods. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 1, 65–79. (I. Norman Katz) **99d:65328** 65N30 (65F10)

— (*with* Chou, So-Hsiang; Kwak, Do Y.) Mixed covolume methods for elliptic problems on triangular grids. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1850–1861 (*electronic*). (Robert Beauwens) **99k:65105** 65N30 (65F10, 65N22)

— (*with* Chou, So-Hsiang) A general mixed covolume framework for constructing conservative schemes for elliptic problems. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 991–1011. (Stephen W. Brady) **99j:65203** 65N30 (65F10, 65N12)

— (*with* Chou, So-Hsiang) An upwinding cell-centered method with piecewise constant velocity over covolumes. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 1, 49–62. (Martin Stynes) **99j:65204** 65N30 (76M25)

— (*with* Wang, Jun Ping[1]) Stabilizing the hierarchical basis by approximate wavelets. II. Implementation and numerical results. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 490–514 (*electronic*). (Dietrich Braess) **99j:65230** 65N55 (42C15)

— *see also* **Large-scale scientific computations of engineering and environmental problems, 99m:65006**

Vassilevski, Yu. *see* **Vasilevskiĭ, Yu. V.**

Vassiliev, R. K. *see* **Vasil'ev, R. K.**

Vassiliev, V. A. ★ Топология дополнений к дискриминантам. (Russian. Russian summary) [Topology of complements to discriminants] Библиотека Математика [Mathematics Library], 3. *Izdatel'stvo FAZIS, Moscow*, 1997. *xiv+536 pp. ISBN* 5-7036-0033-2 (Serge L. Tabachnikov) **99m:57011** 57M25 (55P99, 57R45, 58C27)

— (*with* Arnol'd, Vladimir Igorevich; Goryunov, V. V.; Lyashko, O. V.) ★ Singularity theory. I. Translated from the 1988 Russian original by A. Iacob. Reprint of the original English edition from the series Encyclopaedia of Mathematical Sciences [*Dynamical systems. VI*, Encyclopaedia Math. Sci., 6, Springer, Berlin, 1993; MR 94b:58018]. *Springer-Verlag, Berlin*, 1998. *iv+245 pp. ISBN* 3-540-63711-7 (Editors) **99f:58024** 58C27 (32Sxx)

Vassiliou, Efstathios On the geometry of the sheaf of frames of a vector sheaf. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1995)*, 141–146, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (Summary) **99j:58004** 58A05 (18F20, 53C05)

Vassiliou, P.-C. G. (*with* Symeonaki, M. A.) The perturbed non-homogeneous Markov system in continuous time. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 3-4, 207–216. (Summary) **99b:60114** 60J20

Vassilyev, S. N. *see* **Vasil'ev, S. N.**

Vasudeva Murthy, A. S. (*with* Thomée, V.) A numerical method for the Benjamin-Ono equation. (English summary) *BIT* **38** (1998), *no.* 3, 597–611. (Zhong Wu Chu) **99j:65183** 65M99

— The Constantin-Lax-Majda model for the vorticity equation revisited. (English summary) *J. Indian Inst. Sci.* **78** (1998), *no.* 2, 109–117. (Thomas Y. Hou) **99h:76035** 76D99 (35Q35, 76C05)

Vasudevan, R. (*with* Karn, Anil Kumar) Matrix duality for matrix ordered spaces. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 1, 1–18. (From the summary) **99f:46082** 46L05 (46B10, 46B40)

Vasuki, R. A common fixed point theorem in a fuzzy metric space. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 395–397. 54A40 (54H25)

— Common fixed points for R-weakly commuting maps in fuzzy metric spaces. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 419–423. 54H25 (54A40)

Vasy, András Geometric scattering theory for long-range potentials and metrics. *Internat. Math. Res. Notices* **1998**, *no.* 6, 285–315. (Andrew W. Hassell) **99b:58233** 58G25 (35P25)

— Scattering matrices in many-body scattering. (English summary) *Comm. Math. Phys.* **200** (1999), *no.* 1, 105–124. (Evgeni L. Korotyaev) **99m:81278** 81U10 (35J10, 35P25, 47N50, 81V70)

Vasyukov, V. L. On an interpretation of sequences in sites. (Russian. English summary) *Logical investigations, No. 4 (Russian)*, 196–221, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03G30

Vasyunin, V. I. (*with* Nikol'skiĭ, Nikolai K.) Elements of spectral theory in terms of the free function model. I. Basic constructions. (English summary) *Holomorphic spaces (Berkeley, CA, 1995)*, 211–302, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99e:47001** 47–02 (47A10, 47A15, 47A45)

Vaszil, György Various communications in PC grammar systems. (English summary) *Acta Cybernet.* **13** (1997), *no.* 2, 173–196. (Summary) **99a:68116** 68Q50 (68T20)

— On simulating non-returning PC grammar systems with returning systems. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 319–329. (Summary) **99g:68124** 68Q50 (68Q45)

Vatan, Farrokh (*with* Turán, György) Linear decision lists and partitioning algorithms for the construction of neural networks. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 414–423, *Springer, Berlin*, 1997. (Sanjay Jain) **99k:68166** 68T05 (68Q15, 92B20)

Vatansever, Bilal Efficient presentations of the group $\mathrm{PSL}(2, Z_n) \times \mathrm{PSL}(2, Z_m)$, for certain n, m. (English summary) *Math. Scand.* **80** (1997), *no.* 2, 188–194. (Colin M. Campbell) **99a:20032** 20F05

— (*with* Gill, David M.) Almost efficient presentations of the groups $\mathrm{PSL}(2, p) \times A_4$ for all primes p, $p \geq 5$. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 17–20. (Martin Edjvet) **99h:20055** 20F05

Vatazhin, A. B. On an integral relation in magnetohydrodynamics. *Fluid Dynam.* **33** (1998), *no.* 1, 151–153; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 1, 184–187 (*Russian. Russian summary*). (Summary) **99c:76119** 76W05

Väth, Martin Abstract Volterra equations of the second kind. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 3, 319–362. (Isaac V. Shragin) **99k:47163** 47H15 (34G20, 45N05)

— Approximation, complete continuity, and uniform measurability of Uryson operators on general measure spaces. *Nonlinear Anal.* **33** (1998), *no.* 7, 715–728. (Isaac V. Shragin) **99e:47100** 47H30 (46E40, 47G10)

— Complete continuity of some nonlinear Volterra operator in Banach spaces. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 23–35. (Isaac V. Shragin) **99a:47115** 47H30 (45G10, 45N05, 45P05)

Vathsan, Radhika Reduction of anyons to one dimension and Calogero-Sutherland-type models. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4123–4132. (Summary) **99d:81189** 81V70

Vatlin, S. I. Improvement of the consistent and strongly selfguessing fuzzy classifiers. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 4, 599–605. (Sankar Kumar Pal) **99a:68146** 68T05

Vatsal, V. Congruences for the special values of modular L-functions. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 3, 77–82. (Ken Ono) **99i:11036** 11F67 (11F33, 11G05)

— Rank-one twists of a certain elliptic curve. *Math. Ann.* **311** (1998), *no.* 4, 791–794. (Ken Ono) **99i:11050** 11G40 (11F67, 11G05)

Vatsala, Aghalaya (*with* Bainov, Drumi Dimitrov; Stamova, Ivanka) Global stability of sets for linear impulsive differential-difference equations with variable impulsive perturbations. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 149–160. (Summary) **99a:34207** 34K20 (34A37)

— (*with* Lakshmikantham, V.) ★ Generalized quasilinearization for nonlinear problems. (English summary) Mathematics and its Applications, 440. *Kluwer Academic Publishers, Dordrecht*, 1998. *x+276 pp. ISBN* 0-7923-5038-3 (Naseer Shahzad) **99k:34013** 34A34 (34A45, 34B15, 34G20, 34K05, 39A10)

— (*with* Jiang, Jiahui) The quasilinearization method in the system of reaction diffusion equations. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 223–235. (S. Leela) **99m:65129** 65L05 (35K57, 65M99)

— (*with* Drici, Zahia; Kouhestani, Nader) Generalized quasilinearization for impulsive reaction-diffusion equations with fixed moments of impulses. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 245–257. (Lidia Skóra) **99e:35237** 35R10 (34A45, 35K57)

— (*with* Bainov, Drumi Dimitrov; Stamova, Ivanka) Second method of Lyapunov for stability of linear impulsive differential-difference equations with variable impulsive perturbations. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 2, 209–216. (J. W. Macki) **99k:34164** 34K20 (34A37)

— (*with* Liu, Xinzhi) Variation of parameters in terms of Lyapunov-like functions and stability of perturbed systems. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 47–58. (Zephyrinus C. Okonkwo) **99d:34087** 34D05 (34D10, 34D20)

— (*with* Lakshmikantham, V.) The origin of mathematics. *Nonlinear Stud.* **5** (1998), *no.* 2, 255–257. 01A05

Vatsya, S. Raj Gauge mechanical view of physical reality. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 243–251, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05

— (*with* Pritchard, Huw O.) Connection between classical and quantum descriptions of evolution. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 441–450, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99j:81012** 81P05

Vattay, Gábor (*with* Cvitanović, Predrag; Wirzba, Andreas) Quantum fluids and classical determinants. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 29–62, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q20

— (*with* Dahlqvist, Per) Periodic orbit quantization of the Sinai billiard in the small scatterer limit. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6333–6345. (Summary) **99e:81061** 81Q50 (81Q20)

— (*with* Cvitanović, Predrag; Dettmann, Carl P.; Mainieri, Ronnie) Trace formulas for stochastic evolution operators: weak noise perturbation theory. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 981–999. (Summary) **99i:81049** 81Q50 (58F19)

— (*with* Cvitanović, Predrag; Hansen, Kim; Rolf, Juri) Beyond the periodic orbit theory. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1209–1232. (Roberto Artuso) **99g:58102** 58F20 (58F19)

Vatul'yan, A. O. (*with* Korenskiĭ, S. A.) The linearization method in geometric inverse problems of the theory of elasticity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 639–646; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 619–625. (D. G. Natroshvili) **99e:73033** 73C02

— (*with* Shamshin, V. M.) A new version of boundary integral equations and their application to dynamic three-dimensional problems in the theory of elasticity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 462–469; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 427–434. (Summary) **99m:73016** 73C02 (73D30, 73V10)

Vatutin, Vladimir (*with* Drmota, Michael) Limiting distributions in branching processes with two types of particles. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 89–110, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (George P. Yanev) **99b:60142** 60J80 (60F05)

— (*with* D'yakonova, E. E.) Critical branching processes in a random environment: probabilities of extinction at a fixed time. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 100–126. (I. Rakhimov) **99j:60131** 60J80 (60K35)

Vaudenay, Serge (*with* Just, Mike) Authenticated multi-party key agreement. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 36–49, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99a:94035** 94A60

— (*with* Coppersmith, Don; Stern, Jacques) The security of the birational permutation signature schemes. (English summary) *J. Cryptology* **10** (1997), *no.* 3, 207–221. (Kaisa Nyberg) **99e:94033** 94A60 (13P99)

— Cryptanalysis of the Chor-Rivest cryptosystem. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 243–256, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94062** 94A60

— Provable security for block ciphers by decorrelation. (English summary) *STACS 98* (*Paris*, 1998), 249–275, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99j:94061** 94A60 (68P25)

— (*with* Schnorr, Claus Peter) The black-box model for cryptographic primitives. (English summary) *J. Cryptology* **11** (1998), *no.* 2, 125–140. (Summary) **99c:94036** 94A60

Vaughan, David (*with* Herrlich, Horst) Weak separatedness for nearness spaces. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 15–24. 54E17 (54D35, 54E15)

Vaughan, Jerry E. On Dow's reflection theorem for metrizable spaces. (English summary) *Topology Proc.* **22** (1997), 351–361. (A. H. Stone) **99m:54018** 54E35 (03C55, 03E35, 54A25, 54D30)

— (*with* Szeptycki, Paul J.) Almost disjoint families and property (a). (English summary) *Fund. Math.* **158** (1998), *no.* 3, 229–240. (Summary) **99j:54009** 54A25 (54A35)

Vaughan, R. C. (*with* Goldston, D. A.) On the Montgomery-Hooley asymptotic formula. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 117–142, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (D. R. Heath-Brown) **99d:11099** 11N13 (11P05)

— Hardy's legacy to number theory. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 2, 238–266. (G. Greaves) **99h:11002** 11–03 (01A60, 11M06, 11M26, 11P55)

— (*with* Brüdern, Jörg; Granville, Andrew; Perelli, A.; Wooley, Trevor D.) On the exponential sum over k-free numbers. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 739–761. (D. R. Heath-Brown) **99c:11125** 11P55 (11L99)

— On a variance associated with the distribution of general sequences in arithmetic progressions. I, II. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 781–791, 793–809. (Daniel A. Goldston) **99i:11094** 11P55 (11N13)

Vaughan, Theresa P. (*with* Johnson, Robert T.) On union-closed families. I. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 2, 242–249. (Summary) **99e:05124** 05D05

— (*with* Johnson, Robert T.) On union-closed families. I. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 112–119. (Summary) **99h:04003** 04A20 (05D05)

Vaughan-Lee, Michael Superalgebras and dimensions of algebras. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 1, 97–125. (Gunnar Traustason) **99a:17014** 17B30 (17B01, 17B60)

— On Zel'manov's solution of the restricted Burnside problem. (English summary) *J. Group Theory* **1** (1998), *no.* 1, 65–94. (Gunnar Traustason) **99a:20019** 20D15 (20F40)

Vaughn, Brandon K. (*with* Bagui, Subhash C.; Mehra, K. L.) An M-stage version of the k-RNN rule in statistical discrimination. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 323–333. (Margaret P. Gessaman) **99h:62080** 62H30 (62G10, 62L99)

— (*with* Bagui, Subhash C.) Statistical classification based on k-rank nearest neighbor rule. (English summary) *Statist. Decisions* **16** (1998), *no.* 2, 181–189. (Margaret P. Gessaman) **99h:62079** 62H30

Vaugon, Michel (*with* Hebey, Emmanuel) Effective L_p pinching for the concircular curvature. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 4, 531–553 (1997). (Author's review (E.H.) (Zbl 902.53031)) **99j:53038** 53C20

Vauzeilles, Jacqueline (*with* Abrusci, V. Michele; Fouqueré, Christophe) Tree adjoining grammars in noncommutative linear logic (extended abstract). (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 96–117, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (03F50, 68Q45)

Vavasis, Stephen A. (*with* Miller, Gary L.; Teng, Shang-Hua; Thurston, William P.) Geometric separators for finite-element meshes. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 364–386 (*electronic*). (I. Norman Katz) **99d:65396** 65Y25 (65M60, 65N30)

— (*with* Driscoll, Tobin A.) Numerical conformal mapping using cross-ratios and Delaunay triangulation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1783–1803 (*electronic*). (Summary) **99d:65086** 65E05 (30C30)

Vavřín, Zdeněk (*with* Rost, Karla) Inversion formulas and fast algorithms for Löwner-Vandermonde matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 537–549. (George D. Poole) **99d:65094** 65F05 (15A09, 65F30, 65Y20)

Vavriv, D. M. (*with* Shygimaga, Dmitro V.; Vinogradov, Vladimir V.) Chaos due to the interaction of high- and low-frequency modes. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 12, 1255–1260. (Summary) **99h:94084** 94C05

Vayenas, D. V. (*with* Lenas, P.; Thomopoulos, N. A.; Pavlou, S.) Oscillations of two competing microbial populations in configurations of two interconnected chemostats. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 43–63. (Summary) **99b:92044** 92D25

— (*with* Thomopoulos, N. A.; Pavlou, S.) On the coexistence of three microbial populations competing for two complementary substrates in configurations of interconnected chemostats. (English summary) *Math. Biosci.* **154** (1998), *no.* 2, 87–102. (Summary) **99j:92021** 92D25

Vaz, Cenalo (*with* Witten, Louis) On the spectrum of the radiation from a naked singularity. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 90–96. (Gil De Oliveira-Neto) **99k:83087** 83C57 (83C47, 83C75)

— (*with* Barve, Sukratu; Singh, Tejinder P.; Witten, Louis) Quantum stress tensor in self-similar spherical dust collapse. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104018, 8 *pp.* 83C47 (81T20)

Vaz, Jayme, Jr. Clifford algebras and Witten's monopole equations. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 277–300, *de Gruyter, Berlin*, 1997. (Hans-Bert Rademacher) **99i:58154** 58G30 (15A66, 57R57, 58D27)

— (*with* Rodrigues, Waldyr Alves, Jr.) Maxwell and Dirac theories as an already unified theory. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 369–386. (Pierre Anglès) **99k:81100** 81R20 (15A66, 78A25, 81V10)

— Clifford-like calculus over lattices. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 1, 37–70. (Bernd A. Schmeikal) **99c:30077** 30G35 (06C10, 14A22, 15A66)

— (*with* Rodrigues, Waldyr Alves, Jr.) On the equation $\nabla \times a = \kappa a$. (English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 19–24 (1998). (Kotik K. Lee) **99j:78011** 78A25

— (*with* Rodrigues, Waldyr Alves, Jr.) Subluminal and superluminal electromagnetic waves and the lepton mass spectrum. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 319–346, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Jorge Goncalves Cardoso) **99g:81232** 81V25 (81R20)

— Construction of monopoles and instantons by using spinors and the inversion theorem. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 401–421, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Stefano De Leo) **99e:53027** 53C07 (53A50, 81R25)

— (*with* Rodrigues, Waldyr Alves, Jr.) From electromagnetism to relativistic quantum mechanics. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 789–814. (Stefano De Leo) **99i:81073** 81R20 (78A25)

Vaz de Carvalho, Júlia (*with* Varlet, J. C.) Axioms in the variety of double MS-algebras. II. (English summary) *Bull. Soc. Roy. Sci. Liège* **66** (1997), *no.* 6, 391–404. (Summary) **99d:06015** 06D30

Vazhenin, Yu. M. (*with* Nagrebetskaya, Yu. V.) On critical theories of groups and monoids in integer-valued matrices. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 77–79; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 7, 74–76 (1999). 20A15 (15A36, 20G35)

Vazieva, L. T. (*with* Muzaev, I. D.; Khosaev, Kh. S.) An efficient method for solving initial-boundary value problems of the transverse vibrations of a nonprismatic beam. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 4, 24–30, 103. 73D30 (93D15)

Vazirani, Umesh (*with* Bernstein, Ethan) Quantum complexity theory. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1411–1473. (Summary) **99a:68053** 68Q05 (03D10, 03D15, 68Q15, 81P99)

— (*with* Bennett, Charles H.; Bernstein, Ethan; Brassard, Gilles) Strengths and weaknesses of quantum computing. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1510–1523. (Robert M. Baer) **99e:68034** 68Q05 (03D10, 03D15, 68Q15, 81P99)

Vazirani, Vijay V. (*with* Saran, Huzur; Rajan, B. Sundar) An efficient algorithm for constructing minimal trellises for codes over finite abelian groups. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1839–1854. (Piroska Lakatos) **99a:94048** 94B05 (94B12, 94B15, 94B60)

— The Steiner tree problem and its generalizations. (English summary) *Approximation algorithms for combinatorial optimization* (*Aalborg*, 1998), 33–38, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (*see* **99i:68002**) 68Q25 (05C85, 90C27)

— (*with* Rajagopalan, Sridhar) Primal-dual RNC approximation algorithms for set cover and covering integer programs. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 526–541 (*electronic*). (Klaus Hofstedt) **99f:90171** 90C35 (68Q25, 90C08, 90C27)

Vaz Pinto, Maria (*with* Corso, Alberto; Polini, Claudia) Sally modules and associated graded rings. *Comm. Algebra* **26** (1998), *no.* 8, 2689–2708. (C. P. L. Rhodes) **99d:13027** 13H10 (13A20, 13D40)

Vázquez, Alexei (*with* Sotolongo Costa, Oscar) Self-organized criticality and directed percolation. (English summary) *J. Phys. A* **32** (1999), *no.* 14, 2633–2644. 82C43

Vázquez, C. *see* **Vázquez Cendón, C.**

López Vázquez, Jorge *see* **López Vázquez, Jorge**

García-Vázquez, Juan Carlos *see* **García-Vázquez, Juan Carlos**

Vázquez, Juan Luis (*with* Barenblatt, G. I.; García Azorero, J. P.; De Pablo, Arturo) Mathematical model of the non-equilibrium water-oil displacement in porous strata. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 19–45. (Summary) **99j:76121** 76S05 (35Q35, 86A05)

— (*with* Brezis, Haïm) Blow-up solutions of some nonlinear elliptic problems. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 443–469. (C. A. Swanson) **99a:35081** 35J65 (35B05, 35P30, 35Q55)

— (*with* Galaktionov, V. A.) A dynamical systems approach for the asymptotic analysis of nonlinear heat equations. *International Conference on Differential Equations* (*Lisboa*, 1995), 82–106, *World Sci. Publishing, River Edge, NJ*, 1998. (Lisa Santos) **99j:35095** 35K55 (35B40, 58F39)

— Blow-up problems in evolution equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 101–107, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35K55 (35B05)

— (*with* Chaves, Manuela) Boundary layer formation in a free boundary problem with nonlinear heat propagation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 407–412, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35R35 (35K60)

— (*with* Dold, J. W.; Galaktionov, V. A.; Lacey, Andrew A.) Rate of approach to a singular steady state in quasilinear reaction-diffusion equations. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 663–687. (Andreas Unterreiter) **99m:35116** 35K57 (35K65)

— (*with* Caffarelli, Luis A.) Viscosity solutions for the porous medium equation. *Differential equations: La Pietra* 1996 (*Florence*), 13–26, *Proc. Sympos. Pure Math.*, 65, *Amer. Math. Soc., Providence, RI*, 1999. (Li Shang Jiang) **99m:35029** 35D10 (35K65, 35R35, 76S05)

— (*with* Galaktionov, V. A.; Shmarev, Sergei I.) Second-order interface equations for nonlinear diffusion with very strong absorption. (English summary) *Commun. Contemp. Math.* **1** (1999), *no.* 1, 51–64. (Summary) **99m:35098** 35K55 (35R35)

Vazquez, L. *see* **Vázquez, Luis**

alvarez Vázquez, L. J. *see* **Alvarez Vázquez, L. J.**

Vázquez, Luis (*with* Dattoli, G.; Ottaviani, P. L.; Torre, Amalia) Evolution operator equations: integration with algebraic and finite-difference methods. Applications to physical problems in classical and quantum mechanics and quantum field theory. *Riv. Nuovo Cimento Soc. Ital. Fis.* (4) **20** (1997), *no.* 2, 133 *pp.* (Oleg Yu. Shvedov) **99a:81006** 81–08 (33C80, 34G20, 47N20, 65M06, 81Q05)

— (*with* Jiménez, Salvador; Bulgakov, S.) Efficient shooting algorithms for solving the nonlinear one-dimensional scalar Helmholtz equation. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 101–114. 65N99 (65N12)

— (*with* Zorzano, M. P.; Mais, H.) Numerical solution of two-dimensional Fokker-Planck equations. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 109–117. (Summary) **99g:82062** 82C31 (82–08)

Vázquez, M. Elena *see* **Vázquez-Cendón, María Elena**

Vázquez-Abad, Felisa J. (*with* Cassandras, Christos G.; Julka, Vibhor) Centralized and decentralized asynchronous optimization of stochastic discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 631–655. (Summary) **99a:93093** 93E03 (93A14, 93C83)

Vázquez-Abal, María Elena (*with* García-Río, Eduardo) Harmonic tensor fields. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 33–42. (Summary) **99j:53036** 53C20 (53C05, 58E20)

— (*with* García-Río, Eduardo; Vanhecke, Lieven) Notes on harmonic tensor fields. (English summary) *New developments in differential geometry, Budapest* 1996, 123–142, *Kluwer Acad. Publ., Dordrecht*, 1999. (Maria Falcitelli) **99k:53035** 53C05 (53C50)

Vázquez Cendón, C. (*with* Calvo, N.; Durany, J.) Numerical solution of a free boundary problem in temperate glaciers. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 617–622, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 80A23 (35R35)

— An upwind numerical approach for an American and European option pricing model. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 273–286. (Summary) **99k:90035** 90A09 (90A12)

— (*with* Bayada, Guy; Chambat, Michèle) Characteristics method for the formulation and computation of a free boundary cavitation problem. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 191–212. (Summary) **99h:76055** 76M10 (65N30, 76D08, 76M25)

Vázquez-Cendón, María Elena (*with* Bermúdez de Castro, Alfredo; Dervieux, Alain; Desideri, Jean-Antoine) Upwind schemes for the two-dimensional shallow water equations with variable depth using unstructured meshes. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 49–72. (Summary) **99b:76060** 76M25 (86A05)

— Improved treatment of source terms in upwind schemes for the shallow water equations in channels with irregular geometry. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 497–526. (Summary) **99i:76102** 76M20 (86–08)

Vazquez Garcia, Fernando (*with* Morales-Luna, Guillermo) Cryptography and number theory. (Spanish. Spanish summary) *Miscelánea Mat. No.* 18 (1989), 25–54. (Summary) **99j:94055** 94A60 (11T71)

Vázquez-Méndez, Miguel E. (*with* Martínez Varela, A. M.; Rodríguez, Carmen) A control problem related to wastewater treatment. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 35–40. (Summary) **99i:49044** 49N55 (76R50, 86A05)

Vázquez-Mozo, M. A. (*with* Álvarez-Gaumé, Luis) Topics in string theory and quantum gravity. *Gravitation et quantifications* (*Les Houches*, 1992), 481–635, *North-Holland, Amsterdam*, 1995. (Isabel P. Ennes) **99b:81169** 81T30 (83C45, 83E30)

— (*with* Barbón, J. L. F.; Mañes, J. L.) Large N limit of extremal non-supersymmetric black holes. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 279–300. (Summary) **99h:83050** 83E30 (83C57)

Vázquez Polo, F. J. (*with* Hernández Bastida, A.; Martel Escobar, Ma. del Carmen) On maximum entropy priors and a most likely likelihood in auditing. (English summary) *Qüestiió* (2) **22** (1998), *no.* 2, 231–242. 62A15 (62C10)

Veanes, Margus (*with* Degtyarëv, A. I.; Gurevich, Yuri; Narendran, Paliath; Voronkov, Andrei) The decidability of simultaneous rigid E-unification with one variable. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 181–195, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99f:03009** 03B25 (68Q25, 68Q40, 68T15)

— The relation between second-order unification and simultaneous rigid E-unification. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 264–275, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68111** 68T15 (03B35)

Veatch, Michael H. (*with* Caramanis, Michael C.) Optimal average cost manufacturing flow controllers: convexity and differentiability. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 779–783. 90B30 (93A30)

de Veaux, Richard D. *see* **De Veaux, Richard D.**

Veble, Gregor (*with* Robnik, Marko) On spectral statistics of classically integrable systems. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4669–4704. (Summary) **99c:81047** 81Q50

Veblen, Oswald *see* **Feffer, Loren Butler**, **99g:01045**

della Vecchia, B. *see* **Della Vecchia, B.**

di Vecchia, P. *see* **Di Vecchia, P.**

Vecchio, Antonia (*with* Crisci, Maria Rosaria; Russo, Elvira) Discrete-time waveform relaxation Volterra-Runge-Kutta methods: convergence analysis. (English summary) *J. Comput. Appl. Math.* **86** (1997), *no.* 2, 359–374. (Gustaf Gripenberg) **99c:65244** 65R20 (45D05, 45L10)

— (*with* Crisci, Maria Rosaria; Kolmanovskii, Vladimir B.; Russo, Elvira) Boundedness of discrete Volterra equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 106–130. (Sheldon P. Gordon) **99e:39010** 39A10 (34D10, 93D10)

— (*with* Crisci, Maria Rosaria; Russo, Elvira) Time point relaxation methods for Volterra integro-differential equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 9, 59–70. (Gustaf Gripenberg) **99j:65235** 65R20 (45L05)

— (*with* Crisci, Maria Rosaria; Kolmanovskii, Vladimir B.; Russo, Elvira) Stability of difference Volterra equations: direct Liapunov method and numerical procedure. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 77–97. (Fozi M. Dannan) **99k:39053** 39A11 (65R20)

— Stability results on some direct quadrature methods for Volterra integro-differential equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 501–518. (Yury Petrovich Yatsenko) **99m:65251** 65R20 (45L05)

Vechtomov, E. M. The lattice of subalgebras of rings of continuous functions, and Hewitt spaces. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 687–693; *translation in Math. Notes* **62** (1997), *no.* 5-6, 575–580 (1998). (Summary) **99c:46062** 46J30 (54C30)

Vecsernyés, P. (*with* Fuchs, Jürgen; Ganchev, A. Ch.) On the quantum symmetry of rational field theories. (English summary) *Quantum groups* (*Karpacz*, 1994), 473–482, *PWN, Warsaw*, 1995. (Jens Böckenhauer) **99g:81088** 81R50 (16W30, 81T40)

— (*with* Fuchs, Jürgen; Ganchev, A. Ch.; Szlachányi, Kornél) S_4 symmetry of $6j$ symbols and Frobenius-Schur indicators in rigid monoidal C^* categories. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 408–426. (Yasuyuki Kawahigashi) **99k:81111** 81R50 (18D10, 20C35)

Vedagarbha, P. (*with* Hu, Jun[1]; Leviner, M. D.; Dawson, Darren M.) An adaptive tracking controller for multiple-phase permanent-magnet machines. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 997–1022. 93C40 (93B51)

Vedantam, Srikanth (*with* Abeyaratne, Rohan) Propagation of a front by kink motion—from a discrete model to a continuum model. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 77–84, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73B30 (73D40)

Vedenyapin, V. V. (*with* Mingalev, O. V.; Mingalev, I. V.) Representations of general commutation relations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 369–383; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1508–1519 (1998). (Lech Jakóbczyk) **99i:81117** 81S05 (81R50)

Vedernikov, V. A. Formations of finite groups with complemented subformations of length 3. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 16–21, 102, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D10

— (*with* Kuleshov, N. I.) Characterization of finite supersolvable groups. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 107–113, *Gomel. Gos. Univ., Gomel'*, 1996. (Summary) **99h:20057** 20F16 (20D20)

— (*with* Sorokina, M. M.) Composition hereditary critical formations. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 6–19, *Gomel. Gos. Univ., Gomel'*, 1997. (Alexander N. Skiba) **99m:20031** 20D10

Vedernikov, V. K. A family of rank-2 mathematical instanton bundles on $\mathbf{P}_3$. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 4, 573–598. (Antony Maciocia) **99e:14013** 14D20 (14J60)

Vedral, Vlatko (*with* Landsberg, Peter T.) Distributions and channel capacities in generalized statistical mechanics. (English summary) *Phys. Lett. A* **247** (1998), *no.* 3, 211–217. (Summary) **99h:82002** 82B03 (94A17)

Veech, W. A. Delaunay partitions. *Topology* **36** (1997), *no.* 1, 1–28. (William Harvey) **99c:57041** 57M50 (20H10, 32G15, 52B70, 52C05)

Veeh, Jerry Alan (*with* Finkelstein, Mark; Tucker, Howard G.) Point processes without topology. (English summary) *Statistics, probability and game theory*, 65–81, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Günter Last) **99d:60052** 60G55 (60G57)

— (*with* Finkelstein, Mark; Tucker, Howard G.) Confidence intervals for the number of unseen types. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 423–430. (Warren Esty) **99f:62045** 62F25

— (*with* Finkelstein, Mark; Tucker, Howard G.) Extinguishing the distinguished logarithm problems. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2773–2777. (Lin-Cheng Zhao) **99m:60029** 60E10 (60F05)

van der Veen, Alle-Jan (*with* Dewilde, Patrick) ★ Time-varying systems and computations. (English summary) *Kluwer Academic Publishers, Boston, MA*, 1998. *xiv*+459 *pp. ISBN* 0-7923-8189-0 (Henk Nijmeijer) **99g:93001** 93–02 (47N70, 93B15, 93B25, 93B40)

van der Veen, Jack A. A. (*with* Libura, Marek; van der Poort, Edo S.; Sierksma, Gerard) Stability aspects of the traveling salesman problem based on k-best solutions. (English

summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 159–185. (András Faragó) **99i:90080** 90C27 (68Q25)

— (*with* Woeginger, Gerhard J.; Zhang, Shuzhong) Sequencing jobs that require common resources on a single machine: a solvable case of the TSP. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 235–254. (Panos M. Pardalos) **99d:90062** 90B35 (90C27)

— (*with* Burkard, Rainer E.; Deĭneko, Vladimir G.; van Dal, René; Woeginger, Gerhard J.) Well-solvable special cases of the traveling salesman problem: a survey. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 496–546 (*electronic*). (Anton Volgenant) **99i:90077** 90C27 (90–02)

van der Veen, Wolter A. (*with* van der Houwen, P. J.) The solution of implicit differential equations on parallel computers. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 257–274. (M. S. Derakhshan) **99c:65134** 65L06 (65F10, 65Y05)

— (*with* Messina, Eleonora; de Swart, Jacques J. B.) Parallel iterative linear solvers for multistep Runge-Kutta methods. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 145–167. (T. E. Simos) **99a:65089** 65L06 (65F05, 65F50, 65Y05)

Veenstra, Arnt H. (*with* Lin, Hai-Xiang; Vollebregt, Edwin A. H.) A comparison of scalability of different parallel iterative methods for shallow water equations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 357–364, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Dennis C. Jespersen) **99h:65235** 65Y05 (65F10, 76B15, 76M25)

Veeraklaew, T. (*with* Agrawal, S. K.; Fabien, B. C.) Direct and indirect optimization of linear time-invariant dynamic systems using transformations. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 6, 393–410. 49M30 (49N10)

Veera Kumar, M. K. R. S. Some sandwich type near-rings. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1061–1066. 16Y30

— Semi-pre-generalized closed sets. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **20** (1999), 33–46. (Summary) **99m:54002** 54A05 (54C08, 54D10)

Veeravalli, Srinivas V. (*with* Sen, Pradeep Kumar) On the behaviour of organised disturbances in a turbulent boundary-layer. (English summary) *Sādhanā* **23** (1998), *no.* 2, 167–193. (Summary) **99i:76076** 76F99 (76D10, 76E99)

Veerman, J. J. P. Two-dimensional generalizations of Haar bases. *International Conference on Dynamical Systems* (*Montevideo*, 1995), 220–235, *Pitman Res. Notes Math. Ser.*, 362, *Longman, Harlow*, 1996. (J. C. Lagarias) **99b:52052** 52C20 (42C15, 52C22)

— Hausdorff dimension of boundaries of self-affine tiles in $\mathbf{R}^N$. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 2, 159–182. (Richard Kenyon) **99k:28009** 28A78 (52C22)

Veezhinathan, Kamakoti (*with* Graf, Thorsten) An optimal algorithm for computing visible nearest foreign neighbors among colored line segments. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 59–70, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05

marcelo Vega, Agustín *see* **Marcelo Vega, Agustín**

Vega, C. (*with* Bujosa, A.; Criado, R.) Jordan normal form via elementary transformations. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 947–956 (*electronic*). (Summary) **99h:15012** 15A21

Vega, G. (*with* Tapia-Recillas, H.; Daltabuit, E.) Some results on regular mappings. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 321–328, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99c:94039** 94A60

torres-Vega, Go. *see* **Torres-Vega, Go.**

de Vega, H. J. The field theory limit of integrable lattice models. (English summary) *Quantum groups* (*Karpacz*, 1994), 451–472, *PWN, Warsaw*, 1995. (Summary) **99m:82016** 82B23 (81R50, 81T10, 81T25, 82B20)

— Strings in cosmological spacetimes and their back-reaction. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 148–159, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99h:83060** 83E30 (81T30)

— (*with* Sánchez, Norma) String theory in cosmological spacetimes. (English summary) *String theory in curved space times* (*Paris*, 1996), 1–48, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30)

— (*with* Ramón Medrano, M.; Sánchez, Norma) Particle transmutation and fermion number violation from the scattering of strings and superstrings in curved spacetimes. (English summary) *String theory in curved space times* (*Paris*, 1996), 68–135, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30)

— (*with* Nicolaidis, A.) String in curved spacetimes: the null string approach. (English summary) *String theory in curved space times* (*Paris*, 1996), 168–174, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30)

— (*with* Destri, Claudio) Integrable field theories. (English summary) *String theory in curved space times* (*Paris*, 1996), 214–248, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 81T10 (81T27, 82B20)

— (*with* Boyanovsky, D.; Holman, Richard; Salgado, J. F. J.) Preheating and reheating in inflationary cosmology: a pedagogical survey. (English summary) *String theory in curved space times* (*Paris*, 1996), 260–280, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83F05

— (*with* Larsen, Arne Lykke; Sánchez, Norma) Circular strings and multi-strings in de Sitter and anti-de Sitter spacetimes. (English summary) *String theory in curved space times* (*Paris*, 1996), 281–300, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30)

— (*with* Ramírez Mittelbrunn, J.; Ramón Medrano, M.; Sánchez, Norma) The two-dimensional stringy black-hole: a new approach and a new effect. (English summary) *String theory in curved space times* (*Paris*, 1996), 301–332, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83C57 (83E30)

— (*with* Ramírez Mittelbrunn, J.; Ramón Medrano, M.; Sánchez, Norma) Classical splitting of fundamental strings. (English summary) *String theory in curved space times* (*Paris*, 1996), 366–393, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 81T30

— (*with* Egusquiza, I. L.) Strings next to and inside black holes. (English summary) *String theory in curved space times* (*Paris*, 1996), 425–443, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (83C57)

— (*with* Larsen, Arne Lykke; Sánchez, Norma) Quantum string dynamics in the conformal invariant SL(2, **R**) WZWN background: anti-de Sitter space with torsion. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026001, 13 *pp.* (Summary) **99m:81211** 81T30 (81T20, 83E30)

madrid de la Vega, Humberto *see* **Madrid de la Vega, Humberto**

Vega, José M. (*with* Martel, Carlos; Nicolás, José A.) Surface-wave damping in a brimful circular cylinder. (English summary) *J. Fluid Mech.* **360** (1998), 213–228. (Summary) **99a:76044** 76D33 (76B15)

— (*with* Martel, Carlos; Nicolás, José A.) Corrigendum: "Surface wave damping in a brimful circular cylinder" [J. Fluid Mech. **360** (1998), 213–228; MR 99a:76044]. *J. Fluid Mech.* **373** (1998), 379. 76D33 (76B15)

Vega, L. *see* **Vega, Luis**

gonzález-Vega, Laureano *see* **González-Vega, Laureano**

Vega, Luis (*with* Kenig, Carlos E.; Ponce, Gustavo) Global solutions for the KdV equation with unbounded data. *J. Differential Equations* **139** (1997), *no.* 2, 339–364. (Vladislav G. Dubrovsky) **99a:35223** 35Q53 (58F07)

— (*with* Barcelo, J. A.; Ruiz, Alberto[1]) Weighted estimates for the Helmholtz equation and some applications. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 356–382. (Marco Bramanti) **99a:35033** 35J05 (35B45, 35J10)

— Remarks on global existence and compactness for L^2 solutions of the critical nonlinear Schrödinger equation in 2D. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1998), *Exp. No. XIII*, 9 *pp.*, *Univ. Nantes, Nantes*, 1998. (*see* **99d:35002**) 35Q55 (35B99)

— (*with* Merle, Frank) Compactness at blow-up time for L^2 solutions of the critical nonlinear Schrödinger equation in 2D. *Internat. Math. Res. Notices* **1998**, *no.* 8, 399–425. (Elaine Machtyngier) **99d:35156** 35Q55 (35B05)

— (*with* Kenig, Carlos E.; Ponce, Gustavo) Smoothing effects and local existence theory for the generalized nonlinear Schrödinger equations. *Invent. Math.* **134** (1998), *no.* 3, 489–545. (Nakao Hayashi) **99k:35166** 35Q55

— (*with* Tao, Terence; Vargas, Ana) A bilinear approach to the restriction and Kakeya conjectures. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 4, 967–1000. (Anthony Carbery) **99f:42026** 42B10 (42B25)

baeza-Vega, R. *see* **Baeza-Vega, R.**

zuazua Vega, Rita E. *see* **Zuazua Vega, Rita E.**

parra-Vega, Vicente *see* **Parra-Vega, Vicente**

de la Vega, W. Fernandez *see* **Fernandez de la Vega, Wenceslao**

fernandez de la Vega, Wenceslao *see* **Fernandez de la Vega, Wenceslao**

Vega-Amaya, Oscar (*with* Montes-de-Oca, Raúl) Application of average dynamic programming to inventory systems. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 3, 451–471. (Jean B. Lasserre) **99e:90028** 90B05 (90C39, 90C40)

de la Vega-Doria, Lucía A. *see* **De la Vega-Doria, Lucía A.**

Vega-Redondo, Fernando (*with* Canals, José) Multi-level evolution in population games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 21–35. (Summary) **99c:90178** 90D40

Vegas, José Manuel (*with* Moro, Julio) Reduced stability of parameter-dependent matrices. (English summary) *Linear Algebra Appl.* **268** (1998), 289–321. (Jürgen Scheurle) **99d:34060** 34C20 (34A30, 34D20)

Veglioni, Simone (*with* De Nicola, Rocco) Possible worlds for process algebras. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 179–193, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

van der Vegt, J. J. W. (*with* van der Ven, H.) Discontinuous Galerkin finite element method with anisotropic local grid refinement for inviscid compressible flows. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 1, 47–77. (Summary) **99a:76089** 76M10 (76N15)

Vegter, Gert (*with* Broer, Hendrik W.; Osinga, H. M.) Algorithms for computing normally hyperbolic invariant manifolds. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 3, 480–524. (Joan Carles Tatjer) **99a:58119** 58F15 (34C30, 58F30, 65H99)

— (*with* Broer, Hendrik W.; Osinga, H. M.) Computing a normally attracting invariant manifold of a Poincaré map. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2* (*Aachen*, 1995), 541–549, *Brepols, Turnhout*, 1998. (Summary) **99k:58132** 58F15 (58F12)

— (*with* Broer, Hendrik W.; Lunter, G. A.) Equivariant singularity theory with distinguished parameters: two case studies of resonant Hamiltonian systems. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 64–80. (Peter Ashwin) **99b:58092** 58F05 (34C23, 34C25, 58F14, 70H33)

— (*with* Pocchiola, Michel) On polygonal covers. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 257–267, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:68145** 68U05 (68Q25)

navarro Veguillas, Luis *see* **Navarro Veguillas, Luis**

lévy Véhel, Jacques *see* **Lévy Véhel, Jacques**

beirão da Veiga, Hugo *see* **Beirão da Veiga, Hugo**

faria da Veiga, Paulo A. *see* **Faria da Veiga, Paulo A.**

pita da Veiga, Rafael *see* **Pita da Veiga, Rafael**

Veigneau, Sébastien (*with* Kohnert, Axel) Using Schubert basis to compute with multivariate polynomials. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 1, 45–60. (Summary) **99e:05129** 05E15 (05E05)

Veihl, J. (*with* Mittra, Raj; Pekel, Ü.) A theoretical and numerical study of Berenger's perfectly matched layer (PML) concept for mesh truncation in time and frequency domains. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 1–19, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78027** 78A40 (78–08)

Vein, Robert (*with* Dale, Paul D.) ★ Determinants and their applications in mathematical physics. (English summary) Applied Mathematical Sciences, 134. *Springer-Verlag, New York*, 1999. *xiv*+376 *pp. ISBN* 0-387-98558-1 (Jorma Kaarlo Merikoski) **99m:15005** 15A15 (00A05, 00A69, 47A99, 58F07)

Veiner, Guido Some problems of approximating symmetric relations by equivalence relation. (English, Russian and Estonian summaries) *Proc. Est. Acad. Sci. Eng.* **1** (1995), *no.* 2, 105–112. (Summary) **99d:05083** 05C99

Veit, A. Barbara (*with* Buoncristiano, Sandro) The cohomology of generalized Stiefel manifolds. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **64**

(1997), 93–115 (1998). (Edgar H. Brown, Jr.) **99e:55025** 55R10 (55R20, 55T10)

Veit, Jan Sub-exponential solutions of multidimensional difference equations. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 4, 369–385. (J. Aczél) **99b:39014** 39A10

Veitch, Darryl (*with* Abry, Patrice; Flandrin, Patrick) Long-range dependence: revisiting aggregation with wavelets. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 253–266. (P. A. Morettin) **99i:62192** 62M10 (60G18, 62M15)

— (*with* Abry, Patrice) A wavelet-based joint estimator of the parameters of long-range dependence. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 878–897. (Summary) **99m:94017** 94A12 (62M09, 62M10)

Veith, Helmut (*with* Eiter, Thomas; Gottlob, Georg) Modular logic programming and generalized quantifiers. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 289–308, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17

— How to encode a logical structure by an OBDD. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 122–131, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15

Veĭtsman, R. I. (*with* Ryaben′kiĭ, V. S.) Difference simulation problems. (Russian. Russian summary) *Tr. Mosk. Mat. Obs.* **58** (1997), 268–277; *translation in Trans. Moscow Math. Soc.* **1997**, 239–248. (Dumitru Acu) **99f:39024** 39A11

Veksler, A. I. Finitely extendable functionals on vector lattices. (English summary) *Positivity* **1** (1997), *no.* 3, 219–237. (Juan Carlos Díaz Alcaide) **99k:46011** 46A40 (03H05, 46A22, 46S20)

Veksler, A. S. (*with* Braverman, Michael; Rubshtein, Ben-Zion) Dominated ergodic theorems in rearrangement invariant spaces. (English summary) *Studia Math.* **128** (1998), *no.* 2, 145–157. (Radu Zaharopol) **99b:47014** 47A35 (28D05, 46E30, 47B38)

Vekslerchik, V. E. Functional representation of the Ablowitz-Ladik hierarchy. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1087–1099. (Summary) **99b:35187** 35Q53 (58F07)

Vekua, Il′ya Nestorovich *see* **Gilbert, Robert Pertsch et al., 99m:01058** *and* **Symposium: Differential Equations and Mathematical Physics**

van de Vel, M. (*with* Bandelt, Hans-Jürgen) The median stabilization degree of a median algebra. (English summary) *J. Algebraic Combin.* **9** (1999), *no.* 2, 115–127. (Ioan Tomescu) **99m:05173** 05E99

— Determination of msd(L^n). (English summary) *J. Algebraic Combin.* **9** (1999), *no.* 2, 161–171. (Ioan Tomescu) **99m:05174** 05E99

de Vel, Olivier (*with* Litow, Bruce) On digital images which cannot be generated by small generalised stochastic automata. (English summary) *Randomized algorithms* (*Brno*, 1998), 8 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68U10 (68Q68)

kanaga Vel, S. *see* **Kanaga Vel, S.**

Vela-Arévalo, Luz Vianey (*with* Pérez Chavela, Ernesto) Triple collision in the quasi-homogeneous collinear three-body problem. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 186–211. (Donald G. Saari) **99f:70020** 70F07 (70F35)

Velamazán, Ma. Angeles The Memorial de Ingenieros. *Messengers of mathematics: European mathematical journals* (1800–1946), 259–266, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

— *see also* **Brezinski, Claude, 99c:01002**

Velammal, S. (*with* Arumugam, S.) Edge domination in graphs. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 2, 173–179. (Summary) **99a:05107** 05C70

senthil Velan, M. *see* **Senthil Velan, M.**

Velani, Sanju L. (*with* Hill, Richard Michael) Metric Diophantine approximation in Julia sets of expanding rational maps. (English summary) *Inst. Hautes Études Sci. Publ. Math. No.* 85 (1997), 193–216. (Rita Giuliano Antonini) **99b:58143** 58F11 (11K55)

— (*with* Nair, Radhakrishnan) Glasner sets and polynomials in primes. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2835–2840. (Daniel Berend) **99a:11095** 11K38 (11J13, 11K06)

— (*with* Hill, Richard Michael) The Jarník-Besicovitch theorem for geometrically finite Kleinian groups. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 3, 524–550. (Thomas A. Schmidt) **99f:11100** 11K55 (11K60)

Velarde, M. G. (*with* Bragard, J.) Bénard-Marangoni convection: planforms and related theoretical predictions. (English summary) *J. Fluid Mech.* **368** (1998), 165–194. (Summary) **99e:76046** 76E15 (76R10)

— (*with* Porubov, A. V.; Samsonov, A. M.; Bukhanovsky, A. V.) Strain solitary waves in an elastic rod embedded in another elastic external medium with sliding. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part B*, 3854–3864. 73D35 (73K05)

— (*with* Porubov, A. V.) Exact periodic solutions of the complex Ginzburg-Landau equation. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 884–896. (Summary) **99j:35209** 35Q55 (35B10, 35C05)

Velasco, C. (*with* Robinson, Peter M.) Autocorrelation-robust inference. *Robust inference*, 267–298, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62M10 (62F35)

sánchez-Velasco, Eduardo *see* **Sánchez-Velasco, Eduardo**

Velasco, Francisco E. (*with* Gracia, Juan M.) Global analytic block similarity to a Brunovsky form. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 233–247. (Feng-Sheng Tu) **99j:93050** 93C10 (15A21)

Velasco, María Victoria (*with* Villena Muñoz, Armando R.) On the continuity of random operators. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 93–102. (Stanisław Wędrychowicz) **99a:47055** 47B80 (60H25)

— (*with* Neumann, Michael M.) Network analysis. *Minimax theory and applications* (*Erice*, 1996), 167–189, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Edward J. Anderson) **99e:90032** 90B10 (46N10, 47N10)

gonzalez-Velasco, Miguel *see* **Gonzalez-Velasco, Miguel**

Velasco-Hernández, Jorge X. (*with* Feng, Zhilan) Competitive exclusion in a vector-host model for the dengue fever. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 523–544. (Summary) **99h:92014** 92C60 (92D30)

Velasco Valdés, Julián (*with* de Vicente, Santiago) Modelling stationary clouds in two-phase flows. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 419–424, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76T05

Velasquez, Elinor The uncertainty principle on Cayley graphs. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 367–379. (Wolfgang Woess) **99m:43003** 43A25 (81S99)

montesinos-Velásquez, Merced *see* **Montesinos-Velásquez, Merced**

rodriguez Velazquez, Juan Alberto *see* **Rodriguez Velazquez, Juan Alberto**

Velázquez, Juan J. L. (*with* Herrero, Miguel A.) A blow-up mechanism for a chemotaxis model. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 4, 633–683 (1998). (Yoram Schiffmann) **99h:92007** 92C15 (35K60, 35Q80, 92D50)

— (*with* Herrero, Miguel A.; Lacey, Andrew A.) Global existence for reaction-diffusion systems modelling ignition. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 3, 219–251. (Alexander L. Gladkov) **99h:35099** 35K57 (80A25)

— (*with* Fontelos, M. A.) A free boundary problem for the Stokes system with contact lines. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1209–1303. (A. Elcrat) **99j:35235** 35R35 (35Q30, 76D07)

— (*with* Herrero, Miguel A.; Medina Reus, Elena) Self-similar blow-up for a reaction-diffusion system. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 99–119. (Summary) **99h:35100** 35K57 (35B40, 93C20)

— The Becker-Döring equations and the Lifshitz-Slyozov theory of coarsening. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 195–236. (Summary) **99e:82071** 82C31 (82C28)

— (*with* Escobedo, M.; Herrero, Miguel A.) A nonlinear Fokker-Planck equation modelling the approach to thermal equilibrium in a homogeneous plasma. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 3837–3901. (Sergei A. Vakulenko) **99a:82093** 82D10 (35Q99, 76X05, 82C31)

vande Velde, Koen *see* **Vande Velde, Koen**

van de Velde, Steef (*with* Hoogeveen, Johannes Adzer) Scheduling by positional completion times: analysis of a two-stage flow shop problem with a batching machine. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 273–289. (Summary) **99d:90060** 90B35 (90C70)

— (*with* Kubiak, Wieslaw) Scheduling deteriorating jobs to minimize makespan. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 5, 511–523. (Summary) **99e:90050** 90B35

van Veldhuizen, M. (*with* Hendriks, J. A.; Appelo, C. A. J.) Numerical computation in heterovalent chromatography. (English summary) *Appl. Numer. Math.* **28** (1998), *no.* 1, 69–89. (Summary) **99e:86015** 86A99 (65M99, 86–08)

Veldman, Arthur E. P. Strong viscous-inviscid interaction and the effects of streamline curvature. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 353–359. (*see* **99a:65009**) 76D99 (76M25)

— (*with* Maurits, N. M.; van der Ven, H.) Explicit multi-time stepping methods for convection-dominated flow problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 133–150. (Summary) **99b:76057** 76M20

Veldman, H. J. (*with* Trommel, H.; Verschut, A.) Pancyclicity of claw-free Hamiltonian graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 781–789. (Summary) **99k:05101** 05C38 (05C45)

Veldsman, Stefan (*with* Petersen, Quentin N.) Composition near-rings. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 357–372, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Silvia Pellegrini) **99a:16044** 16Y30

Velenik, Y. (*with* Pfister, Charles E.) Random-cluster representation of the Ashkin-Teller model. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1295–1331. (Agoston Pisztora) **99d:82017** 82B20

— (*with* Pfister, Charles E.) Large deviations and continuum limit in the 2D Ising model. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 4, 435–506. (Paolo Dai Pra) **99c:60058** 60F10 (60K35, 82B20, 82B26)

Vélez Ibarrola, Ricardo (*with* Muruaga, M. A.) Asymptotic behavior of continuous stochastic games. (English summary) *Top* **4** (1996), *no.* 2, 187–214. (Summary) **99g:90170** 90D15 (90C31)

— (*with* Ibarrola Muñoz, María del Pilar; Różański, Roman) On estimation of the mean and covariance parameter for Gaussian random fields. (English summary) *Statistics* **31** (1998), *no.* 1, 1–20. (Summary) **99b:62150** 62M40 (62F15, 62M30)

Velhinho, J. M. Comments on a full quantization of the torus. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 22, 3905–3914. (Martin Schlichenmaier) **99g:58058** 58F06 (81S10)

de campos Velho, Haroldo F. *see* **de Campos Velho, Haroldo F.**

Velicheva, E. P. (*with* Suz′ko, A. A.) Quantum dynamical systems with some degrees of freedom. (English summary) *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 556–564, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81Q20

— (*with* Suz′ko, A. A.) Exact solutions of the nonstationary Schrödinger equation. (Russian. Russian summary) *Teoret. Mat. Fiz.* **115** (1998), *no.* 3, 410–418; *translation in Theoret. and Math. Phys.* **115** (1998), *no.* 3, 687–693. 81Q05

Velichko, N. V. On the family of λ-topologies in a space of functions. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 490–500, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 422–430. (Vesko Valov) **99h:46035** 46E10 (54C35)

— The Lindelöf property is l-invariant. (English summary) *Topology Appl.* **89** (1998), *no.* 3, 277–283. (Ljubiša Kočinac) **99h:54025** 54C35 (54D20)

Velichko, V. E. (*with* Usenko, V. M.) Left ideals of an endomorphism semigroup of a free group. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 9–12, *Gomel. Gos. Univ., Gomel′*, 1998. (*see* **99g:20008**) 20M20 (20E05)

Veličković, Boban (*with* Friedman, Sy D.) Δ_1-definability. (English summary) Logic Colloquium '94 (Clermont-Ferrand). *Ann. Pure Appl. Logic* **89** (1997), *no.* 1, 93–99. (Jakub Jasiński) **99g:03049** 03E05 (03E35, 03E45, 03E55)

— (*with* Woodin, W. Hugh) Complexity of reals in inner models of set theory. (English summary) *Ann. Pure Appl. Logic* **92** (1998), *no.* 3, 283–295. (Jakub Jasiński) **99f:03067** 03E15 (03E35)

— (*with* Even, Guy; Goldreich, Oded; Luby, Michael G.; Nisan, Noam) Efficient approximation of product distributions. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 1, 1–16. (Gheorghe Barbu) **99g:68077** 68Q20 (68Q25)

Velieva, N. I. (*with* Aliev, Fikret A.) The algorithms of solving of the safe stabilization problem with constant output feedback for linear multivariable systems. (English, Russian and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 24–30. 93D15 (93B40)

Velikova, Evguenia (*with* Baicheva, Tsonka S.) Correction to: "Covering radii of ternary linear codes of small dimensions and codimensions" [IEEE Trans. Inform. Theory **43** (1997), no. 6, 2057–2061]. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 2032. 94B05

Velilla Cerdán, Santiago Assessing the number of linear components in a general regression problem. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1088–1098. (Summary) **99e:62120** 62J05

Velimirović, Ljubica S. On the second order infinitesimal bendings of a class of toroids. (English summary) 11th Yugoslav Geometrical Seminar (Divčibare, 1996). *Mat. Vesnik* **49** (1997), *no.* 1, 51–58. (Hellmuth Stachel) **99c:53006** 53A05

— A new proof of a theorem of Belov. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **63(77)** (1998), 102–114. (Vladislav Goldberg) **99h:53006** 53A05

Veliov, V. *see* **Vel'ov, Vladimir M.**

Veliov, Vladimir *see* **Vel'ov, Vladimir M.**

Veljan, Darko (*with* Volenec, Vladimir; Pečarić, Josip) Inequalities for volumes of simplices in terms of their faces. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 57–62. (Summary) **99f:51032** 51M16 (51M25)

Vella, Francis (*with* Crawford, David L.; Pollak, Robert A.) Simple inference in multinomial and ordered logit. (English summary) *Econometric Rev.* **17** (1998), *no.* 3, 289–299. (Summary) **99e:62177** 62P20

Vellbinger, Ute (*with* Greferath, Marcus) Efficient decoding of Z_{p^k}-linear codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1288–1291. (Summary) **99a:94056** 94B35 (94B05)

— (*with* Greferath, Marcus) On the extended error-correcting capabilities of the quaternary Preparata codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 2018–2019. 94B60

Vellekoop, Michel (*with* Bagchi, Arunabha) Adaptive identification of continuous-time systems in the presence of noise. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 171–195. 93B30 (93C40)

— (*with* Högnäs, G.) Stability of stochastic population models. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 459–476. (Min Ping Qian) **99c:60140** 60J05 (60J20, 92D25)

Velleman, Daniel J. Probability and quantum mechanics. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 11, 967–969. (M. J. Mączyński) **99h:81016** 81P05

Vel'misov, Petr A. (*with* G#rnevska, L. V.; Milusheva, Svetla D.) Investigation of the asymptotic stability of a pipeline with time delay. (Russian. Russian summary) *Applications of mathematics in engineering (Sozopol, 1997)*, 57–59, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 34K30 (35B35, 35Q99, 73D30)

— (*with* Kireev, S. V.; Kuznetsov, A. O.) Stability and bifurcation of a plate in a supersonic gas flow. (English summary) *Applications of mathematics in engineering (Sozopol, 1998)*, 41–46, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 73K70 (73H05, 76J20)

— (*with* G#rnevska, L. V.; Milusheva, Svetla D.) Investigation of the stability of the solution of the equation of oscillations of an axis or a plate with a delay in time of the reaction and friction forces. (English summary) *Applications of mathematics in engineering (Sozopol, 1998)*, 83–88, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 73H10 (35Q72, 73D30, 73K10)

— (*with* G#rnevska, L. V.; Milusheva, Svetla D.) On the dynamical stability of nonlinear oscillations of axes and plates. (English summary) *Applications of mathematics in engineering (Sozopol, 1998)*, 89–95, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 73H10 (35Q72, 73D35, 73K05, 73K10)

Velo, G. (*with* Ginibre, J.) Generalized Strichartz inequalities for the wave equation in homogeneous Besov spaces. (English summary) *Nonlinear waves (Sapporo, 1995)*, 135–144, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Vasiliy I. Sedenko) **99e:35125** 35L05 (35B45, 46N20)

Veloso, José M. Prolongation projection commutativity theorem. (English summary) *CR-geometry and overdetermined systems (Osaka, 1994)*, 386–405, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Ceferino Ruiz) **99a:58167** 58H10 (58G05)

— (*with* Falbel, Elisha) A parallelism for contact conformal sub-Riemannian geometry. (English summary) *Forum Math.* **10** (1998), *no.* 4, 453–478. (Fernand Pelletier) **99f:53027** 53C15

Veloso, Paulo A. S. On finite and infinite fork algebras and their relational reducts. (English summary) Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 35–50. (Jānis Cīrulis) **99f:03090** 03G15 (06E25)

— On eight independent equational axiomatisations for fork algebras. *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 3, 117–129. 03G15 (08A05, 08A70)

Veloso Peixoto, Marcos (*with* Fribourg, Laurent) Unfolding parametric automata. (English summary) *LATIN'98: theoretical informatics (Campinas, 1998)*, 88–101, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68Q68 (68Q55, 68Q60)

Vel'ov, Vladimir M. (*with* Quincampoix, Marc) Viability with a target: theory and applications. (English summary) *Applications of mathematics in engineering (Sozopol, 1997)*, 47–54, *Heron Press, Sofia*, 1998. (Patrick Saint-Pierre) **99k:49009** 49J15 (34A60, 34H05, 93B03)

— (*with* Lempio, Frank) Discrete approximations of differential inclusions. (English summary) *Bayreuth. Math. Schr. No.* 54 (1998), 149–232. (Zvi Artstein) **99j:49067** 49M25 (34A60, 65L05)

— (*with* Lempio, Frank) Discrete approximations of differential inclusions. (English summary) *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 2, 103–135. (Summary) **99j:49068** 49M25 (34A60, 34H05, 93B03)

Velychko, L. G. (*with* Sirenko, Yu. K.; Karacuha, E.) Synthesis of perfectly conducting gratings with an arbitrary profile of slits. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 541–550. 78A45

Vemaganti, Kumar (*with* Moës, Nicolas; Oden, J. Tinsley) A two-scale strategy and a posteriori error estimation for modeling heterogeneous structures. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 115–133, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N15 (65N30)

Vempala, Santosh (*with* Kotlov, Andrew Valeri; Lovász, László) The Colin de Verdière number and sphere representations of a graph. (English summary) *Combinatorica* **17** (1997), *no.* 4, 483–521. (Joan Hutchinson) **99i:05068** 05C10 (05C50)

— (*with* Blum, Avrim L.; Frieze, Alan M.; Kannan, Ravindran) A polynomial-time algorithm for learning noisy linear threshold functions. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 35–52. (Peter Auer) **99m:68158** 68T05 (68Q99)

— (*with* Awerbuch, Baruch; Azar, Yossi; Blum, Avrim L.) New approximation guarantees for minimum-weight k-trees and prize-collecting salesmen. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 254–262 (*electronic*). (T. R. S. Walsh) **99e:68063** 68Q25 (05C85, 68R10)

— (*with* Mitchell, Joseph S. B.; Blum, Avrim L.; Chalasani, Prasad) A constant-factor approximation algorithm for the geometric k-MST problem in the plane. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 771–781 (*electronic*). (Summary) **99g:68098** 68Q25 (68R10, 68U05)

Vemuganti, R. R. Applications of set covering, set packing and set partitioning models: a survey. (English summary) *Handbook of combinatorial optimization, Vol. 1*, 573–746, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C10)

Vemuri, Arun T. (*with* Polycarpou, Marios M.) Robust nonlinear fault diagnosis in input-output systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 343–360. 93B30 (93E12)

Vemuri, Baba C. (*with* Lai, Shang-Hong) Sherman-Morrison-Woodbury-formula-based algorithms for the surface smoothing problem. (English summary) *Linear Algebra Appl.* **265** (1997), 203–229. (Menachem Dishon) **99b:65011** 65D10 (15A24, 65D07, 68U10)

— (*with* Lai, Shang-Hong) Generalized capacitance matrix theorems and algorithm for solving linear systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 1024–1045 (*electronic*). (Xinguo Liu) **99d:65130** 65F30 (65F10)

Vemuri, M. K. (*with* Fryant, A.) Wave polynomials. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 205–209. (Manfred W. Kracht) **99i:35086** 35L05 (33E15, 35C15)

— (*with* Fryant, A.; Naftalevich, A.) Orthogonal homogeneous polynomials. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 3, 371–379. (F. Móricz) **99m:42039** 42C05 (33C50)

van de Ven, A. A. F. (*with* Aarts, A. C. T.) The occurrence of periodic distortions in the extrusion of polymeric melts. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 2, 113–139. 76A05

van der Ven, H. (*with* Maurits, N. M.; Veldman, Arthur E. P.) Explicit multi-time stepping methods for convection-dominated flow problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 133–150. (Summary) **99b:76057** 76M20

— (*with* van der Vegt, J. J. W.) Discontinuous Galerkin finite element method with anisotropic local grid refinement for inviscid compressible flows. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 1, 47–77. (Summary) **99a:76089** 76M10 (76N15)

Venakides, Stephanos (*with* Deift, P.; Kriecherbauer, Thomas; McLaughlin, K. T.-R.; Zhou, Xin) Asymptotics for polynomials orthogonal with respect to varying exponential weights. *Internat. Math. Res. Notices* **1997**, *no.* 16, 759–782. (Alexander Vladimirovich Kitaev) **99g:34038** 34A55 (15A52, 34L25, 35Q53, 82B44)

— (*with* Bonilla, Luis L.; Kindelan, Manuel; Moscoso, Miguel) Periodic generation and propagation of traveling fronts in DC voltage biased semiconductor superlattices. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1588–1614. (J. W. Jerome) **99a:35217** 35Q40 (35B25, 35G25, 82D99)

— The small dispersion KdV equation with decaying initial data. *Recent advances in partial differential equations, Venice* 1996, 369–392, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Elena Medina Reus) **99a:35230** 35Q53 (34A55, 34L25, 35B40)

— (*with* McDonald, Michael A.) Renormalization of the τ-functions for integrable systems: a model problem. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 8, 937–966. (Alexey V. Samokhin) **99d:58087** 58F07 (35Q58, 70K99)

— (*with* Deift, P.; Kriecherbauer, Thomas; McLaughlin, K. T.-R.; Zhou, Xin) Uniform asymptotics for orthogonal polynomials. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 491–501 (*electronic*). (V. Totik) **99m:42038** 42C05 (45E05, 81Q99)

Venås, Stig (*with* Smalø, Sverre O.) Lengths of endomorphism rings of finitely generated indecomposable modules over Artin algebras. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 3, 182–186. (Sheila Brenner) **99a:16013** 16G60 (16D70, 16D90)

Vencovská, A. (*with* Paris, Jeffrey B.) Proof systems for probabilistic uncertain reasoning. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 3, 1007–1039. (Zoran Ognjanović) **99g:03019** 03B45 (03B60, 03B70, 68T27)

Vendite, Laércio L. (*with* Leckar, Hamilton F.) On the stable size distribution in a mathematical model for tumor cell growth reproducing by fission and the cellular resistance problem. (English summary) *Advances in mathematical population dynamics—molecules, cells and man (Houston, TX, 1995)*, 207–222, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99d:92001**) 47N60 (47D06, 92C50)

Vendrell, F. A semi-classical relativistic black hole. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 4, 598–635. (Summary) **99c:81153** 81T20 (83C47, 83C57)

— Some exact results on the CGHS black-hole radiation. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 3, 314–342. (Michael Keyl) **99k:81202** 81T20 (83C47, 83C57)

Venema, Gerard A. A manifold that does not contain a compact core. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 197–210. (Alexander N. Dranishnikov) **99k:57046** 57N13 (55P10, 57N15, 57N35)

— (*with* Vo Thanh Liem; Matsumoto, Yukio) A homotopy equivalence that is not homotopic to a topological embedding. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 211–222. (Alexander N. Dranishnikov) **99m:57019** 57N35 (55N05, 55P10, 55P55, 57N15)

Venema, Y. Atom structures and Sahlqvist equations. (English summary) *Algebra Universalis* **38** (1997), *no.* 2, 185–199. (Leo Esakia) **99g:06019** 06E25 (03G15, 03G25)

Venero, P. (*with* Gandarias-Núñez, M. L.; Ramírez-Labrador, José) Similarity reductions for a nonlinear diffusion equation. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 3, 234–244. (Roman O. Popovich) **99f:35087** 35K57 (35C05)

Venero Goñi, P. Potential symmetries of the backward Kolmogorov equation. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 537–542, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35A30

Veneziani, A. (*with* Gotusso, Laura) Linear and nonlinear models for the vibrating string and the vibrating rod. (English summary) *Advances in difference equations (Veszprém, 1995)*, 245–252, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 73D99 (39A10, 73K03)

Veneziano, Daniele Basic properties and characterization of stochastically self-similar processes in $\mathbf{R}^d$. (English summary) *Fractals* **7** (1999), *no.* 1, 59–78. (Summary)

99m:60065 60G18

Veneziano, Gabriele Physics and mathematics: a happily evolving marriage? (English summary) *Les relations entre les mathématiques et la physique théorique*, 183–189, *Inst. Hautes Études Sci., Bures-sur-Yvette*, 1998. (*see* **99h:00038**) 01A60 (00A79)

— (*with* Gasperini, Maurizio; Giovannini, M.; Meissner, K. A.) Evolution of a string network in backgrounds with rolling horizons. (English summary) *String theory in curved space times* (*Paris*, 1996), 49–67, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (83F05)

— Quantum geometric origin of all forces in string theory. *The geometric universe* (*Oxford*, 1996), 235–243, *Oxford Univ. Press, Oxford*, 1998. (Sergey Nikolaevich Roshchupkin) **99g:81189** 81T30

— (*with* Durrer, R.; Gasperini, Maurizio; Sakellariadou, M.) Seeds of large-scale anisotropy in string cosmology. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 043511, 21 *pp.* 83F05 (83E30)

Veni Madhavan, C. E. (*with* Kumar, P. Sreenivasa) Minimal vertex separators of chordal graphs. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 155–168. (Ioan Tomescu) **99j:05161** 05C75 (05C85)

— (*with* Subramanian, C. R.; Fürer, Martin) Algorithms for coloring semi-random graphs. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 2, 125–158. (Summary) **99g:68155** 68R10 (05C15, 05C85, 68Q25)

Venini, Paolo (*with* Mariani, Claudia) On the use of stochastic models of uncertainty in active control and structural optimization. (English summary) *Comput. & Structures* **67** (1998), *no.* 1-3, 105–117. (Summary) **99d:73069** 73K50 (73K40, 73V30, 90C90, 93E20)

— (*with* Cinquini, Carlo; Mariani, Claudia) Mixed finite element formulation and optimal design of thin composite laminates. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 165–176. (Summary) **99k:73113** 73V05 (49Q10, 73K20, 73K40)

Venis, A. C. J. (*with* Koren, Barry) A fed back level-set method for moving material-void interfaces. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 131–152. (Summary) **99j:76092** 76M25 (65M60, 76T05)

Venkatachalam, C. V. (*with* Sampathkumar, E.; Pushpa Latha, L.; Bhat, Pradeep) Generalized complements of a graph. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 625–639. (A. Vijayakumar) **99f:05097** 05C75

Venkatakrishnan, V. (*with* Morano, Eric; Mavriplis, Dimitri J.) Coarsening strategies for unstructured multigrid techniques with application to anisotropic problems. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 393–415 (*electronic*). (Summary) **99e:76077** 76M10 (65M55, 65N55)

Venkataraman, C. S. *see* **Sivaramakrishnan, R.**

Venkataramana, T. N. (*with* Clozel, L.) Restriction of the holomorphic cohomology of a Shimura variety to a smaller Shimura variety. *Duke Math. J.* **95** (1998), *no.* 1, 51–106. (Rutger Noot) **99g:11077** 11G18 (11F46, 11F55, 14G35, 22E55)

Venkata Ramana, V. V. (*with* Umasankar, C.) On a class of assignment problems. (English summary) *Opsearch* **35** (1998), *no.* 2, 127–138. 90C27 (90C35)

Venkatasubramanyan, Narayan (*with* Walser, Joachim P.; Iyer, Ramesh) An integer local search method with application to capacitated production planning. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 373–379, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C10 (90B30)

Venkatesan, Ramarathnam (*with* Aiello, William A.; Bellare, Mihir; Di Crescenzo, Giovanni) Security amplification by composition: the case of doubly-iterated, ideal ciphers. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 390–407, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94035** 94A60

— (*with* Aiello, William A.; Rajagopalan, S. Raj) Design of practical and provably good random number generators. (English summary) SODA '95 (San Francisco, CA). *J. Algorithms* **29** (1998), *no.* 2, 358–389. (Gheorghe Barbu) **99m:65013** 65C10 (68P25, 68Q10)

— (*with* Naor, Moni; Ostrovsky, Rafail; Yung, Moti) Perfect zero-knowledge arguments for NP using any one-way permutation. (English summary) *J. Cryptology* **11** (1998), *no.* 2, 87–108. (Juraj Hromkovič) **99j:94057** 94A60 (68Q15, 68Q25)

Venkatesan, S. K. On the tendency to form non-differentiable vorticity interfaces in Euler flows. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 4, 185–188. (Summary) **99i:76030** 76C05

Venkatesan, Sivarama (*with* Anantharam, Venkat) The common randomness capacity of a pair of independent discrete memoryless channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 215–224. (Summary) **99c:94018** 94A40

Venkatesh, G. (*with* Babu, S. Ramesh; Sanyal, Amitabha) Proof of correctness of a direct construction of DFA from regular expression. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 191–210. (Summary) **99d:68142** 68Q45 (68N20)

Venkatesh, S. *see* **Venkatesh, Srinivasan**

Venkatesh, Saligrama R. (*with* Dahleh, Munther A.) Identification in the presence of classes of unmodeled dynamics and noise. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1620–1635. (Summary) **99k:93044** 93B30 (93E12)

Venkatesh, Santosh S. (*with* Snapp, Robert R.) Asymptotic expansions of the k nearest neighbor risk. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 850–878. (Margaret P. Gessaman) **99h:62062** 62G20 (41A60)

— (*with* Kulkarni, Sanjeev R.; Lugosi, Gábor) Learning pattern classification—a survey. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2178–2206. (Summary) **99i:68108** 68T10 (62F15, 68T05)

— (*with* Fang, Shao C.) The capacity of majority rule. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 1, 83–109. (Summary) **99f:68172** 68T05 (90C10)

Venkatesh, Srinivasan Pseudo-average block sensitivity equals average sensitivity. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 2, 93–95. (Summary) **99g:68100** 68Q25 (06E30, 68Q22, 94C10)

Venkateswaran, H. (*with* Sengupta, Rimli) A lower bound for monotone arithmetic circuits computing 0-1 permanent. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 389–398. (Johan Håstad) **99h:68084** 68Q25 (15A15, 65Y20, 68Q15)

Venkateswara Rao, N. (*with* Reddy, D. R. K.) On some Bianchi type cosmological models in a bimetric theory of gravitation. (English summary) *Astrophys. Space Sci.* **257** (1997/98), *no.* 2, 293–298. 83D05

Venkatramaiah, S. Correction to: "A note on the Diophantine equation $x^2 + y^2 + 1 = xyz$" [Math. Ed. (Siwan) **30** (1996), no. 3, 177–178; MR 98e:11034]. *Math. Ed.* (*Siwan*) **32** (1998), *no.* 3, 178–179. 11D25

Venkatraman, Radhika (*with* Corteel, Sylvie; Savage, Carla D.) A bijection for partitions with all ranks at least t. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 2, 202–220. (David M. Bressoud) **99f:11135** 11P81 (05A17)

Venkayya, V. B. (*with* Tzou, H. S.; Hollkamp, J. J.) Orthogonal sensing and control of continua with distributed transducers—distributed structronic system. (English summary) *Dynamics and control of distributed systems*, 304–370, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99b:73002**) 93C20 (73K15, 73K50)

Venkov, A. (*with* Balslev, Erik) The Weyl law for subgroups of the modular group. *Geom. Funct. Anal.* **8** (1998), *no.* 3, 437–465. (Werner Hoffmann) **99g:11069** 11F72

Venkov, Georgy P. (*with* Arnaudov, Ya. N.; Georgiev, Vladimir) Atkinson-Wilcox decomposition for small permutation of the sphere. *Applications of mathematics in engineering* (*Sozopol*, 1998), 55–58, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 35J05 (35C10)

Venkova, M. Sufficient condition for the existence of stable and unstable integral manifolds for impulsive differential equations of dichotomical type in Banach spaces. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 87–98. (Eduardo Liz) **99c:34017** 34A37 (34C35, 34D35, 34G20)

— (*with* Kostadinov, St. I.; Schneider, Klaus R.) Existence of integral manifolds for impulsive differential equation with small parameter. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 299–308. (Yuri V. Rogovchenko) **99i:34020** 34A37 (34C30)

Venner, Cornelis H. (*with* Yavneh, Irad; Brandt, Achi) Fast multigrid solution of the advection problem with closed characteristics. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 111–125 (*electronic*). (Summary) **99d:65358** 65N55 (65N12, 76D05, 76M20)

— (*with* Brandt, Achi) Multilevel evaluation of integral transforms with asymptotically smooth kernels. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 468–492 (*electronic*). (Summary) **99a:65185** 65R10 (65R20)

Venneri, Betti (*with* Dezani-Ciancaglini, Mariangiola; Ghilezan, Silvia) The "relevance" of intersection and union types. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 246–269. (J. P. Seldin) **99c:03015** 03B40 (03B46, 03B55, 68N15)

Venter, Gary G. *see* **Klugman, Stuart A. et al., 99b:62155**

Venter, J. H. (*with* Steel, S. J.) Identifying active contrasts by stepwise testing. (English summary) *Technometrics* **40** (1998), *no.* 4, 304–313. 62K15

Ventre, Aldo G. S. (*with* Cruz Rambaud, Salvador) Decomposable financial laws and profitability. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 329–344. (Summary) **99j:90009** 90A09

Ventsov, Yu. G. (*with* Stephan, Frank) Learning algebraic structures from text using semantical knowledge. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 321–335, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (16P40, 68Q99)

Venttsel', A. D. (*with* Freidlin, Mark I.) ★ Random perturbations of dynamical systems. (English summary) Translated from the 1979 Russian original by Joseph Szücs. Second edition. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 260. *Springer-Verlag, New York*, 1998. *xii*+430 *pp. ISBN* 0-387-98362-7 (From the preface) **99h:60128** 60H25 (34C29, 34C35, 34F05, 58F30, 60F10)

Venttsel', E. S. ★ Исследование операций. (Russian. Russian summary) [Operations research] Задачи, принципы, методология. [Problems, principles, methodology] Second edition. Проблемы Науки и Технического Прогресса. [Problems of Science and Technological Progress] "*Nauka*", *Moscow*, 1988. 208 *pp. ISBN* 5-02-013900-9 90-01 (90Bxx)

Ventura, Belisario A. (*with* Wagner, Bruce H.) Locally constant nonproduct-type cocycles. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 1–25. (Claire Anantharaman-Delaroche) **99h:46115** 46L05 (46L55)

Ventura, Gustavo (*with* Guzman, Rolando M.) A model of experimentation with information externalities. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 1, 9–34. (Summary) **99g:90176** 90D40 (90A16)

Ventura, José A. (*with* Soyster, Allen L.) Linear programming. *Mathematical programming for industrial engineers*, 11–121, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C05 (90–02)

— (*with* Wu, Chih-Hang; Browning, Sharon) Computational comparisons of dual conjugate gradient algorithms for strictly convex networks. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 4, 333–349. 90C35 (90B10)

Ventura, O. S. (*with* Sorella, S. P.; Vilar, L. C. Q.; Sasaki, C. A. G.) Algebraic characterization of vector supersymmetry in topological field theories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 848–866. (Noriaki Ano) **99d:81166** 81T70 (58D29, 81T60)

— (*with* Lemes, V. E. R.; Linhares de Jesus, C.; Sorella, S. P.; Vilar, L. C. Q.) Chern-Simons as a geometrical setup for three-dimensional gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045010, 11 *pp.* 81T70 (81T13)

Venturi, Giovanni (*with* Casadio, Roberto; Finelli, Fabio) Adiabatic invariant treatment of a collapsing sphere of quantized dust. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2451–2464. (Summary) **99e:83031** 83C47 (83C55)

— (*with* Bertoni, C.; Finelli, Fabio) Adiabatic invariants and scalar fields in a de Sitter space-time. (English summary) *Phys. Lett. A* **237** (1998), *no.* 6, 331–336. (Maria E. X. Guimarães) **99b:81163** 81T20 (83C47)

— (*with* Alberghi, G. L.; Casadio, Roberto; Vacca, Gian Paolo) Gravitational collapse of a shell of quantized matter. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 131–147. 83C55 (83C47)

Venturini, Gilles (*with* Rochet, S.; Slimane, M.) Schemata and deception in binary genetic algorithms: a tutorial. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 339–373. (*see* **99b:90008**) 90C27 (90–02, 90C30)

Venturini, Sergio (*with* Amar, Micol; Bellettini, Giovanni) Integral representation of functionals defined on curves of $W^{1,p}$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 193–217. (Pablo Pedregal) **99c:49042** 49Q15 (49J45)

Venturino, Ezio (*with* Elliott, David) Sigmoidal transformations and the Euler-Maclaurin expansion for evaluating certain Hadamard finite-part integrals. (English summary) *Numer. Math.* **77** (1997), *no.* 4, 453–465. (Summary) **99f:65010** 65B15 (65D30)

— (*with* Pittaluga, Giovanna; Sacripante, Laura) Higher order lacunary interpolation. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 15–22. (Summary) **99d:41009** 41A10

— (*with* Saxena, Anjula) Smoothing the solutions of history-dependent dynamical systems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 647–666. (Summary) **99f:45020** 45L05 (34K05, 45J05, 65L05, 65R20)

Venugopal, Nandogopal (*with* Dulá, J. H.; Helgason, R. V.) An algorithm for identifying the frame of a pointed finite conical hull. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 323–330. (Summary) **99f:65213** 65Y25 (90C15)

Venugopal, T. (*with* Karunakaran, V.) The Weierstrass transform for a class of generalized functions. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 508–527. (Arpad Takači) **99h:46072** 46F12 (44A05)

Venuvanalingam, P. (*with* Balakrishnarajan, M. M.) A semantic tree algorithm for the generation of sextet polynomials of hexagonal systems. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 97–104. (Summary) **99k:05145** 05C85

Vepkhvadze, T. General theta-functions with characteristics and exact formulae for binary quadratic forms. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 341–343 (1997). (Vladimir G. Zhuravlev) **99m:11046** 11E25 (11F27)

— (*with* Tsalugelashvili, N.) On the representation of numbers by certain quadratic forms in ten variables. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 45–55, *VSP, Utrecht*, 1997. (Rainer Schulze-Pillot) **99m:11047** 11E25

garcia Vera, Diego Antonio *see* **Garcia Vera, Diego Antonio**

chacón Vera, Eliseo *see* **Chacón Vera, Eliseo**

beron-Vera, F. J. *see* **Beron-Vera, F. J.**

Vera, G. (*with* Cascales, B.; Manjabacas, G.) A Krein-Šmulian type result in Banach spaces. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 190, 161–167. (Stephen J. Dilworth) **99c:46009** 46B20 (46A50, 46G10)

— (*with* Cascales, B.; Manjabacas, G.) Fragmentability and compactness in $C(K)$-spaces. (English summary) *Studia Math.* **131** (1998), *no.* 1, 73–87. (H. E. Lacey) **99d:46038** 46E25

Vera, Jaime *see* **Vera V., Jaime**

Vera, Jorge R. Ill-posedness and finite precision arithmetic: a complexity analysis for interior point methods. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 424–433, *Springer, Berlin*, 1997. (Summary) **99i:90117** 90C60 (90C08, 90C20)

gonzález-Vera, Pablo *see* **González-Vera, Pablo**

Vera, Raül (*with* Senovilla, José M. M.) G_2 cosmological models separable in non-comoving coordinates. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1737–1758. (Alicia M. Sintes) **99e:83016** 83C20

— Comment on: "Diagonal G_2 spacetimes admitting inheriting conformal Killing vector fields" [Classical Quantum Gravity **12** (1995), no. 8, 1995–2019; MR 96g:83036] by S. R. Czapor and A. A. Coley. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 2037–2038. (Summary) **99e:83017** 83C20 (83C15)

Vera de Serio, Virginia N. (*with* Calderón, Calixto P.) Successive approximations and Osgood's theorem. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 73–81. (Summary) **99a:34030** 34A45 (34A12, 35K99)

Verakhovskiĭ, V. A. (*with* Vabishchevich, Petr N.) Vector schemes of domain decomposition for second-order evolution equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 5–9, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 1–8. (Summary) **99d:65275** 65M55

Vera Mendoza, Rigoberto (*with* Garibay Bonales, Fernando) Formula for calculating the spectral radius of compact operators. (Spanish) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 195–196, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 47A10

Verardi, Libero (*with* Bianchi, Mariagrazia; Gillio Berta Mauri, Anna; Heineken, Hermann) Groups with big centralizers. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 25–42 (1997). (I. M. Isaacs) **99b:20041** 20D60

— (*with* Bianchi, Mariagrazia; Gillio Berta Mauri, Anna) Groups in which elements with the same p-power permute [commute]. (English summary) *Matematiche* (*Catania*) **51** (1996), *suppl.*, 53–61 (1997). (David B. Surowski) **99c:20021** 20D20 (20D15, 20D40)

Vera V., Jaime (*with* Plaza S., Sergio) Differentiability of p-central Cantor sets. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 1–37. (Run Sheng Yang) **99b:58155** 58F12 (28A05, 28A12, 28A80)

Veraverbeke, Noël Cramer type large deviations for survival function estimators. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 2, 105–121. (Summary) **99a:60025** 60F10 (62E20, 62G05)

— (*with* Van Keilegom, Ingrid) Estimation and bootstrap with censored data in fixed design nonparametric regression. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 467–491. (Shaw-Hwa Lo) **99f:62060** 62G07 (62G09)

— Bootstrapping in survival analysis. (English summary) *South African Statist. J.* **31** (1997), *no.* 2, 217–258. (Summary) **99c:62129** 62G09 (62N05)

— (*with* Van Keilegom, Ingrid) Bootstrapping quantiles in a fixed design regression model with censored data. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 115–131. (Lajos Horváth) **99e:62071** 62G09 (62G20)

Verbaarschot, J. J. M. Universal fluctuations in Dirac spectra. *New developments in quantum field theory* (*Zakopane*, 1997), 187–216, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (*see* **99e:81002**) 81V05

— (*with* Şener, M. K.) Universality in chiral random matrix theory at $\beta = 1$ and $\beta = 4$. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 2, 248–251. (Summary) **99c:82033** 82B41

Verbaeten, Sofie (*with* Denecker, Marc; De Schreye, Danny) Compositionality of normal open logic programs. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 371–385, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68022** 68N17 (68T30)

Verbeeck, C. (*with* Lowen-Colebunders, Eva) A unifying theory on exponential objects in the setting of Čech closures and distances. *Proceedings of the Eighth Prague Topological Symposium* (1996), 270–279 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 18B30 (18D15, 54A05, 54B30, 54C35, 54E35)

— (*with* Lowen-Colebunders, Eva; Lowen, Robert) Exponential objects in the construct PRAP. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 4, 259–276. (Michael M. Zarichnyi) **99e:54007** 54B30 (18D15, 54A05)

Verberkmoes, Alain (*with* van Geemen, Bert; van der Kallen, Wilberd; Top, Jaap) Hecke eigenforms in the cohomology of congruence subgroups of SL(3, **Z**). (English summary) *Experiment. Math.* **6** (1997), *no.* 2, 163–174. (Joachim Schwermer) **99a:11059** 11F67 (11F75)

Verbeure, A. (*with* Momont, B.) Algebraic structure of k-mode fluctuations. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 97–105. (Lech Jakóbczyk) **99a:82010** 82B10 (47N55)

— (*with* Michoel, T.; Momont, B.) CCR-algebra structure of normal k-mode fluctuations. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 361–395. (Lech Jakóbczyk) **99m:82006** 82B10 (46L60, 47N55)

Verbeurgt, Karsten A. Learning sub-classes of monotone DNF on the uniform distribution. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 385–399, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (Summary) **99m:68174** 68T05 (68Q99)

Verbitskiĭ, E. A. (*with* Takens, Floris) Generalized entropies. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 127–130; *translation in Math. Notes* **63** (1998), *no.* 1-2, 112–115. (M. L. Blank) **99k:58115** 58F11 (28D20)

— (*with* Takens, Floris) Generalized entropies: Rényi and correlation integral approach. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 771–782. (Summary) **99b:28023** 28D20 (58F11)

Verbitskiĭ, I. È. (*with* Kalton, Nigel J.) Nonlinear equations and weighted norm inequalities. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3441–3497. (C. A. Swanson) **99m:35073** 35J65 (31B10, 47H15, 47N20)

Verbitskiĭ, O. V. (*with* Raz, Ran; Tardos, Gábor; Vereshagin, Nikolai) Arthur-Merlin games in Boolean decision trees. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 58–67, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q05)

Verbitskiĭ, V. G. (*with* Lobas, Leonid Grigor'evich) Nonlinear stability and bifurcation sets of stationary states of wheeled robots under variation of the control parameters. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 35–51, 154. (Summary) **99c:70004** 70B15 (34D99, 70K20)

Verbitskiĭ, V. V. A mixed finite element in an eigenvalue problem of the nonlinear stability of shallow shells. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 22–31. (From the text) **99k:73117** 73V05 (47A56, 47F05, 65N30, 73K15)

Verbitsky, I. E. *see* **Verbitskiĭ, I. È.**

Verbitsky, M. (*with* Kaledin, D.) Trianalytic subvarieties of generalized Kummer varieties. *Internat. Math. Res. Notices* **1998**, *no.* 9, 439–461. (Alexander E. Polishchuk) **99i:53047** 53C25 (14C05, 53C55)

Verbitsky, Oleg *see* **Verbitskiĭ, O. V.**

Verbovetskiĭ, A. M. On quantized algebra of Wess-Zumino differential operators at roots of unity. (English summary) Algebraic aspects of differential calculus. *Acta Appl. Math.* **49** (1997), *no.* 3, 363–370. (Kenneth A. Brown) **99j:16014** 16S32 (16S80, 16W30, 81R50)

— Cohomology of a compatibility complex. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 213–214; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 225–226. (Valentin V. Lychagin) **99c:58182** 58H10 (35N10)

Verbyla, Arūnas (*with* Cullis, Brian; Gogel, Bev; Thompson, Robin) Spatial analysis of multi-environment early generation variety trials. (English and French summaries) *Biometrics* **54** (1998), *no.* 1, 1–18. (Summary) **99a:62149** 62P10

Verch, R. (*with* Buchholz, Detlev) Scaling algebras and renormalization group in algebraic quantum field theory II. Instructive examples. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 6, 775–800. (Stephen J. Summers) **99j:81097** 81T05 (46L60, 81T10, 81T17)

Vercher, Enriqueta (*with* León, Teresa; Sanmatías, Susana) A primal semi-infinite programming method for the uniform approximation problem. (Spanish. English and Spanish summaries) *Qüestiió* (2) **22** (1998), *no.* 2, 313–335. 90C34

— (*with* León, Teresa; Sanmatías, Susana) A multi-local optimization algorithm. (English summary) *Top* **6** (1998), *no.* 1, 1–18. 90C30 (65K05)

Verchère, Dominique (*with* Fourneau, Jean-Michel; Yazici-Pekergin, Nihal) Réseaux généralisés multiclasses avec synchronisations cycliques. (English and French summaries) [Multiclass generalized networks with cyclical synchronization] Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 353–372. (Summary) **99f:90036** 90B22 (60K25)

Verçin, A. Metaplectic covariance of the Weyl-Wigner-Groenewold-Moyal quantization and beyond. (English summary) *Ann. Physics* **266** (1998), *no.* 2, 503–523. (Frank Antonsen) **99i:81128** 81S30 (81R10, 81S05)

Verdegay, J. L. (*with* Herrera, Francisco) Fuzzy control rules in optimization problems. (English summary) *Sci. Iran.* **3** (1996), *no.* 1-3, 89–96. 90C70

— (*with* Jiménez, Fernando) Uncertain solid transportation problems. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 45–57. 90C70 (90C08)

Verdel, A. R. (*with* ten Kroode, A. P. E.; Smit, D.-J.) A microlocal analysis of migration. (English summary) *Wave Motion* **28** (1998), *no.* 2, 149–172. (Nassar H. S. Haidar) **99j:73046** 73D50 (35A27, 35R30, 86A15)

Verdera, Joan (*with* Orobitg, Joan) Choquet integrals, Hausdorff content and the Hardy-Littlewood maximal operator. *Bull. London Math. Soc.* **30** (1998), *no.* 2, 145–150. (Takahide Kurokawa) **99d:42035** 42B25

Verderesi, José A. (*with* Giannoni, Fabio; Piccione, Paolo) An approach to the relativistic brachistochrone problem by sub-Riemannian geometry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6367–6381. (Fernand Pelletier) **99a:58038** 58E10 (49J10)

Verde-Star, Luis An algebraic approach to convolutions and transform methods. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 1, 117–143. (E. J. Taft) **99g:39032** 39B32 (16W30)

— (*with* Elizarraraz, David) On a class of differential equations that contains the equations of Euler and Chebyshev. *Adv. in Appl. Math.* **19** (1997), *no.* 4, 514–528. (V. Sree Hari Rao) **99g:34027** 34A30 (12H20)

— (*with* Elizarraraz, David) Similar operators and a functional calculus for the first-order linear differential operator. *Adv. in Appl. Math.* **22** (1999), *no.* 1, 29–47. (S. K. Chatterjea) **99m:34021** 34A46

Verdi, Claudio (*with* Nochetto, Ricardo H.; Schmidt, Alfred) Adapting meshes and time-steps for phase change problems. (English and Italian summaries) *Atti Accad. Naz.*

Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) *Mat. Appl.* **8** (1997), *no.* 4, 273–292. (E. G. D'yakonov) **99h:65170** 65M60 (65M15, 73B30)

— (*with* Nochetto, Ricardo H.; Savaré, Giuseppe) Error control of nonlinear evolution equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1437–1442. (Summary) **99e:65126** 65M15 (34G20, 65J15)

— (*with* Nochetto, Ricardo H.; Schmidt, Alfred) Error control for phase change problems. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 53–61, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 65M12 (80–08, 80A10)

Verdi, L. (*with* Stangarone, R.) Complete 16-arcs of π_{16}. (Italian. English summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 157–167 (1998). (György Kiss) **99f:51018** 51E21

Verdiani, Luigi Curvature homogeneous metrics of cohomogeneity one on vector spaces. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 179–200 (1998). (Eric Boeckx) **99e:53066** 53C25 (53C30)

— (*with* Podestà, F.) Totally geodesic orbits of isometries. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 5, 399–412. (Catherine Searle) **99j:53071** 53C35 (53C20)

Verdier, Jean-Louis Sur les intégrales attachées aux formes automorphes (d'après Goro Shimura). [On integrals associated with automorphic forms (after Goro Shimura)] *Séminaire Bourbaki, Vol. 6, Exp. No.* 216, 149–175, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 11F67 (11F12)

— Dualité dans la cohomologie des espaces localement compacts. [Duality in the cohomology of locally compact spaces] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 300, 337–349, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 55M05 (18F20)

— (*with* Treibich, Armando) Au-delà des potentiels et revêtements tangentiels hyperelliptiques exceptionnels. (English and French summaries) [Beyond hyperelliptic potentials and exceptional hyperelliptic tangential covers] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1101–1106. (Emma Previato) **99a:14041** 14H52 (14H40, 14J26, 58F07)

— (*with* Treibich, Armando) Au delà des potentiels et revêtements tangentiels hyperelliptiques exceptionnels. (English and French summaries) [Beyond exceptional hyperelliptic tangential covers and potentials] *Publ. Mat. Urug.* **7** (1997), 83–90 (1998). 14H55

Verdière, S. (*with* Vignal, M. H.) Numerical and theoretical study of a dual mesh method using finite volume schemes for two phase flow problems in porous media. (English summary) *Numer. Math.* **80** (1998), *no.* 4, 601–639. (Dennis C. Jespersen) **99g:76117** 76M25 (65M60, 76S05, 76T05)

colin de Verdière, Yves *see* **Colin de Verdière, Yves**

Verdiev, Ĭ. A. (*with* Sezgin, M.; Verdiyev, A. Y.) Generalized Pöschl-Teller, Toda, Morse potentials and SL(2, **R**) group. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1910–1918. (Takeshi Kawazoe) **99g:81064** 81R05 (22E30, 22E70)

— (*with* Kerimov, G. A.) Clebsch-Gordan problem for three-dimensional Lorentz group in the elliptic basis. I. Tensor product of continuous series. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3573–3593. (Edward G. Dunne) **99g:22013** 22E43 (81R05)

Verdinelli, Isabella (*with* Wasserman, Larry) Bayesian goodness-of-fit testing using infinite-dimensional exponential families. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1215–1241. (A. Ya. Olenko) **99h:62026** 62F15 (62G10)

Verdiyev, A. Y. (*with* Sezgin, M.; Verdiev, Ĭ. A.) Generalized Pöschl-Teller, Toda, Morse potentials and SL(2, **R**) group. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1910–1918. (Takeshi Kawazoe) **99g:81064** 81R05 (22E30, 22E70)

Verdiyev, Y. A. *see* **Verdiev, Ĭ. A.**

Verdoodt, Ann Non-Archimedean umbral calculus. (English summary) *Ann. Math. Blaise Pascal* **5** (1998), *no.* 1, 55–73. (L. Narici) **99g:46111** 46S10 (05A40)

Verdoscia, L. (*with* Vaccaro, R.) A high-level dataflow system. (English summary) *Computing* **60** (1998), *no.* 4, 285–305. (Summary) **99c:68091** 68Q10

Verdoucq, Laurent Valeurs au bord pour les dérivées tangentielles des fonctions de la classe $\mathscr{A}^{k,\alpha}$ dans les domaines de type fini de $\mathbf{C}^2$. (English and French summaries) [Boundary values for tangential derivatives of functions of the class $\mathscr{A}^{k,\alpha}$ in finite-type domains in $\mathbf{C}^2$] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 161–164. (Joaquín Ma. Ortega Aramburu) **99i:32010** 32A40

Verdú, G. *see* **Verdú Martín, Gumersindo**

Verdú, Sergio Fifty years of Shannon theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2057–2078. (Summary) **99i:94001** 94–03 (01A60, 94A15, 94A29)

— (*with* Shamai, Shlomo) Spectral efficiency of CDMA with random spreading. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 622–640. 94A60

— *see also* **Information theory**, **99h:94002**

Verdú Martín, Gumersindo (*with* Ginestar, D.; Vidal, V.; Peña Miralles, Juan; Muñoz-Cobo González, José Luis) Modal nodal method for the integration of the neutron diffusion equation. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 15 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70 (82–08, 82C70)

— (*with* Navarro-Esbrí, J.; Ginestar, D.; Bovea, M. D.; Jiménez Olivo, Pedro José; Peña Miralles, Juan; Muñoz-Cobo González, José Luis) Complex Lyapunov exponents of a system with Hopf bifurcation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 977–982, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C23

Verduyn Lunel, S. M. (*with* Nussbaum, Roger D.) Generalizations of the Perron-Frobenius theorem for nonlinear maps. (English summary) *Mem. Amer. Math. Soc.* **138** (1999), *no.* 659, *viii*+98 *pp.* (Makoto Mori) **99i:58125** 58F20 (47H99)

Vereecken, H. (*with* Dimov, Ivan T.; Jaekel, U.; Wendt, D.) A numerical approach for determination of sources in reactive transport equations. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 189–204, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:82061** 82C70 (65C05, 65D30, 65M99, 82–08)

— (*with* Marinoschi, Gabriela; Ghergut, I.; Homentcovschi, D.; Jaekel, U.) Determination of the macrodispersive parameters of a motion in a two-layer porous medium. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 117–126. (Summary) **99a:76150** 76S05 (76R50)

— (*with* Homentcovschi, D.; Ghergut, I.; Marinoschi, Gabriela; Jaekel, U.) Asymptotic solutions for two-site non-equilibrium transport. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 127–132. (Summary) **99a:76151** 76S05 (76R50)

Veremeenko, T. V. (*with* Gromyko, G. F.; Zayats, G. M.) Mathematical modeling of heat transfer under the interaction of a molten particle with the surface. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 923–926, 1005; *translation in Differential Equations* **33** (1997), *no.* 7, 927–930 (1998). 80A20 (80–08)

Veres, Sándor M. (*with* Wall, Derek S.) Laguerre filter reduced-order l_1 identification. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 867–886. 93E12 (93B30)

Vereshagin, Nikolai (*with* Raz, Ran; Verbitskiĭ, O. V.; Tardos, Gábor) Arthur-Merlin games in Boolean decision trees. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 58–67, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q05)

Vereshchagin, B. M. (*with* Kantor, B. E.) Weakly connected systems of elliptic Monge-Ampère equations, and the problem of the existence of a two-dimensional surface in E^{k+2} with given Killing-Lipschitz curvatures with respect to k normal fields. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 27–33. (Valery Marenich) **99a:53048** 53C21 (35J60, 53C40)

Vereshchagin, Nikolai K. (*with* Porrot, Sylvain; Dauchet, Max; Durand, Bruno) Deterministic rational transducers and random sequences. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 258–272, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q68 (68Q30)

— Randomized Boolean decision trees: several remarks. (English summary) *Theoret. Comput. Sci.* **207** (1998), *no.* 2, 329–342. (Friedhelm Meyer auf der Heide) **99h:68086** 68Q25 (68Q05, 90C09)

Vereshchagin, V. L. Asymptotic classification of solutions of the first discrete Painlevé equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 995–1012, *i*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 876–892. (Andrei A. Kapaev) **99i:39033** 39A12 (34A34, 39B22)

— Global asymptotics for the fourth Painlevé transcendent. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 12, 11–32; *translation in Sb. Math.* **188** (1997), *no.* 12, 1739–1760. (Andrei A. Kapaev) **99a:34014** 34A20 (34E10)

Veresova, A. T. (*with* Mosyagin, V. V.) Spaces with a multi-inner product in the theory of differential equations. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 25–27. 34G20 (46C99, 46N20)

— (*with* Mosyagin, V. V.) On the theory of operators in bornological vector spaces with a cone. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 43–49. (Summary) **99d:47056** 47H10 (46A40, 47H07)

Veretennikov, A. Yu. On large deviations in averaging principle for systems of stochastic differential equation with unbounded coefficients. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 735–742, *TEV, Vilnius*, 1994. (From the text) **99h:60124** 60H10 (60F10)

— On large deviations in the averaging principle for Markov processes (compact case, discrete time). *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 235–240, *Gordon and Breach, Amsterdam*, 1996. (Wolfgang König) **99k:60077** 60F10 (60J05)

— On large deviations for SDE systems without bounded coefficient derivatives. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 471–478, *World Sci. Publishing, River Edge, NJ*, 1996. (R. Sh. Liptser) **99b:60086** 60H10 (60F10)

— Lower bound for large deviations for an averaged SDE with a small diffusion. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 99–104 (1998). (R. Sh. Liptser) **99b:60087** 60H10 (34F05, 60F10, 60J65)

— On polynomial mixing bounds for stochastic differential equations. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 1, 115–127. (Summary) **99k:60158** 60H10 (60J60)

Veretennikov, B. M. On finite p-groups with a metacyclic commutator group. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 999–1004, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 859–863. (Sergey P. Strunkov) **99h:20037** 20D15

Veretennikov, Igor (*with* Indeikina, Alexandra; Chang, Hsueh-Chia) Front dynamics and fingering of a driven contact line. (English summary) *J. Fluid Mech.* **373** (1998), 81–110. 76–05 (76D99)

Verfaillie, Gérard (*with* Larrosa, Javier; Meseguer, Pedro; Schiex, Thomas) Reversible DAC and other improvements for solving Max-CSP. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 347–352, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C35

Verfürth, R. A review of a posteriori error estimation techniques for elasticity problems. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 257–274, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N15 (65N30, 73V05)

— A posteriori error estimates for nonlinear problems. $L^r(0,T;L^p(\Omega))$-error estimates for finite element discretizations of parabolic equations. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1335–1360. (G. W. Hedstrom) **99b:65120** 65M60 (76M10)

— Robust a posteriori error estimators for a singularly perturbed reaction-diffusion equation. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 479–493. (Martin Stynes) **99c:65218** 65N30 (35J60, 35K57, 65N15)

— A posteriori error estimators for convection-diffusion equations. (English summary) *Numer. Math.* **80** (1998), *no.* 4, 641–663. (Gert Lube) **99j:65212** 65N30 (65J15, 65N15, 76M10, 76Rxx)

— A posteriori error estimates for nonlinear problems: $L^r(0,T;W^{1,p}(\Omega))$-error estimates for finite element discretizations of parabolic equations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 4, 487–518. (Erwin Schechter) **99g:65099** 65M60 (65M15, 76D05)

— A posteriori error estimates for nonlinear problems. L^r-estimates for finite element discretizations of elliptic equations. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 7, 817–842. (Jacob Steinberg) **99k:65111** 65N30 (65N15, 76M10)

Verga, A. *see* **Dynamics and statistics of concentrated vortices in turbulent flow**, **99e:76002**

Vergara, J. David (*with* Linares, R.) Boundary terms and canonical gauges in generally covariant systems. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 147–156, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 81T13

— (*with* Morales-Técotl, Hugo A.; Urrutia, Luis F.) Reality conditions as second class constraints. (English summary) *First Latin American Symposium on High Energy*

Physics and VII Mexican School of Particles and Fields (*Mérida*, 1996), 541–544, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99d:83005** 83C05

— (*with* Criscuolo, A.; Đurđević, Mićo; Rosenbaum, Marcos) Quantum spinors and spin groups from quantum Clifford algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6451–6474. (Dominique Lambert) **99a:81063** 81R25 (15A66, 17B37, 81R50)

— (*with* Criscuolo, A.; Rosenbaum, Marcos) Involutive braided Spin$(4-h,h)$ groups. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 46–68. (Tomasz Brzeziński) **99c:81086** 81R50 (58B30)

— (*with* Gambini, Rodolfo; Morales-Técotl, Hugo A.; Urrutia, Luis F.) Loop variables for compact two-dimensional quantum electrodynamics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3711–3724. (Summary) **99k:81340** 81V10

— (*with* Montesinos-Velásquez, Merced; Morales-Técotl, Hugo A.; Urrutia, Luis F.) Real sector of the nonminimally coupled scalar field to self-dual gravity. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1504–1517. (Alexander N. Petrov) **99m:83163** 83C99 (83D05)

Vergara, John Paul C. (*with* Heath, Lenwood S.) Edge-packing planar graphs by cyclic graphs. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 169–180. (Gerard J. Chang) **99a:05112** 05C70 (05C85)

— (*with* Heath, Lenwood S.) Sorting by bounded block-moves. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 181–206. (Summary) **99j:68023** 68P10 (92D20)

— (*with* Heath, Lenwood S.) Edge-packing in planar graphs. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 6, 629–662. (Charles J. Colbourn) **99j:68107** 68R10 (05C70, 68Q25)

miquel-Vergés, Joan *see* **Miquel-Vergés, Joan**

Vergini, Eduardo (*with* Carlo, Gabriel; Fendrik, Alejandro J.) Numerical verification of Percival's conjecture in a quantum billiard. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5397–5403. (Summary) **99a:81043** 81Q50

Vergnano, Luca (*with* Cappelli, Andrea; Valtancoli, Paolo) Isomonodromic properties of the Seiberg-Witten solution. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 469–501. (Massimo Di Pierro) **99i:81224** 81T60 (14D05, 81T13, 81T40)

Vergne, Michèle (*with* Berline, Nicole) The Chern character of a transversally elliptic symbol and the equivariant index. (English summary) *Invent. Math.* **124** (1996), *no.* 1-3, 11–49. (V. Deundyak (Zbl 847.46037)) **99a:58142** 58G10

— (*with* Berline, Nicole) L'indice équivariant des opérateurs transversalement elliptiques. (French summary) [The equivariant index of transversally elliptic operators] *Invent. Math.* **124** (1996), *no.* 1-3, 51–101. (H. Schroeder (Zbl 883.58037)) **99a:58143** 58G10

— (*with* Dixmier, Jacques; Duflo, Michel; Hajnal, András; Kadison, Richard V.; Kóránvi, Adam; Rosenberg, Jonathan M.) Lajos Pukánszky (1928–1996). (English summary) *Notices Amer. Math. Soc.* **45** (1998), *no.* 4, 492–499. (Editors) **99k:01056** 01A70

Verhaege, P. (*with* Verschoren, Alain) The Hermitian Morita theorems. (English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 3–14. (F. DeMeyer) **99g:16009** 16D90 (16H05, 16W10)

Verhaegen, Michel H. G. (*with* Westwick, David) Identifying MIMO Hammerstein systems in the context of subspace model identification methods. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 331–349. 93B30 (93C30)

— (*with* Scherpen, Jacquelien M. A.) $\mathscr{H}_\infty$ output feedback control for linear discrete time-varying systems via the bounded real lemma. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 963–993. 93B36 (93C55)

Verheest, Frank Integrability, invariants and bi-Hamiltonian structure of vector nonlinear evolution equations. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 398–402, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 58F07 (35Q58)

Verheul, Eric R. (*with* van Tilborg, Henk C. A.) Constructions and properties of k out of n visual secret sharing schemes. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 2, 179–196. (Winfried Müller) **99b:94043** 94A60 (11T71)

Verhóczki, László On orbits of symmetric subgroups in Riemannian symmetric spaces. (English summary) *New developments in differential geometry, Budapest* 1996, 485–501, *Kluwer Acad. Publ., Dordrecht*, 1999. (Jürgen Berndt) **99m:53097** 53C35 (57S15)

Verhoef, Chris (*with* Fokkink, Willem Jan) A conservative look at operational semantics with variable binding. (English summary) *Inform. and Comput.* **146** (1998), *no.* 1, 24–54. (Andrea Maggiolo-Schettini) **99j:68077** 68Q55 (68Q60)

Ver Hoef, Jay M. (*with* Barry, Ronald Paul) Constructing and fitting models for cokriging and multivariable spatial prediction. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 275–294. (Summary) **99c:62266** 62M10

Verhoeff, Tom (*with* Heijnen, Petra; van Tilborg, Henk C. A.; Weijs, Sander) Some new binary, quasi-cyclic codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1994–1996. 94B15

Verhoeven, O. (*with* Ruelle, P.) Discrete symmetries of unitary minimal conformal theories. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 650–680. (Matthias Dörrzapf) **99m:81225** 81T40

Verhoeven, R. (*with* Hiller, Manfred; Tadokoro, S.) Workspace, stiffness, singularities and classification of tendon-driven Stewart platforms. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 105–114, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:70009** 70B15

Vericat, Fernando (*with* Mesón, Alejandro M.) Geodesic flow on an hyperboloid model and the two-body motion under repulsive Coulomb forces. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1993–1996. (Kotik K. Lee) **99d:78024** 78A35 (58F17, 70F05)

Vérin, Renaud (*with* Crochemore, Maxime) On compact directed acyclic word graphs. (English summary) *Structures in logic and computer science*, 192–211, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99c:68058** 68P05

Verity, D. (*with* Carboni, A.; Kelly, G. M.; Wood, R. J.) A 2-categorical approach to change of base and geometric morphisms. II. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 5, 82–136 (*electronic*). (R. H. Street) **99e:18007** 18D05 (18B10)

Verjovsky, Alberto (*with* Eells, James) Harmonic and Riemannian foliations. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 1–12. (James J. Hebda) **99b:53040** 53C12 (57R30, 58E20)

— (*with* Aguilar, Marcelo A.; Seade, José) Indices of vector fields and topological invariants of real analytic singularities. (English summary) *J. Reine Angew. Math.* **504** (1998), 159–176. (David B. Massey) **99k:32058** 32S20 (32S55)

Verlinde, E. P. (*with* Dijkgraaf, Robbert; Verlinde, Herman) Counting dyons in $N=4$ string theory. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 3, 543–561. (Summary) **99c:81175** 81T30 (17B67, 17B81, 32J81)

— (*with* Dijkgraaf, Robbert; Verlinde, Herman) 5D black holes and Matrix strings. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 121–142. (Richard A. Corrado) **99c:83087** 83E30 (81T30, 83C57)

— (*with* Hofman, Christiaan; Zwart, Gysbert) U-duality invariance of the four-dimensional Born-Infeld theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 10, *Paper* 20, 10 *pp.* (*electronic*). (C. Gauthier) **99k:81243** 81T30

— (*with* Dijkgraaf, Robbert; Verlinde, Herman) Notes on Matrix and micro strings. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 225–250. (Richard A. Corrado) **99f:81156a** 81T30 (81T60, 83E30)

— (*with* Dijkgraaf, Robbert; Verlinde, Herman) Notes on Matrix and micro strings. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 28–54. (Richard A. Corrado) **99f:81156b** 81T30 (81T60, 83E30)

— *see also* **Strings '97, 99d:81003**

Verlinde, Herman (*with* Dijkgraaf, Robbert; Verlinde, E. P.) Counting dyons in $N=4$ string theory. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 3, 543–561. (Summary) **99c:81175** 81T30 (17B67, 17B81, 32J81)

— (*with* Dijkgraaf, Robbert; Verlinde, E. P.) 5D black holes and Matrix strings. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 121–142. (Richard A. Corrado) **99c:83087** 83E30 (81T30, 83C57)

— (*with* Hacquebord, Feike) Duality symmetry of $\mathcal{N}=4$ Yang-Mills theory on T^3. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 609–622. (Marcos Mariño) **99e:81236** 81T60 (81T13)

— (*with* Dijkgraaf, Robbert; Verlinde, E. P.) Notes on Matrix and micro strings. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 225–250. (Richard A. Corrado) **99f:81156a** 81T30 (81T60, 83E30)

— (*with* Dijkgraaf, Robbert; Verlinde, E. P.) Notes on Matrix and micro strings. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 28–54. (Richard A. Corrado) **99f:81156b** 81T30 (81T60, 83E30)

— *see also* **Strings '97, 99d:81003**

Verlinden, Pierre p-adic Euler-Maclaurin expansions. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 257–270. (S. Cobzaş) **99d:41052** 41A58 (46S10)

— (*with* Potts, D. M.; Lyness, J. N.) Error expansions for multidimensional trapezoidal rules with Sidi transformations. (English summary) *Numer. Algorithms* **16** (1997), *no.* 3-4, 321–347 (1998). (Alan M. Cohen) **99h:65039** 65D30

Verma, A. *see* **Verma, Arun[1]**

Verma, A. R. Friendship between mathematics and physics. (English summary) *Math. Ed.* **10** (1993), *no.* 2, 121–126. 00A79

Verma, Alok On absolute Cesàro summability of Laplace series. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 51–54. (Summary) **99k:40008a** 40F05 (40G05)

— On absolute Cesàro summability of Laplace series. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 97–100. (Summary) **99k:40008b** 40F05 (40G05)

— (*with* Sharma, Araohana; Kaushik, Pushpa) On absolute Cesaro summability of ultraspherical series. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 336–340. (Summary) **99h:33051** 33C55 (40G05)

— (*with* Shrivastava, Umesh Kumar) On the convergence of ultraspherical polynomials. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 2, 281–282. (Summary) **99j:33017** 33C55

Verma, Arun *see* **Verma, Arun[2]**

Verma, Arun[1] (*with* Jain, Vinod Kumar) Summation formulae for bibasic and polybasic hypergeometric series. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 211–223. (S. P. Goyal) **99h:33059** 33D65

Verma, Arun[2] (*with* Coleman, Thomas F.) Structure and efficient Hessian calculation. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 57–72, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:90110** 90C30 (65K05)

— (*with* Coleman, Thomas F.; Santosa, Fadil) Semi-automatic differentiation. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 113–126, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:65031** 65D25

— (*with* Coleman, Thomas F.) The efficient computation of sparse Jacobian matrices using automatic differentiation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1210–1233 (*electronic*). (Florica Luban) **99d:65163** 65H10 (65D25, 90C30)

Verma, Madanpal S. *see* **Shim, Hyungbo et al.**

Verma, Priti (*with* Thakur, S. S.; Tapi, U. D.) Pairwise P-connectedness between sets. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 188–190. 54D05

Verma, R. (*with* Khan, A. Raouf; Pal Choudhury, Pabitra; Dihidar, K.) Text compression using two-dimensional cellular automata. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 6, 115–127. 68Q80

Verma, Rakesh M. (*with* Rusinowitch, Michael; Lugiez, Denis) Algorithms and reductions for rewriting problems. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 166–180, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99g:68107** 68Q42

Verma, Ram U. Nonlinear variational inequality problems involving multivalued mappings. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **43** (1997), *no.* 2, 397–402 (1998). 49J40 (47H19)

— Nonlinear strongly maximal monotone operators. (English summary) *Math. Sci. Res. Hot-Line* **1** (1997), *no.* 10, 31–39. (Dimitrios Kravvaritis) **99a:47077** 47H05

— A fixed-point theorem involving Lipschitzian generalised pseudo-contractions. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 83–86. (B. E. Rhoades) **99g:47137** 47H10 (47H17)

— G-H-KKM selections and generalized minimax type inequalities. *Adv. Nonlinear Var. Inequal.* **1** (1998), *no.* 2, 19–27. (Gábor Kassay) **99k:49018** 49J35 (47H10, 54C60, 54H25)

— On generalized nonlinear variational inequality problems. (English summary) *Adv. Nonlinear Var. Inequal.* **1** (1998), *no.* 2, 29–37. (Summary) **99h:49015** 49J40 (47H19)

— Nonlinear variational inequalities and fixed point theorems. (English summary) *Adv. Nonlinear Var. Inequal.* **1** (1998), *no.* 2, 39–51. (Summary) **99h:47080** 47H19 (47H10,

49J40)
— Variational inequalities in locally convex Hausdorff topological vector spaces. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 3, 246–248. (Mihail Yu. Kokurin) **99f:47089** 47H19 (46N10, 49J40)
— On monotone nonlinear variational inequality problems. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 91–98. (George Isac) **99d:47071** 47H19 (49J40)
— Nonlinear monotone variational inequalities. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 151–158. (Summary) **99a:47107** 47H19 (49J40, 90C33)
— Generalized variational inequalities and associated nonlinear equations. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 413–418. (Mihail Yu. Kokurin) **99f:47088** 47H19 (47H17, 49J40)
— Some generalized KKM selection theorems and minimax inequalities. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 6, 13–21. (Summary) **99d:49019** 49J35 (54C65)
— A class of generalized nonlinear variational inequality problems. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 6, 29–35. (Summary) **99c:47115** 47H19 (49J40)
— R-KKM type mapping theorems on G-H-spaces. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 7, 11–17. 49J35 (46N10, 47N10, 90A14, 90C48)
— Generalized fixed point theorems in G-H-spaces. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 7, 25–30. 54H25
— G-H-KKM selections and generalized minimax theorems. *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 8, 5–10. 49J35 (49K35)
— On R-G-H-KKM mapping theorems. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 8, 19–25. 54C60 (49J35)
— Generalized variational inequalities involving multivalued relaxed monotone operators. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 8, 27–34. 49J40 (54C60, 90C33)
— I-G-H-KKM theorems and their applications. *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 8, 35–37. 54C60 (49J35)
— Some intersection theorems and their applications involving RKKM mappings in interval spaces. *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 9, 1–7. 54H25
— G-H-KKM mappings and minimax inequalities. *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 9, 15–19. 49J45 (54H25)
— Generalized H-KKM type theorems and their applications. *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 9, 21–28. 49J40 (54H25)
— Minimax inequalities based on the I-G-H-KKM mappings. *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 9, 29–32. 49J40 (54H25)
— Mann type algorithms for the fixed points of Lipschitzian strongly Lipschitz operators. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 10, 7–12. (Summary) **99h:47074** 47H10 (47H17)
— An iterative procedure for a class of nonlinear variational inequalities involving relaxed monotone operators. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 11, 15–17. 47H19 (49J40)
— On generalized KKM type selections in generalized H-spaces. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 12, 1–11. 49J35 (54C65)
— R-S-G-H-KKM theorems and their applications. *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 12, 19–27. 49J35 (54C65)
— Corrigendum: "On R-G-H-KKM mapping theorems" [Math. Sci. Res. Hot-Line **2** (1998), no. 8, 19–25; 1644601]. *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 12, 29. 54C60 (49J35)
— Generalized pseudo-contractions and nonlinear variational inequalities. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 23–28. (Vy Khoi Le) **99k:47175** 47H19 (47H17, 49J40)
— Intersection theorems on generalized H-convex sections. (English summary) *Adv. Nonlinear Var. Inequal.* **2** (1999), *no.* 1, 11–24. 49J40 (46N10, 54C65, 54H25)
— R-KKM selections applied to minimax inequalities. (English summary) *Adv. Nonlinear Var. Inequal.* **2** (1999), *no.* 1, 33–42. 49J45 (49K45, 54C65, 54H25)
— R-KKM theorems and their applications to minimax inequalities. (English summary) *Adv. Nonlinear Var. Inequal.* **2** (1999), *no.* 1, 55–63. 49J45 (49K45, 54H25)
— Minimax inequalities based on generalized KKM type selections. *Adv. Nonlinear Var. Inequal.* **2** (1999), *no.* 1, 65–71. 49J40
— On generalized nonlinear variational inequalities on G-H-spaces. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 1, 1–5. 49J40 (54C65)
— Strongly nonlinear quasivariational inequalities. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 2, 11–18. 49J40 (47H19)
Verma, Sanjay (*with* Singh, R. Karan) A generalized ridge-cum-Stein-rule estimator in linear regression when disturbances are nonnormal. (English summary) *J. Indian Soc. Agricultural Statist.* **51** (1998), *no.* 1, 51–60. 62J07
Verma, Sushil (*with* Dessouky, Maged) Single-machine scheduling of unit-time jobs with earliness and tardiness penalties. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 930–943. (Knut Richter) **99j:90042** 90B35
Vermaseren, J. A. M. The use of computer algebra in QCD. (English summary) *Perturbative and nonperturbative aspects of quantum field theory* (*Schladming*, 1996), 255–298, *Lecture Notes in Phys.*, 479, *Springer, Berlin*, 1997. (*see* **99d:81177**) 81T80 (81V05)
— (*with* van Ritbergen, T.; Schellekens, A. N.) Group theory factors for Feynman diagrams. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 1, 41–96. (Summary) **99j:81126** 81T18
Vermeer, Johannes (*with* Aarts, Jan M.; Fokkink, Robbert J.) Coincidence theorems for involutions. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 3–8. (Zbigniew Karno) **99d:55001** 55M20 (54F45, 54H25, 55M10, 55M30)
Vermeer, P. A. Non-associated plasticity for soils, concrete and rock. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 163–195, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73E05 (73N20, 73Q05)
Vermet, Franck Phase transition and law of large numbers for a non-symmetric one-dimensional random walk with self-interactions. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 55–63. (Wolfgang König) **99b:60172** 60K35 (60J15)
Vermeulen, A. H. (*with* Heppler, G. R.) Predicting and avoiding shear locking in beam vibration problems using the B-spline field approximation method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 311–327. (Summary) **99a:73129** 73V05 (73K05)
Vermeulen, A. J. (*with* Jansen, M. J. M.) Extending invariant solutions. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 135–147. (Summary) **99a:90247** 90D10 (90D35)
Vermiglio, R. (*with* Jackiewicz, Z.; Zennaro, M.) Regularity properties of Runge-Kutta methods for delay differential equations. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 265–278. (Ming Zhu Liu) **99c:65135** 65L06 (34A45)
Vermolen, Fred (*with* Vuik, Kees) A numerical method to compute the dissolution of second phases in ternary alloys. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 2, 123–143. (Summary) **99d:80008** 80A22 (35R35, 65M06, 80–08)
Verner, J. H. (*with* Sharp, P. W.) Generation of high-order interpolants for explicit Runge-Kutta pairs. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 1, 13–29. 65L06
Vernet Ginés, Juan (*with* Samsó, Julio) The development of Arabic science in Andalusia. *Encyclopedia of the history of Arabic science, Vol.* 1–3, 243–275, *Routledge, London*, 1996. (*see* **99k:01001**) 01A30
Vernhet, Laurent (*with* Bendali, Abderrahmane) Boundary element solution of a scattering problem involving a generalized impedance boundary condition. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 302–306, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 65N38 (35J05)
— Boundary element solution of a scattering problem involving a generalized impedance boundary condition. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 7, 587–603. (Summary) **99m:65230** 65N38 (76M15, 76Q05, 78–08, 78A45)
Vernic, C. (*with* Obădeanu, Virgil) Systèmes dynamiques sur des espaces de Riemann. [Dynamical systems on Riemannian spaces] First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 73–82. (Frans Cantrijn) **99b:58099** 58F05 (34A26, 53C80, 70G05, 70H35)
Vernic, Raluca Lois de Poisson généralisées-mélange. Application dans les assurances. [Generalized-mixed Poisson distributions. Application to insurance] *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 299–306. 62P05
Vernier-Piro, S. (*with* Philippin, Gérard A.) Explicit decay bounds in some quasilinear one-dimensional parabolic problems. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 2, 101–109. (Ya Zhe Chen) **99k:35101** 35K60 (35B50)
Vernikov, Boris M. (*with* Volkov, Mikhail V.) Structure of lattices of nilpotent semigroup varieties. (English summary) *Semigroups* (*Luino*, 1992), 297–299, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M07
— (*with* Volkov, Mikhail V.) Permutability of fully invariant congruences on relatively free semigroups. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 437–461. (Katherine Johnston) **99c:20082** 20M07 (08A30, 08B15, 08B20)
— On congruences of G-sets. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 603–613. (Margret H. Höft) **99c:08007** 08A60 (08A30)
— Quasi-identities implying modularity and related conditions in lattices of overcommutative semigroup varieties. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 142–150. (V. N. Salïĭ) **99m:08022** 08B15 (06B20, 06C05, 08C15, 20M07)
Vernitskii, A. Semigroups of order-decreasing graph endomorphisms. (English summary) *Semigroup Forum* **58** (1999), *no.* 2, 222–240. (Vladimir S. Mazorchuk) **99j:20071** 20M20 (05C25, 20M07, 20M35)
Vernizzi, G. (*with* Akemann, G.; Cicuta, G. M.; Molinari, Luca) Compact support probability distributions in random matrix theory. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1489–1497. (Summary) **99j:82038** 82B41
Vernov, Yu. S. (*with* Mnatsakanova, M. N.) Properties of the algebra of q-deformed commutators in a space with an indefinite metric. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 355–368; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1497–1507 (1998). (Pavel Šťovíček) **99f:81102** 81R50 (17B37, 47B50, 47N50, 81S05)
— (*with* Mnatsakanova, M. N.; Morchio, Gianni; Strocchi, Franco) Irreducible representations of the Heisenberg algebra in Krein spaces. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2969–2982. (Gerald Hofmann) **99j:81080** 81S05 (22E27, 46C20, 47B50, 47N50)
Verő, J. *see* **Optimum methods in statistics, 99a:62003**
Veroff, Robert *see* **Automated reasoning and its applications, 99a:68152**
Véron, Laurent (*with* Marcus, Moshe) The boundary trace of positive solutions of semilinear elliptic equations. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 12–22, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (*see* **99d:35004**) 35J60 (35B05)
— (*with* Licois, Jean-René) A class of nonlinear conservative elliptic equations in cylinders. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 249–283. (David L. Finn) **99g:35038** 35J60 (35B40, 53C21, 58G03)
— (*with* Marcus, Moshe) The boundary trace of positive solutions of semilinear elliptic equations: the supercritical case. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 5, 481–524. (C. A. Swanson) **99g:35045** 35J65
bidaut-Véron, Marie-Françoise *see* **Bidaut-Véron, Marie-Françoise**
hernández Verón, Miguel A. *see* **Hernández Verón, Miguel A.**
Véron, P. Goppa codes and trace operator. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 290–294. (N. L. Manev) **99e:94045** 94B15 (11T71, 94B27)
Verona, Andrei (*with* Verona, Maria Elena) Regular maximal monotone operators. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 3, 303–312. (Hassan Riahi) **99k:47130** 47H04 (47H05)
Verona, Maria Elena New aspects of the maximal monotonicity of approximate subdifferentials. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 3, 83–89. (Introduction) **99e:49019** 49J52 (47N10)
— (*with* Verona, Andrei) Regular maximal monotone operators. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 3, 303–312. (Hassan Riahi) **99k:47130** 47H04 (47H05)
Veronese, Giuseppe *see* **Freguglia, Paolo, 99i:14001**
Verpatova, N. Yu. Generalized factored groups with dispersive subgroups. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 8, 1025–1031; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1150–1157 (1998). (O. Yu. Dashkova) **99f:20070** 20F99

Verrall, H. Compatible Euler tours of K_n^{**}. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 237–251. (Jean-Claude Bermond) **99d:05059** 05C45
— A construction of a perfect set of Euler tours of $K_{2k}+I$. (English summary) *J. Combin. Des.* **6** (1998), *no.* 3, 183–211. (Cun-Quan Zhang) **99a:05095** 05C45
Verriest, Erik I. (*with* Niculescu, Silviu-Iulian; Dugard, Luc; Dion, Jean-Michel) Stability and robust stability of time-delay systems: a guided tour. (English summary) *Stability and control of time-delay systems*, 1–71, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93–02 (34K20, 34K35, 93C30, 93D09)
— (*with* Niculescu, Silviu-Iulian) Delay-independent stability of linear neutral systems: a Riccati equation approach. (English summary) *Stability and control of time-delay systems*, 92–100, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 34K20 (34K40, 93D09)
— Graphical test for robust stability with distributed delayed feedback. (English summary) *Stability and control of time-delay systems*, 117–139, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D09 (93C30)
— (*with* Aggoune, Woihida) Stability of nonlinear differential delay systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 257–267. (Summary) **99c:93083** 93D09 (34K20)
— (*with* Milisavljević, Mile) Qualitative smooth dynamics in combinatorial problems based on a notion of concentration. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 2, 141–162. 90C27 (90C10)
— *see also* **Stability and control of time-delay systems, 99h:93004**
Verriet, Jacques Scheduling interval-ordered tasks with non-uniform deadlines subject to non-zero communication delays. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 3–21. (Summary) **99k:68024** 68M20 (90B35)
Verron, Jacques (*with* Blum, Jacques; Luong, Bruno) Variational assimilation of altimeter data into a non-linear ocean model: temporal strategies. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 21–57 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99j:86007** 86A05 (35Q35, 49N55, 86A22)
— (*with* Blayo, Eric; Blum, Jacques) Assimilation variationnelle de données en océanographie et réduction de la dimension de l'espace de contrôle. (French summary) [Variational assimilation of oceanographic data and reduction of the dimension of the control space] *Équations aux dérivées partielles et applications*, 199–219, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99f:86002** 86A05 (49N55)
— (*with* Luong, Bruno; Blum, Jacques) A variational method for the resolution of a data assimilation problem in oceanography. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 979–997. (Summary) **99e:86002** 86A05
— *see also* **Ocean modeling and parameterization, 99f:86001**
Verros, G. (*with* Natsiavas, S.) Self-excited oscillators with asymmetric nonlinearities and one-to-two internal resonance. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 4, 325–346. (Summary) **99i:70028** 70K30
Verrucchi, P. (*with* Cuccoli, A.; Tognetti, V.; Vaia, R.) Effective potential and effective Hamiltonian in quantum statistical mechanics for condensed matter physics. (English summary) *Path integrals: Dubna '96*, 32–41, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99k:82009** 82B10
— (*with* Cuccoli, A.; Tognetti, V.; Vaia, R.) Quantum effects in two-dimensional magnetic systems. (English summary) *Path integrals: Dubna '96*, 273–277, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 82B20
Verschelde, Jan (*with* Huber, Birkett) Polyhedral end games for polynomial continuation. (English summary) *Numer. Algorithms* **18** (1998), *no.* 1, 91–108. (Summary) **99i:65057** 65H10 (52A39, 52B20)
Verschoren, Alain (*with* Mulet, J.) Strong biradicals and sheaves. *Anneaux et modules* (*Colmar*, 1991), 119–135, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (Pascual Jara) **99f:16032** 16S60 (16S20, 16S90)
— (*with* Reyes Sanchez, M. V.; Smet, A.) Involutive invariants of a Krull domain and Amitsur cohomology. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 239–256, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (F. DeMeyer) **99e:13002** 13A20 (13D03, 16H05)
— (*with* Vidal Martín, Concepción) An alternative approach to involutive Brauer groups. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 311–324, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (F. DeMeyer) **99f:16037** 16W10 (13A20)
— (*with* Van Hove, H.) What is "epistasis"? (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 69–77. (Summary) **99c:68219** 68T05
— (*with* Verhaege, P.) The Hermitian Morita theorems. (English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 3–14. (F. DeMeyer) **99g:16009** 16D90 (16H05, 16W10)
— (*with* Lowen, Robert; Wuyts, P.) Stable subconstructs of FTS. III. Exotic cases. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 371–380. (Summary) **99h:54010** 54A40
— (*with* Naudts, B.) Epistasis and deceptivity. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **6** (1999), *no.* 1, 147–154. (Introduction) **99k:68163** 68T05
— (*with* Soultan, N. A.). Inductive limits of multispectra. (English summary) *Comm. Algebra* **27** (1999), *no.* 4, 1895–1902. (Summary) **99m:18001** 18A30 (18F20)
— *see also* **Rings, Hopf algebras, and Brauer groups, 99a:16001**
Verschut, A. (*with* Trommel, H.; Veldman, H. J.) Pancyclicity of claw-free Hamiltonian graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 781–789. (Summary) **99k:05101** 05C38 (05C45)
Vershik, Anatoliĭ Moiseevich Statistical mechanics of combinatorial partitions, and their limit configurations. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 2, 19–39, 96; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 2, 90–105. (Summary) **99d:82008** 82B05 (05A17, 60C05)
— (*with* Okun′kov, Andreĭ) A new approach to representation theory of symmetric groups. *Selecta Math. (N.S.)* **2** (1996), *no.* 4, 581–605. (From the introduction) **99g:20024** 20C30 (05E10)
— Limit distribution of the energy of a quantum ideal gas from the point of view of the theory of partitions of natural numbers. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 139–146; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 379–386. (B. S. Nahapetian) **99b:82016** 82B10 (11P82, 11Z05)
— (*with* Kenyon, Richard) Arithmetic construction of sofic partitions of hyperbolic toral automorphisms. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 357–372. (Anthony Quas) **99g:58092** 58F15 (11K16, 58F03)
— (*with* Sidorov, Nikita) Bijective arithmetic codings of hyperbolic automorphisms of the 2-torus, and binary quadratic forms. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 3, 365–399. (Richard Kenyon) **99g:58095** 58F15 (11E16, 28D05)
— (*with* Tsirelson, Boris) Examples of nonlinear continuous tensor products of measure spaces and non-Fock factorizations. *Rev. Math. Phys.* **10** (1998), *no.* 1, 81–145. (Kalyanapuram R. Parthasarathy) **99c:60085** 60G20 (46L99, 46N50, 60A10)
Vershinin, R. V. On representing and absolutely representing systems in Banach spaces. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 3–14. (G. J. O. Jameson) **99d:46009** 46B15
Vershinin, Vladimir V. Homology of braid groups and their generalizations. (English summary) *Knot theory* (*Warsaw*, 1995), 421–446, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99d:20082** 20J05 (20F36, 55N22, 57M25)
— (*with* Cohen, Frederick R.) Thom spectra which are wedges of Eilenberg-MacLane spectra. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 43–65, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Saïd Zarati) **99e:55007** 55N22 (20F36, 55P42, 55Q45)
— On braid groups in handlebodies. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 755–764, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 645–654. (Vitaly A. Roman′kov) **99m:20083** 20F36 (20F05)
— Vassiliev invariants and braids with singularities. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 141–142; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 410–412. (Nikolai N. Saveliev) **99h:57021** 57M25 (20F36)
Verstraelen, Leopold (*with* Blair, David E.; Dillen, Franki; Vrancken, Luc) Deformations of Legendre curves. *Note Mat.* **15** (1995), *no.* 1, 99–110 (1997). (Christos Baikoussis) **99b:53076** 53C40 (53C25)
— (*with* Chen, Bang-Yen; Dillen, Franki; Vrancken, Luc) A variational minimal principle and its applications. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 435–444. (G. Tóth) **99m:58060** 58E20 (53C42)
— (*with* Gmira, B.) Une inégalité optimale pour des sous-variétés riemanniennes dans des espaces pseudo-riemanniens. (English summary) [An optimal inequality for Riemannian submanifolds in pseudo-Riemannian spaces] *Proyecciones* **16** (1997), *no.* 2, 181–194. (Francisco J. M. Estudillo) **99i:53069** 53C50 (53C40)
— (*with* Dillen, Franki; Van de Woestyne, I.; Walrave, J.) The surface of Scherk in $\mathbf{E}^3$: a special case in the class of minimal surfaces defined as the sum of two curves. *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 257–267. (João Lucas Marques Barbosa) **99j:53007** 53A10
— (*with* De Smet, P. J.; Dillen, Franki; Vrancken, Luc) The normal curvature of totally real submanifolds of $S^6(1)$. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 199–204. (Jürgen Berndt) **99d:53055** 53C40
— (*with* Chen, Bang-Yen; Dillen, Franki; Vrancken, Luc) Lagrangian isometric immersions of a real-space-form $M^n(c)$ into a complex-space-form $\widetilde{M}^n(4c)$. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 107–125. (Ildefonso Castro) **99c:53063** 53C42
Vertanen, Keith (*with* Hollermann, Lisa; Hsu, Tsan-sheng; Lopez, Dian Rae) Scheduling problems in a practical allocation model. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 2, 129–149. (Summary) **99b:90070** 90B35 (90C35)
Vértesi, P. (*with* Mastroianni, Giuseppe) Some applications of generalized Jacobi weights. *Acta Math. Hungar.* **77** (1997), *no.* 4, 323–357. (José Javier Guadalupe Hernández) **99e:42037** 42C05 (33C45, 41A05)
— Weighted Lagrange interpolation on generalized Jacobi nodes. (English summary) *Approximation theory*, 489–497, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (*see* **99a:00051**) 41A05
— (*with* Della Vecchia, B.; Mastroianni, Giuseppe) One-sided convergence conditions for Hermite-Fejér interpolation of higher order of Lagrange type. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 294–309. (Kewal Krishna Mathur) **99k:41007** 41A10 (41A25)
Vertigan, Dirk (*with* Geelen, James F.; Oxley, James; Whittle, Geoff) Weak maps and stabilizers of classes of matroids. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 305–341. (Dragan M. Acketa) **99f:05023** 05B35
— (*with* Ding, Guoli; Oporowski, Bogdan; Sanders, Daniel P.) Partitioning graphs of bounded tree-width. (English summary) *Combinatorica* **18** (1998), *no.* 1, 1–12. (Peter Mihók) **99i:05162** 05C70 (90C35)
— (*with* Oxley, James; Whittle, Geoff) On maximum-sized near-regular and $\sqrt[4]{1}$-matroids. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 163–179. (Joseph Kung) **99i:05058** 05B35 (06C10, 15A15)
— Bicycle dimension and special points of the Tutte polynomial. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 378–396. (Raul Cordovil) **99k:05053** 05B35 (05C85, 68Q25)
Vervaat, Wim (*with* Norberg, Tommy) Capacities on non-Hausdorff spaces. (English summary) *Probability and lattices*, 133–150, *CWI Tract*, 110, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (Z. Lipecki) **99f:28004** 28A12 (06B35, 28C15, 54D10, 54D45)
Verweij, M. D. (*with* Bakker, M. C. M.; Kooij, B. J.; Dieterman, H. A.) The traveling point load revisited. (English summary) *Wave Motion* **29** (1999), *no.* 2, 119–135. (Summary) **99j:73039** 73D15 (73D25)
Verweij, Pierre J. M. (*with* van Houwelingen, Hans C.; Stijnen, Theo) A goodness-of-fit test for Cox's proportional hazards model based on martingale residuals. (English and French summaries) *Biometrics* **54** (1998), *no.* 4, 1517–1526. (Summary) **99i:62110** 62G10
Verweij, Robbert L. (*with* Twerda, Aris; Peeters, Tim W. J.) Parallel computing for reacting flows using adaptive grid refinement. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 538–546, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99g:76118** 76M25 (65Y05, 80-08, 80A25)
Verwer, J. G. (*with* Sommeijer, B. P.) Stability analysis of a difference scheme for three-dimensional advection-diffusion problems. *From universal morphisms to megabytes:*

a Baayen space odyssey, 609–625, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (Erwin Schechter) **99a:65105** 65M12 (65M50)

Vese, Luminita (*with* Aubert, Gilles) A variational method in image recovery. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1948–1979. (H. P. Dikshit) **99a:65182** 65N99 (49J99, 94A12)

Vesel, A. The independence number of the strong product of cycles. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 9–21. (Richard C. Brewster) **99m:05090** 05C38 (05C85)

Veselić, K. Exponential decay of semigroups in Hilbert space. (English summary) *Semigroup Forum* **55** (1997), *no.* 3, 325–331. (Alberto Venni) **99c:47061** 47D06

— Estimating the operator exponential. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 241–244. (Karl-Heinz Förster) **99i:47071** 47D06 (34D20, 47A60)

Veselov, A. I. (*with* Smilga, A. V.) Domain walls zoo in supersymmetric QCD. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 163–183. (Summary) **99a:81195** 81V05 (81T60)

— (*with* Smilga, A. V.) BPS and non-BPS domain walls in supersymmetric QCD with SU(3) gauge group. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 303–309. (Summary) **99c:81269** 81V05

Veselov, A. P. Baker-Akhiezer functions and the bispectral problem in many dimensions. *The bispectral problem (Montreal, PQ, 1997)*, 123–129, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Iskander A. Taimanov) **99b:58129** 58F07 (35J10, 58F19)

— (*with* Goncharenko, V. M.) Monodromy of the matrix Schrödinger equations and Darboux transformations. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5315–5326. (Claire R. Gilson) **99g:34016** 34A20 (32G34, 34L40)

Veselý, Karel (*with* Podolský, Jiří) Chaotic motion in pp-wave spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3505–3521. (Summary) **99g:83014** 83C10 (83C15)

— (*with* Podolský, Jiří) Chaos in pp-wave spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 081501, 4 *pp.* 83C15 (58F13)

Veselý, Libor A geometric proof of a theorem about non-dual renormings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2807–2809. (Summary) **99m:46045** 46B20 (46B10)

Veselý, Petr Structure and reliability of binary systems. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings (Velké Karlovice*, 1994; *Čeřínek*, 1995), 187–191, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (Summary) **99b:90067** 90B25

Veselý, Vítězslav Kernel smoothing as a regularization of a singular distribution. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings (Velké Karlovice*, 1994; *Čeřínek*, 1995), 193–200, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 62G05

Veselý, Vojtech (*with* Rosinová, Danica) Robust exponential stability of a class of nonlinear systems. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 5, 579–594. (Takehiro Mori) **99j:93077** 93D09

Vesentini, Edoardo Spectral properties of weakly asymptotically almost periodic semigroups. *Adv. Math.* **128** (1997), *no.* 2, 217–241. (C. J. K. Batty) **99j:47057a** 47D06 (43A60, 54H15)

— Periodicity and almost periodicity in Markov lattice semigroups. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 829–839 (1998). (C. J. K. Batty) **99j:47057b** 47D06 (43A60, 54H15)

— Periodic points and non-wandering points of continuous dynamical systems. *Adv. Math.* **134** (1998), *no.* 2, 308–327. (Helena E. Nusse) **99j:58165** 58F22 (47H20, 54H20, 58F25)

— Conservative perturbations of conservative operators. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 353–362. (C. J. K. Batty) **99j:47058** 47D06 (47A55)

Vesin, A. Yu. (*with* Mednykh, Aleksandr D.) The Heegaard genus of three-dimensional hyperbolic manifolds of small volume. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1013–1018, *i–ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 893–897. (Jennifer Schultens) **99f:57022** 57N10 (57M12, 57M50)

Vesković, Miroslav On the equilibrium stability of mechanical systems with dissipation. (English and Serbian summaries) *Theoret. Appl. Mech.* **24** (1998), 139–154. (Ranislav Bulatović) **99h:70023** 70F25 (70K20)

Vesnin, Andrei (*with* Dobrynin, A. A.) On a recursive polynomial graph invariant for chains of polygons. (Russian summary) *Vychisl. Sistemy No.* 155, *Teor. Grafov i ee Primen.* (1996), 87–102, 105. (N. Trinajstić) **99k:05156** 05C99

— (*with* Kim, Ann Chi) Cyclically presented groups and Takahashi manifolds. (English summary) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 200–212. (Summary) **99g:57001** 57M05 (20F34, 57M25, 57N10)

— (*with* Mednykh, Aleksandr D.) Covering properties of small volume hyperbolic 3-manifolds. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 3, 381–392. (Bruno Zimmermann) **99d:57008** 57M50 (57M25)

— (*with* Kim, Goansu; Kim, Yangkok) The knot 5_2 and cyclically presented groups. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 961–980. (Masahico Saito) **99k:57002** 57M12 (57M25, 57N10)

— (*with* Mednykh, Aleksandr D.) Visualization of the isometry group action on the Fomenko-Matveev-Weeks manifold. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 51–66. (Summary) **99c:57042** 57M60 (57M12, 57N10)

Vespignani, Alessandro (*with* Zapperi, Stefano) How self-organized criticality works: a unified mean-field picture. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6345–6362. (Summary) **99c:82050** 82C27

Vespri, Vincenzo (*with* Gianazza, Ugo) Analytic semigroups generated by square Hörmander operators. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 201–220 (1997). (Paolo Acquistapace) **99d:35064** 35J70 (46E35, 46M35, 47D06, 47F05)

— (*with* Lunardi, Alessandra) Generation of strongly continuous semigroups by elliptic operators with unbounded coefficients in $L^p(\mathbf{R}^n)$. Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 251–279 (1997). (Paolo Acquistapace) **99d:35038** 35J20 (47D06)

— (*with* Gianazza, Ugo) Analysis on the Heisenberg group: a survey. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 491–512. (Chu Li Fu) **99m:35033** 35H05 (35A27, 43A99, 58G11)

— (*with* Colombo, Fabrizio; Monte, Roberto) On some equations about European option pricing. *Systems modelling and optimization (Detroit, MI*, 1997), 33–41, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90A09

— (*with* Colombo, Fabrizio; Giuli, Massimiliano) Generation of smoothing semigroups by degenerate elliptic operators arising in financial mathematics. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 283–302. (Michael A. Perel′muter) **99k:47085** 47D06 (35J70, 90A09)

Vessella, Sergio Stability estimates in an inverse problem for a three-dimensional heat equation. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 6, 1354–1370. (Charles Bu) **99d:35178** 35R30 (35K05)

— (*with* Beretta, Elena) Stable determination of boundaries from Cauchy data. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 220–232 (*electronic*). (Serge Lvin) **99j:35229** 35R30 (31A05, 31A20, 35J25)

Vestergaard, Preben Dahl (*with* Topp, Jerzy) Interpolation theorems for the (r, s)-domination number of spanning trees. (English summary) *Australas. J. Combin.* **17** (1998), 99–107. (Summary) **99a:05078** 05C35 (05C05)

— (*with* Topp, Jerzy) Interpolation theorems for domination numbers of a graph. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 207–221. (Vadim E. Zverovich) **99h:05069** 05C35

Vestjens, Arjen P. A. (*with* Alon, Noga; Azar, Yossi; Csirik, János; Epstein, Leah; Sevast′yanov, S. V.; Woeginger, Gerhard J.) On-line and off-line approximation algorithms for vector covering problems. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 104–118. (Editors) **99c:68116** 68Q25 (90C27)

— Scheduling uniform machines on-line requires nondecreasing speed ratios. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 225–234. (Yixun Lin) **99e:90054** 90B35 (90C27)

Veth, M. (*with* Pachter, Meir; D'Azzo, J. J.) Proportional and integral control of nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 679–692. 93B51 (93C10)

Vetharaniam, I. (*with* Anderson, Ronald; Stedman, G. E.) Conventionality of synchronisation, gauge dependence and test theories of relativity. (English summary) *Phys. Rep.* **295** (1998), *no.* 3-4, 93–180. (Jaume J. Carot) **99b:83004** 83A05 (83–02, 83B05)

Vethecan, Jerome K. (*with* Hill, Robin D.) On the time-domain performance of multivariable systems in response to fixed inputs. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 437–458. (Summary) **99h:93051** 93B51 (93C05)

Vetrivel, V. (*with* Bhattacharyya, Prodipeswar) Fixed point theorems for multifunctions. (English summary) *J. Math. Phys. Sci.* **30** (1996), *no.* 4, 187–192 (1998). (Adrian Petruşel) **99g:47129** 47H10 (47H04, 54C60, 54H25)

— (*with* Dutta, Jayasri; Nanda, Sudarsan) Semi-invex functions and their subdifferentials. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 385–393. (Summary) **99m:49025** 49J52 (26B25, 90C26)

Vetro, Pasquale *see* **Cipolla, Michele**, **99d:01038**

Vetter, Udo (*with* Bruns, Winfried) A remark on Koszul complexes. *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 249–254. (Jaime-Luis Garcia-Roig) **99g:13024** 13D25

Vetterli, Martin (*with* Cvetković, Zoran) Overcomplete expansions and robustness. (English summary) *Signal and image representation in combined spaces*, 301–338, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Dale H. Mugler) **99h:94006** 94A11 (42C15)

— (*with* Thao, Nguyen T.) Set-theoretic compression with an application to image coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 7, 1051–1056. (Summary) **99i:94014** 94A12

— (*with* Goyal, Vivek K.; Thao, Nguyen T.) Quantized overcomplete expansions in $\mathbf{R}^N$: analysis, synthesis, and algorithms. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 16–31. (Summary) **99a:94004** 94A12

— (*with* Donoho, David L.; DeVore, Ronald A.; Daubechies, Ingrid C.) Data compression and harmonic analysis. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2435–2476. (Summary) **99i:94028** 94A29 (94A11, 94A12, 94A34)

— (*with* Lebrun, Jérôme) Balanced multiwavelets theory and design. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1119–1125. 94A11 (42C15)

— (*with* Cvetković, Zoran) Tight Weyl-Heisenberg frames in $l^2(\mathbf{Z})$. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 5, 1256–1259. (Summary) **99k:94002** 94A11 (94A12)

Vetters, Klaus (*with* Luderer, Bernd; Nollau, Volker) ★ Mathematische Formeln für Wirtschaftswissenschaftler. (German. German summary) [Mathematical formulas for economists] *B. G. Teubner, Stuttgart*, 1998. 140 *pp. ISBN* 3-8154-2131-4 (From the preface) **99k:00009** 00A22 (00A06)

Vetzal, K. R. (*with* Zvan, R.; Forsyth, P. A.) Penalty methods for American options with stochastic volatility. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 199–218. (Summary) **99b:90025** 90A09 (65N30)

Veys, Willem More congruences for numerical data of an embedded resolution. (English summary) *Compositio Math.* **112** (1998), *no.* 3, 313–331. (W. A. Zúñiga Galindo) **99e:14017** 14E15 (11S80, 14G10)

— Structure of rational open surfaces with non-positive Euler characteristic. *Math. Ann.* **312** (1998), *no.* 3, 527–548. (Luciana Picco Botta) **99i:14039** 14J26 (14E07)

Vezirishvili, M. (*with* Nadaraya, E.; Absava, R.; Nadaraya, L.) Testing the equality of two regression curves. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 193–195. (Atanu Biswas) **99g:62061** 62G10

Viader, Pelegrí (*with* Paradís, Jaume; Bibiloni, Lluís) Approximation of quadratic irrationals and their Pierce expansions. *Fibonacci Quart.* **36** (1998), *no.* 2, 146–153. (Michael E. Mays) **99e:11011** 11A67 (11J70, 11J83)

Vial, Jean-Philippe A path-following version of the Todd-Burrell procedure for linear programming. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 2, 153–167. (Summary) **99m:90097** 90C05

— (*with* Goffin, Jean-Louis) Interior point methods for nondifferentiable optimization. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 35–49, *Springer*,

Berlin, 1998. (*see* **99d:90008**) 90C30 (49J52)
— (*with* du Merle, Olivier; Goffin, Jean-Louis) On improvements to the analytic center cutting plane method. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 37–52. (Pham Trong Quat) **99g:90129** 90C30
— (*with* Goffin, Jean-Louis) A two-cut approach in the analytic center cutting plane method. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 149–169. (E. G. Gol'shteĭn) **99m:90130** 90C30 (65K05)
barbieri Viale, Luca *see* **Barbieri Viale, Luca**
Viallefont, Anne (*with* Lebreton, Jean-Dominique; Reboulet, Anne-Marie; Gory, Gerard) Parameter identifiability and model selection in capture-recapture models: a numerical approach. (English and French summaries) *Biom. J.* **40** (1998), *no.* 3, 313–325. (Summary) **99f:62036** 62F10 (62P10)
Viallet, Claude M. Invariants of rational transformations and algebraic entropy. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 233–239, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (M. Kh. Gizatullin) **99k:14027** 14E05
Vian, Federica (*with* Bonini, M.) Wilson renormalization group for supersymmetric gauge theories and gauge anomalies. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 473–497. (Summary) **99g:81138** 81T17 (81T50, 81T60)
Viana, Marcelo (*with* Pacífico, Maria José; Rovella, A.) Infinite-modal maps with global chaotic behavior. (English summary) *Ann. of Math.* (2) **148** (1998), *no.* 2, 441–484. (Grzegorz Świątek) **99k:58060** 58F03 (58F13)
— Dynamics: a probabilistic and geometric perspective. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 557–578 (*electronic*). (Eleonora Catsigeras) **99h:58114** 58F11 (34C35)
— (*with* Pacífico, Maria José; Rovella, A.) Corrigendum: "Infinite-modal maps with global chaotic behavior" [Ann. of Math. (2) **148** (1998), no. 2, 441–484; MR 99k:58060]. *Ann. of Math.* (2) **149** (1999), *no.* 2, 705. 58F03 (58F13)
Viana, Marlos (*with* Olkin, Ingram) Correlation analysis of ordered observations from a block-equicorrelated multivariate normal distribution. (English summary) *Advances in statistical decision theory and applications*, 305–322, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Yutaka Kano) **99e:62099** 62H10 (62H12)
Viana, Ricardo L. (*with* Batista, Antônio M.) Synchronization of coupled kicked limit cycle systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 12, 1931–1944. (Summary) **99h:34059** 34C15 (34C05, 70K10)
Vianello, Marco (*with* Spigler, Renato) A survey on the Liouville-Green (WKB) approximation for linear difference equations of the second order. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 567–577, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39041** 39A10
— (*with* Sommariva, Alvise) Approximating fixed-points of decreasing operators in spaces of continuous functions. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 635–646. (P. P. Zabreĭko) **99h:47060** 47H07 (45G10, 47H10, 47N20, 65J15, 85A25)
— (*with* Dassiè, Silvia; Zanovello, Renato) Asymptotic summation of power series. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 61–73. (M. S. Rangachari) **99k:65008** 65B10 (65D20)
— (*with* Spigler, Renato) On the complex differential equation $Y'' + G(z)Y = 0$ in Banach algebras. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 3, 291–308. (Summary) **99m:34142** 34G20 (34A20, 46H99)
Vianello, Maurizio (*with* Forte, Sandra) Functional bases for transversely isotropic and transversely hemitropic invariants of elasticity tensors. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 543–552. (Cesare Davini) **99j:73017** 73B40 (73B10)
Viano, Giovanni Alberto (*with* Bros, Jacques) Connection between the harmonic analysis on the sphere and the harmonic analysis on the one-sheeted hyperboloid: an analytic continuation viewpoint. II. (English summary) *Forum Math.* **8** (1996), *no.* 6, 659–722. (Jacques Faraut) **99b:43008** 43A90 (44A10)
— Mathematics and description of the natural world on the eve of the third millenium. (Italian. English and Italian summaries) *Atti Accad. Ligure Sci. Lett.* (5) **54** (1997), 71–79 (1998). 01A99 (01A67)
— (*with* Bros, Jacques) Connection between the harmonic analysis on the sphere and the harmonic analysis on the one-sheeted hyperboloid: an analytic continuation viewpoint. III. (English summary) *Forum Math.* **9** (1997), *no.* 2, 165–191. (Jacques Faraut) **99b:43009** 43A90 (44A10)
— (*with* De Micheli, Enrico; Magnoli, Nicodemo) On the regularization of Fredholm integral equations of the first kind. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 855–877 (*electronic*). (V. S. Sizikov) **99c:45001** 45B05 (45L05, 65R20)
Viaño, J. M. *see* **Viaño Rey, Juan M.**
Viaño, Juan M. *see* **Viaño Rey, Juan M.**
Viano, M. C. (*with* Bel, Liliane; Oppenheim, G.; Robbiano, Luc) Distribution processes with stationary fractional increments. (English and French summaries) *Systèmes différentiels fractionnaires* (*Paris*, 1998), 43–54, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (V. V. Anh) **99m:60080** 60H05
— (*with* Bel, Liliane; Oppenheim, G.; Robbiano, Luc) Linear distribution processes. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 43–58. (Summary) **99c:60083** 60G20 (60G10, 60G17)
Viaño Rey, Juan M. (*with* Alvarez Vázquez, L. J.) Modeling and optimization of a non-symmetric plate. (English summary) *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 215–224 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Pekka Neittaanmäki) **99e:73066** 73K10 (35Q72, 49Q10, 73K40)
— (*with* Irago, Hipólito) Mathematical justification of elastodynamical models in rods. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 477–481, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K05 (73D99)
— (*with* Alvarez Dios, José A.) An asymptotic model for the bending of warped beams. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 881–885, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K05
— (*with* Alvarez Vázquez, L. J.; Rodríguez-Rodríguez, A. R.) Genuinely clamped beams. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 887–892, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K05
— (*with* Fernández-Blanco, Maria Teresa) Calculation of the distribution of tangential stresses in elastic beams. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 917–922, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K05
— (*with* Irago, Hipólito; Kerdid, Nabil) Analyse asymptotique des modes de hautes fréquences dans les poutres minces. (English and French summaries) [Asymptotic analysis of high-frequency modes in thin rods] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1255–1260. (Summary) **99g:73070** 73K05 (73D30, 73K12)
— (*with* Alvarez Vázquez, L. J.; Rodríguez-Rodríguez, A. R.) Genuinely clamped beams. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 375–388. (Zvonimir Tutek) **99f:73048** 73K05
— (*with* Rodríguez Seijo, José M.) Asymptotic analysis of Poisson's equation in a thin domain and its application to thin-walled elastic beams and tubes. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 3, 187–226. (Cornelius O. Horgan) **99b:35013** 35B40 (35J05, 73C02, 73K05)
— (*with* Alvarez Dios, José A.) Mathematical justification of a one-dimensional model for general elastic shallow arches. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 4, 281–325. (I. Aganović) **99a:73078** 73K05 (73B27, 73C02)
— (*with* Irago, Hipólito) Second-order asymptotic approximation of flexural vibrations in elastic rods. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1343–1362. (Summary) **99g:73071** 73K05 (73D30, 73K12)
— (*with* Irago, Hipólito) Asymptotic error estimation in linear elastic beam models. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 7, 631–636. (Summary) **99k:73076** 73K05
Vianu, Victor (*with* Lifschitz, Sérgio) A probabilistic view of Datalog parallelization. (English summary) *Database theory—ICDT '95* (*Prague*), 294–307, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68N17, 68Q10)
— (*with* Picouet, Philippe) Expressiveness and complexity of active databases. (English summary) *Database theory—ICDT '97* (*Delphi*), 155–172, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15
— (*with* Abiteboul, Serge) Queries and computation on the Web. (English summary) *Database theory—ICDT '97* (*Delphi*), 262–275, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68049** 68P15 (68T30)
— (*with* Picouet, Philippe) Semantics and expressiveness issues in active databases. (English summary) 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Jose, CA, 1995). *J. Comput. System Sci.* **57** (1998), *no.* 3, 325–355. (Summary) **99k:68044** 68P15
Viari, Alain (*with* Sagot, Marie-France) Flexible identification of structural objects in nucleic acid sequences: palindromes, mirror repeats, pseudoknots and triple helices. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 224–246, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99b:92033** 92D20
— (*with* Sagot, Marie-France; Soldano, Henri) Multiple sequence comparison—a peptide matching approach. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 115–137. (Juraj Hromkovič) **99e:92023** 92D20 (68Q20, 68Q25)
Viartola, A. (*with* Ferrer, S.; Lara, Martín; Palacián, J.; San Juan, J. F.; Yanguas, P.) The Hénon and Heiles problem in three dimensions. I. Periodic orbits near the origin. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1199–1213. (Summary) **99k:58155a** 58F22 (58F05, 70F15, 70H05, 70K99)
— (*with* Ferrer, S.; Lara, Martín; Palacián, J.; San Juan, J. F.; Yanguas, P.) The Hénon and Heiles problem in three dimensions. II. Relative equilibria and bifurcations in the reduced system. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1215–1229. (Summary) **99k:58155b** 58F14 (58F05, 70F15, 70H05, 70K99)
Viberg, Mats (*with* Swindlehurst, A. Lee) Bayesian approaches for robust array signal processing. *Statistical methods in control and signal processing*, 399–430, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 94A12
Vicalvi, S. (*with* Gori, Franco[1]; Santarsiero, M.; Frezza, F.; Schettini, G.; Ambrosini, S.; Borghi, Riccardo) An elementary approach to spinors. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 256–262. (Summary) **99c:81073** 81R25 (15A66, 53A50)
Vicard, P. (*with* Jona Lasinio, G.) Graphical Gaussian models and regression. (English summary) *Matrices and graphs* (*Brescia*, 1993/1995), 200–222, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:00029**) 62J05 (05C90)
Vicari, Ettore (*with* Rossi, Paolo[1]; Campostrini, Massimo) The large-N expansion of unitary-matrix models. (English summary) *Phys. Rep.* **302** (1998), *no.* 4, 143–209. (Summary) **99d:81080** 81T10 (81T13, 81T25, 81T27, 81V05)
— (*with* Pelissetto, Andrea) Low-temperature effective potential of the Ising model. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 639–653. (Summary) **99j:82033** 82B27 (82B20)
pérez Vicente, Conrado J. *see* **Pérez Vicente, Conrado J.**
Vicente, Luís N. On interior-point Newton algorithms for discretized optimal control problems with state constraints. (English summary) *Optim. Methods Softw.* **8** (1998), *no.* 3-4, 249–275. (Summary) **99b:49034** 49M30 (65K10, 90C30)
— (*with* Dennis, J. E., Jr.; Heinkenschloss, Matthias) Trust-region interior-point SQP algorithms for a class of nonlinear programming problems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1750–1794 (*electronic*). (K. Schittkowski) **99e:90087** 90C30 (65K05)
de prada Vicente, María Angeles *see* **de Prada Vicente, María Angeles**
Vicente, P. (*with* Guzzo, H., Jr.) On Bernstein and train algebras of rank 3. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2021–2032. (Consuelo Martínez) **99c:17045** 17D92
— (*with* Costa, Roberto C. F.; Guzzo, H., Jr.) Shape identities in train algebras of rank 3. (English summary) *Results Math.* **35** (1999), *no.* 1-2, 32–43. (Consuelo Martínez) **99m:17044** 17D92
de Vicente, Santiago (*with* Velasco Valdés, Julián) Modelling stationary clouds in two-phase flows. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 419–424, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76T05
— (*with* Fernández, Zulima) Numerical study of a compressible model for two-phase flows. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 689–694, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25 (76N10, 76T05)

— (*with* Márquez Gentil, Antonio) A hydrodynamical mesh-adaptation method. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 829–834, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N30

— (*with* Garzon, Maria Luisa; Diez, Javier) Augmented Lagrangian methods for domain decomposition. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 1069–1074, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M55 (65N55)

Vichi, Maurizio (*with* D'Urso, Pierpaolo) Dissimilarities between trajectories of a three-way longitudinal data set. (English summary) *Advances in data science and classification* (*Rome*, 1998), 585–592, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H20

— *see also* **Advances in data science and classification, 99k:62003**

Vicolov-Dumitrescu, Sorina (*with* Păun, Gheorghe; Salomaa, Arto) Languages associated to finite and infinite sets of patterns. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 607–625. (Rani Siromoney) **99g:68122** 68Q45

Victor, Björn (*with* Parrow, Joachim) The tau-laws of fusion. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 99–114, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

Victoria, C. *see* **Victoria-Monge, Carles**

pérez-Victoria, M. *see* **Pérez-Victoria, M.**

Victoria-Feser, M.-P. (*with* Heritier, S.) Practical applications of bounded-influence tests. *Robust inference*, 77–100, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

Victoria-Monge, Carles Cohomology ring of supermanifolds. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 123–144. (Daniel Hernández Ruipérez) **99d:58016** 58A50 (58C50)

Victorov, Dmitry V. *see* **Viktorov, D. V.**

Victory, H. D. (*with* Illner, R.; Dukes, Peter; Bobylëv, A. V.) On Vlasov-Manev equations. II. Local existence and uniqueness. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 625–654. (Carlo Cercignani) **99i:85001** 85A05 (45K05, 70F10, 76X05, 82D10)

— (*with* Bobylëv, A. V.) Additive invariant functionals for dynamical systems. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 269–299. (Carlo Cercignani) **99h:82059** 82C40 (76P05)

Vidakovic, Brani On Γ-minimax estimation with ordered observations. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 3, 366–375. (Summary) **99k:62017** 62C20 (62G30)

— Wavelet-based nonparametric Bayes methods. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 133–155, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62069** 62G05 (62F15)

— (*with* Clyde, Merlise; Parmigiani, Giovanni) Multiple shrinkage and subset selection in wavelets. (English summary) *Biometrika* **85** (1998), *no.* 2, 391–401. 62G05

Vidal, A. M. *see* **Vidal Macía, Antonio M.**

martínez Vidal, C. *see* **Martínez Vidal, C.**

Vidal, Germán (*with* Alpuente, M.; Falaschi, M.; Moreno Socías, Guillermo) Safe folding/unfolding with conditional narrowing. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 1–15, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N17 (68N15)

Vidal, Guifré (*with* Sanpera, Anna; Tarrach, Rolf) Local description of quantum inseparability. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 826–830. (S. Gudder) **99f:81024** 81P10 (81P15)

— (*with* Tarrach, Rolf) Robustness of entanglement. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 1, 141–155. (Emanuel H. Knill) **99m:81025** 81P15 (94A15)

lavila-Vidal, Olga *see* **Lavila-Vidal, Olga**

Vidal, P. *see* **Hydrodynamics and nonlinear instabilities, 99i:76001**

Vidal, Robert (*with* Escassut, Alain; Haddad, Labib) Urs, ursim, and non-urs for p-adic functions and polynomials. (English summary) *J. Number Theory* **75** (1999), *no.* 1, 133–144. (William A. Cherry) **99m:30093** 30G06 (30D35)

Vidal, V. (*with* Ginestar, D.; Verdú Martín, Gumersindo; Peña Miralles, Juan; Muñoz-Cobo González, José Luis) Modal nodal method for the integration of the neutron diffusion equation. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 15 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70 (82–08, 82C70)

Vidal Macía, Antonio M. (*with* Badía, J. M.) Parallel bisection algorithms for solving the symmetric tridiagonal eigenproblem. (English summary) *High performance algorithms for structured matrix problems*, 91–111, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65F15 (65Y05)

— (*with* Guerrero, D.; Hernández, Vicente G.; Román, J. E.) Parallel solution of the generalized Lyapunov equation using the Hammarling method. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 799–804, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65F30

— (*with* Badía, J. M.) Parallel algorithms to compute the eigenvalues and eigenvectors of symmetric Toeplitz matrices. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 1, 75–93. (Summary) **99h:65062** 65F15 (65Y05, 68Q22)

Vidal Martín, Concepción (*with* Verschoren, Alain) An alternative approach to involutive Brauer groups. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 311–324, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (F. DeMeyer) **99f:16037** 16W10 (13A20)

Vidal Villalón, J. F. (*with* Palanques Mestre, August) Bénard convection in cylindrical containers. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 543–548, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76E15 (35Q35)

martín-Vide, Carlos *see* **Martín-Vide, Carlos**

Videla, Carlos R. ★ Un curso de lógica matemática. (Spanish. Spanish summary) [A course of mathematical logic] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 4. *Sociedad Matemática Mexicana, México*, 1995. *vi+224 pp. ISBN* 968-36-4534-8 (Editors) **99e:03001** 03-01

— On the constructible numbers. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 851–860. (Ş. A. Basarab) **99f:03047** 03C62 (11U05, 12L05)

Videman, Juha H. (*with* Novotný, Antonín; Sequeira, Adélia) Existence of three-dimensional flows of second-grade fluids past an obstacle. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3051–3058. (Leonid K. Antanovskiĭ) **99a:76006** 76A05 (35Q35)

— (*with* Pileckas, Konstantin; Sequeira, Adélia) A note on steady flows of non-Newtonian fluids in channels and pipes. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 458–467, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35Q35 (76A05)

— (*with* Matušů-Nečasová, Šárka; Sequeira, Adélia) Existence of classical solutions for compressible viscoelastic fluids of Oldroyd type past an obstacle. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 5, 449–460. (Didier Bresch) **99m:76004** 76A10 (35Q35, 35R35)

Videv, V. (*with* Stanilov, G.) Four-dimensional pointwise Osserman manifolds. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 1–6. (María Elena Vázquez-Abal) **99j:53064** 53C25

— (*with* Gilkey, Peter B.; Stanilov, G.) Pseudo-Riemannian manifolds whose generalized Jacobi operator has constant characteristic polynomial. *J. Geom.* **62** (1998), *no.* 1-2, 144–153. (María Elena Vázquez-Abal) **99f:53069** 53C50

Vidoli, S. (*with* Batra, R. C.; dell'Isola, Francesco) A second-order solution of Saint-Venant's problem for a piezoelectric circular bar using Signorini's perturbation method. (English summary) *J. Elasticity* **52** (1998), *no.* 1, 75–90. (Summary) **99k:73105** 73R05

Vidoni, Paolo Exponential family state space models based on a conjugate latent process. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 213–221. (Summary) **99i:62228** 62M20

Vidras, Alekos (*with* Aizenberg, Lev; Tumanov, Alexander) The class of holomorphic functions representable by Carleman formula. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **27** (1998), *no.* 1, 93–105 (1999). (Eleonora A. Storozhenko) **99j:30040** 30E20 (32A25, 32A35)

— (*with* Yger, Alain) On asymptotic approximations of the residual currents. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4105–4125. (Daniel Barlet) **99c:32003** 32A27 (32C30, 32C38)

Vidrascu, Marina (*with* Geymonat, Giuseppe; Krasucki, F.; Marini, Donatella) A domain decomposition method for a bonded structure. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1387–1402. (Alain Brillard) **99m:73012** 73C02 (65N55, 73T05, 73V05)

— (*with* Le Tallec, Patrick; Mandel, Jan) A Neumann-Neumann domain decomposition algorithm for solving plate and shell problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 836–867 (*electronic*). (Zheng Hui Xie) **99f:65192** 65N55 (65N30, 73K10, 73K15, 73V05)

Vidu, Laurent An extension of a theorem on the aggregation of separable preferences. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 159–167. (Summary) **99k:90053** 90A28 (90A08)

Vidunas, Raimundas (*with* Belen'kiĭ, A. M.) A greatest common divisor algorithm. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 5, 617–623. (Summary) **99m:68078** 68Q25

Vidyasagar, Mathukumalli ★ A theory of learning and generalization. With applications to neural networks and control systems. Communications and Control Engineering Series. *Springer-Verlag London, Ltd., London*, 1997. xviii+383 *pp. ISBN* 3-540-76120-9 (Peter Auer) **99e:68138** 68T05 (68–02, 92B20)

— An introduction to some statistical aspects of PAC learning theory. (English summary) Learning theory. *Systems Control Lett.* **34** (1998), *no.* 3, 115–124. (Summary) **99d:68215** 68T05 (60F99, 62G99, 93E35)

— Randomized algorithms for robust controller synthesis using statistical learning theory. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 3–24, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B51 (93E35)

— *see also* **Learning theory, 99b:93003** *and* **Learning, control and hybrid systems, 99g:93003**

Vidyashankar, A. N. (*with* Athreya, Krishna B.) Large deviation rates for supercritical and critical branching processes. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 1–18, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Alexander Schied) **99a:60089** 60J80 (60F10)

— (*with* Etemadi, N.; Sriram, T. N.) L_p convergence of reciprocals of sample means with applications to sequential estimation in linear regression. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 1–15. (K. F. Yu) **99d:60046** 60F25 (60G10, 62L12, 62L15)

herrera-Viedma, E. *see* **Herrera-Viedma, E.**

Viefers, S. (*with* Leinaas, Jon Magne) Bulk and edge properties of the Chern-Simons Ginzburg-Landau theory for the fractional quantum Hall effect. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 3, 675–696. (Summary) **99a:81209** 81V70

Viegas, F. C. (*with* Loura, L. C.) Hermitean ultradistributions. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 39–57. (Stevan Pilipović) **99e:46051** 46F05

Viehweg, Eckart (*with* Esnault, Hélène) Germs of de Rham cohomology classes which vanish at the generic point. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 857–862. (Sándor J. Kovács) **99i:14024** 14F40

Vieira, Ana Cristina On the lower central series and the derived series of the Gupta-Sidki 3-group. *Comm. Algebra* **26** (1998), *no.* 4, 1319–1333. (H. Heineken) **99i:20041** 20E15 (20E25, 20F50)

— (*with* Brunner, A. M.; Sidki, Said) A just nonsolvable torsion-free group defined on the binary tree. (English summary) *J. Algebra* **211** (1999), *no.* 1, 99–114. (Olympia Talelli) **99m:20054** 20E08

Vieira, W. M. (*with* Letelier, P. S.) Chaos and Taub-NUT related spacetimes. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 324–328. (Summary) **99c:83007** 83C10 (83C15)

Vieitez, José (*with* Cerminara, Marcelo) Expansive dynamical systems. (Spanish) *Chaos in Uruguay* (*Spanish*) (*Piriápolis*, 1996), 17–30, *Univ. Repúb., Montevideo*, 1997. (*see* **99m:58004**) 58F15

blanco Viejo, Gregoria *see* **Blanco Viejo, Gregoria**

Viel, F. (*with* Busvelle, E.; Gauthier, J. P.) A stable control structure for binary distillation columns. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 475–505. 93C95 (93D15)

Vielhaber, Michael (*with* Niederreiter, Harald) Linear complexity profiles: Hausdorff dimensions for almost perfect profiles and measures for general profiles. (English summary) *J. Complexity* **13** (1997), *no.* 3, 353–383. (Zhao Zhi Zhang) **99f:94012** 94A60 (28A78)

— (*with* Niederreiter, Harald) Simultaneous shifted continued fraction expansions in quadratic time. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 2, 125–138. (Bernard J. M. Smeets) **99k:11195** 11Y65

González Vieli, Francisco Javier *see* **González Vieli, Francisco Javier**

Vielle, Bruno (*with* Chauvet, Gilbert) Delay equation analysis of human respiratory stability. (English summary) *Math. Biosci.* **152** (1998), *no.* 2, 105–122. (Summary) **99e:92012** 92C30 (92C05)

Vielma, Jorge (*with* Rosas, Ennis) Operator-compact and operator-connected spaces. (English summary) *Sci. Math.* **1** (1998), *no.* 2, 203–208 (*electronic*). 54A99 (54D10)

Viennet, Gabrielle (*with* Tribouley, Karine) $\mathbf{L}_p$ adaptive density estimation in a β mixing framework. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 2, 179–208. (José Rafael León) **99d:62043** 62G05

Viennot, Laurent (*with* Habib, Michel; Paul, Christophe) A synthesis on partition refinement: a useful routine for strings, graphs, Boolean matrices and automata. (English summary) *STACS* 98 (*Paris*, 1998), 25–38, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q20 (68P05, 68Q25)

Viennot, Xavier G. (*with* Guttmann, Anthony J.; Owczarek, Aleksander L.) Vicious walkers and Young tableaux. I. Without walls. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8123–8135. (E. J. Janse van Rensburg) **99j:82042** 82B41 (05E10, 82B23)

Viens, Frederi G. (*with* Carmona, René A.) Almost-sure exponential behavior of a stochastic Anderson model with continuous space parameter. (English summary) *Stochastics Stochastics Rep.* **62** (1998), *no.* 3-4, 251–273. (Summary) **99c:60126** 60H15 (35R60, 60G17)

Viera, F. (*with* Buchwald, V. T.) Linearised evaporation from a soil of finite depth above a water table. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 557–576. (Summary) **99a:76144** 76S05 (86A05)

Vierendeels, Jan (*with* Riemslagh, Kris; Dick, Erik) Two-dimensional incompressible Navier-Stokes calculations in complex-shaped moving domains. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 57–73. (Summary) **99d:76077** 76M25 (76D05)

Viergever, Max A. (*with* Salden, Alfons H.; ter Haar Romeny, Bart M.) Differential and integral geometry of linear scale-spaces. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 5–27. (Henk J. A. M. Heijmans) **99g:68216** 68U10 (53C65)

— (*with* Salden, Alfons H.; ter Haar Romeny, Bart M.) Linear scale-space theory from physical principles. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 2, 103–139. (Summary) **99h:68177** 68U10 (00A79, 35A30)

— (*with* Kalitzin, Stilyan; ter Haar Romeny, Bart M.; Salden, Alfons H.; Nacken, Peter FM) Topological numbers and singularities in scalar images: scale-space evolution properties. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 3, 253–269. (Jayant M. Shah) **99m:68222** 68U10

duong quoc Viet *see* **Duong Quoc Viet**

nguyễn Việt Dũng² *see* **Nguyễn Việt Dũng²**

Vieten, P. (*with* Keyantuo, Valentin) On analytic semigroups and cosine functions in Banach spaces. (English summary) *Studia Math.* **129** (1998), *no.* 2, 137–156. (Vladimir E. Fedorov) **99c:47052** 47D06 (47D09)

nguyễn hữ'u Việt Hu'ng *see* **Nguyễn Hữ'u Việt Hu'ng**

Vietoris, L. *see* **Reitberger, Heinrich, 99d:01035**

phan Viet Thu *see* **Phan Viet Thu**

ngô Việt Trung *see* **Ngô Việt Trung**

Vigak, V. M. Solution of two-dimensional problems of elasticity and thermoelasticity for a rectangular region. (English summary) *J. Math. Sci.* (*New York*) **86** (1997), *no.* 2, 2537–2542. (Summary) **99g:73029** 73C02 (73B30)

Viganò, Luca (*with* Basin, David; Matthews, Seán) Natural deduction for non-classical logics. (English summary) Natural deduction. *Studia Logica* **60** (1998), *no.* 1, 119–160. (Décio Krause) **99f:03007** 03B22 (03B35, 68T15)

Vigier, Jean-Pierre *see* **Enigmatic photon, 99h:81226** *and* **Causality and locality in modern physics, 99j:81005**

alvarez Vigil, A. *see* **Alvarez Vigil, A.**

garnica Vigil, Eugenio *see* **Garnica Vigil, Eugenio**

Vigna, Sebastiano (*with* Kasangian, Stefano) The topos of labelled trees: a categorical semantics for SCCS. (English summary) *Fund. Inform.* **32** (1997), *no.* 1, 27–45. (Martin Hofmann) **99f:18007** 18B25 (03G30, 68Q10, 68Q55)

— (*with* Codenotti, Bruno; Gerace, Ivan) Hardness results and spectral techniques for combinatorial problems on circulant graphs. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 123–142. (Mirosław Truszczyński) **99k:05107** 05C50 (05C15, 05C85, 15A18)

Vignal, M. H. (*with* Verdière, S.) Numerical and theoretical study of a dual mesh method using finite volume schemes for two phase flow problems in porous media. (English summary) *Numer. Math.* **80** (1998), *no.* 4, 601–639. (Dennis C. Jespersen) **99g:76117** 76M25 (65M60, 76S05, 76T05)

tabacco Vignati, Anita *see* **Tabacco Vignati, Anita**

Vignati, Marco (*with* Rigoli, Marco; Salvatori, Maura) Subharmonic functions on graphs. (English summary) *Israel J. Math.* **99** (1997), 1–27. (Fausto Di Biase) **99a:31006** 31C20 (31C12)

— (*with* Rigoli, Marco; Salvatori, Maura) Geometry of graphs and manifolds. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 243–268. (Fei-Tsen Liang) **99c:53032** 53C21 (05C99, 31C05, 58G03)

— (*with* Rigoli, Marco; Salvatori, Maura) Volume growth and p-subharmonic functions on complete manifolds. *Math. Z.* **227** (1998), *no.* 3, 367–375. (Alberto G. Setti) **99h:58177** 58G03 (35J60, 53C21)

Vignéras, Marie-France Extensions between irreducible representations of a p-adic $\mathrm{GL}(n)$. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 349–357. (Roman Bezrukavnikov) **99f:22032** 22E50

— Integral Kirillov model. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 411–416. (Bertrand Lemaire) **99i:22019** 22E50

— Induced R-representations of p-adic reductive groups. *Selecta Math.* (*N.S.*) **4** (1998), *no.* 4, 549–623. (David Manderscheid) **99k:22026** 22E50 (11F70)

— *see also* **Dat, J.-F., 99m:22018**

Vigneron, Laurent (*with* Wasilewska, Anita) Rough algebras and automated deduction. (English summary) *Rough sets in knowledge discovery*, 1, 261–275, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 03G25 (03B35, 68T15)

Vignoli, Alfonso (*with* Zabreĭko, Petr Petrovich; Moroz, V. B.) Critical values of lower-bounded functionals, and Hammerstein equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 2, 16–21, 123. (Vyacheslav N. Pavlenko) **99i:58030** 58E05 (45G10)

— (*with* Moroz, V. B.; Zabreĭko, Petr Petrovich) On the three critical points theorem. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 103–113. (Marco Degiovanni) **99j:58042** 58E05 (45G10, 47H15, 47H30)

Vignolo, Stefano (*with* Morando, Paola) A geometric approach to constrained mechanical systems, symmetries and inverse problems. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8233–8245. (Frans Cantrijn) **99i:58062** 58F05 (34A26, 70F25, 70H33, 70H35)

Vigo, Claudio (*with* Gratton, Julio) Evolution of self-similarity, and other properties of waiting-time solutions of the porous medium equation: the case of viscous gravity currents. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 327–350. (Summary) **99f:76125** 76S05 (35K55, 35Q35)

Vigo, Daniele (*with* Alcaide, David; Sicilia Rodríguez, J.) A tabu search algorithm for the open shop problem. (English summary) *Top* **5** (1997), *no.* 2, 283–296. (Summary) **99b:90068** 90B30 (90C27)

Vigo, Marc (*with* Pla, Núria; Brunet, Pere) From degenerate patches to triangular and trimmed patches. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 435–444, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

— (*with* García García, Nuria; Brunet, Pere) Directional adaptive surface triangulation. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 2, 107–126. (Summary) **99j:65028** 65D17 (65N30)

Vigo-Aguiar, Jesús (*with* Santos, Manuel S.) Analysis of a numerical dynamic programming algorithm applied to economic models. (English summary) *Econometrica* **66** (1998), *no.* 2, 409–426. (Summary) **99b:90155** 90C39 (90A16)

— (*with* Ferrándiz Leal, José Manuel) A general procedure for the adaptation of multistep algorithms to the integration of oscillatory problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1684–1708 (*electronic*). (David R. Hill) **99g:65077** 65Lxx

Vigué, Jean-Pierre Automorphismes analytiques des domaines produits. (English summary) [Analytic automorphisms of product domains] *Ark. Mat.* **36** (1998), *no.* 1, 177–190. (Steven George Krantz) **99b:58018** 58B12 (32M99, 46G20)

Vigué-Poirrier, Micheline (*with* Dupont, Nicolas) Formalité des espaces de lacets libres. (English and French summaries) [Formality of the free loop space] *Bull. Soc. Math. France* **126** (1998), *no.* 1, 141–148. (Yves Félix) **99i:55018** 55P62 (55P35)

— Finiteness conditions for the Hochschild homology algebra of a commutative algebra. *J. Algebra* **207** (1998), *no.* 1, 333–341. (Claude Cibils) **99k:13019** 13D03

Vigueras Campuzano, Antonio (*with* Cavas, J. A.; Molina Legaz, R.) Equilibrium solutions and stability in a generalized Lagrange-Poisson problem. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 70E15 (70K20)

Viharos, László (*with* Csörgő, Sándor) Asymptotic normality of least-squares estimators of tail indices. (English summary) *Bernoulli* **3** (1997), *no.* 3, 351–370. (Erich Haeusler) **99b:62084** 62G20

Vijayakumar, A. *see* **Vijayakumar, Arunachalam**

Vijayakumar, Ambat (*with* Parvathy, Karakattu S.) $(k,2)$-convex graphs: minimal path convexity. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 15–17. (*see* **99h:05003**) 05C38

— (*with* Sunitha, M. S.) A characterization of fuzzy trees. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 293–300. (Summary) **99g:05174** 05C99 (05C05)

Vijayakumar, Arunachalam (*with* Kumar, B. Krishna; Thilaka, B.) On semi-Markov compartmental models with branching particles under the influence of disasters. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1101–1122. (Summary) **99b:60149** 60J85

Vijayakumar, K. On the integrability and exact solutions of the nonlinear diffusion equations with a nonlinear source. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 513–527. (Summary) **99a:35263** 35Q99 (35K55)

Vijayalakshmi, S. (*with* Myrzakulov, R.; Syzdykova, R. N.; Lakshmanan, M.) On the simplest $(2+1)$-dimensional integrable spin systems and their equivalent nonlinear Schrödinger equations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2122–2140. (Ian A. B. Strachan) **99j:58100** 58F07 (35Q55, 58F40, 82B21)

— (*with* Lakshmanan, M.; Myrzakulov, R.; Danlybaeva, A. K.) Motion of curves and surfaces and nonlinear evolution equations in $(2+1)$ dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3765–3771. (Anders Linnér) **99h:53004** 53A05 (58F07)

— (*with* Radha, R.; Lakshmanan, M.) Explode-decay dromions in the non-isospectral Davey-Stewartson I (DSI) equation. (English summary) *J. Nonlinear Math. Phys.* **6** (1999), *no.* 2, 120–126. 35Q55

Vijayalakshmi, V. (*with* Parthasarathy, P. R.) On quadrature approximation for the busy period density function of an $M/M/1$ queueing system. (English summary) *Amer. J. Math. Management Sci.* **18** (1998), *no.* 3-4, 277–289. (Summary) **99k:90078** 90B22 (60K25)

Vijayan, Colathur R. Representation equivalence in the three-step chain group. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 207–224, *World Sci. Publishing, River Edge, NJ*, 1997. (Jacek Cygan) **99b:22015** 22E27 (58G25)

Vijayaragavan, Poorani (*with* Khouja, Moutaz; Michalewicz, Zbigniew) Evolutionary algorithm for economic lot and delivery scheduling problem. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 113–123. 90B35 (90B30)

Vijayaraju, P. Fixed point theorems for asymptotically semicontractive type mappings. (English summary) *Soochow J. Math.* **24** (1998), *no.* 1, 33–38. (Summary) **99a:47088** 47H10 (47H09)

Vijh, A. (*with* Parodi, P.; Lancewicki, R.; Tsotsos, J. K.) Empirically-derived estimates of the complexity of labeling line drawings of polyhedral scenes. (English summary) *Artificial Intelligence* **105** (1998), *no.* 1-2, 47–75. (Evangelos Kranakis) **99i:68065** 68Q25 (68T99)

Vikent'ev, A. A. (*with* Lbov, G. S.) On metrizations of a Boolean algebra of sentences and the informativeness of statements of experts. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 2, 174–176. 68T27 (03B70, 03G05)

Vikhtenko, È. M. (*with* Popova, T. M.) Rothe's method for solving the equation of synoptic flows in a barotropic open ocean. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 37–45, 198. (Summary) **99h:86002** 86–08 (65M60, 76M25, 76U05, 86A05)

— An iterative method for solving the first boundary value problem for second-order quasilinear parabolic equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 1, 20–25; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 1, 18–23. (H. Marcinkowska) **99c:35014** 35A35 (35K60, 65M12)

— Errata: "An iterative method for solving the first boundary value problem for second-order quasilinear parabolic equations" [Izv. Vyssh. Uchebn. Zaved. Mat. **1998**, no. 1, 20–25; MR 99c:35014]. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. 35A35 (35K60, 65M12)

Viktorov, D. V. (*with* Chebotarëv, A. M.) Quantum stochastic processes arising from the strong resolvent limits of the Schrödinger evolution in Fock space. (English summary) *Quantum probability* (*Gdańsk*, 1997), 119–133, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Kalyanapuram R. Parthasarathy) **99m:81111** 81S25 (46L60, 46N50)

Vila, Jean-Paul (*with* Egelja, Aleksandra; Kröner, Dietmar; Schwörer, R.; Lanson, N.; Mancip, M.) Combined finite volume and smoothed particle method. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 50–74, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76109** 76M25 (76X05)

— (*with* Roquejoffre, Jean-Michel) Stability of ZND detonation waves in the Majda combustion model. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 3-4, 329–348. (Vitaly A. Volpert) **99m:80016** 80A25 (35Q99, 76E99)

Vila, Lluís (*with* Schwalb, Eddie) Temporal constraints: a survey. (English summary) *Constraints* **3** (1998), *no.* 2-3, 129–149. (Summary) **99b:68168** 68T20 (68T27)

Vila, M. A. (*with* Cubero, J. C.; Medina, J. M.; Pons, Olga) Fuzzy loss less [lossless] decompositions in databases. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 145–167. (Summary) **99e:68029** 68P15 (03B52, 03B70)

Vilà, Xavier On the intransitivity of preferences consistent with similarity relations. (English summary) *J. Econom. Theory* **79** (1998), *no.* 2, 281–287. (Summary) **99b:90014** 90A05

Vila Abreu, Urbia *see* **Symposium: Artificial Intelligence, 99m:68013**

fernández Vilaboa, J. M. *see* **Fernández Vilaboa, J. M.**

Vila-Freyer, Roberto (*with* Crawley-Boevey, William) The structure of biserial algebras. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 41–54. (Zygmunt Pogorzały) **99e:16021** 16G20

Vilain, Christiane Descartes, correspondant scientifique de Constantyn Huygens. [Descartes's scientific correspondence with Constantin Huygens] "Pour Descartes": mathématiques et physique cartésiennes (Paris, 1996). *Rev. Histoire Sci.* **51** (1998), *no.* 2-3, 373–379. (*see* **99h:01003**) 01A45 (01A70)

Vilamajor, F. (*with* Romero, Neptalí; Rovella, A.) On the dynamics of n-dimensional quadratic endomorphisms. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 295–308. (Wei Nian Zhang) **99g:58085** 58F13 (58F12)

planas-Vilanova, Francesc *see* **Planas-Vilanova, Francesc**

Vilanova Arias, Javier (*with* Martínez Vidal, C.; Sagüillo, Jose-Miguel) Fitch's problem and the knowability paradox: logical and philosophical remarks. (English summary) *Log. Trianguli* **1** (1997), 73–91. (Torben Braüner) **99g:03005** 03A05 (03B45)

Vilar, L. C. Q. (*with* Carvalho, Marcelo Ferreira Lima; Helayël-Neto, José A.) Supersymmetric non-linear σ-models and their gauging in the Atiyah-Ward space-time. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 184–199. (Hitoshi Nishino) **99c:81233** 81T60 (53C07, 81T30)

— (*with* Sorella, S. P.; Ventura, O. S.; Sasaki, C. A. G.) Algebraic characterization of vector supersymmetry in topological field theories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 848–866. (Noriaki Ano) **99d:81166** 81T70 (58D29, 81T60)

— (*with* Barci, D. G.; Lemes, V. E. R.; Linhares de Jesus, C.; Silva Maia Porto, M. B. D.; Sorella, S. P.) Three-dimensional fermionic determinants, Chern-Simons and nonlinear field redefinitions. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 765–778. (Ilya Shapiro) **99e:81158** 81T16 (81T13)

— (*with* Lemes, V. E. R.; Linhares de Jesus, C.; Sorella, S. P.; Ventura, O. S.) Chern-Simons as a geometrical setup for three-dimensional gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045010, 11 *pp.* 81T70 (81T13)

Vilarem, M. C. (*with* Amilhastre, J.; Janssen, Philippe) Complexity of minimum biclique cover and minimum biclique decomposition for bipartite domino-free graphs. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 2-3, 125–144. (Xiao Tie Deng) **99d:05068** 05C70 (05C85)

Vilares Ferro, Manuel (*with* Alonso Pardo, Miguel Á.) An LALR extension for DCGs in dynamic programming. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 267–278, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (68Q52)

Vilariño, M. A. (*with* Choï, Daniel; Palma Molina, Francisco José; Sanchez-Palencia, Évariste) Membrane locking in the finite element computation of very thin elastic shells. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 131–152. (Summary) **99c:73048** 73K15 (73V05)

Vilariño Ayala, Darnes (*with* Selva Soto, Mónica) Two methods for the solution of the mixed binary problem: a comparison of their computational efficiency. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 41–46. 90C09 (90C27)

Vilasi, G. Liouville integrability of the Schrödinger equation. (English summary) *New perspectives in the physics of mesoscopic systems* (*Caserta*, 1996), 287–298, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:58065** 58F07 (35Q55)

— (*with* Marmo, Giuseppe; Vinogradov, A. M.) The local structure of n-Poisson and n-Jacobi manifolds. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 141–182. (Raúl Ibáñez) **99b:58096** 58F05 (17B99, 70H05)

Vilbe, P. (*with* Azou, S.; Calvez, L. C.) Balanced realization using an orthogonalization procedure and modular polynomial arithmetic. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 8, 1507–1518. (Summary) **99d:93010** 93B15 (93B40)

Vilca-Labra, F. (*with* Arellano-Valle, Reinaldo B.; Bolfarine, Heleno) Elliptical functional models. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 1, 36–57. (Imbi Traat) **99g:62027** 62F10

Vil'chevskii, N. O. (*with* Shevlyakov, G. L.) On the characterization of Fisher information and stability of the least favorable lattice distributions. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 4104–4111. (Summary) **99k:62066** 62F35

Vil'deman, V. È. (*with* Sokolkin, Yu. V.; Tashkinov, A. A.) ★ Механика неупругого деформирования и разрушения композиционных материалов. (Russian. Russian summary) [Mechanics of inelastic deformation and fracture of composite materials] *Fizmatlit "Nauka"*, *Moscow*, 1997. 288 *pp. ISBN* 5-02-015078-9 (Gennady S. Mishuris) **99m:73051** 73K20 (73B27, 73M25, 73S10)

— On solutions of elastoplastic problems with contact-type boundary conditions for bodies with loss-of-strength zones. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 304–312; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 281–288. (Summary) **99m:73037** 73E99 (73T05, 73V25)

Vilela Mendes, R. (*with* Man'ko, V. I.) On the nonlinearity interpretation of q- and f-deformation and some applications. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6037–6044. (Robert Rałowski) **99m:81099** 81R50 (81S05)

Vilenkin, Alexander Singular instantons and the creation of open universes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, *R*7069–*R*7070. (Summary) **99m:83083** 83C45

— Wave function discord. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 067301, 3 *pp.* (Summary) **99k:83045** 83C45

Vilenkin, N. Ya. (*with* Klimyk, A. U.) ★ Representation of Lie groups and special functions. (English summary) Recent advances. Translated from the Russian manuscript by V. A. Groza and A. A. Groza. Mathematics and its Applications, 316. *Kluwer Academic Publishers Group, Dordrecht*, 1995. xvi+497 *pp. ISBN* 0-7923-3210-5 (P. D. F. Ion) **99f:33019** 33C80 (22–02, 33–02, 33D80)

Vilgis, T. A. (*with* Kholodenko, A. L.) Some geometrical and topological problems in polymer physics. (English summary) *Phys. Rep.* **298** (1998), *no.* 5-6, 251–370. (E. J. Janse van Rensburg) **99e:82102** 82D60 (57M25, 82B41, 82B44)

Vil'ke, V. G. (*with* Dvornikov, M. V.) The rolling of a wheel with a tire on a plane. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 393–404; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 359–369. 70F99

Vilkko, Risto The reception of Frege's *Begriffsschrift*. (English and German summaries) *Historia Math.* **25** (1998), *no.* 4, 412–422. (Kai F. Wehmeier) **99k:01030** 01A55 (00A30, 03–03)

Villa, A. E. P. (*with* Celletti, Alessandra; Bajo Lorenzana, V. M.) Correlation dimension for two experimental time series. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 4, 381–396. 58F13 (58F40)

martínez-Villa, Roberto *see* **Martínez-Villa, Roberto**

Villa, Tiziano (*with* Oliveira, Arlindo L.; Carloni, Luca P.; Sangiovanni-Vincentelli, Alberto L.) Exact minimization of binary decision diagrams using implicit techniques. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1282–1296. (Summary) **99h:68083** 68Q25 (94C10)

Villadelprat, Jordi (*with* Llibre, Jaume) A Poincaré index formula for surfaces with boundary. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 191–199. (Roman Srzednicki) **99a:57025** 57R25 (34C05, 55M25, 58F21)

— (*with* Cima, Anna; Mañosas, Francesc) A Poincaré-Hopf theorem for noncompact manifolds. (English summary) *Topology* **37** (1998), *no.* 2, 261–277. (J. M. Boardman) **99b:57055** 57R25 (54H20, 55M25, 58F12, 58F21)

Villadsen, Jesper Simple C^*-algebras with perforation. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 110–116. (Mahmood Khoshkam) **99j:46069** 46L05 (46L80)

— The range of the Elliott invariant of the simple AH-algebras with slow dimension growth. (English summary) *K-Theory* **15** (1998), *no.* 1, 1–12. (Sze-Kai Tsui) **99m:46143** 46L05 (19K14, 46L35, 46L80)

Villaflorita, Adolfo (*with* Bundy, Alan; Giunchiglia, Fausto; Walsh, Toby) Abstract proof checking: an example motivated by an incompleteness theorem. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 3, 319–346. (Bernd Dahn) **99b:03022** 03B35 (68T15)

Villaggio, Piero ★ Mathematical models for elastic structures. (English summary) *Cambridge University Press, Cambridge*, 1997. xii+679 *pp. ISBN* 0-521-57324-6 (Veronique Lods) **99e:73064** 73Kxx

— The roots of trees. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 4, 233–240. (Summary) **99d:73067** 73K40

— (*with* Knops, R. J.) Transverse decay of solutions in an elastic cylinder. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 577–585. (Summary) **99h:73016** 73C02 (73C10)

Villagran, Maria Teresa (*with* Elgueta A., Luisa; Fiebig-Wittmaack, Melitta) An averaging method applied to a Duffing equation. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 359–367. (Summary) **99h:34068** 34C29 (34C15)

Villain-Guillot, Simon (*with* Dandoloff, Rossen) On the angular momentum density of a two-dimensional quantum Heisenberg antiferromagnet. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5401–5411. (Summary) **99c:82021** 82B21 (82B20)

terol-Villalobos, Iván R. *see* **Terol-Villalobos, Iván R.**

vidal Villalón, J. F. *see* **Vidal Villalón, J. F.**

Villamarín, Manuel-Antonio Fugarolas *see* **Fugarolas, M. A.**

Villamayor U., Orlando E. (*with* Encinas, S.) Good points and constructive resolution of singularities. *Acta Math.* **181** (1998), *no.* 1, 109–158. (Herwig Hauser) **99i:14020** 14E15

— (*with* Nobile, Augusto) Zariski factorization theory for sheaves of ideals on arithmetic three-folds. *Comm. Algebra* **26** (1998), *no.* 8, 2669–2688. (Yukari Ito) **99j:14027** 14G40 (13H05)

— (*with* Hyry, Eero) A Briançon-Skoda theorem for isolated singularities. (English summary) *J. Algebra* **204** (1998), *no.* 2, 656–665. (Ian M. Aberbach) **99f:13024** 13H10 (13B22)

Villamor, Enrique (*with* Manfredi, Juan J.) Traces of monotone Sobolev functions. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 3, 433–444 (1997). (S. K. Vodop'yanov) **99d:46050** 46E35 (30C65)

Villanacci, Antonio (*with* Citanna, Alessandro; Kajii, Atsushi) Constrained suboptimality in incomplete markets: a general approach and two applications. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 495–521. (Milan Mareš) **99d:90026** 90A14 (90A60)

Villani, Alfonso (*with* Pulvirenti, G.; Santagati, G.) Distributed-parameter control processes in unbounded sets. Control problems. (Italian. English summary) *Matematiche (Catania)* **51** (1996), *no.* 2, 413–443 (1997). (Florin Iacob) **99a:49011** 49J20 (35L10, 93B03, 93B05, 93C20)

Villani, Cédric On a new class of weak solutions to the spatially homogeneous Boltzmann and Landau equations. (English summary) *Arch. Rational Mech. Anal.* **143** (1998), *no.* 3, 273–307. (Alexei Heintz) **99j:82065** 82C40 (35D05, 35Q99, 45K05, 76P05)

— On the spatially homogeneous Landau equation for Maxwellian molecules. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 957–983. (Giuliana Lauro) **99i:82036** 82C40 (47N20, 76P05)

Villani, Luigi (*with* Chiaverini, Stefano; Siciliano, Bruno) An adaptive force/position control scheme for robot manipulators. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 293–303. (*see* **99b:70004**) 70B15 (70Q05, 93C85)

— (*with* Canudas de Wit, Carlos; Brogliato, Bernard) An exponentially stable adaptive control for force and position tracking of robot manipulators. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 798–802. 93C40 (70Q05, 93C85)

Villani, Marco (*with* Di Gregorio, S.; Serra, Roberto) Applying cellular automata to complex environmental problems: the simulation of the bioremediation of contaminated soils. (English summary) Cellular automata (Milan, 1996). *Theoret. Comput. Sci.* **217** (1999), *no.* 1, 131–156. (*see* **99k:68007**) 90A30 (68Q80, 92D40)

Villani, Vinicio (*with* de Guzmán, Miguel; Hodgson, Bernard R.; Robert, Aline) Difficulties in the passage from secondary to tertiary education. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 747–762 (*electronic*). (*see* **99e:00025**) 00A35

vitoriano Villanueva, B. *see* **Vitoriano Villanueva, B.**

Villanueva, I. *see* **Villanueva Díez, Ignacio**

Villanueva, Jordi (*with* Jorba, Àngel) Existence of quasiperiodic solutions for a restricted four-body problem. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 5 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 70F10 (58F27, 70H05)

— (*with* Jorba, Àngel) Stability and asymptotic behaviour of the vertical family of periodic orbits around L_5 of the restricted three body problem. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 303–308, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70F15

— (*with* Jorba, Àngel) Numerical computation of normal forms around some periodic orbits of the restricted three-body problem. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 197–229. (Ugo Locatelli) **99g:70017** 70F07 (34C20, 58F36, 65L99, 70–08, 70H05)

Villanueva, V. M. (*with* Lucio Martinez, J. L.; Cabo, Alejandro) Non-Noether charges in classical mechanics. (English summary) *Particles and fields (Morelia, 1997)*, 348–351, *AIP Conf. Proc.*, 445, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Frans Cantrijn) **99k:58074** 58F05 (70H05, 70H33)

Villanueva Díez, Ignacio (*with* Bombal, F.) Multilinear operators on spaces of continuous functions. Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 117–126. (Ignacio Zalduendo) **99m:46110** 46G20 (46E50)

Villanueva Novoa, E. (*with* Alonso Alvárez, J. N.; Fernández Vilaboa, J. M.; López López, M. P.; González Rodríguez, R.) A Picard-Brauer five term exact sequence for braided categories. (English summary) *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996)*, 11–41, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Summary) **99b:18011** 18D10

— (*with* Alonso Alvárez, J. N.; Fernández Vilaboa, J. M.) Yetter-Drinfel'd H-Azumaya monoids in closed categories. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 239–265. (R. Gylys) **99f:18011** 18D10 (16W30)

— (*with* Fernández Vilaboa, J. M.; González Rodríguez, R.) The exact sequence $\mathrm{Pic}(\mathscr{E}) \to \mathrm{Pic}(\mathscr{E}') \to K_1A(F) \to B(\mathscr{E}) \to B(\mathscr{E}')$ for a monoidal functor between closed categories. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2727–2743. (Summary) **99f:18014** 18D15

Villard, Gilles Fast parallel algorithms for matrix reduction to normal forms. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 6, 511–537. (Israel Koltracht) **99a:65054** 65F30 (15A21)

Villari, Gab. (*with* Villarini, M.) Limit cycles and bifurcation from a separatrix for a polynomial Liénard system in the plane. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 423–437. (I. D. Iliev) **99k:34063** 34C05 (34C23, 58F14, 58F21)

Villarini, M. (*with* Villari, Gab.) Limit cycles and bifurcation from a separatrix for a polynomial Liénard system in the plane. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 423–437. (I. D. Iliev) **99k:34063** 34C05 (34C23, 58F14, 58F21)

Villarreal, César E. Asymptotic periodic behavior of Markov matrices. (Spanish. English and Spanish summaries) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 147–157. (Summary) **99b:60107** 60J10 (15A51)

Villarreal, F. Composition and invertibility for a class of generalized functions in the Colombeau's theory. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 339–345. (Summary) **99d:46057** 46F10

Villarreal, Rafael H. (*with* Simis, Aron; Vasconcelos, Wolmer V.) The integral closure of subrings associated to graphs. (English summary) *J. Algebra* **199** (1998), *no.* 1, 281–289. (Sarah Glaz) **99c:13004** 13A30 (13B22, 13B25)

— On the equations of the edge cone of a graph and some applications. (English summary) *Manuscripta Math.* **97** (1998), *no.* 3, 309–317. (Erol Barbut) **99i:05143** 05C50

Villarroel, D. (*with* Rivera, R.) Response to: "Comment on: 'An exactly solvable two-body problem with retarded interactions and radiation reaction in classical electrodynamics'" [J. Math. Phys. **39** (1998), no. 10, 5663; 1 642 281] by V. Hnizdo. *J. Math. Phys.* **39** (1998), *no.* 10, 5664. 78A35

— *see also* **Hnizdo, V.**

Villarroel, Felicia (*with* Mago, Pedro J.; Larez, Gladys) Bipartite graph degree sequence. (Spanish. English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 98–101. (Summary) **99i:05196** 05C99

Villarroel, Javier On the solution to the inverse problem for the Toda chain. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 261–285 (*electronic*). (Mehmet Can) **99h:35207** 35Q58 (35R30, 47B39, 58F07)

Villarroel, Yuli Higher order contact of real curves in a real hyperquadric. II. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 3, 361–377. (G. R. Jensen) **99m:53034** 53B25 (32F40)

Villa-Salvador, Gabriel Daniel (*with* Rzedowski-Calderón, Martha) Solitary fields of low degree over **Q**. (English summary) *XXVIII National Congress of the Mexican Mathematical Society (Spanish) (Colima, 1995)*, 179–192, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Helmut Völklein) **99k:11181** 11R42

— (*with* López-Bautista, Pedro Ricardo) Integral representation of p-class groups in $\mathbf{Z}_p$-extensions and the Jacobian variety. (English summary) *Canad. J. Math.* **50** (1998), *no.* 6, 1253–1272. (Werner Bley) **99k:11173** 11R23 (11R29, 20C10)

— (*with* Lam-Estrada, Pablo; Barrera-Mora, Fernando) On Kneser extensions. (English summary) *J. Algebra* **201** (1998), *no.* 2, 703–717. (T. Albu) **99c:12004** 12F05 (12F10)

— *see also* **Congress: Mexican Mathematical Society, 99h:00025**

Villasenor, John D. (*with* Wen, Jiangtao) Structured prefix codes for quantized low-shape-parameter generalized Gaussian sources. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 4, 1307–1314. 94A45

Villaseñor, Jose A. (*with* Arnold, Barry C.) Normal attraction of records: variations on the theme. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 1–10. (Summary) **99f:60037** 60F05 (60G70)

Villedieu, Philippe (*with* Degond, Pierre; Peyrard, Pierre-François; Russo, Giovanni) Polynomial upwind schemes for hyperbolic systems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 6, 479–483. (Summary) **99k:65071** 65M06 (35L65)

— (*with* Peyrard, Pierre-François) A Roe scheme for ideal MHD equations on 2D adaptively refined triangular grids. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 373–393. (Summary) **99m:76096** 76M25 (76W05, 85–08, 85A30)

gómez-Villegas, Miguel A. *see* **Gómez-Villegas, Miguel A.**

Villegas, Salvador (*with* Arcoya, David) Dirichlet problems with asymmetric nonlinearities. *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 5 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35J65

— On the structure of the solutions of a B.V.P. with a concave-convex nonlinearity. *International Conference on Differential Equations (Lisboa, 1995)*, 541–545, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34B15

— A Neumann problem with asymmetric nonlinearity and a related minimizing problem. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 145–155. (Gianni Arioli) **99c:34038** 34B15 (58E05)

Villegas-Silva, Luis M. (*with* Tkachenko, M. G.) Refining connected topological group topologies on abelian torsion-free groups. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 281–288. (James Chew) **99b:22002** 22A05 (54H11)

— (*with* Tkachenko, M. G.) Refining connected topological group topologies on abelian torsion groups. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 77–90. (W. W. Comfort) **99c:54052** 54H11 (22A05, 54A25, 54D05)

Villemoes, Lars F. Nonlinear approximation with Walsh atoms. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc, 1996)*, 329–336, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Petru P. Blaga) **99j:41037** 41A30 (42C10)

— Best approximation with Walsh atoms. (English summary) *Constr. Approx.* **13** (1997), *no.* 3, 329–355. (Gilbert Walter) **99f:42069** 42C15 (41A50)

Villemonte de la Clergerie, Eric (*with* Barthélemy, François) Information flow in tabular interpretations for generalized push-down automata. (English summary) AMiLP '95 (Enschede). *Theoret. Comput. Sci.* **199** (1998), *no.* 1-2, 167–198. (Summary) **99c:68178** 68Q68 (68N17, 68Q52)

Villena Muñoz, Armando R. (*with* Velasco, Maria Victoria) On the continuity of random operators. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 93–102. (Stanisław Wędrychowicz) **99a:47055** 47B80 (60H25)

— Derivations with a hereditary domain. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 469–477. (Martin Mathieu) **99h:46092a** 46H40

— (*with* Martínez, F.) Path regularity and regularity in mean of 1st order processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 435–442. (Zhan Shi) **99i:60091** 60G17

— Derivations with a hereditary domain. II. (English summary) *Studia Math.* **130** (1998), *no.* 3, 275–291. (Martin Mathieu) **99h:46092b** 46H40

Villeneuve, Daniel (*with* du Merle, Olivier; Desrosiers, Jacques; Hansen, Pierre) Stabilized column generation. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 229–237. (Summary) **99g:90066** 90C05 (90C06)

de Villiers, Johan M. *see* **De Villiers, Johan M.**

Villo', O. (*with* Belingeri, Carlo; Ricci, Paolo Emilio) A discretization of the Laplace and Gauss-Weierstrass operators. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 127–140. (Summary) **99b:39021** 39A12 (44A10)

de los santos Villodres, R. *see* **De Los Santos Villodres, R.**

Vilo, Jaak (*with* Brāzma, Alvis; Jonassen, Inge; Ukkonen, Esko) Pattern discovery in biosequences. (English summary) *Grammatical inference (Ames, IA, 1998)*, 257–270, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 92D20

Vilonen, Kari Topological methods in representation theory. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 595–604 (*electronic*). (T.-S. Wu) **99k:22029** 22E55 (57R99)

— (*with* Frenkel, Edward; Gaitsgory, D.; Kazhdan, David A.) Geometric realization of Whittaker functions and the Langlands conjecture. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 2, 451–484. (Ernst-Wilhelm Zink) **99f:11148** 11R39 (11F70, 14H60, 22E50, 22E55)

Vilsmeier, R. (*with* Hänel, D.; Dervieux, Alain; Gloth, O.; Viozat, Cécile; Fournier, L.) Development of Navier-Stokes solvers on hybrid grids. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 89–111, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76117** 76M25 (76D05)

— (*with* Elmahi, I.; Benkhaldoun, F.; Gloth, O.; Patschull, A.; Hänel, D.) Finite volume simulation of a droplet flame ignition on unstructured meshes. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 187–205. (Summary) **99k:80003** 80–08 (80A25)

Vimala, S. (*with* Ganesa Moorthy, C.) A problem of V. K. Srinivasan on Lebesgue-Stieltjes measurable sets. (English summary) *J. Anal.* **6** (1998), 75–79. (Elżbieta Wagner) **99m:28005** 28A05 (28A12)

Viñals, Jorge (*with* Gurtin, Morton E.; Polignone Warne, Debra) Two-phase binary fluids and immiscible fluids described by an order parameter. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 6, 815–831. (Summary) **99e:76123** 76T05 (76A05, 80A22)

Vinay, V. (*with* Mahajan, Meena) Determinant: old algorithms, new insights (extended abstract). (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 276–287, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 15A15

Vinberg, Ernest B. (*with* Gorbatsevich, V. V.; Onishchik, A. L.) ★ Foundations of Lie theory and Lie transformation groups. Translated from the Russian by A. Kozlowski. Reprint of the 1993 translation [*Lie groups and Lie algebras. I*, Encyclopaedia Math. Sci., 20, Springer, Berlin, 1993; MR 95f:22001]. *Springer-Verlag, Berlin*, 1997. *vi*+235 *pp. ISBN* 3-540-61222-X (Editors) **99c:22009** 22Exx (22–01, 57Sxx)

— (*with* Panyushev, D. I.) An infinitesimal characterization of the complexity of homogeneous spaces. (English summary) *Transform. Groups* **4** (1999), *no.* 1, 97–101. (Stefan Kebekus) **99m:14097** 14M17 (20G15)

— *see also* **Problems: Positivity in Lie theory, 99f:22001**

Vince, Andrew (*with* Serganova, V. V.; Zelevinsky, Andrei) A geometric characterization of Coxeter matroids. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 173–181. (M. Stefănescu) **99g:05047** 05B35 (20F55)

— (*with* Pulapaka, H.) Non-revisiting paths on surfaces with low genus. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 267–277. (D. Barnette) **99b:05045** 05C10 (57M15)

— Self-replicating tiles and their boundary. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 3, 463–476. (Richard Kenyon) **99m:28024** 28A80 (52C20)

Vincent, Alain *see* **Numerical methods in fluid mechanics, 99b:76002**

Vincent, Christian (*with* Baret, G.) On the eigensystems of the Stokes operator discretized by the Q_1-P_0 finite element method. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 959–961. 76M10

Vincent, D. E. Causality and locality in multiverse solutions of the Einstein equations. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 47–56, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 83E15 (83C15)

Vincent, Françoise Une note sur les fonctions invariantes. (English and French summaries) [A note about invariant functions] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 357–363. (Summary) **99b:17039** 17B99

Vincent, Jean-Marc (*with* Brilman, Matthieu) On the estimation of the throughput for a class of stochastic resources sharing systems. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 305–321. (Summary) **99b:60155** 60K25 (90B22)

— (*with* Labbé, C.; Reblewski, F.) Performance evaluation of high speed network protocols by emulation on a versatile architecture. (English and French summaries) Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 253–270. (*see* **99e:90004**) 90B25

elbaz-Vincent, Philippe *see* **Elbaz-Vincent, Philippe**

Vincent, Thomas L. (*with* Cohen, Yosef) The dynamics of evolutionary stable strategies. (English summary) With comments by W. J. Grantham. *Control and chaos* (*Honolulu, HI*, 1995), 278–303, *Math. Model.*, 8, *Birkhäuser Boston, Boston, MA*, 1997. (B. Choczewski) **99g:92019** 92D15 (39A10, 58F13, 58F40, 90D80)

sangiovanni-Vincentelli, Alberto L. *see* **Sangiovanni-Vincentelli, Alberto L.**

Vincent-Smith, G. F. An elementary analytical proof of the spectral radius formula. *Exposition. Math.* **16** (1998), *no.* 4, 383–384. (From the introduction) **99h:46088** 46H05 (47A10)

di Vincenzo, O. M. *see* **Di Vincenzo, O. M.**

de Vincenzo, Salvatore *see* **De Vincenzo, Salvatore**

Vinck, Adrianus J. (*with* Dolezal, Petr; Kim, Young-Gil) Convolutional encoder state estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1604–1608. 94B10

— (*with* Fu, Fang Wei) On the capacity of generalized write-once memory with state transitions described by an arbitrary directed acyclic graph. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 308–313. (Summary) **99m:68046** 68P99

Vincke, Ph. (*with* Pirlot, Marc) ★ Semiorders. (English summary) Properties, representations, applications. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 36. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+187 *pp. ISBN* 0-7923-4617-3 (T. Katriňák) **99f:06001** 06–02 (05B20, 05C20, 06A99)

— (*with* Bouyssou, D.; Pirlot, Marc) A general model of preference aggregation. (English summary) *Essays in decision making*, 120–134, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90A06)

Vincze, Cs. (*with* Szilasi, J.) On conformal equivalence of Riemann-Finsler metrics. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 167–185. (Manuel de León) **99b:53033** 53B40 (53C60)

Vindel, P. (*with* Campos, B.; Martínez Alfaro, J.) Links and bifurcations in nonsingular Morse-Smale systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 8, 1717–1736. (Robert Ghrist) **99f:58110** 58F09 (57M25)

Vines, S. K. (*with* Jones, Michael C.) Choosing the smoothing parameter for unordered multinomial data. (English summary) *Test* **7** (1998), *no.* 2, 413–426. 62G05

Vinet, Luc (*with* Lapointe, Luc) Creation operators for the Calogero-Sutherland model. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 109–119, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:81290** 81V70 (33D80)

— (*with* Lapointe, Luc) Rodrigues formulas for the Macdonald polynomials. (English summary) *Adv. Math.* **130** (1997), *no.* 2, 261–279. (Edward E. Allen) **99e:05128** 05E05 (33D45)

— (*with* Lapointe, Luc) Creation operators for the Macdonald and Jack polynomials. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 3, 269–286. (Summary) **99f:05130** 05E35 (33C45, 81V70)

— (*with* Lapointe, Luc) A short proof of the integrality of the Macdonald (q,t)-Kostka coefficients. *Duke Math. J.* **91** (1998), *no.* 1, 205–214. (Tim H. Baker) **99d:05087** 05E05

— (*with* Morozov, A. Yu.) Free-field representation of group element for simple quantum groups. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 10, 1651–1707. (Henrik Aratyn) **99c:81093** 81R50 (17B37)

— (*with* Loutsenko, Igor M.; Spiridonov, Vyacheslav P.; Zhedanov, A. S.) Spectral analysis of q-oscillator with general bilinear interaction. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9081–9094. (Marcelo R. Ubriaco) **99k:81117** 81R50 (81Q99)

— (*with* Zhedanov, A. S.) An integrable chain and bi-orthogonal polynomials. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 3, 233–245. (Kazuhiro Hikami) **99k:58098** 58F07 (33C50)

— (*with* Ermolayeva, O.; Spiridonov, Vyacheslav P.; Zhedanov, A. S.) Self-similarity and orthogonal polynomials. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1863–1867. (Summary) **99k:33026** 33C45

— (*with* Floreanini, Roberto; Lapointe, Luc) The dynamical algebra of the three-body Calogero model. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 229–236. (Kazuhiro Hikami) **99c:81279** 81V70 (82B21)

— *see also* **Field theory, integrable systems and symmetries, 99a:00027**; **Particles and fields, 99h:81004** *and* **Mirror symmetry, 99i:14003**

Vingralek, Radek (*with* Ye, Haiyan; Breitbart, Yuri; Schek, H.-J.) Unified transaction model for semantically rich operations. (English summary) *Database theory—ICDT '95* (*Prague*), 148–161, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

Vingron, Martin (*with* Waterman, Michael S.) Alignment networks and electrical networks. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 297–309. (Summary) **99a:94074** 94C15 (92B10, 92D20)

— (*with* Eulenstein, O.) On the equivalence of two tree mapping measures. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 103–128. (Summary) **99k:92016** 92D15 (05C05, 05C90)

— Sequence alignment and phylogeny construction. (English summary) *Mathematical support for molecular biology*, 53–63, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92017** 92D15 (05C90, 92D20)

— *see also* **Mathematical support for molecular biology, 99k:92003**

Vinitskiĭ, S. I. (*with* Akishin, P. G.) Green function method for plane periodical Helmholtz problem. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 14–21, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 65N35 (35A08, 35J05)

— (*with* Chekanov, N. A.; Derbov, Vladimir L.) Quasienergy spectrum of a periodically kicked rotator. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 88–94, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81Q05

— (*with* Karasëv, V. P.; Derbov, Vladimir L.; Priyutova, O. M.) Geometric phases of the generalized polarization coherent states in quantum optics. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 314–319, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81R30 (81V80)

de Vink, E. P. (*with* Todoran, Eneia; den Hartog, Jerry) Comparative metric semantics for commit in or-parallel logic programming. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 101–115, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68Q55)

— (*with* de Bakker, J. W.) Denotational models for programming languages: applications of Banach's fixed point theorem. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 35–52. (Peter Johnstone) **99d:68156** 68Q55 (03B70, 47H10, 54E50, 54H25, 68Q10)

Vinnikov, E. L. (*with* Gerasimov, I. A.; Gorbatko, N. P.) On the possibility of comets and asteroids colliding with the Moon. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 6, 60–62. (Summary) **99b:70012** 70F15

Vinnikov, Victor Commuting operators and function theory on a Riemann surface. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 445–476, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99e:47018** 47A45 (30F10, 47–02, 47A13, 47N70)

— We shall know: Hilbert's apology. *Math. Intelligencer* **21** (1999), *no.* 1, 42–46. (Michael Otte) **99m:01029** 01A60 (00A30, 01A70)

Vinogradov, A. I. (*with* Bykovskiĭ, V. A.) An estimate for Waldspurger series at a critical point. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II* (*Russian*), 139–159, 255, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11F11

— Analytic continuation into the critical strip: spectral expansion, two-dimensional continuous component. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II* (*Russian*), 159–196, 255, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11F72

— The fourth moments of Dirichlet series. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 149–168, *VSP, Utrecht*, 1997. (Jörn Steuding) **99j:11097** 11M06 (11M41)

— Binary problems. Spectral approach. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 130–148, 284–285. (Ming Gao Lu) **99m:11117** 11P32 (11L05)

Vinogradov, A. M. (*with* Michor, Peter W.) n-ary Lie and associative algebras. (English summary) Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 4, 373–392. (Raúl Ibáñez) **99g:17007** 17A42 (16Y99, 58F05, 70H05)

— Foreword. Algebraic aspects of differential calculus. *Acta Appl. Math.* **49** (1997), *no.* 3, 229–234. (Editors) **99m:01030** 01A60 (35A30, 58H10)

— (*with* Vinogradov, M. M.) On multiple generalizations of Lie algebras and Poisson manifolds. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 273–287, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (J. Stasheff) **99k:17050** 17B99 (17A42, 17B81, 58F05)

— (*with* Marmo, Giuseppe; Vilasi, G.) The local structure of n-Poisson and n-Jacobi manifolds. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 141–182. (Raúl Ibáñez) **99b:58096** 58F05 (17B99, 70H05)

— *see also* **Secondary calculus and cohomological physics, 99d:58007**

Vinogradov, Ivan Matveevich *see* **Ramachandra, Kanakanahalli, 99f:11131**

Vinogradov, M. M. Remarks on algebraic Lagrangian formalism. (English summary) Algebraic aspects of differential calculus. *Acta Appl. Math.* **49** (1997), *no.* 3, 331–338. (Josef Janyška) **99e:16029** 16S32 (18D10, 58H10)

— (*with* Vinogradov, A. M.) On multiple generalizations of Lie algebras and Poisson manifolds. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 273–287, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (J. Stasheff) **99k:17050** 17B99 (17A42, 17B81, 58F05)

Vinogradov, V. V. (*with* Dawson, Donald A.; Hochberg, Kenneth J.) The Wiener process revisited. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 43–50, *World Sci. Publishing, River Edge, NJ*, 1996. (Karl Grill) **99a:60027** 60F15 (60G15, 60J65)

Vinogradov, Vladimir V. (*with* Shygimaga, Dmitro V.; Vavriv, D. M.) Chaos due to the interaction of high- and low-frequency modes. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 12, 1255–1260. (Summary) **99h:94084** 94C05

Vinogradov, Yu. A. (*with* Zubkov, A. I.; Panov, Yu. A.) Supersonic flow around two sequential obstacles. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 103–106. 76J20

Vinogradov, Yu. I. (*with* Men'kov, G. B.) The method of functional normalization of solutions of stiff linear ordinary differential equations for boundary value problems. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 6, 763–764; *translation in Dokl. Phys.* **43** (1998), *no.* 2, 122–123. 34A05 (73K15)

Vinogradova, E. M. (*with* Egorov, N. V.) A mathematical model of an electron gun with a field cathode. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 57–62, 243–244, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 78A35

Vinogradova, I. A. (*with* Lupanov, O. B.; Mel'nikov, I. I.; Potapov, M. K.; Sadovnichiĭ, V. A.; Sergeev, I. N.) In memory of Slav Nikolaevich Olekhnik [1945–1995]. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 108–109. 01A70

Vinokur, Marcel (*with* Liu, Yen) Exact integrations of polynomials and symmetric quadrature formulas over arbitrary polyhedral grids. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 1, 122–147. (Takemitsu Hasegawa) **99c:65047** 65D32

Vinokurov, V. A. (*with* Sadovnichiĭ, V. A.) Asymptotics of the Sturm-Liouville boundary value problem on an interval with an integrable potential. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 298–301. (Petru A. Kozhukhar') **99c:34195** 34L20 (34B24, 34L40)

Vin'oli, A. *see* **Vignoli, Alfonso**

Vinson, Jade P. (*with* Baernstein, Albert, II) Local minimality results related to the Bloch and Landau constants. *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 55–89, *Springer, New York*, 1998. (From the introduction) **99m:30036** 30C62 (30D45)

— (*with* Lund, John-Peter; Strichartz, Robert S.) Cauchy transforms of self-similar measures. (English summary) *Experiment. Math.* **7** (1998), *no.* 3, 177–190. (Summary) **99k:28012** 28A80 (30E20)

Vinsonhaler, C. (*with* Nongxa, Loyiso G.) Balanced and cobalanced representations of posets. *Comm. Algebra* **25** (1997), *no.* 12, 3735–3749. (David M. Arnold) **99a:16010** 16G20 (20K15)

— (*with* Wickless, W. J.) Dualities for locally completely decomposable abelian groups. *J. Algebra* **191** (1997), *no.* 2, 628–652. (From the introduction) **99b:20087** 20K15 (20K20)

— (*with* Lubimcev, O.; Sebel'din, A. M.) Separable torsion-free abelian E^*-groups. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 203–208. (Theodore Faticoni) **99i:20076** 20K30

Vinter, R. B. (*with* Bell, M. L.; Sargent, R. W. H.) Existence of optimal controls for continuous time infinite horizon problems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 887–896. 49J15

— (*with* Pytlak, R.) A feasible directions algorithm for optimal control problems with state and control constraints: convergence analysis. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1999–2019 (*electronic*). (Walter Alt) **99f:49046** 49M05 (49M37)

Vinternits, P. *see* **Winternitz, Pavel**

Vinti, C. A survey on recent results of the mathematical seminar in Perugia, inspired by the work of Professor P. L. Butzer. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 32–55. (Summary) **99c:41001** 41–03 (01A60, 41A25, 41A50)

— *see also* **Dedicated to Prof. C. Vinti, 99d:00031**

Vinti, Gianluca (*with* Bardaro, Carlo) A modular convergence theorem for certain nonlinear integral operators with homogeneous kernel. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 393–407. (Isaac V. Shragin) **99a:47110** 47H30 (41A35, 46E30)

— (*with* Bardaro, Carlo; Musielak, Julian) Nonlinear operators of integral type in some function spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 409–422. (Isaac V. Shragin) **99a:47111** 47H30 (41A35, 46A80, 46E30)

— (*with* Bardaro, Carlo; Musielak, Julian) On nonlinear integral operators in spaces $L^{\varphi,\psi}(\Omega)$. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 23–36. (Isaac V. Shragin) **99a:47112** 47H30 (41A35, 46E30)

— (*with* Mantellini, Ilaria) φ-variation and nonlinear integral operators. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 847–862. (Isaac V. Shragin) **99k:47121** 47G10 (45P05, 47H30)

— (*with* Bardaro, Carlo) On the order of modular approximation for nets of integral operators in modular Lipschitz classes. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 139–154. (Walter Schempp) **99m:41034** 41A35 (46A80, 47G10)

— (*with* Bardaro, Carlo; Musielak, Julian) On the ergodic theorem in some spaces of random variables. *Nonlinear Anal.* **33** (1998), *no.* 4, 359–365. (Gianluca Vinti) **99d:46005** 46A80 (28D99, 46E30, 60A10)

— (*with* Bardaro, Carlo) Uniform convergence and rate of approximation for a nonlinear version of the generalized sampling operator. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 224–240. (Gilbert Walter) **99j:41033** 41A30 (41A25, 47H17)

Viola, Alfredo (*with* Panario, Daniel) Analysis of Rabin's polynomial irreducibility test. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 1–10, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68119** 68Q25 (11T06, 11Y16)

Viola, Lorenza (*with* Lloyd, Seth) Dynamical suppression of decoherence in two-state quantum systems. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 4, 2733–2744. (Summary) **99f:81037** 81P99

— (*with* Knill, Emanuel; Lloyd, Seth) Dynamical decoupling of open quantum systems. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 12, 2417–2421. (Summary) **99k:81053** 81P99 (81V99)

dubois-Violette, Michel *see* **Dubois-Violette, Michel**

Viozat, Cécile (*with* Hänel, D.; Dervieux, Alain; Vilsmeier, R.; Gloth, O.; Fournier, L.) Development of Navier-Stokes solvers on hybrid grids. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 89–111, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76117** 76M25 (76D05)

— (*with* Guillard, Hervé) On the behaviour of upwind schemes in the low Mach number limit. (English summary) *Comput. & Fluids* **28** (1999), *no.* 1, 63–86. (Summary) **99g:76090** 76M20 (76G25)

Virabyan, G. V. On the spectral properties of operator pencils generated by the well-known Bitsadze example. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 4, 217–222 (1994). 35P05 (35J25, 47F05)

— On the Bitsadze Samarskiĭ problem for elliptic equations. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 3, 78–88 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 3, 63–71. 35J55

Viraswami, K. (*with* Reid, N.) A note on the likelihood-ratio statistic under model misspecification. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 161–168. (Steven E. Stern) **99g:62030** 62F12 (62E20)

Virbhadra, K. S. Janis-Newman-Winicour and Wyman solutions are the same. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 27, 4831–4835. (Summary) **99a:83019** 83C15

Virbitskaite, Irina On semantics of concurrency and nondeterminism: bisimulations and temporal logics. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 16 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q55)

Virchenko, Nina (*with* Yuzhakova, G. O.) Systems of N-ary integral equations with a generalized Legendre function. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 20–25. (Summary) **99k:45013** 45F05 (33C45, 44A05)

— (*with* Kalla, Shyam L.; Tsarenko, V. N.) On some fractional order integral transforms generated by orthogonal polynomials. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 209–219. (K. C. Gupta) **99h:44007** 44A15 (26A33, 33C45, 44A20)

Virga, Epifanio G. (*with* Faetti, Sandro) On a curvature surface energy for nematic liquid crystals. *Arch. Rational Mech. Anal.* **140** (1997), *no.* 1, 31–52. (Ralph Saxton) **99d:76004** 76A15 (58E50, 76M30)

— (*with* Guidone Peroli, Giovanna) Modelling the capillary locking of point defects in nematic liquid crystals. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 3, 211–236. (Summary) **99i:76009** 76A15 (76D45, 76M30, 82D30)

— (*with* Sonnet, André M.) Dynamics of nematic loop disclinations. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6834–6842. (From the text) **99k:76013** 76A15 (73B99, 82D30)

— (*with* Rosso, Riccardo) Exact statics and approximate dynamics of adhering lipid tubules. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 2, 107–119. (Summary) **99d:92010** 92C05 (76D45, 92C10, 92C40)

— (*with* Guidone Peroli, Giovanna) Dynamics of point defects in nematic liquid crystals. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 356–372. (Ralph Saxton) **99g:76009** 76A15 (82D30)

— (*with* Durand, Georges E.) Hydrodynamic model for surface nematic viscosity. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 4137–4142. (Summary) **99m:76005** 76A15

Virgin, L. N. (*with* Hu, Hai Yan; Dowell, Earl H.) Stability estimation of high-dimensional vibrating systems under state delay feedback control. (English summary) *J. Sound Vibration* **214** (1998), *no.* 3, 497–511. 93D05 (70Q05, 73K12, 73K50)

Virot, Bernard (*with* Bougé, Luc; Cachera, David; Le Guyadec, Yann; Utard, Gil) Formal validation of data-parallel programs: a two-component assertional proof system for a simple language. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 71–107. (Dorothy Bollman) **99c:68169** 68Q60

— (*with* Delamarre, D.) Simulated annealing algorithm: technical improvements. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 1, 43–73. (Summary) **99a:90164** 90C27

Virotte Ducharme, M.-M. Présentation fischérienne de certaines extensions non scindées de groupes orthogonaux sur $\mathbf{F}_3$. (English and Italian summaries) [Fischer presentation of certain nonsplit extensions of orthogonal groups over $\mathbf{F}_3$] *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 347–371. (Jonathan I. Hall) **99b:20056** 20F05

Virovlyanskiĭ, A. L. (*with* Zaslavskiĭ, G. M.) Wave chaos in terms of normal modes. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1656–1668. (Summary) **99k:78023** 78A40 (35Q99, 58F40, 81Q50)

Virsik, George (*with* Kolář, Ivan) Connections in first principal prolongations. (English summary) The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 163–171. (Summary) **99e:53023** 53C05 (58A20)

Viruel, Antonio (*with* Broto, Carlos) Homotopy uniqueness of BPU(3). *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 85–93, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (John F. Oprea) **99a:55013** 55R35 (55P10, 57T10)

— Homotopy uniqueness of BG_2. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 471–497. (Jesper M. Møller) **99e:55029** 55R35 (55P10, 57T10, 57T20)

Viry, Guy (*with* Kojok, Badrié) Simplifications in the resolution of systems of algebraic equations. (English summary) *Afrika Mat.* (3) **8** (1997), 1–15. (Joachim Apel) **99a:13016** 13P10 (12D10)

Viry, Patrick Adventures in sequent calculus modulo equations. (English summary) *International Workshop on Rewriting Logic and its Applications* (*Pont-à-Mousson*, 1998),

12 pp. (electronic), *Electron. Notes Theor. Comput. Sci.*, 15, *Elsevier, Amsterdam*, 1998. (*see* **99h:68014**) 68Q42 (68T15)

Visarion, V. (*with* Iarovici, A.) The homogeneous-invariant theory for thin elastic shells. Applications for dynamic calculus. (English and Russian summaries) *J. Theoret. Appl. Mech.* **26** (1996), *no.* 4, 7, 68–81. 73K15

Viscolani, Bruno (*with* Sorato, Annamaria) The maximum line length problem. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 4, 23–39 (1999). (Summary) **99m:90076** 90B22

Visée, M. (*with* Teghem, Jacques, Jr.; Pirlot, Marc; Ulungu, Ekunda Lukata) Two-phases method and branch and bound procedures to solve the bi-objective knapsack problem. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 139–155. (*see* **99a:90011**) 90C27 (90C29)

Víšek, Jan Ámos Contamination level and sensitivity of robust tests. *Robust inference*, 633–643, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

— Diagnostics of regression subsample stability. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 231–257 (19*N*). (Xuming He) **99c:62193** 62J05 (62J20)

Visher, John L. (*with* Canino, Lawrence F.; Ottusch, John J.; Stalzer, Mark A.; Wandzura, Stephen M.) Numerical solution of the Helmholtz equation in 2D and 3D using a high-order Nyström discretization. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 627–663. 65M60 (78–08)

Vishik, M. M. (*with* Friedlander, Susan J.; Strauss, Walter A.) Nonlinear instability in an ideal fluid. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 2, 187–209. (Arjen Doelman) **99a:76057** 76E30 (35Q35, 76C99)

— (*with* Friedlander, Susan J.) Asymptotic methods for magnetohydrodynamic instability. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 377–398. (Benoît P. Desjardins) **99f:76059** 76E25 (35Q35, 76W05)

Vishik, Mark I. (*with* Chepyzhov, Vladimir V.) Trajectory attractors for the 2D Navier-Stokes system and some generalizations. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 217–243 (1997). (Peter E. Kloeden) **99b:35167** 35Q30 (34G20, 35B40, 47H20, 58F39, 76D05)

— (*with* Chepyzhov, Vladimir V.) Trajectory attractors of evolution equations without unique solvability of the Cauchy problem. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 6, 27–30, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 16–18 (1997). (Woodford W. Zachary) **99a:35207** 35Q30 (34G20, 35B40, 47H20, 58F39)

— (*with* Chepyzhov, Vladimir V.) Evolution equations and their trajectory attractors. *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 913–964. (Arnaud Debussche) **99a:34165** 34G20 (35B40, 35K55, 35Q30, 47H20, 58F39)

— (*with* Goritskiĭ, A. Yu.) Integral manifolds for nonautonomous equations. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 109–146. (Igor D. Chueshov) **99c:34133** 34G20 (35K55, 47H20)

— (*with* Fiedler, Bernold; Scheel, Arnd) Large patterns of elliptic systems in infinite cylinders. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 9, 879–907. (Alan V. Lair) **99m:35053** 35J55 (34G20, 47H20, 58F39)

— (*with* Chepyzhov, Vladimir V.) Kolmogorov ε-entropy of attractors of reaction-diffusion systems. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 2, 81–110; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 235–263. (Piotr Biler) **99c:35115** 35K57 (35B40, 47H20, 58F39)

Vishik, Misha *see* **Vishik, M. M.**

ebrahimi-Vishki, Hamid Reza *see* **Ebrahimi-Vishki, Hamid Reza**

Vishne, Uzi Mixing and covering in the symmetric groups. (English summary) *J. Algebra* **205** (1998), *no.* 1, 119–140. (P. P. Pálfy) **99d:20005** 20B30 (20C30, 20P05)

— Primitive algebras with arbitrary Gelfand-Kirillov dimension. (English summary) *J. Algebra* **211** (1999), *no.* 1, 150–158. (Martha K. Smith) **99k:16047** 16P90 (16D60)

Vishnevskiĭ, M. P. (*with* Anikonov, Yu. E.) Formulas in an inverse problem for an evolution equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 963–976, *i*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 847–859. (Qing Yi Chen) **99g:35139** 35R30 (35K10)

Vishnevskiĭ, V. V. On the bicentenary of N. I. Lobachevskiĭ. Lessons and results. (Russian. English and Russian summaries) *Tr. Geom. Semin. No.* 23 (1997), 23–32. 01A99

— A manifold with a pair of commutative semitangent structures. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 19–26; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 6, 16–23. (V. Cruceanu) **99i:53031** 53C15

Vishnyakov, A. N. (*with* Tsypkin, Yakov Zalmanovich; Parks, P. C.; Warwick, Kevin) Stability of solutions of linear difference equations with periodic coefficients. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 959–966. 93D05 (39A11)

Vishnyakova, A. M. On the growth of ridge functions non-vanishing in an angular domain. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 351–361. (Summary) **99b:30048** 30D35

Vishveshwara, C. V. On the black hole trail. . . : a personal journey. *Classical and quantum aspects of gravitation and cosmology* (*Madras*, 1996), 11–22, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (*see* **99b:83003**) 83C57

— (*with* Nayak, K. Rajesh) Gyroscopic precession and inertial forces in axially symmetric stationary spacetimes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 593–615. (W. B. Bonnor) **99b:83012** 83C10 (83C20)

— The Engelbert experience: pathways from the past. *On Einstein's path* (*New York*, 1996), 503–513, *Springer, New York*, 1999. (H. Treder) **99m:01066** 01A70 (01A60, 83–03)

— *see also* **Geometry, fields and cosmology, 99a:83002**

Vishwakarma, S. N. (*with* Prasad, Y. N.) Few integrals involving the multivariable I-function and a general class of polynomials. (English summary) *Proc. Math. Soc.* **12** (1996), 57–63 (1997). (Summary) **99g:33045** 33C70

Vishwanathan, Sundar (*with* Panigrahy, Rina) An $O(\log^* n)$ approximation algorithm for the asymmetric p-center problem. 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 259–268. (Summary) **99d:68120** 68Q25 (05A99, 90C27)

— (*with* Sankar, Arvind) Multilinear polynomials and a conjecture of Frankl and Füredi. (English summary) *J. Combin. Theory Ser. A* **86** (1999), *no.* 1, 182–186. (Summary) **99m:05158** 05D05

— (*with* Fiat, Amos; Foster, Dean P.; Karloff, Howard; Rabani, Yuval; Ravid, Yiftach) Competitive algorithms for layered graph traversal. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 448–463 (*electronic*). (Summary) **99g:68064** 68Q10 (05C85, 68Q25, 68R10)

Vişinescu, Anca (*with* Cârstea, A. S.; Grecu, D.) Exact solutions of a mixed KdV + mKdV and Benjamin-Ono equation. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 82–86. 35Q53 (35C05)

Vişinescu, Mihai (*with* Ianuş, Stere) Space-time compactification in Kaluza-Klein theories and Riemannian submersions. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 775–786. (Gheorghe Zet) **99j:83064** 83E15 (53C15, 53C80)

— (*with* Vaman, Diana) Spinning particles in Taub-NUT space. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3790–3793. (Summary) **99k:83009** 83C10

Visintin, Augusto Six talks on hysteresis. *Boundaries, interfaces, and transitions* (*Banff, AB*, 1995), 207–236, *CRM Proc. Lecture Notes*, 13, *Amer. Math. Soc., Providence, RI*, 1998. (Pavel Krejčí) **99c:47118** 47H30 (35K99, 49J40, 73E05)

— Introduction to the models of phase transitions. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 1–47. (Nobuyuki Kenmochi) **99h:80013** 80A22 (35K65, 35R35, 47H30, 49J45, 73B30)

— Nucleation and mean curvature flow. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 17–53. (Giovanni Bellettini) **99b:58077** 58E50 (35Q99, 49Q20, 80A22)

— About nucleation and growth. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 121–127, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73B30 (73C99)

Visioli, Antonio (*with* Piazzi, Aurelio) Global minimum-time trajectory planning of mechanical manipulators using interval analysis. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 631–652. (Summary) **99h:93070** 93C85 (65G10, 70B15, 70Q05)

Viskanta, R. Overview of convection and radiation in high temperature gas flows. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1677–1699. (*see* **99h:00030**) 85A25

Viskov, O. V. Expansion in powers of a noncommutative binomial. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 70–75. (J. S. Joel) **99e:16061** 16W60 (17B99)

— On an approach to ordering. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 4, 447–449. (Antoni Wawrzynczyk) **99j:47028** 47A99 (47N50)

Višňovský, Rudolf Estimation of coefficients of differential equation of certain class of Hermite polynomials. (English summary) *Stud. Univ. Žilina Math. Phys. Ser.* **11** (1997), 69–76. (Summary) **99g:33033** 33C45

magidin Viso, Arturo *see* **Magidin Viso, Arturo**

Visser, Eelco Polymorphic syntax definition. (English summary) AMiLP '95 (Enschede). *Theoret. Comput. Sci.* **199** (1998), *no.* 1-2, 57–86. (Horst Reichel) **99g:68136** 68Q65

Visser, F. C. On the asymptotic solution of the Poisson equation, describing the two-dimensional incompressible inviscid flow in a rotating centrifugal impeller. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 5, 353–356. 76C05 (76U05)

Visser, Matt The reliability horizon for semi-classical quantum gravity: metric fluctuations are often more important than back-reaction. (English summary) *Phys. Lett. B* **415** (1997), *no.* 1, 8–14. (Alejandro R. Corichi) **99c:83035** 83C45 (83C75)

— Acoustic black holes: horizons, ergospheres and Hawking radiation. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1767–1791. (Marco Cavaglià) **99i:83069** 83C57

— Mass for the graviton. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1717–1728. (Summary) **99h:83046** 83D05 (83C45)

— (*with* Hochberg, David) Dynamic wormholes, antitrapped surfaces, and energy conditions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044021, 14 *pp.* (Summary) **99m:83173** 83E05 (83C15)

— (*with* Hochberg, David) Null energy condition in dynamic wormholes. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 4, 746–749. (Summary) **99c:83070** 83C75 (83E05)

— (*with* Hochberg, David; Molina-París, Carmen; Pérez-Mercader, Juan) Zeta functions, renormalization group equations, and the effective action. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 22, 4802–4805. (Summary) **99h:81140** 81T16 (81T17)

Vistoli, Angelo The Chow ring of $\mathcal{M}_2$. Appendix to "Equivariant intersection theory" [Invent. Math. **131** (1998), no. 3, 595–634; MR 99j:14003a] by D. Edidin and W. Graham. *Invent. Math.* **131** (1998), *no.* 3, 635–644. (Burt Totaro) **99j:14003b** 14C17 (14F99)

Viswanadha Raju, D. (*with* Swamy, U. M.) Fuzzy ideals and congruences of lattices. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 249–253. (Andreja Tepavčević) **99j:04003** 04A72 (06B10)

Viswanath, D. (*with* Trefethen, Lloyd N.) Condition numbers of random triangular matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 564–581 (*electronic*). (Summary) **99b:65061** 65F35 (15A12, 15A52, 65U05)

Viswanath, K. (*with* Durga Bhavani, S.) Measuring sensitivity to initial conditions. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 301–312. (Summary) **99g:54036** 54H20

— (*with* Durga Bhavani, S.) Metric and topological sensitivity for flows. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 77–85. (Summary) **99i:54052** 54H20 (58F08)

— Neural dynamical systems—from a mathematical model to a theory of dreams. (English summary) *J. Indian Inst. Sci.* **78** (1998), *no.* 4, 249–256. 92B20

Viswanathan, Harish (*with* Berger, Toby) The quadratic Gaussian CEO problem. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1549–1559. (Boris D. Kudryashov) **99c:94016** 94A34

— Capacity of Markov channels with receiver CSI and delayed feedback. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 761–771. 94A40

Viswanathan, K. S. (*with* Parthasarathy, Ragavachariar) Self-dual Chern-Simons equations and Nambu-Goto action. (English summary) *J. Phys. A* **31** (1998), *no.* 50, 10155–10161. (Kumar S. Gupta) **99m:81145** 81T13

— (*with* Mück, W.) Conformal field theory correlators from classical scalar field theory on anti-de Sitter space. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 041901, 5 *pp.* (Summary) **99k:81284** 81T40 (83E50)

Viswanathan, Mahesh (*with* Feigenbaum, Joan; Kannan, Sampath K.; Vardi, Moshe Y.) Complexity of problems on graphs represented as OBDDs (extended abstract). (English summary) *STACS* 98 (*Paris*, 1998), 216–226, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q25 (68R10)

Viswanathan, R. Raju (*with* Lawton, Wayne; Raghavan, Raghu; Ranjan, S. R.) Ribbons and groups: a thin rod theory for catheters and filaments. (English summary) *J. Phys. A* **32** (1999), *no.* 9, 1709–1735. (Summary) **99k:73077** 73K05 (73P20, 73V05, 92C50)

Viswanathan, Ramesh Full abstraction for first-order objects with recursive types and subtyping. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 380–391, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68N15 (68Q55)

Viswanathan, Suresh (*with* Sengupta, Abhijit[1]) Embedding meshes in hypercubes with edge faults. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 33–48. (Summary) **99e:68009** 68M10 (68M15)

Visweswaran, S. When is $(K, K[y_1, \cdots, y_t])$ an N-ring pair? (English summary) *J. Ramanujan Math. Soc.* **13** (1998), *no.* 1, 1–13. (David F. Anderson) **99e:13011** 13B99 (13E05, 13F20)

finzi Vita, Stefano *see* **Finzi Vita, Stefano**

Vitale, Enrico M. (*with* Grandjean, Françoise) Morita equivalence for regular algebras. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 2, 137–153. (Stefaan Caenepeel) **99h:16007** 16D90

— (*with* Gran, M.) On the exact completion of the homotopy category. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 4, 287–297. (Summary) **99i:18006** 18B25 (18A35, 55U99)

— (*with* Carboni, A.) Regular and exact completions. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 79–116. (Walter Tholen) **99b:18003** 18A35 (18A32, 18B25, 18C20)

— Localizations of algebraic categories. II. (English summary) *J. Pure Appl. Algebra* **133** (1998), *no.* 3, 317–326. (Summary) **99h:18007** 18C10 (18C15, 18C20, 18E10, 18E15, 18E35)

Vitale, Patrizia (*with* Bimonte, G.; Musto, R.; Stern, Allen Bruce) Deformed Chern-Simons theories. (English summary) *Phys. Lett. B* **406** (1997), *no.* 3, 205–214. (Andrey A. Bogush) **99d:81082** 81T13 (53C80, 58Z05, 81R50)

— (*with* Bimonte, G.; Musto, R.; Stern, Allen Bruce) $2+1$ Einstein gravity as a deformed Chern-Simons theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4023–4047. (Paulo Moniz) **99j:83007** 83C05 (81T13)

— (*with* Man'ko, V. I.; Rosa, Luigi) Probability representation in quantum field theory. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 328–336. (Julio Espinoza Ortiz) **99k:81161** 81S99

Vitali, E. (*with* Amar, Micol) Homogenization of periodic Finsler metrics. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 171–186. (Paolo Marcellini) **99k:49026** 49J45 (53C60)

Vitanov, Nikolay K. Breather and soliton wave families for the sine-Gordon equation. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1977, 2409–2423. (Summary) **99h:35193** 35Q53 (35L70, 78A60)

Vitányi, Paul (*with* Buhrman, Harry; Franklin, Matthew; Garay, Juan A.; Hoepman, Jaap-Henk; Tromp, John) Mutual search (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 481–489, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q10 (68R10)

Vitanza, Carmela (*with* Zamboni, Pietro) Necessary and sufficient conditions for Hölder continuity of solutions of degenerate Schrödinger operators. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 393–409 (1998). (Gary M. Lieberman) **99e:35083** 35J70 (35B65, 35J15, 46N20)

Viterbi, A. J. (*with* Viterbi, A. M.; Sindhushayana, N. T.) Interleaved concatenated codes: new perspectives on approaching the Shannon limit. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 18, 9525–9531. (Henk van Tilborg) **99b:94049** 94B15

Viterbi, A. M. (*with* Viterbi, A. J.; Sindhushayana, N. T.) Interleaved concatenated codes: new perspectives on approaching the Shannon limit. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 18, 9525–9531. (Henk van Tilborg) **99b:94049** 94B15

Viterbo, Claude Exact Lagrange submanifolds, periodic orbits and the cohomology of free loop spaces. (English summary) *J. Differential Geom.* **47** (1997), *no.* 3, 420–468. (Karl Friedrich Siburg) **99e:58080** 58F05 (55N35, 55N91, 58E05)

Viterbo, Emanuele (*with* Boutros, Joseph) Signal space diversity: a power- and bandwidth-efficient diversity technique for the Rayleigh fading channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1453–1467. 94A14 (94A40)

— (*with* Taricco, Giorgio) Performance of high-diversity multidimensional constellations. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1539–1543. 94A40

Vitiello, Giuseppe (*with* De Martino, Salvatore; De Siena, Silvio; Iorio, A.) Physical relevance of quantum groups. (English summary) *New perspectives in the physics of mesoscopic systems* (*Caserta*, 1996), 79–88, *World Sci. Publishing, River Edge, NJ*, 1997. (Roberto Casalbuoni) **99g:81082** 81R50 (81R30, 81V80)

Vitillaro, Enzo (*with* Salvatori, M. Cesarina) Decay and stability for some nonlinear quasi-variational systems. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 937–949. (Mitsuhiro Nakao) **99h:34071** 34D05 (34D20, 34L30)

— (*with* Bossi, M. Chiara) Asymptotic stability for damped strongly non-autonomous systems with applications to holonomic mechanical systems and nonlinear networks. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 147–166. (N. Chafee) **99d:34084** 34D05 (70F20, 70K20, 94C05)

— (*with* Boccuto, Antonio) Asymptotic stability for abstract evolution equations and applications to partial differential systems. (Italian summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 25–48. (Pierre A. Vuillermot) **99c:34130** 34G20 (34D05, 35L70)

Vitkovski, T. Multicriterial and multiparametric analysis of preference functions in job scheduling problems. I. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 140–152, 157. 90A10 (90C29)

— Multicriterial and multiparametric analysis of preference functions in job scheduling problems. II. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 51–62, 152. 90A10 (90C29)

de Vito, Ernesto *see* **De Vito, Ernesto**

Vitolo, Antonio (*with* Cavaliere, Paola; Longobardi, Maria) Imbedding estimates and elliptic equations with discontinuous coefficients in unbounded domains. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 1, 87–104 (1997). (Jiří Rákosník) **99a:35049** 35J25 (35B45, 35R05, 46E35)

— Functions with derivatives in spaces of Morrey type. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 1–24. (Giuseppe Di Fazio) **99a:46063** 46E35

— (*with* Coppola, G.) Corrigendum to: "On the distribution of primes in intervals of length $\log^g N$" [Acta Math. Hungar. **70** (1996), no. 1-2, 151–166; MR 96i:11103]. *Acta Math. Hungar.* **78** (1998), *no.* 4, 359–361. (A. Perelli) **99c:11115** 11N05

— (*with* Canale, Anna; Di Gironimo, Patrizia) Functions with derivatives in spaces of Morrey type and elliptic equations in unbounded domains. (English summary) *Studia Math.* **128** (1998), *no.* 3, 199–218. (Jiří Rákosník) **99h:35036** 35J25 (46E35)

Vitolo, Raffaele Finite order variational bicomplexes. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 321–333. (Juha Pohjanpelto) **99j:58232** 58H10 (58A20, 58E30)

Vitoriano Villanueva, B. (*with* Sánchez García, Miguel; Sobrón Fernández, Ma. Inés) On the set covering polytope: facets with coefficients in $\{0, 1, 2, 3\}$. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 343–356. (*see* **99b:90006**) 90C35 (90C27)

Vitrac, Bernard *see* **Euclid, 99m:01004**

Vitrichenko, I. E. On the stability of a nonautonomous essentially nonlinear system in a critical case. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 25–28. (Summary) **99j:34074** 34D20

Vitter, Jeffrey Scott External memory algorithms. (English summary) *Algorithms—ESA* '98 (*Venice*), 1–25, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q20 (68N25, 68Q25)

— (*with* Murali, T. M.; Agarwal, Pankaj K.) Constructing binary space partitions for orthogonal rectangles in practice. (English summary) *Algorithms—ESA* '98 (*Venice*), 211–222, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68214** 68U05

— (*with* Agarwal, Pankaj K.; Arge, Lars; Murali, T. M.; Varadarajan, Kasturi R.) I/O-efficient algorithms for contour-line extraction and planar graph blocking (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 117–126, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68P20)

— (*with* Krishnan, P.) Optimal prediction for prefetching in the worst case. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1617–1636 (*electronic*). (Summary) **99d:68049** 68N25 (60J20, 68P20, 68Q25)

— (*with* Barve, Rakesh D.; Grove, Edward F.) Simple randomized mergesort on parallel disks. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 1–20, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:68036** 68P10 (68Q22, 68Q25, 68R05)

— (*with* Krishnan, P.; Long, Philip M.) Adaptive disk spindown via optimal rent-to-buy in probabilistic environments. (English summary) *Algorithmica* **23** (1999), *no.* 1, 31–56. (Summary) **99i:68063** 68Q25 (68T05)

Vittinghoff, Eric (*with* Doksum, Kjell; Gould, Jeffrey; Hammarstrand, Robert; Mathur, Ashwini) An analysis of nonparametric smoothers. (English summary) *Applied statistical science, III*, 13–40, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62044** 62G05

Vittoli, Carlo (*with* Duff, Iain S.; Marrone, Michele; Radicati, Giuseppe) Level 3 basic linear algebra subprograms for sparse matrices: a user-level interface. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 379–401. 65Y15

Vittori, G. (*with* de Swart, H. E.; Blondeaux, P.) Edge waves and steady currents near a vertical cliff. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 191–200, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76E20, 86A05)

Vityuk, A. N. Existence of solutions of partial differential inclusions of fractional orders. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 8, 13–19; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 8, 10–16 (1998). (Nguyễn Hồng Thái) **99c:35267** 35R70 (26A33, 47H04, 47H15)

Viúdez, Álvaro On Ertel's potential vorticity theorem. On the impermeability theorem for potential vorticity. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 4, 507–516. (Alan Shapiro) **99m:86013** 86A10 (76N10)

Vivalda, J. C. (*with* Outbib, Rachid) On feedback stabilization of smooth nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 200–202. (Summary) **99j:93086** 93D15

Vivaldi, Franco (*with* Zhang, Xu-Sheng) Small perturbations of a discrete twist map. (English and French summaries) Classical and quantum chaos. *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 4, 507–523. (M. L. Blank) **99e:58158** 58F30 (58F08)

— (*with* Lowenstein, J. H.) Anomalous transport in a model of Hamiltonian round-off. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1321–1350. (Peter E. Kloeden) **99g:58111** 58F27 (58F10, 65G05)

Vivaldi, M. A. (*with* Garroni, M. G.; Solonnikov, Vsevolod A.) On the oblique derivative problem in an infinite angle. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 299–325. (Giovanna Citti) **99b:35039** 35J25 (35K20)

— (*with* Garroni, M. G.; Solonnikov, Vsevolod A.) Existence and regularity results for oblique derivative problems for heat equations in an angle. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 47–79. (Peter G. Danilaev) **99a:35110** 35K20

Vivarelli, Maria Dina A configuration counterpart of the Kepler problem hodograph. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 4, 305–311. (Summary) **99a:70015** 70F05

— The Kepler problem S-sphere and the Kepler manifold. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 541–551. (Ivailo M. Mladenov) **99k:70010** 70F05 (70F15)

Vivas, José-Luis (*with* Dam, Mads) From higher-order π-calculus to π-calculus in the presence of static operators. (English summary) *CONCUR*'98: *concurrency theory*

(*Nice*), 115–130, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

Vivas, Z. (*with* Sánchez, Ana B.) Calibration of objective functions in stochastic linear models of production networks. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 47–54. 90C15 (90B15)

Vives, Xavier Learning from others: a welfare analysis. (English summary) *Games Econom. Behav.* **20** (1997), *no.* 2, 177–200. (Prasanta K. Pattanaik) **99c:90040** 90A99

Vivi, P. (*with* Krawcewicz, Wiesław; Wu, Jian Hong) Hopf bifurcations of functional differential equations with dihedral symmetries. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 157–184. (Ian Melbourne) **99e:58134** 58F14 (34K15, 58F32)

Vivien, Frédéric (*with* Boulet, Pierre; Dongarra, Jack J.; Robert, Yves) Static tiling for heterogeneous computing platforms. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 547–568. 68M20

Vizman, D. (*with* Fischer, B.; Friedrich, Jochen; Kupfer, C.; Müller, Georg) Experimental and numerical analysis of the influence of a rotating magnetic field on convection in Rayleigh-Bénard configurations. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 279–294, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76W05 (76–05, 76E15, 76E25)

Vízvári, Béla (*with* Prékopa, András; Badics, Tamás) Programming under probabilistic constraint with discrete random variable. (English summary) *New trends in mathematical programming*, 235–255, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (A. H. Žilinskas) **99g:90077** 90C15

— *see also* **Modern applied analysis**

Vlacci, Fabio Iteration theory in hyperbolic domains. *J. Anal. Math.* **74** (1998), 51–66. (Fuyao Ren) **99g:30032** 30D05 (58F23)

Vlach, Milan (*with* Zimmermann, Karel) Optimal starting times for a class of single machine scheduling problems with earliness and tardiness penalties. (English summary) Econometrics and operational research. *Kybernetika* (*Prague*) **33** (1997), *no.* 6, 675–686. (Summary) **99b:90072** 90B35

Vlachonikolis, Ioannis G. (*with* Fukushima, Júlia T.; Moran, Regina C. C. P.) On the distribution of quadratic forms and applications in the analysis of repeated measurements. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2625–2640. (Summary) **99i:62024** 62E15 (62J99)

Vlachos, Pantelis K. (*with* Gelfand, Alan E.) Nonparametric Bayesian group sequential design. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 115–132, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62117** 62L05 (62G05)

Vlachos, Theodoros Minimal surfaces in a sphere and the Ricci condition. (English summary) *Ann. Global Anal. Geom.* **17** (1999), *no.* 2, 129–150. (G. Tóth) **99k:53118** 53C42

Vlad, M. (*with* Balescu, R.; Spineanu, F.) Tokamap: a model of a partially stochastic toroidal magnetic field. *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 243–261, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Bing Hong Wang) **99i:76152** 76X05 (58F40)

— (*with* Balescu, R.; Spineanu, F.) Tokamap: a Hamiltonian twist map for magnetic field lines in a toroidal geometry. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 951–964. (Summary) **99f:78018** 78A55 (58F40, 76X05, 82D10)

Vladimirescu, Ion Lumped double Markov chains. *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 66–70. 60J10

— Contributions to the study of the inverse Gaussian distribution. *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 41–45 (1994). 60E05 (60G15)

— The law of large numbers for regular homogeneous double Markov chain. *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 18–21 (1995). 60J10 (60F15)

— Asymptotic behavior of transition probabilities for doubly homogeneous Markov chains. (Romanian) *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 38–41 (1995). 60J10

— (*with* Drîgnei, Dorin) Aspects concerning the ergodic kernels for double Markov chains with an arbitrary state space. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 28–32 (1997). (D. Kalin) **99k:60179** 60J10

Vladimirov, A. A. Memory properties of hysteresis media. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 18–34; *translation in Automat. Remote Control* **58** (1997), *no.* 12, *part* 1, 1886–1899 (1998). (Pavel Krejčí) **99c:47119** 47H30 (34C99, 47N70)

— (*with* Diamond, Phil; Kloeden, Peter E.) Spikes, broken planes and the approximation of convex fuzzy sets. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 225–232. (Summary) **99e:54002** 54A40 (52A27)

— (*with* Rubinov, Aleksandr M.) Convex-along-rays functions and star-shaped sets. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 593–613. (Diethard Pallaschke) **99g:52002** 52A20 (90C25)

— *see also* **Problems of quantum field theory**, **99i:81005** *and* **Quantum groups and integrable systems**, **99k:81007**

Vladimirov, A. G. (*with* Toronov, Vladislav Yu.; Derbov, Vladimir L.) The complex Lorenz model: geometric structure, homoclinic bifurcation and one-dimensional map. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 4, 723–729. (Summary) **99f:34073** 34C37 (34C23, 34D45, 58F14)

Vladimirov, Alexander *see* **Vladimirov, A. A.**

Vladimirov, Igor (*with* Bryant, Darryn E.; Diamond, Phil) Generalized optimal lattice covering of finite-dimensional Euclidean space. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 311–324. (Stelian S. Dumitrascu) **99j:52022** 52C17 (52C15, 65Y25)

Vladimirov, V. *see* **Vladimirov, Vsevolod A.**

Vladimirov, V. S. Some problems of analysis on the field of p-adic numbers. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 111–121. (Summary) **99e:11147** 11S85 (11R56, 46S10, 47S10)

— (*with* et al.) Alekseĭ Georgievich Postnikov. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 202–206; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 199–204. (Editors) **99m:01094** 01A70

Vladimirov, Vsevolod A. (*with* Sidorets, V. N.) On the peculiarities of stochastic invariant solutions of a hydrodynamic system accounting for non-local effects. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2* (*Kyiv*, 1997), 409–417, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 76F20 (35Q35, 58F13)

— (*with* Ilin, K. I.) Generalized isovorticity principle for ideal magnetohydrodynamics. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 161–177, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Darryl D. Holm) **99k:76157** 76W05 (76E25, 76M30)

— (*with* Ilin, K. I.) Note on the nonlinear stability of stratified fluid equilibria. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 123–133. (Stefan G. Llewellyn Smith) **99f:76063** 76E30 (76E20, 76V05, 86A10)

— (*with* Ilin, K. I.) The three-dimensional stability of steady magnetohydrodynamic flows of an ideal fluid. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4199–4204. (Summary) **99g:76060** 76E25 (76W05)

— (*with* Mu, Mu; Wu, Yong-Hui) Energy-Casimir and energy-Lagrange methods in the study of nonlinear symmetric stability problems. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 3, 400–411. (Summary) **99j:76043** 76E20 (76E30, 76U05, 86A10)

Vladimirov, Yu. S. The sources and development of binary geometrophysics. (Russian) *Studies in the history of physics and mechanics*, 1991–1992 (*Russian*), 77–100, "*Nauka*", *Moscow*, 1997. (Alexandr V. Levichev) **99k:83112** 83E15 (83–03)

Vladimirov, Yu. V. (*with* Bulatov, V. V.) Uniform far field asymptotics of internal gravity waves from a source moving in a stratified fluid layer with smoothly varying bottom. *Fluid Dynam.* **33** (1998), *no.* 3, 388–395; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 3, 111–120 (*Russian. Russian summary*). (Stefan G. Llewellyn Smith) **99j:76129** 76V05 (34E20, 76C10)

Vladimirskaya, O. Some new generalizations of the Lyapunov convexity theorem. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 15–24. (M. M. Popov) **99e:46022** 46B20 (46B42, 46G10)

Vladislav, T. (*with* Raşa, Ion) Some properties of Bernstein and Stancu operators. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 345–350, *Transilvania, Cluj-Napoca*, 1997. (Detlef H. Mache) **99b:41016** 41A36

— (*with* Raşa, Ion) Altomare projections and Lipschitz constants. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 749–756. (George A. Anastassiou) **99g:41046** 41A65

Vlăduţ, S. G. Cyclicity statistics for elliptic curves over finite fields. *Finite Fields Appl.* **5** (1999), *no.* 1, 13–25. (Igor E. Shparlinski) **99m:11069** 11G20

Vlahacos, Constantine P. (*with* Antman, Stuart S.; Marlow, Randall S.) The complicated dynamics of heavy rigid bodies attached to deformable rods. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 431–460. (Summary) **99e:73068** 73K12 (70E15, 70K05, 73F15, 73H10)

Vlaic, Gabriela New considerations on the process of Hermite-Fejer bivariate interpolation of higher order. (Romanian summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 1, 30–35. 41A10

— Multivariate approximation by Stancu type operators on a simplex. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 1, 44–49. 41A35 (41A63)

Vlášek, Zdeněk (*with* Kowalski, Oldřich) Classification of Riemannian 3-manifolds with distinct constant principal Ricci curvatures. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 59–68. (Friedbert Prüfer) **99a:53058** 53C25 (53C21, 53C30)

Vlasenko, D. I. (*with* Borisenko, A. A.) Convex surfaces in Lobachevskiĭ space. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 3, 278–285. (Z. Nádeník) **99b:53085** 53C45

Vlasenko, L. A. (*with* Rutkas, A. G.) Uniqueness and approximation theorems for a degenerate operator-differential equation. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 597–601; *translation in Math. Notes* **60** (1996), *no.* 3-4, 445–449 (1997). (Valentina Ivanivna Gorbachuk) **99c:34129** 34G10 (35G15)

Vlasov, A. T. (*with* Gräbe, H.-G.) On a formula of Coll-Gerstenhaber-Giaquinto. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 129–142. (Thierry Dana-Picard) **99k:16062** 16S80 (16E40, 16W30)

Vlasov, L. P. Functionals over the space $C(Q, X)$ that attain their norms. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 45–56; *translation in Math. Notes* **61** (1997), *no.* 1-2, 38–47. (Summary) **99b:46055** 46E40 (46B20, 46E27)

— Chebyshev subspaces of finite codimension in the complex $C(Q)$. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 178–191; *translation in Math. Notes* **62** (1997), *no.* 1-2, 148–159 (1998). (A. B. Pevnyĭ) **99c:41057** 41A50

Vlasov, Viktor Valentinovich On a class of functional-differential equations with retarded argument in a Hilbert space. (Russian) *Mat. Zametki* **62** (1997), *no.* 5, 782–786; *translation in Math. Notes* **62** (1997), *no.* 5-6, 655–658 (1998). (Elena Litsyn) **99i:34115** 34K30 (34K40)

— On some spectral questions that arise in the theory of differential-difference equations. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 4(322), 217–218. (Michael I. Gil') **99m:34151** 34K05 (47B39, 47N20)

Vlasov, Yu. V. (*with* Khalfin, A. Yu.) Irrotational relativistic motion that depends on one space variable. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 3, 476–483; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 3, 378–383. (A. D. Popova) **99c:83041** 83C55 (76Y05)

Vlassov, A. T. *see* **Vlasov, A. T.**

Vlček, Jan (*with* Lukšan, Ladislav) Truncated trust region methods based on preconditioned iterative subalgorithms for large sparse systems of nonlinear equations. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 637–658. (José Mario Martínez) **99a:65070** 65H10 (90C30)

— (*with* Lukšan, Ladislav) A bundle-Newton method for nonsmooth unconstrained minimization. (English summary) *Math. Programming* **83** (1998), *no.* 3, *Ser. A*, 373–391. (Anatoly S. Antipin) **99i:90088** 90C30 (49J52, 49M20)

— (*with* Lukšan, Ladislav) Indefinitely preconditioned inexact Newton method for large sparse equality constrained non-linear programming problems. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 3, 219–247. (Emanuele Galligani) **99k:90158** 90C30 (65K05)

— (*with* Lukšan, Ladislav) Computational experience with globally convergent descent methods for large sparse systems of nonlinear equations. (English summary) *Optim. Methods Softw.* **8** (1998), *no.* 3-4, 201–223. (Summary) **99a:65071** 65H10

van Vleck, Erik S. *see* **Van Vleck, Erik S.**

van der Vlerk, Maarten H. (*with* Tomasgard, Asgeir; Audestad, Jan A.; Dye, Shane; Stougie, Leen; Wallace, Stein W.) Modelling aspects of distributed processing in

telecommunication networks. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 161–184. (*see* **99e:90003**) 90B12

— (*with* Schultz, Rüdiger; Stougie, Leen) Solving stochastic programs with integer recourse by enumeration: a framework using Gröbner basis reductions. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 229–252. (Kurt Marti) **99i:90066** 90C15

Vleugels, Jules (*with* de Berg, Mark; Katz, Matthew J.; Overmars, Mark H.; van der Stappen, A. Frank) Models and motion planning. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 83–94, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05

— (*with* van der Stappen, A. Frank; Overmars, Mark H.; de Berg, Mark) Motion planning in environments with low obstacle density. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 561–587. (Summary) **99h:68170** 68U05

van Vlierden, Annouk *see* **Van Vlierden, Annouk**

van der Vlugt, M. (*with* Knoops, E.) On generalized Hamming weights of $BCH(2)^{\perp}$. *Finite Fields Appl.* **4** (1998), *no.* 2, 175–184. (Michael Klemm) **99h:94061** 94B05

Vobly\u{i}, V. A. (*with* Bagaev, G. N.) The shrinking-expanding method for the enumeration of graphs. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 4, 82–87; *translation in Discrete Math. Appl.* **8** (1998), *no.* 5, 493–498. (Martin Klazar) **99m:05070** 05C30

Voce, Daniel A. (*with* Turner, Edward C.) Tame automorphisms of finitely generated abelian groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 277–287. (S. Janakiraman) **99g:20100** 20K30 (20F05)

Vöcking, B. (*with* Scheideler, C.) Universal continuous routing strategies. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 425–449. (Summary) **99b:68020** 68M10

Vodev, Georgi (*with* Cardoso, Fernando) Asymptotic behaviour of the scattering phase in linear elasticity for a strictly convex body. *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 2025–2049. (Akira Tsutsumi) **99f:35204** 35Q72 (35J25, 73C02, 73D25)

— (*with* Sjöstrand, Johannes) Asymptotics of the number of Rayleigh resonances. With an appendix by Jean Lannes. *Math. Ann.* **309** (1997), *no.* 2, 287–306. (Leon S. Farhy) **99g:35097** 35P20 (35J25, 35Q72, 47F05, 73D25)

— (*with* Popov, Georgi St.) Distribution des résonances et décroissance de l'énergie locale pour le problème de transmission. [Distribution of resonances and local energy decay for the transmission problem] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XIV*, 5 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35J25 (35P20)

— (*with* Cardoso, Fernando) Asymptotic behaviour of the scattering phase in linear elasticity. II. *Osaka J. Math.* **35** (1998), *no.* 2, 397–405. (Akira Tsutsumi) **99j:35217** 35Q72 (35P20, 73D25)

Vodnev, V. T. (*with* Naumovich, A. F.; Naumovich, N. F.) ★ Dictionnaire des mathématiques. (French) [Dictionary of mathematics] Translated from the 1989 Russian original by Irina Pétrova. *Ellipses, Paris; Éditions Mir, Moscow*, 1993. 544 *pp. ISBN* 2-7298-9430-6 (From the preface) **99g:00019** 00A20

Vodop'yanov, S. K. (*with* Chernikov, V. M.) Sobolev spaces and hypoelliptic equations. I. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 3, 27–67. (Luigi Rodino) **99c:46026a** 46E35 (35H05)

— (*with* Chernikov, V. M.) Sobolev spaces and hypoelliptic equations. II. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 4, 64–96. (Luigi Rodino) **99c:46026b** 46E35 (35H05)

— (*with* Greshnov, A. V.) Quasiconformal mappings and BMO spaces on metric structures. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 77–90, 190, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Alexander D. Ukhlov) **99e:46034** 46E15 (30C65)

— Sobolev classes and quasi-conformal mappings on Carnot-Carathéodory spaces. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 301–315, *de Gruyter, Berlin*, 1997. (Alexander D. Ukhlov) **99m:46089** 46E35 (30C65)

— (*with* Markina, I. G.) Fundamentals of the nonlinear potential theory for subelliptic equations. II. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 2, 18–63. (Vladimir B. Vasilyev) **99c:35032** 35H05 (31C45)

— (*with* Markina, I. G.) Foundations of the nonlinear potential theory of subelliptic equations. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 2, 155–158. (D. G. Natroshvili) **99k:31009** 31B35 (35H05, 35J60)

— (*with* Greshnov, A. V.) Quasiconformal mappings and BMO spaces on metric structures [translation of *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk, 1996)*, 77–90, 190, Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk, 1997; MR 99e:46034]. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 3, 132–150. 46E15 (30C65, 46E35)

— (*with* Ukhlov, A. D.) Sobolev spaces and (P, Q)-quasiconformal mappings of Carnot groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 776–795, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 665–682. (M. Yu. Vasil'chik) **99m:46090** 46E35 (30C65)

— (*with* Markina, I. G.) Classification of sub-Riemannian manifolds. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 6, 1271–1289, *ii.* (Andrew Bucki) **99m:53071** 53C20 (31C05, 31C12, 53C21, 58G30)

— *see also* **Algebra, geometry, analysis and mathematical physics, 99a:00019**

Vodop'yanov, V. V. *see* **Functional-differential equations and their applications**

Voelkel, Joseph G. (*with* Huang, Peng[2]; Chen, Dechang) Minimum-aberration two-level split-plot designs. (English summary) *Technometrics* **40** (1998), *no.* 4, 314–326. (Summary) **99j:62115** 62K15

Voepel, Tammy Discrete variable transformations on symplectic systems and even order difference operators. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 146–163. (Ondřej Došlý) **99d:39020** 39A70 (34C10)

Voermans, Theodorus Sebastiaan ★ Inductive datatypes with laws and subtyping. (Dutch summary) A relational model. Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1999. IPA Dissertation Series, 1999-01. *Eindhoven University of Technology, Eindhoven*, 1999. *vi*+193 *pp.* (From the introduction) **99h:68119** 68Q65 (18C99)

Voevodin, A. F. On the stability of difference boundary conditions for the vortex function on a rigid wall. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 855–859; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 824–828. (Summary) **99c:76077** 76M20 (76D05)

Voevodsky, Vladimir $\mathbf{A}^1$-homotopy theory. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 579–604 (*electronic*). (Mark Hovey) **99j:14018** 14F35 (14A15, 55U35)

Vogan, David A., Jr. (*with* Segal, Irving; Zhou, Zhengfang) Spinor currents as vector particles. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 252–262. (Ivailo M. Mladenov) **99h:81066** 81R05 (20C35, 22E70)

— (*with* Adams, Jeffrey; Huang, Jing-Song) Functions on the model orbit in E_8. (English summary) *Represent. Theory* **2** (1998), 224–263 (*electronic*). (William M. McGovern) **99g:20077** 20G05 (22E47)

Vogel, Carl A generalizable semantics for a default inheritance reasoner. (English summary) *The Tbilisi Symposium on Logic, Language and Computation: selected papers* (*Gudauri*, 1995), 101–120, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1998. (*see* **99m:03006**) 68T27 (68T30)

— *see also* **Symposium: Logic, Language and Computation, 99m:03006**

Vogel, Curtis R. (*with* Dobson, David C.) Convergence of an iterative method for total variation denoising. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1779–1791. (Viorel Arnautu) **99a:65081** 65K10 (49M30)

— (*with* Oman, Mary E.) Fast, robust total variation-based reconstruction of noisy, blurred images. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 813–824. 94A12

Vogel, Hans-Jürgen On functors between dht∇-symmetric categories. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 131–147. (Jürgen Koslowski) **99k:18012** 18D10 (08A55, 08C05, 18A25, 18D20)

Vogel, Thomas I. Sufficient conditions for multiply constrained extrema. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 377–383. (Andrei V. Dmitruk) **99c:49025** 49K27 (47B99, 58E05, 90C48)

Vogel, Wolfgang (*with* Kamoi, Yuji) On Buchsbaum algebras. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 3, 251–263. (J. Čižmár) **99b:13025** 13H10 (13P10)

Vogelius, Michael (*with* Moskow, Shari) First-order corrections to the homogenised eigenvalues of a periodic composite medium. A convergence proof. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1263–1299. (Gérard Michaille) **99g:35018** 35B27 (35J25, 73B27)

— (*with* Bryan, Kurt) Effective behavior of clusters of microscopic cracks inside a homogeneous conductor. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 2, 141–179. (Jacqueline Mossino) **99f:73004** 73B27 (35B27, 78A99)

— (*with* Cedio-Fengya, D. J.; Moskow, Shari) Identification of conductivity imperfections of small diameter by boundary measurements. Continuous dependence and computational reconstruction. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 553–595. (Summary) **99d:78011** 78A25 (35R30, 65N99, 78–08, 78A55)

— (*with* Xu, Jian-Ming) A nonlinear elliptic boundary value problem related to corrosion modeling. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 479–505. (Andrzej Chrzęszczyk) **99g:35047** 35J65 (35Q72, 73B99, 73C99)

— (*with* Santosa, Fadil; Xu, Jian-Ming) An effective nonlinear boundary condition for a corroding surface. Identification of the damage based on steady state electric data. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 656–679. (Viatcheslav I. Priĭmenko) **99h:35232** 35R30 (35J99, 35Q99, 78A55)

— (*with* Cedio-Fengya, D. J.; Romerio, Michel V.) Determination of the interface between the fluids in a Hall-Héroult cell from measurements of electric potentials and currents on the electrodes. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 245–277 (*electronic*). (Alfredo Lorenzi) **99k:35196** 35R35 (65N99, 78A55)

Vogelsang, Timothy J. Wald-type tests for detecting breaks in the trend function of a dynamic time series. (English summary) *Econometric Theory* **13** (1997), *no.* 6, 818–849. (Summary) **99c:62267** 62M10 (62P20)

— Trend function hypothesis testing in the presence of serial correlation. (English summary) *Econometrica* **66** (1998), *no.* 1, 123–148. (Summary) **99a:62159** 62P20 (62M10)

Voget, Stefan Theoretical analysis of genetic algorithms with infinite population size. (English summary) *Complex Systems* **10** (1996), *no.* 3, 167–183. (R. Shonkwiler) **99j:68123** 68T05 (90C15)

Vogl, Fritz (*with* Derfel, Gregory; Thuswaldner, Jörg Maximilian; Tichy, Robert F.) Asymptotic analysis of a class of functional equations. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 91–105. (P. N. Rathie) **99c:39032** 39B32 (39B22)

Vogler, Walter Partial order semantics and read arcs. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 508–517, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q90

— (*with* Semenov, Alex; Yakovlev, Alexandre V.) Unfolding and finite prefix for nets with read arcs. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 501–516, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q90 (68Q10)

Voglis, N. (*with* Efthymiopoulos, C.; Contopoulos, George; Dvorak, R.) Stickiness and cantori. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8167–8186. (A. Giorgilli) **99e:58153** 58F27 (58F13, 70K50)

— (*with* Efthymiopoulos, C.) Angular dynamical spectra. A new method for determining frequencies, weak chaos and cantori. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2913–2928. (Summary) **99a:58116** 58F13 (70K50)

Vogt, D. (*with* Domański, Paweł) A splitting theorem for the space of smooth functions. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 203–248. (Klaus-Dieter Bierstedt) **99b:46001** 46A04 (46E10, 46M20)

Vogt, Elmar (*with* Karowski, Michael; Schrader, Robert) Invariants of three-manifolds, unitary representations of the mapping class group, and numerical calculations. (English summary) *Experiment. Math.* **6** (1997), *no.* 4, 317–352. (Summary) **99g:57020** 57N10 (17B37, 81R50)

Vogt, Frank[2] On the order-completion of additive conjoint structures. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **65** (1996), *no.* 2, 195–214. (Jean-Paul Doignon) **99e:92039** 92G05 (06A23)

Vogt, Hendrik On the constant in real Riesz-Thorin interpolation. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 2, 112–114. (N. Ya. Krugłyak) **99f:46109** 46M35 (46E30)

Vogtmann, Karen (*with* Hatcher, Allen) Rational homology of $\mathrm{Aut}(F_n)$. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 6, 759–780. (S. Andreadakis) **99m:20127** 20J05 (20E05, 20F28)

— (*with* Hatcher, Allen) The complex of free factors of a free group. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 196, 459–468. (Michel Coornaert) **99i:20038** 20E05 (20E42, 57M07)

Vohra, Rajiv (*with* Serrano, Roberto) Non-cooperative implementation of the core. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 4, 513–525. (Summary) **99d:90157** 90D40 (90D12)

Vohra, Rakesh V. (*with* Bertsimas, Dimitris; Teo, Chung-Piaw) On dependent randomized rounding algorithms. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 330–344, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (From the text) **99b:90097** 90C27 (65G05, 90C35)

— (*with* Foster, Dean P.) Asymptotic calibration. (English summary) *Biometrika* **85** (1998), *no.* 2, 379–390. (Heleno Bolfarine) **99j:62002** 62A15 (62C15)

— (*with* Foster, Dean P.) An axiomatic characterization of a class of locations in tree networks. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 347–354. (Neville G. F. Sancho) **99j:90103** 90C35 (90A08, 90B10)

Voicu, Mihai Dissipative operators and resolvents. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 449–459. (Ioana Ciorănescu) **99h:47041** 47B44 (47A10, 47D06)

— Dissipative and accretive operators on locally convex spaces. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No. 52, Vol. II* (1998), 805–815. (Ioana Ciorănescu) **99g:47076** 47B44

Voiculescu, Dan-Virgil The derivative of order 1/2 of a free convolution by a semicircle distribution. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 697–703. (Andrzej Łuczak) **99d:46086** 46L50 (60B05)

— (*with* Bercovici, Hari) Regularity questions for free convolution. *Nonselfadjoint operator algebras, operator theory, and related topics*, 37–47, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Dimitri Y. Shlyakhtenko) **99j:46074** 46L50

— The noncommutative Hilbert transform approach to free entropy. *Quantum probability* (*Gdańsk*, 1997), 421–427, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (*see* **99d:00029**) 46L50

— The analogues of entropy and of Fisher's information measure in free probability theory. V. Noncommutative Hilbert transforms. *Invent. Math.* **132** (1998), *no.* 1, 189–227. (Sh. A. Ayupov) **99d:46087** 46L50 (46L05)

Voigt, Heinz Semi-infinite transportation problems. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 729–741. (Hubertus Th. Jongen) **99i:90092** 90C30 (90C08)

Voigt, Margit (*with* Kratochvíl, Jan; Tuza, Zsolt) Complexity of choosing subsets from color sets. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 139–148. (Summary) **99d:05081** 05C85 (68Q25)

— (*with* Mihók, Peter; Bucko, Jozef) On uniquely partitionable planar graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 149–158. (A. G. Thomason) **99h:05029** 05C10 (05C15)

— (*with* Kratochvíl, Jan; Tuza, Zsolt) Brooks-type theorems for choosability with separation. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 43–49. (Vasanti N. Bhat-Nayak) **99a:05049** 05C15

Voĭna, A. A. (*with* Sidorov, M. V.-S.) Estimation of conditional transition probabilities for partially observable Markov chains. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 25–37; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 25–37. (Anatoly V. Swishchuk) **99g:60112** 60J05 (60G35, 60J25, 62M05, 93E10)

Voĭnich, V. P. (*with* Martinenko, Mikhaĭlo D.) Fundamental matrix of solutions of an evolution system of Navier-Stokes equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 4, 10–12, 122. (Summary) **99i:35128** 35Q30 (76D05)

Voinov, V. G. (*with* Nikulin, Mikhail S.) Corrigendum: "Generating functions, problems of additive number theory, and some statistical applications" [Rev. Roumaine Math. Pures Appl. **40** (1995), no. 2, 107–147; MR 97e:11030]. *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 713. 11B68 (05A15, 11P81, 62E15)

— (*with* Bordes, Laurent; Nikulin, Mikhail S.) Unbiased estimation for a multivariate exponential whose components have a common shift. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 199–221. (Truc Nguyen) **99c:62157** 62H12 (62H15)

— (*with* Nikulin, Mikhail S.) On some statistical and probability problems related to unipartite and multipartite partitions. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 163–180. (A. N. Philippou) **99k:11161** 11P81 (60C05, 62E15)

jaecker-Voirol, Anne *see* **Jaecker-Voirol, Anne**

Voĭshvillo, E. K. A theory of logical relevance. *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 155-156, 207–228. (Otávio Bueno) **99m:03042** 03B46

— A theory of logical relevance. (Russian) *Logical investigations, No.* 4 (*Russian*), 222–244, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03B46

Voisin, Claire ★ Variations of Hodge structure of Calabi-Yau threefolds. Lezioni Lagrange [Lagrange Lectures], 1. *Scuola Normale Superiore, Classe di Scienze, Pisa*, 1996. *viii*+85 *pp.* (Bruce Hunt) **99m:14023** 14D07 (14J32, 32G20, 32J17, 32J25)

— Une preuve élémentaire de la trivialité du groupe CH_0 d'une surface d'Enriques. [An elementary proof of the triviality of the group CH_0 of an Enriques surface] *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 399–405, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Shigeyuki Kondo) **99j:14007** 14C25 (14J28)

— A correction: "On a conjecture of Clemens on rational curves on hypersurfaces" [J. Differential Geom. **44** (1996), no. 1, 200–213; MR 97j:14047]. *J. Differential Geom.* **49** (1998), *no.* 3, 601–611. (Xian Wu) **99m:14078** 14J70 (14H99)

Voit, Eberhard O. (*with* Schwacke, Lorelei H.) Scalability properties of the S-distribution. (English and German summaries) *Biom. J.* **40** (1998), *no.* 6, 665–684. (Summary) **99j:62017** 62E15

Voit, Michael A Lévy-type characterization of one-dimensional diffusions. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 3, 235–238. (H.-J. Engelbert) **99a:60086** 60J60 (60G44, 60H20)

— Properties of subhypergroups. *Semigroup Forum* **56** (1998), *no.* 3, 373–391. (Richard C. Vrem) **99b:43006** 43A62 (22D99, 43A07)

— (*with* Rösler, Margit) An uncertainty principle for Hankel transforms. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 183–194. (Walter Schempp) **99i:44007** 44A15 (26D10, 43A25)

— Berry-Esséen-type inequalities for ultraspherical expansions. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 1-2, 103–129. (Lothar Heinrich) **99m:60031** 60E15 (60B10, 60E10, 60F05)

Voĭtishek, A. V. (*with* Shkarupa, E. V.) Optimization of discretely stochastic procedures for globally estimating the solution of an integral equation of the second kind. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 6, 525–546. (Summary) **99f:65208** 65R20 (45L05, 65C99)

Vojak, Robert Two-point statistics of statistically self-similar cascades. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 365–370. (Flora Koukiou) **99i:60102** 60G57 (60G18)

Vojta, Paul A more general *abc* conjecture. *Internat. Math. Res. Notices* **1998**, *no.* 21, 1103–1116. (Joseph H. Silverman) **99k:11096** 11G35 (14G25)

Vojtáš, Peter (*with* Just, Winfried) On matrix rapid filters. (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 177–182. (Yehuda Rav) **99a:04005** 04A20 (06A15, 40C05)

Vojvodić, G. (*with* Pantović, J.; Tošić, R.) The cardinality of functionally complete algebras on a three element set. (English summary) *Algebra Universalis* **38** (1997), *no.* 2, 136–140. (Ágnes Szendrei) **99i:08002** 08A40 (03B50)

Volak, R. A. *see* **Wolak, Robert A.**

Volauf, Peter On regular group-valued measures. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 133–140. (Przemo Kranz) **99d:28017** 28B10 (28B15)

Volaufová, Júlia (*with* LaMotte, Lynn Roy) A note on invariant quadratics. *Linear Algebra Appl.* **264** (1997), 247–253. (Summary) **99g:62005** 62A05 (62H05)

Vol'berg, A. L. (*with* Popovici, Irina) On the harmonic measure on the Julia set of Blaschke products with one petal. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 3, 150–197; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 3, 553–594. (A. Yu. Rashkovsky (Zbl 901.31002)) **99g:30033** 30D05 (30C85, 30D50)

— (*with* Nazarov, Fedor; Treĭl', S. R.) Cauchy integral and Calderón-Zygmund operators on nonhomogeneous spaces. *Internat. Math. Res. Notices* **1997**, *no.* 15, 703–726. (Joan Verdera) **99e:42028** 42B20 (30E20, 47B38)

— (*with* Treĭl', S. R.) Wavelets and the angle between past and future. (English summary) *J. Funct. Anal.* **143** (1997), *no.* 2, 269–308. (V. V. Peller) **99k:42073** 42C15 (47B38)

— (*with* Esterle, Jean) Sous-espaces invariants par translations bilatérales de certains espaces de Hilbert de suites quasi-analytiquement pondérées. (English and French summaries) [Translation-invariant subspaces of some quasi-analytically weighted Hilbert spaces of sequences] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 295–300. (Håkan Hedenmalm) **99k:47013** 47A15 (46E99, 47B37)

— (*with* Popovici, Irina) Boundary Harnack principle for Denjoy domains. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 471–490. (Summary) **99m:30049** 30C85

— (*with* Nazarov, Fedor; Treĭl', S. R.) Weak type estimates and Cotlar inequalities for Calderón-Zygmund operators on nonhomogeneous spaces. *Internat. Math. Res. Notices* **1998**, *no.* 9, 463–487. (Javier Duoandikoetxea) **99f:42035** 42B20

Volchan, S. B. (*with* Landim, C.; Olla, Stefano) Driven tracer particle and Einstein relation in one-dimensional symmetric simple exclusion process. (English summary) *Resenhas* **3** (1997), *no.* 2, 173–209. (Ellen Saada) **99h:60167** 60K35 (82C22)

— (*with* Landim, C.; Olla, Stefano) Driven tracer particle in one-dimensional symmetric simple exclusion. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 287–307. (T. M. Liggett) **99b:60169** 60K35 (82C22)

Volchenko, Yu. M. Optimal control of a discrete process by the criterion of the Cesàro average limit. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 403–410, 431; *translation in Differential Equations* **34** (1998), *no.* 3, 402–409. (Ivan Ginchev) **99j:49055** 49K27

Volchkov, V. V. On an extremal problem associated with a theorem of Morera. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 804–809, 958; *translation in Math. Notes* **60** (1996), *no.* 5-6, 606–610 (1997). (Jan Szynal) **99f:30001** 30A05

— Solution of the support problem for some classes of functions. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 9, 13–30; *translation in Sb. Math.* **188** (1997), *no.* 9, 1279–1294. (Vladimir D. Stepanov) **99c:26010** 26B35 (46E30)

— Uniqueness theorems for some classes of functions with zero spherical means. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 59–65; *translation in Math. Notes* **62** (1997), *no.* 1-2, 50–55 (1998). (Eduard Belinskiĭ) **99d:42072** 42C30 (33C10)

Volčič, Aljoša Generalized Hammer's X-ray problem. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 393–400. (Summary) **99h:52006** 52A20 (44A12, 52A38, 92C55)

— (*with* Soranzo, Alessandro) On the Bertrand paradox. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 503–509. (Jan Rataj) **99j:60021** 60D05

— (*with* Gardner, Richard J.; Soranzo, Alessandro) On the determination of star and convex bodies by section functions. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 69–85. (G. D. Chakerian) **99k:52004** 52A20 (52A30, 52A38)

Voldman, A. (*with* Vulpe, N. I.) Affine invariant conditions for topologically distinguishing quadratic systems without finite critical points. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995**, *no.* 2-3, 100–112, 114, 117. (From the text) **99j:34041** 34C05 (34A34, 58F21)

— (*with* Vulpe, N. I.) Affine invariant conditions for topologically distinguishing quadratic systems with $m_f = 1$. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 171–179. (A. P. Sadovskiĭ) **99c:58130** 58F21 (34C05)

Volenec, Vladimir (*with* Veljan, Darko; Pečarić, Josip) Inequalities for volumes of simplices in terms of their faces. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 57–62. (Summary) **99f:51032** 51M16 (51M25)

— (*with* Alić, M.; Bullen, P. S.; Pečarić, Josip) Gerber's inequality and some related inequalities. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 507–516. (L. Losonczi) **99i:26020** 26D15

Volevich, Leonid (*with* Shirikyan, Armen) Bounded and almost time-periodic solutions of higher-order nonlinear hyperbolic equations. (Russian. Russian summary) *Tr. Mosk. Mat. Obs.* **58** (1997), 102–157; *translation in Trans. Moscow Math. Soc.* **1997**, 89–135. (Nickolai A. Lar'kin) **99a:35189** 35L75 (35B15, 35B25)

— (*with* Shirikyan, Armen) Bounded and almost periodic solutions of linear high-order hyperbolic equations. (English summary) *Math. Nachr.* **193** (1998), 137–197. (R. G.

Aĭrapetyan) **99k:35135** 35L75 (35B15, 35B40, 35L30)

Volf, Aurelian Claudiu Sur une conjecture de Deligne et Henniart sur les constantes locales d'équations fonctionnelles des fonctions L. [On a conjecture of Deligne and Henniart about the local constants of functional equations of L-functions] *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 239–272 (1998). (Ernst-Wilhelm Zink) **99i:11108** 11S37 (11S15, 20C15)

Volgenant, A. (*with* De Brey, M. J. D.) Well-solved cases of the 2-peripatetic salesman problem. (English summary) *Optimization* **39** (1997), *no.* 3, 275–293. (Summary) **99b:90100** 90C27 (68Q15)

Voliak, Konstantin *see* **Volyak, K. I.**

Volij, Oscar (*with* Dagan, Nir; Serrano, Roberto) Comment on A. McLennan and H. Sonnenschein "Sequential bargaining as a noncooperative foundation for Walrasian equilibrium" [Econometrica **59** (1991), no. 5, 1395–1424; MR 93a:90012]. *Econometrica* **66** (1998), *no.* 5, 1231–1233. (Akira Okada) **99k:90045** 90A12 (90A14, 90D10)

Volk, Martin (*with* Stolzenburg, Frieder; Höhne, Stephan; Koch, Ulrich) Constraint logic programming for computational linguistics. (English summary) *Logical aspects of computational linguistics (Nancy, 1996)*, 406–425, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (68N17)

Völkel, A. H. Symmetry and symmetry breaking in quantum-chromo (flavor)-dynamics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1928–1956. (Massimo Di Pierro) **99a:81196** 81V05

Völker, W. (*with* Alefeld, G. E.; Potra, Florian A.) Modifications of the interval-Newton-method with improved asymptotic efficiency. (English summary) *BIT* **38** (1998), *no.* 4, 619–635. (E. R. Hansen) **99m:65100** 65G10 (65H05)

Völklein, Helmut (*with* Strambach, Karl) The symplectic braid group and Galois realizations. *Geometric Galois actions*, 2, 139–150, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (John Swallow) **99j:20047** 20F36 (12F12, 14H10, 20G40)

— (*with* Magaard, Kay; Strambach, Karl) Finite quotients of the pure symplectic braid group. (English summary) *Israel J. Math.* **106** (1998), 13–28. (John Swallow) **99j:20048** 20F36 (12F12, 20G40)

— (*with* Thompson, John G.) Symplectic groups as Galois groups. *J. Group Theory* **1** (1998), *no.* 1, 1–58. (Noriko Yui) **99c:12007** 12F12

— Rigid generators of classical groups. *Math. Ann.* **311** (1998), *no.* 3, 421–438. (John Swallow) **99g:12005** 12F12 (20G40)

Volkmann, Lutz Estimations for the number of cycles in a graph. *Period. Math. Hungar.* **33** (1996), *no.* 2, 153–161. (R. C. Entringer) **99a:05089** 05C38

— (*with* Rautenbach, Dieter) Some structural results on linear arboricity. (English summary) *Australas. J. Combin.* **17** (1998), 267–274. (Summary) **99c:05049** 05C05

— (*with* Tewes, Meike) On the cycle structure of in-tournaments. (English summary) *Australas. J. Combin.* **18** (1998), 293–301. (Summary) **99g:05094** 05C20 (05C38)

— (*with* Rautenbach, Dieter) The domatic number of block-cactus graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 185–193. (Summary) **99c:05109** 05C35 (05C70, 05C75)

— (*with* Randerath, Bert) Characterization of graphs with equal domination and covering number. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 159–169. (Summary) **99g:05155** 05C75

— (*with* Tewes, Meike) Vertex deletion and cycles in multipartite tournaments. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 769–779. (Summary) **99i:05094** 05C20 (05C38)

— Longest paths in semicomplete multipartite digraphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 279–284. (Summary) **99m:05091** 05C38 (05C20)

— (*with* Randerath, Bert) Characterization of graphs with equal domination and matching number. (English summary) *Util. Math.* **55** (1999), 65–72. (Summary) **99m:05139** 05C75 (05C70)

Volkmann, Peter (*with* Redheffer, Raymond M.) Die Funktionalgleichung $f(x) + \max\{f(y), f(-y)\} = \max\{f(x+y), f(x-y)\}$. (English summary) [The functional equation $f(x) + \max\{f(y), f(-y)\} = \max\{f(x+y), f(x-y)\}$] *General inequalities*, 7 (*Oberwolfach*, 1995), 311–318, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Summary) **99m:39024** 39B52

— (*with* Chaljub-Simon, Alice) Perturbations de fonctions additives. (English and French summaries) [Perturbations of additive functions] *Ann. Math. Sil. No.* 11 (1997), 21–27. (Marek Cezary Zdun) **99f:26007** 26A24 (39B22)

— (*with* Grenon-Isselkou, Nathalie; Moutoussamy, Isabelle; Chaljub-Simon, Alice) Parabolic differential equations in ordered Banach spaces of bounded functions. (English summary) *Positivity* **1** (1997), *no.* 1, 45–54. (Summary) **99h:35224** 35R20

— (*with* Ger, Roman) On sums of linear and bounded mappings. (English summary) *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 103–108. (Summary) **99k:39075** 39B72

— (*with* Lin, Yiping) The positive invariant set of the differential equation on Banach space. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 267–270. (Summary) **99d:34116** 34G20

— (*with* Redheffer, Irene) Ein Fixpunktsatz für quasimonoton wachsende Funktionen. (English summary) [A fixed-point theorem for quasimonotonically increasing functions] *Arch. Math. (Basel)* **70** (1998), *no.* 4, 307–312. (Markus Kunze) **99a:47086** 47H10 (47H07)

— (*with* Lemmert, Roland) On the positivity of semigroups of operators. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 483–489. (Francesco Altomare) **99m:47048** 47D06

— (*with* Baron, Karol) On orthogonally additive functions. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 291–297. (Summary) **99c:39034** 39B52 (46C99)

Volkmer, Hans Expansions of analytic functions in spherical harmonics. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 3, 213–224. (Summary) **99b:33026** 33C55 (32A05)

— (*with* Svetic, R. E.) On the ultimate Peano derivative. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 439–452. (Clifford E. Weil) **99b:26006** 26A24 (26A15)

Volkov, A. Yu. (*with* Faddeev, Lyudvig Dmitrievich) Quantum integrable models on $1+1$ discrete space time. *Quantum fields and quantum space time* (*Cargèse*, 1996), 73–91, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Rinat M. Kashaev) **99d:81139** 81T40 (58F07, 81R50)

Volkov, D. *see* **Volkov, D. V.**

Volkov, D. B. *see* **Volkov-Bogorodsky, D. B.**

Volkov, D. V. *see* **Supersymmetry and quantum field theory, 99k:81010; Ranyuk, Yu. N., (99k:81010)** *and* **Bibliography: Volkov, D. V., (99k:81010)**

Volkov, E. A. On the solution of a modified Dirichlet problem on a multiply connected polygon by the fast block method. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 135–144. (Lutz Tobiska) **99f:65194** 65N55 (30C99)

— On the approximate conformal mapping of a doubly connected polygon onto a ring by the block method. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 145–163. (Lutz Tobiska) **99f:65195** 65N55 (30C99)

— On the approximate conformal mapping of a polygon onto a rectangle by the block method. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 115–124. (V. A. Tkachenko) **99m:41051** 41A63 (30C20, 65Y25)

— (*with* Kornoukhov, A. K.; Yakovleva, E. A.) Experimental investigation of the block method for solving the Laplace equation on polygons. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1544–1552. 65N30 (65N06)

Volkov, G. G. (*with* Maslikov, A.; Naumov, Igor Anatolievich) The unification in the string theories with the $G \times G$ gauge groups. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 26, 1909–1927. (Angel Maria Uranga) **99b:81200** 81T30 (81V22, 83E30)

Volkov, I. A. On uniform upper exponents of a two-dimensional quasilinear system. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 31–35, 125. (Alexander V. Lasunsky) **99d:34092** 34D08

Volkov, I. K. (*with* Krishchenko, A. P.) Qualitative analysis of a population development model. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1457–1465, 1580; *translation in Differential Equations* **32** (1996), *no.* 11, 1452–1461 (1997). (Miklós Farkas) **99a:92031** 92D25 (34C05, 34C23, 34D99)

— (*with* Krishchenko, A. P.; Chebotarev, A. N.) Operation modes for a population with a possible nonequilibrium preservation of size. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 8, 156–167; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 2, 1364–1373 (1998). (D. O. Logofet) **99f:92027** 92D25

— On one aspect of the existence of dissipative structures for transport models. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 1, 83–93. (Zhu Jun Jing) **99g:92034** 92D25 (34K20, 35Q80)

— On one concept of the construction of an ecological risk criterion for populations. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 3, 265–269. (Summary) **99d:92048** 92D40

Volkov, Lyuben G. (*with* Braianov, Ilia A.) Finite difference schemes with variable weights for parabolic equations with concentrated capacity. (English summary) *Large-scale scientific computations of engineering and environmental problems (Varna, 1997)*, 210–218, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65N06

Volkov, M. *see* **Volkov, Mikhail S.**

Volkov, M. V. *see* **Volkov, Mikhail V.**

Volkov, Mikhail S. (*with* Chamseddine, Ali H.) Non-abelian solitons in $N = 4$ gauged supergravity and leading order string theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6242–6254. (Summary) **99m:83199** 83E50 (83E30)

— (*with* Heusler, M.; Straumann, Norbert) On rotational excitations and axial deformations of BPS monopoles and Julia-Zee dyons. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105021, 16 *pp.* 81T13

Volkov, Mikhail V. (*with* Vernikov, Boris M.) Structure of lattices of nilpotent semigroup varieties. (English summary) *Semigroups (Luino, 1992)*, 297–299, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M07

— (*with* Vernikov, Boris M.) Permutability of fully invariant congruences on relatively free semigroups. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 437–461. (Katherine Johnston) **99c:20082** 20M07 (08A30, 08B15, 08B20)

— (*with* Almeida, Jorge) The gap between partial and full. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 3, 399–430. (P. M. Higgins) **99g:20102** 20M07 (20M20)

— (*with* Repnitskiĭ, V. B.) The finite basis problem for pseudovariety $\mathcal{O}$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 661–669. (Graham T. Clarke) **99m:20139** 20M07 (08B05, 08C15)

Volkov, Stanislav (*with* Menshikov, Mikhail) Branching Markov chains: qualitative characteristics. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 2, 225–241. (J. D. Biggins) **99c:60192** 60J80 (60J15)

— (*with* Pemantle, Robin) Markov chains in a field of traps. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 561–569. (Jörg-Uwe Löbus) **99d:60111** 60K35 (60J10)

Volkova, E. S. Curvature identities of normal manifolds of Killing type. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 351–362; *translation in Math. Notes* **62** (1997), *no.* 3-4, 296–305 (1998). (Andrew Bucki) **99a:53064** 53C25

Volkov-Bogorodsky, D. B. ★ Об интегрировании уравнения класса Фукса с четырьмя особыми точками (в связи с задачей конформного отображения). (Russian. Russian summary) [Integration of an equation of the Fuchs class with four singular points (in connection with the conformal mapping problem)] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1991. 38 *pp.* (Andreĭ Bolibrukh) **99a:34015** 34A20 (30C20)

Volkovich, V. V. (*with* Pavlov, Vadim Vladimirovich) Collective behavior of robots. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997,** *no.* 3, 118–123, 157. 93C85 (70B15)

Vollandt, Rüdiger (*with* Horn, Manfred) Sample sizes for comparisons of k treatments with a control based on different definitions of the power. (English summary) *Biom. J.* **40** (1998), *no.* 5, 589–612. 62J15

Volle, Michel (*with* Traoré, Sado) Quasi-convex conjugation and Mosco convergence. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 369–388 (1996). (T. Zolezzi) **99b:49012** 49J45 (49N15)

— (*with* Lemaire, Bernard) Duality in DC programming. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 331–345, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Jean-Pierre Crouzeix) **99h:49047** 49N15 (90C26)

— Duality for the level sum of quasiconvex functions and applications. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 329–343 (*electronic*). (E. N. Barron) **99h:49048** 49N15 (49L25)
— (*with* Lemaire, Bernard) A general duality scheme for nonconvex minimization problems with a strict inequality constraint. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 317–327. (Vaithilingam Jeyakumar) **99k:90123** 90C26 (49N15)
— A formula on the conjugate of the max of a convex function and a concave function. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 313–321. (Reinhard Deumlich) **99d:49063** 49N15 (90C25)
— *see also* **Generalized convexity, generalized monotonicity: recent results, 99f:90006**
Vollebregt, Edwin A. H. (*with* Veenstra, Arnt H.; Lin, Hai-Xiang) A comparison of scalability of different parallel iterative methods for shallow water equations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 357–364, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Dennis C. Jespersen) **99h:65235** 65Y05 (65F10, 76B15, 76M25)
Vollick, Dan N. Negative energy density states for the Dirac field in flat spacetime. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3484–3488. (Summary) **99m:81133** 81T10
— (*with* Pretorius, Frans; Israel, Werner) An operational approach to black hole entropy. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6311–6316. (Summary) **99m:83137** 83C57
Vollmer, Heribert (*with* Regan, Kenneth W.) Gap-languages and log-time complexity classes. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 101–116. (Frederic Green) **99c:68098** 68Q15 (03D15)
— (*with* Kosub, Sven; Schmitz, Heinz) Uniformly defining complexity classes of functions. (English summary) *STACS* 98 (*Paris*, 1998), 607–617, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99j:68044** 68Q15
— (*with* Caussinus, Hervé; McKenzie, Pierre; Thérien, Denis) Nondeterministic NC^1 computation. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 200–212. (Summary) **99m:68059** 68Q15
— Relating polynomial time to constant depth. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 159–170. (Summary) **99i:68053** 68Q15
— (*with* Cronauer, K.; Hertrampf, Ulrich; Wagner, Klaus Werner) The chain method to separate counting classes. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 93–108. (Gerhard Lischke) **99b:68083** 68Q15 (03D15)
Vollmer, Jürgen (*with* Breymann, Wolfgang; Tél, Tamás) Entropy balance, time reversibility, and mass transport in dynamical systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 396–408. (Summary) **99f:58119** 58F11 (58F40)
Vollmer, Karl-Heinz *see* **Risk measurement, econometrics and neural networks, 99j:62148**
Volný, Dalibor BV coboundaries over irrational rotations. (English summary) *Studia Math.* **126** (1997), *no.* 3, 253–271. (S. I. Bezuglyĭ) **99b:28017** 28D05 (11K55)
— (*with* Aaronson, Jon; Lemańczyk, Mariusz) A cut salad of cocycles. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 99–119. (G. R. Goodson) **99j:28014** 28D05
— Invariance principles and Gaussian approximation for strictly stationary processes. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3351–3371. (Manfred Denker) **99m:60062** 60G10 (28D05, 60F15, 60F17)
Voloch, José Felipe Diophantine geometry in characteristic p: a survey. *Arithmetic geometry* (*Cortona*, 1994), 260–278, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Alexandru Buium) **99c:11081** 11G35 (14G25)
— Periods of ordinary abelian varieties in characteristic p. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 2, 295–300. (Annette Werner) **99j:14046** 14K15 (11G25, 14G20)
— Differential operators and interpolation series in power series fields. *J. Number Theory* **71** (1998), *no.* 1, 106–108. (Daniel Barsky) **99j:13019** 13J05 (11S85, 12J25, 26E30)
Volodin, A. I. (*with* Hu, Tien Chung; Szynal, Dominik) A note on complete convergence for arrays. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 27–31. (V. K. Rohatgi) **99e:60084** 60F15 (60G50)
Volodin, E. M. (*with* Dymnikov, Valentin P.) On the sensitivity of climate models to small external effects. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 3, 394–396. 86A10
Volodin, I. N. (*with* Novikov, An. A.) Asymptotics of the necessary sample size in testing parametric hypotheses: d-posterior approach. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 111–121. (J. A. Melamed) **99m:62025** 62F03 (62F05, 62F15)
Volodin, N. A. *see* **Volodin, Nikolaĭ Aleksandrovich**
Volodin, Nikolai A. Multinomial coefficients modulo a prime. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 349–353. (F. T. Howard) **99c:11019** 11B65 (11B50)
Volodin, Nikolaĭ Aleksandrovich (*with* Tolstykh, V. K.) Optimal control by heat flow in continuous casting steel. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 480–483, *Springer, Berlin*, 1997. (*see* **99a:90009**) 49J20 (49K20)
Vologodskiĭ, V. N. On the factorization of some classical three-dimensional Cremona transformations in the framework of the Sarkisov program. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 3, 29–31, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 3, 30–32. (M. Kh. Gizatullin) **99c:14019** 14E07
Volosevich, P. P. (*with* Kornilina, M. A.; Levanov, E. I.; Èdzhibia, G. V.) Self-similar and numerical solutions of equations of magnetohydrodynamics taking into account nonlinear bulk sources and sinks. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 2, 25–41. 76N15 (76W05)
Voloshin, A. F. (*with* Sal'nikova, N. G.) On the solution of the problem of the observation of the states of linear discrete systems in the class of fuzzy ellipsoidal estimates. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 70–80, 150. 93B07 (93C41)
Voloshin, V. I. (*with* Brandstädt, Andreas; Dragan, Feodor F.; Chepoĭ, V. D.) Dually chordal graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 437–455 (*electronic*). (Valentin E. Brimkov) **99i:05175** 05C75 (05C65, 68R10)
Voloshina, Ĭ. A. Optimal formulas for the approximate computation of multiple integrals by means of integrals of lower multiplicity. (Ukrainian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 137–153, "*Vishcha Shkola*", *Kiev*, 1993. (*see* **99a:00015**) 41A55 (65D32)
Volosivets, S. S. Approximation of functions of bounded p-variation by polynomials in the Faber-Schauder system. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 363–371; *translation in Math. Notes* **62** (1997), *no.* 3-4, 306–313 (1998). (Jia-Ding Cao) **99d:41031** 41A25 (42C10)
Volosov, V. V. On the construction of parametric families of ellipsoidal estimates and their optimization in problems of nonstochastic identification of the parameters and state of multidimensional discrete control plants. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 37–53, 157. 93B30 (93C55)
— (*with* Tyutyunnik, L. I.) Development and investigation of robust algorithms for guaranteed ellipsoidal estimation of the state of multidimensional linear discrete dynamical systems. I. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 31–43, 155–156. (Summary) **99d:93072** 93E12 (93B12)
— (*with* Tyutyunnik, L. I.) Development and investigation of robust algorithms for guaranteed ellipsoidal estimation of the state of multidimensional linear discrete dynamical systems. II. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 52–65, 150. (Summary) **99k:93092** 93E12 (93B12)
Volov, D. B. (*with* Volov, V. T.; Ratis, Yu. L.) Construction of a scheme for computing radiation transfer for problems of radiative gas dynamics. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1919–1927; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1842–1850. (Summary) **99i:76131** 76M25 (76N15, 80–08)
Volov, V. T. (*with* Volov, D. B.; Ratis, Yu. L.) Construction of a scheme for computing radiation transfer for problems of radiative gas dynamics. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1919–1927; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1842–1850. (Summary) **99i:76131** 76M25 (76N15, 80–08)
Volovich, Anastasia Rarita-Schwinger field in the AdS/CFT correspondence. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 22, 10 *pp.* (*electronic*). (Summary) **99j:81161** 81T30 (81T40)
— On domain wall in MQCD. *Strings, branes and dualities* (*Cargèse*, 1997), 471–474, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 81T60 (81T30, 81V05)
— Domain walls in MQCD and the Monge-Ampère equation. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065005, 9 *pp.* (Summary) **99m:81212** 81T30
Volovich, I. V. D-branes, black holes and SU(∞) gauge theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 618–621, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T30 (81T13, 83C57, 83E30)
— (*with* Bikulov, A. Kh.) p-adic Brownian motion. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 3, 75–90; *translation in Izv. Math.* **61** (1997), *no.* 3, 537–552. (Andrzej Mądrecki) **99b:60006** 60B05 (46S10, 60G15, 60J65)
— (*with* Accardi, Luigi; Lu, Yun Gang) Non-linear extensions of classical and quantum stochastic calculus and essentially infinite-dimensional analysis. *Probability towards* 2000 (*New York*, 1995), 1–33, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (John E. Gough) **99f:81105** 81S25 (46G12, 46L50, 60H99)
— (*with* Aref'eva, Irina Ya.; Medvedev, P. B.; Rytchkov, O. A.) Chaos in D0 brane dynamics. (English summary) *Quantum probability* (*Gdańsk*, 1997), 41–51, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Christophe Grojean) **99j:81177** 81T60 (58F40, 81Q60, 81T30)
— Planckian energy scattering of D-branes and M(atrix) theory in curved space. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 116–120, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 81T30 (83E30)
— (*with* Borowiec, Andrzej; Ferraris, Marco; Francaviglia, Mauro) Universality of the Einstein equations for Ricci squared Lagrangians. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 43–55. (Hans P. Künzle) **99a:83003** 83C05
— (*with* Aref'eva, Irina Ya.; Ivanov, M. G.; Rytchkov, O. A.) Non-extremal localized branes and vacuum solutions in M-theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 2923–2936. (C. Gauthier) **99m:81165** 81T30
— (*with* Aref'eva, Irina Ya.) Knots and matrix models. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 167–173. (Torsten Asselmeyer) **99h:57003** 57M25 (81T18, 81T30)
— (*with* Accardi, Luigi; Kozyrev, S. V.) The hot free algebra. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 1–18. (John E. Gough) **99j:81087** 81S25 (46N50)
Volovoi, Vitali V. (*with* Hodges, Dewey H.; Berdichevskiĭ, V. L.; Sutyrin, Vladislav G.) Asymptotic theory for static behavior of elastic anisotropic I-beams. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 7, 1017–1043. (Summary) **99i:73045** 73K05
Volpe, Paolo A first-order language for expressing aliasing and type properties of logic programs. (English summary) *Static analysis* (*Pisa*, 1998), 184–199, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (Summary) **99j:68083** 68Q60 (03B70, 68N17)
Volpe, Rosanna (*with* Marino, Giuseppe) Boundary value problems with nonlinear boundary conditions on noncompact intervals. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 177–187. (S. R. Bernfeld) **99d:34038** 34B15
Volpert, A. I. (*with* Vol'pert, Vit. A.) Multidimensional travelling waves in the bistable case. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 156–173, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Yuzo Hosono) **99i:35071** 35K57 (35B40)
— (*with* Vol'pert, Vit. A.) Convective instability of reaction fronts: linear stability analysis. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 5, 507–525. (Gawtum Namah) **99k:80012** 80A32 (35K57, 76D05, 80A25)
Vol'pert, Vit. A. (*with* Volpert, A. I.) Multidimensional travelling waves in the bistable case. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 156–173, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Yuzo Hosono) **99i:35071** 35K57 (35B40)
— (*with* Volpert, A. I.) Convective instability of reaction fronts: linear stability analysis. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 5, 507–525. (Gawtum Namah) **99k:80012** 80A32 (35K57, 76D05, 80A25)
Volpicelli, Roberta (*with* Ferone, Adele; Ferone, Vincenzo) Moser-type inequalities for solutions of linear elliptic equations with lower-order terms. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1031–1048. (Xi Ting Liang) **99a:35053** 35J25 (35B05, 35B20, 35J65)

— (*with* Ferone, Adele; Ferone, Vincenzo) Moser-type inequalities for solutions of nonlinear elliptic equations. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 727–743. (Rolando Magnanini) **99k:35061** 35J65 (35B45, 35B65)

— (*with* Ferone, Adele; Jalal, M. A.; Rakotoson, Jean Michel) Nonlocal generalized models for a confined plasma in a Tokamak. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 43–46. 35J60 (35Q35, 76X05)

Volpin, Oleg (*with* Bercovier, Michel; Matskewich, Tanya) Globally G^1 free form surfaces using Kirchhoff-Love plate energy methods. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 25–34, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

— (*with* Matskewich, Tanya; Bercovier, Michel) "Discrete" G^1 assembly of patches over irregular meshes. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 351–358, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65Y25 (65D17)

dalla Volta, Francesca *see* **Dalla Volta, Francesca**

Voltis, George (*with* Kehagias, John) Properties and applications of a modified stochastic integral part model. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 85–94. (Summary) **99d:60013** 60E10

Volyak, K. I. (*with* Shugan, Igor) On phase kinks, negative frequencies, and other third-order peculiarities of modulated surface waves. (English summary) *J. Fluid Mech.* **368** (1998), 321–338. (Summary) **99e:76014** 76B15 (76D33)

Von Auer, Ludwig *see* **von Auer, Ludwig**

Von Bach, Carl Julius *see* **von Bach, Carl Julius**

Von Below, Joachim *see* **von Below, Joachim**

Von Borzeszkowski, Horst-Heino *see* **von Borzeszkowski, Horst-Heino**

Von Collani, Elart *see* **von Collani, Elart**

Von der Gönna, U. *see* **von der Gönna, U.**

Von der Linden, W. *see* **von der Linden, W.**

Von der Mosel, Heiko *see* **von der Mosel, Heiko**

Von Dohlen, Brian *see* **von Dohlen, Brian**

Vonessen, Nikolaus Actions of algebraic groups on the spectrum of rational ideals. II. (English summary) *J. Algebra* **208** (1998), *no.* 1, 216–261. (K. R. Goodearl) **99k:16073** 16W20 (16D30, 20G15)

Von Ferber, C. *see* **von Ferber, C.**

Von Fintel, Kai *see* **von Fintel, Kai**

Von Gehlen, G. *see* **von Gehlen, G.**

Von Haeseler, Arndt *see* **von Haeseler, Arndt**

Von Haeseler, Fritz *see* **von Haeseler, Fritz**

Von Hertzen, Raimo *see* **von Hertzen, Raimo**

Vonhoff, Rolf Some remarks on left-definite Hamiltonian systems in the regular case. (English summary) *Math. Nachr.* **193** (1998), 199–210. (Hasna Riahi) **99i:34028** 34B05 (34L05, 34L10)

Von Hohenbalken, B. (*with* Klee, Victor; Lewis, Ted) Appollonius revisited: supporting spheres for sundered systems. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 385–395. (Marilyn Breen) **99a:52002** 52A20

Von Höhne, Hans-Joachim *see* **von Höhne, Hans-Joachim**

Von Humboldt, Alexander *see* **von Humboldt, Alexander**

Von Karger, Burghard *see* **von Karger, Burghard**

Von Keviczky, Attila B. *see* **von Keviczky, Attila B.**

Von Kutschera, Franz *see* **von Kutschera, Franz**

Von Mises, Richard *see* **von Mises, Richard**

Von Mohrenschildt, Martin *see* **von Mohrenschildt, Martin**

Von Neumann, John *see* **von Neumann, John**

Von Petersdorff, Tobias *see* **von Petersdorff, Tobias**

Von Plato, Jan *see* **von Plato, Jan**

Von Renteln, Michael *see* **von Renteln, Michael**

Von Rosen, Dietrich *see* **von Rosen, Dietrich**

Von Tempski, Oliver *see* **von Tempski, Oliver**

Von Trojan, A. *see* **von Trojan, A.**

Von Unge, Rikard *see* **von Unge, Rikard**

Von Wahl, Wolf *see* **von Wahl, Wolf**

Von Weizsäcker, Heinrich *see* **von Weizsäcker, Heinrich**

Von Wissel, D. *see* **von Wissel, D.**

Von Wolfersdorf, Lothar *see* **von Wolfersdorf, Lothar**

Von Wright, Georg Henrik *see* **von Wright, Georg Henrik**

Von Wright, Joakim *see* **von Wright, Joakim**

Von zur Gathen, Joachim *see* **von zur Gathen, Joachim**

Voorhees, Burton Computation of predecessor states for composite elementary cellular automata. (English summary) *Complex Systems* **10** (1996), *no.* 3, 207–217. (Summary) **99g:68143** 68Q80

— Multifractals defined by nonlinear cellular automata. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 259–280. (Fernanda Botelho) **99k:58106** 58F08 (68Q80)

Voorneveld, Mark (*with* van den Nouweland, Anne) A new axiomatization of the core of games with transferable utility. (English summary) *Econom. Lett.* **60** (1998), *no.* 2, 151–155. (Summary) **99i:90132** 90D12

Vorobeĭ, L. A. (*with* Kamornikov, S. F.) On complemented elements of a lattice of subgroup functors of a homomorph. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 74–77, *Gomel. Gos. Univ., Gomel'*, 1998. (*see* **99g:20008**) 20D99

Vorobeĭchikova, O. A. (*with* Novikova, N. M.) Parametrization of the value of the vector minimax with related constraints. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1467–1477; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1422–1432. (Christiane Tammer) **99d:90108** 90C29 (49J35, 90C31)

— (*with* Novikova, N. M.) The convolution method in the problem of the search for a vector maximin. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 1, 24–26, 52; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 1, 28–32. (Summary) **99c:90112** 90C29 (49K35)

— Approximation of the value of the vector minimax with related constraints. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 29–31, 49; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 44–48. (Summary) **99d:90109** 90C29 (49J35)

Vorobets, Ya. B. Billiards in rational polygons: periodic trajectories symmetries and d-stability. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 66–75; *translation in Math. Notes* **62** (1997), *no.* 1-2, 56–63 (1998). (András Krámli) **99d:58112** 58F11 (28D10)

— (*with* Stëpin, A. M.) Isospectrality and projective Galois geometries. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 5, 660–664. (J. S. Joel) **99m:58202** 58G25 (53C20)

Vorob'ev, G. N. On the correspondence of subgroups under a homomorphism for n-ary groups. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 40–54, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20N15

— On the semiconjugacy of n-ary subgroups. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 157–163, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20N15

Vorob'ev, N. F. On an inverse problem in the aerodynamics of a wing in a supersonic flow. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 3, 86–91. 76J20

Vorob'ev, N. N. (*with* Bliznets, I. V.) On direct decompositions of compositional formations. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 106–112, *Gomel. Gos. Univ., Gomel'*, 1998. (*see* **99g:20008**) 20D10

Vorob'ev, N. N., Jr. (*with* Grigor'ev, D. Yu.; Karpinski, Marek) Improved lower bound on testing membership to a polyhedron by algebraic decision trees. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 258–265, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25 (68Q40)

Vorob'ev, N. T. On maximal and minimal group functions of local Fitting classes. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 60–69, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10

— On factorizations of nonlocal formations of finite groups. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 21–24, 102, "*Universitet-skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D10

— (*with* Skiba, A. N.) On local Fitting classes represented as the product of two nonlocal Fitting classes. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 55–58, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20D10

Vorob'ev, Yu. M. (*with* Nazaikinskiĭ, Vladimir E.) On the cycle of singularities of isotropic submanifolds. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 131–134 (1998). (Stanisław Janeczko) **99a:58015** 58C27 (58F05)

— (*with* Karasev, Mikhail) Integral representations over isotropic submanifolds and equations of zero curvature. (English summary) *Adv. Math.* **135** (1998), *no.* 2, 220–286. (Frans Cantrijn) **99d:58073** 58F06 (58F05, 58G18, 81Q20)

Vorobieff, P. (*with* Ecke, R. E.) Transient states during spin-up of a Rayleigh-Bénard cell. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2525–2538. 76E15 (76U05)

Vorobjev, Yuri *see* **Vorob'ev, Yu. M.**

Vorobjev, Yurii M. *see* **Vorob'ev, Yu. M.**

Vorobjov, Nicolai *see* **Vorob'ev, N. N., Jr.**

Voronenko, A. A. Conditions for the complete asymptotics of the cardinality of classes of functions of k-valued logic that preserve a finite-place predicate. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 3, 44–47, 52; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 3, 59–63. (Andreĭ A. Krokhin) **99f:03021** 03B50

Voronin, A. A. Asymptotic properties of solutions of ordinary differential equations with a large parameter. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 3–10; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 7, 1–8 (1999). (O. B. Lykova) **99i:34078** 34E15 (34A12, 34B15, 34D15)

Voronin, A. N. A multicriterial method for solving variational control problems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 252–265, 301. 49M27 (90C29)

Voronin, S. M. Invariants for singular points of holomorphic vector fields on the complex plane. *The Stokes phenomenon and Hilbert's 16th problem* (*Groningen*, 1995), 305–323, *World Sci. Publishing, River Edge, NJ*, 1996. (M. Berthier) **99i:32046** 32S65 (34A20, 34C05, 58F14)

— Orbital analytic equivalence of degenerate singular points of holomorphic vector fields on the complex plane. (Russian) *Tr. Mat. Inst. Steklova* **213** (1997), *Differ. Uravn. s Veshchestv. i Kompleks. Vrem.*, 35–55. (Sergeĭ Yu. Yakovenko) **99j:32041** 32S65 (34A20, 58F18)

Voronin, Sergeĭ Mikhaĭlovich On interpolation formulas. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 77–98. (Ming Gao Lu) **99j:42001** 42A05 (11L99)

— *see also* **Arkhipov, G. I., 99m:01037**

Voronin, V. V. On the condition number of the method of interpolation and collocation on quasi-uniform grids for Symm's equation. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 295–297. 65R20 (45E05, 45L05)

Voronkov, Andrei (*with* Degtyarëv, A. I.; Gurevich, Yuri; Narendran, Paliath; Veanes, Margus) The decidability of simultaneous rigid E-unification with one variable. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 181–195, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99f:03009** 03B25 (68Q25, 68Q40, 68T15)

— Herbrand's theorem, automated reasoning and semantic tableaux. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 252–263, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (From the introduction) **99i:03047** 03D15 (03B10, 03B35, 68T15)

Voronov, Alexander A. (*with* Kimura, Takashi[2]; Stasheff, James D.) Homology of moduli of curves and commutative homotopy algebras. *The Gelfand Mathematical Seminars*, 1993–1995, 151–170, *Gelfand Math. Sem., Birkhäuser Boston, Boston, MA*, 1996. (Andreas Gathmann) **99f:14029** 14H15 (32G81, 55U99)

— (*with* Kimura, Takashi[2]; Zuckerman, Gregg J.) Homotopy Gerstenhaber algebras and topological field theory. (English summary) *Operads: Proceedings of Renaissance Conferences* (*Hartford, CT/Luminy*, 1995), 305–333, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (J. P. C. Greenlees) **99c:58028** 58D29 (14H10, 18D99, 55U35)

— Quantizing Poisson manifolds. (English summary) *Perspectives on quantization (South Hadley, MA, 1996)*, 189–195, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Markus J. Pflaum) **99g:58059** 58F06 (16E40, 17B56, 55P62)
— Stability of the rational homotopy type of moduli spaces. (English summary) *Higher homotopy structures in topology and mathematical physics (Poughkeepsie, NY, 1996)*, 315–321, *Contemp. Math.*, 227, *Amer. Math. Soc., Providence, RI*, 1999. (Elmer G. Rees) **99k:55011** 55P62 (14H10, 32G15)
Voronov, N. A. (*with* Dyshko, A. L.; Konyukhova, N. B.; Staroverova, I. B.) On some nonlinear singular problems in models of relativistic cosmology. (Russian. Russian summary) *Computational modelling and computing in physics (Dubna, 1996)*, 304–310, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 83F05 (35Q75)
Voronovich, A. G. Non-classical approaches in the theory of wave scattering from rough surfaces. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 84–88, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35R30 (73D25, 76Q05, 78A45)
Voronovich, Vyacheslav V. (*with* Pelinovsky, Dmitry E.; Shrira, V. I.) On internal wave-shear flow resonance in shallow water. (English summary) *J. Fluid Mech.* **354** (1998), 209–237. (Summary) **99j:76025** 76C10 (86A05)
Vorontsov, K. V. On task-oriented optimization of bases for recognition problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 870–880; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 838–847. (Summary) **99e:68141** 68T10 (90C90)
Voropaeva, N. V. (*with* Sobolev, V. A.) Decomposition of singularly perturbed differential systems. (English summary) Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 28–37. (O. B. Lykova) **99h:34072** 34D15 (34C30, 34E05)
Voros, André Exact anharmonic quantization condition (in one dimension). (English summary) *Quasiclassical methods (Minneapolis, MN, 1995)*, 189–224, *IMA Vol. Math. Appl.*, 95, *Springer, New York*, 1997. (Christian Grosche) **99a:81041** 81Q20 (81Q05)
Vörös, József (*with* Szidarovszky, Ferenc) Quality design by multiobjective analysis. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 377–383. (Summary) **99b:90113** 90C29 (90C90)
Vorotnikov, V. I. On a nonlinear game-theoretic problem of an asymmetric solid "passing through" a given angular position. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 48–52; *translation in Phys. Dokl.* **42** (1997), *no.* 11, 602–606. (Alexander M. Kovalev) **99a:70047** 70Q05 (70E15, 90D40, 93C95)
— On the construction of game-theoretic bounded controls for nonlinear dynamical systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 63–74; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 59–69. (Bozhidar Cheshankov) **99d:93047** 93C85 (49J15, 70E15, 70Q05)
— ★ Partial stability and control. (English summary) Translated from the Russian by Igor E. Merinov. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xii+430 *pp. ISBN* 0-8176-3917-9 (Andrew D. Lewis) **99a:93002** 93–02 (34D20, 34H05, 34K20, 93D05, 93D15, 93E05, 93E15)
Vorovich, I. I. (*with* Belyankova, T. I.; Kalinchuk, V. V.) On the problem of low-frequency resonances in the interaction of an elastic body with a semi-bounded medium. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 5, 624–626; *translation in Dokl. Phys.* **43** (1998), *no.* 2, 113–115. (From the text) **99k:73060** 73D30 (73T05)
van de Vorst, G. Alfred L. (*with* Mattheij, Robert M. M.) Mathematical modelling and numerical simulation of viscous sintering processes. (English summary) *Surveys Math. Indust.* **7** (1998), *no.* 4, 255–281. 76D07 (65N38, 76M15)
van der Vorst, Henk A. *see* **Van der Vorst, Henk A.**
de Vos, Alexis *see* **De Vos, Alexis**
Vos, Paul W. (*with* Kass, Robert E.) ★ Geometrical foundations of asymptotic inference. (English summary) Wiley Series in Probability and Statistics: Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xii+355 *pp. ISBN* 0-471-82668-5 (C. R. Rao) **99b:62032** 62F12 (62A20)
Vosbeek, P. H. J. (*with* van der Sluis, O.; Schreurs, P. J. G.; Meijer, H. E. H.) Homogenization of heterogeneous polymers. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 21, 3193–3214. (Summary) **99m:73004** 73B27
Vosbeek, Pauline Wilhelmina Catharina ★ Contour dynamics and applications to 2D vortices. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1998. *Technische Universiteit Eindhoven, Eindhoven*, 1998. *vi*+138 *pp. ISBN* 90-386-0621-4 (Thomas Y. Hou) **99i:76132** 76M25 (76C05)
Voshtina, Oltion On communication in cooperation games: a survey. *Game theory and applications, IV*, 160–173, *Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:90203**) 90D12
Vosilyus, R. *see* **Vosylius, R.**
Vosilyus, R. V. *see* **Vosylius, R.**
Voskoglou, Michael G. (*with* Sapanci, Mehmet) Principal ideals in skew polynomial rings. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 133–137. (Summary) **99d:16031** 16S36
— Automorphisms and f-simplicity in skew polynomial rings. (English summary) Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 127–135. (*see* **99a:00037**) 16S36
Voskresenskaya, G. V. Modular forms and representations of dihedral groups. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 130–133; *translation in Math. Notes* **63** (1998), *no.* 1-2, 115–118. (K.-B. Gundlach) **99e:11052** 11F11 (11F20, 20C15)
Voskresenskaya, O. (*with* Makhaldiani, N.) ★ On the correspondence between the dynamics with odd and even brackets and generalized Nambu's mechanics. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-97-418. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1997. 9 *pp.* (Summary) **99a:58072** 58F05 (70H05)
Voskresenskiĭ, V. E. Birational geometry of linear algebraic groups and Galois modules. Algebraic geometry, 2. *J. Math. Sci. (New York)* **85** (1997), *no.* 4, 2017–2114. (R. T. Hoobler) **99j:14047** 14L35 (14E05, 14M17, 14M20, 20G05, 20G15)
— ★ Algebraic groups and their birational invariants. (English summary) Translated from the Russian manuscript by Boris Kunyavski [Boris È. Kunyavskiĭ]. Translations of Mathematical Monographs, 179. *American Mathematical Society, Providence, RI*, 1998. *xiv*+218 *pp. ISBN* 0-8218-0905-9 (Philippe Gille) **99g:20090** 20G30 (11E72, 14G05, 14G25)
Vosmanský, Jaromír Differences of zeros and related quantities and normalization of solutions of differential equations. (English summary) *Advances in difference equations (Veszprém, 1995)*, 605–614, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99d:34053** 34C10
— *see also* **Equadiff, 99a:00025**
Voss, D. A. Parallel MIRK methods for ODEs. (English summary) Solving differential equations on parallel computers. *CWI Quarterly* **11** (1998), *no.* 1, 101–111. (Summary) **99i:65077** 65L06 (65Y05)
— (*with* Muir, P. H.) Mono-implicit Runge-Kutta schemes for the parallel solution of initial value ODEs. (English summary) *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 235–252. (Zeng Fu Qin) **99m:65137** 65L06 (65Y05)
Voss, Heinrich (*with* Mackens, Wolfgang) A projection method for computing the minimum eigenvalue of a symmetric positive definite Toeplitz matrix. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 401–415. (Raffaella Pavani) **99h:65084** 65F30 (15A18)
— Symmetric schemes for computing the minimum eigenvalue of a symmetric Toeplitz matrix. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 359–371. (E. Kreyszig) **99m:65073** 65F15 (15A18, 15A57)
Voss, Heinz-Jürgen Sachs triangulations, generated by dessins d'enfant, and regular maps. (English summary) *Math. Slovaca* **47** (1997), *no.* 2, 193–210. (Jozef Širáň) **99a:05038** 05C10
— Sachs triangulations and infinite sequences of regular maps on given type. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 223–240. (Jozef Širáň) **99i:05069** 05C10
Voss, Jürgen J. (*with* Schmeisser, Gerhard) A new interpretation of the sampling theorem and its extensions. (English summary) *Multivariate approximation and splines (Mannheim, 1996)*, 275–288, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Gilbert Walter) **99a:94007** 94A12 (42A38)
— Interpolation formulas for harmonic functions. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 82–91. (Zygmunt Wronicz) **99m:41007** 41A05 (30E05, 31A05)
Voss, Karl (*with* Calderer, M. Carme; Liu, Chun) Radial configurations of smectic A materials and focal conics. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 11–22. (Paolo Biscari) **99j:76004** 76A15 (76M30, 82D30)
Voss, Ursula (*with* Munz, Claus-Dieter; Schneider, Rudolf[2]; Sonnendrücker, Eric) Maxwell's equations when the charge conservation is not satisfied. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 431–436. (Summary) **99k:35170** 35Q60 (78A25)
— (*with* Munz, Claus-Dieter; Schneider, Rudolf[2]; Sonnendrücker, Eric; Stein, E.; Westermann, Thomas) A finite-volume particle-in-cell method for the numerical treatment of Maxwell-Lorentz equations on boundary-fitted meshes. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 4, 461–487. (Summary) **99i:78005** 78–08
van de Vosse, F. N. (*with* Anderson, P. D.; Galaktionov, O. S.; Peters, G. W. M.; Meijer, H. E. H.) Analysis of mixing in three-dimensional time-periodic cavity flows. (English summary) *J. Fluid Mech.* **386** (1999), 149–166. 76R99
Vostokov, S. V. (*with* Pak, G. K.) Construction of a normal basis for the ring of integers in an extension without higher ramification of an n-dimensional local field. (Russian. Russian summary) *Algebras, groups and varieties (Russian)*, 14–26, 81, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 11S15
— (*with* Fesenko, Ivan B.) Elliptic curves and formal groups. (Russian) *Mathematics today '93, No. 8 (Ukrainian)*, 9–33, "*Vishcha Shkola*", *Kiev*, 1993. (*see* **99a:00015**) 14H52 (14L05)
— (*with* Bekker, Boris; Bondarko, M.) Shafarevich bases in topological K-groups. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 2, 63–80. (Ivan Fesenko) **99e:11145** 11S20 (11S31, 11S70, 19F99)
Vostrikova, L. (*with* Sibeux, C.) Uniform convergence of semimartingales and minimum distance estimators. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 1-2, 139–164. (Summary) **99e:60095** 60F17 (62F12)
Vosylius, R. On the theory of differential-geometric connections. II. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 245–258; *translation in Lithuanian Math. J.* **37** (1997), *no.* 2, 180–190 (1998). (Josef Janyška) **99a:53021** 53C05 (58A20, 58A30)
— Inner connections of systems of partial differential equations. I. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 2, 276–291; *translation in Lithuanian Math. J.* **38** (1998), *no.* 2, 213–223 (1999). (J. Chrastina) **99m:58013** 58A17 (35A30)
— Inner connections of systems of partial differential equations. II. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 3, 362–378; *translation in Lithuanian Math. J.* **38** (1998), *no.* 3, 277–290 (1999). (J. Chrastina) **99m:58014** 58A17 (35A30)
Vo Thanh Liem (*with* Matsumoto, Yukio; Venema, Gerard A.) A homotopy equivalence that is not homotopic to a topological embedding. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 211–222. (Alexander N. Dranishnikov) **99m:57019** 57N35 (55N05, 55P10, 55P55, 57N15)
Voudouri, Aggeliki (*with* Malliaropulos, Dimitrios) An infinitely divisible distribution in financial modelling. *Bull. Greek Math. Soc.* **37** (1995), 113–122. (From the introduction) **99a:90046** 90A09
Vougiouklis, Thomas Construction of H_v-structures with desired fundamental structures. (English summary) *New frontiers in hyperstructures (Molise, 1995)*, 177–188, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Summary) **99e:20085** 20N20
— Affine Lie algebras and hyperstructures. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1994)*, 137–142, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (*see* **99d:53001**) 17B65 (20N20)
— (*with* Spartalis, S.; Dramalidis, Achilles) On H_V-group rings. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 1, 47–54. 16Y99
Voulgaris, Petros G. (*with* Salapaka, Murti V.; Dahleh, Mohammed A.) MIMO optimal control design: the interplay between the $\mathscr{H}_2$ and the l_1 norms. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1374–1388. (Jacob Hammer) **99i:93020** 93B36
Vourdas, A. Phase space methods for finite quantum systems. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.*

40 (1997), *no.* 2, 367–371. (Summary) **99a:81086** 81S30 (11Z05, 81V80)
— (*with* Bendjaballah, C.; Leroy, J. M.) Rate distortion and detection in quantum communication. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1658–1665. (Summary) **99h:94037** 94A34
— (*with* Stergioulas, L. K.) Robust quantum state engineering using coherent states on a truncated von Neumann lattice. (English summary) *J. Modern Opt.* **45** (1998), *no.* 6, 1155–1161. (Summary) **99b:81096** 81R30
— (*with* Bishop, R. F.) Quantum systems at negative temperatures: a holomorphic approach based on coherent states. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8563–8575. (Jiu Qing Liang) **99m:81092** 81R30 (82B10)
— (*with* Wünsche, Alfred) Resolutions of the identity in terms of line integrals of $SU(1,1)$ coherent states. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9341–9352. (Summary) **99h:81077** 81R30
— (*with* Chountasis, S.) Weyl functions and their use in the study of quantum interference. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 848–855. (Summary) **99d:81067** 81S30
Voutier, Paul M. (*with* Lettl, Günter; Pethö, Attila) On the arithmetic of simplest sextic fields and related Thue equations. *Number theory* (*Eger*, 1996), 331–348, *de Gruyter, Berlin*, 1998. (Author's review (P.V.)) **99h:11031** 11D41 (11R27, 11Y50)
— Primitive divisors of Lucas and Lehmer sequences. III. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 407–419. (Michel Waldschmidt) **99b:11027** 11D61 (11B39, 11J86)
— (*with* Lettl, Günter; Pethö, Attila) Simple families of Thue inequalities. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1871–1894. (Michael A. Bennett) **99h:11074** 11J25 (11D75)
Vo Van Tan On the problems of Hartshorne and Serre for some **C**-analytic surfaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 465–470. (N. Mohan Kumar) **99m:32016** 32E10 (32J15)
Vovk, Vladimir G. A game of prediction with expert advice. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 153–173. (Jerzy W. Grzymała-Busse) **99m:68201** 68T99 (68Q99, 90D99)
— (*with* Takimoto, Eiji; Maruoka, Akira) Predicting like the best pruning of a decision tree based on the on-line DP. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 191–198. (*see* **99i:65003**) 68T05
Vovor, Tsevi (*with* Hansen, Pierre; Storchi, Giovanni) Paths with minimum range and ratio of arc lengths. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 89–102. (R. C. Entringer) **99a:05133** 05C85 (68R10)
Vovsi, Samuel M. Identities of representations of finite groups. *Summer School in Group Theory in Banff*, 1996, 131–145, *CRM Proc. Lecture Notes*, 17, *Amer. Math. Soc., Providence, RI*, 1999. (George F. Seelinger) **99k:20055** 20E10 (20C99)
Vowden, B. J. (*with* Preece, D. A.; Phillips, N. C. K.) Double Youden rectangles of sizes $p \times (2p+1)$ and $(p+1) \times (2p+1)$. (English summary) *Ars Combin.* **51** (1999), 161–171. (Summary) **99j:05039** 05B15
— (*with* Preece, D. A.) Some series of cyclic balanced hyper-Graeco-Latin superimpositions of three Youden squares. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 671–682. (Summary) **99j:05040** 05B15
Voxman, William (*with* Goetschel, Roy H., Jr.) Intersecting fuzzy hypergraphs. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 81–96. (T. Thrivikraman) **99i:05152** 05C65
— Some remarks on distances between fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 353–365. (Summary) **99h:54011** 54A40 (03E72)
Voytishek, A. V. *see* **Voĭtishek, A. V.**
Vozovoi, Lev (*with* Averbuch, Amir; Israeli, Moshe) On a fast elliptic solver by a modified Fourier method. (English summary) *Numer. Algorithms* **15** (1997), *no.* 3-4, 287–313. (Manil Suri) **99c:65222** 65N35
— (*with* Weill, A.; Israeli, Moshe) Spectrally accurate solution of nonperiodic differential equations by the Fourier-Gegenbauer method. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1451–1471. (V. M. Krasnopol'sky) **99b:65092** 65L10 (65M70, 65N35, 65T10)
— (*with* Braverman, E. Ya.; Israeli, Moshe; Averbuch, Amir) A fast 3D Poisson solver of arbitrary order accuracy. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 109–136. (Summary) **99c:65251** 65T20 (65N30)
— (*with* Beylkin, Gregory; Keiser, James M.) A new class of time discretization schemes for the solution of nonlinear PDEs. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 362–387. (Mu Sheng Wei) **99k:65079** 65M12
— (*with* Averbuch, Amir; Ioffe, Ludmila; Israeli, Moshe) Two-dimensional parallel solver for the solution of Navier-Stokes equations with constant and variable coefficients using ADI on cells. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 673–699. (Summary) **99g:65133** 65Y05 (65M99, 76D05, 76M25)
— (*with* Averbuch, Amir; Israeli, Moshe) A fast Poisson solver of arbitrary order accuracy in rectangular regions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 933–952 (*electronic*). (Summary) **99b:65153** 65N35 (45L05)
Vrábeľ, Róbert Quasilinear and quadratic singularly perturbed Neumann's problem. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 405–410. (Shu Mei Miao) **99k:34123** 34E15 (34B15)
Vrábelová, Marta (*with* Riečan, Beloslav) On the Kurzweil integral for functions with values in ordered spaces. III. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 93–100. (D. Butković) **99c:28035** 28B15
— (*with* Riečan, Beloslav) The Kurzweil construction of an integral in ordered spaces. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 565–574. (Przemo Kranz) **99g:28024** 28B15 (26A39)
Vraciu, George Intégrales Hellinger pour les fonctions de l'ensemble. (English and French summaries) [Hellinger integrals for set functions] *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 147–150, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (*see* **99e:53001**) 28A25 (28B05)
— Hellinger integrals for vector functions. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 643–662. (M. M. Rao) **99c:46044** 46G10 (28B10, 28C20)
Vragov, A. V. On the solvability of a linear inverse problem for an elliptic equation. (Russian) *Algebra and mathematical analysis* (*Russian*), 61–65, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 35R30 (35J15)
Vragov, V. N. *see* **Algebra and mathematical analysis, 99m:00019**
Vrahatis, M. N. (*with* Grapsa, T. N.; Ragos, O.; Zafiropoulos, F. A.) On the localization and computation of zeros of Bessel functions. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 6, 467–475. (Summary) **99d:65064** 65D20 (33C10, 34B30)
Vrain, Christel (*with* Martin, Lionel) Systematic predicate invention in inductive logic programming. (English summary) *Inductive logic programming* (*Prague*, 1997), 189–204, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)
Vrancken, Luc (*with* Blair, David E.; Dillen, Franki; Verstraelen, Leopold) Deformations of Legendre curves. *Note Mat.* **15** (1995), *no.* 1, 99–110 (1997). (Christos Baikoussis) **99b:53076** 53C40 (53C25)
— (*with* Chen, Bang-Yen; Dillen, Franki; Verstraelen, Leopold) A variational minimal principle and its applications. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 435–444. (G. Tóth) **99m:58060** 58E20 (53C42)
— (*with* Bolton, John; Woodward, Lyndon M.) Totally real minimal surfaces with non-circular ellipse of curvature in the nearly Kähler S^6. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 625–644. (Peter Bueken) **99c:53060** 53C42
— (*with* De Smet, P. J.; Dillen, Franki; Verstraelen, Leopold) The normal curvature of totally real submanifolds of $S^6(1)$. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 199–204. (Jürgen Berndt) **99d:53055** 53C40
— Killing vector fields and Lagrangian submanifolds of the nearly Kaehler S^6. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 7, 631–645. (Ildefonso Castro) **99i:53064** 53C42
— (*with* Dillen, Franki) Hypersurfaces with parallel difference tensor. *Japan. J. Math. (N.S.)* **24** (1998), *no.* 1, 43–60. (Włodzimierz Jelonek) **99e:53013** 53A15 (53B25)
— (*with* Dillen, Franki) When do some geodesics of the induced and the metrical connection coincide? (English summary) *Math. Nachr.* **192** (1998), 173–189. (Juan de D. Pérez) **99c:53035** 53C22 (53A15)
— (*with* Chen, Bang-Yen; Dillen, Franki; Verstraelen, Leopold) Lagrangian isometric immersions of a real-space-form $M^n(c)$ into a complex-space-form $\widetilde{M}^n(4c)$. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 107–125. (Ildefonso Castro) **99c:53063** 53C42
— (*with* Magid, M.) Affine translation surfaces. *Results Math.* **35** (1999), *no.* 1-2, 134–144. (Juan de D. Pérez) **99m:53023** 53A15
Vratanar, B. (*with* Saje, M.) On the analytical solution of the brachistochrone problem in a non-conservative field. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 3, 489–505. (Summary) **99a:70028** 70H35 (49J05, 70D05)
Vrbik, Jan Novel analysis of tadpole and horseshoe orbits. (English summary) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 3, 283–291. (Summary) **99f:70023** 70F15
V. Rekowski, B. *see* **v. Rekowski, B.**
de Vries, Douwe K. (*with* Van den Hof, Paul M. J.) Frequency domain identification with generalized orthonormal basis functions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 656–669. (Summary) **99a:93026** 93B30 (93C80)
de Vries, Gerda Multiple bifurcations in a polynomial model of bursting oscillations. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 3, 281–316. (Boris G. Zaslavskiĭ) **99g:34087** 34C23 (34C37)
— (*with* Miura, Robert M.) Analysis of a class of models of bursting electrical activity in pancreatic β-cells. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 607–635 (*electronic*). (Joseph So) **99f:92005** 92C30 (34C15, 34E10, 92C05)
de Vries, Remco (*with* De Schutter, Bart; Blondel, Vincent D.; De Moor, Bart) On the Boolean minimal realization problem in the max-plus algebra. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 69–78. (Nikolai K. Krivulin) **99k:93066** 93C83 (93B15, 93B25, 93C55)
Vrieze, O. J. State-action frequencies related to strategies in Markov decision processes. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2* (*Aachen*, 1995), 485–501, *Brepols, Turnhout*, 1998. (*see* **99i:00015**) 90C40
— (*with* Thuijsman, F.) Total reward stochastic games and sensitive average reward strategies. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 175–196. (Summary) **99j:90129** 90D15
— (*with* Flesch, J.; Thuijsman, F.) Simplifying optimal strategies in stochastic games. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1331–1347 (*electronic*). (Vivek S. Borkar) **99f:90204** 90D15 (90D05, 90D20, 93E20)
Vrkoč, Ivo Composition of independent stochastic variables. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 197–207. (Alexander Veretennikov) **99m:60006** 60A10 (60B11, 60H05)
Vrobel, Susie Ice cubes and hot water bottles. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 2, 153–162. 80A10
Vroegindeweij, Piet G. (*with* Kosheleva, Olga M.) When is the product of intervals also an interval? (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 179–190. (E. R. Hansen) **99d:65147** 65G10
Vrscay, E. R. (*with* Forte, B.; Mendivil, Franklin) "Chaos games" for iterated function systems with grey level maps. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 878–890 (*electronic*). (Summary) **99a:28007** 28A80 (58F13, 60J15)
Vrťo, Imrich (*with* Shahrokhi, Farhad; Sýkora, Ondrej; Székely, László A.) Bipartite crossing numbers of meshes and hypercubes. (English summary) *Graph drawing* (*Rome*, 1997), 37–46, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99e:68130** 68R10 (68U05)
— (*with* Stacho, Ladislav) Bisection width of transposition graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 221–235. (Vladimir P. Korzhik) **99e:05041** 05C10 (05C25, 05C40, 05C90)
— (*with* Rolim, José D. P.; Tvrdík, Pavel; Trdlička, Jan) Bisecting de Bruijn and Kautz graphs. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 87–97. (Summary) **99a:05057** 05C20
Vshivkov, V. A. (*with* Snytnikov, V. N.) On the particle method for solving the Vlasov kinetic equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998),

no. 11, 1877–1883; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1801–1807. 65M70 (82–08)

Vshivtsev, A. S. (*with* Peregudov, D. V.) Yang-Mills fields with external current. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 435–450; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1108–1119 (1996). (Gheorghe Zet) **99a:81105** 81T13

— (*with* Ebert, Dietmar; Zhukovskiĭ, V. Ch.) Temperature behaviour of a SU(2) gauge theory with external fields. *Problems of quantum field theory* (*Alushta*, 1996), 47–50, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81V05 (81T13)

— (*with* Baburova, O. V.; Myasnikov, V. P.; Frolov, B. N.) A model of an ideal fluid with spin and a nonabelian color charge. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 183–186; *translation in Phys. Dokl.* **42** (1997), *no.* 11, 611–614. (M. I. Monastyrskiĭ) **99f:81128** 81T13 (76Y05)

— (*with* Kisun'ko, A. G.; Klimenko, K. G.; Peregudov, D. V.) Phase structure of the Gross-Neveu model taking into account the influence of temperature and finite volume. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 2, 29–45; *translation in Russian Phys. J.* **41** (1998), *no.* 2, 113–128. (Summary) **99c:81146** 81T16 (11E45, 11Z05, 81T10)

Vstovsky, G. V. Transform information: a symmetry breaking measure. (English summary) *Found. Phys.* **27** (1997), *no.* 10, 1413–1444. (Apostolos Vourdas) **99e:81037** 81P99 (94A15)

Vtorov-Karevsky, Yan (*with* Kakushadze, Zurab; Shiu, Gary; Tye, S.-H. Henry) A review of three-family grand unified string models. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 15, 2551–2598. (Angel Maria Uranga) **99e:81198** 81T30 (81V22, 83E30)

pham loi Vu *see* **Pham Loi Vu**

Vu, Dzh. *see* **Wu, Jian Hong**

Vu, Quoc Phong *see* **Vũ Quốc Phóng**

Vucetich, H. (*with* Perez Bergliaffa, S. E.; Romero, G. E.) Toward an axiomatic pregeometry of space-time. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2281–2298. (Frank Antonsen) **99k:81022** 81P05

Vũ Đình Hòa Long cycles and neighborhood union in 1-tough graphs with large degree sums. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 5–13. (Zheng Sheng Wu) **99j:05124** 05C38 (05C45)

Vugal'ter, S. A. (*with* Exner, Pavel) Bound-state asymptotic estimates for window-coupled Dirichlet strips and layers. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7863–7878. (Giorgio Cattapan) **99f:58211** 58G25 (35J05, 35P99)

— (*with* Zhislin, G. M.) Spectral properties of Hamiltonians with a magnetic field under fixation of pseudomomentum. I. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 413–431; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1543–1558 (1998). (Mihai Pascu) **99e:81049** 81Q10 (47N50)

— (*with* Zhislin, G. M.) Geometric methods for many-particle Hamiltonians with magnetic fields. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 121–135, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Tohru Ozawa) **99b:35031** 35J10 (35P20, 81V45, 81V70)

dăng Vũ Giang *see* **Đăng Vũ Giang**

hà huy Vui *see* **Hà Huy Vui**

Vuik, C. (*with* Brakkee, Erik; Wesseling, Pieter) Domain decomposition for the incompressible Navier-Stokes equations: solving subdomain problems accurately and inaccurately. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 10, 1217–1237. (Summary) **99a:76107** 76M25 (76D05)

— (*with* van Nooyen, R. R. P.; Wesseling, Pieter) Parallelism in ILU-preconditioned GMRES. (English summary) *Parallel Comput.* **24** (1998), *no.* 14, 1927–1946. 65F10 (65M99, 65Y05)

— (*with* Frank, Jason) Parallel implementation of a multiblock method with approximate subdomain solution. (English summary) *Appl. Numer. Math.* **30** (1999), *no.* 4, 403–423. 65F10 (65Y05)

Vuik, Kees (*with* Vermolen, Fred) A numerical method to compute the dissolution of second phases in ternary alloys. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 2, 123–143. (Summary) **99d:80008** 80A22 (35R35, 65M06, 80–08)

Vuillemin, F. (*with* Bonatti, Ch.; Díaz, Lorenzo J.) Cubic tangencies and hyperbolic diffeomorphisms. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 1, 99–144. (Michael Hurley) **99c:58121** 58F15

Vuillemin, Jules ★ Necessity or contingency. The master argument. CSLI Lecture Notes, 56. *CSLI Publications, Stanford, CA*, 1996. *xiv*+289 *pp. ISBN* 1-881526-86-0 03A05 (01A20, 03–03, 03B45)

Vuillermot, Pierre A. (*with* Chueshov, Igor D.) Long-time behavior of solutions to a class of quasilinear parabolic equations with random coefficients. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 2, 191–232. (Stanisław Wędrychowicz) **99b:35225** 35R60 (35B40, 35K99, 60H15)

— (*with* Bernfeld, Stephen R.; Hu, Yue Yun) Large-time asymptotic equivalence for a class of non-autonomous semilinear parabolic equations. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 5, 337–368. (Sergei A. Vakulenko) **99f:35077** 35K55 (35B40)

— (*with* Chueshov, Igor D.) On the large-time dynamics of a class of parabolic equations subjected to homogeneous white noise: Itô's case. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1299–1304. (Jan Ubøe) **99i:60122** 60H15

— (*with* Chueshov, Igor D.) Long-time behavior of solutions to a class of stochastic parabolic equations with homogeneous white noise: Stratonovitch's case. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 2, 149–202. (Jan Ubøe) **99i:60132** 60H30 (35K99, 35R60, 60H15)

Vuillon, Laurent Combinatoire des motifs d'une suite sturmienne bidimensionnelle. (English and French summaries) [Combinatorics of the patterns of a two-dimensional Sturmian sequence] *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 261–285. (Patrice Séébold) **99j:68112** 68R15 (11B85)

kovačević-Vujčić, V. V. *see* **Kovačević-Vujčić, V. V.**

Vukadinović, Jesenko (*with* Braasch, Peter; Rein, Gerhard) Nonlinear stability of stationary plasmas—an extension of the energy-Casimir method. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 831–844 (*electronic*). (Tadeusz Nadzieja) **99m:35247** 35Q99 (35B35, 76X05, 82D10)

Vukadinović, Katarina (*with* Teodorović, Dušan) ★ Traffic control and transport planning. A fuzzy sets and neural networks approach. International Series in Intelligent Technologies, 13. *Kluwer Academic Publishers, Boston, MA*, 1998. *xviii*+387 *pp. ISBN* 0-7923-8380-X 90B06 (03B52, 03E72, 90C70)

Vũ Kim Tuân On the range of the Hankel and extended Hankel transforms. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 460–478. (Sergei Treil) **99c:44006** 44A15 (47B38)

— (*with* Nguyen Thi Tinh) Expressions of Legendre polynomials through Euler polynomials. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 295–302. (Summary) **99i:33014** 33C45

— Airy integral transform and the Paley-Wiener theorem. (English summary) *Transform methods & special functions, Varna '96*, 523–531, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99k:44014** 44A20 (42B10)

— (*with* Thao, Nguyen Xuan; Kakichev, V. A.) On the generalized convolutions for Fourier cosine and sine transforms. (English summary) *East-West J. Math.* **1** (1998), *no.* 1, 85–90. (N. K. Karapetyants) **99m:42011** 42A38 (44A35, 45E10)

— New type Paley-Wiener theorems for the modified multidimensional Mellin transform. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 317–328. (V. L. Deshpande) **99k:44010** 44A15 (42B10, 44A12)

— Integral transforms of Fourier cosine convolution type. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 519–529. (S. I. Grozdev) **99k:42013** 42A38 (44A35)

— (*with* Saigo, Megumi) Modified fractional integral operators in L_ρ space with power-logarithmic weight. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 145–150. (Summary) **99k:47124** 47G10 (26A33)

Vukobrat, M. (*with* Kuzmanović, D.) The conservation laws in theory of rods. (English and Serbian summaries) *Theoret. Appl. Mech.* **24** (1998), 155–165. 73K05

Vukobratovic, Miomir (*with* Tuneski, Atanasko) Mathematical model of multiple manipulators: cooperative compliant manipulation on dynamical environments. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 8, 1211–1239. (Summary) **99h:70009** 70B15

Vulakh, L. Ya. The Markov spectra for triangle groups. (English summary) *J. Number Theory* **67** (1997), *no.* 1, 11–28. (Summary) **99e:11093** 11J06 (11F06)

— Farey polytopes and continued fractions associated with discrete hyperbolic groups. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2295–2323. (Thomas A. Schmidt) **99i:11054** 11J06 (20H10)

Vulcanov, Dumitru N. Algebraic programming in the Hamiltonian treatment of the Einstein-Maxwell equations. (English summary) *Internat. J. Modern Phys. C* **9** (1998), *no.* 1, 103–111. (Summary) **99b:83002** 83–04 (83C22)

Vuletescu, Victor Relating vector bundles on a nonalgebraic surface with those on its blow-up. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 111–114. (Daniel Mall) **99i:32036** 32L10 (32J15)

— An elementary proof of Bănică-Le Potier's inequality $\Delta \geq 0$. (English summary) *An. Univ. Bucureşti Mat.* **46** (1997), 97–100. (Daniel Mall) **99h:32031** 32J15

— On the Néron-Severi group of some non-Kähler principal elliptic bundles. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 245–251. (G. K. Sankaran) **99h:32033** 32J18

Vulf, G. N. (*with* Rastrigin, L. A.) Investigation of associative control by precedents. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 15–24, 155. 93B51 (93C40)

Vulpe, N. I. (*with* Voldman, A.) Affine invariant conditions for topologically distinguishing quadratic systems without finite critical points. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995**, *no.* 2-3, 100–112, 114, 117. (From the text) **99j:34041** 34C05 (34A34, 58F21)

— (*with* Baltag, V. A.) Total multiplicity of all finite critical points of the polynomial differential system. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 455–471. (Introduction) **99k:34053** 34C05 (12H05, 34A34)

— (*with* Baltag, V. A.) The differential operators and multiplicity of singular points for polynomial differential system. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 81–94, 151, 154. (Henryk Żołądek) **99k:34054** 34C05 (58F21)

— (*with* Kalin, Yu. F.) Affine-invariant conditions for the topological discrimination of quadratic Hamiltonian differential systems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 298–302, 428; *translation in Differential Equations* **34** (1998), *no.* 3, 297–301. (I. D. Iliev) **99k:34059** 34C05 (34A05, 34C20)

— (*with* Voldman, A.) Affine invariant conditions for topologically distinguishing quadratic systems with $m_f = 1$. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 171–179. (A. P. Sadovskiĭ) **99c:58130** 58F21 (34C05)

Vulpiani, Angelo (*with* Bohr, Tomas; Jensen, Mogens H.; Paladin, Giovanni) ★ Dynamical systems approach to turbulence. (English summary) Cambridge Nonlinear Science Series, 8. *Cambridge University Press, Cambridge*, 1998. *xx*+350 *pp. ISBN* 0-521-47514-7 (Philip J. Holmes) **99i:76066** 76F20 (58F40)

— (*with* Boffetta, G.; Giuliani, P.; Paladin, Giovanni) An extension of the Lyapunov analysis for the predictability problem. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 23, 3409–3416. (Summary) **99h:76046** 76F20 (34D08, 34D45, 86A10)

— (*with* Dzugutov, Mikhail; Aurell, Erik) Universal relation between the Kolmogorov-Sinai entropy and the thermodynamical entropy in simple liquids. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1762–1765. (Summary) **99e:58118** 58F11 (58F40)

Vumar, Elkin (*with* Li, Xueliang) Strong connectedness of generalized circulant digraphs. (English summary) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 2, 1–8. (Summary) **99h:05076** 05C40 (05C20)

Vuong, Hung Nhon Measure linearity of bi-Lipschitz maps of self-similar Cantor sets. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 574–589. (M. Zähle) **99d:28014** 28A80

Vuong, Quang H. (*with* Li, Tong^2) Nonparametric estimation of the measurement error model using multiple indicators. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 139–165. (Thomas W. Epps) **99h:62037** 62G05

— (*with* Lavergne, Pascal) An integral estimator of residual variance and a measure of explanatory power of covariates in nonparametric regression. (English summary) *J.*

Nonparametr. Statist. **9** (1998), *no.* 4, 363–380. (Summary) **99e:62065** 62G07

Vuorinen, Matti K. Geometric properties of quasiconformal maps and special functions. I. Quasiconformal maps and spheres. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **24** (1997), 7–22. (M. K. Vamanamurthy) **99m:30044a** 30C65

— Geometric properties of quasiconformal maps and special functions. II. Conformal invariants and special functions. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **24** (1997), 23–35. (M. K. Vamanamurthy) **99m:30044b** 30C65

— Geometric properties of quasiconformal maps and special functions. III. Recent results on special functions. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **24** (1997), 37–58. (M. K. Vamanamurthy) **99m:30044c** 30C65

— (*with* Gutlyanskiĭ, V. Ya.) On maps almost conformal at the boundary. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 445–464. (Summary) **99c:30039** 30C62 (30C65)

— (*with* Anderson, G. D.; Qiu, Songliang) Precise estimates for differences of the Gaussian hypergeometric function. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 212–234. (J. M. H. Peters) **99k:33010** 33C20 (26D07, 26D15, 26D20, 33B10, 33C05)

— (*with* Ponnusamy, S.) Asymptotic expansions and inequalities for hypergeometric functions. (English summary) *Mathematika* **44** (1997), *no.* 2, 278–301. (Eberhard Wagner) **99b:33004** 33C05 (26D07, 41A60)

— (*with* Gutlyanskiĭ, V. Ya.; Martio, Olli; Ryazanov, Vladimir I.) On the asymptotic behavior of quasiconformal mappings in space. (English summary) *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 159–180, *Springer, New York*, 1998. (Summary) **99i:30036** 30C65

— Hypergeometric functions in geometric function theory. (English summary) *Special functions and differential equations* (*Madras*, 1997), 119–126, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33003** 33C05 (30C62, 33E05)

— (*with* Aseev, Vladislav V.; Vamanamurthy, Mavina K.) Quasiadditive properties and bi-Lipschitz conditions. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 98–130. (J. Matkowski) **99f:39041** 39B72 (26D07, 30C62)

— (*with* Ponnusamy, S.) Univalence and convexity properties for confluent hypergeometric functions. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 1, 73–97. (Summary) **99f:33004** 33C15 (30C45, 30C55)

— (*with* Gutlyanskiĭ, V. Ya.; Martio, Olli; Ryazanov, Vladimir I.) On convergence theorems for space quasiregular mappings. (English summary) *Forum Math.* **10** (1998), *no.* 3, 353–375. (M. Yu. Vasil′chik) **99f:30035** 30C65

— (*with* Balasubramanian, Ramachandran; Ponnusamy, S.) Functional inequalities for the quotients of hypergeometric functions. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 256–268. (Summary) **99k:33007** 33C05

— (*with* Martio, Olli; Miklyukov, Vladimir M.) Morrey's lemma on Riemannian manifolds. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 183–210. (M. Yu. Vasil′chik) **99m:46081** 46E35 (30C65)

— (*with* Qiu, Songliang; Vamanamurthy, Mavina K.) Some inequalities for the growth of elliptic integrals. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1224–1237 (*electronic*). (G. D. Anderson) **99k:33063** 33E05 (30C62)

— (*with* Gutlyanskiĭ, V. Ya.; Martio, Olli; Ryazanov, Vladimir I.) On local injectivity and asymptotic linearity of quasiregular mappings. (English summary) *Studia Math.* **128** (1998), *no.* 3, 243–271. (Susan G. Staples) **99c:30044** 30C65

— (*with* Miklyukov, Vladimir M.) A boundary uniqueness theorem for Sobolev functions. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 503–511. (Qi Ren Gao) **99j:31011** 31B25

— (*with* Miklyukov, Vladimir M.) Hardy's inequality for $W_0^{1,p}$-functions on Riemannian manifolds. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2745–2754. (Gilles Carron) **99m:58196** 58G25 (26D10, 46E35)

Vũ Quốc Phóng (*with* Schüler, Elena) The operator equation $AX - XB = C$, admissibility, and asymptotic behavior of differential equations. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 394–419. (Gabriella Di Blasio) **99h:34081** 34G10 (34D05, 47A62, 47D06)

Vušković, Kristina (*with* Conforti, Michele; Cornuéjols, Gérard) Balanced cycles and holes in bipartite graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 27–33. (Summary) **99j:05119** 05C38

— (*with* Conforti, Michele; Cornuéjols, Gérard; Kapoor, Ajai) Even and odd holes in cap-free graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 4, 289–308. (Olivia M. Carducci) **99m:05155** 05C99 (05C75)

Vust, Thierry (*with* Ronga, Félice; Tognoli, Alberto) The number of conics tangent to five given conics: the real case. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 391–421. (Ragni Piene) **99d:14059** 14N10 (14P25)

trần Vũ Thiệu *see* **Trần Vũ Thiệu**

van Vuuren, Jan H. (*with* Norbury, John) Permanence and asymptotic stability in diagonally convex reaction-diffusion systems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 147–172. (Elias Tuma) **99b:35199** 35Q80 (35K57, 92D40)

Vuza, Dan Tudor (*with* Amato, Umberto) Besov regularization, thresholding and wavelets for smoothing data. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 461–493. (Don Hong) **99b:65180** 65R30 (41A60)

— (*with* Amato, Umberto) Wavelet simultaneous approximation from samples affected by noise. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 101–111. (Summary) **99f:41021** 41A28 (65D15, 94A11)

— (*with* Amato, Umberto; Occorsio, Mario Rosario) Fully adaptive wavelet regularization for smoothing data. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 207–222. (*see* **99d:00027**) 42C40 (62G05)

— (*with* Păltineanu, Gavril) A generalisation of the Bishop approximation theorem for locally convex lattices of (AM)-type. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 687–694. (Ion Badea) **99h:41040** 41A65 (46E99)

Vvedenskaya, Nikita D. (*with* Sukhov, Yu. M.) Dobrushin's mean-field approximation for a queue with dynamic routing. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 493–526. (Sylvie Méléard) **99e:60207** 60K25 (68M20)

— (*with* Rose, David M.; Sukhov, Yu. M.) An optimal probabilistic routing policy for a large packet-switched network. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1027–1050. (Andrew D. Barbour) **99j:60150** 60K30 (60K20, 90B12)

— A large queueing system with message transmission along several routes. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 98–108; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 180–189. (Summary) **99g:60177** 60K25 (90B12)

V′yalitsin, A. A. Investigation of systems of linear Diophantine inequalities by the methods of group theory. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 11, 15–21; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 11, 13–19 (1998). (Ákos Pintér) **99c:11038** 11D75 (20F99)

Vyas, Vishwa Mohan (*with* Rathie, Arjun K.) A study of I-function. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), *no.* 3, 185–191. (Summary) **99k:33044** 33C60

Vyazovskiĭ, M. I. (*with* Vasil′ev, A. N.) A proof of the openness of the Gross-Neveu model in dimensional regularization $d = 2 + 2\varepsilon$. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 1, 85–99; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 1, 1277–1288 (1998). (A. L. Rebenko) **99c:81142** 81T15

Vybíral, Bohumil Zdeněk Horák (1898–1987). (Czech) *Pokroky Mat. Fyz. Astronom.* **43** (1998), *no.* 2, 151–156. 01A70

Vyborny, Rudolf Moments of an increasing function. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 3, 142. 44A60

Vygovskiĭ, S. S. A program for the analysis of generalized abstract automata. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 70–84, 222. 68Q68 (68Q45)

Vynckier, P. (*with* Beirlant, J.; Teugels, Jozef L.) Some thoughts on extreme values. (English summary) *Probability towards* 2000 (*New York*, 1995), 58–73, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Summary) **99d:60055** 60G70 (62G30)

Vyridis, D. G. (*with* Panteliou, S. D.; Katz, I. Norman) An inverse convergence approach for arguments of Jacobian elliptic functions. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 21–26. 65D20 (33E05)

Vyshenskiĭ, V. A. (*with* Sushchanskiĭ, V. I.; Lazebnik, F. G.; Ustimenko, V. A.; Klin, Mikhail; Pöschel, R.) Lev Arkad′evich Kalužnin (1914–1990). Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 5–18. (Editors) **99m:01091** 01A70

V′yugin, V. V. Ergodic convergence in probability, and an ergodic theorem for individual random sequences. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 35–50; *translation in Theory Probab. Appl.* **42** (1997), *no.* 1, 39–50 (1998). (Summary) **99e:60073** 60F05 (28D05, 68Q30, 94A15)

— On the length of the maximal series of "successes" in an individual random sequence. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 608–615; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 541–546 (1998). (Summary) **99b:60005** 60A05 (60J10, 68Q30)

— Ergodic theorems for individual random sequences. (English summary) *Theoret. Comput. Sci.* **207** (1998), *no.* 2, 343–361. (Summary) **99k:68086** 68Q30 (28D05, 94A15)

–W–

Waack, Stephan (*with* Behrens, Jan) Equivalence test and ordering transformation for parity-OBDDs of different variable ordering. (English summary) *STACS* 98 (*Paris*, 1998), 227–237, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q05 (94C10)

Waadeland, Haakon A convergence result for regular Blaschke fractions. *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1265–1277. (A. Bultheel) **99d:30034** 30D50

— Frequency analysis and continued fractions. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2360–2362. (Summary) **99e:94014** 94A12 (40A15)

— (*with* Magnus, Peggy) Regular continued fractions, Padé tables and *P*-fractions. A fruitful analogy. (Norwegian. English summary) *Normat* **46** (1998), *no.* 3, 97–109, 144. 41A21

Waagepetersen, Rasmus Plenge (*with* Møller, Jesper M.) Markov connected component fields. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 1–35. (Ilya S. Molchanov) **99e:60120** 60G60 (60D05, 68U10)

Waalkens, Holger (*with* Wiersig, Jan; Dullin, Holger R.) Elliptic quantum billiard. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 50–90. (Christian Grosche) **99b:81063** 81Q50 (33C90, 81Q20)

Waarts, Orli (*with* Dwork, Cynthia; Herlihy, Maurice) Contention in shared memory algorithms. (English summary) *J. ACM* **44** (1997), *no.* 6, 779–805. (Julian Padget) **99b:68069** 68Q10 (68Q25)

— (*with* Dwork, Cynthia; Halpern, Joseph Y.) Performing work efficiently in the presence of faults. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1457–1491 (*electronic*). (A. A. Chernyak) **99c:68027** 68M20 (68M15, 68Q22, 90B25)

Waas, Kerstin On graphs with a metric end space. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1043–1062. (Thomas Andreae) **99e:05042** 05C10 (05C05)

Wachman, M. A model of thought processes. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 2, 65–117. (E. Pessa) **99i:92038** 92J10 (92J40)

Wachnicki, Eugeniusz Sur un développement de la valeur moyenne. (French summary) [On a mean value expansion] *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14 (1997), 35–47. (Mihai Turinici) **99b:26007** 26A24 (39B22)

chrząstowski-Wachtel, Piotr *see* **Chrząstowski-Wachtel, Piotr**

Wachter, Friedrich Ludwig *see* **Biermann, Kurt-R., 99h:01034**

Wack, Bodo (*with* Gekeler, Ernst-Ulrich; Leitl, Rita) Zeta functions of a class of elliptic curves over a rational function field of characteristic two. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 823–833. (John W. Jones) **99i:11049** 11G40 (11G05, 14G10)

Waczulík, Juraj (*with* Hromkovič, Juraj; Klasing, Ralf; Pardubská, Dana; Wagener, Hubert) Effective systolic algorithms for gossiping in cycles. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 197–205. (A. T. Amin) **99i:68011** 68M10 (68Q22)

Wada, Junzo Compact homomorphisms on algebras of continuous functions. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 112–117. (*see* **99i:00018**) 46J10 (46E25)

— (*with* Takayama, Takuma) Isometric shift operators on the disc algebra. *Tokyo J. Math.* **21** (1998), *no.* 1, 115–120. (S. J. Sidney) **99j:47047** 47B38 (46J15)

Wada, Koichi (*with* Chen, Wei[3]; Luo, Yu Pin; Kawaguchi, Kimio) Optimal fault-tolerant ATM-routings for biconnected graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 354–367, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68026** 68M10 (68R10, 90C35)

— (*with* Chen, Wei[3]; Kawaguchi, Kimio; Chen, Danny Z.) Finding the convex hull of discs in parallel. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 305–319. (Summary) **99b:68196** 68U05 (52B55, 68Q22)

— (*with* Takaki, Akinari; Kawaguchi, Kimio) Efficient algorithms for a mixed k-partition problem of graphs without specifying bases. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 233–248. (Summary) **99c:68202** 68R10 (68Q25)

Wada, Masaaki Generalization of the Schwarz differential through Clifford numbers. (Japanese) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 123–130. (*see* **99e:30001**) 30G35

— A generalization of the Schwarzian via Clifford numbers. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 453–460. (Wolfgang Sprössig) **99k:30079** 30G35

Wada, Ryoko The integral representations of harmonic polynomials in the case of su(p, 1). *Tokyo J. Math.* **21** (1998), *no.* 1, 233–245. (Liliana Pavel) **99e:22019** 22E30 (22E60, 43A80)

Wada, Shinya (*with* Aoyama, Hideaki; Kikuchi, Hisashi; Okouchi, Ikuo; Sato, Masatoshi) Valleys in quantum mechanics. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 93–100. (Summary) **99b:81067** 81Q99 (81–08)

Wada, Shuhei (*with* Nagisa, Masaru) An extension of the mean ergodic theorem. (English summary) *Math. Japon.* **47** (1998), *no.* 3, 429–438. (Radu Zaharopol) **99e:47016** 47A35 (47B15, 47D03)

Wada, Teruyo (*with* Ikeda, Masao; Ohta, Yuzo; Šiljak, Dragoslav D.) Parametric absolute stability of Lur'e systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1649–1653. (Summary) **99h:93091** 93D20 (34D99, 34H05)

Wadati, Miki Integrability, fractional statistics and symmetries of long-range interacting quantum systems. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 60–86, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:82014** 82B20 (81U40, 81V70)

— (*with* Tsuchida, Takayuki) Bi-Hamiltonian structure of modified Volterra model. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 869–873. (Summary) **99i:39031** 39A12 (58F05)

— (*with* Akuzawa, Toshinao) Diffusions on symmetric spaces of type A III and random matrix theories for rectangular matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1713–1732. (Alexei Khorunzhy) **99h:60127** 60H25 (60J70, 82C31)

— (*with* Shiroishi, Masahiro; Ujino, Hideaki) SO(4) symmetry of the transfer matrix for the one-dimensional Hubbard model. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2341–2358. (Shao-Ming Fei) **99d:82019** 82B20 (81U40, 82B23)

— (*with* Sasamoto, Tomohiro) Exact results for one-dimensional totally asymmetric diffusion models. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6057–6071. (Summary) **99e:83006** 83C05 (82C20)

— (*with* Akuzawa, Toshinao) Diffusion on GL(N, **C**)/U(N) and eigenvalue density for $N \to \infty$ limit. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 2, 421–425. (Summary) **99a:82082** 82C41

— (*with* Sasamoto, Tomohiro) Determinant form solution for the derivative nonlinear Schrödinger type model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 3, 784–790. (M. Lawrence Glasser) **99c:82047** 82C21 (35Q40, 35Q55)

— (*with* Umeno, Yukiko; Shiroishi, Masahiro) Fermionic R-operator for the fermion chain model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1930–1935. (Summary) **99c:82028** 82B23 (81U40)

— (*with* Akuzawa, Toshinao) Effective QCD partition function in sectors with non-zero topological charge and Itzykson-Zuber type integral. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 7, 2151–2154. (Summary) **99i:81264** 81V05 (58C35)

— (*with* Kajinaga, Yasumasa) A new derivation of the Bäcklund transformation for the Volterra lattice. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 7, 2237–2241. (Summary) **99f:58180** 58F39

— (*with* Umeno, Yukiko; Shiroishi, Masahiro) Fermionic R-operator and integrability of the one-dimensional Hubbard model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 7, 2242–2254. (Andrey V. Tsiganov) **99h:82019** 82B20 (82B23)

— (*with* Ujino, Hideaki; Nishino, Akinori) Fock spaces for the Calogero models with distinguishable particles. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 8, 2658–2665. (Summary) **99g:81249** 81V70

— (*with* Ujino, Hideaki; Nishino, Akinori) New nonsymmetric orthogonal basis for the Calogero model with distinguishable particles. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 459–464. (Kazuhiro Hikami) **99k:81351** 81V70 (33D80, 58F07)

Wade, Aïssa Modèles locaux de structures de Poisson singulières en dimension 3. (English and French summaries) [Local models of singular Poisson structures in dimension 3] *Bull. Soc. Math. France* **125** (1997), *no.* 4, 573–618. (Raúl Ibáñez) **99h:58171** 58F36 (58F05)

— (*with* Dufour, J.-P.) Formes normales de structures de Poisson ayant un 1-jet nul en un point. (English and French summaries) [Normal forms of Poisson structures with zero 1-jet at a point] *J. Geom. Phys.* **26** (1998), *no.* 1-2, 79–96. (Raúl Ibáñez) **99d:58152** 58F36 (17B99, 58F05)

Wade, J. G. (*with* Vassilevski, Panayot S.) A comparison of multilevel methods for total variation regularization. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 255–270 (*electronic*). (Summary) **99a:65079** 65K05 (65J20, 65N99)

Wade, William R. Harmonic analysis on Vilenkin groups. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 339–369, *New Age, New Delhi*, 1997. (E. A. Gorin) **99h:43017** 43A75 (42A63)

Wadee, M. Ahmer (*with* Hunt, Giles W.) Localization and mode interaction in sandwich structures. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1197–1216. (Summary) **99c:73033** 73H05 (73K20)

Wadhwa, Kamal (*with* Ganguly, Ashok) A variational like inequality problem in non-compact sets. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 213–220. (E. Tarafdar) **99m:49015** 49J40 (47H19, 52A07, 54C60)

— (*with* Ganguly, Ashok) An iterative scheme for a class of random quasivariational inequalities. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **67** (1997), *no.* 4, 389–394. (Mihail Yu. Kokurin) **99f:65086** 65J15 (49J40, 65K05, 65U05)

Wadhwa, R. S. *see* **Fomenko, A. T., 99k:58068**

Wadia, Spenta R. (*with* Hassan, S. F.) Gauge theory description of D-brane black holes: emergence of the effective SCFT and Hawking radiation. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 311–333. (Marco Spaans) **99g:83078** 83E30 (81T30, 83C57)

— (*with* Hassan, S. F.) Microscopic description of D-brane black holes. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 93–105. (Summary) **99c:83054** 83C57 (83E30)

Wadsworth, A. R. (*with* Merkur'ev, A. S.; Panin, I. A.) Index reduction formulas for twisted flag varieties. II. (English summary) *K-Theory* **14** (1998), *no.* 2, 101–196. (Jean-Pierre Tignol) **99k:16037** 16K20 (14L30, 19E08, 20G05)

de Waegenaere, Anja *see* **De Waegenaere, Anja**

Waelbroeck, Henri Binary chaos. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 473–497, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Alexander Loskutov) **99m:58135** 58F13 (58F03, 58F12)

— (*with* Criscuolo, A.; Quevedo, Hernando) Quantization of 2 + 1 gravity on the torus. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 20–28, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83033** 83C45 (81S30, 81V17)

— (*with* Zertuche, Federico) Discrete chaos. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 175–189. (Summary) **99i:58110** 58F13 (58F03)

van der Waerden, Bartel Leendert *see* **Frei, Günther**

Wafi, A. Degree of approximation of functions by modified Bernstein operators. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 371–382, *New Age, New Delhi*, 1997. (*see* **99d:00019**) 41A25 (41A35)

Wagelmans, Albert P. M. (*with* Sot·skov, Yu. N.; Werner, Frank) On the calculation of the stability radius of an optimal or an approximate schedule. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 213–252. (Peter Brucker) **99j:90048** 90C09 (90B35, 90C31)

— (*with* Chakravarti, Nilotpal) Calculation of stability radii for combinatorial optimization problems. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 1–7. (Yuri Nazarovich Sotskov) **99j:90090** 90C31 (90C27)

— (*with* Van Hoesel, Stan) On the complexity of postoptimality analysis of 0/1 programs. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 251–263. (Summary) **99k:90108** 90C10 (68Q25, 90C60)

Wagener, Hubert (*with* Hromkovič, Juraj; Klasing, Ralf; Pardubská, Dana; Waczulík, Juraj) Effective systolic algorithms for gossiping in cycles. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 197–205. (A. T. Amin) **99i:68011** 68M10 (68Q22)

Wagenknecht, Michael A note on non-dominated elements of fuzzy relations. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 439–447. (W. J. Kotzé) **99f:04006** 04A72

— (*with* Batyrshin, Ildar) Fixed point properties of fuzzy negations. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 975–981. (Summary) **99g:03026** 03B52

Wagensberg, J. (*with* Pastor-Satorras, R.) The maximum entropy principle and the nature of fractals. (English summary) *Phys. A* **251** (1998), *no.* 3-4, 291–302. (Summary) **99a:82004** 82B03 (28A80)

Wagentknecht, Michael *see* **Wagenknecht, Michael**

Waghmode, B. B. (*with* Pandhare, D. M.) Fixed point theorem for single and pair of mapping in Hilbert spaces. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 39–44. (B. E. Rhoades) **99h:47072** 47H10 (54H25)

— (*with* Pandhare, D. M.) Fixed point theorems for mappings with rational expression. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 305–313. (From the text) **99f:47081** 47H10

— (*with* Pandhare, D. M.) A common fixed point theorem in Hilbert space. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 107–110. 47H10

— (*with* Pandhare, D. M.) Generalized contraction and fixed point theorems in Hilbert spaces. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 145–150. 47H10

— (*with* Pandhare, D. M.) On sequence of mappings in Hilbert space. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 61–63. 47H10

Wagner, Annika (*with* Ehrig, Hartmut; Heckel, Reiko; Korff, Martin; Löwe, Michael; Korff, Leila Ribeiro; Corradini, Andrea) Algebraic approaches to graph transformation. II. Single pushout approach and comparison with double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 247–312, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

Wagner, Bruce H. (*with* Ventura, Belisario A.) Locally constant nonproduct-type cocycles. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 1–25. (Claire Anantharaman-Delaroche) **99h:46115** 46L05 (46L55)

Wagner, Carl G. Old evidence and new explanation. (English summary) *Philos. Sci.* **64** (1997), *no.* 4, 677–691. (Henry E. Kyburg, Jr.) **99k:03016** 03B48 (60A05, 62A15)

Wagner, Christian[2] Tangential frequency filtering decompositions for symmetric matrices. (English summary) *Numer. Math.* **78** (1997), *no.* 1, 119–142. (Xinguo Liu) **99c:65063** 65F10

— Tangential frequency filtering decompositions for unsymmetric matrices. (English summary) *Numer. Math.* **78** (1997), *no.* 1, 143–163. (Xinguo Liu) **99c:65064** 65F10

— (*with* Wittum, Gabriel) Adaptive filtering. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 305–328. (Summary) **99k:65036** 65F30 (65N55)

Wagner, Clifford H. Coming to America: the journey of an immigrant scholar [Vedula N. Murty]. *College Math. J.* **30** (1999), *no.* 1, 2–17. 01A70

Wagner, D. (*with* Tajine, M.; Ronse, Christian) An approach to discretization based on the Hausdorff metric. (English summary) *Mathematical morphology and its applications to image and signal processing (Amsterdam, 1998)*, 67–74, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:68180** 68U10

Wagner, David A. (*with* Hall, Christopher J.; Kelsey, John; Schneier, Bruce) Building PRFs from PRPs. *Advances in cryptology—CRYPTO '98 (Santa Barbara, CA, 1998)*, 370–389, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94047** 94A60

Wagner, David G. The algebra of flows in graphs. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 4, 644–684. (Václav Koubek) **99h:05049** 05C20 (16W30, 18A22)

Wagner, Dietmar A finite capacity multi-server multi-queueing priority model with non-renewal input. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 63–82. (Joseph Kreimer) **99e:90044** 90B22 (60K25)

Wagner, Fabian (*with* Redhead, Michael L. G.) Unified treatment of EPR and Bell arguments in algebraic quantum field theory. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 2, 111–125. (Christian D. Jäkel) **99i:81014** 81P05 (81T05)

Wagner, Frank O. ★ Stable groups. (English summary) London Mathematical Society Lecture Note Series, 240. *Cambridge University Press, Cambridge*, 1997. x+309 *pp. ISBN* 0-521-59839-7 (Anand Pillay) **99g:20010** 20A15 (03C45, 03C60)

— On the structure of stable groups. (English summary) Logic Colloquium '94 (Clermont-Ferrand). *Ann. Pure Appl. Logic* **89** (1997), *no.* 1, 85–92. (O. V. Belegradek) **99c:03054** 03C45 (03C60, 20A15)

— (*with* Derakhshan, Jamshid) Nilpotency in groups with chain conditions. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 453–466. (H. Heineken) **99b:20047** 20E15 (20F19, 20F45)

— Almost invariant families. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 3, 235–240. (Cheryl E. Praeger) **99c:20034** 20E36 (03G10, 05E20)

Wagner, H.-J. *see* **Wagner, Heinz-Jürgen**

Wagner, Harvey M. Global sensitivity analysis. (English summary) *Oper. Res.* **43** (1995), *no.* 6, 948–969. (Hubertus Th. Jongen) **99c:90129** 90C31

Wagner, Heinz-Jürgen On generalized Weber and Clebsch transformations. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 3, 645–655. (Summary) **99h:76078** 76M99 (76W05)

Wagner, Israel A. (*with* Lindenbaum, Michael; Bruckstein, Alfred M.) Efficiently searching a graph by a smell-oriented vertex process. (English summary) Artificial intelligence and mathematics, VIII (Fort Lauderdale, FL, 1998). *Ann. Math. Artificial Intelligence* **24** (1998), *no.* 1-4, 211–223 (1999). (*see* **99m:68006**) 68T20 (68R10)

Wagner, Joyce An algorithm for calculating the Nielsen number on surfaces with boundary. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 41–62. (Christopher K. McCord) **99c:55003** 55M20

Wagner, Klaus Werner (*with* Reith, Steffen) On Boolean lowness and Boolean highness. (English summary) *Computing and combinatorics (Taipei, 1998)*, 147–156, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q15 (03D15)

— A note on parallel queries and the symmetric-difference hierarchy. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 1, 13–20. (Summary) **99e:68055** 68Q15 (03D05, 03D15)

— (*with* Baier, Herbert) The analytic polynomial-time hierarchy. (English summary) *MLQ Math. Log. Q.* **44** (1998), *no.* 4, 529–544. (Heinrich Rolletschek) **99k:68066** 68Q15 (03D15, 03D20)

— (*with* Baier, Herbert) Bounding queries in the analytic polynomial-time hierarchy. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 89–104. (Heinrich Rolletschek) **99k:68067** 68Q15 (03D15, 03D20)

— (*with* Cronauer, K.; Hertrampf, Ulrich; Vollmer, Heribert) The chain method to separate counting classes. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 93–108. (Gerhard Lischke) **99b:68083** 68Q15 (03D15)

Wagner, Marcus (*with* Felgenhauer, U.) Essential properties of L^∞-functions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 229–242. (Carlo Bardaro) **99c:26009** 26B15 (28A20, 46E30, 49N60)

Wagner, Michael G. (*with* Ravani, Bahram) Curves with rational Frenet-Serret motion. (English summary) *Comput. Aided Geom. Design* **15** (1997), *no.* 1, 79–101. (Summary) **99b:65021** 65D17 (41A63)

Wagner, Peter[2] A volume formula for asymptotic hyperbolic tetrahedra with an application to quantum field theory. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 4, 527–547. (Ruth Kellerhals) **99e:52010** 52A38 (52A55, 81T18)

— (*with* Helmberg, Gilbert) Manipulating Gibbs' phenomenon for Fourier interpolation. (English summary) *J. Approx. Theory* **89** (1997), *no.* 3, 308–320. (Weiyi Su) **99d:42003** 42A15

— Evaluation of nonrelativistic one-loop Feynman integrals by distributional methods. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2428–2436. (Michael Kunzinger) **99h:81145** 81T18 (46F10)

Wagner, Siegfried (*with* Röttgermann, A.) A transonic panel method for helicopter flows. *Boundary element topics (Stuttgart, 1995)*, 363–393, *Springer, Berlin*, 1997. (*see* **99e:00017**) 76M15 (65N38, 76H05)

Wagner, Thorsten (*with* Dette, Holger; Munk, Axel) Estimating the variance in nonparametric regression—what is a reasonable choice? (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 751–764. (Summary) **99f:62052** 62G05

Wagner, W. *see* **Wagner, Wolfgang[1]**

Wagner, Werner (*with* Gruttmann, F.; Sauer, R.) A geometrical nonlinear eccentric 3D-beam element with arbitrary cross-sections. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 383–400. 73V05 (73K05)

Wagner, Wolfgang[1] (*with* Kolodko, Anastasya A.) Convergence of a Nanbu type method for the Smoluchowski equation. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 4, 255–273. (Sergei A. Nemnyugin) **99a:82088** 82C80 (65C05)

— (*with* Rjasanow, Sergej) A generalized collision mechanism for stochastic particle schemes approximating Boltzmann-type equations. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 165–178. (Hans Babovsky) **99e:82084** 82C40 (76M35, 76P05)

— (*with* Rjasanow, Sergej; Schreiber, Thomas[1]) Reduction of the number of particles in the stochastic weighted particle method for the Boltzmann equation. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 382–405. (Reinhard Illner) **99i:82034** 82C40 (45K05, 65C05, 76P05)

— (*with* Rjasanow, Sergej) On time counting procedures in the DSMC method for rarefied gases. (English summary) *Math. Comput. Simulation* **48** (1998), *no.* 2, 151–176. 65C05 (65M70, 76M35, 76P05)

— (*with* Caprino, S.; Pulvirenti, M.) Stationary particle systems approximating stationary solutions to the Boltzmann equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 913–934 (*electronic*). (Sylvie Méléard) **99b:60166** 60K35 (76P05, 82C40)

Wagner-Bojakowska, Elżbieta (*with* Wilczyński, Władysław) Separation axioms for some modifications of the core topology. *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 361–370. (Zbigniew Grande) **99m:54009** 54D10 (28A99, 54A10)

Wagner-Döbler, Roland Kognitive Mobilität. Eine makroskopische Untersuchung der Wanderung von Wissenschaftlern zwischen Forschungsgebieten am Beispiel der Mathematik. (English summary) [Cognitive mobility. A macroscopic investigation of the migration of scientists between research fields using the example of mathematics] *J. Gen. Philos. Sci.* **29** (1998), *no.* 2, 265–287. (Summary) **99k:01091** 01A80

Wagneur, Edouard The geometry of finite-dimensional pseudomodules. (English summary) *Idempotency (Bristol, 1994)*, 392–405, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99a:16046** 16Y60

Wago, Hajime Recent developments in Bayesian econometric analysis. (Japanese. Japanese summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 3, *Japanese Issue*, 253–305. 62P20

Wagon, Stan (*with* Gethner, Ellen; Wick, Brian) A stroll through the Gaussian primes. *Amer. Math. Monthly* **105** (1998), *no.* 4, 327–337. (Jeffrey O. Shallit) **99b:11006** 11A41 (11R11, 11R44)

Wagoner, Robert V. (*with* Santiago, David I.; Kalligas, Dimitri) Scalar-tensor cosmologies and their late time evolution. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124005, 9 *pp.* 83D05

Wagschal, Claude (*with* Pongérard, Patrice) Ramification non abélienne. (English and French summaries) [Nonabelian ramification] *J. Math. Pures Appl.* (9) **77** (1998), *no.* 1, 51–88. (Masatake Miyake) **99d:35010** 35A20 (35A10)

— ★ Calcul différentiel. (French. French summary) [Differential calculus] Exercices et problèmes corrigés. [Exercises and problems with answers] Collection Livrets d'Exercices. [Collection of Exercise Booklets] *Hermann, Paris*, 1999. *vi*+83 *pp. ISBN* 2-7056-6378-9 00A07 (26–01)

— ★ Intégration. (French. French summary) [Integration] Exercices et problèmes corrigés. [Exercises and problems with answers] Collection Livrets d'Exercices. [Collection of Exercise Booklets] *Hermann, Paris*, 1999. *vi*+130 *pp. ISBN* 2-7056-6377-0 28–01 (00A07)

Wah, Benjamin W. (*with* Shang, Yi) A discrete Lagrangian-based global-search method for solving satisfiability problems. (English summary) *J. Global Optim.* **12** (1998), *no.* 1, 61–99. (Uwe Zimmermann) **99j:90087** 90C30 (68Q25, 90C27)

Wahba, Grace *see* **Gu, Chong, 99e:62045**

Wahl, Christoph (*with* Tüshaus, Ulrich) Holding costs minimization with service level constraints in an arborescent distribution network. (English summary) *Operations Research Proceedings 1996 (Braunschweig)*, 271–276, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B10 (90C35)

Wahl, Jonathan On cohomology of the square of an ideal sheaf. (English summary) *J. Algebraic Geom.* **6** (1997), *no.* 3, 481–511. (Ciro Ciliberto) **99b:14046** 14J70 (14F17)

— Nodes on sextic hypersurfaces in $\mathbf{P}^3$. *J. Differential Geom.* **48** (1998), *no.* 3, 439–444. (Raquel Mallavibarrena) **99g:14055** 14J70 (14J17, 94B60)

von Wahl, Wolf (*with* Grunau, Hans-Christoph) Regularity considerations for semilinear parabolic systems. Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 221–233 (1997). (Elias Tuma) **99c:35100** 35K55 (35B65, 35K60)

— (*with* Kaiser, Ralf) Stability of plane parallel shear flow in a rotating layer heated from below. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 3, 227–262. (Alexander Lifschitz) **99e:76045** 76E05 (35Q35, 76D05, 76E15, 76E20, 76R05, 76U05)

— (*with* Schmitt, Burkhard J.) Mean values and non-periodic pressure in convection problems between plates or with stress-free boundaries. (English summary) *Pacific J. Math.* **185** (1998), *no.* 2, 347–362. (Benoît P. Desjardins) **99m:76055** 76D99 (35Q35, 76E15, 76R05)

— (*with* Scarpellini, Bruno) Stability properties of the Boussinesq equations. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 294–321. (Guido Schneider) **99d:76037** 76E15 (35B35, 35Q35, 76D05)

Wahlberg, Bo (*with* Bodin, Per) A frequency response estimation method based on smoothing and thresholding. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 407–416. (Summary) **99d:93065** 93E10 (93E14)

Wahlbin, Lars B. General principles of superconvergence in Galerkin finite element methods. (English summary) *Finite element methods (Jyväskylä*, 1997), 269–285, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Larisa V. Maslovskaya) **99b:65151** 65N30

— (*with* Schatz, A. H.; Thomée, V.) Stability, analyticity, and almost best approximation in maximum norm for parabolic finite element equations. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1349–1385. (Erwin Schechter) **99h:65171** 65M60

Wahlgren, Kristian (*with* Wan, Zhe-Xian) Studies on the squaring construction. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 279–295. (Simon N. Litsyn) **99e:11089** 11H31 (94B05)

Wähling, Heinz Ordered nearfields. *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 139–149, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Günter Pilz) **99c:06021** 06F25 (12K05, 16Y30)

— Über die Normalteiler scharf zweifach und scharf dreifach transitiver Permutationsgruppen. (English summary) [On the normal subgroups of sharply 2-transitive and sharply 3-transitive permutation groups] *J. Geom.* **61** (1998), *no.* 1-2, 182–196. (Summary) **99m:20002** 20B20

Wai, Hon-Kit Witten-Helffer-Sjöstrand theory for S^1-equivariant cohomology. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2141–2182. (Friedbert Prüfer) **99i:58138** 58G05 (55N25, 57R91, 58G18)

Waibel, R. (*with* Neumaier, M.; Lauster, M.; Lippig, V.; Straub, Dieter) The Duhem-Hadamard hypothesis in thermofluiddynamics. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 993–1012. (Summary) **99b:76004** 76A02 (76–05, 80A20)

Wain, Richard J. Spurious fixed points of a variable step size, variable order, predictor corrector algorithm. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 2, 155–169. (M. K. Kadalbajoo) **99d:65208** 65L05

Wainer, Howard (*with* Bradlow, Eric T.) Some statistical and logical considerations when rescoring tests. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 713–728. 62P15

Wainer, Stanley S. Basic proof theory with applications to computation. *Logic of computation* (*Marktoberdorf*, 1995), 349–394, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 157, *Springer, Berlin*, 1997. (Andreas Weiermann) **99c:03078** 03F03

— *see also* **Colloquium: Logic '95, 99b:03005**

Wainger, Stephen (*with* Seeger, Andreas; Wright, James Robert) Spherical maximal operators on radial functions. (English summary) *Math. Nachr.* **187** (1997), 241–265. (Rodolfo Torres) **99a:42013** 42B25 (46E30)

— Discrete analogues of singular and maximal Radon transforms. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 743–753 (*electronic*). (Fritz Keinert) **99g:44005** 44A12 (11L99, 39A12, 42B20)

— (*with* Seeger, Andreas; Wright, James Robert; Ziesler, Sarah) Classes of singular integrals along curves and surfaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3757–3769. (Stephen Buckley) **99m:42029** 42B20

Wainwright, J. (*with* Coley, Alan A.; Ellis, George F. R.; Hancock, Matthew J.) On the isotropy of the Universe: do Bianchi VII_h cosmologies isotropize? (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 331–350. (Nora Bretón Báez) **99c:83017** 83C15 (83C20)

Waite, N. B. A real-time system-adapted anomaly detector. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 221–259. (Summary) **99j:68006** 68M15

Wajch, Eliza (*with* Dwornik-Orzechowska, Teresa) Comparison of compactifications via function spaces. (English summary) *Topology Proc.* **22** (1997), 165–180. (Summary) **99i:54023** 54D35 (54C35)

— (*with* Künzi, Hans-Peter A.) On σ-discrete Borel mappings via quasi-metrics. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 439–455. (Oleg G. Okunev) **99i:54036** 54E35 (28A05, 54H05)

— (*with* Künzi, Hans-Peter A.) An internal characterization of sets of functions determining minimal compactifications. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 279–295. (K. D. Magill, Jr.) **99a:54017** 54D35 (54D30, 54D40)

Wajnryb, Bronisław Orbits of Hurwitz action for coverings of a sphere with two special fibers. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 4, 549–558. (Zhi Jie Chen) **99c:14040** 14H30

Wakabayashi, Yoshiko (*with* Lee, Orlando) Circuit covers in series-parallel mixed graphs. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 226–238, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:05097** 05C70 (05C85, 68R10)

— The complexity of computing medians of relations. (English summary) *Resenhas* **3** (1998), *no.* 3, 323–349. (Summary) **99e:68073** 68Q25 (90A08)

Wakai, Kentaro (*with* Okamoto, Keishi) Partially locally atomic models. *Tsukuba J. Math.* **22** (1998), *no.* 1, 235–240. (Alexandre Ivanov) **99f:03042** 03C45

Wakaki, Hirofumi Asymptotic expansions for the Studentized best linear discriminant function under two elliptical populations. (English summary) MSI-2000, Vol. IV (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **18** (1998), *no.* 1-2, 89–106. (Summary) **99g:62086** 62H30

Wakano, Isao Analysis for stress intensity factors in two-dimensional elasticity. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 5, 86–88. (Alexander B. Movchan) **99a:73033** 73B50 (73C02)

Wakasa, Yuji Global optimization methods for BMI (bilinear matrix inequality) problems. (Japanese) *Systems Control Inform.* **43** (1999), *no.* 5, 258–265. 93B40 (65F30, 90C08)

Wakasugi, Tadao On analysis of characteristics of flowgraphs and state transition diagrams by numbers of paths. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 742–749. 68N99

Wakayama, Masato (*with* Noumi, Masatoshi; Umeda, Tôru) Dual pairs, spherical harmonics and a Capelli identity in quantum group theory. (English summary) *Compositio Math.* **104** (1996), *no.* 3, 227–277. (Anthony Joseph) **99c:17020** 17B35 (17B37, 33D80)

— (*with* Umeda, Tôru) Another look at the differential operators on quantum matrix spaces and its applications. (English summary) *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 1, 53–80. (Jia-Chen Ye) **99c:17032** 17B37 (16S32, 33D80)

Wake, Daniel D. (*with* Colella, Phillip; Dorr, Milo R.) A conservative finite difference method for the numerical solution of plasma fluid equations. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 168–193. (Summary) **99i:76094** 76M20 (65M06, 76X05)

Wakefield, Jon (*with* Damien, Paul; Walker, Stephen Graham) Gibbs sampling for Bayesian non-conjugate and hierarchical models by using auxiliary variables. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 331–344. 62F15

Waki, Katsushi Calculation of direct summands of *FG*-modules. (English summary) *Sci. Rep. Hirosaki Univ.* **44** (1997), *no.* 2, 193–200. (Summary) **99c:16006** 16D70

— (*with* Okuyama, Tetsuro) Decomposition numbers of $\mathrm{Sp}(4, q)$. *J. Algebra* **199** (1998), *no.* 2, 544–555. (Gerhard Hiss) **99b:20025** 20C33 (20C20, 20G05, 20G40)

Wakimoto, Minoru (*with* Cheng, Shun-Jen; Kac, Victor G.) Extensions of conformal modules. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 79–129, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Matthias Dörrzapf) **99i:17028** 17B68 (81R10)

— Representation theory of affine superalgebras at the critical level. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 605–614 (*electronic*). (Joris Van der Jeugt) **99k:17045** 17B67 (17–02, 17B10)

Wakiyama, Masahiro (*with* Noda, Hideki; Nozaki, Koichi; Kawaguchi, Eiji) Computation algorithm of semantic difference measure in the SD-form semantics model. (English summary) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1065–1079. 68S05

Wakker, Peter (*with* Miyamoto, John M.) Multiattribute utility theory without expected utility foundations. (English summary) *Oper. Res.* **44** (1996), *no.* 2, 313–326. (Summary) **99j:90023** 90A43 (90A10)

Wakolbinger, Anton (*with* López-Mimbela, J. Alfredo) Which critically branching populations persist? (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 203–216, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Summary) **99a:60093** 60J80 (92D25)

Wakrim, M. (*with* Ghadi, F.; Ruas, V.) A mixed finite element method to solve the Stokes problem in the stream function and vorticity formulation. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 381–398. (Lutz Tobiska) **99m:76078** 76M10 (65M60, 76D07)

Waksman, Zeev (*with* Sebő, András) Optimal binary trees with order constraints. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 305–311. (Summary) **99k:90189** 90C35 (05C05)

Wakui, Michihisa Turaev-Viro-Ocneanu invariants of 3-manifolds constructed from quantum $6j$-symbols of the Coxeter graph E_6. (Japanese) Research on the theory of topological quantum fields induced by $6j$-symbols (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1053 (1998), 6–29. (*see* **99k:00036**) 57M25 (57N10)

Wakuta, Kazuyoshi (*with* Togawa, K.) Solution procedures for multi-objective Markov decision processes. (English summary) *Optimization* **43** (1998), *no.* 1, 29–46. (Summary) **99a:90230** 90C40 (90C29)

— Discounted cost Markov decision processes with a constraint. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 2, 177–187. (Summary) **99a:90231** 90C40

— The structure of the value space in vector-valued Markov decision processes. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 163–168. (*see* **99h:90006**) 90C40

Walborn, Stephen (*with* Griffiths, David J.) Dirac deltas and discontinuous functions. *Amer. J. Phys.* **67** (1999), *no.* 5, 446–447. 46F10

Walcher, Sebastian (*with* Kinyon, Michael K.) On ordinary differential equations admitting a finite linear group of symmetries. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 180–196. (L. M. Berkovich) **99c:34011** 34A34 (34A26, 58E40)

— (*with* Krieg, Aloys) Multiplier systems for the modular group on the 27-dimensional exceptional domain. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1409–1417. (Consuelo Martínez) **99c:17042** 17C40 (11F41)

— (*with* Finston, David R.) On a class of additive group actions on affine three-space. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 463–485. (Gene Freudenburg) **99i:14054** 14L30

— Multi-parameter symmetries of first order ordinary differential equations. (English summary) *J. Lie Theory* **9** (1999), *no.* 1, 249–269. (Mark E. Fels) **99m:34008** 34A26 (34A34, 58F35)

Walczak, Paweł (*with* Biś, Andrzej) Pseudo-orbits, pseudoleaves and geometric entropy of foliations. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1335–1348. (Shigenori Matsumoto) **99k:58150** 58F18 (57R30)

— *see also* **Rudin, Walter, 99g:00008**

Walczak, Stanisław Continuous dependence on parameters and boundary data for nonlinear P.D.E. coercive case. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 35–46. (Henghui Zou) **99b:35011** 35B30 (35J60)

— (*with* Łędzewicz-Kowalewska, Urszula) Optimal control of systems governed by some elliptic equations. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 279–290. (Nicolae H. Pavel) **99k:49014** 49J20 (35J99)

Wald, Jeanne (*with* Phillips, Richard E.) Locally solvable finitary Lie algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4375–4384. (Dietrich Burde) **99j:17007** 17B05 (17B30)

Wald, Robert M. Quantum field theory in curved spacetime. (English summary) *Proceedings of the 14th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 401–415, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:81147** 81T20

— (*with* Quinn, Theodore C.) Axiomatic approach to electromagnetic and gravitational radiation reaction of particles in curved spacetime. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3381–3394. (Klaus Kirsten) **99a:81117** 81T20 (83C47)

— Black holes and thermodynamics. (English summary) *Black holes and relativistic stars* (*Chicago, IL*, 1996), 155–176, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C57

— (*with* Holz, Daniel E.) New method for determining cumulative gravitational lensing effects in inhomogeneous universes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 063501, 23 *pp.* (Summary) **99m:83004** 83–08 (83C99)

— *see also* **Black holes and relativistic stars, 99d:83070**

Waldén, Johan (*with* Holmström, Mats) Adaptive wavelet methods for hyperbolic PDEs. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 1, 19–49. (Summary) **99a:65124** 65M60 (94A12)

Wälder, O. (*with* Stoyan, Dietrich) Models of markings and thinnings of Poisson processes. (English summary) *Statistics* **29** (1997), *no.* 2, 179–202. (Günter Last) **99e:60116** 60G55 (62H11)

Waldi, Rolf (*with* Röhrl, N.) A determinantal criterion for positive sign-solvability. *Comm. Algebra* **26** (1998), *no.* 7, 2361–2369. (John Chollet) **99k:15036** 15A48 (15A15, 15A45)

Waldmann, Karl-Heinz On granting credit in a random environment. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 1, 99–115. (Summary) **99a:90232** 90C40 (90B50)

— (*with* Hinderer, Karl) Approximate solution of Markov renewal programs with finite time horizon. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 502–520 (*electronic*). (Alfred Müller) **99j:90109** 90C40 (60G40, 60K15, 90C42)

Waldmann, Stefan (*with* Bordemann, Martin) Formal GNS construction and states in deformation quantization. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 549–583. (Summary) **99h:58072** 58F06 (46L60, 81S10)

— A remark on nonequivalent star products via reduction for $\mathbf{CP}^n$. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 4, 331–338. (Martin Schlichenmaier) **99g:58060** 58F06

— (*with* Bordemann, Martin; Römer, Hartmann) A remark on formal KMS states in deformation quantization. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 49–61. (Summary) **99f:58083** 58F06 (58H15, 82B10)

Waldmann, Uwe Extending reduction orderings to ACU-compatible reduction orderings. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 43–49. (Summary) **99c:68146** 68Q42

jamison-Waldner, Robert E. *see* **Jamison-Waldner, Robert E.**

Waldram, Daniel (*with* Hindawi, Ahmed; Ovrut, Burt A.) Higher-derivative supergravitation and soft supersymmetry breaking. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 304–312, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 83E50

— (*with* Hindawi, Ahmed; Ovrut, Burt A.) Soft supersymmetry breaking induced by higher-derivative supergravitation. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 435–444, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:83103** 83E50 (83D05)

— (*with* Hindawi, Ahmed; Ovrut, Burt A.) The vector-tensor multiplet in $N = 2$ superspace. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 164–169. (Summary) **99c:81241** 81T60 (83E50)

— (*with* Lukas, André; Ovrut, Burt A.) Gaugino condensation in M theory on S^1/Z_2. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7529–7538. (Summary) **99k:81258** 81T30

Waldron, Andrew K. (*with* Plefka, Jan C.; Serone, Marco) $D = 11$ SUGRA as the low energy effective action of Matrix theory: three form scattering. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 10, 24 *pp.* (*electronic*). (Summary) **99k:83126** 83E30 (81T30, 83E50)

— (*with* Plefka, Jan C.) On the quantum mechanics of M(atrix) theory. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 460–484. (Richard A. Corrado) **99h:81182** 81T30 (81Q60)

— (*with* Plefka, Jan C.; Serone, Marco) Matrix theory S matrix. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 14, 2866–2869. (Summary) **99g:81181** 81T30

Waldron, Shayne Multipoint Taylor formulae. (English summary) *Numer. Math.* **80** (1998), *no.* 3, 461–494. (L. Leindler) **99h:41036** 41A58 (65D05)

— The error in linear interpolation at the vertices of a simplex. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1191–1200 (*electronic*). (Ming Gen Cui) **99d:65030** 65D05 (41A10)

Waldschaks, Gerd Extensions of group-valued modular maps. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 1, 70–74. (Przemo Kranz) **99c:28033** 28B10 (06E20, 46A22)

Waldschmidt, Michel ★ Linear independence of logarithms of algebraic numbers. With an appendix by Michel Laurent. IMS Report, 116. *Institute of Mathematical Sciences, Madras*, 199?. *iv*+168 *pp.* (Yann Bugeaud) **99a:11092** 11J86 (11J72, 11J81)

— Sur la nature arithmétique des valeurs de fonctions modulaires. (French summary) [On the arithmetical nature of values of modular functions] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 824, 3, 105–140. (P. Bundschuh) **99g:11089** 11J81 (11F03, 11J82, 11J85, 11J91)

— (*with* Roy, Damien) Simultaneous approximation and algebraic independence. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 379–430. (Michel Laurent) **99a:11090** 11J85 (11J82)

— Extrapolation with interpolation determinants. (English summary) *Special functions and differential equations* (*Madras*, 1997), 356–366, *Allied Publ., New Delhi*, 1998. (Damien Roy) **99j:11082** 11J81

— From simultaneous approximations to algebraic independence. (English summary) *Number theory and its applications* (*Ankara*, 1996), 283–305, *Lecture Notes in Pure and Appl. Math.*, 204, *Dekker, New York*, 1999. (Damien Roy) **99k:11111** 11J82 (11J85)

— (*with* Schlickewei, Hans Peter; Schmidt, Wolfgang M.) Zeros of linear recurrence sequences. (English summary) *Manuscripta Math.* **98** (1999), *no.* 2, 225–241. (Damien Roy) **99m:11034** 11D61 (11B37, 11J13)

Waldspurger, Jean-Loup Cohomologie des espaces de formes automorphes (d'après J. Franke). (French summary) [Cohomology of spaces of automorphic forms (following J. Franke)] Séminaire Bourbaki, Vol. 1995/96. *Astérisque No.* 241 (1997), *Exp. No.* 809, 3, 139–156. (A. Deitmar (Zbl 883.11025)) **99g:11070** 11F75

Waldvogel, Francis Franscini and the Swiss Federal Institutes of Technology: the beginnings of Swiss science policy. *Conference on Statistical Science Honouring the Bicentennial of Stefano Franscini's Birth* (*Ascona*, 1996), 15–20, *Monte Verità, Birkhäuser, Basel*, 1997. (*see* **99e:62002**) 01A50 (01A70)

Waldvogel, Jörg *see* **Schwarz, Hans Rudolf, 99f:65003**

Waleffe, Fabian (*with* Smith, Leslie M.) Transfer of energy to two-dimensional large scales in forced, rotating three-dimensional turbulence. (English summary) *Phys. Fluids* **11** (1999), *no.* 6, 1608–1622. 76F99 (76M25, 76U05)

Walendziak, A. Consistent lattices and Steinitz spaces. (English summary) *Algebra Universalis* **38** (1997), *no.* 4, 450–452. (Volkmar Welker) **99m:06011** 06A15 (06C10)

Wales, David B. (*with* Doran, William F., IV; Hanlon, Philip J.) On the semisimplicity of the Brauer centralizer algebras. *J. Algebra* **211** (1999), *no.* 2, 647–685. (Fabio Gavarini) **99k:16034** 16G99 (20G05)

Wali, K. S. (*with* Nayak, S. S.) Almost sure limit points of extremes of samples from two independent populations. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 294–319. (Winfried Stute) **99m:60078** 60G70 (60F15, 62G30)

Wali, Kameshwar C. Chandra: a tribute. *Black holes and relativistic stars* (*Chicago, IL*, 1996), 269–272, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 01A70

Walicki, Michał (*with* Białasik, Marcin) Categories of relational structures. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 418–433, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 03C07 (03C52, 03G30, 08A05, 68Q65)

Waliszewska, Anna On diffeomorphic actions on Cantor sets. *Demonstratio Math.* **31** (1998), *no.* 2, 417–428. (Sergio Plaza) **99j:58069** 58F03 (28D99)

Walk, H. (*with* Györfi, L.; Kohler, Michael) Weak and strong universal consistency of semi-recursive kernel and partitioning regression estimates. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 1–18. (Sidney J. Yakowitz) **99i:62112** 62G20 (62G07)

Walker, Cameron G. (*with* Conder, Marston D. E.) Sierpinski's gasket, 2-groups and graph symmetries. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 182–186, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 05C25

— (*with* Conder, Marston D. E.) The infinitude of 7-arc-transitive graphs. (English summary) *J. Algebra* **208** (1998), *no.* 2, 619–629. (John van Bon) **99j:05089** 05C25

— (*with* Conder, Marston D. E.) Vertex-transitive non-Cayley graphs with arbitrarily large vertex-stabilizer. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 1, 29–38. (Qaiser Mushtaq) **99i:05097** 05C25 (12F10, 20B25)

Walker, Carol (*with* Gehrke, Mai; Walker, Elbert) A mathematical setting for fuzzy logics. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 223–238. (James Franklin) **99e:03023** 03B52

Walker, Colin J. (*with* Sacchi, Mauricio D.; Ulrych, Tadeusz J.) Interpolation and extrapolation using a high-resolution discrete Fourier transform. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 1, 31–38. 65T20 (65D15)

Walker, Daniel J. On the structure of a two-degree-of-freedom H^∞ loop shaping controller. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1105–1127. 93B36

— (*with* Tucker, Mark R.) A discrete norm bounded linear time-varying control problem on the finite horizon. (English summary) *Internat. J. Control* **71** (1998), *no.* 2, 359–390. (Olof J. Staffans) **99g:93030** 93B36 (93C05)

— (*with* Postlethwaite, Ian; Smerlas, Alex) H_∞ in flight. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 353–364, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93C95)

Walker, David James (*with* Liu, Xinxin) Partial confluence of processes and systems of objects. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 127–162. (Summary) **99f:68062** 68Q10 (68N15, 68Q55)

Walker, David McPetrie (*with* McLenaghan, R. G.) Symmetry operators for the Weyl neutrino equation on curved spacetime. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 291–295, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99d:83074** 83C60

— (*with* Mees, Alistair I.) Reconstructing nonlinear dynamics by extended Kalman filtering. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 557–569. 93E11

— (*with* Allie, Stuart P.; Mees, Alistair I.) Exploiting the periodic structure of chaotic systems for noise reduction of nonlinear signals. (English summary) *Phys. Lett. A* **242** (1998), *no.* 1-2, 63–73. (Summary) **99a:94008** 94A12 (58F13)

Walker, David W. (*with* Dongarra, Jack J.) Constructing linear algebra software libraries for high-performance computers. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 111–167, *Springer, Singapore*, 1997. (*see* **99g:65001**) 65Fxx (65Y05, 65Y15)

Walker, E. J. (*with* Lewis, Patricia A.; Temple, J. A. G.; Wickham, G. R.) Calculation of diffraction coefficients for a semi-infinite crack embedded in an infinite anisotropic linearly elastic body. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1781–1803. 73D25 (76Q05)

Walker, Elbert (*with* Gehrke, Mai; Walker, Carol) A mathematical setting for fuzzy logics. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 223–238. (James Franklin) **99e:03023** 03B52

Walker, Grant (*with* Carlisle, D. P.; Wood, R. M. W.) The intersection of the admissible basis and the Milnor basis of the Steenrod algebra. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 1, 1–10. (Jin Kun Lin) **99g:55021** 55S10

Walker, Homer F. (*with* Watson, Layne T.; Sosonkina, Maria; Melville, Robert C.; Morgan, Alexander P.) Algorithm 777: HOMPACK90: a suite of Fortran 90 codes for globally convergent homotopy algorithms. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 514–549. 65Y15

— (*with* Sosonkina, Maria; Watson, Layne T.; Kapania, Rakesh K.) A new adaptive GMRES algorithm for achieving high accuracy. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 4, 275–297. (Summary) **99d:65110** 65F10 (65F50)

— (*with* Pernice, Michael) NITSOL: a Newton iterative solver for nonlinear systems. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 302–318 (*electronic*). (*see* **99a:65007**) 65H10 (65N22)

Walker, I. M. (*with* Hunter, Geoffrey[2]; Ecimovic, P.; Schlifer, I.; Beamish, D.; Donev, S.; Kowalski, Marian; Arslan, S.; Heck, S.) Fermion quasi-spherical harmonics. (English

summary) *J. Phys. A* **32** (1999), *no.* 5, 795–803. (Summary) **99j:81032** 81Q05 (33C55, 81R05)

Walker, J. *see* **Walker, John Andrew**

Walker, J. D. A. Turbulent boundary layers. II. Further developments. *Recent advances in boundary layer theory* (*Udine*, 1997), 145–229, *CISM Courses and Lectures*, 390, *Springer, Vienna*, 1998. (A. D. Khon'kin) **99k:76071** 76F10 (76D10, 76N20)

— (*with* Li, Linzhong; Bowles, R. I.; Smith, Frank T.) Short-scale break-up in unsteady interactive layers: local development of normal pressure gradients and vortex wind-up. (English summary) *J. Fluid Mech.* **374** (1998), 335–378. (Murad Brutyan) **99k:76047** 76D10 (76F99, 76M25)

— (*with* Degani, A. T.; Smith, Frank T.) Unsteady separation past moving surfaces. (English summary) *J. Fluid Mech.* **375** (1998), 1–38. (Summary) **99h:76028** 76D15 (76M25)

Walker, J. S. *see* **Walker, John S.**

Walker, James Stephan Fourier analysis and wavelet analysis. *Notices Amer. Math. Soc.* **44** (1997), *no.* 6, 658–670. (Ahmed I. Zayed) **99c:42003** 42A16 (41A58, 42A10, 42C15)

— ★ A primer on wavelets and their scientific applications. (English summary) Studies in Advanced Mathematics. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *x*+155 *pp. ISBN* 0-8493-8276-9 (Publisher's description) **99m:42001** 42–01 (42–02, 42C15, 65–02)

Walker, John Andrew Vector maximisation over a finite set of alternatives. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 49–62. 90C29 (90C60)

— (*with* Dyer, Martin E.) Dominance in multi-dimensional multiple-choice knapsack problems. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 2, 159–168. (José F. Fontanari) **99k:90107** 90C10 (90C27, 90C35)

Walker, John S. (*with* Morthland, T. E.) Instabilities of dynamic thermocapillary liquid layers with magnetic fields. (English summary) *J. Fluid Mech.* **382** (1999), 87–108. 76E15 (76D45, 76E25)

— (*with* Martin Witkowski, L.; Marty, Ph.) Nonaxisymmetric flow in a finite-length cylinder with a rotating magnetic field. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1821–1826. 76W05

Walker, M. L. *see* **Walker, Michael Luke**

Walker, Mark E. The primitive topology of a scheme. (English summary) *J. Algebra* **201** (1998), *no.* 2, 656–685. (Liam O'Carroll) **99b:14019** 14F20 (14A20, 18F20)

Walker, Marshall Adding constraints to Gordonesque surfaces. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 529–536, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99f:65016** 65D05 (65D17)

— Current experience with transfinite interpolation. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 2, 77–83. (Summary) **99f:65032** 65D17

Walker, Matthew R. (*with* Barenghi, Carlo F.) Accurate numerical computations of Taylor integrals. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 3-4, 173–191. (Summary) **99j:86005** 86–08 (86A25)

Walker, Michael L. (*with* Helton, J. William; Zhan, Wei) H^∞ control of systems with compensators which read the command signal. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 9–27. 93B36

Walker, Michael Luke (*with* Burden, C. J.) Chiral symmetry in supersymmetric three-dimensional quantum electrodynamics. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 12, 125013, 7 *pp.* 81V10

Walker, Paul (*with* Anninos, Peter; Brandt, Steven) New orthogonal body-fitting coordinates for colliding black hole spacetimes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6158–6167. (Summary) **99m:83092** 83C57 (83–08)

Walker, Russell B. (*with* Tymchatyn, E. D.) Taming the Cantor fence. (English summary) *Topology Appl.* **83** (1998), *no.* 1, 45–52. (Leonard R. Rubin) **99f:54055** 54H20

Walker, Stephen Graham (*with* Mallick, Bani K.) A note on the scale parameter of the Dirichlet process. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 473–479. (Ram C. Tiwari) **99d:62057** 62G99 (60G99, 62C10)

— (*with* Muliere, Pietro) A Bayesian non-parametric approach to survival analysis using Polya trees. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 331–340. (Eswar G. Phadia) **99c:62108** 62G05 (62F15, 62N05)

— (*with* Damien, Paul) Sampling methods for Bayesian nonparametric inference involving stochastic processes. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 243–254, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99c:62116** 62G05 (62F15)

— (*with* Muliere, Pietro) Extending the family of Bayesian bootstraps and exchangeable urn schemes. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 175–182. (Summary) **99a:62063** 62G09 (62D05)

— (*with* Damien, Paul; Wakefield, Jon) Gibbs sampling for Bayesian non-conjugate and hierarchical models by using auxiliary variables. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 331–344. 62F15

Walker, Trent E. (*with* Helton, J. William; Merino, Orlando) H^∞ optimization with plant uncertainty and semidefinite programming. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 9, 763–802. (Long Wang) **99e:93028** 93B36 (90C30)

Walkington, Noel (*with* Chiu, Chichia) Analysis of hysteretic reaction-diffusion systems. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 1, 89–106. (Ying Guo Lei) **99c:92035** 92D25 (35K57, 47D06, 47N20)

Walkley, M. (*with* Berzins, M.) A finite element method for the one-dimensional extended Boussinesq equations. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 2, 143–157. (Summary) **99i:86007** 86–08 (86A05)

Walkup, Elizabeth A. (*with* Kahng, Andrew B.; Robins, Gabriel) How to test a tree. (English summary) *Networks* **32** (1998), *no.* 3, 189–197. (Summary) **99d:68029** 68M15 (68Q35, 68R10, 94C12)

Wall, C. T. C. The work of W. Thurston [MR 86j:01035]. *Fields Medallists' lectures*, 373–375, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (57–03)

— (*with* du Plessis, A. A.) Versal deformations in spaces of polynomials of fixed weight. (English summary) *Compositio Math.* **114** (1998), *no.* 2, 113–124. (Eugenii Shustin) **99k:14005** 14B07 (14J70, 32S30)

— Pencils of binary quartics. *Rend. Sem. Mat. Univ. Padova* **99** (1998), 197–217. (Harry Tamvakis) **99k:14025** 14D25 (14C21, 14L30)

— (*with* du Plessis, A. A.) Application of the theory of the discriminant to highly singular plane curves. *Math. Proc. Cambridge Philos. Soc.* **126** (1999), *no.* 2, 259–266. (Sherwood Washburn) **99m:14053** 14H20

Wall, David J. N. (*with* Kristensson, Gerhard) Inverse problems associated with simple nonlinear wave equations. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 254–258, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35R30 (35L05)

— (*with* Kristensson, Gerhard) Direct and inverse scattering for transient electromagnetic waves in nonlinear media. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 113–137. (A. S. Silbergleit) **99b:78012** 78A45 (35Q60)

— (*with* Lundstedt, Jonas) On inverse source problems for the one-way wave equation. (English summary) *Wave Motion* **27** (1998), *no.* 1, 55–77. (Summary) **99j:73047** 73D50 (35R30, 65N99)

Wall, Derek S. (*with* Veres, Sándor M.) Laguerre filter reduced-order l_1 identification. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 867–886. 93E12 (93B30)

Wall, Peter Some homogenization and corrector results for nonlinear monotone operators. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 3, 331–348. (Summary) **99e:35016** 35B27 (35J65, 73B27)

Wallace, Chris A. (*with* Bell, Gavin J.; Lamar, Bruce W.) Capacity improvement, penalties, and the fixed charge transportation problem. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 4, 341–355. (Summary) **99m:90061** 90B06

Wallace, D. A. R. ★ Groups, rings and fields. (English summary) Springer Undergraduate Mathematics Series. *Springer-Verlag London, Ltd., London*, 1998. *viii*+248 *pp. ISBN* 3-540-76177-2 (From the preface) **99i:20001** 20–01 (13–01)

Wallace, Mark Glossop (*with* Hajian, Mozafar T.; El-Sakkout, Hani; Lever, Jonathan M.; Richards, Barry) Towards a closer integration of finite domain propagation and simplex-based algorithms. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 421–431. (*see* **99b:90006**) 90C08 (90C90)

— (*with* Rodošek, Robert; Hajian, Mozafar T.) A new approach to integrating mixed integer programming and constraint logic programming. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 63–87. (*see* **99k:90002**) 90C11 (90C27)

Wallace, S. G. (*with* Jones, Christopher Andrew) Temporal solutions of a duct geometry dynamo. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 232–241, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 76W05 (86A25)

Wallace, Stein W. Modelling—in memory of Åsa Hallefjord. Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), *iii–vi.* (Editors) **99m:01095** 01A70

— (*with* Tomasgard, Asgeir; Audestad, Jan A.; Dye, Shane; Stougie, Leen; van der Vlerk, Maarten H.) Modelling aspects of distributed processing in telecommunication networks. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 161–184. (*see* **99e:90003**) 90B12

— *see also* **Modelling: in memory of Åsa Hallefjord, 99e:90003**

Wallace, William A. Galileo's Pisan studies in science and philosophy. *The Cambridge companion to Galileo*, 27–52, *Camb. Companions Philos., Cambridge Univ. Press, Cambridge*, 1998. (*see* **99k:01020**) 01A45

Wallach, Nolan R. (*with* Enright, Thomas J.) Embeddings of unitary highest weight representations and generalized Dirac operators. *Math. Ann.* **307** (1997), *no.* 4, 627–646. (From the introduction) **99k:22019** 22E45 (22E47, 22E70, 58G03)

— (*with* Goodman, Roe) ★ Representations and invariants of the classical groups. (English summary) Encyclopedia of Mathematics and its Applications, 68. *Cambridge University Press, Cambridge*, 1998. xvi+685 *pp. ISBN* 0-521-58273-3 (James E. Humphreys) **99b:20073** 20G05 (14L35, 14M17, 17B10, 20C30, 20G20, 22E46)

— A variety of solutions to the Yang-Baxter equation. (English summary) *Advances in geometry*, 391–399, *Progr. Math.*, 172, *Birkhäuser Boston, Boston, MA*, 1999. (Zhong Qi Ma) **99k:17035** 17B37 (16W30, 57M25)

van de Walle, Bartel *see* **Van de Walle, Bartel**

Wallenius, Jyrki *see* **Essays in decision making, 99f:90005**

Waller, Adrian O. (*with* Du, Shao-Fei; Marušič, Dragan) On 2-arc-transitive covers of complete graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 276–290. (Brian Alspach) **99h:05051** 05C25 (05C10)

Waller, Emmanuel (*with* Lagorce, Jean-Bernard; Stočkus, Arūnas) Object-oriented database evolution. (English summary) *Database theory—ICDT '97* (*Delphi*), 379–393, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Wallet, Guy (*with* Benoît, Eric; Fruchard, Augustin; Schäfke, Reinhard) Overstability: towards a global study. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 873–878. (B. L. J. Braaksma) **99k:34120** 34E15 (34A20)

Walley, Peter Statistical inferences based on a second-order possibility distribution. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 4, 337–383. (Summary) **99e:62031** 62F15

— A bounded derivative model for prior ignorance about a real-valued parameter. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 463–483. (Mohan Delampady) **99k:62009** 62A15 (62F15)

Wallin, Hans (*with* Ambroladze, Amiran) Extremal polynomials with preassigned zeros and rational approximants. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 209–229. (A. J. Rodrigues) **99a:41016** 41A21 (30E10)

— (*with* Ambroladze, Amiran) Rational interpolants with preassigned poles, theoretical aspects. (English summary) *Studia Math.* **132** (1999), *no.* 1, 1–14. (Serguey V. Shvedenko) **99m:41022** 41A21 (30E10)

Wallis, Kenneth F. *see* **Advances in economics and econometrics: theory and applications, 99d:90003**

Wallis, S. G. (*with* Manson, J. R.; Filippi, L.) A conservative semi-Lagrangian algorithm for one-dimensional advection-diffusion. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 671–679. 65M99

Wallis, W. D. (*with* Purwanto) Minimum order of a graph with given deficiency and either minimum or maximum degree. (English summary) *Ars Combin.* **50** (1998), 187–192. (Summary) **99i:05115** 05C35 (05C70)

— (*with* Drake, David A.; van Rees, G. H. J.) Maximal sets of mutually orthogonal Latin squares. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 87–94. (Jörn Quistorff)

99k:05039 05B15
— *see also* **Papers in honor of Anne Penfold Street**
Wallisser, Rolf A theorem of Müntz type for Chebyshev polynomials. (English summary) *New trends in probability and statistics, Vol. 4 (Palanga, 1996)*, 485–488, *VSP, Utrecht*, 1997. (*see* **99f:11003**) 41A05 (41A50)
— Complete systems of holomorphic functions. (English summary) *New trends in probability and statistics, Vol. 4 (Palanga, 1996)*, 489–498, *VSP, Utrecht*, 1997. (Summary) **99m:30005** 30B60
Wallner, Johannes (*with* Pottmann, Helmut) Spline orbifolds. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 445–464, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:65263** 65Y25 (57M50, 65D17)
— Generalized multiresolution analysis for arc splines. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 537–544, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:65013** 65D07 (41A99, 65D17)
— (*with* Chen, Horng-Yang; Pottmann, Helmut) Galilei Laguerre geometry and rational circular offset surfaces. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 291–305. (Hans Sachs) **99g:53016** 53A40 (51N25)
Wallner, Klaus Sequential moves and tacit collusion: reaction-function cycles in a finite pricing duopoly. (English summary) *J. Econom. Theory* **84** (1999), *no.* 2, 251–267. (Summary) **99k:90046** 90A12 (90D40)
Walls, Dan F. (*with* Yeon, Kyu Hwang; Um, Chung In; George, Thomas F.; Pandey, Lakshmi N.) Quantum correspondence for linear canonical transformations on general Hamiltonian systems. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1765–1774. (Summary) **99e:81123** 81S30 (81S40)
Walls, Gary L. (*with* Fay, Temple H.) $\overline{R}$-groups. (English summary) *J. Algebra* **212** (1999), *no.* 1, 375–393. (Howard Smith) **99m:20075** 20F19 (20J15)
Walnut, David Solutions to deconvolution equations using nonperiodic sampling. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 6, 669–709. (Lutz Mattner) **99m:42013** 42A65 (30D15, 44A35, 45F05)
Walorski, Janusz Thron's theorems in Banach spaces. (English summary) *Iteration theory (ECIT 94) (Opava)*, 233–240, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 39B12
Walrave, J. (*with* Dillen, Franki; Van de Woestyne, I.; Verstraelen, Leopold) The surface of Scherk in $\mathbf{E}^3$: a special case in the class of minimal surfaces defined as the sum of two curves. *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 257–267. (João Lucas Marques Barbosa) **99j:53007** 53A10
Walschap, Gerard (*with* Gromoll, Detlef) Metric fibrations in Euclidean space. *Asian J. Math.* **1** (1997), *no.* 4, 716–728. (James J. Hebda) **99b:53041** 53C12 (53C20, 57R30)
— Cut and conjugate loci in two-step nilpotent Lie groups. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 2, 343–355. (Maura B. Mast) **99m:53094** 53C30 (53C20)
Walser, Joachim P. (*with* Iyer, Ramesh; Venkatasubramanyan, Narayan) An integer local search method with application to capacitated production planning. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 373–379, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C10 (90B30)
Walsh, Bertram (*with* Hasson, Maurice) Singular points of analytic functions expanded in series of Faber polynomials. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 817–825. (Summary) **99k:30005** 30B40
Walsh, P. G. A note on Ljunggren's theorem about the Diophantine equation $aX^2 - bY^4 = 1$. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 4, 113–118. (Paul M. Voutier) **99j:11029** 11D25
— (*with* Ribenboim, Paulo) The *ABC* conjecture and the powerful part of terms in binary recurring sequences. (English summary) *J. Number Theory* **74** (1999), *no.* 1, 134–147. (Abderrahmane Nitaj) **99k:11047** 11D41 (11J25)
— On two classes of simultaneous Pell equations with no solutions. *Math. Comp.* **68** (1999), *no.* 225, 385–388. (Michael A. Bennett) **99g:11038** 11D25 (11D09)
— A polynomial time complexity bound for computations on curves. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 705–709 (*electronic*). (Alain Jacquemard) **99e:14066** 14Q05 (68Q25)
Walsh, Peter (*with* Linton, Stephen; Parker, Richard A.; Wilson, Robert A.) Computer construction of the Monster. *J. Group Theory* **1** (1998), *no.* 4, 307–337. (Jamshid Moori) **99k:20030** 20C34 (20C40, 20D08)
Walsh, Timothy R. Generation of well-formed parenthesis strings in constant worst-case time. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 165–173. (Summary) **99g:68147** 68R05
Walsh, Toby (*with* Bundy, Alan; Giunchiglia, Fausto; Villafiorita, Adolfo) Abstract proof checking: an example motivated by an incompleteness theorem. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 3, 319–346. (Bernd Dahn) **99b:03022** 03B35 (68T15)
— (*with* Gent, Ian P.) Analysis of heuristics for number partitioning. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 430–451. (Summary) **99d:68105** 68Q25 (68T20)
Walshaw, Chris (*with* Diekmann, Ralf; Schlimbach, Frank) Quality balancing for parallel adaptive FEM. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 170–181, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65Y05)
Walter, Charles Harold Pfaffian subschemes. (English summary) *J. Algebraic Geom.* **5** (1996), *no.* 4, 671–704. (A. Prabhakar Rao) **99f:14064** 14M05 (13D45, 14J60, 14M07)
— Irreducibility of moduli spaces of vector bundles on birationally ruled surfaces. (English summary) *Algebraic geometry (Catania, 1993/Barcelona, 1994)*, 201–211, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Kieran G. O'Grady) **99j:14011** 14D20 (14J60)
Walter, Colin D. (*with* Nedjah, Nadia; Eldridge, Stephen E.) Optimal left-to-right pattern-matching automata. (English summary) *Algebraic and logic programming (Southampton, 1997)*, 273–286, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (Summary) **99d:68136** 68Q42 (68Q68)
— Exponentiation using division chains. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 757–765. (Summary) **99h:94056** 94A60 (65Y99)
Walter, Eric (*with* Kieffer, M.) Interval analysis for guaranteed nonlinear parameter estimation. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design (Marseilles, 1998)*, 115–125, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 93B30 (65G10)
Walter, Gilbert G. (*with* Liu, Youming) A class of band-limited cardinal wavelets. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 6, 523–528. (Kathi Karima Selig) **99e:42048** 42C15 (94A11)
— (*with* Shen, Xiaoping) Positive estimation with wavelets. (English summary) *Wavelets, multiwavelets, and their applications (San Diego, CA, 1997)*, 63–79, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Louise A. Raphael) **99d:42071** 42C15 (40G05, 40G10)
— (*with* Zhang, Jun[9]) Orthonormal wavelets with simple closed-form expressions. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 8, 2248–2251. (Summary) **99i:94015** 94A12 (94A11)
— (*with* Shim, Hong-Tae) Gibbs' phenomenon for sampling series and what to do about it. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 357–375. (Ahmed I. Zayed) **99k:42074** 42C15 (42A10, 94A12)
— Approximation with impulse trains. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 185–196. (David F. Walnut) **99f:42070** 42C15 (41A25, 46F10)
Walter, Jochen (*with* Göbel, Manfred) Bases for polynomial invariants of conjugates of permutation groups. Appendix to: "Computing bases for rings of permutation-invariant polynomials" [J. Symbolic Comput. **19** (1995), no. 4, 285–291; MR 96f:13006] by Göbel. *J. Algorithms* **32** (1999), *no.* 1, 58–61. 13A50
Walter, Martin E. (*with* Ramsay, Arlan) Fourier-Stieltjes algebras of locally compact groupoids. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 2, 314–367. (Jean N. Renault) **99a:22010** 22D25 (43A40, 46L05)
— Semigroups of positive definite functions and related topics. (English summary) *Harmonic analysis and hypergroups (Delhi, 1995)*, 215–226, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Robert S. Doran) **99c:43007** 43A35 (22A20, 46L99)
— *see also* **Harmonic analysis and hypergroups, 99a:43001**
Walter, Wolfgang L. Ordinary functional-differential equations and inequalities in the sense of Carathéodory. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 85–95. (Summary) **99j:34089** 34K05 (34K15)
— Sturm-Liouville theory for the radial Δ_p-operator. *Math. Z.* **227** (1998), *no.* 1, 175–185. (Giovanni Leoni) **99b:35073** 35J65 (34A12, 34B24, 34L40, 35B05, 35P05)
— (*with* Drici, Zahia; Lakshmikantham, V.) Convex dependence of solutions of differential equations in a Banach space relative to initial time. *Nonlinear Anal.* **34** (1998), *no.* 5, 629–635. (Introduction) **99d:34110** 34G20 (34A12)
Walter-Koch, I. Equations of mean curvature type on exterior domains. (English summary) *Manuscripta Math.* **95** (1998), *no.* 1, 91–105. (Anna Maria Candela) **99a:35099** 35J65 (58E12)
Walters, Jakobus L. (*with* Hattingh, Johannes H.; Henning, Michael A.) Distance irredundance in graphs: complexity issues. (English summary) *Ars Combin.* **50** (1998), 3–22. (Richard C. Brewster) **99m:05150** 05C85 (05C35, 68Q25)
Walters-Wayland, J. L. Metric-fine uniform frames. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 617–632. (Summary) **99j:54003** 54A05 (06A23, 54D20, 54E15)
Walther, Andrea (*with* Griewank, Andreas; Best, André) Multiple vector-Jacobian products are cheap. (English summary) Iterative methods and preconditioners (Berlin, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 2-3, 367–377. (*see* **99m:65005**) 65H10
Walther, Bernard *see* **Steele, John M.**
Walther, Gerd (*with* Bodendiek, R.) On arithmetic antimagic edge labelings of graphs. (English summary) *Mitt. Math. Ges. Hamburg* **17** (1998), 85–99. (N. N. Petrov) **99i:05183** 05C78
Walther, Günther Granulometric smoothing. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2273–2299. (Wolfgang Polonik) **99b:62070** 62G05 (65U05)
— On a generalization of Blaschke's rolling theorem and the smoothing of surfaces. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 4, 301–316. (W. W. Breckner) **99m:46174** 46N10 (52A99, 68U10)
Walther, Hans-Otto (*with* Yebdri, Mustapha) Smoothness of the attractor of almost all solutions of a delay differential equation. (English summary) *Dissertationes Math. (Rozprawy Mat.)* **368** (1997), 72 *pp.* (Sjoerd M. Verduyn Lunel) **99d:58148** 58F32 (34K15)
Walther, M. (*with* Schmidt, Jochen W.) Tensor product splines on refined grids in S-convex interpolation. (English summary) *Multivariate approximation (Witten-Bommerholz, 1996)*, 189–202, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Charles K. Chui) **99b:41023** 41A63 (41A15)
bastian-Walther, Marion *see* **Bastian-Walther, Marion**
Waltman, Paul (*with* Hsu, Sze-Bi) Competition in the chemostat when one competitor produces a toxin. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 471–490. (Hassan El-Owaidy) **99k:92031** 92D25 (34D20)
— (*with* Dung, Le; Smith, H. L.) Growth in the unstirred chemostat with different diffusion rates. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 131–142, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:92024** 92D25 (35Q80)
— (*with* Smith, H. L.) Perturbation of a globally stable steady state. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 447–453. (H. I. Freedman) **99c:58102** 58F12 (47H99, 92D25)
Walton, Andrew G. (*with* Patel, Rupa A.) On the neutral stability of spanwise-periodic boundary-layer and triple-deck flows. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 311–328. (Summary) **99b:76025** 76D10
— (*with* Smith, Frank T.) Flow past a two- or three-dimensional steep-edged roughness. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 31–69. (James P. Denier) **99e:76037** 76D15 (76D10)
Walton, D. J. (*with* Meek, D. S.) Planar spirals that match G^2 Hermite data. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 2, 103–126. (Yu Yu Feng) **99c:65035** 65D17 (68U05, 68U07)
— (*with* Meek, D. S.) G^2 curves composed of planar cubic and Pythagorean hodograph quintic spirals. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 6, 547–566. (Summary) **99c:65040** 65D17 (68U07)
— (*with* Meek, D. S.) Planar G^1 Hermite interpolation with spirals. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 8, 787–801. (Antonio López-Carmona)

99f:41041 41A63 (65D05)
— *see also* **Computational methods in computer graphics, 99h:65003**
Walton, Douglas Applying labelled deductive systems and multi-agent systems to source-based argumentation. (English summary) *J. Logic Comput.* **9** (1999), *no.* 1, 63–80. 68T27 (03B70)
Walton, Jay R. (*with* Costanzo, Francesco) A numerical solution technique for a class of integro-differential equations in elastodynamic crack propagation problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **162** (1998), *no.* 1-4, 19–48. (Summary) **99f:73065** 73M25 (73V20)
Walton, Mark A. (*with* Gannon, T.; Ruelle, P.) Spectra of conformal field theories with current algebras. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 49–57, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 81T40 (81R10)
— Demazure characters and WZW fusion rules. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 665–681. (Summary) **99c:81221** 81T40 (05E05, 17B67, 81R10)
Waltz, David (*with* Kasif, Simon; Salzberg, Steven; Rachlin, John; Aha, David W.) A probabilistic framework for memory-based reasoning. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 287–311. 68T30 (68T27)
Waltz, R. E. (*with* Garbet, X.) Turbulence scaling laws in fusion plasmas. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 275–285, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 76X05 (76F99)
Walukiewicz, Daria A total AC-compatible reduction ordering on higher-order terms. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 530–542, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q42 (03B40)
Walukiewicz, Igor (*with* Niwiński, Damian) Relating hierarchies of word and tree automata. (English summary) *STACS* 98 (*Paris*, 1998), 320–331, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68122** 68Q45 (03D05, 68Q60, 68Q68)
— (*with* Charatonik, Witold; McAllester, David; Niwiński, Damian; Podelski, Andreas) The Horn mu-calculus. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 58–69, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68079** 68Q60 (03B70, 68N17)
— (*with* Courcelle, Bruno) Monadic second-order logic, graph coverings and unfoldings of transition systems. (English summary) *Ann. Pure Appl. Logic* **92** (1998), *no.* 1, 35–62. (Damian Niwiński) **99g:68130** 68Q60 (03C80, 03C85, 03D05, 05C10)
Walz, Guido (*with* Diethelm, Kai) Numerical solution of fractional order differential equations by extrapolation. (English summary) *Numer. Algorithms* **16** (1997), *no.* 3-4, 231–253 (1998). (K. S. Miller) **99e:26006** 26A33 (65L99)
— Splines with free knots, the heat equation, and the Gauss transform. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 169–182. (John B. Kioustelidis) **99h:41017** 41A15 (35A22, 44A15, 65D07)
Wambach, Georg (*with* Schrader, Rainer; Schulz, Andreas S.) Base polytopes of series-parallel posets: linear description and optimization. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 159–173. (Béla Vizvári) **99m:90118** 90C27 (05B35)
Wambst, Marc (*with* Kassel, Christian) Algèbre homologique des N-complexes et homologie de Hochschild aux racines de l'unité. (English and French summaries) [Homology algebra of N-complexes and Hochschild homology at the roots of unity] *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 2, 91–114. (Guillermo Cortiñas) **99d:18013** 18G60 (16E40, 18G25, 18G35, 19D55)
van Wamelen, Paul Examples of genus two CM curves defined over the rationals. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 307–320. (Shao Wei Zhang) **99c:11079** 11G30 (14H45, 14Q05)
Wan, Alan T. K. (*with* Ohtani, Kazuhiro) On the sampling performance of an improved Stein inequality restricted estimator. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 181–187. (Summary) **99c:62188** 62J05 (62C15, 62F10)
— (*with* Chaturvedi, Anoop) Stein-rule estimation in a dynamic linear model. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 1, 17–25. (Summary) **99c:62195** 62J07
Wan, Bai Wu (*with* Xu, Li Jian; Wei, Bin[2]; Han, Chong Zhao) An improved method of steady-state optimisation control. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 11–17. 93E10 (93A15)
— (*with* Wang, Xiao; Han, Chong Zhao) Two effective new least squares identification algorithms for nonlinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 95–101. 93B40 (93B30)
— (*with* Luo, Xu Guang; Liu, Ding) Adaptive fuzzy identification and its application to large-scale systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 352–357. 93B30 (93C42)
— (*with* Huang, Zhengliang; Li, Zhong Li) A new technique integrated steady-state estimation and dynamic identification for a class of nonlinear systems. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 415–422. 93E12 (93C10)
— (*with* Liu, Lin Yun) A review of qualitative control. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 1, 46–52. 93B30 (93E10)
— (*with* Qian, Fu Cai; Fei, Chu Hong) A hybrid algorithm for global optimization using chaotic search. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 3, 232–235. 90C30
— (*with* Liu, Zhi Yong; Li, Xiu Ping) Neural network predictive control for the dynamic traffic system of an expressway. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 4, 260–266. 90B06 (93B30, 93E12)
— (*with* Qian, Fu Cai) A hierarchical optimizing control algorithm for nonseparable steady states of large-scale systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 7, 21–23, 55. 49K15 (93A13)
Wan, Bangjun (*with* Lamb, Kevin G.) Conjugate flows and flat solitary waves for a continuously stratified fluid. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2061–2079. (Summary) **99e:76022** 76C10 (76V05)
Wan, C. R. (*with* Evans, David John[1]) Nineteen ways of systolic matrix multiplication. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 39–69. 65F30 (65Y05)
Wan, Cui Zhen (*with* Zhu, Ping[1]) Relations among some types of generalized regular semigroups (continued). (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 2, 55–57. 20M17
Wan, Daqing Dimension variation of classical and p-adic modular forms. (English summary) *Invent. Math.* **133** (1998), *no.* 2, 449–463. (Stefan Kühnlein) **99d:11039** 11F11 (11F25, 11F85)
— Computing zeta functions over finite fields. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 131–141, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Jonathan Pila) **99j:11073** 11G25 (14G10, 14G15)
Wan, De Jun (*with* Fang, Jian Cheng; Shen, Gong Xun; Li, Xue En; Dong, Xiao Yong) A study of the Kalman filtering method and the analysis of filtering accuracy in GPS kinematic positioning with speed observation. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 914–919. 93E11
Wan, Frederic Y. M. (*with* Gregory, R. Douglas; Milac, Thomas I.) A thick hollow sphere compressed by equal and opposite concentrated axial loads: an asymptotic solution. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 1080–1097 (*electronic*). (Summary) **99k:73034** 73C02 (73K15)
Wan, Guo-hua (*with* Lu, Bai-nian; Guo, Bo Ling) The global Dufort-Frankel difference approximation for nonlinear reaction-diffusion equations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 275–288. (Gert Lube) **99g:65095** 65M12
Wan, K. Kong (*with* Bradshaw, Jason; Trueman, Colin; Harrison, F. E.) Classical systems, standard quantum systems, and mixed quantum systems in Hilbert space. (English summary) *Found. Phys.* **28** (1998), *no.* 12, 1739–1783. (S. Gudder) **99k:81027** 81P05 (81P15, 81S05)
— (*with* Fountain, R. H.) Quantization by parts, maximal symmetric operators, and quantum circuits. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2153–2186. (Summary) **99h:82078** 82D55 (81P99)
Wan, Peng Jun Optimization problems in optical networks. *Handbook of combinatorial optimization, Vol.* 2, 543–588, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90C90)
— (*with* Du, Ding Zhu; Pardalos, Panos M.) An algorithm for the multi-access channel problem. (English summary) *Minimax theory and applications* (*Erice*, 1996), 261–270, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99c:49007**) 90B12 (68M10, 94A40)
— (*with* Liu, Liwu) Maximal throughput in wavelength-routed optical networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 15–26, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99i:90050** 90B12 (68Q25)
— (*with* Pavan, A.) A scalable TWDM lightwave network based on generalized de Bruijn digraph. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 397–414, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:90151** 90C35 (05C20, 68M10)
— (*with* Borchers, Al; Du, Ding Zhu; Gao, Biao) The k-Steiner ratio in the rectilinear plane. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 1–17. (Summary) **99h:68128** 68R10 (05C85, 68Q25)
— Conflict-free channel set assignment for an optical cluster interconnection network based on rotator digraphs. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 193–201. (Summary) **99h:68023** 68M10 (68R10)
— *see also* **Multichannel optical networks: theory and practice, 99g:68004**
Wan, Shidong (*with* Cao, Jin De; Li, Ji Bin) Periodic solutions of a class of forced second order Hamiltonian systems. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 310–315, *World Sci. Publishing, River Edge, NJ*, 1998. (Anna Germinario) **99j:34057** 34C25 (58E05, 58F22, 70H05)
— (*with* Cao, Jin De) Periodic solutions of higher-dimensional periodic systems with delay. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 316–319, *World Sci. Publishing, River Edge, NJ*, 1998. (From the text) **99j:34096** 34K15 (34C25)
— (*with* Li, Qiong; Cao, Jin De) Positive periodic solution for a neutral delay model in population. (English summary) *J. Biomath.* **13** (1998), *no.* 4, 435–438. (Summary) **99m:92032** 92D25
Wan, Tom Y. H. Stability of minimal graphs in products of surfaces. *Geometry from the Pacific Rim* (*Singapore*, 1994), 395–401, *de Gruyter, Berlin*, 1997. (From the introduction) **99f:58054** 58E20 (53C42)
— (*with* Tam, Luen-Fai) On quasiconformal harmonic maps. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 359–383. (Matti Vuorinen) **99b:58066** 58E20 (30C62)
Wan, Wei Ming (*with* Li, Dong Mei; Wang, Yan Bo[2]) Global stability of the Gause predator-prey model. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 1, 12–16. (Si Ming Zhu) **99c:92060** 92D40 (34D20)
— (*with* Chi, Xiaoheng) The generalized center-weak saddle of general homogeneous system of degree n. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 487–494. (Henryk Żołądek) **99a:34091** 34C05
Wan, Wun-Jung (*with* Chu, Peter) Newton-Raphson method for the expected present value of total inventory costs. (English summary) *J. Inform. Optim. Sci.* **20** (1999), *no.* 1, 129–136. (Summary) **99k:90070** 90B05 (65F10)
Wan, Yi (*with* Hu, Tie Song; Shen, Pei Jun; Guo, Yuan Yu) A goal programming method for improving the generalization performance of feedforward neural networks. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 34–39. 90C08 (90B10)
Wan, Yieh-Hei Bifurcation at Kirchhoff elliptic vortex with eccentricity $2\sqrt{2}/3$. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 3, 281–297. (Summary) **99g:76024** 76C05 (76E99)
Wan, Yong Some theorems on CR-products of quasi-Kähler manifolds. (Chinese) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 4, 427–430. (Bang-yen Chen) **99d:53061** 53C40 (53C15)
— Umbilical CR-submanifolds of quasi-Kähler manifolds. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 47–50. (Bang-yen Chen) **99g:53061** 53C40
— (*with* Gao, Qi Ju) Integrability of distributions over CR-submanifolds of a quasi-Kähler manifold. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 1, 7–9, 15. (Bang-yen Chen) **99e:53084** 53C40 (53C15)
Wan, Zhao Ze Menon difference sets in groups of order $4p^2q^{2h}$. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 482–486. (Surinder K. Sehgal) **99b:05022** 05B10

— Some results on the multiplier conjecture for the case $n = 5n_1$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 791–794. (Yong Gao Chen) **99k:05036** 05B10

Wan, Zhe-Xian ★ Quaternary codes. Series on Applied Mathematics, 8. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xii+242 *pp. ISBN* 981-02-3274-8 (Bram van Asch) **99f:94016** 94B05 (11T71, 94–02, 94B15)

— (*with* Wahlgren, Kristian) Studies on the squaring construction. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 279–295. (Simon N. Litsyn) **99e:11089** 11H31 (94B05)

— (*with* Wu, Xinwen) The weight hierarchies and generalized weight spectra of the projective codes from degenerate quadrics. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 223–243. (Mihai Caragiu) **99d:94040** 94B27 (94B60)

— A characteristic property of self-orthogonal codes and its application to lattices. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 477–482. (Summary) **99d:11072** 11H06 (94B05)

— (*with* Johannesson, Rolf; Wittenmark, Emma) Some structural properties of convolutional codes over rings. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 839–845. (Summary) **99c:94050** 94B10

Wan, Zhong Ping (*with* Wu, Guo Min) A generalized reduced gradient restoration algorithm and its convergence. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 4, 9–14. 90C30 (65K05)

— (*with* Ji, Chang Ming) An approximate ϵ-allowable direction method for solving stochastic programming problems with recourse linear inequality deterministic constraints. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 82–88. 90C15

Wand, M. P. (*with* Gijbels, Irène; Pope, Alun Lloyd) Understanding exponential smoothing via kernel regression. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 39–50. (Summary) **99i:62065** 62G05

Wandell, Brian A. (*with* Teo, Patrick C.; Sapiro, Guillermo) Anisotropic smoothing of posterior probabilities. *Dynamical systems, control, coding, computer vision* (*Padova*, 1998), 419–432, *Progr. Systems Control Theory*, 25, *Birkhäuser, Basel*, 1999. (*see* **99k:93006**) 68U10

ngatchou Wandji, Joseph *see* **Ngatchou Wandji, Joseph**

Wands, David (*with* Holden, Damien J.) Phase-plane analysis of Friedmann-Robertson-Walker cosmologies in Brans-Dicke gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3271–3290. (Summary) **99h:83044** 83D05

— (*with* Copeland, Edmund J.; Liddle, Andrew R.; Lidsey, James E.) Black holes and gravitational waves in concert—a probe of superstring cosmology. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1711–1715. (Mark D. Roberts) **99m:83184** 83E30 (83C35, 83C57, 83F05)

Wandzura, Stephen M. (*with* Canino, Lawrence F.; Ottusch, John J.; Stalzer, Mark A.; Visher, John L.) Numerical solution of the Helmholtz equation in 2D and 3D using a high-order Nyström discretization. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 627–663. 65M60 (78–08)

Wang, Alan P. (*with* Wang, Cecilia Y.) Identification of a dissipative transport system. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 1, 33–41. (Masamichi Matsumoto) **99c:85001** 85A25 (82C70)

Wang, An The Einstein-Kähler metrics on a class of Reinhardt domains and their curvatures. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 473–478. (Shanyu Ji) **99a:32041** 32L07 (32A07)

Wang, An Bin The maximum terms of entire functions defined by hyperspherical series. (Chinese. English summary) *Hunan Ann. Math.* **18** (1998), *no.* 1, 31–34. (Summary) **99h:30031** 30D15

Wang, An Xing (*with* Zheng, Li Hui; Feng, Shan; Zhang, Jing Tian) A differential game approach to option pricing: theoretical analysis. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 10–12. 90A09 (90D25)

— (*with* Zheng, Li Hui; Feng, Shan; Zhang, Jing Tian) A differential game approach to the option pricing problem: numerical analysis. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 11, 47–49. 90A09 (90D25)

Wang, Anzhong (*with* Hirschmann, Eric W.) Spherical self-similar solutions in Einstein-multi-scalar gravity. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 383–388. (Serguey M. Pokas′) **99m:83042** 83C20 (83C15)

— (*with* Wu, Yumei) Generalized Vaidya solutions. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 107–114. (Pankaj S. Joshi) **99j:83017** 83C15

Wang, Baiyan (*with* Ou, Zhiying; Yan, Keming; Zhang, Shengchang) Weakly augmented Lagrange-function projected gradient methods for nonlinear programming. (English summary) *J. Gansu Univ. Technol. (Engl. Ed.)* **2** (1998), *no.* 1, 85–87. 90C30 (65K05)

Wang, Bao Fu A topological sphere theorem for even-dimensional compact Riemannian manifolds of bounded volume. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 5, 581–583. (Quo-Shin Chi) **99b:53050** 53C20

— A topology property of Riemannian manifold about radial curvature. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 2, 158–161. (Joseph E. Borzellino) **99i:53037** 53C20 (53C22)

— A topological sphere theorem about radial curvature. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 344–347. (Bang-yen Chen) **99k:53073** 53C20

Wang, Bao Qin (*with* Chen, Chun Li) Construct Lagrange submanifold from shrinking the isotropic submanifold. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 97–101. (Raúl Ibáñez) **99f:53033** 53C15 (58F05)

— (*with* Chen, Chun Li; Zhang, Fei Jun) Casimir functions in Poisson manifolds and the generalized Hamilton equation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 129–132. 58F05 (70H05)

Wang, Bao Xiang (*with* Wang, Ting Fu) The characteristic of weak convergence on Banach sequence lattices. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 799–807. (Anatolij M. Plichko) **99h:46031** 46B45

— Bessel (Riesz) potentials on Banach function spaces and their applications. I. Theory. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1007–1012. (Summary) **99m:46091** 46E35 (47D06)

— (*with* Hudzik, Henryk) On the smallest singular seminorm in a class of normed Köthe function spaces. (English summary) *Comment. Math. Prace Mat.* **38** (1998), 43–52. (Summary) **99k:46043** 46E30

— (*with* Hudzik, Henryk) Approximate compactness in Orlicz spaces. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 82–89. (Alberto Fiorenza) **99h:46043** 46E30 (46B20)

— The global Cauchy problem for the critical and subcritical nonlinear Schrödinger equations in H^s. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 173–192. (Summary) **99e:35215** 35Q55

— On existence and scattering for critical and subcritical nonlinear Klein-Gordon equations in H^s. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 573–587. (Valery Covachev) **99b:35150** 35L70 (35Q53)

— (*with* Wang, Ting Fu) Support functionals and smooth points in abstract M spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1761–1770. (Henryk Hudzik) **99i:46018** 46E30 (46B20, 46B42)

Wang, Baozhong (*with* Kang, Li Shan; He, Wei) Investigation of CAM-Brain by using EQUnn model. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 2, 139–142. 68T05

Wang, Ben Li (*with* Wu, Zhi Gang; Ma, Xing Rui) Theory and method of optimal control solution to dynamic system parameters identification. I. Fundamental concept and deterministic system parameters identification. *Appl. Math. Mech. (English Ed.)* **20** (1999), *no.* 2, 135–142; *translated from Appl. Math. Mech.* **20** (1999), *no.* 2, 127–133 (*Chinese. English and Chinese summaries*). 49N55 (93B30)

Wang, Bi Xiang (*with* Cao, Zhen Chao; Guo, Bo Ling) Existence of global solutions to the two-dimensional Ginzburg-Landau equation with derivative terms. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 17, 1809–1812. 35K55 (35Q35, 76E30)

— (*with* Guo, Bo Ling) Gevrey class regularity and approximate inertial manifolds for the Newton-Boussinesq equations. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** no. 2, 283. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 179–188. (Summary) **99i:35131** 35Q35 (34G20, 35K55, 47H20, 58F39, 76D99)

— (*with* Cao, Zhen Chao; Guo, Bo Ling) Global existence theory for the two-dimensional derivative Ginzburg-Landau equation. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 393–395. (Yisong Yang) **99b:35191** 35Q55 (76E30)

— (*with* Kaper, Hans G.; Wang, Shou Hong) Determining nodes for the Ginzburg-Landau equations of superconductivity. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 205–224. (Peter E. Zhidkov) **99d:35154** 35Q55 (58F39, 82D55)

— (*with* Wang, Shou Hong) Gevrey class regularity for the solutions of the Ginzburg-Landau equations of superconductivity. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 507–522. (Peter E. Zhidkov) **99d:35155** 35Q55 (58F39, 82D55)

— (*with* Guo, Bo Ling) Attractors for the long-short wave equations. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 4, 361–383. (Marcel Oliver) **99m:35227** 35Q55 (35B40, 47H20)

— Regularity of attractors for the Benjamin-Bona-Mahony equation. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7635–7645. (Summary) **99i:35141** 35Q53 (34G20, 35B40, 47H20, 58F39)

Wang, Biing-Feng (*with* Shyu, Daw-Jong; Tang, Chuan Yi) Efficient emulations for X-trees and m-ary trees. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 2, 95–116. 90B12 (65Y05)

— Simulating the CRCW PRAM on reconfigurable networks. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 231–242. (Summary) **99f:68084** 68Q22 (68M10)

Wang, Bin Asymptotics of the Archimedean height pairing. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 229–249. (Jörg Jahnel) **99i:32013** 32C17 (14G40, 32J27)

Wang, Bin² (*with* Feng, Sze-Shiang; Qiu, Xi-Jun; Zong, Hong-Shi) Bosonization to order $1/m$ by duality in three dimensions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 29, 2393–2398. (Summary) **99g:81137** 81T16

— (*with* Su, Ru-Keng) Two kinds of extreme black holes and their classification. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 69–73. (Summary) **99c:83063** 83C57

— (*with* Su, Ru-Keng; Yu, P. K. N.) Quantum entropy of two-dimensional extreme charged dilaton black hole. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2, 47–51. (Summary) **99g:83061** 83C57

— (*with* Su, Ru-Keng; Yu, P. K. N.; Young, Enoch C. M.) Can a nonextremal Reissner-Nordström black hole become extremal by assimilating an infalling charged particle and shell? (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5284–5286. 83C57

— (*with* Su, Ru-Keng; Yu, P. K. N.) Geometry of the extreme Kerr black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124026, 4 *pp.* (Summary) **99k:83088** 83C57

Wang, Bing Wu (*with* Shi, Shu Zhong) Geometric conditions for differentiability of a regular locally Lipschitz function. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 307–312. (Yubo Chen) **99m:46108** 46G05 (46B20, 49J50, 58C20)

— (*with* Cheng, Li Xin; Shi, Shu Zhong; Lee, E. Stanley) Generic Fréchet differentiability of convex functions dominated by a lower semicontinuous convex function. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 389–400. (Nikolay V. Zhivkov) **99m:49021** 49J50 (46G05, 58C20)

Wang, Bing Xiu (*with* Mao, Sheng Rong) NF-continuity of order-homomorphisms. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 4, 14–18. 54A40 (06F30, 54C08)

Wang, Bingshan (*with* Luo, Tiegeng; Chen, Huo Wang; Wang, Ji; Gong, Zhenghu; Qi, Zhichang) Verifying automata specification of distributed probabilistic real-time systems. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 588–596. (Summary) **99m:68123** 68Q60

— (*with* Li, Zhoujun; Chen, Huo Wang) Universal abstract consistency class and universal refutation. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 165–172. (Summary) **99k:68176** 68T15 (03B35)

Wang, Bo-Hyeun (*with* Roychowdhury, Shounak) On generalized Hamacher families of triangular operators. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 419–439. (Summary) **99h:04007** 04A72

Wang, Bo Ying *see* **Wang, Bo Ying²**

Wang, Bo Ying¹ Some properties of LCM matrices. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 49–53. (Gautami Bhowmik) **99b:11022**

11C20 (15A15)
— (*with* Hou, Yaoping) Multi-extension of arithmetic functions and its applications. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 226–230. (Jean-Marie De Koninck) **99f:11012** 11A25
— (*with* Zhang, Fuzhen) On the precise number of (0, 1)-matrices in $\mathfrak{A}(R, S)$. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 211–220. (Summary) **99f:05010** 05A19 (05B20, 15A36)
— (*with* Zhang, Fuzhen) On zero-one symmetric and normal matrices. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 159–164. (Shu An Hu) **99i:15038** 15A57
— (*with* Zhang, Fuzhen) On normal matrices of zeros and ones with fixed row sum. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 617–626. (Takeo Funakura) **99e:05028** 05B20 (15A36)
— (*with* Lei, Tian-Gang) Indices and nonzero decomposable elements of a symmetry class of tensors. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 21–30. (John Chollet) **99k:15048** 15A69 (15A72)
— On the singularity of LCM matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 1040–1044 (*electronic*). (Summary) **99d:15013** 15A36 (11C20, 15A09)
Wang, Bo Ying[2] (*with* Qu, Cheng Qin) A note on isospectral cosymplectic manifolds. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 266–271. (De Tang Zhou) **99e:58196** 58G25 (53C15)
Wang, Bo-Yun (*with* Wang, Ji-Suo; Sun, Chang-Yong) Even and odd qs-coherent states and their photon-statistical properties. (English summary) *Phys. Lett. A* **246** (1998), *no.* 5, 464–470. (Summary) **99f:81086** 81R30 (81R50, 81V80)
Wang, Bor-Chyun (*with* Shen, Sy-Kang; Lee, Tsu-Tian) An improved algorithm for computing the boundary of parametric rational functions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 227–231. 93B40 (93B35)
Wang, Boying *see* **Wang, Bo Ying**[1]
Wang, C. *see* **Wang, Charles H.-T.**
Wang, C. B. *see* **Wang, Chie Bing**
Wang, C. H. (*with* Wang, Hsiao Fan) A fixed-charge model with fuzzy inequality constraints composed by max-product operator. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 23–29. (Summary) **99e:92006** 92B20
Wang, C. M. *see* **Wang, Chien Ming**
Wang, C. P. *see* **Wang, Chang Ping**[1]
Wang, C.-W. *see* **Wang, Chun-Wei**
Wang, C. Y. *see* **Wang, Ching-Yun**
Wang, Cai Shi (*with* Huang, Zhi Yuan) Preservation of positivity by differential second quantization. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 31–32. 81S25
Wang, Cao An (*with* Chin, Francis Y. L.; Yang, Bo Ting) Maximum weight triangulation and its application on graph drawing. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 25–34, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68U05 (68R10)
— (*with* Tsin, Yung H.) Finding constrained and weighted Voronoi diagrams in the plane. (English summary) *Comput. Geom.* **10** (1998), *no.* 2, 89–104. (Summary) **99a:52020** 52B55 (68U05)
— (*with* Chin, Francis Y. L.) Finding the constrained Delaunay triangulation and constrained Voronoi diagram of a simple polygon in linear time. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 472–487 (*electronic*). (Evangelos Kranakis) **99g:68043** 68P05 (68U05)
Wang, Catherine B. (*with* Carpinelli, John D.) Performance of a new decomposition algorithm for rearrangeable fault-tolerant Clos interconnection networks under sub-maximal and no-fault conditions. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 103–117, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C12 (68M15)
Wang, Cecilia Y. (*with* Wang, Alan P.) Identification of a dissipative transport system. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 1, 33–41. (Masamichi Matsumoto) **99c:85001** 85A25 (82C70)
Wang, Chang-bin (*with* Huang, Tian Yi; Zhao, Zhang-yin) The relation between symmetric and symplectic methods. (English summary) *Chinese Astronom. Astrophys.* **22** (1998), *no.* 1, 101–112. (Benedict J. Leimkuhler) **99b:70001** 70–08 (58F05, 65L99)
Wang, Chang Ping *see* **Wang, Chang Ping**[2]
Wang, Chang Ping[1] (*with* Liu, Huili L.) Centroaffine surfaces with parallel traceless cubic form. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 4, 493–499. (Summary) **99g:53015** 53A15
— (*with* Liu, Huili L.; Simon, Udo) Codazzi tensors and the topology of surfaces. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 189–202. (Bang-yen Chen) **99d:53007** 53A05 (53A15, 53C40)
— (*with* Liu, Huili L.; Simon, Udo) Higher order Codazzi tensors on conformally flat spaces. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 329–348. (Xingwang Xu) **99m:53067** 53C20 (53A15, 53A30)
Wang, Chang Ping[2] (g, f)-factors of graphs. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 83–86. 05C70
— (*with* Ji, Chang Ming) Some new results on k-covered graphs. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 61–64. 05C70
Wang, Chang Yi Some exact solutions of the vibration of non-homogeneous membranes. *J. Sound Vibration* **210** (1998), *no.* 4, 555–558. (From the text) **99a:73088** 73K12 (73K10)
Wang, Chang Yu (*with* Zhang, Yu Zhong) Global convergence property of s-dependent GFR conjugate gradient method. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 23, 1959–1965. 90C30 (65K05)
— (*with* Zhang, Yu Zhong) Global convergence of the s-correlated GER conjugate gradient method. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 13, 1377–1382. 90C30 (65K05)
— (*with* Zhou, Guang Lu; Zhang, Yu Zhong) An efficient method for semi-infinite programming. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 1–8. 90C34
Wang, Chang Yuan (*with* Li, Xuan Ping) A geometric continuity condition for triangular Bézier surface patches. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 215–217. 65D17 (41A63)
Wang, Changping *see* **Wang, Chang Ping**[1]
Wang, Changqun (*with* Wang, Dianjun; Xu, Ming-Yao) Normal Cayley graphs of finite groups. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 242–251. (Tullio G. Ceccherini-Silberstein) **99g:20056** 20F05 (05C25)
Wang, Changyin (*with* Zhao, Shuangsuo; Zhang, Guo Feng[1]) The convergence of two Newton-like methods for solving block nonlinear equations and a class of r-point $(r+1)$st-order A-stable one-block methods. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 1, 117–133. (Summary) **99a:65095** 65L20
Wang, Changyou (*with* Lin, Fang Hua) Energy identity of harmonic map flows from surfaces at finite singular time. *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 4, 369–380. (Joseph F. Grotowski) **99k:58047** 58E20 (35K55, 58G11)
— (*with* Hardt, Robert; Lin, Fang Hua) The p-energy minimality of $x/|x|$. *Comm. Anal. Geom.* **6** (1998), *no.* 1, 141–152. (Martin Fuchs) **99c:58045** 58E20
— Minimality and perturbation of singularities for certain p-harmonic maps. *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 725–740. (Martin Fuchs) **99h:58044** 58E20
— Boundary partial regularity for a class of harmonic maps. *Comm. Partial Differential Equations* **24** (1999), *no.* 1-2, 355–368. (Giandomenico Orlandi) **99k:58051** 58E20 (35B65, 35J99)
— A remark on harmonic map flows from surfaces. (English summary) *Differential Integral Equations* **12** (1999), *no.* 2, 161–166. (Zhi Ren Jin) **99k:58052** 58E20
Wang, Charles H.-T. (*with* Teyssandier, P.; Tucker, Robin W.) On an interpretation of non-Riemannian gravitation. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 987–994. (Summary) **99m:53037** 53B50 (83D05)
— (*with* Tucker, Robin W.) Dark matter gravitational interactions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 933–954. (Summary) **99a:83075** 83F05
Wang, Cheng-De Frame starters and adders in dicyclic groups. (English summary) *J. Combin. Des.* **6** (1998), *no.* 5, 347–353. (Jeffrey H. Dinitz) **99i:05043** 05B15
Wang, Cheng Hong (*with* Jiang, Chang Jun; Shu, Song Gui; Zheng, Ying Ping) Embedding operations of Petri nets and their use for establishing hierarchies in concurrent systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 551–557. 68Q90 (68Q10)
Wang, Cheng Yong Asymptotic estimates of the average errors of best uniform approximation on the Wiener space. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 47–54; *translation in Chinese J. Contemp. Math.* **19** (1998), *no.* 1, 1–8. (Yong Ping Liu) **99d:41043** 41A44 (41A65, 46G99, 60B05, 60B10)
Wang, Chengwen Multiplicity of periodic solutions for Duffing equation. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 105–121. (Irena Rachůnková) **99a:34124** 34C25 (34B15, 47H15, 47N20)
Wang, Chern-Shuh (*with* Ferng, W. R.; Lin, Wen-Wei) Numerical algorithms for undamped gyroscopic systems. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 49–66. (Summary) **99j:70002** 70–08 (65F99, 70J05)
— (*with* Lin, Wen-Wei; Xu, Quan-Fu) On the computation of the optimal $\mathbf{H}_\infty$ norms for two feedback control problems. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 223–255. (Summary) **99i:93019** 93B36 (65F30, 93B40)
Wang, Chi (*with* McMorris, F. R.; Zhang, Peisen) On probe interval graphs. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 315–324. (Michael A. Steel) **99k:92020** 92D20 (05C15, 05C90)
— (*with* Kézdy, André E.) Alternating walks in partially 2-edge-colored graphs and optimal strength of graph labeling. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 261–265. (Summary) **99g:05078** 05C15 (05C85)
Wang, Chia-Li (*with* Wolff, Ronald W.) The $M/G/c$ queue in light traffic. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 1, 17–34. (Summary) **99e:60208** 60K25
Wang, Chie Bing (*with* McLeod, J. Bryce) Relation between Painlevé-II ($\alpha = 0$) and Painlevé-II ($\alpha = \pm 1/2$). (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 241–247. (From the text) **99f:34007** 34A25 (34A05)
Wang, Chien Ming (*with* Reddy, J. N.) Deflection relationships between classical and third-order plate theories. (English summary) *Acta Mech.* **130** (1998), *no.* 3-4, 199–208. (Summary) **99c:73044** 73K10
Wang, Chih-Hung (*with* Hwang, Tzonelih) Arbitrated unconditionally secure authentication scheme with multi-senders. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 189–193. (Summary) **99d:94026** 94A60
Wang, Ching-Yun (*with* Wang, Suojin; Gutierrez, Roberto G.; Carroll, Raymond J.) Local linear regression for generalized linear models with missing data. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1028–1050. (Thomas A. Severini) **99g:62101** 62J12 (62G07)
Wang, Chuan Long (*with* Wang, Hua) Relations among some stability properties of matrices. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 109–112. 15A42
— k diagonal product theorems for eigenvalue estimates. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 7–11. 65F15
— K-diagonally dominant matrices. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 28–32. 15A57
Wang, Chuan-Rong (*with* Yang, Qiao-Lin) Linear conjugate boundary value problems. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 381–390, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99h:30037** 30E25
Wang, Chun Feng (*with* Li, Guang Quan; Zheng, Pi E) Two-level optimization problems: necessary condition and algorithms. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 92–99. 90C30 (90D65)
Wang, Chun Hua (*with* Yuan, Cun De) Persistence and periodic solutions of nonautonomous Schoner models with diffusion. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 2, 7–16. (Jiong Yu Wu) **99c:92051** 92D25 (34C25)
Wang, Chun Jie The arc length of the lemniscate $|w^2 + c| = 1$. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 3, 297–301. 26A06

— Some reducible configurations of planar graphs. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 4, 10–13. 05C10 (05C15)

— An upper bound for the John constant. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 18, 1926–1929. 30C55

Wang, Chun Lin (*with* Hu, Shi Geng) Positive solutions of boundary value problems for second-order systems. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 22–27. (Jun Yu Wang) **99a:34063** 34B15 (47N20)

— (*with* Hu, Shi Geng; Shen, Yi[2]) Positive radial solutions for a class of semilinear elliptic equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 29–33. (Summary) **99e:35077** 35J65 (34B15, 35B05)

Wang, Chun Sen (*with* Wang, Yang Xian; Ma, Chang Li) Association schemes of quadratic forms over a finite field of characteristic two. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 23, 1965–1968. (Paul-Hermann Zieschang) **99j:05200** 05E30 (11T30)

— (*with* Wang, Yang Xian; Ma, Chang Li) Association schemes of quadratic forms over finite fields of characteristic 2. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 14, 1482–1484. 05E30

Wang, Chun-Wei (*with* Rusak, Z.) Similarity solutions of $\varphi_x^3\varphi_{xx} = \varphi_{yy}$ with applications to transonic aerodynamics of dense gases. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 514–528 (*electronic*). (Peter A. Vel'misov) **99k:76087** 76H05 (34A34, 35Q35, 76N10)

Wang, Chung-Shin (*with* Yang, Gou-Sheng) Some refinements of Hadamard's inequalities. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 2, 87–92. (J. Sándor) **99f:26040** 26D15

— (*with* Yang, Gou-Sheng) On refinements of Hadamard's inequalities. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 183–191. (From the introduction) **99k:26028** 26D15

— Note on inequalities about means. (English summary) *Tamsui Oxf. J. Math. Sci.* **13** (1997), 57–64. (Summary) **99c:26020** 26D15

Wang, Chunmiao (*with* Xu, Sen Lin) Minimal submanifolds in a sphere. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 1–7, 12. (José Carmelo González-Dávila) **99i:53065** 53C42

Wang, Cong Hua Optimal information and optimal errors in reproducing kernel spaces. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 37–40. 65D15 (46E22, 46N40)

Wang, D. F. *see* **Wang, Deng Feng**

Wang, D. W. L. (*with* Gorbet, R. B.; Morris, K. A.) Control of hysteretic systems: a state-space approach. *Learning, control and hybrid systems* (*Bangalore*, 1998), 432–451, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C10 (93B51)

Wang, Da Cheng (*with* Cao, Shi Yi) A new topological nonempty intersection theorem with applications to equilibrium problems in abstract economics. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 4, 14–20. (Summary) **99e:90021** 90A14

Wang, Da Hai (*with* Liu, Ming Hui; Gao, Yuan Yuan) Comment: "An improvement and strengthening of the Negoiță–Ralescu representation theorem" [Beijing Shifan Daxue Xuebao **1980**, no. 3-4, 41–46; MR 84k:03134] by P. Z. Wang and X. G. Chen. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 4, 13–15. 03E72

Wang, Da Wei *see* **Wang, Da Wei[2]**

Wang, Da-Wei[1] (*with* Tsai, Kuo-Hui) Lower bounds for wide-sense non-blocking Clos network. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 213–218, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 90B10 (90C35)

— (*with* Lu, Xiao Yun[1]; Chang, Gerard J.; Lin, In-Jen; Wong, Chak Kuen) On k-ary spanning trees of tournaments. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 167–176. (A. G. Thomason) **99j:05084** 05C20 (05C05, 05C35)

Wang, Da Wei[2] (*with* Zhu, Yan Tang) The equivalence of robustness and stability for stationary sequences. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 74–77. 62M10

Wang, Dajin On embedding binary trees into folded hypercubes. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 89–97. (Summary) **99j:05057** 05C10 (68R10)

Wang, Danwei (*with* Cheah, Chien Chern) A model reference learning control scheme for a class of nonlinear systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 271–287. 93E35 (93C10)

Wang, Dao-liu (*with* Feng, Kang) Variations on a theme by Euler. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 97–106. (Werner M. Seiler) **99j:70021** 70H05 (34A45, 65L99, 70–08)

Wang, De Ren (*with* Zhao, Fengguang) The globalization of Durand-Kerner algorithm. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 11, 1045–1057; *translated from Appl. Math. Mech.* **18** (1997), *no.* 11, 975–986 (*Chinese. English and Chinese summaries*). (Iliya Makrelov) **99d:65167** 65H20

— (*with* Zhang, Jian Jun) The embedding method for nonsmooth equations. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 184–190. (T. Y. Li) **99d:90132** 90C33 (65H05)

— (*with* Gu, Gui Ding) A family of nonstationary inner/outer iterative methods for the solution of large systems of linear equations. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 346–356. (Summary) **99b:65054** 65F10

— (*with* Zhang, Jian Jun) A class of decomposition methods for large-scale systems of nonlinear equations. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **6** (1997), *no.* 1, 90–106. (Beny Neta) **99b:65069** 65H10

— (*with* Bai, Zhong Zhi; Evans, David John[1]) A class of asynchronous matrix multi-splitting multi-parameter relaxation iterations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 221–238. (David R. Kincaid) **99j:65076** 65F50 (65F10)

— (*with* Zhao, Fengguang) A class of iteration method for the best approximation problems. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 1, 15–21. (Summary) **99d:65034** 65D15 (41A10)

— (*with* Gu, Gui Ding) A compact representation of multiple Broyden updating matrices and a multiple memory updating algorithm. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 130–140. 65H10 (90C30)

Wang, De Sheng (*with* Zhang, Yu Fen) π-group congruence on an eventually regular semigroup. *J. Pure Math.* **14** (1997), 4–9. (Branka P. Alimpić) **99m:20148** 20M17

— (*with* Zhang, Yu Fen) Semidirect products and wreath products of right (left) inverse monoids. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 216–220. (Summary) **99g:20111** 20M18

— (*with* Zhang, Yu Fen; Li, Shi Zheng) Semidirect products of monoids and their congruences. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 1–4, 39. (Yu Qi Guo) **99m:20146** 20M17

Wang, De Xin (*with* Wang, Yu Chuan; Lu, Jie Ping; Ma, Rui'e) An adaptive BP algorithm based on fuzzy reasoning. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 55–62. 92B20 (68T05, 90C70)

Wang, Dehua (*with* Chen, Gui-Qiang) Formation of singularities in compressible Euler-Poisson fluids with heat diffusion and damping relaxation. (English summary) *J. Differential Equations* **144** (1998), *no.* 1, 44–65. (Denis Serre) **99b:35178** 35Q35 (35L67, 76N10)

— On the Cauchy problem of some dissipative flows. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 479–494. (Maria Elena Schonbek) **99b:35126** 35L60 (35Q60)

— (*with* Chen, Gui-Qiang) Shock capturing approximations to the compressible Euler equations with geometric structure and related equations. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 341–362. (V. D. Sharma) **99e:35141** 35L67 (65M99, 76L05, 76M25, 76N15)

— Global solutions and stability for self-gravitating isentropic gases. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 530–542. (Alan D. Rendall) **99k:76124** 76N10 (35L65, 35Q35)

Wang, Deli The oscillation of a class nonlinear matrix differential equation. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 3, 287–295. (J. B. Butler, Jr.) **99a:34100** 34C10

Wang, Deng Feng On chiral Hubbard model at strong interaction. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 330–333, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— (*with* Gruber, Ch.) One-dimensional lattice models of electrons with r^{-2} hopping and exchange. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 394–401, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

Wang, Deng Yin (*with* Li, Shang Zhi) Overgroups of $L_1(F)$ in $L(F)$. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 3, 264–269. (Yu Chen) **99m:20107** 20G15 (20E28, 20E32)

Wang, Deqiang (*with* Zhao, Lianchang) The twisted-cube connected networks. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 181–187. 68M10

Wang, Derming (*with* Aluthge, Ariyadasa) An operator inequality which implies paranormality. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 113–119. (Summary) **99j:47029** 47B20 (47A63)

Wang, Deshen (*with* Li, Zhilin; Zou, Jun) Theoretical and numerical analysis on a thermoelastic system with discontinuities. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 1, 37–58. (Summary) **99d:73012** 73B30 (65M06, 65M12, 73V20)

Wang, Dianhui (*with* Soh, Cheong Boon) On regularizing singular systems by decentralized output feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 148–152. 93A14 (93B52)

Wang, Dianjun (*with* Wang, Changqun; Xu, Ming-Yao) Normal Cayley graphs of finite groups. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 242–251. (Tullio G. Ceccherini-Silberstein) **99g:20056** 20F05 (05C25)

Wang, Ding Guo (*with* Yu, Zenghai; Bai, Changzhen) On the generalization of injectivity and von Neumann regularity. (English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 2, 183–188. (Giuseppe Baccella) **99k:16008** 16D50 (16E50)

— On derivations and commutativity for prime Γ-rings. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 99–112. (Howard E. Bell) **99g:16062** 16Y99 (16U80, 16W25)

— On essential strong-nilpotency of Γ-rings. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 685–695. (C. J. Maxson) **99d:16054** 16Y99

— (*with* Li, Jin Qi) Coalgebras and Morita-Takeuchi contexts. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 569–576. (Fang Li) **99g:16050** 16W30

— (*with* Xiao, Feng[3]; Lu, Jie Qing) The Maschke theorem for Hopf comodule coalgebras. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 1–4. (Fang Li) **99k:16088** 16W30

Wang, Ding Jiang Properties of the solutions of a nonlinear population evolution equation. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 23–30. (Summary) **99b:35200** 35Q80 (35K55, 45K05, 92D25)

Wang, Ding Wei (*with* Tang, Jia Fu; Ip, A.; Fung, R. Y. K.) A hybrid genetic algorithm for a type of nonlinear programming problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 11–21. 90C30 (65K05)

— (*with* Tang, Jia Fu) A fuzzy optimal solution method based on genetic algorithms for a symmetric fuzzy nonlinear programming model. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 525–530. 90C70 (90C30)

— (*with* Tang, Jia Fu) A model based on genetic algorithms for a class of nonlinear programming problems with fuzzy resources. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 58–67. 90C70

Wang, Ding Xing (*with* Yang, Guang Wen; Li, Xiao Ming[1]; Wang, Yi He; Zheng, Wei Min) Deterministic annealing. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 765–768. 90C27 (65C99)

Wang, Dongming Decomposing polynomial systems into simple systems. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 3, 295–314. (Bernard Mourrain) **99d:68130** 68Q40 (13P99, 14Q99)

Wang, Duo (*with* Wang, Xiaofeng[2]; Tang, Yun) Recognition and classification for $O(n)$-equivariant bifurcations with $O(n)$-codimension less than 5. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 391–400. (Ian Melbourne) **99k:58130** 58F14 (34C23, 34C35)

— (*with* Wang, Xiaofeng[2]; Tang, Yun) Isomorphism between systems of equivariant singularities. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 26–45.

(Michael Dellnitz) **99m:58033** 58C27 (58E40)

— (*with* Wang, Xiaofeng[2]) The C^1 closing lemma for non-singular endomorphisms equivariant under free actions of finite groups. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4173–4182. (Romeo F. Thomas) **99m:58125** 58F10

Wang, E. *see* **Wang, Emei**

Wang, Edward T. H. (*with* Shan, Zun) A simple proof of a curious congruence by Sun. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1289–1291. (Richard P. Lewis) **99h:11006** 11A07

Wang, Efang (*with* Xu, Maozhi) A break of public key cryptosystem PKCY. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 4, 396–404. 94A60 (68P25)

Wang, Emei (*with* Berenstein, Carlos A.; Chang, Der-Chen E.) Determining a surface breaking crack from steady-state electrical boundary measurements—reconstruction method. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 63–92 (1998). (Summary) **99i:78014** 78A30 (35J05, 35R30, 78A55)

Wang, En Ping A sufficient condition for robust stabilization of interval plants. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 289–293. 93D21

— (*with* Geng, Zhi Yong) Robust stabilization for a family of multilinear polytopic plants. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 382–386. 93D21

— Robust stabilization of system with numeratoral factor perturbation. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 184–192. (Hartmut Logemann) **99d:93051** 93D09 (93D21)

— (*with* Geng, Zhi Yong) *D*-stability testing for the interval matrix family. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 218–226. (Jacek Kabziński) **99i:93047** 93D09

Wang, F. Y. *see* **Wang, Frank Young**

Wang, Fan[1] (*with* Ding, Xie Ping) Solutions for a system of nonlinear random integral and differential equations under weak topology. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 8, 721–737; *translated from Appl. Math. Mech.* **18** (1997), *no.* 8, 669–684 (*Chinese. English and Chinese summaries*). (A. Nowak) **99b:47103** 47H40 (34F05, 45G10, 47H10, 47N20, 60H25)

— (*with* Zhang, Shi Sheng; Kang, Shi-kun) On the existence problems of solutions for nonlinear operator equations with probabilistic contractor in PN-spaces. (English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **1** (1997), *no.* 1, 94–102. (S. L. Singh) **99e:47101** 47S50 (47H15, 47H40, 60H25)

— (*with* Zhang, Shi Sheng) On the initial value problems of first order impulsive differential systems. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 4, 303–308; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 279–284 (*Chinese. English and Chinese summaries*). (Summary) **99c:34019** 34A37 (34A12)

Wang, Fang Gui A note on two-dimensional rings. *Comm. Algebra* **27** (1999), *no.* 1, 405–409. (J.-P. Lafon) **99m:13027** 13D05 (13H99)

— (*with* McCasland, R. L.) On strong Mori domains. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 2, 155–165. (Valentina Barucci) **99m:13044** 13G05 (13A15, 13F05)

Wang, Fei-Yue (*with* Huang, Ziyu; Chen, David D. Q.; Lever, Paul J. A.) Refinement and generation of decision rules through training and augmentation of neural networks. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 329–360. 93C42 (93C83)

Wang, Feng Error estimates for generalized difference methods for parabolic integro-differential equations. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 4, 387–396. (Summary) **99b:65179** 65R20

Wang, Feng Ru (*with* Zhang, Shu Li) A relation matrix scheduling algorithm for dependent tasks in multiprocessors. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 933–938. 68M20

Wang, Feng Yu Sharp explicit lower bounds of heat kernels. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1995–2006. (Alberto G. Setti) **99e:58176** 58G11 (58G32, 60H10, 60H30)

— The lifetime of diffusion processes and an application to conditioned diffusions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 497–500. (From the summary) **99e:60180** 60J60

— (*with* Chen, Mu Fa) Cheeger's inequalities for general symmetric forms and existence criteria for spectral gap. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 18, 1516–1518. 60J25 (58G32)

— (*with* Thalmaier, Anton) Gradient estimates for harmonic functions on regular domains in Riemannian manifolds. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 109–124. (Emilio Ramón Negrín) **99g:58132** 58G32 (31B05, 60J35)

— (*with* Chen, Mu Fa) A general symmetric form of Cheeger's inequality and a criterion for the existence of spectral gaps. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 14, 1475–1477. 26D20 (47B99)

Wang, Frank Young (*with* Kalkhoran, I. M.; Smart, M. K.) Supersonic vortex breakdown during vortex/cylinder interaction. (English summary) *J. Fluid Mech.* **369** (1998), 351–380. (Summary) **99f:76080** 76J20 (76C05, 76L05)

Wang, Fu Jun (*with* Xu, Da) Finite element approximations for a class of parabolic integrodifferential equations with weakly singular kernels and nonsmooth initial data. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 2, 7–15. 65R20 (65M60)

Wang, Fu Min (*with* Gu, Guo Hua; Wang, Wei) A traffic assignment model for an urban network with link goal targets. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 3, 40–46. 90C08 (90B06)

Wang, Fu Xin (*with* Hu, Hai Yan) An algorithm for locating coexisting periodic solutions of nonlinear oscillators. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **15** (1998), *no.* 1, 105–108, *IX*. 34C25 (34C15)

Wang, G. *see* **Wang, Gang[2]**

Wang, G. S. *see* **Wang, Geng Sheng**

Wang, Gang (*with* Huang, Shou Dong; Jing, Yuan Wei) Decentralized stabilization and output tracking of uncertain symmetric composite systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 286–289. (Long Wang) **99i:93059** 93D15 (93A13)

Wang, Gang[2] (*with* Bañuelos, Rodrigo) Orthogonal martingales under differential subordination and applications to Riesz transforms. *Illinois J. Math.* **40** (1996), *no.* 4, 678–691. (B. Grigelionis (Zbl 883.60042)) **99a:60047** 60G44 (31B05, 60E15, 60G46)

— (*with* Ash, J. Marshall) A survey of uniqueness questions in multiple trigonometric series. (English summary) *Harmonic analysis and nonlinear differential equations (Riverside, CA, 1995)*, 35–71, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99f:42019** 42A63 (42B08)

— (*with* He, Xuming) Qualitative robustness of S^*-estimators of multivariate location and dispersion. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 257–268. (P. Laurie Davies) **99c:62073** 62F35 (62H12)

Wang, Ge (*with* Zhao, Shiying; Welland, Grant) Wavelet sampling and localization schemes for the Radon transform in two dimensions. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1749–1762. (Dominikus Noll) **99i:44003** 44A12 (42C15, 92C55, 94A12)

Wang, Gen-Qiang Oscillations of second order differential equations with impulses. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 295–306. (Snezhana Khristova) **99g:34035** 34A37 (34C10)

— (*with* Cheng, Sui Sun) An existence and uniqueness theorem for a neutral differential equation with delay. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 51–56. (Oleg M. Odarich) **99e:34090** 34K05 (34K40)

Wang, Geng Sheng (*with* Deng, Yin Bin) Necessary conditions for optimal control problems governed by some nonlinear parabolic differential equations. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 67–80. (Fredi Tröltzsch) **99j:49048** 49K20 (35K55, 47N10, 49K27)

Wang, Geping Infinite sum on the fuzzy real line. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 241–248. (Summary) **99g:40001** 40A05 (04A72)

Wang, Gong Ben (*with* Wang, Qing Xian; Yan, Shu Da) The Ramsey number $R(K_3, K_q - e)$. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 1, 15–20. (Summary) **99c:05142** 05C55

Wang, Guan Jun An improved necessary condition for the asymptotic stability of time-varying systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 444–447. (Binggen Zhang) **99a:39037** 39A10 (93D20)

— (*with* Chen, Han-Fu) Global stochastic optimization problems under correlated measurement noise. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 50–56. (Jin Yun Yuan) **99f:65096** 65K05 (65C05)

— (*with* Chen, Han-Fu) Behavior of stochastic approximation algorithm in root set of regression function. (English summary) *Systems Sci. Math. Sci.* **12** (1999), *no.* 1, 92–96. (Summary) **99m:62126** 62L20 (90C15, 93E20)

Wang, Guan Xiang (*with* Zhu, Meng Shu) An analysis of the dimensions of the attractors of a reaction-diffusion equation containing a cubic polynomial. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 4, 20–23. (Zi Qian Yan) **99j:35113** 35K57 (34G20, 35B40, 47H20, 58F39)

Wang, Guang Lie (*with* Liu, Hui Zhao) Some results on evolutionary equations involving functions of the eigenvalues of the Hessian. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 433–448. (Igor Bock) **99c:35124** 35K60 (35J65)

— (*with* Zhao, Sheng Min) Initial-boundary value problems for a parabolic Monge-Ampère equation with Neumann boundary conditions. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 3, 303–309. (Summary) **99j:35117** 35K60

Wang, Guang Xing (*with* Kong, Fan Jia; Qiao, Bai You) A new topological formula for computing SKT reliability of networks. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 283–285. 90B12 (05C90, 94A05)

— (*with* Kong, Fan Jia) An algorithm for computing SKT reliability of networks. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 335–337. 05C85

Wang, Guang Xiong (*with* Yang, Zhi Yong) Robust performance design of an ill-conditioned plant. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 627–630. 93B51 (93C42)

— (*with* Zhang, Guo Feng[2]; Wang, Xing Ren; Peng, Xiao Yuan) An H_∞ approach to discrete-time two-degree-of-freedom robust design. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 975–980. 93B36

Wang, Guangyuan (*with* Zhang, Yue[1]; Qiao, Zhong) Solving processes for a system of first-order fuzzy differential equations. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 3, 333–347. (Peter E. Kloeden) **99b:34015** 34A30 (26E50, 93C42)

— (*with* Qiao, Zhong; Zhang, Yue[1]) Fuzzy random variable-valued exponential function, logarithmic function and power function. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 311–324. (Cong Xin Wu) **99i:26032** 26E50

Wang, Gui Jun (*with* Gu, Wen Xiang) The product of T_H-type interval-valued fuzzy normal subgroups and the homomorphic image theorem. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 11–15. 20N25

— (*with* Li, Xiao-ping) The applications of interval-valued fuzzy numbers and interval-distribution numbers. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 331–335. (Summary) **99d:04010** 04A72 (54A40, 54E70)

— The interval-valued fuzzy measure. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 525–532. 28E10

— The convergence of fuzzy complex valued series. (English summary) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 19–25. (Summary) **99j:40003** 40A05

— (*with* Li, Xiao-ping) A necessary and sufficient condition for a closed fuzzy set to be a convex fuzzy set. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 85–88. 04A72 (54A40)

— (*with* Li, Xiao-ping) Absolute continuity of K-pseudo-additive fuzzy integrals. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 251–255. 28E10

— (*with* Li, Xiao-ping) Correlation and information energy of interval-valued fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 169–175. (Róbert Fullér) **99m:94019** 94A17 (03E72)

Wang, Gui Zhen[2] A combined block overrelaxation, Newton and multiplier method for a special type of programming problem. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 445–449. 90C30 (65K05)

Wang, Guo Can Existence and uniqueness of solutions to a certain class of third-order nonlinear two-point boundary value problems. (Chinese) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 631–634. (Zheng You Zhu) **99m:34048** 34B15

— Singularly perturbed third-order nonlinear boundary value problems. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 4, 9–12. (Summary) **99j:34028** 34B15 (34E15)

— Existence and uniqueness of solutions to nonlinear boundary value problems for Volterra integro-differential equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 389–392. (Summary) **99i:34093** 34K10 (45J05)

— Singular perturbations for third order nonlinear boundary value problems. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 85–89. (Summary) **99m:34049** 34B15 (34E15)

Wang, Guo Dong (*with* Liu, Xiang Dong; Zhu, Wei Yong) Analysis of chaotic behavior of the six-roll UC mill and its OGY control. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 6, 591–594. 58F13

Wang, Guo Jin[1] (*with* Liu, Li Gang) Shape blending between 3D triangular meshes based on their intrinsic variables. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 9, 850–854. 65Y25

— (*with* Shou, Hua Hao) The boundary of an interval Bézier curve. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 37–44. (*see* **99k:65006**) 65D17 (51N20)

— (*with* Sederberg, Thomas W.) Verifying the implicitization formulae for degree n rational Bézier curves. (English summary) *J. Comput. Math.* **17** (1999), *no.* 1, 33–40. 65D17

Wang, Guo Jun[1] A formal deductive system for fuzzy propositional calculus. *Chinese Sci. Bull.* **42** (1997), *no.* 18, 1521–1525. 03B52

— (*with* Li, Yong Ming) Localic Katětov-Tong insertion theorem and localic Tietze extension theorem. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 801–814. (Peter Johnstone) **99b:54024** 54C30 (06D20, 18B30, 54C20)

— Logic on a class of algebras. II. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 1–8. (Summary) **99b:03080** 03G25 (03B52)

— (*with* He, Ying Yu) Remarks on fuzzy lattices and intuitionistic fuzzy sets. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 1–4. 03E72

— (*with* Li, Yong Ming) Reflectivity and coreflectivity between the category of topological spaces, the category of topological fuzzes and the category of topological molecular lattices. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 731–736. 54A40 (06B35, 54H12)

— Implicational lattices and generalization of Stone's representation theorem. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 12, 997–1000. (Summary) **99h:03043** 03G25 (03E72, 06D05)

— (*with* Liu, Lianzhen) A necessary and sufficient condition for ternary majority functions being monotonic functions. *Chinese Sci. Bull.* **43** (1998), *no.* 23, 2018–2019. 03B50

— On the structure of value functional bag mappings. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 215–221. (Wang Ming Wu) **99i:04003** 04A72

— Fuzzy continuous input-output controllers are universal approximators. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 95–99. (Fei-Yue Wang) **99d:93044** 93C42 (93B52)

— (*with* He, Ying Yu) The structure of $\mathscr{L}^*$-Lindenbaum algebras and a simplified system of axioms for $\mathscr{L}^*$. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 1–8. (Summary) **99d:03020** 03B52 (03C75, 03G10)

— Fuzzy reasoning and fuzzy logic. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 2, 1–16. (Summary) **99k:03020** 03B52

— Implicative lattices and an extension of the Stone representation theorem. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 10, 1033–1036. 06D10 (03G10)

— (*with* Hou, Jian) Some sufficient conditions for a family of OWA bag mappings to have an identity. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 36–44. 54A40 (54H25)

Wang, Guo Qin (*with* Zheng, Zhi Yong) Kloosterman sums with oscillating coefficients. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 237–242. (Ping Ding) **99j:11091** 11L05 (11L07)

Wang, Guo Ren (*with* Yu, Ge; Zhang, Bin; Zheng, Huai Yuan) A new filtering technique for join algorithms. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 713–721. 68P15

Wang, Guo Rong[1] (*with* Wei, Yi Min) Proper splittings for restricted linear equations and the generalized inverse $A^{(2)}_{T,S}$. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 1, 1–13. 65F10 (65F20)

Wang, Guo Zhao (*with* Liang, Youdong; Zou, Zhenqiang) An extension of Clairaut equation and its application. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 1, 125. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 1, 1–14. (Summary) **99a:53003** 53A04 (68U07, 73K03)

— (*with* Luo, Yan Lin) Rational p-subdivision for geometric modeling. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 45–50. (*see* **99k:65006**) 65D17

— (*with* Yang, Xun Nian) An automatic fairing algorithm for planar point sets. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 57–63. (*see* **99k:65006**) 65D17 (65Y25)

Wang, Guofang (*with* Ding, Weiyue; Jost, Jürgen; Li, Jia Yu[1]) An analysis of the two-vortex case in the Chern-Simons Higgs model. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 1, 87–97. (Yisong Yang) **99c:58039** 58E15 (35Q40)

Wang, Guojun *see* **Wang, Guo Jun**[1]

Wang, Guoli Rational fraction model for regularized inverse dynamics of a flexible manipulator. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 6, 600–607. (Summary) **99k:73082** 73K12 (70B15)

Wang, Gyu Ho Bargaining over a menu of wage contracts. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 2, 295–305. (Summary) **99a:90083** 90A60 (90D12)

Wang, H. *see* **Wang, Hao**[5]

Wang, H. C. *see* **Wang, Hwai Chiuan**

Wang, H.-F. *see* **Wang, Hsiao Fan**

Wang, Hai Feng (*with* Li, Sheng; Zhao, Tie Jun; Liu, Peng) A study of a pattern-matching algorithm for machine translation. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 11–14. 68T99

Wang, Hai Yan Finite element method and error estimate for an initial-boundary value problem for a semilinear pseudo-hyperbolic integrodifferential equation. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 3, 265–270. 65M06 (65M60)

Wang, Hai Yan[1] (*with* Huang, Zhenyou) The integrated C-semigroup and its spectral mapping theorem. (English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 3, 369–377. (Evgeniĭ Mel'nikov) **99c:47049** 47D03 (47A10)

— (*with* Dunninger, D. R.) Multiplicity of positive solutions for a nonlinear differential equation with nonlinear boundary conditions. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 2, 155–165. (Rafael Ortega) **99h:34029** 34B15

Wang, Hai Yan[3] (*with* Wu, Cong Xin; Song, Shiji) On the basic solutions to the generalized fuzzy integral equation. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 255–260. (Summary) **99a:45003** 45A05

Wang, Haiyan *see* **Wang, Hai Yan**[3]

Wang, Han Pin Preservation of properties of modules over rings of quotients. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 3, 368–374. (Shi Zhong Pan) **99a:16025** 16S90

Wang, Hang Ping A homological proof of the structure theorem for finite abelian groups. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 3, 38–42. 20K01

Wang, Hanxing (*with* Dai, Yonglong) Population-size-dependent branching processes in Markovian random environments. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 635–638. (Fima Klebaner) **99j:60132** 60J80 (60K35)

Wang, Hao[1] *see* **Parsons, Charles**, **99d:01026** *and* **Grossi, Marie et al.**, **99d:01030**

Wang, Hao[5] A class of measure-valued branching diffusions in a random medium. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 753–786. (Alexander Schied) **99e:60194** 60J80 (60F17, 60K35)

Wang, He Yu An upper estimate of the Hausdorff measure of the Sierpinski gasket. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 93–96. 28A78 (28A80)

— Computer search for the upper estimation of Hausdorff measure of classical fractal sets. I. Analysis of coding technique for Sierpinski gasket as a typical example. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 109–116. 65Q05 (28A80)

Wang, He Yuan (*with* Ding, Su Zhen) Numerical analysis of corank N bifurcation problems. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 231–238. (Fu Ming Ma) **99j:65104** 65J15 (47H17, 65H17)

Wang, Heng[1] (*with* McCauley Bell, Pamela) Fuzzy linear regression models for assessing risks of cumulative trauma disorders. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 317–340. (Summary) **99m:92013** 92C60 (04A72)

Wang, Heping (*with* Sun, Yongsheng) Representation and approximation of multivariate periodic functions with bounded mixed moduli of smoothness. Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 356–377. (Yuri V. Kryakin) **99j:41055** 41A63 (41A46)

Wang, Hong The refinement of a semitopological order on L and its properties. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 261–264. 03E72 (06D10)

— (*with* Zhou, Wen Kun) Fixed-point theorems for pointwise fuzzy mappings. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 377–379. 54H25 (04A72, 54A40)

— The image and inverse image of a syntopogenous structure on a completely distributive lattice. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 5, 507–510. 04A72 (06D10)

Wang, Hong[3] On vertex-disjoint complete subgraphs of a graph. (English summary) *Australas. J. Combin.* **16** (1997), 165–173. (Summary) **99a:05079** 05C35

— (*with* Peng, Yee-Hock; Little, Charles H. C.; Teo, Kee-Leong) Chromatic equivalence classes of certain generalized polygon trees. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 103–114. (Summary) **99f:05040** 05C15

— (*with* Berman, David M.; Liu, Jiannong; Wargo, Larry) Induced stars in trees. (English summary) *Australas. J. Combin.* **18** (1998), 275–276. 05C05

— Vertex-disjoint hexagons with chords in a bipartite graph. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 221–231. (Ke Min Zhang) **99d:05073** 05C70

— Triangles in claw-free graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 233–244. (Cun-Quan Zhang) **99c:05110** 05C35

Wang, Hong[5] A remark on a family of embedded minimal surfaces in 3-dimensional Euclidean space. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 641–644. (Fei-Tsen Liang) **99m:53018** 53A10

— (*with* Wang, Luyu; Zhao, Wei-zhong) q-deformed differential operator superalgebra on quantum superplane. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 1, 149–152. (Ludwig Pittner) **99e:81108** 81R50 (58B30)

— Isothermal parameters on a surface of mixed type in the three-dimensional Minkowski space $\mathbf{R}^{2,1}$. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 34–39. (Cun-Jin Sun) **99k:53012** 53A40

Wang, Hong[6] Generalized zero-one laws for large-order statistics. (English summary) *Bernoulli* **3** (1997), *no.* 4, 429–444. (Toshio Mori) **99c:60075** 60F20 (60G70, 62G30)

Wang, Hong[9] A family of ELLAM schemes for advection-diffusion-reaction equations and their convergence analyses. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 6, 739–780. (Martin Stynes) **99i:65108** 65M60 (65M12, 76M10)

— (*with* Al-Lawatia, Mohamed; Sharpley, Robert C.) A characteristic domain decomposition and space-time local refinement method for first-order linear hyperbolic equations with interfaces. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 1, 1–28. (Beny Neta) **99m:65180** 65M55

Wang, Hong Xi Almost periodic delay differential equations in epidemiology. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 277–286. (Joseph So) **99k:45018** 45G10 (34C27, 34K15, 92D30)

Wang, Hong Xia Analysis of stability of uncertain linear systems with delay. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 6, 656–661. 93D09 (34K35)

Wang, Hong Yu[1] The exactness theorem for Floer homology. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 5, 713–750. (David E. Hurtubise) **99c:57048** 57N10 (55N35)

Wang, Hsiao Fan (*with* Wang, C. H.) A fixed-charge model with fuzzy inequality constraints composed by max-product operator. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 23–29. (Summary) **99e:92006** 92B20

— (*with* Fang, Shu Cherng; Hu, Cheng-Feng; Wu, Soon-Yi) Linear programming with fuzzy coefficients in constraints. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 10, 63–76. 90C70 (90C05)

Wang, Hsin Hua Rigorous analysis and estimates of S-shaped bifurcation curves in a combustion problem with general Arrhenius reaction-rate laws. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1031–1048. (Summary) **99d:80012** 80A25 (34B15)

Wang, Hsin-Ju On the Jacobian ideals of affine algebras. *Comm. Algebra* **26** (1998), *no.* 5, 1577–1580. (Valentina Barucci) **99d:13023** 13E05 (13H10, 13N05)

Wang, Hsiuying Estimated confidence under ancillary statistic everywhere-valid constraint. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 123–135. (Kurt Hoffmann) **99h:62011** 62C15 (62F25)

— Admissibility of the constant-coverage probability estimator for estimating the coverage function of certain confidence interval. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 365–372. (Summary) **99g:62078** 62H12 (62C15)

Wang, Hua (*with* Wang, Chuan Long) Relations among some stability properties of matrices. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 109–112. 15A42

Wang, Hua O. (*with* Tanaka, Kazuo[1]; Ikeda, Takayuki) A unified approach to controlling chaos via an LMI-based fuzzy control system design. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 10, 1021–1040. 93C42 (58F13, 58F40)

Wang, Hualin Feedback stabilization of bilinear control systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1669–1684 (*electronic*). (Zoran Gajic) **99d:93060** 93D15

Wang, Huan Chen (*with* Jin, Wu; Guo, Wen Ge) Incentive strategy in the Stackelberg game with multi-followers. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 3, 6–9. 90D06 (90A05)

— (*with* Xu, Fei[2]) A multiobjective interactive decision method based on ideal values and tolerant deviation values. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 3, 35–39. 90C29 (90B50)

— (*with* Huang, Huai Zhi; He, Ming[2]) The optimal mechanism of a multi-object auction. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 12, 101–106. 90A09

— (*with* Xu, Fei[2]; Guo, Yao Huang) Optimality conditions for multiobjective nonsmooth hierarchical optimization problems. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 1–7. 90C29 (90D65)

Wang, Huan Xu Superanalytic functions in the tri-dimensional supercomplex system. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 13–17. 30G30

Wang, Huaxiong (*with* Ghodosi, Hossein; Pieprzyk, Josef; Safavi-Naini, Reihaneh) On construction of cumulative secret sharing schemes. (English summary) *Information security and privacy* (*Brisbane*, 1998), 379–398, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60

— On syntactic nuclei of rational languages. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 221–226. (Summary) **99e:68106** 68Q70 (68Q45)

— On rational series and rational languages. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 329–336. (Michael Anshel) **99k:68114** 68Q70 (16Y60)

Wang, Hui (*with* Wang, Yao Nan; Peng, Jian Chun) Self-learning control using Gaussian potential function neural networks and its application. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 701–707. 93E35 (93C83)

Wang, Hui[1] (*with* Zhang, Bing Gen) The existence of oscillatory and nonoscillatory solutions of neutral difference equations. (English summary) *Chinese J. Math.* **24** (1996), *no.* 4, 377–393. (Summary) **99e:39050** 39A10

— (*with* Zhang, Bing Gen) The existence of nonoscillatory and oscillatory solutions of neutral difference equations. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 411–428. (Xiao Xin Liao) **99f:39015** 39A10

— (*with* Hu, Zhi Xing; Ma, Zhi En) An SIRS epidemic model with distributed delay. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 44–48. (Summary) **99d:92040** 92D30

— (*with* Wang, Ting Fu; Liu, Li Fang) U-points and quasi-U points in Orlicz sequence spaces l_M. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 13–18. (Bor-Luh Lin) **99h:46047** 46E30 (46B45)

— (*with* Liu, Shu Tang[2]) Necessary and sufficient conditions for oscillations of a class of delay partial difference equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 495–500. (Summary) **99k:39027** 39A10

Wang, Hwai Chiuan (*with* Chen, Kuan-ju; Lee, C. S.) Semilinear elliptic problems in interior and exterior flask domains. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 4, 81–105. (Benedetta Pellacci) **99k:35045** 35J60 (58E05)

— (*with* Chen, Kuan-ju; Chen, Kuo-chang) Symmetry of positive solutions of semilinear elliptic equations in infinite strip domains. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 1–8. (Isabella Birindelli) **99i:35036** 35J60 (35B05)

Wang, I-Jeng (*with* Chong, Edwin K. P.; Kulkarni, Sanjeev R.) Weighted averaging and stochastic approximation. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 1, 41–60. (Summary) **99c:62233** 62L20

— (*with* Chong, Edwin K. P.) A deterministic analysis of stochastic approximation with randomized directions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1745–1749. 93E10 (93E12)

— (*with* Chong, Edwin K. P.; Kulkarni, Sanjeev R.) Noise conditions for prespecified convergence rates of stochastic approximation algorithms. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 810–814. (Pham Dinh Tuan) **99m:62125** 62L20

Wang, J. (*with* Gadala, M. S.) ALE formulation and its application in solid mechanics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **167** (1998), *no.* 1-2, 33–55. (Summary) **99h:73076** 73V05 (73E05)

Wang, J. Z. *see* **Wang, Julian Zijun**

Wang, Jan-Wen (*with* Chang, Gerard J.; Chen, Fu-Loong; Huang, Lingling; Hwang, Frank K.; Nuan, Su-Tzu; Rothblum, Uriel G.; Sun, I-Fan; Yeh, Hong-Gwa) Sortabilities of partition properties. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 413–427. (Summary) **99k:90129** 90C27 (90C10)

Wang, Jane-Ling (*with* Müller, Hans-Georg; Capra, William B.) From lifetables to hazard rates: the transformation approach. (English summary) *Biometrika* **84** (1997), *no.* 4, 881–892. (Summary) **99a:62152** 62P10 (62G05)

— (*with* Müller, Hans-Georg; Capra, William B.) Analysis of oldest-old mortality: lifetables revisited. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 126–163. (Jack Cuzick) **99c:62117** 62G05 (62N05, 62P05, 62P10)

Wang, Jason T. L. (*with* Yang, Yanling; Zhang, Kaizhong; Wang, Xiong; Shasha, Dennis) An approximate oracle for distance in metric spaces. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 104–117, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68021** 68P05 (68Q20)

Wang, Jeng-Jung (*with* Sung, Ting-Yi; Hsu, Lih-Hsing; Lin, Men-Yang) A new family of optimal 1-Hamiltonian graphs with small diameter. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 269–278, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 05C45 (68R10)

Wang, Jenn-Nan Stability estimate for an inverse acoustic backscattering problem. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 197–207. (Guan Quan Zhang) **99b:35219** 35R30 (35L05, 76Q05)

— On the relation between singularities of coefficients and singularities of reflected waves in the Lamé system. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 733–743. (Gustavo Perla Menzala) **99e:35220** 35Q72 (73D25, 73D50)

— Inverse backscattering problem for the acoustic equation in even dimensions. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 676–696. (Summary) **99b:35115** 35L05 (35P25, 35R30, 76Q05)

— Inverse backscattering problem for Maxwell's equations. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 15, 1441–1465. (Viatcheslav I. Priĭmenko) **99h:35235** 35R30 (35Q60, 78A45)

Wang, Ji (*with* Luo, Tiegeng; Chen, Huo Wang; Wang, Bingshan; Gong, Zhenghu; Qi, Zhichang) Verifying automata specification of distributed probabilistic real-time systems. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 588–596. (Summary) **99m:68123** 68Q60

Wang, Ji Lin (*with* Hu, Fen Lan; Zhou, Gang[1]) An initial parameter method for solving quasi-Hamilton linear equations. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 1, 105–107. 65L05

Wang, Ji-Suo (*with* Wang, Bo-Yun; Sun, Chang-Yong) Even and odd qs-coherent states and their photon-statistical properties. (English summary) *Phys. Lett. A* **246** (1998), *no.* 5, 464–470. (Summary) **99f:81086** 81R30 (81R50, 81V80)

Wang, Ji Zeng (*with* Zhou, You He) A dynamic control model of a piezoelectric cantilevered beam-plate based on wavelet theory. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 6, 719–727. 73K50

— (*with* Zhou, You He) An error estimate for the generalized Gaussian integral method in wavelet theory. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 2, 26–30. 65D30 (65T99)

Wang, Jia[2] (*with* Wang, Zhenyuan; Leung, Kwong-sak) A genetic algorithm for determining nonadditive set functions in information fusion. (English summary) Fuzzy measures and integrals. *Fuzzy Sets and Systems* **102** (1999), *no.* 3, 463–469. (*see* **99k:00021**) 68T99

Wang, Jia Cheng (*with* Shi, Zhong Ci) A note on the equivalence of some triangular plate elements. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 39–44. 73V05 (65N30)

Wang, Jia Cun Bottleneck analysis of task processing in discrete event systems. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 20–27. 93C83

Wang, Jia Gang (*with* He, Sheng Wu) The hypercontractivity of Ornstein-Uhlenbeck semigroups with drift, revisited. *Séminaire de Probabilités, XXXI*, 80–84, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Tu Sheng Zhang) **99d:60085** 60J35 (47B25, 47D07)

— (*with* He, Sheng Wu; Yao, Rongqin) The gradient and divergent operators in white noise analysis. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 1, 63–74. (Isamu Dôku) **99c:60135** 60H99 (47B38, 60G20)

— (*with* He, Sheng Wu) Gaussian measures on white noise spaces. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 1, 19–28. (Yuh-Jia Lee) **99h:60082** 60G15 (60G20)

Wang, Jia He[2] *see* **Zhang, Bao Shan**

Wang, Jia Song (*with* Li, Wen Jun) Determination of permanent optimal data points and an efficient algorithm for LAD problem. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 121–133. (Horst Hollatz) **99d:65197** 65K05

— (*with* Ji, Hui) Wavelet transform in fractal image encoding. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **6** (1997), *no.* 2, 176–183. (Summary) **99c:94014** 94A29 (68U10, 94A12)

— (*with* Chen, Cun Bao) Fractal interpolation curves. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 196–203. 65D17 (28A80)

— (*with* Chen, Jun Fei) Solving overdetermined linear systems by wavelet transforms. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 257–265. 65F30 (41A15)

Wang, Jia Ye (*with* Zhang, Cai Ming; Sun, De Fa) Determination of a parabola from four points and its application in parametric interpolation. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 546–552. 65D15 (41A10)

— (*with* Meng, Xiangxu; Liu, Dingyuan) Modification in parameter design. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 111–115. 65Y25

Wang, Jiabao (*with* Yuan, Ping Zhi) On the Diophantine equation $x^2 + b^y = c^z$. *Acta Arith.* **84** (1998), *no.* 2, 145–147. (Dimitrios Poulakis) **99b:11028** 11D61

Wang, Jiahua (*with* Gao, Haiyu; Zhao, Pengda; Galli, Alain) Updating of population parameters and credibility of discriminant analysis. (English summary) *Math. Geol.* **31** (1999), *no.* 3, 249–275. (Summary) **99k:86009** 86A32

Wang, Jian Necessary and sufficient conditions for some smoothness properties and uniform Gateaux differentiability in Banach spaces. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 3, 7–12. 46G05 (58C20)

Wang, Jian[1] (*with* Long, Shun Chao) Boundedness of fractional integral operators on weighted Herz spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 349–354. (Qing Tang Jiang) **99i:42020** 42B20 (47B38, 47G10)

— (*with* Yang, Zong Xin) Cohomology of Fuchsian groups. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 1, 20–23. (Summary) **99f:20087** 20J05 (20H10)

— (*with* Gong, Zhimin; Ren, Fu yao) On computation for the multipliers of periodic orbits of polynomial maps. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 51–58. (Franco Vivaldi) **99h:58146** 58F20 (12E05)

— (*with* Yu, Zu-Guo) Commutators of Möbius transformations in $\mathbf{R}^n$. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 135–142. (John R. Parker) **99e:20063** 20H10 (30F40)

Wang, Jian Fei (*with* Xu, Ya Lan) A global numerical integration method for differential equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 23–27. 65L06

Wang, Jian Guo[1] A new extension of the Schauder fixed point theorem. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 17–20. (Shi Sheng Zhang) **99m:47068** 47H10

Wang, Jian Hua[3] Convergence theorems for best approximations in a nonreflexive Banach space. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 480–490. (C. Franchetti) **99e:41028** 41A65 (46B20, 49J45)

Wang, Jian Li Weighted L_p-approximation by modified Baskakov type operators. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 81–90. (Song Ping Zhou) **99j:41041** 41A35

Wang, Jian-pan (*with* Hu, Jun[3]) Hecke algebras of type D_n at roots of unity. (English summary) *J. Algebra* **212** (1999), *no.* 1, 132–160. (Andrew P. Mathas) **99k:20031** 20C99 (20F55)

Wang, Jian Ping[4] On the zeros of $f^{(k)}f - a$. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 266–268. (Summary) **99e:30023** 30D35

Wang, Jian Xia Generalized possibility interval sets and their application in knowledge representation. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 356–361. 68T30

Wang, Jian Yong (*with* Ren, Qiang) The order of convergence of some sequences of bivariate probabilistic operators on a simplex. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 323–328. 41A35

Wang, Jian Zhong[1] (*with* Song, Wen Jie; Yao, Tian Xing; Zhang, Ke Min[1]) A note on 4-regular 4-chromatic graphs with girth 4. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 35–36. (Summary) **99h:05044** 05C15

— (*with* Meng, Ji-Xiang) The exponent of the primitive Cayley digraphs on finite abelian groups. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 177–191. (Dragan Marušič) **99h:05058** 05C25 (05C20)

Wang, Jian Zhong[2] (*with* Ruch, David K.; So, Wasin) Global support of a scaling vector. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 493–498. (Summary) **99e:42050** 42C15

— (*with* Eubanks, David A.; van Fleet, Patrick J.) Moment computation in shift invariant spaces. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 465–479. (Peter R. Massopust) **99i:65153** 65T99 (41A30, 42C15)

— (*with* Ruch, David K.) Connections between the support and linear independence of refinable distributions. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 472–485. (Amos Ron) **99h:42070** 42C20

— Stability and linear independence associated with scaling vectors. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1140–1156 (*electronic*). (Peter R. Massopust) **99c:42048** 42C05 (42A05, 42A38)

Wang, Jianchao (*with* Yang, Yuan Yuan) Wide-sense nonblocking Clos networks under packing strategy. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 3, 265–284. (Summary) **99m:68018** 68M10 (90C35)

Wang, Jianfang (*with* Zhang, Zhong Fu; Liu, Lin Zhong[2]; Li, Hongxiang) A note on the total chromatic number of Halin graphs with maximum degree 4. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 23–27. (Summary) **99c:05076** 05C15

— (*with* Zhang, Zhong Fu; Liu, Lin Zhong[2]; Zhang, Jianxun) On the relations between arboricity and independent number or covering number. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 279–283. (Summary) **99e:05079** 05C35

— (*with* Yan, Gui Ying; Pan, Jiaofeng; Wong, Chak Kuen) Orthogonal (g, f)-factorizations of bipartite graph. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 475–483. (Martin Bača) **99i:05172** 05C70

Wang, Jiang Lu (*with* Zhu, Yong Jin) Full cycle extendability of $K_{1,p}$-controlled graphs. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 319–325. (Summary) **99g:05118** 05C38

Wang, Jiang Shu Design principles of diffuse stove-processed silk. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 67–70, 52. 00A71

Wang, Jianhua Monotone method for diffusion equations with nonlinear diffusion coefficients. *Nonlinear Anal.* **34** (1998), *no.* 1, 113–142. (Siegfried Carl) **99g:35072** 35K60 (35A35, 35B05, 65M99)

Wang, Jianliang (*with* Liu, Yuqiong; Yang, Guang-Hong; Soh, Cheong Boon) Reliable nonlinear control system design using duplicated control elements. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1103–1122. (Summary) **99j:93035** 93B36 (93B51)

— (*with* Lin, Chong; Soh, Cheong Boon) Necessary and sufficient conditions for the controllability of linear interval descriptor systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 363–367. (Summary) **99a:93010** 93B05 (93C41)

— (*with* Liu, Yuqiong; Yang, Guang-Hong) Reliable control of uncertain nonlinear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 875–879. 93C41 (93B35)

— (*with* Yang, Guang-Hong; Lam, James) Reliable H_∞ control for affine nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1112–1116. 93B36

— (*with* Yang, Guang-Hong; Zhang, Si Ying; Lam, James) Reliable control using redundant controllers. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1588–1593. (Summary) **99g:93034** 93B50 (90B25)

— (*with* Yang, Guang-Hong; Soh, Cheong Boon; Lam, James) Decentralized H_∞-controller design for nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 578–583. 93B36 (93A14)

Wang, Jianmin (*with* Luo, Xiaonan; Gao, Chengying; Guan, Lü Tai) Representation of practical recurrent curves. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 413–422, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65030** 65D17

Wang, Jiantian On spectral characterizations of isoparametric hypersurfaces in S^4. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 496–500. (Domenico Perrone) **99b:58234** 58G25 (53C40)

Wang, Jianyu The linear kernel of Boolean functions and partially-bent functions. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 1, 6–11. (Xian-Mo Zhang) **99e:94057** 94C10 (94A60)

— On the criteria and enumeration of Boolean functions used in stream ciphers. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 309–314. (Summary) **99h:94057** 94A60 (06E30, 94C10)

Wang, Jianzhong *see* **Wang, Jian Zhong**[2]

Wang, Jiaping (*with* Li, Peter) Convex hull properties of harmonic maps. *J. Differential Geom.* **48** (1998), *no.* 3, 497–530. (Man Chun Leung) **99f:58050** 58E20 (53C20)

— (*with* Oden, Kevin; Sung, Chiung-Jue Anna) Spectral gap estimates on compact manifolds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3533–3548. (Daniel Pollack) **99m:58197** 58G25

Wang, Jiazhuo G. (*with* Lahiri, Kajal) Interest rate spreads as predictors of business cycles. *Statistical methods in finance*, 297–315, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:90016** 90A09 (90A16, 90A19, 90A70)

Wang, Jie (*with* Zhang, Hua Guang) Duality of fuzzy vector spaces. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 352–354. 15A99

Wang, Jie[1] Selectivity and self-reducibility: new characterizations of complexity classes. Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 371–384 (*electronic*). (*see* **99f:68006**) 68Q15

— (*with* McCloskey, Robert; Belanger, Jay) Parallel parsing of languages generated by ambiguous bounded context grammars. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 738–757 (*electronic*). (*see* **99f:68006**) 68Q52 (68Q22)

— Random instances of bounded string rewriting are hard. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 11–23 (*electronic*). (*see* **99d:68010**) 68Q25 (68Q15, 68Q42)

— Average-case computational complexity theory. (English summary) *Complexity theory retrospective, II*, 295–328, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15)

— (*with* Kao, Ming-Yang) Efficient minimization of numerical summation errors. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 375–386, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 65Y20 (68Q25)

— (*with* Sivalingam, Krishna M.; Wu, Xiangjun; Mishra, Manav) Improved on-line scheduling algorithms for optical WDM networks. (English summary) *Multichannel optical networks: theory and practice (Piscataway, NJ, 1998)*, 43–61, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 68M10 (68M20, 90B12)

Wang, Jie[5] (*with* Zhang, Ai Li) Hybrid H_2/H^∞ control theory and methods for the design of controllers. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 4, 40–48. 93B36 (93B51)

Wang, Jie Sheng (*with* Wu, Min Sheng; Liu, Shen Quan[1]) Permutation transforms of images. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 514–519. 68U10

Wang, Jiegao (*with* Gosselin, Clément M.) A new approach for the dynamic analysis of parallel manipulators. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 3, 317–334. (Summary) **99g:70012** 70B15 (70E15)

Wang, Jihong (*with* Pu, Junsheng; Moore, Philip R.; Zhang, Zongmao) Modelling study and servo-control of air motor systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 459–476. 93C95 (93A30)

Wang, Jikun Analysis of the periodic Volterra predator-prey model with undercrowding effect. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 68–73. (Summary) **99f:92028** 92D25 (34C99, 34D20)

— The mathematical behavior of a nonautonomous Volterra predator-prey system with undercrowding effect. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 307–312. (Summary) **99h:92034** 92D25 (34C99, 34D99)

Wang, Jinchang Branching rules for propositional satisfiability test. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ, 1996)*, 351–364, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Florica Luban) **99c:68133** 68Q25 (03B05, 03D15, 03F20, 68Q15)

— Backtracking tactics in the backtrack method for SAT. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 2, 1–12. 68T20

Wang, Jing (*with* Liu, Xiao Ping[2]) Invertibility of affine nonlinear singular control systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 2, 254–257. 93B17

Wang, Jing[1] Finite complete rewriting systems and finite derivation type for small extensions of monoids. (English summary) *J. Algebra* **204** (1998), *no.* 2, 493–503. (Colin M. Campbell) **99d:20097** 20M05 (68Q42)

— Finite derivation type for semi-direct products of monoids. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 219–228. (Summary) **99k:20120** 20M35 (68Q42)

Wang, Jing[7] (*with* Cai, Zixing; Jia, Limin) Direct fuzzy neural control with application to automatic train operation. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 391–399. 93C42 (93C90)

Wang, Jing[8] (*with* Cvetič, Mirjam; Everett, Lisa) Effects of heavy states on the effective $N = 1$ supersymmetric action. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 52–66. (Summary) **99i:81228** 81T60

Wang, Jing Cheng (*with* Yu, Li[1]; Chu, Jian) Guaranteed cost control for uncertain discrete-time linear dynamical systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 3, 414–417. 93B35 (93C41)
— (*with* Su, Hong Ye; Chu, Jian) Memoryless robust stabilization of a class of uncertain linear time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 497–501. 93D09 (93C30)
— (*with* Su, Hong Ye; Chu, Jian) Robust H^∞ controller design for a class of uncertain delay systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 4, 566–569. 93B36 (93C30)
— (*with* Su, Hong Ye; Yu, Li[1]; Chu, Jian) Memoryless robust stabilization control for uncertain linear systems with delayed state and control. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 769–773. 93D21 (93C30)
— (*with* Su, Hong Ye; Chu, Jian) Output feedback stabilizing controller for linear time-varying uncertain systems with delayed state. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 939–944. 93D21 (93C30)
Wang, Jing He A uniqueness theorem for solutions to matrix equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 37–38. 15A24
Wang, Jing Long (*with* Sun, Xiao Qian) Parameter estimation for the exponential distribution under the Pitman closeness criterion. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 6, 711–716. 62F10 (62C15)
— (*with* Sun, Xiao Qian) Confidence intervals of the scale parameter of exponential distribution. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 315–320. 62E10
Wang, Jing Ping (*with* Sanders, Jan A.) Classification of conservation laws for KdV-like equations. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 5, 471–481. (Elena Medina Reus) **99d:35100** 35L65 (35–04, 35Q53, 58F07)
— (*with* Sanders, Jan A.) Hodge decomposition and conservation laws. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 5, 483–493. (Elena Medina Reus) **99d:35101** 35L65 (35–04, 35A30)
— (*with* Sanders, Jan A.) On the classification of integrable systems. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 393–397, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q58 (58F07)
— (*with* Sanders, Jan A.) Combining Maple and Form to decide on integrability questions. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 447–459. (Summary) **99j:65233** 65Q05 (65–04)
— (*with* Beukers, Frits; Sanders, Jan A.) One symmetry does not imply integrability. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 251–260. (Naruyoshi Asano) **99i:35005** 35A30 (11Z05, 35Q58, 58G35)
— (*with* Sanders, Jan A.) On the integrability of homogeneous scalar evolution equations. (English summary) *J. Differential Equations* **147** (1998), *no.* 2, 410–434. (Mehmet Can) **99g:35058** 35K55 (58F07)
Wang, Jing Yu (*with* Yang, Hai Tao; Wang, Shu Zhong) Measurable operator fields of π spaces. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 227–228, 232. 46M20 (46C20, 47A56, 47B50)
Wang, Jingfa (*with* Kurokiba, Masaki; Kusano, Takaši) Positive solutions of second-order quasilinear differential equations with singular nonlinearities. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1630–1637, 1725; *translation in Differential Equations* **32** (1996), *no.* 12, 1623–1629 (1997). (Marie-Françoise Bidaut-Véron) **99a:34005** 34A12 (34C11, 35B05, 35J60)
— On second order quasilinear oscillations. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 25–54. (Norio Yoshida) **99c:34065** 34C10
Wang, Jinghua (*with* Liu, Hailiang) Asymptotic stability of stationary discrete shocks of Lax-Friedrichs scheme for non-convex conservation laws. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 1, 147–162. (Bruno Scheurer) **99c:65157** 65M06 (35L65, 39A11)
— (*with* Liu, Hailiang; Yang, Tong) Stability of a relaxation model with a nonconvex flux. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 18–29 (*electronic*). (Ke Chen) **99k:39055** 39A11 (35L67)
Wang, JingLing The open set conditions for graph directed self-similar sets. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 4, 283–305. (F. M. Dekking) **99g:28019** 28A80 (28A78)
Wang, Ju (*with* Zhao, Xi Shun) $Y_C\Omega_{2n}$ is an easy term. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 12, 1267–1269. 03B40 (68Q55)
Wang, Ju Ping A note on Jacobi-Eisenstein series. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 14, 1163–1165. (Rolf Berndt) **99k:11074** 11F55 (11F30)
— A note on Jacobi-Eisenstein series. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 13, 1383–1385. 11F55
Wang, Julian Zijun (*with* Hasofer, Abraham M.) Estimation of quantiles for a Fréchet-type distribution. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 3, 291–298. (Sh. A. Khashimov) **99a:62049** 62G05
Wang, Julie T.-Y. (*with* Yu, Jing) On class number relations over function fields. (English summary) *J. Number Theory* **69** (1998), *no.* 2, 181–196. (Yoshinori Hamahata) **99b:11128** 11R58 (11G09, 11R29)
Wang, Jun (*with* He, Zhenya) Blind identification and signal separation of two-input two-output FIR systems. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 3, 307–320. (Summary) **99b:94012** 94A12
Wang, Jun[1] (*with* Haukkanen, Pentti) Euler's totient function and Ramanujan's sum in a poset-theoretic setting. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 79–87. (Katalin Kovács) **99e:11006** 11A25 (05A30, 06A07, 06F05)
— (*with* Feng, Hong) Minimum cutsets for an element of a subspace lattice over a finite vector space. (English summary) *Order* **14** (1997/98), *no.* 2, 145–151. (Miklós Bóna) **99i:06002** 06A07 (05A05)
— (*with* Hsu, Leetsch Charles) Some Möbius-type functions and inversions constructed via difference operators. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 89–99. (Vichian Laohakosol) **99g:11010** 11A25 (03H05, 11U10, 39A70, 47B39)
Wang, Jun[5] (*with* Wang, McKenzie Y.) Einstein metrics on S^2-bundles. (English summary) *Math. Ann.* **310** (1998), *no.* 3, 497–526. (Thalia D. Jeffres) **99b:53072** 53C25 (53C55, 58E11)
Wang, Jun Ming (*with* Tian, Guang Yue) The general ball-packing problem in Banach spaces. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 28–31. (Summary) **99d:46021** 46B20 (52C17)
— (*with* Wang, Ting Fu) WM property of Musielak-Orlicz sequence space. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 475–496. (Anna H. Kamińska) **99d:46028** 46B45 (46E30)
Wang, Jun Ping[1] (*with* Mathew, T. P.; Polyakov, P. L.; Russo, Giovanni) Domain decomposition operator splittings for the solution of parabolic equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 912–932 (*electronic*). (Lutz Tobiska) **99j:65158** 65M55 (65F30)
— (*with* Vassilevski, Panayot S.) Stabilizing the hierarchical basis by approximate wavelets. II. Implementation and numerical results. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 490–514 (*electronic*). (Dietrich Braess) **99j:65230** 65N55 (42C15)
Wang, Jun Ping[2] (*with* Bates, Peter W.; Chen, Fengxin) Global existence and uniqueness of solutions to a nonlocal phase-field system. *Differential equations and applications (Hangzhou, 1996)*, 14–21, *Internat. Press, Cambridge, MA*, 199?. (Jing Xue Yin) **99c:35245** 35Q99 (35K99, 82B26)
Wang, Junping *see* **Wang, Jun Ping[2]**
Wang, Junyu (*with* Gao, Wenjie) Existence of solutions to boundary value problems for a nonlinear second order equation with weak Carathéodory functions. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 2, 175–185. (L. E. Bobisud) **99f:34031** 34B15
— (*with* Jiang, Da Qing) A singular nonlinear second-order periodic boundary value problem. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 2, 203–210. (L. E. Bobisud) **99b:34052** 34B15 (34C25)
— (*with* Zhang, Zhongxin) A boundary value problem from draining and coating flows involving a third-order ordinary differential equation. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 506–513. (L. E. Bobisud) **99c:34039** 34B15 (76D99)
Wang, Jyh-Nan (*with* Chang, Chien-Ping; Hsu, Lih-Hsing) Topological properties of twisted cube. (English summary) *Inform. Sci.* **113** (1999), *no.* 1-2, 147–167. (Summary) **99g:68013** 68M10 (68R10)
Wang, K. Y. *see* **Wang, Kun Yang[1]**
Wang, Kaishun (*with* Wei, Hong Zeng) Geometric construction of association schemes from the set of isotropic points in pseudo-symplectic spaces. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 225–228. (Summary) **99i:05211** 05E30 (51E20)
Wang, Kang Ning Stability of solutions to a class of partial integrodifferential equations. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 6, 660–662. 45K05 (35B35)
Wang, Kanmin (*with* Ma, Jianghong; Wei, Guangsheng) A comparison between two robust regression estimators by means of robust covariances. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 240. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 207–214. (Summary) **99c:62186** 62J05 (62F35)
Wang, Ke *see* **Wang, Ke[3]**
Wang, Ke[1] Persistence for nonautonomous predator-prey systems with infinite delay. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 321–332. (Yang Kuang) **99d:34140** 34K15 (34K20, 45J05, 92D25)
— (*with* Dishen, Jiabu) Stability and boundedness of the solutions to functional-differential equations with infinite delay. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 511–520. (Lie June Shiau) **99g:34138** 34K15 (34K20)
— (*with* Yang, Tai Shan) A mathematical economics model of a single species with variable harvesting rate. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 4, 49–54. (Summary) **99f:90028** 90A30 (92D40)
— Persistence of nonautonomous competitive systems with infinite delay. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 333–336. (Janusz Mierczyński) **99h:34109** 34K15 (45J05, 92D40)
— (*with* Fan, Meng[1]) Asymptotic stability for linear autonomous differential equation with several delays. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 4, 605–610. (Michael I. Gil') **99k:34169** 34K20 (92D25)
— (*with* Zhang, Ru Yuan) Persistence for Lotka-Volterra equations with infinite delay. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 306–310. (Xiao Qiang Zhao) **99m:34167** 34K15 (92D25)
— (*with* Fan, Meng[1]) Optimal harvesting policy for single population with periodic coefficients. (English summary) *Math. Biosci.* **152** (1998), *no.* 2, 165–177. (Summary) **99e:92033** 92D40 (90A30)
Wang, Ke[3] Some positive results for boundedness of multiple recursive rules. (English summary) *Database theory—ICDT '95 (Prague)*, 383–396, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68N17)
Wang, Ke Cheng The logarithmic concavity of $(1 - 2^{1-r})\zeta(r)$. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **14** (1998), *no.* 2, 1–5. (Summary) **99h:26018** 26A51
Wang, Ke Lin (*with* Feng, Mang; Shi, Lei[3]; Fang, Ximing; Yan, Min; Zhu, Xiwen) Exact solution of Jaynes-Cummings model without rotating wave approximation. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 2, 169–172. (Summary) **99h:81239** 81V80 (81R30)
Wang, Kewen (*with* Chen, Huo Wang) Abduction, argumentation and bi-disjunctive logic programs. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY, 1997)*, 139–163, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99j:68017** 68N17
— (*with* Chen, Huo Wang; Wu, Quanyuan) The least fixpoint transformation for disjunctive logic programs. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 193–201. (Summary) **99b:68038** 68N17
— (*with* Chen, Huo Wang; Wu, Quanyuan) Credulous argumentation with the disjunctive stable semantics. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 3, 330–336. (Summary) **99d:68047** 68N17 (03B70, 68Q55)
Wang, Kongming (*with* Gasser, Theo) Asymptotic and bootstrap confidence bounds for the structural average of curves. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 972–991. (Alan M. Polansky) **99g:62063** 62G15 (62G09)
Wang, Kun Ren The product of two supersolvable groups. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 6–10. (Zhi Rang Zhang) **99m:20041** 20D40 (20F16)

— Finite groups all of whose p-subgroups are p-quasinormal or self-normal. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 17–21. (Ji Ping Zhang) **99h:20035** 20D10 (20D25)

Wang, Kun Yang[1] (*with* Zhang, Lun Chuan) A proof of the primitivity of a prime AW*-algebra. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **34** (1998), *no.* 3, 289–291. 46L10 (46L05)

— (*with* Chen, Wen Gu) Some positive Cotes numbers for Jacobi abscissas. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 193–198. (Paolo Emilio Ricci) **99f:33007** 33C45

— (*with* Brown, Gavin[1]) On a conjecture of F. Móricz. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3527–3537. (F. Móricz) **99b:42015** 42B05

Wang, Kunchuan (*with* Frazier, Michael W.; Garrigós, Gustavo; Weiss, Guido) A characterization of functions that generate wavelet and related expansion. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 883–906. (Eugenio Hernández) **99c:42058** 42C15

Wang, Kunyang *see* **Wang, Kun Yang**[1]

Wang, L. *see* **Wang, Liuping**

Wang, La Zhu (*with* Zuo, Wan Li; Tang, Ze Sheng) A theorem for curved surface conversion. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 3, 16–19. 65D17

Wang, Lei (*with* Lu, Zhu Kai) K-valued Sheffer functions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 1–8. 03B50

Wang, Lei Heng *see* **Wang, Lie Heng**

Wang, Leizhen (*with* Tong, Shao Cheng; Chai, Tian You) Stable fuzzy indirect adaptive control for a class of decentralized nonlinear systems. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 1–14. 93C42

Wang, Li (*with* Gao, Cun Chen; Liu, Yong Qing) Sliding mode variable structure control of neutral interconnected control systems with delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 358–363. 93B12 (93C30)

Wang, Li (*with* Li, Da Wei; Wang, Meng Guang) Earliness/tardiness scheduling problems with different due windows. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 759–763. 90B35

Wang, Li[1] (*with* Qin, Shu Ming) The essential problem of multi-objective optimization algorithms. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 445–448. 90C29

Wang, Li Hong Asymptotic normality of stochastic programming problems with dependent samples. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 78–83. 90C15

Wang, Li Jie (*with* Liu, Jin Duo) A parabolic system with a boundary condition involving the curl. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 23–27. 35K50

Wang, Li Juan Coincidence theorems for contraction mappings in abstract metric spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 12–14. 54E35

Wang, Li Min[3] (*with* Yang, Sheng Liang) Torsion-free radicals of lattice-ordered groups. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 3, 18–21. (Yishu Pu) **99d:06023** 06F15 (20F60)

— (*with* Tang, Xi Lin) Congruence lattices of regular semigroups with inverse transversals. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1243–1255. (Branka P. Alimpić) **99a:20065** 20M17

Wang, Li Ping[1] (*with* Li, Guo Qiang) A sufficient condition for a graph G to be 4-colorable. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 28–29. 05C15

Wang, Li Qin (*with* Meng, Ling Qi; Gao, Hang) Existence and Hölder continuity of solutions for a class of semilinear degenerate elliptic equations. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 10–15. 35J70 (35B65, 35J60)

Wang, Li She Null additivity and autocontinuity of sums and products of fuzzy-valued fuzzy measures. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 26–31. 28E10

Wang, Li Sheng[1] (*with* Lian, Kuang-Yow; Fu, Li Chen) A skew-symmetric property of rigid-body systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 3, 187–197. (Alexander M. Kovalev) **99b:70005** 70E15 (70Q05, 93C85)

Wang, Li Xin (*with* Ke, Qi Fa; Ma, Song De) Design and application of multi-scale differential filters. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 234–244. 68U10

Wang, Li Zhen (*with* Li, Bo Yu) Fixed point theorems for ordered sets. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *Special Issue*, 9–16. (From the summary) **99k:06002** 06A06 (04A05)

Wang, Lian Fen (*with* Hao, Gang; Li, Jian Qiang) A convex cone model for interval judgments in the analytic hierarchy process. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 39–48. 90A05 (93A13)

Wang, Lian Gui (*with* Feng, Xue Shang; Yang, Fu Xing) An approximate solution method for some (magneto-) hydrodynamic wave problems: parameter differentiation. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 1–11. (Summary) **99d:76074** 76M25 (35Q35, 35Q53, 76W05, 86A10)

— (*with* Peng, Jin Zhang) Global existence of solutions to the spin ferromagnetic chain equation. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 58–63. (Summary) **99c:35227** 35Q55 (35B60)

Wang, Lian Tang An error estimate for the Backus-Gilbert method. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 364–369. (Summary) **99h:65223** 65R30 (65R10)

— (*with* Xue, Xi Feng) A regularization method for the problem of acoustic wave scattering in a shallow ocean. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 11–16. 35R30 (35J05, 76M25, 76Q05)

— Recovering the acoustic wave impedance coefficient from the far field pattern. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 89–98. 65N06 (35R30)

Wang, Liancheng (*with* Li, Michael Y.) A criterion for stability of matrices. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 249–264. (Peng Nian Chen) **99g:34110** 34D20 (93D05)

Wang, Liang (*with* Yen, John) Extracting fuzzy rules for system modeling using a hybrid of genetic algorithms and Kalman filter. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 353–362. 93C42 (93E11)

Wang, Liang Tao (*with* Zhang, Kai Jun) The Cauchy problem for a reaction-diffusion system of Fujita type. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 717–732. (Summary) **99b:35099** 35K57

Wang, Lie Heng (*with* Zeng, Jin Ping) A nonoverlapping domain decomposition method for solving obstacle variational inequalities. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 421–430; *translation in Chinese J. Numer. Math. Appl.* **20** (1998), *no.* 1, 70–80. (Summary) **99b:65166** 65N55 (49J40)

— A note on regularization methods for the contact problem with friction. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 299–304. (Summary) **99m:73063** 73T05 (65K05, 73V25)

— (*with* Luo, Zhen Dong) Nonlinear Galerkin mixed element methods for nonstationary conduction-convection problems. I. The continuous-time case. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 305–324. (Summary) **99m:65189** 65M60 (76M10, 76Rxx)

— (*with* Luo, Zhen Dong) Nonlinear Galerkin mixed element methods for the nonstationary conduction-convection problems. II. The backward one-step Euler fully discrete format. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 431–448. (Summary) **99m:65190** 65M60 (76M10, 76Rxx)

Wang, Lih-chung (*with* Chang, Hai-chau) On group structure associated to Jacobian pairs with mixed leading forms. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 1, 1–11. (Summary) **99d:14012** 14E09

Wang, Lihe (*with* Zhao, Hong-Kai; Merriman, Barry; Osher, Stanley) Capturing the behavior of bubbles and drops using the variational level set approach. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 495–518. (Summary) **99c:76089** 76M25 (76D99)

— (*with* Zhu, Ning[2]) Removable singular sets of fully nonlinear elliptic equations. (English summary) *Electron. J. Differential Equations* **1999**, *No.* 4, 5 *pp.* (*electronic*). (Summary) **99j:35072** 35J65 (35B99)

Wang, Lin-Cheng (*with* Rizvi, Syed A.; Nasrabadi, Nasser M.) A modular neural network vector predictor for predictive image coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 8, 1198–1217. 94A12 (68U10, 90B22)

Wang, Ling (*with* Han, Zhi Gang) Output tracking for a class of stochastic systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 657–661. 93E03 (93D15)

Wang, Linshan Equistability of the matrix differential equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 313–319. (Georgi K. Kulev) **99f:34079** 34D15 (34D20, 34K20)

Wang, Liqiu Linear laws in physics. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 16-17, 1751–1754. (Summary) **99c:81100** 81R99

Wang, Liqun Estimation of censored linear errors-in-variables models. (English summary) *J. Econometrics* **84** (1998), *no.* 2, 383–400. (Summary) **99b:62167** 62P20

Wang, Liuping (*with* Kalafatis, A. D.; Cluett, W. R.) Identification of Wiener-type nonlinear systems in a noisy environment. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 923–941. 93E12

Wang, Liuyue ★ Neural networks for data compression, fitting, and blind signal separation. Dissertation, Helsinki University of Technology, Espoo, 1996. *Helsinki University of Technology, Department of Computer Science, Laboratory of Computer and Information Science, Espoo*, 1996. vi+45 *pp.* 94A29 (68T05, 92B20)

Wang, Long On strict positive realness of multilinearly parametrized interval systems. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 552–560. (Takehiro Mori) **99k:93072** 93D09 (93B36)

Wang, Lusheng (*with* Ma, Bin; Li, Ming[1]) Fixed topology alignment with recombination. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 174–188, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68054** 68Q25 (92D20)

— (*with* Dasgupta, Bhaskar[1]; He, Xin[1]; Jiang, Tao[1]; Li, Ming[1]; Tromp, John; Zhang, Louxin) Computing distances between evolutionary trees. *Handbook of combinatorial optimization, Vol.* 2, 35–76, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90C35)

— (*with* Gusfield, Dan; Karp, Richard M.; Stelling, Paul) Graph traversals, genes and matroids: an efficient case of the travelling salesman problem. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 167–180. (Victor P. Il'ev) **99k:90133** 90C27 (05B35, 05C25, 05C45, 90C35)

Wang, Luyu (*with* Wang, Hong[5]; Zhao, Wei-zhong) q-deformed differential operator superalgebra on quantum superplane. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 1, 149–152. (Ludwig Pittner) **99e:81108** 81R50 (58B30)

Wang, M. *see* **Wang, Ming**[1]

Wang, Mao (*with* Xu, Jian-Xin; Lee, Tong-Heng; Yu, Xing-Huo) Design of variable structure controllers with continuous switching control. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 409–431. 93B51 (93B12)

— (*with* Xu, Jian-Xin; Lee, Tong-Heng; Jia, Qing-Wei) On adaptive robust backstepping control schemes suitable for PM synchronous motors. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 893–920. 93C85 (93C40)

— (*with* Xu, Jian-Xin; Lee, Tong-Heng) Self-tuning type variable structure control method for a class of nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 13, 1133–1153. (Summary) **99g:93018** 93B12 (93C10)

Wang, McKenzie Y. (*with* Wang, Jun[5]) Einstein metrics on S^2-bundles. (English summary) *Math. Ann.* **310** (1998), *no.* 3, 497–526. (Thalia D. Jeffres) **99b:53072** 53C25 (53C55, 58E11)

Wang, Mei-jiao (*with* Li, Shi-jie) Submanifolds with parallel mean curvature vector in a sphere. (English summary) *Kodai Math. J.* **21** (1998), *no.* 2, 201–207. (Walcy Santos) **99h:53087** 53C42 (53C40)

Wang, Mei Qing (*with* Zheng, Shou Qi; Zheng, Wen Bo) A parallel task level scheduling algorithm for heterogeneous cluster systems. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 6, 9–14. 90B22 (68M20)

Wang, Mei Shan (*with* Tong, Dian Min; Guan, Xi-Wen; Yang, Shan-De) Hidden local gauge invariance for an OSp(1, 2) spin chain. (Chinese. English and Chinese summaries)

Acta Phys. Sinica **46** (1997), *no.* 9, 1826–1833. (Summary) **99e:82031** 82B23 (81U40)

Wang, Meng Guang (*with* Wang, Li; Li, Da Wei) Earliness/tardiness scheduling problems with different due windows. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 759–763. 90B35

Wang, Mian Sen (*with* Peng, Ji Gen) Resolvent characterizations of generators of operator semigroups. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 339–344. (Ti Jun Xiao) **99j:47055** 47D06

— (*with* Peng, Ji Gen; Song, De Gong; Zhu, Guang Tian) The wellposedness of an abstract Cauchy problem and semigroups of operators. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 225–229. 34G10 (47D06)

Wang, Min (*with* Lin, Hong; Chen, Guo Liang[2]) Program transformation from Unity to Gamma based on temporal semantics. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 511–533. (Summary) **99b:68027** 68N15 (68Q55)

Wang, Min (*with* Xing, Zhi Dong) A new class of pseudoconvex functions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 53–57. 90C26 (26A51)

Wang, Ming[1] (*with* Zhang, Sheng[2]) The optimal preconditioning in the domain decomposition method for Wilson element. (English summary) *J. Comput. Math.* **15** (1997), *no.* 3, 193–202. (E. G. D'yakonov) **99a:65179** 65N55

Wang, Ming Hua Inversion formulas for integrals of Cauchy-Fredholm type. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 29–31. 30E20

Wang, Ming Liang (*with* Zhou, Yu Bin) A nonlinear functional transformation and a solitary wave solution for a system of approximate equations for long waves in shallow water. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 2, 21–25. (Summary) **99k:76031** 76B15 (35Q53, 76B25)

— (*with* Zhou, Yu Bin; Li, Zhi Bin[1]) A nonlinear transformation of the dispersive long wave equations in $(2 + 1)$ dimensions and its applications. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 120–125. (Yan Guo) **99c:35168** 35L70 (35A30, 35C05)

Wang, Ming-wei (*with* Shallit, Jeffrey) On minimal words with given subword complexity. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 35, 16 *pp.* (*electronic*). (Jean-Paul Allouche) **99g:68159** 68R15 (11B85, 68R10)

Wang, Ming Wen Corroded invalid distributions with several corroding factors. (Chinese. English and Chinese summaries) *J. Jiangxi Norm. Univ. Nat. Sci. Ed.* **21** (1997), *no.* 4, 307–311. 62N05

— A new algorithm for stable assignment. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 1–7. (Summary) **99c:68186** 68R05 (05C85)

Wang, Ming Xin[2] On the existence and nonexistence of global solutions to a quasilinear parabolic system. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai, 1994)*, 166–171, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35B60 (35K60)

— Asymptotic properties of solutions to some systems of reaction-diffusion equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 4, 445–452; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 3, 249–260. (Weihua Ruan) **99d:35089** 35K57 (35B40)

— (*with* Lin, Zhi Gui; Xie, Chun Hong) The blow-up rate of positive solution of a parabolic system. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 372–378. (Summary) **99a:35122** 35K55 (35B45)

— (*with* Lin, Zhi Gui; Xie, Chun Hong) The blow-up property for a system of heat equations with nonlinear boundary conditions. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 281–288. (Summary) **99f:35101** 35K60 (35B40)

— (*with* Lin, Zhi Gui; Xie, Chun Hong) On critical exponents for semilinear heat equations with nonlinear boundary conditions. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 485. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 363–372. (Summary) **99m:35106** 35K55 (35B40)

— (*with* Wang, Shu; Xie, Chun Hong) Parabolic equation of the m-Laplacian with nonlinear boundary condition. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 11, 905–908. (Ya Zhe Chen) **99f:35105** 35K60

— (*with* Jiang, Cheng Shun; Xie, Chun Hong) Asymptotic behavior of global solutions for a chemical reaction model. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 640–656. (Alain Brillard) **99e:92038** 92E20 (35Q80)

— (*with* Wang, Shu; Xie, Chun Hong) m-Laplacian parabolic equations with nonlinear boundary conditions. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 8, 817–821. 35K55

— (*with* Lin, Zhi Gui; Xie, Chun Hong) Blow-up estimates of solutions to semilinear heat equations with nonlinear boundary condition. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 96–100. (Summary) **99f:35102** 35K60 (35B05)

— (*with* Wang, Shu; Xie, Chun Hong) The blow-up rate for a system of heat equations completely coupled in the boundary conditions. *Nonlinear Anal.* **35** (1999), *no.* 3, *Ser. A: Theory Methods*, 389–398. (Lubomira G. Softova) **99j:35089** 35K40 (35B05)

— (*with* Lu, Hongjun) Exact soliton solutions of some nonlinear physical models. (English summary) *Phys. Lett. A* **255** (1999), *no.* 4-6, 249–252. 35Q53

— Finite travelling waves for semilinear parabolic systems. (English summary) *Proc. Edinburgh Math. Soc.* (2) **42** (1999), *no.* 1, 83–93. (Summary) **99m:35111** 35K55 (34A12, 35B40)

Wang, Ming Yi (*with* Wu, Zhi Xiang) Some characterizations of QF-rings. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 379–384. (Shi Zhong Pan) **99i:16040** 16L60 (16D50)

— Some remarks on π-coherent rings. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 6, 666–670. 16D10

Wang, Ming Yu (*with* Rong, Hai Wu; Fang, Tong) Stability and bifurcations of stochastic Arnold systems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 112–116, *VIII–IX*. 34F05

Wang, Mingwen *see* **Wang, Ming Wen**

Wang, Mingxin *see* **Wang, Ming Xin[2]**

Wang, Minjie (*with* Shen, Hao) Existence of labeled resolvable block designs. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 427–439. (Bronisław Ceranka) **99e:05021** 05B05

Wang, Mu-Tao (*with* Lin, Chin-Hsiu) A note on the exhaustion function for complete manifolds. *Tsing Hua lectures on geometry & analysis (Hsinchu, 1990–1991)*, 269–277, *Internat. Press, Cambridge, MA*, 1997. (William P. Minicozzi, II) **99b:53056** 53C21 (53C23)

Wang, Naisyin (*with* Linton, Oliver B.; Chen, Rong[1]; Härdle, Wolfgang) An analysis of transformations for additive nonparametric regression. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1512–1521. (Ewaryst Rafajłowicz) **99e:62052** 62G05

Wang, Neng Bin (*with* Wang, Ning) Data dependency and normalization in object-oriented databases. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **27** (1997), *no.* 5, 45–52. 68P15

Wang, Neng Chao The "cutting circle procedure"—an everlasting technique. (Chinese. English and Chinese summaries) *Math. Practice Theory* **26** (1996), *no.* 4, 315–321. (Alexeĭ K. Volkov) **99a:01006** 01A25

— (*with* Gu, Tong Xiang) Nonstationary two-stage multisplitting iterative methods for the parallel solution of systems of linear equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 25–32. (Summary) **99d:65108** 65F10 (65Y05)

— The "cutting circle procedure"—an everlasting technique. II. (Chinese. English and Chinese summaries) *Math. Practice Theory* **27** (1997), *no.* 3, 275–280. (Alexeĭ K. Volkov) **99k:01005** 01A25

— (*with* Li, Qing; Zhou, Meilian; Shi, Bao Chang) Fast algorithms for Walsh transform in bit-reversed sequency order. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 627–633. 65T20 (42C15)

— (*with* Shi, Bao Chang; Guo, Zhao Li) Evolutionary generation and fast algorithms for Haar-type transforms. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 1–6. 65T20

— (*with* Lu, Li[2]) Completeness and orthogonality of Walsh-Haar function families. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 15–17. 42A65 (41A65)

— (*with* Li, Qing; Zhou, Mei Lian; Shi, Bao Chang) Design of a fast algorithm for Walsh transforms of inverse Walsh sequences. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 5, 482–488. 42C10

Wang, Ning (*with* Liu, Zhong Kui) Monoids over which all strongly flat left acts are regular. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1863–1866. (I. S. Ponizovskiĭ) **99e:20079** 20M30

Wang, Ning (*with* Wang, Neng Bin) Data dependency and normalization in object-oriented databases. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **27** (1997), *no.* 5, 45–52. 68P15

Wang, P. (*with* DeVore, Ronald A.; Kyriazis, G. C.) Multiscale characterizations of Besov spaces on bounded domains. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 273–292. (H. Wallin) **99e:46040** 46E35 (41A17, 41A63)

Wang, Pe Cheng (*with* Chen, Ming-Huei) Level changes and trend resistance on replacement in asymmetric orthogonal arrays. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 349–358. (K. Afsarinejad) **99i:62176** 62K15

Wang, Pei Zhuang *see* **Wang, Da Hai et al.**

Wang, Peiguang Oscillations of nth-order neutral equation with continuous distributed deviating arguments. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 570–575. (Summary) **99j:34110** 34K15 (34K40, 45J05)

— (*with* Fu, Xi Lin; Yu, Yuan Hong) Oscillations of solution for a class of higher-order neutral differential equation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 485. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 397–402. (George Karakostas) **99m:34168** 34K15 (34K40)

— Oscillatory criteria for a class of delay hyperbolic equations boundary value problem. II. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 189–199. (From the introduction) **99m:35256** 35R10 (35B05, 35L10)

Wang, Peng *see* **Overfelt, P. L.**

Wang, Pin Chao (*with* Lu, Zaiping) On S^t-quasinormal subgroups. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 367–371. (È. M. Pal'chik) **99c:20032** 20E28 (20D25)

— (*with* Wen, Feng Tong; Yang, Ming Sheng[3]; Lu, Jie Qing) Some sufficient conditions for a group to be nilpotent. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 4, 331–334. 20D15

— (*with* Wang, Xiao Jing; Lu, Jie Qing; Liu, Qiu Xiang) The index complex of a maximal subgroup. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 5–8. (Summary) **99j:20035** 20E28

Wang, Ping (*with* Wang, Shu Zhong; Pan, Zhuang Yuan) The King-Werner iterative method for solving equations with nondifferentiable terms. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 16–20. 65H10 (47H17)

— (*with* Wang, Shu Zhong; Han, Jie Min) A secant iteration method for equations with nondifferentiable terms. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 16–18. 65H10 (49J52)

Wang, Ping[1] (*with* Lazebnik, F. G.) On the structure of extremal graphs of high girth. (English summary) *J. Graph Theory* **26** (1997), *no.* 3, 147–153. (Donald W. Vanderjagt) **99d:05026** 05C12

— (*with* Chen, Yan) Diameter saturated graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 35–41. (Summary) **99j:05058** 05C12

— (*with* Li, Jiong Sheng; Song, Zi-Xia) The Erdős-Jacobson-Lehel conjecture about potentially P_k-graphic sequences. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 1, 1–9. (Xue Liang Li) **99e:05075** 05C35

— On the sizes of least common multiples of stars versus cycles. (English summary) *Util. Math.* **53** (1998), 231–242. (Summary) **99a:05080** 05C35

Wang, Ping[3] (*with* Ferraro, R. D.) Parallel multigrid finite volume computation of three-dimensional thermal convection. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 9, 49–60. 76M25 (76R99, 80–08)

Wang, Ping[4] (*with* Chen, Fengxin; Qu, Chao Chun) On the differential system governing flows in magnetic field with data in L^p. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 299–305. (Paolo Secchi) **99b:35174** 35Q35 (35K55, 76W05)

Wang, Pingqia (*with* Yang, Baolin) A type of domain decomposition method for the solution of banded linear systems. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 475–479, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65N55 (65F30)

Wang, Qi (*with* Guo, Fei; Wang, Qi Yi) Directed geometry and circular arc spline approximation for fitting plane parametric curves. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 41–48. 65D17 (65D07)

Wang, Qi² (*with* Forest, M. Gregory) The role of microstructure in taming the Rayleigh capillary instability of cylindrical jets. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 161–182. (Summary) **99k:76063** 76E99 (76A10, 76B45)

Wang, Qi Hua Smoothed bootstrap approximation of kernel estimators of probability densities under random censorship. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 367–377. (Summary) **99c:62118** 62G05 (62G09)

— Edgeworth expansion for the bivariate product-limit estimator. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1136–1147. (Summary) **99a:62056** 62G05 (62E20)

— Asymptotic theory for the MLE from randomly censored exponential samples. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 13, 1071–1076. (T. J. Sweeting) **99m:62152** 62N10 (62F12, 62G09)

— (*with* Zheng, Zhong guo) The Edgeworth expansions and smoothed bootstrap approximation for the Studentized Kaplan-Meier estimator. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 571–587. (Lajos Horváth) **99g:62052** 62G09

Wang, Qi Yi (*with* Zhang, Sheng Kai; Zhang, Ya Dong; Yan, Hui Zhen) Convex linear generalization of random coalition games. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 9, 713–716. 90D15

— (*with* Xing, Wei[1]; Zhang, Qing Ling) Properties of operators in genetic algorithms. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 5, 540–542. 90C27

— (*with* Wang, Qi; Guo, Fei) Directed geometry and circular arc spline approximation for fitting plane parametric curves. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 41–48. 65D17 (65D07)

— (*with* Zhang, Sheng Kai; Zhang, Ya Dong; Yan, Hui Zhen) Convex linear extensions of random coalition games. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 6, 582–586. 90D15

Wang, Qian (*with* Chen, Han-Fu) Continuous-time Kiefer-Wolfowitz algorithm with randomized differences. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 327–341. (Kurt Marti) **99i:62187** 62L20 (65U05, 90C15)

Wang, Qiao Theory of resolutive signal spaces. I. A sampling theorem. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 1, 6–10. (Summary) **99g:94006** 94A12

— Exact solutions of variation problem on shiftability of principal shift invariant spaces. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 9–12. (Summary) **99j:42042** 42C15 (94A12)

Wang, Qin² Additive maps and elementary operators on $B(X)$ that preserve the point spectrum. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 468–472. (Pei Yuan Wu) **99m:47043** 47B49 (47A10, 47B47)

Wang, Qing (*with* Zhang, Hong Bin) Gabor wavelet transformation and its application in detecting texture boundaries and phase unwrapping. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 12, 1096–1102. 68U10 (42C15, 65T20)

Wang, Qing⁴ (*with* Liu, Xi Yu) Solutions to impulsive singular boundary value problems. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 1, 36–40. (Xi Yu Liu) **99d:34121** 34K10 (34A37, 45G05, 45J05)

Wang, Qing-Guo (*with* Lee, Tong-Heng; Tan, Kok Kiong) ★ Finite spectrum assignment for time-delay systems. Lecture Notes in Control and Information Sciences, 239. *Springer-Verlag London, Ltd., London*, 1999. *viii+117 pp. ISBN* 1-85233-065-1 (T. Kaczorek) **99k:93003** 93-02 (93B55, 93C30)

— (*with* Lee, Tong-Heng; He, Jian-Bo) Internal stability of interconnected systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 593–596. 93D05 (93A14)

Wang, Qing Lin (*with* Zhou, Dong Hua; Chen, Jin Di) A new method of designing controllers for nonlinear excitations of large-scale electric generators. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol. (Chin. Ed.)* **17** (1997), *no.* 3, 292–295. (*see* **99a:93004**) 93B51

Wang, Qing Wen (*with* Yang, Chang Lan) The Re-nonnegative definite solutions to the matrix equation $AXB = C$. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 7–13. (Summary) **99c:15020** 15A24

— (*with* Xue, You Cai) The matrix equation $AXB = CYD$ over an arbitrary skew field. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 139–142. 15A24 (15A33)

Wang, Qing Xian (*with* Wang, Gong Ben; Yan, Shu Da) The Ramsey number $R(K_3, K_q - e)$. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 1, 15–20. (Summary) **99c:05142** 05C55

Wang, Qinmei (*with* Xu, Jingbo; Cai, Shoufu; Gao, Mu) Properties of the states generated by the excitations on a q-coherent state. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 4, 633–636. (K. Wódkiewicz) **99k:81104** 81R30 (81R50)

Wang, Qiying Bernstein type inequalities for degenerate U-statistics with applications. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 283. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 157–166. (Miguel A. Arcones) **99i:60043** 60E15 (60F15)

— On Berry-Esseen rates for m-dependent U-statistics. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 123–130. (Lothar Heinrich) **99k:60067** 60F05 (60E15, 62E20)

Wang, Quan Yi Stability of periodic solutions to a hematopoiesis model. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 219–224. (Jian Hong Wu) **99m:34169** 34K15 (34K20, 92C30)

— Existence, uniqueness and instability of almost periodic solutions to nonlinear systems. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **18** (1997), *no.* 4, 341–346. (Rong Yuan) **99h:34067** 34C27 (34D20)

— Existence, uniqueness, and stability of periodic solutions to integrodifferential equations with infinite delay. (Chinese) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 312–318. 45J05 (34K30)

Wang, Quanlong A partial answer to a conjecture of Szabados. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 364–366, 377. (Antonio J. Durán) **99a:41006** 41A10

— The exact value of $\det V_n^-(x_1, \cdots, x_n)$ and its applications. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 513–519. 65E05 (15A15)

— A new proof of a theorem concerning the set $\{N_k^-(x)\}_{k=0}^n$. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 24–27. 41A10 (30E05)

Wang, Qun (*with* Luo, Yun Ling; Gao, Yin Zhi) The rate of L^1-convergence of Grünwald interpolatory operators. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 55–59. 41A36

Wang, R. *see* **Wang, Rubin**

Wang, Ren *see* **IUTAM Symposium: Rheology of Bodies with Defects, 99i:73001**

Wang, Ren Chao (*with* Sun, Hui; Gu, Pei Liang) Imprecise preference and nontransitive preference. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 31–38. 90A05 (90C29)

Wang, Ren-Hong On piecewise algebraic curves. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 355–361, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (65D15)

— (*with* Lu, You) Multivariate spline methods for the evaluation of the Cauchy principal values of double integrals. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 4, 627–633. 65D32 (65D07)

— (*with* Lu, You) Quasi-interpolating operators and their applications in hypersingular integrals. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 337–344. (V. I. Polovinkin) **99h:65017** 65D05 (65D07)

— (*with* Wang, Wen Ju; Liu, Xiu Ping) The resultant algorithm for the intersection points of piecewise algebraic curves. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 125–129. 65D07 (41A15)

Wang, Renhui (*with* Lei, Jianlin; Ding, Dihua; Wang, Zhouguang) Calculation and illustration of section-projection diagrams of quasicrystals. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 40–44. 82D25

Wang, Ri Sheng (*with* Li, Ming Zhong) Convergence of a Tikhonov regularization method and the far field pattern property for acoustic wave scattering in shallow seas and oceans. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 1, 27–37. 65J15 (45L05, 65M12, 76Q05)

Wang, Rong-Jyue (*with* Wang, Wen-June) Robust stability for noncommensurate time-delay systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 507–511. (Summary) **99a:93081** 93D09 (93C30)

Wang, Rong Xiang (*with* Yang, Guan Zhong; Lu, Ying Ping) State minimization of category 1 incompletely specified sequential machines. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 2, 103–108. 68M07 (68Q68)

Wang, Rong Xin (*with* Liu, Jian Min) Weak convergence limits of multicustomer, multiserver queueing systems with nonpreemptive priority discipline. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 56–62. 60K25 (60F05)

Wang, Rongbin On Liu Yi's positive-negative root extraction algorithm. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 1–8. (Summary) **99i:01011** 01A25 (65–03)

Wang, Rongming Some properties of sums of independent random sets. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 203–210. (Ilya S. Molchanov) **99k:60029** 60D05 (60B12)

Wang, Ru-Ji (*with* Du, Shao-Fei; Xu, Ming-Yao) On the normality of Cayley digraphs of groups of order twice a prime. (English summary) *Australas. J. Combin.* **18** (1998), 227–234. (Summary) **99g:05095** 05C25 (05C20)

Wang, Ru-Yun The equal area rectangular method for generating random variables. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 480–482, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65C10 (65U05)

Wang, Rubin (*with* Yasuda, Kimihiko) Exact stationary probability density for second order non-linear systems under external white noise excitation. (English summary) *J. Sound Vibration* **205** (1997), *no.* 5, 647–655. (Silvio Nocilla) **99a:70040** 70L05 (34F05, 70K05)

— (*with* Zhang, Zhikang; Yasuda, Kimihiko) On joint stationary probability density function of nonlinear dynamic systems. (English summary) *Acta Mech.* **130** (1998), *no.* 1-2, 29–39. 34F05 (34L05)

Wang, Run Jie (*with* Zhang, Yun Feng) The best identification problem for the scattering-fission cross section of a nuclear reactor. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 5–8. 47N55 (82D75)

— Optimal control of perturbed nuclear reactor systems. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 1–4. 49N55 (82D75)

Wang, S. *see* **Wang, Shixiao**

Wang, S. J. *see* **Wang, Shun Jin**

Wang, S. Y. *see* **Wang, Shou Yang**

Wang, Shaoli (*with* Cheng, Chongqing) Birkhoff lower-dimensional tori in Hamiltonian systems. *Chinese Sci. Bull.* **42** (1997), *no.* 22, 1866–1870. (Dario Bambusi) **99k:58162** 58F27 (58F05, 70H05)

Wang, Shaun S. (*with* Young, Virginia R.) Ordering risks: expected utility theory versus Yaari's dual theory of risk. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 2, 145–161. (Fl. De Vylder) **99m:62156** 62P05

— (*with* Dhaene, Jan) Comonotonicity, correlation order and premium principles. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 3, 235–242. (Summary) **99j:62145** 62P05

— (*with* Young, Virginia R.) Risk-adjusted credibility premiums using distorted probabilities. (English summary) *Scand. Actuar. J.* **1998**, *no.* 2, 143–165. (Summary) **99k:62203** 62P05

Wang, Sheng-De (*with* Lin, Chuan-Kai) Fuzzy system identification using an adaptive learning rule with terminal attractors. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 343–352. 93C42 (93B30)

Wang, Sheng-Guo (*with* Lin, Shield B.; Shieh, Leang-San; Sunkel, John W.) Observer-based controller for robust pole clustering in a vertical strip and disturbance rejection in structured uncertain systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1073–1084. (Summary) **99g:93070** 93D09 (93B55, 93C41)

Wang, Sheng Hai (*with* Yao, Huan Min; Huang, Wen Qi) Runge-Kutta type TVB time discretizations for Hamilton-Jacobi equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 4–8. 65M06 (49L20, 65L06)

Wang, Sheng Hua (*with* Yang, Ming Zhu) The spectra of a class of integrodifferential operators. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **11** (1991), *no.* 3, 308–318. (Shu Chun Gao) **99d:45011** 45K05 (45P05, 47G20, 47N55)

— (*with* Xu, Gen Qi; Yang, Ming Zhu) The distribution of eigenvalues of the transport operator for a general inhomogeneous convex medium. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 413–418. (Xue-Ping Wang) **99d:35118** 35P20 (35Q99, 82C70)

Wang, Sheng-Nan (*with* Chen, Cheng-Liang; Hsieh, Chung-Tyan; Chang, Feng-Yuan) Theoretical analysis of a fuzzy-logic controller with unequally spaced triangular membership functions. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 87–108. 93C42

Wang, Sheng Wang (*with* Erdelyi, Ivan) Elements of the local spectral theory for closed operators. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 181–190. (Vladimir Müller) **99g:47007** 47A11 (47B40)

— Abel ergodic properties and spectral decomposition for locally integrable semigroups. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 116–131. (Ioana Ciorănescu) **99c:47062** 47D06 (47A10, 47A35, 47B40)

— (*with* deLaubenfels, Ralph) Spectral conditions guaranteeing a nontrivial solution of the abstract Cauchy problem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3271–3278. (Valentina Ivanivna Gorbachuk) **99k:34129** 34G10 (47D06, 47N20)

— (*with* Gao, Ming Chu) Automatic extensions of local regularized semigroups and local regularized cosine functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1651–1663. (Dieter Lutz) **99i:47072** 47D06 (34G10, 47D09)

Wang, Shi Biao (*with* Yao, Zhen Xing) Fuzzy identification of uncertain systems. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 75–84. 93C42 (93B30)

Wang, Shi Gang (*with* Liu, Li; Xiao, Shang Hong; Zhou, Ji[1]; Yu, Jun[3]) A genetic algorithm for structural optimization. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 3, 106–110, *X*. 73K40

Wang, Shi-kun A generalized Chern-Simons formulas. *Singularities and complex geometry (Beijing*, 1994), 255–264, *AMS/IP Stud. Adv. Math., 5, Amer. Math. Soc., Providence, RI*, 1997. (Yasuo Matsushita) **99b:53037** 53C07 (53C05)

— (*with* Cai, Jin-fang; Wu, Ke[1]; Zhao, Wei-zhong) Quantum affine superalgebra $U_q(\mathrm{gl}(\hat{1}|1))$ and its Drinfeld realization. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 1, 1–2. (From the text) **99j:17017** 17B37 (81R50)

— (*with* Wu, Ke[1]) Differential calculus on quantum Lorentz group. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 4, 483–488. (Andrzej Sitarz) **99e:58016** 58B30 (17B37, 81R50)

— (*with* Ju, Guo-Xing; Cai, Jin-fang; Guo, Han-Ying; Wu, Ke[1]) Super-Yangian $Y(\mathrm{gl}(1|1))$ and its oscillator realization. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6155–6161. (Mariano A. del Olmo) **99a:81074** 81R50 (17B37)

— (*with* Ju, Guo-Xing; Wu, Ke[1]; Xiong, Chi) Boundary K matrices and the Lax pair for one-dimensional open XYZ spin-chain. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4213–4226. (Andrey V. Tsiganov) **99h:82013** 82B20 (82B23)

— (*with* Ju, Guo-Xing; Wu, Ke[1]) The algebraic structure of the $\mathrm{gl}(n|m)$ color Calogero-Sutherland models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2813–2820. (Kazuhiro Hikami) **99c:81281** 81V70 (17B37, 81R10)

— (*with* Cai, Jin-fang; Wu, Ke[1]; Zhao, Wei-zhong) Drinfel'd realization of quantum affine superalgebra $U_q(\widehat{\mathrm{gl}(1|1)})$. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1989–1994. (Jun'ichi Shiraishi) **99k:81106** 81R50 (17B37)

Wang, Shi Ming (*with* Wang, Wei Min) Some mapping theorems for compact perturbations of m-accretive operators. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 51–54. (Hong Kun Xu) **99f:47066** 47H06 (47H15)

Wang, Shi Qiang Diagonalization of row-column-finite infinite matrices. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1279–1286. (J. F. Watters) **99k:15025** 15A21

— The Goldbach 3-primes property for polynomial rings over certain infinite fields. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 15, 1256–1260. (Gabriel D. Villa-Salvador) **99k:11158** 11P32 (11T06, 11U09, 12L12)

— The Goldbach 3-primes property for polynomial rings over some infinite fields. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 8, 821–824. 11T55 (13F20)

Wang, Shicheng (*with* Rubinstein, Joachim H.) π_1-injective surfaces in graph manifolds. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 4, 499–515. (Darren D. Long) **99h:57039** 57N10 (57M05)

Wang, Shihong Optimal switching controls for a class of infinite-dimensional systems. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 672–678. 49L25 (49K27)

— Averaging of Hamilton-Jacobi equation in infinite dimensions and application. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 1, 30–32. (Summary) **99b:49027** 49L25 (35R15)

Wang, Shin-Hwa *see* **Wang, Hsin Hua**

Wang, Shiqiang *see* **Wang, Shi Qiang**

Wang, Shitong (*with* Scott, Elizabeth A.; Gamermann, A.) Extract rules by using rough set and knowledge-based NN. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 279–284. (Summary) **99b:68159** 68T05 (03B70)

— Normalized exponential neural networks. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 4, 375–383. (Summary) **99d:68216** 68T05 (93D05)

— (*with* Gammerman, A. J.) Description of learning space based on interval fuzzy sets and fuzzy inductive learning algorithm ILA. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 83–89. (Summary) **99k:68167** 68T05

Wang, Shixiao (*with* McLaughlin, Joyce R.) Recovery of a vertically stratified seabed in shallow water. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO*, 1998), 232–236, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 76Q05 (35Q35)

— (*with* Rusak, Z.; Whiting, C. H.) The evolution of a perturbed vortex in a pipe to axisymmetric vortex breakdown. (English summary) *J. Fluid Mech.* **366** (1998), 211–237. (Summary) **99c:76020** 76C05 (76D99, 76E99)

Wang, Shou Hong (*with* Cabral, Marco; Costa, Bruno; Temam, Roger) The primitive equations of the atmosphere with chemistry. (English summary) *Équations aux dérivées partielles et applications*, 271–308, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Bruno Scheurer) **99i:86012** 86A10 (35Q99, 76C99, 80A32)

— (*with* Samelson, R. M.; Temam, Roger) Some mathematical properties of the planetary geostrophic equations for large-scale ocean circulation. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 147–173. (Summary) **99i:86010** 86A05 (35Q99, 76U05)

— (*with* Kaper, Hans G.; Wang, Bi Xiang) Determining nodes for the Ginzburg-Landau equations of superconductivity. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 205–224. (Peter E. Zhidkov) **99d:35154** 35Q55 (58F39, 82D55)

— (*with* Wang, Bi Xiang) Gevrey class regularity for the solutions of the Ginzburg-Landau equations of superconductivity. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 507–522. (Peter E. Zhidkov) **99d:35155** 35Q55 (58F39, 82D55)

Wang, Shou Song (*with* Ni, Tao Yang) The permanent of a subset of the variables of a differential equation. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 4, 308–311. (Jian Hong Wu) **99a:34145** 34D05

Wang, Shou Yang (*with* Liu, Guo Shan; Han, Ji Ye) A trust region algorithm for bilevel programming problems. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 820–824. (Jane Juan-Juan Ye) **99i:90087** 90C30 (65K05, 90C31, 90D65)

— (*with* Li, Zhong Fei) A type of minimax inequality for vector-valued mappings. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 68–80. (Carlo Bardaro) **99j:47090** 47H10 (47H19, 49J35)

— (*with* Liu, Guo Shan; Han, Ji Ye) A trust region algorithm for bilevel optimization problems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 4, 383–387. 90C30 (65K05)

— (*with* Li, Zhong Fei) Connectedness of super efficient sets in vector optimization of set-valued maps. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 207–217. (Tamaki Tanaka) **99m:90124** 90C29 (49J52)

— (*with* Jia, Fuchen; Yang, Fengmei) Sensitivity analysis in bilevel linear programming. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 359–366. (Stephan Dempe) **99i:90096** 90C31 (49K40, 90D65)

— *see also* **Management science in China**, **99m:90004**

Wang, Shou Yin Ideals and direct decompositions of double Stone algebras. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 6, 735–738. (Summary) **99m:06022** 06D15

Wang, Shouhong *see* **Wang, Shou Hong**

Wang, Shu Systems of nonlinear parabolic equations with nonlinear boundary conditions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 867–874. (Yuanming Wang) **99e:35118** 35K60 (35B40, 35B60)

— (*with* Xie, Chun Hong) The critical exponent for blowup of nonlocal reaction-diffusion equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 261–266. (Qing Fang) **99m:35122** 35K57 (35B40)

— (*with* Wang, Ming Xin[2]; Xie, Chun Hong) Parabolic equation of the m-Laplacian with nonlinear boundary condition. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 11, 905–908. (Ya Zhe Chen) **99f:35105** 35K60

— (*with* Wang, Ming Xin[2]; Xie, Chun Hong) m-Laplacian parabolic equations with nonlinear boundary conditions. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 8, 817–821. 35K55

— (*with* Xie, Chun Hong; Wang, Ming Xin[2]) The blow-up rate for a system of heat equations completely coupled in the boundary conditions. *Nonlinear Anal.* **35** (1999), *no.* 3, *Ser. A: Theory Methods*, 389–398. (Lubomira G. Softova) **99j:35089** 35K40 (35B05)

Wang, Shu Chen (*with* Xu, Ming Yue) Set-valued strong Markov processes. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 25–30. (Summary) **99i:60135** 60J05 (60D05)

Wang, Shu Gui Radicals of MHR rings. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 552–554. 16N20

Wang, Shu He Voronoĭ networks of disordered structures in a box. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **26** (1996), *no.* 1, 70–74. 92B05 (03C13, 92B99)

— (*with* Mai, Jie Hua) Estimation of the characteristic numbers of systems of linear ordinary differential equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 901–912. (Jialin Hong) **99c:34101** 34D08 (34A30)

Wang, Shu Li (*with* Zhang, Jian Ming) Fuzzy measures defined by (G) fuzzy integrals. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 15–18. (Cong Xin Wu) **99k:28029** 28E10

Wang, Shu Ning A quasi-optimal upper error bound for two-stage H_∞ identification algorithms. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 812–816. (Cheng Wu Yang) **99g:93023** 93B30 (41A46, 93B36)

— (*with* Zhu, Shi Jing; Luo, Yun Feng; Chen, Ting[1]) A class of robustly efficient solutions for multiobjective decision-making with uncertain parameters. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 395–399. 90C29 (90A05)

— An improvement on the error bound for time domain H_∞ interpolatory algorithms. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 3, 418–420. 93B36

— (*with* Huang, Yong; Dai, Jian She; Shi, Xue Dong) A fast algorithm for l^1 robust identification. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *suppl. I*, 72–74. 93B30 (93B40)

— (*with* Dai, Jian She; Tanaka, Masahiro[1]) A parametric approach for l_1 robust identification. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1282–1286. 93B30 (93B36)

Wang, Shu Quan Factor-expandable spaces. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 26–29. 54B10

Wang, Shu Tang[1] (*with* Chen, Wen Yan) m-almost metric spaces and continuous open mappings. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 4, 98–101. 54E35 (54C10)

Wang, Shu Yan Singular solutions of a nonlinear diffusion equation with convection. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 4,

13–18. (Summary) **99j:35116** 35K60
— On singular solutions of boundary value problems for quasilinear parabolic equations with absorption. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 340–348. (Summary) **99a:35146** 35K60
Wang, Shu Zhong (*with* Wang, Ping; Pan, Zhuang Yuan) The King-Werner iterative method for solving equations with nondifferentiable terms. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 16–20. 65H10 (47H17)
— (*with* Han, Jie Min; Wang, Ping) A secant iteration method for equations with nondifferentiable terms. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 16–18. 65H10 (49J52)
— (*with* Yang, Hai Tao; Wang, Jing Yu) Measurable operator fields of π spaces. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 227–228, 232. 46M20 (46C20, 47A56, 47B50)
Wang, Shuan Hong (*with* Zhao, Wen Zheng; Jiao, Zheng Ming) Twisted coproducts of Hopf algebras and H^R Hopf algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 591–596. (Fang Li) **99f:16045** 16W30
— (*with* Jiao, Zheng Ming; Zhao, Wen Zheng) Hopf algebra structures on crossed products. *Comm. Algebra* **26** (1998), *no.* 4, 1293–1303. (M. Bettina Richmond) **99h:16067** 16W30 (16S35)
— (*with* Li, Jin Qi) On twisted smash products for bimodule algebras and the Drinfeld double. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2435–2444. (Akira Masuoka) **99d:16032** 16S40 (16W30)
Wang, Shun Jin (*with* Zhang, Wen Zhong) An algebraic dynamics approach to the solution of the SU(3) linear nonautonomous quantum system. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 2, 209–226. (Ji Sheng Na) **99a:81059** 81R05
— (*with* Typel, S.; Weiguny, A.; Wiese, H.) Response of a quantum system to a time-dependent external field and dynamical symmetry of the system. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5585–5598. (Summary) **99c:82045** 82C10
Wang, Shun-Yuan (*with* Hong, Chin-Ming; Liu, Chun-Chang; Yang, Wei-Tzen) Design of a static reactive power compensator using fuzzy sliding mode control. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 393–413. 93C42 (93B50)
Wang, Shupei (*with* Gundersen, Gary G.; Steinbart, Enid M.) Solutions of nonhomogeneous linear differential equations with exceptionally few zeros. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 429–452. (Ilpo Laine) **99g:34017** 34A20 (30D35)
Wang, Shushi Exposed and strongly exposed points of finite order in some Banach spaces. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 21–33. (Marián Fabian) **99h:46022** 46B20
Wang, Shuzhou Quantum symmetry groups of finite spaces. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 195–211. (Aldo J. Lazar) **99h:58014** 58B30 (16W30, 46L99)
Wang, Sichun (*with* Heinig, Hans P.) Maximal function estimates of solutions to general dispersive partial differential equations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 79–108. (Cristian E. Gutiérrez) **99c:35038** 35J10 (35B45, 35Q55, 42B25)
Wang, Song (*with* Sloan, Ian H.; Kelly, D. W.) Pointwise a posteriori upper error bounds for derivatives of a Neumann problem. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 771–778, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N15
— An a posteriori error estimate for finite element approximations of a singularly perturbed advection-diffusion problem. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 227–242. (Thomas Apel) **99c:65219** 65N30 (65N15, 76M10)
— (*with* Dragomir, Sever Silvestru) A new inequality of Ostrowski's type in L_1 norm and applications to some special means and to some numerical quadrature rules. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 239–244. (Yong Ping Liu) **99a:65034** 65D32 (26D10)
— (*with* Rehbock, V.; Teo, Kok Lay) Computing optimal control with hyperbolic partial differential equation. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998), *no.* 2, 266–287. (Fredi Tröltzsch) **99m:49051** 49M25 (49K20, 65M06)
— (*with* Liu, Yanqun; Teo, Kok Lay; Jennings, L. S.) On a class of optimal control problems with state jumps. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 65–82. (Summary) **99d:49037** 49K15 (49M30)
— (*with* Dragomir, Sever Silvestru) A generalization of Bullen's inequality for convex mappings and its applications. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 97–103. (P. S. Bullen) **99g:26027** 26A51 (26D15)
— (*with* Dragomir, Sever Silvestru) Applications of Iyengar's type inequalities to the estimation of error bounds for the trapezoidal quadrature rule. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 55–58. (Summary) **99e:65043** 65D32
— A new exponentially fitted triangular finite element method for the continuity equations in the drift-diffusion model of semiconductor devices. (English and French summaries) *M2AN Math. Model. Numer. Anal.* **33** (1999), *no.* 1, 99–112. (Summary) **99m:65220** 65N30 (78–08)
Wang, Song Gui (*with* Yang, Zhenhai) A test for sphericity of errors in linear models. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 202–207. (Andrzej S. Kozek) **99i:62155** 62J05
— (*with* Ye, Wei Zhang) A matrix form of Wielandt's inequality and its application in statistics. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 18, 1930–1933. 15A45
— (*with* Deng, Yong Xu) Improved estimators of variance components. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 115–122. 62J05
Wang, Steve (*with* Burgos, Jose Ignacio) Higher Bott-Chern forms and Beilinson's regulator. (English summary) *Invent. Math.* **132** (1998), *no.* 2, 261–305. (Jörg Jahnel) **99j:14008** 14C35 (14F99, 14G40, 19E20)
Wang, Sue-Jane A closed procedure based on Follmann's test for the analysis of multiple endpoints. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2461–2480. 62G10
Wang, Suojin (*with* Carroll, Raymond J.; Maca, Jeffrey D.) Nonparametric regression splines for generalized linear measurement error models. (English summary) *Econometrics in theory and practice*, 23–29, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 62G05 (62J02)
— (*with* Wang, Ching-Yun; Gutierrez, Roberto G.; Carroll, Raymond J.) Local linear regression for generalized linear models with missing data. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1028–1050. (Thomas A. Severini) **99g:62101** 62J12 (62G07)
— (*with* Li, Qi[1]) A simple consistent bootstrap test for a parametric regression function. (English summary) *J. Econometrics* **87** (1998), *no.* 1, 145–165. (Summary) **99e:62068** 62G09 (62P20)
Wang, Susheng (*with* Kim, Son Ku) Linear contracts and the double moral-hazard. (English summary) *J. Econom. Theory* **82** (1998), *no.* 2, 342–378. (Summary) **99k:90055** 90A43 (90A46)
Wang, Te-Shing (*with* Cheng, Ching-Cheng; Liao, Yin-Kuei) Quantitative feedback design of uncertain multivariable control systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 537–553. 93B51 (93C41)
Wang, Tian Hong (*with* Zhong, Shou Nan; Jiang, Chang Bin) A neural network for vector optimization. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 47–50. 90C29 (90B10)
Wang, Tian Ming (*with* Ma, Xin Rong) A generalization of the Cohen-Macaulay property of the Möbius function of a word poset. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 431–437. (Summary) **99m:06007** 06A07
— (*with* Yu, Hongquan) An inequality on connected domination parameters. (English summary) *Ars Combin.* **50** (1998), 309–315. (Summary) **99k:05095** 05C35
Wang, Tian Ze On the extension of Goldbach-Vinogradov's theorem in arithmetical progressions. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 16, 1712–1713. 11P32
— (*with* Liu, Ming-Chit) A numerical bound for small prime solutions of some ternary linear equations. *Acta Arith.* **86** (1998), *no.* 4, 343–383. (S. W. Graham) **99m:11115** 11P32 (11D04, 11P55)
— (*with* Liu, Jian Ya; Liu, Ming-Chit) The number of powers of 2 in a representation of large even integers. I. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 386–398. (Alessandro Languasco) **99j:11120** 11P32 (11N36, 11P55)
Wang, Tianjun (*with* Shi, Xi Quan[2]; Yin, Baocai) Splines on generalized quasi-cross-cut partitions. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 139–147. (Summary) **99h:41016** 41A15 (65D07)
Wang, Ting Fu (*with* Shi, Zhongrui) On the packing spheres of some sequence spaces. (English summary) *Analysis* **17** (1997), *no.* 4, 379–386. (Anna H. Kamińska) **99a:46033** 46B45
— (*with* Wang, Bao Xiang) The characteristic of weak convergence on Banach sequence lattices. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 799–807. (Anatolij M. Plichko) **99h:46031** 46B45
— (*with* Li, Yan Hong) On the LURWC property of Orlicz sequence space. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 817–823. (Anna H. Kamińska) **99a:46032** 46B45 (46B20, 46E30)
— (*with* Hao, Cuixia; Tian, Shen; Yao, Hui Li) On the points of uniform rotundity in directions of weakly compact sets in Orlicz spaces. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 109–133. (Marian Nowak) **99a:46048** 46E30 (46B20)
— (*with* Wang, Jun Ming) WM property of Musielak-Orlicz sequence space. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 475–496. (Anna H. Kamińska) **99d:46028** 46B45 (46E30)
— (*with* Zhang, Yun Feng; Yao, Hui Li) LURWC conditions for Orlicz spaces. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 473–476. 46E30
— (*with* Wang, Hui[1]; Liu, Li Fang) U-points and quasi-U points in Orlicz sequence spaces l_M. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 13–18. (Bor-Luh Lin) **99h:46047** 46E30 (46B45)
— (*with* Cui, Yun An) A remark on property (H) of Orlicz spaces. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 2, 217–220. (Lanzhe Liu) **99h:46048** 46E30
— (*with* Hao, Cuixia; Ji, Dong Hai) On S points of Orlicz spaces. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 75–80. (Stephen J. Dilworth) **99j:46034** 46E30 (46B20)
— (*with* Li, Yan Hong) Weakly* uniform rotundity of Orlicz sequence spaces. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 195–202. (Bor-Luh Lin) **99h:46044** 46E30 (46B20)
— (*with* Ji, Dong Hai; Liang, Zhao) The weakly strongly exposed points of Orlicz spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 375–396. (Sompong Dhompongsa) **99k:46049** 46E30 (46B20)
— (*with* Wang, Bao Xiang) Support functionals and smooth points in abstract M spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1761–1770. (Henryk Hudzik) **99i:46018** 46E30 (46B20, 46B42)
Wang, Tixiang (*with* Fei, Guihua) The minimal period problem for nonconvex even second order Hamiltonian systems. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 543–559. (Maria Letizia Bertotti) **99k:34088** 34C25 (58E05, 58F05, 58F22, 70H05)
Wang, Tsili (*with* Oristaglio, Michael L.) An inverse algorithm for velocity reconstruction. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1345–1351. (Summary) **99g:76137** 76Q05 (73D50, 86A15, 86A22)
Wang, W. *see* **Wang, Wen Sheng[1]**
Wang, W. S-Y *see* **Wang, William Shi-Yuan**
Wang, W. T. *see* **Wang, Wan Tsu**
Wang, Wan-Liang (*with* Bai, Shi Zhong) I type of strong connectivity in L-fuzzy topological spaces. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 357–362. 54A40
Wang, Wan Liang (*with* Yu, Li[1]; Chu, Jian) Design of output feedback stabilizing controllers for uncertain time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 225–229. 93D21 (93C41)
Wang, Wan Tsu (*with* Wee, Hui-Ming) A variable production scheduling policy for deteriorating items with time-varying demand. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 3, 237–254. 90B35
Wang, Wan Yi The σ-structure of semimodules. III. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 4, 10–13.

16Y99

Wang, Wei (*with* Gu, Jun; Du, Bin[2]; Tsang, Danny H. K.) Multispace search for quorumcast routing. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 295–314, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68013** 68M10 (05C05, 05C85, 90B12)

Wang, Wei *see* **Overfelt, P. L.**

Wang, Wei (*with* Hu, Zhan Yi; Yang, Yi; Ma, Song De) A new definition of the Hough transform. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 5, 385–392. (Summary) **99i:44006** 44A15 (68U10)

Wang, Wei (*with* Gu, Guo Hua; Wang, Fu Min) A traffic assignment model for an urban network with link goal targets. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 3, 40–46. 90C08 (90B06)

Wang, Wei[11] Normal forms for some degenerate real analytic hypersurfaces in $\mathbf{C}^2$. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **24** (1997), *no.* 2, 100–107. (Summary) **99e:32026** 32F25

Wang, Wei[14] (*with* Kosheleva, Olga M.) Chromatic-number-type theorems are logically non-trivial. (English summary) *Geombinatorics* **8** (1998), *no.* 1, 169–174. (Miklós Bóna) **99d:05085** 05D99 (03B30, 03D35)

Wang, Wei[4] (*with* Shi, M. X.) On the general solutions of transversely isotropic elasticity. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 25, 3283–3297. (V. K. Arya) **99g:73030** 73C02 (73B40)

Wang, Wei-Cheng (*with* Xin, Zhouping) Asymptotic limit of initial-boundary value problems for conservation laws with relaxational extensions. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 5, 505–535. (L. Hsiao) **99a:35172** 35L65 (35B25)

— (*with* Xin, Zhouping) Fluid-dynamic limit for the centered rarefaction wave of the Broadwell equation. (English summary) *J. Differential Equations* **150** (1998), *no.* 2, 438–461. (Carlo Cercignani) **99k:82066** 82C40 (35Q99, 76N10, 76P05)

— On L^1 convergence rate of viscous and numerical approximate solutions of genuinely nonlinear scalar conservation laws. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 38–52 (*electronic*). (Darrell L. Hicks) **99j:65150** 65M12 (35L65)

Wang, Wei Guo Block tridiagonal symmetric indefinite linear systems. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 298–306. (Summary) **99c:15017** 15A23

Wang, Wei Min (*with* Wang, Shi Ming) Some mapping theorems for compact perturbations of m-accretive operators. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 51–54. (Hong Kun Xu) **99f:47066** 47H06 (47H15)

Wang, Wei Min[2] (*with* Shieh, Leang-San; Zheng, Jing-Bo) Robust control of sampled-data uncertain systems using digitally redesigned observer-based controllers. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 43–64. 93B35 (93C62)

— (*with* Shieh, Leang-San; Chen, Guanrong) Discretization of cascaded continuous-time controllers and uncertain systems. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 5, 591–611. (Summary) **99f:93095** 93C57 (93A20)

Wang, Wei Xian (*with* Wang, Zhi Wei) Two classes of generalized symmetric matrices and their applications. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 353–355. 15A57

Wang, Weifan (*with* Zhang, Ke Min[1]) Edge-face chromatic number of plane graphs with high maximum degree. (English summary) *Australas. J. Combin.* **18** (1998), 235–244. (Summary) **99j:05076** 05C15

Wang, Weijing (*with* Wells, Martin T.) Nonparametric estimators of the bivariate survival function under simplified censoring conditions. (English summary) *Biometrika* **84** (1997), *no.* 4, 863–880. (Shaw-Hwa Lo) **99h:62042** 62G05 (62N05)

— (*with* Wells, Martin T.) Nonparametric estimation of successive duration times under dependent censoring. (English summary) *Biometrika* **85** (1998), *no.* 3, 561–572. (Summary) **99m:62052** 62G05

Wang, Weike Large time behavior of solutions for general Navier-Stokes systems in multi-dimension. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 4, 385–393. (Summary) **99j:35172** 35Q30 (35B40, 76D05)

— (*with* Liu, Tai-Ping) The pointwise estimates of diffusion wave for the Navier-Stokes systems in odd multi-dimensions. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 145–173. (Jürgen Socolowsky) **99i:35127** 35Q30 (35B45, 76D05)

Wang, Weimin *see* **Wang, Wei Min[2]**

Wang, Wein-So (*with* Juang, Jyh-Ching; Sun, York-Yih) On the application of alternating projection under the constraint of linear matrix inequalities. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 15–22. 93B40 (65F30, 90C30)

Wang, Weiqiang Dimension of a minimal nilpotent orbit. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 935–936. (Summary) **99f:17010** 17B20

Wang, Weizhen (*with* Hwang, J. T. Gene) The validity of the test of individual equivalence ratios. (English summary) *Biometrika* **84** (1997), *no.* 4, 893–900. (Summary) **99d:62093** 62P10

Wang, Wen Chang (*with* Gu, Yong Xing) The angular distributions of meromorphic functions and their growth. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 277–282. (Summary) **99m:30064** 30D35

Wang, Wen Di (*with* Ma, Zhi En) Asymptotic stability of linear delayed systems without instantaneous dissipative terms. *Advances in nonlinear dynamics*, 129–136, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (V. B. Smirnova) **99f:34112** 34K20

— (*with* Mulone, G.; Salemi, F.) Permanence of population models with toxicant input and diffusion. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 4, 16–29. (Summary) **99h:92041** 92D40 (92D25)

— (*with* Chen, Lan Sun; Lu, Zheng Yi) Global stability of a population dispersal in a two-patch environment. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 207–215. (Summary) **99k:92039** 92D25 (34D20)

— (*with* Ma, Zhi En) Permanence of a nonautonomous population model. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 86–95. (Hassan El-Owaidy) **99f:92029** 92D25 (34C99, 34D05)

— (*with* Salemi, F.; Salone, V.) Stability of a competition model with two-stage structure. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 221–231. (Summary) **99m:92037** 92D25

Wang, Wen Ju (*with* Zhang, Li Hong) Some properties of Artin-Rees modules and rings. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 315–320. (Nguyễn Tự Cư'ò'ng) **99g:13014** 13C13 (13J10)

— (*with* Zhang, Li Hong) The I-adic completion of rings satisfying (accr) and its flatness. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 125–130. (Ho Kuen Ng) **99c:13040** 13E99 (13J10)

— (*with* Zhu, Bin[1]) Poset rings with Morita duality. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 273–276. (Zhong Kui Liu) **99f:16010** 16D90

— Universal residual intersection. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 335–340. 13C40

— (*with* Zhang, Li Hong) Rings satisfying a special ascending chain condition for right annihilators. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 547–552. (Yuan Chun Guo) **99k:16046** 16P60

— (*with* Wang, Ren-Hong; Liu, Xiu Ping) The resultant algorithm for the intersection points of piecewise algebraic curves. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 125–129. 65D07 (41A15)

Wang, Wen-June (*with* Mau, Lih-Gwo) Eigenvalues assignment by a particular Lyapunov-type equation. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1231–1238. 93B55 (93D05)

— (*with* Chen, Ye-Hwa) Decentralized robust control design with insufficient number of controllers. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 1015–1030. 93A14 (93B51)

— (*with* Wang, Rong-Jyue) Robust stability for noncommensurate time-delay systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 507–511. (Summary) **99a:93081** 93D09 (93C30)

— (*with* Hsiao, Chun-Hui) State analysis and optimal control of linear time-varying systems via Haar wavelets. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 6, 423–433. (Summary) **99k:49070** 49M30 (93B40)

— (*with* Chiu, Chih-Hui) The entropy change in extension principle. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 153–162. (Summary) **99i:03071** 03E72 (94A17)

— (*with* Chiu, Chih-Hui) Entropy variation on the fuzzy numbers with arithmetic operations. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 443–455. (Summary) **99k:04002** 04A72

— (*with* Yan, Shao-Feng) Stability confidence for fuzzy matrices. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 507–511. 93D05 (93C42)

— (*with* Yan, Shao-Feng; Chiu, Chih-Hui) Flexible stability criteria for a linguistic fuzzy dynamic system. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 63–80. 93D05 (93C42)

Wang, Wen Li (*with* Wang, Yin He) New concepts of differential and integral for finite discrete functions. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 3, 12–17. 26A99

Wang, Wen-Ping (*with* Rifai, Steven M.; Johan, Zdeněk; Grisval, Jean-Pierre; Hughes, Thomas J. R.; Ferencz, Robert M.) Multiphysics simulation of flow-induced vibrations and aeroelasticity on parallel computing platforms. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 3-4, 393–417. 73K70 (73V20, 76M25)

Wang, Wen Sheng[1] (*with* Bourgain, Jean) Construction of blowup solutions for the nonlinear Schrödinger equation with critical nonlinearity. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 197–215 (1998). (Marcel Oliver) **99m:35219** 35Q55 (35B99, 35C99)

— (*with* Kenig, Carlos E.) Existence of local smooth solution for a generalized Zakharov system. *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 469–490. (R. Glassey) **99m:35233** 35Q55 (35L99, 35Q60, 76X05, 82D10)

— (*with* Kenig, Carlos E.) A note on boundary unique continuation for harmonic functions in non-smooth domains. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 143–147. (Steven George Krantz) **99c:35048** 35J40 (31B05, 35B30, 35B37)

— Uniqueness in the Cauchy problems for higher order elliptic differential operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2623–2630. (Andreas Müller-Rettkowski) **99c:35047** 35J30 (35B45)

Wang, Wen Xiang (*with* Wei, Yan Li; Gong, Yu Bin) Numerical calculation of Bessel functions of arbitrary orders with complex arguments. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 171–176. 65D20

Wang, Wen Zheng (*with* Ou, Wen; Han, Chong Zhao) Linear system parameter estimation using an improved convex polyhedral description method. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 10, 5–8. 93E10

Wang, Wenlong (*with* Yuan, Rong[2]) On the spectrum of the linear transport operator in a slab geometry with generalized periodic boundary conditions. (English summary) *Transport Theory Statist. Phys.* **28** (1999), *no.* 2, 181–189. (A. Belleni-Morante) **99m:82044** 82C70 (47N55, 76P05)

— (*with* Yu, Xinshan) The criticality of the transport system in a slab geometry with partially reflecting boundary conditions. (English summary) *Transport Theory Statist. Phys.* **28** (1999), *no.* 4, 419–430. 82C70

Wang, Wensheng *see* **Wang, Wen Sheng[1]**

Wang, Wenxin (*with* Fan, Tian You; Zhang, Liangxin) Analytic study on angular fields of HRR solution. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 313–323. (Summary) **99c:73063** 73M25 (73E99)

Wang, William Shi-Yuan (*with* Qiao, Sanzheng) A matrix representation of phylogenetic trees. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 274–283, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99c:92028** 92D15 (68Q20, 92B10)

Wang, X. *see* **Wang, Xiang**

Wang, X. P. *see* **Wang, Xiao Ping[1]**

Wang, X. Sean (*with* Bettini, Claudio; Jajodia, Sushil) A general framework for time granularity and its application to temporal reasoning. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 29–58. (Summary) **99b:68171** 68T27 (03B70)

— (*with* Ginsburg, Seymour) Regular sequence operations and their use in database queries. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 1–26. (Summary) **99d:68064** 68P15

Wang, Xi Lu (*with* Feng, En Min; Wang, Xiu Mei) On the application of the ABS algorithm to linear programming and linear complementarity. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 133–142. (Summary) **99a:90119** 90C05 (90C33)

— (*with* Feng, En Min; Wang, Xiu Mei; Teng, Hong Fei) A global optimization algorithm for layout problems with behavior constraints. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 98–104. 90C90 (90C30)

Wang, Xi Zhao (*with* Hong, Jia Rong) On the handling of fuzziness for continuous-valued attributes in decision tree generation. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 283–290. (Summary) **99e:68139** 68T05

— (*with* Sun, Jian Ping; Zhang, Yan E) The solution of the fuzzy matrix equation $Ax = b$ and its properties. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 72–78. 15A99 (15A24)

Wang, Xia (*with* Yan, En Rang) Comparison theorems for linear differential equations of second order. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 4, 14–17, 27. 34A30 (34C10)

Wang, Xian Some properties of cubic Liénard systems. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 320–324. (Natalia Borisovna Medvedeva) **99g:34066** 34C05

— (*with* Jiang, Ji Fa; Yan, Ping) Analysis of global bifurcation for a class of systems of degree five. *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 305–318. (Douglas S. Shafer) **99d:34066** 34C23 (34C25, 58F14)

Wang, Xian Chang[2] (*with* You, Jia-Huai; Yuan, Li Yan) Disjunctive logic programming as constrained inferences. (English summary) *Logic programming (Leuven, 1997)*, 361–375, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99a:68033** 68N17 (68Q55)

Wang, Xian Dong Lie algebras of n-RDS type and their construction. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 4, 10–16. 17B99

Wang, Xian Tao (*with* Guo, Zhong) Extremal quaternion matrices. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 6, 15–17. (Summary) **99f:15022** 15A33 (15A45)

— (*with* Guo, Yun) An inequality for symmetric matrices. (Chinese. Chinese summary) *Hunan Ann. Math.* **18** (1998), *no.* 2, 108–109. 15A45

— (*with* Yang, Weiqi) Discreteness criterions for subgroups in SL(2, **C**). (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 51–55. (O. V. Shvartsman) **99c:22016** 22E40

Wang, Xianchang *see* **Wang, Xian Chang**[2]

Wang, Xianfu A note on the Clarke subdifferential. *Amer. Math. Monthly* **105** (1998), *no.* 4, 357–359. (Bernd Luderer) **99b:49022** 49J52 (26B05)

— (*with* Borwein, Jonathan M.) The converse of the mean value theorem may fail generically. *Amer. Math. Monthly* **105** (1998), *no.* 9, 847–848. 26A24

— (*with* Borwein, Jonathan M.; Girgensohn, R.) On the construction of Hölder and proximal subderivatives. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 497–507. (Lionel Thibault) **99k:49032** 49J52 (26A16, 26A24)

— The subdifferentiability properties of typical functions in $C[0, 1]$. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 621–631. (Summary) **99k:49038** 49J52 (26A27)

Wang, Xiang (*with* Jeyakumar, V.) Approximate Hessian matrices and second-order optimality conditions for nonlinear programming problems with C^1-data. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 403–420. (Doug Ward) **99k:49036** 49J52 (90C31)

Wang, Xiang-bin (*with* Oh, Choo-Hiap; Kwek, L. C.) General approach to functional forms for the exponential quadratic operators in coordinate-momentum space. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4329–4336. (Summary) **99c:81080** 81R30

Wang, Xiang Dong (*with* Liang, Xi Ting) Boundedness and a priori estimates of generalized solutions to elliptic equations with critical growth. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 232–243. (Zi Qian Yan) **99b:35059** 35J60 (35B45, 35D99)

— (*with* Liang, Xi Ting) Hölder continuity of the gradients of generalized solutions to a class of degenerate elliptic equations. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 55–60. (Jun Yu Wang) **99a:35102** 35J70 (35B65)

— (*with* Gao, Li Qun; Zhang, Si Ying) Robust stabilization of a class of uncertain nonlinear systems via state feedback. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 299–301. 93D21

— (*with* Liang, Xi Ting) A Liouville-type theorem for solutions to systems of elliptic equations in diagonal form. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 2, 144–153. 35J60 (35B05)

— (*with* Han, Pu Xian; Liang, Xi Ting) A priori estimate for lower solutions of a class [of] quasilinear elliptic equations. *Appl. Math. Mech. (English Ed.)* **20** (1999), *no.* 2, 231–232; *translated from Appl. Math. Mech.* **20** (1999), *no.* 2, 217–219 (*Chinese. English and Chinese summaries*). 35J60 (35B45)

Wang, Xiang Rong (*with* Deng, Jin Yi; Zhou, Yu Rong) Global attractors and global weak attractors. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 2, 207–214, 219. (Xiao Qiang Zhao) **99b:34092** 34D45 (34C05, 58F12)

— (*with* Gong, Xin Bo; Zhang, Gang[3]) Partial practical stability of discontinuous systems with respect to continuous time-varying sets. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 4, 452–456, 394. (Xin-Zhi Liu) **99f:34080** 34D20

— (*with* Shi, Yu Feng) A Lyapunov stability theorem. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 12–16. (Xiang Sheng Xie) **99k:34113** 34D20

Wang, Xianghai (*with* Zhou, Yunshi) A kind of GC^1 blending of triangular Bézier patches. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 3, 371–378. 65D17 (41A63)

Wang, Xiangjun (*with* Zheng, Qibing) The convergence of $\widetilde{\alpha}_2^{(n)} h_0 h_k$. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 622–628. (Summary) **99e:55022** 55Q45

Wang, Xiangyong Characters of permutation summands. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 79–90. (C. Sri Hari Nagore) **99g:20019** 20C10 (20C15)

Wang, Xiao (*with* Han, Chong Zhao; Wan, Bai Wu) Two effective new least squares identification algorithms for nonlinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 95–101. 93B40 (93B30)

Wang, Xiao Dong[2] (*with* Zacks, Shelemyahu) Estimation of variance components in dynamic linear models. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 325–330. (Summary) **99k:62182** 62M99 (62F10)

Wang, Xiao Feng *see* **Wang, Xiaofeng**[2]

Wang, Xiao Feng[1] (*with* Alonso, Juan Manuel; Bogley, W. A.; Burton, Robert M., Jr.; Pride, Stephen J.) Second order Dehn functions of groups. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 193, 1–30. (Athanase Papadopoulos) **99c:20047** 20F32 (57M07)

Wang, Xiao Guo (*with* Qiang, Shi Zhong; Fan, Jia Shen; Jia, Chun Sheng) A new method of solution for the Reissner plate bending problem. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 114–119, *IX–X*. 73K10

Wang, Xiao Jing (*with* Wang, Pin Chao; Lu, Jie Qing; Liu, Qiu Xiang) The index complex of a maximal subgroup. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 5–8. (Summary) **99j:20035** 20E28

Wang, Xiao Li (*with* Huang, Jian Hua[1]) On the structure of finite group modules. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 3, 11–14. (Zhi Rang Zhang) **99e:20010** 20C15 (20E22)

— (*with* Zhang, Su Mei; Li, Tao[1]) Structural properties of outerplanar graphs and their applications to edge coloring. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 3, 13–15, 31. 05C15

Wang, Xiao Mei (*with* Li, Bing[3]) Topological conjugacy of a class of mappings of a circle into itself. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 25–28. (Jie Hua Mai) **99e:58065** 58F03 (58F08, 58F15)

Wang, Xiao Ming *see* **Wang, Xiao Ming**[3]

Wang, Xiao Ming[1] (*with* Temam, Roger) Asymptotic analysis of the linearized Navier-Stokes equation in a 2D channel at high Reynolds number. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 165–172, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00025**) 76D05 (35Q30, 65M15)

— (*with* Temam, Roger) On the behavior of the solutions of the Navier-Stokes equations at vanishing viscosity. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 807–828 (1998). (Chang Hao Lin) **99j:35169** 35Q30 (76D05, 76D30)

— (*with* Temam, Roger) The convergence of the solutions of the Navier-Stokes equations to that of the Euler equations. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 29–33. (Sergey Nikolaevich Alekseenko) **99a:35204** 35Q30 (35B25, 76D05, 76D30)

— (*with* Temam, Roger) Boundary layers for Oseen's type equation in space dimension three. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 227–246 (1998). (José Luiz Boldrini) **99a:35205** 35Q30 (76D05, 76D10, 76D30)

— (*with* Temam, Roger) Boundary layer for Chaffee-Infante type equation. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 217–226. (Andreas Unterreiter) **99d:35088** 35K57 (35B10, 35B25, 76D10)

— (*with* Moise, Ioana; Rosa, Ricardo) Attractors for non-compact semigroups via energy equations. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1369–1393. (Piotr Biler) **99h:35020** 35B40 (35K55, 35Q53, 47H20, 58F39, 76D05)

— (*with* Doering, Charles R.) Attractor dimension estimates for two-dimensional shear flows. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 206–222. (Alp O. Eden) **99m:76067** 76F20 (35Q30, 58F39, 76D05, 76F10)

Wang, Xiao Ming[2] (*with* Wang, Xue Biao) Weak convergence of high-level crossings and maxima for stationary Gaussian processes with strong dependence. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 439–444. 60G15 (60G17)

Wang, Xiao Ming[3] A further discussion on the convergence rates of the strong law for nonstationary φ-mixing sequences. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 675–686. (Summary) **99b:60047** 60F15

Wang, Xiao Ping *see* **Wang, Xiao Ping**[2]

Wang, Xiao Ping[1] (*with* Liu, Yue[1]) Nonlinear stability of solitary waves of a generalized Kadomtsev-Petviashvili equation. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 2, 253–266. (Daniel B. Dix) **99b:35184** 35Q53 (35B35, 76B25)

— (*with* Guo, Mao Zheng) Transport equations for a general class of evolution equations. (English summary) *Recent advances in differential equations (Kunming, 1997)*, 189–197, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99f:35113** 35K99 (35Q99, 45K05, 85A25)

— (*with* Fife, Paul C.) Periodic structures in a van der Waals fluid. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 235–250. (Denis Serre) **99c:76091** 76N10 (35L65, 35Q35, 76A02, 76T05)

— On the existence of nontrivial solutions for a scalar "light-nematic" system and its Frederiks transition threshold. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1852–1861 (*electronic*). (Summary) **99f:35196** 35Q55 (49J20, 78A99)

— (*with* Hsieh, D. Y.; Tang, Shaoqiang; Wu, L. X.) Dissipative nonlinear evolution equations and chaos. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 3, 233–266. (Summary) **99g:35133** 35Q99 (58F13, 58F39)

Wang, Xiao Ping[2] Oscillation of bounded solutions to second-order retarded differential equations with variable coefficients. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 64–69. (Yuan Hong Yu) **99d:34141** 34K15 (34C10)

— Permanence and global attractivity of a class of nonlinear semidynamical systems with discrete time delays. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 98–102. (Summary) **99h:39013** 39A10

Wang, Xiao-Qian (*with* Tymczak, C. J.; Japaridze, G. S.; Handy, Carlos R.) New perspective on inner product quantization. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 17, 3673–3677. (Summary) **99b:81134** 81S99

Wang, Xiao Shen (*with* Li, Tien-Yien) On multivariate Descartes' rule—a counterexample. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 1–5. (Summary) **99d:65166** 65H10 (14P05)

— (*with* Li, Tien-Yien) Counterexamples to the connectivity conjecture of the mixed cells. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 515–521. (Summary) **99j:68144** 68U05 (52A39, 52B55, 68Q40)

Wang, Xiaobo (*with* Pestien, Victor) Markov-achievable payoffs for finite-horizon decision models. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 101–118. (O. L. V. Costa) **99a:90229** 90C40 (60K15, 90C39)

Wang, Xiaodong *see* **Wang, Xiao Dong**[2]

Wang, Xiaofeng[2] (*with* Zhang, Tao; Hu, Dong Cheng) A study of a reliability estimation method for cold standby systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 166–172. 90B25

— (*with* Tang, Yun; Wang, Duo) Recognition and classification for $O(n)$-equivariant bifurcations with $O(n)$-codimension less than 5. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 391–400. (Ian Melbourne) **99k:58130** 58F14 (34C23, 34C35)

— (*with* Wang, Duo; Tang, Yun) Isomorphism between systems of equivariant singularities. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 26–45. (Michael Dellnitz) **99m:58033** 58C27 (58E40)

— A C^1 closing lemma for equivariant endomorphisms under actions of finite groups. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 950–959. (Romeo F. Thomas) **99m:58124** 58F10

— (*with* Wang, Duo) The C^1 closing lemma for non-singular endomorphisms equivariant under free actions of finite groups. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4173–4182. (Romeo F. Thomas) **99m:58125** 58F10

Wang, Xiaojun (*with* Chang, Tsu-Shuan) A multivariate global optimization using linear bounding functions. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 383–404. (Summary) **99d:90087** 90C26 (90C30)

Wang, Xiaolin (*with* Min, Honglin) The boundedness of singular integral operator along an open curve. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 4, 383–388. (Summary) **99m:30080** 30E20 (45E05, 47G10)

Wang, Xiaoling (*with* Hua, Xin-Hou) Fatou components of transcendental entire functions. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 180–186. (Jian-Hua Zheng) **99e:30018** 30D05

Wang, Xiaomin[2] (*with* Xue, Xiao Ping[1]) Comment: "Representation of set valued operators" [Trans. Amer. Math. Soc. **292** (1985), no. 2, 557–572; MR 87c:47085] by N. Papageorgiou. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 326–328. (Summary) **99h:47081** 47H99 (28B20, 46E30, 46G99)

— (*with* Xue, Xiao Ping[1]; Wu, Lizhong) On the convergence and representation of random fuzzy number integrals. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 115–125. (Summary) **99k:28028** 28E10 (46S40)

Wang, Xiaoming *see* **Wang, Xiao Ming**[1]

Wang, Xin[2] (*with* Blum, Edward K.; Li, Qingnan) Consistency of local dynamics and bifurcation of continuous-time dynamical systems and their numerical discretizations. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 1, 29–57. (Summary) **99c:34078** 34C23 (34A45, 65L06)

Wang, Xin Gang A finite grading-sorting algorithm. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **12** (1999), *no.* 1, 9–14. 68P10

Wang, Xin Jie The condition for equality of generalized symmetric tensors. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 105–108. 20C15 (15A72)

— (*with* Zhang, Xing Zhi) The conditions for validity of the polynomial identities $d_M^H(AX) = d_M^H(XA)$. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 109–112. 20C15 (15A24)

Wang, Xin Mei (*with* Xiao, Ma) Some new bounds for Q-ary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1996–1998. 94B05 (94B65)

Wang, Xin-Ping (*with* Si, Jian-Guo) Smooth solutions of a nonhomogeneous iterative functional-differential equation with variable coefficients. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 377–392. (Andrey Ponomaryov) **99h:34094** 34K05 (47N20)

— (*with* Si, Jian-Guo; Cheng, Sui Sun) Analytic solutions of a functional-differential equation with a state derivative dependent delay. (English summary) *Aequationes Math.* **57** (1999), *no.* 1, 75–86. (Summary) **99k:34145** 34K05

— (*with* Si, Jian-Guo) Analytic solutions of a second-order functional-differential equation with a state derivative dependent delay. (English summary) *Colloq. Math.* **79** (1999), *no.* 2, 273–281. (Summary) **99h:34095** 34K05 (34K25)

Wang, Xin Zheng (*with* Zhang, Xin Yuan; Lu, Deng Fang) An FCT method for 2-dimensional hydrodynamic equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 290–298. 65M70 (76M20)

Wang, Xinfeng (*with* Ge, Yu'an; Zeng, Qingli) Solutions of two-point BVP in Banach spaces. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1265–1269. (Summary) **99k:34141** 34G20 (34A45, 34B15)

Wang, Xing Hua (*with* Han, Dan-fu) The error estimates of Halley's method. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 2, 231–240. (Otmar Scherzer) **99f:65088** 65J15 (47H17)

— (*with* Han, Dan-fu) Convergence on a deformed Newton method. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 65–72. (Summary) **99d:65184** 65J15

— (*with* Li, Chong[1]; Yang, Wen Shan) Lipschitz constants of metric projections. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 6, 707–710. 46B20 (41A65)

— (*with* Li, Chong[1]) Lipschitz continuity of best approximations and Chebyshev centers. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 185–188. (Michael Felten) **99d:41045** 41A50 (49K40)

— Definite version on precise point estimate. (English summary) *Progr. Natur. Sci. (English Ed.)* **8** (1998), *no.* 2, 152–158. (Summary) **99i:65062** 65J15 (65Y20)

— Convergence of the iteration of Halley's family and Smale operator class in Banach space. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 700–709. (Summary) **99h:47078** 47H17 (65J15)

— (*with* Li, Chong[1]; Yang, Wen Shan) An estimate for Lipschitz constants of metric projections. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 133–141. (Manfred Sommer) **99m:41053** 41A65 (46B20)

— Convergence of Newton's method and inverse function theorem in Banach space. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 169–186. (A. M. Galperin) **99d:65188** 65J15 (47H17)

Wang, Xing Ren (*with* Zhang, Guo Feng[2]; Peng, Xiao Yuan; Wang, Guang Xiong) An H_∞ approach to discrete-time two-degree-of-freedom robust design. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 975–980. 93B36

Wang, Xing Yuan (*with* Zhu, Wei Yong) Intermittent chaos and fractals of the coupled logistic map. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 5, 509–512. 58F13

Wang, Xinmao (*with* Li, Jiong Sheng) Lower bound of the sum of positive eigenvalues of a graph. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 443–446. (Summary) **99i:05140** 05C50

Wang, Xinmin[3] (*with* Tang, Bingyong; Ruan, Jiong) A note on synchronization with heterogeneous driving. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2239–2241. (Summary) **99m:34102** 34C35

Wang, Xiong (*with* Yang, Yanling; Zhang, Kaizhong; Wang, Jason T. L.; Shasha, Dennis) An approximate oracle for distance in metric spaces. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 104–117, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68021** 68P05 (68Q20)

Wang, Xiu Lin (*with* Deng, Mou Jie) Comment: "Diophantine equations related to finite groups" [Comm. Algebra **4** (1976), no. 1, 77–100; MR **54** #12634] by L. J. Alex. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 27–29. 11D09

— (*with* Zhang, Guo Cai) Secondary uniform convergence of integrals containing a parameter. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 18–22. 26A42

Wang, Xiu Mei (*with* Feng, En Min; Wang, Xi Lu) On the application of the ABS algorithm to linear programming and linear complementarity. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 133–142. (Summary) **99a:90119** 90C05 (90C33)

— (*with* Feng, En Min; Wang, Xi Lu; Teng, Hong Fei) A global optimization algorithm for layout problems with behavior constraints. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 98–104. 90C90 (90C30)

Wang, Xiu Yun Estimates of the largest disc covered by a random walk. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 2, 15–18. (Wan Ding Ding) **99k:60183** 60J15 (60F15)

Wang, Xu Dong (*with* Guan, Yan Zhu; Wang, Yi) A class of nonlinear integrodifferential equations. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 2, 6–10. (Summary) **99f:45010** 45J05 (34K05, 47H15, 47N20)

Wang, Xu-Jia (*with* Trudinger, Neil S.) A Poincaré type inequality for Hessian integrals. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 4, 315–328. (Gilles Carron) **99d:58163** 58G03 (35K60)

— (*with* Guan, Zhicheng) Existence for a free boundary problem in ground freezing. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 142. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 97–112. (Weiqing Xie) **99f:35230** 35R35 (35K99, 80A22, 86A99)

— (*with* Guan, Pengfei) On a Monge-Ampère equation arising in geometric optics. (English summary) *J. Differential Geom.* **48** (1998), *no.* 2, 205–223. (John Urbas) **99e:35051** 35J60 (53C45, 78A05)

— Interior gradient estimates for mean curvature equations. *Math. Z.* **228** (1998), *no.* 1, 73–81. (Yi Hong Du) **99f:35055** 35J60 (35B45, 58E12)

Wang, Xu Yi (*with* Fang, Qi; Liang, Hai Shao) A probabilistic grammar for structural pattern recognition and an algorithm for it. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 4, 495–502. 68Q50 (68T10)

Wang, Xue (*with* Wu, Ya; Xiao, Ren Bin; Yang, Shu Zi) A method of knowledge acquisition based on granularity. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 3, 128–132, *XIII–XIV*. 68T05

Wang, Xue (*with* Zhu, Zhao Hui; Zhu, Wu Jia) Universal models and finite models of Boolean modal logic. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 18, 1944–1950. 03B45

Wang, Xue Biao (*with* Wang, Xiao Ming[2]) Weak convergence of high-level crossings and maxima for stationary Gaussian processes with strong dependence. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 439–444. 60G15 (60G17)

Wang, Xue Feng[1] (*with* Yang, De Sheng) Global attractors for a Schrödinger-type equation in an unbounded domain. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 34–43. (Summary) **99c:35231** 35Q55 (35B40, 47H20, 58F39)

— (*with* Li, Sheng Hong) Existence, uniqueness, and regularity of solutions to parabolic variational inequalities with gradient constraints. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 275–280. (Summary) **99g:35075** 35K85 (49J40)

Wang, Xue Hua (*with* Tang, Huan Wen; Qin, Xue Zhi) A study of an efficient algorithm for large system optimization. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 1–8. 90C30 (90C06)

Wang, Xue Jin A class of quadratic differential systems with a fine focus of order two. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 399–404. (Summary) **99h:34051** 34C05

Wang, Xue Mei[1] Periodic solutions for a class of nonlinear Volterra integral equations. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 2, 174–177. (Ju Rang Yan) **99g:34148** 34K15 (45J05, 45M15)

Wang, Xue-Ping *see* **Wang, Xue Ping**[2]

Wang, Xue Ping[1] An inverse problem related to channel scattering operators. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 1-2, 147–164. (Ricardo Weder) **99k:81336** 81U40 (35P25, 35R30, 47A40, 47N50)

Wang, Xue Ping[2] The relationships between two fuzzy sets standing in the relation R^+. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 51–54. (Summary) **99c:03075** 03E72

— The union of proper non-equivalent fuzzy subgroups. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 2, 203–209. 20N25

Wang, Xue Shun (*with* Xu, Wen Ke) The weighted average of a function and its convexity. I. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 23–26. 26D15 (26A51)

Wang, Xuefeng (*with* Fife, Paul C.) A convolution model for interfacial motion: the generation and propagation of internal layers in higher space dimensions. (English

summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 85–110. (Stanislaus Maier-Paape) **99i:45017** 45K05 (35K55, 35Q72, 73B30, 82B24)

— (*with* Pan, Xing Bin) Semilinear Neumann problem in exterior domains. *Nonlinear Anal.* **31** (1998), *no.* 7, 791–821. (Yong Qing Li) **99b:35069** 35J65 (35B25, 35B40)

Wang, Xuefu (*with* Duan, Qi; Xu, Gongxue; Liu, Aikui; Cheng, Fuhua) Constrained interpolation using rational cubic spline with linear denominators. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 203–215. (Summary) **99j:65014** 65D07 (41A29)

Wang, Xueli (*with* Pei, Ding Yi) How to decrease the levels of modular integrals. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 491–497. (Marvin I. Knopp) **99m:11058** 11F67

Wang, Xuelin (*with* Zhou, Ji[1]) An accelerated subspace iteration method for generalized eigenproblems. (English summary) *Comput. & Structures* **71** (1999), *no.* 3, 293–301. (Summary) **99m:65074** 65F15 (65F10, 73V20)

Wang, Xueren (*with* Zhang, Jin[1]) Selecting the best regression equation via the P-value of F-test. (English summary) *Metrika* **46** (1997), *no.* 1, 33–40. (Summary) **99c:62194** 62J05

Wang, Y. *see* **Wang, Yi[6]**

Wang, Y. B. *see* **Wang, Yin Bang**

Wang, Y. G. *see* **Wang, Ya Guang**

Wang, Y. S. *see* **Wang, Yan Shen**

Wang, Ya Dong (*with* Qian, Guo Liang; Shu, Wen Hao) A heuristic algorithm for extension matrices based on information entropy. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 619–626. 68T05

Wang, Ya Guang Nonlinear geometric optics for shock waves. I. Scalar case. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 607–619. (L. Hsiao) **99a:35176** 35L67 (35B40, 35C20)

— Nonlinear geometric optics for shock waves. II. System case. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 857–918. (L. Hsiao) **99f:35129** 35L67 (35B40)

— Nonlinear geometric optics for two shock waves. *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1621–1692. (Huicheng Yin) **99i:35098** 35L67

— (*with* Racke, Reinhard) Propagation of singularities in one-dimensional thermoelasticity. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 216–247. (Song Jiang) **99f:73014** 73B30 (35B40, 35Q72, 80A20)

— (*with* Oberguggenberger, Michael) Regularized conservation laws and nonlinear geometric optics. (English summary) *Monatsh. Math.* **127** (1999), *no.* 1, 55–66. (Summary) **99i:35094** 35L65 (35D05, 46F10)

Wang, Yan A class of singular nonlinear three-point boundary value problems. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 23–27. 34B10 (34B15)

— (*with* Liu, Hui Zhao; You, Lei) The upper and lower solution method for a singular third-order differential equation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 1–4. (Summary) **99h:34034** 34B15

— (*with* Jiang, Da Qing; Liu, Hui Zhao) Existence of positive solutions to $(n-1,1)$ conjugate boundary value problems. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 511–517. (Johnny Henderson) **99k:34044** 34B15 (47H10, 47N20)

Wang, Yan (*with* Zhu, Wei Yong) Computer construction of horseshoe maps and Cantor fractal graphs and some properties of their chaotic fractal dimensions. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 268–271. 58F13 (58–04)

— (*with* Zhu, Wei Yong) A knot topology distribution theorem concerning the dynamic character of hyperbolic torus automorphisms. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 370–373. 57M25 (58F15)

Wang, Yan Bo[2] (*with* Li, Dong Mei; Wan, Wei Ming) Global stability of the Gause predator-prey model. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 1, 12–16. (Si Ming Zhu) **99c:92060** 92D40 (34D20)

Wang, Yan Chun Shape-preserving surface interpolation by piecewise quadratic parametric polynomials. (English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 121–136. (Summary) **99f:65033** 65D17

Wang, Yan Geng The space of maps from a locally compact space to a Banach space. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 639. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 3, 333–336. (Andreas Kriegl) **99k:54010** 54C55 (54C35)

— Topological spaces with the compact neighborhood extension property. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 159–162. 54E99

Wang, Yan Shen (*with* Hou, Bo Yu; Shi, Kang-jie; Yang, Wen Li[2]) Multipoint functions (form-factors) of quantum sine-Gordon field with boundary. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 157–165, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81T10

— (*with* Hou, Bo Yu; Shi, Kang-jie; Yang, Wen Li[2]) Bosonization of quantum sine-Gordon field with boundary. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 9, 1711–1741. (Marco Moriconi) **99a:81099** 81T10 (81U40)

— (*with* Zhao, Liu; Hou, Bo Yu) Drinfeld-Sokolov construction of heterotic Toda model. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 3, 389–398. (Andrey V. Tsiganov) **99h:58092** 58F07 (82B20)

— (*with* Hou, Bo Yu; Shi, Kang-jie; Yang, Wen Li[2]) Bosonic realization for boundary states in quantum sine-Gordon field with boundary. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 4, 579–586. (Mathias Pillin) **99j:81113** 81T10

— (*with* Fan, Heng; Hou, Bo Yu; Li, Guang-liang; Shi, Kang-jie) A one-dimensional many-body integrable model from Z_n Belavin model with open boundary conditions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4746–4758. (Kazuhiro Hikami) **99g:81237** 81V70 (81R50, 82B23)

Wang, Yan Ying (*with* Wu, Zhen De; Ding, Yan Hong) Commuting involutions with fixed point set of constant codimension. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 6, 1149–1154. 57S15

Wang, Yang Xian (*with* Wang, Chun Sen; Ma, Chang Li) Association schemes of quadratic forms over a finite field of characteristic two. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 23, 1965–1968. (Paul-Hermann Zieschang) **99j:05200** 05E30 (11T30)

— (*with* Wang, Chun Sen; Ma, Chang Li) Association schemes of quadratic forms over finite fields of characteristic 2. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 14, 1482–1484. 05E30

Wang, Yanming Finite groups admitting a p-solvable operator group. (English summary) *J. Algebra* **204** (1998), *no.* 1, 42–48. (Wolfgang Knapp) **99i:20027** 20D10 (20D20)

Wang, Yanzhuo (*with* Rodriguez, Armando A.) Performance enhancement methods for unstable bank-to-turn (BTT) missiles with saturating actuators. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 641–678. 93C95 (93B50)

Wang, Yao (*with* Ren, Yan Li) P-radicals, weak P-radicals and quasi-P-radicals of Γ-rings. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 101–104. 16Y99

— (*with* Yang, Jun) A module characterization of quasistrong nilpotent radicals. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 117, 120. 16N80

Wang, Yao Nan (*with* Peng, Jian Chun; Wang, Hui) Self-learning control using Gaussian potential function neural networks and its application. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 701–707. 93E35 (93C83)

Wang, Yao Qing Robust control problems for a class of systems with uncertain parameters. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 3, 167–171, 178. 93D15

Wang, Yaohong (*with* Zhang, Sheng[1]; Zhang, Ji Hong[2]) Multi-objective discounted semi-Markov decision processes with multiple constraints. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 551–555, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 90C40 (90C29)

Wang, Yazhen (*with* Chen, Yi-Ju[2]; Hewett, John; Johnson, Jane) A rank test for equality of two multivariate populations vs a particular ordered alternative. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 2, 129–144. (Summary) **99j:62063** 62G10

— Change curve estimation via wavelets. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 163–172. (Summary) **99a:62057** 62G05

Wang, Yhicheng *see* **Wang, Zhi Cheng[1]**

Wang, Yi (*with* He, Ming Feng; Ma, Yi Hua) A renumbering problem for two sequences. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 1, 6–9. (Summary) **99c:20003** 20B30

Wang, Yi (*with* Zhong, Shou Ming; Wu, Xiao Qing) Robust stabilization of nonlinear systems with time delay. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 6, 652–655. 93D21 (34K35)

Wang, Yi (*with* Wang, Xu Dong; Guan, Yan Zhu) A class of nonlinear integrodifferential equations. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 2, 6–10. (Summary) **99f:45010** 45J05 (34K05, 47H15, 47N20)

Wang, Yi[6] (*with* Aron, M.; Christopher, C. J.) On the straightening of compressible, nonlinearly elastic, annular cylindrical sectors. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 131–145. (Summary) **99c:73017** 73C50

Wang, Yi Fei (*with* Xie, Wei) A study on the convergence of hybrid genetic algorithms. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 1, 1–6. 68T05

Wang, Yi He (*with* Yang, Guang Wen; Li, Xiao Ming[1]; Zheng, Wei Min; Wang, Ding Xing) Deterministic annealing. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 765–768. 90C27 (65C99)

Wang, Yi-Hua (*with* Fan, Hong Yi[1]) Interaction Hamiltonian for relative-number-phase of Ban's phase operator formalism. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 18, 715–718. (Summary) **99f:81084** 81R30 (81V80)

Wang, Yi-Min (*with* Tsai, Jichiang; Kuo, Sy-Yen) Evaluations of domino-free communication-induced checkpointing protocols. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 31–37. 68Q10

Wang, Yiju On the block independence in reflexive inner inverse and M-P inverse of block matrix. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 407–415 (*electronic*). (Jian Long Chen) **99b:15004** 15A09 (15A03)

Wang, Yin Bang (*with* Chau, K. T.) A new boundary integral formulation for plane elastic bodies containing cracks and holes. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 14, 2041–2074. (Summary) **99j:73106** 73V10 (73M25)

Wang, Yin He Submanifolds with constant mean curvature in a sphere. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 231–233. (Bao Qiang Wu) **99j:53079** 53C40

— (*with* Wang, Wen Li) New concepts of differential and integral for finite discrete functions. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 3, 12–17. 26A99

Wang, Yin Ping (*with* Berger, James O.; Boukai, Benzion) Unified frequentist and Bayesian testing of a precise hypothesis. (English summary) With comments by Dennis V. Lindley, Thomas A. Louis and David Hinkley and a rejoinder by the authors. *Statist. Sci.* **12** (1997), *no.* 3, 133–160. (Christian P. Robert) **99e:62003** 62A10 (62A15, 62F15)

Wang, Yining (*with* McDermott, Michael P.) A conditional test for a non-negative mean vector based on a Hotelling's T^2-type statistic. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 64–70. (M. S. Srivastava) **99j:62080** 62H15

Wang, Yiping (*with* Song, Gangbing; Cai, Lilong; Longman, Richard W.) A sliding-mode based smooth adaptive robust controller for friction compensation. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 725–739. 93C40 (70Q05, 93B35)

Wang, Yiwen (*with* Ge, Mo Lin; Xue, Kang) Introduction to Yangian in physics. (English summary) *Topics in theoretical physics (Sorak Mountain Resort*, 1995), 87–129, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:81085** 81R50

Wang, Yong Cheng[2] Metric of the superposition of a Schwarzschild black hole and a semi-infinite rod: vacuum C metric. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 12, 881–884. 83C15 (83C57)

Wang, Yong Ge (*with* Cao, Xiao Hong) Hypercyclic and supercyclic operators. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 4–7. (Shan Li Sun) **99m:47018** 47A60 (47A99, 47B99)

Wang, Yong Jin Measure-valued branching processes for particles acted on by a spherical medium. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 535–543. (Summary) **99c:60196** 60J80 (60G57)

— An approach to superprocesses with generalized catalysts. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 127–136. (Zeng Hu Li) **99d:60053**

60G57 (60J80)
— Superprocesses with a single point catalyst on the Sierpiński gasket fractal. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 1–12. (Summary) **99a:60051** 60G57 (60K35)
— Nonsingularity of super-Brownian motion on the Sierpiński gasket. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 595–600. (Summary) **99k:60128** 60G57 (60J65)
— (*with* Ren, Yanxia) Absolutely continuous states of exit measures for super-Brownian motions with branching restricted to a hyperplane. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 582–594. (Summary) **99d:60097** 60J80 (60G57)
— Criterion on the limits of superprocesses. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 8, 849–858. (Ingemar Kaj) **99m:60122** 60J60 (60G57)
Wang, Yong Jiu (*with* Tang, Zhi Ming) Gravitational field of electro-magnetic charge and magnetic moment. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 2, 23–28. 83C22
— (*with* Lu, Jun Li) Gravitational effects in the external field of a dynamic charged sphere. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 4, 34–39. 83C10
Wang, Yong Zhong (*with* Ouyang, Shou Cheng; Wu, Yong; Li, Chao) The "rebel travelling" of general nonlinear evolutional equation and discussion on related problems. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 2, 179–189; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 165–173 (*Chinese. English and Chinese summaries*). (Sergey L. Gavrilyuk) **99e:35228** 35Q99 (34A05, 34C99, 35B40)
Wang, Yongge (*with* Calude, Cristian S.; Hertling, Peter H.; Khusainov, B. M.) Recursively enumerable reals and Chaitin Ω numbers. (English summary) *STACS* 98 (*Paris*, 1998), 596–606, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68089** 68Q30 (03D25)
— Genericity, randomness, and polynomial-time approximations. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 394–408 (*electronic*). (Uwe Schöning) **99k:68084** 68Q25 (03D10, 68Q05, 68Q30)
Wang, You-De Heisenberg chain systems from compact manifolds into S^2. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 363–371. (M. Lawrence Glasser) **99m:82033** 82C21 (58E50, 82C05)
— (*with* Ding, Weiyue) Schrödinger flow of maps into symplectic manifolds. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 746–755. (Caio J. C. Negreiros) **99m:58062** 58E20 (58G30)
Wang, You-Gan (*with* Leung, Denis Heng-Yan) Bias reduction using stochastic approximation. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 43–52. (Summary) **99b:62125** 62L20 (62G09)
Wang, You Yi[2] (*with* Lim, Kia Yong; Guo, Guoxiao; Zhou, Rujing) A new decentralized robust controller design for multi-area load-frequency control via incomplete state feedback. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 345–361. 93B51 (93A14)
Wang, Youbin (*with* Yan, Ju Rang) A necessary and sufficient condition for the oscillation of a delay equation with continuous and piecewise constant arguments. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 229–235. (M. K. Grammatikopoulos) **99a:34202** 34K15 (34C10)
Wang, Youyi *see* **Wang, You Yi**[2]
Wang, Yu Chuan (*with* Wang, De Xin; Lu, Jie Ping; Ma, Rui'e) An adaptive BP algorithm based on fuzzy reasoning. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 55–62. 92B20 (68T05, 90C70)
Wang, Yu Wen (*with* Liu, Yi[1]; Zhang, Hong) The best approximation problem in topological linear spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 20–22. 41A65 (41A99)
— (*with* Liu, Wen De) Linear generalized inverses of linear mappings in infinite-dimensional linear spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 5–8. (Shao Kuan Li) **99h:47003** 47A05
Wang, Yu Xiang (*with* Liu, Yi Rong; Rui, Jia Gao; Yang, Qing Hua) The problem of the values of singular points for a class of cubic systems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 26–28. (Xiang Sheng Xie) **99k:34060** 34C05
Wang, Yuan *see* **Wang, Yuan**[2]
Wang, Yuan[1] Cheng Dong Pan—a brief outline of his life and work. (Chinese) *Acta Math. Sinica* **41** (1998), *no.* 3, 449–454. (Editors) **99m:01096** 01A70
Wang, Yuan[2] Generalized input-output equations and nonlinear realizability. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 615–629. 93B15 (93B29)
Wang, Yuan Di On dead core of a reaction-diffusion problem with motion. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 172–176, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 34B15 (35K57)
— (*with* Zhou, Chun Qin) Existence and nonuniqueness for the flow of p-harmonic maps. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 511–516. (Y. L. Xin) **99f:58055** 58E20
— Behavior of solutions for a model in heterogeneous catalytic reaction-diffusion. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 4, 664–671. (Arnaldo do Nascimento) **99m:35123** 35K57 (80A30)
— Existence of solutions for nonlinear evolution equations with nonlocal initial data. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 65–69. (Tie Hu Qin) **99m:34144** 34G20 (35K99, 47H20)
Wang, Yuan-ming *see* **Wang, Yuan Ming**[2]
Wang, Yuan Ming[1] (*with* Xing, Jia Sheng) Existence of global weak solutions for a class of systems of semiconductor equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 733–742. (Song Mu Zheng) **99e:35232** 35Q99 (35D05, 35K60)
— Uniqueness and bifurcation for stationary semiconductor devices. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 391–396, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 82D99 (35B32, 35Q99)
— (*with* Cui, Guo Zhong) Global existence of smooth solution to Boltzmann-Poisson system in semiconductor physics. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 121–129, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (J. W. Jerome) **99f:35211** 35Q99 (45K05, 82D99)
— (*with* Xing, Jia Sheng) Initial-boundary value problems for a system of semiconductor equations with heating effects. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 215–223. (Summary) **99e:35233** 35Q99 (82D99)
— (*with* Xing, Jia Sheng) The existence of weak solutions for a class of semiconductor equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 3, 289–296. (Summary) **99k:35180** 35Q99 (35D05)
— (*with* Xing, Jia Sheng) Mixed boundary problems for a system of semiconductor equations with an avalanche term. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 423–432. (Zhangxin Chen) **99j:35224** 35Q99 (82D99)
— (*with* Cui, Guo Zhong) The Vlasov-Poisson model of a three-dimensional semiconductor. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 1, 43–48. 35Q99
Wang, Yuan Ming[2] (*with* Guo, Ben Yu) An almost monotone approximation for a nonlinear two-point boundary value problem. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 1-2, 65–96. (T. Feagin) **99b:65089** 65L10 (65L60)
— Petrov-Galerkin methods for systems of nonlinear reaction-diffusion equations. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 2-3, 209–236. (Yuri V. Zaika) **99f:65146** 65M60
— (*with* Guo, Ben Yu) Almost monotone approximation to a nonlinear system. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 227–247. (Siegfried Carl) **99b:34027** 34A45 (34B15, 65L10, 65L60)
— Monotone methods for a boundary value problem of second-order discrete equation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 77–92. (From the summary) **99h:39020** 39A12
— Petrov-Galerkin methods for nonlinear reaction-diffusion equations. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 123–145. (Summary) **99e:65135** 65M60
— (*with* Guo, Ben Yu) On Numerov scheme for nonlinear two-points boundary value problem. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 345–356. (K. N. Murty) **99j:65129** 65L10 (34B15)
— (*with* Guo, Ben Yu) A new monotone approximation for nonlinear systems. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 155–171, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Seppo Heikkilä) **99j:34023** 34B15 (34A45)
Wang, Yuanming *see* **Wang, Yuan Ming**[1]
Wang, Yuchuan (*with* Bridges, Douglas; Richman, Fred) Sets, complements and boundaries. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 4, 425–445. (A. Kučera) **99f:03087** 03F65 (46S30, 54E99)
— (*with* Bridges, Douglas) Constructing cutoff functions. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 25–30. (Rudolf J. Taschner) **99d:03058** 03F60 (26E40)
— (*with* Bridges, Douglas) Constructing best approximations on a Jordan curve. (English summary) *J. Approx. Theory* **94** (1998), *no.* 2, 222–234. (D. E. Wulbert) **99g:41038** 41A52 (41A50)
— (*with* Bridges, Douglas) Constructive weak solutions of the Dirichlet problem. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 655–667. (A. Kučera) **99k:35032** 35J25 (03F60)
— (*with* Bridges, Douglas) Weak solutions of the Dirichlet problem and the locatedness of $H_0^1(\Omega)$. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 1–5. (Summary) **99c:35029** 35D05 (03F60, 35J05, 46E35, 46S30)
Wang, Yuchung J. (*with* Teng, Jinn-Tsair; Chern, Maw-Sheng; Yang, Hui-Ling) Deterministic lot-size inventory models with shortages and deterioration for fluctuating demand. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 65–72. (Summary) **99m:90060** 90B05 (90C90)
Wang, Yue[2] (*with* Okazaki, Tokio; Zhang, Lan; Inoue, Katsushi; Ito, Akira) A note on two-dimensional probabilistic finite automata. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 303–314. (Summary) **99h:68122** 68Q68 (68Q45, 68Q75)
— (*with* Okazaki, Tokio; Inoue, Katsushi; Ito, Akira) A note on two-dimensional probabilistic Turing machines. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 127–134. (*see* **99i:65003**) 68Q05 (03D10)
— (*with* Ito, Akira; Inoue, Katsushi) Alternating automata characterizations of one-way iterative arrays. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 135–142. (Summary) **99i:68032** 68Q05 (68Q68)
— (*with* Okazaki, Tokio; Inoue, Katsushi; Ito, Akira) A note on two-dimensional probabilistic Turing machines. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 205–220. (Summary) **99k:68055** 68Q05
— (*with* Okazaki, Tokio; Inoue, Katsushi; Ito, Akira) Closure properties of the classes of sets recognized by space-bounded two-dimensional probabilistic Turing machines. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 61–81. (Summary) **99k:68056** 68Q05 (03D10, 68Q68)
Wang, Yue Bao (*with* Su, Chun) A further discussion of complete convergence of B-valued random sums. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 1, 74–80. (Summary) **99e:60023** 60B12
— (*with* Liu, Xuguo; Su, Chun) Equivalent conditions of complete convergence for independent weighted sums. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 939–949. (Gheorghe Stoica) **99k:60092** 60F15 (60G50)
Wang, Yue-Li (*with* Chen, Hon Chan; Lan, Yu-Feng) A memory-efficient and fast Huffman decoding algorithm. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 119–122. (Summary) **99k:68033** 68P05
Wang, Yuedong Mixed effects smoothing spline analysis of variance. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 159–174. (Summary) **99a:62099** 62J10 (62G05)
— Sample size calculations for smoothing splines based on Bayesian confidence intervals. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 161–166. (Summary) **99c:62119** 62G05
Wang, Yuefei (*with* Frank, Günter) On the meromorphic solutions of algebraic differential equations. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 1, 49–54. (Enid M. Steinbart) **99b:34006** 34A20 (30D35)

— (*with* Bergweiler, Walter) On the dynamics of composite entire functions. (English summary) *Ark. Mat.* **36** (1998), *no.* 1, 31–39. (Fuyao Ren) **99c:30049** 30D05 (58F23)

Wang, Yuejian (*with* Sun, Shan Li) Reducing subspaces of certain analytic Toeplitz operators on the Bergman space. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 147–158. (Takahiko Nakazi) **99i:47047** 47B35

Wang, Yuke (*with* McCrosky, Carl) Solving Boolean equations using ROSOP forms. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 171–177. (Summary) **99c:94075** 94C10

Wang, Yun (*with* Banks, H. T.; Buksas, M. W.) A time domain formulation for identification in electromagnetic dispersion. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 14 *pp.* (*electronic*). (Summary) **99h:78010** 78A25 (93B30)

Wang, Yun (*with* Zhang, Quan De) Classical global solutions to a class of systems of reaction-diffusion equations arising in biology. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 9–13. (Xiao Qiang Zhao) **99b:92052** 92D25 (35K57, 35Q80, 92B05)

Wang, Yupeng (*with* Hu, Zhan-Ning; Pu, Fu Ke) Integrabilities of the *t-J* model with impurities. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5241–5262. (Summary) **99c:82012** 82B20 (82D15)

Wang, Yuyun (*with* Zhang, Shunming) Finite horizon arbitrage-free security markets. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 2, 203–211. (C. D. Aliprantis) **99m:90032** 90A09

Wang, Z. C. *see* **Wang, Zhi Cheng**[1]

Wang, Z. H. *see* **Wang, Zai Hua**

Wang, Z. J. *see* **Wang, Zhi Jian**[4]

Wang, Z.-Q. *see* **Wang, Zhi Qiang**[1]

Wang, Zai Hua (*with* Hu, Hai Yan) Stability analysis of damped SDOF systems with two time delays in state feedback. (English summary) *J. Sound Vibration* **214** (1998), *no.* 2, 213–225. 93D05 (34K35, 73K50)

Wang, Ze Ke (*with* Fan, Jiang Hua; Li, Pei Xing) An analysis of the computational complexity of the KNA algorithm. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 6, 34–37. (Summary) **99a:65198** 65Y20

— (*with* Fan, Jiang Hua) A note on vector labelling algorithm. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 381–383. (From the text) **99c:90118** 90C30 (26E25, 65H05)

Wang, Zhao Hui (*with* Chen, Hao Xun; Gan, Wen Quan; Hu, Bao Sheng) Short-term scheduling of multipurpose batch processes with a rolling time horizon scheme. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 569–574. 90B35

Wang, Zhao Lin (*with* Li, Tie Cheng[2]; Li, Jun Feng) Output regulation of the general nonlinear discrete-time system. *Appl. Math. Mech.* (*English Ed.*) **20** (1999), *no.* 2, 200–204; *translated from Appl. Math. Mech.* **20** (1999), *no.* 2, 187–191 (*Chinese. English and Chinese summaries*). 93B50 (93C55)

Wang, Zhen-hua On semi-groups arising from quantum groups. (English summary) *J. Algebra* **212** (1999), *no.* 2, 669–682. (Sorin Dăscălescu) **99k:16089** 16W30 (20M05)

Wang, Zhen Ya (*with* Shen, Nai Lu) The Haseman problem on Riemann surfaces with $h = 1$. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 25–28, 35. (Yu Zan He) **99f:30064** 30E25 (30F99)

Wang, Zheng *see* **Wang, Zheng**[4]

Wang, Zheng[3] (*with* Yong, Xue Rong) On a conjecture of Fiedler and Markham. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 259–267. (Thomas L. Markham) **99m:15019** 15A42 (15A18)

Wang, Zheng[4] On the complexity of quality of service routing. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 111–114. 68Q25

Wang, Zheng[5] (*with* Han, Mao An) The differentiability problem for Mel′nikov functions at a center. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 269–274. (Bei Ye Feng) **99d:34062** 34C23 (34C05, 58F14)

Wang, Zheng Dong[1] Circulation of lifted processes on trivial principal bundles. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1022–1027. (Summary) **99e:58207** 58G32 (60J65)

Wang, Zheng-qun *see* **Wang, Zun Quan**

Wang, Zheng Xuan (*with* Li, Wen Hui; Pang, Yun Jie) An algorithm for complete Euclidean distance transformation based on contour tracing. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 217–222. 68U05

— (*with* Li, Wen Hui; Pang, Yun Jie) Contour tracing and computing the Euler number of binary images represented by linear quadtrees. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 223–228. 68U05

— (*with* Li, Wen Hui; Pang, Yun Jie) A weighting algorithm for decomposing a simple polygon into convex polygons. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 229–233. 68U05

Wang, Zheng Ya *see* **Wang, Zhen Ya**

Wang, Zheng Yu (*with* Ouyang, Zi-xiang) A class of algorithms for solving nonlinear complementarity problems based on generalized gradients. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 370–377. 90C33 (65K05)

Wang, Zhengdong *see* **Wang, Zheng Dong**[1]

Wang, Zhenghan (*with* Lin, Xiao Song[2]; Tian, Feng[3]) Burau representation and random walks on string links. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 289–302. (J. S. Birman) **99b:57015** 57M25 (20F36)

Wang, Zhengming Density of Markov systems and zeros of Chebyshev polynomials. (English summary) *Approx. Theory Appl.* (*N.S.*) **14** (1998), *no.* 2, 75–77. (A. Kroó) **99m:41046** 41A50

Wang, Zhengyu *see* **Wang, Zheng Yu**

Wang, Zhenyong (*with* Zhang, Qinglin; Pu, Xiaorong) Effects of contents on propositional reasoning: a representation-based explanation. (English summary) *Xinan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1996), *no.* 5, 505–512. 03A05 (92J10)

Wang, Zhenyuan (*with* Leung, Kwong-sak; Wang, Jia[2]) A genetic algorithm for determining nonadditive set functions in information fusion. (English summary) Fuzzy measures and integrals. *Fuzzy Sets and Systems* **102** (1999), *no.* 3, 463–469. (*see* **99k:00021**) 68T99

Wang, Zhi[2] (*with* Droegemeier, K.; White, Luther W.) The adjoint Newton algorithm for large-scale unconstrained optimization in meteorology applications. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 3, 283–320. 90C90 (86A10, 90C30)

Wang, Zhi Bin (*with* Feng, Bin Lu; Yu, Yuan Hong) Forced oscillation of solutions of neutral parabolic equations. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 78–86. (Summary) **99g:35136** 35R10 (35B05)

Wang, Zhi Cheng[1] (*with* Yu, Jian She) Nonoscillation of a neutral delay differential equation. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 127–133. (István Győri) **99g:34149** 34K15 (34K40)

— (*with* Shi, Bao; Yu, Jian She) Asymptotic constancy of solutions of linear parabolic Volterra difference equations. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 8, 65–77. (Summary) **99c:39008** 39A10 (39A12)

— (*with* Li, Jing Wen[2]; Zhang, Hong Qiang) Oscillation of neutral delay difference equations. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 113–121. (Summary) **99h:39006** 39A10

— (*with* Shi, Bao; Yu, Jian She) Stability of parabolic Volterra integro-partial differential equations and their discrete analogues. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 177–190. (Summary) **99h:45020** 45K05 (35B35, 35K55, 39A12, 45M10)

— (*with* Yu, Jian She) Oscillation of neutral delay difference equations with summable coefficients. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 629–639, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39045** 39A10

— (*with* Shi, Bao; Yu, Jian She) A necessary and sufficient condition for global asymptotic stability of the zero solution to delay difference equations and its applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 615–624. (Summary) **99i:39026** 39A11 (39A10)

— (*with* Zhou, Yong[2]) The distribution of zeroes of solutions of neutral equations. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 12, 1197–1204; *translated from Appl. Math. Mech.* **18** (1997), *no.* 12, 1117–1123 (*Chinese. English and Chinese summaries*). (Klaus Morgenthal) **99c:34171** 34K15 (34K40)

— (*with* Li, Longtu; Qian, Xiang Zheng) Existence results for second order Volterra integrodifferential equations with deviating arguments. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 553–562. (George Karakostas) **99g:45009** 45J05 (34K10, 47H10)

— (*with* Ma, Shi Wang; Yu, Jian She) Periodic solutions of periodically perturbed functional-differential equations. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 23, 1956–1959. (Tibor Krisztin) **99j:34106** 34K15 (47H15)

— (*with* Zhou, Zhan; Yu, Jian She) Global attractivity of neutral difference equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 1–10. (Summary) **99i:39025** 39A10

— (*with* Shi, Bao; Yu, Jian She) Stability and boundedness in difference systems with finite delay. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 369–376. (Summary) **99j:39015** 39A11

— (*with* Xu, Jian Hua[2]; Zheng, Zu Xiu) On the existence of almost periodic solutions of neutral functional-differential equations. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 4, 9 *pp.* (*electronic*). (F. Vogl) **99d:34142** 34K15 (34K40)

— (*with* Ma, Shi Wang; Yu, Jian She) An abstract existence theorem at resonance and its applications. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 274–294. (Anna Capietto) **99c:47102** 47H15 (34C25, 34K10, 47N20)

— (*with* Ma, Shi Wang; Yu, Jian She) Global solutions of functional-differential equations with periodic perturbations. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 13, 1386–1389. 34K05 (47N20)

— (*with* Wen, Xian Zhang; Yu, Jian She) The asymptotic behavior of reaction-diffusion equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 117–120. (Summary) **99k:35095** 35K57 (35B40)

— (*with* Xu, Jian Hua[2]) Persistence for logistic equations with infinite delays. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 4, 31–35. (George Seifert) **99d:34143** 34K15 (45J05)

— (*with* Peng, D. H.; Tang, Xian Hua) Sharp conditions for the oscillation of nonlinear neutral delay difference equations. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 7, 1–10. (I. P. Stavroulakis) **99k:39033** 39A10

— (*with* Ma, Shi Wang; Yu, Jian She) Coincidence degree and periodic solutions of Duffing equations. *Nonlinear Anal.* **34** (1998), *no.* 3, 443–460. (Anna Capietto) **99i:34062** 34C25 (34K10, 47H15, 47N20)

— (*with* Ma, Shi Wang; Yu, Jian She) Semilinear equations at resonance with the kernel of an arbitrary dimension. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 513–529. (Andrey Ponomaryov) **99j:34088** 34K05 (47H15, 47N20)

— (*with* Ma, Shi Wang) Periodic solutions of semilinear equations at resonance with a $2n$-dimensional kernel. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1999**, *No.* 2, 13 *pp.* (*electronic*). (Bogdan Przeradzki) **99j:34107** 34K15 (47H15)

— (*with* Zhou, Yong[2]) Oscillation for delay difference equations. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 1, 21–29. (Summary) **99j:39013** 39A10

— *see also* **Zhang, Zheng Qiu**

Wang, Zhi Hong (*with* Lu, Hao[2]; Fang, Hua Jing; Huang, Xin Han) A four-block H^∞ control design problem with irrational transfer matrices. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 4, 573–575. 93B36

Wang, Zhi Hua Nonconvex-valued differential inclusions in abstract spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 521–526. 34G20 (34A60)

— (*with* Zhu, Jiang[2]) Existence of solutions for integrodifferential inclusions of mixed type. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 4, 1–5. (Xian Zhi George Yuan) **99m:34185** 34K30 (45J05. 45N05)

Wang, Zhi Hui (*with* Liu, Xiang Lin) A new complex involutive system and representation of solutions of TD equations. (Chinese) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 308–312. 58F07

Wang, Zhi Jian[4] A conservative interface algorithm for moving Chimera (overlapped) grids. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 3, 255–265. (Summary) **99g:76119** 76M25 (76J20)

Wang, Zhi Lin (*with* Li, De Sheng; Wang, Zong Xin) Existence, uniqueness, and long-time behavior of global solutions to a class of nonclassical diffusion equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 267–276. (Summary) **99f:35081** 35K55

— (*with* Li, De Sheng) Periodic solutions of fully nonlinear second-order parabolic equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 23–28. (Summary) **99h:35088** 35K55 (35B10)

Wang, Zhi Ming[3] (*with* Lin, Wu Zhong) A boundary value problem for a singularly perturbed second-order semilinear integrodifferential equation. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 1–8. (Summary) **99c:34151** 34K10 (34E15, 45J05)

Wang, Zhi Ping (*with* Zheng, Hui Rao; Fang, Yun Lan; Zhang, Li) Fast inverse Cholesky decomposition for rectangular Toeplitz-block matrices. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 41–47. (Summary) **99d:65096** 65F05 (15A23)

— (*with* Zhang, Li; Zheng, Hui Rao) An algorithm for constructing generators of Toeplitz block matrices. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 141–144. 65F30

— (*with* Zheng, Hui Rao; Zhang, Li) A fast decomposition algorithm for Hankel matrices. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 145–147. 65F30 (65F10)

Wang, Zhi Qiang[1] (*with* Willem, Michel) A multiplicity result for the generalized Kadomtsev-Petviashvili equation. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 261–270. (B. M. Herbst) **99j:35195** 35Q53 (58E05)

— (*with* Bartsch, Thomas[1]) Even Hamiltonian systems on tori and cotangent spaces of tori. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4123–4134. (Andrzej Szulkin) **99b:58088** 58F05 (34C25, 58E05, 58F22, 70H05)

— (*with* Hirano, Norimichi) Subharmonic solutions for second order Hamiltonian systems. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 467–474. (Maria Letizia Bertotti) **99a:34118** 34C25 (34B15, 58E05, 58F22)

— (*with* Willem, Michel) Existence of many positive solutions of semilinear elliptic equations on an annulus. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1711–1714. (V. Raghavendra) **99i:35052** 35J65 (35B05)

Wang, Zhi Quan (*with* Sun, Jin Sheng; Li, Jun) D-stable robust fault-tolerant control for uncertain discrete systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 636–641. 93C55 (93C41)

Wang, Zhi Wei (*with* Wang, Wei Xian) Two classes of generalized symmetric matrices and their applications. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 353–355. 15A57

Wang, Zhi Wei[3] (*with* Cheng, Jing Yuan; Shen, Lin) An efficient algorithm for fault tolerant routing. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 353–357. 68M15

Wang, Zhicheng *see* **Wang, Zhi Cheng**[1]

Wang, Zhidan (*with* Jing, Sicong; Liao, Zhisheng) Charged parafermionic coherent states. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 2, 136–141. (Summary) **99g:81077** 81R30

Wang, Zhijian *see* **Overfelt, P. L.**

Wang, Zhijun (*with* Qiu, Xiao Ming) Two theorems on the Hubbard-Hirsch model. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 1, 51–56. (Summary) **99a:82025** 82B20

Wang, Zhishun (*with* Li, Wenhua; He, Zhenya) A fast algorithm for n-D discrete cosine transform. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 1, 45–54. (Summary) **99f:94007** 94A29 (65T20)

Wang, Zhixi Lifting minimal resolutions over Zariskian filtered rings. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 951–952. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 513–516. (Blas Torrecillas Jover) **99c:16047** 16W60

— (*with* Yang, Shilin) Hopf actions and Azumaya algebras. (English summary) *Algebra Colloq.* **4** (1997), *no.* 4, 367–370. (Summary) **99m:16068** 16W30 (16H05)

— (*with* Yang, Shilin) The semisimplicity of smash products of quantum commutative algebras. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1165–1170. (Summary) **99k:16059** 16S40 (16W30)

Wang, Zhong (*with* Lu, Zheng Yi) Lotka-Volterra systems. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 4, 1–15. 92D25

Wang, Zhong Ping (*with* Ji, Chang Ming; Jiang, Ming Qi) A smooth approximating method for a certain class of quasidifferentiable function minimization problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 28–32. 65D15 (41A30)

Wang, Zhong Sheng[2] Existence of periodic solutions to a class of differential equations of order n. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 110–113. 34C25

— (*with* Xie, Gao Gang; Zhang, Da Fang; Min, Ying Hua) Diagnosis algorithms based on the Chaw & Hakimi model. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 6, 96–101. 68M15

— Periodic solutions of systems with slowly varying coefficients. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 2, 24–28. (Zhanhai Gao) **99j:34062** 34C25 (34D99)

Wang, Zhoufei (*with* Ge, Mo Lin; Xue, Kang) *RTT* relation and long-range spin chain model. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 974–982. (Andrey V. Tsiganov) **99j:82020** 82B20 (81R50)

Wang, Zhouguang (*with* Lei, Jianlin; Wang, Renhui; Ding, Dihua) Calculation and illustration of section-projection diagrams of quasicrystals. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 40–44. 82D25

Wang, Zhudeng (*with* Yu, Yandong) Normal TL-subgroups of TL-subgroup. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 46–51. 20N25

— (*with* Wei, Jun) TL-submodules over TL-subrings. (English summary) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 36–44. 16Y99

Wang, Zhueng-qun *see* **Wang, Zun Quan**

Wang, Zi Cai (*with* Ma, Ke Mao; Shi, Xiao Ping[2]) Observer design for a class of nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 443–446. 93B07

— (*with* Shi, Xiao Ping[2]) A new method for linearizing nonlinear systems. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 2, 68–71. 34A46 (34A34)

— (*with* Chen, Xiao Dong[2]; Shi, Xiao Ping[2]; Ma, Guang Fu) The least maximum-error parameter estimation method for linear systems. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 3, 42–44. 93E10

Wang, Zi Guo (*with* Qiu, Gen Sheng) Necessary and sufficient conditions for solutions in semiconvex multiobjective programming. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 47–51. 90C29 (90C26)

Wang, Zi Kun[1] Multiparameter infinite-dimensional (r,δ)-OU processes. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 15, 1595–1600. 60G60

Wang, Zidong (*with* Tang, Guoqing; Chen, Xue Min) Robust controller design for uncertain linear systems with circular pole constraints. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 1045–1054. 93B51

— (*with* Zeng, Hanqing; Unbehauen, Heinz) H_2/H_∞ control for linear systems with variance constraints: the state estimation feedback case. (English summary) *Systems Sci.* **24** (1998), *no.* 3, 29–47. 93B36 (93E10)

— H_2/H_∞ gain-scheduled state estimation for linear discrete-time systems with error variance and D-stability constraints. (English summary) *Systems Sci.* **24** (1998), *no.* 3, 49–58. 93E11 (93B36)

— (*with* Unbehauen, Heinz) Robust H_2/H_∞-state estimation for systems with error variance constraints: the continuous-time case. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1061–1065. 93E10 (93B36)

— (*with* Zhu, Jihong; Unbehauen, Heinz) Robust filter design with time-varying parameter uncertainty and error variance constraints. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 30–38. (Ryszard Gessing) **99k:93091** 93E11 (93B35)

— (*with* Unbehauen, Heinz) Design of robust obervers for a class of nonlinear state delayed systems with parametric uncertainty. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 27–39. 93B07 (93B35)

Wang, Zong Xin (*with* Li, De Sheng; Wang, Zhi Lin) Existence, uniqueness, and long-time behavior of global solutions to a class of nonclassical diffusion equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 267–276. (Summary) **99f:35081** 35K55

— (*with* Fan, Xian Ling; Zhu, Zheng You) Inertial manifolds for nonautonomous infinite-dimensional dynamical systems. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 7, 695–704; *translated from Appl. Math. Mech.* **19** (1998), *no.* 7, 649–657 (*Chinese. English and Chinese summaries*). (Almut Burchard) **99m:34145** 34G20 (35B40, 47H20, 58F39)

— (*with* Fan, Xian Ling; Zhu, Zheng You) Convergent families of approximate inertial manifolds for nonautonomous evolution equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 8, 765–775; *translated from Appl. Math. Mech.* **19** (1998), *no.* 8, 715–724 (*Chinese. English and Chinese summaries*). (Almut Burchard) **99m:34146** 34G20 (35B40, 47H20, 58F39)

Wang, Zun Quan The properties of congruence ideal of soft algebra and the structure of quotient soft algebra. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 565–571. (R. Balbes) **99a:06018** 06D30

— (*with* Pei, Li Wen) w-ideals and w-soft algebras. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 633–637. (R. Balbes) **99a:06017** 06D30

— A necessary and sufficient condition of a discrete soft algebra is a w-soft algebra. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 707–711. (Ying Ming Liu) **99a:06019** 06D30 (06D10)

Wangechi, C. (*with* Preen, J.; Stewart, A. G. R.) Number of squfnits in a biquadratic field. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 639–646. (Franz Lemmermeyer) **99c:11132** 11R16 (11R27)

Wanjari, N. (*with* Misra, B. L.; Chaure, N. K.) On construction of mutually orthogonal F-squares. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **68** (1998), *no.* 1, 87–92. (Summary) **99e:05024** 05B15

Wanka, Rolf (*with* Kutyłowski, Mirosław) Playing Tetris on meshes and multi-dimensional Shearsort. (English summary) *Algorithms and computation (Singapore, 1997)*, 32–41, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68102** 68Q25 (68P10, 68Q22)

Wanke, E. (*with* Rethmann, J.) Competitive analysis of on-line stack-up algorithms. (English summary) *Algorithms—ESA '97 (Graz)*, 402–415, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68Q25

— (*with* Rethmann, J.) Storage controlled pile-up systems, theoretical foundations. (English summary) *Operations Research Proceedings 1996 (Braunschweig)*, 111–116, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B70 (90C90)

Wanless, I. M. (*with* McKay, Brendan D.) Maximising the permanent of (0, 1)-matrices and the number of extensions of Latin rectangles. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 11, 20 *pp.* (*electronic*). (Peter M. Gibson) **99a:05019** 05B15 (05C70, 15A15)

— The Holens-Đoković conjecture on permanents fails! (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 273–285. (Jacques Dubois) **99j:15012** 15A15 (15A51)

Wanner, Gerhard (*with* Hairer, Ernst) Order conditions for general two-step Runge-Kutta methods. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2087–2089. (Masaharu Nakashima) **99b:65085** 65L06 (65L07)

Wanner, Thomas Qualitative behavior of random differential equations. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv, 1994)*, 242–257, *Sci. Cult. Technol. Publ., Singapore*, 1995. (M. L. Blank) **99j:34080** 34F05 (34C35, 60H25)

— (*with* Maier-Paape, Stanislaus) Spinodal decomposition for the Cahn-Hilliard equation in higher dimensions. I. Probability and wavelength estimate. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 435–464. (Peter E. Zhidkov) **99h:35111** 35K60 (35Q99)

Wansing, Heinrich Nested deontic modalities: another view of parking on highways. (English summary) *Erkenntnis* **49** (1998), *no.* 2, 185–199. 03B45

— *see also* **Advances in modal logic**

Wantland, Evan B. (*with* Linek, Václav) Coloring BIBDs with block size 4. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 403–409. (K. T. Phelps) **99j:05023** 05B05

Wantz, Kenneth L. A new class of unitals in the Hughes plane. (English summary) *Geom. Dedicata* **70** (1998), *no.* 2, 125–138. (Gary L. Ebert) **99c:51014** 51E20 (51A35, 51A45)

Wantz, Sophie (*with* Deaconu, Mădălina) Processus non linéaire autostabilisant réfléchi. (English and French summaries) [Reflected self-stabilizing nonlinear process] *Bull. Sci. Math.* **122** (1998), *no.* 7, 521–569. (Denis Talay) **99h:60116** 60H10 (60J60)

Wanyoike, Gakio (*with* Imae, Joe) H_∞ norm computation of LTV systems using nonlinear optimal control algorithms. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 161–182. 93B36 (93B40)
— (*with* Katayama, Hitoshi; Ichikawa, Akira) H_∞ control for systems with jumps. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 941–964. (Peng Shi) **99f:93053** 93B36 (93C57)
Wappler, J. U. (*with* Hackbusch, Wolfgang) Remarks on a posteriori error estimation for inaccurate finite element solutions. (English summary) *Computing* **60** (1998), *no.* 2, 175–191. (Larisa V. Maslovskaya) **99b:65143** 65N30 (65N15)
Warburton, Timothy C. E. (*with* Sherwin, Spencer J.; Karniadakis, George Em) Spectral/hp methods for elliptic problems on hybrid grids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 191–216, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (B. Kellogg) **99h:65198** 65N30 (65N50)
Warchall, Henry A. (*with* Iaia, Joseph A.; Weissler, Fred B.) Localized solutions of sublinear elliptic equations: loitering at the hilltop. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1131–1157. (Summary) **99e:35148** 35L70 (34B15, 35B05, 35J60)
— (*with* Iaia, Joseph A.) Encapsulated-vortex solutions to equivariant wave equations: existence. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 118–139 (*electronic*). (Spyridon Kamvissis) **99h:35198** 35Q55 (34B15, 35Q53)
Ward, A. J. B. Roth's removal theorem for lambda matrices. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 3, 325–328. (Summary) **99a:15004** 15A24
Ward, Doug Sufficient conditions for weak sharp minima of order two and directional derivatives of the value function. (English summary) *Mathematical programming with data perturbations*, 419–436, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Marcin Studniarski) **99b:90132** 90C31 (49J52)
Ward, Harold N. (*with* McGuire, Gary) The weight enumerator of the code of the projective plane of order 5. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 63–77. (Summary) **99j:94068** 94B05 (51E15)
— (*with* McGuire, Gary) Characterization of certain minimal rank designs. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 42–56. (Vladimir D. Tonchev) **99c:05026** 05B05
Ward, Jo (*with* Hare, Kathryn E.) Finite-dimensional H-invariant spaces. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 353–361. (A. T.-M. Lau) **99d:43001** 43A10 (43A15)
— (*with* Harrison, K. J.; Partington, Jonathan R.) Complexity of identification of linear systems with rational transfer functions. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 4, 265–288. (Jan Bialasiewicz) **99k:93040** 93B30 (65Y20, 93B40)
Ward, Joseph D. (*with* Jetter, Kurt; Stöckler, Joachim) Norming sets and spherical cubature formulas. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 237–244, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99i:65022** 65D32
— (*with* Jetter, Kurt; Stöckler, Joachim) Error estimates for scattered data interpolation on spheres. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 733–747. (L. L. Schumaker) **99i:41032** 41A63 (41A30, 65D15)
Ward, Julie A. Minimum-aggregate-concave-cost multicommodity flows in strong-series-parallel networks. (English summary) *Math. Oper. Res.* **24** (1999), *no.* 1, 106–129. (Xue Liang Li) **99m:90067** 90B10 (90C35, 90C39)
Ward, Lesley A. (*with* Pereyra, María Cristina) Paraexponentials, Muckenhoupt weights, and resolvents of paraproducts. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 135–144. (Stephen Buckley) **99c:42033** 42B25 (47B38)
Ward, M. A. (*with* Hurley, T. C.) Bases for commutator subgroups of a free group. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 43–65. (Carlo M. Scoppola) **99f:20038** 20E05
Ward, Michael J. Dynamic metastability and singular perturbations. (English summary) *Boundaries, interfaces, and transitions* (*Banff, AB*, 1995), 237–263, *CRM Proc. Lecture Notes*, 13, *Amer. Math. Soc., Providence, RI*, 1998. (Arnaldo do Nascimento) **99d:35016** 35B25 (35K57)
— (*with* Laforgue, Jacques G. L.; O'Malley, Robert E., Jr.) Metastable travelling-wave solutions of singularly-perturbed reaction-diffusion equations. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 4, 397–416. (Matthias Wilhelm Winter) **99h:80011** 80A22 (35K57, 80–08)
dudley Ward, Nicholas F. *see* **Dudley Ward, Nicholas F.**
Ward, R. S. Twistors, geometry, and integrable systems. *The geometric universe* (*Oxford*, 1996), 99–108, *Oxford Univ. Press, Oxford*, 1998. (Iskander A. Taimanov) **99e:32055** 32L25 (53C07, 58F07)
— (*with* Winn, A. E.) Integrable systems admitting topological solitons. (English summary) *J. Phys. A* **31** (1998), *no.* 13, *L*261–*L*266. (Oktay K. Pashaev) **99k:58099** 58F07 (35Q58)
— Lax pairs for integrable lattice systems. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 299–308. (Ian A. B. Strachan) **99m:58117** 58F07
— Hopf solitons on S^3 and $\mathbf{R}^3$. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 241–246. (Conor J. Houghton) **99m:58076** 58E50 (81T10)
Ward, Thomas B. (*with* Morris, Gary David) A note on mixing properties of invertible extensions. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 307–311. (B. Kamiński) **99j:28018** 28D15 (22D40)
— (*with* Chothi, V.; Everest, G. R.) S-integer dynamical systems: periodic points. (English summary) *J. Reine Angew. Math.* **489** (1997), 99–132. (Liang-Chung Hsia) **99b:11089** 11K55 (28D15, 58F20)
— Three results on mixing shapes. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 1–10 (*electronic*). (V. S. Prasad) **99e:28031** 28D15 (22D40)
— Almost all S-integer dynamical systems have many periodic points. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 471–486. (Liang-Chung Hsia) **99k:58152** 58F20 (11K55)
— (*with* Morris, Gary David) Entropy bounds for endomorphisms commuting with K actions. (English summary) *Israel J. Math.* **106** (1998), 1–11. (Miaohua Jiang) **99m:28042** 28D20 (54C70)
— A family of Markov shifts (almost) classified by periodic points. (English summary) *J. Number Theory* **71** (1998), *no.* 1, 1–11. (Víctor Jiménez López) **99j:11089** 11K99 (22D40, 28D20, 58F03)
Ward, V. K. (*with* Olson, D. M.) A note on multiplicative hyperrings. (English summary) *Ital. J. Pure Appl. Math. No.* 1 (1997), 77–84 (1998). 16Y99 (20N20)
Wardi, S. A convergence result for an iterative method for the equations of a stationary quasi-Newtonian flow with temperature dependent viscosity. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 4, 391–404. (Bruce A. Finlayson) **99g:76007** 76A05 (65M99, 76M99)
Ware, Roger Witt rings and the quaternion group. (English summary) *Manuscripta Math.* **96** (1998), *no.* 3, 275–280. (Thống Nguyễn-Quang-Đỗ) **99h:11043** 11E81 (12F10)
Waren, Allan D. (*with* Lasdon, Leon; Plummer, John) Nonlinear programming. *Mathematical programming for industrial engineers*, 385–485, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C30 (90–02)
Wargo, Larry (*with* Berman, David M.; Liu, Jiannong; Wang, Hong[3]) Induced stars in trees. (English summary) *Australas. J. Combin.* **18** (1998), 275–276. 05C05
Warkentin, Andrew (*with* Ismail, Fathy; Bedi, Sanjeev) Intersection approach to multi-point machining of sculptured surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 6, 567–584. (Summary) **99c:65041** 65D17
Warlimont, Richard (*with* Denk, Robert) On a queer binomial sum. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 1, 22–30. (Y. H. Harris Kwong) **99h:11015** 11B65
— On natural numbers as sums of consecutive hth powers. *J. Number Theory* **68** (1998), *no.* 1, 87–98. (Alessandro Zaccagnini) **99b:11030** 11D85 (11N36)
— Tauberian theorems for sequences linked by a convolution. (English summary) *Math. Nachr.* **193** (1998), 211–234. (Wen-Bin Zhang) **99h:11103** 11M45 (11N45)
Warme, David M. A new exact algorithm for rectilinear Steiner trees. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 357–395, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:68152** 68R10 (05C05, 05C85, 90C35)
Warmuth, Manfred K. (*with* Auer, Peter) Tracking the best disjunction. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 312–321, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05
— (*with* Kivinen, J.; Auer, Peter) The perceptron algorithm versus Winnow: linear versus logarithmic mistake bounds when few input variables are relevant. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 325–343. (Summary) **99k:68158** 68T05
— (*with* Maass, Wolfgang) Efficient learning with virtual threshold gates. (English summary) *Inform. and Comput.* **141** (1998), *no.* 1, 66–83. (Jerzy W. Grzymała-Busse) **99m:68169** 68T05
Warn, T. (*with* Bokhove, O.; Vanneste, Jacques) A variational formulation for barotropic quasi-geostrophic flows. (English summary) *Geophys. Astrophys. Fluid Dynam.* **88** (1998), *no.* 1-2, 67–79. (Summary) **99d:76095** 76U05 (76M30, 86A05)
Warnaar, S. Ole (*with* Schilling, Anne) A higher level Bailey lemma: proof and application. (English summary) *Ramanujan J.* **2** (1998), *no.* 3, 327–349. (David M. Bressoud) **99k:11028** 11B65 (05A19, 05A30, 11P82, 33D80)
polignone Warne, Debra *see* **Polignone Warne, Debra**
Warne, Paul G. (*with* Polignone Warne, Debra) On non-symmetric deformations of neo-Hookean solids. (English summary) *J. Elasticity* **50** (1998), *no.* 3, 209–225. (Marian Aron) **99i:73026** 73C50
— (*with* Paullet, Joseph E.; Polignone Warne, Debra) Existence and uniqueness of azimuthal shear solutions in compressible isotropic nonlinear elasticity. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 1, 53–69. (Reza Malek-Madani) **99j:73032** 73C50 (34B15, 73G05)
Warne, R. J. On the structure of TC semigroups. (English summary) *Semigroups* (*Luino*, 1992), 300–310, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M10
Warner, Jeremy A. (*with* Ghosh Roy, D. N.; Couchman, L. S.; Shirron, Joseph J.) Inverse obstacle transmission problem in acoustics. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 903–929. (Summary) **99f:76119** 76Q05 (35R30, 65N99, 76M25)
Warner, N. P. (*with* Minahan, Joseph A.; Nemeschansky, D.) Partition functions for BPS states of the non-critical E_8 string. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 167–183. (Summary) **99c:81201** 81T30 (11F11, 11Z05, 14N10)
— (*with* Schulze, Jürgen[1]) BPS geodesics in $N = 2$ supersymmetric Yang-Mills theory. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 101–118. (Summary) **99a:81176** 81T60 (14H45, 58E50, 81T13)
— (*with* Minahan, Joseph A.; Nemeschansky, D.) Investigating the BPS spectrum of non-critical E_n strings. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 64–106. (Summary) **99i:81197** 81T30 (32G81)
— (*with* Minahan, Joseph A.; Nemeschansky, D.; Vafa, Cumrun) E-strings and $N = 4$ topological Yang-Mills theories. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 581–623. (Bruce Hunt) **99j:81152** 81T30 (32J81, 58D27, 81T60)
— (*with* Minahan, Joseph A.; Nemeschansky, D.) Instanton expansions for mass deformed $N = 4$ super Yang-Mills theories. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 109–132. (Summary) **99m:81258** 81T60 (11F11, 14H45, 81T13, 81T50)
— *see also* **Strings '95, 99h:81008**
Warners, Joost P. (*with* Terlaky, Tamás; Roos, Cornelis; Jansen, Benjamin) A potential reduction approach to the frequency assignment problem. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 251–282. (Ulrich Faigle) **99b:90106** 90C27 (90C26)
— A linear-time transformation of linear inequalities into conjunctive normal form. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 2, 63–69. (Florica Luban) **99j:90068** 90C27 (68T15)
— A nonlinear approach to a class of combinatorial optimization problems. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 2, 162–184. (Summary) **99e:90077** 90C27
Warnow, Tandy (*with* Benham, Craig J.; Kannan, Sampath K.) Of chicken teeth and mouse eyes, or Generalized character compatibility. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 17–26, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Satoru Miyano) **99d:92020** 92D20 (68Q25)
— (*with* Goldberg, Leslie Ann; Goldberg, Paul W.; Phillips, Cynthia A.; Sweedyk, Elizabeth) Minimizing phylogenetic number to find good evolutionary trees. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 102–127, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **99g:92023** 92D20 (68Q25)
— (*with* Rice, Kenneth) Parsimony is hard to beat! (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 124–133, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99b:92028** 92D15 (68Q20, 92B10)

— (*with* Bonet, Maria; Phillips, Cynthia A.; Yooseph, Shibu) Inferring evolutionary trees from polymorphic characters, and an analysis of the Indo-European family of languages. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 43–55, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99e:92021** 92D15 (92B10)

— (*with* Kannan, Sampath K.) A fast algorithm for the computation and enumeration of perfect phylogenies. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1749–1763. (Summary) **99f:92012** 92D15 (05C05, 05C30, 05C85, 68Q20)

— (*with* Kannan, Sampath K.; Yooseph, Shibu) Computing the local consensus of trees. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1695–1724 (*electronic*). (Michael A. Steel) **99f:92013** 92D15 (05C05, 68Q25, 92B10)

— Some combinatorial optimization problems in phylogenetics. (English summary) *Graph theory and combinatorial biology* (*Balatonlelle*, 1996), 363–413, *Bolyai Soc. Math. Stud.*, 7, *János Bolyai Math. Soc., Budapest*, 1999. (*see* **99k:00031**) 92D15

Warrack, Giles A note on variable replacement rates in urn models. *Amer. Math. Monthly* **105** (1998), *no.* 8, 764–765. 60C05

Warren, Jonathan Branching processes, the Ray-Knight theorem, and sticky Brownian motion. *Séminaire de Probabilités, XXXI*, 1–15, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Paul McGill) **99c:60183** 60J65 (60H20, 60J55)

— (*with* Yor, Marc) The Brownian burglar: conditioning Brownian motion by its local time process. *Séminaire de Probabilités, XXXII*, 328–342, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Catherine Donati-Martin) **99k:60208** 60J65 (60J55)

Warrier, Vasudha (*with* Shah, Nita H.) Probabilistic order level system with a mixture of backorders and lost sales. (English summary) *Investigación Oper.* **18** (1997), *no.* 1-3, 81–85. 90B05

Warsi, Z. U. A. ★ Fluid dynamics. (English summary) Theoretical and computational approaches. Second edition. *CRC Press, Boca Raton, FL*, 1999. *xxii+726 pp. ISBN* 0-8493-2407-6 (John F. Harper) **99k:76001** 76–01

Warwick, Andrew *see* **Cultures of theory, 99h:01002**

Warwick, Kevin (*with* Tsypkin, Yakov Zalmanovich; Parks, P. C.; Vishnyakov, A. N.) Stability of solutions of linear difference equations with periodic coefficients. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 959–966. 93D05 (39A11)

— (*with* Sutanto, E. L.; Mason, Julian D.) Mean-tracking clustering algorithm for radial basis function centre selection. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 961–977. 93B40 (93B30)

Wąs, Z. Trefoil knot and ad-hoc classification of elementary fields in the Standard Model. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 369–372. (Bogusław Broda) **99b:81276** 81V22 (57M25)

Wasadikar, M. P. A note on AC-join-semilattices. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 1, 65–68. (Jānis Cīrulis) **99g:06007** 06A12

Washabaugh, Peter D. (*with* Bendsøe, Martin P.; Taylor, John E.) A formulation for optimal continuum structures with a decomposition of material properties into specified and designable parts. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 255–264. (Summary) **99k:73088** 73K40 (49Q10)

Washington, Lawrence C. Galois cohomology. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 101–120, *Springer, New York*, 1997. (*see* **99k:11004**) 11R34

— (*with* Zhang, Xian Ke) Modification of Cohen-Lenstra heuristics for ideal class groups and numbers of certain real quadratic fields. *Chinese Sci. Bull.* **42** (1997), *no.* 23, 1959–1962. (Stéphane Louboutin) **99g:11128b** 11R11 (11R29, 11Y40)

— (*with* Zhang, Xian Ke) Modification of Cohen-Lenstra heuristics for ideal class groups and numbers of certain real quadratic fields. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 19, 2053–2056. (Stéphane Louboutin) **99g:11128a** 11R11 (11R29, 11Y40)

— (*with* Roberts, Boyd B.) The modularity of some Q-curves. (English summary) *Compositio Math.* **111** (1998), *no.* 1, 35–49. (Conjeeveram S. Rajan) **99a:11072** 11G05 (11G18)

— *p*-adic *L*-functions and sums of powers. (English summary) *J. Number Theory* **69** (1998), *no.* 1, 50–61. (Daniel Barsky) **99a:11134** 11S40 (11M41)

— (*with* Zhang, Xian Ke) Heuristics and related results on class groups of real quadratic fields. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 365–370. (Stéphane Louboutin) **99j:11125** 11R11 (11R29)

— (*with* Shanks, Daniel C.; Sime, Patrick J.) Zeros of 2-adic *L*-functions and congruences for class numbers and fundamental units. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1243–1255. (Daniel Barsky) **99i:11101** 11R23 (11R42, 11S40)

Washio, T. *see* **Washio, Takumi**

Washio, Takashi (*with* Motoda, Hiroshi) Discovering admissible simultaneous equations of large scale systems. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 189–196, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 65H10 (65Y05)

Washio, Takumi (*with* Oosterlee, C. W.) Krylov subspace acceleration for nonlinear multigrid schemes. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 271–290 (*electronic*). (Summary) **99a:65180** 65N55 (65F35)

— (*with* Oosterlee, C. W.) An evaluation of parallel multigrid as a solver and a preconditioner for singularly perturbed problems. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 87–110 (*electronic*). (Pieter W. Hemker) **99g:65119** 65N55 (65F10, 65N22, 65Y05)

— (*with* Oosterlee, C. W.) Flexible multiple semicoarsening for three-dimensional singularly perturbed problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1646–1666 (*electronic*). (Summary) **99c:65236** 65N55 (65F10, 65Y05)

Wasilewska, Anita (*with* Vigneron, Laurent) Rough algebras and automated deduction. (English summary) *Rough sets in knowledge discovery*, 1, 261–275, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 03G25 (03B35, 68T15)

Wąsowski, Janusz On solution of fuzzy equations. (English summary) *Control Cybernet.* **26** (1997), *no.* 4, 653–658. (Summary) **99d:04011** 04A72 (65H99)

— On local solvability of fuzzy equations. (English summary) *Found. Comput. Decision Sci.* **23** (1998), *no.* 3, 187–196. (Summary) **99i:04004** 04A72

van Wassenhove, Luk N. *see* **Van Wassenhove, Luk N.**

Wasserman, A. G. (*with* Smoller, J. A.) Extendability of solutions of the Einstein-Yang/Mills equations. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 707–732. (Hans P. Künzle) **99h:58193** 58G16 (58E15, 83C57)

Wasserman, Alon A derivation HNN construction for Lie algebras. (English summary) *Israel J. Math.* **106** (1998), 79–92. (Ernest Stitzinger) **99i:17021** 17B40

Wasserman, Hal (*with* Blum, Manuel) Software reliability via run-time result-checking. (English summary) *J. ACM* **44** (1997), *no.* 6, 826–849. (Manfred Broy) **99b:68024** 68N05 (68Q60)

— Reconstructing randomly sampled multivariate polynomials from highly noisy data. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 59–67, *ACM, New York*, 1998. (T. C. Mohan) **99h:68087** 68Q25

— (*with* Shokrollahi, M. Amin) List decoding of algebraic-geometric codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 432–437. (Summary) **99m:94057** 94B27 (94B05)

Wasserman, Larry (*with* Herron, Timothy; Seidenfeld, Teddy) Divisive conditioning: further results on dilation. (English summary) *Philos. Sci.* **64** (1997), *no.* 3, 411–444. (Reinhard Suck) **99g:62007** 62A15 (03B48, 60A99, 62F15)

— Asymptotic properties of nonparametric Bayesian procedures. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 293–304, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99c:62146** 62G20 (62F15)

— (*with* Verdinelli, Isabella) Bayesian goodness-of-fit testing using infinite-dimensional exponential families. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1215–1241. (A. Ya. Olenko) **99h:62026** 62F15 (62G10)

Wassermann, Alfred (*with* Betten, Anton; Kerber, Adalbert; Laue, Reinhard) Simple 8-designs with small parameters. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 5–27. (Sheng Jiang) **99g:05019** 05B05

— (*with* Betten, Anton; Klin, Mikhail; Laue, Reinhard) Graphical t-designs via polynomial Kramer-Mesner matrices. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 83–109. (Summary) **99i:05027** 05B05 (20B30)

— (*with* Betten, Anton; Laue, Reinhard) New t-designs and large sets of t-designs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 111–121. (Summary) **99k:05023** 05B05

— (*with* Betten, Anton; Laue, Reinhard) Simple 7-designs with small parameters. (English summary) *J. Combin. Des.* **7** (1999), *no.* 2, 79–94. (T. S. Griggs) **99k:05022** 05B05

Wassermann, Amir (*with* Golumbic, Martin Charles) Complexity and algorithms for graph and hypergraph sandwich problems. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 223–239. (Stanisław P. Radziszowski) **99g:05164** 05C85 (05C65, 68Q25)

Wassermann, Antony Operator algebras and conformal field theory. III. Fusion of positive energy representations of LSU(N) using bounded operators. *Invent. Math.* **133** (1998), *no.* 3, 467–538. (Gerald Hofmann) **99j:81101** 81T05 (46L60, 47N50, 81T40)

Wassermann, Simon (*with* Kirchberg, Eberhard) C^*-algebras generated by operator systems. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 324–351. (Michael Frank) **99f:46085** 46L05 (46B28, 46L35)

Wasson, Eugene C. (*with* Fogel, David B.; Boughton, Edward M.; Porto, Vincent W.; Shively, Jamen W.) Initial results of training neural networks to detect breast cancer using evolutionary programming. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 497–510. (*see* **99b:90008**) 90C90 (92B20, 92C50)

— (*with* Fogel, David B.; Boughton, Edward M.; Porto, Vincent W.; Shively, Jamen W.) Erratum: "Initial results of training neural networks to detect breast cancer using evolutionary programming" [Control Cybernet. **26** (1997), no. 3, 497–510]. *Control Cybernet.* **26** (1997), *no.* 4, 665. 90C90 (92B20, 92C50)

Wastl, Ralf On the number of keys of a relational database schema. (English summary) *J.UCS* **4** (1998), *no.* 5, 547–559 (*electronic*). (Summary) **99g:68051** 68P15

Waszak, Aleksander Modular spaces of sequences connected with some methods of summability. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 101–109. (Pedro J. Paúl) **99a:46013** 46A45 (46A80, 46E30)

— (*with* Żurakowski, Dariusz) Musielak-Orlicz spaces of sequences connected with strong summability. (English summary) *Fasc. Math. No.* 28 (1998), 157–165. (D. Somasundaram) **99m:40012** 40F05 (40D25, 40H05, 46A45)

Watabiki, Yoshiyuki (*with* Ambjørn, Jan; Nielsen, Jakob L.; Rolf, Juri; Boulatov, Dimitri V.) The spectral dimension of 2D quantum gravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 10, 8 *pp.* (*electronic*). (Summary) **99c:83026** 83C45

— (*with* Ambjørn, Jan; Anagnostopoulos, Konstantinos N.; Jensen, Lars; Ichihara, Takashi) Quantum geometry and diffusion. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 22, 16 *pp.* (*electronic*). (Summary) **99m:83059** 83C45 (83C27)

Wataki, Atsushi (*with* Arimura, Hiroki; Fujino, Ryoichi; Arikawa, Setsuo) A fast algorithm for discovering optimal string patterns in large text databases. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 247–261, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68Q25

— (*with* Arimura, Hiroki; Fujino, Ryoichi; Arikawa, Setsuo) A fast algorithm for finding optimum word-association patterns. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 175–182. (*see* **99i:65003**) 68Q20 (68P99)

Watamori, Yoko (*with* Hamada, Noboru) The nonexistence of ternary [79, 6, 51] codes. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 323–332. (Summary) **99i:05050** 05B25 (62K15, 94B65)

Watamura, Satoshi (*with* Carow-Watamura, Ursula) Differential calculus on fuzzy sphere and scalar field. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3235–3243. (Jacek Brodzki) **99m:58018** 58B30 (46L87, 58G03)

carow-Watamura, Ursula *see* **Carow-Watamura, Ursula**

Watanabe, H. *see* **Watanabe, Hisao**

Watanabe, Hiroshi *see* **Watanabe, Hiroshi[6]**

Watanabe, Hiroshi[2] (*with* Hattori, Tetsuya[1]) Anisotropic random walks and asymptotically one-dimensional diffusion on *abc*-gaskets. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 105–128. (Ben Hambly) **99d:60089** 60J60 (60J25, 82C31)

Watanabe, Hiroshi[6] (*with* Power, Anthony John) An axiomatics for categories of coalgebras. (English summary) *First Workshop on Coalgebraic Methods in Computer Science* (*CMCS '98*) (*Lisbon*), 18 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (Summary) **99h:18012** 18D15 (16W30, 68Q55)

— (*with* Johnstone, Peter; Power, Anthony John; Tsujishita, Toru; Worrell, James) An axiomatics for categories of transition systems as coalgebras. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 207–213, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q55 (03B70, 18B05, 68Q10)

— A criterion for the existence of subobject classifiers. (English summary) *Hokkaido Math. J.* **28** (1999), *no.* 1, 117–132. (M. Barr) **99m:18003** 18B25 (18A40)

Watanabe, Hisako Layer heat potentials for a bounded cylinder with fractal lateral boundary. Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 112–122. (Valery V. Karachik) **99k:31008** 31B25 (35K20)

Watanabe, Hisao (*with* Potthoff, J.; Våge, Gjermund) Generalized solutions of linear parabolic stochastic partial differential equations. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 1, 95–107. (Fred Espen Benth) **99b:60095** 60H15 (60H07)

Watanabe, Hitoshi (*with* Shinoda, Shoji) Soul of circuit theory—a review on research activities of graphs and circuits in Japan. (English summary) Darlington memorial issue. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 1, 83–94. (*see* **99m:94001**) 94C05 (94C15)

Watanabe, Humihiko (*with* Umemura, Hiroshi) Solutions of the third Painlevé equation. I. (English summary) *Nagoya Math. J.* **151** (1998), 1–24. (Alexander Vladimirovich Kitaev) **99k:34016** 34A34 (12H05, 34A05)

Watanabe, Junzo A note on complete intersections of height three. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3161–3168. (R. A. Wiegand) **99a:13011** 13F20 (13C40)

Watanabe, Kazuo[1] Note on the spectral concentration for the Schrödinger operator with point interaction. (English summary) *SUT J. Math.* **34** (1998), *no.* 1, 25–36. (Petru A. Kozhukhar') **99f:34124** 34L40 (47E05, 81Q10)

Watanabe, Keigo (*with* Sato, Kazuya; Nomiyama, Akira) Stability analysis of fuzzy systems as periodically time-varying systems. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 4, 419–434 (1998). 93C42 (93D05)

Watanabe, Keiichi Problems on isometries of non-commutative L^p-spaces. (English summary) *Function spaces (Edwardsville, IL, 1998)*, 349–356, *Contemp. Math.*, 232, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99k:46003**) 46L50

Watanabe, Keiji (*with* Takahashi, Kazukiyo) 3 disk mixed sensitivity problem of time-delay systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 365–376. (Summary) **99c:93035** 93B35 (93C25)

Watanabe, Kimio (*with* Okuma, Tomohiro) The second pluri-genus of surface singularities. Theory of singularities for differentiable mappings: topology and applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 952 (1996), 19–26. (*see* **97m:58001**) 14J17 (32S25)

— Three-dimensional hypersurface purely elliptic singularities. (English summary) CR geometry and isolated singularities (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1037 (1998), 69–73. (Introduction) **99j:14001** 14B05

Watanabe, Kiyoshi Cousin problems and holomorphic cocycles. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 217–221. (J. Kajiwara) **99k:32017** 32C35 (32D99)

Watanabe, Mamoru (*with* Kaneko, Atsushi) String decompositions of graphs. (English summary) *Ars Combin.* **49** (1998), 225–236. (Summary) **99c:05152** 05C70

— (*with* Kaneko, Atsushi; Maehara, Hiroshi) On the number of acute triangles in a straight-line embedding of a maximal planar graph. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 110–115. (Summary) **99k:05066** 05C10

Watanabe, Masaji (*with* Kono, Yukio) Difference approximations in analysis of unsteady pipeline flows. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 105–111. (*see* **99h:65005**) 76M20 (65M06)

Watanabe, Miyoko (*with* Mizukami, Koichi) Stability of decentralized control for a LQG large-scale interconnected system with uncertainty. (Japanese. English summary) *Bull. Fac. Eng. Hiroshima Univ.* **47** (1998), *no.* 1, 13–20. 93D05 (93A14)

Watanabe, Noboru (*with* Accardi, Luigi; Ohya, Masanori) Dynamical entropy of quantum systems. (English summary) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 76–84. (*see* **99b:00018**) 82C10 (46L50, 46L55, 46L60)

— (*with* Ohya, Masanori) Optical Fredkin-Toffoli-Milburn gates. Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 145–154. (*see* **99f:00023**) 81P99

Watanabe, Nobuya (*with* Sawada, Ken; Togawa, Yoshio) Stable and unstable manifolds of periodic points of Kupka-Smale systems. *Nonlinear Anal.* **33** (1998), *no.* 6, 611–615. (Michael Hurley) **99d:58138** 58F20 (58F09, 58F22)

Watanabe, Osamu[2] (*with* Hemaspaandra, Lane A.; Jiang, Zhigen; Rothe, Jörg) Polynomial-time multi-selectivity. (English summary) *J.UCS* **3** (1997), *no.* 3, 197–229 (*electronic*). (Summary) **99h:68054** 68Q15 (03D15)

— (*with* Lindner, Wolfgang; Schuler, Rainer) Resource bounded measure and learnability. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 261–270, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68048** 68Q15 (68T05)

— (*with* Yamazaki, Tadashi) The orientation selectivity problem: an approach from theoretical computer science. Discrete algorithms and computational complexity (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1054 (1998), 11–22. (*see* **99m:68009**) 68T05

— (*with* Hemaspaandra, Lane A.; Jiang, Zhigen; Rothe, Jörg) Boolean operations, joins, and the extended low hierarchy. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 317–327. (Marius Zimand) **99h:68055** 68Q15 (03D15)

— (*with* Mochizuki, Atsushi; Motoki, Mitsuo) On a positive instance generation for the 3-satisfiability (3SAT) problem. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 6, 1850–1857. (Summary) **99e:68113** 68R05 (68Q25)

— (*with* Köbler, Johannes) New collapse consequences of NP having small circuits. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 311–324 (*electronic*). (Christoph Meinel) **99j:68043** 68Q15 (03D15)

— *see also* **Symposium: Algorithms and Computation, 99d:68013**

Watanabe, Ryo (*with* Uchida, Kenko) Gain scheduling—development toward adaptive/nonlinear control. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 6, 306–311. 93C40 (93E12)

— (*with* Azuma, Takehito; Uchida, Kenko) Robust H_∞ control for linear systems with uncertain parameters and scheduling parameters. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 297–305. 93B36 (93C41)

Watanabe, S. *see* **Watanabe, Seiji**

Watanabe, Satosi *see* **Toyoda, Toshiyuki, (99b:00018)**

Watanabe, Seiji (*with* Matsumoto, Toshiko) Surjective linear isometries of the domain of a *-derivation equipped with the Cambern norm. *Math. Z.* **230** (1999), *no.* 1, 185–200. (Krzysztof Jarosz) **99m:46069** 46E25 (46J10)

Watanabe, Shigeru Generating functions of the Jacobi polynomials and related Hilbert spaces of analytic functions. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 3, 46–48. (Themistocles M. Rassias) **99k:33038** 33C45

Watanabe, Shinsuke (*with* Kawamura, Katsuyuki; Oh, Heung-Geun; Ishiwata, Shingo) Higher-order approximations of the Burgers equation. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 35–45. (*see* **99a:00032**) 35Q53

— (*with* Ehara, Jun-ichi) Shock waves in an inhomogeneous nonlinear LC circuit. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 37–45. (*see* **99f:76003**) 34C15 (94C05)

Watanabe, Shinzo Wiener functionals with the regularity of fractional order. (English summary) *New trends in stochastic analysis (Charingworth, 1994)*, 416–429, *World Sci. Publishing, River Edge, NJ*, 1997. (Catherine Donati-Martin) **99k:60147** 60H07 (60J55)

— Stochastic analysis on Wiener space. *Proceedings of the Norbert Wiener Centenary Congress, 1994 (East Lansing, MI, 1994)*, 359–370, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Ana Bela Cruzeiro) **99a:60061** 60H10 (60G44, 60H07)

— T. J. Lyons' theory of differential equations that are driven by a rough signal and its application to stochastic differential equations. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 1–12. (*see* **99f:65007**) 60H10

Watanabe, Takahiro Uniqueness of the equilibrium point of a noncooperative game with a continuum of players. Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 221–229. (*see* **99h:90006**) 90D10

Watanabe, Takao An introduction to the Gross-Prasad conjecture. (Japanese) Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 207–215. (Nobukazu Shimeno) **99c:22029** 22E50 (11S37)

— (*with* Morishita, Masanori) On S-Hardy-Littlewood homogeneous spaces. (English summary) *Internat. J. Math.* **9** (1998), *no.* 6, 723–757. (T. Ono) **99g:11082** 11G35 (11E20, 14M17)

Watanabe, Takashi[1] Cohomology of a homogeneous space $E_6/T^1 \cdot \mathrm{SU}(6)$. *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 511–518, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (M. Mimura) **99b:57074** 57T15

Watanabe, Takeshi (*with* Fujisaka, Hirokazu; Iwayama, Takahiro) Dynamic scaling rules in the development process of drift wave turbulence. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 140–151. (*see* **99e:76056**) 76F99

— (*with* Iwayama, Takahiro; Fujisaka, Hirokazu; Okamoto, Hisao) Formation of the order structure and dynamical scaling rules in 2-dimensional turbulent systems. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 10–19. (*see* **99k:76004**) 76F99

Watanabe, Toshiro Sato's conjecture on recurrence conditions for multidimensional processes of Ornstein-Uhlenbeck type. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 155–168. (Zheng Yan Lin) **99a:60076** 60J25 (60G15)

Watanabe, Tsuguhiro (*with* Akao, Hideki) An automatic root-finding method for simultaneous systems of nonlinear equations (the δ function method). (Japanese. Japanese summary) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 1–8. (*see* **99i:00028**) 65H10

Watanabe, Yodai A geometrical method for the stability analysis of dynamical systems. (English summary) *J. Phys. A* **31** (1998), *no.* 26, *L*489–*L*494. (Janusz Grabowski) **99f:58008** 58B20 (35A30, 35Q53, 58F07)

— (*with* Suzuki, Katsuhiro; Kambe, Tsutomu) Geometrical analysis of free rotation of a rigid body. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6073–6080. (Summary) **99e:70025** 70E15 (70K20)

Watanabe, Yoshitaka (*with* Nakao, Mitsuhiro T.; Yamamoto, Nobito) A posteriori and constructive a priori error bounds for finite element solutions of the Stokes equations. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 137–158. (Kai Tai Li) **99e:65147** 65N15 (76D05, 76M10)

— (*with* Nakao, Mitsuhiro T.; Yamamoto, Nobito) Constructive L^2 error estimates for finite element solutions of the Stokes equations. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 115–124. (Summary) **99c:65209** 65N30 (65G10)

— (*with* Yamamoto, Nobito; Nakao, Mitsuhiro T.) Numerical verification of solutions for the Navier-Stokes equations. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 100–105. (*see* **99i:00028**) 65M12 (76M25)

Watanabe, Yoshiyuki (*with* Tahara, Manabu) Natural almost Hermitian, Hermitian and Kähler metrics on the tangent bundles. (English summary) *Math. J. Toyama Univ.* **20** (1997), 149–160. (Emilio Musso) **99d:53032** 53C15 (53C55)

— (*with* Koda, Takashi) Infinitesimal models and homogeneous spaces. *Proceedings of the Second International Workshop on Differential Geometry (Taegu, 1997)*, 35–42, *Kyungpook Natl. Univ., Taegu*, 1998. (O. Kowalski) **99i:53051** 53C30 (53C15, 53C55)

— From Riemannian geometry to Kähler and quaternionic Kähler structures. *Proceedings of the Second International Workshop on Differential Geometry (Taegu, 1997)*, 43–53, *Kyungpook Natl. Univ., Taegu*, 1998. (Paolo Piccinni) **99h:53065** 53C25 (53C55)

— (*with* Mori, Hiroshi[1]) From Sasakian 3-structures to quaternionic geometry. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 3, 379–386. (Roger Bielawski) **99k:53103** 53C25

Watanabe, Yumiko (*with* Kuroda, Mitsuru[2]; Higashi, Masatake; Saitoh, Tsuyoshi; Kuragano, Tetsuzou) Interpolating curve with B-spline curvature function. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*,

303–310, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65048** 65D17 (65D05, 65D07)

Watatani, Yasuo (*with* Enomoto, Masatoshi) Spectra and chromatic numbers of infinite graphs. *Kyushu J. Math.* **49** (1995), *no.* 2, 429–434. (Bojan Mohar) **99a:05098** 05C50 (05C15, 47A10)

— (*with* Katayama, Yoshikazu; Matsumoto, Kengo) Simple C^*-algebras arising from β-expansion of real numbers. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 937–962. (Jonathan M. Rosenberg) **99m:46136** 46L05 (11K60, 19K14, 46L55, 46L80, 54H20, 58F03)

— (*with* Matsumoto, Kengo; Yoshida, Masamichi) KMS states for gauge actions on C^*-algebras associated with subshifts. *Math. Z.* **228** (1998), *no.* 3, 489–509. (Claudia Pinzari) **99g:46086** 46L30 (46L50, 46L55)

Wate, Masamichi (*with* Yaku, Takeo) Recursive enumerability in set theory. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 119–126. (*see* **99i:65003**) 03D60 (03E15, 03E45)

van de Water, Willem (*with* Herweijer, Janine A.) High-order structure functions of turbulence. (English summary) *J. Fluid Mech.* **387** (1999), 3–37. 76F99

Waterman, Daniel (*with* Goffman, Casper; Nishiura, Togo) ★ Homeomorphisms in analysis. (English summary) Mathematical Surveys and Monographs, 54. *American Mathematical Society, Providence, RI*, 1997. xiv+216 *pp. ISBN* 0-8218-0614-9 (Krzysztof Ciesielski) **99b:26002** 26–02 (28–02, 42–02)

— (*with* D'Antonio, Lawrence A.) A summability method for Fourier series of functions of generalized bounded variation. (English summary) *Analysis* **17** (1997), *no.* 2-3, 287–299. (Y. Sitaraman) **99h:42008** 42A24

— (*with* Pierce, Pamela B.) Regulated functions whose Fourier series converge for every change of variable. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 264–282. (Paolo M. Soardi) **99j:42006** 42A20

Waterman, Michael S. (*with* Vingron, Martin) Alignment networks and electrical networks. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 297–309. (Summary) **99a:94074** 94C15 (92B10, 92D20)

— (*with* Sun, Feng Zhu) Whole genome amplification and branching processes. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 629–668. (Ming-Ying Leung) **99e:92014** 92C40 (60J85)

— *see also* **Mathematical support for molecular biology, 99k:92003**

Waters, Charles (*with* Johnson, Charles Royal) Sign patterns occurring in orthogonal matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 287–299. (Summary) **99f:15043** 15A99

Waters, S. L. (*with* Pedley, T. J.) Oscillatory flow in a tube of time-dependent curvature. I. Perturbation to flow in a stationary curved tube. (English summary) *J. Fluid Mech.* **383** (1999), 327–352. (Summary) **99m:76131** 76Z05 (76D99)

Wathen, Andrew J. (*with* Elman, Howard C.; Silvester, David J.) Iterative methods for problems in computational fluid dynamics. *Iterative methods in scientific computing (Hong Kong*, 1995), 271–327, *Springer, Singapore*, 1997. (*see* **99g:65001**) 65F10 (76M25)

— (*with* Humphries, A. R.; Budd, C. J.) Finite element method solutions for semi-linear elliptic PDEs with critical Sobolev exponents on non-spherical 3D domains. (English summary) *International Conference on Differential Equations (Lisboa*, 1995), 418–425, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 65N30

— (*with* Fischer, Bernd; Silvester, David J.) The convergence of iterative solution methods for symmetric and indefinite linear systems. (English summary) *Numerical analysis* 1997 (*Dundee*), 230–243, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65058** 65F10

— (*with* Fischer, Bernd; Ramage, A.; Silvester, David J.) Minimum residual methods for augmented systems. (English summary) *BIT* **38** (1998), *no.* 3, 527–543. (Jin Yun Yuan) **99i:65031** 65F10 (65F35, 65F50)

— (*with* Golub, Gene H.) An iteration for indefinite systems and its application to the Navier-Stokes equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 530–539 (*electronic*). (Tsorng-Whay Pan) **99d:65107** 65F10 (65N22, 76M25)

Watier, Guillaume On the word problem for single relation monoids with an unbordered relator. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 6, 749–770. (B. H. Neumann) **99a:08002** 08A50 (20M05, 68R15)

Wätjen, Dietmar (*with* Fernau, Henning) Remarks on regulated limited ET0L systems and regulated context-free grammars. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 35–55. (Rani Siromoney) **99f:68117** 68Q45

Watkins, David S. Unitary orthogonalization processes. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 335–345. (Dao Sheng Zheng) **99d:65123** 65F25 (42C05, 62M20)

— (*with* Benner, Peter; Faßbender, Heike) Two connections between the *SR* and *HR* eigenvalue algorithms. (English summary) *Linear Algebra Appl.* **272** (1998), 17–32. (Raffaella Pavani) **99a:65045** 65F15 (15A18)

— Bulge exchanges in algorithms of *QR* type. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 1074–1096 (*electronic*). (George D. Poole) **99h:65072** 65F15 (15A18)

— (*with* Benner, Peter; Faßbender, Heike) SR and SZ algorithms for the symplectic (butterfly) eigenproblem. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 41–76. (Ilse C. F. Ipsen) **99m:65068** 65F15 (15A18, 15A23)

Watkins, Eric The laws of motion from Newton to Kant. (English summary) First Annual Conference for the History of Philosophy of Science (Roanoke, VA, 1996). *Perspect. Sci.* **5** (1997), *no.* 3, 311–348. (Summary) **99c:00005** 00A30 (00A79, 01A45, 01A50)

— Kant's justification of the laws of mechanics. *Stud. Hist. Philos. Sci.* **29** (1998), *no.* 4, 539–560. (I. Grattan-Guinness) **99k:01022** 01A50 (70–03)

Watkins, John M. (*with* Yurkovich, Stephen) Parameter set estimation algorithms for time-varying systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 711–731. 93B30 (93C41)

Watkins, M. *see* **Watkins, Matthew Raymond**

Watkins, Mark E. Ends and automorphisms of infinite graphs. (English summary) *Graph symmetry (Montreal, PQ*, 1996), 379–414, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 497, *Kluwer Acad. Publ., Dordrecht*, 1997. (H. A. Jung) **99b:05077** 05C25 (05C10)

Watkins, Matthew Raymond (*with* Sommen, Franciscus) Vector manifolds from structure functions. (English summary) *J. Natur. Geom.* **13** (1998), *no.* 2, 77–118. (Marius Mitrea) **99e:58001** 58A05

Watkins, Terry (*with* Li, Linxiong; Yu, Qiqing) An EM algorithm for smoothing the self-consistent estimator of survival functions with interval-censored data. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 531–542. (Uttara V. Naik-Nimbalkar) **99j:62141** 62N05 (62G05, 65U05)

Watmough, James (*with* Edelstein-Keshet, Leah; Grunbaum, Daniel) Do travelling band solutions describe cohesive swarms? An investigation for migratory locusts. (English summary) *J. Math. Biol.* **36** (1998), *no.* 6, 515–549. (Summary) **99f:92036** 92D50

Watrous, John On one-dimensional quantum cellular automata. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI*, 1995), 528–537, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q80 (68Q05)

— Relationships between quantum and classical space-bounded complexity classes. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY*, 1998), 210–227, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68034** 68Q05 (68Q15, 81P99)

Watson, Bruce B. (*with* Singh, Sankatha Prasad; Srivastava, Pramila) ★ Fixed point theory and best approximation: the KKM-map principle. (English summary) Mathematics and its Applications, 424. *Kluwer Academic Publishers, Dordrecht*, 1997. x+220 *pp. ISBN* 0-7923-4758-7 (Tomás Domínguez Benavides) **99a:47087** 47H10 (41A65, 47H19, 47N10, 49J40)

— (*with* de Barros, Luiz G. X.) On modular loop algebras of RA 2 loops. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 2, 163–181. (Miklós Csikós) **99m:17039** 17D05 (20N05)

— Discrete power series methods. (English summary) *Analysis (Munich)* **18** (1998), *no.* 1, 97–102. (Summary) **99i:40009** 40D25

Watson, D. *see* **Watson, Diana**

Watson, David K. (*with* Wheeden, Richard L.) Norm estimates and representations for Calderón-Zygmund operators using averages over starlike sets. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4127–4171. (Javier Duoandikoetxea) **99m:42030** 42B20 (42B25)

Watson, Deborah K. (*with* Elout, Melchior O.; Goodson, David Z.; Elliston, Carl D.; Huang, Shi-Wei; Sergeev, A. V.) Improving the convergence and estimating the accuracy of summation approximants of $1/D$ expansions for Coulombic systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5112–5122. (Peter N. Zhevandrov) **99g:81045** 81Q15

Watson, Diana (*with* Soto-Treviño, C.; Kopell, Nancy) Parabolic bursting revisited. (English summary) *J. Math. Biol.* **35** (1996), *no.* 1, 114–128. (Summary) **99a:92007** 92C20 (34C99, 34E15)

Watson, G. Alistair Aspects of approximation with emphasis on the univariate case. (English summary) *The state of the art in numerical analysis (York*, 1996), 261–281, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (*see* **99a:65008**) 42C15 (41A30)

— (*with* He, Chun Yang) Some matrix approximation problems in control theory. (English summary) *Advances in computational mathematics (Guangzhou*, 1997), 173–182, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (M. M. Konstantinov) **99m:93035** 93B40 (93B36)

— Least squares fitting of circles and ellipses to measured data. (English summary) *BIT* **39** (1999), *no.* 1, 176–191. (Summary) **99m:65025** 65D10 (65K05)

— (*with* Li, Chong[1]) Best simultaneous approximation of an infinite set of functions. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 1–9. (Joseph M. Lambert) **99j:41057** 41A65 (41A28, 41A52)

— (*with* He, Chun Yang) An algorithm for computing the distance to instability. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 101–116 (*electronic*). (M. M. Konstantinov) **99j:65134** 65L99 (65F30)

— *see also* **State of the art in numerical analysis, 99a:65008** *and* **Numerical analysis, 99d:65006**

Watson, Geoffrey Stuart On the role of statistics in the palaeomagnetic proof of continental drift. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 3, 383–392. 62H11

— *see also* **Beran, Rudolf, 99m:01040** *and* **Fisher, Nicholas I., 99m:01055**

Watson, Greg I. (*with* Canright, Geoff; Somer, Frank L., Jr.) Reasonable and robust Hamiltonians violating the third law of thermodynamics. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6459–6465. (Nicolae Angelescu) **99a:82026** 82B20

Watson, James T., Jr. (*with* Grigoriadis, Karolos M.) Optimal unbiased filtering via linear matrix inequalities. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 111–118. (Pham Tran Nhu) **99j:93109** 93E11 (93C05)

Watson, Joel (*with* Ponsati-Obiols, Clara) Multiple-issue bargaining and axiomatic solutions. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 501–524. (Summary) **99b:90174** 90D12 (90D05)

Watson, Layne T. (*with* Sosonkina, Maria; Melville, Robert C.; Morgan, Alexander P.; Walker, Homer F.) Algorithm 777: HOMPACK90: a suite of Fortran 90 codes for globally convergent homotopy algorithms. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 514–549. 65Y15

— (*with* Ge, Yuzhen; Collins, Emmanuel G., Jr.) Genetic algorithms for optimization on a quantum computer. (English summary) *Unconventional models of computation (Auckland*, 1998), 218–227, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68T05 (68Q05, 90C27)

— (*with* Sosonkina, Maria; Kapania, Rakesh K.; Walker, Homer F.) A new adaptive GMRES algorithm for achieving high accuracy. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 4, 275–297. (Summary) **99d:65110** 65F10 (65F50)

— (*with* Cowgill, M. C.; Harvey, R. J.) A genetic algorithm approach to cluster analysis. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 7, 99–108. 62H30

Watson, Mark W. (*with* King, Robert G.) The solution of singular linear difference systems under rational expectations. (English summary) Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 1015–1026. (Summary) **99k:39019** 39A10 (90A16)

Watson, N. *see* **Watson, Noel**

Watson, Neil A. Initial limits of temperatures on arbitrary open sets. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 495–506. (David Singman) **99j:31006** 31B10 (31B25, 35K05)

— Time-isolated singularities of temperatures. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 3, 416–429. (Noriaki Suzuki) **99m:35092** 35K05 (31B35, 35B60)

Watson, Noel (*with* Singer, S. F.; Talvacchia, J.) Nontoric Hamiltonian circle actions on four-dimensional symplectic orbifolds. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 937–940. (Ágúst Sverrir Egilsson) **99f:57043** 57S25 (57S15, 58F05)

Watson, P. G. (*with* Priest, E. R.; Craig, I. J. D.) The roles of advection and diffusion in planar magnetic merging solutions. (English summary) *Geophys. Astrophys. Fluid Dynam.* **88** (1998), *no.* 3-4, 165–185. 76W05 (85A30)

Watson, P. J. *see* **Watson, Peter Jonothan**

Watson, Paul (*with* Singerman, David) Non-maximal cyclic group actions on compact Riemann surfaces. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 423–439. (Marston Conder) **99a:20050** 20H10 (30F10)

Watson, Peter Jonothan Coincidences and fixed points in locally G-convex spaces. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 2, 297–304. (Summary) **99m:54031** 54H25 (47H10, 54C60)

Watson, R. O. (*with* Allan, Graham R.; Kakiko, Grayson; O'Farrell, Anthony G.) Algebras of smooth functions. (English summary) *Banach algebras '97* (*Blaubeuren*), 43–53, *de Gruyter, Berlin*, 1998. (W. J. Kotzé) **99k:46090** 46J30 (41A10, 46E25, 46J15)

— (*with* Allan, Graham R.; Kakiko, Grayson; O'Farrell, Anthony G.) Finitely-generated algebras of smooth functions, in one dimension. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 458–474. (S. J. Sidney) **99m:46127** 46J15 (46E10, 46E25)

Watson, W. Stephen (*with* Ergun, Nurettin; Ganster, Maximilian) Refinements of cellular families. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 307–318. (Summary) **99h:54040** 54D99

— (*with* Eckertson, F. W.; García-Ferreira, S.; Sanchis, Manuel) An isocompact Tychonoff space whose square is not isocompact. (English summary) *Topology Proc.* **22** (1997), 181–190. (Jack R. Porter) **99m:54011** 54D20 (54B10)

— (*with* Ciesielski, Krzysztof[2]; Dikranjan, Dikran N.) Functions characterized by images of sets. *Colloq. Math.* **77** (1998), *no.* 2, 211–232. (Manuel Sanchis) **99f:54013** 54C05 (26A15)

— (*with* Berarducci, Alessandro; Dikranjan, Dikran N.; Forti, Marco) Cardinal invariants and independence results in the poset of precompact group topologies. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 19–49. (A. Revuz) **99b:22001** 22A05

— (*with* O'Brien, George L.) Relative compactness for capacities, measures, upper semicontinuous functions and closed sets. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 577–588. (Summary) **99m:28008** 28A12 (31C15, 60B05)

— (*with* Okuyama, A.) Note on hereditary normality of product spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 369–375. (Eliza Wajch) **99b:54010** 54B10 (54D15)

— (*with* McIntyre, D. W.) Basic intervals in the partial order of metrizable topologies. (English summary) *Topology Appl.* **83** (1998), *no.* 3, 213–230. (Judith Roitman) **99c:54006** 54A10 (06A15, 54E35)

— (*with* Costantini, Camillo) On the dissonance of some metrizable spaces. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 259–268. (A. H. Stone) **99b:54012** 54B20 (54A10, 54D55, 54E35, 54G12)

Watt, Keith (*with* New, Kimberly C. B.; Misner, Charles W.; Centrella, Joan M.) Stable 3-level leapfrog integration in numerical relativity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064022, 14 *pp.* 83–04 (83–08)

Watt, S. D. (*with* Batchelor, Murray T.; Henry, B. I.) Continuum model for radial interface growth. (English summary) *Phys. A* **260** (1998), *no.* 1-2, 11–19. (Summary) **99g:82059** 82C24

Watt, S. M. *see* **Symbolic numeric algebra for polynomials, 99g:00033**

Wattis, Jonathan A. D. Stationary breather modes of generalized nonlinear Klein-Gordon lattices. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3301–3323. (Summary) **99b:82071** 82C20 (35Q53, 39A12)

Watts, Gerard M. T. W-algebras and their representations. (English summary) *Conformal field theories and integrable models* (*Budapest*, 1996), 55–84, *Lecture Notes in Phys.*, 498, *Springer, Berlin*, 1997. (Mark A. Walton) **99h:81071** 81R10 (17B68)

— Conserved charges in the chiral three-state Potts model. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5599–5607. (Summary) **99c:82018** 82B20 (81T40)

— (*with* Mathieu, Pierre[1]) Probing integrable perturbations of conformal theories using singular vectors. II. $N = 1$ superconformal theories. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 577–607. (Zoltán Bajnok) **99b:81078** 81R10 (17B81, 81T40)

— (*with* Dorey, Patrick; Pocklington, A. J.; Tateo, Roberto) TBA and TCSA with boundaries and excited states. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 641–663. (Summary) **99e:82038** 82B27 (81T40)

Watugala, G. K. Sumudu transform—a new integral transform to solve differential equations and control engineering problems. (English summary) *Math. Engrg. Indust.* **6** (1998), *no.* 4, 319–329. (Summary) **99g:44007** 44A15 (34A25, 93C99)

Wauters, Paul Primitive localizations of group algebras of polycyclic-by-finite groups. (English summary) *J. Algebra* **214** (1999), *no.* 2, 448–457. (William Ullery) **99m:16045** 16S34 (20C07)

— (*with* Passman, Donald S.) Semi-invariants and weights of group algebras of finite groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1323–1329. (M. M. Parmenter) **99h:16041** 16S34 (20C05)

— The semicentre of a group algebra. (English summary) *Proc. Edinburgh Math. Soc.* (2) **42** (1999), *no.* 1, 95–111. (Donald S. Passman) **99k:16058** 16S34 (16N60, 16U70)

Wavrik, John J. Rewrite rules and simplication of matrix expressions. (English summary) *Comput. Sci. J. Moldova* **4** (1996), *no.* 3, 360–398. 68Q40

— (*with* Helton, J. William; Stankus, Mark) Computer simplification of formulas in linear systems theory. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 302–314. (Summary) **99a:93020** 93B25 (93–04, 93C05)

Wawrzyńczyk, Antoni (*with* Almendra, Genaro) Maximal ideals and multiplicative functionals in the algebras of holomorphic functions. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 3–11, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 46J20 (46H15)

— Three views of the unit disk. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 189–206, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Daniele Struppa) **99k:30067** 30E05 (46J15)

— (*with* Almendra, Genaro) The spectra of translation invariant spaces of smooth functions. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 13–22. (A. G. Baskakov) **99c:43008** 43A45 (47A13, 47B38)

Waxman, Jerry (*with* Goldberg, Robert R.; Shapiro, Jacob) Analysis of partition variance for the number partition problem. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 29–46. (Summary) **99k:05014** 05A18 (68Q25)

walters-Wayland, J. L. *see* **Walters-Wayland, J. L.**

Waymire, Edward C. (*with* Williams, Stanley Carl) Markov cascades. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 305–321, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (F. M. Dekking) **99k:60093** 60F15 (28A80)

— (*with* Ossiander, Mina; Zhang, Qing) Some width function asymptotics for weighted trees. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 972–995. (Robert P. Dobrow) **99b:60146** 60J80 (60J85)

Wayne, C. Eugene Invariant manifolds and the asymptotics of parabolic equations in cylindrical domains. *Differential equations and applications* (*Hangzhou*, 1996), 314–325, *Internat. Press, Cambridge, MA*, 199?. (Björn Sandstede) **99c:35105** 35K55 (34C30, 35B40)

— (*with* Banyaga, Augustin; de la Llave, R.) Cohomology equations near hyperbolic points and geometric versions of Sternberg linearization theorem. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 4, 613–649 (1997). (Sergeĭ Yu. Yakovenko) **99d:58151** 58F36 (34C20, 58F15, 58F21)

— (*with* Pillet, Claude-Alain) Invariant manifolds for a class of dispersive, Hamiltonian, partial differential equations. (English summary) *J. Differential Equations* **141** (1997), *no.* 2, 310–326. (Peter E. Zhidkov) **99b:35193** 35Q55 (35B40, 58F39)

— (*with* Eckmann, Jean-Pierre) Non-linear stability analysis of higher-order dissipative partial differential equations. (English summary) *Math. Phys. Electron. J.* **4** (1998), *Paper* 3, 20 *pp.* (*electronic*). (Arnaldo do Nascimento) **99g:35019** 35B35 (35K55, 35Q55)

Wayne, Henry (*with* Light, W. A.) Spaces of distributions, interpolation by translates of a basis function and error estimates. (English summary) *Numer. Math.* **81** (1999), *no.* 3, 415–450. (Gheorghe Coman) **99m:65021** 65D05 (46F05, 46N40)

Wayne, K. (*with* Ko, Chun Wa; Lee, Jon[2]) Comparison of spectral and Hadamard bounds for D-optimality. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 21–29, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62090** 62K05

Ważewski, Tadeusz *see* **Proceedings: Conference on Topological Methods in Differential Equations and Dynamical Systems, 99f:58002** *and* **Pelczar, Andrzej, (99f:58002)**

Wazwaz, Abdul-Majid ★ A first course in integral equations. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xii+208 *pp. ISBN* 981-02-3101-6 (V. Raghavendra) **99i:45001** 45–01

— Equality of partial solutions in the decomposition method for partial differential equations. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 293–308. (Summary) **99m:65195** 65M99

— A comparison between Adomian decomposition method and Taylor series method in the series solutions. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 1, 37–44. (Summary) **99d:65243** 65L99 (34A45)

— A comparative study on a singular perturbation problem with two singular boundary points. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 179–193. (Bernard J. Harris) **99k:34124** 34E15 (34E20)

— Analytical approximations and Padé approximants for Volterra's population model. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 13–25. 92D25 (65R20)

— A reliable modification of Adomian decomposition method. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 1, 77–86. (Summary) **99m:65156** 65L99 (34A45)

Weaire, D. (*with* Phelan, R.) A counter-example to Kelvin's conjecture on minimal surfaces. (English summary) Reprint of Philos. Mag. Lett. **69** (1994), no. 2, 107–110. *Forma* **11** (1996), *no.* 3, 209–213. (Wolfgang Kühnel) **99d:52022** 52C22 (53A10)

— (*with* Phelan, R.) The structure of monodisperse foam. (English summary) Reprint of Philos. Mag. Lett. **70** (1994), no. 5, 345–350. *Forma* **11** (1996), *no.* 3, 215–221. (Wolfgang Kühnel) **99d:52023** 52C22

Wearing, J. L. (*with* Dimagiba, R. R. M.) The development of the boundary element method for three-dimensional elasto-plastic analysis. (English summary) *Boundary element research in Europe* (*Southampton*, 1998), 93–102, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 73V10

Weaver, George (*with* Lippel, David) Classifying $\aleph_0$-categorical theories. II. The existence of finitely axiomatizable proper class II theories. (English summary) *Studia Logica* **60** (1998), *no.* 2, 275–297. (N. C. A. da Costa) **99c:03051** 03C35 (03C10)

Weaver, James R. (*with* Stuart, Jeffrey L.) Fiedler matrices and their factorization. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 579–594. (Aurelian Gheondea) **99f:15037** 15A57 (15A23)

Weaver, M. *see* **Weaver, Marsha**

Weaver, Margaret L. (*with* Le Tu, Quoc Hung; Sysło, Maciej M.; West, Douglas B.) Bandwidth and density for block graphs. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 163–176. (Yixun Lin) **99g:05158** 05C78

Weaver, Marsha (*with* Berger, Beverly K.; Garfinkle, David; Isenberg, James A.; Moncrief, V.) The singularity in generic gravitational collapse is spacelike, local and oscillatory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1565–1573. (Robert J. Low) **99j:83052** 83C75

Weaver, Nik α-Lipschitz algebras on the noncommutative torus. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 123–138. (Fabio Cipriani) **99k:46127** 46L87 (46L57)

Webb, Bridget S. (*with* Metsch, Klaus) A note on the cycle structures of automorphisms of 2-$(v, k, 1)$ designs. *Ars Combin.* **51** (1999), 224–228. (From the text) **99k:05030** 05B05

— *see also* **Combinatorial designs and their applications, 99k:05002**

Webb, D. L. (*with* Gordon, Carolyn S.; Gornet, Ruth; Schueth, D.; Wilson, Edward N.) Isospectral deformations of closed Riemannian manifolds with different scalar curvature. *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 2, 593–607. (Robert Brooks) **99b:53049** 53C20 (58G25)

Webb, G. F. (*with* Arino, Ovide; Sánchez, Eva) Polynomial growth dynamics of telomere loss in a heterogeneous cell population. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 3, 263–282. (S. K. Chatterjea) **99c:92032** 92D25 (47D06, 47N60, 92C40)

— (*with* Arino, Ovide; Sánchez, Eva) Necessary and sufficient conditions for asynchronous exponential growth in age structured cell populations with quiescence. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 499–513. (Hassan Emamirad) **99c:92033** 92D25 (35Q80, 47D06, 47N20)

— (*with* Fitzgibbon, William E.; Morgan, J. J.; Parrott, Mary E.) An age dependent regularization of Martin's problem. *Reaction diffusion systems (Trieste, 1995)*, 131–139, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Hal Leslie Smith) **99f:92032** 92D30 (34C99, 35Q80, 47H05)

Webb, G. M. (*with* Zakharian, A.; Brio, M.; Zank, G. P.) Hamiltonian aspects of three-wave resonant interactions in gas dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4227–4257. (Peter L. Christiansen) **99b:76076** 76N15 (35Q35, 58F40, 76M30)

Webb, Jeffrey R. L. (*with* Feng, Wen Ying) Solvability of three point boundary value problems at resonance. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3227–3238. (P. Ch. Tsamatos) **99a:34053** 34B15 (34B10)

— (*with* Lan, Kunquan) Positive solutions of semilinear differential equations with singularities. *J. Differential Equations* **148** (1998), *no.* 2, 407–421. (Miguel Ramos) **99g:34053** 34B15 (35J60, 45G10, 47H10, 47H30)

— (*with* Lan, Kunquan) Variational inequalities and fixed point theorems for PM-maps. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 102–116. (Xie Ping Ding) **99g:47149** 47H19 (47H10, 49J40)

Webb, William (*with* Robertson, J. M.) ★ Cake-cutting algorithms. (English summary) Be fair if you can. *A K Peters, Ltd., Natick, MA*, 1998. *x*+181 *pp. ISBN* 1-56881-076-8 (Daniel Elliott Loeb) **99j:90025** 90A80 (05A05)

Webber, Richard (*with* Eades, Peter; Houle, Michael E.) Finding the best viewpoints for three-dimensional graph drawings. (English summary) *Graph drawing (Rome, 1997)*, 87–98, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)

Weber, Andreas[1] Transforming a single-valued transducer into a Mealy machine. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 46–59. (Summary) **99b:68134** 68Q68 (68Q25, 68Q45)

Weber, Christian[2] Fixed points and reducibles in equivariant gauge theory. (English summary) *Forum Math.* **10** (1998), *no.* 5, 605–618. (Yong Seung Cho) **99i:57054** 57R57 (57S17, 58D27)

Weber, Claude (*with* Lê Dũng Tráng) Équisingularité dans les pinceaux de germes de courbes planes et C^0-suffisance. [Equisingularity in pencils of germs of plane curves and C^0-sufficiency] *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 355–380. (Tomás Sánchez-Giralda) **99d:32047** 32S15 (14B05, 32S05, 58C27)

Weber, Damian (*with* Denny, Thomas) The solution of McCurley's discrete log challenge. (English summary) *Advances in cryptology—CRYPTO '98 (Santa Barbara, CA, 1998)*, 458–471, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99i:94057** 94A60

Weber, Gerald (*with* Alt, Helmut; Fuchs, Ulrich; Rote, Günter) Matching convex shapes with respect to the symmetric difference. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 89–103. (Rephael Wenger) **99i:68118** 68U05 (52B55)

Weber, Gerhard-W. On the topology of parametric optimal control. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 463–497. (Hubertus Th. Jongen) **99c:49028** 49K40 (90C31)

Weber, Hermann-Josef Hyperelliptic simple factors of $J_0(N)$ with dimension at least 3. (English summary) *Experiment. Math.* **6** (1997), *no.* 4, 273–287. (H. Lange) **99e:14054** 14K15 (14H40)

Weber, Joachim (*with* Sommers, Hans-Jürgen; Haake, Fritz) Joint densities of secular coefficients for unitary matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4395–4401. (Summary) **99b:82042** 82B41

Weber, Karl (*with* Constantinescu, Corneliu; Filter, Wolfgang) ★ Advanced integration theory. (English summary) With the collaboration of Alexia Sontag. Mathematics and its Applications, 454. *Kluwer Academic Publishers, Dordrecht*, 1998. *x*+861 *pp. ISBN* 0-7923-5234-3 (Richard Becker) **99m:28001** 28–01 (26–01, 28–02, 46–01)

Weber, M. *see* **Weber, Matthias**[2]

Weber, M. R. (*with* Pühl, Heidrun; Schirotzek, W.) On matrices satisfying a maximum principle with respect to a cone. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 337–356. (Richard D. Hill) **99h:15020** 15A48 (15A09, 15A39)

Weber, Martin[1] (*with* Brachinger, H. W.) Risk as a primitive: a survey of measures of perceived risk. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 4, 235–250. (Wojciech Szatzschneider) **99a:90075** 90A46

Weber, Matthias *see* **Weber, Matthias**[2]

Weber, Matthias[1] (*with* Freidlin, Mark I.) Random perturbations of nonlinear oscillators. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 925–967. (Toshio Mikami) **99g:60098** 60H10 (34C29, 34F05)

Weber, Matthias[2] On the Horgan minimal non-surface. *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 4, 373–379. (Rabah Souam) **99m:53019** 53A10

— (*with* Wolf, Michael[1]) Minimal surfaces of least total curvature and moduli spaces of plane polygonal arcs. *Geom. Funct. Anal.* **8** (1998), *no.* 6, 1129–1170. (Athanase Papadopoulos) **99m:53020** 53A10 (30F30, 30F60)

Weber, Michael (*with* Kindler, Ekkart) The dimensions of Petri nets: the Petri net cube. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 155–166. (Summary) **99f:68146** 68Q90

Weber, Michel Jean Georges Entropy numbers in L^p-spaces for averages of rotations. *J. Math. Kyoto Univ.* **37** (1997), *no.* 4, 689–700. (Joseph Max Rosenblatt) **99g:28035** 28D05 (42B30)

— (*with* Broniatowski, M.) Strong laws for sums of extreme values. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 553–563; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 3, 395–404 (1998). (Erich Haeusler) **99d:60039** 60F15 (60G70)

— (*with* Bugeaud, Yann) Examples and counterexamples for Riemann sums. (English summary) *Indag. Math. (N.S.)* **9** (1998), *no.* 1, 1–13. (U. Krengel) **99h:28040** 28D99 (28A20, 60F15)

Weber, Neville C. (*with* Ivanoff, B. Gail) A maximal inequality and tightness for multiparameter stochastic processes. (English summary) *Asymptotic methods in probability and statistics (Ottawa, ON, 1997)*, 359–369, *North-Holland, Amsterdam*, 1998. (Ely Merzbach) **99i:60078** 60F17 (60E15, 60G60)

— (*with* Ivanoff, B. Gail) Tail probabilities for weighted sums of products of normal random variables. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 239–244. (C. D. Lai) **99i:60099** 60G55 (60E05)

— (*with* Keener, Robert W.; Robinson, John) Tail probability approximations for U-statistics. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 59–65. (Miguel A. Arcones) **99b:60040** 60F10

Weber, R. *see* **Weber, Regine**

Weber, R. O. (*with* Mercer, G. N.; Sidhu, H. S.) An oscillatory route to extinction for solid fuel combustion waves due to heat losses. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 2015–2022. (Summary) **99d:80011** 80A25

Weber, R. R. (*with* Coffman, E. G., Jr.; Johnson, David Stifler; Shor, Peter W.) Bin packing with discrete item sizes. II. Tight bounds on first fit. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 69–101. (Ding Zhu Du) **99m:68080** 68Q25

Weber, Regine (*with* Hureau, J.) Impinging free jets of ideal fluid. (English summary) *J. Fluid Mech.* **372** (1998), 357–374. (Summary) **99f:76018** 76B10

— (*with* Hureau, J.) Impact of an ideal fluid jet on a curved wall: the inverse problem. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 2, 283–294. 76B10

Weber, Shlomo (*with* Le Breton, Michel) On existence of undominated pure strategy Nash equilibria in anonymous nonatomic games. (English summary) *Econom. Lett.* **56** (1997), *no.* 2, 171–175. (Summary) **99a:90245** 90D10 (90A14)

— (*with* Konishi, Hideo; Le Breton, Michel) Pure strategy Nash equilibrium in a group formation game with positive externalities. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 161–182. (Makoto Yano) **99a:90244** 90D10 (90D35)

— (*with* Konishi, Hideo; Le Breton, Michel) Equilibrium in a finite local public goods economy. (English summary) *J. Econom. Theory* **79** (1998), *no.* 2, 224–244. (Summary) **99b:90035** 90A27 (90A14)

— Entry deterrence in electoral spatial competition. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 1, 31–56. (Pavel Yu. Chebotarev) **99i:90035** 90A28 (90A25, 90A56, 90D10)

Weber, Siegfried (*with* Höhle, Ulrich) Uncertainty measures, realizations and entropies. (English summary) *Random sets (Minneapolis, MN, 1996)*, 259–295, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (Constantin Drossos) **99d:81027** 81P99 (03G10, 03G20, 60A99, 68T30)

Weber, Thomas Anthony Nonlocal potentials, isolated states, and Levinson's theorem. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 140–149. (Tuncay Aktosun) **99k:81330** 81U05 (34L25, 34L40)

Weberruß, Volker A. (*with* Mahler, Günter) ★ Quantum networks. (English summary) Dynamics of open nanostructures. Second edition. *Springer-Verlag, Berlin*, 1998. *xx*+403 *pp. ISBN* 3-540-63668-4 (From the preface) **99d:81192** 81V80 (81–02, 81V70)

Webster, Corran (*with* Effros, Edward G.) Operator analogues of locally convex spaces. (English summary) *Operator algebras and applications (Samos, 1996)*, 163–207, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (Wend Werner) **99b:46081** 46L05 (46A32, 47D15)

— (*with* Winkler, Soren) The Krein-Milman theorem in operator convexity. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 307–322. (Christian Le Merdy) **99d:46079** 46L05 (46B28, 47D20)

Webster, Helen N. (*with* Mansfield, Elizabeth L.) On one-parameter families of Painlevé III. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 3, 321–341. (Andrei A. Kapaev) **99g:34025** 34A25 (34A05)

Webster, J. R. (*with* Evans, G. A.) The numerical evaluation of a class of singular, oscillatory integrals. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 309–322. (Summary) **99m:65046** 65D32

Webster, Julian Continuum theory in the digital setting. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 371–386 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99c:54027** 54D05 (05C40, 54F15, 54F50)

Webster, Roger An elementary proof of Horn's theorem. (English summary) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A (Arad, 1996)*, 19–23, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 52A35

Webster, Sidney M. A complex Frobenius problem. *CR-geometry and overdetermined systems (Osaka, 1994)*, 406–418, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Paulo Domingos Cordaro) **99b:32025** 32F25 (35N10)

— Real ellipsoids and double valued reflection in complex space. (English summary) *Amer. J. Math.* **120** (1998), *no.* 4, 757–809. (John Bland) **99g:32045** 32H15 (32F15)

Wechs, Martin (*with* Stoer, Josef; Mizuno, Shinji) High order infeasible-interior-point methods for solving sufficient linear complementarity problems. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 832–862. (Jie Sun) **99j:90101** 90C33

— (*with* Stoer, Josef) Infeasible-interior-point paths for sufficient linear complementarity problems and their analyticity. (English summary) *Math. Programming* **83** (1998), *no.* 3, *Ser. A*, 407–423. (Tamás Terlaky) **99g:90150** 90C33 (65K05)

— The analyticity of interior-point-paths at strictly complementary solutions of linear programs. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 209–243. (Summary) **99a:90131** 90C05 (90C33)

— (*with* Stoer, Josef) On the analyticity properties of infeasible-interior-point paths for monotone linear complementarity problems. (English summary) *Numer. Math.* **81** (1999), *no.* 4, 631–645. (Bart De Schutter) **99m:90146** 90C33

Wechsung, Gerd (*with* Hemaspaandra, Lane A.; Rothe, Jörg) Easy sets and hard certificate schemes. (English summary) *Acta Inform.* **34** (1997), *no.* 11, 859–879. (Eric Bach) **99c:68096** 68Q15 (03D15, 68Q30)

— (*with* Hinrichs, Maren) Time bounded frequency computations. (English summary) *Inform. and Comput.* **139** (1997), *no.* 2, 234–257. (Uwe Schöning) **99c:68097** 68Q15

(03D15)
— (*with* Cai, Jin-Yi; Hemaspaandra, Lane A.) Robust reductions. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 174–183, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q15
— (*with* Bezrukov, Sergei; Monien, Burkhard; Unger, Walter) Embedding ladders and caterpillars into the hypercube. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 21–29. (Summary) **99c:68188** 68R10 (05C10, 68M10)
— (*with* Hemaspaandra, Lane A.; Hempel, Harald) Query order. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 638–652 (*electronic*). (Gerhard Lischke) **99g:68073** 68Q15 (03D10, 03D15, 03D55, 68Q05)
Wedemann, Roseli S. (*with* Barbosa, Valmir C.; Donangelo, Raul) Defeasible time-stepping. (English summary) *Parallel Comput.* **25** (1999), *no.* 4, 461–489. 68U20 (65M06)
Weder, Ricardo Inverse scattering for the nonlinear Schrödinger equation. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 2089–2103. (Summary) **99c:35232** 35Q55 (35R30, 47N20)
— (*with* Werner, Peter) The behaviour of real resonances under perturbation in a semi-strip. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 1, 1–24. (George Dassios) **99b:35117** 35L05 (35P99)
— Multidimensional inverse problems in perturbed stratified media. (English summary) *J. Differential Equations* **152** (1999), *no.* 1, 191–239. (Plamen D. Stefanov) **99k:76133** 76Q05 (34L25, 35R30)
Wedler, Christoph (*with* Lengauer, Christian) On linear list recursion in parallel. (English summary) *Acta Inform.* **35** (1998), *no.* 10, 875–909. 68N15
Wedlin, Attilio On the notion of second-order exchangeability. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 177–194. (Fabio L. Spizzichino) **99a:60037** 60G09 (62A15)
Wedrychowicz, Stanislaw (*with* Gacki, Henryk; Szarek, Tomasz) On existence, and stability of solutions of stochastic integral equations. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 2, 175–189. (Summary) **99d:60072** 60H20 (45G10, 47H40)
Wee, Hui-Ming (*with* Wang, Wan Tsu) A variable production scheduling policy for deteriorating items with time-varying demand. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 3, 237–254. 90B35
— (*with* Mercan, H. Murat) Exponentially decaying inventory with partial back-ordering. (English summary) *Optimal Control Appl. Methods* **20** (1999), *no.* 1, 43–50. 90B05 (93E03)
Wee, In-Suk (*with* Hong, Do-Won) Uniform L^p-approximation for the solutions of functional stochastic differential equations. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 403–410. (Amarjit Budhiraja) **99f:60110** 60H10 (65U05)
— (*with* Hong, Do-Won) Approximation for jump-diffusion processes with non-Lipschitzian coefficients. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 837–845. (V. Mackevičius) **99j:60086** 60H10
Weekes, Suzanne L. The travelling wave scheme for the Navier-Stokes equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1249–1270 (*electronic*). (Lech Slawik) **99e:65119** 65M06 (65C20, 76M25, 76N10)
— (*with* Ewing, Richard E.) Numerical methods for contaminant transport in porous media. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 75–95, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Zhangxin Chen) **99j:76072** 76M10 (65M60, 76S05, 76T05, 86A05)
Weeks, Chris *see* **History of mathematics. Histories of problems, 99m:00001b**
Weeks, E. R. (*with* Urbach, J. S.; Swinney, H. L.) Anomalous diffusion in quasi-geostrophic flow. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 171–197, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 76F20 (76-05, 76U05, 86A05)
Weeks, Jeffrey R. Reconstructing the global topology of the universe from the cosmic microwave background. Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2599–2604. (Summary) **99f:83088** 83F05 (85A40)
— (*with* Hoste, Jim; Thistlethwaite, Morwen) The first 1,701,936 knots. *Math. Intelligencer* **20** (1998), *no.* 4, 33–48. (C. Kearton) **99j:57015** 57M25
— (*with* Cornish, Neil J.) Measuring the shape of the universe. *Notices Amer. Math. Soc.* **45** (1998), *no.* 11, 1463–1471. (Wathek Talebaoui) **99j:83006** 83B05 (83F05)
— (*with* Callahan, Patrick J.; Hildebrand, Martin V.) A census of cusped hyperbolic 3-manifolds. (English summary) With microfiche supplement. *Math. Comp.* **68** (1999), *no.* 225, 321–332. (Colin C. Adams) **99c:57035** 57M50 (57N10)
Weems, Amy (*with* Gardner, Robert Bentley) A Bernstein type L^p inequality for a certain class of polynomials. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 472–478. (Walter Schempp) **99g:41012** 41A17 (30C10)
Weerahandi, S. (*with* Chi, E. M.) Comparing treatments under growth curve models: exact tests using generalized p-values. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 179–189. (Summary) **99f:62074** 62H15 (62J10)
Weerakkody, Govinda J. (*with* Givaruangsawat, Sumalee; Gerard, Patrick D.) Hypothesis testing in two-stage cluster sampling. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 335–344. 62J05 (62F03)
Weerasinghe, Ananda P. N. Singular optimal strategies for investment with transaction costs. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 1312–1330. (Richard H. Stockbridge) **99j:90018** 90A09 (49K45, 60G40)
Weese, Martin (*with* Just, Winfried) ★ Discovering modern set theory. II. (English summary) Set-theoretic tools for every mathematician. Graduate Studies in Mathematics, 18. *American Mathematical Society, Providence, RI*, 1997. xiv+224 *pp. ISBN* 0-8218-0528-2 (J. M. Henle) **99b:03001** 03-01 (03E05, 04-01, 04A20)
Wefelmeyer, Wolfgang Adaptive estimators for parameters of the autoregression function of a Markov chain. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 2, 389–398. (Martin Jacobsen) **99c:62236** 62M05
— (*with* Greenwood, Priscilla E.) Cox's factoring of regression model likelihoods for continuous-time processes. (English summary) *Bernoulli* **4** (1998), *no.* 1, 65–80. (Eric V. Slud) **99i:62232** 62M99 (62N05)
Wegelin, Michael (*with* Oppenländer, Jörg; Tomes, Jörg; Güttinger, Werner; Dangelmayr, Gerhard) Synchronized patterns in hierarchical networks of neuronal oscillators with $\mathbf{D}_3 \times \mathbf{D}_3$ symmetry. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 213–232. (Summary) **99f:92004** 92C15 (34C23)
Wegener, C. B. (*with* Haviar, Miroslav; Konôpka, P.; Priestley, H. A.) Finitely generated free modular ortholattices. I. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2639–2660. (M. J. Mączyński) **99g:06012** 06C15 (06C20, 81P10)
— (*with* Haviar, Miroslav; Konôpka, P.) Finitely generated free modular ortholattices. II. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2661–2679. (M. J. Mączyński) **99g:06013** 06C15 (06C20, 81P10)
Wegener, Ingo (*with* Bollig, Beate) Complexity theoretical results on partitioned (nondeterministic) binary decision diagrams. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 159–168, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:68068** 68Q05 (68Q60, 94C10)
— (*with* Jukna, Stasys; Razborov, A. A.; Savický, Petr) On P versus NP ∩ co-NP for decision trees and read-once branching programs. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 319–326, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68053** 68Q15 (03D15, 68Q05)
— (*with* Bollig, Beate) Completeness and non-completeness results with respect to read-once projections. (English summary) *Inform. and Comput.* **143** (1998), *no.* 1, 24–33. (Christoph Meinel) **99f:68051** 68Q05 (68Q15)
— (*with* Bollig, Beate) A very simple function that requires exponential size read-once branching programs. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 53–57. (Summary) **99b:68062** 68Q05 (68Q15, 68Q25)
— (*with* Löbbing, Martin; Sieling, Detlef) Parity OBDDs cannot be handled efficiently enough. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 4, 163–168. (Summary) **99e:68037** 68Q05 (68Q25)
— (*with* Bollig, Beate; Sauerhoff, Martin; Sieling, Detlef) Hierarchy theorems for kOBDDs and kIBDDs. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 45–60. (Christoph Meinel) **99i:68031** 68Q05 (68Q15)
— (*with* Fischer, Paul; Klasner, Norbert) On the cut-off point for combinatorial group testing. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 83–92. (Summary) **99k:62018** 62C99 (05B05, 62F03)
Wegener, Raimund (*with* Klar, Axel) A hierarchy of models for multilane vehicular traffic. I. Modeling. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 983–1001 (*electronic*). (Summary) **99m:90062** 90B06 (60K30)
— (*with* Klar, Axel) A hierarchy of models for multilane vehicular traffic. II. Numerical investigations. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 1002–1011 (*electronic*). (Summary) **99m:90063** 90B06 (60K30)
Wegenkittl, Stefan (*with* Eichenauer-Herrmann, Jürgen; Herrmann, Eva) A survey of quadratic and inversive congruential pseudorandom numbers. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 66–97, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:11085** 11K45 (65C10)
— Are there hyperbolas in the scatter plots of inversive congruential pseudorandom numbers? (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 117–125. (Genady Lazarevich Margolin) **99g:11096** 11K45 (65C10)
de Weger, Benjamin M. M. S-integral solutions to a Weierstrass equation. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 281–301. (Dimitrios Poulakis) **99d:11027** 11D25 (11J86)
— Solving elliptic Diophantine equations avoiding Thue equations and elliptic logarithms. (English summary) *Experiment. Math.* **7** (1998), *no.* 3, 243–256. (Summary) **99m:11148** 11Y50 (11D25)
— On the fourth-powerfree part of $x^2 + 2$. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 3, 299–310. (Paul M. Voutier) **99k:11045** 11D25 (11J86)
— $A + B = C$ and big Ш's. (English summary) *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 193, 105–128. (Massimo Bertolini) **99j:11065** 11G05 (11G40)
— (*with* Stroeker, Roelof J.) Solving elliptic Diophantine equations: the general cubic case. *Acta Arith.* **87** (1999), *no.* 4, 339–365. (Guillaume Hanrot) **99m:11029** 11D25 (11G05, 11Y50)
— (*with* Stroeker, Roelof J.) Elliptic binomial Diophantine equations. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1257–1281. (Yuri Bilu) **99i:11122** 11Y50 (11D25)
Wegert, Elias (*with* Khimshiashvili, G. N.; Spitkovsky, Ilya M.) Nonlinear transmission problems. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 223–230. (Summary) **99g:47058** 47B35 (30E25)
— Nonlinear transmission problems for holomorphic functions. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 239–244, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (S. Bhargava) **99c:30072** 30E25 (47B35)
Wegkamp, Marten ★ Entropy methods in statistical estimation. (English summary) Dissertation, University of Leiden, Leiden, 1996. CWI Tract, 125. *Stichting Mathematisch Centrum, Centrum voor Wiskunde en Informatica, Amsterdam*, 1998. *ii*+120 *pp. ISBN* 90-6196-483-0 (Summary) **99m:62053** 62G05 (62G20)
— (*with* Helmers, Roelof) Wild bootstrapping in finite populations with auxiliary information. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 383–399. (David Bellhouse) **99m:62014** 62D05 (62G09)
Wegman, Edward J. (*with* Poston, Wendy L.; Solka, Jeffrey L.) D-optimal design methods for robust estimation of multivariate location and scatter. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 205–213. (*see* **99f:62006**) 62H12 (62K99)
Wegner, Bernd *see* **Electronic publishing and electronic publications in mathematics, (99e:00019)**
Wegner, F. J. (*with* Pietig, R.) Low temperature expansion of the gonihedric Ising model. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 549–570. (Summary) **99e:82017** 82B20 (82B26)
Wegner, Peter Interactive foundations of computing. (English summary) Theoretical aspects of coordination languages. *Theoret. Comput. Sci.* **192** (1998), *no.* 2, 315–351. (Robert M. Baer) **99b:68066** 68Q05 (03D10)
Wehausen, J. V. (*with* Bai, K. J.; Dawson, C. W.; Kim, Jang Whan) Stagnation points in flows about solid bodies. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 119–134. (*see* **99k:76006**) 76B15 (76C05, 86A05)
Wehbe, Ali (*with* Rao, Bopeng) Stabilisation frontière de plaques de Kirchhoff avec résolvante non compacte. (English and French summaries) [Boundary stabilization of

Kirchhoff plates with noncompact resolvent] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 7, 591–596. (Summary) **99k:93080** 93D15 (35L70, 35Q72, 73K50, 93C20)

Wehlau, David L. (*with* Bruen, Aiden A.; Haddad, Lucien) Intersection-sets in PG(n, 2). (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 3–11. (György Kiss) **99c:51009** 51E15 (05B25, 51E20, 51E22)

— (*with* Schwarz, Gerald W.) Invariants of four subspaces. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 3, 667–697. (Frank D. Grosshans) **99i:14055** 14L30 (13A50)

— (*with* Bruen, Aiden A.; Haddad, Lucien) Binary codes and caps. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 275–284. (Italo José Dejter) **99i:94062** 94B05 (05B25, 51E20, 51E25)

knutt-Wehlau, Marcia E. *see* **Knutt-Wehlau, Marcia E.**

Wehmeier, Kai F. Fragments of HA based on Σ_1-induction. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 1, 37–49. (Stewart Shapiro) **99a:03062** 03F55 (03F30)

— Aspekte der Frege-Hilbert-Korrespondenz. (English summary) [Aspects of the Frege-Hilbert correspondence] *Hist. Philos. Logic* **18** (1997), *no.* 4, 201–209. (Summary) **99c:01019** 01A60 (01A55, 03–03)

Wehner, T. (*with* Klümper, Andreas; Zittartz, J.) Thermodynamics of the quantum Perk-Schultz model. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1897–1912. (Aleksei P. Isaev) **99b:82014** 82B10 (82B20)

Wehr, Jan (*with* Woo, Jung) Absence of geodesics in first-passage percolation on a half-plane. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 358–367. (Rahul Roy) **99c:60219** 60K35 (82B43)

Wehrfritz, B. A. F. The linearity of wreath products. *Mathematika* **44** (1997), *no.* 2, 357–367. (John D. P. Meldrum) **99b:20052** 20E22 (20G05)

— Periodic normal subgroups of linear groups. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 169–172. (Richard E. Phillips) **99g:20094** 20H20 (20F50)

— Nilpotent-by-finite cofinitary groups. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 351–362. (Brunella Bruno) **99i:20069** 20H25

Wehrheim, Heike (*with* Rensink, Arend) Dependency-based action refinement. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 468–477, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q10 (68Q55, 68Q60)

Wehrung, Friedrich Norm-closed intervals of norm-complete ordered abelian groups. (English summary) *Positivity* **1** (1997), *no.* 3, 271–290. (Boris Lavrič) **99k:46028** 46B40 (06D05, 06F20, 54C30)

— (*with* Ploščica, Miroslav; Tůma, Jiří) Congruence lattices of free lattices in non-distributive varieties. *Colloq. Math.* **76** (1998), *no.* 2, 269–278. (Ivo Düntsch) **99j:06005** 06B10 (06B15, 06B25, 08A05)

— Non-measurability properties of interpolation vector spaces. (English summary) *Israel J. Math.* **103** (1998), 177–206. (S. J. Bernau) **99g:06023** 06F20

— Embedding simple commutative monoids into simple refinement monoids. (English summary) *Semigroup Forum* **56** (1998), *no.* 1, 104–129. (Attila Nagy) **99b:20092** 20M14

— A uniform refinement property for congruence lattices. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 363–370. (N. Prabhakara Rao) **99c:06007** 06A12 (06B10)

Wei, B. *see* **Wei, Bing[1]**

Wei, Bin[2] (*with* Xu, Li Jian; Wan, Bai Wu; Han, Chong Zhao) An improved method of steady-state optimisation control. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 11–17. 93E10 (93A15)

Wei, Bing[1] (*with* Zhu, Yong Jin) A new neighborhood union condition for Hamiltonian graphs. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 479. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 187–192. (R. H. Schelp) **99b:05097** 05C45 (05C38)

— (*with* Tian, Feng[1]) Some new localization theorems on Hamiltonian properties. (English summary) *Australas. J. Combin.* **17** (1998), 61–67. (Summary) **99a:05094** 05C45

— (*with* Zhu, Yong Jin) On the panconnectivity of graphs with large degrees and neighborhood unions. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 263–274. (Akira Saito) **99i:05130** 05C40 (05C38, 05C45)

— (*with* Li, Xiangwen) A neighborhood union condition for pancyclic graphs. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 289–298. (Ralph Faudree) **99i:05124** 05C38

— A short proof of a theorem concerning degree sums and connectivity on Hamiltonian graphs. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 157–159. (Summary) **99h:05081** 05C45 (05C40)

Wei, Bo-Cheng (*with* Zhu, Hong-Tu) Some second order asymptotics in exponential family non-linear regression models (a geometric approach). (English summary) *Austral. J. Statist.* **39** (1997), *no.* 2, 129–148. (Summary) **99m:62091** 62J02 (62F12)

— (*with* Zhu, Hong-Tu) Preferred point α-manifold and Amari's α-connections. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 3, 219–229. (Summary) **99c:62010** 62B10

— ★ Exponential family nonlinear models. (English summary) Lecture Notes in Statistics, 130. *Springer-Verlag Singapore, Singapore*, 1998. $x+230$ *pp. ISBN* 981-3083-29-8 (Célestin C. Kokonendji) **99i:62023** 62E10 (62J02)

— (*with* Zong, Xu Ping) Some asymptotic inference on nonlinear models with random effects (a geometric approach). (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 301–308. (Summary) **99i:62143** 62J02

— (*with* Zong, Xu Ping) Influence analysis on linear models with random effects. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 2, 245–246. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 2, 169–176. 62J20

Wei, Chun Yan A large deviation inequality for sums of independent random variables. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 19–21. 60F10 (60G50)

Wei, Cuiping (*with* Zhang, Zhi Min; Zhou, Hui Shan) The Hadamard product of a positive reciprocal matrix and some results in AHP. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 59–71. 90C29 (15A18, 90A05)

Wei, Dan Boundedness of the Hilbert transform in Banach-valued Hardy spaces. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **19** (1999), *no.* 1, 117–120. 42B30

Wei, Dong (*with* Tian, Jun[1]; Wells, Raymond O., Jr.; Burrus, Charles S.) A new class of biorthogonal wavelet systems for image transform coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 7, 1000–1013. (Summary) **99j:94004** 94A11

— (*with* Bovik, Alan C.) Sampling approximation of smooth functions via generalized coiflets. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1133–1138. (Summary) **99h:94009** 94A11 (42C15)

Wei, Dongming (*with* Lefton, Lew) A priori L^p error estimates for Galerkin approximations to porous medium and fast diffusion equations. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 971–989. (Wojciech Mydlarczyk) **99i:65109** 65M60

Wei, G. *see* **Wei, Guofang**

Wei, G. W. *see* **Wei, Guo Wei[2]**

Wei, Gang (*with* Li, Xiang Wu) Dynamical system identification and its applications using a wavelet network. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 494–500. 93B30 (42C15, 65D99)

Wei, Geng Ping Initial value problems for nonlinear second-order integrodifferential equations. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **16** (1997), *no.* 6, 16–18. (Da Jun Guo) **99f:45011** 45J05

Wei, Guangsheng (*with* Ma, Jianghong; Wang, Kanmin) A comparison between two robust regression estimators by means of robust covariances. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 240. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 207–214. (Summary) **99c:62186** 62J05 (62F35)

Wei, Guo Wei[2] (*with* Zhang, De Sheng; Althorpe, S. C.; Kouri, Donald J.; Hoffman, David K.) Wavelet-distributed approximating functional method for solving the Navier-Stokes equation. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 18–24. (Summary) **99h:76077** 76M25 (65M70, 76D05)

Wei, Guofang (*with* Petersen, Peter, V; Shteingold, S. D.) Comparison geometry with integral curvature bounds. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 6, 1011–1030. (Joseph E. Borzellino) **99c:53022** 53C20 (53C21)

— (*with* Petersen, Peter, V) Relative volume comparison with integral curvature bounds. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 6, 1031–1045. (Joseph E. Borzellino) **99c:53023** 53C20 (53C21)

Wei, He *see* **He, Wei[1]**

Wei, Hong Ru (*with* Wu, Wen Ling) The Ziv-Lempel complexity of finite sequences. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 88–92. (Summary) **99f:94008** 94A29 (94A60)

Wei, Hong Zeng (*with* Zhang, Yi Bin) A formula for the number of solutions to a symmetric matrix equation over a finite field of characteristic $\neq 2$ and its q-hypergeometric series representation. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 783–792. (Jau-Shyong Shiue) **99i:11115** 11T30 (11C20, 33D20)

— (*with* Zhang, Yi Bin) A formula for the number of solutions to a nonsingular symmetric matrix equation over a finite field of odd characteristic. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 49–56. (Zhi Yong Zheng) **99m:11026** 11C20 (11T30, 33D80)

— (*with* Wang, Kaishun) Geometric construction of association schemes from the set of isotropic points in pseudo-symplectic spaces. (English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 2, 225–228. (Summary) **99i:05211** 05E30 (51E20)

Wei, J. *see* **Wei, Juncheng**

Wei, Jia Qun (*with* Zhu, Zuo Tong) Transitive lattice-ordered permutation groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 3, 12–15. (Summary) **99f:06021** 06F15

Wei, Jian Guo (*with* Zhang, Guo Jing) Invariant sub-manifolds and modes of nonlinear autonomous systems. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 7, 687–693; *translated from Appl. Math. Mech.* **19** (1998), *no.* 7, 641–647 (*Chinese. English and Chinese summaries*). 34C30 (70K99)

Wei, Jun Positive definite normal matrices. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 3, 12–14, 16. 15A48

— (*with* Wang, Zhudeng) *TL*-submodules over *TL*-subrings. (English summary) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 36–44. 16Y99

Wei, Jun Chao (*with* Chen, Jian Hua[2]) Liberal extensions and anti-simple primitive radicals. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 5–8. 16D80

— (*with* Chen, Jian Hua[2]) Some results on Hopf-Jacobson radical for comodule algebras. (English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 2, 125–128. (V. A. Artamonov) **99i:16074** 16W30

— Necessary and sufficient conditions for $A\#H^{*\mathrm{rat}}$ to be a prime subdirectly irreducible algebra. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 2, 7–9. (Summary) **99f:16031** 16S40 (16W30)

— (*with* Bei, Shukun; Chen, Jian Hua[2]) Graded singular properties of graded quotient rings. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 131–134. (Andrei Kelarev) **99f:16046** 16W50 (16S90)

— (*with* Cai, Chuan Ren; Fang, Hong Jin) Graded antisimple radicals. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 3, 207–216. (Stefan Veldsman) **99m:16037** 16N80 (16W50)

Wei, Jun Hu (*with* Yang, Gen Ke; Zeng, Jian Chao; Sun, Guo Ji) The uniform description of discrete, continuous and hybrid dynamics Petri nets. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 58–65. 68Q90 (68Q10)

Wei, Juncheng On the effect of domain geometry and boundary geometry in some singular perturbation problems. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 326–339, *Internat. Press, Cambridge, MA*, 199?. (Wen Xiong Chen) **99c:35019** 35B25 (35B40, 35J65)

— (*with* Noussair, Ezzat S.) On the effect of domain geometry on the existence of nodal solutions in singular perturbations problems. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1255–1271. (Kanishka S. Perera) **99e:35011** 35B25 (35J60)

— (*with* Flucher, Martin) Semilinear Dirichlet problem with nearly critical exponent, asymptotic location of hot spots. (English summary) *Manuscripta Math.* **94** (1997), *no.* 3, 337–346. (Tadeusz Pruszko) **99b:35066** 35J65 (35B40)

— (*with* Lu, Guozhen) On nonlinear Schrödinger equations with totally degenerate potentials. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 691–696. (Summary) **99g:35120** 35Q55

— (*with* Noussair, Ezzat S.) On the location of spikes and profile of nodal solutions for a singularly perturbed Neumann problem. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 793–816. (Kanishka S. Perera) **99h:35013** 35B25 (35J65)

— (*with* Ni, Wei-Ming; Takagi, Izumi) On the location and profile of spike-layer solutions to a singularly perturbed semilinear Dirichlet problem: intermediate solutions. *Duke Math. J.* **94** (1998), *no.* 3, 597–618. (Dietrich Göhde) **99h:35011** 35B25 (35J65)

— (*with* Cerami, G.) Multiplicity of multiple interior peak solutions for some singularly perturbed Neumann problems. *Internat. Math. Res. Notices* **1998**, *no.* 12, 601–626. (Andrzej Szulkin) **99j:35063** 35J65 (35B25, 58E05)

— (*with* Winter, Matthias) On the stationary Cahn-Hilliard equation: interior spike solutions. (English summary) *J. Differential Equations* **148** (1998), *no.* 2, 231–267. (Albert J. Milani) **99i:35042** 35J60 (35B25, 47H15, 80A22)

— (*with* Xu, Xingwang) On conformal deformations of metrics on S^n. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 292–325. (David L. Finn) **99e:53057** 53C21 (35J60, 58G30)

— Asymptotic behavior of least energy solutions to a semilinear Dirichlet problem near the critical exponent. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 139–153. (Vasiliy I. Sedenko) **99h:35069** 35J65 (35B40)

— Conditions for two-peaked solutions of singularly perturbed elliptic equations. (English summary) *Manuscripta Math.* **96** (1998), *no.* 1, 113–131. (Dietrich Göhde) **99e:35014** 35B25 (35B40, 35J65)

— (*with* Flucher, Martin) Asymptotic shape and location of small cores in elliptic free-boundary problems. *Math. Z.* **228** (1998), *no.* 4, 683–703. (Mahdi Boukrouche) **99i:35047** 35J65 (35B25, 35R35, 58E05)

— On the interior spike solutions for some singular perturbation problems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 849–874. (Dietrich Göhde) **99h:35012** 35B25 (35J65)

— (*with* Winter, Matthias) On the stationary Cahn-Hilliard equation: bubble solutions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1492–1518 (*electronic*). (Albert J. Milani) **99i:35043** 35J60 (35B25, 47H15, 80A22)

— On the interior spike layer solutions to a singularly perturbed Neumann problem. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 2, 159–178. (Dietrich Göhde) **99g:35016** 35B25 (35J65)

— Point condensations of a model for fungal development. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 2, 129–134. (Summary) **99m:92041** 92D25 (35Q80)

Wei, L. *see* **Wei, Linsheng**

Wei, L. J. *see* **Wei, Lee Jen**

Wei, Laisheng Convergence rates of empirical Bayesian estimation in a class of linear models. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 589–605. (Kun He) **99i:62012** 62C12 (62J05)

Wei, Lee Jen (*with* Cheng, Su Chun; Fine, Jason P.) Prediction of cumulative incidence function under the proportional hazards model. (English and French summaries) *Biometrics* **54** (1998), *no.* 1, 219–228. (Summary) **99a:62148** 62P10 (62N05)

— (*with* Yao, Qing; Hogan, Joseph) Analysis of incomplete repeated measurements with dependent censoring times. (English summary) *Biometrika* **85** (1998), *no.* 1, 139–149. (Summary) **99d:62095** 62P10

Wei, Li Juan (*with* Hu, Guo Quan) Twistings of algebras and coalgebras over bialgebras. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 2, 5–9, 41. (George Szeto) **99k:16081** 16W30

Wei, Linsheng (*with* Probert, R. L.) Testing behaviours of processes based on nondeterministic rippling and environment control. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 389–408 (*electronic*). (*see* **99d:68010**) 68Q10 (68Q55, 68Q60)

Wei, Mu Sheng Suprema of weighted pseudo-inverses. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 74–83. (Summary) **99b:65058** 65F30 (15A09)

— (*with* Gao, Li Xin) An iterative method for simultaneously finding the multiple roots of a polynomial, and its convergence condition. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 2, 16–21. 65H05

— (*with* De Pierro, Alvaro R.) Reverse order law for reflexive generalized inverses of products of matrices. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 299–311. (Shuangzhe Liu) **99e:15002** 15A09 (15A23)

— (*with* Xu, Gui Ping; Zheng, Dao Sheng) On solutions of matrix equation $AXB + CYD = F$. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 93–109. (Anna Lee) **99e:15020** 15A24

— (*with* De Pierro, Alvaro R.) Perturbation analysis of the canonical subspaces. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 135–151. (George D. Poole) **99h:65089** 65F35 (15A21)

— Perturbation theory for the Eckart-Young-Mirsky theorem and the constrained total least squares problem. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 267–287. (Ilse C. F. Ipsen) **99g:65049** 65F20 (15A42)

— Perturbation of the LS and the TLS problems. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 267–278. (Jin Yun Yuan) **99m:65088** 65F30

Wei, Qicai (*with* Zhang, Weihai; Yuan, Fuyu) A Lyapunov-type equation on mean square stability of stochastic systems. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 133–134, 39. 34D20 (34F05)

Wei, Ruizhong (*with* Stinson, Douglas R.) Combinatorial properties and constructions of traceability schemes and frameproof codes. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 41–53 (*electronic*). (Summary) **99e:94038** 94A60

— (*with* Assaf, Ahmed M.) Modified group divisible designs with block size 4 and $\lambda = 1$. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 15–25. (Summary) **99i:05025** 05B05

— (*with* Stinson, Douglas R.) An application of ramp schemes to broadcast encryption. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 131–135. (Summary) **99k:94042** 94A60

Wei, Runyi (*with* Sezer, M. Erol; Ocali, Ogan) Robust adaptive stabilization of a class of systems under structured nonlinear perturbations with application to interconnected systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 183–194. 93D21

Wei, Shi Min (*with* Jun, Young Bae; Roh, Eun Hwan) Fuzzy (∗)-ideals in BCI-algebras. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 437–445. (C. S. Hoo) **99g:06025** 06F35 (03G25, 04A72)

— (*with* Roh, Eun Hwan; Jun, Young Bae) Supplement of the paper: "Some ideals in BCI-algebras" [Math. Japon. **43** (1996), no. 1, 47–50]. (English summary) *Sci. Math.* **1** (1998), *no.* 2, 209–210 (*electronic*). 06F35 (03G25)

— (*with* Jun, Young Bae; Roh, Eun Hwan; Zhu, Yi Quan) Some ideals in BCI-algebras. II. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 147–154. (Summary) **99d:06026** 06F35 (03G25)

Wei, Shugang (*with* Shimizu, Kensuke) Residue arithmetic circuits based on the signed-digit multiple-valued arithmetic circuits. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 276–281, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 68M07

Wei, Su-hua (*with* Zhang, Guan-quan) Stability analysis of absorbing boundary conditions for acoustic wave equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 103–112. (Summary) **99c:65177** 65M15 (35L05, 76M25, 76Q05)

Wei, Victor (*with* Blake, Ian F.; Heegard, Chris; Høholdt, Tom) Algebraic-geometry codes. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2596–2618. (Summary) **99i:94070** 94B27 (14G15, 94–02)

Wei, Wen Zhan Local time for Brownian motion on the Sierpiński gasket. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 3, 379–384. (Rong Wu) **99k:60203** 60J60

— (*with* Li, Ri Guang; Yuan, Chang An) Uniform PL-smoothness for a complex quasi-Banach space and its martingale characterization. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 321–332. (Bor-Luh Lin) **99k:46022** 46B20 (46B09)

— (*with* Hou, You Liang) Banach space valued martingales with respect to complex measure and their inequalities. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 3, 283–287. (Dominique Lépingle) **99k:60115** 60G42

Wei, Xian Sun (*with* Huang, He Jiao; Zhang, Jiang Tao) Edge arboricity decomposition of a finite graph. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 25–28. 05C05

Wei, Xian Zhu Finsler spaces of constant curvature with Kropina metric. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 2, 171–173. (Summary) **99h:53028** 53B40

Wei, Xue Mei (*with* Fu, Chu Li) The existence and uniqueness of a solution to a nonclassical heat equation. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 2, 16–20. (Summary) **99k:35074** 35K05 (35K55)

Wei, Yan Li (*with* Gong, Yu Bin; Wang, Wen Xiang) Numerical calculation of Bessel functions of arbitrary orders with complex arguments. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 171–176. 65D20

Wei, Yi Min Index splitting for the Drazin inverse and the singular linear system. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 115–124. (Summary) **99i:15007** 15A09 (65F20)

— (*with* Chen, Guo Liang[1]) Perturbation analysis for the projection of a point onto an affine set in a Hilbert space. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 405–410. 49K40 (47A05)

— A characterization and representation of the generalized inverse $A^{(2)}_{T,S}$ and its applications. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 87–96. (Ar. Meenakshi) **99g:15006** 15A09

— Expressions for the Drazin inverse of a 2×2 block matrix. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 131–146. (Summary) **99k:15007** 15A09 (65F20)

— (*with* Wang, Guo Rong[1]) Proper splittings for restricted linear equations and the generalized inverse $A^{(2)}_{T,S}$. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 1, 1–13. 65F10 (65F20)

— On the perturbation of the group inverse and oblique projection. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 1, 29–42. (Israel Koltracht) **99m:65078** 65F20 (15A09)

Wei, Yuan-Jun (*with* Caines, Peter E.) Hierarchical hybrid control systems: a lattice-theoretic formulation. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 501–508. (Krzysztof Malinowski) **99j:93004** 93A13 (93C30)

Wei, Yuchuan (*with* Chen, Nanxian) Square wave analysis. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4226–4245. 42C10

— Triangular function analysis. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 6, 37–56. (Charles K. Chui) **99m:42057** 42C15

Wei, Zeng Xin (*with* Birge, John R.; Qi, Liqun) A general approach to convergence properties of some methods for nonsmooth convex optimization. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 141–158. (J. Frédéric Bonnans) **99f:90079** 90C25 (65K05, 90C30)

— (*with* Qi, Liqun; Birge, John R.) A new method for nonsmooth convex optimization. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 157–179. (M. Teboulle) **99k:90166** 90C30 (90C25)

— (*with* Birge, John R.; Qi, Liqun) Convergence analysis of some methods for minimizing a nonsmooth convex function. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 357–383. (Stefan M. Stefanov) **99k:90150** 90C30 (49J52, 90C15)

Wei, Zhenghong (*with* Xu, Bu Gong) Robust stability of systems with any unknown constant delay. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 409–414. 93D09 (93C30)

Wei, Zhong Li Positive solutions of singular boundary value problems for negative exponent Emden-Fowler equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 655–662. 34B15

— Existence of solutions of Sturm-Liouville boundary value problems for nonlinear second order impulsive differential equations in Banach spaces. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 238. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 141–149. (Juan J. Nieto) **99h:34016** 34A37 (34B15, 34G20)

— Monotone iterative technique on boundary value problems for second order impulsive integrodifferential equations of mixed type in Banach spaces. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 539–545. (Alberto Cabada) **99m:45014** 45J05 (34A37, 34K30)

— Solutions of periodic boundary value problems for second order impulsive integrodifferential equations. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 85–90. (Juan J. Nieto) **99m:45015** 45J05 (34A37, 34K30)

— The existence of positive solutions of the nonlinear neutral differential equations in a Banach space. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **15** (1999), *no.* 1, 94–97. 34K30 (34K40)

Wei, Ziyi (*with* Wu, Jun De) The topological structure of subseries convergence. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 84–88. (E. Jürimäe) **99e:46011** 46A45 (40J05)

Weibel, Charles A. (*with* Cortiñas, Guillermo; Geller, Susan C.) The Artinian Berger conjecture. *Math. Z.* **228** (1998), *no.* 3, 569–588. (Reinhold Hübl) **99g:13035** 13N05 (13D03, 14F10)

Weibel, Peter *see* **Rössler, Otto E., 99e:81011**

Weibel, Steven P. (*with* Baillieul, John) Averaging and energy methods for robust open-loop control of mechanical systems. (English summary) *Essays on mathematical robotics (Minneapolis, MN, 1993)*, 203–269, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Andrew D. Lewis) **99h:70037** 70Q05 (34C29, 34H05, 70H05, 93C85)

— (*with* Lehman, Bradley) Moving averages for periodic delay differential and difference equations. (English summary) *Stability and control of time-delay systems*, 158–183, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 34K20 (39A10, 93C30)

— (*with* Baillieul, John) Open-loop oscillatory stabilization of an n-pendulum. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 931–957. (Vimal Singh) **99j:93088** 93D15 (34C15, 70K20, 70Q05)

Weich, Klaus Decision procedures for intuitionistic propositional logic by program extraction. (English summary) *Automated reasoning with analytic tableaux and related methods (Oisterwijk, 1998)*, 292–306, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B20)

Weich, W. $SO_q(3)$-symmetric quantum mechanics. (English summary) *Quantum groups (Karpacz, 1994)*, 561–571, *PWN, Warsaw*, 1995. (Robert Rałowski) **99k:81120** 81R50 (81Q99)

Weichselberger, Kurt (*with* Augustin, Thomas) Analysing Ellsberg's paradox by means of interval-probability. (English summary) *Econometrics in theory and practice*, 291–304, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 90A05

Weickert, Brendan J. Attracting basins for automorphisms of $\mathbf{C}^2$. *Invent. Math.* **132** (1998), *no.* 3, 581–605. (Marco Abate) **99e:32045** 32H50

Weickert, Joachim (*with* Sporring, Jon) Information measures in scale-spaces. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 1051–1058. 94A12

Weidemaier, Peter Existence results in L_p-L_q spaces for second order parabolic equations with inhomogeneous Dirichlet boundary conditions. *Progress in partial differential equations, Vol. 2 (Pont-à-Mousson, 1997)*, 189–200, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (From the text) **99e:35092** 35K20

Weidenbach, Christoph (*with* Jacquemard, Florent; Meyer, Christoph) Unification in extensions of shallow equational theories. (English summary) *Rewriting techniques and applications (Tsukuba, 1998)*, 76–90, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99e:03008** 03B25 (68Q40, 68T15)

Weidenmüller, Hans A. Limitations of physical knowledge. Comment on Erhard Scheibe: "On limitations of physical knowledge" [Philos. Natur. **35** (1998), no. 1, 41–57]. Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 59–64. (*see* **99g:00024**) 00A30 (00A79)

— (*with* Guhr, Thomas; Müller-Groeling, Axel) Random-matrix theories in quantum physics: common concepts. (English summary) *Phys. Rep.* **299** (1998), *no.* 4-6, 189–425. (Summary) **99b:82037** 82B41 (81V05, 81V70)

Weidl, Peter (*with* Guiduli, Barry; Gyárfás, András; Thomassé, Stéphan) 2-partition-transitive tournaments. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 181–196. (J. W. Moon) **99c:05079** 05C20

Weidlich, Wolfgang The modelling concept of sociodynamics. (English summary) *A perspective look at nonlinear media*, 140–162, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (*see* **99d:00025**) 92H10

Weidman, P. D. (*with* Tilley, B. S.) Oblique two-fluid stagnation-point flow. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 2, 205–217. (Summary) **99a:76051** 76D99

Weidmann, Richard On the rank of amalgamated products and product knot groups. *Math. Ann.* **312** (1998), *no.* 4, 761–771. (Julian Petresco) **99k:20052** 20E06 (57M25)

Weiermann, Andreas Sometimes slow growing is fast growing. (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 91–99. (Roman Murawski) **99c:03062** 03D20 (03D55, 03F15)

— A proof of strongly uniform termination for Gödel's T by methods from local predicativity. (English summary) *Arch. Math. Logic* **36** (1997), *no.* 6, 445–460. (John P. Helm) **99c:03080** 03F10 (03B40, 03D55, 03F20)

Weierstrass, Karl Theodor Wilhelm *see* **Dedicated to the memory of Karl Weierstrass, 99i:00034**; **Schubring, Gert, 99j:01014**; **Antolín, Antonio, 99m:01033**; **Moreno Armella, Luis, 99m:01034**; **Ize, Jorge et al., 99m:01036** *and* **Bölling, Reinhard, (99k:01080)**

Weigel, Martin (*with* Janke, Wolfhard) Numerical tests of conjectures of conformal field theory for three-dimensional systems. (English summary) *Ann. Phys.* (8) **7** (1998), *no.* 5-6, 575–579. 82B80 (82B27)

Weigel, Thomas On the profinite completion of arithmetic groups of split type. *Lois d'algèbres et variétés algébriques (Colmar, 1991)*, 79–101, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (Antoine Chambert-Loir) **99d:14049** 14L15

— (*with* Lubotzky, A.) Lattices of minimal covolume in SL_2 over local fields. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 2, 283–333. (B. Sury) **99k:22017** 22E35 (20E42, 20G25)

Weigert, Stefan Baker-Campbell-Hausdorff relation for special unitary groups $SU(N)$. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8739–8749. (J. F. Cornwell) **99c:22011** 22E15 (22E70, 81R05)

— (*with* Amiet, Jean-Pierre) Reconstructing the density matrix of a spin s through Stern-Gerlach measurements. (English summary) *J. Phys. A* **31** (1998), *no.* 31, *L*543–*L*548. (Summary) **99e:81021** 81P15 (81P05)

Weiglhofer, Werner S. Electromagnetic depolarization dyadics and elliptic integrals. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7191–7196. (Summary) **99g:78012** 78A25 (33E05, 73B27)

Weigt, M. A replica approach to products of random matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 951–961. (Alexei Khorunzhy) **99h:82048** 82B44

Weiguny, A. (*with* Wang, Shun Jin; Typel, S.; Wiese, H.) Response of a quantum system to a time-dependent external field and dynamical symmetry of the system. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5585–5598. (Summary) **99c:82045** 82C10

Weihe, Karsten (*with* Müller-Hannemann, Matthias) Improved approximations for minimum cardinality quadrangulations of finite element meshes. (English summary) *Algorithms—ESA '97 (Graz)*, 364–377, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 65N30 (65D15)

— (*with* Möhring, Rolf H.; Müller-Hannemann, Matthias) Mesh refinement via bidirected flows: modeling, complexity, and computational results. (English summary) *J. ACM* **44** (1997), *no.* 3, 395–426. (H. P. Dikshit) **99b:65113** 65M50 (68Q25)

— Maximum (s,t)-flows in planar networks in $\mathcal{O}(|V|\log|V|)$ time. (English summary) 35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 3, 454–475. (Ştefan Ţigan) **99g:90155** 90C35 (05C85, 68R10)

Weihrauch, Klaus (*with* Zheng, Xizhong) Effectiveness of the global modulus of continuity on metric spaces. (English summary) *Category theory and computer science (Santa Margherita Ligure, 1997)*, 210–219, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Summary) **99d:03059** 03F60 (03F65)

— (*with* Hertling, Peter H.) Randomness spaces (extended abstract). (English summary) *Automata, languages and programming (Aalborg, 1998)*, 796–807, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q30 (60B05)

— A refined model of computation for continuous problems. (English summary) *J. Complexity* **14** (1998), *no.* 1, 102–121. (Erich Novak) **99g:65136** 65Y20 (03D80, 03F60, 68Q25)

Weijs, Sander (*with* Heijnen, Petra; van Tilborg, Henk C. A.; Verhoeff, Tom) Some new binary, quasi-cyclic codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1994–1996. 94B15

Weikard, Rudi On second order linear differential equations with inverse square singularities. (English summary) *Differential and integral operators (Regensburg, 1995)*, 315–324, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (From the introduction) **99k:34189** 34L40 (34A30, 34B24, 34E99)

— (*with* Gesztesy, Fritz) A characterization of all elliptic algebro-geometric solutions of the AKNS hierarchy. *Acta Math.* **181** (1998), *no.* 1, 63–108. (Emma Previato) **99k:14052** 14H52 (34L05, 34L40, 35Q53, 58F07)

— (*with* Gesztesy, Fritz) Elliptic algebro-geometric solutions of the KdV and AKNS hierarchies—an analytic approach. (English summary) *Bull. Amer. Math. Soc. (N.S.)* **35** (1998), *no.* 4, 271–317. (Francisco J. Plaza Martín) **99i:58075** 58F07 (14H52, 33E05, 34A55, 34L40, 35Q53)

— On a theorem of Hochstadt. *Math. Ann.* **311** (1998), *no.* 1, 95–105. (Vjacheslav A. Yurko) **99e:34128** 34L40 (30D10, 34A55)

— Picard operators. (English summary) *Math. Nachr.* **195** (1998), 251–266. (L. V. Kritskov) **99j:34122** 34L05 (34A20, 34C28, 34L40, 47E05)

— On Hill's equation with a singular complex-valued potential. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 603–633. (Emma Previato) **99e:34129** 34L40 (34B24, 34C25, 35Q53)

— (*with* Gesztesy, Fritz) Toward a characterization of elliptic solutions of hierarchies of soliton equations. (English summary) *Applied analysis (Baton Rouge, LA, 1996)*, 133–161, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Iskander A. Taimanov) **99k:58090** 58F07 (14H55, 34L05, 34L40, 35Q53)

Weikum, Gerhard (*with* Wodtke, Dirk) A formal foundation for distributed workflow execution based on state charts. (English summary) *Database theory—ICDT '97 (Delphi)*, 230–246, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68127** 68Q60 (68P15, 68Q10)

Weil, André Théorèmes fondamentaux de la théorie des fonctions thêta (d'après des mémoires de Poincaré et Frobenius). [Fundamental theorems of the theory of theta functions (after memoirs by Poincaré and Frobenius)] *Séminaire Bourbaki, Vol. 1, Exp. No. 16*, 91–100, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 14K25 (33E05)

— Séries de Dirichlet et fonctions automorphes. [Dirichlet series and automorphic functions] *Séminaire Bourbaki, Vol. 10, Exp. No. 346*, 547–552, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 11F66 (30B50)

— Variété de Picard et variétés jacobiennes. [Picard variety and Jacobian varieties] *Séminaire Bourbaki, Vol. 2, Exp. No. 72*, 219–226, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 14K05 (14H40)

— Sur la théorie du corps de classes. [On the theory of class groups] *Séminaire Bourbaki, Vol. 2, Exp. No. 83*, 313–315, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 11R37

— Multiplication complexe des fonctions abéliennes. [Complex multiplication of abelian functions] *Séminaire Bourbaki, Vol. 3, Exp. No. 136*, 381–387, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 14K05

— Sur le théorème de Torelli. [On Torelli's theorem] *Séminaire Bourbaki, Vol. 4, Exp. No. 151*, 207–211, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 14H40

— Modules des surfaces de Riemann [MR **23** #A1797]. [Modules of Riemann surfaces] *Séminaire Bourbaki, Vol. 4, Exp. No. 168*, 413–419, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 32G15 (30F60)

— Adèles et groupes algébriques. [Adèles and algebraic groups] *Séminaire Bourbaki, Vol. 5, Exp. No. 186*, 249–257, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 20G30

— Un théorème fondamental de Chern en géométrie riemannienne. [A fundamental theorem of Chern in Riemannian geometry] *Séminaire Bourbaki, Vol. 7, Exp. No. 239*, 273–285, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 53C20

— Fonction zêta et distributions. [Zeta functions and distributions] *Séminaire Bourbaki, Vol. 9, Exp. No. 312*, 523–531, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 11S40 (11M41, 11R42, 46Fxx)

— *see also* **Varadarajan, V. S.**

Weil, Pascal (*with* Lodaya, K.) Series-parallel posets: algebra, automata and languages. (English summary) *STACS 98 (Paris, 1998)*, 555–565, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q68 (68Q10, 68Q45)

— (*with* Guaiana, G.; Meyer, Raphaël; Petit, Antoine) An extension of the wreath product principle for finite Mazurkiewicz traces. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 277–282. (Summary) **99e:68042** 68Q10 (68Q45, 68Q70)

— (*with* Almeida, Jorge) Profinite categories and semidirect products. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 1–50. (P. M. Higgins) **99c:20080** 20M07

Weil, Wolfgang On the mean shape of particle processes. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 4, 890–908. (Ilya S. Molchanov) **99b:60015** 60D05 (52A10, 60G55)

— Mean bodies associated with random closed sets. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 387–412. (Summary) **99b:60016** 60D05 (52A22)

— (*with* Goodey, Paul; Kiderlen, Markus) Section and projection means of convex bodies. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 37–54. (Ilya S. Molchanov) **99d:52004** 52A20 (52A22, 52A39, 60D05)

Weiland, David (*with* Soardi, Paolo M.) Single wavelets in n-dimensions. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 299–315. (Gerlind Plonka) **99k:42067** 42C15 (28A80, 42B10)

Weiland, Siep (*with* Stoorvogel, Anton A.; de Jager, Bram) A behavioral approach to the $\mathscr{H}_\infty$ optimal control problem. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 323–334. (Maria Letizia Corradini) **99c:93039** 93B36 (93A30)

— (*with* Luo, Jian-san; van den Bosch, P. P. J.; Goldenberg, Andrew A.) Design of performance robustness for uncertain linear systems with state and control delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1593–1596. (Summary) **99h:93061** 93C41 (93D09, 93D21)

Weiler, W. (*with* Wittum, Gabriel) Parallel frequency filtering. (English and German summaries) *Computing* **58** (1997), *no.* 4, 303–316. (Summary) **99d:65357** 65N55 (65F50, 65Y05)

Weill, A. (*with* Vozovoi, Lev; Israeli, Moshe) Spectrally accurate solution of nonperiodic differential equations by the Fourier-Gegenbauer method. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1451–1471. (V. M. Krasnopol'sky) **99b:65092** 65L10 (65M70, 65N35, 65T10)

Wein, Joel (*with* Phillips, Cynthia A.; Stein, Clifford) Task scheduling in networks. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 573–598. (Summary) **99k:68020** 68M10 (68M20, 68Q25, 90B12, 90B35)

— (*with* Engels, Daniel W.; Karger, David R.; Kolliopoulos, Stavros G.; Sengupta, Sudipta[2]; Uma, R. N.) Techniques for scheduling with rejection. (English summary) *Algorithms—ESA '98* (*Venice*), 490–501, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 90B35

— (*with* Savelsbergh, Martin W. P.; Uma, R. N.) An experimental study of LP-based approximation algorithms for scheduling problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 453–462, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35 (68M20, 68Q25)

— (*with* Phillips, Cynthia A.; Schulz, Andreas S.; Shmoys, David B.; Stein, Clifford) Improved bounds on relaxations of a parallel machine scheduling problem. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 413–426. (Summary) **99d:90061** 90B35 (68M20, 90C05)

— (*with* Phillips, Cynthia A.; Stein, Clifford) Minimizing average completion time in the presence of release dates. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 199–223. (Johannes Terno) **99e:90051** 90B35 (90C35)

Wein, Lawrence M. (*with* Reiman, Martin I.) Dynamic scheduling of a two-class queue with setups. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 532–547. (Summary) **99d:90053** 90B22

Weinbaum, Sheldon (*with* Feng, Jimmy; Ganatos, P.) The general motion of a circular disk in a Brinkman medium. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2137–2146. (From the summary) **99e:76120** 76S05 (76D99)

Weinberg, Erick J. Massive monopoles and massless monopole clouds. (English summary) *Proceedings of International Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories* (*Seoul*, 1998), 27–62, *Lecture Notes Ser.*, 42, *Seoul Nat. Univ., Seoul*, 1998. (Claus Montonen) **99m:81148** 81T13 (81V22)

— (*with* Yi, Piljin) Explicit multimonopole solutions in SU(N) gauge theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046001, 11 *pp.* (Summary) **99k:81189** 81T13

Weinberg, Louis A new paradigm for graph theory. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 50–55. (*see* **99h:05003**) 05Cxx

Weinberger, Arthur Embedding lattices of fuzzy subalgebras into lattices of crisp subalgebras. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 51–70. (Summary) **99b:08002** 08A99 (06B10)

Weinberger, Hans F. (*with* Duffin, Richard J.) On dualizing a multivariable Poisson summation formula. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 487–497. (Norbert Ortner) **99f:42023** 42B05 (42A16)

— (*with* Schneider, Hans) On matrices for which norm bounds are attained. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 563–577. (J. Parida) **99e:15025** 15A45

— On optimal extrusion dies for rigid-plastic materials. *Quart. Appl. Math.* **56** (1998), *no.* 3, 543–552. (From the introduction) **99f:73042** 73E99 (49J20, 73V25)

Weiner, Michael David Bosonic construction of vertex operator para-algebras from symplectic affine Kac-Moody algebras. (English summary) *Mem. Amer. Math. Soc.* **135** (1998), *no.* 644, *viii*+106 *pp.* (Mirko Primc) **99b:17035** 17B69 (81R10, 81T40)

Weiner, Rüdiger (*with* Eichler-Liebenow, C.; Nguyen Huu Cong; Strehmel, K.) Linearly implicit splitting methods for higher space-dimensional parabolic differential equations. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 259–274. (Summary) **99f:65135** 65M20

— (*with* Podhaisky, H.; Schmitt, Bernhard A.) Numerical experiments with Krylov integrators. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 413–425. (*see* **99e:65002**) 65L05

— (*with* Schmitt, Bernhard A.) Polynomial preconditioning in Krylov-ROW-methods. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 427–437. (Summary) **99f:65106** 65L05

— (*with* Schmitt, Bernhard A.) Equilibrium attractivity of Krylov-W-methods for nonlinear stiff ODEs. (English summary) *BIT* **38** (1998), *no.* 2, 391–414. (Summary) **99k:65054** 65L05

— (*with* Nguyen Huu Cong; Podhaisky, H.) Numerical experiments with some explicit pseudo two-step RK methods on a shared memory computer. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 107–116. (Summary) **99d:65218** 65L06 (65L20)

— (*with* Schmitt, Bernhard A.) Order results for Krylov-W-methods. (English summary) *Computing* **61** (1998), *no.* 1, 69–89. (Summary) **99d:65222** 65L06 (65F10)

— *see also* **Conference: Numerical Treatment of Differential Equations, 99e:65002**

Weinert, Friedel Fundamental physical constants, null experiments and the Duhem-Quine thesis. *Philos. Natur.* **35** (1998), *no.* 2, 225–252. (Lawrence Sklar) **99i:00011** 00A79 (01A60)

— Theories, models and constraints. (English summary) *Stud. Hist. Philos. Sci.* **30** (1999), *no.* 2, 303–333. 00A79

Weinert, H. J. (*with* Ahsan, Javed; Shabir, Muhammad) Characterizations of semirings by P-injective and projective semimodules. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2199–2209. (C. J. Maxson) **99d:16053** 16Y60

Weinfurter, Harald (*with* Kwiat, Paul G.) Embedded Bell-state analysis. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 4, *R*2623–*R*2626. (Summary) **99f:81014** 81P05 (81P15)

— (*with* Żukowski, Marek; Zeilinger, Anton; Horne, Michael A.) Independent photons and entanglement. A short overview. (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 501–517. (*see* **99k:00032**) 81P99

— (*with* Bouwmeester, Dik; Pan, Jian-Wei; Daniell, Matthew; Zeilinger, Anton) Observation of three-photon Greenberger-Horne-Zeilinger entanglement. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 7, 1345–1349. 81P15

Weingard, Robert *see* **Teller, Paul**

Weingart, G. (*with* Kramer, Wolfram; Semmelmann, U.) Quaternionic Killing spinors. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 1, 63–87. (Hans-Bert Rademacher) **99c:53047** 53C25 (58G25)

— (*with* Kramer, Wolfram; Semmelmann, U.) The first eigenvalue of the Dirac operator on quaternionic Kähler manifolds. (English summary) *Comm. Math. Phys.* **199** (1998), *no.* 2, 327–349. (Hans-Bert Rademacher) **99m:58195** 58G25 (53C25)

Weingartner, Cecilia L. (*with* Mckay, Steven M.) Solution of the Sharpe-Lotka population model via a modified method of characteristics. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 161–177. (Summary) **99c:92044** 92D25 (35Q80, 65M25)

Weinstein, Alan Tangential deformation quantization and polarized symplectic groupoids. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 301–314, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Markus J. Pflaum) **99a:58080** 58F06 (58H05)

— Some questions about the index of quantized contact transformations. Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 1–14. (Paolo Lisca) **99h:58188** 58G15 (32F40, 35S30, 53C15, 58G10)

— (*with* Liu, Zhang-Ju; Xu, Ping[1]) Dirac structures and Poisson homogeneous spaces. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 121–144. (Albert Jeu-Liang Sheu) **99g:58053** 58F05 (22A22, 58B20, 58H05)

— Poisson geometry. (English summary) Symplectic geometry. *Differential Geom. Appl.* **9** (1998), *no.* 1-2, 213–238. (Raúl Ibáñez) **99i:58066** 58F05 (53C05, 58H05)

Weinstein, Michael I. (*with* Pego, Robert L.) Convective linear stability of solitary waves for Boussinesq equations. (English summary) *Stud. Appl. Math.* **99** (1997), *no.* 4, 311–375. (Peter L. Christiansen) **99a:35219** 35Q51 (35B35, 35Q35, 76B15, 76D33, 76E15)

— (*with* Soffer, A.) Time dependent resonance theory. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 6, 1086–1128. (Hiroshi Isozaki) **99k:81329** 81U05 (47A55, 47N50, 81Q10)

— (*with* Soffer, A.) Nonautonomous Hamiltonians. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 359–391. (Christian Remling) **99i:81041** 81Q15

Weinstein, Stanley E. (*with* Bogacki, Przemyslaw) Generalized Fréchet distance between curves. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 25–32, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65388** 65Y25 (65D17)

Weinstein, Steven J. (*with* Hoff, Joseph W.; Ross, David S.) Time-dependent equations governing the shape of a three-dimensional liquid curtain. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1815–1818. (Summary) **99e:76016** 76B99 (76B45, 76D33)

Weinstein, Tilla (*with* Lin, Senchun) E^3-complete timelike surfaces in E^3_1 are globally hyperbolic. *Michigan Math. J.* **44** (1997), *no.* 3, 529–541. (Paul E. Ehrlich) **99a:53079** 53C50

Weinstock, Robert Newton's *Principia* and inverse-square orbits in a resisting medium: a spiral of twisted logic. (English, French and German summaries) *Historia Math.* **25** (1998), *no.* 3, 281–289. (Niccolò Guicciardini) **99h:01025** 01A45 (70–03)

Weinzierl, Klaus (*with* Reif, Konrad; Zell, Andreas; Unbehauen, Rolf) Nonlinear feedback stabilization by tangential linearization. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 673–687. 93D15

— (*with* Reif, Konrad; Zell, Andreas; Unbehauen, Rolf) A homotopy approach for nonlinear control synthesis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1311–1318. 93B50 (93B40)

Weir, B. S. (*with* Kaplan, N. L.) The use of linkage disequilibrium for estimating the recombination fraction between a marker and a disease gene. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 207–219, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D20 (92C50, 92D30)

Weis, Lutz (*with* Werner, Dirk) The Daugavet equation for operators not fixing a copy of $C[0, 1]$. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 89–98. (Yu. A. Abramovich) **99b:47049** 47B38 (47B07)

— A short proof for the stability theorem for positive semigroups on $L_p(\mu)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3253–3256. (Summary) **99a:47064** 47D06 (47B38)

Weis, M. (*with* Ambjørn, Jan; Harris, Martin Guy) On the connection between 2d topological gravity and the reduced Hermitian matrix model. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 482–510. (Francois Vanderseypen) **99d:81137** 81T40

Weis, Magnus (*with* Greve, R.; Hutter, Kolumban) Theory of shallow ice shelves. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 1, 15–50. (Summary) **99m:86017** 86A40 (73N20)

Weis, Thomas (*with* Pethö, Attila; Stein, Joachim; Zimmer, Horst G.) Computing the torsion group of elliptic curves by the method of Gröbner bases. *Symbolic rewriting techniques* (*Ascona*, 1995), 245–265, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Joseph H. Silverman) **99e:11071** 11G05 (11Y50, 13P10)

Weisberger, Eytan (*with* Afek, Yehuda) The instancy of snapshots and commuting objects. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 68–105. (Summary) **99j:68035** 68Q10

Weiskopf, Daniel (*with* Rau, René T.; Ruder, Hanns) Special relativity in virtual reality. (English summary) *Mathematical visualization* (*Berlin*, 1997), 269–279, *Springer, Berlin*, 1998. (*see* **99k:65005**) 83A05

Weislogel, Mark M. (*with* Lichter, Seth) Capillary flow in an interior corner. *J. Fluid Mech.* **373** (1998), 349–378. 76B45 (76D45)

Weisman, Morris L. (*with* Davis, Christopher A.) Mechanisms for the generation of mesoscale vortices within quasi-linear convective systems. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 16, 2603–2622. (Summary) **99d:86004** 86A10 (76C05, 76U05)

Weismantel, Robert (*with* Cornuéjols, Gérard; Urbaniak, R.; Wolsey, Laurence A.) Decomposition of integer programs and of generating sets. (English summary) *Algorithms—ESA '97* (*Graz*), 92–103, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 90C10

— (*with* Henk, Martin) Test sets of the knapsack problem and simultaneous Diophantine approximation. (English summary) *Algorithms—ESA '97* (*Graz*), 271–283, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (Summary) **99f:90095** 90C27 (11J13)

— (*with* Grötschel, Martin; Martin, Alexander) The Steiner tree packing problem in VLSI design. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 265–281. (Ulrich Faigle) **99c:90093** 90C27 (68Q35)

— (*with* Henk, Martin) The height of minimal Hilbert bases. (English summary) *Results Math.* **32** (1997), *no.* 3-4, 298–303. (Dimitrios I. Dais) **99a:52013** 52B20 (11P21)

— Test sets of integer programs. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 1, 1–37. (Paulo Barcia) **99c:90082** 90C10 (13P10, 90C05, 90C09)

— (*with* Ferreira, Carlos E.; Martin, Alexander; de Souza, C. C.; Wolsey, Laurence A.) The node capacitated graph partitioning problem: a computational study. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 229–256. (Summary) **99b:90146** 90C35 (05C90)

— (*with* Pochet, Y.) The sequential knapsack polytope. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 248–264 (*electronic*). (Guntram Scheithauer) **99d:90093** 90C27 (90C10)

Weispfenning, Volker A new approach to quantifier elimination for real algebra. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 376–392, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 03C10 (03C60, 03C62, 12D15, 13P10)

— (*with* Dolzmann, Andreas; Sturm, Thomas) A new approach for automatic theorem proving in real geometry. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 357–380. (Summary) **99m:03021** 03B35 (03C10, 51M99, 68T15)

— (*with* Dolzmann, Andreas; Sturm, Thomas) Real quantifier elimination in practice. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 221–247, *Springer, Berlin*, 1999. (Carlo Toffalori) **99m:13051** 13P99 (03C10, 03D15, 68Q15)

— *see also* **Symbolic rewriting techniques, 99a:68014**

Weiss, Alfred R. (*with* Gruenberg, Karl W.; Ritter, Jürgen) On Chinburg's root number conjecture. *Jahresber. Deutsch. Math.-Verein.* **100** (1998), *no.* 1, 36–44. (Nigel Byott) **99a:11128** 11R33 (11R42, 19A31)

Weiss, B. *see* **Weiss, Benjamin**

Weiss, Barak Finite-dimensional representations and subgroup actions on homogeneous spaces. (English summary) *Israel J. Math.* **106** (1998), 189–207. (Scot Adams) **99g:22017** 22E47

Weiss, Benjamin (*with* Furman, Alex) On the ergodic properties of Cartan flows in ergodic actions of $SL_2(\mathbf{R})$ and $SO(n, 1)$. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1371–1382. (Alexander Starkov) **99a:58105** 58F11 (22D40, 58F15)

— (*with* Glasner, Eli) Kazhdan's property T and the geometry of the collection of invariant measures. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 5, 917–935. (Alain Valette) **99f:28029** 28D15 (22D40, 47A35, 54H15)

— Multiple recurrence and doubly minimal systems. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 189–196, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Douglas P. Dokken) **99a:28018** 28D05 (54H20)

— (*with* Mozes, Shahar) Minimality and unique ergodicity for subgroup actions. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 5, 1533–1541. (Scot Adams) **99j:22007** 22D40 (22E40, 58F11)

— (*with* Ornstein, Donald) On the Bernoulli nature of systems with some hyperbolic structure. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 441–456. (Jérôme Buzzi) **99c:58096** 58F11 (58F15)

— (*with* Eigen, Stanley; Hajian, Arshag) Borel automorphisms with no finite invariant measure. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3619–3623. (Mahendra G. Nadkarni) **99b:28024** 28D99

Weiss, Bernhard Anti-realism, truth-value links and tensed truth predicates. (English summary) *Mind* **105** (1996), *no.* 420, 577–602. (Mohamed Amer) **99d:03025** 03B65 (03A05, 03B45)

— Proof and canonical proof. (English summary) *Synthese* **113** (1997), *no.* 2, 265–284. (Anthony M. Ungar) **99m:03010** 03A05 (00A30)

Weiss, Edwin ★ Algebraic number theory. (English summary) Reprint of the 1963 original. *Dover Publications, Inc., Mineola, NY*, 1998. *x*+275 *pp. ISBN* 0-486-40189-8 (Editors) **99c:11129** 11Rxx (11–01)

Weiss, Georg S. Structural properties of a semilinear parabolic equation with free boundary—regularity of singular lines. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 189–197, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35R35 (35B05, 35K55)

— Partial regularity for weak solutions of an elliptic free boundary problem. *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 439–455. (Mahdi Boukrouche) **99d:35188** 35R35 (35D10, 35J15, 49N60)

Weiss, George (*with* Weiss, Martin) Optimal control of stable weakly regular linear systems. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 4, 287–330. (Summary) **99h:49037** 49K27 (49N35, 93C25)

— (*with* Zwart, H. J.) An example in linear quadratic optimal control. (English summary) *Systems Control Lett.* **33** (1998), *no.* 5, 339–349. (Olof J. Staffans) **99c:49035** 49N10 (49K27, 93B28)

Weiss, Gideon (*with* Levikson, Benny; Rolski, Tomasz) On a Poisson hyperbolic staircase. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 11–31. (J. Hüsler) **99k:60122** 60G55 (60G70)

Weiss, Guido (*with* Frazier, Michael W.; Garrigós, Gustavo; Wang, Kunchuan) A characterization of functions that generate wavelet and related expansion. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 883–906. (Eugenio Hernández) **99c:42058** 42C15

— The characterization of wavelets and related functions on $\mathbf{R}^n$. *Functional analysis. V, Vol. I* (*Dubrovnik*, 1997), 113–126, *Various Publ. Ser.*, 44, *Univ. Aarhus, Aarhus*, 1998. (R. A. Zalik) **99m:42058** 42C15

— (*with* Christ, Michael; Kenig, Carlos E.; Sadosky, Cora) Alberto Pedro Calderón (1920–1998). *Notices Amer. Math. Soc.* **45** (1998), *no.* 9, 1148–1153. (Editors) **99k:01054** 01A70

Weiss, Gunter[2] (*with* Henking, Andreas; von Haeseler, Arndt) Distribution of pairwise differences in growing populations. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 81–95, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D15

Weiss, Howard N. (*with* Long, Lyle N.) The velocity dependence of aerodynamic drag: a primer for mathematicians. *Amer. Math. Monthly* **106** (1999), *no.* 2, 127–135. 76G25

Weiss, Jeffrey B. (*with* Provenzale, Antonello; McWilliams, James C.) Lagrangian dynamics in high-dimensional point-vortex systems. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1929–1941. (Summary) **99d:76053** 76F99 (76C05, 76M35)

Weiss, Martin (*with* Weiss, George) Optimal control of stable weakly regular linear systems. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 4, 287–330. (Summary) **99h:49037** 49K27 (49N35, 93C25)

Weiss, Michael S. (*with* Williams, Bruce) Duality in Waldhausen categories. (English summary) *Forum Math.* **10** (1998), *no.* 5, 533–603. (A. A. Ranicki) **99g:19002** 19D10 (57N65, 57R65)

Weiss, Robert E. (*with* Cho, Meehyung) Bayesian marginal influence assessment. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 163–177. (Summary) **99f:62044** 62F15 (62J05)

Weiss, Rüdiger Mathematik und mathematische Werkzeuge, Wechselwirkungen—Fallstudien aus der Geschichte. [Mathematics and mathematical tools, interactions—case studies from history] *Überblicke Mathematik* 1998, 55–65, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99a:00018**) 00A69 (01A99)

— (*with* Rozložník, Miroslav) On the stable implementation of the generalized minimal error method. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 49–62. (Summary) **99g:65042** 65F10

— (*with* Häfner, Hartmut; Schönauer, Willi) Overview on solvers for linear equations. (English summary) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 154–161. (*see* **99i:00028**) 65F10 (65–02)

— *see also* **Iterative methods and preconditioners, 99m:65005**

Weiss, Tomasz (*with* Di Biase, Fausto; Stokolos, A. M.; Svensson, Olof) Tangential boundary behaviour of bounded harmonic functions in the unit disc. (English summary) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 63–68, *Univ. Stud. Bologna, Bologna*, 1998. (Hiroaki Aikawa) **99f:31005** 31A20

— (*with* Nowik, Andrzej; Scheepers, Marion) The algebraic sum of sets of real numbers with strong measure zero sets. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 301–324. (D. H. Fremlin) **99c:54049** 54H05 (03E20, 28A12)

Weiß, Viola (*with* Favis, Wassilis) Mean values of weighted cells of stationary Poisson hyperplane tessellations of $\mathbf{R}^d$. (English summary) *Math. Nachr.* **193** (1998), 37–48. (Rodney Coleman) **99f:60021** 60D05

Weiss, Wolf *see* **Müller, Ingo, 99h:80001**

Weissauer, R. (*with* Borcherds, Richard Ewen; Freitag, E.) A Siegel cusp form of degree 12 and weight 12. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 141–153. (Rainer Schulze-Pillot) **99d:11047** 11F46 (11E45, 11F27)

Weiße, J. (*with* Mund, Patrick; Stephan, Ernst P.) Two-level methods for the single layer potential in $\mathbf{R}^3$. (English summary) *Computing* **60** (1998), *no.* 3, 243–266. (Summary) **99b:65157** 65N38 (65N55)

Weißenfels, Gerhard (*with* Gräf, Albert; Stumpf, M.) On coloring unit disk graphs. (English summary) *Algorithmica* **20** (1998), *no.* 3, 277–293. (Summary) **99a:68134** 68R10 (05C15, 05C85, 68Q25)

— (*with* Malesińska, Ewa; Piskorz, Steffen) On the chromatic number of disk graphs. (English summary) *Networks* **32** (1998), *no.* 1, 13–22. (Summary) **99e:05052** 05C15 (90B12, 94A05)

Weissler, Fred B. (*with* Iaia, Joseph A.; Warchall, Henry A.) Localized solutions of sublinear elliptic equations: loitering at the hilltop. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1131–1157. (Summary) **99e:35148** 35L70 (34B15, 35B05, 35J60)

— (*with* Helffer, Bernard) On a family of solutions of the second Painlevé equation related to superconductivity. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 223–243. (J. R. Ockendon) **99i:82040** 82D55 (34A34, 34B15)
— (*with* Cazenave, Thierry) Asymptotically self-similar global solutions of the nonlinear Schrödinger and heat equations. *Math. Z.* **228** (1998), *no.* 1, 83–120. (Elaine Machtyngier) **99d:35149** 35Q55 (35B60, 47D06)
— (*with* Cazenave, Thierry) More self-similar solutions of the nonlinear Schrödinger equation. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 355–365. (Yun Mei Chen) **99f:35185** 35Q55 (35D05)
Weissman, Ishay (*with* Novak, S. Yu.) On the joint limiting distribution of the first and the second maxima. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 311–318. (Toshio Mori) **99f:60096** 60G70 (60F05)
— (*with* Novak, S. Yu.) On blocks and runs estimators of the extremal index. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 281–288. (Edgar Kaufmann) **99h:62015** 62E20 (60G70)
Weisz, Ferenc Cesàro summability of one- and two-dimensional Walsh-Fourier series. (Russian summary) *Anal. Math.* **22** (1996), *no.* 3, 229–242. (Sergei F. Lukomskiĭ) **99e:42009** 42A32 (42B08)
— Strong summability of two-dimensional trigonometric-Fourier series. (English summary) *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 391–406. (S. Baron) **99c:42016** 42B08 (40F05, 40G05)
— Some maximal inequalities with respect to two-parameter dyadic derivative and Cesàro summability. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 223–238. (Summary) **99c:42053** 42C10 (42B30, 43A75, 60G42)
— (*with* Simon, Péter) Paley type inequalities for Vilenkin-Fourier coefficients. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 107–124. (Toshiyuki Kitada) **99c:42050** 42C10 (43A70, 60G42)
— Inequalities and duality results with respect to two-parameter strong martingales. (Russian summary) *Anal. Math.* **23** (1997), *no.* 1, 45–75. (Peter Imkeller) **99c:60097** 60G42 (42B30, 60G46, 60G60)
— Cesàro summability of one- and two-dimensional trigonometric-Fourier series. (English summary) *Colloq. Math.* **74** (1997), *no.* 1, 123–133. (Weiyi Su) **99e:42008** 42A24 (42B30)
— (*with* Simon, Péter) Hardy type inequalities for two-parameter Vilenkin-Fourier coefficients. (English summary) *Studia Math.* **125** (1997), *no.* 3, 231–246. (W. R. Wade) **99a:42018** 42C10
— Bounded operators on weak Hardy spaces and applications. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 3, 249–264. (Summary) **99f:42045** 42B30 (47B38)
— Martingale Hardy spaces and the dyadic derivative. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 1, 59–77. (W. R. Wade) **99c:42054** 42C10
— (*with* Simon, Péter) Hardy-Littlewood type inequalities for Vilenkin-Fourier coefficients. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 2, 131–150. (W. R. Wade) **99c:42051** 42C10
— The maximal Cesàro operator on Hardy spaces. (English summary) *Analysis (Munich)* **18** (1998), *no.* 2, 157–166. (William T. Sledd) **99g:42003** 42A24 (42B08, 42B30)
— Riemann summability of multi-dimensional trigonometric-Fourier series. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 64–74. (Summary) **99h:42020** 42B05 (42B20)
— The maximal Fejér operator of multi-dimensional Fourier transforms. (English summary) *East J. Approx.* **4** (1998), *no.* 4, 491–503. (Javier Duoandikoetxea) **99m:42020** 42B10
— Uniqueness of two-parameter dyadic martingales and Walsh-Fourier series. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 131–140. (Sergei F. Lukomskiĭ) **99c:42076** 42C25 (42C10, 60G42)
— Weak martingale Hardy spaces. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 133–148 (19*N*). (Mario Milman) **99h:60092** 60G46 (42B30, 46E30, 46M35, 60E15)
— (C, α) means of d-dimensional trigonometric-Fourier series. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 705–720. (Elijah Liflyand) **99d:42018** 42B08 (42B30)
Weit, Yitzhak (*with* Ben Natan, Yaakov) Integrable harmonic functions on $\mathbf{R}^n$. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 471–477. (A. Korányi) **99c:31009** 31B05 (42B10)
— (*with* Ben Natan, Yaakov) Integrable harmonic functions on symmetric spaces of rank one. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 1, 141–149. (Fu Liu Zhu) **99k:43010** 43A85 (22E30, 43A45)
Weitsman, Allen (*with* Bhattacharya, Tilak) Bounds for capacities in terms of asymmetry. *Rev. Mat. Iberoamericana* **12** (1996), *no.* 3, 593–639. (J. Král) **99c:31004** 31A15 (31B15, 31C15)
— (*with* Fryntov, A. E.; Rossi, John) Circular means of fine Green's functions and the longest arc relation. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 211–224. (Summary) **99m:31001** 31A05 (31A15)
— On the Fourier coefficients of homeomorphisms of the circle. *Math. Res. Lett.* **5** (1998), *no.* 3, 383–390. (P. L. Duren) **99h:31003** 31A05 (30C70, 42A16)
— (*with* Bhattacharya, Tilak) Some estimates for the symmetrized first eigenfunction of the Laplacian. (English summary) *Potential Anal.* **9** (1998), *no.* 2, 143–172. (Vitaly A. Volpert) **99j:35154** 35P15 (35J05)
— (*with* Bhattacharya, Tilak) Estimates for Green's function in terms of asymmetry. (English summary) *Applied analysis (Baton Rouge, LA, 1996)*, 31–58, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Peter W. Day) **99j:31002** 31A05 (30C20)
— A counterexample to uniqueness in the Riemann mapping theorem for univalent harmonic mappings. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 87–89. (D. A. Brannan) **99k:31001** 31A05 (30C45)
Weitsman, Jonathan Geometry of the intersection ring of the moduli space of flat connections and the conjectures of Newstead and Witten. (English summary) *Topology* **37** (1998), *no.* 1, 115–132. (Jonathan A. Poritz) **99m:57030** 57R57 (14D20, 58D29)
Weitzman, Martin L. The Noah's ark problem. (English summary) *Econometrica* **66** (1998), *no.* 6, 1279–1298. (Summary) **99g:90036** 90A30 (92D40)
Weitzner, Harold Conditions for the existence of steady state stellarators. (English summary) *Phys. Plasmas* **5** (1998), *no.* 2, 417–432. (Zensho Yoshida) **99a:76169** 76X05 (76W05)
— (*with* Pfirsch, Dieter) Nonperiodicity in space of the magnetic moment series. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 420–423. (Summary) **99h:76098** 76X05
Weiyao, Zeng *see* **Zeng, Wei Yao**
von Weizsäcker, Heinrich (*with* Scheffel, P.) On risk rates and large deviations in finite Markov chain experiments. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 3, 293–312. (Arnold Janssen) **99a:62009** 62B15 (60F10, 60J10)
— Sudakov's typical marginals, random linear functionals and a conditional central limit theorem. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 3, 313–324. (A. V. Uglanov) **99c:60006** 60B11 (28C20, 60F05)
— (*with* Krob, J.) On the rate of information gain in experiments with a finite parameter set. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 281–294. (I. Vajda) **99f:62015** 62B10 (94A17)
— (*with* Scheutzow, Michael K. R.) Which moments of a logarithmic derivative imply quasiinvariance? (English summary) *Doc. Math.* **3** (1998), 261–272 (*electronic*). (Eddy Mayer-Wolf) **99i:60093** 60G30 (28C99, 28D10)
Welch, Lawrence (*with* Kalantari, Iraj) Point-free topological spaces, functions and recursive points; filter foundation for recursive analysis. I. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 125–151. (Summary) **99d:03041** 03D45 (03C57, 03D80, 54A20)
Welch, Philip David (*with* Steel, John R.) Σ^1_3 absoluteness and the second uniform indiscernible. (English summary) *Israel J. Math.* **104** (1998), 157–190. (Ralf-Dieter Schindler) **99d:03044** 03E45 (03E15)
Welch, William J. (*with* Abt, Markus) Fisher information and maximum-likelihood estimation of covariance parameters in Gaussian stochastic processes. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 127–137. (Summary) **99b:62127** 62M09 (62B10, 62F10)
— (*with* Jones, Donald R.; Schonlau, Matthias) Efficient global optimization of expensive black-box functions. (English summary) Workshop on Global Optimization (Trier, 1997). *J. Global Optim.* **13** (1998), *no.* 4, 455–492. (*see* **99k:90005**) 90C26 (90C30)
Welcome, Michael L. (*with* Almgren, Ann S.; Bell, John B.; Colella, Phillip; Howell, Louis H.) A conservative adaptive projection method for the variable density incompressible Navier-Stokes equations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 1–46. (Jian Guo Liu) **99k:76096** 76M20
— (*with* Sussman, Mark; Almgren, Ann S.; Bell, John B.; Colella, Phillip; Howell, Louis H.) An adaptive level set approach for incompressible two-phase flows. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 81–124. (Małgorzata Peszyńska) **99m:76098** 76M25 (76T05)
Weldon, H. Arthur Finite temperature field theory. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields (Mérida, 1996)*, 409–436, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99f:81211** 81T99 (76X05, 81V05, 81V15)
— Finite-temperature retarded and advanced fields. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 467–490. (Summary) **99h:81139** 81T15
Welfert, B. (*with* Jackiewicz, Z.; Owren, Brynjulf) Pseudospectra of waveform relaxation operators. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 67–85. (Summary) **99g:65086** 65L60
— (*with* Burrage, Kevin; Jackiewicz, Z.) Block-Toeplitz preconditioning for static and dynamic linear systems. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 51–74. (Summary) **99d:65204** 65L05
Welker, Volkmar (*with* Herzog, Jürgen; Reiner, Victor) The Koszul property in affine semigroup rings. (English summary) *Pacific J. Math.* **186** (1998), *no.* 1, 39–65. (Ralf Fröberg) **99j:13010** 13D03 (05E25)
Welland, Grant (*with* Zhao, Shiying; Wang, Ge) Wavelet sampling and localization schemes for the Radon transform in two dimensions. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1749–1762. (Dominikus Noll) **99i:44003** 44A12 (42C15, 92C55, 94A12)
Wellek, S. Testing for absence of qualitative interactions between risk factors and treatment effects. (English summary) *Biometrical J.* **39** (1997), *no.* 7, 809–821. (Summary) **99c:62285** 62P10
Weller, Steven R. (*with* Goodwin, Graham C.) Controller design for partial decoupling of linear multivariable systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 535–556. 93B51
— Comments on: "Zeros of discretized continuous systems expressed in the Euler operator—an asymptotic analysis" [IEEE Trans. Automat. Control **40** (1995), no. 4, 743–747] by A. Tesfaye and M. Tomizuka. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1308–1310. 93B60
— Limiting zeros of decouplable MIMO systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 129–134. 93C55 (93B36)
— *see also* **Tesfaye, Addisu**
Welling, Max (*with* Matschull, Hans-Jürgen) Quantum mechanics of a point particle in $(2+1)$-dimensional gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 2981–3030. (Alexander N. Petrov) **99j:83040** 83C47 (81S30)
— Explicit solutions for point particles and black holes in spaces of constant curvature in $(2+1)$-D gravity. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 436–452. (Jonathan M. Kress) **99k:83089** 83C57 (83C15)
Wellman, Michael P. (*with* Pennock, David M.) Toward a market model for Bayesian inference. (English summary) *Uncertainty in artificial intelligence (Portland, OR, 1996)*, 405–413, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99a:90016** 90A05 (90A14, 90A80)
Wellman, R. (*with* Everitt, W. N.; Kwon, Kil Hyun; Littlejohn, Lance L.) On the spectral analysis of the Laguerre polynomials $\{L_n^{-k}(x)\}$ for positive integers k. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN, 1996)*, 251–283, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (Hans W. Volkmer) **99b:33016** 33C45 (34B30, 34L10, 34L40, 47E05)
Wellner, Jon A. (*with* Huang, Jian[1]) Regression models with interval censoring. (English summary) *Probability theory and mathematical statistics (St. Petersburg, 1993)*, 269–296, *Gordon and Breach, Amsterdam*, 1996. (Summary) **99i:62066** 62G05 (62N05)
— (*with* Giné, Evarist) Uniform convergence in some limit theorems for multiple particle systems. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 1, 47–72. (Luis G.

Gorostiza) **99c:60042** 60F05 (60F17, 60J65, 60J70, 60K35)
— (*with* Bickel, Peter J.; Klaassen, Chris A. J.; Ritov, Ya'acov) ★ Efficient and adaptive estimation for semiparametric models. (English summary) Reprint of the 1993 original. *Springer-Verlag, New York*, 1998. *xxii*+560 *pp. ISBN* 0-387-98473-9 (Editors) **99c:62076** 62G05 (62F10, 62F12, 62G20)
— (*with* Mizera, Ivan) Necessary and sufficient conditions for weak consistency of the median of independent but not identically distributed random variables. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 672–691. (Gutti J. Babu) **99d:62020** 62F12 (62E20)
Wells, Charles E. (*with* De, Prabuddha; Dunne, James E.; Ghosh, Jay B.) Complexity of the discrete time-cost tradeoff problem for project networks. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 302–306. (Summary) **99f:90183** 90C60 (68Q25, 90C35)
Wells, Jim (*with* Alzer, Horst) Inequalities for the polygamma functions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1459–1466 (*electronic*). (Aurelio Cannizzo) **99k:33003** 33B15 (26D07)
Wells, John C.[2] Calculating the impulse and angular impulse of image vorticity by integrals over free vorticity. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 2791–2809. (Summary) **99g:76025** 76C05
Wells, Martin T. (*with* Wang, Weijing) Nonparametric estimators of the bivariate survival function under simplified censoring conditions. (English summary) *Biometrika* **84** (1997), *no.* 4, 863–880. (Shaw-Hwa Lo) **99h:62042** 62G05 (62N05)
— (*with* Strawderman, Robert L.) Accurate bootstrap confidence limits for the cumulative hazard and survivor functions under random censoring. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1356–1374. (Lajos Horváth) **99f:62068** 62G20 (62G09, 62N05)
— (*with* Fourdrinier, Dominique; Strawderman, William E.) On the construction of Bayes minimax estimators. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 660–671. (N. Giri) **99e:62102** 62H12 (62C10, 62C20)
— (*with* Wang, Weijing) Nonparametric estimation of successive duration times under dependent censoring. (English summary) *Biometrika* **85** (1998), *no.* 3, 561–572. (Summary) **99m:62052** 62G05
— (*with* Fourdrinier, Dominique; Strawderman, William E.) Estimation robuste pour des lois à symétrie elliptique à matrice de covariance inconnue. (English and French summaries) [Robust estimation for elliptically symmetric distributions with unknown covariance matrix] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1135–1140. (P. Laurie Davies) **99m:62084** 62H12 (62C15, 62F35)
— (*with* Strawderman, Robert L.) Approximately exact inference for the common odds ratio in several 2×2 tables. (English summary) With discussion and a reply by the authors. *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1294–1320. (Summary) **99i:62044** 62F10 (62H17)
Wells, Raymond O., Jr. (*with* Wei, Dong; Tian, Jun[1]; Burrus, Charles S.) A new class of biorthogonal wavelet systems for image transform coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 7, 1000–1013. (Summary) **99j:94004** 94A11
Wellstein, Hartmut Eine Zählformel für Dreiecke. (German summary) [A counting formula for triangles] *Elem. Math.* **52** (1997), *no.* 4, 169–172. (H. W. Guggenheimer) **99c:51026** 51M04
Welsh, Alan H. (*with* Richardson, A. M.) Approaches to the robust estimation of mixed models. *Robust inference*, 343–384, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62J05 (62F35)
— (*with* Breusch, T. S.; Robertson, J. C.) The emperor's new clothes: a critique of the multivariate *t* regression model. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 269–286. (Xuming He) **99a:62087** 62J05 (62F35)
— (*with* Carroll, Raymond J.; Ruppert, David) Local estimating equations. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 214–227. (Summary) **99c:62171** 62J02 (62G05)
Welsh, Dominic Knots. (English summary) *Graph connections*, 176–193, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 57M25 (05C10)
Welsh, Stewart C. A remark on real parameter global bifurcation. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 3, 199–211. (Vesa Mustonen) **99d:47062** 47H12 (58E07)
— One-parameter global bifurcation in a multiparameter problem. (English summary) *Colloq. Math.* **77** (1998), *no.* 1, 85–96. (Summary) **99i:58031** 58E07 (47H15)
Welsh, Trevor A. (*with* Foda, Omar; Lee, Keith S. M.) A Burge tree of Virasoro-type polynomial identities. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 29, 4967–5012. (Anne Schilling) **99k:17047** 17B68 (05A19, 11P99, 81R10)
— (*with* Foda, Omar; Leclerc, Bernard; Okado, Masato; Thibon, Jean-Yves) RSOS models and Jantzen-Seitz representations of Hecke algebras at roots of unity. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 31–42. (Summary) **99a:20007** 20C30 (17B10)
Welters, Gerald E. Selmer groups and Picard groups. (English summary) *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 1, 33–56. (D. Poulakis (Zbl 893.11021)) **99c:11070** 11G05 (14C22)
— Abelian varieties and the class invariant homomorphism. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 2, 403–412. (Antoine Chambert-Loir) **99m:14080** 14K15 (11G10, 14C22, 14L15)
Welzl, Emo (*with* Kettner, Lutz) Contour edge analysis for polyhedron projections. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 379–394, *Focus Comput. Graph., Springer, Berlin*, 1997. (*see* **99d:65003**) 65Y25 (52B70)
— (*with* Blömer, Johannes; Karp, Richard M.) The rank of sparse random matrices over finite fields. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 4, 407–419. (Jack W. Silverstein) **99b:15028** 15A52 (15A03)
— (*with* Schwarzkopf, Otfried; Fuchs, Ulrich; Rote, Günter) Approximation of convex figures by pairs of rectangles. (English summary) *Comput. Geom.* **10** (1998), *no.* 2, 77–87. (Summary) **99a:52019** 52B55 (52A27, 68U05)
— (*with* Agarwal, Pankaj K.; Sharir, Micha) The discrete 2-center problem. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 287–305. (Evangelos Kranakis) **99i:68117** 68U05 (52B55)
— (*with* Andrzejak, Artur) Halving point sets. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 471–478 (*electronic*). (Jesús A. de Loera) **99h:52020** 52C10 (52B05, 68U05)
Wen, Changyun Robust adaptive tracking using the internal model principle. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 127–140. 93B36 (93D15)
— (*with* Hill, David J.) Decentralized adaptive linear control of complex systems using relative deadzones. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 519–531. (Summary) **99f:93089** 93C40 (93A14, 93D15)
— (*with* Chen, Yangquan; Sun, Mingxuan) A robust high-order P-type iterative learning controller using current iteration tracking error. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 331–342. 93E35 (93E03)
— (*with* Chen, Yangquan; Gong, Zhiming) Analysis of a high-order iterative learning control algorithm for uncertain nonlinear systems with state delays. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 345–353. (Summary) **99a:93034** 93B40 (93C40)
— Robust adaptive control of proper systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1579–1584. (Summary) **99i:93038** 93C40 (93D21)
— (*with* Chen, Yangquan; Gong, Zhiming; Sun, Mingxuan) An iterative learning controller with initial state learning. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 371–376. 93E35 (93C41)
Wen, Cheng (*with* Fong, I-Kong) H_∞-norm performance robustness analysis of a linear parametric uncertain system. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 2, 203–209. (Summary) **99c:93040** 93B36 (93C41)
Wen, Chenglin (*with* Liu, Xianxing) Constitution of Hamiltonian function and solution of optimal control of a sort of performance index. (English summary) *Chinese Quart. J. Math.* **13** (1998), *no.* 2, 97–102. 49K15 (49L20)
Wen, Chuanyuan (*with* Yuan, Zhiguo; Vansteenkiste, Ghislain C.) Improving the observer-based FDI design for efficient fault isolation. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 197–218. 93B07 (93B30)
Wen, De Chen (*with* Jin, Cheng Ri) High-accuracy difference methods for Schrödinger equations. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 32–34. (Summary) **99d:65257** 65M06
Wen, Feng Tong (*with* Wang, Pin Chao; Yang, Ming Sheng[3]; Lu, Jie Qing) Some sufficient conditions for a group to be nilpotent. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 4, 331–334. 20D15
Wen, Fu Shuan (*with* Han, Zhen Xiang; Zhang, Qi) Theory and applications of rough sets. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 37–45. 04A72 (68T27)
Wen, Guo Chun (*with* Xu, Zuo-liang) Initial-mixed boundary value problems for nonlinear parabolic systems of several second order equations with measurable coefficients. (English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 77–82, 98. (Gary M. Lieberman) **99a:35147** 35K60 (35R05)
— (*with* Kang, Shixiang) Existence theorem and Riemann-Hilbert problem for general elliptic complex equations of third order. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 5, 14–21. (Wolfgang Tutschke) **99a:35100** 35J65 (30E25)
— (*with* Yang, Guang Wu; Xu, Ke Ming) Initial-oblique derivative problems for quasilinear parabolic complex equations of second order with measurable coefficients. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 30–34. 35K60
— (*with* Luo, Zhaofu) Hyperbolic complex functions and hyperbolic pseudoregular functions. (English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 12–18. (Vladimir Mityushev) **99e:30031** 30G20
— Oblique derivative problems for linear mixed equations of second order. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 346–356. (A. P. Soldatov) **99k:35137** 35M10 (35A25)
— *see also* **Partial differential and integral equations, 99k:00034**
Wen, Jiangtao (*with* Villasenor, John D.) Structured prefix codes for quantized low-shape-parameter generalized Gaussian sources. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 4, 1307–1314. 94A45
Wen, Jianjun (*with* Du, Dong Lei) Preemptive on-line scheduling for two uniform processors. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 113–116. (Summary) **99k:90081** 90B22
Wen, Jin (*with* Chen, Wen Hu) Some fixed point theorems for nonexpansive mappings and families of such mappings in probabilistic metric spaces. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 5, 108–110, 131. 54H25 (54E70)
Wen, John T. (*with* Beard, Randal W.; Saridis, George N.) Galerkin approximations of the generalized Hamilton-Jacobi-Bellman equation. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2159–2177. (G. W. Hedstrom) **99b:65077** 65K10 (49L20, 65M60)
— (*with* Divelbiss, Adam; Seereeram, Sanjeev) Kinematic path planning for robots with holonomic and nonholonomic constraints. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 127–150, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99g:70008** 70B15 (70F25, 70Q05, 93C85)
— (*with* Beard, Randal W.; Saridis, George N.) Approximate solutions to the time-invariant Hamilton-Jacobi-Bellman equation. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 589–626. (Viorel Arnautu) **99d:49051** 49L20 (49M15)
Wen, Li Ping GPL$_m$-stable θ-methods. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 120–123. (Summary) **99d:65232** 65L20
— A class of diagonally implicit symplectic Runge-Kutta-Nyström methods. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 2, 1–4. 65M06
— Nonlinear stability of θ-methods for delay differential equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 7–9. 65L20
Wen, Li Zhi (*with* Li, Yuan Qing) The coupling method of constructing periodic solutions for a class of systems of ordinary differential equations. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 167–176. 34C25 (34A45)
Wen, P. H. (*with* Aliabadi, M. H.; Rooke, D. P.) A new method for transformation of domain integrals to boundary integrals in boundary element method. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 11, 1055–1065. 73V10 (45L05, 65R20)

Wen, Shao Peng (*with* Hong, Yi Guang; Mei, Sheng Wei; Qin, Hua Shu) Viscosity solutions and an analysis of approximate algorithms for nonlinear H_∞ control. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 447–453. 93B36 (49L25)

Wen, Shuangchun (*with* Xu, Wencheng; Guo, Qi[2]; Liu, Songhao) Evolution of solitons of nonlinear Schrödinger equation with variable parameters. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1300–1304. (Nakao Hayashi) **99a:35244** 35Q55 (35Q60, 78A60)

Wen, X. *see* **Wen, Xian Zhang**

Wen, Xian Bin (*with* Shi, Jian[2]; Zhu, Yan Tang) Asymptotic properties of randomly weighted estimates of the sample mean. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 347–352. 62G05 (62G09)

Wen, Xian Yun (*with* Ma, Lin; Ingham, D. B.) A finite volume method for fluid flow in polar cylindrical grids. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 4, 663–677. (Summary) **99f:76108** 76M25

Wen, Xian Zhang (*with* Ma, Zhi En; Fergola, P.; Tenneriello, C.) Effects of toxicants on chemostat models with n populations competing for a critical nutrient. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 1, 43–61. (Summary) **99b:92049** 92D25

— (*with* Wang, Zhi Cheng[1]; Yu, Jian She) The asymptotic behavior of reaction-diffusion equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 117–120. (Summary) **99k:35095** 35K57 (35B40)

Wen, Z.-X. *see* **Wen, Zhi Xiong**

Wen, Z.-Y. *see* **Wen, Zhi Ying**

Wen, Zhi Xiong (*with* Wen, Zhi Ying) Structure of a class of polynomial maps with invariant factors. *Osaka J. Math.* **34** (1997), *no.* 3, 673–679. (Enrique Artal Bartolo) **99c:14020** 14E09 (20F05)

— (*with* Allouche, Jean-Paul; Peyrière, J.; Wen, Zhi Ying) Hankel determinants of the Thue-Morse sequence. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 1, 1–27. (Valérie Berthé) **99a:11024** 11B85 (68R15)

Wen, Zhi Ying (*with* Wen, Zhi Xiong) Structure of a class of polynomial maps with invariant factors. *Osaka J. Math.* **34** (1997), *no.* 3, 673–679. (Enrique Artal Bartolo) **99c:14020** 14E09 (20F05)

— (*with* Allouche, Jean-Paul; Peyrière, J.; Wen, Zhi Xiong) Hankel determinants of the Thue-Morse sequence. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 1, 1–27. (Valérie Berthé) **99a:11024** 11B85 (68R15)

Wen, Zhong Lin (*with* Zheng, Xi Yin) Minimax theorem and saddle point theorem without linear structure. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 4, 375–380; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 349–354 (*Chinese. English and Chinese summaries*). (Ornella Naselli Ricceri) **99e:49027** 49K35 (90C48)

Wenbo, Q. *see* **Qu, Wen Bo**

Wencheko, Eshetu Improvement of multivariate statistics by linear transforms. (English summary) *SINET* **22** (1999), *no.* 1, 31–40. 62H12 (62C15)

Wendell, Richard E. Linear programming. III. The tolerance approach. (English summary) *Advances in sensitivity analysis and parametric programming*, 5.1–5.21, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (Summary) **99i:90061** 90C05 (90C31)

Wendi, Wang *see* **Wang, Wen Di**

Wendland, Holger Sobolev-type error estimates for interpolation by radial basis functions. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc, 1996)*, 337–344, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:65012** 65D05 (41A30, 65D07)

— Error estimates for interpolation by compactly supported radial basis functions of minimal degree. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 258–272. (Luciano Biasini) **99g:65015** 65D05 (41A05)

— Meshless Galerkin methods using radial basis functions. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1521–1531. (H. Marcinkowska) **99m:65221** 65N30 (41A30)

Wendland, Wolfgang L. (*with* Gatica, Gabriel N.) Coupling of mixed finite elements and boundary elements for linear and nonlinear elliptic problems. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 39–75. (Summary) **99a:65167** 65N38 (65N30)

— (*with* Kalik, K.; Quatember, R.) Interpolation, triangulation and numerical integration on closed manifolds. *Boundary element topics (Stuttgart, 1995)*, 395–417, *Springer, Berlin*, 1997. (Introduction) **99h:65037** 65D30 (65Y25)

— (*with* Sändig, Anna-Margarete) Asymptotic expansions of elastic fields in domains with boundary and structural singularities. *Boundary element topics (Stuttgart, 1995)*, 419–444, *Springer, Berlin*, 1997. (Igor Yu. Chudinovich) **99k:73041** 73C35 (35C20, 65N38, 73V99)

— (*with* Schulz, Heiko) Local, residual-based a posteriori error estimates forcing adaptive boundary element methods. *Boundary element topics (Stuttgart, 1995)*, 445–470, *Springer, Berlin*, 1997. (H. Marcinkowska) **99j:65218** 65N38 (35S99, 47G30, 65N15)

— (*with* Steinbach, O.) Domain decomposition and preconditioning techniques in boundary element methods. *Boundary element topics (Stuttgart, 1995)*, 471–490, *Springer, Berlin*, 1997. (Mark Ainsworth) **99i:65135** 65N38 (65N55)

— Über Randintegralgleichungs- und Randelementmethoden. [On boundary integral and boundary element methods] *Mathematik aus Berlin*, 291–306, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 65N38

— (*with* Steinbach, O.) The construction of some efficient preconditioners in the boundary element method. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 191–216. (Mark Ainsworth) **99j:65219** 65N38

— (*with* Schulz, Heiko; Schwab, Christoph) The computation of potentials near and on the boundary by an extraction technique for boundary element methods. Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 225–238. (Summary) **99e:65167** 65N38

— (*with* Jentsch, Lothar; Natroshvili, D. G.) General transmission problems in the theory of elastic oscillations of anisotropic bodies (basic interface problems). (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 397–433. (Matthias Wilhelm Winter) **99d:73043** 73D30 (35Q72, 73B40, 73T05)

— (*with* Bürger, Raimund) Entropy boundary and jump conditions in the theory of sedimentation with compression. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 9, 865–882. (Vitaly A. Volpert) **99e:35181** 35Q35 (35K65, 76T05)

— (*with* Sloan, Ian H.) Qualocation methods for elliptic boundary integral equations. (English summary) *Numer. Math.* **79** (1998), *no.* 3, 451–483. (Reinhard Scholz) **99k:65112** 65N35 (65R20)

— (*with* Rössle, Andreas; Bischoff, M.; Ramm, E.) On the mathematical foundation of the (1, 1, 2)-plate model. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 14, 2143–2168. (Summary) **99j:73100** 73V05 (73K10)

— (*with* Sloan, Ian H.) Commutator properties for periodic splines. (English summary) *J. Approx. Theory* **97** (1999), *no.* 2, 254–281. (Tord H. Ganelius) **99m:41017** 41A15 (41A35)

— (*with* Schwab, Christoph) On the extraction technique in boundary integral equations. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 91–122. (N. Gass) **99d:65327** 65N30 (45F15, 65R20, 73V10)

— *see also* **Boundary element topics, 99e:00017**

Wendlandt, Jeffrey M. (*with* Marsden, Jerrold E.) Mechanical integrators derived from a discrete variational principle. (English summary) *Phys. D* **106** (1997), *no.* 3-4, 223–246. (Summary) **99d:70004** 70–08 (65L99, 70E15, 70F20, 70H05, 70H35)

Wendroff, Burton (*with* Liska, Richard) Composite schemes for conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2250–2271 (*electronic*). (Mohammad Asadzadeh) **99j:65138** 65M06 (35L65, 65M12)

— (*with* Shashkov, Mikhail) A composite scheme for gas dynamics in Lagrangian coordinates. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 502–517. (Summary) **99m:76088** 76M20 (76N15)

Wendt, D. (*with* Dimov, Ivan T.; Jaekel, U.; Vereecken, H.) A numerical approach for determination of sources in reactive transport equations. (English summary) *Monte Carlo and quasi-Monte Carlo methods 1996 (Salzburg)*, 189–204, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:82061** 82C70 (65C05, 65D30, 65M99, 82–08)

Wendt, Heide Some models describing damage processes and resulting first passage times. (English summary) *Advances in stochastic models for reliability, quality and safety (Schierke, 1997)*, 183–195, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 62N05 (60G55, 60K10)

Wendt, Jörg (*with* Brunnett, Guido) Elastic splines with tension control. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 33–40, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65035** 65D17 (65D07)

Wendt, Michael A. Change of base for measure spaces. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 2, 185–212. (M. S. Burgin) **99f:18004** 18A25 (18B99, 28A50)

Wene, G. P. A group of semifields. (English summary) *New frontiers in algebras, groups and geometries (Monteroduni, 1995)*, 13–18, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Norman L. Johnson) **99a:12012** 12K10

Weng, Chih-Wen (*with* Liang, Yuh-jeng) Parallelogram-free distance-regular graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 231–243. (Robert Beezer) **99c:05206** 05E30 (05C50, 05C75)

— Weak-geodetically closed subgraphs in distance-regular graphs. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 275–304. (Robert Beezer) **99f:05129** 05E30 (05C12)

Weng, J. F. (*with* Brazil, M.; Rubinstein, Joachim H.; Thomas, Doreen A.; Wormald, Nicholas C.) Minimal Steiner trees for rectangular arrays of lattice points. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 2, 181–208. (From the text) **99d:05022** 05C05

— Shortest networks on surfaces. *Handbook of combinatorial optimization, Vol.* 2, 589–616, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90C35)

— (*with* Brazil, M.; Thomas, Doreen A.) A polynomial time algorithm for rectilinear Steiner trees with terminals constrained to curves. (English summary) *Networks* **33** (1999), *no.* 2, 145–155. (Summary) **99j:05174** 05C85 (68Q35, 68R10)

Weng, Lin (*with* To, Wing-Keung) The asymptotic behavior of Green's functions for quasi-hyperbolic metrics on degenerating Riemann surfaces. (English summary) *Manuscripta Math.* **93** (1997), *no.* 4, 465–480. (Christopher M. Judge) **99e:58190** 58G18 (58G03)

— (*with* To, Wing-Keung) Curvature of the L^2-metric on the direct image of a family of Hermitian-Einstein vector bundles. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 649–661. (Thierry Bouche) **99d:32038** 32L07 (53C07)

Weng, Peixuan (*with* Yan, Zhao Qin) Global existence and stability of functional-differential equation with impulses. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 330–338. (Yuri V. Rogovchenko) **99g:34134** 34K05 (34A37, 34K20)

Weng, Shao Peng (*with* Luo, Yue Hu; Feng, De Xing) Stability of linear systems in Banach spaces. (Chinese) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 15, 1676–1677. 93D05 (93C25)

Weng, Shi You (*with* Gao, Hai Yin; Li, Xiao Chun; Hou, Xue Zhang) Observability of a class of shift robots. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 21–26. 93B07 (93C85)

Weng, Xinlong Surjectivity results for a class of nonlinear operators in reflexive Banach spaces. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 11–21. (Summary) **99a:47100** 47H15 (47H11)

Weng, Zheng-Xin (*with* Shi, Song Jiao) H_∞ state-feedback control of discrete-time systems with norm-bounded time-varying uncertainty. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 734–740. 93B36 (93C55)

— (*with* Shi, Song Jiao) H_∞ loop transfer recovery synthesis of discrete-time systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 687–697. (Summary) **99d:93022** 93B36 (93D09)

Wengang, Zong *see* **Zong, Wengang**

Wengenroth, Jochen (*with* Müller, Jürgen[3]) Separating singularities of holomorphic functions. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 473–477. (Summary) **99g:30050** 30E10

— (*with* Dierolf, Susanne; Schröder, K.-H.) Characters on certain function algebras. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 53–58. (Summary) **99k:46089** 46J10 (46E40, 46H05)

— A new characterization of $\mathrm{Proj}^1\mathscr{X} = 0$ for countable spectra of (LB)-spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 737–744. (Paweł Domański) **99f:46007** 46A13 (46M15)

Wenger, Ph. (*with* Chablat, D.) Workspace and assembly modes in fully-parallel manipulators: a descriptive study. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 117–126, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Wenger, Rephael Progress in geometric transversal theory. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 375–393, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52006** 52A35

Wenhuai, Shen *see* **Shen, Wen Huai**

Wenjie, Song *see* **Song, Wen Jie**

Wenk, Carola (*with* Hoffmann, Frank; Kriegel, Klaus) An applied point pattern matching problem: comparing 2D patterns of protein spots. (English summary) 13th European Workshop on Computational Geometry CG'97 (Würzburg, 1997). *Discrete Appl. Math.* **93** (1999), *no.* 1, 75–88. (*see* **99k:00039**) 92D20 (68U05, 92C15)

Wennberg, Bernt (*with* Pulvirenti, Ada) A Maxwellian lower bound for solutions to the Boltzmann equation. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 145–160. (Carlo Cercignani) **99f:82056** 82C40 (45K05, 76P05)

Wensch, J. An eight stage fourth order partitioned Rosenbrock method for multibody systems in index-3 formulation. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 2, 171–183. (Yun Kang Liu) **99d:65223** 65L06

Wensink, H. E. (*with* Broersen, P. M. T.) Autoregressive model order selection by a finite sample estimator for the Kullback-Leibler discrepancy. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 7, 2058–2061. (Summary) **99i:62199** 62M10

Wenston, Paul (*with* Lai, Ming-Jun) Bivariate spline method for numerical solution of Navier-Stokes equations in stream function formulation. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 245–277, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99m:76095** 76M25 (65M60, 76D05)

Wentworth, Richard A. (*with* Daskalopoulos, Georgios D.) Geometric quantization for the moduli space of vector bundles with parabolic structure. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 119–155, *de Gruyter, Berlin*, 1997. (Nitin Nitsure) **99k:32033** 32G13 (14D20, 58F06)

— (*with* Daskalopoulos, Georgios D.; Dostoglou, S.) Families of SU(2) representations for mapping cylinders of periodic monodromy. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 383–392. (Summary) **99c:57044** 57N10 (14H60, 57N05)

— (*with* Daskalopoulos, Georgios D.; Dostoglou, S.) Character varieties and harmonic maps to **R**-trees. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 523–533. (Raul Quiroga) **99k:58045** 58E20

— (*with* Daskalopoulos, Georgios D.) On the Brill-Noether problem for vector bundles. (English summary) *Forum Math.* **11** (1999), *no.* 1, 63–77. (Enrique Arrondo) **99m:14064** 14H60 (58E15)

Wentzell, A. D. *see* **Venttsel', A. D.**

Wenz, Hans-Jörg (*with* Kacsó, Daniela P.) On an almost-convex-hull property. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 217–222, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

Wenzel, Christian On the Chow ring of a flag. (English summary) *Math. Nachr.* **187** (1997), 293–310. (Niels Lauritzen) **99a:14004** 14C15 (14L15, 14M15)

Wenzel, Jörg A supplement to my paper on: "Real and complex operator ideals" [Quaestiones Math. **18** (1995), no. 1-3, 271–285; MR 96i:47083]. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 663–665. (Hans-Olav Tylli) **99d:47041** 47D50 (46B20)

Wenzel, Marc (*with* Czyżyk, Joseph; Wright, Stephen Joseph) Computational experience with a dense column feature for interior-point methods. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 29–34, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C05 (65K05)

Wenzel, Volker *see* **Earth system analysis, 99f:00016**

Wenzel, W. (*with* Hamacher, K.) Stochastic tunneling approach for global minimization of complex potential energy landscapes. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 15, 3003–3007. 81S20

Wenzel, Walter (*with* Desainte-Catherine, Myriam) Nonintersecting paths, Pfaffians, and Δ-matroids. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 4, 471–485. (Summary) **99f:05025** 05B35

— (*with* Althöfer, Ingo) Two-best solutions under distance constraints: the model and exemplary results for matroids. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 2, 155–185. (Winfried Hochstättler) **99k:90124** 90C27 (05B35, 90C25)

Wenzel, Wolfgang (*with* Schanz, M.; Gaul, L.; Zastrau, B.) A boundary element formulation for generalized viscoelastic solids in time domain. *Boundary element topics* (*Stuttgart*, 1995), 31–50, *Springer, Berlin*, 1997. (*see* **99e:00017**) 73V10 (65N38, 73F15)

Wenzelburger, Jan A kinematic model for continuous distributions of dislocations. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 4, 334–352. (Marek Elżanowski) **99e:73088** 73S10 (53B50, 58A14, 73B99)

Werbowski, Jarosław (*with* Nowakowska, W.) Sufficient conditions for the oscillation of solutions of difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 467–471, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39066** 39A11 (39A10)

— Dobiesław Bobrowski—his life and work. *Fasc. Math. No.* 28 (1998), 6–8. 01A70

— (*with* Gleska, Alina) Comparison theorems for the asymptotic behavior of solutions of nonlinear difference equations. *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 456–465. (Allan C. Peterson) **99k:39009** 39A10

Werbrouck, Paolo (*with* Grzymala-Busse, Jerzy W.) On the best search method in the LEM1 and LEM2 algorithms. (English summary) *Incomplete information: rough set analysis*, 75–91, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T05 (04A72)

Wermuth, Edgar M. E. Fledermäuse in Flaschen. Über die Rekursion $x_{n+2} = x_{n+1}^2 - x_n$. I. (German summary) [Bats in bottles. On the recursion $x_{n+2} = x_{n+1}^2 - x_n$. I] *Math. Semesterber.* **43** (1996), *no.* 2, 131–153. (Remo Badii) **99b:58203** 58F13 (28A80, 58F23)

Werne, J. (*with* Garten, J. F.; Arendt, Steve; Fritts, David C.) Dynamics of counter-rotating vortex pairs in stratified and sheared environments. (English summary) *J. Fluid Mech.* **361** (1998), 189–236. (Summary) **99c:76017** 76C05 (76V05)

Werneck de Oliveira, M. (*with* Carvalho, Marcelo Ferreira Lima) Gauging $N = 2$ supersymmetric nonlinear σ models in the Atiyah-Ward space-time. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7574–7579. (Summary) **99d:81152** 81T60 (53C80)

Wernecke, K.-D. (*with* Possinger, K.; Kalb, G.; Stein, Julia) Validating classification trees. (English summary) *Biom. J.* **40** (1998), *no.* 8, 993–1005. 62H30

Werner, Andreas A semantic approach to order-sorted rewriting. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 4, 527–569. (Yves Metivier) **99c:68147** 68Q42

Werner, Annette Local heights on abelian varieties and rigid analytic uniformization. (English summary) *Doc. Math.* **3** (1998), 301–319 (*electronic*). (Carlo Gasbarri) **99k:11086** 11G10 (11G25, 14G20, 14K15)

Werner, B. *see* **Werner, Bodo**

Werner, Bernhard (*with* Schuricht, Friedemann) Paradoxical bending behavior of shearable nonlinearly elastic rods. (English summary) *J. Elasticity* **50** (1998), *no.* 1, 27–48. (Summary) **99e:73039** 73C50 (73K05)

Werner, Bodo (*with* Nicolaisen, Nils) Discretization of circle maps. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 869–895. (Henk P. Bruin) **99j:58067** 58F03 (58F11)

— (*with* Xu, Haihong; Janovský, Vladimír) Numerical computation of degenerate Hopf bifurcation points. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 12, 807–821. (Eugene Allgower) **99k:58131** 58F14 (34C23, 65H17)

Werner, Dirk (*with* Weis, Lutz) The Daugavet equation for operators not fixing a copy of $C[0, 1]$. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 89–98. (Yu. A. Abramovich) **99b:47049** 47B38 (47B07)

Werner, Douglas H. (*with* Colegrove, Thomas W.) On a new cylindrical harmonic representation for spherical waves. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 97–100. (Summary) **99m:78006** 78A25 (33C90)

Werner, Elisabeth (*with* Meyer, Mathieu) The Santaló-regions of a convex body. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4569–4591. (Daniel Hug) **99a:52008** 52A38 (52A20)

— A general geometric construction for affine surface area. (English summary) *Studia Math.* **132** (1999), *no.* 3, 227–238. (Maria Moszyńska) **99m:52008** 52A38 (52A20)

Werner, Frank (*with* Sot·skov, Yu. N.; Tanaev, Vyacheslav S.) Stability radius of an optimal schedule: a survey and recent developments. (English summary) *Industrial applications of combinatorial optimization*, 72–108, *Appl. Optim.*, 16, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:90058** 90B35 (90–02, 90C27)

— (*with* Brucker, Peter; Kovalëv, M. Ya.; Shafranskiĭ, Ya. M.) Batch scheduling with deadlines on parallel machines. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 23–40. (Roman Słowiński) **99k:90082** 90B25 (65Y05, 68Q25)

— (*with* Sot·skov, Yu. N.; Wagelmans, Albert P. M.) On the calculation of the stability radius of an optimal or an approximate schedule. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 213–252. (Peter Brucker) **99j:90048** 90C09 (90B35, 90C31)

— *see also* **Models and algorithms for planning and scheduling problems, 99g:90009**

Werner, Hans-Joachim[1] (*with* Yapar, Cemil) More on partitioned possibly restricted linear regression. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 57–66, *VSP, Utrecht*, 1995. (Summary) **99h:62094** 62J05

— *see also* **Linear algebra and statistics, 99i:00019**

Werner, Herbert A simple algorithm for sampled-data output feedback control with suboptimal generalized hold functions. (English summary) *Systems Sci.* **24** (1998), *no.* 3, 15–28. 93C57 (93B52)

Werner, Peter Resonances and standing waves. *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 263–278, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (George Dassios) **99b:35116** 35L05

— (*with* Weder, Ricardo) The behaviour of real resonances under perturbation in a semi-strip. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 1, 1–24. (George Dassios) **99b:35117** 35L05 (35P99)

Werner, Wendelin (*with* Ermakov, Alexei; Tóth, Bálint) On some annihilating and coalescing systems. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 845–870. (Daniel Ueltschi) **99g:82058** 82C22 (60K35)

— (*with* Tóth, Bálint) The true self-repelling motion. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 3, 375–452. (Thomas Polaski) **99i:60092** 60G18 (60J25, 60K35)

Wernisch, Lorenz (*with* Felsner, Stefan) Maximum k-chains in planar point sets: combinatorial structure and algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 192–209 (*electronic*). (Summary) **99d:68102** 68Q25 (06A07, 68R05)

Weron, Aleksander (*with* Nowicka, Joanna) Measures of dependence for ARMA models with stable innovations. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 133–144. (Piotr Kokoszka) **99a:60038** 60G10 (62M10)

— (*with* Weron, Rafał; Weron, Karina) A conditionally exponential decay approach to scaling in finance. (English summary) *Phys. A* **264** (1999), *no.* 3-4, 551–561. (Summary) **99k:90036** 90A09

Weron, Karina (*with* Weron, Rafał; Weron, Aleksander) A conditionally exponential decay approach to scaling in finance. (English summary) *Phys. A* **264** (1999), *no.* 3-4, 551–561. (Summary) **99k:90036** 90A09

Weron, Rafał (*with* Weron, Karina; Weron, Aleksander) A conditionally exponential decay approach to scaling in finance. (English summary) *Phys. A* **264** (1999), *no.* 3-4, 551–561. (Summary) **99k:90036** 90A09

— (*with* Mercik, Szymon) Scaling in currency exchange: a conditionally exponential decay approach. (English summary) *Phys. A* **267** (1999), *no.* 1-2, 239–250. 90A09

Werschulz, Arthur G. The complexity of indefinite elliptic problems with noisy data. (English summary) *J. Complexity* **13** (1997), *no.* 4, 457–479. (Svetozar D. Margenov) **99c:65258** 65Y20 (65N30)

— (*with* Jiang, Tian-zi) The average case complexity of the shift-invariant problem. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 1, 1–7. (Summary) **99h:65236** 65Y20 (47N40, 65G05, 65M60, 65N30)

Wertz, V. (*with* Achhab, M. E.) On reachable sets for a class of nonlinear systems with constraints. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 105–118. (M. Krastanov) **99k:93012** 93B03 (49J15, 93C15)

Wesemeyer, Stephan On the automorphism group of various Goppa codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 630–643. (Thierry Henocq) **99m:94058** 94B27

Wesołowska, Jolanta On the strong quasi-continuity of multivalued maps. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 169–175. (*see* **99f:00022**) 54C08 (54C60)

Wesołowski, Adam (*with* Sładek, Andrzej) Clifford-Littlewood-Eckmann groups as orthogonal groups of forms of higher degree. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 93–103. (Adrian R. Wadsworth) **99k:11059** 11E76

Wess, Julius Quantum groups and quantum spaces. *VIII J. A. Swieca Summer School on Particles and Fields (Rio de Janeiro, 1995)*, 264–290, *World Sci. Publishing, River Edge, NJ*, 1996. (Władysław Marcinek) **99k:81121** 81R50 (16W30, 17B37, 58B30)

— (*with* Lorek, A.; Ruffing, A.) A q-deformation of the harmonic oscillator. (English summary) *Z. Phys. C* **74** (1997), *no.* 2, 369–377. (Summary) **99a:81076** 81R50

— q-deformed Heisenberg algebra. *Supersymmetry and quantum field theory (Kharkov, 1997)*, 259–264, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Roberto Casalbuoni) **99k:81122** 81R50 (17B81)

— *see also* **Supersymmetry and quantum field theory, 99k:81010**

Wessel, Walter A short solution of Heawood's empire problem in the plane. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 241–245. (Summary) **99d:05035** 05C15

Wesseling, Pieter (*with* Zijlema, M.) Higher-order flux-limiting schemes for the finite volume computation of incompressible flow. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 2, 89–109. 76M25

— (*with* Brakkee, Erik; Vuik, C.) Domain decomposition for the incompressible Navier-Stokes equations: solving subdomain problems accurately and inaccurately. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 10, 1217–1237. (Summary) **99a:76107** 76M25 (76D05)

— (*with* Bijl, Hester) A unified method for computing incompressible and compressible flows in boundary-fitted coordinates. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 2, 153–173. (Summary) **99b:76061** 76M25

— (*with* Segal, August; Kassels, C. G. M.; Bijl, Hester) Computing flows on general two-dimensional nonsmooth staggered grids. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 21–44. (Summary) **99f:76110** 76M25 (76D05)

— (*with* Vuik, C.; van Nooyen, R. R. P.) Parallelism in ILU-preconditioned GMRES. (English summary) *Parallel Comput.* **24** (1998), *no.* 14, 1927–1946. 65F10 (65M99, 65Y05)

— (*with* Koren, Barry; Michielsen, Paul F. M.; Kars, Jan-Willem) A computational method for high-frequency oleodynamics: application to hydraulic-shock-absorber designs. (English summary) *Surveys Math. Indust.* **7** (1998), *no.* 4, 283–301. 76M25 (65M20, 76N10)

— (*with* Segal, August; Kassels, C. G. M.) Computing flows on general three-dimensional nonsmooth staggered grids. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 333–362. (Summary) **99j:76102** 76M25

Wessell, D. E. (*with* Kottler, N. E.; Tran, H. T.) A complete steady state model of solute and water transport in the kidney. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 6, 63–82. (Summary) **99m:92008** 92C35 (65L99)

Wessels, Ewald Exact analytic characteristic initial data for axisymmetric, non-rotating, vacuum spacetimes, with an application to the binary black hole problem. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2509–2522. (Maciej Przanowski) **99m:83022** 83C05 (83C57, 83C60)

Wessels, Jaap (*with* van Houtum, G. J.; Zijm, W. H. M.; Adan, I. J. B. F.) Bounds for performance characteristics: a systematic approach via cost structures. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 205–224. (Gerard Hooghiemstra) **99g:60170** 60K25

Wessman, Peter Some principles for surveillance adopted for multivariate processes with a common change point. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1143–1161. (Summary) **99a:62145** 62N10

Wesson, Paul S. (*with* Liu, Hong Ya) Kaluza-Klein-Gordon field theory. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 5, 737–747. (Summary) **99f:83059** 83E15

— (*with* Sajko, William N.; Liu, Hong Ya) Gauge conditions in modern Kaluza-Klein theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2193–2200. (Alfredo Macías) **99a:83062** 83E15

— (*with* Liu, Hong Ya) Particle masses in Kaluza-Klein-Gordon theory and the reality of extra dimensions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 33, 2689–2694. (Summary) **99g:83074** 83E15

— (*with* Liu, Hong Ya) Shell-like solutions in Kaluza-Klein theory. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 266–270. (Summary) **99d:83088** 83E15 (83C15)

— (*with* Agnese, A. G.; Billyard, Andrew; Liu, Hong Ya) Possible wormhole solutions in $(4+1)$ gravity. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 4, 527–535. 83E15

West, Douglas B. (*with* Snevily, Hunter S.) The bricklayer problem and the strong cycle lemma. *Amer. Math. Monthly* **105** (1998), *no.* 2, 131–143. (Joseph Zaks) **99b:05014** 05A99

— (*with* Chang, Yi-Wu) Rectangle number for hypercubes and complete multipartite graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 19–28. (Summary) **99j:05099** 05C35

— (*with* Liu, Xinming) Line digraphs and coreflexive vertex sets. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 269–277. (Summary) **99a:05056** 05C20

— (*with* Le Tu, Quoc Hung; Sysło, Maciej M.; Weaver, Margaret L.) Bandwidth and density for block graphs. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 163–176. (Yixun Lin) **99g:05158** 05C78

— (*with* Lin, In-Jen; McKee, Terry A.) The leafage of a chordal graph. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 23–48. (Dieter Kratsch) **99i:05180** 05C75 (05C05, 05C35)

— (*with* Chen, Guantao; Lu, Xiao Yun[1]) Star-factors of tournaments. (English summary) *J. Graph Theory* **28** (1998), *no.* 3, 141–145. (Sheshayya A. Choudum) **99e:05060** 05C20 (05C70)

West, Graeme (*with* Marsalli, Michael) The dual of noncommutative H^1. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 489–500. (Summary) **99h:46122** 46L50 (46L10)

West, John *see* **Craik, Alex D. D., 99e:01013**

West, Kenneth D. (*with* McCracken, Michael W.) Regression-based tests of predictive ability. (English summary) Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 817–840. (Summary) **99k:62131** 62J05

— *see also* **Symposium: Forecasting and Empirical Methods in Macroeconomics and Finance, 99h:62001**

West, Mike (*with* Escobar, Michael D.) Computing nonparametric hierarchical models. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 1–22, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62053** 62G05

West, P. C. (*with* Howe, Paul S.) Is $N = 4$ Yang-Mills theory soluble? (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 622–626, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81186** 81T60 (81T13)

— (*with* Howe, Paul S.) Superconformal Ward identities and $N = 2$ Yang-Mills theory. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 425–442. (Summary) **99b:81238** 81T60 (81T13)

— (*with* Howe, Paul S.; Lambert, N. D.) The self-dual string soliton. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 203–216. (Jihad Mourad) **99c:81188** 81T30 (83E30)

— (*with* Lambert, N. D.) Gauge fields and M-fivebrane dynamics. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 141–158. (David S. Berman) **99e:81240** 81T60 (81T13, 81T30, 83E30)

— (*with* Howe, Paul S.; Lambert, N. D.) Classical M-fivebrane dynamics and quantum $N = 2$ Yang-Mills. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 85–90. (Jihad Mourad) **99e:81197** 81T30 (81T13, 81T60)

— (*with* Howe, Paul S.; Lambert, N. D.) The threebrane soliton of the M-fivebrane. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 79–83. (Sergey Nikolaevich Roshchupkin) **99c:81189** 81T30

— (*with* Lambert, N. D.) $N = 2$ superfields and the M-fivebrane. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 281–287. (Summary) **99c:81246** 81T60 (81T13, 81T30)

— (*with* Chu, Chong-Sun; Howe, Paul S.; Sezgin, Ergin) Open superbranes. (English summary) *Phys. Lett. B* **429** (1998), *no.* 3-4, 273–280. (Summary) **99b:81181** 81T30

West, T. T. (*with* Smyth, M. R. F.) The minimum diagonal element of a positive matrix. (English summary) *Studia Math.* **131** (1998), *no.* 1, 95–99. (Summary) **99c:15042** 15A48

West, Thelma A bound for the span of certain plane separating continua. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 291–300. (M. A. Owens) **99b:54051** 54F15

— On surjective semispan of abstract graphs. *J. Combin. Math. Combin. Comput.* **26** (1998), 177–192. (T. T. Raghunathan) **99c:05059** 05C12 (05C05, 05C85)

Westbrook, Jeffery R. (*with* Abello, James; Buchsbaum, Adam L.) A functional approach to external graph algorithms. (English summary) *Algorithms—ESA '98 (Venice)*, 332–343, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (05C85, 68Q20, 68Q25)

— (*with* Buchsbaum, Adam L.; Giancarlo, Raffaele) On the determinization of weighted finite automata. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 482–493, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q45 (68T99)

— (*with* Albers, Susanne) Self-organizing data structures. *Online algorithms (Schloss Dagstuhl, 1996)*, 13–51, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68P05

— (*with* Dinitz, Yefim) Maintaining the classes of 4-edge-connectivity in a graph on-line. (English summary) *Algorithmica* **20** (1998), *no.* 3, 242–276. (Summary) **99a:68037** 68P05 (05C40, 05C85, 68Q25, 68R10)

— (*with* Phillips, Steven J.) On-line load balancing and network flow. (English summary) *Algorithmica* **21** (1998), *no.* 3, 245–261. (Summary) **99d:68033** 68M20 (90B10, 90D43)

— (*with* La Poutré, Johannes A.) Dynamic 2-connectivity with backtracking. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 10–26 (*electronic*). (Peter B. Gibbons) **99d:68195** 68R10 (68P05, 68Q20, 68Q25)

— (*with* Lund, Carsten; Reingold, Nick; Yan, Dicky) Competitive on-line algorithms for distributed data management. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1086–1111 (*electronic*). (Summary) **99m:68068** 68Q20 (68Q25)

Westbury, Bruce W. A generating function for spin network evaluations. *Knot theory (Warsaw, 1995)*, 447–456, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (David H. Adams) **99k:05070** 05C10 (57M15)

Westerberg, Anders (*with* Cederwall, Martin) World-volume fields, SL(2; **Z**) and duality: the type IIB 3-brane. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 4, 14 *pp.* (*electronic*). (C. Gauthier) **99e:81182** 81T30

Westerhof, E. (*with* Lakhin, V. P.; Schep, T. J.) Current-vortex filament model of nonlinear Alfvén perturbations in a finite-pressure plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3833–3848. (Summary) **99f:76135** 76X05

Westerkamp, Werner (*with* Kondrat'ev, Yu. G.; Streit, Ludwig; Yan, Jia An) Generalized functions in infinite-dimensional analysis. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 213–260. (Nobuaki Obata) **99m:46106** 46F25 (46E50, 60H99)

Westermann, Thomas (*with* Munz, Claus-Dieter; Schneider, Rudolf[2]; Sonnendrücker, Eric; Stein, E.; Voss, Ursula) A finite-volume particle-in-cell method for the numerical treatment of Maxwell-Lorentz equations on boundary-fitted meshes. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 4, 461–487. (Summary) **99i:78005** 78–08

Westfall, Peter H. (*with* Johnson, Wesley O.; Utts, Jessica M.) A Bayesian perspective on the Bonferroni adjustment. (English summary) *Biometrika* **84** (1997), *no.* 2, 419–427. (Michael J. Evans) **99a:62018** 62F03 (62F04, 62F15)

Westgaard, Geir (*with* Heimann, Justus) Analysis and visualization of geometric curve properties. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 545–552, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65D17

Westhoff, Randall F. Computing the infinitesimal invariants associated to deformations of subvarieties. (English summary) *Pacific J. Math.* **183** (1998), *no.* 2, 375–397. (Marko Roczen) **99i:14010** 14D15 (14B10, 14J30)

Westman, Robert S. Zinner, Copernicus, and the Nazis. Essay review of *Entstehung und Ausbreitung der copernicanischen Lehre* [*Genesis and dissemination of the Copernican theory*] [Beck, Munich, 1988] by Ernst Zinner. *J. Hist. Astronom.* **28** (1997), *no.* 3, 259–270. (E. Gerlach) **99k:01092** 01A80 (01A05)

Westmoreland, Michael (*with* Hausladen, Paul; Jozsa, Richard; Schumacher, Benjamin; Wootters, William K.) Classical information capacity of a quantum channel. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1869–1876. (Summary) **99c:94017** 94A40 (81P99, 94A15)

Weston, Anthony A non-linear l_1 problem. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 605–610. (Summary) **99b:46022** 46B20

Weston, Jim (*with* Szularz, M.; Clint, M.) Restarting techniques for the Lanczos algorithm and their implementation in parallel computing environments: architectural influences. (English summary) *Parallel Algorithms Appl.* **14** (1999), *no.* 1, 57–77. 65F10 (65Y05)

— (*with* Szularz, M.; Clint, M.) Explicitly restarted Lanczos algorithms in an MPP environment. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 613–631. 65F30 (65Y05)

Weston, Richard S. (*with* Cedell, Tord) Finite elements solutions to magnetostriction. I. Harmonic modelling. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 187–196. (Summary) **99g:78009** 78–08 (73R05, 73V05)

— (*with* Cedell, Tord) Finite elements solutions to magnetostriction. II. Transient and non-linear modelling. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 197–204. (Summary) **99g:78010** 78–08 (73R05, 73V05)

Weston, Robert (*with* Miwa, Tetsuji) The monodromy matrices of the *XXZ* model in the infinite volume limit. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7509–7523. (Andrey V. Tsiganov) **99a:82021** 82B20 (17B81, 81R50, 82B23)

— (*with* Hong, Jin; Kang, Seok-Jin; Miwa, Tetsuji) Mixing of ground states in vertex models. (English summary) *J. Phys. A* **31** (1998), *no.* 28, *L515–L525*. (Summary) **99e:82027** 82B23 (81R50)

Westphalen, J. (*with* Kirchner, R.; Montvay, I.; Luckmann, S.; Spanderen, K.) Evidence for discrete chiral symmetry breaking in $N = 1$ supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **446** (1999), *no.* 3-4, 209–215. 81R40 (81T13, 81T80)

Westreich, Sara (*with* Cohen, Miriam) Determinants and symmetries in "Yetter-Drinfeld" categories. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 267–289. (Mitsuhiro Takeuchi) **99e:16048** 16W30 (18D10)

— (*with* Gelaki, Shlomo) On the quasitriangularity of $U_q(\mathrm{sl}_n)'$. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 105–125. (Rita Fioresi) **99e:16051** 16W30

Westwick, David (*with* Verhaegen, Michel H. G.) Identifying MIMO Hammerstein systems in the context of subspace model identification methods. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 331–349. 93B30 (93C30)

Westwig, Erik (*with* Kusse, Bruce) ★ Mathematical physics. (English summary) Applied mathematics for scientists and engineers. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xii+668 pp. ISBN* 0-471-15431-8 (From the preface) **99g:00011** 00A06

de Wet, J. A. Nuclear field theory with chiral symmetry on a Calabi-Yau manifold. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 7, 2027–2041. (Summary) **99e:81263** 81V35 (14J32)

Wetherell, Joseph L. (*with* Kamienny, Sheldon) On torsion in abelian varieties. *Comm. Algebra* **26** (1998), *no.* 5, 1675–1678. (Juan-Carlos Naranjo) **99d:14045** 14K15 (11G10, 14G05)

— (*with* Kamienny, Sheldon) A correction to: "Torsion in abelian varieties" [Comm. Algebra **26** (1998), no. 5, 1675–1678; MR 99d:14045]. *Comm. Algebra* **27** (1999), *no.* 3, 1499. 14K15 (11G10, 14G05)

Wetprasit, Rattana (*with* Sattar, Abdul; Khatib, L.) A generalised framework for reasoning with multi-point events. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 121–135, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68T27 (03B45)

— (*with* Sattar, Abdul) Temporal reasoning with qualitative and quantitative information about points and durations. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 656–663, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30 (68T27)

Wets, Roger J.-B. Stochastic programs with chance constraints: generalized convexity and approximation issues. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 61–74, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Vlasta Kaňková) **99m:90105** 90C15 (90C25)

— (*with* Jonsbråten, Tore W.; Woodruff, David L.) A class of stochastic programs with decision dependent random elements. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 83–106. (Summary) **99f:90067** 90C15

— *see also* **Stochastic programming. State of the art, 99m:90006**

Wettenhall, J. M. (*with* Craven, B. D.; de Haas, K.) Computing optimal control. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 601–615. (Summary) **99j:49071** 49M30 (65K10)

Wetterich, Christof (*with* Bettencourt, Luís M. A.) Time evolution of correlation functions in non-equilibrium field theories. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 140–150. (Summary) **99d:81168** 81T99

Wettig, Tilo (*with* Guhr, Thomas) Universal spectral correlations of the Dirac operator at finite temperature. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 3, 589–611. (Jacobus Verbaarschot) **99d:82034** 82B44 (81Q10, 81T25)

Wetton, Brian T. R. Error analysis for Chorin's original fully discrete projection method and regularizations in space and time. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1683–1697. (Murli M. Gupta) **99c:65161** 65M06 (65M15, 76M20)

Wetzel, Gerhard (*with* Kowalski, Robert A.; Toni, Francesca) Executing suspended logic programs. (English summary) *Fund. Inform.* **34** (1998), *no.* 3, 203–224. 68N17

Wetzel, Nathan R. Improper priors for translation families. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 2, 215–227. (Yukio Suzuki) **99b:62005** 62A15 (62F15)

Weydert, Emil Defaults and infinitesimals defeasible inference by non-Archimedean entropy maximization. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 540–547, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68177** 68T27 (03H10)

Weyer, Erik (*with* Kavli, Tom) Theoretical properties of the ASMOD algorithm for empirical modelling. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 767–789. 93A30 (93B40)

— (*with* Johansen, Tor A.) On convergence proofs in system identification—a general principle using ideas from learning theory. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 85–92. (Summary) **99c:93109** 93E12 (93E35)

Weyers, J. (*with* Delépine, D.; González Felipe, R.) Equivalence of the sine-Gordon and massive Thirring models at finite temperature. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 296–302. (Summary) **99a:81097** 81T10

Weyl, Hermann Shock waves in arbitrary fluids [Commun. Pure Appl. Math. **II** (1949), no. 2-3, 103–122]. *Classic papers in shock compression science*, 497–519, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76L05 (35L67, 76N99, 80A10)

— *see also* **Hawkins, Thomas, 99i:01026**

Weyman, Jerzy (*with* Klimek, J.; Kraśkiewicz, W.) A free resolution of a symplectic rank variety. *J. Algebra* **196** (1997), *no.* 2, 475–489. (José F. Andrade) **99b:13020** 13D25 (14M12)

— (*with* Akin, Kaan) Minimal free resolutions of determinantal ideals and irreducible representations of the Lie superalgebra $\mathrm{gl}(m|n)$. *J. Algebra* **197** (1997), *no.* 2, 559–583. (Hartmut Schlosser) **99c:17011** 17B10 (13D25)

— (*with* Magyar, Peter; Zelevinsky, Andrei) Multiple flag varieties of finite type. (English summary) *Adv. Math.* **141** (1999), *no.* 1, 97–118. (Michel Brion) **99m:14095** 14M15 (16G20)

Weymark, John A. (*with* Tsui, Kai-yuen) Social welfare orderings for ratio-scale measurable utilities. (English summary) *Econom. Theory* **10** (1997), *no.* 2, 241–256. (Prasanta K. Pattanaik) **99c:90010** 90A07 (90A08)

— (*with* Donaldson, David) A quasiordering is the intersection of orderings. (English summary) *J. Econom. Theory* **78** (1998), *no.* 2, 382–387. (P. A. Biryukov) **99e:06002** 06A06 (90A06)

— (*with* Karni, Edi) An informationally parsimonious impartial observer theorem. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 321–332. (Joseph D. Cole) **99i:90007** 90A05 (90A06, 90A08, 90A10)

Whalen, P. P. (*with* Caramana, E. J.; Shashkov, Mikhail) Formulations of artificial viscosity for multi-dimensional shock wave computations. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 70–97. (Summary) **99d:76066** 76M20 (76L05, 76N10)

— (*with* Caramana, E. J.; Burton, Donald Eugene; Shashkov, Mikhail) The construction of compatible hydrodynamics algorithms utilizing conservation of total energy. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 227–262. (Summary) **99g:76103** 76M25 (76M20)

Whang, Yoon-Jae A test of normality using nonparametric residuals. (English summary) *Econometric Rev.* **17** (1998), *no.* 3, 301–327. (Summary) **99i:62111** 62G10 (62J05)

— A test of autocorrelation in the presence of heteroskedasticity of unknown form. (English summary) *Econometric Theory* **14** (1998), *no.* 1, 87–122. (A. L. Nagar) **99k:62174** 62M10 (62P20)

Wheater, John F. (*with* Jonsson, Thordur) The spectral dimension on branched polymer ensembles. *New developments in quantum field theory* (*Zakopane*, 1997), 341–348, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (E. J. Janse van Rensburg) **99m:82027** 82B41 (81T30, 82D60, 83C45)

— (*with* Jonsson, Thordur) Area distribution for directed random walks. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 713–725. (Summary) **99e:82048** 82B41

— (*with* Jonsson, Thordur) The spectral dimension of the branched polymer phase of two-dimensional quantum gravity. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 3, 549–574. (Bergfinnur Durhuus) **99b:82039** 82B41 (81T40, 82B27)

— (*with* Correia, João D.) The spectral dimension of non-generic branched polymer ensembles. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 76–81. (E. J. Janse van Rensburg) **99e:82046** 82B41 (82D60)

Wheeden, Richard L. (*with* Lu, Guozhen) Poincaré inequalities, isoperimetric estimates, and representation formulas on product spaces. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 123–151. (Cristian E. Gutiérrez) **99e:46043** 46E35 (26D10)

— (*with* Wilson, J. Michael) Weighted L^q estimates for derivatives of weighted H^p functions. *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 595–628. (Loukas Grafakos) **99i:42030** 42B25 (42B30)

— (*with* Franchi, Bruno; Pérez, Carlos) Self-improving properties of John-Nirenberg and Poincaré inequalities on spaces of homogeneous type. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 1, 108–146. (J. Michael Pearson) **99d:42042** 42B99 (46N20)

— (*with* Watson, David K.) Norm estimates and representations for Calderón-Zygmund operators using averages over starlike sets. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4127–4171. (Javier Duoandikoetxea) **99m:42030** 42B20 (42B25)

Wheeler, A. A. (*with* Anderson, Daniel Michael; McFadden, G. B.) Diffuse-interface methods in fluid mechanics. (English summary) *Annual review of fluid mechanics, Vol.* 30, 139–165, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (Summary) **99a:76048** 76D99

Wheeler, Ferrell S. (*with* Arno, Steven; Robinson, M. L.) Imaginary quadratic fields with small odd class number. *Acta Arith.* **83** (1998), *no.* 4, 295–330. (Stéphane Louboutin) **99a:11123** 11R29 (11R11)

Wheeler, James T. New conformal gauging and the electromagnetic theory of Weyl. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 299–328. (Summary) **99j:53101** 53C80 (83C22)

Wheeler, Mary F. (*with* Yotov, Ivan) Physical and computational domain decompositions for modeling subsurface flows. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 217–228, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Jian-Ping Zhu) **99j:76077** 76M10 (65N55, 76S05, 76T05)

— (*with* Dawson, Clint N.; Eaton, Joe) Transport of multispecies contaminants with biological and chemical kinetics in porous media. *Modelling and computation for applications in mathematics, science, and engineering* (*Evanston, IL*, 1996), 25–37, *Numer. Math. Sci. Comput., Oxford Univ. Press, New York*, 1998. (*see* **99k:00033**) 76S05 (86A60)

— (*with* Chippada, S.; Dawson, Clint N.; Martínez, Mónica Lucía) A Godunov-type finite volume method for the system of shallow water equations. (English summary)

Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 105–129. (*see* **99b:76003**) 76M25 (76B15)

— (*with* Dawson, Clint N.; Woodward, Carol S.) A two-grid finite difference scheme for nonlinear parabolic equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 435–452 (*electronic*). (Summary) **99b:65097** 65M06 (35K55, 65M15, 65M55)

— (*with* Chippada, S.; Dawson, Clint N.; Martínez, Mónica Lucía) Finite element approximations to the system of shallow water equations. I. Continuous-time a priori error estimates. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 692–711 (*electronic*). (A. Jami) **99d:65279** 65M60 (76B15, 76M10)

— (*with* Arbogast, Todd; Dawson, Clint N.; Keenan, Philip T.; Yotov, Ivan) Enhanced cell-centered finite differences for elliptic equations on general geometry. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 404–425 (*electronic*). (S. Galanis) **99j:65193** 65N30

— (*with* Chippada, S.; Dawson, Clint N.; Martínez, Mónica Lucía) Finite element approximations to the system of shallow water equations. II. Discrete-time a priori error estimates. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 226–250 (*electronic*). (A. Jami) **99k:65094** 65M60 (65N30, 76B15, 76M10)

Wheeler, Wayne W. (*with* Hegland, Markus) Linear bijections and the fast Fourier transform. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 2, 143–163. (Manfred Tasche) **99b:65182** 65T20 (11Y16)

— (*with* Carlson, Jon F.) Homomorphisms in higher complexity quotient categories. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 115–155, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Jeremy Rickard) **99k:20019** 20C20 (18E30, 20J05)

— (*with* Carlson, Jon F.; Peng, Chuang) Transfer maps and virtual projectivity. (English summary) *J. Algebra* **204** (1998), *no.* 1, 286–311. (Sverre O. Smalø) **99j:20005** 20C05 (16E30, 18G25, 20J06)

— (*with* Ramagge, Jacqui) Posets and differential graded algebras. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 1–19. (Volkmar Welker) **99b:16012** 16E40 (06A06, 13D25)

— (*with* Benson, David John) Direct sum decompositions of infinitely generated modules. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3843–3855. (K. W. Roggenkamp) **99m:20009** 20C20 (16E30, 20J06)

Whelan, Niall D. (*with* Creagh, Stephen C.) A matrix element for chaotic tunnelling rates and scarring intensities. (English summary) *Ann. Physics* **272** (1999), *no.* 2, 196–242. (Summary) **99k:81070** 81Q50 (81Q20)

— (*with* Bhaduri, R. K.; Brack, M.; Miller, H. G.; Murthy, M. V. N.) Weyl series and the trace formula: a prescription for adding them. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, R911–R914. (Summary) **99k:81063** 81Q20

Wheland, Ethel (*with* Vaserstein, Leonid) Rigid relations in GL_2F. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 25–31. (Oliver H. King) **99f:20076** 20G15

— (*with* Cherly, Jørgen; Gallardo, Luis; Vaserstein, Leonid) Solving quadratic equations over polynomial rings of characteristic two. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 131–142. (Gábor Hetyei) **99e:13030** 13P05 (12Y05, 68Q40)

Whinston, A. B. (*with* Moore, James C.; Richmond, W. B.) An optimal search strategy based on user preferences for choice oriented databases. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 1, 1–32. (Summary) **99a:68051** 68P20 (68P15)

Whitaker, M. A. B. (*with* Hardy, Lucien; Home, D.; Squires, E. J.) Comment on: "Why quantum mechanics cannot be formulated as a Markov process" [Phys. Rev. A (3) **49** (1994), no. 3, 1607–1612; MR 95a:81009] by D. T. Gillespie. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 4, 3301–3303. (Gennady Berman) **99g:81006** 81P05

— *see also* **Gillespie, Daniel T., 99g:81007**

Whitaker, Nathaniel Some numerical methods for a maximum entropy problem. (English summary) *African Americans in mathematics* (*Piscataway, NJ*, 1996), 47–56, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (Tomás Chacón Rebollo) **99a:76034** 76C99 (49M25, 65K10, 76M25, 76M35)

Whitaker, Richard N. (*with* Ollerton, Richard L.) Some more first-order recurrence relations and their inverses. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 1, 21–25. (Sui Sun Cheng) **99e:39080** 39B12

Whitaker, Roger M. (*with* Bedford, David) Enumeration of transversals in the Cayley tables of the non-cyclic groups of order 8. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 77–81. (Summary) **99i:05200** 05D15 (20D60)

White, A. *see* **White, Albert George, Jr.**

White, A. M. *see* **White, Andrew M.**

White, Albert George, Jr. (*with* Cho, Yeol Je; Kim, Seong Sik) Heron's formula in inner product spaces. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 97–102. (From the text) **99e:46023** 46B20 (46C05, 46C50)

White, Alex (*with* LePage, Raoul; Podgórski, Krzysztof; Ryznar, Michał) Bootstrapping signs and permutations for regression with heavy-tailed errors: a robust resampling. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 339–358, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62G09

White, Allan L. Two matrix norm conditions for asymptotic stability in the presence of controller disturbances. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 169–172. (Summary) **99j:93078** 93D10 (93C57)

White, Andrew M. (*with* Connell, H. J.; May, Robert L.; Shepherd, J. J.) Annular time-dependent flow of a Bingham fluid. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 779–786, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76A05 (76M25)

White, Brian Cabell Stratification of minimal surfaces, mean curvature flows, and harmonic maps. *J. Reine Angew. Math.* **488** (1997), 1–35. (Harold Parks) **99b:49038** 49Q05 (49Q20, 53C42, 58E20)

— A new proof of Federer's structure theorem for k-dimensional subsets of $\mathbf{R}^N$. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 693–701. (W. P. Ziemer) **99c:28015** 28A75 (28A78)

White, D. J. (*with* Overfelt, P. L.) Comment: "Analytic expression for Fresnel diffraction" [J. Opt. Soc. Amer. A **15** (1998), no. 3, 684–688] by P. Wang, Y. Xu, W. Wang and Z. Wang. (English summary) *J. Opt. Soc. Amer. A* **16** (1999), *no.* 3, 613–615. 78A45 (78A10)

White, Damien G. (*with* Roy, Rahul; Sarkar, Anish) Backbends in directed percolation. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 889–908. (Yasunari Higuchi) **99j:60158** 60K35 (82B43)

White, Daniel A. Solution of capacitance systems using incomplete Cholesky fixed point iteration. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 5, 375–380. 65N30 (65F30)

White, Douglas John Vector maxima for infinite-horizon stationary Markov decision processes. (English summary) *IMA J. Math. Appl. Bus. Indust.* **9** (1998), *no.* 1, 1–17. (Andris Abakuks) **99a:90233** 90C40

— Epsilon dominance and constraint partitioning in multiple objective problems. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 435–448. (Summary) **99c:90113** 90C29

White, Halbert (*with* Chen, Xiaohong[1]) Central limit and functional central limit theorems for Hilbert-valued dependent heterogeneous arrays with applications. (English summary) *Econometric Theory* **14** (1998), *no.* 2, 260–284. (Summary) **99c:60007** 60B12 (62G05, 62P20)

— (*with* Stinchcombe, Maxwell B.) Consistent specification testing with nuisance parameters present only under the alternative. (English summary) *Econometric Theory* **14** (1998), *no.* 3, 295–325. (Summary) **99b:62082** 62G10 (60B12)

White, Jacob (*with* Tausch, Johannes) Second-kind integral formulations of the capacitance problem. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 217–232. (Summary) **99j:78013** 78A30 (45L05, 65R20, 78–08)

— (*with* Silveira, L. Miguel; Kamon, Mattan; Elfadel, Ibrahim) A coordinate-transformed Arnoldi algorithm for generating guaranteed stable reduced-order models of RLC circuits. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 377–389. 94C05 (65F30, 78–08)

White, K. A. J. (*with* Lewis, Mark A.; Murray, James D.) Analysis of a model for wolf territories. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 749–774. (Arthur I. Csetényi) **99a:92036** 92D40

White, Luther W. (*with* Patten, William N.) A sliding horizon feedback control problem with feedforward and disturbance. *J. Math. Systems Estim. Control* **7** (1997), *no.* 2, 33 *pp.* (*electronic*). (Michael E. Fisher) **99h:93055** 93C15 (49N10)

— (*with* Jin, Ying-jun) Resolution of regularized output least squares estimators for elliptic and parabolic problems. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 488–513, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:49041** 49M25 (65M06, 93C20)

— (*with* Wang, Zhi[2]; Droegemeier, K.) The adjoint Newton algorithm for large-scale unconstrained optimization in meteorology applications. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 3, 283–320. 90C90 (86A10, 90C30)

White, Michael C. (*with* Galé, José E.) An analytic semigroup version of the Beurling-Helson theorem. *Math. Z.* **225** (1997), *no.* 1, 151–165. (Robert S. Doran) **99h:43007** 43A20 (46H99, 46J10, 47D03)

— (*with* Lykova, Zinaida A.) Excision in the cohomology of Banach algebras with coefficients in dual bimodules. (English summary) *Banach algebras '97* (*Blaubeuren*), 341–361, *de Gruyter, Berlin*, 1998. (John Duncan) **99m:46169** 46M20 (46H25)

White, Neil (*with* Borovik, A. V.; Gel'fand, Izrail' Moiseevich) Coxeter matroid polytopes. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 123–134. (Summary) **99d:05016** 05B35 (05E15, 52B40)

White, Peter William (*with* Powell, James A.; McMillen, Tyler) Connecting a chemotactic model for mass attack to a rapid integro-difference emulation strategy. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 547–572 (*electronic*). (Gabriela Kirlinger) **99j:92027** 92D50 (65C20)

— (*with* Powell, James A.) Spatial invasion of pine beetles into lodgepole forests: a numerical approach. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 164–184 (*electronic*). (Summary) **99i:92031** 92D40 (65L99, 65M99)

White, R. B. *see* **White, Roscoe B.**

White, R. E. *see* **Chang, Da-Wei, 99m:65097**

White, Roscoe B. (*with* Kassibrakis, S.; Benkadda, Sadruddin; Zaslavskiĭ, G. M.) Nonuniversality of transport for the standard map. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 403–438, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Summary) **99g:58083** 58F13 (58F40)

— (*with* Benkadda, Sadruddin; Kassibrakis, S.; Zaslavskiĭ, G. M.) Near threshold anomalous transport in the standard map. (English summary) *Chaos* **8** (1998), *no.* 4, 757–767. (Summary) **99h:58130** 58F13

Whitehead, A. N. *see* **Bain, Jonathan, 99i:83076**

Whitehead, C. A. (*with* Hartnell, Bert L.; Rall, Douglas F.) The watchman's walk problem: an introduction. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 149–155. (Summary) **99j:05131** 05C45

Whitehead, Earl Glen, Jr. (*with* Holland, Jonathan Earl) On matching equivalent graphs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 227–235. (Summary) **99i:05167** 05C70

Whitehead, Jennifer (*with* Maller, Michael) Computational complexity over the p-adic numbers. (English summary) *J. Complexity* **13** (1997), *no.* 2, 195–207. (Rodney G. Downey) **99c:68080** 68Q05 (11S85, 11Y16, 68Q15, 68Q25)

Whitehead, Karen (*with* Teets, Donald A.) Computation of planetary orbits. *College Math. J.* **29** (1998), *no.* 5, 397–404. (Ll. G. Chambers) **99k:01094** 01A99 (70F15)

Whiteley, Walter An analogy in geometric homology: rigidity and cofactors on geometric graphs. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 413–437, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Tiong Seng Tay) **99h:05024** 05B35 (05C10, 52C25, 65D07)

— (*with* Servatius, Brigitte) Constraining plane configurations in computer-aided design: combinatorics of directions and lengths. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 136–153 (*electronic*). (Luiz Henrique de Figueiredo) **99m:68218** 68U07 (05B35, 05C50, 51N05, 52C25)

Whitesides, S. H. (*with* Biedl, Therese C.; Shermer, Thomas C.; Wismath, Stephen K.) Orthogonal 3-D graph drawing. (English summary) *Graph drawing* (*Rome*, 1997), 76–86, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)

— (*with* Liotta, Giuseppe; Lubiw, Anna; Meijer, Henk) The rectangle of influence drawability problem. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 1–22. (Vladimir P. Korzhik) **99b:05039** 05C10 (65Y25, 68U05)
— (*with* Bose, Prosenjit; Everett, Hazel; Fekete, Sándor P.; Houle, Michael E.; Lubiw, Anna; Meijer, Henk; Romanik, Kathleen; Rote, Günter; Shermer, Thomas C.; Zelle, Christian) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)
— (*with* Dudek, Gregory; Romanik, Kathleen) Localizing a robot with minimum travel. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 583–604 (*electronic*). (Summary) **99b:68093** 68Q25 (68T99, 68U05, 68U30)
Whiting, Bernard F. Singularity avoidance during gravitational collapse. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 331–334, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C75
— (*with* Louko, Jorma; Friedman, John L.) Hamiltonian spacetime dynamics with a spherical null-dust shell. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2279–2298. (Summary) **99a:83009** 83C05 (83C55)
Whiting, C. H. (*with* Rusak, Z.; Wang, Shixiao) The evolution of a perturbed vortex in a pipe to axisymmetric vortex breakdown. (English summary) *J. Fluid Mech.* **366** (1998), 211–237. (Summary) **99c:76020** 76C05 (76D99, 76E99)
Whitler, J. (*with* Apte, Aruna Uday; Jayasuriya, A.; Kennington, J.; Krass, I.; Mohamed, Ramadan Hamed; Sorensen, S.) Class scheduling algorithms for Navy training schools. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 533–551. 90B35 (90B90)
Whitley, Darrell (*with* Rana, Soraya; Heckendorn, Robert B.) A tractable Walsh analysis of SAT and its implications for genetic algorithms. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 392–397, *MIT Press, Cambridge, MA*, 1998. (Summary) **99f:68108** 68Q25 (68T05)
Whitley, Robert (*with* Hromadka, T. V., II) ★ Advances in the complex variable boundary element method. (English summary) *Springer-Verlag London, Ltd., London*, 1998. xiv+390 *pp. ISBN* 3-540-76194-2 (B. Kellogg) **99a:65168** 65N38 (65K05, 73V10, 76M15)
— (*with* Hromadka, T. V., II) The existence of approximate solutions to mixed boundary value problems. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 2, 191–199. (S. F. McCormick) **99k:65114** 65N38
Whitman, Alan M. (*with* Beran, Mark J.; Maralina, Galina) Pulse propagation of acoustic waves scattered in a channel. (English summary) *Waves Random Media* **9** (1999), *no.* 1, 1–11. (Summary) **99j:76115** 76Q05
Whitmore, G. A. (*with* Hougaard, Philip; Lee, Mei-Ling Ting) Analysis of overdispersed count data by mixtures of Poisson variables and Poisson processes. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1225–1238. (Summary) **99a:62150** 62P10
Whitney, Glen T. (*with* Hurkens, A. J. C.; McArthur, Monica; Moschovakis, Yiannis N.; Moss, Lawrence S.) The logic of recursive equations. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 451–478. (Thomas Glaß) **99m:03092a** 03D75 (03D70)
— (*with* Hurkens, A. J. C.; McArthur, Monica; Moschovakis, Yiannis N.; Moss, Lawrence S.) Erratum: "The logic of recursive equations". *J. Symbolic Logic* **64** (1999), *no.* 1, 406. (Thomas Glaß) **99m:03092b** 03D75 (03D70)
Whitt, Ward (*with* Pukhal'skiĭ, A. A.) Functional large deviation principles for first-passage-time processes. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 362–381. (Summary) **99c:60059** 60F10 (60G55, 60K05)
— (*with* Choudhury, Gagan L.; Lucantoni, David M.) Numerical solution of piecewise-stationary $M_t/G_t/1$ queues. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 451–463. (Summary) **99e:90041** 90B22
— (*with* Duffield, N. G.) Large deviations of inverse processes with nonlinear scalings. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 995–1026. (Anatolii A. Pukhal'skiĭ) **99m:60043** 60F10 (60F17, 60K25)
— (*with* Abate, J.) Calculating transient characteristics of the Erlang loss model by numerical transform inversion. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 663–680. (Summary) **99a:60097** 60K25 (90B22)
— (*with* Fendick, Kerry W.) Verifying cell loss requirements in high-speed communication networks. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 319–338. 60K25 (60K30, 90B12)
— (*with* Pukhal'skiĭ, A. A.) Functional large deviation principles for waiting and departure processes. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 479–507. (Gheorghe Stoica) **99f:60160** 60K25 (60F10, 60F17)
Whittinghill, Dexter C. A note on the robustness of Box-Behnken designs to the unavailability of data. (English summary) *Metrika* **48** (1998), *no.* 1, 49–52. (Summary) **99g:62119** 62K99
Whittington, Keith A generalization of 2-homogeneous continua being locally connected. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3131–3132. (Summary) **99a:54024** 54F15 (54D05)
Whittington, Stuart G. (*with* Orlandini, Enzo; Janse van Rensburg, E. J.; Tesi, Maria Carla) Entropic exponents of knotted lattice polygons. (English summary) *Topology and geometry in polymer science (Minneapolis, MN, 1996)*, 9–21, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Summary) **99f:82065** 82D60 (57M25)
— (*with* Uberti, R.; Janse van Rensburg, E. J.; Orlandini, Enzo; Tesi, Maria Carla) Minimal links in the cubic lattice. (English summary) *Topology and geometry in polymer science (Minneapolis, MN, 1996)*, 89–100, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Yuanan Diao) **99h:57020** 57M25
— (*with* Tesi, Maria Carla; Janse van Rensburg, E. J.; Orlandini, Enzo) Topological entanglement complexity of polymer chains in confined geometries. (English summary) *Topology and geometry in polymer science (Minneapolis, MN, 1996)*, 135–157, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Summary) **99f:82066** 82D60 (57M25)
— A self-avoiding walk model of copolymer adsorption. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3769–3775. (Summary) **99b:82043** 82B41 (82D60)
— (*with* Bennett-Wood, D.; Enting, I. G.; Gaunt, D. S.; Guttmann, Anthony J.; Leask, J. L.; Owczarek, Aleksander L.) Exact enumeration study of free energies of interacting polygons and walks in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4725–4741. (Summary) **99c:82031** 82B41 (82D60)
— (*with* Orlandini, Enzo; Tesi, Maria Carla; Janse van Rensburg, E. J.) Asymptotics of knotted lattice polygons. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5953–5967. (Summary) **99g:82031** 82B41 (82B80, 82D60)
— A directed-walk model of copolymer adsorption. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8797–8803. (E. J. Janse van Rensburg) **99m:82017** 82B23 (82B27, 82B41)
— (*with* Soteros, C. E.; Sumners, De Witt) Linking of random p-spheres in $\mathbf{Z}^d$. (English summary) *J. Knot Theory Ramifications* **8** (1999), *no.* 1, 49–70. (Yuanan Diao) **99m:57023** 57Q45 (57M25, 60D05)
— (*with* Orlandini, Enzo; Tesi, Maria Carla) A self-avoiding walk model of random copolymer adsorption. (English summary) *J. Phys. A* **32** (1999), *no.* 3, 469–477. (E. J. Janse van Rensburg) **99m:82028** 82B41 (82D60)
— *see also* **Topology and geometry in polymer science**, **99e:82103** *and* **Numerical methods for polymeric systems**, **99f:82001**
Whittle, Geoff (*with* Geelen, James F.; Oxley, James; Vertigan, Dirk) Weak maps and stabilizers of classes of matroids. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 305–341. (Dragan M. Acketa) **99f:05023** 05B35
— (*with* Oxley, James) On weak maps of ternary matroids. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 377–389. (Joseph Kung) **99f:05024** 05B35 (06C10)
— (*with* Oxley, James; Vertigan, Dirk) On maximum-sized near-regular and $\sqrt[n]{1}$-matroids. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 163–179. (Joseph Kung) **99i:05058** 05B35 (06C10, 15A15)
Whittle, Jon (*with* Melis, Erica) Analogy in inductive theorem proving. (English summary) *J. Automat. Reason.* **22** (1999), *no.* 2, 117–147. (Summary) **99k:68173** 68T15 (03B35)
Whitty, Robin Computing. (English summary) *Graph connections*, 227–246, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 68N05 (05C85, 68Q45, 68R10)
Wiandt, Tamás On the boundedness of solutions of the vector Liénard equation. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 141–143. (Sui Lin Cai) **99a:34106** 34C11
Wiberg, Nils-Erik (*with* Hager, Patrik) Error estimation and adaptivity for h-version eigenfrequency analysis. (English summary) *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 461–475, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99e:73099** 73V05 (73K12)
müller-Wichards, Dieter *see* **Müller-Wichards, Dieter**
Wichman, Indrek S. (*with* Ramadan, Bassem) Theory of attached and lifted diffusion flames. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3145–3154. (Summary) **99g:80010** 80A25
Wichmann, Eyvind H. (*with* Thomas, Launey J., III) On a class of distributions of interest in quantum field theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1680–1719. (S. Sakai) **99d:81070** 81T05 (46F05, 46L60, 46N50)
— (*with* Thomas, Launey J., III) Standard forms of local nets in quantum field theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2643–2681. (Stephen J. Summers) **99c:81129** 81T05 (46L60)
Wick, Brian (*with* Gethner, Ellen; Wagon, Stan) A stroll through the Gaussian primes. *Amer. Math. Monthly* **105** (1998), *no.* 4, 327–337. (Jeffrey O. Shallit) **99b:11006** 11A41 (11R11, 11R44)
Wicker, Stephen B. (*with* Costello, Daniel J., Jr.; Hagenauer, Joachim; Imai, Hideki) Applications of error-control coding. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2531–2560. (Summary) **99i:94027** 94A24 (94A40)
Wickerhauser, Mladen Victor A primer on wavelet theory and its applications. *Functional analysis. V, Vol. I (Dubrovnik, 1997)*, 127–142, *Various Publ. Ser.*, 44, *Univ. Aarhus, Aarhus*, 1998. (*see* **99h:00028**) 42C15 (42-02)
Wickham, G. R. (*with* Norris, A. N.; Rebinsky, D. A.) On wave interaction and diffraction from the junction of two curved plates under unilateral fluid loading. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1741, 1421–1467. (Summary) **99f:73064** 73K70 (76Q05)
— (*with* Lewis, Patricia A.; Temple, J. A. G.; Walker, E. J.) Calculation of diffraction coefficients for a semi-infinite crack embedded in an infinite anisotropic linearly elastic body. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1781–1803. 73D25 (76Q05)
Wickless, W. J. (*with* Vinsonhaler, C.) Dualities for locally completely decomposable abelian groups. *J. Algebra* **191** (1997), *no.* 2, 628–652. (From the introduction) **99b:20087** 20K15 (20K20)
— (*with* Fomin, A. A.) Self-small mixed abelian groups G with $G/T(G)$ finite rank divisible. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3563–3580. (L. Bican) **99j:20061** 20K21 (20K30, 20K40)
— (*with* Goeters, H. Pat) Qqpi groups and quasi-equivalence. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3145–3150. (K. M. Rangaswamy) **99d:20084** 20K15 (20K30)
Wicklin, Frederick J. (*with* Nien, Chia-Hsing) An algorithm for the computation of preimages in noninvertible mappings. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 415–422. (Summary) **99i:58019** 58C27
— (*with* Petters, Arlie O.) Fixed points due to gravitational lenses. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1011–1023. (D. R. J. Chillingworth) **99d:83079** 83C99 (57R45, 58C27, 85A45)
Wickramasekara, Sujeewa (*with* Bohm, Arno) The time reversal operator for semigroup evolutions. (English summary) *Found. Phys.* **27** (1997), *no.* 7, 969–993. (S. Gudder) **99h:81040** 81Q10 (81S99)
Wickstead, A. W. (*with* Abramovich, Yuri A.) When each continuous operator is regular. II. *Indag. Math. (N.S.)* **8** (1997), *no.* 3, 281–294. (Gerard Buskes) **99c:47046** 47B60 (47D15)
Widdowson, S. (*with* Hurricane, O. A.; Cowley, S. C.) The continuum of unstable magnetohydrodynamic modes in a simple magnetized atmosphere. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1259–1264. (Summary) **99a:76166** 76W05 (76E25, 85A30)
Widiger, Alfred Deciding degree-four-identities for alternative rings by rewriting. (English summary) *Symbolic rewriting techniques (Ascona, 1995)*, 277–288, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Ralph W. Wilkerson) **99e:68085** 68Q42 (17D05, 68T15)

Widlund, Olof B. (*with* Cai, Xiao-Chuan; Casarin, Mario A.; Elliott, Frank W., Jr.) Overlapping Schwarz algorithms for solving Helmholtz's equation. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 391–399, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65N30, 65N35)

— (*with* Achdou, Yves; Maday, Yvon) Iterative substructuring preconditioners for mortar element methods in two dimensions. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 551–580 (*electronic*). (Ji Chun Li) **99m:65233** 65N55 (65F35, 65N30, 65N35)

Widman, Jack Topological groups in which every dense subgroup has a convergent sequence. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 387–392 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99e:54030** 54H11 (54A20)

Widmayer, Peter (*with* Neyer, Gabriele) Singularities make spatial join scheduling hard. (English summary) *Algorithms and computation* (*Singapore*, 1997), 293–302, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68046** 68P15

— (*with* Nardelli, Enrico; Proietti, Guido) Finding all the best swaps of a minimum diameter spanning tree under transient edge failures. (English summary) *Algorithms—ESA '98* (*Venice*), 55–66, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (68M20)

— (*with* Eidenbenz, Stephan; Stamm, Christoph) Positioning guards at fixed height above a terrain—an optimum inapproximability result. (English summary) *Algorithms—ESA '98* (*Venice*), 187–198, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68209** 68U05 (68Q25)

— (*with* Nardelli, Enrico; Proietti, Guido) Finding the detour-critical edge of a shortest path between two nodes. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 51–54. (Summary) **99c:68198** 68R10 (05C38, 05C85, 68Q25)

— (*with* Ihler, Edmund; Reich, Gabriele) Class Steiner trees and VLSI-design. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 173–194. (Summary) **99m:68151** 68R10 (05C85, 68Q25, 68Q35)

Widmer, Lamarr Construction of elements of the Smarandache square-partial-digital subsequence. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 129–130, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11B83

Widom, A. (*with* Ralph, J. F.; Clark, T. D.; Prance, H.; Prance, R. J.; Srivastava, Y. N.) Solutions of the time-dependent Schrödinger equation for a two-state system. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1271–1282. 81Q05

Widom, Harold (*with* Tracy, Craig A.) On exact solutions to the cylindrical Poisson-Boltzmann equation with applications to polyelectrolytes. (English summary) *Phys. A* **244** (1997), *no.* 1-4, 402–413. (Vitor R. Vieira) **99h:82081** 82D99 (58F40, 81V55)

— (*with* Tracy, Craig A.) Asymptotics of a class of solutions to the cylindrical Toda equations. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 697–721. (Spyridon Kamvissis) **99b:35205** 35Q99 (47G10, 47N20, 58F19)

— An integral operator solution to the matrix Toda equations. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 3, 363–372. (Summary) **99k:58100** 58F07 (35Q53, 47G10, 70K99)

— (*with* Tracy, Craig A.) Correlation functions, cluster functions, and spacing distributions for random matrices. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 809–835. (Estelle L. Basor) **99m:82030** 82B44 (82B41)

Widom, Michael (*with* Banerjee, Shubho; Griffiths, Robert B.) Thermodynamic limit for dipolar media. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 109–141. (Summary) **99h:82003** 82B05

— (*with* de Miranda-Neto, J. A.) Viscous fingering patterns in ferrofluids. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 411–426. (Summary) **99i:76151** 76W05 (76E25)

— (*with* de Miranda-Neto, J. A.) Radial fingering in a Hele-Shaw cell: a weakly nonlinear analysis. (English summary) *Phys. D* **120** (1998), *no.* 3-4, 315–328. (Summary) **99e:76042** 76D99 (76S05)

Wie, Byung-Wook (*with* Tobin, Roger L.) On the relationship between dynamic Nash and instantaneous user equilibria. (English summary) *Networks* **32** (1998), *no.* 2, 141–163. 90B06 (90C35)

Wiecek, Malgorzata M. (*with* Nickel, Stefan) A flexible approach to piecewise linear multiple objective programming. (English and German summaries) *Operations Research Proceedings* 1996 (*Braunschweig*), 14–19, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C29

— (*with* Galperin, Efim A.) Retrieval and use of the balance set in multiobjective global optimization. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 111–123. (*see* **99i:90003**) 90C29 (90C90)

Wiechecki, Łukasz Finitely generated group ring units. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 51–55. (Adalbert Bovdi) **99b:16045** 16S34 (20C07)

Wieczerkowski, C. Construction of the hierarchical φ^4-trajectory. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 377–430. (Manfred Salmhofer) **99g:81144** 81T17 (81T08)

Wieczorek, Wojciech Basic classes and embedded spheres. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 67–78. (Vicente Muñoz) **99h:57062** 57R57 (57N13, 57R55)

Wieczorkowski, R. Calculating the minimax estimator of a binomial probability with entropy loss function and its comparison with other estimators of a binomial probability. (English summary) *Statist. Decisions* **16** (1998), *no.* 3, 289–298. 62C20

Wiedermann, Jiří (*with* Šíma, Jiří) Theory of neuromata. (English summary) *J. ACM* **45** (1998), *no.* 1, 155–178. (Robert M. Baer) **99c:68082** 68Q05 (68Q45, 68T05)

Wiedorn, Corinna An F_1-module for the $3U_4(3)$-amalgam. *J. Algebra* **195** (1997), *no.* 2, 337–356. (Martin W. Liebeck) **99b:20031** 20D08

— A semiclassical parabolic system related to F_4. *J. Algebra* **210** (1998), *no.* 1, 31–66. (Antonio Pasini) **99k:20061** 20E42 (20E32, 51E24)

— On the 833-dimensional irreducible representation of the group $F_4(2)$. *J. Group Theory* **1** (1998), *no.* 3, 219–224. (Donald L. White) **99e:20018** 20C33 (20C20, 20D06)

— Some semiclassical parabolic systems of rank 4. *J. Algebra* **211** (1999), *no.* 2, 472–513. (Jonathan I. Hall) **99k:20062** 20E42

Wiegand, Roger Local rings of finite Cohen-Macaulay type. (English summary) *J. Algebra* **203** (1998), *no.* 1, 156–168. (Anna Guerrieri) **99c:13025** 13C14 (13H99)

— (*with* Heinzer, William J.; Lantz, David) The residue fields of a zero-dimensional ring. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 1, 67–85. (Marco Fontana) **99g:13009** 13B30 (14A05)

Wiegand, Sylvia M. (*with* Heinzer, William J.; Rotthaus, Christel) Noetherian rings between a semilocal domain and its completion. (English summary) *J. Algebra* **198** (1997), *no.* 2, 627–655. (Daniel D. Anderson) **99a:13008** 13E05 (13J10)

— (*with* Heinzer, William J.; Rotthaus, Christel) Building Noetherian domains inside an ideal-adic completion. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 279–287, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (David E. Rush) **99m:13035** 13E05 (13C15, 13J10)

— (*with* Heinzer, William J.; Rotthaus, Christel) Intermediate rings between a local domain and its completion. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 19–46. (D.-M. Popescu) **99m:13047** 13J10 (13F25, 13J05)

— (*with* Taylor, Jean E.) AWM in the 1990s: a recent history of the Association for Women in Mathematics. *Notices Amer. Math. Soc.* **46** (1999), *no.* 1, 27–38. (Editors) **99k:01084** 01A74 (01A80)

Wiegandt, Richárd (*with* Heatherly, Henry E.; Lee, Enoch K. S.) Involutions on universal algebras. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 269–282, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Helmut Länger) **99c:08005** 08A40

— (*with* Mlitz, R.; Sands, A. D.) Radicals coinciding with the von Neumann regular radical on Artinian rings. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 229–239. (Andrei Kelarev) **99d:16025** 16N80

— (*with* Aburawash, Usama A.) The Rees and Steinfeld theorems for semigroups with involution. *Semigroup Forum* **57** (1998), *no.* 3, 440–444. (From the text) **99g:20106** 20M10

Wiegelmann, Markus (*with* Lux, Klaus) Condensing tensor product modules. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 174–190, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Herbert Pahlings) **99i:20018** 20C40 (20C05, 20C34, 68Q40)

Wiegerinck, Jan (*with* Beneker, Paul) Strongly exposed points in uniform algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1567–1570. (Krzysztof Jarosz) **99m:46123** 46J10 (46B10)

Wiegmann, Andreas (*with* Bube, Kenneth P.) The immersed interface method for nonlinear differential equations with discontinuous coefficients and singular sources. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 177–200 (*electronic*). (Jian-Ping Zhu) **99c:65162** 65M06 (76M20)

Wiegmann, P. B. (*with* Krichever, Igor Moiseevich; Lipan, O.; Zabrodin, A. V.) Quantum integrable systems and classical discrete nonlinear dynamics. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 211–227, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23 (58F07, 81U40)

— (*with* Krichever, Igor Moiseevich; Lipan, O.; Zabrodin, A. V.) Quantum integrable models and discrete classical Hirota equations. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 267–304. (Mayumi Ohmiya) **99c:58076** 58F07 (39A10, 82B23)

— (*with* Krichever, Igor Moiseevich; Zabrodin, A. V.) Elliptic solutions to difference non-linear equations and related many-body problems. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 373–396. (Andrey V. Tsiganov) **99e:58103** 58F07 (14H42, 33C90, 39A10, 81V70)

— (*with* Abanov, A. G.; Talstra, J. C.) Hierarchical structure of Azbel-Hofstadter problem: strings and loose ends of Bethe ansatz. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 571–596. (Rinat M. Kashaev) **99h:82020** 82B23 (81R50)

Wiegold, James (*with* Lennox, John C.; Smith, Howard) Finite p-groups in which subgroups have large cores. *Infinite groups* 1994 (*Ravello*), 163–169, *de Gruyter, Berlin*, 1996. (Czesław Bagiński) **99a:20018** 20D15

— (*with* Cutolo, Giovanni; Lennox, John C.; Rinauro, Silvana; Smith, Howard) On infinite core-finite groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 169–175. (O. Yu. Dashkova) **99g:20062** 20F14

— (*with* Burns, John M.; Ellis, Graham J.; MacHale, Desmond; Ó Murchú, P.; Sheehy, R.) Lower central series of groups with small upper central factors. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 113–122. (O. Yu. Dashkova) **99g:20061** 20F14

— (*with* Smith, Howard) Groups isomorphic to their non-nilpotent subgroups. *Glasgow Math. J.* **40** (1998), *no.* 2, 257–262. (Patrizia Longobardi) **99h:20068** 20F99 (20E07)

Wiehagen, Rolf (*with* Jain, Sanjay[1]; Kinber, Efim) On learning and co-learning of minimal programs. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 242–255, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (From the introduction) **99a:68142** 68T05 (68Q99)

— (*with* Lange, Steffen; Nessel, Jochen) Learning recursive languages from good examples. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 27–52. (Sanjay Jain) **99k:68159** 68T05 (68Q99)

— *see also* **Algorithmic learning theory, 99m:68005**

Wieland, Thomas Combinatorics of combinatorial chemistry. (English summary) *J. Math. Chem.* **21** (1997), *no.* 2, 141–157. (Dietmar Dorninger) **99c:92063** 92E10 (05A15, 05C30)

Wielonsky, Franck Hermite-Padé approximants of exponential functions and an inequality of Mahler. (English summary) *J. Number Theory* **74** (1999), *no.* 2, 230–249. (Yann Bugeaud) **99m:11076** 11J04

Wiener, Joseph A second-order delay differential equation with multiple periodic solutions. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 659–676. (Binggen Zhang) **99k:34159** 34K15 (34K10)

Wiener, Michael J. (*with* van Oorschot, Paul C.) Parallel collision search with cryptanalytic applications. (English summary) *J. Cryptology* **12** (1999), *no.* 1, 1–28. (Summary) **99i:94054** 94A60

Wiener, Norbert The history and prehistory of cybernetics. *Kybernetes* **27** (1998), *no.* 1, 29–37. 01A60 (01A75)

— *see also* **Musès, Charles**

Wieners, Christian (*with* Wohlmuth, Barbara I.) The coupling of mixed and conforming finite element discretizations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 547–554, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N15 (65N30, 65N55)

Wienholtz, Daniel ★ Zum Ausschluß von Randverzweigungspunkten bei Minimalflächen. (German) [On the exclusion of boundary branch points of minimal surfaces] Dissertation, Rheinische Friedrich-Wilhelms-Universität Bonn, Bonn, 1996. Bonner Mathematische Schriften [Bonn Mathematical Publications], 298. *Universität Bonn, Mathematisches Institut, Bonn*, 1997. *iv*+77 *pp.* (Karsten Grosse-Brauckmann) **99d:58042** 58E12 (49Q05, 53A10)

Wiens, Douglas P. (*with* Zhou, Julie) Robust designs based on the infinitesimal approach. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1503–1511. (William I. Notz) **99b:62112** 62K05

— (*with* Liu, Shawn X.) Robust designs for approximately polynomial regression. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 369–381. (Christine Hildegard Müller) **99e:62129** 62K05 (62F35, 62J05)

— (*with* Wu, K. H. Eden; Zhou, Julie) On the trimmed mean and minimax-variance *L*-estimation in Kolmogorov neighbourhoods. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 231–238. (Mir Masoom Ali) **99i:62060** 62F35 (62C20)

— Minimax robust designs and weights for approximately specified regression models with heteroscedastic errors. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1440–1450. (Summary) **99i:62169** 62K05

Wiercigroch, M. Nonlinear dynamics of mechanical systems with discontinuities. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 313–322, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70K99

Wierman, Mark J. (*with* Klir, George J.) ★ Uncertainty-based information. Elements of generalized information theory. Studies in Fuzziness and Soft Computing, 15. *Physica-Verlag, Heidelberg*, 1998. *xvi*+168 *pp. ISBN* 3-7908-1073-8 (Leandro Pardo) **99i:94019** 94A15 (04A72, 68T30, 94–02)

Wierse, Monika (*with* Geßner, Thomas; Kröner, Dietmar) Numerical methods, simulations and visualization for compressible flows. (English summary) *Visualization and mathematics (Berlin-Dahlem, 1995)*, 347–356, *Springer, Berlin*, 1997. (*see* **99g:68212**) 76M25

Wiersig, Jan (*with* Waalkens, Holger; Dullin, Holger R.) Elliptic quantum billiard. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 50–90. (Christian Grosche) **99b:81063** 81Q50 (33C90, 81Q20)

Wiertelak, K. On the distribution of the smallest natural numbers having order mod p not coprime with a given integer. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 4, 271–284. (D. R. Heath-Brown) **99h:11112** 11N69 (11N36)

Wierzbicki, Andrzej P. Convergence of interactive procedures of multiobjective optimization and decision support. (English summary) *Essays in decision making*, 19–47, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90A05)

— Convergence of interactive procedures of multiobjective optimization and decision support. (English summary) *Trends in multicriteria decision making (Cape Town, 1997)*, 106–127, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A05 (90C29)

Wierzbicki, Jerzy On commutativity of diagrams of type II_1 factors. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 23–42. (Carl Winsløw) **99d:46082** 46L37

Wierzbicki, T. (*with* Trauth, K. A.; Atkins, A. G.) On diverging concertina tearing. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 4, 990–997. 73M25 (73K10)

Wiesbrock, Hans-Werner Modular inclusions and intersections of algebras in QFT. *Operator algebras and quantum field theory (Rome, 1996)*, 609–620, *Internat. Press, Cambridge, MA*, 199?. (Gerald Hofmann) **99f:81123** 81T05 (46L10, 46L60)

— (*with* Guido, Daniele; Longo, Roberto) Extensions of conformal nets and superselection structures. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 217–244. (Stephen J. Summers) **99b:81136** 81T05 (22E70, 46L60, 81R10, 81T40)

— Modular intersections of von Neumann algebras in quantum field theory. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 269–285. (Rainer Verch) **99f:81122** 81T05 (46L10, 46L60)

Wiese, H. (*with* Wang, Shun Jin; Typel, S.; Weiguny, A.) Response of a quantum system to a time-dependent external field and dynamical symmetry of the system. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5585–5598. (Summary) **99c:82045** 82C10

Wiese, Kay Jörg On the perturbation expansion of the KPZ equation. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 143–154. (Summary) **99h:82053** 82C28 (82C24)

— (*with* David, François) Large order behavior for self-avoiding membranes. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 555–595. (Summary) **99g:82015** 82B21 (82B27)

Wiesendanger, C. A Poincaré gauge theory of gravitation in Minkowski spacetime. (English summary) *Quantum gravity (Erice, 1995)*, 366–381, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:83071** 83D05

Więsław, Witold Hilbert's Seventh Problem. (Polish. English summary) *Hilbert's Problems (Polish) (Międzyzdroje, 1993)*, 71–84, *Polsk. Akad. Nauk, Warsaw*, 1997. (*see* **99b:01001**) 11–03 (01A60, 11J81)

— Hilbert's Fourteenth Problem. (Polish. English summary) *Hilbert's Problems (Polish) (Międzyzdroje, 1993)*, 163–173, *Polsk. Akad. Nauk, Warsaw*, 1997. (Summary) **99g:01030** 01A60 (13A50)

— *see also* **Hilbert's Problems, 99b:01001**

Wiesner, Stephen (*with* Goldenberg, Lior; Vaidman, Lev) Quantum gambling. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 16, 3356–3359. (Summary) **99m:81031** 81P99

Wiest, Bert (*with* Greene, Michael T.) A natural framing of knots. (English summary) *Geom. Topol.* **2** (1998), 31–64 (*electronic*). (Summary) **99i:57014** 57M25

Wigderson, Avi (*with* Nisan, Noam) Lower bounds on arithmetic circuits via partial derivatives (preliminary version). (English summary) 36*th Annual Symposium on Foundations of Computer Science (Milwaukee, WI*, 1995), 16–25, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15

— (*with* Nisan, Noam) Lower bounds on arithmetic circuits via partial derivatives. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 217–234. (Frederic Green) **99f:68107** 68Q25 (68Q40)

— (*with* Gál, Anna) Boolean complexity classes vs. their arithmetic analogs. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 99–111. (Frederic Green) **99f:68069** 68Q15

— (*with* Goldreich, Oded) Tiny families of functions with random properties: a quality-size trade-off for hashing. (English summary) Proceedings of the Workshop on Randomized Algorithms and Computation (Berkeley, CA, 1995). *Random Structures Algorithms* **11** (1997), *no.* 4, 315–343. (Friedhelm Meyer auf der Heide) **99f:68042** 68P10 (68Q25)

— (*with* Miltersen, Peter Bro; Nisan, Noam; Safra, Shmuel) On data structures and asymmetric communication complexity. (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 37–49. (Ricardo Baeza-Yates) **99i:68064** 68Q25 (68P05)

Wigdorowitz, Brian (*with* Pritchard, Charles J.) Mapping frequency response bounds to the time domain. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 335–343. 93B35 (93B30)

— (*with* Pritchard, Charles J.) Improved method of determining time-domain transient performance bounds from frequency response uncertainty regions. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 311–327. 93B51 (93B50, 93C41)

— (*with* Pritchard, Charles J.) On the determination of time-domain signal levels at the specification stage in quantitative feedback theory controller synthesis. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 329–348. 93B51 (93C41)

engelbrecht-Wiggans, Richard *see* **Engelbrecht-Wiggans, Richard**

Wiggerman, Mark The fundamental group of a real flag manifold. (English summary) *Indag. Math. (N.S.)* **9** (1998), *no.* 1, 141–153. (Harry Tamvakis) **99e:57052** 57T20 (14M15)

Wiggins, David *see* **Woods, Michael, 99a:03034**

Wiggins, Stephen (*with* Li, Yan Guang) ★ Invariant manifolds and fibrations for perturbed nonlinear Schrödinger equations. (English summary) Applied Mathematical Sciences, 128. *Springer-Verlag, New York*, 1997. viii+170 *pp. ISBN* 0-387-94925-9 (C. Eugene Wayne) **99e:58165** 58F39 (35B20, 35Q55, 58F30)

— (*with* Malhotra, Naresh K.; Mezić, Igor) Patchiness: a new diagnostic for Lagrangian trajectory analysis in time-dependent fluid flows. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1053–1093. (Summary) **99i:76068** 76F20 (58F40, 76E15)

— (*with* Ghosh, S.; Leonard, A.) Diffusion of a passive scalar from a no-slip boundary into a two-dimensional chaotic advection field. (English summary) *J. Fluid Mech.* **372** (1998), 119–163. (Athanasios Yannacopoulos) **99k:76041** 76D05 (58F13, 58F40, 76F20, 76M35)

— (*with* Malhotra, Naresh K.) Geometric structures, lobe dynamics, and Lagrangian transport in flows with aperiodic time-dependence, with applications to Rossby wave flow. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 4, 401–456. (Athanasios Yannacopoulos) **99e:34055** 34C35 (58F40, 76C20, 76F20)

— (*with* Rudnev, Michael) Existence of exponentially small separatrix splittings and homoclinic connections between whiskered tori in weakly hyperbolic near-integrable Hamiltonian systems. (English summary) *Phys. D* **114** (1998), *no.* 1-2, 3–80. (Author's review (M.R.)) **99f:58175** 58F27 (34C37, 58F05, 58F15, 70H05)

— (*with* Mezić, Igor; Betz, David) Residence-time distributions for chaotic flows in pipes. (English summary) *Chaos* **9** (1999), *no.* 1, 173–182. (Summary) **99m:76068** 76F20 (58F13, 58F40)

Wightman, Arthur S. Theoretical physics at the IHÉS. Some retrospective remarks. *Les relations entre les mathématiques et la physique théorique*, 191–194, *Inst. Hautes Études Sci., Bures-sur-Yvette*, 1998. (*see* **99h:00038**) 01A60 (01A74)

— *see also* **Wigner, Eugene Paul, 99k:01088** *and* **99k:01089**

Wigner, Eugene Paul ★ The collected works of Eugene Paul Wigner. Part A. The scientific papers. Vol. III. Part I. Particles and fields. Part II. Foundations of quantum mechanics. With a preface by Jagdish Mehra and Arthur S. Wightman. With annotations by Wightman and Abner Shimony. Edited by Wightman. *Springer-Verlag, Berlin*, 1997. *xii*+576 *pp. ISBN* 3-540-57293-7 (R. L. Ingraham) **99k:01088** 01A75 (81–03)

— ★ The collected works of Eugene Paul Wigner. Part A. The scientific papers. Vol. IV. Part I. Physical chemistry. Part II. Solid state physics. With a preface by Jagdish Mehra and Arthur S. Wightman. With annotations by Nandor Balazs and Walter Kohn. Edited by Wightman. *Springer-Verlag, Berlin*, 1997. *xii*+456 *pp. ISBN* 3-540-56985-5 (R. L. Ingraham) **99k:01089** 01A75 (82–03)

Wihstutz, Volker Perturbation methods for Lyapunov exponents. (English summary) *Stochastic dynamics (Bremen, 1997)*, 209–239, *Springer, New York*, 1999. (Volker Matthias Gundlach) **99m:34124** 34F05 (34D08, 58F30, 60H10)

Wiitala, J. M. (*with* Stanišić, M. M.) Kinematics of a split-equator symmetrically actuated double pointing system used in a robotic wrist. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 237–246, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Wijesinha, Alexander L. (*with* Sidhu, Deepinder P.) Performance analysis of a constrained resource sharing system. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 293–311. (Erik A. van Doorn) **99k:60237** 60K25 (68M20)

Wijewardhana, L. C. R. (*with* Appelquist, Thomas; Ratnaweera, Anuradha; Terning, John) Phase structure of an SU(N) gauge theory with N_f flavors. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105017, 11 *pp.* 81V05 (81T13)

Wijnands, Frank (*with* Lamb, Jeroen S. W.) From multi-site to on-site transfer matrix models for self-similar chains. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 261–284. (Jean-Paul Allouche) **99a:82019** 82B20 (11B85)

van Wijngaarden, Leen On the sound radiated by a turbulent bubbly flow. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 45–55. (Summary) **99f:76121** 76Q05 (76F99, 76T05)

— *see also* **In fascination of fluid dynamics**

Wijshoff, Harry A. G. (*with* Bik, Aart J. C.; Brinkhaus, J. H.; Knijnenburg, Peter M. W.) The automatic generation of sparse primitives. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 190–225. 65F50 (65–04, 68N20)

Wijsmuller, M. *see* **van Rossum-Wijsmuller, Marijke**

van rossum-Wijsmuller, Marijke *see* **van Rossum-Wijsmuller, Marijke**

Wikan, Arild (*with* Mjølhus, Einar) Overcompensatory recruitment and generation delay in discrete age-structured population models. (English summary) *J. Math. Biol.* **35** (1996), *no.* 2, 195–239. (R. K. Watson) **99c:92048** 92D25

Wikle, Christopher K. (*with* Cressie, Noel) The variance-based cross-variogram: you can add apples and oranges. (English summary) *Math. Geol.* **30** (1998), *no.* 7, 789–799.

(Summary) **99e:86011** 86A32

Wiklicky, Herbert (*with* Di Pierro, Alessandra) Probabilistic concurrent constraint programming: towards a fully abstract model. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 446–455, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q10 (68Q55, 68T20)

— Quantitative computation by Hilbert machines. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 406–426, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Richard A. Aló) **99j:68034** 68Q05 (03D75, 81P99)

Wilbrink, Henny (*with* Blokhuis, Aart; O'Keefe, Christine M.; Payne, Stanley E.; Storme, Leo) Covers of PG$(3, q)$ and of finite generalized quadrangles. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 141–157. (W. M. Kantor) **99d:51004** 51E12 (51E14, 51E21, 51E23)

— (*with* Blokhuis, Aart; Hamilton, Nicholas) On the non-existence of Thas maximal arcs in odd order projective planes. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 413–417. (Summary) **99f:51011** 51E15

Wilce, Alexander (*with* Feldman, David V.) Abelian extensions of quantum logics. Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 39–43. (Adonai S. Sant'Anna) **99f:81018** 81P10 (03G12)

Wilch, André (*with* Henneaux, Marc) Local BRST cohomology of the gauged principal nonlinear sigma model. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025017, 14 *pp.* (Summary) **99k:81182** 81T13 (81T70)

Wilczak, M. J. (*with* Padberg, M.) Optimal project selection when borrowing and lending rates differ. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 3, 63–78. (Summary) **99k:90043** 90A11 (90C90)

Wilczek, Frank The future of particle physics. (English summary) *Physics in the 21st century* (*Nishinomiya*, 1996), 71–96, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99a:81004**) 81V22 (81–02)

— Some examples in the realization of symmetry. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 367–373. (Summary) **99f:81132** 81T13 (81V05, 81V70)

— (*with* Parikh, Maulik K.) An action for black hole membranes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064011, 12 *pp.* (Summary) **99m:83133** 83C57

— Riemann-Einstein structure from volume and gauge symmetry. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 22, 4851–4854. (Summary) **99b:83062** 83C99 (53C80)

Wilczek, Katarzyna Schwarz lemma for quasihomographies of a Jordan curve. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 179–192. (Matti Vuorinen) **99b:30027** 30C62

— (*with* Szynal, Anetta) Extension operator of automorphism of the unit circle. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 141–149. (Daniel Girela) **99i:30040** 30C85 (30C35)

Wilczok, E. (*with* Merz, W.; Pulverer, K.) Single species dopant diffusion in silicon. (English summary) *Math. Sci.* **23** (1998), *no.* 1, 1–17. (Summary) **99e:35225** 35Q80 (82D45)

Wilczyński, Dariusz M. (*with* Lee, Ronnie) Representing homology classes by locally flat surfaces of minimum genus. (English summary) *Amer. J. Math.* **119** (1997), *no.* 5, 1119–1137. (Stefan A. Bauer) **99e:57034** 57N35 (57N13)

Wilczyński, Władysław (*with* Wagner-Bojakowska, Elżbieta) Separation axioms for some modifications of the core topology. *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 361–370. (Zbigniew Grande) **99m:54009** 54D10 (28A99, 54A10)

Wild, Lee (*with* Papadopoulos, Philippos; Seidel, Edward) Adaptive computation of gravitational waves from black hole interactions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084002, 15 *pp.* 83C35 (83–08, 83C57)

Wild, Marcel Three notes on distributive lattices. *Adv. in Appl. Math.* **20** (1998), *no.* 1, 44–49. (Vlad Boicescu) **99b:06011** 06D05 (06D30)

— *see also* **Orthogonal geometry in infinite-dimensional vector spaces, 99e:51001**

Wild, Peter R. Statistics. (English summary) *Graph connections*, 208–226, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 62K10 (05B05, 05C50, 62K05)

— (*with* Casse, Louis Reynolds Antoine; Martin, Keith M.) Bounds and characterizations of authentication/secrecy schemes. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 107–129. (Andrea Sgarro) **99c:94027** 94A60 (05B15, 94A15)

— (*with* Blackburn, Simon R.) Optimal linear perfect hash families. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 2, 233–250. (Friedhelm Meyer auf der Heide) **99h:68042** 68P25 (94A60)

Wildanger, K. (*with* Daberkow, M.; Fieker, C.; Klüners, Jürgen; Pohst, Michael E.; Roegner, K.; Schörnig, M.) KANT V4. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 267–283. (Wieb Bosma) **99g:11150** 11Y40 (12Y05, 68Q40)

Wildberger, N. J. Duality and entropy of finite commutative hypergroups and fusion rule algebras. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 275–291. (Nobuaki Obata) **99a:20075** 20N20

— (*with* Sunder, V. S.) Actions of finite hypergroups and examples. (English summary) *Harmonic analysis and hypergroups* (*Delhi*, 1995), 145–163, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Liliana Pavel) **99c:43011** 43A62 (20N20, 43A65)

— Characters, bi-modules and representations in Lie group harmonic analysis. (English summary) *Harmonic analysis and hypergroups* (*Delhi*, 1995), 227–242, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Jean Ludwig) **99e:22025** 22E45

— (*with* Dooley, Anthony H.) Global character formulae for compact Lie groups. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 477–495. (Takeshi Kawazoe) **99i:22013** 22E30 (43A75)

— *see also* **Harmonic analysis and hypergroups, 99a:43001**

Wilde, Doran K. (*with* de Dinechin, Florent; Rajopadhye, Sanjay; Andonov, Rumen) A regular VLSI array for an irregular algorithm. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 195–200, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (*see* **99g:65007**) 68Q35

Wilde, I. F. (*with* Lavis, D. A.; Southern, B. W.) The inverse of a semi-infinite symmetric banded matrix. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7229–7241. (Jaroslav Zemánek) **99b:47050** 47B39 (39A70, 47B35, 82B20)

Wilde, Richard E. (*with* Singh, Surjit[2]) ★ Statistical mechanics. (English summary) Fundamentals and modern applications. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xvi+400 *pp. ISBN* 0-471-16165-9 (Darko Kapor) **99b:82001** 82–01

chandler-Wilde, Simon N. *see* **Chandler-Wilde, Simon N.**

Wildenhain, Günther "With disgust and outrage". Comment on: "Life in and after the GDR. Interviews with Horst Sachs and Gustav Burosch" [Mitt. Dtsch. Math.-Ver. **1997**, no. 3, 23–33; MR 99b:01023] by V. A. Schmidt and M. Aigner. (German) *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 4, 40–41. (Editors) **99b:01024a** 01A70

Wilder, J. W. (*with* Christie, I.; Ganser, G. H.) Numerical solution of a two-dimensional fluidized bed model. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 381–394. (Summary) **99e:76081** 76M20 (76S05)

Wilderotter, K. (*with* Kushpel', A. K.; Levesley, Jeremy) On the asymptotically optimal rate of approximation of multiplier operators from L_p into L_q. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 169–185. (Sorin Gheorghe Gal) **99a:41040** 41A46 (42A45, 47B06)

Wilders, Peter (*with* Brakkee, Erik) The influence of interface conditions on convergence of Krylov-Schwarz domain decomposition for the advection-diffusion equation. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 1, 11–30. (Tsorng-Whay Pan) **99a:65118** 65M55

Wildeshaus, Jörg (*with* Huber, Annette) Classical motivic polylogarithm according to Beilinson and Deligne. (English summary) *Doc. Math.* **3** (1998), 27–133 (*electronic*). (Jan Nekovář) **99k:19001a** 19F27 (11R42, 11R70, 14D07)

— (*with* Huber, Annette) Correction to the paper: "Classical motivic polylogarithm according to Beilinson and Deligne". (English summary) *Doc. Math.* **3** (1998), 297–299 (*electronic*). (Jan Nekovář) **99k:19001b** 19F27 (11R42, 11R70, 14D07)

de Wild Propitius, Mark (Spontaneously broken) abelian Chern-Simons theories. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 297–359. (Manoel F. Borges) **99b:81098** 81R40 (58Z05, 81T13)

Wiles, Andrew J. *see* **Coates, John; Quirós, Adolfo** *and* **Ihara, Yasutaka**

Wiles, Peter (*with* Crisp, David; Dziadosz, Susan; Garity, Dennis J.; Insel, Thomas; Schmidt, Thomas A.) Closed curves and geodesics with two self-intersections on the punctured torus. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 189–209. (Mark Sheingorn) **99b:11078** 11J06 (30F35, 57M50)

Wiles, S. (*with* Gonzalez-Rey, Francisco; Roček, Martin; Lindström, Ulf; von Unge, Rikard) Feynman rules in $N = 2$ projective superspace. I. Massless hypermultiplets. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 426–448. (Ilya Shapiro) **99f:81198** 81T60 (81T18)

Wiley, James B. (*with* Raghavarao, Damaraju) Estimating main effects with Pareto optimal subsets. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 425–432. (Summary) **99j:62039** 62F99

Wilf, Herbert S. (*with* Corteel, Sylvie; Savage, Carla D.; Zeilberger, Doron) A pentagonal number sieve. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 186–192. (David M. Bressoud) **99d:11111** 11P81 (05A15)

— (*with* Calkin, Neil J.) The number of independent sets in a grid graph. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 54–60 (*electronic*). (Konrad Engel) **99e:05010** 05A16 (05C50)

— (*with* Chinburg, Ted; Savage, Carla D.) Combinatorial families that are exponentially far from being listable in Gray code sequence. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 379–402. (Jean-Paul Allouche) **99c:11024** 11C08 (11L03, 68R15)

Wilfong, Gordon (*with* Asberg, B.; Blanco Viejo, Gregoria; Bose, Prosenjit; García López de Lacalle, Jesús; Overmars, Mark H.; Toussaint, G.; Zhu, Binhai) Feasibility of design in stereolithography. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 61–83. (Joos Heintz) **99c:65260** 65Y25 (65D17, 68U05, 68U07)

— (*with* Winkler, Peter M.) Ring routing and wavelength translation. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 333–341, *ACM, New York*, 1998. (Summary) **99f:90172** 90C35 (68M10, 68R10)

— (*with* de Berg, Mark; Meijer, Henk; Overmars, Mark H.) Computing the angularity tolerance. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 467–482. (Summary) **99f:68208** 68U30 (68U05)

Wilhelm, Reinhard (*with* Sagiv, Mooly; Francez, Nissim; Rodeh, Michael) A logic-based approach to program flow analysis. (English summary) *Acta Inform.* **35** (1998), *no.* 6, 457–504. (Summary) **99b:68123** 68Q60

Wilhelm, Thomas (*with* Schuster, Stefan; Heinrich, Reinhart) Kinetic and thermodynamic analyses of the reversible version of the smallest chemical reaction system with Hopf bifurcation. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 295–321. (Summary) **99b:80011** 80A30 (34C23, 58F40, 92E20)

Wilke, Bernd ★ Zur Modulstruktur von Ringen über Schiefgruppenringen. (German) [On the modular structure of rings over skew group rings] Algebra Berichte [Algebra Reports], 73. *Verlag Reinhard Fischer, Munich*, 1994. *iv*+59 *pp. ISBN* 3-88927-151-0 (From the introduction) **99a:16021** 16S35

Wilke, Thomas (*with* Peled, Doron; Wolper, Pierre) An algorithmic approach for checking closure properties of temporal logic specifications and ω-regular languages. (English summary) Concurrency theory (Pisa, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 2, 183–203. (Siegmar Gerber) **99i:68081** 68Q60 (03B70, 03D05, 68Q10, 68Q45)

Wilkens, George R. Remembering the mathematics of Robert Brown Gardner. *Differential geometry and control* (*Boulder, CO*, 1997), 1–10, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Editors) **99m:01097** 01A70

Wilkens, Jörn On the cancellation problem for surfaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1111–1116. (M. Kh. Gizatullin) **99i:14040** 14J26

Wilkerson, C. W. (*with* Dwyer, William G.) The elementary geometric structure of compact Lie groups. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 4, 337–364. (Jesper M. Møller) **99g:22007** 22E15 (55P35, 57T10)

— (*with* Dwyer, William G.) Kähler differentials, the T-functor, and a theorem of Steinberg. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4919–4930. (Haynes R. Miller) **99e:55027** 55R35 (13A50, 55S10)

Wilkie, A. J. Schanuel's conjecture and the decidability of the real exponential field. *Algebraic model theory* (*Toronto, ON*, 1996), 223–230, *NATO Adv. Sci. Inst. Ser. C Math.*

Phys. Sci., 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (G. Cherlin) **99b:03053** 03C65 (03B25, 26B99)

Wilkie, Simon (*with* Conley, John P.; McLean, Richard P.) Reference functions and possibility theorems for cardinal social choice problems. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 1, 65–78. (Wulf Gaertner) **99a:90026** 90A08 (90D12)

Wilking, Burkhard The normal homogeneous space $(SU(3) \times SO(3))/U^*(2)$ has positive sectional curvature. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1191–1194. (Rosa Anna Marinosci) **99f:53051** 53C30 (53C21)

Wilkins, Andy Massive fields and the 2-D string. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1289–1308. (Summary) **99c:81214** 81T30

— (*with* McCarthy, James G.; Susskind, Leonard) Large N and the Dine-Rajaraman problem. (English summary) *Phys. Lett. B* **437** (1998), *no.* 1-2, 62–68. (Summary) **99j:81151** 81T30 (83E30, 83E50)

Wilkinson, Amie Stable ergodicity of the time-one map of a geodesic flow. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1545–1587. (Edoh Amiran) **99m:58129** 58F11 (58F15, 58F17)

Wilkinson, Steven Numerically parametrizing curves. *College Math. J.* **29** (1998), *no.* 2, 104–119. (Hellmuth Stachel) **99d:53005** 53A04 (65D17)

Wilkinson-Herbots, Hilde M. The structured coalescent. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 231–255, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D25 (60F05)

Will, Hans-Martin Fast and efficient computation of additively weighted Voronoi cells for applications in molecular biology. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 310–321, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68200** 68U05 (92C40)

Willaert, Luc Schematic algebras and the Auslander-Gorenstein property. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 149–156, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Aleksandr Panov) **99a:14001** 14A22 (16E30, 16W50)

— A new dimension for schematic algebras. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 325–332, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (T. Albu) **99e:16060** 16W50 (16P40, 16U20)

— (*with* Vancliff, Michaela; Van Rompay, Kristel) Some quantum $\mathbf{P}^3$s with finitely many points. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1193–1208. (Stefaan Caenepeel) **99c:16045** 16W50 (14A22)

Willander, Magnus (*with* Mamontov, Yevgeny V.) Asymptotic method of finite equation for bounded solutions of nonlinear smooth ODEs. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 451–461. (H. C. Howard) **99b:34019** 34A34 (34C11)

Willard, Ross Three lectures on the RS problem. (English summary) *Algebraic model theory* (*Toronto, ON*, 1996), 231–254, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (S. Comer) **99d:03029** 03C05 (03B25, 03C60, 08–02, 08A30)

— (*with* Lawrence, John W.) On finitely based groups and nonfinitely based quasivarieties. (English summary) *J. Algebra* **203** (1998), *no.* 1, 1–11. (Sheila Oates-Williams) **99g:20047** 20E10 (18C15)

Willassen, Yngve The stochastic rotation problem: a generalization of Faustmann's formula to stochastic forest growth. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 4, 573–596. (J. V. Greenman) **99f:90027** 90A30 (49N55, 90C40)

Willé, David R. Experiments in stepsize control for Adams linear multistep methods. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 4, 335–344. 65L99

Wille, Rudolf (*with* Wille, Uta) Uniqueness of coordinatizations of ordinal structures. *Contributions to general algebra*, 9 (*Linz*, 1994), 321–324, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Franz B. Kalhoff) **99c:06024** 06F99 (20N15, 51G05)

— Triadic concept graphs. (English summary) *Conceptual structures: theory, tools and applications* (*Montpellier*, 1998), 194–208, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (*see* **99h:68003**) 68T30 (03B70)

— (*with* Strahringer, Selma) Conceptual knowledge processing with ordinal scales. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 293–309, *Heyn, Klagenfurt*, 1998. (Summary) **99f:68048** 68P15

Wille, Uta (*with* Wille, Rudolf) Uniqueness of coordinatizations of ordinal structures. *Contributions to general algebra*, 9 (*Linz*, 1994), 321–324, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Franz B. Kalhoff) **99c:06024** 06F99 (20N15, 51G05)

— Characterization of ordered bilinear contexts. (English summary) *J. Geom.* **64** (1999), *no.* 1-2, 167–207. (E. W. Ellers) **99k:15050** 15A99

Willem, Michel (*with* Wang, Zhi Qiang[1]) A multiplicity result for the generalized Kadomtsev-Petviashvili equation. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 261–270. (B. M. Herbst) **99j:35195** 35Q53 (58E05)

— (*with* Ding, Yanheng; Li, Shu-Jie) Periodic solutions of symmetric wave equations. *J. Differential Equations* **145** (1998), *no.* 2, 217–241. (Shu-Xing Chen) **99c:35158** 35L70 (35B10)

— (*with* Li, Shu-Jie) Multiple solutions for asymptotically linear boundary value problems in which the nonlinearity crosses at least one eigenvalue. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 4, 479–490. (Jan Bochenek) **99m:35074** 35J65 (58E05)

— Dialectique et calcul infinitésimal. [Dialectic and infinitesimal calculus] *Rev. Questions Sci.* **169** (1998), *no.* 2-3, 287–293. 01A55

— (*with* Wang, Zhi Qiang[1]) Existence of many positive solutions of semilinear elliptic equations on an annulus. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1711–1714. (V. Raghavendra) **99i:35052** 35J65 (35B05)

Willems, Frans M. J. The context-tree weighting method: extensions. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 792–798. (Summary) **99e:94020** 94A29

Willems, Jan C. On the convergence of the Newton iteration for spectral factorization. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 214–223, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Vladimir B. Larin) **99b:93020** 93B25 (93C80)

— (*with* Trentelman, H. L.) Every storage function is a state function. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 249–259. (Eduardo Aranda-Bricaire) **99a:93050** 93C15 (93A30, 93C05)

— (*with* Rapisarda, Paolo) The subspace Nevanlinna interpolation problem and the most powerful unfalsified model. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 291–300. (Mark A. Nudel'man) **99b:93027** 93B50 (30E05, 46C20, 93C60)

— (*with* Fagnani, Fabio) Deterministic Kalman filtering in a behavioral framework. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 301–312. (Maria Letizia Corradini) **99c:93103** 93E11 (94A12)

— (*with* Polderman, Jan Willem) ★ Introduction to mathematical systems theory. (English summary) A behavioral approach. Texts in Applied Mathematics, 26. *Springer-Verlag, New York*, 1998. xxx+424 *pp. ISBN* 0-387-98266-3 (Matthias Kawski) **99f:93001** 93–02 (34H05, 93–01, 93A30)

— (*with* Trentelman, H. L.) On quadratic differential forms. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1703–1749 (*electronic*). (Kevin A. Grasse) **99i:93005** 93A10 (93B25, 93D20)

— Path integrals and stability. (English summary) *Mathematical control theory*, 1–32, *Springer, New York*, 1999. (David L. Elliott) **99j:93072** 93D05 (34D99, 34H05)

— *see also* **Mathematical control theory, 99g:93004**

Willems, Wolfgang (*with* Gow, Rod) On the quadratic type of some simple self-dual modules over fields of characteristic two. *J. Algebra* **195** (1997), *no.* 2, 634–649. (Gerhard Hiss) **99f:20019** 20C33 (20C20)

— (*with* Faldum, Andreas) A characterization of MMD codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1555–1558. (Summary) **99i:94064** 94B05

Willerton, Simon Vassiliev invariants as polynomials. (English summary) *Knot theory* (*Warsaw*, 1995), 457–463, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (J. S. Birman) **99h:57022** 57M25

— A combinatorial half-integration from weight system to Vassiliev knot invariant. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 519–526. (Summary) **99k:57032** 57M25

Willett, Roger J. (*with* Lane, John A.) Optimal smoothing of accounting earnings. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 1, 1–14. (Summary) **99i:90018** 90A09

William of Ockham *see* **Ockham, William**

Williams, Alan (*with* Burrage, Kevin; Erhel, Jocelyne; Pohl, B.) A deflation technique for linear systems of equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1245–1260 (*electronic*). (Summary) **99b:65044** 65F15 (65F10)

Williams, B. G. *see* **Williams, Brian Gerard**

Williams, Blair (*with* Penttila, Tim) Regular packings of $PG(3, q)$. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 713–720. (Martin Funk) **99k:51011** 51E23 (05B40, 51A40)

Williams, Brian Gerard (*with* Dye, C.) Infectious disease persistence when transmission varies seasonally. (English summary) *Math. Biosci.* **145** (1997), *no.* 1, 77–88. (Summary) **99h:92037** 92D30 (92C60)

Williams, Bruce (*with* Weiss, Michael S.) Duality in Waldhausen categories. (English summary) *Forum Math.* **10** (1998), *no.* 5, 533–603. (A. A. Ranicki) **99g:19002** 19D10 (57N65, 57R65)

Williams, Colin P. (*with* Clearwater, Scott H.) ★ Explorations in quantum computing. (English summary) With 1 CD-ROM for Windows, Macintosh and UNIX. *TELOS. The Electronic Library of Science, Santa Clara, CA*; *Springer-Verlag, New York*, 1998. xx+307 *pp. ISBN* 0-387-94768-X (From the preface) **99g:81033** 81P99 (68Q05, 81–01)

Williams, David (*with* McIlroy, Paul) The OK Corral and the power of the law (a curious Poisson-kernel formula for a parabolic equation). *Bull. London Math. Soc.* **30** (1998), *no.* 2, 166–170. (Bożenna Pasik-Duncan) **99d:60028** 60F05

— (*with* Toland, John Francis) On the Schur test for L_2-boundedness of positive integral operators with a Wiener-Hopf example. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 2, 543–560. (Summary) **99k:47123** 47G10 (47A68, 47B38, 47B65)

Williams, Floyd L. The role of Selberg's trace formula in the computation of Casimir energy for certain Clifford-Klein space-times. (English summary) *African Americans in mathematics* (*Piscataway, NJ*, 1996), 69–82, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (Shin-ya Koyama) **99b:22027** 22E46 (11M36, 22E30, 81T20)

— (*with* Bytsenko, Andrei A.) Zeta functions on a product of Einstein manifolds, and the multiplicative anomaly. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1075–1086. (Giampiero Esposito) **99a:58162** 58G26 (81T20)

— (*with* Brevik, I.; Bytsenko, Andrei A.; Gonçalves, Antonio E.) Zeta-function regularization and the thermodynamic potential for quantum fields in symmetric spaces. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4437–4448. (Emili Elizalde) **99e:81159** 81T16 (58G26, 81T20)

— (*with* Bytsenko, Andrei A.; Gonçalves, Antonio E.) The conformal anomaly in general rank 1 symmetric spaces and associated operator product. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 99–108. (Thomas Ackermann) **99g:81206** 81T50 (58G26, 81T20)

— Meromorphic continuation of Minakshisundaram-Pleijel series for semisimple Lie groups. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 137–156. (Werner Hoffmann) **99b:11100** 11M36 (11F72, 22E46, 58G25)

— (*with* Bytsenko, Andrei A.; Gonçalves, Antonio E.) The conformal anomaly associated with an operator product acting in rank 1 symmetric spaces. *JETP Lett.* **67** (1998), *no.* 3, 176–181; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **67** (1998), *no.* 3, 166–171 (*Russian*). (Thomas Ackermann) **99b:81221** 81T50 (58G26)

Williams, G. C. *see* **Williams, Graeme C.**

Williams, G. D. (*with* Corbas, B.) Matrix representatives for three-dimensional bilinear forms over finite fields. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 51–61. (Morris Newman) **99h:11038** 11E04 (15A33)

— The number of pairs of quadratic forms over $\mathbf{F}_q$ (q odd). (English summary) *Finite Fields Appl.* **4** (1998), *no.* 1, 38–42. (Roderick Gow) **99b:11035** 11E39

Williams, Graeme C. (*with* Kalnins, E. G.) Integrability conditions for the coupled electromagnetic-gravitational perturbation equations of the Kerr-Newman spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1331–1338. (Brian Edgar) **99g:83056** 83C57 (83C25, 83C60)

— (*with* Kalnins, E. G.; Miller, Willard, Jr.; Pogosyan, G. S.) Superintegrability in three-dimensional Euclidean space. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 708–725. (Ya. I. Granovskiĭ) **99m:81044** 81Q05 (35Q55, 81R05)

Williams, Graham H. (*with* Liu, Wei-Jiu) The exponential stability of the problem of transmission of the wave equation. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 305–327. (A. O. Oganesyan) **99b:35112** 35L05 (35B35, 35L20)

— (*with* Liu, Wei-Jiu) Partial exact controllability for the linear thermo-viscoelastic model. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 17, 11*pp.* (*electronic*). (Guenter Leugering) **99m:73006** 73B30 (35Q72, 73F15, 93B05)

Williams, H. Paul (*with* Wilson, John Montgomery) Connections between integer linear programming and constraint logic programming—an overview and introduction to the cluster of articles. (English summary) Connections between integer programming and constraint logic programming. *INFORMS J. Comput.* **10** (1998), *no.* 3, 261–264. (*see* **99e:90002**) 90–01 (90C08, 90C10)

Williams, J. R. (*with* Amaratunga, K.) Wavelet-Galerkin solution of boundary value problems. (English summary) *Arch. Comput. Methods Engrg.* **4** (1997), *no.* 3, 243–285. (Ruud van Damme) **99d:65276** 65M60 (42C15)

Williams, Jackie *see* **Fourier transform in biomedical engineering, 99c:94011**

Williams, Kenneth S. (*with* Berndt, Bruce C.; Evans, Ronald J.) ★ Gauss and Jacobi sums. Canadian Mathematical Society Series of Monographs and Advanced Texts. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xii*+583 *pp. ISBN* 0-471-12807-4 (Charles Helou) **99d:11092** 11L05 (11A15, 11L10, 11T22, 11T24)

— (*with* Huard, James G.; Spearman, Blair K.) Pascal's triangle (mod 8). (English summary) *European J. Combin.* **19** (1998), *no.* 1, 45–62. (Andrew Granville) **99b:11012** 11B65 (11A07)

— (*with* Spearman, Blair K.) The factorization of $x^5 + x^a + n$. *Fibonacci Quart.* **36** (1998), *no.* 2, 158–170. (Jau-Shyong Shiue) **99c:11025** 11C08

— (*with* Ayoub, Raymond G.; Huard, James G.) Sarvadaman Chowla (1907–1995). *Notices Amer. Math. Soc.* **45** (1998), *no.* 5, 594–598. (Editors) **99k:01044** 01A70

— *see also* **Number theory, 99k:11005**

Williams, Lloyd *see* **Williams, W. L. G.**

Williams, M.-A. *see* **Williams, Mary-Anne**

Williams, Mark Nonlinear geometric optics for reflecting and glancing oscillations. (English summary) *Singularities and oscillations* (*Minneapolis, MN*, 1994/1995), 137–151, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (Olivier Guès) **99j:35128** 35L60 (35B25, 35C20, 35Q99)

— Highly oscillatory multidimensional shocks. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 2, 129–192. (Jean-Marc Delort) **99k:35120** 35L67 (35B20)

Williams, Mary-Anne (*with* Antoniou, Grigoris) Some approaches to reasoning with incomplete and changing information. *Learning and reasoning with complex representations* (*Cairns*, 1996), 9–44, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68T27 (03B70)

— (*with* MacNish, Cara Kimberley) From belief revision to design revision: applying theory change to changing requirements. (English summary) *Learning and reasoning with complex representations* (*Cairns*, 1996), 206–220, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68T27 (03B70)

Williams, Michael R. *see* **Biography: Babbage, Charles, 99i:01021**

Williams, P. D. (*with* Campbell, Colin Matthew; Miyamoto, Izumi; Robertson, Edmund) The efficiency of $\mathrm{PSL}(2, p)^3$ and other direct products of groups. *Glasgow Math. J.* **39** (1997), *no.* 3, 259–268. (Julian Petresco) **99c:20037** 20F05 (20G40)

Williams, R. *see* **Williams, Robert F.**

Williams, R. J. *see* **Williams, Ruth J.**

Williams, R. T. (*with* Kuo, Hung-Chi; Leou, Tzay-Ming) A study on the high-order Smolarkiewicz methods. (English summary) *Comput. & Fluids* **28** (1999), *no.* 6, 779–799. (Summary) **99m:76094** 76M25

Williams, Robert F. (*with* Coelho, Zaqueu; Parry, William) A note on Livšic's periodic point theorem. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 223–230, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:58180** 58F15 (58F11, 58F20)

Williams, Robert M. (*with* Leete, Thomas H.; Schwartz, Matthew D.; Wood, David Harlan; Salem, Jerome S.; Rubin, Harvey) Massively parallel DNA computation: expansion of symbolic determinants. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 45–58, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (68Q40, 92D20)

— (*with* Wood, David Harlan) Exascale computer algebra problems interconnect with molecular reactions and complexity theory. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 267–275, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68060** 68Q05 (68Q15, 68Q40)

Williams, Ruth J. Some recent developments for queueing networks. *Probability towards 2000* (*New York*, 1995), 340–356, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (*see* **99b:60004**) 60K25 (60F05, 60J65)

— Reflecting diffusions and queueing networks. Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 321–330 (*electronic*). (Věra Lánská) **99j:60149** 60K25 (60J60, 68M20, 90B22)

— An invariance principle for semimartingale reflecting Brownian motions in an orthant. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 1-2, 5–25. (Mark Kelbert) **99m:60129** 60J65 (60G48)

— Diffusion approximations for open multiclass queueing networks: sufficient conditions involving state space collapse. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 1-2, 27–88. (Mark Kelbert) **99m:60145** 60K25

— (*with* Evans, Steven N.) Transition operators of diffusions reduce zero-crossing. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1377–1389. (Uwe Rösler) **99f:60140** 60J60 (35K10)

Williams, Ruth M. (*with* Ionicioiu, Radu) Lens spaces and handlebodies in three-dimensional quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3469–3477. (Stephen F. Sawin) **99h:83021** 83C45 (57N10)

Williams, S. C. *see* **Williams, Stanley Carl**

Williams, Scott W. (*with* Zhou, Haoxuan) Order-like structure of monotonically normal spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 207–217. (V. V. Mykhaylyuk) **99c:54029** 54D15 (54D30, 54F05)

Williams, Stanley Carl (*with* Mauldin, R. Daniel) Redistribution of velocity: collision transformations. (English summary) *Statistics, probability and game theory*, 209–231, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (T. M. Liggett) **99e:60226** 60K40 (60H99)

— (*with* Waymire, Edward C.) Markov cascades. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 305–321, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (F. M. Dekking) **99k:60093** 60F15 (28A80)

Williams, Susan G. (*with* Silver, Daniel S.) Generalized n-colorings of links. (English summary) *Knot theory* (*Warsaw*, 1995), 381–394, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99e:57020** 57M25

Williams, Tami (*with* Baginski, Frank; Collier, William) A parallel shooting method for determining the natural shape of a large scientific balloon. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 961–974 (*electronic*). (Summary) **99a:73080** 73K10 (34B15, 65L10, 73V20)

Williams, W. L. G. *see* **Ayoub, Christine Williams, (99m:01104)**

Williams, William (*with* Barden, Benjamin; Libeskind-Hadas, Ran; Davis, Janet) On edge-disjoint spanning trees in hypercubes. (English summary) *Inform. Process. Lett.* **70** (1999), *no.* 1, 13–16. 68R10

Williamson, C. H. K. (*with* Leweke, T.) Cooperative elliptic instability of a vortex pair. (English summary) *J. Fluid Mech.* **360** (1998), 85–119. (Summary) **99a:76025** 76C05 (76E20, 76E99)

Williamson, Clifton James (*with* Ikramov, Khakim D.) On the Hegland-Marti inverse eigenvalue problem. (Russian) *Mat. Zametki* **61** (1997), *no.* 1, 144–148; *translation in Math. Notes* **61** (1997), *no.* 1-2, 120–124. (Yao Zhang) **99f:15011** 15A18 (65F15)

Williamson, David P. (*with* Hall, Leslie A.; Hoogeveen, Johannes Adzer; Hurkens, C. A. J.; Lenstra, Jan Karel; Sevast'yanov, S. V.; Shmoys, David B.) Short shop schedules. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 288–294. (Jan Węglarz) **99g:90049** 90B25 (68Q25)

— (*with* Gabow, Harold N.; Goemans, Michel X.) An efficient approximation algorithm for the survivable network design problem. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 13–40. (Summary) **99f:90160** 90C35 (68M10, 68R10, 90B10)

— (*with* Chudak, Fabián A.; Goemans, Michel X.; Hochbaum, Dorit S.) A primal-dual interpretation of two 2-approximation algorithms for the feedback vertex set problem in undirected graphs. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 111–118. (Xue Liang Li) **99i:90107** 90C35 (90C27)

Williamson, Robert C. (*with* Blackmore, Kim L.; Mareels, Iven M. Y.) Local minima and attractors at infinity for gradient descent learning algorithms. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 18 *pp.* (*electronic*). (Summary) **99g:68168** 68T05

— (*with* Blackmore, Kim L.; Mareels, Iven M. Y.; Sethares, William A.) Online learning via congregational gradient descent. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 4, 331–363. (Summary) **99a:90180** 90C30 (65K10)

— (*with* Shawe-Taylor, John; Bartlett, Peter L.; Anthony, Martin) Structural risk minimization over data-dependent hierarchies. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1926–1940. (Summary) **99i:68106** 68T05

— (*with* Lee, Wee Sun; Bartlett, Peter L.) The importance of convexity in learning with squared loss. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1974–1980. (Summary) **99k:68160** 68T05

Williamson, Timothy (*with* Shin, Hyun Song) Representing the knowledge of Turing machines [MR 95b:90189]. *Epistemic logic and the theory of games and decisions*, 169–190, *Theory Decis. Lib. Ser. C Game Theory Math. Program. Oper. Res.*, 20, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **99k:00028**) 90D35 (03B30, 03D10, 03D80)

— On the structure of higher-order vagueness. (English summary) *Mind* **108** (1999), *no.* 429, 127–143. 03A05

Willie, Helmut Periodic steady state of loss systems with periodic inputs. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 152–166. (Volker Schmidt) **99g:60178** 60K25 (60G55)

van Willigenburg, Stephanie A proof of Solomon's rule. (English summary) *J. Algebra* **206** (1998), *no.* 2, 693–698. (Sait Halıcıoğlu) **99f:20007** 20C05 (20F55)

— (*with* Bergeron, Nantel) A multiplication rule for the descent algebra of type D. (English summary) *J. Algebra* **206** (1998), *no.* 2, 699–705. (Sait Halıcıoğlu) **99f:20008** 20C05 (20F55)

Willinger, Walter (*with* Paxson, Vern) Where mathematics meets the internet. *Notices Amer. Math. Soc.* **45** (1998), *no.* 8, 961–970. 00A99 (00A69)

— (*with* Gilbert, Anna Catherine; Feldmann, Anja) Scaling analysis of conservative cascades, with applications to network traffic. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 971–991. 94A05 (90B12)

Willis, Barton L. Similarity and intertwining of Dirac operators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1451–1457. (Federico Finkel) **99e:81050** 81Q10 (35Q40, 47N50)

Willis, George (*with* Ross, Kenneth Allen) Riemann sums and modular functions on locally compact groups. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 325–331. (V. Losert) **99h:43012** 43A55 (22D05)

Willis, John R. (*with* Movchan, A. B.; Gao, Huajian) On perturbations of plane cracks. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 26-27, 3419–3453. (Summary) **99c:73062** 73M25

— (*with* Markov, Konstantin Z.) On the two-point correlation function for dispersions of nonoverlapping spheres. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 359–377. (Summary) **99k:73028** 73B35 (73V30, 82D30)

— (*with* Movchan, N. V.) Penny-shaped crack bridged by fibres. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 327–340. (Summary) **99a:73109** 73M25 (73B50)

— (*with* Smyshlyaev, V. P.) A "non-local" variational approach to the elastic energy minimization of martensitic polycrystals. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1573–1613. (Rustum Choksi) **99h:73067** 73S10 (73C50, 73K40, 73V25, 82D25)

— (*with* Capuani, Domenico) Wave propagation in elastic media with cracks. II. Transient nonlinear response of a cracked matrix. (English summary) *Eur. J. Mech. A Solids* **18** (1999), *no.* 1, 159–175. (Paul Andrew Martin) **99m:73025** 73D15 (73M25)

Willits, C. J. (*with* Dietz, D. C.) Rapid, efficient analysis of the $\lambda(n)/C_k/r/N$ queue, with application to decomposition of closed queuing networks. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 7-8, 543–556. (Summary) **99f:90039** 90B22 (60K25, 90B12)

Willmot, Gordon E. (*with* Klugman, Stuart A.; Panjer, Harry H.) ★ Loss models. (English summary) From data to decisions. With the assistance of Gary G. Venter. Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xvi+644 *pp. ISBN* 0-471-23884-8 (Jan Beirlant) **99b:62155** 62P05

— (*with* Lin, X. Sheldon) Exact and approximate properties of the distribution of surplus before and after ruin. (English summary) *Insurance Math. Econom.* **23** (1998), *no.* 1, 91–110. (Summary) **99i:62247** 62P05

— On a class of approximations for ruin and waiting time probabilities. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 1, 27–32. (Summary) **99b:60164** 60K25 (62P05, 90B22)

Willox, Ralph (*with* Loris, Ignace) Symmetry constraints of the KP hierarchy and a nonlocal Boussinesq equation. (English summary) *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 603–609, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 58F07

— (*with* Loris, Ignace) On solutions of constrained Kadomtsev-Petviashvili equations: Grammians. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5190–5197. (Vladislav G. Dubrovsky) **99d:58085** 58F07 (35Q53)

— (*with* Nimmo, J. J. C.) Darboux transformations for the two-dimensional Toda system. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2497–2525. (Iskander A. Taimanov) **99b:58122** 58F07 (58F35)

— (*with* Nagai, Atsushi; Tokihiro, Tetsuji; Satsuma, Junkichi; Kajiwara, Kenji) Two-dimensional soliton cellular automaton of deautonomized Toda-type. (Japanese summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 15–27. (*see* **99c:00013**) 68Q80 (58F08)

— (*with* Tokihiro, Tetsuji; Loris, Ignace; Satsuma, Junkichi) The fermionic approach to Darboux transformations. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 745–762. (Alexander V. Shapovalov) **99h:58175** 58F37 (35A30)

— (*with* Loris, Ignace) Symmetry reductions of the BKP hierarchy. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1420–1431. (Vladislav G. Dubrovsky) **99m:58112** 58F07 (35Q53)

— (*with* Ohta, Yasuhiro; Gilson, Claire R.; Tokihiro, Tetsuji; Satsuma, Junkichi) Quadrilateral lattices and eigenfunction potentials for N-component KP hierarchies. (English summary) *Phys. Lett. A* **252** (1999), *no.* 3-4, 163–172. (Reda A. Zait) **99m:58118** 58F07 (35Q53)

Wills, J. M. Parametric density, online-packings and crystal growth. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 413–424. (Summary) **99i:52022** 52C17 (82D25)

— Spheres and sausages, crystals and catastrophes—and a joint packing theory. *Math. Intelligencer* **20** (1998), *no.* 1, 16–21. (Martin Henk) **99b:52048** 52C17 (05B40, 11H31)

Willsky, Alan S. (*with* Nikoukhah, Ramine; Taylor, Darrin; Levy, Bernard C.) Graph structure and recursive estimation of noisy linear relations. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 4, 37 *pp.* (*electronic*). (Summary) **99g:93080** 93E11 (93E10)

— (*with* Daniel, Michael M.) The modeling and estimation of statistically self-similar processes in a multiresolution framework. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 955–970. (Summary) **99m:94008** 94A12

Wills-Toro, Luis Alberto Graded external symmetries and r-associativity. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields* (*Mérida*, 1996), 567–571, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Ilya Shapiro) **99h:83003** 83A05 (17B81)

— Symmetry transformations with noncommutative and nonassociative parameters. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2963–2997. (Jayme Vaz, Jr.) **99b:81111** 81R99

Wilmański, Krzysztof ★ Thermomechanics of continua. (English summary) *Springer-Verlag, Berlin*, 1998. *xii*+273 *pp. ISBN* 3-540-64141-6 (Vittorio Romano) **99h:73011** 73B30 (80–02, 80A10)

— On the time of existence of weak discontinuity waves in poroelastic materials. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 657–669. (Summary) **99i:73032** 73D15 (73B99, 73D40, 73P20, 76S05)

— (*with* Dreyer, Wolfgang; Kunik, Matthias; Sabelfeld, K. K.; Simonov, Nikolai A.) Iterative procedure for multidimensional Euler equations. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 3, 253–271. (Sergei A. Nemnyugin) **99m:65206** 65N22 (65C05)

Wilrich, Peter-Th. A sequential test for the comparison of the precision of two measurement methods. (English summary) *Econometrics in theory and practice*, 319–327, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 62L10

Wilson, Beverley M. (*with* Shaftel, Timothy L.) Time-cost evaluation of alternative system/process designs. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 3, 275–288. 90B12 (90C39)

Wilson, Brad The Fibonacci triangle modulo p. *Fibonacci Quart.* **36** (1998), *no.* 3, 194–203. (Neville Robbins) **99d:11014** 11B39 (11B65)

— Power digraphs modulo n. *Fibonacci Quart.* **36** (1998), *no.* 3, 229–239. (Ke Min Zhang) **99e:05064** 05C20

Wilson, Bruce H. (*with* Eryilmaz, Bora; Shafai, Bahram) Improving control design for nonlinear parametric uncertainty. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 863–883. 93B50 (93C41)

— (*with* Eryilmaz, Bora; Shafai, Bahram) An adaptive angular sweep algorithm for value set construction. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 551–555. 93B30 (93C41, 93E03)

Wilson, Curtis *see* **Densmore, Dana, 99h:01021**

Wilson, D. A. (*with* Farahi, M. H.; Rubio, J. E.) The optimal control of the linear wave equation. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 833–848. 49K20 (49J20)

— (*with* Farahi, M. H.; Rubio, J. E.) The global control of a nonlinear wave equation. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 1–15. 93C20 (35L70)

— (*with* Nekoui, M. A.; Halikias, George D.) An LQR weight selection approach to the discrete generalized H_2 control problem. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 93–101. (Summary) **99f:93054** 93B36 (93C55)

Wilson, D. K. *see* **Wilson, David K.**

Wilson, David Bruce (*with* Propp, James Gary) Exact sampling with coupled Markov chains and applications to statistical mechanics. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 223–252. (Arnoldo Frigessi) **99k:60176** 60J10 (82B20)

— (*with* Propp, James Gary) Coupling from the past: a user's guide. (English summary) *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 181–192, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99d:60081** 60J10

— Annotated bibliography of perfectly random sampling with Markov chains. *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 209–220, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:60003**) 60-00 (00A15, 60-04, 60J10)

— (*with* Propp, James Gary) How to get a perfectly random sample from a generic Markov chain and generate a random spanning tree of a directed graph. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 170–217. (Salvatore Ingrassia) **99g:60116** 60J10 (05C80)

Wilson, David K. (*with* Bshouty, Nader H.; Tamon, Christino) Learning matrix functions over rings. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 91–111. (Nicolae Ţăndăreanu) **99j:68114** 68T05 (13E10)

— (*with* Bshouty, Nader H.; Tamon, Christino) On learning width two branching programs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 217–222. (Summary) **99a:68141** 68T05 (68Q99)

Wilson, Debra Sue (*with* Nadathur, Gopalan) A notation for lambda terms. A generalization of environments. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 49–98. (M. Yasuhara) **99j:68010** 68N15 (03B40, 68Q42)

Wilson, Edward N. (*with* Gordon, Carolyn S.) Continuous families of isospectral Riemannian metrics which are not locally isometric. *J. Differential Geom.* **47** (1997), *no.* 3, 504–529. (Dorothee Schueth) **99a:58159** 58G25

— (*with* Gordon, Carolyn S.; Gornet, Ruth; Schueth, D.; Webb, D. L.) Isospectral deformations of closed Riemannian manifolds with different scalar curvature. *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 2, 593–607. (Robert Brooks) **99b:53049** 53C20 (58G25)

Wilson, George Bispectral algebras of ordinary differential operators. *The bispectral problem* (*Montreal, PQ*, 1997), 131–137, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Emma Previato) **99f:58108** 58F07 (14C05, 22E67, 34L05, 58B25)

— Collisions of Calogero-Moser particles and an adelic Grassmannian. With an appendix by I. G. Macdonald. *Invent. Math.* **133** (1998), *no.* 1, 1–41. (Emma Previato) **99f:58107** 58F07 (05E05, 14C05, 22E67, 58B25)

Wilson, J. M. *see* **Wilson, John Montgomery**

Wilson, J. Michael (*with* Wheeden, Richard L.) Weighted L^q estimates for derivatives of weighted H^p functions. *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 595–628. (Loukas Grafakos) **99i:42030** 42B25 (42B30)

Wilson, J. P. *see* **Wilson, Jonathan P.**

Wilson, James A. (*with* Abian, Alexander) Derivatives at boundary points. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 359–361. (Peter Boyadjiev) **99i:26005** 26A24

Wilson, John *see* **Wilson, John S.**

Wilson, John Montgomery (*with* Foulds, Leslie R.; Hamacher, Horst W.) Integer programming approaches to facilities layout models with forbidden areas. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 90–95, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C90 (90C10)

— (*with* Foulds, Leslie R.; Hamacher, Horst W.) Integer programming approaches to facilities layout models with forbidden areas. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 405–417. (*see* **99b:90006**) 90C10 (90C90)

— (*with* Williams, H. Paul) Connections between integer linear programming and constraint logic programming—an overview and introduction to the cluster of articles. (English summary) Connections between integer programming and constraint logic programming. *INFORMS J. Comput.* **10** (1998), *no.* 3, 261–264. (*see* **99e:90002**) 90-01 (90C08, 90C10)

— (*with* Basnet, Chuda; Foulds, Leslie R.) An exact algorithm for a milk tanker scheduling and sequencing problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 559–568. (*see* **99k:90002**) 90B35 (90C35)

Wilson, John S. First-order group theory. (English summary) *Infinite groups* 1994 (*Ravello*), 301–314, *de Gruyter, Berlin*, 1996. (Olivier Chapuis) **99f:03045** 03C60 (03C20, 20A15, 20E32)

— (*with* Zalesskiĭ, P. A.) Conjugacy separability of certain Bianchi groups and HNN extensions. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 227–242. (Michael Anshel) **99b:20054** 20E26 (20E06, 20F10, 20H25)

Wilson, Jonathan P. Distributional curvature of time dependent cosmic strings. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3337–3351. (Roland Steinbauer) **99e:83018** 83C20 (46F10, 46N99)

Wilson, Leslie C. (*with* Ferrarotti, Massimo) Generalized Hestenes lemma and extension of functions. (Italian) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 99–109, *Univ. Stud. Bologna, Bologna*, 1998. (Enrique Outerelo Domínguez) **99h:58016** 58C25

Wilson, M. J. *see* **Wilson, Michael John**

Wilson, Mark Curtis Bell's primeness criterion and the simple Lie superalgebras. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 241–260. (Hedi Benamor) **99k:17020** 17B20 (17B05, 17B35)

— (*with* Riley, David Michael) Associative rings satisfying the Engel condition. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 973–976. (Louis Rowen) **99f:16025** 16R50

Wilson, Michael John (*with* Brown, Joanna Mary; Bloor, Malcolm I. G.; Bloor, M. Susan) The accuracy of B-spline finite element approximations to PDE surfaces. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 221–234. (Summary) **99c:65029** 65D17 (65Y25)

— (*with* Brown, Joanna Mary; Bloor, Malcolm I. G.; Bloor, M. Susan) B-spline surface approximations of a six-sided PDE patch. (English summary) Geometric modelling

techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 211–231. (*see* **99i:65004**) 65D17 (65Y25)

Wilson, Miles (*with* Blake, John R.; Keen, Giles S.; Tong, Robert P.) Acoustic cavitation: the fluid dynamics of non-spherical bubbles. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 251–267. (Summary) **99m:76100** 76Q05 (76B10, 78A99)

Wilson, Nic An order of magnitude calculus. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 548–555, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68178** 68T27 (03B70)

Wilson, P. D. C. (*with* Larcombe, P. J.) On the trail of the Catalan sequence. (English summary) *Math. Today* (*Southend-on-Sea*) **34** (1998), *no.* 4, 114–117. (Summary) **99f:01017** 01A55 (05A10)

— *see also* **Larcombe, P. J.**

Wilson, P. M. H. (*with* Peternell, Thomas) Threefolds with extremal Chern classes. *Higher-dimensional complex varieties* (*Trento*, 1994), 357–378, *de Gruyter, Berlin*, 1996. (Ulf Persson) **99d:14033** 14J30

— Symplectic deformations of Calabi-Yau threefolds. *J. Differential Geom.* **45** (1997), *no.* 3, 611–637. (Mark Gross) **99c:14053** 14J32 (14J15, 32J17)

— (*with* Gross, Mark) Mirror symmetry via 3-tori for a class of Calabi-Yau threefolds. *Math. Ann.* **309** (1997), *no.* 3, 505–531. (Dag E. Sommervoll) **99k:14066** 14J32 (32J17)

— The existence of elliptic fibre space structures on Calabi-Yau threefolds. II. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 259–262. (Alessio Corti) **99f:14053** 14J32 (14C20, 14E30, 14J30)

Wilson, R. G. *see* **Wilson, Richard Gordon**

Wilson, Randall H. (*with* Khanna, Sanjeev; Motwani, Rajeev) On certificates and lookahead in dynamic graph problems. (English summary) *Algorithmica* **21** (1998), *no.* 4, 377–394. (Summary) **99b:68149** 68R10 (05C85)

— (*with* Guibas, Leonidas J.; Halperin, Dan; Hirukawa, Hirohisa; Latombe, Jean-Claude) Polyhedral assembly partitioning using maximally covered cells in arrangements of convex polytopes. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 2, 179–199. (Rephael Wenger) **99d:68229** 68U05 (52B55, 70B15)

Wilson, Richard Gordon (*with* Alas, O. T.; Protasov, I. V.; Tkachenko, M. G.; Tkachuk, Vladimir V.; Yashchenko, I. V.) Almost all submaximal groups are paracompact and σ-discrete. (English summary) *Fund. Math.* **156** (1998), *no.* 3, 241–260. (Klaas Pieter Hart) **99c:54050** 54H11 (54D20, 54G05)

— (*with* Neumann-Lara, Víctor) Compact compatible topologies for posets and graphs. (English summary) *Order* **15** (1998), *no.* 1, 35–50. (T. Thrivikraman) **99j:05128** 05C40 (06A06, 54D05, 54F05)

Wilson, Richard J. (*with* Nott, David J.) Size distributions for excursion sets. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 175–196, *World Sci. Publishing, River Edge, NJ*, 1997. (Volker Schmidt) **99m:60024** 60D05 (60G60)

Wilson, Robert *see* **Wilson, Robert B.**

Wilson, Robert A. (*with* Suleiman, Ibrahim A. I.) Covering and automorphism groups of $U_6(2)$. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 511–517. (R. W. Carter) **99d:20079** 20G40 (20D06)

— An atlas of sporadic group representations. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 261–273, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (A. S. Kondrat'ev) **99h:20015** 20C34 (20C40, 20D08)

— (*with* Conway, John H.; Curtis, Robert T.) A brief history of the ATLAS. *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 288–293, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99e:20002**) 20–03 (01A60)

— The McKay conjecture is true for the sporadic simple groups. (English summary) *J. Algebra* **207** (1998), *no.* 1, 294–305. (Jian Bei An) **99h:20016** 20C34 (20D08, 20D20)

— (*with* Linton, Stephen; Parker, Richard A.; Walsh, Peter) Computer construction of the Monster. *J. Group Theory* **1** (1998), *no.* 4, 307–337. (Jamshid Moori) **99k:20030** 20C34 (20C40, 20D08)

— (*with* Jansen, Christoph) The 2-modular and 3-modular decomposition numbers for the sporadic simple O'Nan group and its triple cover. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 71–90. (Gerhard Hiss) **99g:20025** 20C34 (20C20, 20C40)

— (*with* Suleiman, Ibrahim A. I.) Construction of exceptional covers of generic groups. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 31–38. (Summary) **99g:20031** 20D08 (20C34)

— *see also* **Atlas of finite groups: ten years on, 99e:20002**

Wilson, Robert B. (*with* Govindan, Srihari) Equivalence and invariance of the index and degree of Nash equilibria. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 56–61. (Yeneng Sun) **99d:90144** 90D05 (90A14, 90C29)

— Sequential equilibria of asymmetric ascending auctions: the case of log-normal distributions. (English summary) *Econom. Theory* **12** (1998), *no.* 2, 433–440. (Summary) **99h:90034** 90A60

Wilson, Robin J. Introduction. (English summary) *Graph connections*, 1–12, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 05–01

— (*with* Rice, Adrian C.) From national to international society: the London Mathematical Society, 1867–1900. (English, French and German summaries) *Historia Math.* **25** (1998), *no.* 2, 185–217. (E. Keith Lloyd) **99g:01039** 01A74 (01A55)

— *see also* **Graph connections, 99a:05001**

Wilson, S. D. R. *see* **Wilson, Simon David Redfern**

Wilson, S. M. J. (*with* Kearton, C.; Saeki, Osamu) Finiteness results for knots and singularities. (English summary) *Kobe J. Math.* **14** (1997), *no.* 2, 197–206. (J. P. Levine) **99e:57037** 57Q45 (32S55)

— Equivalence of factorizability theories. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 421–445. (William H. Gustafson) **99e:20008** 20C10 (16G30, 16H05, 19A31)

blake-Wilson, Simon *see* **Blake-Wilson, Simon**

Wilson, Simon David Redfern (*with* Braithwaite, M.; Lynch, P. M.; Parker, I. B.; Jones, A. F.) Compressional heating of isolated gas bubbles in reactive media. (English summary) *Math. Engrg. Indust.* **7** (1999), *no.* 3, 361–387. (Summary) **99j:80009** 80A32 (76N99)

Wilson, Simon P. (*with* Singpurwalla, Nozer D.) Failure models indexed by two scales. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 4, 1058–1072. (Attila Csenki) **99k:90083** 90B25 (60K20)

Wilson, Stephen E. (*with* Riskin, Adrian) Edge-graceful labellings of odd cycles and their products. *Bull. Inst. Combin. Appl.* **24** (1998), 57–64. (Summary) **99c:05172** 05C78 (05C38)

Wilson, Steve D. (*with* Amos, Martyn; Hodgson, David A.; Owenson, Gerald; Gibbons, Alan) Practical implementation of DNA computations. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 1–18, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05

Wilson, W. Stephen (*with* Sadofsky, Hal) Commutative Morava homology Hopf algebras. (English summary) *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 367–373, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Björn Schuster) **99i:55004** 55N20 (16W30, 55P45, 57T05)

— (*with* Hopkins, Michael J.; Ravenel, Douglas C.) Morava Hopf algebras and spaces $K(n)$ equivalent to finite Postnikov systems. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 137–163, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Nobuaki Yagita) **99e:55005** 55N20 (55N15, 55P20, 55S45, 57T05)

Wiltse, John M. (*with* Glezer, Ari) Direct excitation of small-scale motions in free shear flows. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2026–2036. 76–05 (76F10)

Wiltshire, D. L. (*with* Kontoleon, N.) Operator ordering and consistency of the wave function of the Universe. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 063513, 8 *pp.* 83C45

Wimmel, Harro (*with* Priese, Lutz) A uniform approach to true-concurrency and interleaving semantics for Petri nets. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 219–256. (Wolfgang Reisig) **99i:68036** 68Q10 (68Q90)

Wimmer, Harald K. Hermitian solutions of the discrete-time algebraic Riccati equation. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 921–936. 93C55 (93C05)

— Diagonal matrix solutions of a discrete-time Lyapunov inequality. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 442–445. (Takehiro Mori) **99a:93038** 93B40 (65F10)

— Canonical angles of unitary spaces and perturbations of direct complements. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 373–379. (Ilse C. F. Ipsen) **99j:15003** 15A03 (15A18)

Wimmers, Edward L. (*with* Fagin, Ronald) Incorporating user preferences in multimedia queries (extended abstract). (English summary) *Database theory—ICDT'97* (*Delphi*), 247–261, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Wimp, Jet (*with* Goh, W. M. Y.) The zero distribution of the Tricomi-Carlitz polynomials. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 119–127. (M. E. Muldoon) **99e:33006** 33C45 (42C05)

— The umbral calculus and identities for hypergeometric functions with special arguments. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 439–457, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Alessandro Di Bucchianico) **99i:05023** 05A40 (33C05, 33C20, 33C45)

— (*with* Kiesel, Harry) Some properties of the Sobolev-Laguerre polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 401–412. (Tim H. Baker) **99k:33039** 33C45

— Reviews: *To catch the spirit: the memoir of A. C. Aitken* [Univ. Otago Press, Dunedin, 1995; MR 96m:01019], *Determinants and matrices* [Oliver and Boyd, Edinburgh, 1939], *The case against decimalisation* [ibid., 1962], *Gallipoli to the Somme: recollections of a New Zealand infantryman* [Oxford Univ. Press, Oxford, 1963] by A. C. Aitken. *Math. Intelligencer* **20** (1998), *no.* 2, 62–79. (Editors) **99e:01031** 01A70

— (*with* Ismail, Mourad E. H.) On differential equations for orthogonal polynomials. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 4, 439–452. (Summary) **99i:42037** 42C05 (33C45)

Win, Moe Z. (*with* Golomb, Solomon W.) Recent results on polyphase sequences. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 817–824. (Summary) **99e:94029** 94A55

Windey, Paul (*with* Englert, François; Houart, Laurent) Thermodynamics of black holes in presence of string instantons. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 228–231, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57 (83E30)

— *see also* **Strings, branes and dualities, 99k:81009**

Winebrenner, Dale P. (*with* Sylvester, John) 1-D inverse scattering via the Riesz transform. *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 239–243, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 34L25 (34A55)

Wineman, A. S. (*with* Huntley, Hugh Edgar; Rajagopal, K. R.) Stress softening, strain localization and permanent set in the circumferential shear of an incompressible elastomeric cylinder. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 309–338. (Cesare Davini) **99a:73039** 73C50 (73S10)

Winfree, Erik (*with* Roweis, Sam; Burgoyne, Richard; Chelyapov, Nickolas V.; Goodman, Myron F.; Rothemund, Paul W. K.; Adleman, Leonard M.) A sticker based model for DNA computation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 1–29, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68059** 68Q05 (92D20)

— (*with* Adleman, Leonard M.; Rothemund, Paul W. K.; Roweis, Sam) On applying molecular computation to the data encryption standard. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 31–44, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:94034** 94A60 (68Q05, 92D20)

— (*with* Yang, Xiaoping; Seeman, Nadrian C.) Universal computation via self-assembly of DNA: some theory and experiments. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 191–213, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68061** 68Q05 (92D20)

Winful, Herbert G. (*with* Feng, Simin; Hellwarth, Robert W.) Spatiotemporal evolution of focused single-cycle electromagnetic pulses. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 4630–4649. (Summary) **99m:78004** 78A25

Wing, Omar (*with* Jiang, Yao Lin; Yu, Qing-Jian) Rational approximation of irrational functions by linear fractional transformations. (English summary) *IEEE Trans. Circuits*

Systems I Fund. Theory Appl. **45** (1998), *no.* 11, 1216–1221. (Summary) **99h:41023** 41A20 (30E10, 94C05)

Wingler, Eric J. (*with* Mimna, Roy A.) Locally bounded functions. *Real Anal. Exchange* **23** (1997/98), *no.* 1, 251–258. (Jozef Doboš) **99e:26002** 26A15 (54C08, 54C30)

Winiarski, T. (*with* Apel, Joachim; Stückrad, J.; Tworzewski, Piotr) Intersection of sequences of ideals generated by polynomials. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 1–12. (Bernard Mourrain) **99k:13035** 13P10

Winicour, Jeffrey (*with* Gómez, Roberto; Lehner, Luis; Marsa, R. L.) Moving black holes in 3D. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4778–4788. (Summary) **99k:83069** 83C57

— (*with* Bishop, Nigel T.; Isaacson, Richard; Maharaj, Manoj) Black hole data via a Kerr-Schild approach. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6113–6118. (Summary) **99m:83098** 83C57

— (*with* Bishop, Nigel T.; Gómez, Roberto; Holvorcem, Paulo R.; Matzner, Richard A.; Papadopoulos, Philippos) Erratum: "Cauchy-characteristic evolution and waveforms" [J. Comput. Phys. **136** (1997), no. 1, 140–167; MR 98e:76084]. *J. Comput. Phys.* **148** (1999), *no.* 1, 299–301. 76M25 (76Q05)

Winkel, Mark D. (*with* Arnold, Mark G.; Bailey, Thomas A.; Cowles, John R.) Arithmetic co-transformations in the real and complex logarithmic number systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 777–786. (Summary) **99d:65382** 65Y10 (68M07)

Winkel, Rudolf Schubert functions and the number of reduced words of permutations. (English summary) *Sém. Lothar. Combin.* **39** (1997), *Art. B39a*, 28 *pp.* (*electronic*). (Venkatramani Lakshmibai) **99h:05125** 05E15 (14M15)

— On the multiplication of Schubert polynomials. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 1, 73–97. (Summary) **99c:05200** 05E05

— Sequences of symmetric polynomials and combinatorial properties of tableaux. (English summary) *Adv. Math.* **134** (1998), *no.* 1, 46–89. (Andrew P. Mathas) **99b:05144** 05E05 (05A15)

— On the expansion of Schur and Schubert polynomials into standard elementary monomials. (English summary) *Adv. Math.* **136** (1998), *no.* 2, 224–250. (Angèle M. Hamel) **99h:05121** 05E05

Winkelmann, Jörg A remark on spaces of holomorphic maps to taut manifolds. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 145–147. (Masaaki Suzuki) **99f:32043** 32H20 (32H15)

— (*with* Snow, Dennis M.) Compact complex homogeneous manifolds with large automorphism groups. (English summary) *Invent. Math.* **134** (1998), *no.* 1, 139–144. (Peter Heinzner) **99f:32054** 32M10 (32M05)

— Complex analytic geometry of complex parallelizable manifolds. (English and French summaries) *Mém. Soc. Math. Fr. (N.S.) No.* 72-73 (1998), *x*+219 *pp.* (B. Gilligan) **99g:32058** 32M10 (14L30, 22E40, 32G05)

— Holomorphic self-maps of parallelizable manifolds. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 103–111. (Tomasz Rybicki) **99c:57068** 57S30 (32M05)

Winkler, Franz (*with* Sendra, J. Rafael) Real parametrization of algebraic curves. (English summary) *Artificial intelligence and symbolic computation (Plattsburgh, NY,* 1998), 284–295, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (Summary) **99m:68099** 68Q40 (14Q05)

Winkler, Henrik (*with* Langer, Heinz) Direct and inverse spectral problems for generalized strings. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 4, 409–431. (Hendrik S. V. de Snoo) **99m:34190** 34L05 (34A55)

Winkler, Joab R. Numerically stable conversion between the Bézier and *B*-spline forms of a curve. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc,* 1996), 465–472, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17 (65D07)

Winkler, Peter M. (*with* Zuckerman, David) Multiple cover time. *Random Structures Algorithms* **9** (1996), *no.* 4, 403–411. (Mark R. Jerrum) **99c:60153** 60J15 (05C99, 60C05)

— (*with* Lovász, László) Mixing times. (English summary) *Microsurveys in discrete probability (Princeton, NJ,* 1997), 85–133, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Mark R. Jerrum) **99h:60138** 60J10 (60G40, 62L15)

— (*with* Wilfong, Gordon) Ring routing and wavelength translation. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA,* 1998), 333–341, *ACM, New York*, 1998. (Summary) **99f:90172** 90C35 (68M10, 68R10)

— (*with* Lovász, László) Reversal of Markov chains and the forget time. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 189–204. (Robert P. Dobrow) **99c:60143** 60J10 (60J15)

— (*with* Trotter, William T.) Ramsey theory and sequences of random variables. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 221–238. (Graham Brightwell) **99e:60035** 60C05 (05D10, 06A07, 60F99)

— (*with* Schrijver, Alexander; Seymour, P. D.) The ring loading problem. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 1–14 (*electronic*). (Summary) **99a:90094** 90B12 (90B10)

— (*with* Kouider, Mekkia) Erratum: "Mean distance and minimum degree" [J. Graph Theory **25** (1997), no. 1, 95–99; MR 98d:05049]. *J. Graph Theory* **30** (1999), *no.* 3, 243. 05C12 (05C35)

Winkler, Reinhard A simple Hausdorff space which is Lindelöf, first countable, CCC but not separable. (English summary) *Anz. Österreich. Akad. Wiss. Math.-Natur. Kl.* **133** (1996), 23–25 (1997). (Summary) **99m:54025** 54G15 (54D10, 54D20)

— Sets of block structure and discrepancy estimates. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 337–349. (Robert F. Tichy) **99c:11099** 11K38

— On the distribution behaviour of sequences. (English summary) *Math. Nachr.* **186** (1997), 303–312. (Rita Giuliano Antonini) **99a:28012** 28C15 (11K36)

— Distribution preserving sequences of maps and almost constant sequences on finite sets. (English summary) *Monatsh. Math.* **126** (1998), *no.* 2, 161–174. (Oto Strauch) **99h:11088** 11K41 (11K06, 28D05)

Winkler, Renate (*with* Lamour, René; März, Roswitha) How Floquet theory applies to index 1 differential algebraic equations. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 372–394. (Vladimir A. Danilov) **99f:34001** 34A09 (34C25, 34D05, 34D20)

Winkler, Soren (*with* Webster, Corran) The Krein-Milman theorem in operator convexity. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 307–322. (Christian Le Merdy) **99d:46079** 46L05 (46B28, 47D20)

Winn, A. E. (*with* Ward, R. S.) Integrable systems admitting topological solitons. (English summary) *J. Phys. A* **31** (1998), *no.* 13, *L261–L266.* (Oktay K. Pashaev) **99k:58099** 58F07 (35Q58)

Winn, B. (*with* Chayes, L.; McKellar, D.) Percolation and Gibbs states multiplicity for ferromagnetic Ashkin-Teller models on $\mathbf{Z}^2$. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9055–9063. (Giambattista Giacomin) **99k:82038** 82B43 (60K35)

Winnie, John A. Theoretical analyticity. *Decline and obsolescence of logical empiricism*, 331–347, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006b**) 00A30 (03A05, 03B30)

Winsborough, William (*with* Cortesi, Agostino; Filé, Gilberto) The quotient of an abstract interpretation. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 163–192. (Summary) **99b:68026** 68N15 (68Q55, 68Q60)

Winskel, Glynn (*with* Cattani, Gian Luca; Stark, Ian) Presheaf models for the π-calculus. (English summary) *Category theory and computer science (Santa Margherita Ligure,* 1997), 106–126, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q10 (68Q55)

— (*with* Nielsen, Mogens) Categories in concurrency. *Semantics and logics of computation (Cambridge,* 1995), 299–354, *Publ. Newton Inst.*, 14, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **99h:68111**) 68Q55 (03B70, 68N15, 68Q10)

— (*with* Hildebrandt, Thomas T.; Panangaden, Prakash) A relational model of non-deterministic dataflow. (English summary) *CONCUR'98: concurrency theory (Nice),* 613–628, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (18C10, 68Q55)

— An operational understanding of bisimulation from open maps. *Second Workshop on Higher-order Operational Techniques in Semantics (HOOTS II) (Stanford, CA,* 1997), 1 *p.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 10, *Elsevier, Amsterdam*, 1998. (*see* **99e:68003**) 68Q55 (68N15)

— (*with* Cattani, Gian Luca; Fiore, Marcelo) A theory of recursive domains with applications to concurrency (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN,* 1998), 214–225, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10 (18D05, 68Q55)

— *see also* **Automata, languages and programming, 99m:68007**

Winslow, Carl (*with* Haagerup, Uffe) The Effros-Maréchal topology in the space of von Neumann algebras. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 567–617. (A. I. Danilenko) **99c:46071** 46L35 (46L37, 46M99)

— A topology on the semigroup of endomorphisms on a von Neumann algebra. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 169–178. (A. I. Danilenko) **99c:46070** 46L10 (46L40, 46L55)

— Endomorphisms, automorphisms and subfactors of von Neumann algebras. *J. Ramanujan Math. Soc.* **13** (1998), *no.* 1, 25–36. (Yasuyuki Kawahigashi) **99h:46119** 46L37 (46L40)

Winstanley, Elizabeth (*with* Mavromatos, Nick E.) Existence theorems for hairy black holes in su(N) Einstein-Yang-Mills theories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4849–4873. (Leonardo Fernández-Jambrina) **99m:83128** 83C57 (81T20, 83C75)

— (*with* Ellis, Jonathan Richard; Kanti, P.; Mavromatos, Nick E.; Nanopoulos, Dimitri V.) Decoherent scattering of light particles in a D-brane background. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 4, 303–319. (Summary) **99e:81186** 81T30 (81U99)

— (*with* Kanti, P.; Mavromatos, Nick E.; Rizos, J.; Tamvakis, K.) Dilatonic black holes in higher curvature string gravity. II. Linear stability. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6255–6264. (Summary) **99m:83116** 83C57 (83E30)

Wintenberger, Jean-Pierre Propriétés du groupe tannakien des structures de Hodge *p*-adiques et torseur entre cohomologies cristalline et étale. (English and French summaries) [Properties of the Tannakian group of *p*-adic Hodge structures and torsor between crystalline cohomology and étale cohomology] *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 5, 1289–1334. (Claudio Pedrini) **99g:14022** 14F30 (14D07, 14F20)

van Winter, Clasine An increasing entropy for a free quantum particle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3600–3618. (Matthew J. Donald) **99e:82061** 82C10

Winter, Eyal *see* **Games and politics, 99h:90007**

Winter, G. *see* **Winter Althaus, Gabriel**

Winter, Matthias (*with* Wei, Juncheng) On the stationary Cahn-Hilliard equation: interior spike solutions. (English summary) *J. Differential Equations* **148** (1998), *no.* 2, 231–267. (Albert J. Milani) **99i:35042** 35J60 (35B25, 47H15, 80A22)

— (*with* Wei, Juncheng) On the stationary Cahn-Hilliard equation: bubble solutions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1492–1518 (*electronic*). (Albert J. Milani) **99i:35043** 35J60 (35B25, 47H15, 80A22)

Winter, Thomas (*with* Blasum, Ulrich; Bussieck, Michael R.; Hochstättler, Winfried; Moll, Christoph; Scheel, Hans-Helmut) Scheduling trams in the morning. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 137–148. (Summary) **99m:90083** 90B35 (90C27)

Winter Althaus, Gabriel (*with* Périaux, Jacques; Galán, Manuel J.; Mantel, B.; Sánchez, I.) An introduction on global optimization by genetic algorithms. (English summary) *Algorithms for large scale linear algebraic systems (Gran Canaria,* 1996), 343–367, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65K05 (90C99)

— (*with* Montero García, Gustavo; Betancor Ortiz, Juan D.) A model of the transport and scattering of contaminants in the atmosphere. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo,* 1997), 1019–1024, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 86A10

— *see also* **Algorithms for large scale linear algebraic systems, 99a:65004**

Winterhof, Arne On Waring's problem in finite fields. *Acta Arith.* **87** (1998), *no.* 2, 171–177. (Sergeĭ V. Konyagin) **99k:11154** 11P05 (11T24)

— On the distribution of powers in finite fields. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 1, 43–54. (Charles Helou) **99b:11136** 11T23 (11T24)

— Representations of the character groups of $\mathbf{F}_q$. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 169–177. (Charles Helou) **99b:11137** 11T23 (11T24)

Winternitz, Pavel (*with* Levi, D.) Symmetry analysis of discrete physical systems. (English summary) *Nonlinear physics: theory and experiment (Lecce,* 1995), 199–216, *World Sci.*

Publishing, River Edge, NJ, 1996. (Summary) **99a:39047** 39A12 (34G99, 58F35)

— (*with* Orlov, A. Yu.) P_∞ algebra of KP, free fermions and 2-cocycle in the Lie algebra of pseudodifferential operators. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3159–3193. (Piotr G. Grinevich) **99b:58123** 58F07 (81R10)

— (*with* Rogers, Colin; Schief, W. K.) Lie-theoretical generalization and discretization of the Pinney equation. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 246–264. (Summary) **99i:34011** 34A26 (34A34, 39A12)

— (*with* Orlov, A. Yu.) P_∞-algebra of symmetries of the Kadomtsev-Petviashvili equations, free fermions and 2-cocycles in the Lie algebra of pseudodifferential operators. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 2, 231–260; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 2, 1393–1417 (1998). (Piotr G. Grinevich) **99c:58084** 58F07 (17B68, 58F35)

— (*with* Thomova, Z.; Zakrzewski, Wojciech J.) Solutions of $(2+1)$-dimensional spin systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3927–3944. (Muthusamy Lakshmanan) **99f:82048** 82C21 (34A05, 34A34)

— (*with* Tremblay, S.) Solvable Lie algebras with triangular nilradicals. (English and French summaries) *J. Phys. A* **31** (1998), *no.* 2, 789–806. (Rolf Farnsteiner) **99i:17011** 17B30

— (*with* Thomova, Z.) Maximal abelian subgroups of the isometry and conformal groups of Euclidean and Minkowski spaces. (English and French summaries) *J. Phys. A* **31** (1998), *no.* 7, 1831–1858. (Mariano A. del Olmo) **99k:81087** 81R05 (17B81, 22E60, 22E70)

— Lie group contractions and separation of variables. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1705–1712. (Summary) **99i:22018** 22E46

— (*with* Grammaticos, B.; Ramani, A.) Discretizing families of linearizable equations. (English summary) *Phys. Lett. A* **245** (1998), *no.* 5, 382–388. (Summary) **99c:58138** 58F35 (39A12)

— (*with* Hernández Heredero, R.; Levi, D.) Symmetries of the discrete Burgers equation. (English summary) *J. Phys. A* **32** (1999), *no.* 14, 2685–2695. 35Q53 (35A30, 39A12)

Winters-Hilt, Stephen N. (*with* Friedman, John L.; Louko, Jorma) Reduced phase space formalism for spherically symmetric geometry with a massive dust shell. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7674–7691. (Gil De Oliveira-Neto) **99a:83032** 83C45 (83C47, 83E05)

Winther, Ragnar (*with* Arnold, Douglas N.; Falk, Richard S.) Preconditioning discrete approximations of the Reissner-Mindlin plate model. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 4, 517–557. (Summary) **99b:73028** 73K10 (73V05)

— (*with* Tveito, Aslak) ★ Introduction to partial differential equations. (English summary) A computational approach. Texts in Applied Mathematics, 29. *Springer-Verlag, New York*, 1998. *xvi+392 pp. ISBN* 0-387-98327-9 (Darrell L. Hicks) **99k:65001** 65–01 (35–01)

Wio, H. S. Nonequilibrium potential in reaction-diffusion systems. *Fourth Granada Lectures in Computational Physics* (1996), 135–195, *Lecture Notes in Phys.*, 493, *Springer, Berlin*, 1997. (Cheng Xun Wu) **99b:82079** 82C31 (35K57, 82C05)

Wiper, M. P. Bayesian analysis of $\mathrm{Er}/M/1$ and $\mathrm{Er}/M/c$ queues. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 65–79. (Summary) **99b:62040** 62F15 (60K25)

Wipf, A. (*with* Ford, Christopher; Mitreuter, U. G.; Tok, T.; Pawlowski, J. M.) Monopoles, Polyakov loops, and gauge fixing on the torus. (English summary) *Ann. Physics* **269** (1998), *no.* 1, 26–50. (Massimo Di Pierro) **99j:81119** 81T13 (53C80)

— (*with* Mitreuter, U. G.; Pawlowski, J. M.) Polyakov loops and fermionic zero-modes in QCD_2 on the torus. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 381–398. (Edwin Langmann) **99c:81136** 81T13 (81T10)

Wirgin, Armand (*with* Albertsen, Niels Christian; Chesneaux, Jean-Marie; Christiansen, Søren) Comparison of four software packages applied to a scattering problem. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 307–317. 65–04 (65G10)

Wirkus, Stephen (*with* Rand, Richard H.; Ruina, Andy) How to pump a swing. *College Math. J.* **29** (1998), *no.* 4, 266–275. (Albert D. Morozov) **99i:70026** 70K05 (34C15, 70K40)

Wirsching, Günther J. ★ The dynamical system generated by the $3n+1$ function. Lecture Notes in Mathematics, 1681. *Springer-Verlag, Berlin*, 1998. *viii+158 pp. ISBN* 3-540-63970-5 (J. C. Lagarias) **99g:11027** 11B83 (11B37, 11K41, 39B12, 58F08, 60C05, 60J10)

Wirsching, Hans-Joachim On finite element approximation of variational inequalities arising from elliptic control problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 917–932. (Shuzi Zhou) **99h:49016** 49J40 (49M25, 65K10, 65N30)

Wirschins, Marion (*with* Kleihaus, Burkhard; Kunz, Jutta; Sood, Abha) Sequences of globally regular and black hole solutions in SU(4) Einstein-Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084006, 16 *pp.* (Summary) **99m:83120** 83C57 (81T13)

Wirsing, Martin (*with* Kosiuczenko, Piotr) Timed rewriting logic for the specification of time-sensitive systems. (English summary) *Logic of computation* (*Marktoberdorf*, 1995), 229–264, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 157, *Springer, Berlin*, 1997. (Summary) **99j:68061** 68Q42 (68Q65)

Wirth, Fabian On the calculation of time-varying stability radii. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1043–1058. (Summary) **99g:93071** 93D09 (93B40)

— On stability of infinite-dimensional discrete inclusions. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 21 *pp.* (*electronic*). (Marc Quincampoix) **99j:93073** 93D05 (34D08, 47N70, 93C55)

— Dynamics of time-varying discrete-time linear systems: spectral theory and the projected system. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 447–487 (*electronic*). (Russell A. Johnson) **99i:93022** 93B50 (34D08, 93C55)

Wirth, Hans-Christoph (*with* Krumke, Sven O.) On the minimum label spanning tree problem. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 81–85. (Summary) **99b:68150** 68R10 (05C15, 68Q25)

Wirth, Steffen (*with* Piesch, Walter) Lorenz curve chords and weighted mean deviation sums. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 3–19 (1998). 62P20

Wirtz, Bruno Fixed points and entropy for nonsolvable dynamics on $\mathbf{C},0$. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 1, 53–74. (Michel Herré Belliart) **99f:58225** 58H05 (58F23)

Wiryanto, L. H. (*with* Tuck, E. O.) On steady periodic interfacial waves. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 71–84. (Summary) **99m:76025** 76B15

Wirzba, Andreas (*with* Cvitanović, Predrag; Vattay, Gábor) Quantum fluids and classical determinants. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 29–62, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q20

— (*with* Henseler, Michael) A direct link between the quantum-mechanical and semiclassical determination of scattering resonances. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2155–2172. (Summary) **99b:81064** 81Q50 (81Q20, 81U05)

— Quantum mechanics and semiclassics of hyperbolic n-disk scattering systems. (English summary) *Phys. Rep.* **309** (1999), *no.* 1-2, 116 *pp.* (Summary) **99k:81069** 81Q20

Wisbauer, Robert (*with* Albu, Toma) Kasch modules. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 1–16, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (G. Krause) **99b:16007** 16D90 (16D50, 16S90)

— (*with* Albu, Toma) M-density, M-adic completion and M-subgeneration. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 141–159. (K. R. Fuller) **99d:16050** 16W80 (16D90)

— Tilting in module categories. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 421–444, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (*see* **99f:00028**) 16D10

Wiscombe, Warren J. (*with* Davis, Anthony B.; Marshak, Alexander L.; Cahalan, Robert F.) Multifractal characterizations of intermittency in nonstationary geophysical signals and fields: a model-based perspective on ergodicity issues illustrated with cloud data. (English summary) *Current topics in nonstationary analysis* (*San Diego, CA*, 1995), 97–158, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:60003**) 86A32

Wise, Daniel T. (*with* Niblo, Graham A.) The engulfing property for 3-manifolds. (English summary) *The Epstein birthday schrift*, 413–418 (*electronic*), *Geom. Topol. Monogr.*, 1, *Geom. Topol., Coventry*, 1998. (Darren D. Long) **99k:57041** 57N10 (57M50)

— (*with* Hsu, Tim) Embedding theorems for non-positively curved polygons of finite groups. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 201–221. (William A. Bogley) **99a:20036** 20F32 (20E06, 57M05, 57M20)

— A continually descending endomorphism of a finitely generated residually finite group. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 45–49. (A. Peluso) **99g:20050** 20E26

Wise, David S. Undulant-block elimination and integer-preserving matrix inversion. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 1, 29–85. (George D. Poole) **99j:65038** 65F05 (15A06, 15A09, 68Q22)

Wise, M. Norton (*with* Brock, David C.) The culture of quantum chaos. Cultures of theory. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 3, 369–389. (*see* **99h:01002**) 01A60 (81–03, 81Q50)

Wiseman, Robin D. Continuous group invariances of linear Jahn-Teller systems in icosahedral symmetry: extension to direct sum electronic spaces. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7647–7669. (Summary) **99g:81235** 81V55 (81R05)

Wismath, S. *see* **Wismath, Stephen K.**

Wismath, Shelly L. (*with* Denecke, Klaus; Koppitz, Jörg) Maps between M-solid varieties of semigroups. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 91–104. (Libor Polák) **99j:20065** 20M07 (08B15, 08C10)

— Unary hyperidentities for type $\langle 1 \rangle$ algebras. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 105–111. (Pavol Zlatoš) **99m:08016** 08A60 (08B05, 08C10)

— V-proper and normal form hypersubstitutions. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 121–129. (A. A. Iskander) **99g:08005** 08B05 (20M20)

Wismath, Stephen K. (*with* Biedl, Therese C.; Shermer, Thomas C.; Whitesides, S. H.) Orthogonal 3-D graph drawing. (English summary) *Graph drawing* (*Rome*, 1997), 76–86, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)

Wiśniewski, Jarosław A. (*with* Andreatta, Marco) A view on contractions of higher-dimensional varieties. *Algebraic geometry—Santa Cruz* 1995, 153–183, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (M. Kh. Gizatullin) **99f:14020** 14E30 (14J45)

— (*with* Andreatta, Marco) Contractions of smooth varieties. II. Computations and applications. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 343–360. (János Kollár) **99f:14021b** 14E30 (14E05, 14J35)

— (*with* Andreatta, Marco) On contractions of smooth varieties. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 2, 253–312. (János Kollár) **99f:14021a** 14E30 (14E05, 14J35)

Wisniewski, Leonard F. (*with* Cormen, Thomas H.; Sundquist, Thomas) Asymptotically tight bounds for performing BMMC permutations on parallel disk systems. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 105–136 (*electronic*). (Israel Koltracht) **99i:15001** 15–04 (68Q22, 68Q25)

Wiśniewski, Maciej (*with* Maćkowiak, J.) Infinite-volume limit of reduced s-d model with antiferromagnetically coupled impurities. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 113–133. (Marek Biskup) **99a:82052** 82B44 (81V70, 82B21, 82B26)

Wiśniewski, Mateusz Extremes in multivariate mixing sequences. *Demonstratio Math.* **30** (1997), *no.* 3, 661–669. (J. Hüsler) **99c:60109** 60G70

Wisniewski, Timothy (*with* Czyżyk, Joseph; Wright, Stephen Joseph) Optimization case studies in the NEOS guide. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 148–163 (*electronic*). (Summary) **99i:90068** 90C20 (65K05, 90C90)

Wiśniowska, Agnieszka On starlike functions related with hyperbolic regions. (English summary) *Transform methods & special functions, Varna* '96, 532–538, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 30C45

von Wissel, D. (*with* Nikoukhah, Ramine; Campbell, Stephen L.; Delebecque, F.) The effects of computational delay in descriptor-based trajectory tracking control. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 251–273. 93C41 (93D15)

Wißkirchen, Andreas (*with* Blumenhagen, Ralph) Spectra of 4D, $N=1$ type I string vacua on non-toroidal CY threefolds. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2,

52–60. (Harald Skarke) **99i:81172** 81T30 (14J32, 32J81)

Wiszniewski, Andrzej (*with* Kasztenny, Bogdan; Hatziadoniu, Constantine) A numerically simplified fuzzy logic controller. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 139–154. 93C42 (93C95)

de Wit, Bernard (*with* Kaplunovsky, Vadim S.; Louis, Jan; Lüst, Dieter) Duality symmetries and perturbative vectormultiplet couplings in $N = 2$ heterotic string vacua. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 488–500, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81206** 81T30

— (*with* Behrndt, Klaus; Cardoso, Gabriel Lopes; Kallosh, Renata; Lüst, Dieter; Mohaupt, Thomas) Classical and quantum $N = 2$ supersymmetric black holes. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 236–260. (Summary) **99f:83060** 83E30 (32J81, 81T30, 83C57)

— (*with* Claus, Piet; Faux, M.; Kleijn, B.; Siebelink, R.; Termonia, P.) $N = 2$ supergravity Lagrangians with vector-tensor multiplets. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 148–178. (Sergiu I. Vacaru) **99f:83072** 83E50

— (*with* De Jaegher, J.; Kleijn, B.; Vandoren, Stefan) Special geometry in hypermultiplets. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 553–582. (Krzysztof Galicki) **99h:53057** 53C25 (53C55, 53C80, 81T60, 83E50)

— (*with* Peeters, Kasper; Plefka, Jan C.) Superspace geometry for supermembrane backgrounds. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 99–123. (Paulo Moniz) **99m:83209** 83E50 (81T30, 83E30)

— (*with* Peeters, Kasper; Plefka, Jan C.) The supermembrane with winding. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 405–411. (Summary) **99c:81215** 81T30

— (*with* Louis, Jan) Duality and supersymmetry. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 117–157. (Angel Maria Uranga) **99e:81212** 81T30 (32J81, 83E30)

— (*with* Peeters, Kasper; Plefka, Jan C.) Open and closed supermembranes with winding. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 206–215. (Summary) **99e:81213** 81T30 (81Q60)

— (*with* Peeters, Kasper; Plefka, Jan C.; Sevrin, Alexander) The M-theory two-brane in $AdS_4 \times S^7$ and $AdS_7 \times S^4$. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 153–158. (Summary) **99j:83073** 83E30 (81T30)

— *see also* **Strings '97**, **99d:81003**

canudas de Wit, Carlos *see* **Canudas de Wit, Carlos**

Wit, Jörgen Rational choice and the Condorcet jury theorem. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 2, 364–376. (Summary) **99b:90015** 90A05

— Social learning in a common interest voting game. (English summary) *Games Econom. Behav.* **26** (1999), *no.* 1, 131–156. 90A28

Witbooi, P. J. Finite spaces and the universal bundle of a group. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 791–799. (Donald W. Kahn) **99b:55032** 55R35 (55R40)

— Groups for which every subquotient is (co-)Hopfian. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 2, 301–308. (Carles Casacuberta) **99k:20069** 20F18 (20K30, 55P60)

Witelski, Thomas P. Equilibrium interface solutions of a degenerate singular Cahn-Hilliard equation. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 127–133. (Summary) **99d:35080** 35K55 (34C37, 35Q80, 76R50, 80A22)

— (*with* Bernoff, Andrew J.; Bertozzi, Andrea L.) Axisymmetric surface diffusion: dynamics and stability of self-similar pinchoff. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 725–776. (Summary) **99k:80013** 80A99 (35B32, 35Q35, 73B30, 76E99, 76R50)

— (*with* Brenner, Michael P.) On spherically symmetric gravitational collapse. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 863–899. (Summary) **99k:85003** 85A30 (76N10)

— (*with* Bernoff, Andrew J.) Self-similar asymptotics for linear and nonlinear diffusion equations. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 2, 153–193. (Lubomira G. Softova) **99d:35081** 35K55 (35B40, 76R50, 76S05)

Withagen, Cees (*with* Asheim, Geir B.) Characterizing sustainability: the converse of Hartwick's rule. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 1, 159–165. (Summary) **99k:90050** 90A16 (49K15)

Witherspoon, S. J. (*with* Montgomery, Susan) Irreducible representations of crossed products. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 315–326. (Akira Masuoka) **99d:16030** 16S35 (16W30)

martin Witkowski, L. *see* **Martin Witkowski, L.**

Witomski, P. (*with* Gasquet, C.) ★ Fourier analysis and applications. (English summary) Filtering, numerical computation, wavelets. Translated from the French and with a preface by R. Ryan. Texts in Applied Mathematics, 30. *Springer-Verlag, New York*, 1999. *xviii+442 pp. ISBN* 0-387-98485-2 (Albert Cohen) **99h:42003** 42–02 (42Axx, 94A11, 94A12)

Witt, Annette (*with* Braun, Robert; Feudel, Fred; Grebogi, Celso; Kurths, Jürgen) Tracer dynamics in a flow of driven vortices. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1605–1614. 76F20 (76D05)

de Witt, Bryce *see* **De Witt, Bryce**

Witt, Ernst ★ Collected papers. Gesammelte Abhandlungen. (German) With an essay by Günter Harder on Witt vectors. Edited and with a preface in English and German by Ina Kersten. *Springer-Verlag, Berlin*, 1998. *xvi+420 pp. ISBN* 3-540-57061-6 (Franz Lemmermeyer) **99i:01038** 01A75

Witt, Ingo A calculus for classical pseudo-differential operators with non-smooth symbols. (English summary) *Math. Nachr.* **194** (1998), 239–284. (Vladimir B. Vasilyev) **99j:47074** 47G30 (35S05)

Wittbold, Petra (*with* Carrillo, José A.) Unicité des solutions renormalisées de problèmes elliptiques-paraboliques. (English and French summaries) [Uniqueness of renormalized solutions of elliptic-parabolic problems] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 23–28. (Summary) **99j:35150** 35M10

Witte, David Riley (*with* Dobson, Edward; Gavlas, Heather; Morris, Joy) Automorphism groups with cyclic commutator subgroup and Hamilton cycles. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 69–78. (Brian Alspach) **99d:05039** 05C25 (05C45)

— (*with* Locke, Stephen C.) On non-Hamiltonian circulant digraphs of outdegree three. (English summary) *J. Graph Theory* **30** (1999), *no.* 4, 319–331. (Joseph B. Klerlein) **99m:05069** 05C25 (05C20, 05C45)

Witte, Jörg Integral representation in $\mathbf{C}^n$ by a generalized Riemann function. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 4, 337–357. (Summary) **99g:32034** 32F99

Witte, N. S. Many-body orthogonal polynomial systems. (English summary) *Special functions and differential equations (Madras, 1997)*, 326–335, *Allied Publ., New Delhi*, 1998. (Kazuhiro Hikami) **99k:81352** 81V70 (33C45, 33D45)

Witten, Edward Some comments on string dynamics. *Strings '95 (Los Angeles, CA, 1995)*, 501–523, *World Sci. Publishing, River Edge, NJ*, 1996. (Claudio A. Scrucca) **99k:81273** 81T30 (83E30)

— Geometry and quantum field theory [MR 94a:81001]. *Fields Medallists' lectures*, 523–535, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 58–02

— (*with* Seiberg, Nathan) Gauge dynamics and compactification to three dimensions. (English summary) *The mathematical beauty of physics (Saclay, 1996)*, 333–366, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Daniel N. Kabat) **99b:81247** 81T60 (58D27, 81T13)

— (*with* Moore, Gregory W.) Integration over the u-plane in Donaldson theory. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 298–387. (Daniel S. Freed) **99k:57070** 57R57 (11F11, 57N13, 58D29, 81T60)

— (*with* Friedman, Robert David; Morgan, John W.) Vector bundles and F theory. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 679–743. (I. Dolgachev) **99g:14052** 14J60 (14B07, 14D20, 14H52, 14J27, 14J32, 32J81, 81T30)

— On the conformal field theory of the Higgs branch. (English summary) *J. High Energy Phys.* **1997**, *no.* 7, *Paper* 3, 23 *pp.* (*electronic*). (Daniel N. Kabat) **99d:81164** 81T60 (81T13, 81T40)

— (*with* Maldacena, Juan M.; Strominger, Andrew) Black hole entropy in M-theory. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 2, 16 *pp.* (*electronic*). (Jeremy Michelson) **99d:83097** 83E30 (14J32, 32J81, 81T30, 83C57)

— Solutions of four-dimensional field theories via M-theory. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 3–42. (Daniel N. Kabat) **99a:81158** 81T30 (81T13, 81T60)

— Branes and the dynamics of QCD. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 658–690. (Daniel N. Kabat) **99b:81250** 81T60 (81T13, 81V05)

— New "gauge" theories in six dimensions. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 61–90. (Douglas J. Smith) **99b:81251b** 81T60 (81T13, 81T30)

— Anti de Sitter space and holography. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 2, 253–291. (Douglas J. Smith) **99e:81204c** 81T30 (81T60, 83E30)

— Anti-de Sitter space, thermal phase transition, and confinement in gauge theories. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 3, 505–532. (Douglas J. Smith) **99g:81190** 81T30 (81T13, 81T60)

— New "gauge" theories in six dimensions. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 1, 26 *pp.* (*electronic*). (Douglas J. Smith) **99b:81251a** 81T60 (81T13, 81T30)

— Toroidal compactification without vector structure. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 6, 43 *pp.* (*electronic*). (Angel Maria Uranga) **99e:81214** 81T30 (81T60)

— Baryons and branes in anti-de Sitter space. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 6, 39 *pp.* (*electronic*). (Angel Maria Uranga) **99f:81180** 81T30 (81T60, 83E30)

— (*with* Friedman, Robert David; Morgan, John W.) Principal G-bundles over elliptic curves. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 97–118. (Arnaud Beauville) **99j:14037** 14H60 (14D20, 14H52)

— Magic, mystery, and matrix. *Notices Amer. Math. Soc.* **45** (1998), *no.* 9, 1124–1129. (Christophe Grojean) **99g:81191** 81T30 (81–01)

— M theory and quantum mechanics. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 463–466. (Christophe Grojean) **99e:81215** 81T30 (81Q60)

— Theta dependence in the large N limit of four-dimensional gauge theories. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 14, 2862–2865. (Christophe Grojean) **99k:81319** 81T60 (81R40, 81T30)

— (*with* Klebanov, Igor R.) Superconformal field theory on threebranes at a Calabi-Yau singularity. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 199–218. (Douglas J. Smith) **99k:81253** 81T30 (81T60)

— *see also* **Álvarez-Gaumé, Luis**, **99f:81190**; **Faddeev, Lyudvig Dmitrievich**, (**99b:00010**) *and* **Atiyah, Michael F.**, (**99b:00010**)

Witten, I. H. *see* **Combinatorics, complexity, & logic**, **99d:68003**

Witten, Louis (*with* Singh, Tejinder P.) Spherical gravitational collapse with tangential pressure. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3489–3499. (Maciej Przanowski) **99a:83052** 83C75 (83C15, 83C57)

— (*with* Vaz, Cenalo) On the spectrum of the radiation from a naked singularity. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 90–96. (Gil De Oliveira-Neto) **99k:83087** 83C57 (83C47, 83C75)

— (*with* Barve, Sukratu; Singh, Tejinder P.; Vaz, Cenalo) Quantum stress tensor in self-similar spherical dust collapse. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104018, 8 *pp.* 83C47 (81T20)

Wittenmark, Emma (*with* Johannesson, Rolf; Wan, Zhe-Xian) Some structural properties of convolutional codes over rings. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 839–845. (Summary) **99c:94050** 94B10

— (*with* Johannesson, Rolf) Two 16-state, rate $R = 2/4$ trellis codes whose free distances meet the Heller bound. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1602–1604. 94B12

Witteveen, Cees (*with* van der Hoek, Wiebe) A general framework for revising nonmonotonic theories. (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl, 1997)*, 258–272, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68T27

Wittevrongel, Sabine (*with* Bruneel, Herwig) Discrete-time queues with correlated arrivals and constant service times. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 93–108. 90B22

Wittgenstein, Ludwig *see* **Wittgenstein and the Vienna Circle**, **99b:00022**; **Joseph, Marc A.**, **99d:00005**; **Padilla Gálvez, Jesús**, **99j:03003**; **Marconi, Diego**, **99m:03008** *and* **Schmitz, François**, (**99g:01038**)

Wittig, Hartmut (*with* Philipsen, Owe) String breaking in non-abelian gauge theories with fundamental matter fields. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 19, 4056–4059. (Summary) **99f:81217** 81V05 (81T13)

Witting, H. Nichtparametrische Statistik: Aspekte ihrer Entwicklung 1957–1997. [Nonparametric statistics: aspects of its development, 1957–1997] *Jahresber. Deutsch. Math.-Verein.* **100** (1998), *no.* 3, 209–237. (Wolfgang Polonik) **99m:62005** 62–02 (01A60, 62G07, 62G10)

Wittke, P. H. (*with* Campbell, L. L.; McKellips, A. L.) Correction: "Distributions and expectations of singular random variables" [J. Appl. Probab. **32** (1995), no. 4, 1032–1040; MR 96m:60046]. *J. Appl. Probab.* **35** (1998), *no.* 1, 253. (From the text) **99b:60031** 60E99 (94A40)

fiebig-Wittmaack, Melitta *see* **Fiebig-Wittmaack, Melitta**

Wittmann, P. Vertex-distinguishing edge-colorings of 2-regular graphs. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 265–277. (Richard C. Brewster) **99a:05128** 05C78 (05B07, 05C15)

Wittmer, J. P. (*with* Bouchaud, J. P.; Claudin, P.; Cates, M. E.) Models of stress propagation in granular media. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 97–121, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:73041** 73E99 (73B99, 76A99)

Wittum, Gabriel (*with* Weiler, W.) Parallel frequency filtering. (English and German summaries) *Computing* **58** (1997), *no.* 4, 303–316. (Summary) **99d:65357** 65N55 (65F50, 65Y05)

— (*with* Wagner, Christian[2]) Adaptive filtering. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 305–328. (Summary) **99k:65036** 65F30 (65N55)

— (*with* Ginzbourg, I.) Multigrid methods for two phase flows. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 144–167, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76111** 76M25 (76T05)

— (*with* Bastian, P.; Hackbusch, Wolfgang) Additive and multiplicative multi-grid—a comparison. (English summary) *Computing* **60** (1998), *no.* 4, 345–364. (Summary) **99c:65228** 65N55

— (*with* Khoromskiĭ, B. N.) An asymptotically optimal Schur complement reduction for the Stokes equation. (English summary) *Numer. Math.* **81** (1999), *no.* 3, 345–375. (Leonid K. Antanovskiĭ) **99m:65188** 65M60 (65F30, 65N30, 76D07, 76M10)

Wittwer, Peter (*with* Abad, Juan J.; Koch, Hans) A renormalization group for Hamiltonians: numerical results. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1185–1194. (Rafael de la Llave) **99g:58110** 58F27 (70H05)

Witzgall, Christoph (*with* Gass, Saul I.; Harary, Howard H.) Fitting circles and spheres to coordinate measuring machine data. (English summary) *New trends in mathematical programming*, 65–91, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99f:65021** 65D10 (90C90)

Włodarczyk, K. (*with* Szałowska, A.) Distortion of biholomorphic maps on homogeneous domains in J^*-algebras. *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 1–8. (Jorge Mujica) **99a:46085** 46G20 (30C20, 58B12)

Włodarski, Lech *see* **Hensz-Chądzyńska, Ewa**

Włoka, J. (*with* Skoŕnik, Krystyna) Factoring and splitting of S-differential equations in the field of Mikusiński. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 3, 263–274. (Georg M. Reinhart) **99e:34006** 34A25 (12H05, 44A40)

— (*with* Rowley, B.) New aspects of the L-condition for elliptic systems. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 283–294. (Vladimir Tulovsky) **99h:35044** 35J45

Wnuk, Witold (*with* Drewnowski, Lech) Some Baire category results for measures with "big" ranges. Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 103–115. (Vadym M. Radchenko) **99j:28009** 28B05 (28A05, 28B10)

Wódkiewicz, Krzysztof (*with* Kochański, Piotr) Operational measurements in quantum mechanics. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 245–253. (Paul Busch) **99f:81028** 81P15

— (*with* Banaszek, Konrad) Testing quantum nonlocality in phase space. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 10, 2009–2013. (Summary) **99k:81014** 81P05

Wodrich, Mark (*with* Bilchev, George) Cooperative distributed search: the ants' way. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 413–445. (*see* **99b:90008**) 90C15 (90C27)

Wodtke, Dirk (*with* Weikum, Gerhard) A formal foundation for distributed workflow execution based on state charts. (English summary) *Database theory—ICDT '97* (*Delphi*), 230–246, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68127** 68Q60 (68P15, 68Q10)

Woeginger, Gerhard J. (*with* Babel, Luitpold) Pseudo-Hamiltonian graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 38–51, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68183** 68R10 (05C45, 05C85, 68Q25)

— (*with* Chen, Bo; Potts, Chris N.) A review of machine scheduling: complexity, algorithms and approximability. *Handbook of combinatorial optimization, Vol.* 3, 21–169, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90B35 (90–02, 90C27)

— (*with* Fiat, Amos) Competitive analysis of algorithms. *Online algorithms* (*Schloss Dagstuhl*, 1996), 1–12, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68Q25

— (*with* Csirik, János) On-line packing and covering problems. *Online algorithms* (*Schloss Dagstuhl*, 1996), 147–177, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68Q25 (90C35)

— (*with* Fiat, Amos) Competitive odds and ends. *Online algorithms* (*Schloss Dagstuhl*, 1996), 385–394, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68Q25

— (*with* Rote, Günter) Minimizing the number of tardy jobs on a single machine with batch setup times. (English summary) *Acta Cybernet.* **13** (1998), *no.* 4, 423–429. (Summary) **99m:90089** 90B35 (90C60)

— (*with* Alon, Noga; Azar, Yossi; Csirik, János; Epstein, Leah; Sevast'yanov, S. V.; Vestjens, Arjen P. A.) On-line and off-line approximation algorithms for vector covering problems. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 104–118. (Editors) **99c:68116** 68Q25 (90C27)

— (*with* Dudás, T.; Klinz, Bettina) The computational complexity of the k-minimum spanning tree problem in graded matrices. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 61–67. (Summary) **99e:68066** 68Q25 (05C05, 05C85, 68R10)

— The toughness of split graphs. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 295–297. (Summary) **99f:05112** 05C85

— (*with* Alon, Noga; Azar, Yossi; Yadid, Tal) Approximation schemes for scheduling on parallel machines. (English summary) *J. Sched.* **1** (1998), *no.* 1, 55–66. (Summary) **99e:90038** 90B22 (90C27)

— (*with* Burkard, Rainer E.; Çela, Eranda; Rote, Günter) The quadratic assignment problem with a monotone anti-Monge and a symmetric Toeplitz matrix: easy and hard cases. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 125–158. (Roman Słowiński) **99i:90078** 90C27 (90C20)

— (*with* Sevast'yanov, S. V.) Makespan minimization in open shops: a polynomial time approximation scheme. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 191–198. (Frank Werner) **99e:90052** 90B35 (90C27, 90C60)

— (*with* van der Veen, Jack A. A.; Zhang, Shuzhong) Sequencing jobs that require common resources on a single machine: a solvable case of the TSP. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 235–254. (Panos M. Pardalos) **99d:90062** 90B35 (90C27)

— (*with* Deĭneko, Vladimir G.) A solvable case of the quadratic assignment problem. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 1, 13–17. (Summary) **99b:90101** 90C27

— A comment on a minmax location problem. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 41–43. (Summary) **99j:90043** 90B80 (90C20)

— (*with* Deĭneko, Vladimir G.; Rudolf, Rüdiger) Sometimes travelling is easy: the master tour problem. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 81–93 (*electronic*). (Charles E. Blair) **99f:90159** 90C35 (68Q25, 68R05, 90C27)

— (*with* Burkard, Rainer E.; Deĭneko, Vladimir G.; van Dal, René; van der Veen, Jack A. A.) Well-solvable special cases of the traveling salesman problem: a survey. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 496–546 (*electronic*). (Anton Volgenant) **99i:90077** 90C27 (90–02)

— (*with* Burkard, Rainer E.; Deĭneko, Vladimir G.) The travelling salesman problem on permuted Monge matrices. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 333–350. (Jesús A. de Loera) **99k:90127** 90C27 (90C35)

— (*with* Burkard, Rainer E.; Feldbacher, Karin; Klinz, Bettina) Minimum-cost strong network orientation problems: classification, complexity, and algorithms. (English summary) *Networks* **33** (1999), *no.* 1, 57–70. (K. G. Murty) **99k:90185** 90C35 (05C20, 90C27)

— *see also* **Algorithms—ESA '97**, **99d:68002** *and* **Online algorithms**, **99m:68003**

Woerdeman, Hugo J. (*with* Ben-Artzi, Asher; Helton, J. William) Non-minimal factorization of nonlinear systems: the observable case. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1069–1104. 93C10 (93B17)

— (*with* Bakonyi, Mihály) Extensions of positive definite Fredholm operators with partially zero inverse. (English summary) *Math. Nachr.* **193** (1998), 5–18. (Lawrence Williams) **99h:47010** 47A20 (45P05, 47B10, 47B38)

— (*with* Nævdal, Geir) Cone inclusion numbers. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 613–639 (*electronic*). (Shu An Hu) **99d:15018** 15A48 (47D20)

Woess, Wolfgang (*with* Saloff-Coste, Laurent) Transition operators, groups, norms, and spectral radii. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 333–367. (Donald I. Cartwright) **99g:43005** 43A15 (60J15)

— A note on tilings and strong isoperimetric inequality. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 385–393. (Ren Ding) **99f:52026** 52C20 (05B45)

van de Woestyne, I. *see* **Van de Woestyne, I.**

Wohlhart, K. The kinematics of Röschel polyhedra. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 277–286, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99i:70007** 70B15 (52A20)

Wohlmuth, Barbara I. (*with* Wieners, Christian) The coupling of mixed and conforming finite element discretizations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 547–554, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N15 (65N30, 65N55)

— (*with* Hoppe, Ronald H. W.) Hierarchical basis error estimators for Raviart-Thomas discretizations of arbitrary order. (English summary) *Finite element methods* (*Jyväskylä*, 1997), 155–167, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (I. N. Molchanov) **99d:65318** 65N30

— (*with* Hoppe, Ronald H. W.; Iliash, Yu.; Kuznetsov, Yuriĭ Alekseevich[1]; Vasilevskiĭ, Yu. V.) Analysis and parallel implementation of adaptive mortar element methods. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 223–248. (Dao Qi Yang) **99m:65237** 65N55

— (*with* Hoppe, Ronald H. W.) A comparison of a posteriori error estimators for mixed finite element discretizations by Raviart-Thomas elements. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1347–1378. (Bernd Heinrich) **99m:65222** 65N30

Wojciechowski, Jerzy A criterion for the existence of transversals of set systems. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 491–503. (C. St. J. A. Nash-Williams) **99c:05193** 05D15 (04A20, 05A05)

— (*with* Alsardary, Salar Y.) The basis number of the powers of the complete graph. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 13–25. (Andreas Huck) **99f:05067** 05C38

Wojciechowski, K. P. (*with* Scott, S. G.; Morchio, Gianni; Booss, Bernhelm) Determinants, manifolds with boundary and Dirac operators. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 423–432, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Friedbert Prüfer) **99j:58222** 58G26 (58G20)

— (*with* Booss, Bernhelm; Scott, S. G.) The ζ-determinant and $\mathscr{E}$-determinant on the Grassmannian in dimension one. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 4, 353–362. (Jürgen Tolksdorf) **99i:58152** 58G26

Wojciechowski, Michał On the summing property of the Sobolev embedding operators. (English summary) *Positivity* **1** (1997), *no.* 2, 165–170. (Summary) **99h:46056** 46E35

(47B10)
— On the strong type multiplier norms of rational functions in several variables. *Illinois J. Math.* **42** (1998), *no.* 4, 582–600. (U. B. Tewari) **99m:42024** 42B15 (42B20, 60G46)
— On the representation of functions as a sum of derivatives. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 4, 303–306. (Summary) **99k:42048** 42B30
Wojciechowski, Piotr (*with* Nguyen, Hung T.; Kreinovich, Vladik) Strict Archimedean t-norms and t-conorms as universal approximators. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 239–249. (Summary) **99h:03014** 03B52
— (*with* Scerri, Eric R.; Kreinovich, Vladik; Yager, Ronald R.) Ordinal explanation of the periodic system of chemical elements. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 387–399. 81V55
Wójcik, Ambroży Linear congruence relations for 2-adic L-series at integers. (English summary) *Compositio Math.* **111** (1998), *no.* 3, 289–304. (Lawrence Washington) **99j:11132** 11R42 (11R18, 11S40)
Wójcik, D. (*with* Tafel, J.) Null Killing vectors and reductions of the self-duality equations. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 835–844. (Maciej Przanowski) **99f:53075** 53C80 (17B81, 58G35, 81T13)
Wójcik, Jan *see* **Schinzel, Andrzej, 99m:01087**
Wójcik, Klaudiusz On existence of positive periodic solutions. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 343–350. (Tomáš Gedeon) **99a:34125** 34C25
— Isolating segments and symbolic dynamics. *Nonlinear Anal.* **33** (1998), *no.* 6, 575–591. (B. V. Loginov) **99e:58140** 58F22 (34C25, 34C99, 58F03, 58F13)
— (*with* Szymczak, Andrzej; Zgliczyński, Piotr) On the discrete Conley index in the invariant subspace. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 105–115. (Christopher K. McCord) **99g:58079** 58F12 (54H20)
— A geometric method for detecting chaotic dynamics. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 249–251. (*see* **99f:58002**) 58F13
Wojdyllo, Piotr Wavelets and Mallat's multiresolution analysis. (English summary) *Fund. Inform.* **34** (1998), *no.* 4, 469–474. (Fabio Bagarello) **99j:42043** 42C15 (43A99)
Wojdyło, Jerzy Relation algebras and t-vertex condition graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 981–986. (Paul-Hermann Zieschang) **99k:05161** 05E30
Wojnar, R. Homogenization of piezoelectric solid and thermodynamics. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 585–598. (Alexander G. Kolpakov) **99b:73006** 73B27 (73B30, 73R05)
Wojtaszczyk, P. Wavelets as unconditional bases in $L_p(\mathbf{R})$. (English summary) *J. Fourier Anal. Appl.* **5** (1999), *no.* 1, 73–85. (Peter R. Massopust) **99m:42059** 42C15 (46B15, 46E30)
Wojtczak, Leszek (*with* Ławrynowicz, Julian; Rodrigues, Waldyr Alves, Jr.) Clifford-algebraical approach to particle lifetimes. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **21** (1996), 57–63. (Bertfried Fauser) **99c:83078** 83E15
Wojtkowiak, Zdzisław Monodromy of iterated integrals and non-abelian unipotent periods. *Geometric Galois actions*, 2, 219–289, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Hiroaki Nakamura) **99m:14024** 14D07 (14C30, 20F14, 32G20)
Wojtkowski, Maciej P. Convexly hyperbolic flows on unit tangent bundles of surfaces. (English summary) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 373–383. (Donal Hurley) **99i:58123** 58F17 (58F15)
— (*with* Liverani, Carlangelo) Conformally symplectic dynamics and symmetry of the Lyapunov spectrum. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 47–60. (Nikolai Chernov) **99d:58071** 58F05 (70H05)
— Hamiltonian systems with linear potential and elastic constraints. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 305–341. (Nikolai Chernov) **99e:58081** 58F05 (70F10, 70H05)
lissowska-Wójtowicz, Anna *see* **Lissowska-Wójtowicz, Anna**
Wójtowicz, Daria (*with* Bugajewski, Dariusz) On generalized Carathéodory's conditions in ordinary differential equations. (English summary) *Math. Nachr.* **199** (1999), 71–75. (Stanislav L. Sobolevsky) **99m:34005** 34A12
Wójtowicz, Marek Effective constructions of separable quotients of Banach spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 809–815. (Jorge Mujica) **99d:46022** 46B20
— Acknowledgment of priority: separable quotients of Banach spaces. *Collect. Math.* **49** (1998), *no.* 1, 133. (From the text) **99e:46027** 46B42 (46B20)
— An elementary proof of a theorem on sublattices of finite codimension. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 99–100. (Summary) **99b:46006** 46A40
Wojtyński, Wojciech Lie groups as quotient groups. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 373–379. (Vladimir Pestov) **99e:22035** 22E65 (17B99, 22A05)
— Quasinilpotent Banach-Lie algebras are Baker-Campbell-Hausdorff. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 405–413. (Alexander Isaakovich Shtern) **99f:46071** 46H70 (17B65)
Wolak, Robert A. On leaves of Lagrangian foliations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 27–34; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 6, 24–31. (V. Oproiu) **99k:53048** 53C12 (57R30, 58F05)
— Growth of leaves in transversely affine foliations. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2167–2173. (Gilbert Levitt) **99j:57028** 57R30
Wolanski, Noemi (*with* Caffarelli, Luis A.; Lederman, Claudia) Pointwise and viscosity solutions for the limit of a two phase parabolic singular perturbation problem. *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 719–740. (Naoki Yamada) **99c:35116** 35K60 (35B25)
— (*with* Lederman, Claudia) Viscosity solutions and regularity of the free boundary for the limit of an elliptic two phase singular perturbation problem. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **27** (1998), *no.* 2, 253–288 (1999). (Mahdi Boukrouche) **99m:35274** 35R35 (35B25, 35D10, 35J60)
Wolbert, Jerome J. Classifying modules over K-theory spectra. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 289–323. (A. D. Elmendorf) **99e:55013** 55P42 (55T25)
Woldar, Andrew J. (*with* Anacker, Steven E.) Reconstructibility of graphs with a large branch: permutation group theory and graph reconstruction. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 19–30. (J. Lauri) **99j:05146** 05C60
— (*with* Hemmeter, Joe; Ustimenko, V. A.) Orbital schemes of $B_3(q)$ acting on 2-dimensional totally isotropic subspaces. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 487–498. (Paul-Hermann Zieschang) **99f:05123** 05E30 (20G15)
— (*with* Lazebnik, F. G.; Ustimenko, V. A.) Polarities and $2k$-cycle-free graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 503–513. (Summary) **99i:05123** 05C38
— (*with* Hemmeter, Joe) The complete list of maximal cliques of Quad(n, q), q even. (English summary) *European J. Combin.* **20** (1999), *no.* 1, 81–85. (Sung-Yell Song) **99m:05135** 05C75 (05C35, 05E30)
— *see also* **Algebra and combinatorics: interactions and applications, 99e:00015**
Woleński, Jan Against truth as coherence. *Logic Log. Philos. No.* 4 (1996), 41–51. (Jaime Nubiola) **99f:03004** 03A05
Wolenski, Peter R. (*with* Clarke, F. H.; Ledyaev, Yu. S.; Stern, Ronald Jay) ★ Nonsmooth analysis and control theory. (English summary) Graduate Texts in Mathematics, 178. *Springer-Verlag, New York*, 1998. xiv+276 *pp. ISBN* 0-387-98336-8 (Richard B. Vinter) **99a:49001** 49–02 (49J52, 58C20, 93–02)
— (*with* Zhuang, Yu[2]) Proximal analysis and the minimal time function. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1048–1072 (*electronic*). (Pierpaolo Soravia) **99i:49032** 49L20 (35F30, 49J52)
scheller-Wolf, Alan *see* **Scheller-Wolf, Alan**
Wolf, Andreas[3] (*with* Lindberg, Per-Olov) Optimization of the short term operation of a cascade of hydropower stations. (English summary) *Optimal control (Gainesville, FL, 1997)*, 326–345, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:49002**) 93C95 (90C90)
Wolf, Dietrich E. Friction in granular media. (English summary) *Physics of dry granular media (Cargèse, 1997)*, 441–463, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73B99 (73E99)
mayer-Wolf, Eduardo *see* **Mayer-Wolf, Eduardo**
Wolf, Frauke ★ Lorenzkurvendisparität. (German. German summary) [Disparity of Lorenz curves] Neuere Entwicklungen, Erweiterungen und Anwendungen. [Recent developments, extensions and applications] Hohenheimer Volkswirtschaftliche Schriften [Hohenheim Writings in Economics], 25. *Peter Lang, Frankfurt am Main*, 1997. xx+257 *pp. ISBN* 3-631-31325-X (Manfred Kraft) **99c:62293** 62P20 (60E15)
Wolf, Gerhard On the central connection problem for the double confluent Heun equation. (English summary) *Math. Nachr.* **195** (1998), 267–276. (Summary) **99f:34005** 34A20 (34E05)
Wolf, J. *see* **Wolf, Jörg**
Wolf, Jack K. (*with* Immink, Kees A. Schouhamer; Siegel, Paul H.) Codes for digital recorders. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2260–2299. (Summary) **99h:94029** 94A24 (94A14)
— (*with* Altekar, Shirish A.; Berggren, Magnus; Moision, Bruce E.; Siegel, Paul H.) Error-event characterization on partial-response channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 241–247. (Summary) **99k:94019** 94A13 (94A14, 94A40)
Wolf, Joel L. (*with* Schwiegelshohn, Uwe; Ludwig, Walter; Turek, John; Yu, Philip S.) Smart SMART bounds for weighted response time scheduling. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 237–253 (*electronic*). (Mukkai S. Krishnamoorthy) **99e:68061** 68Q22 (68M20, 68Q25)
Wolf, John P. (*with* Song, Chongmin) The scaled boundary finite-element method: analytical solution in frequency domain. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 249–264. (Summary) **99h:73080** 73V05
Wolf, Jörg (*with* Naumann, J.) Interior differentiability of weak solutions to parabolic systems with quadratic growth nonlinearities. (Italian summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 253–272. (Naoki Yamada) **99e:35099** 35K55 (35B65, 35D10)
— (*with* Naumann, J.; Wolff, Michael) On the Hölder continuity of weak solutions to nonlinear parabolic systems in two space dimensions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 237–255. (Summary) **99h:35091** 35K55 (35D10, 35K40)
Wolf, Joseph A. (*with* Zierau, R.) Cayley transforms and orbit structure in complex flag manifolds. (English summary) *Transform. Groups* **2** (1997), *no.* 4, 391–405. (Harald Upmeier) **99b:32049** 32M15 (14M15)
— Flag manifolds and representation theory. *Geometry and representation theory of real and p-adic groups (Córdoba, 1995)*, 273–323, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Edward G. Dunne) **99a:22029** 22E46 (14M15, 32M10)
— Observability on noncompact symmetric spaces. *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 8 *pp.* (*electronic*). (Kevin A. Grasse) **99k:93030** 93B07 (58E25)
Wolf, Katja (*with* Srivastav, Anand) Finding dense subgraphs with semidefinite programming. (English summary) *Approximation algorithms for combinatorial optimization (Aalborg, 1998)*, 181–191, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (H. T. Lau) **99k:90191** 90C35 (05C85)
Wolf, Kurt Bernardo (*with* Man'ko, V. I.) Symplectic and Euclidean groups of transformations in optics. (English summary) *Nova J. Theor. Phys.* **4** (1996), *no.* 1, 47–73. (Summary) **99e:22037** 22E70 (58F05, 58F40, 78A05, 78A10)
— (*with* Nieto, Luis Miguel; Atakishiev, N. M.; Chumakov, Sergey M.) Wigner distribution function for Euclidean systems. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3875–3895. (Summary) **99c:81118** 81S30
— (*with* Atakishiev, N. M.; Jafarov, Elchin I.; Nagiev, Sh. M.) Meixner oscillators. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 3, 235–244. (Summary) **99e:81038** 81Q05 (33C45, 81R30)
Wolf, M. *see* **Wolf, Michael[1]**
Wolf, Michael *see* **Wolf, Michael[3]**
Wolf, Michael[1] (*with* Weber, Matthias[2]) Minimal surfaces of least total curvature and moduli spaces of plane polygonal arcs. *Geom. Funct. Anal.* **8** (1998), *no.* 6, 1129–1170.

(Athanase Papadopoulos) **99m:53020** 53A10 (30F30, 30F60)

Wolf, Michael[3] (*with* Politis, D. N.; Romano, Joseph P.) Subsampling for heteroskedastic time series. (English summary) *J. Econometrics* **81** (1997), *no.* 2, 281–317. (Summary) **99c:62261** 62M10

Wolf, Reinhard Karl (*with* Larcher, Gerhard; Pirsic, Gottlieb) Quasi-Monte Carlo integration of digitally smooth functions by digital nets. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 321–329, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65071** 65D30 (65C05)

— A distance measure on finite abelian groups and an application to quasi-Monte Carlo integration. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 1-2, 25–37. (Dumitru Acu) **99j:20059** 20K01 (65C05)

Wolf, S. A. *see* **Partial differential equations, 99i:35002**

Wolf, Stefan (*with* Maurer, Ueli M.) Diffie-Hellman oracles. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 268–282, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (Winfried Müller) **99k:94039** 94A60 (11T71)

— (*with* Maurer, Ueli M.) Privacy amplification secure against active adversaries. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 307–321, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94037** 94A60

— (*with* Maurer, Ueli M.) Unconditionally secure key agreement and the intrinsic conditional information. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 499–514. (Summary) **99m:94034** 94A60

Wolf, Sylvain (*with* Piguet, Olivier) The supercurrent trace identities of the $N = 1$, $D = 4$ super-Yang-Mills theory in the Wess-Zumino gauge. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 1, 46 *pp.* (*electronic*). (Summary) **99f:81206** 81T60 (81T13, 81T15, 83E50)

Wolf, Thomas *see* **Wolf, Thomas R.**

Wolf, Thomas Otto Structural equations for Killing tensors of arbitrary rank. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 316–329. (Summary) **99m:53032** 53B20 (53C22)

— (*with* Sokolov, Vladimir V.) A symmetry test for quasilinear coupled systems. (English summary) *Inverse Problems* **15** (1999), *no.* 2, *L5–L11*. 35Q55 (35A30)

— (*with* Brand, Andreas; Mohammadzadeh, Majid) Computer algebra algorithms and routines for the computation of conservation laws and fixing of gauge in differential expressions. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 2, 221–238. 65M06 (35–04, 65–04, 65M30)

Wolf, Thomas R. (*with* Navarro, Gabriel) Character degrees and local subgroups of π-separable groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2599–2605. (Jamshid Moori) **99a:20021** 20D20 (20C15)

Wolfart, Jürgen The "obvious" part of Belyi's theorem and Riemann surfaces with many automorphisms. *Geometric Galois actions*, 1, 97–112, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Gabino González Díez) **99a:14036** 14H30 (11G30, 30F10)

Wolfe, Douglas A. (*with* Dean, Angela M.) Nonparametric analysis of experiments. *Design and analysis of experiments*, 705–758, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62G10 (62J05, 62J15, 62K10)

— (*with* Lim, Dong Hoon) Nonparametric comparisons of several regression lines with a control. (English summary) *Far East J. Theor. Stat.* **1** (1997), 51–61. (Summary) **99j:62066** 62G10

— (*with* Hollander, Myles) ★ Nonparametric statistical methods. (English summary) Second edition. Wiley Series in Probability and Statistics: Texts and References Section. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xvi+787 pp. ISBN* 0-471-19045-4 (J. A. Melamed) **99m:62004** 62–02 (62G05, 62G10)

Wolfe, Michael A. Interval enclosures for a certain class of multiple integrals. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 2-3, 145–159. (Ekkehard Wagenführer) **99h:65045** 65D32 (65G10)

— On a second derivative test due to Qi. (English summary) *Reliab. Comput.* **4** (1998), *no.* 3, 223–234. (G. Alefeld) **99g:65062** 65G10 (65H05)

Wolfe, Peter Small vibrations of an elastic conductor in a magnetic field. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 17, 1559–1569. (Gustavo Perla Menzala) **99k:73107** 73R05 (35Q72, 78A99)

von Wolfersdorf, Lothar Nonlinear singular integral and integro-differential equations on the positive real axis. *Z. Angew. Math. Mech.* **76** (1996), *no.* 10, 598–600. (R. V. Duduchava) **99e:45005** 45G05 (45E05, 45J05, 73M25)

— (*with* Janno, J.) Identification of memory kernels in general linear heat flow. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 2, 141–164. (Alfredo Lorenzi) **99h:45018** 45K05 (35R30, 45D05, 80A23)

— (*with* Janno, J.) Identification of weakly singular memory kernels in viscoelasticity. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 6, 391–403. (Maurizio Grasselli) **99h:45019** 45K05 (35Q72, 73F15)

Wolfert, A. R. M. (*with* Metrikin, A. V.; Dieterman, H. A.) Passing through the elastic wave barrier by a load moving uniformly along a smoothly inhomogeneous elastic system. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 179–183. 73D15

Wolff, Christian ★ Discursus praeliminaris de philosophia in genere. (German) Einleitende Abhandlung über Philosophie im allgemeinen. [Preliminary discourse on philosophy in general] Historisch-kritische Ausgabe. [Historical-critical edition] Dual Latin-German text. Translated from the Latin, edited and with a foreword by Günter Gawlick and Lothar Kreimendahl. Forschungen und Materialien zur Deutschen Aufklärung (FMDA). Abteilung I: Texte [Research and Materials on the German Enlightenment. Section I: Texts], 1. *Friedrich Frommann Verlag Günther Holzboog GmbH & Co., Stuttgart*, 1996. lxviii+293 *pp. ISBN* 3-7728-1523-5 (Eberhard Knobloch) **99d:01042** 01A75 (00A30, 01A50)

Wolff, M. *see* **Wolff, Michael**

Wolff, Manfred P. H. (*with* Gloor, Oliver; Richard, Christoph) ★ Analysis alive. (German. German summary) Ein interaktiver Mathematik-Kurs. [An interactive course in mathematics] With 1 CD-ROM (Windows, Macintosh and UNIX). *Birkhäuser Verlag, Basel*, 1998. *xiv+372 pp. ISBN* 3-7643-5966-8 00A05 (26–01)

— On the approximation of operators and the convergence of the spectra of the approximants. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 279–283, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Summary) **99e:47006** 47A10 (47A58)

Wolff, Michael (*with* Naumann, J.; Wolf, Jörg) On the Hölder continuity of weak solutions to nonlinear parabolic systems in two space dimensions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 237–255. (Summary) **99h:35091** 35K55 (35D10, 35K40)

Wolff, Rodney C. L. (*with* Gao, J. T.; Pettitt, Anthony N.) Local linear kernel estimation for discontinuous nonparametric regression functions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 2871–2894. (Summary) **99i:62090** 62G07

Wolff, Ronald W. (*with* Toyoizumi, Hiroshi; Shanthikumar, J. George) Block renewal processes and their application to modeling. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 53–67. (Summary) **99b:60163** 60K25 (90B22)

— (*with* Wang, Chia-Li) The $M/G/c$ queue in light traffic. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 1, 17–34. (Summary) **99e:60208** 60K25

Wolff, Stefan L. Clausius' Weg zur kinetischen Gastheorie. (English summary) [Clausius' path to kinetic gas theory] *Sudhoffs Arch.* **79** (1995), *no.* 1, 54–72. (Peter M. Harman) **99k:01031** 01A55 (80–03, 82–03)

Wolff, Thomas Maximal averages and packing of one-dimensional sets. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 755–761 (*electronic*). (Andreas Seeger) **99g:42026** 42B25 (42–02)

— (*with* Shubin, C.; Vakilian, R.) Some harmonic analysis questions suggested by Anderson-Bernoulli models. *Geom. Funct. Anal.* **8** (1998), *no.* 5, 932–964. (Keisaku Kumahara) **99k:43005** 43A50 (82B44)

— *see also* **Bôcher prize, 99m:01100**

Wolff von Gudenberg, Jürgen (*with* Lerch, Michael) Expression templates for dot product expressions. Proceedings of the International Conference on Interval Methods and their Applications on Global Optimization, Interval '98 (Nanjing). *Reliab. Comput.* **5** (1999), *no.* 1, 69–80. (*see* **99m:65007**) 65G10

Wolfmann, Jacques (*with* Papini, Odile) ★ Algèbre discrète et codes correcteurs. (French. French summary) [Discrete algebra and error correcting codes] Mathématiques & Applications [Mathematics & Applications], 20. *Springer-Verlag, Berlin*, 1995. *xiv+259 pp. ISBN* 3-540-60226-7 (Patrick Fitzpatrick) **99e:94039** 94Bxx (13–01, 20–01, 94–01)

— Some systems of diagonal equations over finite fields. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 1, 29–37. (Amilcar Pacheco) **99c:11039** 11D79 (11T71)

Wolfram, D. A. Solving generalized Fibonacci recurrences. *Fibonacci Quart.* **36** (1998), *no.* 2, 129–145. (Walter Carlip) **99c:11015** 11B39 (39A10)

Wolfskill, John Comparing the unit groups of two orders in a number field. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1279–1289. (Charles J. Parry) **99h:11126** 11R27 (11R54)

Wolfson, Jon G. Minimal Lagrangian diffeomorphisms and the Monge-Ampère equation. *J. Differential Geom.* **46** (1997), *no.* 2, 335–373. (Karl Friedrich Siburg) **99e:58045** 58E12 (53C15, 58F05)

— (*with* McCarthy, John D.) Symplectic resolution of isolated algebraic singularities. *Geometry, topology, and dynamics* (*Montreal, PQ*, 1995), 101–105, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Karl Friedrich Siburg) **99f:57041** 57R65 (53C15, 57R15)

— (*with* Schoen, Richard M.) Minimizing volume among Lagrangian submanifolds. *Differential equations: La Pietra* 1996 (*Florence*), 181–199, *Proc. Sympos. Pure Math.*, 65, *Amer. Math. Soc., Providence, RI*, 1999. (Yong-Geun Oh) **99k:53130** 53C55 (49J10, 53C25, 53C42, 58E15)

Wolke, Dieter (*with* Puchta, Jan-Christoph) Über die Verteilung der primen quadratischen Reste und Nicht-Reste mod p. (English summary) [On the distribution of prime quadratic residues and non-residues mod p] *Monatsh. Math.* **124** (1997), *no.* 4, 337–342. (Lutz Gerhard Lucht) **99a:11111** 11N69 (11M20)

Wolke, Ralf (*with* Knoth, Oswald) Implicit-explicit Runge-Kutta methods for computing atmospheric reactive flows. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 327–341. (Summary) **99g:65082** 65L06 (76M25, 86–08)

Wolkowicz, Gail S. K. (*with* Lu, Zhiqi) Direct interference on competition in a chemostat. (English summary) *J. Biomath.* **13** (1998), *no.* 3, 282–291. (Summary) **99m:92042** 92D25

— *see also* **Differential equations with applications to biology, 99g:92002**

Wolkowicz, Henry (*with* Kruk, Serge) SQ^2P, sequential quadratic constrained quadratic programming. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 177–204, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:90128** 90C30 (65K05)

— (*with* Johnson, Charles Royal; Kroschel, Brenda K.) An interior-point method for approximate positive semidefinite completions. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 2, 175–190. (Michael L. Dowling) **99a:90154** 90C25 (90C20)

— (*with* Zhao, Qing; Karisch, Stefan E.; Rendl, Franz) Semidefinite programming relaxations for the quadratic assignment problem. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 71–109. (Yin Zhang) **99f:90103** 90C27 (90C26)

— *see also* **Semidefinite programming and interior-point approaches for combinatorial optimization problems, 99a:90012**

Wollenberg, Manfred On conformal structure in space-time and nets of local algebras of observables. (English summary) *Math. Nachr.* **193** (1998), 235–242. (Michael Keyl) **99j:81102** 81T05 (46L60, 81T20)

Wollensak, Matthias Maxwell fields in anisotropic spacetimes. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 5, 749–771. (Summary) **99m:83088** 83C50 (83C20)

Wolnik, Barbara (*with* Gevorkyan, Gegham) Square functions for wavelet type systems. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 155–172. (I. Ya. Novikov) **99d:46042** 46E30 (42C15)

Woloszyn, Andrzej (*with* Arora, Sanjeev; Grigni, Michelangelo; Karger, David R.; Klein, Philip N.) A polynomial-time approximation scheme for weighted planar graph TSP.

(English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 33–41, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)

Wolper, Pierre (*with* Baudinet, Marianne; Chomicki, Jan) Constraint-generating dependencies. (English summary) *Database theory—ICDT '95* (*Prague*), 322–337, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68066** 68P15

— (*with* Peled, Doron; Wilke, Thomas) An algorithmic approach for checking closure properties of temporal logic specifications and ω-regular languages. (English summary) Concurrency theory (Pisa, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 2, 183–203. (Siegmar Gerber) **99i:68081** 68Q60 (03B70, 03D05, 68Q10, 68Q45)

Wolpert, Robert L. (*with* Ickstadt, Katja) Simulation of Lévy random fields. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 227–242, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (*see* **99a:62004**) 62F15 (60G60, 60J30, 62G05)

— (*with* Ickstadt, Katja) Poisson/gamma random field models for spatial statistics. (English summary) *Biometrika* **85** (1998), *no.* 2, 251–267. (Summary) **99k:62110** 62H11 (62H40)

Wolsey, Laurence A. (*with* Cornuéjols, Gérard; Urbaniak, R.; Weismantel, Robert) Decomposition of integer programs and of generating sets. (English summary) *Algorithms—ESA '97* (*Graz*), 92–103, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 90C10

— ★ Integer programming. (English summary) Wiley-Interscience Series in Discrete Mathematics and Optimization. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xx*+264 *pp. ISBN* 0-471-28366-5 (Anton Volgenant) **99f:90002** 90–01 (90C10)

— (*with* Ceria, Sebastián; Cordier, Cécile; Marchand, Hugues) Cutting planes for integer programs with general integer variables. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 201–214. (Summary) **99b:90081** 90C10

— (*with* Ferreira, Carlos E.; Martin, Alexander; de Souza, C. C.; Weismantel, Robert) The node capacitated graph partitioning problem: a computational study. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 229–256. (Summary) **99b:90146** 90C35 (05C90)

Wolter, Frank All finitely axiomatizable subframe logics containing the provability logic $\mathbf{CSM}_0$ are decidable. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 3, 167–182. (A. Yu. Muravitsky) **99j:03016** 03B45 (03B25, 03F40)

— (*with* Kracht, Marcus) Simulation and transfer results in modal logic—a survey. (English summary) *Studia Logica* **59** (1997), *no.* 2, 149–177. (George F. Schumm) **99a:03027** 03B45

— (*with* Suzuki, Yasuhito; Zakhar'yashchev, M. V.) Speaking about transitive frames in propositional languages. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 142–166. (*see* **99a:03003**) 03B45 (03B20)

— (*with* Suzuki, Yasuhito; Zakhar'yashchev, M. V.) Speaking about transitive frames in propositional languages. (English summary) *J. Logic Lang. Inform.* **7** (1998), *no.* 3, 317–339. (N. C. A. da Costa) **99i:03019** 03B45 (03B20)

— On logics with coimplication. (English summary) *J. Philos. Logic* **27** (1998), *no.* 4, 353–387. (N. C. A. da Costa) **99i:03010** 03B20 (03B45)

Wolter, Uwe (*with* Heckel, Reiko; Ehrig, Hartmut; Corradini, Andrea) Integrating the specification techniques of graph transformation and temporal logic. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 219–228, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q60 (03B45, 03B70, 68Q50, 68R10)

— (*with* Ehrig, Hartmut; Gajewsky, M.) From abstract data types to algebraic development techniques: a shift of paradigms. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 1–17, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

— (*with* Martini, Alfio) A systematic study of mappings between institutions. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 300–315, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 03G30 (03C52, 68Q60, 68Q65)

— (*with* Ehrig, Hartmut; Große-Rhode, Martin) Applications of category theory to the area of algebraic specification in computer science. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 1–35. (Horst Reichel) **99a:68122** 68Q65 (03G30, 18C10)

prätzel-Wolters, Dieter *see* **Prätzel-Wolters, Dieter**

Wołyński, Waldemar (*with* Krzyśko, Mirosław) Linear discriminant functions for stationary time series. (English summary) *Biometrical J.* **39** (1997), *no.* 8, 955–973. (Summary) **99b:62097** 62H30 (62M10)

Womersley, R. S. (*with* Lau, Karen K. M.) Portfolio optimisation problems. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 795–802, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 90C90 (90A09)

Won, Mooncheol (*with* Hedrick, J. Karl) Multiple-surface sliding control of a class of uncertain nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 693–706. 93B12 (93C41)

Won, Sangchul (*with* Park, Ju.-H.) A note on stability of neutral delay-differential systems. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 3, 543–548. (Summary) **99m:34176** 34K20 (34K40)

Won, You-Dong A linear programming approach to linear machine layout problem. (English summary) *Indust. Math.* **47** (1997), *no.* 2, 59–68. 90C90 (90C05)

van Wonderen, A. J. (*with* Lendi, K.) Note on the representation of angular momentum by complex differential forms. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4439–4445. (A. M. Gavrilik) **99g:81065** 81R05 (22E70)

— (*with* Lendi, K.; Farhadmotamed, F.) Regularization of quantum relative entropy in finite dimensions and application to entropy production. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1115–1135. (Matthew J. Donald) **99m:82004** 82B10 (82C10)

Wong, A. C. M. (*with* Fraser, Donald A. S.) On the accuracy of approximate Studentization. (English summary) *Statist. Papers* **38** (1997), *no.* 3, 351–356. (Jack C. Lee) **99g:62008** 62A20 (62F12)

— (*with* Fraser, Donald A. S.; Wu, Jian Rong) An approximation for the noncentral chi-squared distribution. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 275–287. (Summary) **99b:62018** 62E17

Wong, B. R. On the overlap integral of associated Legendre polynomials. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1101–1103. (Summary) **99e:33011** 33C45

Wong, Bun An application of Einstein Kähler metrics to proper holomorphic mappings between pseudoconvex domains. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 195–199. (Yi Fei Pan) **99c:32041** 32L07 (32H35)

Wong, C. K. *see* **Wong, Chiu-Kwong**

Wong, Chak Kuen (*with* Yan, Gui Ying; Pan, Jiaofeng; Wang, Jianfang) Orthogonal (g, f)-factorizations of bipartite graph. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 475–483. (Martin Bača) **99i:05172** 05C70

— (*with* Kloks, Ton; Kratsch, Dieter) Minimum fill-in on circle and circular-arc graphs. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 272–289. (Hans L. Bodlaender) **99e:05118** 05C85

— (*with* Lu, Xiao Yun[1]; Wang, Da-Wei[1]; Chang, Gerard J.; Lin, In-Jen) On k-ary spanning trees of tournaments. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 167–176. (A. G. Thomason) **99j:05084** 05C20 (05C05, 05C35)

Wong, Chia Ho *see* **Wang, Jia He[2]**

Wong, Chiu-Kwong (*with* Kloks, Ton; Müller, Haiko) Vertex ranking of asteroidal triple-free graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 4, 201–206. (Summary) **99h:05112** 05C85 (68R10)

Wong, Fu-Hsiang (*with* Agarwal, Ravi P.; Lian, Wei-Cheng) Existence of positive solutions of nonlinear second order differential systems. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 375–387. (Summary) **99b:34041** 34B15

— (*with* Agarwal, Ravi P.) Existence of positive solutions for higher order difference equations. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 67–74. (Summary) **99a:39002** 39A10

— (*with* Agarwal, Ravi P.) An application of topological transversality to non-positive higher order BVP's. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 319–328. (Anna Capietto) **99h:34027** 34B15 (47H15, 47N20)

— (*with* Agarwal, Ravi P.) Existence of positive solutions for non-positive higher-order BVPs. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 3–14. (Summary) **99a:34046** 34B15

— (*with* Agarwal, Ravi P.; Yu, Shiueh-Ling) Existence of solutions to $(k, n-k-2)$ discrete boundary value problems. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 7–20. (Johnny Henderson) **99k:39001** 39A10 (39A70)

— (*with* Agarwal, Ravi P.) Upper and lower solutions method for higher-order discrete boundary value problems. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 551–557. (Summary) **99i:39027** 39A12 (39A10)

— (*with* Agarwal, Ravi P.) Existence of positive solutions for higher order boundary value problems. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 15–24. (Johnny Henderson) **99e:34024** 34B15

— (*with* Agarwal, Ravi P.) An application of topological transversality to non-positive higher order difference equations. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 167–178. (V. G. Kurbatov) **99m:39001** 39A10 (47H15)

Wong, George Y. C. (*with* Yu, Qiqing) Consistency of self-consistent estimators of a discrete distribution function with bivariate right-censored data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 6, 1547–1556. (Summary) **99b:62071** 62G05

Wong, H. *see* **Wong, Huber**

Wong, H. C. *see* **Wong, Heng Cheang**

Wong, H. W. *see* **Wong, Hon-Wai**

Wong, Heng Cheang (*with* Ong, B. H.) A C^1 positivity preserving scattered data interpolation scheme. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 259–274, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A29 (41A63)

Wong, Henri (*with* Boutin, Claude) Study of thermosensitive heterogeneous media via space-time homogenisation. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 939–968. (Małgorzata Peszyńska) **99k:73010** 73B27 (73B30, 80A20)

Wong, Hon-Wai (*with* Barchini, L.; Gindikin, S. G.) The geometry of flag manifold and holomorphic extension of Szegő kernels for $SU(p, q)$. (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 201–220. (John W. Rice) **99d:22020** 22E45 (22E30, 32M10)

Wong, Huber (*with* Zidek, James V.; Le, Nhu D.; Burnett, R. T.) Including structural measurement errors in the nonlinear regression analysis of clustered data. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 4, 537–548. 62J02

Wong, J. Y. (*with* Kao, Chiang) Random number generators with long period and sound statistical properties. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 113–121. (Summary) **99c:65009** 65C10

Wong, James S. W. On existence of oscillatory solutions of a second-order nonlinear differential equation. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 4, 438–448. (Hiroshi Onose) **99a:34101** 34C10

— Oscillation criteria for a forced second-order linear differential equation. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 235–240. (Ondřej Došlý) **99m:34075** 34C10

— Nonoscillation theorems for second order nonlinear differential equations. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1387–1395. (Ondřej Došlý) **99h:34057** 34C10

Wong, K. C. On the distribution of αp^k modulo 1. *Glasgow Math. J.* **39** (1997), *no.* 2, 121–130. (Michael Drmota) **99b:11084** 11K31 (11K06, 11L07, 11N36)

Wong, Kam-Chau Excess demand functions, equilibrium prices, and existence of equilibrium. (English summary) *Econom. Theory* **10** (1997), *no.* 1, 39–54. (Hiroaki Osana) **99j:90021** 90A12 (90A14, 90A40)

— Characterizing C^2 aggregate excess demand functions. (English summary) *Econom. Theory* **12** (1998), *no.* 1, 177–188. (Summary) **99k:90054** 90A40

Wong, Koon-Sun (*with* Li, Kim-Hung; Chan, Nai N.) E-optimality for regression designs under correlations. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 535–542. (Christos P. Kitsos) **99g:62109** 62K05

Wong, Kwok-Yee Michael *see* **Theoretical aspects of neural computation, 99f:00027**

Wong, Limsoon (*with* Suciu, Dan) On two forms of structural recursion. (English summary) *Database theory—ICDT '95* (*Prague*), 111–124, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68N15)

— (*with* Dong, Guozhu; Libkin, Leonid) Local properties of query languages. (English summary) *Database theory—ICDT '97 (Delphi)*, 140–154, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99c:68069** 68P15 (03B70)

— (*with* Libkin, Leonid) Query languages for bags and aggregate functions. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 241–272. (Marc Gyssens) **99d:68065** 68P15 (68Q15)

— (*with* Libkin, Leonid) Incremental recomputation of recursive queries with nested sets and aggregate functions. (English summary) *Database programming languages (Estes Park, CO*, 1997), 222–238, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15

— (*with* Libkin, Leonid) On the power of aggregation in relational query languages. *Database programming languages (Estes Park, CO*, 1997), 260–280, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15

— (*with* Libkin, Leonid) Unary quantifiers, transitive closure, and relations of large degree. (English summary) *STACS 98 (Paris*, 1998), 183–193, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 03C80 (03D15, 68P15, 68Q15)

— (*with* Benedikt, Michael A.; Dong, Guozhu; Libkin, Leonid) Relational expressive power of constraint query languages. (English summary) *J. ACM* **45** (1998), *no.* 1, 1–34. (Marc Gyssens) **99e:68028** 68P15 (03D15, 03H10, 05D10, 68Q15)

Wong, M. Y. (*with* Cox, D. R.) A note on the robust interpretation of regression coefficients. (English summary) *Test* **7** (1998), *no.* 2, 287–294. 62J05

Wong, Man Wah Spectra and dynamics of bounded pseudo-differential operators. *Osaka J. Math.* **34** (1997), *no.* 4, 895–903. (Rémi Vaillancourt) **99c:47079** 47G30 (35S05)

— (*with* Iancu, G. M.) Spectra and dynamics of convolution operators. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 2, 61–71. (Rémi Vaillancourt) **99c:47037** 47B38 (42B15)

Wong, Michael (*with* Liboff, Richard L.) Quasi-chaotic property of the prime-number sequence. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 12, 3109–3117. 11Z05 (81V35)

Wong, Patricia J. Y. (*with* Agarwal, Ravi P.) Existence and estimates of twin positive solutions for two-point right focal boundary value problems. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 99–120. (Summary) **99a:34064** 34B15

— (*with* Agarwal, Ravi P.) Nonexistence of unbounded nonoscillatory solutions of partial difference equations. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 503–523. (Sui Sun Cheng) **99c:39010** 39A10

— Positive solutions of discrete (n, p) boundary value problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 377–388. (Allan C. Peterson) **99c:39011** 39A10 (39A12)

— (*with* Agarwal, Ravi P.) On the existence of positive solutions of higher order difference equations. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 339–351. (V. Sree Hari Rao) **99m:39012** 39A10

— (*with* Agarwal, Ravi P.) Error bounds for the derivatives of Lidstone interpolation and applications. (English summary) *Approximation theory*, 1–41, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:41019** 41A15

— (*with* Agarwal, Ravi P.) Error inequalities for discrete Hermite and spline interpolation. (English summary) *Recent progress in inequalities (Niš*, 1996), 397–422, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Manfred Tasche) **99c:65022** 65D07 (41A15, 65D05)

— (*with* Agarwal, Ravi P.) On the oscillation of partial difference equations generated by deviating arguments. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 1–29. (Guang Zhang) **99c:39012** 39A10

— (*with* Agarwal, Ravi P.) Asymptotic behaviour of solutions of higher order difference and partial difference equations with distributed deviating arguments. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 139–164. (I. P. Stavroulakis) **99k:39040** 39A10 (39A12)

— Eventually positive and monotonely decreasing solutions of partial difference equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 35–58. (I. P. Stavroulakis) **99f:39011** 39A10 (35B05)

— (*with* Agarwal, Ravi P.) Oscillations and nonoscillations of half-linear difference equations generated by deviating arguments. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 11–26. (Shao Zhu Chen) **99k:39043** 39A10 (39A12)

— (*with* Agarwal, Ravi P.) Eigenvalues of an nth order difference equation with (n, p) type conditions. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 149–172. (Johnny Henderson) **99j:39012** 39A10 (47N20)

— Two-point right focal eigenvalue problems for difference equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 345–364. (Sui Sun Cheng) **99k:39041** 39A10

— (*with* Agarwal, Ravi P.) On eigenvalue intervals and twin eigenfunctions of higher-order boundary value problems. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 15–43. (Summary) **99a:34047** 34B15

— Positive solutions of difference equations with two-point right focal boundary conditions. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 34–58. (P. W. Eloe) **99i:39017** 39A10

— (*with* Agarwal, Ravi P.) Singular differential equations with (n, p) boundary conditions. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 37–44. (Summary) **99d:34040** 34B15

— (*with* Agarwal, Ravi P.) Multiple positive solutions of two-point right focal boundary value problems. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 41–49. (Johnny Henderson) **99f:34032** 34B15

— (*with* Agarwal, Ravi P.) On the oscillation of second order nonlinear difference equations. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 349–365. (Sui Sun Cheng) **99k:39002** 39A10

— (*with* Agarwal, Ravi P.) Extension of continuous and discrete inequalities due to Eloe and Henderson. *Nonlinear Anal.* **34** (1998), *no.* 4, 479–487. (Roland Lemmert) **99h:34019** 34A40 (34B27, 39A12)

— (*with* Agarwal, Ravi P.) On the eigenvalues of boundary value problems for higher order difference equations. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 767–791. (Sui Sun Cheng) **99k:39042** 39A10

— (*with* Agarwal, Ravi P.; Bohner, Martin) Sturm-Liouville eigenvalue problems on time scales. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 153–166. (Allan C. Peterson) **99k:34184** 34L05 (34B24, 93C70)

— (*with* Agarwal, Ravi P.) Eigenvalue intervals and double positive solutions of certain discrete boundary value problems. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 189–217. (Johnny Henderson) **99m:39013** 39A10 (34B15, 39A12)

— Best error estimates for discrete Abel-Gontscharoff interpolation. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 65–81. (Ying Guang Shi) **99k:41022** 41A25 (41A05)

— *see also* **Thandapani, E., 99g:39015**

Wong, Peter N.-S. (*with* Gonçalves, Daciberg Lima) Homogeneous spaces in coincidence theory. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 143–158. (Edward Charles Keppelmann) **99h:55001** 55M20 (54H25)

— Coincidences of maps into homogeneous spaces. (English summary) *Manuscripta Math.* **98** (1999), *no.* 2, 243–254. (Michael R. Kelly) **99k:55002** 55M20

Wong, Roderick (*with* Zhang, Ji Min) A uniform asymptotic expansion for the Jacobi polynomials with explicit remainder. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 17–29. (Summary) **99b:33022** 33C45

— (*with* Zhang, Ji Min) The asymptotics of a second solution to the Jacobi differential equation. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 287–308. (Summary) **99a:34072** 34B30 (33C45, 34E05)

— Some unsolved problems in asymptotics. (English summary) *Recent advances in differential equations (Kunming*, 1997), 15–34, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Eberhard Wagner) **99e:39046** 39A10 (33C45, 34E05, 41A60, 45M05)

— (*with* Jin, Xue-Si) Uniform asymptotic expansions for Meixner polynomials. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 113–150. (Richard B. Paris) **99c:41060** 41A60 (33C45)

— (*with* Qu, C. K.) "Best possible" upper and lower bounds for the zeros of the Bessel function $J_\nu(x)$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2833–2859. (Andrea Laforgia) **99j:33006** 33C10 (41A60)

Wong, S. C. (*with* Leung, A. Y. T.) Determination of Jordan chains by extended matrices. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 9, 879–893. (Summary) **99f:65060** 65F15 (15A18)

— (*with* Lee, C. K.; Tong, C. O.) Finite element solution for the continuum traffic equilibrium problems. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 7, 1253–1273. 90B06 (49N55, 90C90)

Wong, S. K. Michael Testing implication of probabilistic dependencies. (English summary) *Uncertainty in artificial intelligence (Portland, OR*, 1996), 545–553, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

— A rough-set model for reasoning about knowledge. *Rough sets in knowledge discovery*, 1, 276–285, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 03B45 (04A72, 68T27)

— *see also* **Proceedings: Conference on Computing and Information, 99d:68010**

Wong, Simon Concentration function of additive functions on shifted twin primes. *Acta Arith.* **84** (1998), *no.* 3, 193–224. (Matti Jutila) **99e:11126** 11N64 (11N36)

Wong, Tzu-Tsung Generalized Dirichlet distribution in Bayesian analysis. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 165–181. (Summary) **99d:62023** 62F15

Wong, W. K. *see* **Wong, Woon**

Wong, Weng Kee (*with* Montepiedra, Grace) Optimal designs for models with ignored heteroscedasticity. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design (Marseilles*, 1998), 59–66, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05

— (*with* Zhu, Wei[2]) On the equal allocation rules in quantal dose-response experiments. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design (Marseilles*, 1998), 93–101, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05 (62P10)

— (*with* King, Joy) Optimal minimax designs for prediction in heteroscedastic models. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 371–383. (Summary) **99c:62208** 62K05

Wong, Wing Hung (*with* Kong, Augustine; Liu, Jun S.) The properties of the cross-match estimate and split sampling. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2410–2432. (Miguel A. Arcones) **99c:62103** 62G05

— (*with* Liu, Jun S.; Chen, Rong[1]) Rejection control and sequential importance sampling. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1022–1031. (Summary) **99e:62030** 62F15

Wong, Wing Shing (*with* Brockett, Roger Ware) Systems with finite communication bandwidth constraints. I. State estimation problems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1294–1299. (Summary) **99h:94031** 94A24 (94A34, 94A45)

Wong, Woon (*with* Subba Rao, T.) Tests for Gaussianity and linearity of multivariate stationary time series. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 373–386. (Summary) **99c:62265** 62M10

Wong, Woon-Kwong (*with* Chew, Tuan-Seng; Tan, Geok-Choo) On absolutely Henstock integrable functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 799–803. (Summary) **99d:26011** 26A39

Wong, Yew Kee (*with* Poliakoff, Janet F.; Thomas, Peter D.) An analysis of biarc algorithms for 2-D curves. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer*, 1997), 401–408, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65053** 65D17 (65D07)

— (*with* Poliakoff, Janet F.; Thomas, Peter D.) An automated curve fairing algorithm for cubic B-spline curves. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 73–85. (Vasily A. Chernecky) **99m:65037** 65D17 (65Y25)

Wong-Toi, Howard (*with* Henzinger, Thomas A.; Ho, Pei-Hsin) Algorithmic analysis of nonlinear hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 540–554. (*see* **99a:93006**) 93B40 (93C30)

Wonham, W. M. (*with* Hashtrudi Zad, S.; Kwong, R. H.) Supremum operators and computation of supremal elements in system theory. (English summary) *SIAM J.*

Control Optim. **37** (1999), *no.* 3, 695–709 (*electronic*). (Bart De Schutter) **99m:93046** 93B99 (47A99, 68Q20)

Woo, Jung (*with* Wehr, Jan) Absence of geodesics in first-passage percolation on a half-plane. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 358–367. (Rahul Roy) **99c:60219** 60K35 (82B43)

Woo, Jungsoo (*with* Ali, Mir Masoom) The jackknife quasi-ranges for a truncated arcsine distribution. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 35–41. (Summary) **99b:62030** 62F10

Woo, Ki Mun (*with* Im, Young Ho; Kang, Mee Kwang) Codimension 2 fibrators that are closed under finite product. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 815–818. (Summary) **99h:57044** 57N15 (55R65)

Woo, Moo Ha (*with* Pan, Jian Zhong; Shen, Xinyao) The G-sequence of a map and its exactness. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 281–294. (Donald W. Kahn) **99e:55024** 55Q70 (55P45)

— (*with* Lee, Kee Young) Cyclic morphisms in the category of pairs and generalized G-sequences. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 271–285. (Kalathoor Varadarajan) **99j:55011** 55Q05 (55P30)

Wood, Alastair D. (*with* Murphy, B. T. M.) Hyperasymptotic solutions of second-order ordinary differential equations with a singularity of arbitrary integer rank. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 250–260. (W. Balser) **99b:34094** 34E05 (34A20)

Wood, Andrew T. A. (*with* Kent, John T.) Estimating the fractal dimension of a locally self-similar Gaussian process by using increments. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 3, 679–699. (Uttara V. Naik-Nimbalkar) **99a:62136** 62M99 (60G10, 60G15, 60G18)

— (*with* Barndorff-Nielsen, Ole E.) On large deviations and choice of ancillary for p^* and r^*. (English summary) *Bernoulli* **4** (1998), *no.* 1, 35–63. (Nancy Reid) **99d:62013** 62F05 (60F10, 62E20, 62F11)

Wood, C. M. Harmonic sections and equivariant harmonic maps. *Manuscripta Math.* **94** (1997), *no.* 1, 1–13. (Seiichi Udagawa) **99e:58053** 58E20

bennett-Wood, D. *see* **Bennett-Wood, D.**

Wood, David Andrew Hopf bifurcations in three coupled oscillators with internal Z_2 symmetries. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 1, 55–93. (Ian Melbourne) **99e:58136** 58F14 (34C15, 34C23)

Wood, David Harlan (*with* Leete, Thomas H.; Schwartz, Matthew D.; Williams, Robert M.; Salem, Jerome S.; Rubin, Harvey) Massively parallel DNA computation: expansion of symbolic determinants. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 45–58, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, **44**, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (68Q40, 92D20)

— (*with* Williams, Robert M.) Exascale computer algebra problems interconnect with molecular reactions and complexity theory. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 267–275, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68060** 68Q05 (68Q15, 68Q40)

— *see also* **DNA based computers, 99m:68008**

Wood, David R. An algorithm for finding a maximum clique in a graph. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 211–217. (Summary) **99a:05137** 05C85

Wood, Derick (*with* Schuierer, Sven) Visibility in semi-convex spaces. (English summary) *J. Geom.* **60** (1997), *no.* 1-2, 160–187. (Marilyn Breen) **99b:52001** 52A01

— (*with* Fink, Eugene) Strong restricted-orientation convexity. (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 35–51. (Jacques F. Bair) **99a:52001** 52A20

— (*with* Brüggemann-Klein, Anne) One-unambiguous regular languages. (English summary) *Inform. and Comput.* **140** (1998), *no.* 2, 229–253. (Jetty Kleijn) **99a:68104** 68Q45 (68U15)

— (*with* Brüggemann-Klein, Anne) One-unambiguous regular languages. (English summary) *Inform. and Comput.* **142** (1998), *no.* 2, 182–206. (Rani Siromoney) **99g:68109** 68Q45

— (*with* Fink, Eugene) Generalized halfspaces in restricted-orientation convexity. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 99–120. (Armin Hoffmann) **99h:52001** 52A01 (52A20, 52A30)

— (*with* Lai, Tony W.) Adaptive heuristics for binary search trees and constant linkage cost. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1564–1591 (*electronic*). (Summary) **99b:68044** 68P05 (68P10, 68Q25)

Wood, G. D. (*with* Woodhouse, Jim) An investigation into robust force control through a constrained flexible beam. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 539–578. 93C20 (73K50)

Wood, G. R. (*with* Robertson, J. M.) Information in Buffon experiments. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 21–37. (J. A. Melamed) **99d:62004** 62B10 (62F12, 94A17)

— (*with* Bulger, D. W.) Hesitant adaptive search for global optimisation. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 89–102. (Th. M. Liebling) **99e:90059** 90C15

Wood, Jay A. Extension theorems for linear codes over finite rings. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 329–340, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99h:94062** 94B05

Wood, Jeffrey James (*with* Rocha, Paula) A new perspective on controllability properties for dynamical systems. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 869–879. (*see* **99a:92001**) 93B05 (93–02)

— (*with* Rogers, Eric; Owens, David H.) A formal theory of matrix primeness. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 1, 40–78. (François Ollivier) **99j:93059** 93C35 (13C15, 13H10, 93C20)

— (*with* Rogers, Eric; Owens, David H.) Minimum lag descriptions and minimal Gröbner bases. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 289–293. (Summary) **99c:93028** 93B25 (93E03)

Wood, John C. Harmonic maps and morphisms in 4 dimensions. (English summary) *Geometry, topology and physics (Campinas, 1996)*, 317–333, *de Gruyter, Berlin*, 1997. (J. T. Davidov) **99b:58067** 58E20 (53C56)

— (*with* Baird, P.) Weierstrass representations for harmonic morphisms on Euclidean spaces and spheres. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 283–300. (Anne-Joëlle Vanderwinden) **99g:58032** 58E20

— (*with* Mustafa, M. T.) Harmonic morphisms from three-dimensional Euclidean and spherical space forms. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 2, 155–172. (Eric Loubeau) **99k:58049** 58E20 (53C12)

Wood, R. J. (*with* Carboni, A.; Kelly, G. M.; Verity, D.) A 2-categorical approach to change of base and geometric morphisms. II. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 5, 82–136 (*electronic*). (R. H. Street) **99e:18007** 18D05 (18B10)

Wood, R. Kevin (*with* Mak, Wai-Kei; Morton, David P.) Monte Carlo bounding techniques for determining solution quality in stochastic programs. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 47–56. 90C15

Wood, R. M. W. Problems in the Steenrod algebra. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 5, 449–517. (Franklin P. Peterson) **99h:55028** 55S10

— (*with* Carlisle, D. P.; Walker, Grant) The intersection of the admissible basis and the Milnor basis of the Steenrod algebra. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 1, 1–10. (Jin Kun Lin) **99g:55021** 55S10

Wood, W. R. (*with* Feoli, A.; Papini, G.) A dynamical symmetry breaking model in Weyl space. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3322–3331. (Alberto Saa Vazquez) **99c:83012** 83C15 (83D05)

Woodall, D. R. (*with* Borodin, O. V.; Kostochka, A. V.) List edge and list total colourings of multigraphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 184–204. (David E. Woolbright) **99d:05028** 05C15

— (*with* Borodin, O. V.; Kostochka, A. V.) Total colorings of planar graphs with large maximum degree. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 53–59. (Summary) **99j:05064** 05C15

— (*with* Borodin, O. V.; Kostochka, A. V.) On kernel-perfect orientations of line graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 45–49. (Summary) **99f:05043** 05C20

— *see also* **Conference: Combinatorial, 99h:00023**

Woodall, William H. (*with* Sullivan, Joe H.) Adapting control charts for the preliminary analysis of multivariate observations. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 953–979. 62N10

— (*with* Barrett, J. Douglas) A simple probabilistic representation of the product-sum fuzzy logic controller. (English summary) *Comm. Statist. Stochastic Models* **15** (1999), *no.* 2, 201–225. 93C42 (93E03)

Woodard, R. P. (*with* Tsamis, N. C.) Nonperturbative models for the quantum gravitational back-reaction on inflation. (English summary) *Ann. Physics* **267** (1998), *no.* 2, 145–192. (Enric Verdaguer) **99m:83086** 83C47 (83C45, 83F05)

— (*with* Iliopoulos, J.; Tomaras, T. N.; Tsamis, N. C.) Perturbative quantum gravity and Newton's law on a flat Robertson-Walker background. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 419–446. (Summary) **99g:83035** 83C45

— (*with* Tsamis, N. C.) Matter contributions to the expansion rate of the universe. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 21–28. (Summary) **99b:83041** 83C45 (83F05)

Woodbury, Allan (*with* Li, Henian; Aitchison, Peter) Methods for overcoming breakdown problems in the unsymmetric Lanczos reduction method. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 389–408. (Summary) **99b:65117** 65M60 (65F25)

— (*with* Li, Henian; Aitchison, Peter) Eigenvalue translation method for stabilizing an unsymmetric Lanczos reduction process. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 2, 221–239. (Summary) **99d:65131** 65F30

— (*with* Li, Henian; Aitchison, Peter) Application of the unsymmetric Lanczos method to radionuclide decay-chain transport in porous media. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 3, 355–372. (Summary) **99k:86002** 86A05 (76S05, 80A99)

Woodcock, Christopher F. (*with* Smart, Nigel P.) p-adic chaos and random number generation. (English summary) *Experiment. Math.* **7** (1998), *no.* 4, 333–342. (Franco Vivaldi) **99k:11123** 11K45 (11S80, 58F13)

Woodcock, D. (*with* Martin, Paul Purdon) The partition algebras and a new deformation of the Schur algebras. *J. Algebra* **203** (1998), *no.* 1, 91–124. (Karin Erdmann) **99g:16038** 16S80 (05E10, 20G05)

— Cohen-Macaulay complexes and Koszul rings. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 398–410. (Emil Sköldberg) **99g:13025** 13D25 (05E25, 06A08, 16E30)

Woodcock, Jim (*with* Cavalcanti, Ana; Sampaio, Augusto) An inconsistency in procedures, parameters, and substitution in the refinement calculus. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 1, 87–96. 68N05

Wooders, John (*with* Moreno, Diego) An experimental study of communication and coordination in noncooperative games. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 47–76. (Summary) **99b:90166** 90D10

— Walrasian equilibrium in matching models. (English summary) *Math. Social Sci.* **35** (1998), *no.* 3, 245–259. (Summary) **99a:90047** 90A09 (90D10)

Woodham, C. A. *see* **Cao, Yong-Yan, 99h:93024**

Woodhouse, Jim (*with* Wood, G. D.) An investigation into robust force control through a constrained flexible beam. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 539–578. 93C20 (73K50)

Woodhouse, N. M. J. (*with* Dunajski, M.; Mason, Lionel J.) From 2D integrable systems to self-dual gravity. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6019–6028. (Maciej Przanowski) **99i:83013** 83C15 (58F07, 83C60)

— *see also* **Geometric universe, 99b:00015**

Woodin, W. Hugh (*with* Bagaria, Joan) Δ^1_n sets of reals. *J. Symbolic Logic* **62** (1997), *no.* 4, 1379–1428. (Miroslav Repický) **99j:03038** 03E15 (03E35, 03E40, 03E50, 03E55, 03E60)

— (*with* Veličković, Boban) Complexity of reals in inner models of set theory. (English summary) *Ann. Pure Appl. Logic* **92** (1998), *no.* 3, 283–295. (Jakub Jasiński) **99f:03067** 03E15 (03E35)

— (*with* Slaman, Theodore A.) Extending partial orders to dense linear orders. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 253–261. (Summary) **99f:06002** 06A05 (03D80, 03E15)

Woodroofe, Michael (*with* Sun, Jiayang) Semi-parametric estimates under biased sampling. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 545–575. (Summary) **99g:62046** 62G05

— (*with* Coad, D. S.) Approximate bias calculations for sequentially designed experiments. (English summary) *Sequential Anal.* **17** (1998), *no.* 1, 1–31. (Nitis Mukhopadhyay) **99i:62181** 62L10 (62L05)

Woodrow, Robert E. (*with* Fouquet, Jean-Luc; Hahn, Geňa; Tuza, Zsolt) On magnitude networks. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 75–84. (Introduction) **99k:68134** 68R10 (05C85)

Woodruff, David L. (*with* Jonsbråten, Tore W.; Wets, Roger J.-B.) A class of stochastic programs with decision dependent random elements. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 83–106. (Summary) **99f:90067** 90C15

Woodruff, Peter W. (*with* Parsons, Terence D.) Indeterminacy of identity of objects and sets. *Mind, causation, and world*, 1997, 321–348, *Philos. Perspect.*, 11, *Blackwell, Cambridge, MA*, 1997. (*see* **99f:00011**) 03A05

Woodruff, Stephen L. (*with* Smith, Leslie M.) Renormalization-group analysis of turbulence. (English summary) *Annual review of fluid mechanics, Vol.* 30, 275–310, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (Summary) **99b:76045** 76F99 (76M35, 82C28)

Woods, Alan R. Counting finite models. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 925–949. (Wim Veldman) **99c:03047** 03C13

— Coloring rules for finite trees, and probabilities of monadic second order sentences. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 4, 453–485. (Summary) **99c:03048** 03C13 (03B15, 03C85, 05C15)

Woods, Andrew W. (*with* Caulfield, Colm-Cille P.) Turbulent gravitational convection from a point source in a non-uniformly stratified environment. (English summary) *J. Fluid Mech.* **360** (1998), 229–248. (Stefan G. Llewellyn Smith) **99e:76124** 76V05 (76F99, 86A10)

Woods, John Hayden (*with* Hansen, Hans V.) Hintikka on Aristotle's fallacies. Comment on: "The fallacy of fallacies" [Argumentation **1** (1987), 211–238] by J. Hintikka. With a reply by Hintikka. *Synthese* **113** (1997), *no.* 2, 217–249. (Alex Blum) **99g:03007** 03A05 (01A20, 03–03)

Woods, Michael ★ Conditionals. Edited and with a preface by David Wiggins. With commentary by Dorothy Edgington. *The Clarendon Press, Oxford University Press, New York*, 1997. x+152 *pp. ISBN* 0-19-875126-5 (Jon M. Cogburn) **99a:03034** 03B65 (03A05, 03B45)

Woods, W. P. The flow and stability of a thin liquid film on the surface of a rotating disc. Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 144–149. (*see* **99a:00032**) 76D99 (76E10, 76U05)

Woodward, Carol S. (*with* Dawson, Clint N.; Wheeler, Mary F.) A two-grid finite difference scheme for nonlinear parabolic equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 435–452 (*electronic*). (Summary) **99b:65097** 65M06 (35K55, 65M15, 65M55)

Woodward, Chris T. Spherical varieties and existence of invariant Kähler structures. *Duke Math. J.* **93** (1998), *no.* 2, 345–377. (Michel Brion) **99d:58072** 58F05 (32C17)

— (*with* Lerman, Eugene; Meinrenken, Eckhard; Tolman, Sue) Nonabelian convexity by symplectic cuts. (English summary) *Topology* **37** (1998), *no.* 2, 245–259. (Michel Brion) **99a:58069** 58F05 (57S15)

Woodward, Lyndon M. (*with* Bolton, John) Special submanifolds of S^6 with its G_2 geometry. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 59–68, *de Gruyter, Berlin*, 1997. (Francisco M. Cabrera) **99b:53077** 53C40 (53C42)

— (*with* Bolton, John; Vrancken, Luc) Totally real minimal surfaces with non-circular ellipse of curvature in the nearly Kähler S^6. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 625–644. (Peter Bueken) **99c:53060** 53C42

Woodward, Paul R. (*with* Dai, Wenlong) Numerical simulations for radiation hydrodynamics. I. Diffusion limit. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 182–207. (Summary) **99a:76094** 76M20 (76L05, 85–08, 85A30)

— (*with* Dai, Wenlong) A high-order iterative implicit-explicit hybrid scheme for magnetohydrodynamics. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1827–1846 (*electronic*). (Summary) **99f:76088** 76M20 (65M99, 76W05)

Wool, Avishai (*with* Gerstel, Ornan; Zaks, Shmuel) Optimal layouts on a chain ATM network. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 157–178. (Sudhangshu B. Karmakar) **99e:90035** 90B12 (05C10, 68M10)

— (*with* Naor, Moni) The load, capacity, and availability of quorum systems. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 423–447 (*electronic*). (Summary) **99b:68142** 68R05 (60K35, 68M10, 90B12)

Woolbright, David E. (*with* Fu, Hung-Lin) On the existence of rainbows in 1-factorizations of K_{2n}. (English summary) *J. Combin. Des.* **6** (1998), *no.* 1, 1–20. (Akira Saito) **99b:05118** 05C70 (05C15)

Woolcock, C. J. (*with* Bartuccelli, M. V.; Gourley, S. A.) Conditions for positivity of solutions of a class of dissipative partial differential equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 71–74. 35K57 (35B05)

Wooldridge, Michael (*with* Dixon, Clare; Fisher, Michael D.) Resolution for temporal logics of knowledge. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 345–372. (Zoran Ognjanović) **99g:03015** 03B45 (68T15)

Wooley, Trevor D. Linear spaces on cubic hypersurfaces, and pairs of homogeneous cubic equations. *Bull. London Math. Soc.* **29** (1997), *no.* 5, 556–562. (G. Greaves) **99e:11036** 11D72 (11E76)

— An explicit version of Birch's theorem. *Acta Arith.* **85** (1998), *no.* 1, 79–96. (G. Greaves) **99e:11037** 11D72 (11E76)

— (*with* Kühleitner, Manfred; Nowak, Werner Georg; Schoissengeier, J.) On sums of two cubes: an Ω_+-estimate for the error term. *Acta Arith.* **85** (1998), *no.* 2, 179–195. (D. R. Heath-Brown) **99g:11119** 11P21

— (*with* Kawada, Koichi) Sums of fifth powers and related topics. *Acta Arith.* **87** (1998), *no.* 1, 27–65. (D. R. Heath-Brown) **99i:11092** 11P05 (11D79)

— (*with* Bennett, Michael A.; Dummigan, N. P.) The representation of integers by binary additive forms. (English summary) *Compositio Math.* **111** (1998), *no.* 1, 15–33. (G. Greaves) **99a:11041** 11D85 (11D41, 11P05)

— On the local solubility of Diophantine systems. (English summary) *Compositio Math.* **111** (1998), *no.* 2, 149–165. (R. C. Baker) **99c:11037** 11D72 (11D88, 11E76)

— (*with* Balog, Antal) On strings of consecutive integers with no large prime factors. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 266–276. (A. J. Hildebrand) **99g:11109** 11N25 (11B25)

— (*with* Brüdern, Jörg) The addition of binary cubic forms. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 701–737. (D. R. Heath-Brown) **99e:11128** 11P05

— (*with* Brüdern, Jörg; Granville, Andrew; Perelli, A.; Vaughan, R. C.) On the exponential sum over k-free numbers. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 739–761. (D. R. Heath-Brown) **99c:11125** 11P55 (11L99)

Woolfries, S. The effects of crack face interaction on nonlinear wave propagation in microcracked media. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 4, 591–619. (Summary) **99d:73035a** 73D15 (73K20, 73M25)

— The effects of friction between crack faces on nonlinear wave propagation in microcracked media. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 4, 621–644. (Summary) **99d:73035b** 73D15 (73K20, 73M25)

Woolhouse, M. E. J. (*with* Stringer, S. M.; Hunter, N.) A mathematical model of the dynamics of scrapie in a sheep flock. (English summary) *Math. Biosci.* **153** (1998), *no.* 2, 79–98. 92D30

Woon, L. C. (*with* Ge, S. S.; Hang, Chang Chieh; Chen, Xiao Qi) Impedance control of robot manipulators using adaptive neutral network. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 433–452. 93C85

Woon, S. C. (*with* D'Eath, P. D.) Black hole evaporation. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 224–227, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57

— Generating integrals and an elementary proof of the finite harmonic series theorem by fractional calculus. *Amer. Math. Monthly* **105** (1998), *no.* 10, 942–945. 26A33

Wootters, William K. (*with* Hausladen, Paul; Jozsa, Richard; Schumacher, Benjamin; Westmoreland, Michael) Classical information capacity of a quantum channel. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1869–1876. (Summary) **99c:94017** 94A40 (81P99, 94A15)

— (*with* Bennett, Charles H.; DiVincenzo, David P.; Fuchs, Christopher A.; Mor, Tal; Rains, Eric M.; Shor, Peter W.; Smolin, John A.) Quantum nonlocality without entanglement. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1070–1091. (V. Ya. Kreinovich) **99m:81027** 81P99 (68Q75, 81P15)

Woracek, Harald (*with* Eigenthaler, Günther) A remark on permutable polynomials. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 139–142, *Heyn, Klagenfurt*, 1998. (Summary) **99i:20081** 20M14 (12E05)

— (*with* Langer, Heinz) Resolvents of symmetric operators and the degenerated Nevanlinna-Pick problem. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 233–261, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Daniel Alpay) **99h:47043** 47B50 (30E05, 47A57)

— (*with* Kaltenbäck, Michael) The Krein formula for generalized resolvents in degenerated inner product spaces. (English summary) *Monatsh. Math.* **127** (1999), *no.* 2, 119–140. (Aad Dijksma) **99m:47044** 47B50 (47A57, 47B25)

Worden, K. (*with* Manson, G.) Random vibrations of a Duffing oscillator using the Volterra series. *J. Sound Vibration* **217** (1998), *no.* 4, 781–789. (Introduction) **99h:70029** 70K40 (34C15, 34F05, 70L05)

max-plus Working Group *see* **Max-Plus Working Group**

Wormald, Nicholas C. The perturbation method and triangle-free random graphs. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 253–270. (Tomasz J. Łuczak) **99c:05180** 05C80

— (*with* Brazil, M.; Rubinstein, Joachim H.; Thomas, Doreen A.; Weng, J. F.) Minimal Steiner trees for rectangular arrays of lattice points. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 2, 181–208. (From the text) **99d:05022** 05C05

— (*with* Stark, Dudley) Asymptotic enumeration of convex polygons. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 196–217. (Summary) **99i:05014** 05A16

— (*with* McKay, Brendan D.) The degree sequence of a random graph. I. The models. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 2, 97–117. (Zbigniew Palka) **99b:05127** 05C80

— (*with* Aldred, R. E. L.) More on the linear k-arboricity of regular graphs. (English summary) *Australas. J. Combin.* **18** (1998), 97–104. (Summary) **99g:05051** 05C05

— (*with* Lindquester, Terri) Factorisation of regular graphs into forests of short paths. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 217–226. (Summary) **99a:05114** 05C70 (05C38)

Wörmann, Thorsten (*with* Powers, Victoria) An algorithm for sums of squares of real polynomials. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 1, 99–104. (Summary) **99a:11047** 11E25 (12Y05)

Wornell, Gregory W. (*with* Ooi, James M.) Fast iterative coding techniques for feedback channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2960–2976. 94A40

Woronowicz, S. L. Compact quantum groups. *Symétries quantiques* (*Les Houches*, 1995), 845–884, *North-Holland, Amsterdam*, 1998. (Aldo J. Lazar) **99m:46164** 46L89 (81R50)

Worrell, James Toposes of coalgebras and hidden algebras. (English summary) *First Workshop on Coalgebraic Methods in Computer Science* (*CMCS* '98) (*Lisbon*), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (Summary) **99k:18007** 18B25 (03G30, 16W30, 68Q55)

— (*with* Johnstone, Peter; Power, Anthony John; Tsujishita, Toru; Watanabe, Hiroshi[6]) An axiomatics for categories of transition systems as coalgebras. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 207–213, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q55 (03B70, 18B05, 68Q10)

Worsch, Thomas On parallel Turing machines with multi-head control units. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1683–1697. (Sam M. Kim) **99b:68077** 68Q10 (68Q05, 68Q15, 68Q80)

Wortelboer, Pepijn M. R. (*with* Steinbuch, Maarten; Bosgra, Okko H.) Iterative model and controller reduction using closed-loop balancing, with application to a compact

disc mechanism. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 123–142. (*see* **99k:93005**) 93B11 (93B17, 93C85)

Worthington, R. L. The growth series of compact hyperbolic Coxeter groups with 4 and 5 generators. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 231–239. (Sait Halıcıoğlu) **99e:20052** 20F55 (20F05)

Wortman, Martin A. (*with* Ayhan, Hayriye) Job flow control in assembly operations. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 864–868. (Summary) **99m:93067** 93C85

Wos, Larry *see* **Automated reasoning and its applications, 99a:68152; Overbeek, Ross, (99a:68152)** *and* **Bibliography: Wos, Lawrence Thomas, (99a:68152)**

Wosiek, J. Solving the Baxter equation in high energy QCD. *New developments in quantum field theory* (*Zakopane*, 1997), 349–357, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (*see* **99e:81002**) 81V05

Wotzasek, Clovis (*with* Banerjee, R. S.) Bosonization and duality symmetry in the soldering formalism. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 402–432. (Antonio González-Arroyo) **99k:81172** 81T10 (81T99)

— Destructive interference of dualities. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4990–4994. (Summary) **99m:81134** 81T10 (81T40)

— Dimensional dependence of the electromagnetic duality groups. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125026, 5 *pp.* (Summary) **99k:81190** 81T13

van der Woude, J. W. *see* **Van der Woude, J. W.**

vande Wouwer, A. *see* **Vande Wouwer, A.**

Woyczyński, Wojbor A. Seeking Birnbaum. (Polish) *Wiadom. Mat.* **33** (1997), 137–154. (Editors) **99g:01037** 01A70

— (*with* Denker, Manfred) ★ Introductory statistics and random phenomena. (English summary) Uncertainty, complexity and chaotic behavior in engineering and science. Appendix E by Bernard Ycart. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xxiv+509 *pp. ISBN* 0-8176-4031-2 (A. N. Philippou) **99k:62001** 62-01 (58F40, 60-01, 68Q30)

— (*with* Funaki, Tadahisa) Interacting particle approximation for fractal Burgers equation. (English summary) *Stochastic processes and related topics*, 141–166, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Piotr Biler) **99g:60185** 60K35 (35Q53, 60H10, 60J25, 76D99, 76M35)

— (*with* Biler, Piotr; Funaki, Tadahisa) Fractal Burgers equations. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 9–46. (Ana Bela Cruzeiro) **99g:35111** 35Q53 (76D99, 76F99, 76M35)

— (*with* Leonenko, Nikolai N.) Scaling limits of solutions of the heat equation for singular non-Gaussian data. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 423–438. (Jan Ubøe) **99f:60101** 60H05 (35K05, 35R60, 60F05)

— (*with* Leonenko, Nikolai N.) Exact parabolic asymptotics for singular n-D Burgers' random fields: Gaussian approximation. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 2, 141–165. (Denis Talay) **99h:60101** 60G60 (60F17, 60H15, 76D05, 76F99, 76M35)

— (*with* Biler, Piotr) Global and exploding solutions for nonlocal quadratic evolution problems. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 845–869 (*electronic*). (Song Mu Zheng) **99j:35092** 35K55 (35B05)

Woynarovich, Ferenc Introduction to the coordinate-space Bethe ansatz and to the treatment of Bethe ansatz equations. (English summary) *Conformal field theories and integrable models* (*Budapest*, 1996), 151–203, *Lecture Notes in Phys.*, 498, *Springer, Berlin*, 1997. (Deng Feng Wang) **99g:82006** 82B05 (82B20)

— (*with* Forgács, P.) Scaling limit of the one-dimensional attractive Hubbard model: the non-half-filled band case. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 3, 701–730. 82B20

Woźniak, Cz. (*with* dell'Isola, Francesco; Rosa, Luigi) A micro-structured continuum modelling compacting fluid-saturated grounds: the effects of pore-size scale parameter. (English summary) *Acta Mech.* **127** (1998), *no.* 1-4, 165–182. (Summary) **99k:73102** 73N20 (73Q05, 73S10, 76S05, 86A15)

— (*with* Pauk, V. I.) Plane contact problem for a half-space with boundary imperfections. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 24, 3569–3579. (Summary) **99m:73062** 73T05

Woźniak, Mariusz A note on uniquely embeddable graphs. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 15–21. (David Burns) **99e:05100** 05C70 (05C10, 05C75)

Woźniakowski, Henryk Computational complexity of continuous problems. (English summary) *Nonlinear dynamics, chaotic and complex systems* (*Zakopane*, 1995), 283–295, *Cambridge Univ. Press, Cambridge*, 1997. (Stefan Heinrich) **99d:65386** 65Y20 (65D30, 65U05)

— (*with* Novak, Erich; Sloan, Ian H.) Tractability of tensor product linear operators. (English summary) *J. Complexity* **13** (1997), *no.* 4, 387–418. (Arthur G. Werschulz) **99c:65257** 65Y20 (46M05, 47A80, 47N40, 65J10, 68Q25)

— (*with* Sloan, Ian H.) When are quasi-Monte Carlo algorithms efficient for high-dimensional integrals? (English summary) *J. Complexity* **14** (1998), *no.* 1, 1–33. (Stefan Heinrich) **99d:65384** 65Y20 (65C05)

— (*with* Agrawal, Vishwani D.; Lee, David^2) Numerical computation of characteristic polynomials of Boolean functions and its applications. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 261–278. (Summary) **99h:94087** 94C10 (94C05)

— (*with* Leyk, Zbigniew) Estimating a largest eigenvector by Lanczos and polynomial algorithms with a random start. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 3, 147–164. (J. Segethová) **99i:65035** 65F15

— (*with* Sloan, Ian H.) Multiple integrals in many dimensions. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 507–516, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (J. Spanier) **99k:65025** 65D30 (65C05)

Woźnicki, Zbigniew I. Matrix splitting principles. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 197–209. (De Hui Chen) **99m:65089** 65F30

Wraith, David The fundamental group of non-negatively curved manifolds. *Irish Math. Soc. Bull. No.* 40 (1998), 35–45. (Sérgio J. Mendonça) **99h:53045** 53C21 (53C20)

— Surgery on Ricci positive manifolds. (English summary) *J. Reine Angew. Math.* **501** (1998), 99–113. (Ian Hambleton) **99j:53050** 53C21 (57R65)

Wray, Alan A. (*with* Jiménez, Javier) On the characteristics of vortex filaments in isotropic turbulence. (English summary) *J. Fluid Mech.* **373** (1998), 255–285. (Summary) **99h:76049** 76F99 (76M35)

Wreen, Michael Proper names and the necessity of identity statements. (English summary) *Synthese* **114** (1998), *no.* 2, 319–335. 03B65 (03A05)

Wren, K. K. Constrained quantisation and θ-angles. II. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 3, 471–502. (Brian C. Hall) **99g:58019** 58D19 (58D20, 58Z05, 81S99)

Wresnik, Helmut Die Möbiusabbildungen des n-dimensionalen isotropen Raumes I_n^k vom Isotropiegrad k. [The Möbius mappings of the n-dimensional isotropic space I_n^k of isotropy degree k] *Beiträge zur Geometrie*, 3–14, *Grazer Math. Ber.*, 332, *Karl-Franzens-Univ. Graz, Graz*, 1997. (Hans Sachs) **99g:53017** 53A40 (53A30)

— Normalprojektionen von Vektorsystemen im n-dimensionalen isotropen Raum I_n^k. [Normal projections of vector systems in n-dimensional isotropic space I_n^k] *Beiträge zur Geometrie*, 33–42, *Grazer Math. Ber.*, 332, *Karl-Franzens-Univ. Graz, Graz*, 1997. (Hans Sachs) **99g:53018** 53A40 (51N25)

Wreszinski, W. F. (*with* Alcaraz, F. C.; Salinas, S. R.) Quantum domains in ferromagnetic anisotropic Heisenberg chains. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 13–19, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

Wriedt, T. (*with* Doicu, A.) Scattering analysis of conducting axisymmetric particles using the extended boundary condition method with discrete sources. (English summary) *J. Modern Opt.* **45** (1998), *no.* 11, 2207–2215. (Summary) **99i:78007** 78–08 (78A45)

Wriggers, P. (*with* Scherf, O.) Different a posteriori error estimators and indicators for contact problems. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 437–447. (Summary) **99f:73079** 73T05 (73V05)

— (*with* Zohdi, Tarek I.) A domain decomposition method for bodies with heterogeneous microstructure based on material regularization. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 17, 2507–2525. (Summary) **99m:73052** 73K20 (73V20)

Wright, A. N. (*with* Ruderman, M. S.) Structure of driven Alfvén waves with oblique magnetic field and dissipation. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 649–659. (Summary) **99k:76155** 76W05

Wright, Charles R. B. (*with* Ross, Kenneth Allen) ★ Matematyka dyskretna. (Polish. Polish summary) [Discrete mathematics] Translated from the 1992 third English edition by E. Sepko-Guzicka, W. Guzicki and P. Zakrzewski. *Wydawnictwo Naukowe PWN, Warsaw*, 1996. 899 *pp. ISBN* 83-01-12129-7 (Editors) **99f:00001** 00-01 (05-01, 68-01)

von Wright, Georg Henrik Deontic logic—as I see it. *Norms, logics and information systems* (*Bologna*, 1998), 15–25, *Frontiers Artificial Intelligence Appl.*, 49, *IOS, Amsterdam*, 1999. (*see* **99k:03014**) 03B45

Wright, J. D. Maitland Decoherence functionals for von Neumann quantum histories: boundedness and countable additivity. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 493–500. (Cho Ho Chu) **99d:46093** 46L60 (46L10, 46N50, 81P10)

— (*with* Bunce, L. J.; Saitô, Kazuyuki) Completely additive measures on von Neumann algebras. *Exposition. Math.* **16** (1998), *no.* 2, 185–189. (Sh. A. Ayupov) **99e:46086** 46L50 (46L10)

— Sesquilinear forms on Jordan triple systems. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 465–480. (Yaakov Friedman) **99m:46159** 46L70

— (*with* Bunce, L. J.; Saitô, Kazuyuki) A Dixmier-Schafer-Zhang theorem for operator algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 10, 2975–2979. (C. J. K. Batty) **99m:46147** 46L30 (28C15, 46A55)

Wright, James Robert (*with* Seeger, Andreas; Wainger, Stephen) Spherical maximal operators on radial functions. (English summary) *Math. Nachr.* **187** (1997), 241–265. (Rodolfo Torres) **99a:42013** 42B25 (46E30)

— (*with* Carbery, Anthony; Ricci, Fulvio) Maximal functions and Hilbert transforms associated to polynomials. *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 117–144. (Gary Sampson) **99k:42014** 42A50 (42B25)

— (*with* Seeger, Andreas; Wainger, Stephen; Ziesler, Sarah) Classes of singular integrals along curves and surfaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3757–3769. (Stephen Buckley) **99m:42029** 42B20

von Wright, Joakim (*with* Back, Ralph-Johan) ★ Refinement calculus. (English summary) A systematic introduction. Graduate Texts in Computer Science. *Springer-Verlag, New York*, 1998. *xvi*+519 *pp. ISBN* 0-387-98417-8 (Manfred Broy) **99g:68023** 68N05 (68Q55, 68Q60)

— Extending window inference. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 17–32, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68T15 (68Q60)

— (*with* Mikhajlova, Anna) Proving isomorphism of first-order logic proof systems in HOL. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 295–314, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (Summary) **99m:03023** 03B35 (03B15, 68T15)

Wright, Jonathan H. Testing for a structural break at unknown date with long-memory disturbances. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 369–376. (Summary) **99b:62143** 62M10

Wright, Joseph P. *see* **Skeel, Robert D.**

Wright, Margaret H. (*with* Gay, David M.; Overton, Michael L.) A primal-dual interior method for nonconvex nonlinear programming. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 31–56, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Florian Jarre) **99h:90096** 90C30 (90C26)

— Ill-conditioning and computational error in interior methods for nonlinear programming. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 84–111 (*electronic*). (Florian Jarre) **99i:90093** 90C30

— (*with* Lagarias, Jeffrey C.; Reeds, James A.; Wright, Paul E.) Convergence properties of the Nelder-Mead simplex method in low dimensions. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 112–147 (*electronic*). (John J. Dinkel) **99j:90081** 90C30 (65K05)

Wright, Mary H. (*with* Brown, Robert A.) Decompositions of D1 modules. *Advances in ring theory* (*Granville, OH*, 1996), 49–64, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Riccardo Colpi) **99c:16005** 16D70 (16P70)

Wright, Paul E. (*with* Fishburn, Peter C.; Kim, Jeong Han; Lagarias, Jeffrey C.) Interference-minimizing colorings of regular graphs. (English summary) *SIAM J.*

Discrete Math. **11** (1998), *no.* 1, 15–40 (*electronic*). (Theodore C. Enns) **99c:05102** 05C35 (05C15)

— (*with* Lagarias, Jeffrey C.; Reeds, James A.; Wright, Margaret H.) Convergence properties of the Nelder-Mead simplex method in low dimensions. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 112–147 (*electronic*). (John J. Dinkel) **99j:90081** 90C30 (65K05)

Wright, Peter A. The probability density function of process capability index C_{pmk}. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1781–1789. (Gheorghe Barbu) **99m:62153** 62N10 (62E15)

Wright, R. W. (*with* Cash, J. R.) Continuous extensions of deferred correction schemes for the numerical solution of nonlinear two-point boundary value problems. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 227–244. (Summary) **99f:65112** 65L06

Wright, Randall (*with* Burdett, Kenneth) Two-sided search with nontransferable utility. (English summary) *Rev. Econ. Dyn.* **1** (1998), *no.* 1, 220–245. (Summary) **99j:90019** 90A10

Wright, Stephen *see* **Wright, Stephen Joseph**

Wright, Stephen J. *see* **Wright, Stephen Joseph**

Wright, Stephen James (*with* Bourgeat, Alain; Mikelić, Andro) Stochastic two-scale convergence in the mean and applications. *J. Reine Angew. Math.* **456** (1994), 19–51. (From the introduction) **99b:35008** 35B27 (35R60, 60H15, 73B27)

— (*with* Andrews, Kevin T.) Stochastic homogenization of elliptic boundary-value problems with L^p-data. (English summary) *Asymptot. Anal.* **17** (1998), *no.* 3, 165–184. (Gérard Michaille) **99m:35021** 35B27 (35J15, 35R60, 60H30, 73B27)

— On the steady-state flow of an incompressible fluid through a randomly perforated porous medium. (English summary) *J. Differential Equations* **146** (1998), *no.* 2, 261–286. (Gérard Michaille) **99k:76141** 76S05 (35B25, 35Q35, 73B27)

— (*with* Andrews, Kevin T.; Shillor, Meir) A model for heat transfer in grinding. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 233–246. (Anders Klarbring) **99h:73005** 73B30 (35Q72, 73T05, 80A20)

Wright, Stephen Joseph (*with* Wenzel, Marc; Czyżyk, Joseph) Computational experience with a dense column feature for interior-point methods. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 29–34, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C05 (65K05)

— Superlinear convergence of a stabilized SQP method to a degenerate solution. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 3, 253–275. (Asen L. Dontchev) **99g:90136** 90C30 (65K05, 90C31)

— (*with* Czyżyk, Joseph; Wisniewski, Timothy) Optimization case studies in the NEOS guide. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 148–163 (*electronic*). (Summary) **99i:90068** 90C20 (65K05, 90C90)

Wright, Steve *see* **Wright, Stephen James**

Wright, Thomas W. Elastic wave propagation through a material with voids. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 2033–2047. (Summary) **99j:73040** 73D15 (73B27, 73D05, 73K12)

Wright, Tommy A simple algorithm for tighter exact upper confidence bounds with rare attributes in finite universes. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 1, 59–67. (Summary) **99b:62041** 62F25 (62D05)

Wrobel, A. J. (*with* Horsley, Anthony; Van Zandt, Timothy) Berge's maximum theorem with two topologies on the action set. (English summary) *Econom. Lett.* **61** (1998), *no.* 3, 285–291. (Summary) **99j:90002** 90A05 (90A06)

Wrobel, Stefan Scalability issues in inductive logic programming. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 11–30, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68N17)

— (*with* Bohnebeck, Uta; Horváth, Tamás[2]) Term comparisons in first-order similarity measures. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 65–79, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (*see* **99k:68010**) 68T05 (68N17)

Wróblewski, Waldemar (*with* Caccavale, Fabrizio) A spatial algebra approach to kinematic control of dual-arm systems. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 197–206, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70015** 70B15 (70Q05, 93C85)

Wroński, A. (*with* Grodzki, Z.) Generalized de Bruijn multigraphs of rank $\overrightarrow{k}$. (English summary) *Ars Combin.* **50** (1998), 161–176. (Summary) **99i:05178** 05C75 (05C45, 05C85)

Wroński, Stanisław On proper subuniverses of a Boolean algebra. (English and Polish summaries) *Acta Univ. Lodz. Folia Math. No.* 9 (1997), 69–75. (Summary) **99d:06016** 06E05

Wrzosek, Dariusz Existence of solutions for the discrete coagulation-fragmentation model with diffusion. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 279–296. (Brian D. Sleeman) **99b:35098** 35K57

— (*with* Laurençot, Philippe) The Becker-Döring model with diffusion. I. Basic properties of solutions. *Colloq. Math.* **75** (1998), *no.* 2, 245–269. (Si Ning Zheng) **99b:35202** 35Q99 (35K55, 82C99)

— (*with* Laurençot, Philippe) The Becker-Döring model with diffusion. II. Long time behavior. (English summary) *J. Differential Equations* **148** (1998), *no.* 2, 268–291. (Si Ning Zheng) **99h:35216** 35Q99 (35K55, 82C99)

Wschebor, Mario Distribution of the maximum of a Gaussian process. The method of Rice. (Spanish) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahía Blanca*, 1997), 207–235, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (*see* **99a:00040**) 60G15 (60G17)

— (*with* Azaïs, Jean-Marc) Oscillation presque sûre de martingales continues. (French summary) [Almost sure oscillation of continuous martingales] *Séminaire de Probabilités, XXXI*, 69–76, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Pawel Hitczenko) **99e:60055** 60F05 (60G44)

— (*with* Perera, Gonzalo) Crossings and occupation measures for a class of semimartingales. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 253–266. (José Rafael León) **99k:60064** 60F05 (60G44, 60J55)

Wu, Angela Y. (*with* Rosenfeld, Azriel) Geodesic visibility in graphs. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 5–12. (Summary) **99c:68203** 68R10 (05C99)

Wu, Bai Sheng (*with* Küpper, Tassilo) Computation of Hopf branches bifurcating from a Hopf/pitchfork point for problems with Z_2-symmetry. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 403–416. (Ian Melbourne) **99j:58045** 58E09 (47H15, 47H17, 65H17)

— Secondary buckling of an elastic column with a central elastic support. *Mech. Res. Comm.* **25** (1998), *no.* 4, 479–486. (Claude Do) **99j:73065** 73H05 (73K05)

Wu, Bang Ye (*with* Chao, Kun-Mao; Tang, Chuan Yi) Approximation and exact algorithms for constructing minimum ultrametric trees from distance matrices. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 299–308, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25 (92D15)

— (*with* Lancia, Giuseppe; Bafna, Vineet; Chao, Kun-Mao; Ravi, R.; Tang, Chuan Yi) A polynomial time approximation scheme for minimum routing cost spanning trees. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 21–32, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)

— (*with* Chao, Kun-Mao; Tang, Chuan Yi) An efficient algorithm for the length-constrained heaviest path problem on a tree. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 63–67. (Summary) **99j:68111** 68R10 (68M10)

Wu, Bao Qiang (*with* Song, Hong Zao) Three-dimensional compact minimal submanifolds in a sphere. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 185–190. (Bang-yen Chen) **99d:53070** 53C42 (53C40)

Wu, Bao Wei Realization of linear systems over a commutative Banach algebra. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 4, 1–5. (Guang Xiong Wang) **99f:93024** 93B15 (46N10, 47N70)

— (*with* Fang, Yang Wang; Han, Chong Zhao) Robust H^∞ control of bilinear systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 5–8. 93B36 (93C10)

Wu, Baoyi (*with* Su, Wei Yi) The type of a class of Vilenkin convolution operators. (English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 4, 393–400. (Summary) **99m:43008** 43A70 (43A32)

Wu, Ben Zhong Strong consistency of a semiparametric regression model with mixing error. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 27–31. (Summary) **99k:62079** 62G05 (62G20)

Wu, Berlin Kernel density estimation under weak dependence with sampled data. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 1, 141–154. (Patricia B. Cerrito) **99a:62058** 62G05

— (*with* Chen, Mei-Hui) Use of fuzzy statistical technique in change periods detection of nonlinear time series. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 241–254. (Summary) **99m:62143** 62M10

Wu, Bing-Fei (*with* Su, Yu-Lin) On stationarizability for nonstationary 2-D random fields using discrete wavelet transforms. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 9, 1359–1366. (Summary) **99g:94007** 94A12 (94A11)

— (*with* Su, Yu-Lin) Stationarization of stochastic sequences with wide-sense stationary increments or jumps by discrete wavelet transforms. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1215–1230. 60G99 (42C15)

Wu, Bing Ye (*with* Zhao, Pei Biao; Song, Hong Zao) Some notes on: "2-type spherical hypersurfaces" [Chinese Ann. Math. Ser. A **17** (1996), no. 4, 483–486; MR 97f:53092] by B. Y. Wu. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 128–130. 53C40

Wu, C. Chris (*with* Newman, Charles M.) Percolation and contact processes with low-dimensional inhomogeneity. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1832–1845. (Neal Madras) **99b:60170** 60K35 (82B43)

— (*with* Barsky, David J.) Critical exponents for the contact process under the triangle condition. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 95–124. (Yu Zhang) **99g:60182** 60K35 (82C43)

Wu, C. F. J. (*with* Ding, Yuan) Construction of response surface designs for qualitative and quantitative factors. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 331–348. (Summary) **99f:62097** 62K99

Wu, C.-P. *see* **Wu, Chih-Ping**

Wu, C. S. *see* **Wu, Chuen-Sheng**

Wu, Cang Pu (*with* Hou, Zeng Guang) A new method for real-time hierarchical control of large-scale dynamical systems. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol.* (*Chin. Ed.*) **17** (1997), *no.* 3, 287–291. (*see* **99a:93004**) 93A13 (93C15)

— (*with* Xie, San Ming; Zhao, Chun Jun) Decentralized model reference adaptive control of large-scale nonlinear systems. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol.* (*Chin. Ed.*) **17** (1997), *no.* 3, 332–336. (*see* **99a:93004**) 93C10 (93A14)

— (*with* Hou, Zeng Guang; Gao, Hui Qi) A neural network based method for dynamical hierarchical optimization of a class of large-scale systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 160–165. 93A13 (93C83)

— (*with* Hou, Zeng Guang) Hierarchical optimization of nonlinear large-scale systems: a neural network method. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 750–754. 93A13 (90C90)

Wu, Chai Wah (*with* Chua, Leon O.) Quantized sampling as sampling with uncertainty in time and amplitude. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 458–463. (Summary) **99c:94009** 94A12

Wu, Chih-Hang (*with* Ventura, José A.; Browning, Sharon) Computational comparisons of dual conjugate gradient algorithms for strictly convex networks. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 4, 333–349. 90C35 (90B10)

Wu, Chih-Ping (*with* Chi, Y.-W.) Asymptotic solutions of laminated composite shallow shells with various boundary conditions. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 1–18. 73K15 (73K20)

Wu, Chong-Yih On right congruences on semilattices of groups. *Semigroup Forum* **57** (1998), *no.* 1, 127–137. (V. N. Salïĭ) **99c:20095** 20M99 (06A12, 08A30)

Wu, Chuan-Kun On distribution of Boolean functions with nonlinearity $\leq 2^{n-2}$. (English summary) *Australas. J. Combin.* **17** (1998), 51–59. (Summary) **99b:05005** 05A15 (94A60, 94B05)

— (*with* Dawson, Edward) Existence of generalized inverse of linear transformations over finite fields. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 307–315. (Mihail Voicu) **99i:15004** 15A04 (15A09)

— (*with* Zhao, Likuan) Construction of 2-designs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 1, 124. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 1, 99–102. (Summary) **99m:05025** 05B05

Wu, Chuanxi On the index of minimal curvature submanifolds. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 6, 499–504. (Miguel Angel Meroño) **99e:53085** 53C40 (53C42)

Wu, Chuen-Sheng (*with* Liu, Jen-Chwan) On minimax fractional optimality conditions with invexity. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 21–35. (Dorel Duca) **99a:90205** 90C32 (49K35)

— (*with* Liu, Jen-Chwan) On minimax fractional optimality conditions with (F, ρ)-convexity. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 36–51. (Dorel Duca) **99a:90206** 90C32 (49K35)

Wu, Cong (*with* Wu, Cong Xin) The supremum and infimum of the [a] set of fuzzy numbers and its [their] application. *Northeast. Math. J.* **13** (1997), *no.* 3, 253–256. (From the text) **99b:03070** 03E72 (26E50)

— (*with* Wu, Cong Xin; Zhang, De Li; Guo, Cai Mei) Fuzzy number fuzzy measures and fuzzy integrals. I. Fuzzy integrals of functions with respect to fuzzy number fuzzy measures. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 355–360. 28E10

— (*with* Wu, Cong Xin) Some notes on the supremum and infimum of the set of fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 183–187. (Summary) **99i:03072** 03E72

Wu, Cong Xin Topological algebras of infinite matrix operators between sequence spaces λ and μ. *Chinese Sci. Bull.* **42** (1997), *no.* 19, 1591–1593. (M. S. Ramanujan) **99j:46057** 46H99 (46A45)

— (*with* Wu, Cong) The supremum and infimum of the [a] set of fuzzy numbers and its [their] application. *Northeast. Math. J.* **13** (1997), *no.* 3, 253–256. (From the text) **99b:03070** 03E72 (26E50)

— (*with* Suyalatu) K-strong convexity and K-strong smoothness. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 373–378. (Bor-Luh Lin) **99h:46021** 46B20 (46B10)

— (*with* Suyalatu) k-uniformly rotund spaces and k-uniformly smooth spaces. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 2, 92–95. (Marián Fabian) **99e:46021** 46B20

— (*with* Song, Shiji; Wang, Hai Yan[3]) On the basic solutions to the generalized fuzzy integral equation. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 255–260. (Summary) **99a:45003** 45A05

— (*with* Guo, Cai Mei; Zhang, De Li) Fuzzy-valued fuzzy measures and generalized fuzzy integrals. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 255–260. (Beloslav Riečan) **99h:28041** 28E10

— (*with* Zhang, De Li; Guo, Cai Mei; Wu, Cong) Fuzzy number fuzzy measures and fuzzy integrals. I. Fuzzy integrals of functions with respect to fuzzy number fuzzy measures. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 355–360. 28E10

— (*with* Song, Shiji) Existence theorem to the Cauchy problem of fuzzy differential equations under compactness-type conditions. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 123–134. (Summary) **99e:34003** 34A12

— (*with* Song, Shiji) Remark on approximate solutions, existence, and uniqueness of the Cauchy problem of fuzzy differential equations. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 923–928. (Summary) **99j:34004** 34A12

— (*with* Yao, Xiao Bo) Differentiability of ACG$_{**}$ functions. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 1, 1–2. 26A46 (26A39)

— (*with* Ye, Guoju) The McShane integral of Banach-valued functions defined on $\mathbf{R}^n$. I. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 140–144. (V. A. Skvortsov) **99h:28024** 28B05 (26A39, 26E20, 46G10)

— (*with* Zhang, De Li; Zhang, Bokan; Guo, Cai Mei) Fuzzy number fuzzy measures and fuzzy integrals. II. Fuzzy integrals of fuzzy-valued functions with respect to fuzzy number fuzzy measures on fuzzy sets. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 137–141. 28E10

— (*with* Wu, Cong) Some notes on the supremum and infimum of the set of fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 183–187. (Summary) **99i:03072** 03E72

— (*with* Zhang, Bokan) Embedding problem of noncompact fuzzy number space $E^{\sim}$. I. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 165–169. 54A40

— (*with* Qiu, Jiqing) Some remarks for fuzzy complex analysis. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 231–238. 30A99

— (*with* Li, Bao Ling; Lee, E. Stanley) Discontinuous systems and the Henstock-Kurzweil integral. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 119–136. (Š. Schwabik) **99j:34005** 34A12 (26A39, 34A99)

— (*with* Shum, Kar Ping; Chen, De Gang) Fuzzy pseudo-symmetric ideals of semigroups and their radicals. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 1–3. 20M99

— (*with* Zhang, De Li; Guo, Cai Mei) Representations of generalized fuzzy integrals. I. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 31–35. 26E50

Wu, Dane W. A multiscale wavelet density estimator. (English summary) *Far East J. Theor. Stat.* **2** (1998), *no.* 1, 11–23. (Summary) **99j:62054** 62G07

Wu, Deyun Sobolev and Hölder estimates for $\overline{\partial}$ on bounded convex domains in $\mathbf{C}^2$. *Illinois J. Math.* **42** (1998), *no.* 3, 371–388. (Der-Chen E. Chang) **99d:32021** 32F20 (32F40, 35N15)

— (*with* Lumsdaine, Andrew) Spectra and pseudospectra of block Toeplitz matrices. (English summary) *Linear Algebra Appl.* **272** (1998), 103–130. (A. Bultheel) **99b:65048** 65F15 (15A18, 15A57, 47B35)

Wu, Dian Hua Finite generating sets for PBD closed sets. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 365–368. 05B05

Wu, Dingping (*with* Long, Xiang; Huang, Nan Jing) Generalized nonlinear variational inclusions for fuzzy mappings. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 509–513. (Summary) **99g:47152** 47H19 (47S40, 49J40)

Wu, Dong Hua (*with* Tian, Wei Wen; Huang, Wei[2]) An actual algorithm for global optimization. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 5, 482–486. 90C30 (65K05)

Wu, Dongsheng (*with* Lin, Qun[1]) High-accuracy approximations for eigenvalue problems by the Carey non-conforming finite element. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 1, 19–31. (Summary) **99j:65188** 65N25 (65N30)

Wu, Duan Gong (*with* Chen, Shao Chun) Error estimates for a 12-parameter plate element with right-hand side $f \in H^{-1}$. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 74–78. 65N15 (73V05)

— (*with* Chen, Shao Chun) Restricted polynomial interpolation and its application in constructing shape function spaces. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 50–55. 41A29 (65D17)

— A constraint condition for restricted quintic polynomial interpolation on a triangle and its application. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 4, 382–386. 41A63 (65D05)

Wu, Eden K. H. *see* **Wu, K. H. Eden**

Wu, Eva (*with* Zhou, Kemin; Salomon, Gregory) Balanced realization and model reduction for unstable systems. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 183–198. (*see* **99k:93005**) 93B15 (93B11)

Wu, F. Y. Soluble free-fermion models in d dimensions. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 334–339, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— (*with* Pant, P.) Link invariant of the Izergin-Korepin model. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7775–7782. (E. J. Janse van Rensburg) **99b:57020** 57M25 (82B20)

— (*with* Lu, Wentao T.) On the duality relation for correlation functions of the Potts model. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2823–2836. (Summary) **99d:82014** 82B20 (05A19)

— (*with* Lu, Wentao T.) Partition function zeroes of a self-dual Ising model. (English summary) *Phys. A* **258** (1998), *no.* 1-2, 157–170. (Summary) **99i:82010** 82B20

— *see also* **Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications, 99f:82002**

Wu, Fa En Asymptotic expansions of heat kernels of spheres. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 145–152. (Summary) **99a:58147** 58G11 (58G18)

— The Taylor expansions of solutions of Jacobi field equations and their applications. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 514–518. (Liang Xin Li) **99g:53047** 53C22

Wu, Fang (*with* Gao, Ziyou; He, Guoping) An algorithm of sequential systems of linear equations for nonlinear optimization problems with arbitrary initial point. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 6, 561–571. (Eugenia Duca) **99g:90118** 90C30 (65K05)

— (*with* Zeng, Qingguang; He, Guoping) A robust superlinearly convergent algorithm for linearly constrained optimization problems under degeneracy. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 363–373. (G. M. Ostrovsky) **99i:90094** 90C30

Wu, Fang Tong Characteristic surfaces of nonlinear partial differential equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 353–358. (Summary) **99m:35016** 35A30

— (*with* Tian, Yan; Zhou, Di) Generalized pseudodifferential operators with multiple symbols. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 37–43. (Qing Yi) **99m:35282** 35S05 (47G30)

— On regularity for solution of non-linear equation with constant multiple characteristic. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 151–162. (Linda M. Holt) **99m:35013** 35A27 (35L75, 35S05)

Wu, G. X. *see* **Wu, Guo Xiong**

Wu, Garidi Approximation by entire functions of exponential type in Orlicz spaces. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 4, 1–5. (Lai Yi Zhu) **99k:41054** 41A65 (41A10)

— On n-widths of some periodic convolution classes in Orlicz spaces. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 3, 25–35. (Kairat T. Mynbaev) **99k:41011** 41A15 (41A46)

Wu, Guang Rong (*with* Shen, Zu He) Some existence theorems of boundary value problems. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 91–94. (Donal O'Regan) **99m:34050** 34B15 (47H15)

— (*with* Li, Wei Guo) A constructive proof of the existence of periodic solutions to Newton's equation. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 124–126. (Chengwen Wang) **99g:34089** 34C25 (34B15)

— (*with* Zhang, Ping[4]; Qiu, Qing Jiu) Propagation of oscillations to 2D incompressible Euler equations. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 449–460. (Summary) **99i:35130** 35Q30 (76C99)

Wu, Gui Rong (*with* Ouyang, Cai Heng) The function class N^+. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 4, 15–18. (Lo Yang) **99k:30063** 30D50

— Random Taylor series. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 116–120. (Summary) **99d:60058** 60G99 (30D20)

— Singular directions of meromorphic functions. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **14** (1998), *no.* 1, 1–5. (Jian-Hua Zheng) **99m:30065** 30D35

Wu, Guo Fu (*with* Chen, Min[4]; Liu, Lan) The higher-order moments of a class of nonlinear autoregressive models with conditional heteroscedasticity. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 371–376. (Summary) **99m:62144** 62M10

Wu, Guo Hua[1] (*with* Xi, Yu Geng; Zhang, Zhong Jun) Robust controller design based on simplified triangular model. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 319–325. (Summary) **99a:93044** 93B51 (93D09)

Wu, Guo Min (*with* Wan, Zhong Ping) A generalized reduced gradient restoration algorithm and its convergence. (Chinese. English and Chinese summaries) *J. Xinjiang*

Univ. Natur. Sci. **15** (1998), *no.* 4, 9–14. 90C30 (65K05)

Wu, Guo Xiong Wave radiation and diffraction by a submerged sphere in a channel. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 647–666. 76B15

Wu, H. R. *see* **Wu, Hong Ren**

Wu, Hansheng Continuous adaptive robust controllers guaranteeing uniform ultimate boundedness for uncertain nonlinear systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 115–122. (Edward Jezierski) **99k:93061** 93C40 (93B51, 93C41)

— (*with* Hashimoto, Yuki; Mizukami, Koichi) Robust output tracking of nonlinear systems with mismatched uncertainties. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 411–417. (Summary) **99k:93084** 93D21 (93C41)

— (*with* Mizukami, Koichi; Zhang, Suyu) Robust stability conditions for large-scale interconnected systems with structured and unstructured uncertainties. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 70–96. (Ji Tao Sun) **99m:93078** 93D09 (93A14)

Wu, Hanzhong (*with* Li, Xunjing) The equivalence between two types of exponential stabilities. *Chinese Sci. Bull.* **43** (1998), *no.* 18, 1583–1584. 47D06 (34D99)

— (*with* Li, Xunjing) Linear quadratic problem with unbounded control in Hilbert spaces. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 20, 1712–1717. 49N10 (49K27, 93C25)

Wu, He (*with* Fornæss, John Erik) Classification of degree 2 polynomial automorphisms of $\mathbf{C}^3$. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 195–210. (M. Kh. Gizatullin) **99e:14015** 14E09

Wu, He Cheng The bootstrap confidence limit of liability for a standby system. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 6, 652–658. 62N05 (62G09)

Wu, Hong Lu (*with* Sun, Yu Zhi) An absolutely stable explicit difference scheme for parabolic partial differential equations in two dimensions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 122–128. (Summary) **99e:65120** 65M06

Wu, Hong Ren (*with* Man, Zhihong; Paplinski, A. P.) A robust neural controller for a class of second-order nonlinear systems. (English summary) *Complex. Int.* **2** (1995), 11 *HTML documents* (*electronic*). 93B36 (93C30)

Wu, Hong Yi A class of C^3-continuous B-type spline curves and their interpolation and approximation properties. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 1–9. 41A15 (65D07)

Wu, Hsien-Chung The improper fuzzy Riemann integral and its numerical integration. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 109–137. (Cong Xin Wu) **99j:26012** 26A42 (26E50, 28E10, 65D32)

— Probability density functions of fuzzy random variables. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 139–158. (Summary) **99m:60007** 60A99

Wu, Huai Ning (*with* Xie, Kai Nian; You, Chang De) Robust state feedback control of stochastic systems. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 1, 1–5. 93E03 (93E15)

Wu, Huaiqing Optimal exact designs on a circle or a circular arc. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2027–2043. (N. Gaffke) **99e:62131** 62K05

Wu, Huapeng (*with* Hasan, M. Anwarul) Low complexity bit-parallel multipliers for a class of finite fields. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 883–887. (Summary) **99d:65381** 65Y05

— (*with* Hasan, M. Anwarul; Blake, Ian F.) New low-complexity bit-parallel finite field multipliers using weakly dual bases. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1223–1234. (Summary) **99i:68008** 68M07 (68P25, 94A60)

Wu, Huo Xiong (*with* Zhao, Kun) L_M^*-saturation of Stancu-Kantorovich operators. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 247–251. 41A36

Wu, I-Chen (*with* Chen, Loon-Been) On the time complexity of minimum and maximum global snapshot problems. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 151–156. 68Q10 (68R10)

Wu, J. *see* **Wu, Jian Rong**

Wu, J. C. *see* **Wu, Jong-Cheng**

Wu, J. H. *see* **Wu, Jia Hao**

Wu, J. K. *see* **Wu, Ji Ke**

Wu, J.-L. *see* **Wu, Jiang Lun**

Wu, J. W. *see* **Wu, Jong-Wuu**

Wu, Jain-Ming (*with* Wu, Jie-Zhi; Lu, Xi-Yun; Denny, Andrew G.; Fan, Meng[2]) Post-stall flow control on an airfoil by local unsteady forcing. (English summary) *J. Fluid Mech.* **371** (1998), 21–58. (From the summary) **99i:76041** 76D15 (76B05, 76C05, 76G25)

Wu, James (*with* Kifer, Michael; Lausen, Georg) Logical foundations of object-oriented and frame-based languages. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 4, 741–843. (Summary) **99k:68043** 68P15 (03B70, 68N15, 68N17)

Wu, Jang-Mei Doubling measures with different bases. *Colloq. Math.* **76** (1998), *no.* 1, 49–55. (W. P. Ziemer) **99e:28005** 28A12 (28A05, 28D99)

— Growth and asymptotic sets of subharmonic functions. *J. London Math. Soc.* (2) **58** (1998), *no.* 3, 656–668. (Alexander I. Kheyfits) **99m:31006** 31A20

— Hausdorff dimension and doubling measures on metric spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1453–1459. (S. K. Vodop'yanov) **99h:28016** 28A78 (31C15, 54E35, 54E45)

— (*with* Sowers, Richard B.) Thermal capacity estimates on the Allen-Cahn equation. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2553–2567. (Neil A. Watson) **99i:31006** 31B35 (35K57, 60J45)

Wu, Jenq-Lang (*with* Yung, Chee-Fai; Lee, Tsu-Tian) H^∞ control for more general nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1724–1727. (Summary) **99h:93046** 93B36

Wu, Ji Ke (*with* Zhou, Kun[1]) On the definitions of bifurcation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 8, 1861–1865. (Bei Ye Feng) **99b:58178** 58F14 (34C23)

Wu, Ji Ming (*with* Yu, De Hao) An approximate computation of hypersingular integrals on an interval. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 118–126. 65D32 (65R20)

— (*with* Yu, De Hao) The natural integral equations of 3-D harmonic problems and their numerical solutions. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 419–430. 65N38 (65R20)

Wu, Jia Hao Long-step primal path-following algorithm for monotone variational inequality problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 509–531. (S. R. Mohan) **99k:90181** 90C33 (49J40)

Wu, Jiahong Inviscid limits and regularity estimates for the solutions of the 2-D dissipative quasi-geostrophic equations. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1113–1124. (Summary) **99d:35135** 35Q35 (76C99, 76F99, 76U05)

— Viscous and inviscid magnetohydrodynamics equations. (English summary) *J. Anal. Math.* **73** (1997), 251–265. (Summary) **99a:35213** 35Q35 (76W05)

— Quasi-geostrophic type equations with weak initial data. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 16, 10 *pp.* (*electronic*). (Andrew C. Fowler) **99i:35169** 35Q99 (35K55, 76C99, 76U05, 86A05, 86A10)

— Well-posedness of a semilinear heat equation with weak initial data. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 629–642. (G. Albinus) **99m:35112** 35K55

Wu, Jian Cheng (*with* Cai, Ri Zeng) The semi-discrete method for solving high-dimension wave equation. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 5, 489–496; *translated from Appl. Math. Mech.* **19** (1998), *no.* 5, 457–464 (*Chinese. English and Chinese summaries*). (Summary) **99e:65143** 65M99

— (*with* Cai, Ri Zeng; Zheng, Jia Mao) A semidiscrete method for solving direct and inverse problems of the 2-D wave equation. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 66–70. 65M06 (65M70)

Wu, Jian Hong (*with* Krisztin, Tibor) Asymptotic behaviors of solutions of scalar neutral functional-differential equations. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 351–366. (Hal Leslie Smith) **99j:34099** 34K15 (34K40)

— (*with* Krawcewicz, Wiesław) Bifurcation of time-reversible systems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 75–85; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 2, 69–79. (B. V. Loginov) **99a:47095** 47H15 (34C23, 34K15, 58E09)

— (*with* Fu, Xi Lin) Oscillation in neutral partial functional-differential equations and inequalities. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 5, 14 *pp.* (*electronic*). (Summary) **99e:35238** 35R10 (35B05)

— (*with* Krawcewicz, Wiesław; Vivi, P.) Hopf bifurcations of functional differential equations with dihedral symmetries. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 157–184. (Ian Melbourne) **99e:58134** 58F14 (34K15, 58F32)

— (*with* So, Joseph W.-H.; Yang, Yuanjie) Centre manifolds for functional partial differential equations: smoothness and attractivity. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 67–81. (Ryszard Rudnicki) **99i:34114** 34K30 (35B40, 35R10, 47N20, 58F39)

— Symmetric functional-differential equations and neural networks with memory. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4799–4838. (John G. Milton) **99i:34104** 34K15 (34C23, 58F14, 92B20)

— *see also* **Differential equations with applications to biology, 99g:92002**

Wu, Jian Hua[3] (*with* Mei, Li Quan) Global solutions for the classical A-I model with common sources. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 4, 6–8. (Jianzhong Su) **99m:35113** 35K55 (35B05)

— Longtime behavior of a prey-predator model with saturation. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 224–232. (Summary) **99k:92047** 92D40 (35Q80, 92D25)

— Global attractors of reaction-diffusion equations in fractional power spaces. (Chinese. English summary) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 117–118. 35K57 (35B45)

— Maximal attractors of classical solutions for reaction-diffusion equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 36–38. 35K57 (35B40)

— Coexistence state of competition model in chemostat. (English summary) *Progr. Natur. Sci.* (*English Ed.*) **8** (1998), *no.* 6, 749–753. (Summary) **99m:92043** 92D25 (35K57)

— Global attractor and dimensional estimate for coupled Fitz-Hugh-Nagumo systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 2, 74–77. (Summary) **99c:35243** 35Q80 (35B40, 92C20)

Wu, Jian Liang Some path decompositions of Halin graphs. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 92–96. 05C70 (05C38)

Wu, Jian Ping (*with* Chi, Xue Bin) Matrix multiplication on distributed system. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 99–108. 65-04 (65Y05)

Wu, Jian Rong (*with* Fraser, Donald A. S.; Reid, N.) On the informative presentation of likelihood. (English summary) *Applied statistical science, III*, 253–265, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99k:62056** 62F15 (62F25)

— (*with* Fraser, Donald A. S.; Wong, A. C. M.) An approximation for the noncentral chi-squared distribution. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 275–287. (Summary) **99b:62018** 62E17

Wu, Jian Wen Existence of a Cartan connection in Finsler geometry. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 3, 19–22. 53B40

Wu, Jian Zhong[2] (*with* Lin, Fu Yong) The structural theory of general systems and its applications. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 1–10. 93A10

— (*with* Lin, Fu Yong) The structural theory of general systems and its applications. II. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 11–20. 93A10

— (*with* Chen, Zhan Feng; Xu, Duan) Major-in-weight efficiency and major-in-weight optimality of multiple criteria decision making. (English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 185–189. 90C29 (90A05)

— (*with* Shao, Rui; Jiang, Fu) Exit and entry decisions of a cooperative game firm. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 3, 30–34. (Summary) **99e:90019** 90A11 (90D40)

— (*with* Yao, Jian; Xu, Fu Yuan) Model reference adaptive fuzzy control for a class of nonlinear systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 12, 120–123. 93C42

— (*with* Shao, Rui; Jiang, Fu) Uncertainty, equivalent marginal costs and investments. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 102–107. 90A09

— (*with* Xu, Duan; Chen, Zhan Feng) Further study on H_B- efficient solutions of decision problems with multiple criteria. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 2, 78–82. 90A05 (90C29)

Wu, Jiang Lun (*with* Albeverio, Sergio; Gottschalk, Hanno) Remarks on some new models of interacting quantum fields with indefinite metric. (English summary)

Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 385–394. (Giovanni Morchio) **99d:81071** 81T08 (46N50)
— (*with* Albeverio, Sergio; Zhang, Tu Sheng) Parabolic SPDEs driven by Poisson white noise. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 21–36. (Fred Espen Benth) **99c:60124** 60H15 (35R60, 60H20)
Wu, Jianhua *see* **Wu, Jian Hua**[3]
Wu, Jianzhong *see* **Wu, Jian Zhong**[2]
Wu, Jie *see* **Wu, Jie**[9]
Wu, Jie[1] On the average number of unitary factors of finite abelian groups. *Acta Arith.* **84** (1998), *no.* 1, 17–29. (R. C. Baker) **99f:11124** 11N45 (11L07, 20K01)
Wu, Jie[4] On the homology of configuration spaces $C((M, M_0) \times \mathbf{R}^n; X)$. (English summary) *Math. Z.* **229** (1998), *no.* 2, 235–248. (Don Shimamoto) **99m:55009** 55P35 (55R40)
— On combinatorial calculations for the James-Hopf maps. (English summary) *Topology* **37** (1998), *no.* 5, 1011–1023. (Richard John Steiner) **99h:55017** 55P99
— A product decomposition of $\Omega^3_0 \Sigma \mathbf{R} P^2$. (English summary) *Topology* **37** (1998), *no.* 5, 1025–1030. (Richard John Steiner) **99h:55018** 55P99
— On fibrewise simplicial monoids and Milnor-Carlsson's constructions. (English summary) *Topology* **37** (1998), *no.* 5, 1113–1134. (Richard John Steiner) **99h:55030** 55U10 (55R35)
Wu, Jie[5] (*with* Guo, Guanghui) Fault tolerance measures for m-ary n-dimensional hypercubes based on forbidden faulty sets. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 888–893. (Summary) **99d:68030** 68M15 (68M10)
— (*with* Li, Yueming; Zheng, Si-Qing) An optical interconnection structure based on the dual of a hypercube. (English summary) *Informatica (Ljubl.)* **22** (1998), *no.* 4, 499–508. (Summary) **99i:68094** 68R10 (68M10)
Wu, Jie[9] (*with* Du, Jiang; Liu, Hong Ju; Zeng, Yong) A path method for analyzing the reliability of reticulated systems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 51–54. 90B25
Wu, Jie Ru (*with* Shi, Zhong Kun; Lin, Jun; Wu, Xiao) Fitting surfaces to scattered data in space. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 78–82. 65D15 (90C90)
Wu, Jie-Zhi (*with* Lu, Xi-Yun; Denny, Andrew G.; Fan, Meng[2]; Wu, Jain-Ming) Post-stall flow control on an airfoil by local unsteady forcing. (English summary) *J. Fluid Mech.* **371** (1998), 21–58. (From the summary) **99i:76041** 76D15 (76B05, 76C05, 76G25)
— (*with* Zhou, Ye; Fan, Meng[2]) A note on kinetic energy, dissipation and enstrophy. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 503–505. (Summary) **99j:76105** 76N10
— (*with* Zhou, Ye; Lu, Xi-Yun; Fan, Meng[2]) Turbulent force as a diffusive field with vortical sources. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 627–635. (Summary) **99k:76083** 76F99 (76D05)
Wu, Jingbo Stability theory for infinite-dimensional linear systems based on an extension method. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 2, 117–132. (Summary) **99g:34113** 34D99 (34G10, 34H05, 93D05)
Wu, Jinn-Wen (*with* Shih, Mau-Hsiang) On a discrete version of the Jacobian conjecture of dynamical systems. *Nonlinear Anal.* **34** (1998), *no.* 5, 779–789. (Armengol Gasull) **99j:39017** 39A12 (34D99)
— (*with* Shih, Mau-Hsiang) Asymptotic stability in the Schauder fixed point theorem. (English summary) *Studia Math.* **131** (1998), *no.* 2, 143–148. (Summary) **99e:47082** 47H10
Wu, Jinzhao (*with* Liu, Zhuojun) Well-behaved inference rules for first-order theorem proving. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 381–400. (Summary) **99g:68185** 68T15 (03B35)
Wu, Jiong Yu The periodic behavior of a single-species model with ALLEE effect. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 219–224. (Summary) **99h:92035** 92D25
— (*with* Xu, An Shi) The basic theory of the functional-differential equations with both advanced and retarded arguments. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 333–338. (Summary) **99h:34110** 34K15 (92C05)
Wu, Jong-Cheng (*with* Agrawal, Anil Kumar[3]; Yang, Jann N.) Non-linear control strategies for Duffing systems. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 829–841. (Summary) **99h:93064** 93C83 (70K99, 70Q05, 73K12)
Wu, Jong-Wuu (*with* Ouyang, Liang-Yuh) An identity for the conditional expectations of functions of adjacent order statistics. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 2-3, 149–159. (Summary) **99k:62105** 62G30
— (*with* Lee, Wen-Chuan) Characterization of generalized mixtures of exponential distribution based on conditional expectation of order statistics. (English summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 1, 39–44. (Mir Masoom Ali) **99k:62030** 62E10 (62G30)
— (*with* Cheng, K. F.) An optimal test for the mean function hypothesis. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 477–487. (Summary) **99a:62091** 62J05 (62J02)
Wu, Jun[2] (*with* Feng, Dejun) Category and dimension of compact subsets of $\mathbf{R}^n$. *Chinese Sci. Bull.* **42** (1997), *no.* 20, 1680–1683. (Miguel Angel Martin) **99d:28009** 28A75 (28A80)
— Dimension of level sets of some Rademacher series. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 29–33. (Summary) **99g:42006** 42A32
Wu, Jun De (*with* Pap, Endre; Li, Rong Lu; Qu, Wen Bo) Swartz's Orlicz-Pettis theorem for operators. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 37–43. (Andreas Defant) **99h:46028** 46B28 (46A03, 46B15)
— (*with* Li, Rong Lu; Qu, Wen Bo) An infinite matrix convergence theorem and its applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 39–44. (Summary) **99i:40007** 40C05
— (*with* Li, Rong Lu; Qu, Wen Bo) The extension of the Eberlein-Shmul'yan theorem to locally convex spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 663–666. (Summary) **99f:46003** 46A03
— (*with* Cui, Cheng Ri; Li, Rong Lu) A Hellinger-Toeplitz theorem for sequence spaces with the weak gliding hump property. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 6, 717–722. 46A45 (47B37)
— (*with* Wu, Ya Juan) Null sequences in systems of mappings. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 264–266. (Cong Xin Wu) **99m:46001** 46A03
— (*with* Li, Rong Lu; Qu, Wen Bo) A criterion for sequential spaces. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 215–218. (Summary) **99e:46010** 46A45
— (*with* Wei, Ziyi) The topological structure of subseries convergence. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 84–88. (E. Jürimäe) **99e:46011** 46A45 (40J05)
— (*with* Li, Rong Lu; Cheng, Wei[1]) Characterizations of a class of matrix transformations. (English summary) *Proyecciones* **17** (1998), *no.* 1, 1–11. (Jan H. Fourie) **99i:47051** 47B37 (40J05, 46A45)
Wu, Jung-Gen (*with* Yan, Wen-Ming; Chung, Kuo Liang) A parallel solver for circulant Toeplitz tridiagonal systems on hypercubes. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 4, 409–431. (Summary) **99b:65040** 65F10 (65Y05)
Wu, Jyh-Yang An obstruction to fundamental groups of positively Ricci curved manifolds. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 4, 371–382. (Igor Belegradek) **99d:53039** 53C23 (53C21)
Wu, K. H. Eden (*with* Wiens, Douglas P.; Zhou, Julie) On the trimmed mean and minimax-variance L-estimation in Kolmogorov neighbourhoods. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 231–238. (Mir Masoom Ali) **99i:62060** 62F35 (62C20)
Wu, Kang (*with* Yang, Bi Cheng) Some refinements of Franel's inequality. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 3, 5–8. (Summary) **99b:26042** 26D15
Wu, Ke[1] (*with* Cai, Jin-fang; Wang, Shi-kun; Zhao, Wei-zhong) Quantum affine superalgebra $U_q(\mathrm{gl}(\tilde{1}|1))$ and its Drinfeld realization. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 1, 1–2. (From the text) **99j:17017** 17B37 (81R50)
— (*with* Wang, Shi-kun) Differential calculus on quantum Lorentz group. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 4, 483–488. (Andrzej Sitarz) **99e:58016** 58B30 (17B37, 81R50)
— (*with* Ju, Guo-Xing; Cai, Jin-fang; Guo, Han-Ying; Wang, Shi-kun) Super-Yangian $Y(\mathrm{gl}(1|1))$ and its oscillator realization. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6155–6161. (Mariano A. del Olmo) **99a:81074** 81R50 (17B37)
— (*with* Ju, Guo-Xing; Wang, Shi-kun; Xiong, Chi) Boundary K matrices and the Lax pair for one-dimensional open XYZ spin-chain. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4213–4226. (Andrey V. Tsiganov) **99h:82013** 82B20 (82B23)
— (*with* Ju, Guo-Xing; Wang, Shi-kun) The algebraic structure of the $\mathrm{gl}(n|m)$ color Calogero-Sutherland models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2813–2820. (Kazuhiro Hikami) **99c:81281** 81V70 (17B37, 81R10)
— (*with* Cai, Jin-fang; Wang, Shi-kun; Zhao, Wei-zhong) Drinfel'd realization of quantum affine superalgebra $U_q(\mathrm{gl}(1|1))$. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1989–1994. (Jun'ichi Shiraishi) **99k:81106** 81R50 (17B37)
— (*with* Chang, Zhe; Guo, Han-Ying) The quantum Ashkin-Teller model with quantum group symmetry. (English summary) *J. Phys. A* **31** (1998), *no.* 27, *L*495–*L*499. (Summary) **99c:82024** 82B23 (81R50)
Wu, Ke Fa (*with* Cheng, Long Sheng; Huang, Zhi Tong) A new solution method for removing the effects of multicollinearities. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 113–119. (Summary) **99m:62096** 62J05 (62H12)
Wu, Ke Jian (*with* Le, Mao Hua) The primes in Smarandache power product sequences. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 95–96. 11B83
— (*with* Le, Mao Hua) A note on the primes in Smarandache unary sequence. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 97–98. 11B83
— (*with* Le, Mao Hua) On the perfect squares in Smarandache concatenated square sequence. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 100–101. 11B83
Wu, Ke-jian (*with* Sun, Che; Tang, Huai-min) The discontinuous-streamline diffusion method for first-order hyperbolic equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 35–44. (Summary) **99c:65185** 65M60
Wu, Kejian *see* **Wu, Ke Jian**
Wu, Kesheng (*with* Simon, Horst D.) Thick-restart Lanczos method for symmetric eigenvalue problems. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 43–55, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F15
— (*with* Saad, Youcef; Stathopoulos, Andreas) Inexact Newton preconditioning techniques for large symmetric eigenvalue problems. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 202–214 (*electronic*). (Summary) **99i:65042** 65F15
— (*with* Stathopoulos, Andreas; Saad, Youcef) Dynamic thick restarting of the Davidson, and the implicitly restarted Arnoldi methods. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 227–245 (*electronic*). (C. Ilioi) **99d:65135** 65F30
Wu, Kuang-Chong The elastic fields of a line force or dislocation in an anisotropic wedge. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 26-27, 3483–3495. (Summary) **99c:73012** 73B40
Wu, Kun-shan (*with* Liu, Hung-an) A production lot size inventory model for deteriorating items with inventory-level dependent demand and partial backordering. (English summary) *Tamsui Oxf. J. Math. Sci.* **14** (1998), 113–123. 90B05 (90A30)
Wu, L. *see* **Wu, Li Sheng**
Wu, L. X. (*with* Hsieh, D. Y.; Tang, Shaoqiang; Wang, Xiao Ping[1]) Dissipative nonlinear evolution equations and chaos. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 3, 233–266. (Summary) **99g:35133** 35Q99 (58F13, 58F39)
Wu, Lan-Cheng Signorini problem with small friction in a kind of elasticity-plasticity theory. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 5, 543–552. (Meir Shillor) **99d:73084** 73T05 (35Q72, 47H19, 49J40, 73E99, 73V25)
— (*with* Chen, Ya-Zhe) ★ Second order elliptic equations and elliptic systems. (English summary) Translated from the 1991 Chinese original by Bei Hu. Translations of Mathematical Monographs, 174. *American Mathematical Society, Providence, RI*, 1998. *xiv*+246 *pp. ISBN* 0-8218-0970-9 (Gary M. Lieberman) **99i:35016** 35Jxx (35–01)
Wu, Li De (*with* Zhu, Jun Mei; Yu, Jun) The visual perception and computation of global topological properties. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 601–608. 92J30 (68T05)

— (*with* Liang, Xue Bin; Yu, Jun) Segmenting and estimating multiple 3-D rigid motions from 2-D point correspondences. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 186–191. 93E10 (93C85)

— (*with* Liang, Xue Bin) New sufficient conditions for absolute stability of neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 584–586. (Summary) **99b:92004** 92B20

— (*with* Liang, Xue Bin) A comment on: "Comments on: 'Necessary and sufficient condition for absolute stability of neural networks'" [IEEE Trans. Circuits Systems I Fund. Theory Appl. **42** (1995), no. 8, 497–499; MR 96j:92005] by E. Kaszkurewicz and A. Bhaya. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 594. (Summary) **99g:92006** 92B20 (68T05, 90C35)

— (*with* Liang, Xue Bin) A simple proof of a necessary and sufficient condition for absolute stability of symmetric neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 1010–1011. (Summary) **99h:92003** 92B20

Wu, Li Sheng (*with* Bennett, Frank E.) Minimum matrix representation of Sperner systems. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 9–17. (Konrad Engel) **99a:05139** 05D05 (68P15)

Wu, Lih-Ing (*with* Chi, Chia-Wei; Hsu, Sze-Bi) On the asymmetric May-Leonard model of three competing species. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 211–226 (*electronic*). (H. A. DeKleine) **99i:92018** 92D25 (34C25)

Wu, Lizhong (*with* Xue, Xiao Ping[1]; Wang, Xiaomin[2]) On the convergence and representation of random fuzzy number integrals. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 115–125. (Summary) **99k:28028** 28E10 (46S40)

Wu, Long-long (*with* Wu, Shiau-Huei) A note on Freudenstein's theorem. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 1-2, 139–149. (Summary) **99f:70014** 70B15

Wu, Manli C. (*with* Huang, Norden E.; Shen, Zheng; Long, Steven R.; Shih, Hsing H.; Zheng, Quanan; Yen, Nai-Chyuan; Tung, Chi Chao; Liu, Henry H.) The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 903–995. (Summary) **99d:76082** 76M35 (62M10, 86–08)

Wu, Maokang (*with* Tong, Fu[2]; Miao, Huaikou) Some properties and theorems of belief logic. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 242–244. (David Makinson) **99c:03027** 03B45 (68T27)

Wu, Meng Da A recursive method for finding all the minimal solutions of a fuzzy relation equation. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 45–51. 04A72

— (*with* Cheng, Li Zhi; Zhang, Han Jiang) An efficient learning algorithm for max-min neural networks. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 34–39. 68T05

Wu, Min Jin (*with* Bai, Zhi Jiang) The relative entropy and its application. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 2, 28–35. 94A17 (62B10)

Wu, Min Sheng (*with* Wang, Jie Sheng; Liu, Shen Quan[1]) Permutation transforms of images. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 514–519. 68U10

Wu, Ming (*with* Peng, Jun Hao; Qin, Hong[2]) All E-admissible and G-admissible linear estimators of the common mean matrix parameter. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 4, 400–404. 62J05 (62C15)

Wu, Ming-Chya (*with* Huang, Ming-Chang) The Caldirola-Kanai model and its equivalent theories for a damped oscillator. (English summary) *Chinese J. Phys.* **36** (1998), *no.* 4, 566–587. (Summary) **99h:81032** 81Q05 (81Q15)

Wu, Nai Qi Deadlock avoidance in flexible manufacturing systems with multirouting. II. The control policy. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 2, 81–88. 93C83

Wu, Pei-Chi Multiplicative, congruential random-number generators with multiplier $\pm 2^{k1} \pm 2^{k2}$ and modulus $2^p - 1$. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 255–265. 65Y15

Wu, Pei Yuan (*with* Takahashi, Katsutoshi) Dilation to the unilateral shifts. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 101–113. (László Kérchy) **99h:47013** 47A20 (47A45)

— (*with* Gau, Hwa-Long) Numerical range of $S(\varphi)$. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 49–73. (Summary) **99i:47008** 47A12 (15A60, 47A20)

— (*with* Gau, Hwa-Long) Dilation to inflations of $S(\varphi)$. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 109–123. (Summary) **99j:47011** 47A20 (47A12)

Wu, Q. *see* **Wu, Qiong**

Wu, Q. H. *see* **Wu, Qing-He**

Wu, Qi Guang Existence conditions of the uniformly minimum risk unbiased estimators in extended growth curve models. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 101–114. (Dietrich von Rosen) **99g:62079** 62H12

— (*with* Feng, Tai) The existence of uniformly minimum risk unbiased estimators in growth curve models. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 68–77. (Tonghui T. Wang) **99h:62075** 62H12

— (*with* Zhang, Bo[1]) Existence of UMRE estimators in growth curve models. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 182–196. 62H12

— (*with* Noda, Kazuo) Admissibility and Γ-minimaxity of loss estimators in multivariate linear model. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 69–81. (Goetz Trenkler) **99c:62022** 62C15 (62H12)

Wu, Qin Kuan (*with* Mo, Jia Qi) A class of singular perturbation problems with nonlocal boundary conditions for semilinear elliptic equations. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 2, 283–288. (Summary) **99k:35016** 35B25 (35J60)

Wu, Qing-He (*with* Cao, Y. J.; Cheng, Shi Jie) An improved Lyapunov function for power system stability analysis. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 791–802. 93D05 (34D25)

— Computation of the stability radius of Hurwitz polynomials. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol.* (*Chin. Ed.*) **17** (1997), *no.* 3, 364–368. (*see* **99a:93004**) 93D05 (93B40)

— Computation of the stability radius of a Hurwitz polynomial with diamond-like uncertainties. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 45–60. (Takehiro Mori) **99f:93112** 93D09 (93B40)

Wu, Qing Lie (*with* Jiang, Xiao Gan; Xu, Nan Rong) A new method for large-scale multiobjective optimization with integer variables. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 1, 53–59. 90C10 (90C29)

Wu, Qiong (*with* Sepehri, N.; Thornton-Trump, A. B.) Lyapunov feedback control of base-excited inverted pendulums. (English summary) *Sci. Iran.* **3** (1996), *no.* 1-3, 21–32. 93B52 (70Q05)

— (*with* Thornton-Trump, A. B.; Sepehri, N.) Lyapunov stability control of inverted pendulums with general base point motion. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 801–818. (Summary) **99g:93061** 93D05 (70K20, 70Q05)

Wu, Quan Hua The fuzzy contraction principle. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 29–35. 54A40 (26E50, 54H25)

Wu, Quanyuan (*with* Wang, Kewen; Chen, Huo Wang) The least fixpoint transformation for disjunctive logic programs. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 193–201. (Summary) **99b:68038** 68N17

— (*with* Wang, Kewen; Chen, Huo Wang) Credulous argumentation with the disjunctive stable semantics. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 3, 330–336. (Summary) **99d:68047** 68N17 (03B70, 68Q55)

Wu, Rang Quan (*with* Guo, Zi Jun) A nonexplosion condition for solutions of stochastic differential equations with respect to semimartingales. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 123–125. 60H10 (60G48)

— (*with* Ding, Xiaodong) A new proof for comparison theorems for stochastic differential inequalities with respect to semimartingales. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 2, 155–171. (Ralf Manthey) **99j:60083** 60H10

Wu, Rong[1] (*with* Guo, Jun Yi) Super Brownian motion on the Sierpinski gasket with point catalytic medium. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 159–166, *World Sci. Publishing, River Edge, NJ*, 1997. (Ben Hambly) **99c:60188** 60J80 (60G57, 60J65)

— (*with* Guo, Jun Yi) The behavior of super-Brownian motion near extinction. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 467–470. (Summary) **99e:60190** 60J80 (60G17, 60J65)

— (*with* Ren, Yanxia) Properties of a supercritical superdiffusion and solutions of its corresponding differential equation. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 11, 908–911. (Ingemar Kaj) **99g:60143** 60J60 (60G57)

— (*with* Hong, Wen Ming) Intersection problems for OU-type processes with continuous trajectories. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 15–22. (Zhen-Qing Chen) **99k:60108** 60G17 (60J60)

Wu, Rongsheng (*with* Gu, Wei; Xu, Qin) Three-dimensional instability of nonlinear viscous symmetric circulations. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 20, 3148–3158. (Summary) **99f:76054** 76E20 (86A10)

Wu, Run Heng (*with* Mei, Feng Xiang) On the Lie symmetries of the nonholonomic mechanical systems. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 3, 229–235. (David Martín de Diego) **99a:70023** 70F25 (70H33, 70H35)

— (*with* Mei, Feng Xiang; Zhang, Yong Fa) Lie symmetries and conserved quantities of nonholonomic systems of non-Chetaev type. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 4, 468–474. (Haiping Zhu) **99k:70016** 70F25 (70G10, 70H33)

Wu, S. David (*with* Byeon, Eui-Seok; Storer, Robert H.) A graph-theoretic decomposition of the job shop scheduling problem to achieve scheduling robustness. (English summary) *Oper. Res.* **47** (1999), *no.* 1, 113–124. (Summary) **99m:90077** 90B22

Wu, S.-Y. *see* **Wu, Soon-Yi**

Wu, Shang-Teh On digital high-gain and sliding-mode control. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 65–83. 93B12 (93C57)

Wu, Shao Min (*with* Wu, Shuo Si) Reliability analysis of exponentially distributed mixed data from life testing with stepwise accelerated stress. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 118–123. (Summary) **99i:62240** 62N05

Wu, Shao Ping (*with* Yang, Hai Tao) Existence, uniqueness, and asymptotic properties of solutions to a class of semilinear elliptic equations on $\mathbf{R}^n$. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 4, 403–411. (Summary) **99a:35283** 35R60

— (*with* Yang, Hai Tao) The existence theorems for a class of sublinear elliptic equations in $\mathbf{R}^N$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 639. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 3, 295–304. (Summary) **99e:35055** 35J60 (35J20)

— (*with* Yang, Hai Tao) A note on homoclinic orbits for second order Hamiltonian system. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 251–262. (Addolorata Salvatore) **99k:58036** 58E05 (34C37, 58F05)

— (*with* Yang, Hai Tao) Bifurcations from homoclinic orbits for second order Hamiltonian system. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 47–52. (Addolorata Salvatore) **99a:58035** 58E05 (34C37, 58F05)

Wu, Shao-Po (*with* Vandenberghe, Lieven; Boyd, Stephen) Determinant maximization with linear matrix inequality constraints. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 499–533 (*electronic*). (Mei-Qin Chen) **99g:90086** 90C25 (65F30)

Wu, Sheng-chang (*with* Li, Chunwah; Liu, Xiao Qing[2]) Discretization of jump stochastic differential equations in terms of multiple stochastic integrals. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 375–384. (Summary) **99e:60123** 60H05 (60H10, 65U05)

Wu, Sheng Li Quadratic residues, primitive roots, and problems of Gallagher type concerning them. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 2, 105–108. (Shao Wei Zhang) **99g:11007** 11A07 (11L10)

Wu, Sheng Li Error limited histograms. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 704–712. 68P15

Wu, Sheng Miao (*with* Zhang, Jing Yi) A new way of obtaining the Møller transformation. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 5, 724–727. 83A05

Wu, Shengjian Moduli of quadrilaterals and extremal quasiconformal extensions of quasisymmetric functions. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 593–604. (Shan Shuang Yang) **99a:30028** 30C62

— (*with* Laine, Ilpo) Removable sets in the oscillation theory of complex differential equations. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 233–244. (Enid M. Steinbart) **99h:34004** 34A20 (30D35, 34C10)

— (*with* Essén, Matts) Fix-points and a normal family of analytic functions. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 171–178. (Summary) **99m:30069** 30D45

Wu, Shi Quan[1] (*with* Guo, Tiande) An extension of predictor-corrector algorithm to a class of convex separable program. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 4, 362–370. (Aurél Galántai) **99e:90067** 90C25

— (*with* Chen, Yang[2]; Marcotte, Patrice) A cutting plane method for linear bilevel programs. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 125–133. (Jane Juan-Juan Ye) **99f:90060** 90C05

Wu, Shi Quan[2] t-intersecting families of finite sequences with given rank. (English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 1, 59–68. (Martin Klazar) **99d:05084** 05D05

Wu, Shiau-Huei (*with* Wu, Long-Iong) A note on Freudenstein's theorem. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 1-2, 139–149. (Summary) **99f:70014** 70B15

Wu, Shin-Ting (*with* Andrade, Lenimar N.) Marching along a regular surface/surface intersection with circular steps. *Comput. Aided Geom. Design* **16** (1999), *no.* 4, 249–268. 65D17 (65Y25)

Wu, Shiquan *see* **Wu, Shi Quan[2]**

Wu, Shiying (*with* Liu, Jian[3]; Zidek, James V.) On segmented multivariate regression. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 497–525. (Yutaka Kano) **99b:62063** 62G05 (62H12, 62J99)

Wu, Shu-Fei (*with* Chen, Hubert J.) Multiple comparisons with the average for normal distributions. (English summary) MSI-2000, Vol. IV (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **18** (1998), *no.* 1-2, 193–218. (*see* **99f:62009**) 62J15

Wu, Shu-Shih Y. (*with* Cozzens, Margaret B.) Vertex-neighbor-integrity of powers of cycles. (English summary) *Ars Combin.* **48** (1998), 257–270. (Summary) **99b:05087** 05C38

Wu, Shuo Si (*with* Wu, Shao Min) Reliability analysis of exponentially distributed mixed data from life testing with stepwise accelerated stress. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 118–123. (Summary) **99i:62240** 62N05

Wu, Siye (*with* Zhang, Wei Ping[1]) Equivariant holomorphic Morse inequalities. III. Non-isolated fixed points. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 1, 149–178. (Summary) **99k:58172** 58G10 (58E05)

Wu, Soon-Yi (*with* Fang, Shu Cherng; Lin, Chih-Jen) Relaxed cutting plane method for solving linear semi-infinite programming problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 759–779. (Tian Xiong Han) **99k:90183** 90C34

— (*with* Lin, Chih-Jen; Fang, Shu Cherng) An unconstrained convex programming approach to linear semi-infinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 443–456 (*electronic*). (Levent Tunçel) **99f:90083** 90C26 (49N15)

— (*with* Fang, Shu Cherng; Hu, Cheng-Feng; Wang, Hsiao Fan) Linear programming with fuzzy coefficients in constraints. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 10, 63–76. 90C70 (90C05)

Wu, T. *see* **Wu, Tianhao**

Wu, Ta-Sun (*with* Sabbaghan, Masoud; Shirazi, Fatemah Ayatollahzadeh) a-minimal sets. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **2** (1997), *no.* 1, 1–12. (Summary) **99a:54027** 54H20

Wu, Tai Tsun (*with* Margetis, Dionisios; Fikioris, George; Myers, John M.) Highly directive current distributions: general theory. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2531–2547. (Summary) **99e:78025** 78A40

Wu, Tan (*with* Zou, Chang An; Che, Ke Jian) Global stability of a class of third-order nonlinear systems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 438–441. (Summary) **99b:34091** 34D20

Wu, Tao (*with* Jiang, Chuan Hai) Approximation by the superpositions of one function with its translation and dilation in $L^p(\mathbf{R}^d)$. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 94–97. (Summary) **99i:41014** 41A20 (41A30)

Wu, Theodore Yaotsu (*with* Shi, Aimin; Teng, Michelle H.) Propagation of solitary waves through significantly curved shallow water channels. (English summary) *J. Fluid Mech.* **362** (1998), 157–176. (Summary) **99c:76039** 76D33 (35Q35, 35Q51, 76B25)

— Nonlinear waves and solitons in water. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 48–63. (Shu Ming Sun) **99j:76017** 76B15 (35Q51, 35Q53, 76B45)

Wu, Tianhao (*with* Hutter, Kolumban; Svendsen, B.) On shear flow of a saturated ice-sediment mixture with thermodynamic equilibrium pressure and momentum exchange. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 71–88. (Summary) **99e:86014** 86A40 (73N20, 76A05)

Wu, Tie Jun (*with* Guo, Zhao Hui) A frequency domain approach to nonlinear H_∞ control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 333–340. 93B36 (93C80)

— (*with* Xi, Bin) A new method for the synthesis of fixed-order H_∞ controllers. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 3, 228–231. 93B36

Wu, Tong Qiang (*with* Zhu, Zuo Jin; Yuan, Xiao Ping; Chen, Yi Liang) Solution of the KdV-Burgers equation by the quasicharacteristic line method. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 4, 481–486. (Summary) **99b:65110** 65M25 (76B15, 76M25)

Wu, Tong Suo Endomorphism rings of regular modules. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 507–510. (Weimin Xue) **99e:16033** 16S50 (16E50)

— Characterizing the wsr1 condition by completions of diagrams. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 131–134. 16D40 (16E50)

Wu, Tsu-Chen (*with* Nishimoto, Katsuyuki) N-fractional calculus of some trigonometric functions. (English summary) *J. Fract. Calc.* **14** (1998), 83–94. 26A33

Wu, Tzong-Chen (*with* Lin, Tzuoh-Yi) Undeniable (t, n)-threshold signature scheme with cheater identification. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 6, 775–780. 94A60

Wu, Tzuyin Concerning unsteady boundary layers formulated in a non-inertial reference frame. (English summary) *Acta Mech.* **127** (1998), *no.* 1-4, 75–82. (Adrian Carabineanu) **99a:76042** 76D10 (76G25)

Wu, Wei *see* **Wu, Wei[7]**

Wu, Wei[1] (*with* Li, Rong Hua; Chen, Zhongying) A survey on generalized difference methods and their analysis. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 321–337, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 65N06 (65-02)

Wu, Wei[3] (*with* Song, Ling Chun; Lin, Meng Hai; Zhang, Qian Er) Program implementation of a new algorithm for computing matrices of standard orthogonal irreducible representations of symmetric groups. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 2, 209–216. (Summary) **99h:20017** 20C40 (20C30)

Wu, Wei[4] (*with* Davis, Richard Alan) Bootstrapping M-estimates in regression and autoregression with infinite variance. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1135–1154. (Somnath Datta) **99c:62249** 62M10 (62G09)

— (*with* Athreya, Krishna B.; Lahiri, Soumendra Nath) Inference for heavy tailed distributions. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 61–75. (Lajos Horváth) **99d:62027** 62G05 (62G30)

Wu, Wei[7] (*with* Chou, Yi-Shyong) A new systematic design of high-gain feedback for nonlinear systems with unmatched uncertainties. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1471–1489. 93C10 (93B52)

Wu, Weili (*with* Lin, Guo-Hui; Du, Ding Zhu; Yoo, Kyeongah) On 3-rate rearrangeability of Clos networks. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 315–333, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99e:94055** 94C10 (05C90, 90B12)

— (*with* Cao, Feng[1]; Du, Ding Zhu; Hsu, D. Frank; Hwang, Lihui) Super line-connectivity of consecutive-d digraphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 27–38. (A. Ádám) **99b:05071** 05C20 (05C40)

— (*with* Du, Xiufeng; Kelley, Dean F.) Approximations for subset interconnection designs. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 171–180. (Summary) **99h:68073** 68Q25 (68R10)

Wu, Wen Ling (*with* Wei, Hong Ru) The Ziv-Lempel complexity of finite sequences. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 88–92. (Summary) **99f:94008** 94A29 (94A60)

Wu, Xian[3] (*with* Zhang, Shi Sheng) Noncompact minimax theorems of Ben-El-Mechaiekh, Deguire and Grans type on interval spaces and their applications. (Chinese) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 473–477. 49J35 (90C48)

— (*with* Xu, Yuguang[1]) Section theorems of Ky Fan type in H-spaces with applications. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 211–220. (E. Tarafdar) **99f:54061** 54H25 (47H10, 47N10, 54C65)

— (*with* Xu, Yuguang[1]) Minimax inequality of Ky Fan type in H-spaces with applications. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 2, 239–248. (Summary) **99a:49015** 49J35 (47H10, 49K35)

— (*with* Xu, Yuguang[1]) Further generalizations of Browder's variational inequalities. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 251–256, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 49J45

— (*with* Zhang, Hong Bo) A new existence theorem of maximal elements in non-compact H-spaces with applications to minimax inequalities and variational inequalities. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 115–127. (Summary) **99d:49026** 49J40 (47H19, 54C60, 54H25)

— (*with* Shen, Zi Fei) On Ky Fan's minimax inequality. (Chinese. English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 4, 324–330. 49J35 (47H10)

— (*with* Xu, Yuguang[1]) A new generalization of Browder fixed point theorem with applications. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 2, 205–214. (Summary) **99k:47151** 47H10 (47H19, 49J35, 54H25)

— Existence theorems of solutions for generalized quasi-variational inequalities, a minimax theorem, and a section theorem in the spaces without linear structure. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 495–507. (Xie Ping Ding) **99b:47097** 47H19 (47H10, 49J40, 54C65, 54H25)

— (*with* Li, Feng) On Ky Fan's section theorem. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 112–121. (Salvatore Sessa) **99k:47181** 47H99 (47H10, 54H25)

— (*with* Xu, Yuguang[1]) A section theorem in interval space with applications. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 321–327. (A. Averna) **99h:49009** 49J35 (47H04, 47H10, 47N10, 54H25)

— (*with* Li, Feng) Approximate selection theorems in H-spaces with applications. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 118–132. (Summary) **99j:54044** 54H25 (47H04, 54C65)

Wu, Xiang[2] (*with* Yang, Ya Ping; Lin, Zhi Xin; Xie, Shuangyuan; Feng, Weiguo) q-phase-coherent states and their squeezing properties. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6441–6453. (Apostolos Vourdas) **99m:81093** 81R30

— (*with* Yang, Ya Ping; Xie, Shuangyuan; Feng, Weiguo) Statistics for q-commutator in the case of $q^{r+1} = 1$. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 879–886. (Roberto Casalbuoni) **99g:81100** 81R50 (81S05)

Wu, Xianghua (*with* Ayongga) Hamiltonicity locally connected G of $K_{1,s}$-free graphs. (English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 5, 38. (Summary) **99h:05078** 05C45

Wu, Xiangjun (*with* Sivalingam, Krishna M.; Wang, Jie[1]; Mishra, Manav) Improved on-line scheduling algorithms for optical WDM networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 43–61, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 68M10 (68M20, 90B12)

Wu, Xianwei L_2-theory for infinite particle systems with potentials. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 556–566, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99g:60194** 60K35 (60F25)

Wu, Xiao (*with* Shi, Zhong Kun; Lin, Jun; Wu, Jie Ru) Fitting surfaces to scattered data in space. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 78–82. 65D15 (90C90)

Wu, Xiao Hong An inquiry concerning the value of non-Euclidean geometry. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 2, 31–36. 00A30 (51M10)

Wu, Xiao-Hui (*with* Hou, Thomas Yizhao; Cai, Zhi Qiang) Convergence of a multiscale finite element method for elliptic problems with rapidly oscillating coefficients. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 913–943. (Larisa V. Maslovskaya) **99i:65126** 65N30 (65N12)

Wu, Xiao Jun² (*with* Shao, Jia-Yu) Finiteness conditions for generalized exponents of digraphs. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 453–464. (Xue Liang Li) **99j:05088** 05C20 (05C35)

Wu, Xiao Qing A development on approximation by monotone sequences of polynomials. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 4, 98–101. 41A10

— (*with* Wang, Yi; Zhong, Shou Ming) Robust stabilization of nonlinear systems with time delay. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 6, 652–655. 93D21 (34K35)

Wu, Xiao Wei (*with* Chen, Tianping) Characteristics of activation function in sigma-pi neural networks. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 639–644. (Summary) **99c:92007** 92B20

Wu, Xiaohua¹ (*with* Zhao, Yumin; Hsia, Yuanfu) Hardy's theorem for n spin-s particles in entanglement. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 1, 17–20. 81P99

— Local-realism violation in non-idealized experiment. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 3, 321–324. (Summary) **99k:81037** 81P15

Wu, Xiaojun *see* **Wu, Xiao Jun²**

Wu, Xiaonan (*with* Du, Qiang; Nicolaides, R. A.) Analysis and convergence of a covolume approximation of the Ginzburg-Landau model of superconductivity. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1049–1072 (*electronic*). (Hans-Peter Helfrich) **99e:65178** 65N99 (82D55)

Wu, Xiaowei *see* **Wu, Xiao Wei**

Wu, Xin Yuan (*with* Ouyang, Zi-xiang) On a quadrature formula with first derivative and its degree of accuracy. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **5** (1996), *no.* 2, 147–153. (Summary) **99a:65035** 65D32

— (*with* Ouyang, Zi-xiang) Applications of ODE methods. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 483–489, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 90C30 (65H10)

— Exponential iterative method of 2th order for solving nonlinear equation. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 367–370. 65L05

— (*with* Xia, Jian Lin) E-stability of solution methods for initial value problems of stiff ordinary differential equations. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 95–98. 65L20 (34A45, 65L05)

Wu, Xinwen (*with* Wan, Zhe-Xian) The weight hierarchies and generalized weight spectra of the projective codes from degenerate quadrics. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 223–243. (Mihai Caragiu) **99d:94040** 94B27 (94B60)

— (*with* Feng, Gui-Liang; Rao, T. R. N.) New double-byte error-correcting codes for memory systems. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1152–1163. (Summary) **99e:94041** 94B05 (94B15)

Wu, Xiongwei (*with* Xu, Wen Sheng; Chen, Shuping) An optimal investment/consumption problem with higher borrowing rate. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 68–76. (Summary) **99d:90021** 90A09

Wu, Xiu Hua k-strict convexity and k-smoothness of Orlicz function spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 23–27. 46E30 (46B20)

Wu, Xizhi (*with* Jiang, Jiancheng) Assessment of local influence on Cox's proportional hazards model. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 414–424. (Summary) **99i:62160** 62J12 (62F35, 62G05)

Wu, Y. *see* **Wu, Yadong**

Wu, Y. H. *see* **Wu, Yue Hua**

Wu, Ya (*with* Wang, Xue; Xiao, Ren Bin; Yang, Shu Zi) A method of knowledge acquisition based on granularity. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 3, 128–132, *XIII–XIV*. 68T05

Wu, Ya-Bo Parametric (anti-) self-dual variables and a related parametric Yang-Mills-like action in four-dimensional gravity. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2127–2134. (Gheorghe Zet) **99i:83047** 83C47 (81T13)

Wu, Ya-Dan (*with* Huang, Lan Jie) Runge-Kutta methods for differential algebraic equations in the numerical solution of the incompressible Navier-Stokes equations. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 277–286. (Summary) **99a:76123** 76M25 (34A09, 65L06, 76M20)

Wu, Ya Juan (*with* Wu, Jun De) Null sequences in systems of mappings. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 264–266. (Cong Xin Wu) **99m:46001** 46A03

Wu, Yadong (*with* Dawson, Donald A.) Multilevel multitype branching models of an information system. (English summary) *Classical and modern branching processes (Minneapolis, MN*, 1994), 57–72, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Klaus Fleischmann) **99g:60162** 60K20 (68M10)

Wu, Yanhong Sequential change point detection and estimation for multiple alternative hypothesis. *Systems modelling and optimization (Detroit, MI*, 1997), 345–353, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 62L15 (90B25)

Wu, Yao Hua¹ (*with* Zhao, Lin Cheng) Asymptotic efficiency of randomly weighted bootstrap for linear models. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 9, 711–712. (Summary) **99i:62100** 62G09 (62J05)

— (*with* Cheung, Siu Hung) The power function of the maximum Studentized range test in a two-way design. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 369–376. (Summary) **99f:62027** 62F03 (62K15)

Wu, Yaokun (*with* Li, Qiao) On the matrix equation $A^l + A^{l+k} = J_n$. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 41–48. (Tomaž Košir) **99c:15021** 15A24 (05C50)

Wu, Yaping Qualitative studies of solutions for some cross-diffusion systems. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai*, 1994), 177–187, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:35059** 35K55

— (*with* Lou, Yuan; Ni, Wei-Ming) On the global existence of a cross-diffusion system. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 193–203. (Alexander L. Gladkov) **99f:35089** 35K57 (92D25)

Wu, Yi-Yen Recent progress in weakly-coupled heterotic string phenomenology. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 197–203. (*see* **99b:81006**) 81T30 (81V22)

— (*with* Ho, Pei-Ming; Wu, Yong Shi¹) Towards a noncommutative geometric approach to matrix compactification. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026006, 12 *pp.* (Summary) **99m:81191** 81T30 (58B30)

Wu, Ying-Qing Dehn surgery on arborescent knots and links—a survey. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 671–679. (From the summary) **99e:57021** 57M25

— Sutured manifold hierarchies, essential laminations, and Dehn surgery. *J. Differential Geom.* **48** (1998), *no.* 3, 407–437. (Sadayoshi Kojima) **99h:57043** 57N10 (57M50)

— Dehn surgery on arborescent links. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2275–2294. (L. Neuwirth) **99i:57024** 57M25 (57M50, 57N10)

Wu, Yong (*with* Ouyang, Shou Cheng; Wang, Yong Zhong; Li, Chao) The "rebel travelling" of general nonlinear evolutional equation and discussion on related problems. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 2, 179–189; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 165–173 (*Chinese. English and Chinese summaries*). (Sergey L. Gavrilyuk) **99e:35228** 35Q99 (34A05, 34C99, 35B40)

Wu, Yong-Hong (*with* Hill, James M.; Shi, Jingyu; Tordesillas, Antoinette) The velocity field for the punch problem for dilatant granular materials. (English summary) *Quart. J. Mech. Appl. Math.* **52** (1999), *no.* 1, 99–110. 73E99

Wu, Yong-Hui (*with* Ding, Xia Xi) Finite-dimensional asymptotic behavior of solutions to the Navier-Stokes equations with linear damping on the whole plane. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 509–520. (Summary) **99c:35184** 35Q30 (34G20, 35B40, 47H20, 76D05)

— (*with* Guo, Bo Ling) Global attractor and its dimension estimates for the generalized dissipative KdV equation on **R**. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 252–259. (Piotr Biler) **99h:35186** 35Q53 (35B40, 58F39)

— (*with* Mu, Mu) A remark on the nonlinearly symmetric stability criteria. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 12, 1050–1053. (Summary) **99i:86014** 86A10 (76E20, 76E30)

— (*with* Mu, Mu; Vladimirov, Vsevolod A.) Energy-Casimir and energy-Lagrange methods in the study of nonlinear symmetric stability problems. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 3, 400–411. (Summary) **99j:76043** 76E20 (76E30, 76U05, 86A10)

— (*with* Mu, Mu) Nonlinear instability of dipole vortices and the atmospheric blocking. (English summary) *Progr. Natur. Sci. (English Ed.)* **9** (1999), *no.* 3, 234–237. (Summary) **99m:86014** 86A10

Wu, Yong Shi¹ (*with* Hatsugai, Yasuhiro; Kohmoto, Mahito; Koma, Tohru) Mutual exclusion statistics in the exactly solvable model of the Mott metal-insulator transition. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin*, 1995), 126–133, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82D35 (81V70)

— (*with* Hatsugai, Yasuhiro; Kohmoto, Mahito) Quantum group and the Hofstadter problem—explicit solutions of the Bethe ansatz equations for Bloch electrons in a magnetic field. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin*, 1995), 134–141, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20 (81R50)

— (*with* Yu, Yue) Bosonization based on Bethe ansatz equations and proof of the conformal conjecture. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin*, 1995), 340–350, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23 (81V70)

— Fractional exclusion statistics and generalized ideal gases. (English summary) *Topics in theoretical physics (Sorak Mountain Resort*, 1995), 27–59, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:82008** 82B10 (81S05)

— (*with* Ho, Pei-Ming; Li, Miao¹) p-p' strings in M(atrix) theory. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 146–162. (Marco Spaans) **99f:81163** 81T30 (83E30)

— (*with* Ho, Pei-Ming; Wu, Yi-Yen) Towards a noncommutative geometric approach to matrix compactification. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026006, 12 *pp.* (Summary) **99m:81191** 81T30 (58B30)

— (*with* Ho, Pei-Ming) Noncommutative gauge theories in matrix theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066003, 6 *pp.* (Summary) **99k:81242** 81T30 (81T13)

Wu, Yong-Tang (*with* Zhu, Si-Ming; Shi, Qiyan) Lax representations for Dirac soliton hierarchy. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 74–78. (Valery V. Obukhov) **99e:35193** 35Q51 (35Q40, 58F07)

— (*with* Geng, Xian-Guo) A new hierarchy of integrable differential-difference equations and Darboux transformation. (English summary) *J. Phys. A* **31** (1998), *no.* 38, *L677–L684*. (Summary) **99e:35230** 35Q99 (35R10, 58F37)

— (*with* Hu, Xing-Biao; Zhu, Si-Ming; Geng, Xian-Guo) Some new results on the triple-humped soliton equation: Bäcklund transformation, superposition principle and new explicit solutions. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8859–8868. 35Q51 (35C99, 58F37)

— (*with* Hu, Xing-Biao) Some new results on a highly nonlinear differential-difference equation. *J. Phys. Soc. Japan* **67** (1998), *no.* 10, 3645–3646. 35R10 (35Q58)

— (*with* Hu, Xing-Biao) A new integrable differential-difference system and its explicit solutions. (English summary) *J. Phys. A* **32** (1999), *no.* 8, 1515–1521. 35R10 (34K99, 35Q99, 39A10)

— (*with* Geng, Xian-Guo; Cao, Cewen) Quasi-periodic solutions of the modified Kadomtsev-Petviashvili equation. (English summary) *J. Phys. A* **32** (1999), *no.* 20, 3733–3742. 35Q53 (35B15, 58F39)

Wu, You Lin (*with* Meng, Guang Da; Ma, Guang Wen; Zhang, Guo Min) Quantum decoherence and gravity. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 2, 40–54. (Summary) **99m:81040** 81P99 (83C99)

Wu, Yougui (*with* Xu, Wenyuan; Du, Jinguan; Li, Yuan[2]) The stationarity and spectral representation of one class of non-negative integer-valued time series. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 2, 185–192. (Summary) **99c:62268** 62M10

— (*with* Xu, Wenyuan; Du, Jinguan; Li, Yuan[2]) The strong law of large number and parameter estimation of one class of non-negative integer-valued time series. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 3, 225–233. (Summary) **99h:62120** 62M10 (60F15)

Wu, Yu-Fen Groups in which commutativity is a transitive relation. (English summary) *J. Algebra* **207** (1998), *no.* 1, 165–181. (Dennis Spellman) **99f:20065** 20F50 (20B10, 20D10, 20E25)

Wu, Yu Jiang Remarks on nonlinear Galerkin method for Kuramoto-Sivashinsky equation. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 10, 1005–1013; *translated from Appl. Math. Mech.* **18** (1997), *no.* 10, 937–945 (*Chinese. English and Chinese summaries*). (Zhangxin Chen) **99c:65170** 65M12 (65M60)

— (*with* Yang, Zhong Hua[1]; Guo, Ben Yu) Computation of nonlinear Galerkin methods with variable modes for 2-D K-S equations. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 545–563, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65178** 65M99

Wu, Yu Nan Characterizations of super efficiency in vector optimization with generalized cone-subconvexlikeness. (English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 5, 592–599. (Lúcio Tunes dos Santos) **99g:90114** 90C29

— (*with* Rong, Wei Dong) Benson's proper efficient solutions of nondifferentiable B-convex multiobjective programming problems. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 6, 768–773. (Zun Quan Xia) **99f:90113** 90C29 (90C30)

— (*with* Rong, Wei Dong) Characterizations of super efficiency in cone-convexlike vector optimization with set-valued maps. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 247–258. (Jörg Thierfelder) **99m:90126** 90C29 (26E25, 90C48)

Wu, Yue Hua (*with* Chen, Xi Ru; Zhao, Lin Cheng) A necessary condition for the consistency of LAD estimate. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 158. *Acta Math. Sinica* (*N.S.*) **12** (1996), *no.* 3, 292–297. (Zhi-Dong Bai) **99a:62090** 62J05 (62F10, 62G20)

— (*with* Bai, Zhi-Dong; Rao, Calyampudi Radhakrishna) Robust inference in multivariate linear regression using difference of two convex functions as the discrepancy measure. *Robust inference*, 1–19, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35 (62J05)

Wu, Yueqin (*with* Zhang, Lichun; Zhao, Ren) Quantum thermal effect of nonstatic charged black hole. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 665–673. 83C57

Wu, Yumei (*with* Wang, Anzhong) Generalized Vaidya solutions. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 107–114. (Pankaj S. Joshi) **99j:83017** 83C15

Wu, Yun Hua Hopf bifurcations of a three-species ecosystem (the giant panda and two species of bamboo). (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 5, 27–34. (Summary) **99b:92060** 92D40 (34C23)

— A necessary and sufficient condition for the existence of a unique singular point in one class of ecosystems. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 38–41. (Summary) **99d:92049** 92D40 (34C05)

— (*with* Yuan, Xiao Feng; Liu, Shi Ze) Hopf bifurcations in a class of three-dimensional ecological dynamical systems. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 70–77. (Summary) **99b:92061** 92D40 (34C23)

Wu, Yung-Chao (*with* Hsu, Hu-Hsiao) Numerical solution for the second-order wave interaction with porous structures. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 265–288. (Summary) **99i:76119** 76M25 (76B15, 76S05)

Wu, Yunhai (*with* Cai, Xiao-Chuan; Keyes, David E.) Additive Schwarz methods for hyperbolic equations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 468–476, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65M55 (65F10, 65N30)

Wu, Yuqiang (*with* Yu, Xing-Huo) Adaptive terminal sliding mode control of uncertain nonlinear systems—backstepping approach. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 900–907. 93B12 (93C10)

— (*with* Yu, Xing-Huo; Man, Zhihong) Terminal sliding mode control design for uncertain dynamic systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 281–287. (Summary) **99e:93015** 93B12 (93B05)

Wu, Z. *see* **Wu, Zhou[2]**

Wu, Z.-L. *see* **Morozov, Igor B., 99b:86002**

Wu, Ze Min (*with* Lai, Wan Cai) Quasisymmetric boundary correspondence and Grötzsch problem. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 12, 992–994. 30C62

— (*with* Lai, Wan Cai) Quasisymmetric boundary correspondences and Grötzsch's problem. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 7, 704–706. 30C62

Wu, Zhang *see* **Zhang, Wu**

Wu, Zhao Rong Some properties of frames in Hilbert space. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 4, 19–21. 46C05 (46B15)

— (*with* Zhu, Li Qin) Existence and uniqueness of solutions to a singular linear system $E\dot{x} = Ax$. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 64–67. 34A09 (34A30)

Wu, Zhaoyang On extremal connectivity properties of unavoidable matroids. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 19–45. (Laura Bertani) **99j:05049** 05B35

Wu, Zhen Adapted solutions of forward-backward stochastic differential equations and their parameter dependence. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 55–62; *translation in Chinese J. Contemp. Math.* **19** (1998), *no.* 1, 9–18. (Summary) **99j:60088** 60H10

— Maximum principle for optimal control problem of fully coupled forward-backward stochastic systems. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 249–259. (B. I. Anan'ev) **99i:49029** 49K45 (60H10)

— (*with* Peng, Shige) Fully coupled forward-backward stochastic differential equations and applications to optimal control. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 3, 825–843. (Vivek S. Borkar) **99m:49043** 49K45 (60H10, 93E20)

Wu, Zhen De (*with* Wang, Yan Ying; Ding, Yan Hong) Commuting involutions with fixed point set of constant codimension. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 6, 1149–1154. 57S15

Wu, Zhen Dong The idempotents of semigroup rings. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 212–215. 20M25 (16S36)

Wu, Zheng Sheng (*with* Zhou, Xing He) Hamilton-connected graphs involving distances. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 1, 1–9. (Summary) **99a:05096** 05C45 (05C12)

— (*with* Liu, Yiping; Tian, Feng[1]) Sequences concerning Hamiltonicity of graphs. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 1, 19–28, 34. (Prabir Das) **99c:05126** 05C45

— (*with* Xu, Xin Ping; Zhou, Xing He) The neighborhood intersections of essential sets and Hamiltonicity of graphs. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 230–237. (Akira Saito) **99k:05104** 05C45 (05C38)

Wu, Zheng Xing[2] (*with* Chen, Sheng Tao; Chen, Shui-Li) Uryson closedness in lattice fuzzy topological spaces. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 65–67. 54A40

Wu, Zhi Bin The application of d'Alembert's method to systems with variable mass. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 51–53. 70P05 (70H35)

Wu, Zhi Gang (*with* Wang, Ben Li; Ma, Xing Rui) Theory and method of optimal control solution to dynamic system parameters identification. I. Fundamental concept and deterministic system parameters identification. *Appl. Math. Mech.* (*English Ed.*) **20** (1999), *no.* 2, 135–142; *translated from Appl. Math. Mech.* **20** (1999), *no.* 2, 127–133 (*Chinese. English and Chinese summaries*). 49N55 (93B30)

Wu, Zhi Jian[1] (*with* Li, Chun[2]; McIntosh, Alan G. R.; Zhang, Ke Wei[1]) Compensated compactness, paracommutators, and Hardy spaces. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 289–306. (Loukas Grafakos) **99c:42038** 42B30 (46E15)

— (*with* Li, Chun[2]) Hankel operators on Clifford valued Bergman space. (English summary) *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 143–155, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Rochberg) **99a:47038** 47B35 (30G35, 32A37)

— (*with* Yang, Li Ming) Multipliers between Dirichlet spaces. *Integral Equations Operator Theory* **32** (1998), *no.* 4, 482–492. (Oscar Blasco) **99j:47048** 47B38 (31C25, 46E15)

— (*with* Yang, Li Ming) The codimension-1 property in Bergman spaces over planar regions. *Michigan Math. J.* **45** (1998), *no.* 2, 369–373. (Kristian Seip) **99g:46025** 46E15 (47A15, 47B38)

Wu, Zhi Long Elementary proofs of Routh's criterion. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 5, 507–512. 93D05 (93C05)

Wu, Zhi Qiang (*with* Hu, Hai Yan) Calculating normal forms for nonsemisimple bifurcations. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 4, 423–433. (Zhong-Hua Yang) **99k:58166** 58F36 (34C20, 34C23)

Wu, Zhi Xiang (*with* Xu, Yong Hua[1]) Rings whose injective hulls are cogenerators. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 217–227. (Susan Williamson) **99b:16035** 16P20 (16D40, 16D50, 16D70)

— (*with* Wang, Ming Yi) Some characterizations of QF-rings. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 379–384. (Shi Zhong Pan) **99i:16040** 16L60 (16D50)

— (*with* Xia, Qiaoling) Decompositions of comodules. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1385–1392. (Mitsuhiro Takeuchi) **99b:16064** 16W30

— (*with* Xia, Qiaoling) Structure of injective comodules. (English summary) *Progr. Natur. Sci.* (*English Ed.*) **8** (1998), *no.* 3, 269–273. (Sorin Dăscălescu) **99g:16054** 16W30

Wu, Zhijian *see* **Wu, Zhi Jian[1]**

Wu, Zhong Chao Quantum black hole. I, II. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 6, 859–871, 873–880. (Summary) **99d:83069** 83C57 (83C45)

— A proposal of testing imaginary time in a total reflection. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 5, 501–504. 83B05 (83A05, 83C45)

— Pair creation of Schwarzschild–anti-de Sitter black holes. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 2, 223–231. (Summary) **99k:83090** 83C57

— Pair creation of black holes in anti-de Sitter space background. (English summary) *Phys. Lett. B* **445** (1999), *no.* 3-4, 274–278. (Summary) **99k:83091** 83C57

Wu, Zhou[2] (*with* Tan, Kok-Keong) A note on abstract economies with upper semicontinuous correspondence. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 21–22. (Summary) **99m:90041** 90A14

— A note on fixed point theorems for semi-continuous correspondences on [0, 1]. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3061–3064. (V. V. Obukhovskiĭ) **99a:54029** 54H25 (47H04, 47H10, 47N10, 90D05)

Wu, Zhuoqun (*with* Yuan, Hong Jun; Yin, Jingxue) Some properties of solutions for a system of dynamics of biological groups. *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1389–1403. (From the introduction) **99h:35097** 35K55 (35D05, 35Q80, 92D25)

— (*with* Yin, Jingxue) Correction to: "Some properties of functions in BV_x and their applications to the uniqueness of solutions for degenerate quasilinear parabolic equations" [Northeast. Math. J. **5** (1989), no. 4, 395–422; MR 91j:35153]. *Northeast. Math. J.* **14** (1998), *no.* 1, 126. 35K65 (46E15)

Wu, Zong Min Generalized Bochner's theorem for radial function. (English summary) *Approx. Theory Appl.* (*N.S.*) **13** (1997), *no.* 3, 47–57. (Sarjoo Prasad Yadav) **99k:42002** 42A05 (41A30, 46E99)

— Radial basis representations of functions. (Chinese. English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 3, 202–208. 41–02 (41A30)

— (*with* Chen, Ya Ya) Lipschitz constant-diminishing interpolation for scattered data. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on

Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 9–14. (*see* **99k:65006**) 65D17 (65D15)
— Solving differential equations with radial basis functions. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 537–543, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99i:65131** 65N35 (35A35, 65L60, 65M60)
Wu, Zuo-Bing (*with* Zeng, Jin Yan) Extension of Bertrand's theorem and factorization of the radial Schrödinger equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5253–5259. (Géza Lévai) **99g:81040** 81Q05 (70F05, 70H33)
Wu, Zuyu (*with* Zhang, Dehai) Exact solutions of the matrix KP equation. (English summary) *Commun. Theor. Phys.* (*Beijing*) **28** (1997), *no.* 4, 479–482. (Summary) **99c:58085** 58F07 (35C05, 35Q53)
Wuensche, Andrew Classifying cellular automata automatically: finding gliders, filtering, and relating space-time patterns, attractor basins, and the Z parameter. (English summary) *Complexity* **4** (1999), *no.* 3, 47–66. 58F08 (68Q80)
Wulan, Hasi The distribution of the values of α-normal functions. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 371–378. (Summary) **99b:30049** 30D35
— (*with* Lou, Zeng Jian) Multiplier transformations of mixed norm spaces on bounded symmetric domains. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 439–444. (Summary) **99k:32009** 32A37 (32A35, 32M15, 46E30)
— On some classes of meromorphic functions. Dissertation, University of Joensun, Joensun, 1998. *Ann. Acad. Sci. Fenn. Math. Diss. No.* 116 (1998), *ii*+57 *pp.* (P. Lappan) **99k:30059** 30D45 (30D50)
— A problem for analytic functions of bounded and vanishing mean oscillation. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 293–299. (Maria T. Nowak) **99e:30026** 30D50
— Some problems on normal and little normal functions. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 3, 301–309. (Summary) **99m:30072** 30D45
— Mixed norm space of pluriharmonic functions. (English summary) *Math. Slovaca* **48** (1998), *no.* 1, 27–33. (A. Yu. Rashkovskiĭ) **99f:32008** 32A37 (32M15)
Wulbert, Daniel Interpolation at a few points. (English summary) *J. Approx. Theory* **96** (1999), *no.* 1, 139–148. (Alexey R. Alimov) **99k:41005** 41A05
Wulf, P. (*with* Egbers, C.; Rath, H. J.) Routes to chaos in wide-gap spherical Couette flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 6, 1359–1372. 76–05 (76E99)
Wulff, Christopher R. (*with* Shih, Ching-Cheng; Hartmann, Carlos R. P.; Mohan, Chilukuri K.) Efficient heuristic search algorithms for soft-decision decoding of linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3023–3038. (Summary) **99i:94067** 94B05 (94B35)
Wulff, Claudia (*with* Sandstede, Björn; Scheel, Arnd) Dynamics of spiral waves on unbounded domains using center-manifold reductions. (English summary) *J. Differential Equations* **141** (1997), *no.* 1, 122–149. (P. W. Bates) **99d:34114** 34G20 (35K57, 47H20, 58F15, 58F39)
Wulfsohn, Aubrey Measure diffusions and related explosion problems. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 6, 1145–1154. (S. Ramasubramanian) **99i:60103** 60G57 (60H15)
Wulkenhaar, Raimar (*with* Matthes, Rainer; Rudolph, Gerd) Graded Lie algebras with derivation and model building. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 149–158, *World Sci. Publishing, River Edge, NJ*, 1996. (Florian Scheck) **99f:58021** 58B30 (17B70, 81V22)
— Graded differential Lie algebras and model building. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 3-4, 305–325. (Bruno Iochum) **99a:58014** 58B30 (81T13, 81V22)
— Gauge theories with graded differential Lie algebras. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 787–794. (Jacek Brodzki) **99m:58026** 58B30 (17B70, 81T13, 81V22)
Wunderlich, W. (*with* Cramer, H.; Steinl, G.) An adaptive finite element approach in associated and non-associated plasticity considering localization phenomena. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 293–308, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73E99)
Wunner, Günter (*with* Main, Jörg; Mandelshtam, Vladimir A.; Taylor, Howard S.) Harmonic inversion as a general method for periodic orbit quantization. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1015–1035. (Roberto Artuso) **99f:81053** 81Q20 (11M06, 11Z05, 81Q50)
Wunsch, Scott Simple passive scalar advection-diffusion model. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5757–5764. (Summary) **99f:76076** 76F99
Wünsche, Alfred Laguerre 2D-functions and their application in quantum optics. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8267–8287. (Apostolos Vourdas) **99j:81064** 81R30 (33C45, 81V80)
— (*with* Vourdas, A.) Resolutions of the identity in terms of line integrals of SU(1, 1) coherent states. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9341–9352. (Summary) **99h:81077** 81R30
Wurtele, J. S. (*with* Backhaus, E. Yu.; Fajans, J.) Application of contour dynamics to systems with cylindrical boundaries. *J. Comput. Phys.* **145** (1998), *no.* 1, 462–468. 76M25 (76X05)
— (*with* Backhaus, E. Yu.; Fajans, J.) Stability of highly asymmetric non-neutral plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 19–30. 76E25 (76X05)
Würtz, Jörg Constraint-based scheduling in Oz. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 218–223, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35
Wurzbacher, Tilmann The Pfaffian line bundle and the Spin$'$-group in infinite dimensions via states on C^*-algebras. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 43–52, *World Sci. Publishing, River Edge, NJ*, 1996. (Edwin Langmann) **99f:58010** 58B25 (46L60, 46L87, 58G26, 81T05)
— (*with* Gosselin, Pierre) A stochastic approach to the Virasoro anomaly in quantization of strings in flat space. (English summary) *Tr. Mat. Inst. Steklova* **217** (1997), *Prostran. Petel' i Gruppy Diffeomorf.*, 235–257. (Edwin Langmann) **99h:81198** 81T50 (17B66, 58B25, 58F06, 81R10)
— (*with* Spera, Mauro) Determinants, Pfaffians and quasi-free representations of the CAR algebra. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 5, 705–721. (H. Araki) **99m:58016** 58B25 (46L60, 46L87, 58G26, 81S05)
— (*with* Gosselin, Pierre) Letter to the editors: "A stochastic approach to the Virasoro anomaly in quantization of strings in flat space" [Tr. Mat. Inst. Steklova **217** (1997), Prostran. Petel' i Gruppy Diffeomorf., 235–257; MR 99h:81198]. (Russian) *Tr. Mat. Inst. Steklova* **221** (1998), 320. 81T50 (17B66, 58B25, 58F06, 81R10)
Wußing, Hans *see* **Surveys on mathematics**, **99a:00018** *and* **Surveys of mathematics**, **99d:00011**
Wüstner, Michael On the exponential function of real splittable and real semisimple Lie groups. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 37–46. (Alexander Isaakovich Shtern) **99d:20076** 20G20 (22E15)
— (*with* Hazod, W.; Hofmann, Karl H.; Scheffler, Hans-Peter; Zeuner, Hansmartin) Normalizers of compact subgroups, the existence of commuting automorphisms, and applications to operator semistable measures. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 189–209. (Aleksy Tralle) **99j:22008** 22E15 (22E30, 60B15)
— Exponential Lie groups with disconnected near Cartan subgroups. *J. Lie Theory* **8** (1998), *no.* 2, 399–400. 22E20
— On the surjectivity of the exponential function of solvable Lie groups. (English summary) *Math. Nachr.* **192** (1998), 255–266. (Joachim Hilgert) **99h:22008** 22E25 (17B30)
the Wutam Consortium *see* **The Wutam Consortium**
Wüthrich, Mario V. Fluctuation results for Brownian motion in a Poissonian potential. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 3, 279–308. (Ingemar Kaj) **99h:60154** 60J65 (60K35)
— Superdiffusive behavior of two-dimensional Brownian motion in a Poissonian potential. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1000–1015. (Anton Bovier) **99h:60169** 60K35 (82B44)
— Scaling identity for crossing Brownian motion in a Poissonian potential. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 3, 299–319. (Alexander Veretennikov) **99k:60209** 60J65 (60K40, 82D30)
Wuyts, P. (*with* Lowen, Robert; Verschoren, Alain) Stable subconstructs of FTS. III. Exotic cases. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 371–380. (Summary) **99h:54010** 54A40
Wybourne, Brian G. (*with* Thibon, Jean-Yves; Toumazet, Frédéric) Symmetrized squares and cubes of the fundamental unirreps of Sp(2n, **R**). (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1073–1086. (Veena Sharma) **99h:22020** 22E46 (20G05, 22E30, 81R05)
Wybraniec-Skardowska, Urszula (*with* Bonikowski, Zbigniew; Bryniarski, Edward) Extensions and intentions in the rough set theory. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 149–167. (Janusz J. Szuster) **99f:04003** 04A72
— Logical and philosophical ideas in certain formal approaches to language. (English summary) *Synthese* **116** (1998), *no.* 2, 231–277. 03B65
Wyckoff, Peter S. (*with* Najm, Habib N.; Knio, Omar M.) A semi-implicit numerical scheme for reacting flow. I. Stiff chemistry. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 381–402. (Summary) **99b:80002** 80–08 (76M20, 80A32)
Wyderka, Zdzisław Periodic solutions of linear differential equations with measures as coefficients. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 199–214 (1997). (B. B. Pakholok) **99a:34022** 34A30 (34A37, 34C25)
Wydro, Tomasz (*with* McCabe, John Francis) Critical correlations of the two-dimensional, three-state Potts model. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 6, 1013–1029. (Takeo Kojima) **99j:82032** 82B27 (81T40, 82B20)
Wygnanski, I. (*with* Neuendorf, R.) On a turbulent wall jet flowing over a circular cylinder. (English summary) *J. Fluid Mech.* **381** (1999), 1–25. 76–05 (76D25, 76F99)
Wygralak, Maciej Vagueness and its representations: a unifying look. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 121–131. (Summary) **99c:03076** 03E72 (68T30)
— Questions of cardinality of finite fuzzy sets. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 185–210. (Summary) **99k:03045** 03E72
van Wyk, Leon The comatched near-ring determined by a commutative principal ideal ring. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 117–135. (Stefan Veldsman) **99i:16083** 16Y30
— Good ideals in blocked triangular matrix rings over division rings. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 75–83 (1998). (John Hannah) **99g:16037** 16S50 (16E50)
— (*with* Smith, Kirby C.) On finite abelian centraliser near-rings and their associated matrix rings. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 175–192. (Silvia Pellegrini) **99i:16082** 16Y30 (16S50)
— (*with* Kelarev, Andrei V.; van der Merwe, Andries B.) The minimum number of idempotent generators of an upper triangular matrix algebra. (English summary) *J. Algebra* **205** (1998), *no.* 2, 605–616. (John Hannah) **99g:16036** 16S50 (16S15)
— (*with* Dăscălescu, Sorin) Complete blocked triangular matrix rings over a Noetherian ring. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 65–68. (Summary) **99i:16054** 16S50
— (*with* Smith, Kirby C.) Generalized blocked triangular matrix rings associated with finite abelian centralizer near-rings. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 177–195. (Summary) **99a:16024** 16S50 (16Y30)
— (*with* Smith, Kirby C.) Solution of the $\mathcal{J}_2$-radical problem in structural matrix near-rings. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 137–145. (G. Betsch) **99g:16060** 16Y30 (16N20)
van Wyk, Leonard *see* **Van Wyk, Leonard**
van Wyk, M. A. (*with* Steeb, Willi-Hans) ★ Chaos in electronics. (English summary) Mathematical Modelling: Theory and Applications, 2. *Kluwer Academic Publishers, Dordrecht*, 1997. xii+481 *pp. ISBN* 0-7923-4576-2 (François Aribaud) **99e:94004** 94A05 (34C15, 58F13, 58F40, 93D15, 94–02, 94C05)
— (*with* Steeb, Willi-Hans; Stoop, R.) Chaotic maps, control parameter, and Liapunov exponent. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 10, 2653–2655. 58F13
Wyllard, Niclas Generalized $N = 2$ supersymmetric Toda field theories. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 461–476. (Summary) **99a:81060** 81R10 (81T40, 81T60)
— (*with* Berglund, Per; Henningson, Måns) Special geometry and automorphic forms. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 256–276. (Summary) **99f:81145** 81T30 (11F55, 53C80)

— The heterotic prepotential from eleven dimensions. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 9, 21 *pp.* (*electronic*). (Summary) **99e:81216** 81T30 (83E30)

Wyner, Aaron D. (*with* Shamai, Shlomo) Information-theoretic considerations for symmetric, cellular, multiple-access fading channels. I. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1877–1894. (N. C. Mohanty) **99b:94003** 94A05 (90B12)

— (*with* Shamai, Shlomo) Information-theoretic considerations for symmetric, cellular, multiple-access fading channels. II. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1895–1911. (N. C. Mohanty) **99b:94004** 94A05 (90B12)

— (*with* Ziv, Jacob; Wyner, Abraham J.) On the role of pattern matching in information theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2045–2056. (Summary) **99h:94036** 94A29 (94A17)

Wyner, Abraham J. The redundancy and distribution of the phrase lengths of the fixed-database Lempel-Ziv algorithm. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1452–1464. (William R. Nico) **99b:94019** 94A29 (60K99, 68P20, 94A15, 94A17)

— (*with* Kontoyiannis, Ioannis; Algoet, P. H.; Sukhov, Yu. M.) Nonparametric entropy estimation for stationary processes and random fields, with applications to English text. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1319–1327. (Summary) **99c:94015** 94A29 (62G05, 68P99, 92K20)

— (*with* Wyner, Aaron D.; Ziv, Jacob) On the role of pattern matching in information theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2045–2056. (Summary) **99h:94036** 94A29 (94A17)

Wynn, Henry P. (*with* Naiman, Daniel Q.) Abstract tubes, improved inclusion-exclusion identities and inequalities and importance sampling. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 1954–1983. (Summary) **99h:60034** 60E15 (60D05, 62F05, 62J05)

— (*with* Riccomagno, Eva; Schwabe, Rainer) Lattice-based *D*-optimum design for Fourier regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2313–2327. (Ewaryst Rafajłowicz) **99c:62210** 62K05

— (*with* Sebastiani, Paola) Risk based optimal designs. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 247–257, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05 (62C10)

— (*with* Bates, R. A.; Riccomagno, Eva; Schwabe, Rainer) Lattices and dual lattices in optimal experimental design for Fourier models. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 3, 283–296. 62K05

— (*with* Pronzato, Luc; Zhiglyavskiĭ, A. A.) A generalized golden-section algorithm for line search. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 2, 185–214. (Summary) **99c:90125** 90C30 (65K05)

— *see also* **MODA 5—advances in model-oriented data analysis and experimental design, 99f:62008**

Wynter, Thomas (*with* Kostov, Ivan K.; Staudacher, Matthias) Complex matrix models and statistics of branched coverings of 2D surfaces. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 283–298. (Vasily A. Chernecky) **99h:81193** 81T40 (30F10, 32B25, 81T25, 81T27)

— Anomalies and large N limits in matrix string theory. (English summary) *Phys. Lett. B* **439** (1998), *no.* 1-2, 37–45. (Summary) **99g:81192** 81T30 (81T50)

Wypasek, Christian J. (*with* Butera, Jeffrey V.; Fitzpatrick, Ben G.) Dispersion modeling and simulation in subsurface contaminant transport. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1183–1197. (Summary) **99h:86006** 86A05 (76S05, 86–08, 93A30)

Wysocka, Beata (*with* Bertram-Kretzberg, Claudia; Lefmann, Hanno; Rödl, Vojtěch) Proper bounded edge-colorings (extended abstract). (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 121–130, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 05C15

Wysocki, K. (*with* Hofer, Helmut H. W.; Zehnder, E.) Correction to: "Properties of pseudoholomorphic curves in symplectisations. I. Asymptotics" [Ann. Inst. H. Poincaré Anal. Non Linéaire **13** (1996), no. 3, 337–379; MR 97e:58029]. (English summary) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 4, 535–538. (Summary) **99e:58026** 58D10 (58F05)

— (*with* Hofer, Helmut H. W.; Zehnder, E.) The dynamics on three-dimensional strictly convex energy surfaces. (English summary) *Ann. of Math.* (2) **148** (1998), *no.* 1, 197–289. (Matthias Schwarz) **99m:58089** 58F05 (58D10, 58F22)

Wysotzki, Fritz (*with* Geibel, Peter) A logical framework for graph theoretical decision tree learning. (English summary) *Inductive logic programming* (*Prague*, 1997), 173–180, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)

Wyss, Walter (*with* Barut, Asim Orhan) The energy-momentum tensor for electromagnetic interactions. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 699–715. (Summary) **99h:78011** 78A25 (81R20)

Wytrzyszczak, Iwona (*with* Métris, Gilles; Xu, Jin) Derivatives of the gravity potential with respect to rectangular coordinates. (English summary) *Celestial Mech. Dynam. Astronom.* **71** (1998/99), *no.* 2, 137–151. (Summary) **99j:70017** 70F15 (31B15, 70–08)

Wyvill, Brian Animation and special effects. *Introduction to implicit surfaces*, 242–269, *Morgan Kaufmann Ser. Comput. Graph. Geom. Model., Morgan Kaufmann, San Francisco, CA*, 1997. (*see* **99i:00008**) 00A69 (65Y25)

Wyvill, Geoff Ray tracing implicit surfaces. *Introduction to implicit surfaces*, 166–195, *Morgan Kaufmann Ser. Comput. Graph. Geom. Model., Morgan Kaufmann, San Francisco, CA*, 1997. (*see* **99i:00008**) 00A69 (65Y25, 68U05)

Wyzinski, Henry L. (*with* Miller, Harry I.; Schnitzer, Franz Josef) On a result of M. Kuczma. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 207–212. (Elżbieta Wagner) **99c:28003** 28A05 (39B05)

–X–

Xambó-Descamps, Sebastian ★ Using intersection theory. (Spanish summary) Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 7. *Sociedad Matemática Mexicana, México*, 1996. *ii*+122 *pp. ISBN* 968-36-4804-5 (Paolo Aluffi) **99j:14005** 14C17 (14M15, 14N10)

— (*with* Marquès Solé, Daniel) Mathematical symbolic systems and functional languages. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics (Tarragona*, 1998), 175–192, *Univ. Rovira Virgili, Tarragona*, 1998. (Summary) **99d:94045** 94B99 (68Q40)

— (*with* Conte, Alberto) Fernando Serrano (1957–1997). Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 135–148. (Editors) **99m:01050** 01A70

Xanthis, Leonidas S. (*with* Chleboun, Jan) The method of arbitrary lines in optimal shape design: problems with an elliptic state equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 1-2, 1–22. (Gabriel Dimitriu) **99f:49065** 49Q10 (65N40, 73K40)

— (*with* Ovchinnikov, E. È.) The discrete Korn's type inequality in subspaces and iterative methods for thin elastic structures. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 1-2, 23–37. (Summary) **99d:73033** 73C99 (73K15, 73K99, 73V05)

— (*with* Ovchinnikov, E. È.) Iterative subspace correction methods for thin elastic structures and Korn's type inequality in subspaces. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2023–2039. (Summary) **99f:73087** 73V20 (73C99, 73Kxx)

Xanthopulos, Zaharias (*with* Melachrinoudis, Emanuel) A maximum L_p distance problem. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 650–671. (Gerard Sierksma) **99d:90042** 90B05 (51M16, 52A40)

Xavier, Ademir Luis, Jr. (*with* Grossmann, Frank) From the coherent state path integral to a semiclassical initial value representation of the quantum mechanical propagator. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 243–248. (Summary) **99b:81091** 81R30 (81Q20, 81S40)

Xavier, C. (*with* Lourdusamy, A.) Pebbling number in graphs. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 73–79. (Aparna Higgins) **99g:05175** 05C99

— (*with* Iyengar, S. S.) ★ Introduction to parallel algorithms. (English summary) Wiley Series on Parallel and Distributed Computing. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xvi*+365 *pp. ISBN* 0-471-25182-8 (Julian Padget) **99k:68073** 68Q22 (68–01, 68M05, 68Q05)

Xavier, D. Antony (*with* Jose, Magie; Santiago, M. L.) Open mapping theorem in fuzzy normed spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 1009–1013. (Athanasios K. Katsaras) **99k:46008** 46A30 (46B99, 46S40)

Xavier de Mendonça Neto, Candido Ferreira (*with* Faria, Luerbio; de Figueiredo, Celina Miraglia Herrera) The splitting number of the 4-cube. (English summary) *LATIN'98: theoretical informatics (Campinas*, 1998), 141–150, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:68122** 68R10 (05C85)

Xenophontos, Christos A. (*with* Schwab, Christoph; Suri, Manil) The *hp* finite element method for problems in mechanics with boundary layers. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 311–333. (Summary) **99f:73083** 73V05 (76M10)

— The *hp* finite element method for singularly perturbed problems in smooth domains. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 299–326. (Roger Pierre) **99m:65223** 65N30

— The *hp* finite element method for singularly perturbed problems in nonsmooth domains. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 1, 63–89. (Pieter W. Hemker) **99m:65224** 65N30 (35B25, 65N50)

Xenos, Philippos J. (*with* Gouli-Andreou, Florence) Some remarks on 3-dimensional contact Riemannian manifolds. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki*, 1995), 151–154, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (*see* **99e:53001**) 53C15

— On *H*-structure manifolds. II. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki*, 1994), 143–146, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (V. Oproiu) **99j:53033** 53C15 (53C25)

— (*with* Gouli-Andreou, Florence) On 3-dimensional contact metric manifolds with $\nabla_\xi \tau = 0$. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 154–165. (Fernando Etayo Gordejuela) **99e:53035** 53C15

— (*with* Gouli-Andreou, Florence) On a class of 3-dimensional contact metric manifolds. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 64–75. (David Blair) **99k:53091** 53C25 (53C15)

— (*with* Gouli-Andreou, Florence) Two classes of conformally flat contact metric 3-manifolds. (English summary) *J. Geom.* **64** (1999), *no.* 1-2, 80–88. (Angela Farinola) **99m:53054** 53C15 (53C25)

Xepapadeas, Anastasios Optimal resource development and irreversibilities: cooperative and noncooperative solutions. (English summary) *Natur. Resource Modeling* **11** (1998), *no.* 4, 357–378. 90A30 (90D40)

Xhafa, Fatos (*with* Serna, Maria José; Trevisan, Luca) The (parallel) approximability of non-Boolean satisfiability problems and restricted integer programming. (English summary) *STACS* 98 (*Paris*, 1998), 488–498, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 90C10 (90C27)

— (*with* Trevisan, Luca) The parallel complexity of positive linear programming. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 4, 527–533. (Klaus Meer) **99m:90161** 90C60 (90C05)

Xi, Bin (*with* Wu, Tie Jun) A new method for the synthesis of fixed-order H_∞ controllers. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 3, 228–231. 93B36

Xi, Changchang (*with* Deng, Bangming) On Δ-good module categories of quasi-hereditary algebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 5, 666. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 4, 467–480. (Karin Erdmann) **99b:16015** 16G10 (16G20)

— (*with* Deng, Bangming) A necessary condition for the finiteness of Δ-good module categories. *Chinese Sci. Bull.* **42** (1997), *no.* 17, 1416–1420. (D. Zacharia) **99f:16016** 16G60 (16G20)

— (*with* König, Steffen) Strong symmetry defined by twisting modules, applied to quasi-hereditary algebras with triangular decomposition and vanishing radical cube. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 427–441. (Richard M. Green) **99h:16028** 16G20

Xi, Chuan Zhi An application of positive matrices to the evaluation of some *n*-fold integrals. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 462–464, 493. 26B15 (15A48)

Xi, F. F. (*with* Zhou, Yu Bo) Exact kinematic analysis of the general 5R robot. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 1-2, 175–184. (Summary) **99f:70015** 70B15

Xi, Fu Bao Small random perturbations of one-dimensional diffusion processes. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 199–204. (Summary) **99b:60131** 60J60

— A note on the jump numbers of *Q*-processes. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 187–190. 60J27

Xi, Guang Cheng Abstract neural automata. (English summary) *Kybernetes* **27** (1998), *no.* 1, 4, 81–86. 68T05

— Abstract neural automata—further considerations. (English summary) *Kybernetes* **27** (1998), *no.* 2, 117, 176–181. 68T05

Xi, Hong Jian (*with* Zeng, Fan Ping) On Lorenz maps of the interval. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 939–946. (Gong Fu Liao) **99b:58084** 58F03

— (*with* Zeng, Fan Ping) Partial Lyapunov stability and partial Lipschitz stability in flows. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 413–418. (L. Janos) **99e:58147** 58F25 (34C35, 34D20, 54H20, 58F10)

— (*with* Zeng, Fan Ping; Luo, Zhi Ming) A note on Hillam's iteration scheme. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 2, 125–127. 58F08 (26A18, 58F03)

Xi, Hongwei Towards automated termination proofs through "freezing". (English summary) *Rewriting techniques and applications (Tsukuba*, 1998), 271–285, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68Q42

Xi, Li Feng Necessary and sufficient conditions for completeness of the Hutchison metric. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 437–444. (Summary) **99m:28011** 28A33

Xi, Li Qun (*with* Chen, Gang[3]) Substitution sequences, the strongly nil property and chaos. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 179–182. 16Y99 (58F13)

Xi, Mei Cheng (*with* Chen, Zhi Bing; Chen, Xiao Qun; Zhang, Ming[6]; Feng, Yu Yu) The blossoming method for studying the dimension of a bivariate spline space. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 64–78. (Summary) **99m:41052** 41A65 (65D07)

— (*with* Deng, Jian Song; Feng, Yu Yu) The dimension of the spline space $S_8^4(\Delta ms)$ over a Morgan-Scott partition. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 91–98. (*see* **99k:65006**) 41A15 (65D07)

— (*with* Chen, Xiao Qun; Li, Xu Qiang; Feng, Yu Yu) The dimensionality of natural spline spaces. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 4, 377–383. 41A15 (65D07)

— (*with* Chen, Zhi Bing; Deng, Jian Song) The dimension of the spline space $S_6^3(\Delta_{ms})$ for the Morgen-Scott partition. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 5, 505–512. 65D17

Xi, Ning (*with* Tarn, Tzyh Jong) Event-based planning and control for robotic systems: theory and implementation. (English summary) *Essays on mathematical robotics (Minneapolis, MN*, 1993), 31–59, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99g:93056** 93C85 (70B15, 70Q05)

Xi, Ou Gen Nil radicals of weaker Γ_N-rings. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 105–109. 16Y99 (16N80)

Xi, Ping (*with* Jing, Ling; Tang, Rong Xi) Application of the finite element method in deformable curve and surface modeling. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 245–251. 65D17 (65N30)

Xi, Sheng Feng The development of a procedure for least squares fitting of experimental data using orthogonal polynomials. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **13** (1996), *no.* 5, 20–26. 65D10 (65T20)

Xi, Shitong (*with* Huang, Jianguo) On the finite volume element method for general self-adjoint elliptic problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1762–1774 (*electronic*). (Shuzi Zhou) **99g:65104** 65N15

Xi, Yu Geng (*with* Wu, Guo Hua[1]; Zhang, Zhong Jun) Robust controller design based on simplified triangular model. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 319–325. (Summary) **99a:93044** 93B51 (93D09)

— (*with* Chen, Jian-Qin; Zhang, Zhong Jun) A clustering algorithm for fuzzy model identification. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 319–329. 93C41 (93B30)

— (*with* Qin, Bin; Shi, Song Jiao) H_∞ output feedback robust stabilization for nonlinear systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 6, 78–82. 93D21 (93B36)

— (*with* Gu, Hanyu) Sensitivity analysis based objective coordination of constrained multi-objective multi-degree-of-freedom optimization. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 6, 592–599. (Stephan Dempe) **99m:90139** 90C31 (90C20)

Xia, Aihua (*with* Brown, Timothy C.; Hamza, Kais) On the variance to mean ratio for random variables from Markov chains and point processes. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 303–312. (M. Iosifescu) **99f:60134** 60J27 (60E15, 60G55)

Xia, Bi Can (*with* Chen, Min) An explicit criterion for the number of roots of a polynomial in an interval. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 317–322. (Guang Xing Zeng) **99k:12001** 12D10 (68Q40)

Xia, Chuan Wu (*with* Tian, Shen; Liu, Xing Quan) The uniformly normal structure of Orlicz sequence spaces l_M^0 with Orlicz norm. (Chinese. English and Chinese summaries)

Heilongjiang Daxue Ziran Kexue Xuebao **13** (1996), *no.* 2, 22–27. (Bor-Luh Lin) **99f:46028** 46B45 (46E30)

Xia, Da Feng (*with* Xu, Sen Lin) Fixed points of continuous self-maps under a contractive condition. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 81–84. 54H25

— (*with* Xu, Sen Lin) The Nielsen number of a vector field. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 83–85. (Summary) **99m:55002** 55M20 (57R25)

Xia, Daoxing (*with* Zheng, De Chao) Products of Hankel operators. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 339–363. (From the introduction) **99i:47049** 47B35

Xia, Hong Qiang Exponential dichotomy and invariant manifolds. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 2, 200–205. (Wei Nian Zhang) **99g:34097** 34C30 (34C11, 34D05)

— Initial-boundary value problems for the KdV-KSV equation. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 116–121. 35Q53

Xia, Huaxing (*with* He, Xue-zhong; Ruan, Shi Gui) Global stability in chemostat-type equations with distributed delays. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 681–696 (*electronic*). (Hassan El-Owaidy) **99d:92027** 92D25 (34K20, 45J05)

Xia, Jack Zhijie *see* **Holmberg, Ulf**

Xia, Jian (*with* Yang, Zuo Sheng; Sun, Shao Peng) An oscillation-free finite element scheme without free parameters. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 4, 391–403. 65M60

Xia, Jian Guo Equivariant self-equivalences of principal fibre bundles. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 109–116. (Summary) **99a:55014** 55R91

— The four triangle buildings over GF(2). (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 3, 9–11. 51E24

Xia, Jian Guo Finite M-SCABS and buildings. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 6, 649–651. 20E42

Xia, Jian Lin (*with* Wu, Xin Yuan) *E*-stability of solution methods for initial value problems of stiff ordinary differential equations. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 95–98. 65L20 (34A45, 65L05)

Xia, Jianguo *see* **Xia, Jian Guo**

Xia, Jingbo Diagonalization modulo norm ideals with Lipschitz estimates. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 2, 491–526. (Hari Bercovici) **99g:47037** 47A99 (46E99, 47A30, 47A55, 47A66, 47B99)

— (*with* Muhly, Paul S.) Reduction of Calderón commutators. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 1, 67–72. (Steen Pedersen) **99a:42007** 42B20 (45E10, 45P05, 47B35, 47G10)

— An analogue of the Kato-Rosenblum theorem for commuting tuples of self-adjoint operators. (English summary) *Comm. Math. Phys.* **198** (1998), *no.* 1, 187–197. (Alexei V. Rybkin) **99k:47029** 47A55

— C^*-algebras of singular integral operators and Toeplitz operators associated with measure-preserving transformations. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 487–502. (Andreĭ V. Lebedev) **99c:47068** 47D25 (28D15, 46L99, 47B35, 47G10)

— An estimate of the ground state energy of the fractional quantum Hall effect. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 150–155. (Deng Feng Wang) **99i:81273** 81V70

— On the contribution of the Coulomb singularity of arbitrary charge to the Dirac Hamiltonian. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1989–2023. (Vladimir Georgescu) **99h:81044** 81Q10 (35P05, 35Q40, 47F05, 47N50)

Xia, Jun (*with* Lu, Jun An; Chen, Shi Hua[3]; Zhan, Gui Bao) Self-memory numerical forecasting for solving dynamical systems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 11–14. 65D15 (65L06)

Xia, Qiaoling (*with* Wu, Zhi Xiang) Decompositions of comodules. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1385–1392. (Mitsuhiro Takeuchi) **99b:16064** 16W30

— (*with* Wu, Zhi Xiang) Structure of injective comodules. (English summary) *Progr. Natur. Sci.* (*English Ed.*) **8** (1998), *no.* 3, 269–273. (Sorin Dăscălescu) **99g:16054** 16W30

Xia, Qinglan (*with* Xu, Sen Lin) Conformal deformation of a close Riemannian submanifold to minimal submanifold. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 109–115. (Man Chun Leung) **99h:53079** 53C40 (53C42)

Xia, Shao Wei (*with* Ma, Feng; Tong, Xin; Tang, Ze Sheng) An SOM-PNN classifier for probabilistic segmentation and visualization of volume data. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 9, 819–824. 68T10

Xia, Shu Tao (*with* Fu, Fang Wei) Nonperiodic cyclic equivalence classes of cyclic codes and algebraic constructions of cyclically permutable codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 341–352, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99e:94046** 94B15

— (*with* Fu, Fang Wei; Yang, Yi Xian) Period distribution of generalized B-J codes and constructions of cyclically permutable (CP) codes. *Chinese Sci. Bull.* **42** (1997), *no.* 14, 1222–1227. (From the text) **99a:94052** 94B15

— (*with* Fu, Fang Wei) Binary nonlinear 2-weight codes for error detection. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 415–422. (Summary) **99m:94067** 94B60

Xia, X. *see* **Xia, Xiao Hua**

Xia, Xiang-Gen (*with* Nashed, M. Zuhair) A method with error estimates for band-limited signal extrapolation from inaccurate data. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1641–1661. (Summary) **99c:94010** 94A12 (42C10)

— Orthonormal matrix valued wavelets and matrix Karhunen-Loève expansion. (English summary) *Wavelets, multiwavelets, and their applications* (*San Diego, CA*, 1997), 159–175, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:42075** 42C15 (46E99, 46N30, 94A12)

— Smooth local sinusoidal bases on two-dimensional L-shaped regions. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 1, 53–66. (Summary) **99f:42071** 42C15 (42A10, 42A16)

Xia, Xiao Hua (*with* Zeitz, M.) On nonlinear continuous observers. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 943–954. 93B07 (93C10)

— (*with* Sun, Zhen Dong) A sufficient condition for the nonlinear Morgan problem. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 433–438. 93B17 (93C10)

Xia, Xue Wen Some properties of solution processes of a linear random system during wavelet change. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 6, 31–34. 60H10 (42C15)

Xia, Yingcun Bias-corrected confidence bands in nonparametric regression. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 797–811. (Summary) **99e:62063** 62G05 (62G15)

Xia, Yining Yagita invariant of mapping class groups at the prime 2. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 91–97. (Jon F. Carlson) **99g:20096** 20J05

Xia, Z. H. *see* **Xia, Zhong Hang**

Xia, Z. Q. *see* **Xia, Zun Quan**

Xia, Zhihong (*with* Liao, Xinhao; Saari, Donald G.) Instability and diffusion in the elliptic restricted three-body problem. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 1, 23–39. (Ugo Locatelli) **99m:70007** 70F07 (58F05, 70H05, 70K20)

— Arnold diffusion: a variational construction. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 867–877 (*electronic*). (Mikhail B. Sevryuk) **99g:58112** 58F27 (58F15, 58F30)

Xia, Zhong Hang (*with* Zhang, Li Wei) A simplified trust region method with projection and convergence. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 385–394. (Summary) **99b:90126** 90C30

— (*with* Chan, G. H.; Choo, E. U.) The critical cut-off value approach for dynamic lot sizing problems with time varying cost parameters. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 179–188. 90B80 (90C27)

Xia, Zun Quan (*with* Spedicato, Emilio; Zhang, Li Wei) The implicit LX method of the ABS class. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 99–110. (Summary) **99a:90128** 90C05 (65F30)

— (*with* Lin, Gui-Hua; Feng, En Min) Some improved convergence results for pseudo-monotone variational inequalities. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 339–346. (Muhammad Aslam Noor) **99k:49024** 49J40 (47H19, 90C33)

— (*with* Spedicato, Emilio; Zhang, Li Wei; Mirnia, K.) ABS algorithms for linear equations and applications to optimization. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 291–319, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F30 (65K05)

— (*with* Meng, Fan Wen; Gao, Yan[1]) Second-order directional derivatives for max-type functions. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 6, 621–624. 49J52 (49J50, 49K35)

Xian, Zhang *see* **Zhang, Xian[2]**

Xiang, Anny Hui (*with* Langholz, Bryan) Comparison of case-control to full cohort analyses under model misspecification. (English summary) *Biometrika* **86** (1999), *no.* 1, 221–226. (Summary) **99m:62157** 62P10

Xiang, Jumin (*with* Qian, Jian Guo) Some properties of a class of interchange graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 486. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 455–462. (Summary) **99m:05110** 05C50

Xiang, Kaili (*with* Zhang, Jian Jun) Explicit two-step high-accuracy hybrid methods with minimal phase-lag for $y'' = f(x, y)$ and their application to the one-dimensional Schrödinger equation. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 1–11. 65L05

Xiang, Niandi (*with* Sagher, Yoram) Limits of sequences of operators on spaces of vector valued functions. (English summary) Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 959–970. (Oscar Blasco) **99c:42034** 42B25 (46E40)

Xiang, Qing Difference families from lines and half lines. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 395–400. (Otokar Grošek) **99h:05014** 05B10

— On balanced binary sequences with two-level autocorrelation functions. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3153–3156. 94A55

— On reversible abelian Hadamard difference sets. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 409–416. (Summary) **99f:05018** 05B10 (05B20, 20K01)

— (*with* Feng, Keqin; Shiue, Peter Jau-Shyong) On aperiodic and periodic complementary binary sequences. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 296–303. (Summary) **99m:94026** 94A55

Xiang, Shu Huang (*with* You, Zhao Yong) Weak block diagonally dominant matrices, weak block H-matrix and their applications. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 263–274. (Ronald L. Smith) **99j:15034** 15A57 (15A48)

— (*with* Xiang, Shu Wen) Estimations about the spectral radius of $M^{-1}N$ with column sums. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 86–89. 15A42

Xiang, Shu Wen A fixed-point theorem for set-valued mappings in H-spaces. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 3, 311–314. 54H25

— (*with* Xiang, Shu Huang) Estimations about the spectral radius of $M^{-1}N$ with column sums. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 86–89. 15A42

Xiang, Xin Min (*with* Zhang, Fa Yong) The global error estimate of the pseudospectral method for a class of generalized Zakharov equations. I. (English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 1–6. (Summary) **99e:65138** 65M70 (65M15)

— (*with* Zhang, Fa Yong) The global error estimate of the pseudospectral method for a class of generalized Zakharov equations. II. (English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 3, 1–7. (Summary) **99e:65139** 65M70 (65M15)

— The long-time behavior of spectral approximate solutions to a nonlinear Schrödinger equation with weak damping. (Chinese. English and Chinese summaries) *Gaoxiao*

Yingyong Shuxue Xuebao Ser. A **13** (1998), *no.* 3, 267–274. (Summary) **99f:35197** 35Q55 (35B40, 35J10)

— The large time convergence of spectral method for generalized Kuramoto-Sivashinsky equation. II. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 203–212. (G. Albinus) **99j:65178** 65M70 (35B40, 65M12)

— (*with* Chen, An Le) The large-time behaviour of a fully discrete Fourier pseudospectral method for higher-dimensional generalized Kuramoto-Sivashinsky type equations. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 1–10. (Summary) **99h:65176** 65M70

Xiang, Y. *see* **Xiang, Yang[1]**

Xiang, Yang Structural methods in functional analysis. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **17** (1998), *no.* 5, 16–22. 46–01

Xiang, Yang[1] Verification of DAG structures in cooperative belief network-based multiagent systems. (English summary) *Networks* **31** (1998), *no.* 3, 183–191. (Summary) **99c:68238** 68T30

Xiang, Yu Zhang (*with* Cai, Qi Fu; Gao, Xi Ling; Ge, Ji Chuan) A second-order finite volume method for the 2D shallow water equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 18–22. 76M20 (76B15)

Xiang, Zheng Rong (*with* Hu, Wei Li; Guo, Zhi) Feedback linearization of discrete-time nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 746–749. 93B18 (93C55)

Xiao, Ai Ling Constrained optimal policies for a continuous time discounted Markov decision process model. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 103–109. (Han Sheng Wu) **99j:90110** 90C40 (60K20)

— A linear programming algorithm for CMDP discounted models with constraints. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 92–97. 90C40 (90C08)

Xiao, Chengshan (*with* Hill, David J.) Generalizations and new proof of the discrete-time positive real lemma and bounded real lemma. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 6, 740–743. 93B36

Xiao, Cui E A stability analysis of Runge-Kutta methods for multidelay differential equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 114–117. 65L06 (65L20)

— Numerical stability of systems of linear delay differential equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 2, 5–7. 65L20

Xiao, Deyun (*with* Li, Weihua) Sliding window delta operator-based adaptive lattice filters. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 610–614. 93E10 (93E11)

Xiao, Dongmei (*with* Li, Wen Xia) The dimensions of self-similar sets. *J. Math. Soc. Japan* **50** (1998), *no.* 4, 789–799. (Andreas Schief) **99f:28009** 28A78 (28A80)

— (*with* Ruan, Shi Gui) Bogdanov-Takens bifurcations in predator-prey systems with constant rate harvesting. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 493–506, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:92032** 92D40 (34C23, 58F40)

Xiao, Feng[3] (*with* Wang, Ding Guo; Lu, Jie Qing) The Maschke theorem for Hopf comodule coalgebras. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 1–4. (Fang Li) **99k:16088** 16W30

Xiao, Fuliang (*with* Thorne, Richard M.; Summers, Danny) Instability of electromagnetic R-mode waves in a relativistic plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2489–2497. (Summary) **99b:76039** 76E25 (76X05, 76Y05, 85A30, 86A10)

Xiao, Gongfu (*with* Li, Xianyi; Tang, Heng Sheng; Liu, Yachun) A conjecture by G. Ladas. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 39–44. (Michail G. Blizorukov) **99e:39029** 39A10

Xiao, Guo Neng (*with* Yuan, Ping Zhi) A theorem on the representation of prime powers. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 6, 18–20. (Hong Bing Yu) **99k:11056** 11E25

Xiao, Guo Zhen[1] (*with* Feng, Dengguo; Pei, Ding Yi) Maximum correlation analysis of nonlinear combining functions. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 1, 31–36. (Summary) **99e:94054** 94C10 (06E30)

Xiao, Heng A unified theory of representations for scalar-, vector- and second order tensor-valued anisotropic functions of vectors and second order tensors. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 6, 995–1039. (Maurizio Vianello) **99c:73013** 73B40 (15A72, 73B05, 73B10)

— On constitutive equations of Cauchy elastic solids: all kinds of crystals and quasicrystals. (English summary) *J. Elasticity* **48** (1997), *no.* 3, 241–283. (Summary) **99a:73005** 73B05 (20H15, 73B40)

— On symmetries and anisotropies of classical and micropolar linear elasticities: a new method based upon a complex vector basis and some systematic results. (English summary) *J. Elasticity* **49** (1997/98), *no.* 2, 129–162. (Maurizio Vianello) **99e:73007** 73B10 (73B25, 73B40, 73C02)

— On anisotropic functions of vectors and second order tensors—all subgroups of the transverse isotropy group $C_{\infty h}$. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 2, 281–319. (Maurizio Vianello) **99i:73014** 73B40 (73B05, 73B10)

— (*with* Bruhns, Otto Timme; Meyers, Albert Thomas Marie) On symmetric tensor-valued isotropic functions of a symmetric tensor and a skewsymmetric tensor and related transversely isotropic functions. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 4, 731–741. (Summary) **99j:73005** 73B10 (73B40)

— (*with* Bruhns, Otto Timme; Meyers, Albert Thomas Marie) On objective corotational rates and their defining spin tensors. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 30, 4001–4014. (Summary) **99f:73022** 73B99 (73C99)

— (*with* Bruhns, Otto Timme; Meyers, Albert Thomas Marie) Strain rates and material spins. (English summary) *J. Elasticity* **52** (1998), *no.* 1, 1–41. (Summary) **99m:73021** 73C50 (73B05, 73B99)

— (*with* Bruhns, Otto Timme; Meyers, Albert Thomas Marie) Direct relationship between the Lagrangean logarithmic strain and the Lagrangean stretching and the Lagrangean Kirchhoff stress. *Mech. Res. Comm.* **25** (1998), *no.* 1, 59–67. (P. Villaggio) **99b:73003** 73B05

— On scalar, vector- and second-order tensor-valued anisotropic functions of vectors and second-order tensors relative to all kinds of subgroups of the transverse isotropy group $C_{\infty h}$. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1749, 3087–3122. (Paolo Biscari) **99m:73003** 73B10 (20H20, 82D25)

— (*with* Bruhns, Otto Timme; Meyers, Albert Thomas Marie) On representations of yield functions for crystals, quasicrystals and transversely isotropic solids. (English summary) *Eur. J. Mech. A Solids* **18** (1999), *no.* 1, 47–67. (Summary) **99j:73049** 73E05 (73B40)

Xiao, Hong[2] (*with* Qi, Guo Qiang; Li, Xue Chen) Oscillations and asymptotic properties of higher-order neutral functional-differential equations. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 2, 12–18. (Yi Zhong Lin) **99k:34160** 34K15 (34K40)

Xiao, Hui Cheng A theorem on the determination of projective transformations of the plane. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 211–213. 51N15

Xiao, J. *see* **Xiao, Jizhong**

Xiao, Jia Hong The S–pre-Lindelöf property. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 3, 6–8. 54D20

— The p-pre-Lindelöf property in L-fuzzy topological spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 2, 16–18. 54A40

Xiao, Jian *see* **Xiao, Jian[4]**

Xiao, Jian[2] (*with* Sheng, Li Ren) A singular two-point Dirichlet problem. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 13–22. (William K. C. Yin) **99f:34033** 34B15

Xiao, Jian[4] (*with* Zhang, Guo Xin; Zhang, Zhao Gong) Some properties of λ-spiral functions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 24–27. 30C45

Xiao, Jian Bin Multi-index multipliers of H^p functions on unit hyperspheres. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 1, 1–4. (Guozhen Lu) **99b:46030** 46E15 (32A35)

Xiao, Jie[1] (*with* Peng, Liangang) Root categories and simple Lie algebras. (English summary) *J. Algebra* **198** (1997), *no.* 1, 19–56. (Dieter Happel) **99c:17016** 17B20 (16G20, 18E30)

— (*with* Nicolau, Artur) Bounded functions in Möbius invariant Dirichlet spaces. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 383–425. (Dragan Vukotić) **99b:46028** 46E15 (30D50, 30H05)

— (*with* Deng, Bangming) A quiver description of hereditary categories and its application to the first Weyl algebra. *Algebras and modules, II (Geiranger, 1996)*, 125–137, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Zygmunt Pogorzały) **99b:16025** 16G20 (16P40)

— (*with* Tan, Hai Ou) p-Bergman spaces, α-Bloch spaces, little α-Bloch spaces, and Cesàro means. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 187–196. (Summary) **99g:46021** 46E10 (30D45, 30H05, 47B35)

— (*with* Tan, Hai Ou) Two applications of generalized Carleson measures to meromorphic Besov-type spaces. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 15, 1260–1264. (H. Wallin) **99m:46087** 46E35 (28A99, 30H05)

— (*with* Tan, Hai Ou) Two applications of generalized Carleson measures on meromorphic Besov type spaces. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 10, 1047–1050. 46E35 (30H05)

— The $\overline{\partial}$-problem for multipliers of the Sobolev space. (English summary) *Manuscripta Math.* **97** (1998), *no.* 2, 217–232. (Summary) **99g:46047** 46E35 (30D50, 30H05, 31A20)

— Extension of a theorem of Zygmund. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 425–432. (Aristomenis Siskakis) **99e:30025** 30D45 (30H05)

— (*with* Gauthier, Paul M.) Functions of bounded expansion: normal and Bloch functions. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 2, 168–188. (P. Lappan) **99m:30070** 30D45

Xiao, Jizhong (*with* Song, Qing) On the convergence performance of multilayered NN tracking controller. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 459–467. (Summary) **99c:93075** 93C83 (90B10)

Xiao, Li (*with* Zhang, Zhi Jun) Existence of solutions for a class of singular boundary value problems. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 3, 247–251. (Summary) **99h:35075** 35J70 (35J65)

Xiao, Li-ming Asymptotic analysis of dynamic problems for linearly elastic shells—justification of equations for dynamic membrane shells. (English summary) *Asymptot. Anal.* **17** (1998), *no.* 2, 121–134. (Daniel Choï) **99h:73052** 73K15 (73C99, 73K12)

Xiao, Ling ★ Quasilinear hyperbolic systems and dissipative mechanisms. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *viii+223 pp. ISBN* 981-02-3205-5 (Alexander Doktor) **99i:35096** 35L65 (35L67, 73F15, 76N10)

— Nonlinear diffusive phenomena of solutions for quasilinear hyperbolic systems. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai, 1994)*, 37–51, *World Sci. Publishing, River Edge, NJ*, 1997. (Roberto Natalini) **99m:35148** 35L60 (35B40, 35Q35, 76N10, 76S05)

— Various phenomena on the large-time behavior of solutions to the system in nonlinear thermoviscoelasticity. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 73–80, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35Q72 (73B30, 73F15)

— (*with* Jian, Huaiyu) Asymptotic behavior of solutions to the system of one-dimensional nonlinear thermoviscoelasticity. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 283. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 143–152. (Jaime E. Muñoz Rivera) **99k:73072** 73F15 (35B40, 35Q72, 73B30)

— (*with* Luo, Tao; Yang, Tong) Global BV solutions of compressible Euler equations with spherical symmetry and damping. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 203–225. (Roberto Natalini) **99g:35106** 35Q30 (76N10)

— (*with* Luo, Tao) Large-time behavior of solutions to the equations of one-dimensional nonlinear thermoviscoelasticity. *Quart. Appl. Math.* **56** (1998), *no.* 2, 201–219. (Jaime E. Muñoz Rivera) **99h:73039** 73F15 (35B40, 35Q72, 45K05, 73B30)

Xiao, Ma (*with* Wang, Xin Mei) Some new bounds for Q-ary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1996–1998. 94B05 (94B65)

Xiao, Min (*with* Fan, Hong Yi[1]) An alternative approach for deriving a positive P-representation. (English summary) *Phys. Lett. A* **244** (1998), *no.* 4, 256–260. (K. Wódkiewicz) **99e:81087** 81R30

Xiao, Peng The graded Jacobson radical of polynomial rings. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **12** (1996), *no.* 4, 35–37. 16W50 (16N20)

— On polynomial modules. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **14** (1998), *no.* 1, 14–18. 16W50

Xiao, Qing[2] (*with* Lim, T. T.; Chew, Y. T.) A new flow regime in a Taylor-Couette flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3233–3235. (Summary) **99i:76146** 76U05 (76D99, 76E10)

Xiao, Ren Bin (*with* Wang, Xue; Wu, Ya; Yang, Shu Zi) A method of knowledge acquisition based on granularity. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 3, 128–132, *XIII–XIV*. 68T05

— (*with* Luo, Yun Feng; Zhu, Ming Fu; Yue, Chao Yuan) An analysis of the constraints on the maximum size of a preference profile. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 7, 53–56. 90A05

Xiao, Shang Hong (*with* Wang, Shi Gang; Liu, Li; Zhou, Ji[1]; Yu, Jun[3]) A genetic algorithm for structural optimization. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 3, 106–110, *X*. 73K40

Xiao, Shaoliang (*with* Chen, Hanlin) Periodic cardinal interpolatory wavelets. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 283. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 133–142. (Summary) **99i:42044** 42C15 (41A15)

Xiao, Sheng Zhong A new class of wavelet functions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 79–84. 42C15

Xiao, Shu Xian Integral criteria for the asymptotic stability of time-varying linear systems. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 14–18. (Jaromír Kuben) **99f:34078** 34D10 (93D05)

— Applications of linear V-functions to time-varying systems with delay. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 39–44. (Summary) **99m:34180** 34K20

Xiao, Shutie (*with* Huang, Zhida) Some typical behaviors of weak solutions of layered porous media equation. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 2, 145–157. (Summary) **99a:35214** 35Q35 (35D99, 35K55, 76S05)

Xiao, Ti Jun (*with* Liang, Jin) Entire solutions of higher order abstract Cauchy problems. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 298–310. (Jacek Banasiak) **99a:34163** 34G10 (47D09, 47N20)

— (*with* Liang, Jin) Exponential stability of solutions for higher order abstract Cauchy problems. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 485–498. (Angelo Favini) **99b:34102** 34G10 (34D05, 35K99, 35L99, 47N20)

— (*with* Deng, Jian Ping; Liang, Jin) Holomorphic regularized semigroups and regularized cosine functions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 545–552. (Summary) **99e:47044** 47D06 (47D09)

— (*with* Liang, Jin) Norm continuity for $t > 0$ of linear operator families. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 9, 719–723. (Ioana Ciorănescu) **99j:47054** 47D06 (34G10)

— (*with* Liang, Jin) A characterization of norm continuity of propagators for second order abstract differential equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 87–94. (Jacek Banasiak) **99g:34124** 34G10 (47D09)

— (*with* Liang, Jin; Huang, Fa Lun) Exponential stability for abstract linear autonomous functional-differential equations with infinite delay. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 255–259. (Summary) **99a:34213** 34K20 (34K30, 47D06)

Xiao, Tiao Jun (*with* Cai, Hai Tao) Production equilibrium problems in Banach lattices without ordered preferences. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 1–7. 90A14 (90C48)

Xiao, Tong A quadratic system with invariant cones. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 1, 12–18. (Summary) **99h:34052** 34C05

Xiao, Wei (*with* Liu, Zhibin; Jiang, Maoze; Shi, Yong[1]) Multiobjective linear programming model on injection oilfield recovery system. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 127–135. 90C90 (86A20, 90C29)

Xiao, Wen Dong (*with* Xu, Xin He) A mechanized solution method for linear discrete event dynamical systems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 197–203. 93C83 (93C40)

Xiao, Wen Jun The diameter of a Cayley graph. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **38** (1999), *no.* 1, 1–4. 05C25

Xiao, Xiang Wu (*with* Lu, Wan Jin; Zhang, Fa Yong) A note on Gaussian type quadrature formulas with Chebyshev weight functions. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 3, 1–2, 6. 41A55 (65D32)

— (*with* Lu, Wan Jin) An inverse formula for modified rank m matrices. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 3, 7–9. 65F10 (15A09, 65F30)

Xiao, Xiao Nan (*with* Hu, Yong Hong) Existence intervals and continuations of solutions to ordinary differential equations for interval-valued and fuzzy-valued functions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 98–100, 97. 34A12

Xiao, Y. *see* **Xiao, Yi**

Xiao, Yan Ni (*with* Chen, Ju Fang; Tang, San Yi) Permanence and positive solution of nonautonomous Lotka-Volterra with diffusion cooperative system. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 2, 50–58. (Kaiqi Xiong) **99a:92025** 92D25 (34C25, 34D99)

— (*with* Tang, San Yi; Chen, Ju Fang) Permanence of nonautonomous Kolmogorov systems with diffusion. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 3, 37–41. (Joseph So) **99e:92030** 92D25 (34D20, 34D40)

— (*with* Chen, Ju Fang) Boundedness of solutions and existence and uniqueness of periodic solutions for a class of nonlinear difference systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 1, 11–15. (Summary) **99i:39018** 39A10

— (*with* Tang, San Yi; Chen, Ju Fang) Permanence and periodic solution in competitive system with feedback controls. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 33–37. (Summary) **99c:92062** 92D40 (34C25, 34D05, 92D25)

— (*with* Tang, San Yi; Chen, Ju Fang) Positive periodic solutions of competitive Kolmogorov diffusion systems with interference constants. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 39–47. (Summary) **99f:92026** 92D25 (34C99)

— (*with* Tang, San Yi) Stability of a Volterra integrodifferential model with diffusion. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 1, 37–41. (Summary) **99e:34110** 34K20 (45J05, 45M10, 92D40)

— (*with* Tang, San Yi) Oscillations of neutral differential equations with deviating arguments. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 22–24. (Yuan-Tong Xu) **99k:34157** 34K15

Xiao, Yi (*with* Chu, King-wah Eric) Numerical assessment of a modified nonmonotone stabilisation trust region algorithm. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 803–810, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 90C30 (65K05)

— (*with* Zhang, Wen[2]) Soliton solutions of the discrete nonlinear Schrödinger equation with nonvanishing boundary conditions. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 3, 341–342. 35Q55

— (*with* Hai, Wen Hua) General soliton solutions in a coupled $(2 + 1)$-dimensional wave system. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1279–1285. 35Q51 (76B25)

Xiao, Yimin Weak variation of Gaussian processes. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 849–866. (Simeon M. Berman) **99a:60040** 60G15 (60G17)

— Local times and related properties of multidimensional iterated Brownian motion. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 383–408. (Endre Csáki) **99g:60136** 60J55 (60J65)

— (*with* Liu, Luqin) Hausdorff dimension theorems for self-similar Markov processes. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 2, 369–383. (Mireille Chaleyat-Maurel) **99k:60187** 60J25 (60G18, 60J60)

— Hausdorff-type measures of the sample paths of fractional Brownian motion. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 2, 251–272. (Robert J. Adler) **99h:60084** 60G15 (28A78, 28A80, 60G17, 60G18)

Xiao, Zheng Chang (*with* He, Xing Qiang) Some results on weak epiconvergence of sequences of functions in reflexive Banach spaces. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 35–39. (Kung-fu Ng) **99f:49015** 49J45

Xiao, Zhengchu (*with* Lin, En-Bing) Multi-scaling function interpolation and approximation. (English summary) *Wavelets, multiwavelets, and their applications (San Diego, CA, 1997)*, 129–147, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Mariano Gasca) **99c:41035** 41A25 (41A30, 42C15, 65D05)

Xiaoli, Chao *see* **Chao, Xiao Li**

Xiaoqing, L. *see* **Liu, Xiaoqing**

Xie, Chang Zhen (*with* Yang, Shou Zhi; Yang, Xiao Zhong) A new fast algorithm for solving lattice multiscale difference equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 95–97. 65Q05 (65L05)

Xie, Chun Hong (*with* Lin, Zhi Gui) The blowup rates of positive solutions to a class of semilinear parabolic systems. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 16, 1717–1719. 35K55

— (*with* Lin, Zhi Gui; Wang, Ming Xin[2]) The blow-up rate of positive solution of a parabolic system. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 372–378. (Summary) **99a:35122** 35K55 (35B45)

— (*with* Jiang, Cheng Shun) Blow-up of solutions to quasilinear parabolic equations on a semi-infinite space. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 84–91. (Summary) **99a:35119** 35K55 (35B05)

— (*with* Huang, Shuxiang) Asymptotic behaviour in a reaction-diffusion system. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 57–62. (Weiqing Xie) **99e:35105** 35K57 (35B40)

— (*with* Wang, Shu) The critical exponent for blowup of nonlocal reaction-diffusion equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 261–266. (Qing Fang) **99m:35122** 35K57 (35B40)

— (*with* Lin, Zhi Gui; Wang, Ming Xin[2]) The blow-up property for a system of heat equations with nonlinear boundary conditions. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 281–288. (Summary) **99f:35101** 35K60 (35B40)

— (*with* Lin, Zhi Gui; Wang, Ming Xin[2]) On critical exponents for semilinear heat equations with nonlinear boundary conditions. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 485. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 363–372. (Summary) **99m:35106** 35K55 (35B40)

— (*with* Wang, Shu; Wang, Ming Xin[2]) Parabolic equation of the m-Laplacian with nonlinear boundary condition. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 11, 905–908. (Ya Zhe Chen) **99f:35105** 35K60

— (*with* Jiang, Cheng Shun; Wang, Ming Xin[2]) Asymptotic behavior of global solutions for a chemical reaction model. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 640–656. (Alain Brillard) **99e:92038** 92E20 (35Q80)

— (*with* Wang, Shu; Wang, Ming Xin[2]) m-Laplacian parabolic equations with nonlinear boundary conditions. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 8, 817–821. 35K55

— (*with* Lin, Zhi Gui; Wang, Ming Xin[2]) Blow-up estimates of solutions to semilinear heat equations with nonlinear boundary condition. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 96–100. (Summary) **99f:35102** 35K60 (35B05)

— (*with* Wang, Shu; Wang, Ming Xin[2]) The blow-up rate for a system of heat equations completely coupled in the boundary conditions. *Nonlinear Anal.* **35** (1999), *no.* 3, *Ser. A: Theory Methods*, 389–398. (Lubomira G. Softova) **99j:35089** 35K40 (35B05)

Xie, Dong Qing (*with* Ji, Jie; Zhao, Yu) A competitive algorithm for on-line multiprocessor scheduling problems. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 4, 100–102. 90B35

Xie, Dong Xiu (*with* Hu, Xi Yan; Zhang, Lei[1]) The solvability conditions for the inverse eigenvalue problem of bisymmetric matrices. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 409–418. (Jor-Ting Chan) **99k:15015** 15A18

Xie, Feipeng (*with* Hsieh, Po-Fang) On asymptotic diagonalization of linear ordinary differential equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 351–377. (Juncheng Wei) **99g:34119** 34E10 (34A30, 34D05)

Xie, Fuding (*with* Li, Ming; Zhang, Yong) Algorithm for finding the solutions of linear ordinary differential equation at a singular point. (English summary) *J. Gansu Univ. Technol. (Engl. Ed.)* **1** (1997), *no.* 1, 121–124. (Summary) **99d:65244** 65L99 (68Q40)

Xie, Gao Gang (*with* Zhang, Da Fang; Wang, Zhong Sheng[2]; Min, Ying Hua) Diagnosis algorithms based on the Chaw & Hakimi model. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 6, 96–101. 68M15

Xie, Gui Lin (*with* Liu, Ying[2]; Liu, Ya Cheng) Initial-boundary value problems for systems of semilinear pseudoparabolic equations in any dimension. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 7–10. (Summary) **99f:35112** 35K70

Xie, Guo-Qiang (*with* Qian, Shang-Wu; Gu, Zhi-Yu) Separation of variables treatment of the invariant quadratic in momentum for any admissible potential. (English summary) *Ann. Physics* **266** (1998), *no.* 2, 497–502. (M. Znojil) **99d:81033** 81Q05 (35Q40)

Xie, He Ping (*with* Sun, Hong Quan) The theory of fractal interpolated surface and its applications. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 4, 321–331; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 297–306 (*Chinese. English and Chinese summaries*). (S. Dubuc) **99g:65022** 65D17 (28A80)

— (*with* Feng, Zhigang) On stability of fractal interpolation. (English summary) *Fractals* **6** (1998), *no.* 3, 269–273. (Norbert Patzschke) **99g:28017** 28A80 (41A05)

Xie, Hong Zheng (*with* Ding, Shu Sen) Norm comparison theorems for conjugate A-harmonic tensors. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 205–212; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 2, 151–159. (Sing Cheong Ong) **99c:26014** 26D15 (31B99)

— (*with* Xin, Yu Mei; Cai, Yue Jiang) S-convergence and S-compactness on topological spaces. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 6–7, 10. 54A20

— (*with* Xu, Yao Qun; Yang, Feng Lin) A class of two-phase free boundary problems for parabolic equations with variable coefficients. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 105–107. 35R35 (35K99)

Xie, Hui Chun (*with* Lin, Wei Chuan) The Borel exceptional functions of a entire function. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **12** (1996), *no.* 4, 21–24. 30D35

Xie, Huimin ★ Grammatical complexity and one-dimensional dynamical systems. Directions in Chaos, 6. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xiv+274 *pp. ISBN* 981-02-2398-6 (Jean-Paul Allouche) **99m:58084** 58F03 (11B85, 68Q45, 68Q68)

Xie, Jian Hua (*with* Luo, G.-W.) Hopf bifurcation of a two-degree-of-freedom vibro-impact system. (English summary) *J. Sound Vibration* **213** (1998), *no.* 3, 391–408. (Summary) **99b:70024** 70K50

— Symmetry and horseshoes in the bouncing ball model. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 19, 2058–2061. 58F13

Xie, Jiguo (*with* Liu, Lin Zhong[2]; Zhang, Zhong Fu) On the adjacent strong edge colorings of 3-regular Halin graphs. (English summary) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 4, 1–3. 05C15

Xie, K. *see* **Xie, Kang**

Xie, Kai Nian (*with* Wu, Huai Ning; You, Chang De) Robust state feedback control of stochastic systems. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 1–5. 93E03 (93E15)

Xie, Kang (*with* Boardman, A. D.) Spatial solitons in $\chi^{(2)}$ and $\chi^{(3)}$ dielectrics and control by magneto-optic materials. *Nonlinear optical materials (Minneapolis, MN, 1996)*, 83–108, *IMA Vol. Math. Appl.*, 101, *Springer, New York*, 1998. (Anatoly M. Kamchatnov) **99f:78019** 78A60 (35Q51, 35Q60)

Xie, Kanglin (*with* Jiang, Zhiping) An improved scheme for a PKCS based on the PR method. (English summary) *J. Shanghai Jiaotong Univ. (Engl. Ed.)* **1** (1996), *no.* 1, 74–81. (Ugo Vaccaro) **99a:94034** 94A60 (68P25)

Xie, L. *see* **Xie, Lihua**

Xie, Li Tong (*with* Fan, Hong Bing) A new result on reconstructible local subgraphs. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 5, 440–444. (Yuan Hong) **99b:05102** 05C60

— (*with* Liu, Gui Zhen) Four-colorings of maximal outerplanar graphs under boundary conditions. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 135–138. (Summary) **99a:05052** 05C15

— (*with* Liu, Gui Zhen; Xu, Bao Gang) On endo-homology of complexes of graphs. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 285–291. (Summary) **99c:05189** 05C99 (05E25)

— (*with* Liu, Gui Zhen) Some results related to the four-color theorem. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 1–6. 05C15

Xie, Liang Liang (*with* Guo, Lei[1]) Stability of adaptive control of a class of affine nonlinear systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 9, 925–929. 93D10 (93C10)

Xie, Lihua Output feedback H_∞ control of systems with parameter uncertainty. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 741–750. 93B36 (93C42)

— (*with* Shi, Peng; de Souza, Carlos E.) Bounded real lemma for linear systems with finite discrete jumps. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 145–159. 93D09 (93C57)

— (*with* Su, Weizhou; Gong, Zhiming) Robust input to state stabilization for minimum-phase nonlinear systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 825–842. 93D21

— (*with* Xie, Shoulie; de Souza, Carlos E.) Robust dissipative control for linear systems with dissipative uncertainty. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 169–191. (Summary) **99a:93027** 93B35 (93C41)

— (*with* Yan, Wei Yong; Soh, Yeng Chai) Parameterization and optimization of reduced-order filters. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 418–422. 93E11 (93E20)

— (*with* Du, Chun Ling) LMI approach to output feedback stabilization of 2-D discrete systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 97–106. (Summary) **99m:93056** 93C30 (93D15)

Xie, Lin (*with* Fu, Minyue) Finite test of robust strict positive realness. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 887–897. 93B36 (93D09)

Xie, Lin (*with* Guan, Weiguang; Ma, Song De) Deformable registration of digital images. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 246–260. (Summary) **99a:68176** 68U10

Xie, Liu Hui (*with* Zhou, Yi Feng; Li, Li[1]) An energy-iteration method for periodic solutions of a class of strongly nonlinear systems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 26–30, *III*. 34C25 (70K99)

Xie, M. *see* **Xie, Min[1]**

Xie, Mei (*with* Gu, De Ren) An image edge detection algorithm based on the wavelet transform. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 353–356. 42C15

Xie, Mi (*with* Dong, Shi-Hai; Hou, Xi-Wen; Ma, Zhong-Qi) Irreducible bases in icosahedral group space. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2135–2152. (Summary) **99i:81060** 81R05 (20H15, 82D25)

Xie, Min[1] (*with* Lai, C. D.) On reliability bounds via conditional inequalities. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 104–114. (G. Sankaranarayanan) **99g:60041** 60E15 (60K10)

Xie, Min Yu (*with* Fang, Kai-Tai; Tian, Guo Liang) Uniform designs on convex polyhedra. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 14, 1472–1475. 52A22

Xie, Peng Proof of a conjecture of Schneider. (Chinese. Chinese summary) *Math. Appl.* **10** (1997), *no.* 3, 129–130. (Beifang Chen) **99b:52011** 52A22

Xie, Qing Ming (*with* Liu, Jian Zhou) Estimates for singular values of Schur complements of products of matrices. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 285–288. (Shao Kuan Li) **99g:15011** 15A18 (15A42)

Xie, San Ming (*with* Wu, Cang Pu; Zhao, Chun Jun) Decentralized model reference adaptive control of large-scale nonlinear systems. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol. (Chin. Ed.)* **17** (1997), *no.* 3, 332–336. (*see* **99a:93004**) 93C10 (93A14)

Xie, Sha Li (*with* Cheng, Jing; Zhang, Fan) A study on queuing strategy for a CIMS network and its transfer probability. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 2, 93–97. 60K25

Xie, Sheng Li Existence of extremal solutions for ordinary differential equations in Banach spaces. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 3, 18–22. (Jin Liang) **99c:34142** 34G20 (47H15)

— (*with* Cheng, Sui Sun) Stability criteria for parabolic type partial difference equations. (English summary) *J. Comput. Appl. Math.* **75** (1996), *no.* 1, 57–66. (From the summary) **99f:39025** 39A11 (65M12)

— (*with* Zhang, Guang; Cheng, Sui Sun) Positive solutions of second order difference inequalities. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 1–11. (From the introduction) **99k:39044** 39A10

— (*with* Cheng, Sui Sun) Oscillation criteria for a class of neutral difference equations. (English summary) *Fasc. Math. No.* 27 (1997), 101–121. (E. Thandapani) **99e:39047** 39A10 (39A11)

— (*with* Tian, Chuan-Jun; Cheng, Sui Sun) Measures for oscillatory sequences. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 149–161. (André Hautot) **99k:39039** 39A10

— (*with* Xie, Zhen Dong; Liu, Yong Qing) A no-delay variable structure controller for a control system with delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 879–886. 93B12 (93C30)

— Approximate solutions for a class of nonlinear integral and differential equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 155–160. (Shu Chun Gao) **99j:34090** 34K05 (45J05, 45L05)

Xie, Sheng Rong Maxima with random indexes. *Chinese Sci. Bull.* **42** (1997), *no.* 21, 1767–1771. (H. Vishnu Hebbar) **99e:60074** 60F05 (60G70)

— Extreme sojourns of Gaussian processes with a differentiable covariance function. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 321–325. (Yimin Xiao) **99m:60064** 60G15 (60G17)

Xie, Shishen (*with* Deeba, Elias Y.) The continuous associated Legendre transform. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 4, 327–342. (Summary) **99b:44005** 44A15 (33C45)

— (*with* Deeba, Elias Y.; Koh, E. L.; Sahoo, Prasanna K.) On a distributional analog of a sum form functional equation. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 333–344. (Summary) **99a:39054** 39B22 (46F10)

— (*with* Deeba, Elias Y.; Sahoo, Prasanna K.) On a class of functional equations in distribution. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 334–346. (Ioana Ciorănescu) **99g:39026** 39B22 (46F10)

Xie, Shoulie (*with* Xie, Lihua; de Souza, Carlos E.) Robust dissipative control for linear systems with dissipative uncertainty. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 169–191. (Summary) **99a:93027** 93B35 (93C41)

Xie, Shu Heng (*with* Yin, Chuan Cun) The joint distribution of the infimum and its location for a transient Brownian motion. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 13–15. 60J65

— (*with* Zhao, Zeng Qin) Boundary solutions of operator equations in partial ordering sets with applications to systems of functional equations. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 9–17. (Seppo Heikkilä) **99c:47104** 47H15 (39B62, 47N20)

Xie, Shu-sen (*with* Gu, Hai Ming) Explicitly solvable characteristic method for convection diffusion problems. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 1, 14–24. (Summary) **99e:65128** 65M25 (35Q99, 76M25, 76Rxx)

Xie, Shuangyuan (*with* Yang, Ya Ping; Lin, Zhi Xin; Feng, Weiguo; Wu, Xiang[2]) q-phase-coherent states and their squeezing properties. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6441–6453. (Apostolos Vourdas) **99m:81093** 81R30

— (*with* Yang, Ya Ping; Feng, Weiguo; Wu, Xiang[2]) Statistics for q-commutator in the case of $q^{s+1}=1$. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 879–886. (Roberto Casalbuoni) **99g:81100** 81R50 (81S05)

Xie, Siqing Regularity of $(0, 1, \cdots, r-2, r)$ interpolation on the unit circle. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 330–336. (Chengmin Yang) **99j:41006** 41A05 (41A10)

Xie, Su Ying Riemann-Hilbert boundary value problems with higher-order singularities. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 36–38. 30E25

Xie, Ting Fan (*with* Zhou, Song Ping) Approximation by Lagrange interpolating polynomials using the zeros of Jacobi polynomials as nodes. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 181–186. (Shun Sheng Guo) **99j:41007** 41A05

— (*with* Zhang, Ren Jiang; Zhou, Song Ping) Three conjectures on Shepard interpolatory operators. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 399–414. (Galimzian G. Islamov) **99c:41051** 41A36 (41A40)

Xie, Wei (*with* Wang, Yi Fei) A study on the convergence of hybrid genetic algorithms. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 1, 1–6. 68T05

Xie, Wei-Xin (*with* Fan, Jiu-Lun) A dual concept of subsethood measure: supersethood measure. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 881–889. (Summary) **99g:03056** 03E72

— (*with* Fan, Jiu-Lun) Some notes on similarity measure and proximity measure. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 403–412. 90A05 (90C70, 93C42)

Xie, Weiqing (*with* Caginalp, Gunduz) An analysis of phase-field alloys and transition layers. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 4, 293–329. (Vitaly A. Volpert) **99g:80007** 80A22 (35K99)

Xie, Wenfang (*with* Chen, Chuanyu) A generalized Talmi-Moshinsky transformation for 1D harmonic oscillator functions and interaction matrix elements. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 3, 419–422. (Summary) **99k:81353** 81V70 (81Q99)

Xie, Xiang Dong (*with* Zhang, Jian Feng[1]) Weak transverse and weak chaos. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 3, 241–245. 58F13

— (*with* Cai, Suilin) On the decision problem of the center or focus for a class of planar polynomial fields. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 79–88. (A. P. Sadovskiĭ) **99g:34067** 34C05

Xie, Xiang Sheng (*with* Liu, Yong Qing) A Riccati equation approach to the stabilization of singular linear systems with time delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 887–892. 93D15 (93C05)

Xie, Xiang-Yun (*with* Guo, Xiao Jiang) C-left ideals in ordered semigroups. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 861–866. (Summary) **99k:06010** 06F05 (20M99)

— (*with* Guo, Xiao Jiang) On Kehayopulu's problems. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 4, 20–24. (Editors) **99g:06022** 06F05 (20M99)

— Fuzzy Rees congruences on semigroups. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 353–359. (Summary) **99m:20158** 20M99

— (*with* Guo, Xiao Jiang) A note on left type A semigroups. *Semigroup Forum* **58** (1999), *no.* 2, 313–316. (Alessandra Cherubini) **99m:20140** 20M10 (20M18, 20M30)

Xie, Xiangdong (*with* Apanasov, Boris) Geometrically finite complex hyperbolic manifolds. (English summary) *Internat. J. Math.* **8** (1997), *no.* 6, 703–757. (Igor Belegradek) **99e:57051** 57S30 (20H10, 30F40)

Xie, Xu Kai (*with* Zhang, Qing Ling; Dai, Guan Zhong; Xu, Xin He) Analysis and control of stability for discrete descriptor systems via Lyapunov methods. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 622–629. 93D05 (93C55)

Xie, Xue Jun (*with* Su, Bai Li; Chu, Xue Dao; Liu, Zhi Feng) Stable adaptive fuzzy control of nonlinear systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 14–20. 93C42 (93C40)

Xie, Yan Bo (*with* Yu, Chun Hai) The structure of pseudocomplements in molecular lattices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 589–593. (Ying Ming Liu) **99h:06005** 06D15 (06A23, 06D05, 06D10)

Xie, Yongxing (*with* Chen, Shujin) On a generalized Dirichlet problem for analytic family. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 261–271. (J. Siciak) **99c:32018** 32F05 (31C10)

Xie, You Bai (*with* Liu, Heng; Yu, Lie; Yao, Fu Sheng) The Poincaré-like cell mapping method for nonlinear periodic nonautonomous systems and its application. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 4, 97–101. 34D05 (34C35)

— (*with* Duan, Ji An; Yu, Lie) Recursive time-domain method of modal identification. (Chinese. Chinese summary) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 103–104, 107. 93E10 (93B30)

— (*with* Liu, Heng; Yu, Lie; Yao, Fu Sheng) Relationships between periodic solutions of nonlinear dynamical systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 12, 85–89. 34C25 (70K99)

— (*with* Liu, Heng; Yu, Lie; Yao, Fu Sheng) A Poincaré-type cell mapping method of analysis and its application. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **31** (1999), *no.* 1, 91–99. 34D45 (58F12)

Xie, Yue Mei (*with* Yang, Guang Chong) Some problems on quasiweak convergence and on fixed points of increasing operators. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 54–57. (Summary) **99c:47095** 47H10

Xie, Zhen Dong (*with* Xie, Sheng Li; Liu, Yong Qing) A no-delay variable structure controller for a control system with delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 879–886. 93B12 (93C30)

Xie, Zheng-hui (*with* Shi, Zhong Ci) A two-level additive Schwarz method for Morley elements on non-nested meshes. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 313–328; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 4, 84–100. (Summary) **99a:65159** 65N30

— (*with* Shi, Zhong Ci) Intergrid transfer operators for biharmonic problems using nonconforming plate elements on nonnested meshes. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 460–467, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99f:65176** 65N30 (65F10, 65N55)

— (*with* Shi, Zhong Ci) Substructure preconditioners for nonconforming plate elements. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 289–304. (Jiří Nedoma) **99g:65116** 65N30 (73K10, 73V05)

— (*with* Shi, Zhong Ci) Multigrid methods for Morley element on nonnested meshes. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 385–394. (Summary) **99f:65193** 65N55

Xie, Zhi-kun (*with* Yu, Jun[4]) Singularity analysis in $(2+1)$-dimensional generalization of the perturbation equations of the KdV hierarchy. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 2, 111–116. 35Q53

Xie, Zhigang (*with* French, Simon) Towards a constructive approach to act-conditional subjective expected utility models. (English summary) *Top* **5** (1997), *no.* 2, 167–186. (Joseph D. Cole) **99k:90056** 90A43 (90A05, 90A06, 90A10)

Xie, Zhong Qiang (*with* Ouyang, Shui Wu) An implicit finite volume method for three-dimensional Navier-Stokes computations. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 6, 641–647. 76M25

Xie, Zhongjie (*with* Li, Yuan[2]) Wavelet function estimation involving time series. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 7, 553–556. (Summary) **99i:42049** 42C15

Xie, Zi Qing Multiplicity of solutions for nonlinear elliptic equations with critical Sobolev exponents and mixed boundary conditions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 1, 6–10. (Xin Kang Guo) **99h:35070** 35J65 (35B32)

Xie, Zi Qing On Neumann problem for some semilinear elliptic equations involving critical Sobolev exponents. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 186–196. (Elvira Mascolo) **99i:35053** 35J65

— Multiplicity of elliptic equations involving critical Sobolev exponents with inhomogeneous Neumann boundary conditions. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 2, 10–16. 35J65 (35B32)

— Existence of multiple solutions for nonhomogeneous nonlinear equations over $\mathbf{R}^N$. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 1, 16–20. (Summary) **99c:35065** 35J60 (35B05)

— Multiplicity of positive and nodal solutions for nonlinear elliptic problems in $\mathbf{R}^N$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 1069–1097. (Rolando Magnanini) **99j:35057** 35J60 (35B05)

Ximin, Liu *see* **Liu, Xi Min**

Xin, Houwen (*with* Qiu, Wenyuan) Topological chirality and achirality of the closed circular DNAs. *Chinese Sci. Bull.* **42** (1997), *no.* 20, 1705–1708. (Summary) **99c:92031** 92D20 (57M25)

Xin, Jack X. (*with* Malham, Simon) Global solutions to a reactive Boussinesq system with front data on an infinite domain. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 287–316. (Chang Hao Lin) **99h:35177** 35Q35 (76D05, 80A25, 80A32)

— (*with* Lin, Fang Hua) A unified approach to vortex motion laws of complex scalar field equations. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 455–460. (Summary) **99i:35152; EA 99m** 35Q55 (58E50)

— (*with* Moloney, Jerome V.) Global solutions and attractors of a Maxwell-Bloch Raman laser system in two transverse dimensions. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 501–527. (Guenther Hoermann) **99e:35217** 35Q60 (35B40, 47H20, 78A60, 81V80)

— (*with* Fennemore, George) Wetting fronts in one-dimensional periodically layered soils. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 387–427 (*electronic*). (Vladimir Grebenev) **99b:76084** 76S05 (35B40, 35K99, 35Q99)

Xin, Xiao-kang (*with* Yu, Heng; Shen, Yi-fan) A new nonoscillatory characteristics scheme for hyperbolic convection equations. (English summary) *J. Hydrodyn. Ser. B (English Ed.)* **10** (1998), *no.* 4, 62–70. 65M06 (76M20)

Xin, Xiao Long (*with* Jun, Young Bae; Meng, Jie) Anti-fuzzy BCK-filters. (English summary) *Far East J. Math. Sci.* **1997,** *Special Volume, Part II*, 137–145. (Summary) **99b:06021** 06F35 (03G25)

— (*with* Meng, Jie; Kim, Hee Sik; Jun, Young Bae) On free d-algebras. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 155–163. (Introduction) **99g:06027** 06F35

— (*with* Meng, Jie; Jun, Young Bae) Prime ideals in commutative BCK-algebras. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 5–15. (Elias Deeba) **99f:06023** 06F35 (03G25)

— (*with* Jun, Young Bae; Roh, Eun Hwan; Meng, Jie) Fuzzy dual ideals in BCK-algebras. II. (English summary) *Far East J. Math. Sci.* **1998,** *Special Volume, Part II*, 203–214. 06F35 (03G25, 04A72)

— (*with* Jun, Young Bae) On p-semisimple BCI-algebras and pomonoids. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 131–140. (Summary) **99c:06023** 06F35

— (*with* Jun, Young Bae; Lee, Dong-Soo[1]) On topological BCI-algebras. (English summary) *Inform. Sci.* **116** (1999), *no.* 2-4, 253–261. 54H12 (06F30)

Xin, Xin (*with* Guo, Lei[1]; Feng, Chun Bo) An LMI-based unified approach to reduced-order controller design. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 612–622. (Peng Shi) **99b:93028** 93B51 (93B11)

— (*with* Guo, Lei[1]; Feng, Chun Bo) LMI-based reduced-order controllers for mixed H^2/H^∞ control problems: the continuous-time case. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 294–300. 93B36

— (*with* Guo, Lei[1]; Feng, Chun Bo) LMI-based reduced-order controllers for mixed H^2/H^∞ control problems: the discrete-time case. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 355–358. 93B36

— (*with* Guo, Lei[1]; Feng, Chun Bo) A matrix inequality approach to stabilization and L_2-gain control problems for multiple nonlinear Lur'e systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 630–635. 93D21

— (*with* Mita, Tsutomu) Inner-outer factorization for non-square proper functions with infinite and finite $j\omega$-axis zeros. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 145–161. (Summary) **99d:93046** 93C80 (93B25)

Xin, Y. L. *see* **Xin, Yuan Long**

Xin, Yu Mei (*with* Cai, Yue Jiang; Xie, Hong Zheng) S-convergence and S-compactness on topological spaces. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 6–7, 10. 54A20

Xin, Yuan Long Boundary value problem of harmonic maps into $\mathbf{CP}^n$ and $\mathbf{QP}^n$ [$\mathbf{HP}^n$]. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 381–397. (John C. Wood) **99g:58037** 58E20

Xin, Zhouping Shock and boundary layer behavior of solutions to the Broadwell equation in the fluid dynamic limit. (English summary) *Nonlinear evolutionary partial differential equations (Beijing*, 1993), 455–468, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Lorenzo Pareschi) **99g:76130** 76P05 (35L60, 76L05, 82C40)

— (*with* Liu, Tai-Ping) Pointwise decay to contact discontinuities for systems of viscous conservation laws. (English summary) *Asian J. Math.* **1** (1997), *no.* 1, 34–84. (V. D. Sharma) **99b:35138** 35L65 (35D99, 76N15)

— (*with* Luo, Tao) Nonlinear stability of shock fronts for a relaxation system in several space dimensions. (English summary) *J. Differential Equations* **139** (1997), *no.* 2, 365–408. (Fumioki Asakura) **99c:35155** 35L67 (35B35, 35B40)

— Blowup of smooth solutions to the compressible Navier-Stokes equation with compact density. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 3, 229–240. (Emmanuel Grenier) **99d:35131** 35Q30 (35B40, 76N10)

— (*with* Wang, Wei-Cheng) Asymptotic limit of initial-boundary value problems for conservation laws with relaxational extensions. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 5, 505–535. (L. Hsiao) **99a:35172** 35L65 (35B25)

— (*with* Wang, Wei-Cheng) Fluid-dynamic limit for the centered rarefaction wave of the Broadwell equation. (English summary) *J. Differential Equations* **150** (1998), *no.* 2, 438–461. (Carlo Cercignani) **99k:82066** 82C40 (35Q99, 76N10, 76P05)

— Viscous boundary layers and their stability. I. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 97–124. (Paolo Secchi) **99f:35125** 35L60 (35B40, 35Q35, 76N10)

— (*with* Tian, Gang) One-point singular solutions to the Navier-Stokes equations. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 135–145. (Zhi Min Chen) **99j:35170** 35Q30 (76D05)

Xing, Chaoping (*with* Niederreiter, Harald) Drinfeld modules of rank 1 and algebraic curves with many rational points. II. *Acta Arith.* **81** (1997), *no.* 1, 81–100. (Gabriel D. Villa-Salvador) **99d:11064** 11G09 (11G20, 11R58, 14G05)

— (*with* Niederreiter, Harald) Global function fields with many rational places over the quinary field. *Demonstratio Math.* **30** (1997), *no.* 4, 919–930. (Gabriel D. Villa-Salvador) **99a:11133** 11R58

— (*with* Niederreiter, Harald) The algebraic-geometry approach to low-discrepancy sequences. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 139–160, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:11081** 11K38 (65C10)

— (*with* Niederreiter, Harald) Nets, (t, s)-sequences, and algebraic geometry. *Random and quasi-random point sets*, 267–302, *Lecture Notes in Statist.*, 138, *Springer, New York*, 1998. (Gabriel D. Villa-Salvador) **99k:11121** 11K38 (11K31, 11R58, 14Q05)

— (*with* Niederreiter, Harald) Global function fields with many rational places over the quinary field. II. *Acta Arith.* **86** (1998), *no.* 3, 277–288. (Gabriel D. Villa-Salvador) **99i:11105** 11R58 (11R37)

— (*with* Niederreiter, Harald) Global function fields with many rational places and their applications. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 87–111, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Arnaldo L. P. García) **99m:11137** 11R58 (11G09, 14H05)

Xing, Guang Lin A class of k-step SDBDF hybrid methods of order $k + 1$. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 107–112. 65L06

Xing, Hong Yan (*with* Xu, Zhi Ting) Square integrability and boundedness of solutions to a class of second-order nonhomogeneous functional-differential equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 79–83. (Bo Zhang) **99j:34111** 34K15

Xing, Jia Sheng (*with* Wang, Yuan Ming[1]) Existence of global weak solutions for a class of systems of semiconductor equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 733–742. (Song Mu Zheng) **99e:35232** 35Q99 (35D05, 35K60)

— Some properties of solutions to a class of systems of semiconductor equations. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 4, 1–7. (Song Mu Zheng) **99e:35231** 35Q99 (35D05, 35K60)

— (*with* Wang, Yuan Ming[1]) Initial-boundary value problems for a system of semiconductor equations with heating effects. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 215–223. (Summary) **99e:35233** 35Q99 (82D99)

— (*with* Wang, Yuan Ming[1]) The existence of weak solutions for a class of semiconductor equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 3, 289–296. (Summary) **99k:35180** 35Q99 (35D05)

— (*with* Guo, Xiu Lan) Asymptotic behavior of time-dependent solutions to semiconductor equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 339–345. (G. Albinus) **99i:35170** 35Q99 (78A99, 82D99)

— (*with* Wang, Yuan Ming[1]) Mixed boundary problems for a system of semiconductor equations with an avalanche term. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 423–432. (Zhangxin Chen) **99j:35224** 35Q99 (82D99)

Xing, W. *see* **Xing, Wei[2]**

Xing, Wei *see* **Xing, Wei[2]**

Xing, Wei[1] (*with* Wang, Qi Yi; Zhang, Qing Ling) Properties of operators in genetic algorithms. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 5, 540–542. 90C27

Xing, Wei[2] (*with* Song, Dong-Ping; Sun, You Xian) Optimal service rate allocation policy of an unreliable manufacturing system with random demands. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 621–626. 90B30 (93E03)

— (*with* Song, Dong-Ping; Sun, You Xian) Optimal control of a stochastic assembly production line. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 681–700. (Yannis A. Phillis) **99g:93089** 93E20 (90B30)

Xing, Xiusan On basic equation of statistical physics. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 11, 1193–1209. (Summary) **99e:82058** 82C05 (82C31)

Xing, Zhi Dong (*with* Wang, Min) A new class of pseudoconvex functions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 53–57. 90C26 (26A51)

Xinmei, Wang *see* **Wang, Xin Mei**

Xiong, Chang Ping (*with* Zhu, Jun[2]) $\mathscr{U}$-preserving kernel into range maps of Jacobson radicals of nest algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 377–384. (Summary) **99j:47066** 47D25 (47B47, 47B48)

— (*with* Zhu, Jun[2]) A characterization of infinite-dimensional Banach spaces. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 3, 29–30. 46B20

Xiong, Chi (*with* Ju, Guo-Xing) On the integrability of the one-dimensional open XYZ spin chain. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 3, 337–340. 82B23 (82B20)

— (*with* Ju, Guo-Xing; Wang, Shi-kun; Wu, Ke[1]) Boundary K matrices and the Lax pair for one-dimensional open XYZ spin-chain. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4213–4226. (Andrey V. Tsiganov) **99h:82013** 82B20 (82B23)

Xiong, Chuan-Sheng (*with* Eguchi, Tohru; Hori, Kentaro) Gravitational quantum cohomology. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 9, 1743–1782. (Ralph Martin Kaufmann) **99a:32027** 32G81 (14N10, 58D10, 58F07, 81T40)

— (*with* Eguchi, Tohru) Quantum cohomology at higher genus: topological recursion relations and Virasoro conditions. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 219–229. (Alexandre I. Kabanov) **99i:14033** 14H15 (14C17, 14N10, 17B68, 32G81)

— (*with* Ito, Katsushi; Yang, Sung-Kil) Seiberg-Witten theory as $d < 1$ topological strings. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 155–162. (Summary) **99h:81212** 81T60 (81T13, 81T30)

Xiong, Hong Yun (*with* Rong, Xi Min) Riesz product spaces and representation theory. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 455–458. (Summary) **99e:46008** 46A40

Xiong, Hui Lin (*with* Zhang, Tian Xu) Perfect reconstruction of digital signals after orthogonal and compactly supported wavelet transformations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *suppl. I*, 91–92. 65T20 (42C15)

Xiong, Jie Invariant measures for diffusion processes in conuclear spaces. *Stochastic differential and difference equations* (*Győr*, 1996), 329–337, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Constantin Tudor) **99g:60145** 60J60

— (*with* Kuo, Hui-Hsiung) Stochastic differential equations in white noise space. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 4, 611–632. (Ya. I. Bilopol′s′ka) **99m:60090** 60H10 (35R15, 35R60, 46G12)

— Exponential convergence for a system of conuclear space-valued diffusions with mean-field interaction. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 3, 281–307. (Gheorghe Stoica) **99k:60078** 60F10 (60B12, 60G57)

Xiong, Jin Cheng (*with* Chen, Er Cai) The pointwise dimension of a self-similar measure. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 20, 2162–2167. 28A78

Xiong, Junjie (*with* Hansen, Pierre; Jaumard, Brigitte) An interval arithmetic algorithm for multivariate constrained global optimization using cord-slope forms of Taylor's expansion. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 189–202. (Summary) **99h:90099** 90C30 (65G10)

Xiong, Kaiqi Necessary and sufficient conditions for the existence of a Lyapunov function with "a quadratic form plus an integral term". (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 707–719. 93D05

— Numerical implementation for stability criteria of nonlinear control systems. (English summary) *Internat. J. Control* **69** (1998), *no.* 3, 459–465. 93D05 (93B40)

Xiong, Li Ming A note on pancyclic line graphs. (Chinese. English and Chinese summaries) *J. Jiangxi Norm. Univ. Nat. Sci. Ed.* **21** (1997), *no.* 4, 316–317. 05C38

— Edge degree conditions for subpancyclicity in line graphs. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 225–232. (Summary) **99c:05116** 05C38

Xiong, Lian Huan (*with* Hu, Han Ping; Li, De Hua; Pi, Ming Hong) The Shannon orthogonal wavelet transform using the FFT. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 8, 67–69, 73. 65T20 (42C15, 94A11)

Xiong, Ling Chun Some applications of a stochastic approach to object clustering. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 11–15. 68P20

Xiong, Peng Rong (*with* Shi, Feng Xian; Zhou, Yu Lin[2]; Zhu, Hong[1]) A deadlock-free routing algorithm on star graphs. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 946–951. 68M10

Xiong, Shuang Ping The polarity and Hausdorff dimension of a class of self-similar Markov processes. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 113–116. (Ren Ming Song) **99j:60112** 60J25 (60G18, 60J45)

Xiong, Xiaoyun Multiresolution analysis of functions in Cantor set. *Progr. Natur. Sci.* (*English Ed.*) **8** (1998), *no.* 2, 249–253. (Kathi Karima Selig) **99i:42057** 42C15

Xiong, Yue-shan Spectral-difference method for two-dimensional compressible fluid flow. (English summary) *J. Comput. Math.* **16** (1998), *no.* 1, 15–26. (Timothy Nigel Phillips) **99d:76071** 76M20 (65M06, 65M70, 76M25, 76N10)

Xiong, Zhao Hui Hereditarily weakly θ-refinable spaces. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 213–217. 54B05

— Inverse limits of δ-normal spaces. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 500–504. 54B35 (54D15)

Xiong, Zheng Xin (*with* Sinha, Snehesh Kumar; Huynh, Cam-Loi) Efficiency of estimates for reliability function of exponential distribution in life testing. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 47–56. 62N05

Xiong, Zhong Kai (*with* Leachman, R. C.) It is not reasonable for an idle machine to always choose the most urgent lot. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 94–100. 90B30 (90C27)

Xiu, Zhengming (*with* Yang, Zhenye; Lin, Jiarui) Solve maximum resolution of a fuzzy relation equation in finite steps. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 52–57. 03E72

Xizhao, Wang *see* **Wang, Xi Zhao**

Xu, An Shi Boundedness and stability of solutions to nonlinear neutral integrodifferential equations with variable time lag. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 3, 276–282. (Xiao Xin Liao) **99c:34168** 34K15 (34K20, 45J05, 45M10)

— Uniform asymptotic stability in functional-differential equations with infinite delay. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 12, 1000–1003. (Zhanyuan Hou) **99k:34172** 34K20

— Uniform asymptotic stability of solutions to functional-differential equations with infinite delay. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 9, 918–921. 34K20

— (*with* Xu, Dao Yi) Domains of attraction of nonlinear functional difference systems. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 17, 1828–1831. 39A10

— (*with* Wu, Jiong Yu) The basic theory of the functional-differential equations with both advanced and retarded arguments. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 333–338. (Summary) **99h:34110** 34K15 (92C05)

Xu, Bangteng (*with* Blau, Harvey I.) On homogeneous integral table algebras. *J. Algebra* **199** (1998), *no.* 1, 142–168. (M. Herzog) **99b:20028** 20C99

Xu, Bao Gang Independence subhomologous subgraphs. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 2, 133–136. (Hugo S. Sun) **99c:05093** 05C25 (55N35)

— The independence complexes of high-degree graphs. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 33–39. (Xiaoya Zha) **99d:05066** 05C60 (57M15)

— (*with* Xie, Li Tong; Liu, Gui Zhen) On endo-homology of complexes of graphs. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 285–291. (Summary) **99c:05189** 05C99 (05E25)

— A sufficient condition for bipartite graphs to be type one. (English summary) *J. Graph Theory* **29** (1998), *no.* 3, 133–137. (Summary) **99h:05045** 05C15

Xu, Bao Xing (*with* Ye, Jia Chen) Some results on irreducible characters of algebraic groups. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 5–8. 20G05

Xu, Baogen On integral sum graphs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 285–294. (Summary) **99j:05163** 05C75 (05C78)

— (*with* Zhang, Zhong Fu; Li, Yinzhen; Liu, Lin Zhong[2]) A note on the lower bounds of signed domination number of a graph. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 295–298. (Summary) **99h:05071** 05C35

— (*with* Zhang, Zhong Fu) On mixed Ramsey numbers. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 285–289. (Summary) **99k:05118** 05C55

Xu, Baoguang (*with* Liu, Zhen Hong[1]; Tokuda, Taro) Connected factors in $K_{1,n}$-free graphs containing a (g, f)-factor. (English summary) *Graphs Combin.* **14** (1998), *no.* 4, 393–395. (Summary) **99h:05096** 05C70

Xu, Ben Long (*with* Ma, Ji Pu) Interpolation problems for a class of CSL algebras. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 3, 345–350. (Summary) **99j:47065** 47D25

— (*with* Ma, Ji Pu) A note on local derivations. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 1, 45–46. (Jin-Chuan Hou) **99g:46096** 46L57 (46H40, 47B47)

— (*with* Ma, Ji Pu) On some linear maps from an algebra into its bimodules. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 143–146. 16W25 (16E50)

Xu, Biao (*with* Mo, Zhi Wen; Shu, Lan) A survey of the theory and applications of fuzzy mathematics. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 330–335. 03E72

Xu, Bing[1] Strong approximation theorems for strongly mixing sequences of random variables and their applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 45–54. (Zheng Yan Lin) **99e:60089** 60F15 (60F17)

— Strong consistency of estimates of regression functions for strongly mixing samples. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 169–174. (Summary) **99i:62114** 62G20

Xu, Bing Zhen (*with* Li, Yue Ke; Yan, Xun Ling) New solitary wave solutions for a class of fifth-order nonlinear evolution equations. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 12, 1946–1951. 35Q53

Xu, Bu Gong Correction to: "An improved Razumikhin-type theorem and its applications" [IEEE Trans. Automat. Control **39** (1994), no. 4, 839–841; MR 95e:34070] by Xu and Y. Q. Liu. *IEEE Trans. Automat. Control* **39** (1994), *no.* 11, 2368. 34K20

— Delay-independent stability of linear systems with multiple unknown but constant delays. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 679–684. (A. A. Martynyuk) **99b:34126** 34K20 (93D09)

— (*with* Lo, K. L.) Robust control design for uncertain systems with interval parameters. (English summary) *Systems Sci.* **23** (1997), *no.* 4, 49–58 (1998). 93D09

— (*with* Wei, Zhenghong) Robust stability of systems with any unknown constant delay. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 409–414. 93D09 (93C30)

— *see also* **Tian, Guo Min**, **99k:34171**

Xu, C. X. *see* **Xu, Cheng Xian**

Xu, C. Z. *see* **Xu, Cheng-Zhong**

Xu, Cai (*with* Zhou, Zhuomei) Nonlinear evolution related to invariant functionals and the SUSY transformations. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 4, 637–640. (Sen Yue Lou) **99m:58120** 58F07 (35Q53, 58F35)

Xu, Chang Fa (*with* Yao, Yi Feng) A recursive formula for calculating integrals with singular kernels of logarithmic type by using wavelet expansions. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 5, 110–112. 65D30 (42C15)

Xu, Chang Qin (*with* Ding, Ren; Li, Yingzi) A note on city block distance. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 331–334. (From the text) **99i:68124** 68U10 (68T10)

Xu, Chao-Jiang (*with* Parmeggiani, Alberto) The Dirichlet problem for sub-elliptic second order equations. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 233–243. (Luca Capogna) **99e:35027** 35H05

— (*with* Bahouri, Hajer; Gérard, Patrick) Estimations de Strichartz généralisées sur le groupe de Heisenberg. [Generalized Strichartz estimates on the Heisenberg group] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. X*, 13 *pp.*, *École Polytech., Palaiseau*, 1998. (Keisuke Uchikoshi) **99k:35026** 35H05 (35B45, 35L05, 46N20)

— (*with* Jost, Jürgen) Subelliptic harmonic maps. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4633–4649. (Martin Fuchs) **99a:58047** 58E20 (35H05)

Xu, Chen (*with* Hu, Qi Ying) The Borel state space semi-Markov decision process with expected total rewards in a semi-Markov environment. (English summary) *Systems Sci. Math. Sci.* **12** (1999), *no.* 1, 82–91. (Summary) **99k:90197** 90C40 (60K15)

Xu, Cheng A fractional programming problem on an n-dimensional complex. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 1, 47–51. (Summary) **99c:90131** 90C32

— A linear fractional programming problem with bounded variables. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 2, 6–10. 90C32 (90C08)

— Efficiency and vector minimum problem on N-complex. (English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **12** (1999), *no.* 1, 30–33. 90C29

Xu, Cheng De (*with* Tian, Bo Ping) One-sided dyadic moving average representations of multidimensional dyadic stationary sequences. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 1, 50–52. (Summary) **99i:60086** 60G10

Xu, Cheng Qian (*with* Yang, Yi Xian) Algebraic constructions of asymptotically optimal two-dimensional optical orthogonal codes. *Chinese Sci. Bull.* **42** (1997), *no.* 19, 1659–1662. 94B60

— (*with* Yang, Yi Xian) Algebraic constructions of asymptotically optimal two-dimensional optical orthogonal codes. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 19, 2119–2122. 94B60

Xu, Cheng Xian (*with* Chen, Zhi Ping) Convergence analysis of inexact Gauss-Newton methods. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 1–7. (Summary) **99d:65152** 65H05 (65K05)

— (*with* Zhao, Ying Liang; Ma, Xiao Fang) A block conjugate directions method for solving unconstrained optimization problems. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 1–5. (Summary) **99c:90128** 90C30 (65Y05)

— (*with* You, Zhao Yong; Ma, Xiao Fang) A class of self-dual updating formulae in the Broyden family. (English summary) *Optimization* **39** (1997), *no.* 4, 405–409. (Summary) **99a:90198** 90C30 (65K05)

— (*with* Chen, Zhi Ping; Zhang, Zhong Xiu) A smoothing generalized active set method for solving constrained linear l_1 problems. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 9–16. 90C20

— (*with* Kong, Mai Ying) A stable solution method for large sparse matrix linear equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 28–34. 65F10

— (*with* Chen, Zhi Ping; Lin, Wei Dong) Indirect one-staging of the general multistage problem with recourse and its application. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 69–75. 90C15 (65U05)

— (*with* Yang, Xuyan) Convergence of conic quasi-Newton trust region methods for unconstrained minimization. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 71–76. 90C30 (65K05)

— (*with* Zhang, Zhong Xiu; Du, Xue Wu) A class of conjugate gradient methods for unconstrained optimization. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 53–57. 90C30 (65K05)

— (*with* Du, Xue Wu; Ling, Yong Xiang) Global convergence properties of the descent algorithms controlled by the FR conjugate gradient method. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 100–102. 90C30 (65K05)

— (*with* Zhao, Ying Liang) Analysis of the properties of optimal paths for trust region methods. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 93–97. 90C30 (65K05)

Xu, Cheng-Zhong (*with* Gauthier, J. P.; Bounabat, A.) An observer for infinite-dimensional skew-adjoint bilinear systems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 20 *pp.* (*electronic*). (Summary) **99g:93016** 93B07 (93C10)

— (*with* Ligarius, Ph.; Gauthier, J. P.) A simple observer for distributed systems: application to a heat exchanger. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 23 *pp.* (*electronic*). (Yuri V. Zaika) **99h:93022** 93B07 (93C20)

Xu, Chenyang (*with* Prince, Jerry L.) Snakes, shapes, and gradient vector flow. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 3, 359–369. (Summary) **99k:94017** 94A12

Xu, Chong-Ye (*with* Marsden, Jerrold E.) Asymptotic stability for equilibria of nonlinear semiflows with applications to rotating viscoelastic rods. I. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 271–297. (Alexandre N. Carvalho) **99e:34088** 34G20 (47H20, 58D25, 73F15, 73H10, 73K05)

Xu, Chuanju (*with* Maday, Yvon) A spectral element method for the time-dependent two-dimensional Euler equations: applications to flow simulations. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 63–85. (Summary) **99d:76081** 76M25 (65M70, 76C99, 76D05)

Xu, Da The global behavior of time discretization for an abstract Volterra equation in Hilbert space. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 71–104 (1998). (Gustaf Gripenberg) **99i:45022** 45L05 (45J05, 45N05, 65R20)

— The global behavior of finite approximations of solutions to the heat flux equation with linear memory. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 490–493, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65M60 (45K05, 65R20)

— (*with* Wang, Fu Jun) Finite element approximations for a class of parabolic integrodifferential equations with weakly singular kernels and nonsmooth initial data. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 2, 7–15. 65R20 (65M60)

Xu, Da Chuan Global convergence of the DFP algorithm with tracing line search. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 2, 1–3, 8. 90C20 (90C25)

— (*with* Shi, Zi Yun) Hybrid conjugate gradient techniques. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 4, 1–4. (Summary) **99b:90124** 90C30

— (*with* Guo, Peng Jiang) Global convergence of the preconvex part of Broyden's family. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 57–60. 90C30 (65K05)

Xu, Dao Yi Stability of functional-differential equations in Banach spaces. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 324–328, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 34K30 (34K20)

— (*with* Xu, An Shi) Domains of attraction of nonlinear functional difference systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 17, 1828–1831. 39A10

Xu, Daolin (*with* Bishop, Steven R.; Liaw, Chih-Yong; Chan, Eng-Soon) Applying chaos control in periodic windows. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1297–1305. (Frederick R. Marotto) **99j:58140** 58F13 (58F40, 93D15)

Xu, De Liang Removable singular sets of p-harmonic maps and related topics. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 7, 88–91. (Yuan-Jen Chiang) **99j:58056** 58E20

Xu, Dian-Yan (*with* Qiu, Zong-yan) Kerr-NUT-de Sitter metric and step-by-step extension method. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 12, 885–888. (Summary)

99d:83018 83C15
— Radiating charged rotating metric in de Sitter space in retarded time coordinates and the energy-momentum tensor. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 153–165. (Alicia M. Sintes) **99a:83020** 83C15
— Radiating metric, retarded time coordinates of Kerr-Newman-de Sitter black holes and related energy-momentum tensor. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 663–672. (Mark D. Roberts) **99d:83019** 83C15 (83C30, 83C50)
— Timelike limit surfaces, apparent horizons and event horizons of radiating Kerr-Newman-de Sitter black holes, inflation and cosmic censorship. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, 343–350. (Alfredo Macías) **99m:83143** 83C57 (83C75)
Xu, Ding Hua (*with* Cheng, Jin[2]; Li, Ming Zhong) On the stability estimation of analytic continuation for potential field. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 6, 563–572; *translated from Appl. Math. Mech.* **19** (1998), *no.* 6, 529–537 (*Chinese. English and Chinese summaries*). (Alexander I. Kheyfits) **99j:35027** 35J05 (30B40, 35B60, 86A20)
— (*with* Li, Ming Zhong) Non-E_2 class of strongly nonlinear generalised R-H boundary value problems for second-order elliptic system. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 3, 173–181. (Irina Yu. Dmitrieva) **99k:30070** 30E25 (35J25)
Xu, Dongfu The LSRS property and the convergence theorem of Henstock-Kurzweil integral. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 4, 443–448. (Ralph Henstock) **99j:26011** 26A39 (26A42, 28A20)
Xu, Duan (*with* Chen, Zhan Feng; Wu, Jian Zhong[2]) Major-in-weight efficiency and major-in-weight optimality of multiple criteria decision making. (English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 185–189. 90C29 (90A05)
— (*with* Chen, Zhan Feng; Wu, Jian Zhong[2]) Further study on H_β- efficient solutions of decision problems with multiple criteria. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 2, 78–82. 90A05 (90C29)
— (*with* Chen, Zhan Feng) A new method for finding major efficient solutions and major optimal solutions of discrete multiobjective programming. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 321–326. (Summary) **99g:90107** 90C29 (90C10)
Xu, Fei *see* **Xu, Fei[2]**
Xu, Fei[1] (*with* Hsia, J. S.; Shao, Y. Y.) Representations of indefinite quadratic forms. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 129–140. (A. G. Earnest) **99h:11039** 11E12 (11E08)
Xu, Fei[2] (*with* Wang, Huan Chen) A multiobjective interactive decision method based on ideal values and tolerant deviation values. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 3, 35–39. 90C29 (90B50)
— (*with* Wang, Huan Chen; Guo, Yao Huang) Optimality conditions for multiobjective nonsmooth hierarchical optimization problems. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 1–7. 90C29 (90D65)
Xu, Feng *see* **Xu, Feng[6]**
Xu, Feng[2] (*with* Lu, Yu Feng; Sun, Shan Li) Local decomposition of the essential spectra of Toeplitz operators on $H^2(S)$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 865–870. (Ke He Zhu) **99j:47037** 47B35
Xu, Feng[5] Generalized Goodman-Harpe-Jones construction of subfactors. I, II. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 3, 475–491, 493–508. (Yasuyuki Kawahigashi) **99f:46091** 46L37 (82B23)
— A random matrix model from two-dimensional Yang-Mills theory. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 287–307. (Jacobus Verbaarschot) **99f:81185** 81T40 (82B41)
— New braided endomorphisms from conformal inclusions. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 349–403. (Carl Winsløw) **99b:81139** 81T08 (46L37, 46L60, 81T40)
— Applications of braided endomorphisms from conformal inclusions. *Internat. Math. Res. Notices* **1998**, *no.* 1, 5–23. (Yasuyuki Kawahigashi) **99c:46076a** 46L37 (81T40)
— Correction to: "Applications of braided endomorphisms from conformal inclusions". *Internat. Math. Res. Notices* **1998**, *no.* 8, 437. (Yasuyuki Kawahigashi) **99c:46076b** 46L37 (81T40)
Xu, Feng[6] (*with* Lu, Ke Wei) Normal subgroups of classes of finite groups and π_σ-nilpotency. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 48–50. 20D10
Xu, Fu Yuan (*with* Yao, Jian; Wu, Jian Zhong[2]) Model reference adaptive fuzzy control for a class of nonlinear systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 12, 120–123. 93C42
Xu, Gang (*with* Zhang, Zhengyou) A unified theory of uncalibrated stereo for both perspective and affine cameras. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 3, 213–229. 68U10 (94A12)
Xu, Gen Qi (*with* Yang, Ming Zhu; Wang, Sheng Hua) The distribution of eigenvalues of the transport operator for a general inhomogeneous convex medium. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 413–418. (Xue-Ping Wang) **99d:35118** 35P20 (35Q99, 82C70)
Xu, Geng On the intersection of rational curves with cubic plane curves. *J. Algebraic Geom.* **7** (1998), *no.* 1, 1–13. (Ciro Ciliberto) **99e:14036** 14H50 (14C17)
Xu, Gongxue (*with* Duan, Qi; Liu, Aikui; Wang, Xuefu; Cheng, Fuhua) Constrained interpolation using rational cubic spline with linear denominators. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 203–215. (Summary) **99j:65014** 65D07 (41A29)
Xu, Guang Hui[1] (*with* Zhang, Hanqin) A new proof of the invariance principle for renewal processes. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 375–378. (J. Steinebach) **99i:60079** 60F17 (60K05)
— An algorithmic study of Markov stochastic models. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 10, 1009–1012. 60K25
Xu, Guanghan (*with* Suard, Bruno; Liu, Hui; Kailath, Thomas) Uplink channel capacity of space-division-multiple-access schemes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1468–1476. 94A40
Xu, Guangwu (*with* Chou, Ching) The weak closure of the set of left translation operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 465–471. (Ali Ülger) **99c:43003** 43A30 (43A07, 43A15, 43A46, 46L05)
Xu, Gui Ping Inverse problems of unitary matrices on a bounded closed set. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 1, 7–11. 65F30 (15A45, 65H10)
— (*with* Wei, Mu Sheng; Zheng, Dao Sheng) On solutions of matrix equation $AXB + CYD = F$. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 93–109. (Anna Lee) **99e:15020** 15A24
Xu, Gui Qiao (*with* Zhai, Jian Ren) A Korovkin-type approximation theorem for set-valued functions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 119–122. 41A36 (41A65)
— An upper bound for the rate of L_p convergence of the Lagrange process on the Chebyshev nodes. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 2, 161–168. (Yuan Ren Lou) **99j:41008** 41A05 (41A10, 41A25)
Xu, Guo Ai (*with* Qin, Zhong Ping; Zhang, Huan Guo; Jiang, Li Li) The computer-aided AIC method for finding the isotopy classes of Latin squares. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 669–673. (Summary) **99k:05042** 05B15
— (*with* Qin, Zhong Ping) Isotopy classes of $(4, k)$ Latin arrays ($k \leq 11$). (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 3, 100–102. 05B15
Xu, Guo-liang C^1 modeling of surface data by rational functions. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 431–437; *translation in Chinese J. Numer. Math. Appl.* **20** (1998), *no.* 1, 81–88. (Summary) **99a:65027** 65D17 (65D10)
Xu, H. *see* **Xu, Haihong**
Xu, Hai Bo[2] The convergence of the slaving principle in a single-mode laser model. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 4, 418–426. (Summary) **99a:81212** 81V80 (34C99)
Xu, Haihong (*with* Janovský, Vladimír; Werner, Bodo) Numerical computation of degenerate Hopf bifurcation points. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 12, 807–821. (Eugene Allgower) **99k:58131** 58F14 (34C23, 65H17)
Xu, He Qing Locally semiconvex fuzzy topological vector spaces. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 4, 21–25. (Summary) **99c:46085** 46S40 (46A03)
Xu, He Xian (*with* Zhang, Yong Kang; Qian, Guo Hua) Seminormal quasidirect products in finite groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 2, 15–18. 20D40 (20D35)
— (*with* Zhu, Zuo Tong) Universal mappings of wreath products of lattice-ordered groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 3, 1–4. 06F15 (20E22)
Xu, Hong (*with* Meyer, Yves) Wavelet analysis and chirps. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 4, 366–379. (Peter A. McCoy) **99c:42070** 42C15 (94A12)
Xu, Hong-Kun Banach space properties of Opial's type and fixed point theorems of nonlinear mappings. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 293–303. (Tomás Domínguez Benavides) **99k:47152** 47H10 (46B20)
— (*with* Marino, Giuseppe) Uniform property (K) and its related properties. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 93–107. (Summary) **99d:46023** 46B20 (47H10)
— Nonlinear discontinuous differential equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 4, 69–80. (Vitaly B. Moroz) **99m:35083** 35J65 (35D05, 49J52, 58E05)
— (*with* Beg, Ismat) Measurability of fixed point sets of multivalued random operators. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 62–72. (Summary) **99f:47093** 47H40 (47H09, 47H10, 54C60, 54H25, 60H25)
— Approximations to fixed points of contraction semigroups in Hilbert spaces. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 157–163. (Simeon Reich) **99d:47048** 47H09 (47H10, 47H17, 47H20)
Xu, Hong Mei Pointwise estimates of solutions of linearized Navier-Stokes equations of even dimension. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 2, 201–208. (Summary) **99h:35174** 35Q30 (76D05)
Xu, Hongguo (*with* Mehrmann, Volker) An analysis of the pole placement problem. II. The multi-input case. (English summary) *Electron. Trans. Numer. Anal.* **5** (1997), *Sept.*, 77–97 (*electronic*). (Petko Petkov) **99f:93068** 93B55 (65F35, 93C05)
— (*with* Benner, Peter; Mehrmann, Volker) A new method for computing the stable invariant subspace of a real Hamiltonian matrix. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 17–43. (Marlis Hochbruck) **99b:65042** 65F15 (93B40)
— (*with* Benner, Peter; Mehrmann, Volker) A numerically stable, structure preserving method for computing the eigenvalues of real Hamiltonian or symplectic pencils. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 329–358. (Rafael Bru) **99f:65057** 65F15 (15A18, 15A22)
— The relation between the QR and LR algorithms. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 551–555 (*electronic*). (Donald W. Robinson) **99c:15018** 15A23 (65F15)
— (*with* Mehrmann, Volker) Choosing poles so that the single-input pole placement problem is well conditioned. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 664–681 (*electronic*). (M. M. Konstantinov) **99f:93069** 93B55 (65F15, 93B40)
— (*with* Faßbender, Heike; Mackey, D. Steven; Mackey, Niloufer) Hamiltonian square roots of skew-Hamiltonian matrices. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 125–159. (George D. Poole) **99k:15022** 15A21 (15A24, 65F30)
Xu, Hongwei (*with* Shiohama, Katsuhiro) A general rigidity theorem for complete submanifolds. (English summary) *Nagoya Math. J.* **150** (1998), 105–134. (Yi Bing Shen) **99j:53084** 53C42 (53C40)
Xu, Hua (*with* Mizukami, Koichi; Kobara, Michihiko) Memoryless equilibrium strategies in multilevel decision processes of discrete-time descriptor systems. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 81–103. (Krzysztof Malinowski) **99k:93008** 93A13 (90A14, 90D05)
Xu, Hui Fu (*with* Rubinov, Aleksandr M.; Glover, B. M.) Strict lower subdifferentiability and applications. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 379–391. (Zsolt Páles) **99m:49031** 49J52 (58C20, 90C26)
Xu, Hui Qun Submanifolds with parallel mean curvature vector in pinched Riemannian manifolds. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.*

24 (1997), *no.* 4, 297–305. (Bao Qiang Wu) **99a:53076** 53C42 (53C40)

Xu, Jian[2] (*with* Chen, Yushu S.) On bifurcations of nonlinear systems with parametric excitation. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 3, 313–316. (W. S. Loud) **99f:34055** 34C23 (58F14, 70K40)

Xu, Jian Hua[2] (*with* Zheng, Zu Xiu) The existence of almost periodic solution to nonlinear differential equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 346–349. (Summary) **99d:34076** 34C27

— (*with* Zheng, Zu Xiu; Ren, Hongshan) A class of FDE with deviating argument which depends on state and rate of change of the state. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 454–459. (Angela Slavova Dimitrova) **99e:34102** 34K15 (34K05)

— (*with* Wang, Zhi Cheng[1]; Zheng, Zu Xiu) On the existence of almost periodic solutions of neutral functional-differential equations. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 4, 9 *pp.* (*electronic*). (F. Vogl) **99d:34142** 34K15 (34K40)

— (*with* Zheng, Zu Xiu) Continuous solutions for a class of functional equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 1–3. (Summary) **99k:39069** 39B22

— (*with* Wang, Zhi Cheng[1]) Persistence for logistic equations with infinite delays. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 4, 31–35. (George Seifert) **99d:34143** 34K15 (45J05)

Xu, Jian-Lun Characterizations of the exponential distribution via the blocking time in a queueing system with an unreliable server. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 236–239. 62E10 (60E05)

Xu, Jian Min (*with* Zhu, Bei Bei; Zhou, Qi Jie) A robust force/position control method for a class of constrained flexible robots. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 716–721. 93C83 (93B12)

— (*with* Fan, Xiao Ping; Yan, Quan Sheng; Mao, Zong Yuan; Zhou, Qi Jie) Dynamic modeling for a class of constrained planar two-link flexible manipulators. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 933–938. 93C85

Xu, Jian-Ming (*with* Vogelius, Michael) A nonlinear elliptic boundary value problem related to corrosion modeling. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 479–505. (Andrzej Chrzęszczyk) **99g:35047** 35J65 (35Q72, 73B99, 73C99)

— (*with* Santosa, Fadil; Vogelius, Michael) An effective nonlinear boundary condition for a corroding surface. Identification of the damage based on steady state electric data. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 656–679. (Viatcheslav I. Priĭmenko) **99h:35232** 35R30 (35J99, 35Q99, 78A55)

Xu, Jian-Xin (*with* Lee, Tong-Heng; Wang, Mao; Yu, Xing-Huo) Design of variable structure controllers with continuous switching control. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 409–431. 93B51 (93B12)

— (*with* Song, Yanbin) Sliding mode control with directly learned feedforward compensation. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 89–100. (*see* **99a:93003**) 93C10 (93B50)

— (*with* Lee, Tong-Heng; Jia, Qing-Wei; Wang, Mao) On adaptive robust backstepping control schemes suitable for PM synchronous motors. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 893–920. 93C85 (93C40)

— (*with* Lee, Tong-Heng; Wang, Mao) Self-tuning type variable structure control method for a class of nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 13, 1133–1153. (Summary) **99g:93018** 93B12 (93C10)

Xu, Jian Xue (*with* Fu, Wei Ping; Zhang, Xin Hua; Jiang, Yao Lin) A method of constructing nonlinear normal modes and Hopf bifurcation in an electromechanical coupled system. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 7–13, *I.* 70K99 (34C23)

— (*with* Chen, Yong Hong[2]; Fang, Tong) A chaotic attractor in the normal form network. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 6, 676–681. 58F13 (58F36)

Xu, Jianhua *see* **Xu, Jian Hua**[2]

Xu, Jin (*with* Métris, Gilles; Wytrzyszczak, Iwona) Derivatives of the gravity potential with respect to rectangular coordinates. (English summary) *Celestial Mech. Dynam. Astronom.* **71** (1998/99), *no.* 2, 137–151. (Summary) **99j:70017** 70F15 (31B15, 70–08)

Xu, Jinchao An introduction to multigrid convergence theory. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 169–241, *Springer, Singapore*, 1997. (*see* **99g:65001**) 65M55 (65N55)

— An introduction to multilevel methods. (English summary) *Wavelets, multilevel methods and elliptic PDEs* (*Leicester*, 1996), 213–302, *Numer. Math. Sci. Comput., Oxford Univ. Press, New York*, 1997. (Juhani Pitkäranta) **99d:65329** 65N30 (65F10, 65N55)

— (*with* Chan, Tony F. C.; Zikatanov, Ludmil) An agglomeration multigrid method for unstructured grids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 67–81, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65205** 65N55

— (*with* Zou, Jun) Some nonoverlapping domain decomposition methods. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 857–914 (*electronic*). (Lutz Tobiska) **99m:65241** 65N55 (65F10, 65N30)

— (*with* Shen, Ling) On a Schur complement operator arisen from Navier-Stokes equations and its preconditioning. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 481–490, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99i:76129** 76M25 (65M06, 76D05)

— (*with* Zikatanov, Ludmil) A monotone finite element scheme for convection-diffusion equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1429–1446. (Martin Stynes) **99m:65225** 65N30 (65N15, 76M10, 76Rxx)

Xu, Jing (*with* Chen, Wen De; Liang, Qihong) Period of processing on serial production line, optimal scheduling and application. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 9–21. 90B30 (90B35)

Xu, Jingbo (*with* Yu, Youhong) Time evolution of the time-dependent harmonic oscillator. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 3, 385–388. 81Q05

— (*with* Cai, Shoufu; Gao, Mu; Wang, Qinmei) Properties of the states generated by the excitations on a q-coherent state. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 4, 633–636. (K. Wódkiewicz) **99k:81104** 81R30 (81R50)

Xu, Jingming (*with* Zhang, Xiao Hong[1]) On anti-grouped ideal in BZ-algebra. (English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 101–102, 84. 06F35 (03G25)

Xu, Jinhui (*with* Chen, Danny Z.) Two-variable linear programming in parallel. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 169–180, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:90102** 90C08 (65Y05, 65Y25)

— (*with* Chen, Danny Z.; Daescu, Ovidiu; Hu, Xiaobo) Finding an optimal path without growing the tree. (English summary) *Algorithms—ESA '98* (*Venice*), 356–367, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (05C85, 68Q25)

Xu, Jiu Ping (*with* Luo, Jiu Li; Xu, Qi Wang) Dynamic analysis of a reaction-diffusion-like evolutionary equation for the growth of a single-bacillus population. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 6, 926–932. 35K57 (34C99, 92D25)

Xu, Jun Kai A contour design method for contact stress minimization. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 4, 307–316. (Summary) **99d:73068** 73K40 (65K05)

Xu, Junming Connectivity of Cartesian product digraphs and fault-tolerant routings of generalized hypercube. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 240. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 179–187. (Rong Si Chen) **99e:05083** 05C40

— (*with* Shen, Jian[2]; Li, Zhanzong) Some results on arithmetic and balanced graphs. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 2, 183–193. (Yixun Lin) **99j:05164** 05C75 (05C78)

Xu, Junxiang (*with* You, Jiangong) On reducibility of linear differential equations with almost periodic coefficients. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 4, 375–386. (Helmut Rüssmann) **99a:34023** 34A30 (34A25, 34C20)

Xu, K. W. (*with* Lu, Hong[1]; Pope, C. N.) Higher-spin realisations of the bosonic string. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 365–373, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81070** 81R10 (81T30)

— (*with* Lu, Hong[1]; Pope, C. N.; Tran, T. A.) Classification of p-branes, NUTs, waves and intersections. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 98–154. (Jeremy Michelson) **99a:83067** 83E30 (81T30)

Xu, Kai-Yu (*with* Cheng, Chang Jun) The subharmonic bifurcation of a viscoelastic circular cylindrical shell. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 2, 159–171. (Summary) **99h:73048** 73K12 (73F15, 73H10, 73K15)

Xu, Kan Successive approximation for solution of two-parameter stochastic differential equations. (English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 57–62. (Bohdan Maslowski) **99k:60159** 60H10

Xu, Ke Kang The decoupling problem for linear singular systems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 187–192. 93B17 (93C05)

— (*with* Huang, Yi[2]; Feng, Chun Bo; Tian, Yu Ping[1]) Eigenstructure assignment via dynamic output feedback. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 280–288. (Krzysztof Kuźmiński) **99i:93024** 93B55

Xu, Ke Ming (*with* Wen, Guo Chun; Yang, Guang Wu) Initial-oblique derivative problems for quasilinear parabolic complex equations of second order with measurable coefficients. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 30–34. 35K60

Xu, Kun (*with* Hu, Ji Shan) Projection dynamics in Godunov-type schemes. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 412–427. (Summary) **99a:76104** 76M20

Xu, Lanxi Nonlinear stability of the Bénard problem with rotation $\Omega = (\Omega_r, 0, \Omega_z)^T$ for rigid boundaries. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 2, 103–124. (Mariarosaria Padula) **99e:76050** 76E30 (35Q35, 76E15, 76U05)

— (*with* Kaiser, Ralf) Nonlinear stability of the rotating Bénard problem, the case Pr = 1. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 283–307. (Marie Christine Néel) **99g:76054** 76E15 (35Q35, 76D99, 76E30, 76U05)

Xu, Lei *see* **Xu, Lei**[2]

Xu, Lei[1] Bayesian Ying-Yang system and theory as a unified statistical learning approach. II. From unsupervised learning to supervised learning and temporal modeling. (English summary) *Theoretical aspects of neural computation* (*Hong Kong*, 1997), 25–42, *Springer, Singapore*, 1998. (*see* **99f:00027**) 62F15 (68T05)

— Bayesian Ying-Yang system and theory as a unified statistical learning approach. III. Models and algorithms for dependence reduction, data dimension reduction, ICA and supervised learning. (English summary) *Theoretical aspects of neural computation* (*Hong Kong*, 1997), 43–60, *Springer, Singapore*, 1998. (*see* **99f:00027**) 62F15 (68T05)

Xu, Lei[2] (*with* Chen, Zhi-Hong; Lai, Hong-Jian; Zhang, Xiankun) Group coloring and group connectivity of graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 123–130. (Summary) **99j:05068** 05C15 (05C25, 05C40)

— (*with* Hennayake, Kamal P.; Lai, Hong-Jian) The strength and the l-edge-connectivity of a graph. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 58–70. (Summary) **99m:05092** 05C40

Xu, Li (*with* Saito, Osami; Abe, Kenichi) Design of practically stable n-dimensional feedback systems: a state-space approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 29–39. 93D09 (93B51)

— (*with* Saito, Osami; Abe, Kenichi) nD control systems in a practical sense. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 907–941. (Summary) **99c:93066** 93C30 (93B50)

— (*with* Yamada, Minoru; Saito, Osami) 2D model-following servo system. (English summary) *Multidimens. Systems Signal Process.* **10** (1999), *no.* 1, 71–91. (Summary) **99j:93058** 93C30 (93C85)

Xu, Li Jian (*with* Wei, Bin[2]; Wan, Bai Wu; Han, Chong Zhao) An improved method of steady-state optimisation control. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 11–17. 93E10 (93A15)

Xu, Lianchao (*with* Hou, Bo-yuan; Zhou, Shanyou) On the q-deformation of Heisenberg algebra. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 2, 231–236. (Summary) **99e:81094** 81R50 (17B37)

Xu, Liangwei (*with* Takeichi, Masato; Iwasaki, Hideya) Relational definition of UNITY loop. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 646–655. (Summary) **99a:68121** 68Q60

Xu, Lihao (*with* Bruck, Jehoshua) X-code: MDS array codes with optimal encoding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 272–276. (Summary) **99k:94065** 94B60

Xu, Lilian (*with* Sandberg, Irwin W.) Approximation of myopic systems whose inputs need not be continuous. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 2, 207–225. (Valery I. Korobov) **99b:93006** 93A30

Xu, Lin (*with* Carmona, René A.) Diffusive hydrodynamic limits for systems of interacting diffusions with finite range random interaction. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 565–584. (Summary) **99c:82049** 82C22 (60K35)

— (*with* Carmona, René A.; Grishin, Stanislav; Molchanov, Stanislav Alekseevich) Surface stretching for Ornstein Uhlenbeck velocity fields. (English summary) *Electron. Comm. Probab.* **2** (1997), *no.* 1, 1–11 (*electronic*). (Nariyuki Minami) **99c:60132** 60H25 (60H30)

Xu, Ling-ling (*with* Yan, Shi Jian[2]; Fan, Jin-yan; Huang, Kai-bin) The solubility of the multidimensional TLS problem. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 2, 121–124. 65F30 (90C30)

Xu, Luo Shan (*with* Zhang, Dexue) Categories isomorphic to FNS. (English summary) Categorical methods and techniques in fuzzy mathematics. *Fuzzy Sets and Systems* **104** (1999), *no.* 3, 373–380. (*see* **99m:03114**) 54A40 (18B99)

— (*with* Lowen, Robert) Alternative characterizations of FNCS. (English summary) Categorical methods and techniques in fuzzy mathematics. *Fuzzy Sets and Systems* **104** (1999), *no.* 3, 381–391. (*see* **99m:03114**) 54A40 (18B99)

— (*with* Blasco Mardones, N.) A short note on fuzzy neighbourhood convergence spaces. (English summary) Categorical methods and techniques in fuzzy mathematics. *Fuzzy Sets and Systems* **104** (1999), *no.* 3, 393–396. (*see* **99m:03114**) 54A40

— (*with* Lowen, Robert) Connectedness in FTS from different points of view. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 51–66. 54A40 (54D05)

Xu, Maozhi (*with* Wang, Efang) A break of public key cryptosystem PKCY. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 4, 396–404. 94A60 (68P25)

Xu, Min[3] (*with* Zhu, De Ming) Exponential trichotomy, orthogonality condition and their application. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 1, 133. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 1, 55–64. (Xiao Biao Lin) **99d:34089** 34D05 (34C11, 34C37, 58F14)

Xu, Ming Axioms for deliberative stit. (English summary) *J. Philos. Logic* **27** (1998), *no.* 5, 505–552. (Summary) **99d:03017** 03B45

Xu, Ming Min (*with* Yan, Xiao Lin) Maximum likelihood estimation in life testing for a three-parameter Weibull distribution under fixed time censoring with replacement. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 2, 24–29. (Summary) **99g:62028** 62F10 (62N05)

Xu, Ming Tian (*with* Li, Jian Feng; Cheng, Delin) Non-linear vibration by a new method. (English summary) *J. Sound Vibration* **215** (1998), *no.* 3, 475–487. (Summary) **99d:70035** 70K40 (34C15)

Xu, Ming-Yao Some work on vertex-transitive graphs by Chinese mathematicians. (English summary) *Group theory in China*, 224–254, *Math. Appl. (China Ser.)*, 365, *Kluwer Acad. Publ., Dordrecht*, 1996. (Hugo S. Sun) **99b:05078** 05C25 (20F99)

— (*with* Du, Shao-Fei; Wang, Ru-Ji) On the normality of Cayley digraphs of groups of order twice a prime. (English summary) *Australas. J. Combin.* **18** (1998), 227–234. (Summary) **99g:05095** 05C25 (05C20)

— (*with* Meng, Ji-Xiang) On the isomorphism problem of Cayley graphs of abelian groups. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 161–169. (Hugo S. Sun) **99j:20045** 20F32 (05C25)

— (*with* Li, Cai Heng; Praeger, Cheryl E.) Isomorphisms of finite Cayley digraphs of bounded valency. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 164–183. (T. T. Raghunathan) **99h:05055** 05C25 (05C20, 05C60, 20D20)

— (*with* Li, Cai Heng; Praeger, Cheryl E.) On finite groups with the Cayley isomorphism property. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 21–31. (Dave Witte) **99c:20033** 20E34 (05C25)

— (*with* Wang, Changqun; Wang, Dianjun) Normal Cayley graphs of finite groups. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 242–251. (Tullio G. Ceccherini-Silberstein) **99g:20056** 20F05 (05C25)

— (*with* Du, Shao-Fei) Vertex-primitive $\frac{1}{2}$-arc-transitive graphs of smallest order. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 163–171. (Cheryl E. Praeger) **99m:05067** 05C25 (20B25)

Xu, Ming Yue (*with* Wang, Shu Chen) Set-valued strong Markov processes. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 25–30. (Summary) **99i:60135** 60J05 (60D05)

Xu, Mingxi (*with* Deng, Keng) Behavior of solutions of a nonlinear ordinary differential equation. *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 269–282. (Georg S. Weiss) **99a:34004** 34A12 (34C99, 35B40, 35K55)

— (*with* Deng, Keng) Remarks on blow-up behavior for a nonlinear diffusion equation with Neumann boundary conditions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 167–172. (Summary) **99b:35102** 35K60 (35B40)

Xu, Mingzhi Cohomology groups of units in $\mathbf{Z}_p^d$-extensions. *Acta Arith.* **86** (1998), *no.* 4, 289–304. (Gabriel D. Villa-Salvador) **99j:11130** 11R23 (11R34)

Xu, Nan Rong (*with* Wu, Qing Lie; Jiang, Xiao Gan) A new method for large-scale multiobjective optimization with integer variables. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 53–59. 90C10 (90C29)

Xu, Pengcheng (*with* Chan, Kai-Yuen; Jing, Zhu-Jun) Bifurcation and chaotic behavior in the Duffing's equations with one and two external periodic forces. *Functional analysis and global analysis (Quezon City, 1996)*, 37–57, *Springer, Singapore*, 1997. (Frederick R. Marotto) **99k:34076** 34C15 (34C23, 34C29, 58F13, 58F14)

— (*with* Miao, Shumei) Nonlinear periodic boundary value problem for second order integro-differential equations of Volterra type. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 291–298. (George Karakostas) **99a:34179** 34K10 (45J05)

— (*with* Guo, Bo Ling; Chang, Qian-Shun) The homoclinic orbits in nonlinear Schrödinger equation. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 129–134. 35Q55 (34C37, 58F39)

Xu, Ping[1] Flux homomorphism on symplectic groupoids. *Math. Z.* **226** (1997), *no.* 4, 575–597. (Johannes Huebschmann) **99a:58081** 58F06 (22E65, 58F05, 58H05)

— Quantum groupoids and deformation quantization. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 289–294. (Summary) **99h:58073** 58F06 (58H05)

— (*with* Liu, Zhang-Ju; Weinstein, Alan) Dirac structures and Poisson homogeneous spaces. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 121–144. (Albert Jeu-Liang Sheu) **99g:58053** 58F05 (22A22, 58B20, 58H05)

— (*with* Mackenzie, Kirill C. H.) Classical lifting processes and multiplicative vector fields. *Quart. J. Math. Oxford Ser. (2)* **49** (1998), *no.* 193, 59–85. (Charles-Michel Marle) **99m:58210** 58H05 (58F05)

— *see also* **Advances in geometry**, **99h:00015**

Xu, Pu Shui (*with* Shi, Song Jiao) A robust feedback controller design method with gains constrained to zero. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 6, 74–77. 93B36 (93B51)

Xu, Qi Wang (*with* Xu, Jiu Ping; Luo, Jiu Li) Dynamic analysis of a reaction-diffusion-like evolutionary equation for the growth of a single-bacillus population. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 6, 926–932. 35K57 (34C99, 92D25)

Xu, Qian Li (*with* Peng, Min Shu; Huang, Li Hong) Oscillation and stability of a class of higher-order nonlinear difference equations. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 303–307. (Summary) **99b:39018** 39A11

— (*with* Peng, Min Shu; Huang, Li Hong; Ge, Wei Gao) Asymptotic and oscillatory behavior of solutions of certain second-order nonlinear difference equations. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 9–18. (E. Thandapani) **99k:39034** 39A10

Xu, Qin (*with* Gao, Jidong; Gu, Wei) Generalized adjoint for physical processes with parameterized dicontinuities. V. Coarse-grain adjoint and problems in gradient check. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 11, 2130–2135. (Summary) **99c:86002** 86A10

— (*with* Gu, Wei; Wu, Rongsheng) Three-dimensional instability of nonlinear viscous symmetric circulations. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 20, 3148–3158. (Summary) **99f:76054** 76E20 (86A10)

— (*with* Gu, Wei; Gao, Jidong) Baroclinic Eady wave and fronts. I. Viscous semigeostrophy and the impact of boundary condition. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 24, 3598–3615. (Summary) **99h:86015** 86A10

— (*with* Gao, Jidong) Generalized adjoint for physical processes with parameterized discontinuities. VI. Minimization problems in multidimensional space. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 7, 994–1002. (Summary) **99k:86006** 86A10

Xu, Qing Xiang (*with* Chen, Xiao Man) Fredholm operators in Toeplitz algebras associated with discrete abelian groups. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 14, 1175–1179. (Summary) **99j:47040** 47B35 (46L99, 47A53, 47D25)

— (*with* Chen, Xiao Man) Fredholm operators in Toeplitz operator algebras over discrete abelian groups. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 7, 706–709. 47B35 (46L05, 47A53)

— (*with* Chen, Xiao Man) A note on Toeplitz operators on discrete groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3625–3631. (Raúl E. Curto) **99g:47059** 47B35 (06A06, 46L99)

— (*with* Chen, Xiao Man) Toeplitz C^*-algebras on ordered groups and their ideals of finite elements. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 553–561. (Hua Xin Lin) **99f:46106** 46L99 (19K14, 47B35, 47D25)

Xu, Qiwen (*with* Back, Ralph-Johan) Refinement of fair action systems. (English summary) *Acta Inform.* **35** (1998), *no.* 2, 131–165. (Manfred Broy) **99b:68067** 68Q10 (68Q60)

Xu, Quan-Fu (*with* Lin, Wen-Wei; Wang, Chern-Shuh) On the computation of the optimal $\mathbf{H}_\infty$ norms for two feedback control problems. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 223–255. (Summary) **99i:93019** 93B36 (65F30, 93B40)

Xu, Quanhua Littlewood-Paley theory for functions with values in uniformly convex spaces. (English summary) *J. Reine Angew. Math.* **504** (1998), 195–226. (Michael B. Korey) **99j:42030** 42B25 (46E40)

Xu, Rong Cong A theorem of Banach in topological spaces and almost continuity. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 5, 6–10. 54C08

— Banach frames in Banach spaces. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 6, 1–4. 46B15 (42C15)

Xu, Ru Chu (*with* Huang, Wen Qi; Chen, Wei Dong; Zhang, Jing Fen) A physicalification and personification method for solving packing problems and the CNF-SAT problem. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 9, 5–7, 54. 68Q25 (03B05, 03B35)

Xu, Rui *see* **Xu, Rui[2]**

Xu, Rui[1] The connectivity of adjacent tree graphs. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 4, 412–419. (Jing Zhong Mao) **99b:05090** 05C40 (05C05)

— Some Ore-type conditions for the existence of connected $[2, k]$-factors in graphs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 295–298. (Summary) **99g:05147** 05C70

Xu, Rui[2] (*with* Yang, Ping Hua) Persistence in N species competition system with time delays. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 4, 30–37, 48. (Summary) **99f:92030** 92D25 (34K15, 45J05)

— (*with* Yang, Ping Hua; Feng, Hanying) Global asymptotic stability of periodic solution in N-species competition system with time delays. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 375–383. (Summary) **99j:92022** 92D25 (34K20)

— (*with* Yang, Ping Hua) Bifurcations and chaotic behavior of periodic solutions to a class of predator-prey systems with harvesting. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 25–29, 24. (Summary) **99k:92040** 92D25 (34C23, 34C25, 58F13)

— (*with* Yang, Ping Hua) The limit cycles of a class of first-order saturated reaction systems. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 2, 167–171. (Summary) **99h:92012** 92C40 (34C05)

— (*with* Yang, Ping Hua; Hu, Bao Cun) Qualitative analysis of a class of biochemical reaction systems. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 361–364. (Summary) **99k:92051** 92E20 (34C05, 92C40)

— (*with* Ma, Zhi En) Chaos and subharmonic bifurcations in periodic time-dependent non-Hamiltonian integrable Kolmogorov systems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 19–24. 34C23 (58F14)

Xu, Ruo Ning Fuzzy linear regression with fuzzy regression parameters. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 70–77. (Summary) **99i:62156** 62J05

Xu, S. *see* **Xu, Shaozhi**

Xu, S.-Q. *see* **Xu, Song Qing**

Xu, Sen Lin (*with* Qi, Feng) Refinements and extensions of an inequality. II. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 616–620. (Zsolt Páles) **99i:26028** 26D15

— (*with* Mei, Jiaqiang) On complete open manifolds with non-negative curvature along ray directions. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 197–202. (Sérgio J. Mendonça) **99h:53041** 53C20 (53C21)

— (*with* Pečarić, Josip; Qi, Feng; Šimić, V.) Refinements and extensions of an inequality. III. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 439–448. (Zsolt Páles) **99i:26029** 26D15

— (*with* Wang, Chunmiao) Minimal submanifolds in a sphere. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 1–7, 12. (José Carmelo González-Dávila) **99i:53065** 53C42

— (*with* Xia, Qinglan) Conformal deformation of a close Riemannian submanifold to minimal submanifold. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 109–115. (Man Chun Leung) **99h:53079** 53C40 (53C42)

— (*with* Xia, Da Feng) Fixed points of continuous self-maps under a contractive condition. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 81–84. 54H25

— (*with* Xia, Da Feng) The Nielsen number of a vector field. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 83–85. (Summary) **99m:55002** 55M20 (57R25)

— (*with* Qi, Feng) The function $(b^x - a^x)/x$: inequalities and properties. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3355–3359. (Ling Yau Chan) **99a:26001** 26A09 (26A48, 26D07)

Xu, Shaogang An ergodic process of zero divergence-distance from the class of all stationary processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 181–195. (Vincent De Valk) **99c:60079** 60G10 (28D05)

Xu, Shaozhi Mathematical and physical insufficiencies of the Lorentz transformation. (English summary) *Hadronic J. Suppl.* **13** (1998), *no.* 2, 147–172. 83A05

— *see also* **Ephraim, H., 99g:83006**

Xu, Shengzhi (*with* Yan, Shaozong; Chen, Xiao Man) The K-theory and the classification of the irrational rotation groupoid C^*-algebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 2, 270. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 2, 257–264. (Judith A. Packer) **99b:46091** 46L05 (19K56, 46L35, 46L80)

— (*with* Yan, Shaozong; Chen, Xiao Man) Groupoid structure of Toeplitz algebra over L-shaped domain. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 2, 163–171. (Raúl E. Curto) **99c:47027** 47B35 (46L35, 47B20, 47B38, 47D25)

— (*with* Yan, Shaozong; Chen, Xiao Man) Submodules of the groupoid C^*-algebra. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 379–385. (Vladimir Manuilov) **99k:46104** 46L05

Xu, Shi Fan (*with* Yue, Dong; Liu, Yong Qing) Designing robust controls for nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 427–431. 93D09 (93B51)

Xu, Shi Meng Principles for modeling financial markets and optimal growth of the wealth process. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 171–178. (Summary) **99m:90031** 90A09

— (*with* Zhang, Yu Zhong; Lin, Jun Chang) The pricing of preferred hedging contingent claims under transaction costs. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 414–420. 90A12

Xu, Shu-Fang (*with* Chan, Raymond H.; Zhou, Hao-Min) On the convergence of a quasi-Newton method for inverse eigenvalue problems. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 436–441 (*electronic*). (J. Segethová) **99m:65069** 65F15 (65F10)

Xu, Shu-Sheng On characterization of best approximation with certain constraints. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 339–360. (Hans Benker) **99f:41024** 41A29 (41A65)

— Successive approximate algorithm for best approximation from a polyhedron. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 415–433. (Christian Coatmélec) **99c:41072** 41A65 (65D15)

Xu, Si Lin (*with* Liu, Chao Jie) Boundedness of solutions of Liénard equations. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 3, 12–16. (Xue Min Li) **99m:34076** 34C11 (34D40)

— (*with* Liu, Chao Jie) Another method for proving the uniqueness of the limit cycle of a quadratic system. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 85–87, 73. (Mao An Han) **99f:34039** 34C05

Xu, Song (*with* Burke, James V.) The global linear convergence of a noninterior path-following algorithm for linear complementarity problems. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 719–734. (R. N. Kaul) **99h:90103** 90C33

— On local w-uniqueness of solutions to linear complementarity problem. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 23–29. (Bruce D. Craven) **99k:90182** 90C33

Xu, Song Qing (*with* Kamiya, Norio) Revised scheme for nonlinear analysis by boundary element method using computing points. (English summary) *Boundary element research in Europe (Southampton, 1998)*, 103–111, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 65N38 (73V10)

— (*with* Kamiya, Norio) A formulation and solution for boundary element analysis of inhomogeneous-nonlinear problem. (English summary) *Comput. Mech.* **22** (1998), *no.* 5, 367–374. 65N38 (65N55)

Xu, Susan H. (*with* Shanthikumar, J. George) Asymptotically optimal routing and service rate allocation in a multiserver queueing system. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 464–469. (Joseph Kreimer) **99h:90047** 90B22 (60K25)

Xu, Tao[2] (*with* Duan, Yishi; Jiang, Ying[3]) A new topological aspect in the O(n) symmetric time-dependent Ginzburg-Landau model. (English summary) *Phys. Lett. A* **252** (1999), *no.* 6, 307–315. (Summary) **99k:81174** 81T10 (81T70)

Xu, Tianzhou Nonstable representable K-theory for σ-C^*-algebras. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 225–240. (From the text) **99m:46160** 46L80 (19K33, 19L47, 46M20, 55N91)

— The weak topology for SG-primitive ideals. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 103–119. (Seung-Hyeok Kye) **99f:46087** 46L05 (46L55)

Xu, Tiefeng (*with* Chen, Feng; Li, Wen Zhu) On the bosonization of interacting fermions in high dimensions. (English summary) *Phys. Lett. A* **232** (1997), *no.* 5, 373–376. (From the text) **99c:82068** 82D15 (81V70)

Xu, W. S. *see* **Xu, Wen Sheng**

Xu, Wan Da (*with* Zheng, Lian Cun; He, Ji Cheng) Existence and nonuniqueness of positive solutions to a class of singular nonlinear boundary value problems. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 71–77. (Ching-An Wang) **99c:34041** 34B15 (76A05, 76D10)

Xu, Wang Wen (*with* Liu, Shun Bao) The asymptotic behavior of a class of delay difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 48–52. (Guang Zhang) **99a:39038** 39A10

— (*with* Li, Jing Wen[2]) Global attractivity of the model for the survival of red blood cells with several delays. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 357–363. (Summary) **99i:92004** 92C30 (34K20)

Xu, Wei[3] (*with* Rong, Hai Wu; Fang, Tong) C^r stochastic center manifold theory. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 3, 8–13, *I.* (Summary) **99f:58116** 58F10

— (*with* Rong, Hai Wu; Fang, Tong) The maximal Lyapunov exponent and stability for coupled nonlinear stochastic systems with two degrees of freedom. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **15** (1998), *no.* 1, 22–29, *II.* (Summary) **99e:34078** 34F05 (34D08, 60H10, 70L05)

Xu, Wen Ke (*with* Wang, Xue Shun) The weighted average of a function and its convexity. I. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 23–26. 26D15 (26A51)

Xu, Wen Li (*with* Lu, Jin[2]; Han, Zeng Jin) A parallel identification algorithm for neural networks. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 741–745. 93B36 (93C83)

Xu, Wen Sheng (*with* Wu, Xiongwei; Chen, Shuping) An optimal investment/consumption problem with higher borrowing rate. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 68–76. (Summary) **99d:90021** 90A09

— Maximum principle for a stochastic optimal control problem and application to portfolio/consumption choice. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 719–731. (Gerhard Sorger) **99e:49030** 49K45 (90A09, 93E20)

Xu, Wencheng (*with* Wen, Shuangchun; Guo, Qi[2]; Liu, Songhao) Evolution of solitons of nonlinear Schrödinger equation with variable parameters. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1300–1304. (Nakao Hayashi) **99a:35244** 35Q55 (35Q60, 78A60)

Xu, Wenxiong (*with* Castillo-Chavez, Carlos) Existence and uniqueness of solutions of a model in differential-integral equations. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 108–112. (Shu Chun Gao) **99k:45025** 45J05 (34K99)

Xu, Wenyuan (*with* Wu, Yougui; Du, Jinguan; Li, Yuan[2]) The stationarity and spectral representation of one class of non-negative integer-valued time series. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 185–192. (Summary) **99c:62268** 62M10

— (*with* Wu, Yougui; Du, Jinguan; Li, Yuan[2]) The strong law of large number and parameter estimation of one class of non-negative integer-valued time series. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 225–233. (Summary) **99h:62120** 62M10 (60F15)

Xu, X. *see* **Xu, Xiao**

Xu, Xi Wen The properties of algebraic sums of image sets of an N-parameter d-dimensional generalized Wiener process. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 199–206. (Summary) **99k:60210** 60J65 (60G15, 60G60)

Xu, Xi Xiang A series of hierarchies of Liouville integrable finite-dimensional Hamiltonian systems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 133–139. (Luen-Chau Li) **99g:58066** 58F07 (70H05)

Xu, Xiangqun *see* **Ephraim, H., 99g:83006**

Xu, Xiangsheng (*with* Gariepy, R. F.; Shillor, Meir) Existence of generalized weak solutions to a model for in situ vitrification. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 6, 543–559. (Vitaly A. Volpert) **99m:80013** 80A22 (35J70, 35Q99)

— A local partial regularity theorem for weak solutions of degenerate elliptic equations and its application to the thermistor problem. (English summary) *Differential Integral Equations* **12** (1999), *no.* 1, 83–100. (Summary) **99j:35081** 35J70 (35D10, 78A55)

Xu, Xiao (*with* Pain, C. C.; Goddard, A. J. H.; de Oliveira, C. R. E.) An automatic adaptive meshing technique for Delaunay triangulations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 297–303. 65N55

Xu, Xiao Dong (*with* Zhao, Yong; Yue, Chao Yuan; Chen, Ting[1]) A study on preference in data envelopment analysis. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 47–54. 90C08 (90C90)

Xu, Xiao Ming (*with* Liu, Jian Hua; Zhang, Wei Jiang) Probabilistic neural network filtering for nonlinear systems with colored noise. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 793–796. (Summary) **99a:93101** 93E11

— (*with* Zhang, Wei Dong; Sun, You Xian) Dahlin controller design for multivariable time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 64–72. 93B51

— (*with* Chen, Ya Jun; Yang, Yu Pu) Stability of a class of feedback neural networks with time-delay and estimation of the domain of attraction. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 4, 376–380. (Summary) **99g:68171** 68T05 (92B20)

— (*with* Song, Jun; He, Xing) A stability based neural networks controller design method. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 119–133. 93C83 (93B51)

— (*with* Huang, Xin Min[2]; Yang, Yu Pu; Chen, Ping[4]) Stable controller design based on dynamic recurrent neural networks. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 8, 49–54. 93B51 (93C83)

Xu, Xiao Quan (*with* Liu, Ying Ming) The upper topology and the interval topology on a complete lattice. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **20** (1999),

no. 1, 15–20. 54F05 (06A23, 06B30, 06F30, 54H12)

Xu, Xiaojie (*with* Andersen, Erling D.; Gondzio, Jacek; Mészáros, Csaba) Implementation of interior-point methods for large scale linear programs. (English summary) *Interior point methods of mathematical programming*, 189–252, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05 (90C06)

Xu, Xiaoping Braid group actions, intertwining operators and ternary moonshine spaces. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 337–380. (Hai Sheng Li) **99c:17041** 17B69

— Differential invariants of classical groups. *Duke Math. J.* **94** (1998), *no.* 3, 543–572. (Jaime Muñoz Masqué) **99j:58229** 58G35 (15A72, 22E46, 35A30)

— Invariants over curvature tensor fields. (English summary) *J. Algebra* **202** (1998), *no.* 1, 315–342. (A. Rod Gover) **99h:53020** 53B20 (53B21)

Xu, Xin He (*with* Zhang, Qing Ling; Dai, Guan Zhong; Xie, Xu Kai) Analysis and control of stability for discrete descriptor systems via Lyapunov methods. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 622–629. 93D05 (93C55)

— (*with* Li, Zhengguo; Soh, Cheong Boon) Robust stability of a class of hybrid dynamic uncertain systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1059–1072. (Summary) **99g:93067** 93D09

— (*with* Dai, Lian Gui; Zhang, Ji Hui[2]) Applications of lattice theory in supervisory control of discrete event systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 255–258. 93C83 (06A23)

— (*with* Xiao, Wen Dong) A mechanized solution method for linear discrete event dynamical systems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 197–203. 93C83 (93C40)

— (*with* Zhang, Ji Hui[2]) An efficient evolutionary programming algorithm. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 7, 645–663. (Summary) **99k:90167** 90C30 (65K05)

Xu, Xin Ping (*with* Sun, Zhi Ren) A sufficient condition for the existence of S-dominating cycles. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 3, 10–12. (Summary) **99a:05088** 05C38

— (*with* Zhou, Xing He) A condition for Hamilton-connectedness of k-connected graphs that uses essential sets. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 1, 5–12. (Summary) **99b:05098** 05C45

— (*with* Zhan, Ming Quan) An investigation on Hamiltonicity of k-connected claw center independent graphs using essential sets. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 258–265. (Summary) **99c:05129** 05C45

— (*with* Zhan, Ming Quan) Hamilton connectedness of $(k+1)$-connected claw-free graphs. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 2, 12–16, 21. (Summary) **99j:05137** 05C45 (05C40)

— (*with* Wu, Zheng Sheng; Zhou, Xing He) The neighborhood intersections of essential sets and Hamiltonicity of graphs. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 230–237. (Akira Saito) **99k:05104** 05C45 (05C38)

Xu, Xin Zhai A note on the localization of semigroups. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 10–12. (Summary) **99m:20159** 20M99

Xu, Xing Ye (*with* Lin, Chang Hao) The existence of global positive solutions to nonlinear elliptic equations with singularities. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 9–14. (Henghui Zou) **99e:35056** 35J60

— Existence of positive entire solutions to singular nonlinear biharmonic equations in $\mathbf{R}^n$. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 99–105. (Summary) **99h:35055** 35J60 (35B05)

Xu, Xingwang (*with* Wei, Juncheng) On conformal deformations of metrics on S^n. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 292–325. (David L. Finn) **99e:53057** 53C21 (35J60, 58G30)

Xu, Xingzhong Local canonical correlation coefficients and canonical variables of groups of random variables. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 815–817. 62H20

Xu, Xiu-wei (*with* Zhang, Yong-de) Two theorems for general n-mode boson exponential quadratic operators. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 11, 812–815. (Summary) **99f:81119** 81S99

Xu, Xu Feng (*with* Chao, Xiao Li) Two theorems on (ϵ)-Sasakian manifolds. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 249–254. (Shōichi Funabashi) **99f:53048** 53C25

Xu, Xue Jun Preconditioning methods for mixed finite element methods with nonnested meshes. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 139–148. (Shuzi Zhou) **99c:65220** 65N30 (65F10)

— (*with* Li, Li Kang) A V-cycle multigrid method and additive multilevel preconditioners for the plate bending problem discretized by conforming finite elements. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 233–258. (Harry Yserentant) **99f:73084** 73V05 (65N55, 73K10)

— (*with* Zhang, Jie Fang) New exact and explicit solitary wave solutions to a class of coupled nonlinear equations. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 189–193. 35Q53 (35C05)

— (*with* Shi, Zhong Ci) Cascadic multigrid method for a plate bending problem. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 2, 137–153. (Muthusamy Vanninathan) **99g:73109** 73V05 (65N55, 73K10)

Xu, Y. *see* **Xu, Yuguang[1]**

Xu, Ya Lan (*with* Wang, Jian Fei) A global numerical integration method for differential equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 23–27. 65L06

— (*with* Deng, Cai Xia) Optimal formulas for numerical integration in $H_0^1[a,b]$. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 5–7. 65D32 (41A55)

— (*with* Deng, Cai Xia; Du, De Sheng) Existence and uniqueness of solutions to operator equations in the space W_2^1. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 11–12. 47A50 (46E22, 47B38)

Xu, Yanbo (*with* Cao, Zhijiang) On self-adjointness of singular Dirac operators. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 364–374. (Evgeney V. Cheremnikh) **99e:47060** 47E05 (34L40)

Xu, Yang (*with* Liu, Jun) Filters and structure of lattice implication algebra. *Chinese Sci. Bull.* **42** (1997), *no.* 18, 1517–1520. 03G10 (06B10)

— (*with* Qin, Ke Yun) The lattice-valued system $L(X)$ of propositional logic. I. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 5–11. 03B50

— (*with* Qin, Ke Yun; Song, Zhen Ming) The compactness and Löwenheim-Skolem properties for the logic FM. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 4, 371–375. 03B50

— (*with* Qin, Ke Yun) The category of fuzzy lattice implication algebras. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 13–16. 06A23 (06C99)

— (*with* Qin, Ke Yun; Song, Zhen Ming) The lattice-valued system $L(X)$ of propositional logic. II. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 10–19. 03B50

— (*with* Zhang, Qiang[2]; Du, Wen) Lebesgue decomposition theorem for σ-finite signed fuzzy measures. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 445–451. (Summary) **99k:28030** 28E10 (28A12)

— (*with* Liu, Jun) On the representation of lattice implication algebras. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 251–258. (Summary) **99m:03132** 03G25

Xu, Yao Qun (*with* Xie, Hong Zheng; Yang, Feng Lin) A class of two-phase free boundary problems for parabolic equations with variable coefficients. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 105–107. 35R35 (35K99)

Xu, Ye Ji Linear prediction theory of a homogeneous random field with discrete parameters. V. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 4–9. 60G25

Xu, Yin-Feng Minimum weight triangulations. *Handbook of combinatorial optimization, Vol.* 2, 617–634, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (65Y25, 90-02, 90C35)

— (*with* You, Zhao Yong) An $O(n^2 \log n)$ algorithm for finding all strongly visible pairs of points of a finite planar point set. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 89–92. 65Y25 (51A20, 90C08)

— (*with* Cai, Leizhen; Zhu, Binhai) Computing the optimal bridge between two convex polygons. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 127–130. (Summary) **99k:68191** 68U05

— (*with* Aichholzer, Oswin; Aurenhammer, Franz; Rote, Günter) Constant-level greedy triangulations approximate the MWT well. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 361–369. (Summary) **99m:65260** 65Y25

Xu, Ying[1] Dynamic subtrees: a new data structure for manipulating trees. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 108–123 (*electronic*). (*see* **99f:68006**) 68P05

Xu, Ying Qing (*with* Su, Cheng; Li, Hua; Liu, Shen Quan[1]; Li, Dong Guo) Necessary and sufficient condition of positive root number of perspective-three-point problem. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 12, 1084–1095. 68U10 (68T10)

Xu, Yong (*with* Su, Wei Yi) Modification and generalization of fractal percolation. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 2, 148–154. (Summary) **99e:60225** 60K35 (82B43)

Xu, Yong Hua[1] (*with* Li, Jin Qi) Smash coproduct and braided groups in braided monoidal category. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1121–1128. (Summary) **99a:18003** 18D10

— (*with* Wu, Zhi Xiang) Rings whose injective hulls are cogenerators. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 217–227. (Susan Williamson) **99b:16035** 16P20 (16D40, 16D50, 16D70)

— (*with* Hu, Guo Quan) Braided cocommutative coalgebras in Yetter-Drinfel'd categories. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 105–112; *translation in Chinese J. Contemp. Math.* **19** (1998), *no.* 1, 69–78. (Fang Li) **99c:16039** 16W30

— (*with* Jiang, Xiaolong) H-separable rings and their Hopf-Galois extensions. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 534. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 311–320. (Akira Masuoka) **99m:16031** 16H05 (16W30)

Xu, Yong Lin (*with* Achenbach, J. D.) Use of elastodynamic reciprocity to analyze point-load generated axisymmetric waves in a plate. (English summary) *Wave Motion* **30** (1999), *no.* 1, 57–67. 73D15 (73K10)

Xu, Yong Qiang (*with* Jiang, Chuan Hai; Li, Nan) An approximation problem related to neural networks. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 117–122. 41A30

Xu, Yonghua *see* **Xu, Yong Hua[1]**

Xu, Yongsheng (*with* Pattanaik, Prasanta K.) On preference and freedom. (English summary) *Theory and Decision* **44** (1998), *no.* 2, 173–198. (Summary) **99a:90024** 90A06 (90A05)

Xu, Yongzhi (*with* Belinskiĭ, B. P.; Dauer, Jerald P.) Inverse scattering of acoustic waves in an ocean with ice cover. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 255–283. (Summary) **99b:76079** 76Q05 (34L25)

— (*with* Lin, Wei[1]; Zhao, YuQiu) Normal modes analysis for sound waves in an ocean with an ice cap and a perfectly reflecting bottom. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 167–181. (Summary) **99a:76138** 76Q05 (86A05)

— (*with* Buchanan, James L.; Gilbert, Robert Pertsch) Green's function representation for acoustic pressure over a poroelastic seabed. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 57–68. (Summary) **99j:76111** 76Q05 (86A05)

— Some inverse problems in stratified media. (English summary) *Generalized analytic functions (Graz, 1997)*, 255–264, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Tom Roberts) **99j:76116** 76Q05 (35R30, 73D50, 86A22)

Xu, Yu-Guang *see* **Xu, Yuguang[1]**

Xu, Yuan[1] On orthogonal polynomials in several variables. (English summary) *Special functions, q-series and related topics (Toronto, ON, 1995)*, 247–270, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (A. N. Srivastava) **99a:33009** 33C70 (33D45, 41A10, 42C05)

— (*with* Berens, Hubert; Finzel, Martina; Li, Wu[3]) Hoffman's error bounds and uniform Lipschitz continuity of best l_p-approximations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 183–201. (Summary) **99e:41026** 41A65 (49J45)

— Minimal cubature formulae for a family of radial weight functions. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 4, 367–380. (Summary) **99d:41049** 41A55 (65D32)

— Summability of Fourier orthogonal series for Jacobi weight functions on the simplex in $\mathbf{R}^d$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3027–3036. (G. Gasper) **99i:42039** 42C10 (33C50, 42B08)

— Orthogonal polynomials and cubature formulae on spheres and on balls. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 779–793 (*electronic*). (Gradimir V. Milovanović) **99i:33015** 33C50 (33C55, 65D32)

— (*with* Heo, Sangwoo) Constructing symmetric cubature formulae on a triangle. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 203–221, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 65D32

— Summability of Fourier orthogonal series for Jacobi weight on a ball in $\mathbf{R}^d$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2439–2458. (G. Gasper) **99i:42040** 42C10 (33C50, 42B08)

Xu, Yue Cai (*with* Han, Guo Ping) A matrix inversion algorithm for doubly symmetric (r_1, r_2)-cyclic Hankel matrices. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **13** (1998), *no.* 4, 12–16, 35. 65F10 (15A09, 65F30)

Xu, Yuesheng (*with* Chen, Zhongying; Micchelli, Charles A.) The Petrov-Galerkin method for second kind integral equations. II. Multiwavelet schemes. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 199–233. (Iulian Coroian) **99h:65215** 65R20 (45B05, 45L05)

— (*with* Micchelli, Charles A.; Zhao, Yunhe) Wavelet Galerkin methods for second-kind integral equations. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 251–270. (Fritz Keinert) **99b:65176** 65R20 (42C15, 45L05)

— (*with* Micchelli, Charles A.; Sauer, Thomas) A construction of refinable sets for interpolating wavelets. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 359–372. (I. Ya. Novikov) **99h:42063** 42C15 (65D15)

— (*with* Chen, Zhongying) The Petrov-Galerkin and iterated Petrov-Galerkin methods for second-kind integral equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 406–434 (*electronic*). (Iulian Coroian) **99h:65214** 65R20 (45B05, 45L05)

— (*with* Chen, Zhongying; Micchelli, Charles A.) A construction of interpolating wavelets on invariant sets. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1569–1587. (Andreas Rathsfeld) **99m:65017** 65D05 (42C15, 65T99)

— *see also* **Advances in computational mathematics, 99g:65002** *and* **Numerical treatment of boundary integral equations, 99g:65006**

Xu, Yuguang *see* **Xu, Yuguang[2]**

Xu, Yuguang[1] (*with* Wu, Xian[3]) Section theorems of Ky Fan type in H-spaces with applications. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 211–220. (E. Tarafdar) **99f:54061** 54H25 (47H10, 47N10, 54C65)

— (*with* Wu, Xian[3]) Minimax inequality of Ky Fan type in H-spaces with applications. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 2, 239–248. (Summary) **99a:49015** 49J35 (47H10, 49K35)

— (*with* Wu, Xian[3]) Further generalizations of Browder's variational inequalities. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 251–256, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 49J45

— (*with* Wu, Xian[3]) A new generalization of Browder fixed point theorem with applications. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 2, 205–214. (Summary) **99k:47151** 47H10 (47H19, 49J35, 54H25)

— (*with* Liu, Zeqing; Cho, Yeol Je) On characterizations of fixed and common fixed points. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 494–504. (Summary) **99b:54075** 54H25

— Ishikawa and Mann iterative processes with errors for nonlinear strongly accretive operator equations. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 91–101. (Charles Ejike Chidume) **99g:47144** 47H15 (47H07, 47H17)

— (*with* Wu, Xian[3]) A section theorem in interval space with applications. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 321–327. (A. Averna) **99h:49009** 49J35 (47H04, 47H10, 47N10, 54H25)

— (*with* Liu, Zeqing) A section theorem in W-space with applications. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 3-4, 383–389. 54H25

Xu, Yuguang[2] *see* **Overfelt, P. L.**

Xu, Z. *see* **Xu, Zhao**

Xu, Ze Shui (*with* Zhang, Ju Liang; Li, Qun) Global convergence properties of the PR and HS conjugate gradient methods for optimization. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 31–38. 90C30 (65K05)

— A class of generalized Fletcher-Reeves methods (DGFR methods) with the global convergence property. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **19** (1999), *no.* 1, 39–44. 90C30 (65K05)

Xu, Zengfu (*with* Bloom, Walter R.) Hardy spaces on Chébli-Trimèche hypergroups. (English summary) *Methods Funct. Anal. Topology* **3** (1997), *no.* 2, 1–26. (Khélifa Trimèche) **99e:43004** 43A15 (43A62, 46E15)

— (*with* Bloom, Walter R.) Fourier multipliers for local Hardy spaces on Chébli-Trimèche hypergroups. (English summary) *Canad. J. Math.* **50** (1998), *no.* 5, 897–928. (Mohamed Sifi) **99m:43002** 43A22 (43A62)

— (*with* Bloom, Walter R.) Fourier transforms of Schwartz functions on Chébli-Trimèche hypergroups. (English summary) *Monatsh. Math.* **125** (1998), *no.* 2, 89–109. (Mohamed Sifi) **99c:43010** 43A62 (43A15, 43A32)

Xu, Zhao (*with* Chan, H. S. Y.; Chung, K. W.) Stability and bifurcations of limit cycles by the perturbation-incremental method. (English summary) *J. Sound Vibration* **206** (1997), *no.* 4, 589–604. (Govindan Rangarajan) **99e:34029** 34C05 (34C23, 70K10)

Xu, Zhe (*with* Chai, Tian You) Proof of global convergence of a direct adaptive inferential control. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 279–282. 93E20 (93B40)

Xu, Zhen Yuan[2] (*with* Liu, Zeng Rong) Homoclinic orbits of truncated systems of sine-Gordon equations. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 3, 292–299. (Sen Zhong Huang) **99m:35214** 35Q53 (35B32, 35L70, 58F39)

Xu, Zhi Ting (*with* Xing, Hong Yan) Square integrability and boundedness of solutions to a class of second-order nonhomogeneous functional-differential equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 79–83. (Bo Zhang) **99j:34111** 34K15

Xu, Zhigen (*with* Mei, Denghua; Cai, Huai) Decision-making in fuzzy environment. (English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 199–203. 90A05 (90C70)

Xu, Zhong (*with* You, Zhao Yong) Progressive algorithms for the solution of Vandermonde-like systems of equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 4, 288–297. (Summary) **99c:65107** 65H10 (65F30)

— (*with* You, Zhao Yong) A kind of triangular decomposition of the inverse of a Vandermonde-like matrix. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 106–108. 65F25 (15A21, 65F30)

— (*with* You, Zhao Yong) A fast algorithm for inversion of confluent Vandermonde-like matrices involving polynomials that satisfy a three-term recurrence relation. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 797–806 (*electronic*). (Mei-Qin Chen) **99i:65050** 65F30 (15A09)

Xu, Zhong Ling[2] (*with* Liu, Guang Hui; Han, Ji Ye; Qi, Hou-Duo) Convergence analysis on a class of conjugate gradient methods without sufficient decrease condition. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 1, 11–16. (Kurt Marti) **99d:90115** 90C30 (65K05)

Xu, Zhong Ru (*with* Leng, Zhi Jie; Zhao, Hui) The loop analysis method and its application to determining the stability of agricultural ecosystems. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 28–32. 92D40

Xu, Zhong Yi A generalization of an integral formula for holomorphic functions on Stein manifolds. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 397–400. (Shu Jin Chen) **99b:32004** 32A25 (32E10)

Xu, Zhongling *see* **Xu, Zhong Ling[2]**

Xu, Zhuoqun (*with* Zhang, Yin[3]) Concurrent manipulation of expanded AVL trees. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 4, 325–336. 68P05 (68Q10)

Xu, Zong Ben (*with* Peng, Ji Gen) Söderlind's conjectures on nonlinear Lipschitz operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 701–708. (Hong Kun Xu) **99g:47140** 47H12 (47H17, 65H10)

— (*with* Jiang, Yao Lin) Convergence characteristics of solutions to nonlinear quasi-autonomous evolution equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 799–808. (Tie Hu Qin) **99g:34127** 34G20 (34A45, 34A60)

— (*with* Peng, Ji Gen) A nonlinear extension of Holub's theorem and its applications. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 16, 1714–1717. 47H99

— (*with* Gao, Yong) Characteristic analysis and prevention on premature convergence in genetic algorithms. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 2, 113–125. (R. Shonkwiler) **99a:68147** 68T05 (60J20, 92D25)

— (*with* Zhang, Jiang-She; Leung, Yiu-Wing) An approximate algorithm for computing multidimensional convex hulls. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 193–226. (Summary) **99d:68240** 68U05 (65Y25)

— (*with* Peng, Ji Gen) Nonlinear version of Holub's theorem and its application. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 2, 89–91. (Summary) **99a:47118** 47H99 (47H15)

Xu, Zuo-liang (*with* Wen, Guo Chun) Initial-mixed boundary value problems for nonlinear parabolic systems of several second order equations with measurable coefficients. (English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 77–82, 98. (Gary M. Lieberman) **99a:35147** 35K60 (35R05)

Xuan, Heng Nong (*with* Luo, Xian Fa; Liu, Shun Bao; Zhang, Ting Xuan) A uniform boundedness principle for a family of operators. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **16** (1998), *no.* 2, 8–10. 47A05

— (*with* Chen, Xin Min) The uniform boundedness principle for a family of α-convex functionals. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 347–349. 46B10

Xuan, Li Xin The ordinary accumulation points of elements and the ST_{-1} separation property in topological molecular lattices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 633–634. 54A99

— Equivalent conditions for the N-derived element operation in a topological molecular lattice to be union-preserving. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 157–158. 54H12

Xuan, Pei Cai (*with* Zhang, Zhen Qiu) The equivalence between weighted K-functionals and moduli of smoothness on a simplex and its applications. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 345–353. (Summary) **99c:41065** 41A63 (46M35)

Xuan, Ti Zuo On the asymptotic estimates of sifting functions. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 194, 237–258. (Ognian Trifonov) **99h:11109** 11N60 (11N37)

Xuan, Zhao Cheng (*with* Li, Xing Si) The surrogate dual problem of quadratic programming and an algorithm for it. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 144–152. 90C20 (49N15)

pham Xuan Binh *see* **Pham Xuan Binh**

truong Xuan Duc Ha *see* **Truong Xuan Duc Ha**

nguyễn Xuân Kỳ *see* **Nguyễn Xuân Kỳ**

nguyễn Xuân Tấn *see* **Nguyễn Xuân Tấn**

Xudong, Ye *see* **Ye, Xu Dong**

Xue, Chun Yan (*with* Piao, Zhong Xuan) Qualitative analysis of the second kind functional reaction model with rate prey harvesting (investing). (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 2, 140–145. (Xiao Qiang Zhao) **99b:92046** 92D25 (34C05)

Xue, Guo Liang A cost optimal parallel algorithm for computing force field in n-body simulations. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 95–104, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q22 (70–08, 70F10, 78A99)

— (*with* Du, Ding Zhu; Hwang, Frank K.) Faster algorithm for shortest network under given topology. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 137–152, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Author's review (D.-Z.D.)) **99f:90173** 90C35 (52B55, 68Q25, 90C27)

— An $O(n)$ time hierarchical tree algorithm for computing force field in n-body simulations. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 157–169. (Summary) **99a:70002** 70–04 (68Q25, 70–08, 70F10, 85–04)

— (*with* Lin, Guo-Hui) K-center and K-median problems in graded distances. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 181–192. (Summary) **99h:68081** 68Q25

— (*with* Colbourn, Charles J.) A linear time algorithm for computing the most reliable source on a series-parallel graph with unreliable edges. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 331–345. (Summary) **99h:68018** 68M10 (05C85, 68M15, 90B25)

— (*with* Pardalos, Panos M.) Algorithms for a class of isotonic regression problems. (English summary) *Algorithmica* **23** (1999), *no.* 3, 211–222. (A. D. Booth) **99j:65252** 65U05 (68U10)

— (*with* Lin, Guo-Hui) Steiner tree problem with minimum number of Steiner points and bounded edge-length. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 53–57. (Summary) **99i:68095** 68R10 (68Q25, 68Q35)

Xue, Hong Qi (*with* Yu, Dan; Zhao, Yong Hui) Reliability confidence limits for exponential life distributions with type I censoring. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 2, 240–245. 90B25

Xue, Jingling On tiling as a loop transformation. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 4, 409–424. (Summary) **99c:68054** 68N20

Xue, Jinyun Formal derivation of graph algorithmic programs using partition-and-recur. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 553–561. (Summary) **99k:05154** 05C85 (68Q20, 68R10)

Xue, Jue (*with* Pardalos, Panos M.; Mavridou, Thelma) The graph coloring problem: a bibliographic survey. *Handbook of combinatorial optimization, Vol.* 2, 331–395, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90–00 (05C15, 90C35)

— Solving the minimum weighted integer coloring problem. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 53–64. (D. de Werra) **99g:05083** 05C15 (05C85)

Xue, Jungong (*with* Gao, Wei-guo; Qu, Yanyun) A new implementation of EN method. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 199–208. 65F10 (65F30)

Xue, Kang (*with* Ge, Mo Lin; Wang, Yiwen) Introduction to Yangian in physics. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 87–129, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:81085** 81R50

— (*with* Wang, Zhoufei; Ge, Mo Lin) RTT relation and long-range spin chain model. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 974–982. (Andrey V. Tsiganov) **99j:82020** 82B20 (81R50)

— (*with* Chen, Jing-Ling; Ge, Mo Lin) The monopole-hydrogen atom system and its connection with a four-dimensional harmonic oscillator. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 945–953. 81V45 (81Q05)

Xue, Lian Yong (*with* Constantine, Gregory) Aliasing in 2^{n-k} fractions in the absence of within group interactions. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 345–361. (Damaraju Raghavarao) **99c:62213** 62K15 (05B30)

— (*with* Constantine, Gregory) Aliasing in 2^{n-k} fractions in the case of a separation of factors. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 121–132. (Summary) **99g:62117** 62K15

Xue, Licun Coalitional stability under perfect foresight. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 603–627. (Milan Mareš) **99e:90120** 90D12 (90A07, 92H30)

Xue, Liu Gen (*with* Zheng, Zhong guo) The application of random weighting methods in density estimation. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 600–608. (Summary) **99c:62120** 62G05

Xue, Ming[2] (*with* Yue, Dick K. P.) Nonlinear free-surface flow due to an impulsively started submerged point sink. (English summary) *J. Fluid Mech.* **364** (1998), 325–347. (Summary) **99b:76008** 76B10

Xue, Rui The model reducibility of the generalized theory $T(Q)$ of modules over finite commutative principal ideal rings. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 618–622. (From the summary) **99m:03074** 03C80 (03C60, 13L05)

Xue, S.-S. (*with* Cacciatori, S.; Preparata, G.; Rovelli, S.; Spagnolatti, I.) On the ground state of quantum gravity. (English summary) *Phys. Lett. B* **427** (1998), *no.* 3-4, 254–260. (Summary) **99c:83028** 83C45

Xue, Sheng Jia (*with* Jian, Jin Bao) A class of superlinearly convergent feasible methods for nonlinearly constrained optimizations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 135–140. 90C30 (65K05)

Xue, Wei Min *see* **Xue, Wei Min[2]**

Xue, Wei Min[1] (*with* Shi, Zhong Ci; Jiang, Bin) A new superconvergence property of Wilson nonconforming finite element. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 259–268. (H. Marcinkowska) **99c:65215** 65N30

— (*with* Zhu, Zuo-Nong; Huang, Hong-ci) Lax representations and integrable time discretizations of the DDKdV, DDmKdV, and DDHOKdV. (English summary) *Phys. Lett. A* **252** (1999), *no.* 3-4, 180–190. (Reda A. Zait) **99m:58121** 58F07 (35Q53, 58F37)

Xue, Wei Min[2] (*with* Zhou, De Xu) On $\mathscr{L}$-injective modules and $\mathscr{L}$-projective modules. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 4, 24–29. 16D40 (16D50)

— A note on principally injective rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4187–4190. (Surender K. Jain) **99i:16010** 16D50 (16L99)

— (*with* Zhou, De Xu) On L-injective modules and Morita duality. (English summary) *Bull. Hong Kong Math. Soc.* **2** (1999), *no.* 2, 287–296. 16D50

Xue, Weimin *see* **Xue, Wei Min[2]**

Xue, Xi Feng Fixed point theorems for cone mappings. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 99–100, 121. 47H10

— (*with* Wang, Lian Tang) A regularization method for the problem of acoustic wave scattering in a shallow ocean. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 11–16. 35R30 (35J05, 76M25, 76Q05)

Xue, Xiao Ping[1] (*with* Wang, Xiaomin[2]) Comment: "Representation of set valued operators" [Trans. Amer. Math. Soc. **292** (1985), no. 2, 557–572; MR 87c:47085] by N. Papageorgiou. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 326–328. (Summary) **99h:47081** 47H99 (28B20, 46E30, 46G99)

— (*with* Zhang, Bo[1]) Integrals of set-valued mappings with values in locally convex spaces. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 147–153. 28B20 (46G10)

— (*with* Wang, Xiaomin[2]; Wu, Lizhong) On the convergence and representation of random fuzzy number integrals. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 115–125. (Summary) **99k:28028** 28E10 (46S40)

Xue, Xiu Qian The neighborhood homology classification of C_4-free graphs. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 101–103. (Summary) **99f:05098** 05C75

Xue, Ya Fen (*with* Geng, Di) Radial symmetry of positive solutions to nonlinear basic equations containing the biharmonic operator. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 271–275. (Summary) **99h:35056** 35J60 (35B05)

Xue, Yifeng (*with* Chen, Guo Liang[1]) The expression of the generalized inverse of the perturbed operator under Type I perturbation in Hilbert spaces. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 1–6. (Zbigniew Binderman) **99k:47002** 47A05 (47A55, 65J10)

Xue, You Cai (*with* Wang, Qing Wen) The matrix equation $AXB = CYD$ over an arbitrary skew field. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 139–142. 15A24 (15A33)

Xue, Yu Sheng (*with* Liu, Bing[1]; Feng, Chun Bo) Design of discrete predictive control systems with dynamic uncertainty. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 455–459. 93C41 (93D09)

Xue, Zhan Ao (*with* Liang, Han Ying; Niu, Si Li) Complete convergence and laws of large numbers for arrays of B-valued random elements. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 89–96. (Summary) **99e:60021** 60B12

Xue, Zhi Qun Iterative solutions of Φ-accretive operator equations. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 31–34. (Zhen Yu Huang) **99k:47164** 47H17 (47H10)

Xufeng, Xu *see* **Xu, Xu Feng**

Xulu, S. S. Energy distribution of charged dilaton black holes. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 5, 773–777. 83C57

— Tolman energy of a stringy charged black hole. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1773–1777. 83C57

–Y–

Yaacobson, Fiana S. (*with* Givoli, Dan) An adaptive finite element procedure for the image segmentation problem. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 621–632. 68U10

Yabe, Hiroshi (*with* Yamashita, Hiroshi[2]; Tanabe, Takahito) A primal-dual interior point method for large-scale nonlinear optimization problems. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 204–211. (*see* **99i:00028**) 90C30 (90C06)

Yablonskaya, K. A. On the realizability of rational functions by some types of electrical circuits. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 4, 40–44, 51. (Summary) **99k:94073** 94C05

Yablonskiĭ, Sergeĭ Vsevolodovich *see* **Obituary: Yablonskiĭ, Sergeĭ Vsevolodovich**

Yabu, Hiroyuki (*with* Kuratsuji, Hiroshi) Force on a vortex in ferromagnet model and the properties of vortex configurations. (English summary) *J. Phys. A* **31** (1998), *no.* 2, *L*61–*L*65. (Summary) **99d:82046** 82C21 (82D50)

Yabuuti, Kiyosi Islamic astronomy in China during the Yuan and Ming dynasties. (English summary) Translated, revised and with an appendix by Benno van Dalen. With an epilogue by Michio Yano and van Dalen. *Historia Sci.* (2) **7** (1997), *no.* 1, 11–43. (Keizo Hashimoto) **99c:01005** 01A25 (01A30)

Yachou, Abderrahim Métriques standard sur une variété complexe compacte. (English and French summaries) [Standard metrics on a compact complex manifold] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1407–1410. (Thierry Bouche) **99k:32048** 32J27 (53C55, 58E11)

Yacobi, Yacov Fast exponentiation using data compression. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 701–704 (*electronic*). (Summary) **99g:68053** 68P25 (68Q25, 94A60)

Yacoub, Chokri (*with* Anker, Jean-Philippe; Damek, Ewa) Spherical analysis on harmonic *AN* groups. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 643–679 (1997). (Michael Cowling) **99a:22014** 22E30 (22E25, 43A90)

el Yacoubi, N. *see* **El Yacoubi, N.**

el Yacoubi, Samira *see* **El Yacoubi, Samira**

Yada, Tetsushi (*with* Totoki, Yasushi; Asai, Kiyoshi[2]; Ishikawa, Masato) Generation of hidden Markov model describing complex motif in DNA sequences. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 750–767. 92D20

Yadav, Brij Nandan (*with* Singh, Subhash Ranjan) Cylindrically symmetric perfect fluid distribution in general relativity. (English summary) *Math. Ed. (Siwan)* **33** (1999), *no.* 1, 56–59. 83C15 (83C55)

Yadav, N. A note on the formulation of Christoffel symbols using co-ordinate transformation equations. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 81–91. 53B05

Yadav, Niranjan Prasad (*with* Singh, Subhash Ranjan; Prasad, Lal Babu) Flow under oscillatory rate of temperature distribution. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 118–121. 80A20

Yadav, P. K. (*with* Bansal, S. P.) On an alternate heuristic technique for solving an open-shop scheduling problem due to Maggu and Lal involving job-block. (English summary) *J. Indian Soc. Statist. Oper. Res.* **15** (1994), *no.* 1-4, 65–72. 90B35

Yadav, Ramadhar Singh (*with* Shrivastava, Umesh Kumar; Varma, Sushama K.) On uniform $F(a, q)$ summability of Fourier series. *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 449–456. 42A24

Yadav, Ramdeo Pd. (*with* Prasad, Yogendra) On study the application of extension principle on fuzzy sets. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 236–238. 04A72

Yadav, Sarjoo Prasad On the saturation classes relative to certain known orders. (English summary) *Ganita Sandesh* **11** (1997), *no.* 2, 61–72 (1998). (Huzoor H. Khan) **99m:41027** 41A25

Yadav, Shiv Prasad (*with* Zboon, Radhi A.; Mohan, Chander) Penalty method for an optimal control problem with equality and inequality constraints. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 1, 1–14. 49M30 (49K15)

Yadav, Subhash *A*-function and the heat conduction. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 4, 213–220. (Summary) **99c:33025** 33C90 (80A20)

Yadava, R. N. (*with* Saxena, Poonam; Roy, Arati) On the Walsh transforms. *J. Maulana Azad College Tech.* **31** (1998), 145–151. 42C10 (44A15, 94A12)

Yadava, S. L. (*with* Adimurthi) Nonexistence of positive radial solutions of a Neumann problem with critical exponent. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 259–266. (*see* **99g:00038**) 35J65 (34B15, 35B05)

— (*with* Adimurthi; Pacella, Filomena) On the number of positive solutions of some semilinear Dirichlet problems in a ball. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1157–1170. (C. A. Swanson) **99b:35061** 35J65 (34B15, 34C23, 35B32, 35P30)

— Uniqueness of positive radial solutions of the Dirichlet problems $-\Delta u = u^p \pm u^q$ in an annulus. *J. Differential Equations* **139** (1997), *no.* 1, 194–217. (Alexandra Kurepa) **99b:35074** 35J65 (34A34, 34B15, 35B05)

Yadgorov, N. Dzh. (*with* Ayupov, Shavkat A.) Geometry of the state spaces in quantum probability. (English summary) *Probability theory and mathematical statistics (Vilnius, 1993)*, 43–52, *TEV, Vilnius*, 1994. (Gottfried T. Rüttimann) **99m:46150** 46L50 (46L30, 46L70, 46N50, 81P10)

Yadid, Tal (*with* Alon, Noga; Azar, Yossi; Woeginger, Gerhard J.) Approximation schemes for scheduling on parallel machines. (English summary) *J. Sched.* **1** (1998), *no.* 1, 55–66. (Summary) **99e:90038** 90B22 (90C27)

Yadlin, Y. (*with* Shalman, E.; Yakhot, A.; Shalman, S.; Igra, O.) Attenuating artificial dissipation in the computation of Navier-Stokes turbulent boundary layers. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 2, 151–172. (Summary) **99f:76072** 76F10 (76D10, 76M20)

Yadohisa, Hiroshi (*with* Niki, Naoto) Vector field representation of asymmetric proximity data. (English summary) *Comm. Statist. Theory Methods* **28** (1999), *no.* 1, 35–48. 62H25

Yaesh, I. (*with* Shaked, Uri) $\mathscr{H}_\infty$ static output-feedback control of linear continuous-time systems with delay. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1431–1436. (Summary) **99f:93050** 93B36 (93C30)

Yafaev, D. (*with* Lerner, Nicolas) On trace theorems for pseudo-differential operators. *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. II*, 20 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Vladimir Tulovsky) **99c:35269** 35S05 (47G30, 58G15)

— On the classical and quantum Coulomb scattering. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6981–6992. (H. Baumgärtel) **99b:81259** 81U05 (35P25, 47A40, 47N50)

— The scattering amplitude for the Schrödinger equation with a long-range potential. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 183–218. (Mihai Pascu) **99c:35182** 35P25 (35J10, 47A40, 47N50, 81U05, 81U20)

— Scattering theory: some old and new problems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 87–96 (*electronic*). (Mihai Pascu) **99h:35152** 35P25 (35J10, 47A40, 47F05, 81U05, 81U10)

— (*with* Lerner, Nicolas) Trace theorems for pseudo-differential operators. (English summary) *J. Anal. Math.* **74** (1998), 113–164. (Boris A. Plamenevsky) **99h:58187** 58G15 (35S05, 47G30)

Yafarov, Sh. A. Special $\mathscr{L}_n$ that admit nontrivial J_0. (Russian. English and Russian summaries) *Tr. Geom. Semin. No.* 23 (1997), 223–230. (Andrew Bucki) **99k:53014** 53B05 (53C22)

Yafyasov, Adil (*with* Antoniou, Ioannis; Pavlov, Boris S.) Quantum electronic devices based on metal-dielectric transition in low-dimensional quantum structures. *Combinatorics, complexity, & logic (Auckland*, 1996), 90–104, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 81P99 (68Q05)

— (*with* Pavlov, Boris S.; Roach, G. F.) Resonance scattering and design of quantum gates. (English summary) *Unconventional models of computation (Auckland*, 1998), 336–351, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99h:68045** 68Q05 (81P99)

Yagasaki, Kazuyuki Numerical detection and continuation of homoclinic points and their bifurcations for maps and periodically forced systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1617–1627. (Mark J. Friedman) **99j:65097** 65H17 (34C23, 34C37, 58F14)

— Detection of bifurcation structures by higher-order averaging for Duffing's equation. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 2, 129–158. (Summary) **99m:34082** 34C23 (34–04, 34C29, 70K40, 70K99)

— (*with* Uozumi, Tomotsugu) Erratum: "A new approach for controlling chaotic dynamical systems" [Phys. Lett. A **238** (1998), no. 6, 349–357; MR 98j:58077]. *Phys. Lett. A* **253** (1999), *no.* 5-6, 375. 58F13 (58F40, 93C10)

Yagasaki, Tatsuhiko The groups of quasiconformal homeomorphisms on Riemann surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2727–2734. (Summary) **99m:57015** 57N05 (30C62, 57N20)

Yagawa, Genki (*with* Akiba, Hiroshi) Recursive distribution method for probabilistic structural integrity analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 135–154. (Summary) **99k:73097** 73M25 (73V30)

Yagdzhyan, K. A. Representation theorem for the solutions of equations with the turning point of infinite order. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 13–30. (Peter R. Popivanov) **99d:34107** 34E20 (34E05, 35L99)

— A note on Lax-Mizohata theorem for quasilinear equations. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 1111–1122. (Peter R. Popivanov) **99g:35123** 35Q55 (35B35, 35G15)

— (*with* Kajitani, Kunihiko) Quasilinear hyperbolic operators with the characteristics of variable multiplicity. *Tsukuba J. Math.* **22** (1998), *no.* 1, 49–85. (Nickolai A. Lar'kin) **99h:35145** 35L75 (35L80)

Yager, Ronald R. (*with* Rybalov, Alexander) Understanding the median as a fusion operator. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 3, 239–263. (Summary) **99k:68184** 68T27 (68T30)

— (*with* Kelman, Antoine) Using priorities in aggregation connectives. (English summary) *Aggregation and fusion of imperfect information*, 73–97, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 90C70 (04A72)

— (*with* Grabisch, Michel; Orlovskiĭ, S. A.) Fuzzy aggregation of numerical preferences. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 31–68, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C29 (04A72, 90A07, 90A08, 90C70)

— (*with* Türkşen, I. Burhan; Kreinovich, Vladik) A new class of fuzzy implications. Axioms of fuzzy implication revisited. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 267–272. (Summary) **99g:03025** 03B52 (68T27)

— Structures for prioritized fusion of fuzzy information. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 71–90. (Summary) **99c:68239** 68T30

— Fusion of ordinal information using weighted median aggregation. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 35–52. 93C42 (90A05, 90C70)

— (*with* Scerri, Eric R.; Kreinovich, Vladik; Wojciechowski, Piotr) Ordinal explanation of the periodic system of chemical elements. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 387–399. 81V55

Yagi, Atsushi A priori estimates for some quasilinear parabolic system in population dynamics. *Kobe J. Math.* **14** (1997), *no.* 2, 91–108. (Ovide Arino) **99k:35178** 35Q80 (35B45, 35K55, 46N20, 92D25)

— (*with* Nagabuchi, Yutaka) A two sector model of chemotaxis. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 387–398. (John G. Milton) **99f:92037** 92D50 (35Q80)

— (*with* Favini, Angelo) ★ Degenerate differential equations in Banach spaces. (English summary) Monographs and Textbooks in Pure and Applied Mathematics, 215. *Marcel Dekker, Inc., New York*, 1999. *xii*+313 *pp. ISBN* 0-8247-1677-9 (Irina V. Melnikova) **99i:34079** 34G10 (34A09, 35K45, 35K65, 47D06, 47N20)

Yagi, Hideyuki (*with* Muneyasu, Mitsuji; Hinamoto, Takao) A realization of 2-D adaptive filters using affine projection algorithm. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1185–1193. (Summary) **99e:93019** 93B15 (94A12)

Yagisawa, Takashi A somewhat Russellian theory of intensional contexts. *Mind, causation, and world*, 1997, 43–82, *Philos. Perspect.*, 11, *Blackwell, Cambridge, MA*, 1997. (*see* **99f:00011**) 03A05

Yagita, Nobuaki (*with* Leary, Ian J.; Schuster, Björn) On universally stable elements. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 493–498. (Angelina Chin) **99b:20084** 20J06 (20D15)

— On odd degree parts of cohomology of sporadic simple groups whose Sylow p-subgroup is the extra-special p-group of order p^3. *J. Algebra* **201** (1998), *no.* 2, 373–391. (C. B. Thomas) **99b:20085** 20J06 (20D08, 55N22)

— (*with* Kudou, Kenji) Modulo odd prime homotopy normality for H-spaces. (English summary) *J. Math. Kyoto Univ.* **38** (1998), *no.* 4, 643–651. (Samuel B. Smith) **99m:55012** 55P45 (55P60)

— Localization of the spectral sequence converging to the cohomology of an extra special p-group for odd prime p. *Osaka J. Math.* **35** (1998), *no.* 1, 83–116. (Ian J. Leary) **99e:20067** 20J06 (55N20)

— (*with* Arlettaz, Dominique; Mimura, Mamoru; Nakahata, Koji) The mod 2 cohomology of the linear groups over the ring of integers. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2199–2212. (Daniel K. Nakano) **99j:20052** 20G10 (55S10)

Yagiura, Mutsunori (*with* Uno, Takeaki) Fast algorithms to enumerate all common intervals of two permutations and their applications. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 120–123. (*see* **99b:90009**) 90C29 (90C27)

— (*with* Akutsu, Tatsuya) On the complexity of deriving score functions from examples for problems in molecular biology. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 832–843, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68073** 68Q25 (92C40)

— (*with* Ibaraki, Toshihide) Efficient 2 and 3-flip neighborhood search algorithms for the MAX SAT. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 105–116, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25

Yagle, Andrew E. (*with* Joshi, Rajashri R.) Levinson-like and Schur-like fast algorithms for solving block-slanted Toeplitz systems of equations arising in wavelet-based solution of integral equations. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 7, 1798–1813. (A. Bultheel) **99j:65241** 65R20 (45E10, 45L05, 47B35, 65F05)

— Discrete Gel′fand-Levitan and Marchenko matrix equations and layer stripping algorithms for the discrete two-dimensional Schrödinger equation inverse scattering problem with a nonlocal potential. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 763–778. (Mayumi Ohmiya) **99e:39076** 39A12 (47B39)

Yagola, A. G. (*with* Tikhonov, Andreĭ Nikolaevich; Leonov, A. S.) ★ Nonlinear ill-posed problems. Vol. 1, 2. (English summary) Translated from the Russian. Applied Mathematics and Mathematical Computation, 14. *Chapman & Hall, London*, 1998. *xxii+221 pp. ISBN* 0-412-78660-5 (Editors) **99g:65074** 65J20 (47H15, 47H17, 47N40)

— (*with* Kochikov, Igor V.; Kuramshina, Gulnara M.) Applied nonlinear ill-posed problems and the variational approach for constructing of regularizing algorithms. *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 201–210, *Plenum, New York*, 1998. (*see* **99a:00030**) 65J20 (00A69, 35R25, 47A50)

— (*with* Leonov, A. S.) Special regularizing methods for ill-posed problems with sourcewise represented solutions. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1539–1550. (Otmar Scherzer) **99k:47024** 47A50 (65J20)

— (*with* Kochikov, Igor V.; Kuramshina, Gulnara M.) Inverse problems of vibrational spectroscopy as nonlinear ill-posed problems. (English summary) *Surveys Math. Indust.* **8** (1998), *no.* 1, 63–94. (Summary) **99i:65059** 65J05 (70–08, 82D99)

— (*with* Leonov, A. S.) Adaptive regularizing algorithms for solving ill-posed problems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 2, 62–63. (Summary) **99d:65193** 65J20 (65J10)

Yagubov, G. Ya. (*with* Musaeva, M. A.) On an identification problem for the nonlinear Schrödinger equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1691–1698, 1727; *translation in Differential Equations* **33** (1997), *no.* 12, 1695–1702 (1998). (Vladislav G. Dubrovsky) **99m:35267** 35R30 (35Q55)

— (*with* Yildiz, Bünyamin) On an optimal control problem. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 275–287. (Summary) **99b:49032** 49M25 (49N55, 65M30, 81Q05)

Yagubov, M. A. (*with* Rasulzadeh, M. E.) Generalized control depending on multiparameters and their applications to the optimal control theory. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 583–585, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 49J20 (35J60, 93C20)

Yaguchi, Teruo (*with* Lecko, Adam) Subclasses of typically-real functions defined by Salagean derivative. *Mathematica* **38(61)** (1996), *no.* 1-2, 111–119. (Grigore Stefan Sălăgean) **99c:30018** 30C45

— (*with* Lecko, Adam) A generalization of the condition due to Robertson. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 133–141. (Dov Aharonov) **99a:30017** 30C45

— (*with* Aouf, M. K.) Some applications of fractional calculus operators to certain subclass of analytic functions with negative coefficients. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 191–199. (R. K. Raina) **99m:30017** 30C45 (26A33)

martín Yague, Jesús *see* **Martín Yague, Jesús**

martín Yagüez, M. C. *see* **Martín Yagüez, M. C.**

Yáguez Castrillo, Jaime A generalization of the Pythagoras theorem. (Spanish. Spanish summary) *Epsilon* **14** (1998), *no.* 1(40), 43–46. 51M04

Yagunov, S. Homology of bi-Grassmannian complexes. (English summary) *K-Theory* **12** (1997), *no.* 3, 277–292. (Kevin P. Knudson) **99a:20044** 20G10 (13D25)

Yagzhev, A. V. Letter to the editors: "Regularity of Sylow subgroups of full linear groups over residue rings" [Mat. Zametki **56** (1994), no. 6, 106–116, 160; MR 96i:20022]. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 587; *translation in Math. Notes* **60** (1996), *no.* 3-4, 482 (1997). (From the text) **99b:20037** 20D15

bar-Yahalom, Eli *see* **Bar-Yahalom, Eli**

Yahdi, Mohammed The topological complexity of sets of convex differentiable functions. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 79–91. (Oleg G. Okunev) **99d:54017** 54H05 (46E99, 54C35, 58C20)

Yahiaoui, M. S. (*with* Ben Salah, M.) Perturbations et lois de sorties. [Perturbations and exit laws] *Stud. Cerc. Mat.* **46** (1994), *no.* 1, 113–117. 60J45

Yahiro, Masanobu (*with* Kaminaga, Yasuhito; Saito, Yoshio[1]) Gauge invariant description of chaos in 2D scalar-electrodynamics. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 301–305. (Summary) **99d:78014** 78A25 (58F13, 58F40)

Yahya, Adnan H. Generalized query answering in disjunctive deductive databases: procedural and nonmonotonic aspects. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 324–340, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68P15

Yaḥyā ibn 'Adī, Abū Zakarīyā' *see* **Giannakis, Elias**

Yahyapour, Ramin (*with* Schwiegelshohn, Uwe) Analysis of first-come-first-serve parallel job scheduling. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 629–638, *ACM, New York*, 1998. (*see* **99d:68011**) 68M20 (68Q25, 90B35)

Yajima, Keiji *see* **Data science, classification, and related methods, 99b:62002**

Yajima, Kenji L^p-continuity of wave operators for Schrödinger operators and its applications. *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 13 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Lech Zielinski) **99c:35183** 35P25 (35J10, 47A40, 47N50, 81U05)

— On fundamental solution of time dependent Schrödinger equations. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 49–68, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Philippe Briet) **99d:35035** 35J10 (35A08, 81Q20)

— Boundedness and continuity of the fundamental solution of the time dependent Schrödinger equation with singular potentials. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 577–595. (Fumihiko Nakano) **99k:35004** 35A08 (35J10, 35Q40)

Yajima, Shuzo (*with* Horiyama, Takashi) Exponential lower bounds on the size of OBDDs representing integer division. (English summary) *Algorithms and computation* (*Singapore*, 1997), 163–172, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q05 (68Q25)

— (*with* Iwama, Kazuo; Nouzoe, Mitsushi) Optimizing OBDDs is still intractable for monotone functions. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 625–635, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25

Yajima, Tetsu (*with* Nishinari, Katsuhiro) Numerical calculations and exact solutions for general initial value problems of the Davey-Stewartson equations. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 211–219. (*see* **99a:00032**) 65M99 (35Q55)

Yajima, Yukinobu (*with* Sakai, Masami; Tamano, Kenichi) Regular networks for metrizable spaces and Lašnev spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 121–133. (Hans-Christian Reichel) **99g:54028** 54E35 (54E40)

— (*with* Junnila, Heikki J. K.) Characterizations of submetacompactness. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 227–238. (Gino Tironi) **99c:54031** 54D20 (54B10)

— (*with* Junnila, Heikki J. K.) Normality and countable paracompactness of products with σ-spaces having special nets. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 375–394. (J. E. Vaughan) **99i:54011** 54B10 (54D15, 54D20, 54E18, 54E20)

Yajnik, Urjit Quantum field theory methods: Dirac equation and perturbation theory. *Geometry, fields and cosmology* (*Pune*, 1989), 447–478, *Fund. Theories Phys.*, 88, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:83002**) 81R20 (81–02, 81U20)

— (*with* Narayan, K.) Canonical quantization inside the Schwarzschild black hole. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1315–1321. (Summary) **99a:83038** 83C47

Yakhini, Zohar (*with* Friedman, Nir) On the sample complexity of learning Bayesian networks. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 274–282, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99b:68156** 68T05 (68T30)

Yakhnis, Alexander (*with* Khusainov, B. M.; Yakhnis, Vladimir) Games with unknown past. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 185–204. (Leonid P. Lisovik) **99i:03011** 03B25 (68Q60, 90D35)

Yakhnis, Vladimir (*with* Khusainov, B. M.; Yakhnis, Alexander) Games with unknown past. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 185–204. (Leonid P. Lisovik) **99i:03011** 03B25 (68Q60, 90D35)

Yakhno, V. G. Inverse problem for differential equations system of electromagnetoelasticity in linear approximation. *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 211–240, *Plenum, New York*, 1998. (Viatcheslav I. Priimenko) **99f:73068** 73R05 (35R30, 78A99)

— Multidimensional inverse problems in ray formulation for hyperbolic equations. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 373–386. (Jan Koroński) **99m:35268** 35R30 (35L99, 35Q99, 65M30)

— (*with* Sacks, Paul E.) The inverse problem for a layered anisotropic half space. *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 377–398. (George Dassios) **99m:35266** 35R30 (35Q72, 73B40, 73D50, 86A22)

Yakhot, A. (*with* Arad, M.; Yosibash, Z.; Ben-Dor, G.) Computing flux intensity factors by a boundary method for elliptic equations with singularities. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 657–670. 65N38

— (*with* Shalman, E.; Shalman, S.; Igra, O.; Yadlin, Y.) Attenuating artificial dissipation in the computation of Navier-Stokes turbulent boundary layers. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 2, 151–172. (Summary) **99f:76072** 76F10 (76D10, 76M20)

Yakhot, Victor (*with* Konstantinov, A. B.; Staroselsky, Ilya; Orszag, Steven A.) Renormalization group-based transport modeling of premixed turbulent combustion. I. Incompressible deflagration model. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 229–252. (From the text) **99k:80009** 80A25 (76F99, 76M25, 76N99, 80–08)

— (*with* Konstantinov, A. B.; Orszag, Steven A.; Staroselsky, Ilya) Renormalization group-based transport modeling of premixed turbulent combustion. II. Finite density gradient and direct heat release. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 369–404. (Summary) **99k:80010** 80A25 (76F99, 76M25, 76N99, 80–08)

Yakimenko, O. A. A simplified modification of the direct variational method for the onboard solution of optimization boundary value problems for the trajectories of an aircraft. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 3, 62–72. 49N55 (93C95)

Yakimov, M. (*with* Bakalov, B.; Horozov, Emil) Bispectral algebras of commuting ordinary differential operators. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 331–373. (Alexander V. Shapovalov) **99c:34188** 34L05 (58F07)

— (*with* Bakalov, B.; Horozov, Emil) Highest weight modules over the $W_{1+\infty}$ algebra and the bispectral problem. *Duke Math. J.* **93** (1998), *no.* 1, 41–72. (Piotr G. Grinevich) **99h:58077** 58F07 (17B68, 34L05)

Yakimov, N. D. (*with* Il′inskiĭ, N. B.; Kasimov, A. R.) Analytical solutions of seepage theory problems. Inverse method, variational theorems, optimization and estimates (a review). *Fluid Dynam.* **33** (1998), *no.* 2, 157–168; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 3–19 (*Russian. Russian summary*). (Summary) **99h:76086** 76S05 (86A05)

Yakir, Benjamin A note on optimal detection of a change in distribution. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2117–2126. (H.-J. Engelbert) **99a:62121** 62L10 (62N10)

— On the distribution of a concomitant statistic in a sequential trial. (English summary) *Sequential Anal.* **16** (1997), *no.* 3, 287–294. (Summary) **99g:62121** 62L10

— (*with* Pollak, Moshe) A new representation for a renewal-theoretic constant appearing in asymptotic approximations of large deviations. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 749–774. (M. B. Woodroofe) **99f:60152** 60K05 (62L10)

— On the average run length to false alarm in surveillance problems which possess an invariance structure. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1198–1214. (Yanhong Wu) **99g:62122** 62L10

Yakout, M. M. (*with* Morsi, Nehad N.) Axiomatics for fuzzy rough sets. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 327–342. (Summary) **99h:03032** 03E72

Yakovenko, N. Y. (*with* Li, Nian; Steiner, J. M.) Solving the double eigenvalue problem using the finite element method. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 811–814, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N30

Yakovenko, S. (*with* Grigoriev, A.) Topology of generic multijet preimages and blow-up via Newton interpolation. (English summary) *J. Differential Equations* **150** (1998), *no.* 2, 349–362. (Enrique Outerelo Domínguez) **99m:58028** 58C15 (34C23, 58A20, 58A35)

— (*with* Nadler, David) Oscillation and boundary curvature of holomorphic curves in $\mathbf{C}^n$. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 137–148. (Min Ru) **99e:32046** 32H99

Yakovlev, A. V. *see* **Yakovlev, Anatoliĭ Vladimirovich**

Yakovlev, Alexandre V. (*with* Vogler, Walter; Semenov, Alex) Unfolding and finite prefix for nets with read arcs. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 501–516, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q90 (68Q10)

— (*with* Cortadella, Jordi; Kishinevsky, Michael; Lavagno, Luciano) Deriving Petri nets from finite transition systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 859–882. (Summary) **99e:68111** 68Q90 (68Q10)

Yakovlev, Anatoliĭ Vladimirovich On direct sum decompositions of Artinian modules. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 2, 229–238. (Tomaž Košir) **99g:16007** 16D70 (16P20)

Yakovlev, E. V. On the commutator structure of generalized carpet subgroups of two-dimensional linear groups. (Russian) *Group and metric properties of mappings* (*Russian*), 75–96, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (From the text) **99f:20081** 20G35 (20F12)

Yakovlev, M. N. A theorem on the convergence of the Newton method. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **248** (1998), *Chisl. Metody i Vopr. Organ. Vychisl.* 13, 242–246, 251. 65J15 (47H17)

Yakovlev, O. S. A method for the structural synthesis of nonlinear controllers. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 211–223, 300. 93B50 (49N35)

Yakovlev, S. I. A finiteness bound for the singular spectrum in a neighborhood of a singular point of operators of the Friedrichs model. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 210–237. (Alexei V. Rybkin) **99k:47058** 47B25 (47A10, 47A55, 47B10)

— On the singular spectrum of operators of the Friedrichs model in a neighborhood of a singular point. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 3, 91–94; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 3, 214–217 (1999). (Alexei V. Rybkin) **99k:47057** 47B25 (47A10, 47A55, 47B10)

Yakovleva, A. V. (*with* Demin, N. S.; Sushko, T. V.) Generalized inverse extrapolation of stochastic processes from a set of continuous and discrete observations with memory. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 48–59. 93E10

Yakovleva, E. A. (*with* Volkov, E. A.; Kornoukhov, A. K.) Experimental investigation of the block method for solving the Laplace equation on polygons. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1544–1552. 65N30 (65N06)

Yakovleva, O. V. On the Stein property of the complement of an algebraic surface in a toric manifold. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 703–713, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 611–620. (Dmitrii A. Timashëv) **99g:14068** 14M25 (32E10)

Yakowitz, S. (*with* Gani, Joseph Mark; Blount, M.) The spread and quarantine of HIV infection in a prison system. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1510–1530. (Summary) **99d:92038** 92D30 (62C10, 62C12)

Yakshyavichyus, Sh. *see* **Jakševičius, Šarūnas**

Yaku, Takeo (*with* Miyadera, Youzou; Anzai, Koushi; Unno, Hiroshi) Depth-first layout algorithm for trees. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 187–194. (Summary) **99c:68253** 68U05

— (*with* Wate, Masamichi) Recursive enumerability in set theory. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 119–126. (*see* **99i:65003**) 03D60 (03E15, 03E45)

— (*with* Uemura, Kenji; Sugita, Kimio) Induced permutation automata and coverings of strongly connected automata. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 243–249. (G. J. Lallement) **99m:68134** 68Q70 (20M35)

Yakubenko, P. A. (*with* Shugai, G. A.) Spatio-temporal instability in free ultra-thin films. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 3, 371–384. (Summary) **99e:76054** 76E99 (76D45)

— (*with* Shugai, G. A.) Note on two-dimensional instability in shallow-water flows. (English summary) *Acta Mech.* **135** (1999), *no.* 1-2, 101–112. (Summary) **99m:76065** 76E99 (86A05)

Yakubov, É. Kh. (*with* Srebro, Uri) μ-homeomorphisms. (English summary) *Lipa's legacy* (*New York*, 1995), 473–479, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (M. Yu. Vasil′chik) **99c:30043** 30C62 (35J70)

Yakubov, Sasun (*with* Karakas, H. I.; Shakhmurov, V. B.) Degenerate elliptic boundary value problems. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 155–174. (Summary) **99a:47072** 47F05 (34G10, 35J70)

— (*with* Yakubov, Yakov) Generalization of the d'Alembert formula and the Fourier method. (English summary) *Semigroup Forum* **58** (1999), *no.* 1, 85–93. (Jacek Banasiak) **99i:34081** 34G10 (35C99, 47D06, 47N20)

Yakubov, V. Ya. Estimates for solutions of Cauchy problems involving a spectral parameter. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 59–63, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 59–64. (Summary) **99i:34006** 34A12 (34B24)

— The Cauchy problem for the Sturm-Liouville equation and estimates for its solution with respect to the parameter λ. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 3, 320–323. (Fozi M. Dannan) **99m:34057** 34B24 (34A12, 34C11)

Yakubov, Yakov (*with* Titeux, I.) Completeness of root functions for elasticity problems in a strip. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 761–786. (Vyacheslav N. Pivovarchik) **99g:73028** 73C02 (35P10, 35Q72, 73K10)

— (*with* Yakubov, Sasun) Generalization of the d'Alembert formula and the Fourier method. (English summary) *Semigroup Forum* **58** (1999), *no.* 1, 85–93. (Jacek Banasiak) **99i:34081** 34G10 (35C99, 47D06, 47N20)

Yakubovich, S. B. Index integral transformations of Titchmarsh type. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 169–179. (Summary) **99f:44003** 44A20

— (*with* Gusarevich, L. D.) On the non-convolution transformation with the Macdonald type kernel function. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 3, 297–309. (R. G. Buschman) **99k:44011** 44A15 (33C10)

— (*with* Srivastava, Hari M.; Vasil′ev, Yu. V.) A class of index transforms with Whittaker's function as the kernel. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 375–394. (R. G. Buschman) **99k:44013** 44A20 (33C15, 44A15)

Yakubovich, Vladimir A. (*with* Lindquist, Anders) Optimal damping of forced oscillations in discrete-time systems by output feedback. (English summary) *Stochastic differential and difference equations* (*Győr*, 1996), 203–231, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Wolfgang J. Runggaldier) **99f:93063** 93B50 (93C55, 93D15, 93E03)

Yakubovskiĭ, A. *see* **Jakubowski, Adam**

Yakubu, Abdul-Aziz (*with* Franke, John E.) Diffusion between patches in multi-species discrete competitive systems. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 205–212, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:92026** 92D25 (39A10, 92D40)

— (*with* Franke, John E.) Global asymptotic behavior and dispersion in age-structured, discrete competitive systems. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 375–395. (V. N. Razzhevaikin) **99k:92027** 92D25

— Prey dominance in discrete predator-prey systems with a prey refuge. (English summary) *Math. Biosci.* **144** (1997), *no.* 2, 155–178. (D. O. Logofet) **99g:92035** 92D25

— (*with* Franke, John E.) Extinction and persistence in a size-structured, discrete competitive system with dispersion. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 159–174, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Krystyna Twardowska) **99m:92049** 92D40 (34C35, 39A10, 39A12, 92D25)

Yakunin, S. A. (*with* Markov, B. A.; Poezd, A. D.) Radiation conditions for a cone. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 483–488; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 468–473. (Summary) **99e:78026** 78A40 (78–08)

Yakunina, G. E. (*with* Ostapenko, N. A.) Dynamics of thin bodies in dense media under conditions of a local interaction model. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 1008–1022; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 973–985 (1998). (Summary) **99c:73020** 73D05

Yakupov, M. Sh. Canonical description and inversion of operators in a discrete space. I. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 8, 59–71; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 8, 55–67 (1998). (Jan Slovák) **99f:58224** 58G99 (51E99, 52C99)

Yakymiv, A. L. Some properties of subexponential distributions. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 138–144; *translation in Math. Notes* **62** (1997), *no.* 1-2, 116–121 (1998). (Summary) **99c:60023** 60E05

Yalamov, Plamen Y. A fast approach to stabilize two Toeplitz solvers of the Levinson type. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 165–176 (1998). (Summary) **99d:65002** 65–04 (15A57, 65F30)

— (*with* Paprzycki, Marcin) A new stable solver and block elimination for bordered systems. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 347–356, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F05 (65F30, 65G05)

— (*with* Pavlov, Velisar) Stabilization by perturbation of ill-conditioned cyclic reduction. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 273–283. (Summary) **99m:65064** 65F10 (65Y05)

— (*with* Pavlov, Velisar) On the stability of a partitioning algorithm for tridiagonal systems. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 159–181 (*electronic*). (Guo Liang Chen) **99h:65095** 65G05 (65F05, 65Y05)

Yale, K. (*with* Jafari, F.; Tonev, T.; Toneva, E.) Holomorphic flows, cocycles, and coboundaries. *Michigan Math. J.* **44** (1997), *no.* 2, 239–253. (Wayne Stewart Smith) **99c:47050** 47D03 (47B38)

Yalıncakhoğlu, A. (*with* Asar, Ali Osman) Locally nilpotent p-groups whose proper subgroups are NC-groups. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 501–509. (Francesco de Giovanni) **99g:20066** 20F19

Yallaoui, El-Bachir (*with* Abu Muhanna, Yusuf) On families of Cauchy transforms. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 2, 49–55 (*electronic*). (David J. Hallenbeck) **99k:30068** 30E20

Yamada, Akira Homogeneity of hypersurfaces in a sphere. *Tsukuba J. Math.* **22** (1998), *no.* 1, 131–143. (Jürgen Berndt) **99e:53070** 53C30

— Positive differentials, theta functions and Hardy H^2 kernels. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1399–1408. (Saburou Saitoh) **99h:30009** 30C40 (14K25, 30A10, 30F30)

Yamada, Atsushi Holonic games. V. (Japanese. English summary) *Bull. Fac. Sci. Eng. Chuo Univ.* **41** (1998), 91–99 (1999). 90D40 (90A05)

Yamada, Atsushi (*with* Yamaguchi, Fujio; Niizeki, Masatoshi; Yoshida, Norimasa; Matsumura, Kiyoshi) Totally homogeneous paradigm for geometric processing based on the principle of duality. (English summary) *Math. Student* **65** (1996), *no.* 1-4, 81–109. (Luiz Henrique de Figueiredo) **99f:68203** 68U05

Yamada, Hiro-Fumi (*with* Nakajima, Tatsuhiro) On reduced Q-functions. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 3, 407–414. (Angèle M. Hamel) **99b:05143** 05E05 (17B67)

— (*with* Morita, Hideaki) Higher Specht polynomials for the complex reflection group $G(r, p, n)$. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 505–515. (Sait Halıcıoğlu) **99k:20085** 20F55 (05E10)

Yamada, Hiroshi[3] (*with* Toda, Hiro Y.) Inference in possibly integrated vector autoregressive models: some finite sample evidence. (English summary) *J. Econometrics* **86** (1998), *no.* 1, 55–95. (Bert M. Steece) **99m:62145** 62M10 (62P20)

Yamada, Hiroyasu (*with* Yoshimori, Akira) Dynamics of thin-jet sheets in ocean. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 252–258. (*see* **99a:00032**) 86A05 (76C99)

Yamada, Isao (*with* Kurosawa, Kaoru; Hasegawa, Hiroshi; Sakaniwa, Kohichi) Algebraic multidimensional phase unwrapping and zero distribution of complex polynomials—characterization of multivariate stable polynomials. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1639–1664. (Summary) **99m:93045** 93B60 (93D09, 94A12)

— (*with* Deutsch, Frank) Minimizing certain convex functions over the intersection of the fixed point sets of nonexpansive mappings. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 33–56. (Gérard Lebourg) **99b:90088** 90C25 (47H09, 47N10)

— (*with* Ogura, Nobuhiko; Yamashita, Yukihiko; Sakaniwa, Kohichi) Quadratic optimization of fixed points of nonexpansive mappings in Hilbert space. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 165–190. (Gérard Lebourg) **99b:90087** 90C20 (47H09, 47N10)

Yamada, K. *see* **Yamada, Kōtarō**

Yamada, Keizo (*with* Hirata, Kouichi; Harao, Masateru) On decidable higher-order unification problems. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 227–234. (*see* **99i:65003**) 68Q40 (03D40, 03D80)

Yamada, Kinji (*with* Ahara, Kazushi) Shapes of hexagrams. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 201–220. (Yu. A. Shashkin) **99k:52002** 52A10 (52B10)

Yamada, Kohzo (*with* Ohta, Haruto) Simple examples showing that various topological properties are not finitely additive in the sense of V. V. Tkachuk. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 93–95. (Gary Gruenhage) **99c:54010** 54B10 (54D20, 54D60, 54E35)

— (*with* Ohta, Haruto) On spaces with linearly homeomorphic function spaces in the compact open topology. *Tsukuba J. Math.* **22** (1998), *no.* 1, 39–48. (Robert A. McCoy) **99f:54020** 54C35 (54D30)

Yamada, Kōtarō (*with* Kato, Shin; Umehara, Masaaki) General existence of minimal surfaces with prescribed flux. II. *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 116–135, *World Sci. Publishing, River Edge, NJ*, 1997. (Rabah Souam) **99g:53012** 53A10

— (*with* Rossman, Wayne; Umehara, Masaaki) Irreducible constant mean curvature 1 surfaces in hyperbolic space with positive genus. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 449–484. (Luis J. Alías) **99a:53025; EA 99m** 53A10 (53A35, 53C42)

— (*with* Umehara, Masaaki) A duality on CMC-1 surfaces in hyperbolic space, and a hyperbolic analogue of the Osserman inequality. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 1, 229–237. (Roger Chen) **99e:53012** 53A10

— (*with* Rossman, Wayne; Umehara, Masaaki) Flux for mean curvature 1 surfaces in hyperbolic 3-space, and applications. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2147–2154. (Rabah Souam) **99j:53011** 53A10

Yamada, Kou A robust stability condition using phase information and achievement of low sensitivity. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 7, 375–383. 93D09

Yamada, Manabu (*with* Riadh, Zaier; Mizuno, Naoki) Adaptive zero phase error tracking controller with extended gain characteristics. (English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 306–315. 93B55 (90C40)

Yamada, Michio (*with* Ohkitani, Koji) Asymptotic formulas for the Lyapunov spectrum of fully developed shell model turbulence. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, *R*6257–*R*6260. (Summary) **99a:76069** 76F20

Yamada, Mieko (*with* Shiratani, Katsumi) Rationality problems of Jacobi sums. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 153–160. (Zun Shan) **99h:11095** 11L10

Yamada, Minoru (*with* Xu, Li; Saito, Osami) 2D model-following servo system. (English summary) *Multidimens. Systems Signal Process.* **10** (1999), *no.* 1, 71–91. (Summary) **99j:93058** 93C30 (93C85)

Yamada, Miyuki Representations of fundamental $\mathscr{P}$-regular semigroups. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 7–11, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M17

— Perfectly $\mathscr{P}$-regular semigroups. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 229–235. (K. S. S. Nambooripad) **99c:20085** 20M17

Yamada, Norifumi First passage time amplitude in nonrelativistic quantum mechanics. (English summary) *Path integrals: Dubna '96*, 144–148, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99k:81156** 81S40

Yamada, Osanobu (*with* Schmidt, Karl Michael) Spherically symmetric Dirac operators with variable mass and potentials infinite at infinity. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 3, 211–227. (Takashi Ichinose) **99g:35093** 35P05 (34L40, 35Q40, 47F05, 81Q10)

— On the spectrum of Dirac operators with potentials diverging at infinity. Spectral-scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1047 (1998), 126–133. (*see* **99i:00030**) 35P05 (35Q40, 81Q10)

Yamada, Shuji Hyperbolic three-manifolds and the four-color theorem. *KNOTS '96* (*Tokyo*), 569–572, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57044** 57N10 (05C10, 05C15, 57M50)

Yamada, Syuuji (*with* Tanaka, Tamaki) An outer approximation method for a concave minimization problem. (Japanese. Japanese summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 1–13. (*see* **99b:90009**) 90C26 (90C30)

Yamada, Tomoya (*with* Matsunawa, Tadashi) Uniform approximations of probability distributions based on K-L information defined on approximate main domains—with applications to quantitative evaluations of fluctuations in multivariate general exponential families. (Japanese. English and Japanese summaries) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 2, 461–476. (Editors) **99m:60012** 60B10

Yamada, Toshinori (*with* Ueno, Shuichi) Fault-tolerant graphs for tori. (English summary) *Networks* **32** (1998), *no.* 3, 181–188. (Summary) **99d:68027** 68M10 (05C85)

Yamada, Yasuhiko (*with* Nakayashiki, Atsushi) Kostka polynomials and energy functions in solvable lattice models. (English summary) *Selecta Math.* (*N.S.*) **3** (1997), *no.* 4, 547–599. (Kailash C. Misra) **99m:05162** 05E05 (17B10, 17B37, 81R50, 82B23)

— (*with* Noumi, Masatoshi) Umemura polynomials for the Painlevé V equation. (English summary) *Phys. Lett. A* **247** (1998), *no.* 1-2, 65–69. (Summary) **99g:34044** 34A99 (33C45, 39A12)

Yamada, Yoshio Coexistence states for some population models with nonlinear cross-diffusion. (English summary) Biological pattern formation. *Forma* **12** (1997), *no.* 2, 153–166. (J. M. Cushing) **99d:92050** 92D40 (35K57, 35Q80, 92D25)

Yamada, Yuichi Some Seifert 3-manifolds which decompose S^4 as a twisted double. *KNOTS '96* (*Tokyo*), 545–550, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99i:57002**) 57N10 (57M12, 57M20, 57N13)

— Geometric intersection numbers of an immersed manifold and planes in E^N. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 189–200. (*see* **99a:00050**) 57R42

Yamada, Yuji[2] (*with* Hara, Shinji) An LMI approach to local optimization for constantly scaled $\mathscr{H}_\infty$ control problems. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 233–250. 93B36 (93B40)

— (*with* Hara, Shinji) Computational complexity in robust controller synthesis. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 59–80, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (65Y20, 68Q25, 93B40)

Yamagami, Shigeru (*with* Tanahashi, Kôtarô) Exponential ordering on bounded self-adjoint operators. (Japanese summary) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 39–47. (From the text) **99k:47042** 47A63 (47B15)

Yamagata, Kunio (*with* Skowroński, Andrzej) Stable equivalence of selfinjective algebras of tilted type. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 5, 341–350. (Héctor A. Merklen) **99g:16017** 16G10 (16G70)

— (*with* Skowroński, Andrzej) Galois coverings of selfinjective algebras by repetitive algebras. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 715–734. (Karin Erdmann) **99d:16008** 16D50 (16G10, 16G70)

Yamagata, Masahiro Metrics on S^3 such that Brieskorn curve is a geodesic. *Nihonkai Math. J.* **9** (1998), *no.* 1, 111–115. (H. R. Gluck) **99d:53037** 53C22

Yamaguchi, Fujio (*with* Niizeki, Masatoshi; Yamada, Atsushi; Yoshida, Norimasa; Matsumura, Kiyoshi) Totally homogeneous paradigm for geometric processing based on the principle of duality. (English summary) *Math. Student* **65** (1996), *no.* 1-4, 81–109. (Luiz Henrique de Figueiredo) **99f:68203** 68U05

Yamaguchi, Hideki (*with* Nagai, Yoshinori) Correlation dimension as the large deviation for distribution of distances between two points on an embedded manifold. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 10, 3397–3404. (Summary) **99j:58137** 58F12 (60F10)

Yamaguchi, Hiroshi[2] The theorem of F. and M. Riesz on certain (noncommutative) compact groups. (Japanese) Representation theory of groups and homogeneous spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1008 (1997), 46–64. (*see* **99a:17002**) 43A17 (22C05)

Yamaguchi, Kohhei (*with* Guest, Martin A.; Kozlowski, Andrzej[2]) Stable splitting of the space of polynomials with roots of bounded multiplicity. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 351–366. (R. E. Stong) **99k:55009** 55P42

Yamaguchi, Masahiro (*with* Nilles, H. P.; Olechowski, M.) Supersymmetry breakdown at a hidden wall. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 43–72. (Summary) **99g:81180** 81T30 (81R40)

Yamaguchi, Masaru Quasiperiodic behavior of vibrating string with the Lissajous boundary condition. *Functional analysis and global analysis* (*Quezon City*, 1996), 278–287, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35L05 (35Q72, 73D30)

Yamaguchi, Satoshi (*with* Sasaki, Tateaki) Error analysis for the Hensel construction of multivariable polynomials with floating point coefficients. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 119–126. (*see* **99h:00034**) 65H10

Yamaguchi, Seiichi (*with* Fueki, Shigeo) Kählerian torse-forming vector fields and Kählerian submersions. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 257–275. (Sorin Dragomir) **99a:53082** 53C55

Yamaguchi, Tadashi (*with* Foulds, Leslie R.; Lamb, John D.) Central cycles in graphs. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 48 (1998), 93–99. (Summary) **99g:05069** 05C12

Yamaguchi, Takao Collapsing and soul theorem in three-dimension. *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 163–166, *Sémin. Théor. Spectr. Géom.*,

15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (*see* **99b:53003**) 53C20 (53C23)

Yamaguchi, Takeshi (*with* Kashima, Ryo) On the difficulty of writing out formal proofs in arithmetic. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 328–332. (A. M. Dawes) **99d:03055** 03F30 (03D25, 03F20)

Yamaguchi, Tatao *see* **Yamaguchi, Takao**

Yamaguchi, Tomohiko (*with* Ikota, Ryo; Ishimura, Naoyuki; Mimura, Masayasu) On the structure of steady solutions for the kinematic model of spiral waves in excitable media. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 223–228, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99b:92009** 92C05 (92E20)

Yamaguchi, Toshihiro On characterizations of rational homotopy types with some rational cyclic cohomologies. (English summary) *Stable and unstable homotopy (Toronto, ON, 1996)*, 299–312, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Yves Félix) **99f:55019** 55P62 (19D55)

— (*with* Kuribayashi, Katsuhiko) The vanishing problem of the string class with degree 3. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 129–142. (Haynes R. Miller) **99h:57054** 57R20 (55P35, 57T35)

Yamaguchi, Toshiyuki (*with* Kato, Nobuyuki) Nonlinear nonlocal differential equations related to muscle contraction mechanism. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3909–3915. (Brian D. Sleeman) **99c:92015** 92C30 (35K55, 35Q80, 45K05)

Yamaguchi, Yasushi Detection and computation of degenerate normal vectors on tensor product polynomial surfaces. (English summary) *Geometric modeling: theory and practice (Blaubeuren, 1996)*, 102–113, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65197** 65Y25

Yamaguchi, Yoshiyuki Y. New universality of Lyapunov spectra in Hamiltonian systems. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 195–207. (Summary) **99b:58185** 58F19 (58F05, 58F13)

Yamaguti, Kaoru On global quasi-analytic solutions of the degenerate Kirchhoff equation. *Tsukuba J. Math.* **21** (1997), *no.* 3, 541–565. (Mehmet Can) **99e:35155** 35L70 (35L80, 35Q60)

Yamaguti, Kiyosi *Self-study of English mathematics* and *Exposition of terms used in western mathematics* by Kan-ichi Hashizume—how Hashizume selected some of the mathematical terms in these books. (Japanese. English and Japanese summaries) *J. Fac. Internat. Stud. Cult. Kyushu Sangyo Univ. No.* 10 (1997), 57–68. (Summary) **99i:01019** 01A55

— *Vocabulary of mathematical terms in English and Japanese* (1889) by R. Fujisawa—a comparison with "Translation of mathematical terms" by Translation Committee of Tokyo Mathematical Society. (Japanese. English and Japanese summaries) *J. Fac. Internat. Stud. Cult. Kyushu Sangyo Univ. No.* 11 (1998), 115–134. (Summary) **99i:01020** 01A55

Yamaguti, Masaya *see* **Obituary: Yamaguti, Masaya**

Yamakawa, Asuka (*with* Kanaumi, Yoshihiko; Ichihashi, Hidetomo; Miyoshi, Tetsuya) Simultaneous application of fuzzy clustering and correspondence analysis. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 3, 191–198. 62H30 (68T10)

Yamakawa, Rikuo (*with* Nunokawa, Mamoru; Ikeda, Akira[2]; Koike, Naoya; Ota, Yoshiaki) Sufficient conditions for starlikeness of meromorphic functions. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 78–81. (*see* **99a:00033**) 30C45

Yamaki, Hiroyoshi (*with* Chigira, Naoki; Iiyori, Nobuo) Nonabelian Sylow subgroups of finite groups of even order. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 88–90 (*electronic*). 20D20

— (*with* Chen, Guiyun; Chigira, Naoki) Finite groups with metacyclic automorphism groups. *Northeast. Math. J.* **14** (1998), *no.* 1, 5–8. (Richard Davitt) **99e:20030** 20D45

Yamaki, Naokazu (*with* Sekitani, Kazuyuki) Large-scale AHP with incomplete data. (Japanese. Japanese summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 143–154. (*see* **99h:90006**) 93A13 (65F30)

Yamakita, Jiro (*with* Inai, Hiroshi) A two-layer queueing model to predict performance of packet transfer in broadband networks. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 349–371. (*see* **99a:90010**) 90B22 (90B12, 94A05)

Yamakoshi, Hitoshi (*with* Hirayama, Minoru; Kanno, Mika; Ueno, Masataka) Non-abelian Stokes theorem for loop variables associated with nontrivial loops. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 4, 817–83.. (Bogusław Broda) **99k:81183** 81T13 (58Z05)

Yamaleev, Nail K. (*with* Ballmann, Josef) Space-marching method for calculating steady supersonic flows on a grid adapted to the solution. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 436–463. (Summary) **99g:76120** 76M25 (76J20)

Yamaleev, Robert Fractional power of momenta and para-Grassmann extension of Pauli equation. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 279–288. (Piotr Kosiński) **99e:81062** 81Q60 (81S05)

— New dynamical equations for many particle system on the basis of multicomplex algebra. *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 433–441, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Paola Morando) **99d:70024** 70H05 (58F05, 70G50)

Yamalidou, Maria Molecular ideas in hydrodynamics. (English summary) *Ann. of Sci.* **55** (1998), *no.* 4, 369–400. 01A55 (76–03, 80–03)

Yamamoto, Akihiro Which hypotheses can be found with inverse entailment? (English summary) *Inductive logic programming (Prague, 1997)*, 296–308, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (Summary) **99d:68048** 68N17 (68T05)

— Logical aspects of several bottom-up fittings. (English summary) *Algorithmic learning theory (Otzenhausen, 1998)*, 158–168, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68N17)

Yamamoto, Eiji (*with* Doi, Masayuki) On the joint distribution of runs in a sequence of multi-state trials. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 133–141. (J. Glaz) **99i:60018** 60C05 (60J10)

Yamamoto, Fujio (*with* Araki, Tomoyuki; Tatsumi, Hisayuki; Mukaidono, Masao) Minimization of incompletely specified regular ternary logic functions and its application to fuzzy switching functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka, 1998)*, 289–296, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (03B52)

Yamamoto, Hideharu (*with* Tomizawa, Sadao; Seo, Takashi) Power-divergence-type measure of departure from symmetry for square contingency tables that have nominal categories. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 3, 387–398. 62H17

Yamamoto, Hiroaki (*with* Dessmark, Anders; Lingas, Andrzej; Olsson, Hans) Optimal broadcasting in almost trees and partial k-trees. (English summary) *STACS 98 (Paris, 1998)*, 432–443, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68M10 (68R10)

Yamamoto, Kazuhiro (*with* Ishikawa, Ken-Ichi; Inagaki, Tomohiro; Fukazawa, Kenji) Dynamical symmetry breaking in compact flat spaces. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 2, 237–255. (Summary) **99c:81081** 81R40 (81T20, 83F05)

Yamamoto, Kentaro (*with* Kurosawa, Kaoru; Satoh, Takashi) Highly nonlinear t-resilient functions. (English summary) *J.UCS* **3** (1997), *no.* 6, 721–729 (*electronic*). (Summary) **99h:94049** 94A60

Yamamoto, Kiyoshi (*with* Nakano, Tohru; Takahashi, Naoya; Kambe, Tsutomu; Gotoh, Toshiyuki) Conditional expectations and probability density distributions in turbulence. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 130–136. (*see* **99k:76004**) 76F99 (60E99, 76M35)

— (*with* Oide, Shin-ichi; Hosokawa, Iwao) Similar variables for passive scalar and joint multifractals. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 137–145. (*see* **99k:76004**) 76F99 (28A80)

Yamamoto, Masahiro (*with* Zhou, Qi) Hautus condition on the exact controllability of conservative systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 371–379. (Summary) **99m:93011** 93B05 (93C25)

— (*with* Bukhgeĭm, A. L.; Cheng, Jin[2]) Uniqueness and stability for an inverse problem of determining a part of boundary. (English summary) *Inverse problems in engineering mechanics (Nagano, 1998)*, 327–336, *Elsevier, Oxford*, 1998. (Summary) **99m:35259** 35R30 (35J05, 78A99)

— (*with* Cheng, Jin[2]) Unique continuation on a line for harmonic functions. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 869–882. (Summary) **99d:35029** 35J05 (31A05, 35B60)

— (*with* Imanuvilov, Oleg Yu.) Lipschitz stability in inverse parabolic problems by the Carleman estimate. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1229–1245. (Summary) **99h:35227** 35R30 (35B35, 35K10)

— (*with* Cheng, Jin[2]; Prössdorf, Siegfried) Local estimation for an integral equation of first kind with analytic kernel. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 2, 115–126. (V. M. Isakov) **99g:45001** 45A05 (35R30)

— (*with* Grasselli, Maurizio) Identifying a spatial body force in linear elastodynamics via traction measurements. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1190–1206 (*electronic*). (Hideo Soga) **99g:35127** 35Q72 (35R30, 73C02, 93C20)

Yamamoto, Mitsuharu (*with* Takahashi, Koichi; Hagiya, Masami; Nishizaki, Shin-ya; Tamai, Tetsuo) Formalization of graph search algorithms and its applications. (English summary) *Theorem proving in higher order logics (Canberra, 1998)*, 479–496, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68T15 (68T20)

Yamamoto, Nobito (*with* Nakao, Mitsuhiro T.; Kimura, Seiji) On the best constant in the error bound for the H_0^1-projection into piecewise polynomial spaces. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 491–500. (Guido Walz) **99d:41035** 41A30 (41A44)

— (*with* Nakao, Mitsuhiro T.; Watanabe, Yoshitaka) A posteriori and constructive a priori error bounds for finite element solutions of the Stokes equations. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 137–158. (Kai Tai Li) **99e:65147** 65N15 (76D05, 76M10)

— (*with* Nakao, Mitsuhiro T.) Numerical verification of solutions for nonlinear elliptic problems using an L^∞ residual method. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 246–262. (Summary) **99j:65186** 65N15 (35J65)

— (*with* Nakao, Mitsuhiro T.; Watanabe, Yoshitaka) Constructive L^2 error estimates for finite element solutions of the Stokes equations. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 115–124. (Summary) **99c:65209** 65N30 (65G10)

— A numerical verification method for solutions of boundary value problems with local uniqueness by Banach's fixed-point theorem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 2004–2013 (*electronic*). (Jiuhua Chen) **99f:65180** 65N30 (47H17, 65J15)

— (*with* Watanabe, Yoshitaka; Nakao, Mitsuhiro T.) Numerical verification of solutions for the Navier-Stokes equations. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 100–105. (*see* **99i:00028**) 65M12 (76M25)

Yamamoto, Shigeru[1] (*with* Motomura, Takashi; Chen, Wanping) A design method for discrete-time quadratically stabilizing state feedback controllers with time-varying parameters. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 12, 673–679. 93D15 (93C55)

Yamamoto, Takamitsu (*with* Konno, Kimiaki; Maeno, Mineki; Katayama, Yoichi) Solitons in the brain: a model of α-waves. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 130–139. (*see* **99f:76003**) 35Q80 (35Q51, 92B05)

Yamamoto, Takanori[2] (*with* Nakazi, Takahiko) Norms of some singular integral operators and their inverse operators. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 185–207. (A. Böttcher) **99g:47054** 47B35 (45E05, 46J15, 47A30, 47G10)

— (*with* Nakazi, Takahiko) Fixed points of certain functions and norms of singular integrable operators. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 137–151. (Shûichi Ohno) **99m:47058** 47G10 (47A30)

Yamamoto, Takashi (*with* Kato, Yusuke) Jack polynomials with prescribed symmetry and hole propagator of spin Calogero-Sutherland model. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9171–9184. (Kazuhiro Hikami) **99j:81210** 81V70 (33C80)

Yamamoto, Tetsuro (*with* Ishihara, Kazuo) On nonlinear SOR-like methods. IV. SOR-secant method for nondifferentiable problems. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 103–116. (Eugene Allgower) **99f:65075** 65H05 (65N06)

— (*with* Ishihara, Kazuo) On nonlinear SOR-like methods. III. Global convergence of SOR, SSOR and USSOR methods for convex problems. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 1, 135–145. (Eugene Allgower) **99f:65074** 65H05

— On the accuracy of finite difference solution for Dirichlet problems. Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 135–142. (*see* **99i:00028**) 65N12

Yamamoto, Tokufumi Order and disorder in 2-D cellular automata with heterogeneous rules. (English summary) *Complex. Int.* **3** (1996), 11 *HTML documents* (*electronic*). (Helena E. Nusse) **99g:58068** 58F08

Yamamoto, Y. *see* **Yamamoto, Yoshitsugu**

Yamamoto, Yoshihiko Canonical power series associated with elliptic curves over **Q**. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 204–211. (*see* **99d:11001**) 11G05

Yamamoto, Yoshinori Mathematical aspects of infinitely-valued threshold function and its multistage synthesis. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 4, 449–465 (1998). (Summary) **99j:94085** 94C10 (03B52)

Yamamoto, Yoshitaka Solutions in Besov spaces of a class of abstract parabolic equations of higher order in time. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 201–227. (Paolo Acquistapace) **99k:34131** 34G10 (35K99, 47N20)

Yamamoto, Yoshitsugu (*with* Shi, Jianming) A global optimization method for minimum maximal flow problem. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 271–287. (Maretsugu Yamasaki) **99a:90220** 90C35

— (*with* Shi, Jianming) A parametric algorithm for the minimum norm point problem under a linear constraint and its application to portfolio optimization. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 2, 69–91. (Summary) **99e:90064** 90C20 (90C90)

— (*with* Kuno, Takahito) A finite algorithm for globally optimizing a class of rank-two reverse convex programs. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 247–265. (Ştefan Ţigan) **99f:90080** 90C25

— (*with* Guo, Bao-Lin) A note on a theorem of continuum of zero points. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 398–403. (Summary) **99i:90063** 90C08 (54H25, 90A14, 90D05)

Yamamoto, Yutaka (*with* Khargonekar, Pramod P.) From sampled-data control to signal processing. *Learning, control and hybrid systems* (*Bangalore*, 1998), 108–126, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C57 (94A12)

— *see also* **Learning, control and hybrid systems, 99g:93003**

Yamamura, Ken Maximal unramified extensions of imaginary quadratic number fields of small conductors. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 405–448. (F. Diaz y Diaz) **99e:11139** 11R20 (11R37)

— Determination of the imaginary normal octic number fields with class number one which are not CM-fields. *Acta Arith.* **86** (1998), *no.* 2, 133–147. (Jean Cougnard) **99h:11127** 11R29 (11R21, 11R37)

Yamamura, Kiyotaka (*with* Kawata, Hitomi; Tokue, Ai) Interval solution of nonlinear equations using linear programming. (English summary) *BIT* **38** (1998), *no.* 1, 186–199. (Miodrag Petković) **99h:65100** 65G10 (65H10)

— (*with* Ohshima, Takayuki) Finding all solutions of piecewise-linear resistive circuits using linear programming. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 434–445. (Summary) **99d:94046** 94C05 (90C05)

— A few remarks on putting homotopy methods into practice—making practical use of theory. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 17–23. (*see* **99i:00028**) 65H17

Yamamura, Masatoshi (*with* Kuriyama, Atsushi; da Providência, João; Tsue, Yasuhiko) Modification of the conventional Holstein-Primakoff boson representation for the su(1, 1)-algebra and its classical counterpart. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 819–829. (Dennis Bonatsos) **99m:81075** 81R05 (20C35, 22E70)

Yamamuro, Kouji (*with* Sato, Ken-iti) On selfsimilar and semi-selfsimilar processes with independent increments. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 207–224. (Loïc Chaumont) **99h:60086** 60G18 (60J30)

— On transient Markov processes of Ornstein-Uhlenbeck type. (English summary) *Nagoya Math. J.* **149** (1998), 19–32. (M. G. Shur) **99h:60146** 60J40 (60J25)

Yamana, Shukichi (*with* Kelkar, Vikram Dwarkanath; Ghoderao, Sudesh Bhaskar) Regular polygons easily made from a business envelope. (English and Japanese summaries) *Bull. Kyoto Univ. Ed. Ser. B No.* 90 (1997), 9–26. (Summary) **99f:51031** 51M15 (51M20)

Yamanaka, Kazuo On ARMA controllers in continuous-time feedback schemes. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 641–648. 93E03 (93B52)

Yamanaka, Osamu (*with* Ohmori, Hiromitsu; Sano, Akira) Design method of exact model matching control for finite Volterra series systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 107–124. 93B30 (93B51)

Yamane, Hideshi Singularities in Fuchsian Cauchy problems with holomorphic data. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 2, 179–190. (Takeshi Mandai) **99h:35005** 35A20 (35B60)

— Nonlinear singular first-order partial differential equations whose characteristic exponents take positive integer values. (Japanese. Japanese summary) Partial differential equations in the complex domain (Japanese)(Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1028 (1998), 67–78. (*see* **99e:35002**) 35F20

— Singularities of solutions to Fuchsian Cauchy problems with regular data. (Japanese. Japanese summary) Partial differential equations in the complex domain (Japanese)(Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1028 (1998), 79–93. (*see* **99e:35002**) 35A20

Yamane, Satoshi The symbolic model-checking methods for real-time systems. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 222–242. (*see* **99a:68004**) 68Q60

Yamaoka, Kazue (*with* Hayashi, Chikio) Beyond Simpson's paradox: one problem in data science. (English summary) *Advances in data science and classification* (*Rome*, 1998), 65–72, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H17

Yamasaki, Aiichi Inductive limits of general linear groups. (Japanese) Infinite-dimensional measure theory and representation theory of infinite-dimensional groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1017 (1997), 92–103. (*see* **99d:22001**) 22A05

Yamasaki, Kyoko (*with* Yamasaki, Yasuo) Genetic analysis and Poisson processes. (Japanese) Infinite-dimensional measure theory and representation theory of infinite-dimensional groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1017 (1997), 32–53. (*see* **99d:22001**) 92D10

Yamasaki, Maretsugu Finite Hilbert networks. Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 38–49. (Ivan Ginchev) **99e:90033** 90B10 (90C35)

— (*with* Murakami, Atsushi) Nonlinear Kuramochi boundaries of infinite networks. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 85–93. (*see* **99a:00036**) 31C20

— Extremum problems on a Hilbert network. (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **31** (1998), 57–72. (Paolo M. Soardi) **99b:47107** 47N10 (31C20, 90C35)

Yamasaki, Masayuki Controlled surgery theory. (Japanese) *Sūgaku* **50** (1998), *no.* 3, 282–292. 57R67

Yamasaki, Susumu (*with* Kurose, Yoshinori) Soundness of abductive proof procedure with respect to constraint for non-ground abducibles. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 257–281. (Summary) **99i:68021** 68N17 (03B70)

Yamasaki, Toshiyuki (*with* Hagiwara, Tomomichi; Araki, Mituhiko) Two-degree-of-freedom design method of LQI servo systems: disturbance rejection by constant state feedback. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 703–719. 93B51 (93C85)

Yamasaki, Yasuo (*with* Yamasaki, Kyoko) Genetic analysis and Poisson processes. (Japanese) Infinite-dimensional measure theory and representation theory of infinite-dimensional groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1017 (1997), 32–53. (*see* **99d:22001**) 92D10

Yamashita, Hideaki (*with* Suzuki, Shigemichi) Mean waiting times of the alternating traffic with starting delays. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 442–454. (Rong Xin Wang) **99i:90047** 90B06 (60K25, 90B22)

— (*with* Ohtani, Hiroshi; Suzuki, Shigemichi) An exact aggregation for inventory distribution in an automatic warehousing system. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 492–508. 90B05 (90B30)

Yamashita, Hideyasu Hyperfinite-dimensional representations of canonical commutation relation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2682–2692. (Robert Fittler) **99c:81106** 81S05 (03H10, 47N50)

Yamashita, Hiroshi *see* **Yamashita, Hiroshi[2]**

Yamashita, Hiroshi[1] (*with* Gyoja, Akihiko) Associated variety, Kostant-Sekiguchi correspondence, and locally free $U(n)$-action on Harish-Chandra modules. Representation theory of groups and homogeneous spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1008 (1997), 1–20. (William M. McGovern) **99e:17007** 17B10 (22E46)

— Description of the associated varieties for the discrete series representations of a semisimple Lie group—an elementary proof by means of differential operators of gradient type. *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 1, 35–52. (Hisaichi Midorikawa) **99g:22016** 22E46

Yamashita, Hiroshi[2] (*with* Yabe, Hiroshi; Tanabe, Takahito) A primal-dual interior point method for large-scale nonlinear optimization problems. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 204–211. (*see* **99i:00028**) 90C30 (90C06)

Yamashita, Masafumi (*with* Harada, Takashi) Graph-nondominatedness of k-coteries. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 39–43. (*see* **99i:65003**) 68R10 (68Q10)

— (*with* Suzuki, Ichiro[1]) Distributed anonymous mobile robots: formation of geometric patterns. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 4, 1347–1363 (*electronic*). (Summary) **99m:68142** 68Q99

Yamashita, Masashi (*with* Hayakawa, Kisaburo; Matsumoto, Kenichiro; Suzuki, Yoshiaki; Fujimori, Kazuo; Kimura, Hidenori) Robust H^∞-output feedback control of decoupled automobile active suspension systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 392–396. 93B36 (93C95)

Yamashita, Nobuo (*with* Fukushima, Masao) Some properties of the restricted NCP-functions for the nonlinear complementarity problem. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 62–74. (Joaquim J. Júdice) **99f:90153** 90C33

— Properties of restricted NCP functions for nonlinear complementarity problems. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 701–717. (Jie Sun) **99e:90103** 90C33 (90C30)

Yamashita, Yasushi Combinatorial properties of Cayley graphs. (Japanese) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 179–184. (*see* **99e:30001**) 05C25

— (*with* Kojima, Sadayoshi; Nishi, Haruko) Configuration spaces of points on the circle and hyperbolic Dehn fillings. (English summary) *Topology* **38** (1999), *no.* 3, 497–516. (Daniel Matignon) **99m:57013** 57M50 (55R99)

Yamashita, Yukihiko (*with* Yamada, Isao; Ogura, Nobuhiko; Sakaniwa, Kohichi) Quadratic optimization of fixed points of nonexpansive mappings in Hilbert space. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 165–190. (Gérard Lebourg) **99b:90087** 90C20 (47H09, 47N10)

Yamatani, Katsu (*with* Ohnaka, Kohzaburo) A reliable estimation method of a dipole for three-dimensional Poisson equation. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 139–151. 35J05 (65D99)

Yamato, Kazuharu (*with* Kamiura, Naotake; Hata, Yutaka) On concurrent tests of fuzzy controllers. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 356–361, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 93C42

Yamauchi, Yukari (*with* Mukaidono, Masao) A study on operations in interval and paired probabilities. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 310–315, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B52 (68T27)

Yamaue, Ikuyo (*with* Mukouchi, Yasuhito; Sato, Masako) Inferring families that are generated by a rewriting system. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 159–166. (*see* **99i:65003**) 68Q42 (68T05)

Yamawaki, K. *see* **Perspectives of strong coupling gauge theories, 99a:81003**

Yamazaki, Genji (*with* Li, Xue; Iimura, Kiyoaki) The high-efficiency range of decision vectors in optimization problems and its application. (Japanese. English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 122–127. (*see* **99h:90006**) 90A05 (90C90)

Yamazaki, Hitoshi (*with* Shi, Q.; Safonov, V. L.; Mino, M.) Unitary transformations in weakly nonideal Bose gases. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 258–264. (Summary) **99a:82024** 82B20 (81V70)

Yamazaki, Isamu Inference module systems as models of computation. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 111–118. (*see* **99i:65003**) 68Q05 (68T15)

Yamazaki, Kaori (*with* Hoshina, Takao) Extensions of functions on product spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 195–204. (Zbigniew Grande) **99b:54026** 54C45 (54B10, 54E18)

Yamazaki, Masao Existence, uniqueness and stability of stationary solutions in the weak-L^n space to the Navier-Stokes exterior problem. *Recent topics on mathematical theory of viscous incompressible fluid* (*Tsukuba*, 1996), 225–270, *Lecture Notes Numer. Appl. Anal.*, 16, *Kinokuniya, Tokyo*, 1998. (Yoshikazu Giga) **99f:35167** 35Q30 (35B35)

— (*with* Kozono, Hideo) Exterior problem for the Navier-Stokes equations, existence, uniqueness and stability of stationary solutions. *Theory of the Navier-Stokes equations*, 86–98, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Chang Hao Lin) **99j:35166** 35Q30 (35B35, 76D05, 76E99)

— (*with* Kozono, Hideo) On a larger class of stable solutions to the Navier-Stokes equations in exterior domains. *Math. Z.* **228** (1998), *no.* 4, 751–785. (Zhi Min Chen) **99i:35126** 35Q30 (76D05)

Yamazaki, Mitsuru Several classes of the initial data for the discrete velocities models of the Boltzmann equations with linear and quadratic terms. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 143–146. (Nicola Bellomo) **99d:82055** 82C40 (35Q99, 76P05)

Yamazaki, Noriaki (*with* Ito, Akio; Kenmochi, Nobuyuki) Global attractors of time-dependent double obstacle problems. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 288–301, *Springer, Singapore*, 1997. (Ioannis G. Stratis) **99m:35114** 35K55 (34G20, 35K85, 47H20, 58F39)

— (*with* Shirakawa, K.; Ito, Akio; Kenmochi, Nobuyuki) Asymptotic stability for evolution systems associated with phase transition. (English summary) *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 104–115, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Alp O. Eden) **99h:35019** 35B35 (35K99, 47N20, 80A22)

— (*with* Shirakawa, K.; Ito, Akio; Kenmochi, Nobuyuki) Asymptotic stability for evolution equations governed by subdifferentials. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 287–310, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Philippe Laurençot) **99m:34141** 34G20 (34D05, 35K99, 35R70, 80A22)

— Periodic solutions for phase transition models. *Nonlinear Anal.* **35** (1999), *no.* 3, *Ser. A: Theory Methods*, 399–412. (Pavel Krejčí) **99i:35171** 35Q99 (35B10, 35K50, 80A22)

Yamazaki, Norio (*with* Tomiyama, Masato) Characterization of the group association scheme of the symmetric group. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 237–255. (Sung-Yell Song) **99b:05145** 05E30 (05E10)

— On symmetric association schemes with $k_1 = 3$. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 1, 73–105. (Sylvia A. Hobart) **99d:05091** 05E30 (05C75)

Yamazaki, Susumu (*with* Oaku, Toshinori) Higher-codimensional boundary value problems and F-mild microfunctions—local and microlocal uniqueness. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 5, 383–437. (P. Schapira) **99k:58169** 58G07 (32C38, 35A27, 35G15, 46F15)

Yamazaki, Tadashi (*with* Watanabe, Osamu[2]) The orientation selectivity problem: an approach from theoretical computer science. Discrete algorithms and computational complexity (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1054 (1998), 11–22. (*see* **99m:68009**) 68T05

Yamazaki, Taeko Scattering for a quasilinear hyperbolic equation of Kirchhoff type. *J. Differential Equations* **143** (1998), *no.* 1, 1–59. (R. G. Aĭrapetyan) **99e:35156** 35L70 (35P25, 47N20)

Yamazaki, Takao Reduced norm map of division algebras over complete discrete valuation fields of certain type. (English summary) *Compositio Math.* **112** (1998), *no.* 2, 127–145. (Yoshihiro Koya) **99b:11131** 11S15 (11S25)

— On Swan conductors for Brauer groups of curves over local fields. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1269–1274. (James M. Borger) **99h:11136** 11S15 (11G20, 14G20)

Yamazaki, Takeaki (*with* Furuta, Takayuki; Yanagida, Masahiro) Order preserving operator inequalities via Furuta inequality. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 471–476. (Summary) **99i:47030** 47A63

— (*with* Furuta, Takayuki; Yanagida, Masahiro) On a conjecture related to Furuta-type inequalities with negative powers. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 213–218. (Frank Hansen) **99j:47020** 47A63

— (*with* Yanagida, Masahiro; Furuta, Takayuki) An extension of order preserving operator inequalities. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 48–59. (Masatoshi Fujii) **99k:47043** 47A63

— (*with* Yanagida, Masahiro; Furuta, Takayuki) Generalized operator functions implying order preserving operator inequalities. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 60–67. (Editors) **99g:47033** 47A63 (47A56)

Yamazaki, Yuki (*with* Kenmoku, Masakatsu; Kubotani, Hiroto; Takasugi, Eiichi) de Broglie-Bohm interpretation for the wave function of quantum black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4925–4934. (Summary) **99m:83117** 83C57 (83C47)

Yamazato, Makoto Estimation and testing of the mode of a probability distribution. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 62–73. (*see* **99f:65007**) 65U05 (62E17)

Yamazawa, Hiroshi Newton polyhedrons and a formal Gevrey space of double indices for linear partial differential operators. (English summary) Partial differential equations in the complex domain (Japanese)(Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1028 (1998), 125–132. (*see* **99e:35002**) 35A20

Yameogo, Joachim Fibrés en droites amples sur des familles d'idéaux homogènes de $\mathbf{C}[x, y]$. [Ample line bundles on families of homogeneous ideals of $\mathbf{C}[x, y]$] *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 229–244, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Raquel Mallavibarrena) **99m:13034** 13D40 (14C05)

Yan, Aiguo (*with* Schwartz, Carla A.) Construction of Lyapunov functions for nonlinear systems using normal forms. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 521–535. (Sergei Mazanik) **99a:34153** 34D20 (34C20)

Yan, B. *see* **Yan, Baoshe**

Yan, Baisheng (*with* Zhou, Zhengfang) A theorem on improving regularity of minimizing sequences by reverse Hölder inequalities. *Michigan Math. J.* **44** (1997), *no.* 3, 543–553. (John M. Ball) **99c:49040** 49N60 (30C35, 46N10)

Yan, Baoqiang (*with* Liu, Xi Yu) Multiple solutions of impulsive boundary value problems on the half-line. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 111–123. (Lidia Skóra) **99a:34177** 34K10 (34A37, 45J05)

— On the existence of multiple solutions of superlinear Hammerstein integral equations. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 91–95. (Anatolij Semenovich Kalitvin) **99m:45009** 45G10 (47H07, 47H10, 47H30)

— (*with* Liu, Xi Yu) Boundary-irregular solutions to singular boundary value problems. *Nonlinear Anal.* **32** (1998), *no.* 5, 633–646. (L. E. Bobisud) **99b:34045** 34B15

— The degree theory of a new class of operators and its application. (English summary) *SUT J. Math.* **34** (1998), *no.* 1, 75–90. (Yi Hong Du) **99i:47111** 47H11 (34G20, 47H09)

Yan, Baoshe (*with* Riley, N.) Viscous flow about a submerged circular cylinder induced by free-surface travelling waves. (English summary) *J. Fluid Mech.* **374** (1998), 173–194. (Summary) **99i:76049** 76D99 (76D10, 76D33)

Yan, Bi Peng (*with* Cheng, Ji Lin; He, Xiao Guang) Optimal orthogonal experimental methods of multidimensional dynamic and large scale linear problems. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 1–7. 90C06 (90C39)

Yan, C. C. Solution of the Lorentz-Dirac equation based on a new momentum expression. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6741–6746. (Summary) **99f:81042** 81Q05

Yan, Catherine Huafei (*with* Peng, Hua) Balancing game with a buffer. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 193–204. (Summary) **99f:90190** 90D05

— Decomposition of Lebesgue spaces. *Adv. Math.* **135** (1998), *no.* 2, 330–350. (M. M. Rao) **99h:28011** 28A60 (28A99, 28C15, 60A10)

— Distributive laws for commuting equivalence relations. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 295–298. (Branimir Šešelja) **99i:04001** 04A05

— Commuting quasi-order relations. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 285–292. (Yehuda Rav) **99g:06004** 06A06 (04A05)

— (*with* Boyallian, Carina; Kac, Victor G.; Liberati, José I.) Quasifinite highest weight modules over the Lie algebra of matrix differential operators on the circle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2910–2928. (Kyo Nishiyama) **99c:17012** 17B10 (17B66, 17B69)

Yan, Chun Gang (*with* Jiang, Chang Jun) Composition operations for places of Petri nets. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 45–51. (Summary) **99k:68122** 68Q90 (68Q10)

Yan, Cong-Hua Two generating mappings ω_L and ι_L in complete lattices TVS and LFTVS. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 745–750. (Summary) **99f:46112** 46S40

Yan, De Jun (*with* Zhu, Wei Yong) Quasi-Fibonacci sequences in the Markov decomposition of an Anosov map. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 2, 171–173. 58F03

Yan, Dicky (*with* Lund, Carsten; Reingold, Nick; Westbrook, Jeffery R.) Competitive on-line algorithms for distributed data management. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1086–1111 (*electronic*). (Summary) **99m:68068** 68Q20 (68Q25)

Yan, En Rang (*with* Wang, Xia) Comparison theorems for linear differential equations of second order. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 4, 14–17, 27. 34A30 (34C10)

Yan, Feng Li (*with* Zhang, Run Dong; Li, Bo Zang) Hamiltonian operators constructed from two kinds of finite-depth quantum potential wells with time-dependent boundary conditions and their complex Berry phases. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 10, 1585–1599. 81Q99

— (*with* Yang, Linguang; Li, Bo Zang) Formal exact solution for the Heisenberg spin system in a time-dependent magnetic field and Aharonov-Anandan phase. (English summary) *Phys. Lett. A* **251** (1999), *no.* 5, 289–293. (Summary) **99j:82021** 82B20

Yan, G. *see* **Yan, Guo Zheng**

Yan, Gui Ying (*with* Pan, Jiaofeng; Wang, Jianfang; Wong, Chak Kuen) Orthogonal (g, f)-factorizations of bipartite graph. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 475–483. (Martin Bača) **99i:05172** 05C70

— (*with* Pan, Jiaofeng) Existence of subgraph with orthogonal (g, f)-factorization. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 1, 48–54. (Akira Saito) **99e:05101** 05C70

Yan, Guo Zheng (*with* Pang, Peter Y. H.) Inverse obstacle scattering with two scatterers. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 35–43. 35R30 (35J25, 76Q05)

— (*with* Pang, Peter Y. H.) The uniqueness of the inverse obstacle scattering problem with transmission boundary conditions. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 63–69. (Yongzhi Xu) **99e:76112** 76Q05 (35J05)

— (*with* Pang, Peter Y. H.) Uniqueness of the inverse conductive scattering problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 53–57. 35R30 (35J05, 76Q05)

Yan, H. *see* **Yan, Houmin**

Yan, Hong (*with* Pham, T. D.) A quasi-linear fuzzy measure of multi-attributes. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 255–266. (Milan Mareš) **99c:92068** 92J45 (28E10)

Yan, Hong Sen (*with* Cheng, Wen-Teng) Curvature analysis of roller-follower cam mechanisms. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 1, 69–87. 70B15

Yan, Houmin (*with* Sethi, Suresh P.; Suo, W.; Taksar, Michael I.) Optimal production planning in a multi-product stochastic manufacturing system with long-run average cost. (English summary) *Discrete Event Dyn. Syst.* **8** (1998), *no.* 1, 37–54. 93B30 (93E20)

Yan, Hui Zhen (*with* Zhang, Sheng Kai; Zhang, Ya Dong; Wang, Qi Yi) Convex linear generalization of random coalition games. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 9, 713–716. 90D15

— (*with* Zhang, Sheng Kai; Zhang, Ya Dong; Wang, Qi Yi) Convex linear extensions of random coalition games. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 6, 582–586. 90D15

Yan, J. *see* **Yan, Jun²**

Yan, Jia An (*with* Stricker, C.) Some remarks on the optional decomposition theorem. (English summary) *Séminaire de Probabilités, XXXII*, 56–66, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Martin Schweizer) **99j:60058** 60G44 (60G48, 90A09)

— (*with* Luo, Shun-Long) Generalized Fourier-Mehler transforms on white noise functional spaces. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1321–1325. (Isamu Dôku) **99m:60101** 60H99 (46F25, 47B38)

— (*with* Kondrat'ev, Yu. G.; Streit, Ludwig; Westerkamp, Werner) Generalized functions in infinite-dimensional analysis. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 213–260. (Nobuaki Obata) **99m:46106** 46F25 (46E50, 60H99)

Yan, Jiaren (*with* Tang, Yi; Zhou, Guanghui) Soliton dynamics of NLS equation at the presence of perturbations. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 4, 537–540. 35Q55 (35B20)

— (*with* Tang, Yi; Zhou, Guanghui; Chen, Zhenhua) Direct approach to the study of soliton perturbations of the nonlinear Schrödinger equation and the sine-Gordon equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 1064–1073. (Summary) **99c:35233** 35Q55 (35Q53)

Yan, Jing-Ho The bandwidth problem in cographs. (English summary) *Tamsui Oxf. J. Math. Sci.* **13** (1997), 31–36. (Summary) **99c:05173** 05C78 (05C85)

— Algorithm aspects of the bandwidth problem on P_4-sparse graphs. (English summary) *Tamsui Oxf. J. Math. Sci.* **14** (1998), 11–18. (Summary) **99i:05184** 05C78 (05C85)

Yan, Jinhai A nonlocal nonlinear boundary value problem for the heat equations. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 188–190, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35K60

Yan, Jiu Xi (*with* Cheng, Zhao Lin) The optimal tracking problem for singular dynamic economic systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 3, 428–431. 90A16 (93C95)

Yan, Ju Rang (*with* Qian, Chuanxi; Ladas, G.) Oscillation of difference equations with oscillating coefficients. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 55–65. (Guang Zhang) **99a:39027** 39A10 (39A11)

— (*with* Zhang, Quanxin) Comparison and oscillation for higher order delay differential equations. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 1–10. (Summary) **99i:34105** 34K15

— (*with* Liu, Bin²) Oscillatory and asymptotic behaviour of fourth order nonlinear difference equations. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 320. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 1, 105–115. (Summary) **99b:39023** 39A12

— (*with* Liu, Bin²; Zhao, Aimin) Necessary and sufficient conditions for oscillations of delay partial difference equations. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 339–346. (Sui Sun Cheng) **99d:39009** 39A10

— (*with* Zhang, Yu Zhu; Zhao, Aimin) Oscillation criteria for a difference equation. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1241–1249. (Binggen Zhang) **99c:39013** 39A10

— (*with* Wang, Youbin) A necessary and sufficient condition for the oscillation of a delay equation with continuous and piecewise constant arguments. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 229–235. (M. K. Grammatikopoulos) **99a:34202** 34K15 (34C10)

— (*with* Zhang, Xiaoshen) Global attractivity in impulsive functional-differential equations. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 871–878. (Summary) **99g:34153** 34K20 (34A37)

— (*with* Zhao, Aimin) Oscillation and stability of linear impulsive delay differential equations. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 187–194. (Eduardo Liz) **99h:34017** 34A37 (34K15, 34K20)

— (*with* Zhou, Xiao Liang) Oscillatory and asymptotic properties of higher order nonlinear difference equations. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 493–502. (Binggen Zhang) **99e:39056** 39A10

— (*with* Zhang, Fengqin) Oscillation for system of delay difference equations. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 223–231. (I. P. Stavroulakis) **99m:39014** 39A10

Yan, Jun (*with* Zhang, Bing Gen; Choi, Sung Kyu) Oscillation for difference equations with continuous variable. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 9, 11–18. (Summary) **99i:39019** 39A10

Yan, Jun² (*with* Qiu, Xiao Ming) Sinh-Gordon matter field and a solvable model in two-dimensional gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1319–1329. (Michael O. Katanaev) **99h:83042** 83C99 (81T40)

Yan, Jun-Juh (*with* Tsai, Jason Sheng Horng; Kung, Fan-Chu) Robust stabilization of large-scale systems with nonlinear uncertainties via decentralized state feedback. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 951–961. (Summary) **99b:93046** 93D21 (93A14)

— (*with* Tsai, Jason Sheng Horng; Kung, Fan-Chu) Robust stability analysis of interval systems with multiple time-varying delays: evolutionary programming approach. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 711–720. 93D09

Yan, Keming (*with* Ou, Zhiying; Wang, Baiyan; Zhang, Shengchang) Weakly augmented Lagrange-function projected gradient methods for nonlinear programming. (English summary) *J. Gansu Univ. Technol.* (*Engl. Ed.*) **2** (1998), *no.* 1, 85–87. 90C30 (65K05)

Yan, Li (*with* Zhang, Lian Wen) Independence of causal influence and clique tree propagation. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 335–349. (Summary) **99g:68202** 68T30

Yan, Li Hong (*with* Peng, Hong; Feng, Zheng Zhu) A comparison of evolutionary strategies and hybrid evolutionary strategies for constrained optimization problems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 35–40. 90C30 (90C90)

Yan, Li Xin (*with* Yang, Qixiang; Deng, Dong Gao) On Hörmander condition. *Chinese Sci. Bull.* **42** (1997), *no.* 16, 1341–1345. (J. Horváth) **99b:42019** 42B20 (46F10, 47B38)

— (*with* Deng, Dong Gao) L^p boundedness of commutators of Calderón-Zygmund singular integral operators. (English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 3, 259–269. (Tomás F. Godoy) **99k:42040** 42B25 (42C15, 47G10)

— (*with* Deng, Dong Gao) A characterization of Besov spaces over Lipschitz curves. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 309–316. (Da Chun Yang) **99g:46048** 46E35 (46F10)

Yan, Min f-vectors of polyhedra. (English summary) *Geom. Dedicata* **68** (1997), *no.* 1, 21–28. (P. McMullen) **99a:52022** 52B70

— (*with* Chen, Beifang) Eulerian stratification of polyhedra. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 1, 22–57. (P. McMullen) **99g:52022** 52B45 (52B70)

— (*with* Zhu, Yongchang) Stabilizer for Hopf algebra actions. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 3885–3898. (Andrzej Tyc) **99k:16090** 16W30

— (*with* Chen, Beifang) The geometric cone relations for simplicial and cubical complexes. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 39–46. (P. McMullen) **99a:52015** 52B45

Yan, Min (*with* Feng, Mang; Wang, Ke Lin; Shi, Lei³; Fang, Ximing; Zhu, Xiwen) Exact solution of Jaynes-Cummings model without rotating wave approximation. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 2, 169–172. (Summary) **99h:81239** 81V80 (81R30)

Yan, Ning-ning (*with* Lin, Qun¹; Zhou, Junming) Superclose and superconvergence for triangular elements. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 127–143, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:65157** 65N30 (65N12)

— (*with* Lin, Qun¹; Zhang, Shu Hua³) Extrapolation and defect correction for diffusion equations with boundary integral conditions. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 4, 405–412. (Chuan Miao Chen) **99f:65143** 65M60 (45K05)

— (*with* Lin, Qun¹; Zhang, Shu Hua³) An acceleration method for integral equations by using interpolation post-processing. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 117–129. (Wojciech Mydlarczyk) **99m:65249** 65R20 (45L05)

— (*with* Lin, Qun¹; Zhang, Shu Hua³) Asymptotic error expansion and defect correction for Sobolev and viscoelasticity type equations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 1, 51–62. (Weimin Han) **99a:65126** 65M60

— (*with* Espedal, Magne S.; Tai, Xue-Cheng) A hybrid nonoverlapping domain decomposition scheme for advection dominated advection-diffusion problems. (English summary) *Numer. Algorithms* **18** (1998), *no.* 3-4, 321–336. (Zheng Hui Xie) **99k:65115** 65N55 (76M25)

Yan, Peng Fei τ selection and its application to BCO theory. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 547–551. 54C65

— On strong sequence-covering compact mappings. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 3, 341–344. 54C10 (54E35)

Yan, Ping (*with* Wang, Xian; Jiang, Ji Fa) Analysis of global bifurcation for a class of systems of degree five. *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 305–318. (Douglas S. Shafer) **99d:34066** 34C23 (34C25, 58F14)

Yan, Ping (*with* Yang, Qi Gui) Nonexistence of periodic solutions for a class of nonlinear differential systems. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 113–116. 34C25

Yan, Pingfan (*with* Yu, Stella X.; Lin, Yuan Lie) Optimization models for the first arrival target distribution function in discrete time. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 193–223. (Masami Kurano) **99i:90116** 90C40 (90C39)

Yan, Quan Sheng (*with* Fan, Xiao Ping; Xu, Jian Min; Mao, Zong Yuan; Zhou, Qi Jie) Dynamic modeling for a class of constrained planar two-link flexible manipulators. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 933–938. 93C85

Yan, Rong Yi (*with* Jiang, Ya Ling) The event horizon of a uniformly accelerating nonstationary black hole. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **34** (1998), *no.* 3, 342–344. 83C57

— (*with* Jiang, Ya Ling; Cheng, Sujun) Three kinds of horizon-like hypersurface of a uniformly accelerating, non-stationary charged black hole. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 183–190. (Summary) **99a:83049** 83C57

Yan, Shao-Feng (*with* Wang, Wen-June) Stability confidence for fuzzy matrices. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 507–511. 93D05 (93C42)

— (*with* Wang, Wen-June; Chiu, Chih-Hui) Flexible stability criteria for a linguistic fuzzy dynamic system. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 63–80. 93D05 (93C42)

Yan, Shaozong (*with* Chen, Xiao Man; Xu, Shengzhi) The K-theory and the classification of the irrational rotation groupoid C^*-algebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 2, 270. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 2, 257–264. (Judith A. Packer) **99b:46091** 46L05 (19K56, 46L35, 46L80)

— (*with* Chen, Xiao Man; Xu, Shengzhi) Groupoid structure of Toeplitz algebra over L-shaped domain. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 2, 163–171. (Raúl E. Curto) **99c:47027** 47B35 (46L35, 47B20, 47B38, 47D25)

— (*with* Chen, Xiao Man; Guo, Kun Yu) Hankel operators and Hankel algebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 65–76. (Vladimir M. Deundyak) **99c:47028** 47B35 (45E10, 46L05, 47D25)

— (*with* Chen, Xiao Man; Xu, Shengzhi) Submodules of the groupoid C^*-algebra. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 379–385. (Vladimir Manuilov) **99k:46104** 46L05

Yan, Shi (*with* Mizumoto, Masaharu; Yubazaki, Naoyoshi) An improvement of fuzzy rules generation based on fuzzy c-means clustering algorithm. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 4, 395–405 (1998). 68T05

Yan, Shi Jian[2] (*with* Huang, Kai-bin) Constructions of bases for extended oblique projection method. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **4** (1995), *no.* 2, 176–184. (Yao Zhang) **99d:65112** 65F10 (65F20)

— (*with* Xu, Ling-ling; Fan, Jin-yan; Huang, Kai-bin) The solubility of the multidimensional TLS problem. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 2, 121–124. 65F30 (90C30)

Yan, Shi Tian (*with* Chen, Wei Tian; Zhou, Shao Sheng; Chu, Xue Dao) Robust output feedback control of a class of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 668–674. 93D21 (93B36)

Yan, Shi Yu Continuity of fuzzy linear functionals on L-fuzzy topological vector spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 24–28. (Summary) **99h:46137** 46S40 (46A22)

Yan, Shu Da (*with* Wang, Qing Xian; Wang, Gong Ben) The Ramsey number $R(K_3, K_q - e)$. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 1, 15–20. (Summary) **99c:05142** 05C55

Yan, Shusen (*with* Shen, Yao Tian) A minimization problem associated with gap phenomenon. *Chinese Sci. Bull.* **42** (1997), *no.* 13, 1073–1076. (Martin Fuchs) **99a:35104** 35J85 (58E30)

— (*with* Cao, Daomin; Noussair, Ezzat S.) Existence and uniqueness results on single-peaked solutions of a semilinear problem. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 1, 73–111. (Dian K. Palagachev) **99d:35053** 35J65 (35B99, 35J20)

— (*with* Shen, Yao Tian) A singularly perturbed elliptic problem involving supercritical Sobolev exponent. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 809–819. (Summary) **99e:35013** 35B25 (35J60, 49J10)

Yan, Song Y. ★ Perfect, amicable and sociable numbers. (English summary) A computational approach. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xx*+338 *pp. ISBN* 981-02-2847-3 (Joe P. Buhler) **99g:11011** 11A25 (11Y11, 11Y70)

— ★ An introduction to formal languages and machine computation. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xviii*+400 *pp. ISBN* 981-02-3422-8 (Eric Bach) **99h:68001** 68–01 (11Y16, 68P25, 68Q05, 68Q45, 94A60)

Yan, Ting Hu (*with* Mao, Yu Liang; Zhong, Bing Lin) A self-learning mechanism for a fuzzy relation matrix based on an associative memory model. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **27** (1997), *no.* 5, 1–5. 68T05

Yan, W. Y. *see* **Yan, Wei Yong**

Yan, Wei Ren L^p weighted estimates for Calderón-Zygmund operators. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 132–135. (Shan Zhen Lu) **99k:42037** 42B20

Yan, Wei Yong (*with* Liu, Wan Quan; Teo, Kok Lay) Optimal simultaneous stabilization of descriptor systems via output feedback. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 595–613. 93D15 (93C30)

— On principal subspace analysis. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 4, 707–718. (Summary) **99b:92007** 92B20 (62H25, 65F30)

— (*with* Liu, Wan Quan; Teo, Kok Lay; Sreeram, V.) On initial jumps for singular systems in connection with LQ optimal control. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1207–1213. 49N10 (93E20)

— Stability and convergence of principal component learning algorithms. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 933–955 (*electronic*). (T. E. Simos) **99h:65148** 65L99 (15A18, 34D99)

— (*with* Lam, James) On computation of the stability radius for nonlinearly structured perturbations. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 273–280. 93D09 (93B40)

— (*with* Xie, Lihua; Soh, Yeng Chai) Parameterization and optimization of reduced-order filters. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 418–422. 93E11 (93E20)

Yan, Wen (*with* Cao, You'an; Zou, Jingye) On the explicit limitations of irreducible unitary representations for nonsplit F_4. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 121–128. (Ivan V. Arzhantsev) **99d:22024** 22E46

Yan, Wen-Ming (*with* Wu, Jung-Gen; Chung, Kuo Liang) A parallel solver for circulant Toeplitz tridiagonal systems on hypercubes. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 4, 409–431. (Summary) **99b:65040** 65F10 (65Y05)

— (*with* Myrvold, Wendy; Chung, Kuo Liang) A formula for the number of spanning trees of a multi-star related graph. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 295–298. (Summary) **99k:05085** 05C30 (05C05, 68R10)

Yan, Xiao Bing (*with* Li, Ying Qiu) Differentiability properties of three-point transition functions for two-parameter jump processes. I. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 225–228, 239. (Summary) **99j:60125** 60J75

Yan, Xiao Lin (*with* Xu, Ming Min) Maximum likelihood estimation in life testing for a three-parameter Weibull distribution under fixed time censoring with replacement. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 2, 24–29. (Summary) **99g:62028** 62F10 (62N05)

Yan, Xiao-Qing (*with* Boyd, E. Andrew) Cutting planes for mixed-integer knapsack polyhedra. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 257–262. (Summary) **99a:90138** 90C10 (90C27)

Yan, Xiaodong (*with* Chen, Zuchi) A class of pseudo-monotone operators and its applications in PDE. *Differential equations and applications* (*Hangzhou*, 1996), 63–73, *Internat. Press, Cambridge, MA*, 199?. (Yi Hong Du) **99c:47082** 47H05 (35J65, 47H15, 47N20)

— (*with* Chen, Zuchi) A class of pseudo-monotone operators and its applications in PDE. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 4, 517–526. (Norman Dancer) **99g:35036** 35J60 (47H05, 47N20)

Yan, Xing Gang (*with* Lü, Xingya; Zhang, Si Ying) Robust stability and an estimation of PRD for nonlinear composite large-scale systems with uncertain parameters. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 50–55. (Han Sheng Wu) **99c:93081** 93D09 (93A15)

— (*with* Lin, Hui; Dai, Guan Zhong) Linearization and simultaneous decoupling for nonlinear systems based on diffeomorphisms. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 93–98. 93B15 (93C10)

Yan, Xing Min (*with* Feng, Bin Lu; Yu, Yuan Hong) Oscillation of second-order differential equations with advanced argument. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 36–39. 34K15

Yan, Xudong (*with* Govindan, Rajeev; Langston, Michael A.) Approximating the pathwidth of outerplanar graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 17–23. (Summary) **99f:68156** 68R10 (05C85, 68Q25)

Yan, Xun Ling (*with* Xu, Bing Zhen; Li, Yue Ke) New solitary wave solutions for a class of fifth-order nonlinear evolution equations. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 12, 1946–1951. 35Q53

Yan, Yin (*with* Gunzburger, Max D.; Hou, LiSheng; Manservisi, S.) Computations of optimal controls for incompressible flows. (English summary) Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 181–191. (Summary) **99m:49047** 49M25 (65M06, 76D99, 76M99)

Yan, Yin Nonnegative solutions for a class of single-population models and their asymptotic behavior. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 7, 110–112. (Summary) **99c:92049** 92D25 (35K55, 35Q80)

Yan, Ying Ji The algebraic structure of biological heredity. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 81–87. (Joseph So) **99d:92017** 92D10 (17D92)

Yan, Yu Bin (*with* Li, Chun Li) An expression for solutions of ill-posed operator equations of the first kind. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 3, 264–269. 65J20 (47A50)

Yan, Zhao Qin (*with* Weng, Peixuan) Global existence and stability of functional-differential equation with impulses. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 330–338. (Yuri V. Rogovchenko) **99g:34134** 34K05 (34A37, 34K20)

Yan, Zhenya (*with* Zhang, Hong Qing[1]) New explicit and exact travelling wave solutions for a system of variant Boussinesq equations in mathematical physics. (English summary) *Phys. Lett. A* **252** (1999), *no.* 6, 291–296. 35Q53 (35C05)

Yan, Zhi Bin (*with* Chen, Hui Bo) A mathematical model for parallel communication networks. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 2, 54–56. 90B12

— Some notes about Tanaka's equation. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 159–162. (Toshio Yamada) **99h:60125** 60H10

Yan, Zikun (*with* Lin, Chen) Localization of Bishop's property (β). (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 134–139. (Jörg Eschmeier) **99h:47006** 47A11 (47B40)

Yanagawa, Kohji On the regularities of arithmetically Buchsbaum curves. *Math. Z.* **226** (1997), *no.* 1, 155–163. (Chikashi Miyazaki) **99b:14028** 14H45 (13D45, 14B15, 14M05)

— (*with* Ballico, Edoardo) On the h-vector of a Cohen-Macaulay domain in positive characteristic. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1745–1756. (Yong Su Shin) **99d:13018** 13D40 (13H10)

— F_Δ type free resolutions of monomial ideals. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 377–383. (Ralf Fröberg) **99c:13031** 13D02 (13C14)

Yanagawa, Takashi (*with* Zhang, Zhong-Zhan) Obtaining invariant estimators for multiple relative rates from their given pairwise estimators. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 69–77. (Summary) **99b:62031** 62F10 (62P10)

Yanagi, Kenjiro On the capacity of Gaussian channel with noiseless delayed feedback. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 506–514, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99e:94024** 94A40

— (*with* Chen, Han Wu) Some results on the cover conjecture. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 111–117. (*see* **99i:00029**) 94A40

— (*with* Chen, Han Wu) Refinements of the half-bit and factor-of-two bounds for capacity in Gaussian channel with feedback. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 319–325. 94A40

Yanagi, Shigenori Asymptotic stability of the solutions to a full one-dimensional system of heat-conductive, reactive, compressible viscous gas. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 423–442. (Long An Ying) **99i:76137** 76N15 (35B35, 35Q35, 76E99)

Yanagida, Eiji Stability of stationary solutions of the Gierer-Meinhardt system. *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 191–198, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99i:00026**) 92C15 (35K57)

— On the skew-gradient system. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 199–210, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Chunqing Lu) **99e:35112** 35K57 (35B35)

— (*with* Iida, Masato; Mimura, Masayasu) A free boundary problem as a singular limit of a competition-diffusion system. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 217–221, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35R35 (35K55, 92D25)

— (*with* Mizoguchi, Noriko) Critical exponents for the decay rate of solutions in a semilinear parabolic equation. (English summary) *Arch. Ration. Mech. Anal.* **145** (1998), *no.* 4, 331–342. (Summary) **99j:35097** 35K55 (35B40)

— (*with* Mizoguchi, Noriko) Critical exponents for the blowup of solutions with sign changes in a semilinear parabolic equation. II. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 295–331. (Hongwei Chen) **99d:35076** 35K55 (35B05)

— (*with* Mizoguchi, Noriko; Ninomiya, Hirokazu) Critical exponent for the bipolar blowup in a semilinear parabolic equation. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 495–518. (Nobuyuki Kenmochi) **99c:35122** 35K60 (35B40)

— (*with* Iida, Masato; Muramatsu, Tatsuya; Ninomiya, Hirokazu) Diffusion-induced extinction of a superior species in a competition system. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 233–252. (Hal Leslie Smith) **99i:92021** 92D25 (34C99, 34D05, 35Q80)

— (*with* Ei, Shin-Ichiro) Slow dynamics of interfaces in the Allen-Cahn equation on a strip-like domain. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 555–595 (*electronic*). (Jean-Michel Rakotoson) **99a:35141** 35K60 (35B99, 35Q72)

— (*with* Mizoguchi, Noriko) Blowup and life span of solutions for a semilinear parabolic equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1434–1446

(*electronic*). (Lubomira G. Softova) **99h:35103** 35K57 (35B40)
— *see also* **Proceedings: Conference on Asymptotics in Nonlinear Diffusive Systems—Towards the Understanding of Singularities in Dissipative Structures, 99a:35004**

Yanagida, Hidenori (*with* Ge, Qi-Wei) A method of computing minimum firing time for self-cleaning SWITCH-less program nets. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 877–895. (Summary) **99c:68185** 68Q90

Yanagida, Masahiro (*with* Furuta, Takayuki) Generalized means and convexity of inversion for positive operators. *Amer. Math. Monthly* **105** (1998), *no.* 3, 258–259. (Frank Hansen) **99b:47025** 47A63 (47B15)
— (*with* Furuta, Takayuki; Yamazaki, Takeaki) Order preserving operator inequalities via Furuta inequality. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 471–476. (Summary) **99i:47030** 47A63
— (*with* Furuta, Takayuki; Yamazaki, Takeaki) On a conjecture related to Furuta-type inequalities with negative powers. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 213–218. (Frank Hansen) **99j:47020** 47A63
— (*with* Yamazaki, Takeaki; Furuta, Takayuki) An extension of order preserving operator inequalities. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 48–59. (Masatoshi Fujii) **99k:47043** 47A63
— (*with* Yamazaki, Takeaki; Furuta, Takayuki) Generalized operator functions implying order preserving operator inequalities. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 60–67. (Editors) **99g:47033** 47A63 (47A56)
— Some applications of Tanahashi's result on the best possibility of Furuta inequality. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 2, 297–305. (Summary) **99m:47022** 47A63 (47B15, 47B20)

Yanagida, T. (*with* Kawasaki, Masahiro) Primordial black hole formation in supergravity. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 043512, 7 *pp.* 83C57 (83E50)

Yanagihara, Niro (*with* Gotoh, Kayoko) Iteration of the function $c\exp[az + b/z]$. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 341–348. (Peter M. Makienko) **99k:30042** 30D05 (58F23)

Yanagisawa, Masahiro (*with* Kimura, Hidenori) A control problem for Gaussian states. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 294–313, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93E12 (93A30)

Yanagisawa, Naoki An asymptotic formula for a certain mean value in a divisor problem. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 339–358. (Alessandro Zaccagnini) **99k:11147** 11N37
— A simple proof that $L(1, \chi) > 0$. (Japanese) *Sūgaku* **50** (1998), *no.* 3, 314–315. (Yasushi Matsuoka) **99i:11073** 11M20

Yanai, Tadashi Kharchenko's Galois theory and actions of Hopf algebras. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 17–26. (Akira Masuoka) **99e:16056** 16W30

Yanase, Shinichiro (*with* Kawahara, Genta; Kida, Shigeo; Tanaka, Mitsuru[2]) Wrap, tilt and stretch of vorticity lines around a strong thin straight vortex tube in a simple shear flow. (English summary) *J. Fluid Mech.* **353** (1997), 115–162. (Yuri N. Skiba) **99f:76040** 76D05 (76C05, 76F10)

Yanchenko, A. Ya. On the measure of algebraic independence of values of derivatives of a modular function (the p-adic case). (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 431–440; *translation in Math. Notes* **61** (1997), *no.* 3-4, 352–359. (Yao Chen Zhu) **99e:11103** 11J89 (11J85)

Yanchevskiĭ, V. I. (*with* Guletskiĭ, V. I.) Reciprocity laws in Brauer groups of function fields of numerical curves with special Jacobians. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 14–17, 121. (Takeshi Ooe) **99f:11077** 11G30 (14G25, 14H25)
— (*with* Guletskiĭ, V. I.; Margolin, G. L.) Representation of 2-torsion in Brauer groups of curves by quaternion algebras. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 8–12, 122. (Summary) **99k:14046** 14H40 (12G05, 13A20)
— (*with* Van Geel, J.) Indices of hyperelliptic curves over p-adic fields. (English summary) *Manuscripta Math.* **96** (1998), *no.* 3, 317–333. (Genady Lazarevich Margolin) **99e:11084** 11G20 (11S15, 11S25)

Yanchuk, S. V. On the behavior of solutions of an equation for the components of a normal system of differential equations. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1436–1440; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1615–1620 (1998). (F. Berezovskaya) **99k:34083** 34C20 (34A40)

Yanev, George P. (*with* Yanev, Nikolaĭ M.) Branching processes with two types emigration and state-dependent immigration. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 216–228, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (I. Rakhimov) **99c:60197** 60J80
— (*with* Yanev, Nikolaĭ M.) Limit theorems for branching processes with random migration stopped at zero. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 323–336, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (D. R. Grey) **99c:60198** 60J80

Yanev, Nikolaĭ M. (*with* Yanev, George P.) Branching processes with two types emigration and state-dependent immigration. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 216–228, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (I. Rakhimov) **99c:60197** 60J80
— (*with* Yanev, George P.) Limit theorems for branching processes with random migration stopped at zero. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 323–336, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (D. R. Grey) **99c:60198** 60J80

Yañez, Carlos Martinez (*with* Kirk, William A.; Shin, Sang Sik) Asymptotically nonexpansive mappings. *Nonlinear Anal.* **33** (1998), *no.* 1, 1–12. (Brailey Sims) **99g:47128** 47H09 (46B20, 47H10)

Yánez, Eduardo Deformable orthogonal grids: lemniscates. (English summary) *J. Comput. Appl. Math.* **104** (1999), *no.* 1, 41–48. (Summary) **99m:65039** 65D17 (65Y25)

Yáñez, Julio M. (*with* Benguria, Rafael D.) Variational principle for the chemical potential in the Thomas-Fermi model. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 585–593. (Giorgio Cattapan) **99g:81233** 81V45 (49S05, 81V55)

Yáñez, Rafael J. (*with* Dehesa, Jesús S.; Van Assche, Walter) Information entropy of classical orthogonal polynomials and their application to the harmonic oscillator and Coulomb potentials. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 1, 91–110. (K. Pan) **99b:33015** 33C45 (33C55, 81Q05, 94A17)
— (*with* Álvarez-Nodarse, Renato; Dehesa, Jesús S.) Modified Clebsch-Gordan-type expansions for products of discrete hypergeometric polynomials. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 171–197. (Summary) **99h:33058** 33D45 (33E30, 39A10, 39A12)

Yang, Aifang (*with* Peng, Zhi Gang) The extreme points and support points of a subclass of starlike functions. (English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 4, 450–454. (Summary) **99j:30013** 30C45

Yang, Aimin (*with* Gao, Tai-Ping) A fan-type sufficient condition for Hamiltonian bipartite graphs. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 30–32. (Summary) **99i:05135** 05C45
— (*with* Gao, Tai-Ping) On a characterization of reach-preservable graphs. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 6–8. (*see* **99h:05003**) 05C75

Yang, B. *see* **Yang, Bingen**

Yang, B. Rachel (*with* Chiu, Y. Stephen) The outside option, threat point, and Nash bargaining solution. (English summary) *Econom. Lett.* **62** (1999), *no.* 2, 181–188. (From the text) **99m:90165** 90D10 (90A60)

Yang, Baolin (*with* Wang, Pingqia) A type of domain decomposition method for the solution of banded linear systems. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 475–479, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65N55 (65F30)
— (*with* Petropoulos, Peter G.) Plane-wave analysis and comparison of split-field, biaxial, and uniaxial PML methods as ABCs for pseudospectral electromagnetic wave simulations in curvilinear coordinates. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 747–774. (Summary) **99i:78008** 78–08 (78A40, 78A45)

Yang, Bei (*with* Ji, Hai Bo; Shen, Lian[2]) An extension of an algorithm for flows in a two-dimensional network. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 3, 284–291. 90C35 (90C90)

Yang, Ben Li (*with* Li, An Zhi) Resolution on positive terms and a semilinearization technique for equations of higher degree. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 5, 519–522. 65H05
— (*with* Li, An Zhi) A general iteration method for solving systems of linear algebraic equations. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 6, 615–619. 65F10

Yang, Bi Cheng (*with* Zhu, Yun Hua) Inequalities for the Hurwitz zeta-function on the real axis. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 3, 30–35. (Zhi Yong Zheng) **99h:11101** 11M35
— (*with* Zhu, Yun Hua) An improvement of Euler's summation formula and some inequalities for sums of powers. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 4, 21–26. (Summary) **99i:40003** 40A25 (26D15)
— A refinement of the more profound Hardy-Hilbert theorem. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 35–38. (Summary) **99d:26026** 26D15
— (*with* Wu, Kang) Some refinements of Franel's inequality. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 3, 5–8. (Summary) **99b:26042** 26D15
— Some generalizations of the Hardy-Hilbert integral inequalities. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 839–844. (Feng Qi) **99m:26034** 26D15
— (*with* Zhu, Yun Hua) An improvement on Hardy's inequality. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 1, 41–44. 26A15
— On Hilbert's integral inequality. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 778–785. (Wo-Sang Young) **99c:26021** 26D15
— (*with* Debnath, Lokenath) Some inequalities involving the constant e, and an application to Carleman's inequality. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 347–353. (Jerzy Popenda) **99h:26026** 26D20 (26D15)

Yang, Biao (*with* Qiu, Lin; Kuang, Jiaoxun) The NGP-stability of Runge-Kutta methods for systems of neutral delay differential equations. (English summary) *Numer. Math.* **81** (1999), *no.* 3, 451–459. (Yun Kang Liu) **99j:65124** 65L06

Yang, Bin (*with* Pan, De Hui) Absolute stability of a class of nonlinear time-varying control systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 859–864. 93D20
— (*with* Pan, De Hui) Robust absolute stability of interval Lur'e control systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 2, 174–176. 93D09
— (*with* Pan, De Hui) Delay-dependent stability criteria for uncertain time-delay systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 355–357. 34K20 (34K35)

Yang, Bing The continuity of epimorphisms of Banach algebras. *Adv. Math.* (*China*) **27** (1998), *no.* 3, 270–272. 46H40
— (*with* Li, Ying) On the Br complete[ness]. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 350–352, 383. 46A30
— The problem of automatic continuity of epimorphisms on Banach spaces. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 1, 21–24. (Summary) **99h:46093** 46H40 (46B20)

Yang, Bingen (*with* Tan, C. A.; Bergman, L. A.) On the problem of a distributed parameter system carrying a moving oscillator. (English summary) *Dynamics and control of distributed systems*, 69–94, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99b:73002**) 73K12 (73D30)
— (*with* Zhou, Jianping) Distributed transfer function analysis of stepped and ring-stiffened cylindrical shells. (English summary) *Dynamics and control of distributed systems*, 264–303, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99b:73002**) 73K15 (73K12, 73V05)

Yang, Bingyi (*with* Serfozo, Richard F.) Markov network processes with string transitions. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 793–821. (Peter Gerrard Taylor) **99j:60137** 60K20 (68M20, 90B10)

Yang, Bo *see* **Yang, Bo[3]**

Yang, Bo[2] (*with* Zhang, Bing Gen) New approach of studying the oscillation of neutral differential equations. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 79–89. (A. F. Ivanov) **99e:34101** 34K15 (34K40)

— (*with* Zhang, Bing Gen) Oscillation of a class of higher order neutral differential equations. (English summary) *Math. Nachr.* **193** (1998), 243–253. (S. R. Bernfeld) **99i:34106** 34K15 (34C10, 34K40)

Yang, Bo[3] (*with* Chen, Hu; Chen, Guo Liang[2]) A parallel algorithm for converting pixel arrays to S-trees and its implementation. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 611–618. 68U10

— (*with* Chen, Guo Liang[2]; Gui, Xiao Sheng) A truncation method for the Walsh transformation and its parallel implementation. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 3, 270–276. 65T20 (65D15)

Yang, Bo Ting (*with* Wang, Cao An; Chin, Francis Y. L.) Maximum weight triangulation and its application on graph drawing. (English summary) *Computing and combinatorics (Taipei, 1998)*, 25–34, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68U05 (68R10)

— (*with* Zhang, Ke Cun) The new development of geometric programming. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 90–94. 90C32 (90–02)

Yang, C. *see* **Yang, Chao[2]**

Yang, C. C. *see* **Yang, Chang Cheng**

Yang, C. M. *see* **Yang, Chi-Ming**

Yang, C. N. *see* **Yang, Chen Ning**

Yang, C. Y. *see* **Yang, Chao Yuan**

Yang, Cai Ping (*with* He, Song Nian) Legendre spectral-finite element method for the three-dimensional unsteady Navier-Stokes equation. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 2, 163–175. (Tsorng-Whay Pan) **99d:65286** 65M60 (65M70, 76D05, 76M10)

— (*with* He, Song Nian; Zhang, Dan Qing) The moduli of continuity of Bernstein polynomials. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 137–139. 41A35

Yang, Chang Cheng (*with* Tymchatyn, E. D.) Characterizing continua by disconnection properties. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 348–358. (A. H. Stone) **99h:54047** 54F15 (54D05, 54F50)

— (*with* Yuan, Xian-Zhi) Another new way to price American options by using interior point method. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 3, 1–8. 90A09 (90C30)

Yang, Chang Lan The constructing of a double numerical integration formula of the boundary type. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 4, 1–6. 65D32 (41A55)

Yang, Chang Lan (*with* Wang, Qing Wen) The Re-nonnegative definite solutions to the matrix equation $AXB = C$. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 7–13. (Summary) **99c:15020** 15A24

Yang, Chang Sen (*with* Zhao, Jun Feng) A generalization of a theorem on estimation of the modulus of convexity. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 81–86. (Summary) **99b:46023** 46B20 (46E40)

Yang, Changjiang (*with* Hu, Zhan Yi; Yang, Yi; Ma, Song De) An inherent probabilistic aspect of the Hough transform. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 1, 44–48. 68U10

Yang, Changlan *see* **Yang, Chang Lan**

Yang, Chao *see* **Yang, Chao[3]**

Yang, Chao[1] (*with* Zhang, Jian Zhong; Ma, Zhong Fan) Inverse maximum flow and minimum cut problems. (English summary) *Optimization* **40** (1997), *no.* 2, 147–170. (Peter Butkovič) **99c:90151** 90C35 (90B10)

— (*with* Zhang, Jian Zhong) A constrained capacity expansion problem on networks. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 19–33. (Summary) **99i:90051** 90B12 (90C35)

— (*with* Zhang, Jian Zhong) Inverse maximum capacity problems. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 2, 97–100. (Mechthild Opperud) **99c:90098** 90C27 (90C35)

Yang, Chao[2] Convergence analysis of an inexact truncated RQ-iteration. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 40–55 (*electronic*). (S. F. McCormick) **99m:65075** 65F15 (65G05)

— (*with* Sorensen, D. C.) A truncated RQ iteration for large scale eigenvalue calculations. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 1045–1073 (*electronic*). (Ilse C. F. Ipsen) **99g:65048** 65F15 (15A18, 65F50)

Yang, Chao[3] (*with* Li, Bin) A graph-theoretic model and algorithm for optimization of urban public transport networks. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 3, 294–298. 90B06 (90C35)

Yang, Chao Yuan Spacetime invariance and scale effect. (English summary) *Causality and locality in modern physics (Toronto, ON, 1997)*, 253–259, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 83A05

Yang, Chen Ning Gu Chao-Hao and I. *Collection of papers on geometry, analysis and mathematical physics*, 1, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00025**) 01A70

Yang, Cheng (*with* Chen, Jin Zhi) Quasi-nilpotent groups. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 60–63. (Pin Chao Wang) **99f:20060** 20F19

Yang, Cheng Wu (*with* Du, Chun Ling) Poles at infinity and the state response formula for 2-D singular systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 827–830. (Summary) **99a:93056** 93C30 (93B50)

— (*with* Zou, Yun; Du, Chun Ling) Design of regular observers for 2-D singular systems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 4, 497–504. 93B07 (93C55)

— (*with* Du, Chun Ling) Optimal state estimation for a general model of 2-D linear discrete systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 432–437. 93E10 (93C30)

— (*with* Gui, Zhi Bo; Zheng, Ying Ping) Qualitative analysis of transition timed Petri nets with two-phase firing semantics under the weak firing rule. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 16–22. 68Q90

— (*with* Zhang, Duan Jin) Upper and lower bounds for the traces of solutions to discrete algebraic Riccati equations. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 23–25, 31. 93B40 (93C05)

Yang, Chengli Characterization of Artinian semisimple rings via injectivity and projectivity classes. (English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 4, 80–82. (Dinh Van Huynh) **99h:16038** 16P20 (16D10)

— Characterization of rings using pseudo-projective modules. (English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 4, 38–43. (Javed Ahsan) **99d:16006** 16D40

Yang, Chi-Ming (*with* Beck, J. L.) Generalized trajectory methods for finding multiple extrema and roots of functions. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 211–227. (Summary) **99a:65074** 65H20 (65K10)

Yang, Ching-Fu (*with* Law, Chun-Kong) Reconstructing the potential function and its derivatives using nodal data. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 299–312. (Vjacheslav A. Yurko) **99b:34029a** 34A55 (34B24, 34L40)

— (*with* Law, Chun-Kong) Addendum: "Reconstructing the potential function and its derivatives using nodal data". (English summary) *Inverse Problems* **14** (1998), *no.* 3, 779–780. (Vjacheslav A. Yurko) **99b:34029b** 34A55 (34B24, 34L40)

Yang, Ching-Nung (*with* Laih, Chi-Sung) DC_m codes for constructing t-EC/AUED codes. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 4, 492–495. (Summary) **99b:94056** 94B60

Yang, Chong Jun *see* **Yang, Chung-Chun**

Yang, Chun-Mei (*with* Yang, Tao[2]; Yang, Lin-Bao) A detailed study of adaptive control of chaotic systems with unknown parameters. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 255–267. (Summary) **99c:93069** 93C40 (58F13, 58F40, 93E12)

Yang, Chun Peng A probabilistic approach to semilinear elliptic equations. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 85–89. (Kazuaki Taira) **99f:35064** 35J65 (60J65)

— Super-spacetime harmonic functions and a class of nonlinear parabolic equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 811–816. (Ya Zhe Chen) **99k:35089** 35K55 (31B05, 60J25, 60J60)

— S-harmonic function and Riesz decomposition theorem of superprocesses. (English summary) *Math. Appl.* **11** (1998), *no.* 2, 27–31. 31B05

Yang, Chun Qiao A C^1 piecewise rational interpolating spline function that preserves monotonicity. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 46–48. 41A15 (41A29)

Yang, Chung-Chun (*with* He, Yu Zan) Meromorphic functions that do not satisfy algebraic differential equations. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **11** (1991), *no.* 3, 343–348. (Hong Xun Yi) **99g:34018** 34A20 (30D35, 33B15)

— (*with* Hu, Chuan-Gan) Some remarks on Nevanlinna's theory in a Hilbert space. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 267–271. (Summary) **99b:30041** 30D35 (46E40)

— (*with* Hu, Pei-Chu) Fatou-Julia theory in high-dimensional spaces. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 273–287. (Summary) **99b:32041** 32H50

— (*with* Hua, Xin-Hou) Uniqueness problems of entire and meromorphic functions. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 289–300. (Summary) **99b:30042** 30D35 (30D05, 58F23)

— (*with* Hua, Xin-Hou) ★ Dynamics of transcendental functions. (English summary) Asian Mathematics Series, 1. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *xii*+241 *pp. ISBN* 90-5699-161-2 (Walter Bergweiler) **99j:58169** 58F23 (30D05)

— Unicity and factorization of meromorphic functions. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 64–84, *World Sci. Publishing, River Edge, NJ*, 1998. (Bao Qin Li) **99m:30066** 30D35

— (*with* Poon, Kin-Keung) Dynamical behavior of two permutable entire functions. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 159–163. (I. N. Baker) **99b:58200** 58F23 (30D05)

— (*with* Hua, Xin-Hou) Fatou components and a problem of Bergweiler. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1613–1616. (Peter Petek) **99k:58157** 58F23

— (*with* Li, Ping[1]) On the characteristics of meromorphic functions that share three values CM. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 132–145. (Gary G. Gundersen) **99b:30045** 30D35

— (*with* Poon, Kin-Keung) Dynamics of composite functions. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 6, 87–89. (Maryam Rabii) **99j:30032** 30D05 (58F23)

— (*with* Cherry, William A.) Uniqueness of non-Archimedean entire functions sharing sets of values counting multiplicity. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 967–971. (Min Ru) **99f:11154** 11S80 (30D35, 30G06)

— *see also* **Workshop: Value Distribution Theory and its Applications, 99a:30002**

Yang, Ciann-Dong (*with* Tai, Hung-Chun; Yeh, Fang-Bo) Synthesis of robust-performance controllers using matrix experiments and analysis of variance. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1475–1498. 93B50

Yang, Da Chun (*with* Hu, Guo En; Lu, Shan Zhen) The applications of weak Herz spaces. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 5, 417–428. (Josefina Alvarez) **99e:42034** 42B30 (42B20, 42B25)

— (*with* Li, Xiao Chun; Lu, Shan Zhen) Some generalizations on the boundedness of bilinear operators. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 3, 8–28. (Loukas Grafakos) **99d:42041** 42B30 (47B38)

— (*with* Fan, Da Shan) The weighted Herz-type Hardy spaces $h\dot{K}_q^{\alpha,p}(\omega_1,\omega_2)$. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 4, 19–41. (Summary) **99c:46021** 46E15 (46F05)

— (*with* Hu, Guo En; Lu, Shan Zhen) The weak Herz spaces. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 27–34. (Maria J. Carro) **99b:46034** 46E30 (46M35)

— (*with* Hu, Guo En) Multilinear oscillatory singular integral operators on Hardy spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 569–578; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 4, 403–413 (1998). (Yi Biao Pan) **99g:42017** 42B20 (42B30, 47G10)

— (*with* Lu, Shan Zhen) The continuity of commutators on Herz-type spaces. *Michigan Math. J.* **44** (1997), *no.* 2, 255–281. (Josefina Alvarez) **99e:42033** 42B30 (47B37, 47B38, 47G10)

— Some remarks on singular integrals and power weights on Vilenkin groups. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 69–88. (Summary) **99i:43002** 43A15 (42B25)

— (*with* Zhou, Zusheng) On local multilinear oscillatory integrals with variable Calderón-Zygmund kernel. (English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 2, 143–150. (Summary) **99f:42038** 42B20

— (*with* Fan, Da Shan; Lu, Shan Zhen) Regularity in Morrey spaces of strong solutions to nondivergence elliptic equations with VMO coefficients. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 425–440. (Xi Ting Liang) **99i:35020** 35J15 (35B45, 35B65, 42B20)

— (*with* Lu, Shan Zhen; Zhou, Zusheng) Sublinear operators with rough kernel on generalized Morrey spaces. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 219–232. (Javier Duoandikoetxea) **99h:42027** 42B20 (42B25)

— (*with* Hu, Guo En; Lu, Shan Zhen) On a class of multilinear oscillatory singular integral operators. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 623–637. (Gary Sampson) **99f:42034** 42B20

— (*with* Lu, Shan Zhen) Boundedness of sublinear operators in Herz spaces on Vilenkin groups and its application. (English summary) *Math. Nachr.* **191** (1998), 229–246. (Toshiyuki Kitada) **99h:43004** 43A15 (43A70)

— (*with* Lu, Shan Zhen) Multiplier theorems for Herz type Hardy spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3337–3346. (Christoph M. Thiele) **99c:42022** 42B15 (42B30)

— (*with* Fan, Da Shan; Lu, Shan Zhen) Regularity of some nonlinear quantities on superharmonic functions in local Herz-type Hardy spaces. (English summary) *Publ. Mat.* **42** (1998), *no.* 2, 319–338. (Giuseppe Di Fazio) **99m:35025** 35B65 (42B30, 46E30)

— (*with* Lu, Shan Zhen; Tang, Lin) Boundedness of commutators on homogeneous Herz spaces. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 10, 1023–1033. (Kenneth F. Andersen) **99m:42027** 42B20 (46E30)

— (*with* Ding, Yong; Zhou, Zusheng) Boundedness of sublinear operators and commutators on $L^{p,\omega}(\mathbf{R}^n)$. (English summary) *Yokohama Math. J.* **46** (1998), *no.* 1, 15–27. (Maria A. Ragusa) **99k:42029** 42B20 (47B25, 47B38, 47B47)

— (*with* Hu, Guo En; Lu, Shan Zhen) Boundedness of rough singular integral operators on homogeneous Herz spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 2, 201–223. (Steven George Krantz) **99k:31004** 31B10 (42B20)

Yang, Danping (*with* Rui, Hong Xing) Schwarz type domain decomposition algorithms for parabolic equations and error estimates. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 300–313. (Beny Neta) **99h:65165** 65M55 (65M12)

Yang, Dao-qi A parallel grid modification and domain decomposition algorithm for local phenomena capturing and load balancing. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 1, 99–117. (Summary) **99f:65196** 65N55

— A nonoverlapping subdomain algorithm with Lagrange multipliers and its object oriented implementation for interface problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 365–373, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65N30)

— A parallel iterative domain decomposition algorithm for elliptic problems. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 141–151. (Zheng Hui Xie) **99c:65237** 65N55 (65Y05)

— (*with* Lin, Ping[1]) An iterative perturbation method for the pressure equation in the simulation of miscible displacement in porous media. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 893–911 (*electronic*). (Summary) **99a:76115** 76M25 (35Q35, 65M60, 76S05)

Yang, De Ping (*with* Zhang, Shun Hua) V-modules and V-rings in the setting of a hereditary torsion theory. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 3, 248–253. (Shi Zhong Pan) **99k:16065** 16S90

Yang, De Quan (*with* Ouyang, Jun) Qualitative analysis of a predator-prey system with functional response function $\sqrt{x}$. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 329–333. 92D25 (34C05)

Yang, De Sheng (*with* Wang, Xue Feng[1]) Global attractors for a Schrödinger-type equation in an unbounded domain. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 34–43. (Summary) **99c:35231** 35Q55 (35B40, 47H20, 58F39)

Yang, Dian Jun (*with* Zhou, Yu Ying) kth order functions of bounded variation on sequence spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 12–15. 26A45 (46G99)

Yang, Ding Gong Some criteria for p-valent functions. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 571–582. (K. S. Padmanabhan) **99j:30018** 30C45

— The order of starlikeness of certain integral operators. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 115–119. (Summary) **99f:30027** 30C45

Yang, Ding Hua Two geometric inequalities for the radius of the circumscribed sphere of a simplex. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 5, 120–123. 51M16

Yang, Du Qing (*with* Liu, Lan Zhe) Weighted Φ boundedness for generalized singular integral operators. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 4, 4–8. (Der-Chen E. Chang) **99k:42036** 42B20 (47G10)

Yang, En Hao Some nonlinear integral and discrete inequalities related to Ouyang's inequality. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 475–480. (Ling Yau Chan) **99g:26047** 26D15 (26A48, 39A12)

Yang, En-hui (*with* Ahlswede, Rudolf; Zhang, Zhen[1]) Identification via compressed data. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 48–70. (Summary) **99a:94018** 94A34 (94A29)

— (*with* Zhang, Zhen[1]; Berger, Toby) Fixed-slope universal lossy data compression. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1465–1476. (Summary) **99g:94010** 94A29 (94A34)

— (*with* Kieffer, John C.) On the performance of data compression algorithms based upon string matching. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 47–65. (Francesco Fabris) **99e:94021** 94A29 (68P99, 94A34)

— (*with* Zhang, Zhen[1]) Variable-rate trellis source encoding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 586–608. (Summary) **99k:94027** 94A29

Yang, Feng (*with* Peng, Shige) Duplicating and pricing contingent claims with constrained portfolios. (English summary) *Progr. Natur. Sci. (English Ed.)* **8** (1998), *no.* 6, 650–659. 90A09

Yang, Feng[2] (*with* He, Fu Bao) Solution of the end problem for a transversely isotropic circular cylinder by means of three-dimensional elasticity theory. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 2, 57–63, *V–VI*. 73B40 (73K05)

Yang, Feng Jian Simplifications of some important theorems on complex integration. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 2, 21–23. 30E20

Yang, Feng Lin (*with* Zhang, Da Li; Gao, Guang Hong) The Stefan problem for the heat-conduction equation with an unknown coefficient and a nonlinear boundary condition. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 25–29. 35R35 (35K05, 80A22)

— (*with* Xie, Hong Zheng; Xu, Yao Qun) A class of two-phase free boundary problems for parabolic equations with variable coefficients. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 105–107. 35R35 (35K99)

Yang, Feng Zao (*with* Jian, Su Wen) Existence, nonexistence, the blow-up problem and unbounded growth of solutions to initial value problems for singular semilinear parabolic equations. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 439–446. (Hongwei Chen) **99b:35088** 35K55 (35B05, 47N20)

Yang, Fengmei (*with* Jia, Fuchen; Wang, Shou Yang) Sensitivity analysis in bilevel linear programming. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 359–366. (Stephan Dempe) **99i:90096** 90C31 (49K40, 90D65)

Yang, Fu-gui (*with* Zou, Zhi-hong; Sheng, Song-bai) A self-adaptive algorithm for nonlinear least squares with linear constraints. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **4** (1995), *no.* 2, 164–175. (Summary) **99c:65117** 65K05 (90C30)

Yang, Fu Xing (*with* Feng, Xue Shang; Wang, Lian Gui) An approximate solution method for some (magneto-) hydrodynamic wave problems: parameter differentiation. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 1–11. (Summary) **99d:76074** 76M25 (35Q35, 35Q53, 76W05, 86A10)

Yang, Fu-zhong (*with* Mi, Dong; Hou, Bo-yuan) The statistical interaction and the Bethe ansatz of the XXZ chain corresponding Potts case. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 1, 137–140. (Summary) **99h:82017** 82B20

— (*with* Hou, Bo-yuan; Mi, Dong) Factorized representation of Felder's elliptic quantum group. (English summary) *J. Phys. A* **31** (1998), *no.* 13, *L*267–*L*272. (Robert Rałowski) **99g:81099** 81R50 (17B37, 82B23)

Yang, G. *see* **Yang, Guodong**

Yang, Gan Shan (*with* Yuan, Xian-Zhi) A necessary and sufficient condition for upper hemicontinuous set-valued mappings without compact-values being upper demicontinuous. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3539–3544. (Summary) **99b:54020** 54C08 (47H04)

Yang, Gang (*with* Sun, Liang; Zhao, Jun[3]) Two results on binary matroids. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 1–5. (Summary) **99d:05018** 05B35

Yang, Ge (*with* Guo, Shun Sheng; Yue, Shujie; Li, Cuixiang; Sun, Yiguo) A pointwise approximation theorem for linear combinations of Bernstein polynomials. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 397–406. (Z. Ditzian) **99a:41028** 41A35 (41A25)

— (*with* Guo, Shun Sheng; Li, Cuixiang; Sun, Yiguo; Yue, Shujie) Pointwise estimate for Szasz-type operators. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 160–171. (N. S. Kambo) **99f:41027** 41A35 (41A36)

Yang, Gen Ke (*with* Wei, Jun Hu; Zeng, Jian Chao; Sun, Guo Ji) The uniform description of discrete, continuous and hybrid dynamics Petri nets. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 58–65. 68Q90 (68Q10)

Yang, George Z. (*with* Zabaras, Nicholas) An adjoint method for the inverse design of solidification processes with natural convection. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1121–1144. (Summary) **99c:80006** 80A22

Yang, Gou-Sheng (*with* Wang, Chung-Shin) Some refinements of Hadamard's inequalities. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 2, 87–92. (J. Sándor) **99f:26040** 26D15

— (*with* Wang, Chung-Shin) On refinements of Hadamard's inequalities. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 183–191. (From the introduction) **99k:26028** 26D15

Yang, Grace L. (*with* He, Shuyuan) The strong law under random truncation. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 992–1010. (Winfried Stute) **99g:62065** 62G20

Yang, Guan Zhong (*with* Lu, Ying Ping; Wang, Rong Xiang) State minimization of category 1 incompletely specified sequential machines. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 2, 103–108. 68M07 (68Q68)

Yang, Guang Chong (*with* Xie, Yue Mei) Some problems on quasiweak convergence and on fixed points of increasing operators. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 54–57. (Summary) **99c:47095** 47H10

Yang, Guang-Hong (*with* Lam, James) Balanced model reduction of symmetric composite systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 1031–1043. 93B11 (93B15)

— (*with* Liu, Yuqiong; Wang, Jianliang; Soh, Cheong Boon) Reliable nonlinear control system design using duplicated control elements. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1103–1122. (Summary) **99j:93035** 93B36 (93B51)

— (*with* Liu, Yuqiong; Wang, Jianliang) Reliable control of uncertain nonlinear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 875–879. 93C41 (93B35)

— (*with* Lam, James; Wang, Jianliang) Reliable H_∞ control for affine nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1112–1116. 93B36

— (*with* Zhang, Si Ying; Lam, James; Wang, Jianliang) Reliable control using redundant controllers. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1588–1593. (Summary) **99g:93034** 93B50 (90B25)

— (*with* Wang, Jianliang; Soh, Cheong Boon; Lam, James) Decentralized H_∞-controller design for nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 578–583. 93B36 (93A14)

Yang, Guang Wen (*with* Li, Xiao Ming[1]; Wang, Yi He; Zheng, Wei Min; Wang, Ding Xing) Deterministic annealing. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 765–768. 90C27 (65C99)

Yang, Guang Wu (*with* Wen, Guo Chun; Xu, Ke Ming) Initial-oblique derivative problems for quasilinear parabolic complex equations of second order with measurable coefficients. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 30–34. 35K60

Yang, Guang Yu A computer algebra method for nonlinear system observer analysis and design. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 764–768. 93B50 (93C83)

Yang, Guangcan Semiclassical Green functions in mixed spaces. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 2600–2603. (Summary) **99e:81060** 81Q20

Yang, Guangjun The semigroup theory and abstract linear equations. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 101–108, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (*see* **99a:00045**) 47D06 (34G10)

Yang, Guo-Hong (*with* Duan, Yishi; Jiang, Ying[3]) The origin and bifurcation of the space-time defects in the early universe. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 715–725. (Michael L. Fil'chenkov) **99f:83083** 83F05

— (*with* Duan, Yishi; Jiang, Ying[3]) The quantization and production of the space-time defects in the early universe. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 12, 2001–2012. (Alberto Saa Vazquez) **99c:83104** 83F05 (83D05)

— (*with* Duan, Yishi) Topological quantization of magnetic monopoles and their bifurcation theory. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2371–2382. (Summary) **99j:81121** 81T13 (58E50)

— (*with* Duan, Yishi) Fourth-order topological tensor current and Fock's coordinate condition. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 10, 745–752. (Summary) **99e:83043** 83C99 (81T99)

— The transversal submanifolds and Gauss-Bonnet-Chern theorem. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2123–2130. (Yi Bing Shen) **99k:53074** 53C20 (57R20)

Yang, Guo Qing Simple complete Lie algebras. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 445–450. (Guang Yu Shen) **99g:17040** 17B40

Yang, Guo Wei[1] (*with* Li, Liang) An assignment method for IPUs in distributed systems. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 3, 259–266. 68M20 (68Q10)

Yang, Guo-Zhen (*with* Zhang, Yan[6]; Gu, Ben Yuan) Generation of self-fractional Hankel functions. (English summary) *J. Phys. A* **31** (1998), *no.* 48, 9769–9772. (Summary) **99j:44013** 44A15 (33C10)

Yang, Guodong (*with* Causon, D. M.; Ingram, D. M.) On applications of high resolution shock capturing methods to unsteady flows. (English summary) *Numerical methods for wave propagation* (*Manchester*, 1995), 145–171, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76104** 76M25 (65M99, 76L05)

Yang, Guowei *see* **Yang, Guo Wei[1]**

Yang, Gye Tak (*with* Choi, Ki Seong) Operators on generalized Bloch space. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 17–21. (Maria T. Nowak) **99g:47061** 47B38 (30D45, 46E10)

Yang, H. *see* **Yang, Howard**

Yang, H. M. *see* **Yang, Hyun Mo**

Yang, H. X. *see* **Yang, Haixuan**

Yang, Hai Tao (*with* Wang, Jing Yu; Wang, Shu Zhong) Measurable operator fields of π spaces. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 227–228, 232. 46M20 (46C20, 47A56, 47B50)

Yang, Hai Tao (*with* Wu, Shao Ping) Existence, uniqueness, and asymptotic properties of solutions to a class of semilinear elliptic equations on $\mathbf{R}^n$. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 4, 403–411. (Summary) **99a:35283** 35R60

— (*with* Wu, Shao Ping) The existence theorems for a class of sublinear elliptic equations in $\mathbf{R}^N$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 639. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 3, 295–304. (Summary) **99e:35055** 35J60 (35J20)

— (*with* Wu, Shao Ping) A note on homoclinic orbits for second order Hamiltonian system. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 251–262. (Addolorata Salvatore) **99k:58036** 58E05 (34C37, 58F05)

— An existence theorem for a class of semilinear elliptic equations in $\mathbf{R}^n$. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 4, 384–389. (Summary) **99m:35068** 35J60

— (*with* Wu, Shao Ping) Bifurcations from homoclinic orbits for second order Hamiltonian system. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 47–52. (Addolorata Salvatore) **99a:58035** 58E05 (34C37, 58F05)

Yang, Haisong Black holes with multiple charges and the correspondence principle. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044008, 13 *pp.* (Summary) **99k:83092** 83C57 (83E30)

Yang, Haitao *see* **Yang, Hai Tao**

Yang, Haitian A new approach of time stepping for solving transfer problems. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 5, 325–334. 65M06 (65M55)

Yang, Haixuan (*with* Sen, Mridul Kanti; Guo, Yu Qi) A note on $\mathscr{R}$ relation on an inverse semigroup. (English summary) *J. Pure Math.* **14** (1997), 1–3. 20M18

Yang, Han Scattering for semilinear wave equation with small data in high space dimensions. (English summary) *J. Partial Differential Equations* **12** (1999), *no.* 1, 26–40. (Summary) **99m:35171** 35L70 (35B99, 35P25)

Yang, Hanchun (*with* Dai, Zheng De) Inertial fractal set and fractal structure of attractors for the Ginzburg-Landan [Landau] equation. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 4, 396–403. (Marcel Oliver) **99m:35221** 35Q55 (34G20, 35B40, 47H20, 58F39)

Yang, Hanlong (*with* Saif, Mehrdad) State observation, failure detection and isolation (FDI) in bilinear systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 901–920. 93B07 (93C10)

au-Yang, Helen *see* **Au-Yang, Helen**

Yang, Hong Bo (*with* Hou, Bi Hui) A group representation of canonical transformation. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 4, 345–350; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 321–326 (*Chinese. English and Chinese summaries*). (B. Vujanović) **99d:70025** 70H15

Yang, Hong Qi (*with* Hou, Zong Yi) Regularization method for improving optimal convergence rate of the regularized solution of ill-posed problems. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 2, 177–185. (V. V. Vasin) **99f:65093** 65J20

— (*with* Hou, Zong Yi) Convergence rates of regularized solutions and parameter choice strategy for semi-positive definite operator equations. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 245–251. 65J10 (45L05, 47A50)

— (*with* Hou, Zong Yi) Convergence rates of regularized solutions of nonlinear ill-posed operator equations involving monotone operators. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 252–259. (Otmar Scherzer) **99e:47090** 47H17 (65J15)

Yang, Hongcang (*with* Cheng, Qing-Ming) Chern's conjecture on minimal hypersurfaces. *Math. Z.* **227** (1998), *no.* 3, 377–390. (Man Chun Leung) **99c:53070** 53C42

Yang, Hongtao A new analysis of Volterra-Fredholm boundary integral equations of second kind. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 325–334. (Jaroslaw Jelen) **99c:35089** 35K15 (45B05, 65R20)

— On the convergence of boundary element methods for initial-Neumann problems for the heat equation. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 547–557. 65M12

Yang, Howard (*with* Gong, Wei-Bo) Calculating the normalization constants in queueing networks. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 87–91. 90B22 (90B12)

Yang, Hu Some results on extrema of matrix quadratic forms. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 3, 306–310. (Qing Zhang) **99j:15036** 15A63 (90C20)

— (*with* Dong, Zhi Qing) Characteristics of {2}-generalized inverses and some problems on partitioned matrices. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 82–87. 15A09

Yang, Huajian The stable homotopy types of stunted lens spaces mod 4. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4775–4798. (Donald M. Davis) **99b:55011** 55P15 (55T15, 55T25)

Yang, Huanan On wavewise entropy inequality for high resolution schemes. II. Fully discrete MUSCL schemes with exact evolution in small time. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 1–31 (*electronic*). (V. D. Glushenkov) **99k:65077** 65M06 (35L65, 65M12, 65M20)

Yang, Hui-Ling (*with* Teng, Jinn-Tsair; Chern, Maw-Sheng; Wang, Yuchung J.) Deterministic lot-size inventory models with shortages and deterioration for fluctuating demand. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 65–72. (Summary) **99m:90060** 90B05 (90C90)

Yang, Hui Sheng (*with* Yang, Zuo Dong) On a singular quasilinear elliptic boundary value problem. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 4, 672–682. (Summary) **99j:35073** 35J65 (35J70)

— (*with* Yang, Zuo Dong) Existence of positive radial solutions for a class of quasilinear elliptic systems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 58–62. 35J65 (34B15, 35B05, 47H15)

Yang, Huijun Transport, mixing and chaos in quasi-periodic large-scale, quasi-geostrophic flows: a globally geometric and analytic study. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 323–361. (Mikhail Zaks) **99g:76029** 76C20 (34C37, 35Q35, 76F20, 86A10)

Yang, Hyun Mo Directly transmitted infections modeling considering an age-structured contact rate. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 8, 39–48. 92D30

Yang, Hyun Seok (*with* Kim, Inbo; Lee, Bum-Hoon) Pointlike structure for super p-branes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085018, 10 *pp.* (Summary) **99k:81274** 81T30

Yang, Jann N. (*with* Agrawal, Anil Kumar[3]; Wu, Jong-Cheng) Non-linear control strategies for Duffing systems. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 829–841. (Summary) **99h:93064** 93C83 (70K99, 70Q05, 73K12)

Yang, Jaw-Yen (*with* Tang, Yun-Hai; Lee, Shih-Tuen) A high-order streamline Godunov scheme for steady supersonic/hypersonic equilibrium flows. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 3-4, 261–289. (Summary) **99c:76078** 76M20 (76J20, 76K05)

Yang, Jia Ben (*with* Ding, Feng[2]) A convergence analysis of multi-innovation identification under attenuating excitation conditions for deterministic systems. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 111–115. 93B30

Yang, Jian[4] (*with* Yu, Gang[2]) Optimization applications in the airline industry. *Handbook of combinatorial optimization, Vol.* 2, 635–726, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C90 (90-02, 90C27)

Yang, Jian Fu Ground states of a nonlinear elliptic system in $\mathbf{R}^n$. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 3, 283–300. (Jann-Long Chern) **99b:35060** 35J60

— Multiple solutions of semilinear elliptic systems. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 257–268. (Gianni Arioli) **99k:35055** 35J60 (47H15)

— (*with* De Figueiredo, Djairo G.) Decay, symmetry and existence of solutions of semilinear elliptic systems. *Nonlinear Anal.* **33** (1998), *no.* 3, 211–234. (Ya Zhe Chen) **99d:35047** 35J60 (35J45)

— (*with* Chabrowski, Jan) Existence theorems for the Schrödinger equation involving a critical Sobolev exponent. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 276–293. (Marco Degiovanni) **99g:35035** 35J60 (35J10, 58E05)

Yang, Jian Xin (*with* Zhou, Zhong Qun) Lattice fuzzy nearly paracompact spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 32–37. 54A40

Yang, Jianke Multisoliton perturbation theory for the Manakov equations and its applications to nonlinear optics. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part B*, 2393–2405. (Summary) **99j:78023** 78A60 (35Q55)

Yang, Jie *see* **Yang, Jie[3]**

Yang, Jie[1] On hypersurfaces satisfying a basic equality. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 335–341, *Proc. Sympos. Pure Math.*, 64, *Amer.*

Math. Soc., Providence, RI, 1999. (Ivko Dimitric) **99m:53110** 53C40 (53C42)

— (*with* Chen, Bang-Yen) Elliptic functions, theta function and hypersurfaces satisfying a basic equality. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 463–509. (Jürgen Berndt) **99k:53110** 53C42 (33E05)

Yang, Jie[3] (*with* Lu, Zheng Gang; Miao, Li Jing) Prioritized justification-based nonmonotonic logic. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 1, 18–21. (Summary) **99c:68235** 68T27 (03B60, 03B70)

— (*with* Lu, Zheng Gang; Shi, Peng Fei) A nonmonotonic truth maintenance system combining priorities and degrees of belief. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 4, 54–58. (Summary) **99g:68198** 68T27

Yang, Jim J. (*with* Van Ness, John W.) Robust discriminant analysis: training data breakdown point. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 67–83. (Peter A. Lachenbruch) **99g:62085** 62H30

Yang, Jimmy Xiangrong (*with* Cockburn, Bernardo; Gremaud, Pierre-Alain) A priori error estimates for numerical methods for scalar conservation laws. III. Multidimensional flux-splitting monotone schemes on non-Cartesian grids. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1775–1803 (*electronic*). (Anne Nouri) **99g:65097** 65M60 (35L65, 65M15, 65N30)

Yang, Jin-Gen (*with* Miyanishi, Masayoshi) Surfaces of general type whose canonical map is composed of a pencil of genus 3 with small invariants. *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 123–149. (Caryn Werner) **99h:14041** 14J29

Yang, Jin Lin Existence of solutions of a class of second-order equations at singular boundary points. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 61–65, 32. 35J70 (35J25)

Yang, Jing Hua The Jacobson radical and homological dimension of a G-semilocal ring. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 121–123. 13D05 (16E10)

Yang, Jun (*with* Guan, Xin Ping; Rong, Qinghao) Asymptotic and oscillatory behavior of nth order neutral difference equation with forced term. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 143–149. (From the introduction) **99j:39005** 39A10

— (*with* Guan, Xin Ping) Oscillation of systems of nonlinear hyperbolic systems of partial functional-differential equations of neutral type. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 239–246. 35R10 (35B05, 35L70)

Yang, Jun (*with* Wang, Yao) A module characterization of quasistrong nilpotent radicals. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 117, 120. 16N80

Yang, Jun Song Sufficient conditions for solvability of a class of nonlinear H^∞ control problems. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **12** (1999), *no.* 1, 24–29. 93B36

Yang, Ki-Yeol The minimum theorem for the relative root Nielsen number. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 701–707. (Michael R. Kelly) **99g:55003** 55M20

Yang, Kwang-Wu On warped product manifolds—conformal flatness and constant scalar curvature problem. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 203–221. (Joseph E. Borzellino) **99i:53038** 53C20 (53C21)

Yang, Kyeongcheol (*with* Helleseth, Tor; Kumar, P. Vijay) An infinite family of 3-designs from Preparata codes over Z_4. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 175–181. (Vladimir D. Tonchev) **99i:05030** 05B05 (94B05)

— (*with* Helleseth, Tor) Two new infinite families of 3-designs from Kerdock codes over Z_4. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 201–214. (Vera Pless) **99m:05026** 05B05 (05B25, 94B25)

— (*with* Helleseth, Tor; Rong, Chunming) New infinite families of 3-designs from Preparata codes over Z_4. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 139–156. (Chester J. Salwach) **99m:05019** 05B05 (94B05)

Yang, L. *see* **Yang, Lijian**

Yang, Le Some results and problems in the theory of value distribution. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 85–93, *World Sci. Publishing, River Edge, NJ*, 1998. (Anand Prakash Singh) **99k:30056** 30D35

— History and development of value distribution theory in China. *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 507–523. 30-03 (01A60, 01A72)

Yang, Lecheng The normality in products with a countably compact factor. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 245–251. (Summary) **99c:54030** 54D15 (54B10, 54D20)

Yang, Li (*with* Ge, Jian Xin) Principles and implementation techniques for parametric design from a differential point of view. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 261–269. 65D17 (65N30)

Yang, Li Ming (*with* McCarthy, John E.) Cyclic subnormal operators with finite-rank self-commutators. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 173–177. (Warren R. Wogen) **99i:47041** 47B20 (47A99)

— (*with* Conway, John B.) Some open problems in the theory of subnormal operators. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 201–209, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99e:47027** 47B20 (47–02)

— (*with* Wu, Zhi Jian[1]) Multipliers between Dirichlet spaces. *Integral Equations Operator Theory* **32** (1998), *no.* 4, 482–492. (Oscar Blasco) **99j:47048** 47B38 (31C25, 46E15)

— (*with* Wu, Zhi Jian[1]) The codimension-1 property in Bergman spaces over planar regions. *Michigan Math. J.* **45** (1998), *no.* 2, 369–373. (Kristian Seip) **99g:46025** 46E15 (47A15, 47B38)

Yang, Lian-Zhong (*with* Yi, Hong Xun) Meromorphic functions that share two sets. (English summary) *Kodai Math. J.* **20** (1997), *no.* 2, 127–134. (Martin Reinders) **99b:30050** 30D35

Yang, Liang Tu (*with* Hu, Dong Cheng; Luo, Yu Pin) Robustness analysis of k-order attractors in a discrete Hopfield associative memory. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 55–58. 82C32

Yang, Lihua Approximation order and interpolation spaces. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 1, 57–68. (W. J. Kotzé) **99k:41006** 41A05 (46M35, 65D05)

— Unconditional basic sequence in $L^p(\mu)$ and its l^p-stability. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 455–464. (Kazaros Kazarian) **99c:46024** 46E30 (42C15)

Yang, Lijian (*with* Härdle, Wolfgang; Tsybakov, A. B.) Nonparametric vector autoregression. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 221–245. (Jean Diebolt) **99f:62108** 62M10 (62G07)

Yang, Liming *see* **Yang, Li Ming**

Yang, Lin-Bao (*with* Yang, Tao[2]; Yang, Chun-Mei) A detailed study of adaptive control of chaotic systems with unknown parameters. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 255–267. (Summary) **99c:93069** 93C40 (58F13, 58F40, 93E12)

Yang, Ling[2] (*with* Liu, Zeng Rong) An improvement and proof of OGY method. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 1, 1–8; *translated from Appl. Math. Mech.* **19** (1998), *no.* 1, 1–7 (*Chinese. English and Chinese summaries*). (Frederick R. Marotto) **99f:58145** 58F13

Yang, Linguang (*with* Yan, Feng Li; Li, Bo Zang) Formal exact solution for the Heisenberg spin system in a time-dependent magnetic field and Aharonov-Anandan phase. (English summary) *Phys. Lett. A* **251** (1999), *no.* 5, 289–293. (Summary) **99j:82021** 82B20

Yang, Lining (*with* Li, Sheng-Gang) Minimal T_3 topological molecular lattices. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 969–973. 54A40 (06F30)

Yang, Liuyang (*with* Fischer, Thomas Robert) Trellis-coded quantization for binary erasure channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 781–787. 94A40

Yang, Lo *see* **Yang, Le**

Yang, M. *see* **Yang, Mei**

Yang, Mee Hyea Julia operators and linear systems. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 895–904. (Daniel Alpay) **99g:47083** 47B50 (47N70, 93C05)

Yang, Mei An algorithm for computing plethysm coefficients. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 391–402. (Tim H. Baker) **99d:05088** 05E05

— (*with* Remmel, Jeffrey B.) Hook-Schur functions analogues of Littlewood's identities and their bijective proofs. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 257–272. (Joaquin O. Carbonara) **99c:05201** 05E05

Yang, Mei Fen (*with* Lin, Peng Cheng) A difference method for solving mixed problems of parabolic equations containing two parameters. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 1–7. 65M06 (65M70)

Yang, Ming[4] (*with* Song, Dai Cai; Lin, Zheng Hua) A continuation method for solving nonconvex programming problems. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 349–356. (Summary) **99f:90088** 90C26 (65K05)

Yang, Ming-Chung (*with* Liu, Ying-Hsing) Posterior robustness in simultaneous estimation problem with exchangeable contaminated priors. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 129–143. (Bruno Betrò) **99i:62052** 62F15 (62F35)

Yang, Ming Sheng[3] (*with* Wang, Pin Chao; Wen, Feng Tong; Lu, Jie Qing) Some sufficient conditions for a group to be nilpotent. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 4, 331–334. 20D15

— (*with* Kong, Shu Lan) Intrinsic rigidity of integral submanifolds of a Sasakian space form. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 47–50. (Chuan Yu Ma) **99k:53094** 53C25 (53C20, 53C40)

Yang, Ming Yan (*with* Mei, Feng Xiang; Guo, Yong Xin) Diffusion motions and quantization of mechanical systems. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 2, 203–212. (Summary) **99e:81027** 81P20

Yang, Ming Zhu (*with* Wang, Sheng Hua) The spectra of a class of integrodifferential operators. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **11** (1991), *no.* 3, 308–318. (Shu Chun Gao) **99d:45011** 45K05 (45P05, 47G20, 47N55)

— (*with* Xu, Gen Qi; Wang, Sheng Hua) The distribution of eigenvalues of the transport operator for a general inhomogeneous convex medium. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 413–418. (Xue-Ping Wang) **99d:35118** 35P20 (35Q99, 82C70)

— (*with* Kuang, Zhifeng; Zhu, Guang Tian) Optimal control applications in transport theory. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 691–700. (Edward W. Larsen) **99j:82071** 82D75 (49N55, 82C70)

Yang, Minxian System estimators of cointegrating matrix in absence of normalising information. (English summary) *J. Econometrics* **85** (1998), *no.* 2, 317–337. (Summary) **99b:62144** 62M10 (62P20)

Yang, Pi Wen Regular functions and Dirichlet boundary value problems in Clifford analysis. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 11–14. (Summary) **99h:35039** 35J25 (30E25, 30G35)

Yang, Pihua (*with* Yu, Shoumian; Yu, Tian) Resonance theory of elastic head waves propagating in a solid layer in tight contact with a thick solid base. (English summary) *J. Vib. Control* **4** (1998), *no.* 3, 219–236. (Summary) **99a:73050** 73D15 (86A15)

Yang, Ping Hua (*with* Xu, Rui[2]) Persistence in N species competition system with time delays. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 4, 30–37, 48. (Summary) **99f:92030** 92D25 (34K15, 45J05)

— (*with* Xu, Rui[2]; Feng, Hanying) Global asymptotic stability of periodic solution in N-species competition system with time delays. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 375–383. (Summary) **99j:92022** 92D25 (34K20)

— (*with* Xu, Rui[2]) Bifurcations and chaotic behavior of periodic solutions to a class of predator-prey systems with harvesting. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 25–29, 24. (Summary) **99k:92040** 92D25 (34C23, 34C25, 58F13)

— (*with* Xu, Rui[2]) The limit cycles of a class of first-order saturated reaction systems. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 2, 167–171. (Summary) **99h:92012** 92C40 (34C05)

— (*with* Xu, Rui[2]; Hu, Bao Cun) Qualitative analysis of a class of biochemical reaction systems. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 361–364. (Summary) **99k:92051** 92E20 (34C05, 92C40)

Yang, Po (*with* Marubayashi, Hidetoshi; Zhang, Yang[2]) On the rings of the Morita context which are some well-known orders. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1429–1444. (W. K. Nicholson) **99d:16036** 16U20 (16D20)

— (*with* Marubayashi, Hidetoshi; Zhang, Yang[2]) Some examples of PBW extensions which are Krull orders. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 27–30. (Summary) **99d:16018** 16H05 (16S32)

Yang, Qi[1] The derivation algebra of a simple Lie algebra over an arbitrary field. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 3, 333–335. 17B40

Yang, Qi Gui Closed orbits for a class of biochemical reaction models. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 3, 32–36. (From the summary) **99d:92055** 92E20 (34C05, 34C25)

— Some criteria of the existence of limit cycles for planar autonomous systems. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 89–102. (A. P. Sadovskiĭ) **99g:34068** 34C05

— A Hopf bifurcation solution for a biochemical reaction system model. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 381–388. (Summary) **99m:34083** 34C23 (92C40, 92E20)

— (*with* Yan, Ping) Nonexistence of periodic solutions for a class of nonlinear differential systems. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 113–116. 34C25

— (*with* Yu, Yuan Hong) Existence of a family of homoclinic orbits for a class of nonlinear systems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 17–20. (Jian Hua Sun) **99m:34108** 34C37

Yang, Qiao-Lin (*with* Wang, Chuan-Rong) Linear conjugate boundary value problems. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 381–390, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99h:30037** 30E25

Yang, Qing Hua (*with* Liu, Yi Rong; Wang, Yu Xiang; Rui, Jia Gao) The problem of the values of singular points for a class of cubic systems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 26–28. (Xiang Sheng Xie) **99k:34060** 34C05

Yang, Qing-zhi The check of optimality conditions in nonsmooth programming. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 347–350. 90C30 (49J52)

— The coherent function method. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 25–34. (Summary) **99c:65118** 65K05

Yang, Qingjian (*with* Pan, Zu-Liang; Zheng, Ke-Jie) Lie algebra and Hamiltonian structures for nonlinear diffusion equation and Thompson equation. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 348–353, *World Sci. Publishing, River Edge, NJ*, 1994. (Irina Yehorchenko) **99e:35101** 35K55 (35A30, 35Q53, 58G37)

Yang, Qingjie Dihedral groups of automorphisms of compact Riemann surfaces. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 252–256. (Takao Kato) **99m:30083** 30F10 (14H55, 57M60)

Yang, Qixiang (*with* Yan, Li Xin; Deng, Dong Gao) On Hörmander condition. *Chinese Sci. Bull.* **42** (1997), *no.* 16, 1341–1345. (J. Horváth) **99b:42019** 42B20 (46F10, 47B38)

Yang, Roc (*with* Jepsen, Charles) Making squares from Pythagorean triangles. *College Math. J.* **29** (1998), *no.* 4, 284–288. (Katrin Tschirpke) **99h:52014** 52B45 (51M04)

Yang, Rong Hua (*with* Gao, Shi An) A problem on complex oscillations of homogeneous linear differential equations. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 24, 2603–2605. (Hong Xun Yi) **99g:34015** 34A20 (30D35)

Yang, Rongwei BCL index and Fredholm tuples. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2385–2393. (A. G. Myasnikov) **99j:47013** 47A53 (46L99)

Yang, Run Sheng (*with* Jiang, Hai Jing) Subshifts of infinite type. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 2, 1–5, 18. (Gong Fu Liao) **99d:58058** 58F03 (58F13)

— The pseudo-orbit tracing property and invariant probability measures. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 33–36. (Yun Ping Jiang) **99e:58130** 58F13 (58F11)

— (*with* Shen, Su Lin) Pseudo-orbit-tracing and completely positive entropy. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **42** (1999), *no.* 1, 99–104. 54H20

Yang, Ruyue (*with* Li, Luoqing; Chen, Di-Rong) Strong approximation by Riesz means on compact symmetric spaces. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 185–189. (A. H. Dooley) **99b:43002** 43A22 (22E30, 43A85, 58G30)

Yang, S. *see* **Yang, Shaopu**

Yang, S. S. *see* **Yang, Shiao-Song**

Yang, Seung Kab (*with* Min, Kyung Jin; Cho, Seong Hoon) A note on minimal sets of the circle maps. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 13–16. (Karen Brucks) **99d:54025** 54H20 (58F03)

Yang, Shan Chao Some moment inequalities for partial sums of random variables and their application. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 17, 1823–1828. 60E15

Yang, Shan-De (*with* Wang, Mei Shan; Tong, Dian Min; Guan, Xi-Wen) Hidden local gauge invariance for an OSp(1, 2) spin chain. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 9, 1826–1833. (Summary) **99e:82031** 82B23 (81U40)

— (*with* Guan, Xi-Wen; Zhou, Huan-Qiang) A new quasitriangular Hopf superalgebra and its universal R-matrix. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 2, 174–176. (Summary) **99e:16052** 16W30

— (*with* Guan, Xi-Wen) Algebraic Bethe ansatz for the one-dimensional Hubbard model with chemical potential. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 601–615. (Marek Biskup) **99f:82019** 82B23 (82B20)

Yang, Shang Jun (*with* Zhang, Xiao Dong[1]) Systems of homogeneous linear equations with generalized diagonally dominant coefficient matrices. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 200–205. 15A06

— On block cocyclic pairs of nonnegative matrices. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 131–143. (Rafael Bru) **99j:15031** 15A48 (15A18, 15A42)

— (*with* Zhang, Xiao Dong[1]) Eigenvalues on the boundary of certain inclusion for the spectrum of a matrix. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 1, 61–71. (Jor-Ting Chan) **99g:15013** 15A18

Yang, Shanshuang A modulus inequality for condensers and conformal invariants of smooth Jordan domains. *J. Anal. Math.* **75** (1998), 173–183. (E. Złotkiewicz) **99k:30033** 30C62

Yang, Shaopu (*with* Nayfeh, Ali Hasan; Mook, D. T.) Combination resonances in the response of the Duffing oscillator to a three-frequency excitation. (English summary) *Acta Mech.* **131** (1998), *no.* 3-4, 235–245. 34C15 (70K40)

Yang, Sheng Liang (*with* Wang, Li Min[3]) Torsion-free radicals of lattice-ordered groups. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 3, 18–21. (Yishu Pu) **99d:06023** 06F15 (20F60)

Yang, Shi Guo Two inequalities for a pedal simplex. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 336–338. 51M16

Yang, Shi Xin Existence and uniqueness of steady-state solutions to a single-reaction electrophoretic model problem. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 1, 17–21. 92E20 (35Q80)

— Nonnegative solutions for a system of tumor equations. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 2, 166–170. (Summary) **99i:92008** 92C50

Yang, Shi Yuan (*with* Chen, Jing Lin; Hu, Dong Cheng) A reliability approach to repairable k/n(G) systems with consideration of the failure detection rate. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 3, 82–85. 90B25 (60K10)

Yang, Shi Zhou (*with* Li, Wan Tong) Harmless delays for uniform persistence in a two-dimensional Lotka-Volterra diffusion system. (Chinese. English and Chinese summaries) *J. Gansu Univ. Technol.* **24** (1998), *no.* 3, 98–102. 35K57 (35Q80, 35R10, 45K05, 92D25)

Yang, Shiao-Song (*with* Duan, C. K.) A mathematical theory of synchronization by self-feedback. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3273–3278. (Introduction) **99a:93088** 93D15 (34C99)

— (*with* Duan, C. K.) Generalized synchronization in chaotic systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1703–1707. (Summary) **99h:58131** 58F13 (34C99)

— Isometric immersion of compact Riemannian manifold into E^{n+m} with mean curvature pinched. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 79–83. (Xue Shan Zhang) **99a:53074** 53C40 (53C20, 53C42)

Yang, Shihui The isomorphic factorization of complete tripartite graphs $K(A, B, C)$. III. The sufficiency of the divisibility condition for 18 divides complete tripartite graphs $K(A, B, C)$. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 438–447, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99f:05094** 05C70

Yang, Shilin (*with* Wang, Zhixi) Hopf actions and Azumaya algebras. (English summary) *Algebra Colloq.* **4** (1997), *no.* 4, 367–370. (Summary) **99m:16068** 16W30 (16H05)

— (*with* Wang, Zhixi) The semisimplicity of smash products of quantum commutative algebras. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1165–1170. (Summary) **99k:16059** 16S40 (16W30)

Yang, Shou Zhi (*with* Cheng, Zheng Xing) A construction of compactly supported orthonormal wavelets. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 23–28, 125. (Dao Qing Dai) **99m:42060** 42C15

— (*with* Yang, Xiao Zhong; Xie, Chang Zhen) A new fast algorithm for solving lattice multiscale difference equations. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 95–97. 65Q05 (65L05)

Yang, Shu Lang Some investigations on the problem of multiple positive solutions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 771–776. (Xian Zhi George Yuan) **99b:47093** 47H15

Yang, Shu Zi (*with* Wang, Xue; Wu, Ya; Xiao, Ren Bin) A method of knowledge acquisition based on granularity. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 3, 128–132, *XIII–XIV*. 68T05

— (*with* Liu, Ke Ming) The history and contemporary significance of descriptive geometry: commemorating the 200th anniversary of the publication of Monge's *Descriptive geometry*. (Chinese) *Math. Practice Theory* **28** (1998), *no.* 3, 281–288. 01A50 (51–03)

Yang, Song A generalization of the product-limit estimator with an application to censored regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1088–1108. (Summary) **99c:62121** 62G05

— Some scale estimators and lack-of-fit tests for the censored two-sample accelerated life model. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 1040–1052. 62G05 (62G10, 62P10)

Yang, Suh-Yuh (*with* Liu, Jinn-Liang) Least-squares finite element methods for the elasticity problem. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 39–60. (Jiří Nedoma) **99a:65160** 65N30 (73V05)

— (*with* Liu, Jinn-Liang) A unified analysis of a weighted least squares method for first-order systems. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 1, 9–27. (Srinivasan Kesavan) **99d:65330** 65N30

— On the convergence and stability of the standard least squares finite element method for first-order elliptic systems. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 51–62. (Summary) **99b:65152** 65N30

— Error analysis of a weighted least-squares finite element method for 2-D incompressible flows in velocity-stress-pressure formulation. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 18, 1637–1654. (Miloslav Feistauer) **99j:76078** 76M10

— (*with* Liu, Jinn-Liang) Analysis of least squares finite element methods for a parameter-dependent first-order system. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 191–213. (Josef Dalík) **99a:65161** 65N30 (73V05, 76M10)

— (*with* Chang, Ching L.) A two-stage least-squares finite element method for the stress-pressure-displacement elasticity equations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 3, 297–315. (Summary) **99a:73130** 73V05 (65N30, 73C02)

Yang, Sung-Kil (*with* Ito, Katsushi) Flat coordinates, topological Landau-Ginzburg models and the Seiberg-Witten period integrals. (English summary) *Phys. Lett. B* **415** (1997), *no.* 1, 45–53. (Henrik Aratyn) **99d:81158** 81T60 (14D05, 32G20, 58F07, 81T13)

— (*with* Terashima, Seiji) ADE confining phase superpotentials. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 453–469. (Summary) **99d:81162** 81T60 (14H45, 81T13)

— (*with* Terashima, Seiji) Exceptional Seiberg-Witten geometry with massive fundamental matters. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 102–108. (Summary) **99b:81249** 81T60 (32J81, 81T13)

— (*with* Ito, Katsushi; Xiong, Chuan-Sheng) Seiberg-Witten theory as $d < 1$ topological strings. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 155–162. (Summary) **99h:81212** 81T60 (81T13, 81T30)

Yang, T. *see* **Yang, Tao[2]**

Yang, Tae-Cheon (*with* Arkin, Esther M.; Chiang, Yi-Jen; Held, Martin; Mitchell, Joseph S. B.; Sacristan, V.; Skiena, Steven S.) On minimum-area hulls. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 119–136. (Evangelos Kranakis) **99c:68243** 68U05 (52B55)

Yang, Taeyong *see* **Li, Han-Lin, 99k:90202**

Yang, Tai Shan (*with* Wang, Ke[1]) A mathematical economics model of a single species with variable harvesting rate. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 4, 49–54. (Summary) **99f:90028** 90A30 (92D40)

Yang, Tao[2] (*with* Yang, Chun-Mei; Yang, Lin-Bao) A detailed study of adaptive control of chaotic systems with unknown parameters. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 255–267. (Summary) **99c:93069** 93C40 (58F13, 58F40, 93E12)

— Impulsive control. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1081–1083. 49N25 (93C57)

— *see also* **Parallel algorithms for irregularly structured problems, 99g:65007**

Yang, Ted. C. (*with* Chiou, Che Wun) Parallel modular multiplication with table look-up. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 49–55. (Summary) **99e:94032** 94A60

Yang, Tianruo Iterative methods for total least squares problems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 431–439, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 90C20 (65F30)

— (*with* Lin, Hai-Xiang) Theoretical performance analysis of the IQMR method on distributed memory computers with different network topologies. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 441–449, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65F30 (65Y05)

Yang, Tong (*with* Liu, Tai-Ping) Compressible Euler equations with vacuum. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 223–237. (Rodolfo Salvi) **99a:35202** 35Q30 (76N10)

— (*with* Zhu, Changjiang; Zhao, Huijiang) Global smooth solutions for a class of quasilinear hyperbolic systems with dissipative terms. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1311–1324. (Maria Elena Schonbek) **99b:35127** 35L60

— (*with* Xiao, Ling; Luo, Tao) Global BV solutions of compressible Euler equations with spherical symmetry and damping. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 203–225. (Roberto Natalini) **99g:35106** 35Q30 (76N10)

— (*with* Zhu, Changjiang; Zhao, Huijiang) Compactness framework of L^p approximate solutions for scalar conservation laws. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 164–186. (Christophe Cheverry) **99b:35140** 35L65 (35A35)

— (*with* Luo, Tao) Global weak solutions for elastic equations with damping and different end states. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 797–807. (Akira Tsutsumi) **99g:35129** 35Q72 (35D05, 35L60, 73C50, 73D35)

— (*with* Mei, Ming) Convergence rates to travelling waves for a nonconvex relaxation model. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 1053–1068. (Alexander Doktor) **99k:35116** 35L65 (35B40, 65M99)

— (*with* Liu, Hailiang; Wang, Jinghua) Stability of a relaxation model with a nonconvex flux. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 18–29 (*electronic*). (Ke Chen) **99k:39055** 39A11 (35L67)

— (*with* Liu, Tai-Ping) L_1 stability for 2×2 systems of hyperbolic conservation laws. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 3, 729–774. (Yu. G. Rykov) **99j:35135** 35L65 (35B35)

— (*with* Ying, Long An; Zhu, Changjiang) Nonlinear stability of strong detonation waves for a dissipative model. (English summary) *J. Differential Equations* **151** (1999), *no.* 1, 134–160. (Roberto Natalini) **99k:76091** 76L05 (35K99, 80A25)

Yang, Tonghai An explicit formula for local densities of quadratic forms. *J. Number Theory* **72** (1998), *no.* 2, 309–356. (Hidenori Katsurada) **99j:11034** 11E08

Yang, W. L. *see* **Yang, Wen Li[2]**

Yang, Wan Li The problem of the global existence of solutions for semilinear reaction-diffusion systems with mixed boundary conditions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 805–814. (Summary) **99e:35113** 35K57 (35B60)

— Asymptotic behavior and existence of solutions for a class of chemical reaction-diffusion systems. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 76–81. 35K57 (35B40)

Yang, Wei *see* **Yang, Wei[2]**

Yang, Wei[1] (*with* Ma, Chien-Ching) Orthotropic transform for planar anisotropic elasticity and reduced dependence of elastic constants. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1843–1855. (Summary) **99e:73024** 73B40 (73K20)

Yang, Wei[2] (*with* Dorato, Peter; Abdallah, Chaouki T.) Robust multi-objective feedback design by quantifier elimination. (English summary) Applications of quantifier elimination (Albuquerque, NM, 1995). *J. Symbolic Comput.* **24** (1997), *no.* 2, 153–159. (Summary) **99h:93049** 93B50 (68Q40, 90C29, 93D09)

Yang, Wei Guo[1] (*with* Liu, Wen[1]; Zhang, Li Na) A class of strong limit theorems for sequences of arbitrary random variables. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 537–544. (Summary) **99e:60087** 60F15

— The asymptotic equipartition property for a nonhomogeneous Markov information source. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 509–518. (P. N. Rathie) **99j:94002** 94A05 (60F05)

Yang, Wei-Tzen (*with* Wang, Shun-Yuan; Hong, Chin-Ming; Liu, Chun-Chang) Design of a static reactive power compensator using fuzzy sliding mode control. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 393–413. 93C42 (93B50)

Yang, Weiqi (*with* Wang, Xian Tao) Discreteness criterions for subgroups in $SL(2, \mathbf{C})$. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 51–55. (O. V. Shvartsman) **99c:22016** 22E40

Yang, Weisheng Some characterizations of α-Bloch spaces on the unit ball of $\mathbf{C}^n$. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 4, 471–477. (Daniel H. Luecking) **99f:32009** 32A37

— Characterizations of vanishing Bergman-Carleson measure and little Bloch space. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 6, 529–536. (Summary) **99b:46041** 46E30

— Carleson type measure characterization of Q_p spaces. (English summary) *Analysis (Munich)* **18** (1998), *no.* 4, 345–349. (Manfred Stoll) **99m:32007** 32A37 (46E20)

— (*with* Ouyang, Cai Heng; Zhao, Ruhan) Möbius invariant Q_p spaces associated with the Green's function on the unit ball of $\mathbf{C}^n$. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 69–99. (Manfred Stoll) **99h:46037** 46E15 (32A37, 47B35)

Yang, Wen Li[2] (*with* Hou, Bo Yu; Shi, Kang-jie; Wang, Yan Shen) Multipoint functions (form-factors) of quantum sine-Gordon field with boundary. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 157–165, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81T10

— (*with* Hou, Bo Yu) Boundary $A_1^{(1)}$ face model. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 3, 257–262. (Takeo Kojima) **99d:82024** 82B23 (82B20)

— (*with* Hou, Bo Yu; Shi, Kang-jie; Wang, Yan Shen) Bosonization of quantum sine-Gordon field with boundary. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 9, 1711–1741. (Marco Moriconi) **99a:81099** 81T10 (81U40)

— (*with* Hou, Bo Yu) An $\hbar$-deformation of the W_N algebra and its vertex operators. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6131–6145. (Rinat Kedem) **99c:81089** 81R50 (17B68)

— (*with* Hou, Bo Yu; Shi, Kang-jie; Wang, Yan Shen) Bosonic realization for boundary states in quantum sine-Gordon field with boundary. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 4, 579–586. (Mathias Pillin) **99j:81113** 81T10

— (*with* Hou, Bo Yu; Shi, Kang-jie) The general crossing relation for boundary reflection matrix. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 3, 415–418. (Summary) **99m:82013** 82B23

— (*with* Hou, Bo Yu) Dynamically twisted algebra $A_{q,p;\tilde{a}}(\widehat{\mathrm{gl}}_2)$ as current algebra generalizing screening currents of q-deformed Virasoro algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5349–5369. (Stanislav Z. Pakuliak) **99h:81090** 81R50 (17B37, 81R10)

— (*with* Hou, Bo Yu) The nondynamical r-matrix structure of the elliptic Calogero-Moser model. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 1, 35–41. (Benjamin David Enriquez) **99d:58081** 58F07 (70H05)

Yang, Wen Shan (*with* Li, Chong[1]; Wang, Xing Hua) Lipschitz constants of metric projections. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 6, 707–710. 46B20 (41A65)

— (*with* Li, Chong[1]; Wang, Xing Hua) An estimate for Lipschitz constants of metric projections. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 133–141. (Manfred Sommer) **99m:41053** 41A65 (46B20)

Yang, Wen Ze Power groups and their generating groups. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 4, 345–349. 20A99

Yang, Wenli *see* **Yang, Wen Li[2]**

Yang, Wenmao (*with* Cheng, Xin Yue) On the infinitesimal isometric deformations of submanifolds. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 4, 392–404. (Summary) **99i:53056** 53C40

— (*with* Cheng, Xin Yue) On a property of quasi-Kähler submanifolds. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 369–372. (Yi Bing Shen) **99k:53051** 53C15 (53C55)

Yang, Wenshan *see* **Yang, Wen Shan**

Yang, Wuu A data-parallel algorithm for minimum-width tree layout. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 21–28. 68Q22 (68U05)

Yang, X. M. (*with* Chen, Shu Hui; Cheung, Y. K.) Periodic solutions of strongly quadratic non-linear oscillators by the elliptic perturbation method. (English summary) *J. Sound Vibration* **212** (1998), *no.* 5, 771–780. (Summary) **99c:34068** 34C15 (70K25)

Yang, X. Q. *see* **Yang, Xiao Qi**

Yang, Xi Tao (*with* Feng, Chun Hua) The existence of unique almost periodic solutions for a class of neutral Volterra integro-differential equations with infinite delay. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 395–402. (Summary) **99m:45016** 45J05 (34K15)

— Oscillations of a class of second-order neutral delay differential equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 109–112, 73. 34K15 (34K40)

Yang, Xia (*with* Chen, Ju Fang) Permanence and existence of positive periodic solution for diffusive Lotka-Volterra model. (English summary) *J. Biomath.* **12** (1997), *no.* 1, 8–14. (Summary) **99m:92044** 92D25 (34C25)

Yang, Xiang Qun (*with* Guo, Jun Yi) The problem of changing to honesty for a stopped generalized family of standard tripoint transition functions. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 2, 1–4. (Summary) **99j:60104** 60J10

— Existence and uniqueness theorems for superfinite Markov chains. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 13–14. 60J27 (60J40)

— Distributions of lifetime after explosion for birth and death processes. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 694–699. (Summary) **99g:60158** 60J80

Yang, Xiang Yu Efficient algebraic approximations to a class of algebraic numbers. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 79–81. 11J68

Yang, Xiao (*with* Unbehauen, Rolf) New stability test algorithm for two-dimensional digital filters. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 739–741. (Summary) **99c:94070** 94C05

Yang, Xiao Bin (*with* Cheng, Guo Sheng; Li, Ji Cheng) Two-parameter set-valued martingales. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 129–131. 60G44

Yang, Xiao Jing Phase portraits of plane homogeneous polynomial systems and the stability of equilibrium points. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 12, 1–5. (Summary) **99d:34048** 34C05 (34D99)

— A generalization of Routh-Hurwitz criterion. (English summary) *Systems Sci. Math. Sci.* **12** (1999), *no.* 1, 45–48. (Mark R. Liberzon) **99k:34106** 34D05

Yang, Xiao Ping (*with* Zhou, Shu Zi; Li, Guang Yao) On an axially symmetric elastic-plastic torsion problem. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 7, 707–720; *translated from Appl. Math. Mech.* **18** (1997), *no.* 7, 657–668 (*Chinese. English and Chinese summaries*). (Carsten Carstensen) **99a:73069** 73E99 (35Q72)

Yang, Xiao Qi (*with* Goh, C. J.) On a model for multiple criteria linear cost network programs. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 815–822, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 90C29 (90C35)

— (*with* Goh, C. J.) Convexification of a noninferior frontier. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 759–768. (Ferenc Forgó) **99k:90144** 90C29

— (*with* Teo, Kok Lay) Necessary optimality conditions for bicriterion discrete optimal control problems. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 392–402. (Summary) **99k:49052** 49K15 (90C29)

— On relations and applications of generalized second-order directional derivatives. *Nonlinear Anal.* **36** (1999), *no.* 5, *Ser. B: Real World Appl.*, 595–614. (Doug Ward) **99k:49039** 49J52 (90C31)

Yang, Xiao Zhong (*with* Li, Kai-tai) Galerkin schemes for mathematical models of groundwater pollution and their analysis. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 67–72, 106. (Summary) **99c:76072** 76M10 (65M60, 76S05, 86A05)

— (*with* Li, Kai-tai) Generalized solution to the mathematical modeling of phreatic water pollution. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 119–126. (Summary) **99d:76094** 76S05 (35Q35, 86A05)

— (*with* Yang, Shou Zhi; Xie, Chang Zhen) A new fast algorithm for solving lattice multiscale difference equations. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 95–97. 65Q05 (65L05)

— Galerkin schemes and their analyses for the problem of natural convection in an annular cavity. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 2, 86–90. (Summary) **99d:76064** 76M10 (65M60, 76R10)

Yang, Xiao Zhou (*with* Huang, Fei Min) The two-dimensional Riemann problem for a class of systems of hyperbolic conservation law equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 193–205. (Ming Mei) **99e:35138** 35L65

— (*with* Huang, Fei Min) Two-dimensional Riemann problems of simplified Euler equation. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 6, 441–444. (Huicheng Yin) **99e:35134** 35L60 (35Q35, 76N10)

Yang, Xiaoguang Note on inverse problem with l_∞ objective function. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 341–346. (Summary) **99f:90174** 90C35 (90C60)

Yang, Xiaoping (*with* Winfree, Erik; Seeman, Nadrian C.) Universal computation via self-assembly of DNA: some theory and experiments. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 191–213, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68061** 68Q05 (92D20)

Yang, Xiaozhou *see* **Yang, Xiao Zhou**

Yang, Xin Min Second order symmetric duality for nonlinear programs. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 120–122, 107. 90C30 (49N15)

— *see also* **Li, Yan Xi**

Yang, Xin Ming *see* **Chen, Xiu Su**

Yang, Xin-She (*with* Fowler, Andrew C.) Fast and slow compaction in sedimentary basins. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 365–385 (*electronic*). (Summary) **99i:76142** 76S05 (35Q35, 76R99, 86A05)

Yang, Xin Zhang (*with* Liu, Fu Sheng; Zhang, Xiao Ling) A special type of matrix—the variate dynamic linear model—and its forecasting. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 75–79. (Summary) **99i:62163** 62J99

Yang, Xingzhou Asymptotic behavior of the solution to a generalized diffusive epidemic model. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 58–69. (N. F. Britton) **99a:35139** 35K57 (35B40, 35Q80, 92D30)

Yang, Xiu Liang On the nilpotent ranks of the principle factors of certain semigroups of partial transformations. *Comm. Algebra* **26** (1998), *no.* 5, 1445–1455. (I. S. Ponizovskiĭ) **99f:20102** 20M20

— Cayley representations for Clifford semigroups. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 1, 64–66, 118. (Heng Wu Zheng) **99d:20106** 20M30

— Non-group ranks in finite full transformation semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 42–47. (Vladimir S. Mazorchuk) **99c:20092** 20M20

— On the nilpotent ranks of the principal factors of order-preserving transformation semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 331–340. (P. Goralčík) **99f:20103** 20M20

Yang, Xue Feng[1] Nodal sets and Morse indices of solutions of super-linear elliptic PDEs. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 1, 223–253. (Zhi Ren Jin) **99j:35058** 35J60 (35B99, 58E05)

Yang, Xun Nian (*with* Wang, Guo Zhao) An automatic fairing algorithm for planar point sets. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 57–63. (*see* **99k:65006**) 65D17 (65Y25)

Yang, Xuyan (*with* Xu, Cheng Xian) Convergence of conic quasi-Newton trust region methods for unconstrained minimization. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 71–76. 90C30 (65K05)

Yang, Y. Q. *see* **Yang, Yong Qin**

Yang, Ya Li (*with* Zeng, Liu Chuan) Asymptotic behavior and ergodicity of a new class of asymptotically nonexpansive curves in Hilbert spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 535–540. (Hong Kun Xu) **99k:47135** 47H09 (47H10)

Yang, Ya Ping (*with* Zhao, Chunfeng; Yu, Zurong) On q-deformed creation operator $a^\dagger$. (English summary) *Commun. Theor. Phys.* (*Beijing*) **28** (1997), *no.* 2, 191–194. (Marcelo R. Ubriaco) **99c:81107** 81S05 (81R50)

— (*with* Lin, Zhi Xin; Feng, Wei Guo) q-phase-coherent states and their squeezing properties. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 12, 1976–1988. 81R30

— (*with* Lin, Zhi Xin; Xie, Shuangyuan; Feng, Weiguo; Wu, Xiang[2]) q-phase-coherent states and their squeezing properties. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6441–6453. (Apostolos Vourdas) **99m:81093** 81R30

— (*with* Xie, Shuangyuan; Feng, Weiguo; Wu, Xiang[2]) Statistics for q-commutator in the case of $q^{r+1} = 1$. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 879–886. (Roberto Casalbuoni) **99g:81100** 81R50 (81S05)

Yang, Yang (*with* Zhang, Tian Wen) A tracking algorithm for active contours based on multiresolution. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 210–216. 68U05

Yang, Yanling (*with* Zhang, Kaizhong; Wang, Xiong; Wang, Jason T. L.; Shasha, Dennis) An approximate oracle for distance in metric spaces. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 104–117, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68021** 68P05 (68Q20)

Yang, Yi (*with* Hu, Zhan Yi; Wang, Wei; Ma, Song De) A new definition of the Hough transform. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 5, 385–392. (Summary) **99i:44006** 44A15 (68U10)

— (*with* Hu, Zhan Yi; Yang, Changjiang; Ma, Song De) An inherent probabilistic aspect of the Hough transform. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 1, 44–48. 68U10

Yang, Yi Du (*with* Gao, Jun-bin; Shih, Tsi Min) The defect iteration of the finite element for elliptic boundary value problems and Petrov-Galerkin approximation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 152–164. (Ji Chun Li) **99d:65315** 65N30 (65N12)

— (*with* Shih, Tsi Min; Liem, Chin Bo; Lü, Tao) An abstract error estimate for eigenvalue finite element approximation. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 359–366. 65N30 (65J10)

Yang, Yi Min (*with* Zhang, Yun; Mao, Zong Yuan) A parameter-separable learning algorithm for multilayer feedforward neural networks. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 439–446. 93E35 (93C83)

— (*with* Zhang, Yun; Mao, Zong Yuan; Zhou, Qi Jie) Stability of an identification algorithm for fuzzy basis function networks. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 790–793. 93C42 (93B30)

Yang, Yi Min[1] Some properties of arc quasiconvex functions. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 2, 240–246. 49J10 (49K10)

— Trust region algorithms for multifacility location problems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 506–512. (S.-C. Fang) **99k:90096** 90B80 (90C25)

— A trust region algorithm for Fermat location. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 224–231. (H. T. Lau) **99g:90137** 90C30 (90B85)

Yang, Yi Pu *see* **Yang, Yu Pu**

Yang, Yi Xian (*with* Xia, Shu Tao; Fu, Fang Wei) Period distribution of generalized B-J codes and constructions of cyclically permutable (CP) codes. *Chinese Sci. Bull.* **42** (1997), *no.* 14, 1222–1227. (From the text) **99a:94052** 94B15

— (*with* Xu, Cheng Qian) Algebraic constructions of asymptotically optimal two-dimensional optical orthogonal codes. *Chinese Sci. Bull.* **42** (1997), *no.* 19, 1659–1662. 94B60

— (*with* Xu, Cheng Qian) Algebraic constructions of asymptotically optimal two-dimensional optical orthogonal codes. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 19, 2119–2122. 94B60

— (*with* Liu, Huan Ping; Ding, Yi) Fast routing strategies for a special distribution of faults in the n-cube. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 31–36. (Summary) **99b:68021** 68M10

— (*with* Liu, Huan Ping) A note on: "The diameter of loop networks $G(N; s_1, s_2)$" [Math. Appl. **4** (1991), no. 1, 90–96; MR 91m:05092] by T. P. Hu. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 46–48. 05C20 (68M10)

Yang, Yin *see* **Yang, Ying**

Yang, Yin-Sheng Data envelopment analysis (DEA) model with interval gray numbers. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 4, 11–23. 90C08 (90C70)

Yang, Ying Asymptotic optimality of L_2-cross-validated nearest neighbor median regression estimates. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 567–579. (Summary) **99c:62122** 62G05 (62E20, 62G20)

— Median cross-validation criterion. *Chinese Sci. Bull.* **42** (1997), *no.* 23, 1956–1959. (Sidney J. Yakowitz) **99i:62096** 62G07 (62G20)

— Median cross validation criterion. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 18, 1935–1937. 62G05 (62J02)

— Asymptotics of minimum distance estimator in linear regression models under strong mixing. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1619–1637. (R. T. Smythe) **99m:62031** 62F12 (62E20)

— (*with* Zheng, Zhong guo) Cross-validation and median criterion. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 907–921. (Summary) **99e:62064** 62G05

— Nearest neighbor median estimation of regression function and its derivatives. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 313–319. (Ewaryst Rafajłowicz) **99i:62079** 62G05

Yang, Yisong (*with* Spruck, Joel; Tchrakian, D. H.) Multiple instantons representing higher-order Chern-Pontryagin classes. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 737–751. (Michael Murray) **99c:53020** 53C07 (58E15, 81T13)

— The existence of solitons in gauged sigma models with broken symmetry: some remarks. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 2, 177–189. (Bernd J. Schroers) **99a:81106** 81T13 (81R40)

— Chern-Simons solitons and a nonlinear elliptic equation. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 5, 573–585. (Gabriella Tarantello) **99m:58077** 58E50 (35Q51, 35Q60)

— (*with* O'Keeffe, D.; Tchrakian, D. H.) Sigma models coupled with abelian gauge fields. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5824–5831. (Jesús Muciño-Raymundo) **99j:81120** 81T13 (81T10)

— Dually charged particle-like solutions in the Weinberg-Salam theory. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 155–178. (Avinash Khare) **99h:58051** 58E50 (81V15)

Yang, Yong Qin (*with* Zhu, Wei Qiu; Huang, Zhilong) Stochastic averaging of quasi-integrable Hamiltonian systems. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 4, 975–984. (Thomas Wanner) **99g:70023** 70H05 (34C29, 34F05, 70L05, 82C31)

Yang, Youngoh Seminormal operators and Weyl spectra. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 1, 77–83. (Summary) **99a:47032** 47B20 (47A10)

— On a class of operators. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 237–240. (Henry R. Dowson) **99e:47007** 47A10 (47B15)

— Some results on dominant operators. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 217–220. (Mahmoud M. Kutkut) **99b:47008** 47A10 (47A53, 47B20)

— On Weyl spectrum and a class of operators. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 63–70. (Wacław Szymański) **99e:47008** 47A10 (47A60)

Yang, Yu Pu (*with* Chen, Ya Jun; Xu, Xiao Ming) Stability of a class of feedback neural networks with time-delay and estimation of the domain of attraction. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 4, 376–380. (Summary) **99g:68171** 68T05 (92B20)

— (*with* Huang, Xin Min[2]; Xu, Xiao Ming; Chen, Ping[4]) Stable controller design based on dynamic recurrent neural networks. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 8, 49–54. 93B51 (93C83)

Yang, Yuan Yuan (*with* Kessler, Neil H.) Modeling the blocking behavior of Clos networks. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 85–102, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:90049** 90B12 (60C05, 94C10)

— (*with* Zhou, Chunling) On the number of wavelengths required to embed multicast assignments in WDM networks. (English summary) *Multichannel optical networks: theory and practice (Piscataway, NJ, 1998)*, 85–107, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99j:68005** 68M10 (78A55, 90B12, 94C15)

— A class of interconnection networks for multicasting. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 899–906. (Summary) **99d:68028** 68M10 (90B12)

— (*with* Wang, Jianchao) Wide-sense nonblocking Clos networks under packing strategy. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 3, 265–284. (Summary) **99m:68018** 68M10 (90C35)

Yang, Yuanjie (*with* So, Joseph W.-H.) Dirichlet problem for the diffusive Nicholson's blowflies equation. (English summary) *J. Differential Equations* **150** (1998), *no.* 2, 317–348. (Sergei A. Vakulenko) **99m:35255** 35R10 (35K55, 92D25)

— (*with* So, Joseph W.-H.; Wu, Jian Hong) Centre manifolds for functional partial differential equations: smoothness and attractivity. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 67–81. (Ryszard Rudnicki) **99i:34114** 34K30 (35B40, 35R10, 47N20, 58F39)

Yang, Yue (*with* Chong, C. T.) Σ_2 induction and infinite injury priority arguments. II. Tame Σ_2 coding and the jump operator. Logic Colloquium '95 Haifa. *Ann. Pure Appl. Logic* **87** (1997), *no.* 2, 103–116. (Sh. T. Ishmukhametov) **99m:03082** 03D25 (03D30, 03D60)

Yang, Yue Ting The spectral inclusion regions of a class of partitioned matrices. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 4, 447–450. 15A18

— A note on Brualdi's theorem. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 3, 21–24, 28. 15A18

Yang, Yunhong An intertemporal general equilibrium model of asset prices with labor input. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 2, 129–134. 90A14 (90A09)

Yang, Z. J. *see* **Yang, Zhong Jin**

Yang, Zaifu (*with* van der Laan, Gerard; Talman, A. J. J.) Cooperative games in permutational structure. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 427–442. (Milan Mareš) **99c:90165** 90D12

— (*with* Fujishige, Satoru) A lexicographic algebraic theorem and its applications. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 75–91. (Constantin Udrişte) **99k:15035** 15A48 (15A39)

— (*with* van der Laan, Gerard; Talman, A. J. J.) Existence and approximation of robust solutions of variational inequality problems over polytopes. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 333–352 (*electronic*). (Summary) **99h:90106** 90C33 (49J40)

Yang, Zhaoqin *see* **Yan, Zhao Qin**

Yang, Zhen Yu (*with* Chen, Zong Ji) Design of hybrid controllers based on the HIOA$^+$ model. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 3, 172–178. 93B51 (93C30)

Yang, Zhenhai (*with* Wang, Song Gui) A test for sphericity of errors in linear models. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 202–207. (Andrzej S. Kozek) **99i:62155** 62J05

Yang, Zhenlin (*with* Hooper, Peter M.) Confidence intervals following Box-Cox transformation. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 3, 401–416. (Hariharan K. Iyer) **99g:62035** 62F25 (62F04, 62F05, 62J05)

— (*with* Desmond, Anthony F.) A comparison of likelihood and Bayesian inference for the threshold parameter in the inverse Gaussian distribution. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2173–2183. (Summary) **99e:62027** 62F15

Yang, Zhenqi On F-Hamiltonian graphs. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 281–286. (Summary) **99g:05127** 05C45 (05C70)

Yang, Zhenye (*with* Lin, Jiarui; Xiu, Zhengming) Solve maximum resolution of a fuzzy relation equation in finite steps. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 52–57. 03E72

Yang, Zhi (*with* Gao, Jing; Qiu, Rongsheng) An adaptive neuron PID controller with optimal prediction for unknown time-varying delay systems. (English summary) *J. Gansu Univ. Technol. (Engl. Ed.)* **2** (1998), *no.* 1, 57–61. 93D15 (93C30)

Yang, Zhi Jian[2] (*with* Song, Chang Ming) The problem of the existence of global solutions for a class of nonlinear evolution equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 321–331. (L. Hsiao) **99e:35158** 35L75 (35B65, 35Q72, 73D35, 73K05)

— Global solutions to a class of third-order quasilinear evolution equations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 31–38. (Summary) **99b:35154** 35L75 (35Q72)

— Existence and non-existence of global solutions to a generalized modification of the improved Boussinesq equation. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 16, 1467–1477. (Summary) **99g:35117** 35Q53 (76D33)

Yang, Zhi Lin A note on Tonelli's theorem. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **17** (1998), *no.* 2, 4–5. (Summary) **99j:45004** 45G10 (45D05, 45M99)

— A generalized Gronwall inequality. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **17** (1998), *no.* 5, 1–4. 26D15

Yang, Zhi Min A new component of grey mathematics—grey groups. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 56–60. 20M99

Yang, Zhi Yong (*with* Wang, Guang Xiong) Robust performance design of an ill-conditioned plant. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 627–630. 93B51 (93C42)

Yang, Zhong Hua[1] (*with* Ye, Rui-song; Mahmood, Arshad) Extended systems for multiple S-breaking turning points in $Z_2 \times Z_2$-symmetric nonlinear problems. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **4** (1995), *no.* 2, 119–132. (Summary) **99i:58032** 58E09 (47H15)

— (*with* Mahmood, Arshad; Ye, Rui-song) Fully discrete nonlinear Galerkin methods for Kuramoto-Sivashinsky equation and their error estimates. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 1, 20–27. (Summary) **99g:65096** 65M15 (35Q53, 65M60)

— (*with* Ye, Rui-song) Classification of simple higher-order symmetry-breaking bifurcations and their computation. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 175–183. (Bernd Marx) **99f:58037** 58E07 (47H15, 47H17, 58E09, 65J05)

— (*with* Li, Changpin) Bifurcation of two-dimensional Kuramoto-Sivashinsky equation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 263–270. (Summary) **99f:35192** 35Q55 (35B32)

— (*with* Mahmood, Arshad) Numerical results of Galerkin and nonlinear Galerkin methods for one-dimensional Kurmoto-Sivashinsky equation. (English summary) *Proc. Pakistan Acad. Sci.* **35** (1998), *no.* 1, 33–37. 65M70

— (*with* Wu, Yu Jiang; Guo, Ben Yu) Computation of nonlinear Galerkin methods with variable modes for 2-D K-S equations. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 545–563, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65178** 65M99

Yang, Zhong Jin Cylindrical symmetry-like solutions of Laplace equation $\nabla^2 V(\{x_j\}) = 0$. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 1, 29–34. 35C05 (35J05)

Yang, Zhong Qiang (*with* Zhou, Xiaoe) A sufficient and necessary condition for an OWA bag mapping having the self-identity. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 327–334. (Summary) **99a:04003** 04A05 (04A72)

— Supercompact spaces and convergent sequences. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 2, 133–138. 54D35 (54A20)

— A simple proof of the Alexander subbase lemma. (Chinese. English summary) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 103–104. 54D30

Yang, Zhong Tai The philosophical significance of fuzzy mathematics. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 63–66. 00A30 (03A05, 03E72)

Yang, Zhong-Xia (*with* Fan, Heng; Shi, Kang-jie; Hou, Bo Yu) Integrable boundary conditions associated with the $Z_n \times Z_n$ Belavin model and solutions of reflection equation. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 16, 2809–2823. (Andrey V. Tsiganov) **99e:82026** 82B23 (82B20)

Yang, Zhonghua *see* **Yang, Zhong Hua[1]**

Yang, Zhuyuan (*with* Liu, Yong Ping) Average onesided widths of some classes of smooth functions defined on $\mathbf{R}^d$. *Adv. Math. (China)* **27** (1998), *no.* 3, 278–280. 41A46

Yang, Zi-Jiang (*with* Sagara, Setsuo; Tsuji, Teruo) Multiresolution approach to identification of system impulse response. *Statistical methods in control and signal processing*, 149–177, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E12 (93C57)

— (*with* Hachino, Tomohiro; Tsuji, Teruo) On-line identification of continuous time-delay systems combining least-squares techniques with a genetic algorithm. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 23–42. 93B30 (93C30)

Yang, Zi Qiang (*with* Li, Da Zhi[2]; Liang, Zheng) A numerical computation method for Bessel functions of the first and second kinds with complex arguments. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 7, 125–128. 65D20

— (*with* Lai, Sheng Han) A leaping subsequence algorithm for exact inference of contingency tables. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 9–21. 62H17

Yang, Zifeng Locally analytic functions over completions of $\mathbf{F}_r[U]$. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 451–458. (David Goss) **99h:11062** 11G09 (46F99, 47S10)

Yang, Zong Xin (*with* Wang, Jian[1]) Cohomology of Fuchsian groups. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 1, 20–23. (Summary) **99f:20087** 20J05 (20H10)

Yang, Zuo Dong (*with* Guo, Zong Ming) Some uniqueness results for a class of quasilinear elliptic eigenvalue problems. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 487–496. (Summary) **99e:35063** 35J65 (35B05)

— (*with* Yang, Hui Sheng) On a singular quasilinear elliptic boundary value problem. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 4, 672–682. (Summary) **99j:35073** 35J65 (35J70)

— (*with* Guo, Zong Ming) Boundary value problems for a class of quasilinear differential systems with singular nonlinearities. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 239. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 123–134. (Patricio L. Felmer) **99f:34026** 34B15 (34C25, 35J55)

— (*with* Guo, Zong Ming) The structure of positive solutions to a class of quasilinear elliptic equations with a small parameter. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 385–392. (Juncheng Wei) **99j:35064** 35J65 (35B25)

— A priori estimates for a quasilinear elliptic PDE. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 373–383. (Summary) **99g:35048** 35J65 (35B45)
— (*with* Yang, Hui Sheng) Existence of positive radial solutions for a class of quasilinear elliptic systems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 58–62. 35J65 (34B15, 35B05, 47H15)
Yang, Zuo Sheng (*with* Xia, Jian; Sun, Shao Peng) An oscillation-free finite element scheme without free parameters. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 4, 391–403. 65M60
Yanguas, P. (*with* Ferrer, S.; Lara, Martín; Palacián, J.; San Juan, J. F.; Viartola, A.) The Hénon and Heiles problem in three dimensions. I. Periodic orbits near the origin. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1199–1213. (Summary) **99k:58155a** 58F22 (58F05, 70F15, 70H05, 70K99)
— (*with* Ferrer, S.; Lara, Martín; Palacián, J.; San Juan, J. F.; Viartola, A.) The Hénon and Heiles problem in three dimensions. II. Relative equilibria and bifurcations in the reduced system. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1215–1229. (Summary) **99k:58155b** 58F14 (58F05, 70F15, 70H05, 70K99)
Yanhong, Li *see* **Li, Yan Hong**
Yanigasawa, Hibiki Quantization of Poisson algebras that are chord diagrams on curved surfaces. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 206–212. (*see* **99a:00029**) 57M25 (16S30, 16W30, 17B37, 57T05)
Yanitskiĭ, V. E. (*with* Azarova, O. A.) Numerical investigation of the statistical characteristics of density fluctuations in a flow with a shock wave. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1751–1757; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1680–1685. (Summary) **99f:76081** 76L05 (76M20, 76M35, 76N15)
el-Yaniv, Ran *see* **El-Yaniv, Ran**
Yankielowicz, Shimon (*with* Brandhuber, Andreas; Itzhaki, Nissan; Sonnenschein, Jacob; Theisen, Stefan) On the M-theory approach to (compactified) 5D field theories. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 127–134. (Gonzalo Violero) **99a:81129** 81T30 (81T13, 81T60, 83E30)
— (*with* Brandhuber, Andreas; Itzhaki, Nissan; Sonnenschein, Jacob) Wilson loops, confinement, and phase transitions in large N gauge theories from supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 1, 20 *pp.* (*electronic*). (Summary) **99c:81232** 81T60 (81T13, 81T30, 83E30)
— (*with* Brandhuber, Andreas; Itzhaki, Nissan; Sonnenschein, Jacob) Baryons from supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 20, 11 *pp.* (*electronic*). (Summary) **99i:83087** 83E30 (81T30, 83E50)
— (*with* Itzhaki, Nissan; Tseytlin, Arkady A.) Supergravity solutions for branes localized within branes. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 298–304. (Summary) **99c:83093** 83E30 (83E50)
— (*with* Itzhaki, Nissan; Maldacena, Juan M.; Sonnenschein, Jacob) Supergravity and the large N limit of theories with sixteen supercharges. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046004, 11 *pp.* (Summary) **99k:83133** 83E50 (81T30, 83E30)
— (*with* Tseytlin, Arkady A.) Free energy of $N = 4$ super Yang-Mills in Higgs phase and non-extremal D3-brane interactions. (English summary) *Nuclear Phys. B* **541** (1999), *no.* 1-2, 145–162. (Summary) **99m:81266** 81T60 (81T13, 81T30)
Yankov, P. (*with* Angelov, S.) On the multiplicity of the poles of the disk meromorphy of the functions defined by the Taylor series. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 25–29. 30D30
Yankovich, V. *see* **Janković, Vladimir**
Yankovskiĭ, A. P. (*with* Nemirovskiĭ, Yu. V.) On some properties of solutions of plane thermoelastic problems of rational reinforcement of composite constructions. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 312–321; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 301–309. (Summary) **99c:73054** 73K20 (73B30, 80A20)
Yannacopoulos, A. N. (*with* Polymilis, C.; Rowlands, George) A method for locating singularities in the complex time domain for integrable dynamical systems. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 4, 273–281. (Summary) **99a:34026** 34A34 (34A20, 34C35, 58F07, 70H05)
Yannakakis, Mihalis Perspectives on database theory. 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 224–246, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68P15
— (*with* Courcoubetis, Costas) Markov decision processes and regular events. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1399–1418. (O. L. V. Costa) **99h:90112** 90C40 (93C83)
Yannelis, Nicholas C. (*with* Hahn, Guangsug) Efficiency and incentive compatibility in differential information economies. (English summary) *Econom. Theory* **10** (1997), *no.* 3, 383–411. (Immanuel M. Bomze) **99d:90032** 90A36 (90A43, 90D12)
— (*with* Kim, Taesung) Existence of equilibrium in Bayesian games with infinitely many players. (English summary) *J. Econom. Theory* **77** (1997), *no.* 2, 330–353. (Milan Mareš) **99a:90255** 90D13
Yannios, N. (*with* Kloeden, Peter E.) Time discretization solution of stochastic differential equations. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 823–830, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65U05 (34F05)
Yannopoulos, Th. G. The photogravitational two-body problem in a resisting medium. *Applications of mathematics in engineering* (*Sozopol*, 1998), 96–99, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 70F05 (34A05)
Yano, Hitoshi (*with* Sakawa, Masatoshi) A fuzzy decomposition method by right-hand-side allocation for large-scale multiobjective nonlinear programming problems. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 237–246, *Springer, Berlin*, 1997. (*see* **99d:90006**) 90C29 (90C06, 90C30, 90C70)
Yano, Makoto (*with* Nishimura, Kazuo) Non-linear dynamics and chaos in optimal growth. Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 22–68. (Hans-Walter Lorenz) **99i:90029** 90A16 (58F13, 58F40, 90A17, 93C10)
— (*with* Nishimura, Kazuo; Shigoka, Tadashi; Iwai, Keiichiro) Topological optimal chaos. Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 84–106. (Joan Carles Tatjer) **99g:90034** 90A16 (58F13, 58F40)
Yano, Michio *see* **Yabuuti, Kiyosi, 99c:01005**
Yano, Takeru Resonance oscillation of non-plane wave modes of a gas in a cylinder. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 19–25. (*see* **99a:00032**) 76N15 (35Q35)
Yano, Tamaki (*with* Ozeki, Ikuzo) The b-function of a prehomogeneous vector space $(SL(5) \times GL(4), \Lambda_2 \otimes \Lambda_1)$. Microlocal structure of the regular prehomogeneous vector space associated with $SL(5) \times GL(4)$. II. (Japanese summary) Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 92–115. (*see* **99a:11006**) 20G20 (11E57, 20G05, 22E30)
Yano, Y. (*with* Rodríguez, Elsa Liliana; Ogata, H.) TVOO: a temporal versioned object-oriented data model. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 281–300. 68P15
Yanou, Akira (*with* Inoue, Akira; Hirashima, Youichi) A design of a strongly stable self-tuning controller using the coprime factorization approach. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 5, 290–296. 93B51 (93D15)
Yanov, S. I. On the behavior as $t \to \infty$ of the solution of the first exterior mixed problem for the Sobolev system. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 554–558, 575; *translation in Differential Equations* **34** (1998), *no.* 4, 554–558. (G. Albinus) **99m:35030** 35F15 (35B40)
Yanovich, L. A. (*with* Gulo, I. N.) Some asymptotic formulas for functional integrals. (English summary) *Path integrals: Dubna* '96, 364–368, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40
— (*with* Manyuk, E. M.) Linear operator interpolation in a space of functional matrices. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 282–287, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65D15 (47A99, 65J05)
— (*with* Ignatenko, M. V.) Application of the Hankel transform for constructing operator interpolation formulas. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 2, 5–10, 139. (Valeri Kaliaguine) **99g:41001** 41A05 (44A15, 47A58)
— (*with* Ignatenko, M. V.) On operator interpolation formulas of a special form with double nodes. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 35–41, 140. (Galimzian G. Islamov) **99m:41036** 41A35
Yanovskaya, Elena Set-valued analogues of the prenucleolus. *Game theory and applications, III*, 161–173, *Nova Sci. Publ., Commack, NY*, 1997. (Dan Butnariu) **99d:90152** 90D12
— Set-valued analogues of the prenucleolus. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 4, 235–247. (G. A. Heuer) **99m:90173** 90D12
Yanovskiĭ, V. V. (*with* Bar'yakhtar, V. G.) A variational principle for universal multifractals. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 93–99 (1997). (From the text) **99a:58112** 58F13 (28A80, 58F40)
— (*with* Tur, A. V.; Maurice, S.; Blanc, M.) Solutions of the plasma equilibrium within the magnetic field of a point dipole. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3101–3115. (Summary) **99f:76132** 76W05 (85A30)
Yanping, Shi (*with* Roach, Robert L.) Unconditional stability, monotonicity and accuracy of the linear exponential interpolation function for the Burgers equation. (English summary) *Comput. & Fluids* **27** (1998), *no.* 8, 963–983. (Summary) **99d:76078** 76M25
Yanushauskas, A. I. On the Dirichlet problem for a Petrovskiĭ-elliptic system of an even number of second-order equations. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 1, 28–30. 35J55 (35J25)
— On the classification of multidimensional systems, elliptic in the sense of Petrovskiĭ, of second-order partial differential equations. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 5, 603–605. 35J45
— Classification of systems, elliptic in the sense of Petrov, of second-order partial differential equations. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 75–81; *translation in Lithuanian Math. J.* **38** (1998), *no.* 1, 59–63. (Serge Lvin) **99m:35051** 35J45 (35J15)
— The Dirichlet problem for a Petrovskiĭ-elliptic system of an even number of second-order equations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 6, 1435–1443, *iv.* (Summary) **99k:35041** 35J55
— The Dirichlet problem for a Petrovskiĭ-elliptic system of second-order equations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **40** (1999), *no.* 1, 226–234, *v.* (Summary) **99m:35047** 35J25
Yanushevskiĭ, R. T. A class of nonlinear time-delay systems and related optimal problems. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 73–78. (Summary) **99k:49082** 49N35 (34K35, 93B12)
Yanushkevich, O. A. (*with* Emelichev, V. A.) Pareto-optimality conditions in discrete vector optimization problems. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 153–160. (Florica Luban) **99c:90104** 90C29 (90C27)
— (*with* Kravtsov, M. K.) On the solvability of a vector problem by means of the algorithm for a linear convolution of criteria. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 502–509; *translation in Math. Notes* **62** (1997), *no.* 3-4, 420–425 (1998). (Summary) **99h:90090** 90C29 (90C27)
— (*with* Kravtsov, M. K.) A linear convolution of criteria in bicriterial optimization. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 63–70. (Đinh Thế Luc) **99m:90123** 90C29
Yanushkevich, Svetlana (*with* Cheushev, Vasily; Shmerko, V. P.; Simovici, Dan A.) Functional entropy and decision trees. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 257–262, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (06E30)
Yanyutin, E. G. (*with* Svetlichnaya, S. D.) Unsteady deformation of elastic bodies that have the shape of an annular cylindrical segment. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 340–343; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 315–318. 73C02 (73D99)
Yao, Andrew Chi-Chih Decision tree complexity and Betti numbers. (English summary) 26th Annual ACM Symposium on the Theory of Computing (STOC '94) (Montreal, PQ, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 1, 36–43. (Joos Heintz) **99h:68106** 68Q40 (14Q99, 68Q25)
— (*with* Grigor'ev, D. Yu.; Karpinski, Marek) An exponential lower bound on the size of algebraic decision trees for MAX. (English summary) *Comput. Complexity* **7** (1998),

no. 3, 193–203. (Alexander I. Barvinok) **99m:68062** 68Q15 (68Q25, 68Q40)

Yao, Bi Yun Some properties of D^p spaces on bounded symmetric domains. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 1, 7–10. (Weiping Yin) **99f:32005** 32A35 (32M15)

Yao, Chengfu (*with* Rokne, Jon G.) An integral linear interpolation approach to the design of incremental line algorithms. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 3–19. (Summary) **99k:65120** 65Y25 (65D15, 68U05)

Yao, Ching Hsing (*with* Lee, Huey-Ming) Economic order quantity in fuzzy sense for inventory without backorder model. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 13–31. 90B05 (90C70)

— (*with* Lee, Huey-Ming) Fuzzy inventory with or without backorder for fuzzy order quantity with trapezoid fuzzy number. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 311–337. 90B05

Yao, David D. (*with* Zheng, Shaohui) Markov decision programming for process control in batch production. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 351–371. (Summary) **99c:90154** 90C40 (62N10)

Yao, De Zhong Simplification of the integral solution of the wave equation and Huygens' principle. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 3, 245–250. 35J05 (35C15, 35L05)

Yao, Dongyuan A Quillen-Gersten type spectral sequence for the K-theory of schemes with endomorphisms. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 99–108. (Summary) **99d:19004** 19E08 (14C35)

Yao, En Yu (*with* Chen, Shi Ping[3]; He, Yong[1]) The computational complexity of a class of scheduling problems with machine release times and a solution algorithm. (Chinese) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 474–476. 90B35 (68Q25)

— (*with* Zhang, Guo Chuan) The FFD algorithm for the bin packing problem with kernel items. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 335–340. 90C27 (68Q25)

— (*with* Lin, Guo-Hui; He, Yong[1]) Parallel machine scheduling to maximize the minimum load with nonsimultaneous machine available times. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 75–81. (Summary) **99h:90052** 90B35

Yao, Fu Sheng (*with* Liu, Heng; Yu, Lie; Xie, You Bai) The Poincaré-like cell mapping method for nonlinear periodic nonautonomous systems and its application. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 4, 97–101. 34D05 (34C35)

— (*with* Liu, Heng; Yu, Lie; Xie, You Bai) Relationships between periodic solutions of nonlinear dynamical systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 12, 85–89. 34C25 (70K99)

— (*with* Liu, Heng; Yu, Lie; Xie, You Bai) A Poincaré-type cell mapping method of analysis and its application. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **31** (1999), *no.* 1, 91–99. 34D45 (58F12)

Yao, Guo Xin (*with* Lin, Liang Yu; Ruan, Qi Hua) Bochner-Henkin formulas on a bounded domain. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 5, 625–628. (Shu Jin Chen) **99k:32005** 32A25

Yao, Hai Lou (*with* Liu, Hai Xia) Algebras whose basis semigroups are zero-direct unions of 0-$\mathcal{J}^*$-strict simple semigroups. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 921–932. (Pu Zhang) **99c:16014** 16G60 (20M25)

— (*with* Liu, Hai Xia) Basic connected representation-finite algebras having normed multiplicative bases with 1-relations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 55–66. (Summary) **99b:16026** 16G60

— The structure of a kind of connected components with oriented cycles and semi-stable vertices. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 561–573. (Christof Geiß) **99g:16022** 16G70

Yao, Huan Min (*with* Liu, Chong Hua; Li, Jing Quan) A theoretical proof for a construction of essentially nonoscillatory schemes with higher-order accuracy. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 3, 7–14. 65M12

— (*with* Zhang, Yan Ying; Huang, Li Bo) Multivariate interpolation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 9–12. 41A63 (65D15)

— (*with* Zhang, Yan Ying) A class of improved total variation diminishing schemes. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 1–7. 65M06

— (*with* Huang, Wen Qi; Wang, Sheng Hai) Runge-Kutta type TVB time discretizations for Hamilton-Jacobi equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 4–8. 65M06 (49L20, 65L06)

— A theoretical study of the construction of ENO schemes with higher-order accuracy. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 1–4. 65M06

Yao, Hui Li (*with* Hao, Cuixia; Tian, Shen; Wang, Ting Fu) On the points of uniform rotundity in directions of weakly compact sets in Orlicz spaces. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 109–133. (Marian Nowak) **99a:46048** 46E30 (46B20)

— (*with* Zhang, Yun Feng; Wang, Ting Fu) LURWC conditions for Orlicz spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 473–476. 46E30

Yao, Jen-Chih (*with* Ansari, Qamrul Hasan) On strong solutions of the generalized implicit vector variational problem. (English summary) *Adv. Nonlinear Var. Inequal.* **2** (1999), *no.* 1, 1–10. 49J40 (47H10, 47H19)

Yao, Jian (*with* Wu, Jian Zhong[2]; Xu, Fu Yuan) Model reference adaptive fuzzy control for a class of nonlinear systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 12, 120–123. 93C42

Yao, Jian Dong $GI/G/1$ systems with repairable service counter. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **13** (1998), *no.* 4, 17–20. 90B22 (60K25)

Yao, Jian-Feng (*with* Attali, Jean-Gabriel) Stabilité des modèles AR fonctionnels à régime markovien. (English and French summaries) [Stability of nonlinear AR models with Markov switching] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 593–596. (Francesco Battaglia) **99k:62175** 62M10

Yao, Jing Qi Boundary values of the Poisson semigroup. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 665–668. (Summary) **99a:47065** 47D06 (47F05)

Yao, Jing-Shing *see* **Yao, Ching Hsing**

Yao, Jingwu (*with* Sugimoto, Sueo) ARMA modeling with bounded-real functions and lattice filters. (Japanese. English summary) *Mem. Inst. Sci. Engrg. Ritsumeikan Univ. No.* 57 (1998), 121–132 (1999). 93E11

Yao, Miaoxin (*with* Shi, Junping) On a singular nonlinear semilinear elliptic problem. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 6, 1389–1401. (Summary) **99j:35070** 35J65 (35B05, 35B30, 35B65)

Yao, Min A kind of adaptive fuzzy system. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 364–371. 93C42 (93C40)

Yao, Peng-Fei (*with* Lasiecka, Irena; Triggiani, Roberto) Exact controllability for second-order hyperbolic equations with variable coefficient-principal part and first-order terms. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 111–122. (Florin Iacob) **99a:35158** 35L10 (35B37, 93B05, 93C20)

— On the nonnegative square root of the fourth derivative operators. (English summary) *J. Differential Equations* **148** (1998), *no.* 2, 318–333. (Guenter Leugering) **99i:47082** 47E05 (35L99, 35P05, 47G99, 47N20)

Yao, Q. *see* **Yao, Qing**

Yao, Qin *see* **Yau, Qin**

Yao, Qing (*with* Wei, Lee Jen; Hogan, Joseph) Analysis of incomplete repeated measurements with dependent censoring times. (English summary) *Biometrika* **85** (1998), *no.* 1, 139–149. (Summary) **99d:62095** 62P10

Yao, Qingchuan On Halley iteration. (English summary) *Numer. Math.* **81** (1999), *no.* 4, 647–677. (Xiaojun Chen) **99m:65111** 65H05

Yao, Qiwei (*with* Hjellvik, Vidar; Tjøstheim, Dag) Linearity testing using local polynomial approximation. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 295–321. (Theo Gasser) **99i:62099** 62G09 (62G05)

— (*with* Tong, Howell) Cross-validatory bandwidth selections for regression estimation based on dependent data. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 387–415. (Summary) **99c:62123** 62G05

Yao, Rongqin (*with* He, Sheng Wu; Wang, Jia Gang) The gradient and divergent operators in white noise analysis. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 1, 63–74. (Isamu Dôku) **99c:60135** 60H99 (47B38, 60G20)

Yao, Shuntian The stability properties of the nonautonomous second order differential equations. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 145–153. (Raúl M. Naulin) **99e:34069** 34D20 (34C11, 34D05)

— (*with* Burnell, Stephen J.; Evans, Lewis) The ultimatum game: optimal strategies without fairness. (English summary) *Games Econom. Behav.* **26** (1999), *no.* 2, 221–252. (Summary) **99k:90205** 90D05

Yao, So-Zen (*with* Alpert, Charles J.; Kahng, Andrew B.) Spectral partitioning with multiple eigenvectors. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 3–26. (Summary) **99m:68145** 68R10 (05C50, 05C85, 68Q35)

Yao, Tian Xing (*with* Song, Wen Jie; Wang, Jian Zhong[1]; Zhang, Ke Min[1]) A note on 4-regular 4-chromatic graphs with girth 4. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 35–36. (Summary) **99h:05044** 05C15

— (*with* Zhou, Guofei; Zhang, Ke Min[1]) A note on cycles in regular multipartite tournaments. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 73–75. (Summary) **99f:05050** 05C20 (05C38)

Yao, Xiao Bo (*with* Wu, Cong Xin) Differentiability of $ACG_{\bullet\bullet}$ functions. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 1, 1–2. 26A46 (26A39)

Yao, Xin (*with* Liu, Yong) Fast evolution strategies. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 467–496. (*see* **99b:90008**) 90C27 (90C30)

Yao, Y. X. *see* **Yao, Yi Xin**

Yao, Y. Y. Generalized rough set models. *Rough sets in knowledge discovery*, 1, 286–318, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 04A72

— Constructive and algebraic methods of the theory of rough sets. (English summary) *Inform. Sci.* **109** (1998), *no.* 1-4, 21–47. (Summary) **99c:03077** 03E72

— A comparative study of fuzzy sets and rough sets. (English summary) *Inform. Sci.* **109** (1998), *no.* 1-4, 227–242. (Summary) **99b:03071** 03E72

— Relational interpretations of neighborhood operators and rough set approximation operators. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 239–259. (Summary) **99e:04004** 04A72

Yao, Yi-Ching (*with* Simons, Gordon) Approximating the inverse of a symmetric positive definite matrix. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 97–103. (Summary) **99f:65046** 65F05

Yao, Yi Feng (*with* Xu, Chang Fa) A recursive formula for calculating integrals with singular kernels of logarithmic type by using wavelet expansions. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 5, 110–112. 65D30 (42C15)

Yao, Yi Xin (*with* Zhang, Yu Ming[1]; Kovacevic, R.) Functional observer and state feedback for input time-delay systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 603–617. 93B07 (93C30)

Yao, Yun Fei A generalized Jensen inequality for vector-valued Bochner integrals in Banach spaces. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 203–208. (Summary) **99c:46045** 46G10 (28B05)

Yao, Zeng Qi Reliability functions for general systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 3, 424–427. 90B25

Yao, Zhen Xing (*with* Wang, Shi Biao) Fuzzy identification of uncertain systems. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 75–84. 93C42 (93B30)

Yao, Zheng An A corrector for the homogenization of some semilinear heat equations with L_2 initial values. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 113–122; *translation in Chinese J. Contemp. Math.* **19** (1998), *no.* 1, 79–91. (Qing Fang) **99c:35022** 35B27 (35K45)

— (*with* Zhou, Tie Qiang) Properties of solutions to a class of quasi-linear parabolic equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 345–348. 35K60

Yao Bi, J. L. (*with* Nicolas, Laurent; Nicolas, Alain) A 3D symmetric vector Engquist-Majda A.B.C. coupled with $H(\mathrm{curl})$ mixed elements. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 123–132, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08

Yaofeng, Ren *see* **Ren, Yao Feng**

Yaoita, Akira (*with* Tanimoto, Mitsumori; Nakajima, Kazuo; Osano, Minetada) Evaluation of the efficiency of the partially solving method (PSM) in comparison with the Gaussian elimination method. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 443–459. (A. Barraud) **99m:65055** 65F05 (65F50, 65Y20)

Yap, Hian-Poh (*with* Zhang, Yi[11]) Equitable colorings of planar graphs. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 97–105. (Adrian Riskin) **99c:05075** 05C15

— (*with* Liu, Qi-Zhang) Proof of a conjecture of Alan Hartman. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 7–17. (Gerard J. Chang) **99i:05083** 05C15 (05C05)

Yap, L. Y. H. (*with* Quek, T. S.) Measures in $M(G)$ which satisfy certain integrability conditions. (Russian summary) *Anal. Math.* **23** (1997), *no.* 1, 35–44. (Hang-Chin Lai) **99h:43009** 43A22 (43A10, 43A15)

Yap, Von Bing (*with* Goh, Say Song) Matrix extension and biorthogonal multiwavelet construction. (English summary) *Linear Algebra Appl.* **269** (1998), 139–157. (David F. Walnut) **99d:42059** 42C15 (15A54)

Yapar, Cemil A method for the closed form solutions of the linear regression problems with inequality restrictions. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 2, 205–213 (1995). 62J05

— (*with* Werner, Hans-Joachim[1]) More on partitioned possibly restricted linear regression. (English summary) *New trends in probability and statistics, Vol. 3 (Tartu/Pühajärve, 1994)*, 57–66, *VSP, Utrecht*, 1995. (Summary) **99h:62094** 62J05

Yapiskan, B. (*with* Enginer, Y.; Hortascu, M.; Kaya, Rüstem; Özdemir, N.; Ülker, K.) Quantum fluctuations of some gravitational waves. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1029–1048. 83C35 (83C47)

Yaremchuk, A. I. (*with* Schröter, Jens) Spectral analysis of symmetric operators: application to the Laplace tidal model. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 1–21. (Summary) **99h:86003** 86–08 (86A05)

Yaremenko, Yu. V. (*with* Kirichenko, V. V.; Mashchenko, L. Z.) Decomposition theorems for associative rings. (Russian. English summary) *Problems in algebra, No. 11 (Russian)*, 42–47, *Gomel. Gos. Univ., Gomel'*, 1997. (*see* **99g:20007**) 16N40

Yarlagadda, R. K. Rao (*with* Hershey, John E.) ★ Hadamard matrix analysis and synthesis. (English summary) With applications to communications and signal/image processing. The Kluwer International Series in Engineering and Computer Science, 383. *Kluwer Academic Publishers, Boston, MA*, 1997. x+123 *pp. ISBN* 0-7923-9826-2 (A. Bultheel) **99a:94009** 94A12 (05B20, 94A55)

Yarmetov, Zh. R. (*with* Sadullaev, A.) Removable singularities of subharmonic functions in the class Lip_α. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 131–148; *translation in Sb. Math.* **186** (1995), *no.* 1, 133–150. (Alexander I. Kheyfits) **99e:31007** 31B05

Yarmitskii, A. G. Spiral waves in three-dimensional helical viscous flows. *Fluid Dynam.* **33** (1998), *no.* 5, 655–658 (1999); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 5, 25–29 (*Russian. Russian summary*). (Summary) **99m:76056** 76D99

Yarmukhamedov, Sh. The Cauchy theory in mathematical problems of elasticity theory. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 628–630; *translation in Phys. Dokl.* **42** (1997), *no.* 12, 696–699. (Igor Yu. Chudinovich) **99b:73014** 73C02 (35Q72)

Yaroslavtseva, O. V. On multipliers in some anisotropic spaces of analytic functions. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **255** (1998), *Issled. po Lineĭn. Oper. i Teor. Funkts.* 26, 244–248, 255. 46E15 (32A37)

Yarovaya, Elena B. (*with* Albeverio, Sergio; Bogachev, Leonid V.) Asymptotics of branching symmetric random walk on the lattice with a single source. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 975–980. (George P. Yanev) **99j:60126a** 60J80

— (*with* Albeverio, Sergio; Bogachev, Leonid V.) Erratum: "Asymptotics of branching symmetric random walk on the lattice with a single source". *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 585. (George P. Yanev) **99j:60126b** 60J80

Yarunin, Vladimir S. Conservation laws and dynamics with constraint in quantum statistics. *Symmetry methods in physics, Vol. 2 (Dubna, 1995)*, 610–614, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 82B10

— *see also* **Path integrals: Dubna '96, 99h:81005**

Yarur, Cecilia S. (*with* García-Huidobro, Marta; Manásevich, Raúl; Mitidieri, Enzo) Existence and nonexistence of positive singular solutions for a class of semilinear elliptic systems. *Arch. Rational Mech. Anal.* **140** (1997), *no.* 3, 253–284. (Rolando Magnanini) **99e:35049** 35J60 (35B05)

— (*with* García-Huidobro, Marta; Manásevich, Raúl) On positive singular solutions for a class of nonhomogeneous p-Laplacian-like equations. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 23–51. (Summary) **99a:35065** 35J60 (34A34, 35B05)

Yarvin, Norman (*with* Rokhlin, Vladimir V.) A generalized one-dimensional fast multipole method with application to filtering of spherical harmonics. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 594–609. (Summary) **99h:78007** 78–08 (33C55, 65T20)

— (*with* Rokhlin, Vladimir V.) Generalized Gaussian quadratures and singular value decompositions of integral operators. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 699–718 (*electronic*). (T. Feagin) **99i:65025** 65D32 (45L05, 47G10)

Yashchenko, I. V. (*with* Alas, O. T.; Protasov, I. V.; Tkachenko, M. G.; Tkachuk, Vladimir V.; Wilson, Richard Gordon) Almost all submaximal groups are paracompact and σ-discrete. (English summary) *Fund. Math.* **156** (1998), *no.* 3, 241–260. (Klaas Pieter Hart) **99c:54050** 54H11 (54D20, 54G05)

— (*with* Bella, Angelo) Lindelöf property and absolute embeddings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 907–913. (Summary) **99f:54031** 54D20

Yashchenko, V. V. (*with* Logachev, O. A.; Sal'nikov, A. A.) Bent functions on a finite abelian group. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 3–20; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 547–564. (Kanat S. Abdukhalikov) **99e:94030** 94A55 (20K01)

— Properties of Boolean mappings that are reducible to properties of their coordinate functions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 4, 11–13, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 4, 11–13. (S. Rudeanu) **99d:06019** 06E30 (94A60)

Yashchin, Emmanuel (*with* Flehinger, Betty J.; Reiser, Benjamin) Survival with competing risks and masked causes of failures. (English summary) *Biometrika* **85** (1998), *no.* 1, 151–164. (Summary) **99d:62033** 62G05 (62N05)

Yashin, A. D. Continuality of a family of logics that are complete in the sense of Novikov with a new monadic connective. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 3, 22–25, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 3, 22–25. (Mirjana Borisavljević) **99c:03012** 03B20

— On an extension of Gabbay's logic. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 224–235, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 198–208. (Piotr Wojtylak) **99m:03052** 03B55

Yashin, A. I. Stochastic dynamic systems with failures: absolutely continuous compensator. (English summary) *Statistics and control of stochastic processes (Moscow, 1995/1996)*, 343–354, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99f:60084** 60G35 (62N05)

Yasinskiĭ, V. V. (*with* Akbarov, D. E.; Mel'nik, V. S.) On optimization problems for mixed systems. I. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 87–96, 155. 49K27

— (*with* Akbarov, D. E.; Mel'nik, V. S.) On optimization problems for mixed systems. II. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 23–28, 151. 49K27

— (*with* Akbarov, D. E.; Mel'nik, V. S.; Modebadze, T. A.) On optimization problems for mixed systems. III. Necessary conditions for optimality, and finite-dimensional approximations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 52–63, 156. 49K27

Yasinskiy, S. A. (*with* Shmagin, V. V.; Chebrakov, Y. V.) The system-graphical analysis of some numerical Smarandache sequences. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory (Craiova, 1997)*, 193–205, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11Y55

Yaslan, I. (*with* Guseinov, G. Sh.) On Hill's equation with piecewise constant coefficient. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 461–474. (Boris M. Levitan) **99c:34201** 34L40 (34B24)

Yasmin, N. (*with* Lloyd, N. G.; Christopher, C. J.; Devlin, J.; Pearson, Jane Margaret) Quadratic-like cubic systems. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 329–345. (Henryk Żołądek) **99k:34061** 34C05 (58F21)

Yassemi, Siamak Width of complexes of modules. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 161–169. (J.-P. Lafon) **99g:13026** 13D25 (13D05)

— Weakly associated primes under change of rings. *Comm. Algebra* **26** (1998), *no.* 6, 2007–2018. (R. K. Markanda) **99f:13006** 13A99

— The dual notion of the cyclic modules. (English summary) *Kobe J. Math.* **15** (1998), *no.* 1, 41–46. (Summary) **99h:13006** 13A99 (13H10, 16E50)

Yassen, M. F. (*with* Aouf, M. K.; Shamandy, A.) Some applications of fractional calculus operators to a certain subclasses of univalent functions with negative coefficients. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 73–78. (Summary) **99c:30013** 30C45 (26A33)

Yassine, Adnan Sub-gradient algorithms for solving multi-dimensional analysis problems of dissimilarity data. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 521–543. (Gert Wanka) **99g:90091** 90C26

— Sub-gradient algorithms for computation of extreme eigenvalues of a real symmetric matrix. (English summary) *Control Cybernet.* **27** (1998), *no.* 3, 387–415. (Summary) **99j:65064** 65F15 (49J52, 49N15, 90C26)

Yasuda, K. *see* **Yasuda, Kimihiko**

Yasuda, Kan (*with* Benjamin, Arthur T.) Magic "squares" indeed! *Amer. Math. Monthly* **106** (1999), *no.* 2, 152–156. 05B15

Yasuda, Kazunori (*with* Tashima, Shigeo) The covariance assignment problem for a descriptor system. (Japanese) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 12, 706–708. 93E12 (93D15)

— (*with* Nishihira, Naofumi) A stability condition for linear time-delay systems. (Japanese) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 3, 199–201. 34K20

Yasuda, Kimihiko (*with* Wang, Rubin) Exact stationary probability density for second order non-linear systems under external white noise excitation. (English summary) *J. Sound Vibration* **205** (1997), *no.* 5, 647–655. (Silvio Nocilla) **99a:70040** 70L05 (34F05, 70K05)

— (*with* Zhang, Zhikang; Wang, Rubin) On joint stationary probability density function of nonlinear dynamic systems. (English summary) *Acta Mech.* **130** (1998), *no.* 1-2, 29–39. 34F05 (34L05)

— (*with* Kamiya, K.) Experimental identification technique of nonlinear beams in time domain. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 2, 185–202. 73K50 (73K05)

Yasuda, Kumi Additive processes on local fields. (English summary) *J. Math. Sci. Univ. Tokyo* **3** (1996), *no.* 3, 629–654. (Andrzej Mądrecki) **99b:60051** 60G07 (11S15, 46S10)

Yasuda, Masami (*with* Yoshida, Yuji; Nakagami, Jun-ichi; Kurano, Masami) On a property of fuzzy stopping times. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 176–182. (*see* **99b:90009**) 90C70

— (*with* Yoshida, Yuji; Nakagami, Jun-ichi; Kurano, Masami) A limit theorem in dynamic fuzzy systems with a monotone property. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 109–119. (Summary) **99b:54009** 54A40 (54H20)

— (*with* Yoshida, Yuji; Nakagami, Jun-ichi; Kurano, Masami) The optimal stopping problem for fuzzy random sequences. Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 178–183. (*see* **99h:90006**) 60G40

— (*with* Kadota, Yoshinobu; Kurano, Masami) Stopped decision processes with general utility. (English summary) Dynamic decision systems in uncertain environments

(Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 13–25. (O. L. V. Costa) **99m:90159** 90C40 (60G40, 62L15)

— (*with* Kurano, Masami; Nakagami, Jun-ichi; Yoshida, Yuji) A fuzzy relational equation in dynamic fuzzy systems. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 439–443. 93C42 (49L20)

Yasugi, Mariko (*with* Mori, Takakazu; Tsujii, Yoshiki) Computability structures on metric spaces. (English summary) *Combinatorics, complexity, & logic (Auckland,* 1996), 351–362, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore,* 1997. (Summary) **99e:03030** 03D45 (03F65)

— Memories of proof theory—focusing on consistency proofs. (Japanese) *Sūgaku* **49** (1997), *no.* 3, 292–296. (Mitio Takano) **99b:03072** 03F03 (03F05, 03F20, 03F35)

Yasuhara, Akira Delta-unknotting operation and adaptability of certain graphs. (English summary) *KNOTS '96 (Tokyo),* 115–121, *World Sci. Publishing, River Edge, NJ,* 1997. (Summary) **99j:57004** 57M15 (57M25)

Yasui, Yoshikazu (*with* Gao, Zhi Min) A decomposition of k-semi-stratifiable spaces. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 199–202. (Summary) **99b:54041** 54E99 (54B15)

— (*with* Gao, Zhi Min) A theorem on closed images of k-semistratifiable spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 11–12. 54E40

— (*with* Gao, Zhi Min) Some remarks on kc-semi-stratifiable spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 477–480. (Summary) **99i:54032** 54E20

— (*with* Mou, Lei) On mosaical collection. (English and Japanese summaries) *Mem. Osaka Kyoiku Univ. III Natur. Sci. Appl. Sci.* **47** (1998), *no.* 1, 1–10. 54E20

Yasui, Yukinori (*with* Hashimoto, Yoshitake; Miyagi, Sayuri; Ootsuka, Takayoshi) Applications of the Ashtekar gravity to four-dimensional hyper-Kähler geometry and Yang-Mills instantons. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5833–5839. (Andrew Swann) **99b:53067** 53C25 (53C07, 83C05)

— (*with* Sasaki, Norihito) Differential geometry of the vortex filament equation. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 195–207. (Anders Linnér) **99m:58119** 58F07 (58F40, 76C05)

— (*with* Kubo, Reijiro; Ogura, Waichi; Saito, Takesi) The Gauss-Knörrer map for the Rosochatius dynamical system. (English summary) *Phys. Lett. A* **251** (1999), *no.* 1, 6–12. (Jair Koiller) **99m:58111** 58F07 (58F05, 70H05, 70H15)

Yasukawa, Masaru Existence of the local solution of the fluid equation in non-uniform space-time. Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 147–154. (*see* **99a:00043**) 83C55 (76Y05)

Yasukura, Osami Adjoint varieties. (Japanese) Geometry of homogeneous spaces and submanifolds (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1044 (1998), 53–62. (Hiroo Naitoh) **99m:53095** 53C30 (53C15, 53C56)

— (*with* Miyasaka, Takashi; Yokota, Ichiro) Diagonalization of an element P of $\mathfrak{P}^C$ by the compact Lie group E_7. *Tsukuba J. Math.* **22** (1998), *no.* 3, 687–703. (Mark R. Sepanski) **99k:22013** 22E15

Yasuoka, Takashi Gradient estimates of holomorphic maps from Kähler CH manifolds. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol.* 2 (*Plovdiv,* 1994), 268–273, *Sci. Cult. Technol. Publ., Singapore,* 1995. (Marcus Wright) **99k:32046** 32H99 (32C17, 35J60)

— (*with* Hamada, Hidetaka) A general Schwarz lemma on complete Kähler manifolds. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 2, 149–163. (Summary) **99i:32012** 32C17 (32H02)

Yasutomi, Shin-Ichi The continued fraction expansion of α with $\mu(\alpha) = 3$. *Acta Arith.* **84** (1998), *no.* 4, 337–374. (Thomas A. Schmidt) **99g:11086** 11J06 (11J70)

Yates, Julie (*with* Hayes, Leslie; Schultz, Kelly) Universal dominating sequences of graphs. (English summary) *Util. Math.* **54** (1998), 193–209. (Summary) **99g:05110** 05C35

baeza-Yates, Ricardo A. *see* **Baeza-Yates, Ricardo A.**

Yatras, Constantinos N. Characteristic of M-polysymmetrical hyperrings and some properties of M-polysymmetrical hyperrings with unity. (English summary) Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 115–125. (*see* **99a:00037**) 16Y99 (20N99)

— Homomorphisms in the theory of the M-polysymmetrical hypergroups and monogene M-polysymmetrical hypergroups. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki,* 1995), 155–165, *BSG Proc.,* 1, *Geom. Balkan Press, Bucharest,* 1997. (Michael Voit) **99k:20125** 20N20

Yatsenko, A. A. Iterative rearrangements of functions, and Lorentz spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 73–77; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 5, 71–75. (Evgeniy I. Pustylnik) **99i:46019** 46E30

Yatsenko, Yu. P. (*with* Khritonenko, N. V.) Turnpike theorems in an integral dynamic model of economic restoration. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 2, 131–149, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 2, 259–273. (Alexander J. Zaslavski) **99a:90066** 90A16 (49J15)

Yatsik, V. V. (*with* Shestopalov, V. P.) Spectral theory of a plane layer with continuously changing dielectric permittivity. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 51–58. (Summary) **99k:78022** 78A40 (35Q99, 78A45)

Yatsui, Tomoaki On the generalized Spencer cohomology of pseudo-product graded Lie algebras of type CH_l. (English summary) *J. Hokkaido Univ. Educ. Nat. Sci.* **49** (1998), *no.* 1, 1–3. 17B56 (58H10)

Yatsunenko, Yu. A. Reconstruction of the drift characteristic by the integral equation. (English summary) *Comput. Phys. Comm.* **118** (1999), *no.* 1, 1–10. 65R20

Yau, Horng-Tzer (*with* Varadhan, S. R. S.) Diffusive limit of lattice gas with mixing conditions. (English summary) *Asian J. Math.* **1** (1997), *no.* 4, 623–678. (Claudio Landim) **99k:60256** 60K35 (82C22)

— Logarithmic Sobolev inequality for generalized simple exclusion processes. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 4, 507–538. (Laurent Miclo) **99f:60171** 60K35 (46E39, 46N30)

— (*with* Erdős, László) Linear Boltzmann equation as scaling limit of quantum Lorentz gas. (English summary) *Advances in differential equations and mathematical physics (Atlanta, GA,* 1997), 137–155, *Contemp. Math.,* 217, *Amer. Math. Soc., Providence, RI,* 1998. (Rossana Marra) **99h:82061** 82C40 (82C22)

— (*with* Quastel, J.) Lattice gases, large deviations, and the incompressible Navier-Stokes equations. (English summary) *Ann. of Math.* (2) **148** (1998), *no.* 1, 51–108. (S. R. S. Varadhan) **99j:60157** 60K35 (60F10, 76M35, 82C22)

— (*with* Landim, C.; Olla, Stefano) Convection-diffusion equation with space-time ergodic random flow. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 2, 203–220. (Timo Seppäläinen) **99j:35084** 35K10 (35R60, 60H15, 73B27, 76M35, 76R50)

Yau, Lily (*with* Ben-Israel, Adi) The Newton and Halley methods for complex roots. *Amer. Math. Monthly* **105** (1998), *no.* 9, 806–818. (Hubertus Th. Jongen) **99i:65056** 65H05 (30C15)

Yau, Qin (*with* Chen, Zhi Hua) The arithmetic genus and extrinsic geometry of smooth projective variety. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 729–735. (Sandra Di Rocco) **99g:14069** 14N05 (14C20)

Yau, S. *see* **Yau, Stephen Shing Toung**

Yau, Shing-Tung (*with* Chung, F. R. K.; Graham, Ronald L.) On sampling with Markov chains. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 55–77. (Uriel G. Rothblum) **99c:15010** 15A18 (60J15, 60J20, 62D05)

— A note on the distribution of critical points of eigenfunctions. *Collection of papers on geometry, analysis and mathematical physics,* 173–175, *World Sci. Publishing, River Edge, NJ,* 1997. (*see* **99b:00025**) 35P20 (35J25)

— (*with* Jost, Jürgen) Harmonic maps and superrigidity. (English summary) *Tsing Hua lectures on geometry & analysis (Hsinchu,* 1990–1991), 213–246, *Internat. Press, Cambridge, MA,* 1997. (Ralf J. Spatzier) **99i:53052** 53C35 (22E40, 32M15, 58E20)

— Sobolev inequality for measure space. *Tsing Hua lectures on geometry & analysis (Hsinchu,* 1990–1991), 299–313, *Internat. Press, Cambridge, MA,* 1997. (*see* **98e:53002**) 46E35 (26D15)

— (*with* Hamilton, Richard S.) The Harnack estimate for the Ricci flow on a surface—revisited. *Asian J. Math.* **1** (1997), *no.* 3, 418–421. (Emmanuel Hebey) **99c:53027** 53C21 (35B45, 35J60, 58G30)

— (*with* Lian, Bong H.; Liu, Kefeng) Mirror principle. I. (English summary) *Asian J. Math.* **1** (1997), *no.* 4, 729–763. (Andreas Gathmann) **99e:14062** 14N10 (14D20, 14J32)

— (*with* Chung, F. R. K.) Eigenvalue inequalities for graphs and convex subgraphs. (English summary) *Comm. Anal. Geom.* **5** (1997), *no.* 4, 575–623. (Robert Brooks) **99c:58179** 58G99 (05C50)

— (*with* Hoppe, Jens) Some properties of matrix harmonics on S^2. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 67–77. (Man Chun Leung) **99f:58183** 58G03 (53C80)

— (*with* Klemm, Albrecht Otto; Lian, Bong H.; Roan. Shi-shyr) Calabi-Yau four-folds for M- and F-theory compactifications. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 515–574. (Mark Gross) **99h:14042** 14J32 (14J35, 32J18, 81T30)

— (*with* Lian, Bong H.; Liu, Kefeng) The Candelas-de la Ossa-Green-Parkes formula. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 106–114. (Andreas Gathmann) **99k:14088** 14N10 (14D20, 14J32)

— Introduction to enumerative invariants. *Mirror symmetry, III (Montreal, PQ,* 1995), 69–75, *AMS/IP Stud. Adv. Math.,* 10, *Amer. Math. Soc., Providence, RI,* 1999. (Pavel Belorousski) **99m:14106** 14N10 (58D10)

— *see also* **Elliptic curves, modular forms & Fermat's last theorem, 99d:11002**; **Mirror symmetry, 99f:32002**; **99i:14003** *and* **Surveys in differential geometry, 99k:58003**

Yau, Shing-Tung (*with* Salaff, Stephen) ★ Ordinary differential equations. Second edition. *International Press, Cambridge, MA,* 1998. *vi+72 pp. ISBN* 1-57146-065-9 34–01

Yau, Stephen Shing Toung (*with* Luk, Hing Sun) Counterexample to boundary regularity of a strongly pseudoconvex CR submanifold: an addendum to the paper of Harvey-Lawson. *Ann. of Math.* (2) **148** (1998), *no.* 3, 1153–1154. (Gerd Schmalz) **99j:32006** 32C16 (32F30)

— (*with* Jiang, Tan) Intersection lattices and topological structures of complements of arrangements in $\mathbf{CP}^2$. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 357–381. (P. Orlik) **99g:52020** 52B30 (14F45, 57M99)

— (*with* Bielecki, T. R.; Chen, Jie[4]; Lin, En-Bing) Wavelet representations of general signals. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.,* 125–141. (Lars F. Villemoes) **99m:94005** 94A12 (42C15)

Yavetz, Ido On the homocentric spheres of Eudoxus. *Arch. Hist. Exact Sci.* **52** (1998), *no.* 3, 221–278. (A. G. Molland) **99i:01009** 01A20

Yavin, Y. The control of the motion of a pantograph. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 2, 13–23. 70Q05 (34H05, 93C85)

— Stabilization and control of the motion of a rolling disk by using two rotors fixed along its axis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 107–122. (Summary) **99j:70010** 70E15 (70Q05, 93C85)

— Stabilization and control of the motion of a rolling disk. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 2, 45–54. (Summary) **99k:93082** 93D15 (70K20, 70Q05)

— Stabilization and guidance of the motion of a rolling disk by using two rotors fixed along its axis. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 6, 15–31. (Summary) **99m:70020** 70Q05 (70B15, 93B60, 93C85)

Yavneh, Irad (*with* Olvovsky, Elena) Multigrid smoothing for symmetric nine-point stencils. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 229–246. (Summary) **99a:65181** 65N55

— (*with* McWilliams, James C.) Fluctuation growth and instability associated with a singularity of the balance equations. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2587–2596. (Summary) **99h:86011** 86A10 (76E20, 76U05)

— (*with* McWilliams, James C.; Cullen, Michael J. P.; Gent, Peter R.) The breakdown of large-scale flows in rotating, stratified fluids. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3178–3184. (Summary) **99h:86012** 86A10 (73V05, 76U05)

— (*with* Venner, Cornelis H.; Brandt, Achi) Fast multigrid solution of the advection problem with closed characteristics. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 111–125 (*electronic*). (Summary) **99d:65358** 65N55 (65N12, 76D05, 76M20)

Yavorski, Yuri Mykhajlowych *see* **Yavorskiĭ, Yu. M.**

Yavorskiĭ, I. N. (*with* Isaev, I. Yu.) Component spectral analysis of signals with stochastic recurrence. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 104–113, 158. 93B60 (93E03)

Yavorskii, Yu. M. (*with* Lyantse, V. È.) A nonstandard difference Sturm-Liouville operator. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 285–290. (Summary) **99g:47074** 47B39 (03H05, 39A70, 47S20)

Yavryan, A. V. (*with* Yavryan, V. A.) Spectral decomposition of single-pair complex integral operators. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 3, 32–48; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 3, 26–41. (Vladimir Derkach) **99g:47049** 47B25 (47A10, 47G10)

— (*with* Arakelyan, N. U.) Vector-valued analogues of Fabry's ratio theorem. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 87–91; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 76–80 (1996). (A. A. Borichev) **99f:30003** 30B30 (30B10, 46E40)

— On the rate of summation of power series outside the convergence circle. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 92–99; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 81–87 (1996). (Jia Rong Yu) **99j:30002** 30B40 (40A25)

Yavryan, V. A. (*with* Yavryan, A. V.) Spectral decomposition of single-pair complex integral operators. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 3, 32–48; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 3, 26–41. (Vladimir Derkach) **99g:47049** 47B25 (47A10, 47G10)

Yavuz, İ. (*with* Yılmaz, İ.) Inheriting conformal and special conformal Killing vectors in string cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1295–1307. (Summary) **99c:83025** 83C40 (83E30)

Yawata, Makoto Geometric object fields and Lie derivative on the total space of a vector bundle. (French summary) *Mem. Sect. Ştiinţ. Acad. Română Ser. IV* **17** (1994), 51–64 (1997). (Mihai Anastasiei) **99a:53086** 53C60 (53C05)

Yaz, Edwin Engin (*with* Ray, Asok) Linear unbiased state estimation under randomly varying bounded sensor delay. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 27–32. (Summary) **99b:93047** 93E10 (93D15)

— Guaranteed-cost stabilization of non-linear stochastic systems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 1, 41–54. (Zoran Gajic) **99c:93117** 93E20 (93C55, 93D15)

— (*with* Yaz, Yvonne Ilke) On LMI formulations of some problems arising in nonlinear stochastic system analysis. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 813–816. 93E03 (93B40)

Yaz, Yvonne Ilke (*with* Yaz, Edwin Engin) On LMI formulations of some problems arising in nonlinear stochastic system analysis. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 813–816. 93E03 (93B40)

Yazdanpanah, M. J. (*with* Khorasani, K.; Patel, Rajnikant V.) Uncertainty compensation for a flexible-link manipulator using nonlinear H_∞ control. (English summary) *Internat. J. Control* **69** (1998), *no.* 6, 753–771. 93B36 (73K50, 93C85)

Yazenin, A. V. A method for solving a linear programming problem with random fuzzy data. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 5, 91–95. 90C70 (90C05)

Yazici-Pekergin, Nihal (*with* Fourneau, Jean-Michel; Verchère, Dominique) Réseaux généralisés multiclasses avec synchronisations cycliques. (English and French summaries) [Multiclass generalized networks with cyclical synchronization] Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 353–372. (Summary) **99f:90036** 90B22 (60K25)

Ycart, Bernard (*with* Van Cutsem, Bernard) Random dendrograms for classifiability testing. (English summary) *Data science, classification, and related methods (Kobe, 1996)*, 133–144, *Stud. Classification Data Anal. Knowledge Organ., Springer, Tokyo*, 1998. (*see* **99b:62002**) 62H30

— (*with* Beguin, M.; Gray, Lawrence F.) The load transfer model. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 337–353. (Pablo A. Ferrari) **99h:60163** 60K35 (68M20)

— (*with* Forbes, Florence) Counting stable sets on Cartesian products of graphs. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 105–116. (C. C. Rousseau) **99j:05093** 05C30 (05C55)

— (*with* Van Cutsem, Bernard) Indexed dendrograms on random dissimilarities. (English summary) *J. Classification* **15** (1998), *no.* 1, 93–127. (Tamas Lengyel) **99h:62085** 62H30

— *see also* **Denker, Manfred, 99k:62001**

Ye, A Zhong Allocation of the sample sizes in 3 or 4-stage sampling. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 11–14. 62D05

— An inner bound for the achievable rate region in hypothesis testing. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 10–13. 62H15 (94A17)

Ye, Bi Quan (*with* Shen, Yuan Tong; Yi, Xu Ming) Wavelet-collocation methods for solving a class of singular differential equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 517–521. 65L06 (42C15)

— (*with* Sun, Jianhua; Yi, Xu Ming; Shen, Yuan Tong) Wavelet-Galerkin solutions for differential equations. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 4, 403–406. (Summary) **99k:65066** 65L60 (42C15)

Ye, Chang Qing The existence of positive global solutions to a class of singular nonlinear elliptic equations. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 420–425. (Zuchi Chen) **99a:35078** 35J60 (35B40)

Ye, Dong Yi An extension of Zowe's subgradient algorithm. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **25** (1997), *no.* 4, 20–26. (Zun Quan Xia) **99a:90197** 90C30 (49J52)

Ye, Guoju (*with* Wu, Cong Xin) The McShane integral of Banach-valued functions defined on $\mathbf{R}^n$. I. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 140–144. (V. A. Skvortsov) **99h:28024** 28B05 (26A39, 26E20, 46G10)

Ye, Haiyan (*with* Vingralek, Radek; Breitbart, Yuri; Schek, H.-J.) Unified transaction model for semantically rich operations. (English summary) *Database theory—ICDT '95 (Prague)*, 148–161, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

Ye, Hong Xin (*with* Huang, Jian Hua[3]; Lu, Gang[2]) Finding periodic solutions to the spatially homogeneous Nagumo equation by the Adams-Bashforth difference scheme. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 4, 394–399. 65M06

Ye, Hui (*with* Michel, Anthony N.; Hou, Ling) Stability theory for hybrid dynamical systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 461–474. (Summary) **99c:93079** 93D05 (34H05)

— (*with* Michel, Anthony N.; Hou, Ling) Stability analysis of systems with impulse effects. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1719–1723. (Yuri V. Rogovchenko) **99k:34019** 34A37 (34D20, 93D05)

Ye, Jane Juan-Juan (*with* Zhu, Dao Li) A note on: "Optimality conditions for bilevel programming problems" [Optimization **33** (1995), no. 1, 9–27; MR 96f:90093]. (English summary) *Optimization* **39** (1997), *no.* 4, 361–366. (From the text) **99b:90114** 90C29 (90C31)

— New uniform parametric error bounds. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 197–219. (Wu Li) **99j:90095** 90C31 (49J52)

— (*with* Zhu, Qiji J.) Hamilton-Jacobi theory for a generalized optimal stopping time problem. *Nonlinear Anal.* **34** (1998), *no.* 7, 1029–1053. (E. N. Barron) **99f:49043** 49L20 (60G40)

Ye, Jia Chen (*with* Xu, Bao Xing) Some results on irreducible characters of algebraic groups. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 5–8. 20G05

Ye, Jian (*with* Tian, Fei-Ran) On the Whitham equations for the semiclassical limit of the defocusing nonlinear Schrödinger equation. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 6, 655–692. (Summary) **99m:35239** 35Q55 (35L80, 35Q05, 58F07)

Ye, Jianming (*with* Duan, Naihua) Nonparametric $n^{-1/2}$-consistent estimation for the general transformation models. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2682–2717. (Li-Xing Zhu) **99c:62124** 62G05 (62G07)

— On measuring and correcting the effects of data mining and model selection. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 120–131. (Summary) **99a:62097** 62J05

Ye, Jianqiao Error bounds on the eigenvalues of a linearized dynamic stiffness matrix. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 4, 305–312. (Summary) **99a:73089** 73K12

Ye, Kenny Q. Orthogonal column Latin hypercubes and their application in computer experiments. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1430–1439. (Summary) **99h:62101** 62K99

Ye, Mao The asymptotic behavior of a class of monotone flows. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 5, 557–559. (Summary) **99b:34079** 34C35 (34D05)

Ye, Maodong Near minimax polynomial approximation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 117–122. (Geng Zhe Chang) **99d:41011** 41A10

— Optimal error bounds for the cubic spline interpolation of lower smooth function. II. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 240. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 223–230. (Summary) **99f:65019** 65D07 (41A15)

Ye, Miao Lin (*with* Zhang, Ke Min[1]) A neighborhood union condition for vertex pancyclicity. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 79–86. (Zheng Sheng Wu) **99g:05117** 05C38

— (*with* Zhang, Ke Min[1]) On the critical domination numbers. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 95–97. (Summary) **99m:05081** 05C35

Ye, Pei Xin (*with* Liu, Qing Guo) Korovkin systems in spaces of set-valued functions. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 1–4. (Gen Sun Fang) **99j:41044** 41A36 (41A65)

Ye, Qi-xiao (*with* Li, Zheng-yuan; Tao, Ji-yuan) A mathematical analysis for a diffusive epidemic model with criss-cross dynamics. (English summary) *Differential equations and applications (Hangzhou, 1996)*, 183–193, *Internat. Press, Cambridge, MA*, 199?. (H. W. Hethcote) **99c:92055** 92D30 (35K57, 35Q80)

— (*with* Li, Zheng-yuan) The existence of positive periodic solutions and equilibrium solutions for reaction-diffusion systems—application of degree theory. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai, 1994)*, 92–101, *World Sci. Publishing, River Edge, NJ*, 1997. (Ioannis G. Stratis) **99k:35091** 35K57 (35B10, 47H15, 47N20, 58C30)

— *see also* **Symposium: Reaction-Diffusion Equations and Their Applications and Computational Aspects, 99f:00026**

Ye, Qiang (*with* Bai, Zhaojun) Error estimation of the Padé approximation of transfer functions via the Lanczos process. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 1–17 (*electronic*). (Summary) **99h:65074** 65F30 (41A21, 65F10)

Ye, Qin Singular perturbations of boundary value problems for impulsive vector differential equations. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 54–58. (Summary) **99c:34018** 34A37 (34B15, 34E15)

Ye, Qing Kai (*with* Liang, Zhi An) The discussion on algebraic properties of polynomial matrices. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 10, 951–956; *translated from Appl. Math. Mech.* **19** (1998), *no.* 10, 879–884 (*Chinese. English and Chinese summaries*). (Summary) **99m:15016** 15A30 (16S50)

Ye, Rui-song (*with* Yang, Zhong Hua[1]; Mahmood, Arshad) Extended systems for multiple S-breaking turning points in $Z_2 \times Z_2$-symmetric nonlinear problems. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **4** (1995), *no.* 2, 119–132. (Summary) **99i:58032** 58E09 (47H15)

— (*with* Yang, Zhong Hua[1]; Mahmood, Arshad) Fully discrete nonlinear Galerkin methods for Kuramoto-Sivashinsky equation and their error estimates. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 1, 20–27. (Summary) **99g:65096** 65M15 (35Q53, 65M60)

— (*with* Yang, Zhong Hua[1]) Classification of simple higher-order symmetry-breaking bifurcations and their computation. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 175–183. (Bernd Marx) **99f:58037** 58E07 (47H15, 47H17, 58E09, 65J05)

— A splitting iteration method for double X_0-breaking bifurcation points. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 267–274. (Ch'êng Shêng Chien) **99h:65109** 65H17 (58E07)

— A new approach for the computation of double symmetry-breaking turning points. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 1, 38–44. (Summary) **99h:65110** 65H17 (58E07)

Ye, Taiping (*with* Abikoff, William) Computing the Douady-Earle extension. (English summary) *Lipa's legacy (New York, 1995)*, 1–8, *Contemp. Math.*, 211, *Amer. Math. Soc.*,

Providence, RI, 1997. (Carsten Lunde Petersen) **99e:30011** 30C62 (30F45, 32G15)

Ye, Tian-qi (*with* Zhang, Xiao Song) Analysis of a boundary element method for singular integrals arising from three-dimensional potential problems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 271–275. 65R20 (45E05)

Ye, Wan Zhou (*with* Zhou, Xiang Quan) Some special kinds of maximal ideal rings. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 83–86. 16S99

Ye, Wei Zhang (*with* Wang, Song Gui) A matrix form of Wielandt's inequality and its application in statistics. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 18, 1930–1933. 15A45

Ye, Weiyin The variation of invariant lines and limit cycles for a quadratic differential system. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 384–391. (Jian Hua Sun) **99h:34053** 34C05

— (*with* Ye, Yanqian) The proof of the non-existence of limit cycles for a quadratic differential system. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 445–452. (Henryk Żołądek) **99j:34042** 34C05

Ye, X. *see* **Ye, Xiu**

Ye, Xiang Dong Tree maps with nondivisible periodic orbits. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 467–471. (Louis Block) **99f:58072** 58F03 (54H20, 58F20)

— The dynamics of a sequence of continuous maps and indecomposability. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 27–32. (Summary) **99b:54070** 54H20 (54C70, 54F15, 58F13)

Ye, Xiao Ping Existence of a global solution for a nonstrictly hyperbolic system of equations. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 5, 11–16. (Tie Hu Qin) **99a:35173** 35L65 (35L45)

— Existence and uniqueness of the solution for a resonant non-strictly hyperbolic conservation law system. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 3, 37–42. 35L65

Ye, Xing De A finite difference domain decomposition algorithm for the heat equation. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 2, 19–23. 65M55 (65M06)

Ye, Xiu Domain decomposition for a least-square finite element method for second order elliptic problem. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 233–242. (Zheng Hui Xie) **99f:65197** 65N55

— Domain decomposition for least-squares finite element methods for the Stokes equations. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 1, 45–53. (P. K. Mahanti) **99h:65199** 65N30 (76D07, 76M10)

— Two grid discretizations with backtracking of the stream function form of the Navier-Stokes equations. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 131–138. (Summary) **99k:76095** 76M10 (65M60, 76D05)

Ye, Xiuzi (*with* Nowacki, Horst; Jin, Feng[1]) A synthesis process for fair free-form surfaces. (English summary) *Geometric modeling: theory and practice (Blaubeuren, 1996)*, 32–51, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65026** 65D17

Ye, Xu Dong (*with* Jiang, Jing Ping) Adaptive nonlinear design without a priori knowledge of control directions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1617–1621. (Summary) **99h:93052** 93B51 (93C40)

Ye, Yangbo Kuznetsov formulas for generalized Kloosterman sums. *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1291–1317. (M. Ram Murty) **99e:11110** 11L05 (11F12, 11F72)

— Hyper-Kloosterman sums and estimation of exponential sums of polynomials of higher degrees. *Acta Arith.* **86** (1998), *no.* 3, 255–267. (John H. Loxton) **99i:11067** 11L05 (11L07)

— A Kloosterman sum in a relative trace formula for GL_4. (English summary) *Represent. Theory* **2** (1998), 370–392 (*electronic*). (Solomon Friedberg) **99j:11092** 11L05 (11F70, 22E55)

— A hyper-Kloosterman sum identity. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 11, 1158–1162. (Ronald J. Evans) **99m:11094** 11L05 (11R39)

— The lifting of an exponential sum to a cyclic algebraic number field of prime degree. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5003–5015. (Charles Helou) **99b:11092** 11L05

— Identities of incomplete Kloosterman sums. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2591–2600. (Ronald J. Evans) **99m:11095** 11L05 (11F70)

— (*with* Jacquet, Hervé) Germs of Kloosterman integrals for GL(3). (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1227–1255. (Solomon Friedberg) **99j:11053** 11F70 (11R39, 22E50)

Ye, Yanqian (*with* Han, Mao An) On the coefficients appearing in the expansion of Mel'nikov functions in homoclinic bifurcations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 156–162. (António Pumariño) **99e:34045** 34C23 (34C37, 58F21, 58F30)

— (*with* Ye, Weiyin) The proof of the non-existence of limit cycles for a quadratic differential system. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 445–452. (Henryk Żołądek) **99j:34042** 34C05

Ye, Yaojun Existence of global solutions for some nonlinear hyperbolic equation with a nonlinear dissipative term. (English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 3, 18–23. (Yun Mei Chen) **99e:35157** 35L70 (35B60)

Ye, Yi Ning (*with* Bu, Qing Ying; Ren, Li Wei[2]) Weak sequential completeness of Bochner function spaces $L_p(\mu, X)$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 559–564. (Summary) **99e:46046** 46E40

Ye, Yinyu (*with* Bertsimas, Dimitris) Semidefinite relaxations, multivariate normal distributions, and order statistics. *Handbook of combinatorial optimization, Vol.* 3, 1–19, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (90–02, 90C35)

— (*with* Andersen, Erling D.) A computational study of the homogeneous algorithm for large-scale convex optimization. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 3, 243–280. (M. Teboulle) **99e:90065** 90C25 (90C33)

— (*with* Fu, Minyue; Luo, Zhi-Quan) Approximation algorithms for quadratic programming. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 29–50. (Jos F. Sturm) **99f:90072** 90C20 (90C30)

— On the complexity of approximating a KKT point of quadratic programming. (English summary) *Math. Programming* **80** (1998), *no.* 2, *Ser. A*, 195–211. (Klaus Jansen) **99j:90057** 90C20 (90C60)

— (*with* Todd, Michael J.) Approximate Farkas lemmas and stopping rules for iterative infeasible-point algorithms for linear programming. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 1–21. (Levent Tunçel) **99h:90064** 90C05 (46N10)

— (*with* Bai, Er-Wei; Tempo, Roberto) Recent results on the analytic center approach for bounded error parameter estimation. (English summary) *Learning, control and hybrid systems (Bangalore, 1998)*, 245–253, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B30 (93B40)

— (*with* Bai, Er-Wei) Constrained logarithmic least squares in parameter estimation. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 182–186. 93E10 (93E12)

— (*with* Chen, Xiao Jun[1]) On homotopy-smoothing methods for box-constrained variational inequalities. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 589–616 (*electronic*). (Florian Jarre) **99j:90096** 90C33 (49J40)

Ye, Zheng Lin (*with* Meng, Ya Qin; Liu, Ke Xuan) Generation of C^1 parametric spline curves using piecewise affine transformations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 33–35. (Summary) **99d:65050** 65D17

Ye, Zhong Quan (*with* Zhang, Bang Li; Cao, Chang Xiu) Convergence analysis of minimax neural networks. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 1, 1–6. (Kaiqi Xiong) **99a:92003** 92B20 (49J35)

Yearsley, J. Hawks and doves in heterogeneous environments. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 99–108. (Summary) **99c:92050** 92D25

Yebdri, Mustapha (*with* Walther, Hans-Otto) Smoothness of the attractor of almost all solutions of a delay differential equation. (English summary) *Dissertationes Math. (Rozprawy Mat.)* **368** (1997), 72 *pp.* (Sjoerd M. Verduyn Lunel) **99d:58148** 58F32 (34K15)

Yebra, J. L. A. (*with* Rodriguez Velazquez, Juan Alberto) Bounding the diameter and the mean distance of a graph from its eigenvalues: Laplacian versus adjacency matrix methods. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 267–275. (Summary) **99h:05085** 05C50 (05C12)

Yechiali, Uri (*with* Eliazar, Iddo) Polling under the randomly timed gated regime. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 79–93. (Summary) **99b:60156** 60K25

— (*with* Benyamini, Zvi) Optimality of control limit maintenance policies under nonstationary deterioration. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 55–70. (Summary) **99i:90052** 90B25 (90B05)

Yechoui, Akila (*with* Djellit, Ali) Existence and non-existence of a principal eigenvalue for some boundary value problems. (English, French and Arabic summaries) *Maghreb Math. Rev.* **6** (1997), *no.* 1, 29–37. (Günter Berger) **99a:35050** 35J25 (35P15)

— (*with* Djellit, Ali) On maximum principle and existence of positive solutions for cooperative systems. (English, French and Arabic summaries) *Maghreb Math. Rev.* **6** (1997), *no.* 2, 137–143. (Maria J. Esteban) **99i:35033** 35J55 (35B05, 35B50)

Yedavalli, Rama K. (*with* Ashokkumar, C. R.) Eigenstructure perturbation analysis in disjointed domains for linear uncertain systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 887–899. 93B55

— (*with* Diwekar, Anjali M.) Robust controller design for matrix second-order systems with structured uncertainty. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 401–405. 93D21 (93B36)

Yedlin, Matthew J. (*with* Luo, Yong[1]) Polynomial time-marching for nonreflecting boundary problems. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 1, 31–50. (M. K. Kadalbajoo) **99b:65154** 65N35

Yee, Conway (*with* Maritz, Milton F.; Herman, Gabor T.) Recovery of the absorption coefficient from diffused reflected light using a discrete diffusive model. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 58–71 (*electronic*). (Summary) **99i:92009** 92C55

Yee, H. C. (*with* Sandham, N. D.; Djomehri, M. J.) Low-dissipative high-order shock-capturing methods using characteristic-based filters. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 199–238. (Summary) **99k:76104** 76M20

Yee, Jae Hyung Vortex solutions of a fermion Maxwell-Chern-Simons theory. (English summary) *Proceedings of International Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories (Seoul, 1998)*, 79–93, *Lecture Notes Ser.*, 42, *Seoul Nat. Univ., Seoul*, 1998. (Yisong Yang) **99h:58052** 58E50 (81T13)

— (*with* Lee, Hyuk-Jae[1]; Lee, Joo Youl) Vortex solutions of four-fermion theory coupled to a Yang-Mills-Chern-Simons gauge field. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087701, 4 *pp.* 81T13

Yee, Jung-Tay (*with* Rey, Soo-Jong) BPS dynamics of the triple (p, q) string junction. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 229–240. (Summary) **99h:81187** 81T30

— (*with* Rey, Soo-Jong; Theisen, Stefan) Wilson-Polyakov loop at finite temperature in large-N gauge theory and anti-de Sitter supergravity. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 171–186. (Summary) **99d:83098** 83E30 (81T30, 83E50)

Yefet, A. (*with* Turkel, Eli) Absorbing PML boundary layers for wave-like equations. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 533–557. (Introduction) **99g:78008** 78–08 (76M25, 76Q05)

Yegnanarayanan, V. (*with* Balakrishnan, Rangaswami; Sampathkumar, R.) Extremal graphs in some coloring problems. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 15–24. (Summary) **99a:05067** 05C35 (05C15)

Yeh, Arthur B. (*with* Montepiedra, Grace) Two-stage designs for model discrimination and parameter estimation. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design (Marseilles, 1998)*, 195–203, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05 (62J02)

— A bootstrap procedure in linear regression with nonstationary errors. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 149–160. (Zuzana Prášková) **99g:62053** 62G09 (62J05)

Yeh, Cheh-Chih (*with* Agarwal, Ravi P.; Hong, Huei-Lin) The existence of positive solutions for the Sturm-Liouville boundary value problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 89–96. (Summary) **99a:34044** 34B15 (47H15)

— (*with* Li, Horng-Jaan) Oscillation criteria for second-order neutral delay difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 123–132. (Summary) **99k:39054** 39A11 (39A10)

— (*with* Li, Horng-Jaan) Oscillation and nonoscillation criteria for second order linear differential equations. (English summary) *Math. Nachr.* **194** (1998), 171–184. (Ondřej Došlý) **99k:34069** 34C10

Yeh, Chi-Hsiang (*with* Varvarigos, Emmanouel A.) New efficient majority circuits for the computation of some basic arithmetic functions. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 114–136 (*electronic*). (*see* **99g:68005**) 68Q25

— (*with* Parhami, Behrooz) VLSI layouts of complete graphs and star graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 39–45. (Summary) **99h:68093** 68Q35 (68R10)

Yeh, Fang-Bo (*with* Yang, Ciann-Dong; Tai, Hung-Chun) Synthesis of robust-performance controllers using matrix experiments and analysis of variance. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1475–1498. 93B50

Yeh, Hong-Gwa (*with* Liaw, Sheng-Chyang; Hwang, Frank K.; Chang, Gerard J.) Enumerating partitions with given part-sizes. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 33–38. (Summary) **99b:11115** 11P81 (05A17)

— (*with* Chang, Gerard J.) Weighted connected domination and Steiner trees in distance-hereditary graphs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 245–253. (Gary MacGillivray) **99m:05129** 05C70 (05C05, 05C85)

— (*with* Chang, Gerard J.; Chen, Fu-Loong; Huang, Lingling; Hwang, Frank K.; Nuan, Su-Tzu; Rothblum, Uriel G.; Sun, I-Fan; Wang, Jan-Wen) Sortabilities of partition properties. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 413–427. (Summary) **99k:90129** 90C27 (90C10)

Yeh, Hsi-Han (*with* Juang, Jyh-Ching; Banda, Siva S.) Observer-based compensators for fixed-order H_∞ control. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 441–461. 93B36 (93B51)

Yeh, Li-Rong (*with* Hwang, Shin-Feng) Analysis of large deformation of a nonprismatic beam. (English summary) *Taiwanese J. Math.* **3** (1999), *no.* 1, 89–106. (Summary) **99m:73043** 73K05 (34B15, 73H05)

Yeh, Lina Inequalities for the maximal eigenvalue of a nonnegative matrix. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 275–284. (Gang Song Leng) **99b:15020a** 15A42 (15A48)

— Addendum to the paper: "Inequalities for the maximal eigenvalue of a nonnegative matrix". *Glasgow Math. J.* **40** (1998), *no.* 2, 297. (Gang Song Leng) **99b:15020b** 15A42 (15A48)

— (*with* Chien, Mao-Ting; Yeh, Yean-Tzuoh; Lin, Fun-Zin) On geometric properties of the numerical range. (English summary) *Linear Algebra Appl.* **274** (1998), 389–410. (Hiroshi Nakazato) **99b:15034** 15A60

Yeh, N. S. (*with* Shen, M. C.) Exact solution for forced capillary-gravity waves in a circular basin under Hocking's edge condition. (English summary) *Wave Motion* **26** (1997), *no.* 2, 117–126. (Frédéric Dias) **99e:76013** 76B15 (35C05, 76B45)

Yeh, Tzuoo-Hawn (*with* Kuo, Cheng-Ming; Lei, Chin-Laung; Yen, Hsu-Chun) Competitive source routing on tori and meshes. (English summary) *Algorithms and computation* (*Singapore*, 1997), 82–91, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68M10

— (*with* Kuo, Cheng-Ming; Lei, Chin-Laung; Yen, Hsu-Chun) Competitive analysis of on-line disk scheduling. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 491–506. (Summary) **99e:68074** 68Q25 (68N25)

Yeh, Yean-Tzuoh (*with* Chien, Mao-Ting; Yeh, Lina; Lin, Fun-Zin) On geometric properties of the numerical range. (English summary) *Linear Algebra Appl.* **274** (1998), 389–410. (Hiroshi Nakazato) **99b:15034** 15A60

Yeh, Yu-Rong (*with* Chang, Fu-Chuen) Exact A-optimal designs for quadratic regression. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 527–533. (Girdhar G. Agarwal) **99g:62104** 62K05

Yehia, H. M. New generalizations of the integrable problems in rigid body dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7269–7275. (Gennady Victorovich Gorr) **99a:70013a** 70E15

— Corrigendum: "New generalizations of the integrable problems in rigid body dynamics". *J. Phys. A* **31** (1998), *no.* 13, 3115. (Gennady Victorovich Gorr) **99a:70013b** 70E15

— New integrable problems of motion of a rigid body acted upon by nonsymmetric electromagnetic forces. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5819–5825. (Summary) **99c:70011** 70E15 (78A35)

— A new integrable problem in the dynamics of rigid bodies. *Mech. Res. Comm.* **25** (1998), *no.* 4, 381–383. (Igor Gashenenko) **99h:70016** 70E15 (58F07, 70H05)

— New integrable problems of motion of a particle in the plane under the action of potential and conservative zero-potential forces. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 859–865. (George Bozis) **99m:70014** 70H35 (70F99)

Yehorchenko, Irina *see* **Egorchenko, I. A.**

bar-Yehuda, Reuven *see* **Bar-Yehuda, Reuven**

Yekutieli, Amnon Smooth formal embeddings and the residue complex. (English summary) *Canad. J. Math.* **50** (1998), *no.* 4, 863–896. (Reinhold Hübl) **99i:14004** 14B20 (14B15, 14F10, 14F20)

— Residues and differential operators on schemes. *Duke Math. J.* **95** (1998), *no.* 2, 305–341. (Reinhold Hübl) **99j:14019** 14F40 (13N05, 14B10, 14F10)

Yemelichev, V. *see* **Emelichev, V. A.**

Yemets, V. F. *see* **Emets, V. F.**

Yen, C. C. *see* **Yen, Chien-Chang**

Yen, Chen-Te *see* **Yen, Chêng Tê**

Yen, Chen-Wen V. *see* **Yen, Vincent C.**

Yen, Chêng Tê Prime nonassociative rings with skew derivations. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 309–312. (Santos González) **99a:17004** 17A36

Yen, Chien-Chang (*with* Shann, Wei-Chang) On the tau-cycle condition. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 370–373. (Peter A. McCoy) **99d:42068** 42C15

— (*with* Shann, Wei-Chang) Matrices and quadrature rules for wavelets. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 435–446. (Summary) **99h:65043** 65D32 (42C15)

Yen, David H. Y. (*with* Abrouk, Nacer E.; Salehi, Habib) Approximation of distribution laws in population genetics governed by Fokker-Planck equations. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 3–15. (Dominique Lépingle) **99b:60075** 60H10 (60J70, 92D10, 92D25)

— (*with* Huang, Liying) A Gauss-Galerkin finite-difference method for singular partial differential equations in two space variables. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 331–355. (Reinhard Scholz) **99a:65108** 65M20 (65M60)

Yen, Gary (*with* Öz, Hayrani) Direct optimal control: a hybrid approach. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 193–212. 49N35 (93B52)

Yen, Hsu-Chun (*with* Yeh, Tzuoo-Hawn; Kuo, Cheng-Ming; Lei, Chin-Laung) Competitive source routing on tori and meshes. (English summary) *Algorithms and computation* (*Singapore*, 1997), 82–91, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68M10

— Priority conflict-free Petri nets. (English summary) *Acta Inform.* **35** (1998), *no.* 8, 673–688. (Summary) **99f:68147** 68Q90

— (*with* Yeh, Tzuoo-Hawn; Kuo, Cheng-Ming; Lei, Chin-Laung) Competitive analysis of on-line disk scheduling. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 491–506. (Summary) **99e:68074** 68Q25 (68N25)

Yen, J. *see* **Yen, Jerome**

Yen, Jeng (*with* Petzold, Linda R.; Raha, Soumyendu) A time integration algorithm for flexible mechanism dynamics: the DAE α-method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 341–355. (Summary) **99c:70012** 70E99 (34A09, 65L99, 70–08, 73K12, 73V20)

— (*with* Petzold, Linda R.) An efficient Newton-type iteration for the numerical solution of highly oscillatory constrained multibody dynamic systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1513–1534 (*electronic*). (Peter Kunkel) **99c:65140** 65L06 (34A09, 65L70, 70–08)

Yen, Jerome (*with* Lin, Chia-Hung; Szidarovszky, Ferenc) Dynamic negotiation with time-varying Pareto frontier. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 99–109. (Summary) **99a:90015** 90A05 (90D12)

Yen, John (*with* Wang, Liang) Extracting fuzzy rules for system modeling using a hybrid of genetic algorithms and Kalman filter. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 353–362. 93C42 (93E11)

Yen, K. K. (*with* Zhou, S. F.; Roig, G.) Extreme point result for robust stability of discrete systems with complex coefficients in a diamond. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 529–538. 93D09

Yen, N. D. *see* **Nguyễn Đông Yên**

Yen, Nai-Chyuan (*with* Huang, Norden E.; Shen, Zheng; Long, Steven R.; Wu, Manli C.; Shih, Hsing H.; Zheng, Quanan; Tung, Chi Chao; Liu, Henry H.) The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 903–995. (Summary) **99d:76082** 76M35 (62M10, 86–08)

Yen, Nguyen Dong *see* **Nguyễn Đông Yên**

Yen, Vincent C. (*with* Liu, Tsong-Zen) An inverse dynamics-based dynamic programming method for optimal control problems of linear systems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 363–370. 49L20 (49M30)

Yen, William C. K. (*with* Tang, Chuan Yi) An optimal algorithm for solving the searchlight guarding problem on weighted two-terminal series-parallel graphs. (English summary) *Acta Inform.* **36** (1999), *no.* 2, 143–172. (Summary) **99k:68085** 68Q25 (05C85, 68R10)

Yeo, Anders (*with* Gutin, Gregory; Sudakov, Benjamin) Note on alternating directed cycles. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 101–107. (Summary) **99d:05050** 05C38 (05C20, 05C85)

— (*with* Huang, Jing) Maximal and minimal vertex-critical graphs of diameter two. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 311–325. (Jaroslav Ivančo) **99i:05112** 05C35 (05C12)

— (*with* Bang-Jensen, Jørgen; Gutin, Gregory) A polynomial algorithm for the Hamiltonian cycle problem in semicomplete multipartite digraphs. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 111–132. (Cun-Quan Zhang) **99e:05084** 05C45 (05C20)

Yeo, Boon-Lock (*with* Calderbank, A. Robert; Daubechies, Ingrid C.; Sweldens, Wim) Wavelet transforms that map integers to integers. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 332–369. (Ahmed I. Zayed) **99h:94012** 94A12 (42C15, 94B60)

Yeo, Geoffrey F. (*with* Stefanov, Valeri T.) Explicit asymptotic results for open times in ion channel models. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 4, 947–964. (Uwe Rösler) **99e:60200** 60K20 (62E20, 92C45)

Yeo, K. S. (*with* Zhang, Yinglong; Khoo, B. C.; Chong, W. K.) Three-dimensional computation of bubbles near a free surface. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 105–123. (Summary) **99e:76078** 76M15

Yeom, Seung Wha (*with* Min, Kyung Jin) On the some properties of the limits sets. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **3** (1996), *no.* 2, 123–129. 54H20 (58F12)

Yeom, Yongjin (*with* Lee, Chang-Ock[2]; Lee, Jongwoo; Sheen, Dongwoo) A frequency-domain parallel method for the numerical approximation of parabolic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 19–29. (Summary) **99j:65157** 65M55 (65Y05)

Yeomans, Kevin D. (*with* Campbell, Stephen L.) Behavior of the nonunique terms in general DAE integrators. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **23** (1998), *no.* 2-4, 209–226. (J. R. Cash) **99j:65114** 65L05 (65L99)

— (*with* Campbell, Stephen L.; Hollenbeck, R.; Zhong, Yangchun) Mixed symbolic-numerical computations with general DAEs. I. System properties. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 73–83. (Summary) **99m:65150** 65L99 (34–04, 34A09)

Yeon, Kyu Hwang (*with* Walls, Dan F.; Um, Chung In; George, Thomas F.; Pandey, Lakshmi N.) Quantum correspondence for linear canonical transformations on general

Hamiltonian systems. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1765–1774. (Summary) **99e:81123** 81S30 (81S40)

Yéra, J.-C. (*with* Hassaïne, M.; Horváthy, P. A.) Non-relativistic Maxwell-Chern-Simons vortices. (English summary) *Ann. Physics* **263** (1998), *no.* 2, 276–294. (Giulio Soliani) **99f:81129** 81T13 (58E50)

— (*with* Horváthy, P. A.) Vortex solutions of the Liouville equation. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 2, 111–120. (Avinash Khare) **99k:58057** 58E50 (35Q40, 81T13)

Yeremin, A. Yu. *see* **Erëmin, A. Yu.**

prieto Yerro, Ángeles *see* **Prieto Yerro, Ángeles**

Yesha, Yaacov (*with* Kalpakis, K.) Upper and lower bounds on the makespan of schedules for tree dags on linear arrays. (English summary) *Algorithmica* **23** (1999), *no.* 2, 159–179. (Summary) **99i:68013** 68M20

Yeşilyurt, Serhat (*with* Kambourides, Miltos E.; Patera, Anthony T.) Non-parametric-validated computer-simulation surrogates: a Pareto formulation. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 971–1003. (Summary) **99e:90115** 90C90 (90C29)

Yetter, David N. (*with* Crane, Louis; Kauffman, Louis H.) State-sum invariants of 4-manifolds. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 177–234. (Summary) **99c:57049** 57N13

— Braided deformations of monoidal categories and Vassiliev invariants. (English summary) *Higher category theory* (*Evanston, IL*, 1997), 117–134, *Contemp. Math.*, 230, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99i:18014** 18D10 (57M25)

— (*with* Crane, Louis) Examples of categorification. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 1, 3–25. (R. Gylys) **99h:18009** 18D05 (16W30, 18D10, 57N13)

— (*with* Crane, Louis) Deformations of (bi)tensor categories. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 3, 163–180. (Sorin Dăscălescu) **99g:18004** 18D10 (17B37)

Yeung, Dit-Yan *see* **Theoretical aspects of neural computation, 99f:00027**

Yeung, M. C. (*with* Chan, Tony F. C.; Chow, Edmond Ten-Fu; Saad, Youcef) Preserving symmetry in preconditioned Krylov subspace methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 568–581 (*electronic*). (Summary) **99d:65102** 65F10 (65F50)

Yeung, M. K. Stephen (*with* Strogatz, Steven H.) Nonlinear dynamics of a solid-state laser with injection. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4421–4435. (Summary) **99h:78025** 78A60 (78A55)

Yeung, R. W. (*with* Nguyen, T. C.) Waves generated by a moving source in a two-layer ocean of finite depth. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 85–107. (Summary) **99m:76026** 76B15 (76C10, 76V05, 86A05)

— *see also* **Ocean mechanics, 99k:76006**

Yeung, Raymond W. (*with* Zhang, Zhen[1]) A non-Shannon-type conditional inequality of information quantities. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1982–1986. (Leandro Pardo) **99b:94014** 94A15

— (*with* Zhang, Zhen[1]) On characterization of entropy function via information inequalities. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1440–1452. (N. S. Kambo) **99m:94020** 94A17

— (*with* Zhang, Zhen[1]) On symmetrical multilevel diversity coding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 609–621. 94A29 (94A15)

Yew, A. C. (*with* Champneys, A. R.; McKenna, P. J.) Multiple solitary waves due to second-harmonic generation in quadratic media. (English summary) *J. Nonlinear Sci.* **9** (1999), *no.* 1, 33–52. (Summary) **99i:78025** 78A60 (34C37, 35Q51)

Yezzi, Anthony, Jr. (*with* Tannenbaum, Allen R.) Differential invariants and curvature flows in active vision. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 196–213, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Jayant M. Shah) **99c:68262** 68U10 (53A55, 93A30)

— (*with* Tannenbaum, Allen R.) Gradients, curvature, and visual tracking. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 375–390, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99g:49037** 49N55 (49Q20)

— (*with* Berg, Jordan; Tannenbaum, Allen R.) Curve evolution models for real-time identification with application to plasma etching. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 99–102. 93C20 (93C95)

Yger, Alain (*with* Vidras, Alekos) On asymptotic approximations of the residual currents. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4105–4125. (Daniel Barlet) **99c:32003** 32A27 (32C30, 32C38)

Yi, Bo (*with* Tao, Xianping; Cioni, G.; Colagrossi, A.) Intuitive minimal abduction in sequent calculi. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 209–219. (Summary) **99b:68179** 68T27 (03B70)

Yi, Byeong-uk Numbers and relations. (English summary) *Erkenntnis* **49** (1998), *no.* 1, 93–113. 03B65

— Is mereology ontologically innocent? *Philos. Stud.* **93** (1999), *no.* 2, 141–160. 03A05

Yi, Fa Huai A free boundary problem of type-I superconductivity. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 1, 48–57. (Summary) **99a:82101** 82D55 (35R35)

— (*with* Solonnikov, Vsevolod A.) A free boundary problem for viscous compressible flow associated with oxidation of silicon. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1013–1018. 35R35 (35Q35, 76N10)

— (*with* Shih, Tsi Min) Stefan problem with convection. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 139–154. (Summary) **99f:35213** 35Q99 (35K55, 80A22)

Yi, Heungsu Poisson integrals contained in harmonic Bergman spaces on upper half-space. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 51–58. (Jacqueline Detraz) **99g:31009** 31B10 (30D55, 30H05)

— (*with* Choe, Boo Rim) Representations and interpolations of harmonic Bergman functions on half-spaces. (English summary) *Nagoya Math. J.* **151** (1998), 51–89. (Richard Rochberg) **99k:31002** 31B05 (46E15, 47B38)

Yi, Hong Xun Uniqueness of entire functions that share real zeros and real ones. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 459–462. (Chung-Chun Yang) **99m:30067** 30D35

— (*with* Yang, Lian-Zhong) Meromorphic functions that share two sets. (English summary) *Kodai Math. J.* **20** (1997), *no.* 2, 127–134. (Martin Reinders) **99b:30050** 30D35

— Meromorphic functions with two deficient values. III. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 4, 361–366. (Chung-Chun Yang) **99f:30049** 30D35

— On a question of Gross concerning uniqueness of entire functions. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 343–349. (Fred Gross) **99c:30059** 30D35

Yi, Kwangkeun An abstract interpretation for estimating uncaught exceptions in Standard ML programs. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 147–173. (*see* **99a:68013**) 68N15 (68N20)

Yi, Le Function-theoretic methods for the composite systems of second order differential equations. (English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 4, 61–71. (Summary) **99d:35112** 35M20 (35C99)

— Mixed problems for a class of composite systems of second-order equations. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 2, 50–54. 35M20

Yi, Okyeon On locally nilpotent endomorphisms of Gorenstein injective modules. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 2, 56–64 (*electronic*). (John Clark) **99k:16012** 16D80 (16D50, 16P40)

Yi, Piljin (*with* Lee, Kimyeong) A family of $N = 2$ gauge theories with exact S-duality. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 157–178. (Summary) **99i:81243** 81T60 (81T13, 81T30)

— (*with* Weinberg, Erick J.) Explicit multimonopole solutions in SU(N) gauge theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046001, 11 *pp.* (Summary) **99k:81189** 81T13

— BPS mass, Dirichlet boundary condition, and the isotropic coordinate system. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066001, 5 *pp.* (Summary) **99k:81275** 81T30

— (*with* Lee, Kimyeong) Dyons in $N = 4$ supersymmetric theories and three-pronged strings. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066005, 15 *pp.* (Summary) **99k:81314** 81T60 (81T13, 81T30)

I'Yi, W. S. Correlators of currents corresponding to the massive p-form fields in AdS/CFT correspondence. (English summary) *Phys. Lett. B* **448** (1999), *no.* 3-4, 218–226. (Summary) **99m:81213** 81T30 (81T40, 83E30)

Yi, Wang (*with* Bengtsson, Johan; Jonsson, Bengt; Lilius, Johan) Partial order reductions for timed systems. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 485–500, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q55, 68Q68)

Yi, Xu Ming (*with* Shen, Yuan Tong; Ye, Bi Quan) Wavelet-collocation methods for solving a class of singular differential equations. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 517–521. 65L06 (42C15)

— (*with* Sun, Jianhua; Ye, Bi Quan; Shen, Yuan Tong) Wavelet-Galerkin solutions for differential equations. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 4, 403–406. (Summary) **99k:65066** 65L60 (42C15)

Yi, Xun (*with* Lam, Kwok Yan; Han, Yongfei) Differential cryptanalysis of a block cipher. (English summary) *Information security and privacy* (*Brisbane*, 1998), 58–67, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60

Yi, Y. *see* **Yi, Yingfei**

Yi, Yeong-Moo (*with* Park, Sang-Hoon; Youn, Sung-Kie) Asymptotic homogenization of viscoelastic composites with periodic microstructures. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 17, 2039–2055. (Summary) **99a:73014** 73B27 (73F15, 73K20)

Yi, Yingfei (*with* Sell, George R.; Shen, Wen Xian) Topological dynamics and differential equations. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 279–297, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Rafael Obaya García) **99a:34128** 34C27 (34C28, 54H20)

— (*with* Pan, Xing Bin) A variational problem of liquid crystals. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 1–31. (Ralph Saxton) **99f:76016** 76A15 (49J10, 76M30, 82D30)

— (*with* Shen, Wen Xian) Convergence in almost periodic Fisher and Kolmogorov models. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 84–102. (Ying Guo Lei) **99k:92037** 92D25 (35K57, 35Q80, 92D40)

— (*with* Shen, Wen Xian) Almost automorphic and almost periodic dynamics in skew-product semiflows. (English summary) *Mem. Amer. Math. Soc.* **136** (1998), *no.* 647, $x+93$ *pp.* (Russell A. Johnson) **99d:34088** 34D05 (34C27, 34C35, 35K55, 47H20, 54H20, 58F11)

Yi, Yuan Computation of the values of a special class of infinite series. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 5, 377–380, 411. 65D20

Yi, Zhao-Hua (*with* Tao, Jin-He; Huang, Tian Yi) First post-Newtonian angular momentum in relativistic celestial mechanics. (English summary) *Astrophys. Space Sci.* **254** (1997), *no.* 2, 173–186. (Summary) **99g:83023** 83C25 (70F15, 70H40)

Yi, Zhong Injective homogeneity and homological homogeneity of the Ore extensions. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 951. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 4, 433–442. (François Dumas) **99e:16011** 16E10 (16P40, 16S34, 16S36)

Yianilos, Peter N. (*with* Buss, Samuel R.) Linear and $O(n \log n)$ time minimum-cost matching algorithms for quasi-convex tours. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 170–201 (*electronic*). (Rainer Burkard) **99c:90144** 90C35 (68Q25, 68R10)

Yiannoutsos, Constantin (*with* Chen, Ming-Hui; Ibrahim, Joseph G.) Prior elicitation, variable selection and Bayesian computation for logistic regression models. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 223–242. (Summary) **99j:62101** 62J12 (62F15)

Yicang, Zhou *see* **Zhou, Yi Cang**

Yie, Mucai (*with* Liao, Xiaoxing; Zhang, Hangfu) Unique solvability of nonlinear systems in space $(\mathbf{R}^n, w(t))$. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 44–50. (S. N. Askhabov) **99h:45008** 45G10 (47H10, 47H30)

Yıldırım, Cem Y. (*with* Goldston, D. A.) Primes in short segments of arithmetic progressions. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 563–580. (John B. Friedlander) **99f:11118** 11N13

— *see also* **Number theory and its applications, 99g:11002**

Yildirim, Hüseyin B_n-metaharmonic semigroups of Bessel-n potentials generated by the generalized shift operators. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 501–512. (B. S. Rubin) **99g:47072** 47B38 (47D06)

Yıldız, Abdullah (*with* Arik, Metin; Kornfilt, J.) Random sets, q-distributions and quantum groups. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 318–322. (Pavel Šťovíček) **99a:81070** 81R50 (17B37, 81S99)

Yildiz, Bünyamin (*with* Kaçar, A.) Increase of accuracy of finite-differences system. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 35–52. (Summary) **99d:65230** 65L12

— (*with* Aykut, Arzu) On a boundary value problem for a differential equation with variant retarded argument. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 63–71. (Summary) **99c:34149** 34K10 (34A45, 65L10)

— (*with* Sever, Ali) On the inverse conductivity problem. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 91–96. (Giovanni Crosta) **99d:35179** 35R30 (80A23)

— On the analytical methods for the general linear boundary value problem. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 909–916. (Iulian Coroian) **99j:34021** 34B05 (34A45)

— (*with* Yagubov, G. Ya.) On an optimal control problem. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 275–287. (Summary) **99b:49032** 49M25 (49N55, 65M30, 81Q05)

Yildiz, Ismet Establishment of elliptic and quasi-elliptic functions by using a different method. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 171–174. 33E05

— On equalities among characteristic functions of first order theta function. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 177–184. (S. M. Sitnik) **99k:33064** 33E05 (11F27)

Yildiz, M. *see* **Yıldız, Mustafa**

Yıldız, Muhamet (*with* Sertel, Murat R.) The Lindahl solution with changing population and resources. (English summary) Axiomatics of resource allocation, 1. *Math. Social Sci.* **35** (1998), *no.* 2, 151–163. (Summary) **99i:90030** 90A27

— (*with* Sertel, Murat R.) Double-edged population monotonicity of Walrasian equilibrium—a note on the nature of competition. (English summary) *Math. Social Sci.* **37** (1999), *no.* 3, 235–251. (Summary) **99m:90040** 90A14 (90D05)

Yıldız, Mustafa (*with* Yilmaz, A.; Batir, N.) A note on idempotents of group algebra. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 175–182. 16S34 (16U99)

Yilmaz, A. (*with* Batir, N.; Yıldız, Mustafa) A note on idempotents of group algebra. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 175–182. 16S34 (16U99)

Yılmaz, İ. (*with* Yavuz, İ.) Inheriting conformal and special conformal Killing vectors in string cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1295–1307. (Summary) **99c:83025** 83C40 (83E30)

Yilmaz, Murteza On a generalization of theorem of Christoffel. (English summary) *Pure Appl. Math. Sci.* **49** (1999), *no.* 1-2, 39–43. 53B25

Yilmaz, R. (*with* Cahit, I.) E-cordial graphs. (English summary) *Ars Combin.* **46** (1997), 251–266. (J. Mitchem) **99b:05124** 05C78

şahiner Yilmaz, Y. *see* **Şahiner Yilmaz, Y.**

Yim, Jin-Whan (*with* Han, Dong-Soong) Unit vector fields on spheres, which are harmonic maps. *Math. Z.* **227** (1998), *no.* 1, 83–92. (Anne-Joëlle Vanderwinden) **99c:58044** 58E20 (57R25)

Yin, Bao Qun (*with* Zhou, Ya Ping) Sensitivity formulas for the performance of open queueing networks. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 1, 27–32. 60K25

Yin, Baocai (*with* Shi, Xi Quan[2]; Wang, Tianjun) Splines on generalized quasi-cross-cut partitions. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 139–147. (Summary) **99h:41016** 41A15 (65D07)

— (*with* Gao, Wen) A radial basis function interpolation surface. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 63–68. (Summary) **99m:65040** 65D17 (65D05)

Yin, Bin (*with* Zhao, Xiao Hui[2]; Feng, Chun Bo) Adaptive tracking control of time-varying systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 784–789. 93C40 (93D21)

Yin, Chang Ming (*with* Liu, Lan Zhe) Weighted Lorentz norm inequalities for generalized maximal operators. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 39–42. (Summary) **99b:42026** 42B25

Yin, Chao Yang *see* **Yin, Zhao Yang**

Yin, Chuan Cun (*with* Zhao, Xue Lei) Joint density of hitting time and point to an ellipse for Brownian motion. *Chinese Sci. Bull.* **42** (1997), *no.* 24, 2054–2058. (Zoran Vondraček) **99j:60124** 60J65 (60G40)

— (*with* Zhao, Xue Lei) Joint density of hitting time and point to an ellipse for Brownian motion. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 18, 1931–1934. 60J65

— (*with* Jiang, Zhao Lin) Equivalent conditions for the finiteness of gauge. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 299–308. (Zhong Xin Zhao) **99e:60168** 60J45

— (*with* Xie, Shu Heng) The joint distribution of the infimum and its location for a transient Brownian motion. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 13–15. 60J65

Yin, Dong Sheng Relative Riordan groups and three generalized identities. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **39** (1999), *no.* 1, 6–11. 05A19

Yin, Gang George (*with* Li, Xin[3]; Yin, Kewen; Zhang, Qing[1]) A numerical study of singularly perturbed Markovian systems. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 127–135, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 60J27 (65C05)

— (*with* L'Ecuyer, Pierre) Budget-dependent convergence rate of stochastic approximation. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 217–247 (*electronic*). (Michel Benaïm) **99f:60049** 60F05 (62L20, 93E15)

— (*with* Kniazeva, M.) Singularly perturbed multidimensional switching diffusions with fast and slow switchings. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 605–630. (Qing Zhang) **99m:60123** 60J60

Yin, Guo Min (*with* Zhang, Cheng[2]) Embeddings of ordered sets and anti-fuzzy subgroups. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 20–23. 20N25 (04A72)

Yin, Hong-Ming (*with* Ding, Shi Jin; Tao, You Shan) A chemical diffusion process with reaction taking place at free boundary. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 1, 49–74. (Alberto Valli) **99d:35183** 35R35 (35K57, 80A32)

— (*with* Cannon, John R.) Blowup of solutions for parabolic equations with nonlocal functionals. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 285–298. (Summary) **99a:35114** 35K55 (35B05, 35R25)

Yin, Hong Xia (*with* Han, Ji Ye) Some sufficient conditions for the global convergence of the DFP algorithm. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 179–186. (Kang Hoh Phua) **99f:90141** 90C30 (65K05)

— (*with* Han, Ji Ye; Liu, Guang Hui) Convergence properties of conjugate gradient methods with strong Wolfe linesearch. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 112–116. (Summary) **99a:90188** 90C30 (65K05)

Yin, Hong You (*with* Zhang, Ke Cun) Fritz John type conditions in quasidifferentiable programming with equality constraints and their sufficiency. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 99–104. (Summary) **99d:90122** 90C30 (49J52)

Yin, Hui Cheng Energy densities of semilinear wave equations with oscillatory initial data. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1052–1064. (Valery Covachev) **99c:35169** 35L70 (35A27, 35B40)

— Global existence of H^2 strong solutions to compressible Navier-Stokes equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 19–24. (Summary) **99c:35190** 35Q30 (76N10)

— (*with* Qiu, Qing Jiu) Axisymmetric $H^1(\mathbf{R}^3)$ solutions for the 3-D incompressible Euler equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 29–38. (Cun-Zheng Wang) **99d:35132** 35Q30 (76C05)

— (*with* Qiu, Qing Jiu) The lifespan of solutions to 3-D spherically symmetric compressible Euler equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 757–762. (Ming Mei) **99m:35191** 35Q30 (35L60, 76N10)

— The uniform existence of solutions for two-dimensional and three-dimensional semilinear wave equations with oscillatory data. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 195–198. 35L70

Yin, Jian Xing (*with* Colbourn, Charles J.) On directed incomplete transversal designs with block size five. (English summary) *Ars Combin.* **50** (1998), 215–224. (Summary) **99i:05028** 05B05

— (*with* Assaf, Ahmed M.; Shalaby, Nabil) Directed packings with block size 5. (English summary) *Australas. J. Combin.* **17** (1998), 235–256. (Summary) **99d:05019** 05B40

— (*with* Shalaby, Nabil) Nested optimal λ-packings and λ-coverings of pairs with triples. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 271–278. (Sanpei Kageyama) **99k:05056** 05B40

— Some combinatorial constructions for optical orthogonal codes. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 201–219. (Summary) **99j:94079** 94B60

— (*with* Assaf, Ahmed M.) Constructions of optimal packing designs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 245–260. (Summary) **99g:05025** 05B05

— (*with* Bennett, Frank E.; Shalaby, Nabil) Existence of directed GDDs with block size five. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 389–402. (Summary) **99j:05020** 05B05

Yin, Jingxue Some properties of solutions for a nonlinear diffusion system. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 199–209, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:35060** 35K55

— (*with* Wu, Zhuoqun; Yuan, Hong Jun) Some properties of solutions for a system of dynamics of biological groups. *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1389–1403. (From the introduction) **99h:35097** 35K55 (35D05, 35Q80, 92D25)

— (*with* Wu, Zhuoqun) Correction to: "Some properties of functions in BV_x and their applications to the uniqueness of solutions for degenerate quasilinear parabolic equations" [Northeast. Math. J. **5** (1989), no. 4, 395–422; MR 91j:35153]. *Northeast. Math. J.* **14** (1998), *no.* 1, 126. 35K65 (46E15)

Yin, Kewen (*with* Li, Xin[3]; Yin, Gang George; Zhang, Qing[1]) A numerical study of singularly perturbed Markovian systems. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 127–135, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 60J27 (65C05)

Yin, Ling (*with* Song, Qing; Soh, Yeng Chai) Shifting of the center of radial basis function neural network in the presence of disturbance. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 1, 43–53. 92B20

Yin, Linsheng On the cyclotomic units in function fields. Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 198–202. (*see* **99a:11003**) 11R58 (11G09, 11R27)

Yin, Ming (*with* Ghosh, Malay) A note on the probability difference between matching priors based on posterior quantiles and on inversion of conditional likelihood ratio statistics. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 57–65. (Gary Nan Tie) **99i:62055** 62F15

Yin, Qiao Feng Solutions of the constrained and weighted linear least squares problem. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 209–214. 65F10 (65N55)

Yin, Qinghe On the structure of the attractors of hyperbolic iterated function systems. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 2, 152–156. (Summary) **99c:28030** 28A80

— (*with* Brown, Gavin[1]) Inequalities arising from measure theory. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 459–473. (Summary) **99g:28002** 28A12 (26D20)

Yin, Qun (*with* Hong, You Cheng) Periodic solutions of a class of Birkhoffian equations. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 252–257. (Summary) **99c:34084** 34C25 (58F22, 70K99)

Yin, Wei Ping (*with* Tong, Wu) Invariant Kähler metrics and curvatures on a class of pseudoconvex domains. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 831–838. (Shanyu Ji) **99c:32004** 32C17 (32F15, 32H15)

— A comparison theorem for the Bergman metrics and the Kobayashi metrics on a class of pseudoconvex domains. (Chinese. English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 4, 323–334. (Xiao Jun Huang) **99e:32038** 32H15

— The Einstein-Kähler metrics with explicit forms on a class of egg domains. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 2, 99–109. (Summary) **99i:32034** 32L07 (32F15)

Yin, William K. C. (*with* Henderson, Johnny) Focal boundary-value problems for singular ordinary differential equations. *Advances in nonlinear dynamics*, 283–295, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Jun Yu Wang) **99b:34043** 34B15 (47N20)

— (*with* Henderson, Johnny) Positive solutions and nonlinear multipoint conjugate eigenvalue problems for functional-differential equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 19–28. (S. G. Deo) **99j:34091** 34K10 (34K15)

— (*with* Chyan, Chuan Jen; Davis, John M.; Henderson, Johnny) Eigenvalue comparisons for differential equations on a measure chain. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 35, 7 *pp.* (*electronic*). (Allan C. Peterson) **99m:34029** 34B10 (34B15, 39A10)

— (*with* Henderson, Johnny) Singular $(k, n-k)$ boundary value problems between conjugate and right focal. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 57–69. (Alexander Haščák) **99a:34056** 34B15

Yin, Y. *see* **Yin, Yunfeng**

Yin, Yiqun (*with* Kao, Ming-Yang; Ma, Yuan; Sipser, Michael) Optimal constructions of hybrid algorithms. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 142–164. (Evangelos Kranakis) **99i:68054** 68Q20

Yin, Yong (*with* Maddala, G. S.) Outliers, unit roots and robust estimation of nonstationary time series. *Robust inference*, 237–266, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62M10 (62F35)

Yin, Yong Cheng The topology of Julia sets for geometrically finite polynomials. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 142. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 77–80. (Fuyao Ren) **99j:58179** 58F23 (30D05)

— Julia sets of Cremer mappings. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 15, 1604–1607. 30D05

Yin, Yunfeng (*with* Mohapatra, Ram Narayan; Vajravelu, K.) An improved quasilinearization method for second order nonlinear boundary value problems. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 55–62. (Summary) **99e:34026** 34B15 (34A45)

— (*with* Mohapatra, Ram Narayan; Vajravelu, K.) Cubic and quartic convergence for first-order periodic boundary-value problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 465–480. (Alberto Cabada) **99h:34021** 34A45 (34B15)

Yin, Zhao Yang The application of compensated compactness to singularly perturbed systems of conservation laws. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 5, 23–28. (L. Hsiao) **99a:35174** 35L65 (35B25)

— (*with* Ding, Wei) An estimate of the Hausdorff dimension of a uniform attractor for a class of nonautonomous reaction-diffusion equations with a quasiperiodic external force. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 4, 14–19. (Summary) **99f:35093** 35K57 (34G20, 35B99, 47H20, 58F39)

Yin, Zheng (*with* Ooguri, Hirosi) Lectures on perturbative string theories. (English summary) *Fields, strings and duality (Boulder, CO, 1996)*, 5–81, *World Sci. Publishing, River Edge, NJ*, 1997. (Isabel P. Ennes) **99c:81205** 81T30 (83E30)

— (*with* de Boer, Jan; Hori, Kentaro; Ooguri, Hirosi; Oz, Yaron) Mirror symmetry in three-dimensional gauge theories, SL(2, **Z**) and D-brane moduli spaces. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 148–176. (Summary) **99c:81231** 81T60 (14J32, 81R10, 81T13, 81T30)

— (*with* de Boer, Jan; Hori, Kentaro; Oz, Yaron) Branes and mirror symmetry in $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 107–124. (Summary) **99j:81179** 81T60 (81T13, 81T30)

— (*with* Cheung, Yeuk-Kwan E.) Anomalies, branes, and currents. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 69–91. (Angel Maria Uranga) **99d:81148** 81T50 (81T30, 83E30)

— (*with* Aharony, Ofer; Oz, Yaron) M theory on $AdS_p \times S^{11-p}$ and superconformal field theories. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 87–93. (Summary) **99c:81157** 81T30 (81T40, 83E30)

Yin, Zheng Qi (*with* Qiu, Zu Lian; Zhang, Gui Hong) The configuration and design of an estimator for disturbance. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 631–635. 93E10

Ying, Hao Analytical structure of the typical fuzzy controllers employing trapezoidal input fuzzy sets and nonlinear control rules. (English summary) *Inform. Sci.* **116** (1999), *no.* 2-4, 177–203. 93C42

Ying, Ji (*with* Chen, Wei Qiu; Chen, Zi Chen) A variational principle for a coupled thermoelastic contact problem. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 41–45, *III.* 73B30 (73T05)

Ying, Jiang Qian Conditions for strong stabilizabilities of n-dimensional systems. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 2, 125–148. (Summary) **99d:93061** 93D15 (93C30)

Ying, Jiangang Lévy processes and homogeneous killing transformation. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 405–409. (Mamoru Kanda) **99c:60164** 60J45 (60J30)

— The Feynman-Kac formula for symmetric Markov processes. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 527. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 293–300. (Wilhelm Stannat) **99c:60161** 60J40 (31C25, 60J57)

— Dirichlet forms perturbated by additive functionals of extended Kato class. *Osaka J. Math.* **34** (1997), *no.* 4, 933–952. (Wilhelm Stannat) **99e:60173** 60J55 (31C25, 47D07, 60J75)

— Strong subordination of symmetric Dirichlet forms. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 142. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 81–86. (Lucian Beznea) **99c:60165** 60J45 (31B15, 31C25, 60J65)

— Remarks on h-transform and drift. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 658. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 473–478. (Yoichi Oshima) **99k:60196** 60J45 (31C25, 60J57)

— Revuz measures and related formulas on energy functional and capacity. (English summary) *Potential Anal.* **8** (1998), *no.* 1, 1–19. (Summary) **99k:60194** 60J40 (60J45, 60J57)

Ying, Li Yi (*with* Guo, Wei Juan) A matrix algorithm for bivariate matrix-valued rational interpolants. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 3, 328–332. 65D15 (15A09, 41A05)

Ying, Long An Nonlinear stability of difference schemes for shock waves. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 230–236, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 65M12 (35L67, 65M06)

— Asymptotic stability of discrete shock waves for the Lax-Friedrichs scheme to hyperbolic systems of conservation laws. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 3, 437–468. (Riccardo Fazio) **99a:65103** 65M06 (35L65)

— High order regularity for interface problems. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 459–476. (Xi Ting Liang) **99a:35047** 35J15 (35D10)

— Vortex method for two-dimensional Euler equations in bounded domains with boundary correction. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1383–1400. (Ivan K. Lifanov) **99a:76124** 76M25 (65M60, 76C99)

— (*with* Yang, Tong; Zhu, Changjiang) Nonlinear stability of strong detonation waves for a dissipative model. (English summary) *J. Differential Equations* **151** (1999), *no.* 1, 134–160. (Roberto Natalini) **99k:76091** 76L05 (35K99, 80A25)

Ying, Ming Integral representations of operators and attainability of norms on the set of extreme points. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 64–66. (Kung-fu Ng) **99f:46015** 46A55 (46E99, 47A30, 47B38)

Ying, Ming Sheng Compactness in fuzzy logic. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 14, 1166–1171. (Summary) **99g:03027** 03B52

— The compactness property for fuzzy logic. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 4, 379–383. 03B52

— (*with* Lu, Ruqian) A model of reasoning about knowledge. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 527–534. (Guo-Qiang Zhang) **99m:68187** 68T27 (03B45, 03B70)

— A shorter proof to uniqueness of solutions of equations. (English summary) *Theoret. Comput. Sci.* **216** (1999), *no.* 1-2, 395–397. (Summary) **99k:68065** 68Q10 (68Q55, 68Q60)

Ying, Yi Rong (*with* Dang, Xin Yi) A coefficient criterion for the existence and uniqueness of limit cycles of a class of planar cubic systems. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 3, 223–229. (Xue Min Li) **99a:34092** 34C05

Ying, Zhao Zhen (*with* De Souza, Robert) Intelligent control paradigm for dynamic discrete event system simulation. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 65–73. 93C83 (93C95)

Yip, Nung Kwan Stochastic motion by mean curvature. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 4, 313–355. (Matteo Novaga) **99m:60100** 60H30 (35K99, 35R60, 49Q20, 58E99)

— Existence of dendritic crystal growth with stochastic perturbations. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 5, 491–579. (Giovanni Bellettini) **99f:58061** 58E50 (49J45, 49Q20, 60H15, 73B30)

Yip, P. Patrick (*with* Stotskiĭ, A. A.; Hedrick, J. Karl) The use of sliding modes to simplify the backstepping control method. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 123–133. (Summary) **99c:93020** 93B12

— (*with* Stotskiĭ, A. A.; Hedrick, J. Karl) A universal stabilizing controller for a cascade dynamical system. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 315–318. 93D15 (93A20)

— (*with* Hedrick, J. Karl) Adaptive dynamic surface control: a simplified algorithm for adaptive backstepping control of nonlinear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 959–979. (Hua Lin Tan) **99h:93060** 93C40 (93B40, 93B51, 93C10)

Yip, Paul S. F. (*with* Chen, Qizhi) Statistical inference for a multitype epidemic model. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 229–244. (Summary) **99f:62124** 62P10 (62M09)

— (*with* Lloyd, Christopher J.; Chan, Kung Sik) A comparison of recapture, removal and resighting designs for population size estimation. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 363–375. 62F10 (62D05)

— (*with* Lin, D. Y.) Parametric regression models for continuous time removal and recapture studies. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 401–411. 62J12

Yi Ru, Huang *see* **Huang, Yi Ru**

Yiu, Paul Isosceles triangles equal in perimeter and area. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 2, 106–111. (Summary) **99d:51022** 51M25

— Construction of indecomposable Heronian triangles. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1189–1202. (Andrew Bremner) **99i:11017** 11D09 (51M25)

Yiu, Xiu Ying *see* **You, Xiu Ying**

Ylinen, Kari (*with* Lahti, Pekka J.; Pulmannová, Sylvia) Coexistent observables and effects in a convexity approach. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6364–6371. (D. J. Foulis) **99j:81020** 81P15

— (*with* Lahti, Pekka J.; Mączyński, Maciej) The moment operators of phase space observables and their number margins. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 319–331. (Constantin Syros) **99m:81118** 81S30 (28B99, 47N50)

Ylönen, Tatu (*with* Soisalon-Soininen, Eljas) Partial strictness in two-phase locking. (English summary) *Database theory—ICDT '95 (Prague)*, 139–147, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68Q10)

Ymeri, Hasan M. On the estimate the L_2 and L_∞ norm of the error for the initial value problems. (English summary) *Note Mat.* **15** (1995), *no.* 1, 121–127 (1997). (Introduction) **99a:34065** 34B15 (34A12)

— A new method for approximating sums by means of complex integration. (English summary) *Punjab Univ. J. Math. (Lahore)* **28** (1995), 69–82. (Summary) **99a:65012** 65B15

— A parameter choice for minimizing the error bound of Tikhonov regularization method. (English summary) *Note Mat.* **16** (1996), *no.* 1, 1–8 (1998). (Summary) **99j:65110** 65J20

Yngvason, Jakob (*with* Lieb, Elliott H.) A guide to entropy and the second law of thermodynamics. *Notices Amer. Math. Soc.* **45** (1998), *no.* 5, 571–581. (Renuka Datta) **99c:80002** 80A05 (82B03)
— (*with* Lieb, Elliott H.) The physics and mathematics of the second law of thermodynamics. (English summary) *Phys. Rep.* **310** (1999), *no.* 1, 96 *pp.* (Kuppuswamy Porsezian) **99m:80006** 80A10 (80A15, 80A20)
Yo, Hwei-Jang (*with* Chen, Hsin; Nester, James M.) Acausal PGT modes and the nonlinear constraint effect. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 961–970. (Summary) **99k:83105** 83D05 (83C99)
Yo, Mizuta Interaction of fluids and magnetic fields in free surface problems for magnetic fluids. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 238–247. (*see* **99f:76003**) 76B99 (76W05)
Yoccoz, Jean-Christophe Recent developments in dynamics [MR 98e:58146]. *Fields Medallists' lectures*, 588–609, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 58Fxx (54H20)
— (*with* Le Calvez, Patrice) Un théorème d'indice pour les homéomorphismes du plan au voisinage d'un point fixe. (English summary) [An index theorem for homeomorphisms of the plane near a fixed point] *Ann. of Math.* (2) **146** (1997), *no.* 2, 241–293. (L. Guillou) **99a:58129** 58F20 (55M20)
— *see also* **Douady, Adrien**, (**99b:00010**)
Yoden, Shigeo (*with* Akahori, Koji) Rossby breakers in the vicinity of the mid-latitude convective tropopause. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 231–241. (*see* **99a:00032**) 76C20 (86A10)
Yohai, Víctor J. (*with* Simpson, Douglas G.) Functional stability of one-step GM-estimators in approximately linear regression. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1147–1169. (P. Laurie Davies) **99i:62078** 62G05 (62J02)
— (*with* Gervini, Daniel) Robust estimation of variance components. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 3, 419–430. 62F35
Yokoi, Katsuya On the shape asphericity of compacta. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 249–264. (Summary) **99g:55014** 55P55 (55Q07)
Yokoi, Naoto (*with* Kubota, Takahiro) Renormalization group flow near the superconformal points in $N = 2$ supersymmetric gauge theories. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 2, 423–436. (Summary) **99h:81141** 81T17 (81T13, 81T60)
Yokomatsu, Daisaku (*with* Ushijima, Teruo) Determination of the leading terms in conformal mapping of wings by means of finite element calculations. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 118–124. (*see* **99i:00028**) 76B05 (30C30, 65E05, 76M10)
Yokomichi, Masahiro (*with* Shima, Masasuke) Another approach to asymptotic model matching problem for nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 13, 1119–1131. (Summary) **99h:93035** 93B30 (93B51, 93C10)
Yokomori, Takashi (*with* Head, Tom; Kobayashi, Satoshi[2]) Locality, reversibility, and beyond: learning languages from positive data. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 191–204, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q45)
— (*with* Uemura, Yasuo; Hasegawa, Aki; Kobayashi, Satoshi[2]) Tree adjoining grammars for RNA structure prediction. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 277–303. (Itsuo Takanami) **99j:68076** 68Q50 (68Q45, 92D20)
Yokono, Takashi (*with* Nakatsu, Toshio; Ohta, Kazutoshi; Yoshida, Yuhsuke) Higgs branch of $N = 2$ SQCD and M-theory branes. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 159–179. (Daniel N. Kabat) **99g:81214** 81T60 (81T13)
— (*with* Nakatsu, Toshio; Ohta, Kazutoshi) Baryonic branch root of $N = 2$ M-theory fivebrane description of QCD. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026003, 10 *pp.* (Summary) **99k:81265** 81T30 (81T60, 81V25)
Yokota, Hisashi Corrigendum: "On number of integers representable as a sum of unit fractions. II" [J. Number Theory **67** (1997), no. 2, 162–169; MR 98k:11031]. *J. Number Theory* **72** (1998), *no.* 1, 150. 11D68 (11D85, 11N37)
Yokota, Ichiro 2-graded decompositions of exceptional Lie algebras $\mathfrak{g}$ and group realizations of $\mathfrak{g}_{ev}$, $\mathfrak{g}_0$. I. $G = G_2, F_4, E_6$. *Japan. J. Math.* (*N.S.*) **24** (1998), *no.* 2, 257–296. (Gordon E. Brown) **99k:17049** 17B70 (17B25, 22E60)
— (*with* Miyasaka, Takashi; Yasukura, Osami) Diagonalization of an element P of $\mathfrak{P}^C$ by the compact Lie group E_7. *Tsukuba J. Math.* **22** (1998), *no.* 3, 687–703. (Mark R. Sepanski) **99k:22013** 22E15
Yokota, J. W. A kinematic velocity decomposition of stratified flow. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 2, 121–135. (Summary) **99d:76096** 76V05 (76C99)
Yokouchi, Hirofumi Completeness of type assignment systems with intersection, union, and type quantifiers. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 368–379, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03015** 03B40 (68N15)
Yokoyama, Jun'ichi Chaotic new inflation and formation of primordial black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 083510, 9 *pp.* 83C57 (83F05)
Yokoyama, Kazuhiro (*with* Kogure, Jun; Izu, Tetsuya) Mounting an improved Schoof algorithm according to Atkin, Elkies et al. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 230–243. (*see* **99h:00034**) 11G05 (11Y16, 14G25)
Yokoyama, Koichiro Asymptotic completeness for Hamiltonians with time-dependent electric fields. Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 72–75. (*see* **99a:00049**) 81V10 (35J10, 81U05)
— Mourre theory for time-periodic systems. (English summary) *Nagoya Math. J.* **149** (1998), 193–210. (Vladimir Georgescu) **99b:81049** 81Q10 (35J10, 47A40, 47N50, 81U05)
— Asymptotic completeness for Hamiltonians with time-dependent electric fields. *Osaka J. Math.* **36** (1999), *no.* 1, 63–85. (L. V. Kritskov) **99m:35182** 35P25 (35J10, 47A40, 47N50, 81Q10)
Yokoyama, Misako (*with* Takeuchi, Yoshihiro) The realizations of the amalgamated free products of 3-orbifold fundamental groups. (English summary) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 166–178. (*see* **99e:30001**) 57M05 (20F38, 57M07)
Yokoyama, Mitsuo (*with* Ito, Hiro) Linear time algorithms for graph search and connectivity determination on complement graphs. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 209–213. (Summary) **99c:68194** 68R10 (68P05)
— (*with* Ito, Hiro) Edge connectivity between nodes and node-subsets. (English summary) *Networks* **31** (1998), *no.* 3, 157–163. (D. de Werra) **99d:90045** 90B10 (05C40)
Yokoyama, Takahisa Tests for a family of random-effects covariance structures in a multivariate growth curve model. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 281–292. (Dietrich von Rosen) **99j:62081** 62H15 (62H10)
Yokura, Shoji (*with* Ernström, Lars; Ohmoto, Toru) On topological Radon transformations. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 3, 235–254. (Gary P. Kennedy) **99a:14011** 14C40 (32S60)
— (*with* Ohmoto, Toru; Suwa, Tatsuo) A remark on the Chern classes of local complete intersections. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 5, 93–95. (Gary P. Kennedy) **99b:32053** 32S20 (14M10)
Yomba, Emmanuel (*with* Kofané, Timoléon C.) On exact solutions of modified complex Ginzburg-Landau equation. (English summary) *Phys. D* **125** (1999), *no.* 1-2, 105–122. (Summary) **99j:35213** 35Q55 (35C05, 76E30)
Yomdin, Yosef (*with* Briskin, Miriam; Françoise, Jean-Pierre) Une approche au problème du centre-foyer de Poincaré. (English and French summaries) [An approach to Poincaré's center-focus problem] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1295–1298. (Robert Roussarie) **99j:34030** 34C05 (34C29, 34E05, 58F21)
— (*with* Briskin, Miriam; Françoise, Jean-Pierre) The Bautin ideal of the Abel equation. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 431–443. (Lubomir Gavrilov) **99d:58128** 58F14 (34C05)
Yon, Yoon J. (*with* Chen, Zhangxin; Kwak, Do Y.) Multigrid algorithms for nonconforming and mixed methods for nonsymmetric and indefinite problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 502–515 (*electronic*). (Summary) **99b:65140** 65N30 (65F10, 65N22)
Yoneda, Gen (*with* Shinkai, Hisa-aki) Symmetric hyperbolic system in the Ashtekar formulation. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 2, 263–266. (Summary) **99i:83008** 83C05
Yoneya, Michio Numerical solution of partial differential equations using Fourier representations of partial differential operators with constant coefficients. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 96–105. (*see* **99h:00034**) 65M06
Yoneya, Tamiaki (*with* Jevicki, Antal) Space-time uncertainty principle and conformal symmetry in D-particle dynamics. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 335–348. (Summary) **99i:81240** 81T60 (81Q60, 81T13)
— (*with* Okawa, Yuji) Multi-body interactions of D-particles in supergravity and Matrix theory. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 67–99. (Summary) **99i:83094** 83E30 (81T30, 83E50)
— (*with* Okawa, Yuji) Equations of motion and Galilei invariance in D-particle dynamics. (English summary) *Nuclear Phys. B* **541** (1999), *no.* 1-2, 163–178. (Summary) **99k:81267** 81T30
— (*with* Jevicki, Antal; Kazama, Yoichi) Generalized conformal symmetry in D-brane matrix models. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 066001, 12 *pp.* (Summary) **99k:81247** 81T30 (81T60, 83E30)
Yoneyama, Takashi (*with* Maitelli, A. L.) A multistage suboptimal dual controller using optimal predictors. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1002–1008. 93E35
Yong, Jiong Min (*with* Lenhart, Suzanne; Protopopescu, Vladimir) Solving inverse problems of identification type by optimal control methods. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium* (*San Diego, CA*, 1997), 87–94, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 93B30 (35R30, 49N50)
— Optimal controls for semilinear evolution equations with pointwise state constraints. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 237–248, *World Sci. Publishing, River Edge, NJ*, 1997. (Dan Tiba) **99k:49056** 49K20
— (*with* Liu, Zhuangyi) Qualitative properties of certain C_0 semigroups arising in elastic systems with various dampings. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 5, 643–686. (Birgit Jacob) **99k:47095** 47D06 (34G10, 35B99, 73D30)
— (*with* Lenhart, Suzanne; Protopopescu, Vladimir) Optimal control of a reflection boundary coefficient in an acoustic wave equation. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 179–194. (Summary) **99a:49044** 49N55 (35L20, 76Q05)
— (*with* Adams, David R.; Lenhart, Suzanne) Optimal control of the obstacle for an elliptic variational inequality. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 121–140. (Samir Adly) **99h:49004** 49J20 (31B05, 35J85, 49N60)
— Linear forward-backward stochastic differential equations. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 1, 93–119. (Rainer Buckdahn) **99j:60089** 60H10
Yong, Li *see* **Li, Yong**[6]
Yong, Xue Rong (*with* Cao, Shi Yi) Evaluation of an integral arising in compution [computing] the energy of crystals in terms of gamma functions. *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 2, 9–11. 65D30
— (*with* He, Xiu Li) A new necessary and sufficient condition for irreducibility of a matrix and a new algorithm for deciding irreducibility. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 2, 15–17. 15A23 (65F30)
— (*with* Kelmans, Alexander K.) On the distribution of eigenvalues of graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 251–258. (Summary) **99m:05107** 05C50
— (*with* Wang, Zheng[3]) On a conjecture of Fiedler and Markham. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 259–267. (Thomas L. Markham) **99m:15019** 15A42 (15A18)
Yonge, David R. (*with* Hossain, Md. Akram) Modeling contaminant transport in groundwater: an optimized finite element method. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 89–100. 76S05 (65M60, 76M10)

— (*with* Hossain, Md. Akram) On Galerkin models for transport in groundwater. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 249–263. (Summary) **99m:76079** 76M10 (65M60, 76S05, 86–08, 86A05)

Yoo, B. H. (*with* Kwon, Kil Hyun; Littlejohn, Lance L.) New characterizations of classical orthogonal polynomials. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 199–213. (M. E. Muldoon) **99g:33026** 33C45 (34A99, 42C05)

— (*with* Kwon, Kil Hyun; Lee, Dong Won[1]; Park, S. B.) Discrete classical orthogonal polynomials. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 2, 145–162. (Summary) **99g:33027** 33C45 (39A10, 39A12)

Yoo, Hyek On the unique solvability of some nonlinear stochastic PDEs. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 11, 22 *pp.* (*electronic*). (Bohdan Maslowski) **99h:60126** 60H15 (35R60)

Yoo, Il (*with* Chang, Kun Soo; Kim, Young Sik) An L_p analytic Fourier-Feynman transform on abstract Wiener space. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 579–595. (Roberto Luiz Soraggi) **99m:46105** 46F25 (28C20, 43A32, 46G12)

— (*with* Kim, Byung Soo[1]) Analytic Feynman integrable functions over paths in abstract Wiener space. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 319–336. (Kun Sik Ryu) **99k:28017** 28C20 (46G12, 60H05)

Yoo, Jae-Nyun (*with* Han, Chong-Kyu) A method of prolongation of tangential Cauchy-Riemann equations. *CR-geometry and overdetermined systems (Osaka, 1994)*, 158–166, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (J. Merker) **99d:32022** 32F40 (32C16)

— (*with* Han, Chong-Kyu) A note on É. Cartan's method of equivalence and local invariants for isometric embeddings of Riemannian manifolds. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 771–790. (G. R. Jensen) **99d:53014** 53A55 (53A07, 58A20)

Yoo, Jong-Kwang On the spectral properties of multipliers. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 911–920. (Michael M. Neumann) **99j:47052** 47B48 (43A22, 47A11)

— (*with* Rho, Jae Chul) Super-decomposable operators. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 49–57. (Feng Xu) **99g:47075** 47B40 (46H99)

Yoo, Kwan-Hee (*with* Kim, Dae Seoung; Chwa, Kyung-Yong; Shin, Sung Yong) Efficient algorithms for computing a complete visibility region in three-dimensional space. (English summary) *Algorithmica* **20** (1998), *no.* 2, 201–225. (Summary) **99a:68171** 68U05 (52B55)

Yoo, Kyeongah (*with* Lin, Guo-Hui; Du, Ding Zhu; Wu, Weili) On 3-rate rearrangeability of Clos networks. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 315–333, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99e:94055** 94C10 (05C90, 90B12)

Yoo, Sung Ryong Some properties of CS-semistratifiable spaces. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **3** (1996), *no.* 1, 59–65. 54E20

Yoo, Yoon Jae (*with* Kim, Yong Mal) Weighted Orlicz space integral inequalities for fractional maximal operators. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 225–236. (Michael B. Korey) **99b:42024** 42B25

— Weak type inequality for Poisson maximal operators. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 2, 171–177. (Oscar Blasco) **99g:42027** 42B25

— (*with* Kim, Yong Mal) Weighted Orlicz space integral inequalities of certain maximal operators on spaces of homogeneous type. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 369–380. (Michael T. Lacey) **99j:42026** 42B25 (47B38)

— Weak type inequality for Poisson type integral operators. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 361–370. (Bi Yun Yao) **99d:42040** 42B25 (43A85)

— Weighted weak type estimates for certain maximal operators. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 369–373. (Bianca Stroffolini) **99m:42034** 42B25 (28A25)

— Orlicz norm estimates for Poisson maximal operators. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 143–153. (Pedro Ortega Salvador) **99m:42035** 42B25

— Weighted weak type estimates for certain maximal operators in spaces of homogeneous type. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 25–31. (Summary) **99m:42021** 42B10

Yood, Bertram Transitivity for linear operators on a Banach space. (English summary) *Studia Math.* **132** (1999), *no.* 3, 239–243. (Introduction) **99k:47045** 47A99 (47D30)

Yoon, C. (*with* Allen, D. H.) Homogenization techniques for thermoviscoelastic solids containing cracks. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 31-32, 4035–4053. (Summary) **99c:73002** 73B27 (73M25)

Yoon, Dall Sun (*with* Hwang, Shin-Chul) On the irreducible quintic polynomial over the rational number field. *Honam Math. J.* **20** (1998), *no.* 1, 21–29. (Charles Helou) **99e:11111** 11L05 (11R09)

— (*with* Song, Jong Chul) Phragmén-Lindelöf and continuous dependence type results in generalized dissipative heat conduction. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 945–960. (Vitaly A. Volpert) **99k:35073** 35K05 (35B30, 35B40, 80A20)

Yoon, G. J. (*with* Jung, Il Hyo; Kwon, Kil Hyun) Differential equations of infinite order for Sobolev-type orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 2, 277–293. (Summary) **99f:33012** 33C45 (34A35, 42C05)

— (*with* Kwon, Kil Hyun) Symmetrizability of differential equations having orthogonal polynomial solutions. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 2, 257–268. (Hans W. Volkmer) **99b:33019** 33C45 (34A99)

Yoon, Hyoungsoo (*with* Oh, Jong-Hoon) Learning of higher-order perceptrons with tunable complexities. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7771–7784. 82C32 (68T05, 92B20)

Yoon, J. H. *see* **Yoon, Jaihan**

Yoon, J. W. (*with* Seo, C. H.; Sung, Y. O.) On the relation between the linear complexity of FCSR and the period. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 115–123. (Summary) **99c:94037** 94A60 (11T71)

Yoon, Jaihan Existence of a multivortex solution for $SU(N)_g \times U(1)_I$ Chern-Simons model in $\mathbf{R}^2/\mathbf{Z}^2$. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 305–309. (Yisong Yang) **99j:58050** 58E12 (35J99)

— Kaluza-Klein formalism of general spacetimes. (English summary) *Phys. Lett. B* **451** (1999), *no.* 3-4, 296–302. (Summary) **99m:83179** 83E15

Yoon, Jeong-Rock (*with* Chapko, Roman; Kress, Rainer) On the numerical solution of an inverse boundary value problem for the heat equation. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 853–867. (Summary) **99i:65099** 65M30 (35K10, 35R30)

Yoon, Jin Yue (*with* Cho, Yong Seung) Exotic symplectic structures on $S^3 \times \mathbf{R}$. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 1–12. (Wojciech Wieczorek) **99e:57038** 57R15 (57N13)

Yoon, Joung-Hahn (*with* Choi, Hyeong In; Lee, Doo Seok) Cut locus of a separating fractal set in a Riemannian manifold. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 455–467. (Bert Jüttler) **99k:53065** 53C20 (28A80, 53C21, 68U05)

Yoon, K. T. (*with* Moon, S. Y.; Garcia, S. A.; Heard, G. W.; Chung, T. J.) Flowfield-dependent mixed explicit-implicit (FDMEI) methods for high and low speed and compressible and incompressible flows. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 75–104. (*see* **99b:76003**) 76M25

Yoon, M. G. (*with* Lee, Beom Hee) A new approximation method for time-delay systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 1008–1012. (Andrzej W. Olbrot) **99b:93023** 93B30 (41A20, 93C30)

Yoon, Peter A. (*with* Barlow, Jesse L.) An efficient rank detection procedure for modifying the ULV decomposition. (English summary) *BIT* **38** (1998), *no.* 4, 781–801. (Jin Xi Zhao) **99j:65068** 65F20 (65F25)

Yoon, Seonhee (*with* Choi, Younggi) Homology of the triple loop space of the exceptional Lie group F_4. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 149–164. (M. Mimura) **99b:55029** 55R20 (55P35, 55S12, 55T20)

Yoon, Suk Im Automorphisms of Lotka-Volterra algebras. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 45–50. 17A30 (17C99)

Yoon, Yongsung (*with* Park, Chung Joo) Conformal couplings in induced gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 765–772. (Summary) **99a:83059** 83D05

Yoon, Young-Jin A characterization of supersolvable signed graphs. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 1069–1073. (Darya Chernyak) **99j:05165** 05C75

Yooseph, Shibu (*with* Bonet, Maria; Phillips, Cynthia A.; Warnow, Tandy) Inferring evolutionary trees from polymorphic characters, and an analysis of the Indo-European family of languages. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 43–55, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99e:92021** 92D15 (92B10)

— (*with* Kannan, Sampath K.; Warnow, Tandy) Computing the local consensus of trees. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1695–1724 (*electronic*). (Michael A. Steel) **99f:92013** 92D15 (05C05, 68Q25, 92B10)

Yor, Marc (*with* Azéma, J.; Rainer, Catherine) Une propriété des martingales pures. [A property of pure martingales] *Séminaire de Probabilités, XXX*, 243–254, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Ely Merzbach) **99c:60098** 60G44 (60J65)

— (*with* Carmona, Philippe; Petit, Frédérique) On the distribution and asymptotic results for exponential functionals of Lévy processes. (English summary) *Exponential functionals and principal values related to Brownian motion*, 73–130, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (Yasushi Ishikawa) **99h:60144** 60J30

— (*with* Alili, Larbi; Donati-Martin, Catherine) Une identité en loi remarquable pour l'excursion brownienne normalisée. [A remarkable identity in law for a normalized Brownian excursion] *Exponential functionals and principal values related to Brownian motion*, 155–180, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (Zhan Shi) **99i:60153** 60J65 (11B68)

— (*with* Hu, Yue Yun; Shi, Zhan) Some applications of Lévy's area formula to pseudo-Brownian and pseudo-Bessel bridges. (English summary) *Exponential functionals and principal values related to Brownian motion*, 181–209, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (F. B. Knight) **99j:60122** 60J65 (60J55, 60J60)

— (*with* Elworthy, K. D.; Li, Xue-Mei[2]) On the tails of the supremum and the quadratic variation of strictly local martingales. *Séminaire de Probabilités, XXXI*, 113–125, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Jia Gang Wang) **99b:60057** 60G44

— (*with* Pitman, Jim) On the relative lengths of excursions derived from a stable subordinator. (English summary) *Séminaire de Probabilités, XXXI*, 287–305, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Mamoru Kanda) **99a:60083** 60J55 (60E99, 60G99)

— Some remarks about the joint law of Brownian motion and its supremum. *Séminaire de Probabilités, XXXI*, 306–314, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Paul Embrechts) **99b:60140** 60J65

— On certain discounted arc-sine laws. *Stochastic Process. Appl.* **71** (1997), *no.* 1, 111–122. (José Rafael León) **99b:60123** 60J55 (60F99, 60J65)

— (*with* Émery, M.) Sur un théorème de Tsirelson relatif à des mouvements browniens corrélés et à la nullité de certains temps locaux. [On a theorem of Tsirelson concerning correlated Brownian motions and the nullity of certain local times] *Séminaire de Probabilités, XXXII*, 306–312, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Paul McGill) **99j:60119** 60J65 (60J55)

— (*with* Warren, Jonathan) The Brownian burglar: conditioning Brownian motion by its local time process. *Séminaire de Probabilités, XXXII*, 328–342, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Catherine Donati-Martin) **99k:60208** 60J65 (60J55)

— (*with* Pitman, Jim) Ranked functionals of Brownian excursions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 93–97. (F. B. Knight) **99g:60151** 60J65 (60J60)

— (*with* Comtet, Alain; Monthus, Cécile) Exponential functionals of Brownian motion and disordered systems. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 255–271. (Paul McGill) **99g:60148** 60J65 (60K35, 90A09)

— (*with* Doney, R. A.) On a formula of Takács for Brownian motion with drift. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 272–280. (Paul McGill) **99f:60143** 60J65 (60J55)

— (*with* Sato, Sadao) Computations of moments for discounted Brownian additive functionals. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 475–486. (John Verzani) **99k:60198** 60J55 (60J60, 60J65)

— (*with* Matsumoto, Hiroyuki[2]) On Bougerol and Dufresne's identities for exponential Brownian functionals. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 10, 152–155. (Kiyoshi Kawazu) **99m:60128** 60J65 (60J70)

— (*with* Hu, Yue Yun; Shi, Zhan) Rates of convergence of diffusions with drifted Brownian potentials. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 3915–3934. (Kiyoshi Kawazu) **99m:60119** 60J60 (60F17, 60K35)

— *see also* **Exponential functionals and principal values related to Brownian motion, 99d:60003** *and* **Seminar: Probability Theory, 99f:60006**

Yordanova, P. I. (*with* Dimov, Ivan T.; Karaivanova, Aneta) Monte Carlo algorithms for calculating eigenvalues. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 205–220, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:65060** 65F15 (65C05)

Yorgov, Vassil *see* **Iorgov, Vasil Ĭ.**

alcuin of York *see* **Alcuin of York**

York, Eric V. (*with* Loustaunau, Philippe) On the decoding of cyclic codes using Gröbner bases. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 6, 469–483. (Summary) **99e:94048** 94B35 (13P10, 94B15)

York, James W., Jr. (*with* Anderson, Arlen) Hamiltonian time evolution for general relativity. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 6, 1154–1157. (Simonetta Frittelli) **99g:83009** 83C05

Yorke, James A. (*with* Lai, Ying-Cheng; Grebogi, Celso) Intermingled basins and riddling bifurcation in chaotic dynamical systems. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 138–163, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99c:58108** 58F13 (58F14)

— (*with* Ding, Mingzhou; Grebogi, Celso) Chaotic dynamics. (English summary) *The impact of chaos on science and society* (*Tokyo*, 1991), 1–17, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 58F13 (82C05)

— (*with* Kostelich, Eric J.; Kan, Ittai; Grebogi, Celso; Ott, Edward) Unstable dimension variability: a source of nonhyperbolicity in chaotic systems. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 81–90. (Remo Badii) **99a:58110** 58F12 (58F13, 58F15)

— (*with* Jacobs, Joeri; Ott, Edward; Antonsen, Thomas M., Jr.) Modeling fractal entrainment sets of tracers advected by chaotic temporally irregular fluid flows using random maps. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 1–17. (Summary) **99k:76072** 76F20 (58F40, 76M35)

— (*with* Kennedy, Judy A.) The topology of stirred fluids. (English summary) *Topology Appl.* **80** (1997), *no.* 3, 201–238. (J. E. Keesling) **99b:54047** 54F15 (54F50, 58F12)

— (*with* Nusse, Helena E.) ★ Dynamics: numerical explorations. (English summary) Second edition. Accompanying computer program Dynamics 2 coauthored by Brian R. Hunt and Eric J. Kostelich. With 1 IBM-PC floppy disk (3.5 inch; HD). Applied Mathematical Sciences, 101. *Springer-Verlag, New York*, 1998. *xvi*+608 *pp. ISBN* 0-387-98264-7 (Timothy Sauer) **99f:58001** 58–04 (58F13, 65–04, 65L99)

— (*with* Nusse, Helena E.) ★ Dynamika. (Polish. Polish summary) [Dynamics] Badania numeryczne. [Numerical explorations] Translated from the English by Stanisław Jankowski. With 1 IBM-PC floppy disk (3.5 inch; HD). *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 558 *pp. ISBN* 83-01-12614-0 (Editors) **99k:58002** 58–04 (58F13, 65–04, 65L99)

— (*with* Yuan, Guohui; Banerjee, Soumitro; Ott, Edward) Border-collision bifurcations in the buck converter. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 707–716. (Summary) **99c:94071** 94C05

— (*with* Robert, Carl; Alligood, Kathleen T.; Ott, Edward) Outer tangency bifurcations of chaotic sets. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 22, 4867–4870. (Summary) **99b:58165** 58F13

— *see also* **Impact of chaos on science and society, 99d:00006**

Yoshiaki, Ota *see* **Ota, Yoshiaki**

Yoshiara, Satoshi The Borel-Tits property for finite groups. (English summary) *Groups and geometries* (*Siena*, 1996), 237–249, *Trends Math., Birkhäuser, Basel*, 1998. (Kaustuv M. Das) **99i:20033** 20D30 (20E15, 20J06)

— The universal covers of a family of extended generalized quadrangles. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 753–765. (Stanley E. Payne) **99j:51006** 51E12 (51E25)

Yoshida, H. *see* **Yoshida, Hidenobu**

Yoshida, Han Invariant trace fields and commensurability of hyperbolic 3-manifolds. *KNOTS '96* (*Tokyo*), 309–318, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99k:57045** 57N10 (57M50)

— Invariant trace fields and commensurability. (Japanese) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 225–234. (*see* **99e:30001**) 57N10 (57M25)

Yoshida, Hidenobu (*with* Miyamoto, Ikuko) Particular solutions of the Dirichlet problem on a strip with continuous data. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 322–337, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Giovanni Crosta) **99j:31007** 31B10 (35C15, 35J05)

— (*with* Miyamoto, Ikuko) Solutions of the Dirichlet problem on a cone with continuous data. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 71–93. (Vladimir S. Azarin) **99b:31005** 31B20 (35J25)

Yoshida, Hiroaki (*with* Hiwatashi, Osamu) Characterization of the semicircle distribution in noncommutative probability spaces. (Japanese) Research on bimodules and quantum groups in operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1003 (1997), 15–27. (*see* **99a:46002**) 46L50 (81S25)

— (*with* Hiwatashi, Osamu; Kuroda, Tomoko; Nagisa, Masaru) Distribution functions of free random variables. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 53–63. (*see* **99i:00029**) 46L50

— (*with* Hiwatashi, Osamu; Kuroda, Tomoko; Nagisa, Masaru) The free analogue of noncentral chi-square distributions and symmetric quadratic forms in free random variables. *Math. Z.* **230** (1999), *no.* 1, 63–77. (Dimitri Y. Shlyakhtenko) **99m:46155** 46L50 (60F99)

Yoshida, K. *see* **Yoshida, Kensuke**

Yoshida, Ken-ichi *see* **Yoshida, Ken-ichi[2]**

Yoshida, Ken-ichi[1] (*with* Oda, Susumu) Anti-integral elements and coefficients of their minimal polynomials. *Math. J. Okayama Univ.* **38** (1996), 83–91 (1998). (Marcelo José Saia) **99j:13005** 13B02 (13B21)

— (*with* Oda, Susumu) On comparisons of subrings of type $R[a\alpha] \cap R[(a\alpha)^{-1}]$. *Math. J. Toyama Univ.* **20** (1997), 49–56. (L. J. Ratliff, Jr.) **99b:13006** 13B02

— (*with* Onoda, Nobuharu; Sugatani, Takasi) Simple algebraic extensions of rings and kernels of universal derivations. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2033–2040. (L. J. Ratliff, Jr.) **99e:13023** 13E05 (13N05)

— (*with* Oda, Susumu) A linear generator of an ultra-primitive extension $R[\alpha]$. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 65–74. (Jean-Daniel Thérond) **99c:13010** 13B02

— (*with* Oda, Susumu) On two-generators of simple algebraic extensions of Noetherian domains. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 247–255. (Gabriel Picavet) **99h:13007** 13B02 (13B21, 13E05)

Yoshida, Ken-ichi[2] A generalization of linear Buchsbaum modules in terms of homological degree. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 931–945. (Joseph P. Brennan) **99g:13022** 13D02 (13A30, 13H10)

Yoshida, Kensuke (*with* Martellini, Maurizio; Spreafico, Mauro) A continuum approach to 2D-quantum gravity for $c > 1$. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3247–3279. (Henrik Aratyn) **99b:81220** 81T40 (81T50)

Yoshida, Kiyoshi (*with* Nagai, Toshitaka; Senba, Takasi) Application of the Trudinger-Moser inequality to a parabolic system of chemotaxis. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 411–433. (V. N. Razzhevaikin) **99k:92048** 92D50 (35K55, 35Q80, 92C99)

— (*with* Nagai, Toshitaka; Senba, Takasi) Global existence of solutions to the parabolic systems of chemotaxis. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 22–28. (N. L. Vulchanov) **99h:92043** 92D50 (35K55, 35Q80, 92C05)

Yoshida, Kyo Riemannian curvature on the group of area-preserving diffeomorphisms (motions of fluid) of 2-sphere. (English summary) *Phys. D* **100** (1997), *no.* 3-4, 377–389. (Summary) **99d:58019** 58B20 (58D05)

Yoshida, Mamoru (*with* Honda, Tatsuhiro; Miyagi, Mitsuhiro; Nishihara, Masaru) On the extension of polynomials of weak type. (English summary) *Fukuoka Univ. Sci. Rep.* **27** (1997), *no.* 1, 9–16. (Luiza Amália de Moraes) **99a:46083** 46G20 (46A32)

Yoshida, Masaaki (*with* Apéry, François) Pentagonal structure of the configuration space of five points in the real projective line. *Kyushu J. Math.* **52** (1998), *no.* 1, 1–14. (I. Dolgachev) **99e:52017** 52B30 (14P99, 51F15, 51M15)

Yoshida, Masamichi On variational principle and the metrics associated with a potential of bounded variation. (English summary) *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 1, 1–5. (Jérôme Buzzi) **99j:58133** 58F11

— (*with* Matsumoto, Kengo; Watatani, Yasuo) KMS states for gauge actions on C^*-algebras associated with subshifts. *Math. Z.* **228** (1998), *no.* 3, 489–509. (Claudia Pinzari) **99g:46086** 46L30 (46L50, 46L55)

— Topological Julia sets and pinched circle models. (Japanese) Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 191–192. (*see* **99h:58002**) 58F23

Yoshida, Nakahiro Malliavin calculus and asymptotic expansion for martingales. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 3, 301–342. (Summary) **99k:60068** 60F05 (60G44, 60H07, 62E20)

Yoshida, Naoki (*with* Nishinari, Katsuhiro; Satsuma, Junkichi; Abe, Kanji) Dromion can be remote-controlled. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3325–3336. (Summary) **99a:35245** 35Q55 (76M25, 76X05)

Yoshida, Nobuo (*with* Higuchi, Yasunari) Slow relaxation of 2-D stochastic Ising models with random and non-random boundary conditions. (English summary) *New trends in stochastic analysis* (*Charingworth*, 1994), 153–167, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:82037** 82B44

— Exponential convergence to equilibrium of finite volume Glauber dynamics near the border of the one phase region. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 339–350, *World Sci. Publishing, River Edge, NJ*, 1997. (Massimo Campanino) **99i:60179** 60K35 (82C20)

— Relaxed criteria of the Dobrushin-Shlosman mixing condition. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 293–309. (Summary) **99a:82008** 82B05 (82B20)

— Finite-volume Glauber dynamics in a small magnetic field. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 1015–1035. (Filippo Cesi) **99d:82042** 82C05 (82C20, 82C43)

Yoshida, Norimasa (*with* Yamaguchi, Fujio; Niizeki, Masatoshi; Yamada, Atsushi; Matsumura, Kiyoshi) Totally homogeneous paradigm for geometric processing based on the principle of duality. (English summary) *Math. Student* **65** (1996), *no.* 1-4, 81–109. (Luiz Henrique de Figueiredo) **99f:68203** 68U05

Yoshida, Norio Oscillation of partial functional-differential equations. *Math. J. Toyama Univ.* **20** (1997), 107–139. (L. Hatvani) **99c:35255** 35R10 (34K15, 35B05)

Yoshida, Olga S. (*with* Leite, José Galvão; Bolfarine, Heleno) The roles of prior catchability assumptions and sample features on Bayes estimates of the number of classes in a population. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1895–1904. (Summary) **99k:62061** 62F15

Yoshida, Tomoyuki Crossed G-sets and crossed Burnside rings. Group theory and combinatorial mathematics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 991 (1997), 1–15. (Masahiko Niwa) **99b:19002** 19A22 (20M30)

Yoshida, Toshio[1] Error analysis of numerical calculation methods for modified Bessel functions $I_\nu(x)$ using recurrence formulas. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 237–244. (*see* **99i:00028**) 65D20 (65G05)

— Error analysis of numerical method for $\sin x$ and $\cos x$ using the approximation to Bessel functions obtained by the recurrence technique. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1041–1050. 65D20

Yoshida, Y. *see* **Yoshida, Yuji**

Yoshida, Yuhsuke (*with* Nakatsu, Toshio; Ohta, Kazutoshi; Yokono, Takashi) Higgs branch of $N = 2$ SQCD and M-theory branes. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 159–179. (Daniel N. Kabat) **99g:81214** 81T60 (81T13)

Yoshida, Yuji (*with* Yasuda, Masami; Nakagami, Jun-ichi; Kurano, Masami) On a property of fuzzy stopping times. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 176–182. (*see* **99b:90009**) 90C70

— (*with* Yasuda, Masami; Nakagami, Jun-ichi; Kurano, Masami) A limit theorem in dynamic fuzzy systems with a monotone property. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 109–119. (Summary) **99b:54009** 54A40 (54H20)

— Duality in dynamic fuzzy systems. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 53–65. (Roman Słowiński) **99i:90118** 90C70 (90C15)

— A time-average fuzzy reward criterion in fuzzy decision processes. (English summary) *Inform. Sci.* **110** (1998), *no.* 1-2, 103–112. 90A05 (90C70)

— (*with* Yasuda, Masami; Nakagami, Jun-ichi; Kurano, Masami) The optimal stopping problem for fuzzy random sequences. Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 178–183. (*see* **99h:90006**) 60G40

— (*with* Kurano, Masami; Yasuda, Masami; Nakagami, Jun-ichi) A fuzzy relational equation in dynamic fuzzy systems. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 439–443. 93C42 (49L20)

Yoshida, Zensho (*with* Jordan, Richard; Ito, Nobuyasu) Statistical mechanics of three-dimensional magnetohydrodynamics in a multiply connected domain. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 251–272. (Barak Galanti) **99e:76127** 76W05 (76M35, 82D40)

Yoshihara, Hisao A note on the inequality of degrees of irrationalities of algebraic surfaces. *J. Algebra* **207** (1998), *no.* 1, 272–275. (Marco Andreatta) **99k:14058** 14J25 (14E25)

Yoshihara, Ken-ichi ★ Weakly dependent stochastic sequences and their applications. Vol. I. Summation theory for weakly dependent sequences. *Sanseido Co., Ltd., Chiyoda-ku*, 1992. x+390 *pp. ISBN* 4-385-35432-4 (Dalibor Volný) **99e:60002** 60–02 (60F05, 60F15, 60F17)

— ★ Weakly dependent stochastic sequences and their applications. Vol. IX. Poisson approximation and associated processes. *Sanseido Co., Ltd., Chiyoda-ku*, 1997. viii+393 *pp. ISBN* 4-385-35825-7 (Lars Holst) **99b:60001** 60–02 (60F05)

— (*with* Kanagawa, Shuya; Takano, Seiji) Convergence of changepoint estimators for weakly dependent data. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 4, 379–392. (Summary) **99c:62143** 62G20 (60F05)

— Central limit theorems for weighted $D[0,1]$-valued mixing sequences. I. Functional central limit theorems for weighted sums. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3569–3573. (Sergei Utev) **99e:60096** 60F17 (60F05)

— Central limit theorems for weighted $\mathscr{D}[0,1]$-valued mixing sequences. II. Functional central limit theorems for integrated variables. *Yokohama Math. J.* **44** (1997), *no.* 2, 157–167. (Sergei Utev) **99e:60097** 60F17 (60F05)

Yoshihara, Naoki Characterizations of the public and private ownership solutions. (English summary) Axiomatics of resource allocation, 1. *Math. Social Sci.* **35** (1998), *no.* 2, 165–184. (Summary) **99k:90044** 90A11

Yoshiji, Katsuhiro On the first eigenvalue of non-orientable closed surfaces. *Tsukuba J. Math.* **22** (1998), *no.* 3, 741–746. (Ruishi Kuwabara) **99m:58203** 58G25

Yoshikawa, Atsuko Yamada (*with* Sato, Hajime[1]) Third order ordinary differential equations and Legendre connections. (English summary) *J. Math. Soc. Japan* **50** (1998), *no.* 4, 993–1013. (Mark E. Fels) **99f:53015** 53B15 (34A26)

Yoshikawa, Katsuyuki The order of a meridian of a knotted Klein bottle. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3727–3731. (Jonathan A. Hillman) **99b:57049** 57Q45

Yoshikawa, Ken-ichi Smoothing of isolated hypersurface singularities and Quillen metrics. (English summary) *Asian J. Math.* **2** (1998), *no.* 2, 325–344. (I-Hsun Tsai) **99m:58204** 58G26 (32L07, 32S20)

Yoshimatsu, Katsunori (*with* Funakoshi, Mitsuaki) Pattern selection in high aspect ratio Faraday surface waves. Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 110–121. (*see* **99a:00032**) 76B15 (35Q51)

Yoshimori, Akira (*with* Yamada, Hiroyasu) Dynamics of thin-jet sheets in ocean. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 252–258. (*see* **99a:00032**) 86A05 (76C99)

Yoshimoto, Masami (*with* Kanemitsu, Shigeru) Farey fractions and the Riemann hypothesis. (Japanese) Analytic number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 961 (1996), 81–91. (*see* **98c:11002**) 11M20 (11B57)

— (*with* Kanemitsu, Shigeru) Farey series and the Riemann hypothesis. III. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 363–378. (Andrzej Mądrecki) **99e:11118** 11M26 (11B57)

— Farey series and the Riemann hypothesis. II. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 287–304. (Andrzej Mądrecki) **99e:11117** 11M26 (11B57)

Yoshimoto, Megumi (*with* Inoue, Yoshinori) Propagation of triangular waves and sawtooth waves in a nonuniform gas. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 11–18. (*see* **99a:00032**) 76N15 (35Q35)

Yoshimoto, Minoru (*with* Kurosawa, Shigeru; Nagashima, Hiroyuki) Effect of noise on chaos in a one-dimensional map. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1924–1929. (Summary) **99c:58114** 58F13

Yoshimura, Hiroshi Rings whose invertible ideals correspond to finitely generated overmodules. *Comm. Algebra* **26** (1998), *no.* 3, 997–1004. (Carl Faith) **99c:13012** 13B22 (13C11)

— FPF rings characterized by two-generated faithful modules. *Osaka J. Math.* **35** (1998), *no.* 4, 855–871. (Surender K. Jain) **99k:16007** 16D50 (16L30)

Yoshimura, M. (*with* Miwa, Takuo; Noiri, Takashi) A generalization of regular closed and g-closed functions. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 353–358. (Summary) **99k:54006** 54C10 (54D10)

Yoshinaga, Etsuo *see* **Errata: "Topological types of singularities of analytic functions (the work of the late Etsuo Yoshinaga)", (99a:00050)**

Yoshinaga, Naotaka (*with* Tanabe, Kosai; Enami, Ken'ichi) Angular momentum- and particle number-projections from cranking HFB self-consistent solution. *Symmetries in science, X (Bregenz, 1997)*, 421–433, *Plenum, New York*, 1998. (*see* **99f:81004**) 81R05

Yoshinaga, Shin-ichi (*with* Inoue, Akira; Masuda, Shiro) A design of an adaptive servo control system estimating the internal model. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 324–329. 93C40 (93C85)

Yoshinaga, Takao Oscillatory solitary wave solutions to long and short wave interaction equations. Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 200–210. (*see* **99a:00032**) 76B25 (35Q35)

Yoshinaga, Tetsumi Behavior of solutions of certain second-order differential equations at infinity. *J. Differential Equations* **145** (1998), *no.* 1, 17–22. (Jerry Ridenhour) **99i:34050** 34C10 (34C11)

Yoshino, K. *see* **Yoshino, Kohzo**

Yoshino, Ken-Ichi Class number parity for cyclotomic fields. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2589–2591. (Alan Candiotti) **99d:11117** 11R18 (11R29)

Yoshino, Kohzo (*with* Nomura, T.; Pakdaman, K.; Sato, Shunsuke) Synthetic analysis of periodically stimulated excitable and oscillatory membrane models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 956–969. (Summary) **99h:92005** 92C05 (92C20)

Yoshino, Kunio Difference equation in the space of holomorphic functions of exponential type and Ramanujan summation. Algebraic analysis methods in microlocal analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 983 (1997), 188–199. (B. L. J. Braaksma) **99f:39012** 39A10 (46F15)

Yoshino, Masafumi Convergence of formal solutions of fully nonlinear equations of Monge-Ampère type. (English summary) Exact WKB analysis and Fourier analysis in the complex domain (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1001 (1997), 64–70. (John Urbas) **99f:35016** 35C10 (35J60, 35Q15)

— Small divisor problems and divergent formal power series solutions. *J. Math. Soc. Japan* **50** (1998), *no.* 4, 903–913. (Xinhua Ji) **99g:35023** 35C20 (35A20, 35Q15)

Yoshino, Takashi The p-hyponormality of the Aluthge transform. Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 103–107. (From the text) **99g:47044** 47B20 (47A99)

Yoshino, Yuji Auslander's work on Cohen-Macaulay modules and recent development. *Algebras and modules, I (Trondheim, 1996)*, 179–198, *CMS Conf. Proc.*, 23, *Amer. Math. Soc., Providence, RI*, 1998. (Gerhard Pfister) **99i:13019** 13C14 (13H10)

— (*with* Araya, Tokuji) Remarks on a depth formula, a grade inequality and a conjecture of Auslander. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3793–3806. (R. A. Wiegand) **99h:13010** 13C15 (13D10)

Yoshioka, Akira (*with* Ōmori, Hideki; Maeda, Yoshiaki; Miyazaki, Naoya) Deformation quantizations of the Poisson algebra of Laurent polynomials. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 2, 171–180. (Summary) **99k:58078** 58F06 (58H15)

Yoshioka, Kōta A note on the universal family of moduli of stable sheaves. *J. Reine Angew. Math.* **496** (1998), 149–161. (Alexander E. Polishchuk) **99b:14014** 14D22 (14D20, 14J60)

Yoshioka, Yoshio Considerations on the average waiting time for the $G/G/1$ queueing system. (Japanese. English and Japanese summaries) *Bull. Fac. Sci. Technol. Hirosaki Univ.* **1** (1998), *no.* 1, 75–83. 60K25

— An analysis of a queueing system starting the service at the polling points. (Japanese. English summary) *Bull. Fac. Sci. Technol. Hirosaki Univ.* **1** (1999), *no.* 2, 161–169. 60K25

Yoshise, Akiko Complementarity problems. *Interior point methods of mathematical programming*, 297–367, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C33

— (*with* Hotta, Keisuke) Global convergence of a class of non-interior-point algorithms using Chen-Harker-Kanzow functions for nonlinear complementarity problems. (English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 40–70. (S. R. Mohan) **99f:90149** 90C33

Yoshitomi, Kazushi Schrödinger operators with periodic potentials and constant magnetic fields with integer flux. *Osaka J. Math.* **34** (1997), *no.* 4, 859–893. (Michael A. Perel'muter) **99d:35036** 35J10 (35P05, 47F05, 47N50, 81Q10)

— Band gap of the spectrum in periodically-curved quantum waveguides. Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 37–53. (Jan Bochenek) **99d:35113** 35P05 (35J05, 47F05)

— Band gap of the spectrum in periodically curved quantum waveguides. *J. Differential Equations* **142** (1998), *no.* 1, 123–166. (Alimdjan R. Khalmukhamedov) **99a:35038** 35J05 (35P05, 47F05)

Yoshitomi, Kentaro Height functions on Jacobian curves and the Birch-Swinnerton-Dyer conjecture. (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 105–118. (Takeshi Ooe) **99i:11051** 11G40

— On height functions on Jacobian surfaces. (English summary) *Manuscripta Math.* **96** (1998), *no.* 1, 37–66. (Annette Werner) **99e:11088** 11G40 (11G10, 14G10)

Yoshizaki, Junya On the structure of the singular set of a complex analytic foliation. *J. Math. Soc. Japan* **50** (1998), *no.* 4, 837–857. (M. G. Soares) **99h:32037** 32L30

— The local analytical triviality of a complex analytic singular foliation. (English summary) Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 71–80. (M. G. Soares) **99k:32053** 32L30

Yoshizawa, Akira ★ Hydrodynamic and magnetohydrodynamic turbulent flows. (English summary) Modelling and statistical theory. Fluid Mechanics and its Applications, 48. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xiv*+410 *pp. ISBN* 0-7923-5225-4 (Publisher's presentation) **99k:76068** 76Fxx (76M35, 76W05)

Yoshizawa, Hisaaki My views on the history of mathematics. (Japanese) Study of the history of mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1019 (1997), 120–132. (*see* **99d:01002**) 01A05

Yoshizawa, Shuji (*with* Hiraoka, Kazuyuki) The optimal solution of the lob-pass problem with known reaction curves. (Japanese. English and Japanese summaries) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 509–530. 92J40 (92J45)

Yosibash, Z. (*with* Arad, M.; Ben-Dor, G.; Yakhot, A.) Computing flux intensity factors by a boundary method for elliptic equations with singularities. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 657–670. 65N38

Yosifian, G. A. *see* **Iosif'yan, G. A.**

Yosimura, Zen-ichi (*with* Nishimura, Yasuzo) The quasi KO_*-types of weighted mod 4 lens spaces. *Osaka J. Math.* **35** (1998), *no.* 4, 895–914. (Björn Schuster) **99m:55010** 55P42 (55N15)

Yost, David Thomas The Johnson-Lindenstrauss space. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 185–192. (Ehrhard Behrends) **99a:46027** 46B25 (46B20)

— (*with* Benítez, Carlos; Przesławski, Krzysztof) A universal modulus for normed spaces. (English summary) *Studia Math.* **127** (1998), *no.* 1, 21–46. (Yves Raynaud) **99i:46005** 46B20

Yotov, Ivan (*with* Wheeler, Mary F.) Physical and computational domain decompositions for modeling subsurface flows. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 217–228, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Jian-Ping Zhu) **99j:76077** 76M10 (65N55, 76S05, 76T05)

— (*with* Arbogast, Todd; Dawson, Clint N.; Keenan, Philip T.; Wheeler, Mary F.) Enhanced cell-centered finite differences for elliptic equations on general geometry. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 404–425 (*electronic*). (S. Galanis) **99j:65193** 65N30

You, Chang De (*with* Wu, Huai Ning; Xie, Kai Nian) Robust state feedback control of stochastic systems. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 1, 1–5. 93E03 (93E15)

You, Choong-Ki (*with* Ahn, Changrim) Complete non-diagonal reflection matrices of RSOS/SOS and hard hexagon models. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2109–2121. (Summary) **99c:82022** 82B23 (82B20)

You, Gong Qiang Weighted approximation by multidimensional Szász-Mirakjan operators. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 295–300. (Yong Ping Liu) **99k:41037** 41A35 (41A10)

— Local approximation by Baskakov-Durrmeyer operators. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 310–316. (Weixing Zheng) **99k:41038** 41A35 (41A10)

You, Hong (*with* Nan, Ji Zhu) Decomposition of Steinberg group into involutions. *Chinese Sci. Bull.* **42** (1997), *no.* 24, 2061–2064. (Sue Geller) **99f:20077** 20G15

— (*with* Nan, Ji Zhu) Decomposition of Steinberg group into involutions. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 21, 2272–2275. 20G15

— Carter subgroups of linear groups over finite commutative rings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 773–778. (Chang Kun Liu) **99k:20101** 20G35

— (*with* Nan, Ji Zhu) Using normal form of matrices over finite fields to construct Cartesian authentication codes. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 341–346. (Summary) **99i:94058** 94A60 (11T71)

— Expressing a matrix over a finite field as the sum of two squares of invertible matrices. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 4, 383–388. (Summary) **99k:11187** 11T30 (11C20)

— (*with* Gao, You) Small sets of generators of unitary groups over finite fields not of characteristic two. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 46–50. 20G40

You, Jia (*with* Shen, Hong[2]; Evans, David John[1]) An efficient parallel algorithm for visible-surface detection in 3D graphics display. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 359–371. (Summary) **99m:68216** 68U05 (68Q22)

You, Jia-Huai (*with* Wang, Xian Chang[2]; Yuan, Li Yan) Disjunctive logic programming as constrained inferences. (English summary) *Logic programming* (*Leuven*, 1997), 361–375, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99a:68033** 68N17 (68Q55)

— (*with* Yuan, Li Yan; Goebel, Randy) Disjunctive logic programming and autoepistemic logic. (English summary) *Logic programming and knowledge representation* (*Port Jefferson, NY*, 1997), 85–101, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99k:68031** 68N17 (03B70)

— (*with* Yuan, Li Yan; Goebel, Randy) Regular extension semantics and disjunctive Eshghi-Kowalski procedure. (English summary) *Logic programming* (*Manchester*, 1998), 175–189, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68Q55)

You, Jiangong (*with* Xu, Junxiang) On reducibility of linear differential equations with almost periodic coefficients. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 4, 375–386. (Helmut Rüssmann) **99a:34023** 34A30 (34A25, 34C20)

— A KAM theorem for hyperbolic-type degenerate lower-dimensional tori in Hamiltonian systems. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 145–168. (Luigi Chierchia) **99d:58146** 58F27 (34C27, 34C30, 34C50, 70H05)

— (*with* Liu, Bin[1]) Quasiperiodic solutions of Duffing's equations. *Nonlinear Anal.* **33** (1998), *no.* 6, 645–655. (Sergei A. Dovbysh) **99g:34072** 34C11 (34C27, 58F27, 70K40)

— (*with* Küpper, Tassilo) Existence of quasiperiodic solutions and Littlewood's boundedness problem of Duffing equations with subquadratic potentials. *Nonlinear Anal.* **35** (1999), *no.* 5, *Ser. A: Theory Methods*, 549–559. (Dmitry V. Treshchëv) **99i:34064** 34C27 (34C11, 58F27)

You, Jin Hong (*with* Gu, Juan) A biased root power estimator for regression coefficients. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 34–38, 9. (Hanfeng Chen) **99k:62132** 62J05

— (*with* Sun, Xiao Qian) Linear admissible minimax estimates of regression coefficient matrices in a growth curve model. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 74–79. 62C15 (62J05)

— (*with* Sun, Xiao Qian; Chen, Xue Hua) The volume ratio statistic of confidence regions for regression coefficients in GMANOVA models. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 9–14. (Summary) **99i:62128** 62H12

You, Lei (*with* Liu, Hui Zhao; Wang, Yan) The upper and lower solution method for a singular third-order differential equation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 1–4. (Summary) **99h:34034** 34B15

You, Puhong (*with* Ding, Zhong Hai; Zhou, Jianxin) Optimal boundary control of the Stokes fluids with point velocity observations. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 981–1004 (*electronic*). (Ruxandra Stavre) **99d:49014** 49J20 (35Q30, 76D07, 93C20)

You, Sang Koo (*with* Jeon, Kwang Joe; Kim, Chul Koo; Nahm, Kyun) A new approximation scheme in quantum mechanics. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 179–186. (Summary) **99b:81051** 81Q15

You, Shao Peng Decentralized self-tuning control of linear time-varying systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 708–715. 93A14

You, Xiu Ying The lower type and the proximate lower order of analytic functions defined via the Laplace-Stieltjes transform. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 213–218. 30D15 (44A10)

You, Younggap (*with* Cho, K. R.; Cho, Moo Ho; Choi, Kyung Soo; Szidarovszky, Ferenc) Estimation of channel holding time distribution in cellular telephone systems. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 13–17 (*electronic*). (Summary) **99d:90049** 90B12 (94A40)

You, Yun Xiang (*with* Miao, Guo Ping) On the regularization method of the first kind of Fredholm integral equation with a complex kernel and its application. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 1, 75–83; *translated from Appl. Math. Mech.* **19** (1998), *no.* 1, 71–78 (*Chinese. English and Chinese summaries*). (Summary) **99a:45004** 45B05 (45L05, 76B15)

You, Yuncheng Nonlinear wave equations with weak dissipation. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 249–258, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:35142** 35Q53 (35B40, 35L75)

You, Zhao Yong (*with* Li, Wen[1]) The convergence theorem of splittings. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 107–110. (Summary) **99e:65057** 65F10 (15A18)

— (*with* Xu, Zhong) Progressive algorithms for the solution of Vandermonde-like systems of equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 4, 288–297. (Summary) **99c:65107** 65H10 (65F30)

— (*with* Huang, Ting Zhu) Estimates of lower bounds for the smallest singular values of matrices. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 359–364. (Summary) **99e:65071** 65F30 (15A18)

— (*with* Li, Chun Guang) Nonlinear SOR iterative methods for solving nonlinear v-cyclic systems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 263–272. (Xiaojun Chen) **99k:65047** 65H10

— (*with* Xu, Cheng Xian; Ma, Xiao Fang) A class of self-dual updating formulae in the Broyden family. (English summary) *Optimization* **39** (1997), *no.* 4, 405–409. (Summary) **99a:90198** 90C30 (65K05)

— (*with* Huang, Ting Zhu; Bai, Zhong Zhi) Generalizations of block diagonal dominance and the distribution of eigenvalues. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 277–281. (Hongyuan Zha) **99e:15010** 15A18

— (*with* Xu, Zhong) A kind of triangular decomposition of the inverse of a Vandermonde-like matrix. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 106–108. 65F25 (15A21, 65F30)

— (*with* Guo, Tie-Xin) A note on pointwise best approximation. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 344–347. (Summary) **99c:41055** 41A50

— (*with* Li, Wen[1]) The multi-parameters overrelaxation method. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 367–374. (Jan Zítko) **99f:65052** 65F10

— (*with* Li, Chun Guang) An interval verification algorithm for the solutions of nonlinear systems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 107–117. 65G10 (65H10)

— (*with* Xiang, Shu Huang) Weak block diagonally dominant matrices, weak block H-matrix and their applications. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 263–274. (Ronald L. Smith) **99j:15034** 15A57 (15A48)

— (*with* Li, Yao Tang) Convergence of block SSOR iterative methods. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 81–85. 65F30 (65F10)

— (*with* Xu, Yin-Feng) An $O(n^2 \log n)$ algorithm for finding all strongly visible pairs of points of a finite planar point set. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 89–92. 65Y25 (51A20, 90C08)

— (*with* Xu, Zhong) A fast algorithm for inversion of confluent Vandermonde-like matrices involving polynomials that satisfy a three-term recurrence relation. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 797–806 (*electronic*). (Mei-Qin Chen) **99i:65050** 65F30 (15A09)

You, Zhe Feng (*with* Lin, Zong Chi) Singular perturbations of boundary value problems for systems of Volterra integro-differential equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 109–115. (Summary) **99c:34152** 34K10 (34E15, 45J05)

— (*with* Zhou, Ya Li; Lin, Zong Chi) Singular perturbation of general boundary value problem for nonlinear differential equation system. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 6, 531–538; *translated from Appl. Math. Mech.* **19** (1998), *no.* 6, 497–504 (*Chinese. English and Chinese summaries*). (J. V. Baxley) **99m:34053** 34B15 (34E15)

You, Zhi Shu (*with* Su, Wen Long; Luo, Hai Peng) A new lower bound for the Ramsey number $R_{10}(3)$. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **14** (1998), *no.* 1, 1–3. 05C55

Youlmukhametov, R. S. *see* **Yulmukhametov, R. S.**

Youm, Donam (*with* Cvetič, Mirjam) BPS saturated and non-extreme states in abelian Kaluza-Klein theory and effective $N = 4$ supersymmetric string vacua. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 131–147, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:83088** 83E30 (81T30, 83E15)

— Entropy of non-extreme rotating black holes in string theories. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 431–460. (Dileep P. Jatkar) **99c:83064** 83C57 (81T30, 83E30)

Youn, Eun-Ho (*with* Baek, Jong-Il; Lim, Ho-Un) A weakly dependence concept in moving average models. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 743–754. (Xian Zhi George Yuan) **99k:62150** 62M10 (60G44, 90A20)

Youn, Sung-Kie (*with* Yi, Yeong-Moo; Park, Sang-Hoon) Asymptotic homogenization of viscoelastic composites with periodic microstructures. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 17, 2039–2055. (Summary) **99a:73014** 73B27 (73F15, 73K20)

Youndjé, Élie Propriétés de convergence de l'estimateur à noyau de la densité conditionnelle. (English summary) [Convergence properties of the kernel estimator of conditional density] *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 535–566. (Michael Falk) **99g:62047** 62G05 (62G20)

Younès, Anis (*with* Mose, Robert; Ackerer, Philippe; Chavent, Guy) Une résolution par les éléments finis mixtes à une inconnue par maille. (English and French summaries)

[Solution using the mixed finite element method with one unknown per element] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 7, 623–626. (Summary) **99m:65226** 65N30 (76M10, 76S05, 86–08)

— (*with* Mose, Robert; Ackerer, Philippe; Chavent, Guy) A new formulation of the mixed finite element method for solving elliptic and parabolic PDE with triangular elements. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 148–167. (Summary) **99i:76133** 76M25 (76S05, 86–08, 86A05)

Younes, Laurent Computable elastic distances between shapes. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 565–586 (*electronic*). (Summary) **99c:68221** 68T10 (49Q20, 53A04)

ben Younes, Meriem *see* **Ben Younes, Meriem**

Young, Carmen M. Normal invariants of lens spaces. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 374–384. (J. M. Boardman) **99k:57071** 57R65 (55R15, 57S25)

Young, David P. (*with* Cai, Xiao-Chuan; Gropp, William D.; Keyes, David E.; Melvin, Robin G.) Parallel Newton-Krylov-Schwarz algorithms for the transonic full potential equation. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 246–265 (*electronic*). (Summary) **99b:65138** 65N30 (65H20, 65Y05, 76H05, 76M10)

Young, Enoch C. M. (*with* Wang, Bin[2]; Su, Ru-Keng; Yu, P. K. N.) Can a nonextremal Reissner-Nordström black hole become extremal by assimilating an infalling charged particle and shell? (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5284–5286. 83C57

de Young, Gregg *see* **De Young, Gregg**

Young, H. Peyton (*with* Foster, Dean P.) On the nonconvergence of fictitious play in coordination games. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 1, 79–96. (Summary) **99k:90217** 90D12

Young, Jeff Large primes and Fermat factors. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1735–1738. (Ronald Joseph Burthe, Jr.) **99a:11010** 11A51 (11A41, 11Y11)

Young, K. *see* **Young, Kenneth**

Young, K. David A polar coordinate based sliding mode design for vibration control. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 39–50. (*see* **99a:93003**) 93C95 (73K50)

Young, Kenneth (*with* Leung, P. T.; Liu, Yuk Tung; Suen, Wai-Mo; Tam, C. Y.) Logarithmic perturbation theory for quasinormal modes. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3271–3286. (M. Znojil) **99f:81051** 81Q15 (34L40)

Young, Lai-Sang Statistical properties of dynamical systems with some hyperbolicity. *Ann. of Math.* (2) **147** (1998), *no.* 3, 585–650. (Nikolai Chernov) **99h:58140** 58F15 (58F11)

— (*with* Keane, Michael S.; Murray, Rua) Computing invariant measures for expanding circle maps. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 27–46. (Gary Froyland) **99a:58106** 58F11 (28D99, 65U05)

Young, N. J. *see* **Young, Nicholas J.**

Young, Neal E. On-line file caching. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 82–86, *ACM, New York*, 1998. (*see* **99d:68011**) 68N25

— Bounding the diffuse adversary. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 420–425, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (68N25)

— (*with* Lupton, Robert; Maley, F. Miller) Data collection for the Sloan digital sky survey—a network-flow heuristic. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 339–356. (Summary) **99a:68091** 68Q25 (90C27)

Young, Nicholas J. Some function-theoretic issues in feedback stabilisation. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 337–349, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99c:93094** 93D15 (47N70)

— (*with* Agler, Jim) Functions which are almost multipliers of Hilbert function spaces. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 2, 453–475. (Barbara D. MacCluer) **99g:46027** 46E20 (46E22, 47A57)

— (*with* Agler, Jim) A converse to a theorem of Adamyan, Arov and Krein. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 2, 305–333. (D. Sarason) **99k:47031** 47A57 (46E22, 47B38)

Young, Peter M. Controller design with real parametric uncertainty. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 469–509. 93B51 (93C41)

Young, R. *see* **Young, Robin**

Young, Robert L. (*with* Akers, Robert L.; Baffes, Paul; Kant, Elaine; Randall, Curt; Steinberg, Stanly) Automatic synthesis of numerical codes for solving partial differential equations. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 3–22. (*see* **99a:00035**) 35–04

Young, Robert M. Interpolation and frames in certain Banach spaces of entire functions. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 639–645. (N. A. Shirokov) **99c:41004** 41A05 (42C99, 46E15)

Young, Robin *see* **Proceedings: Workshop on Compressible Turbulent Mixing, 99g:76002**

Young, Robyn V. *see* **Notable mathematicians, 99f:01002**

Young, Todd R. (*with* Afraimovich, Valentin) Relative density of irrational rotation numbers in families of circle diffeomorphisms. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 1–16. (Lorenzo J. Díaz) **99d:58056** 58F03 (58F99)

— (*with* Ghrist, Robert W.) From Morse-Smale to all knots and links. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1111–1125. (Josefina Casasayas) **99e:58114** 58F09 (57M25, 58F22)

Young, Virginia R. (*with* Wang, Shaun S.) Ordering risks: expected utility theory versus Yaari's dual theory of risk. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 2, 145–161. (Fl. De Vylder) **99m:62156** 62P05

— (*with* Wang, Shaun S.) Risk-adjusted credibility premiums using distorted probabilities. (English summary) *Scand. Actuar. J.* **1998**, *no.* 2, 143–165. (Summary) **99k:62203** 62P05

Young, W. R. (*with* Manfroi, A. J.) Slow evolution of zonal jets on the beta plane. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 5, 784–800. (Summary) **99j:86012** 86A10 (76E20)

Younis, M. S. The Jacobi Fourier transforms of certain Lipschitz functions on SU(1, 1). (English summary) *Math. Sci. Res. Hot-Line* **1** (1997), *no.* 11, 15–24. (Mahmood Ahmad Pathan) **99i:44008** 44A15 (22E30, 42A38, 43A32)

— Fourier transforms of Lipschitz functions on the hyperbolic plane H^2. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 397–401. (Sergei S. Platonov) **99c:43018** 43A85 (42C99, 43A90)

— The Hankel transforms of certain Lipschitz functions. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 73–84. (Summary) **99g:44008** 44A15

Younis, Rahman (*with* Saidi, Fathi) On some reverse integral inequalities. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 624–629. (Alberto Fiorenza) **99f:26038** 26D15

Yourgrau, Palle Comments on: "Did Gödel surprise Einstein with a rotating universe and time travel?" [Found. Phys. **26** (1996), no. 4, 501–521; MR 97c:01029] by Giora Hon. (English summary) *Found. Phys.* **28** (1998), *no.* 11, 1719–1727. (Summary) **99k:01041** 01A60 (00A35, 81–03, 83–03)

Yousef, Hasan (*with* Saleh, Mohammad A.; Abu Hlail, J.) The number of homomorphisms from $\mathbf{Z}_{m_1} \times \mathbf{Z}_{m_2} \times \cdots \times \mathbf{Z}_{m_r}$ into $\mathbf{Z}_{k_1} \times \mathbf{Z}_{k_2} \times \cdots \times \mathbf{Z}_{k_s}$. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **25** (1998), *no.* 2, 326–329. 20K30 (13A99)

Yousefpor, M. (*with* Gündeş, A. N.; Palazoglu, Ahmet) A test for stabilizability by constant output-feedback. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1239–1246. 93D15

Yousif, Hashim A. (*with* Melka, Richard) Bessel function of the first kind with complex argument. (English summary) *Comput. Phys. Comm.* **106** (1997), *no.* 3, 199–206. (E. R. Love) **99e:33003** 33C10 (65D20)

Yousif, Mohamed F. CS rings and Nakayama permutations. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3787–3795. (J. L. Gómez Pardo) **99c:16017** 16L30 (16L60)

— (*with* Nicholson, W. K.) Annihilators and the CS-condition. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 213–222. (John Clark) **99f:16003a** 16D50 (16L30, 16L60)

— (*with* Nicholson, W. K.) Corrigendum: "Annihilators and the CS-condition". *Glasgow Math. J.* **40** (1998), *no.* 3, 475–476. (John Clark) **99f:16003b** 16D50 (16L30, 16L60)

Yousif, W. S. (*with* Evans, David John[1]) New point and group iterative methods for solving three-dimensional elliptic equations. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 353–362. (Summary) **99a:65131** 65N06

Youssef, Ahmed Hassen A. The statistical curvature of seemingly unrelated unrestricted regression equations. (English summary) *Egyptian Statist. J.* **41** (1997), *no.* 1, 43–50. 62J05

Youssef, Nabil L. Partial near-ring. *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 91–98. 16Y30

Youssfi, Abdellah (*with* Runst, Thomas) The Jacobian-determinant equation on Besov and Triebel-Lizorkin spaces. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 267–282. (Maria A. Ragusa) **99c:46029** 46E35 (35A07, 35J25)

Youssfi, E. H. (*with* Pflug, P.) The Lu Qi-Keng conjecture fails for strongly convex algebraic domains. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 240–245. (Harold P. Boas) **99k:32040** 32H10

— Harmonic analysis on conelike bodies and holomorphic functions on tube domains. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 381–435. (Jacques Faraut) **99m:43004** 43A35 (20M14, 32F40)

Youssif, Y. G. (*with* Allam, M. N. M.; Al-Amir, A. E.) Optimal stabilization of a compressed elastic shallow shell. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 233–244. 73K50 (73K15, 93D15)

Youssin, Boris (*with* Bressler, Paul; Saito, Morihiko) Filtered perverse complexes. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 119–136. (Stéphane Guillermou) **99i:14022** 14F32 (14D07, 14F40, 32C38)

Yovanof, G. S. (*with* Golomb, Solomon W.) The polynomial model in the study of counterexamples to S. Piccard's theorem. (English summary) *Ars Combin.* **48** (1998), 43–63. (Joseph Max Rosenblatt) **99g:05017** 05A99

Yrjönsuuri, Mikko The compossibility of impossibilities and *Ars obligatoria*. (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 4, 235–248. 03–03 (01A35, 03A05)

de la calle Ysern, B. *see* **de la Calle Ysern, B.**

mercier Ythier, Jean *see* **Mercier Ythier, Jean**

Ytrehus, Øyvind (*with* Hole, Kjell Jørgen) Cosets of convolutional codes with least possible maximum zero- and one-run lengths. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 423–431. (Summary) **99b:94047** 94B10

— (*with* Abdel-Ghaffar, Khaled A. S.) Difference set codes: codes with squared Euclidean distance of six for partial response channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1593–1602. (Alexander M. Barg) **99m:94060** 94B60

Yu, Alfred General relativity on spinor-tensor manifold. (English summary) *Quantum gravity* (*Erice*, 1995), 382–411, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99h:83039** 83C60 (83C99)

Yu, Bin[1] Assouad, Fano, and Le Cam. *Festschrift for Lucien Le Cam*, 423–435, *Springer, New York*, 1997. (M. P. Moklyachuk) **99c:62137** 62G10 (62G05, 62G20)

— (*with* Barron, Andrew; Rissanen, Jorma) The minimum description length principle in coding and modeling. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2743–2760. (Summary) **99h:94032** 94A29 (94–02, 94A24)

Yu, Bing Jun The biordered sets of idempotents of endomorphism rings of modules. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 270–276. (Fang Li) **99m:20153** 20M20 (16S50)

— Freeness of submonoids of language monoids. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 6, 599–602. 20M35 (68Q70)

Yu, Bo (*with* Shi, Jinglin; Li, Tao; Zhang, Qunying; Han, Yueqiu) Improvement of CORDIC algorithm. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 4, 400–405. 65D20 (94A12)

Yu, Bo[1] (*with* Feng, Guo-chen) Globally convergent interior path following methods for nonlinear programming and Brouwer fixed point problems. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 325–343, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C30 (65K05)

— (*with* Feng, Guo-chen; Lin, Zheng Hua) Existence of an interior pathway to a Karush-Kuhn-Tucker point of a nonconvex programming problem. *Nonlinear Anal.* **32** (1998), *no.* 6, 761–768. (Dorel Duca) **99f:90082** 90C26

Yu, Byungchul (*with* Choi, In; Park, Joon Y.) Canonical cointegrating regression and testing for cointegration in the presence of $I(1)$ and $I(2)$ variables. (English summary) *Econometric Theory* **13** (1997), *no.* 6, 850–876. (Luis Firinguetti) **99c:62245** 62M10 (62P20)

Yu, Chang An A formula for solving nonhomogeneous two-parameter trinomial recurrences. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 3, 269–274. (Shu Nian Zhang) **99f:39013** 39A10 (11B37)

— The solutions of a class of nonhomogeneous recurrences with doubly indexed coefficients. (Chinese) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 316–320. (Shu Nian Zhang) **99e:39048** 39A10

— The general solution of a trinomial linear recurrence with two indices. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 3, 255–260. (Zhen Fu Cao) **99a:11016** 11B37

— A counting formula for γ-repetitive permutations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 249–254. 05A15 (05A05)

Yu, Chang-Wu (*with* Chen, Gen-Huey; Ma, Tze-Heng) On the complexity of the k-chain subgraph cover problem. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 85–98. (Summary) **99g:68101** 68Q25 (05C85, 68Q22, 68R10)

Yu, Chian-Son (*with* Li, Han-Lin) Comments on: "Fuzzy programming with nonlinear membership functions: piecewise linear approximation" [Fuzzy Sets and Systems **41** (1991), no. 1, 39–53; MR 92i:90119] by T. Yang, J. P. Ignizio and H.-J. Kim. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 109–113. (Summary) **99k:90202** 90C70 (04A72)

Yu, Ching-Shu (*with* Chen, Ming-Po; Srivastava, Hari M.) Some operators of fractional calculus and their applications involving a novel class of analytic functions. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 285–296. (Shigeyoshi Owa) **99g:26013** 26A33 (30C45)

Yu, Chun Hai (*with* Xie, Yan Bo) The structure of pseudocomplements in molecular lattices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 589–593. (Ying Ming Liu) **99h:06005** 06D15 (06A23, 06D05, 06D10)

Yu, Da Hai (*with* Cao, Guang Fu; Ghatage, P.; Elias, N.) Composition operators on a Banach space of analytic functions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 235–240. (Ke He Zhu) **99j:47042** 47B38 (46E15)

Yu, Dan (*with* Zhao, Yong Hui; Xue, Hong Qi) Reliability confidence limits for exponential life distributions with type I censoring. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 2, 240–245. 90B25

Yu, De Hao (*with* Zheng, Quan[1]) An overlapping domain decomposition method based on the natural boundary reduction for biharmonic boundary value problems over unbounded domains. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 438–448; *translation in Chinese J. Numer. Math. Appl.* **20** (1998), *no.* 1, 89–101. (Summary) **99b:65167** 65N55

— (*with* Zheng, Quan[1]) An overlapping domain decomposition method for harmonic boundary value problems on unbounded sector domains. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 64–73. 65N55 (65N30)

— (*with* Wu, Ji Ming) An approximate computation of hypersingular integrals on an interval. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 118–126. 65D32 (65R20)

— (*with* Wu, Ji Ming) The natural integral equations of 3-D harmonic problems and their numerical solutions. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 419–430. 65N38 (65R20)

Yu, De Jian Solution of abstract dynamical equations with critical parameters in Banach spaces. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 181–186. (Summary) **99f:34089** 34G10 (47D06, 47N20)

Yu, Dingli (*with* Shields, D. N.; Daley, S.) A bilinear fault detection observer and its application to a hydraulic drive system. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1023–1047. 93C90 (93B07)

— (*with* Shields, D. N.) A bilinear fault detection filter. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 417–430. 93E11

Yu, Feng-Shuo (*with* Cheng, Cao-Zong; Lin, Bor-Luh) Weakly upward-downward minimax theorem. *Minimax theory and applications* (*Erice*, 1996), 21–28, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alberto Seeger) **99i:49009** 49J35 (47N10, 90D05)

— (*with* Lin, Bor-Luh) Two functions generalization of Horvath's minimax theorem. *Minimax theory and applications* (*Erice*, 1996), 147–156, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Francesco Ferro) **99f:49012** 49J35 (47H99)

Yu, Fu Sheng (*with* Luo, Cheng Zhong) A mathematical model of fault diagnosis based on the theory of factor spaces and its application. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 47–53. 68T99

Yu, G. *see* **Yu, Guang**

Yu, Gang[2] On the max-min 0-1 knapsack problem with robust optimization applications. (English summary) *Oper. Res.* **44** (1996), *no.* 2, 407–415. 90C09 (90C27)

— (*with* Kouvelis, Panagiotis) ★ Robust discrete optimization and its applications. (English summary) Nonconvex Optimization and its Applications, 14. *Kluwer Academic Publishers, Dordrecht*, 1997. xvi+356 *pp. ISBN* 0-7923-4291-7 (Ignacy Kaliszewski) **99b:90002** 90–02 (90C10, 90C27)

— (*with* Goldschmidt, Olivier) Local optimality and its application on independent sets for k-claw free graphs. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 2, 151–164. (Summary) **99b:90152** 90C35 (05C85)

— (*with* Yang, Jian[4]) Optimization applications in the airline industry. *Handbook of combinatorial optimization, Vol. 2*, 635–726, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C90 (90–02, 90C27)

— Min-max optimization of several classical discrete optimization problems. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 221–242. (J. Teghem, Jr.) **99f:90102** 90C27 (90C33)

— *see also* **Industrial applications of combinatorial optimization, 99d:90005**

Yu, Ge (*with* Yu, Zhao Xian; Zhang, De-Xing) Clebsch-Gordan coefficients for the two-parameter deformed quantum algebra $SU(1,1)_{q,s}$. I. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 2, 179–184. (A. M. Gavrilik) **99d:81058** 81R50 (17B37)

— (*with* Zhang, De-Xing; Yu, Zhao Xian) Clebsch-Gordan coefficients for two-parameter deformed quantum algebra $SU(1,1)_{q,s}$. II. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 1, 57–62. (A. M. Gavrilik) **99g:81101** 81R50 (17B37)

— (*with* Sui, Zhenlin; Yu, Zhao Xian) q,s-Taylor's formula with q,s-remainder. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 1, 133–136. (Introduction) **99k:26004** 26A24 (39A10)

Yu, Ge (*with* Wang, Guo Ren; Zhang, Bin; Zheng, Huai Yuan) A new filtering technique for join algorithms. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 713–721. 68P15

Yu, Guang (*with* Huang, Yong Nian[2]) Application of the algebraic analytical method to the one-dimensional logistic map. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 3, 330–342. (Gong Fu Liao) **99a:58115** 58F13 (58F20)

— (*with* Canuto, V. M.; Dubovikov, M. S.) A dynamical model for turbulence. VIII. IR and UV Reynolds stress spectra for shear-driven flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 665–677. (Summary) **99k:76077** 76F99

— (*with* Canuto, V. M.; Dubovikov, M. S.) A dynamical model for turbulence. IX. Reynolds stresses for shear-driven flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 678–691. (Summary) **99k:76078** 76F99

Yu, Guodong Existence of stable equilibrium for a class of multi-species ecosystem. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 402–406. (Summary) **99i:92025** 92D25 (34D20)

— On the partial stability of impulsive differential equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 407–412. (A. S. Vatsala) **99g:34111** 34D20 (34A37)

Yu, Guohua On the rate of convergence of conjugate Legendre-Fourier series of function of bounded variation. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 4, 42–55. (Prem Chandra) **99g:41020** 41A25 (42A50, 42C10)

Yu, Guoliang The Novikov conjecture for groups with finite asymptotic dimension. *Ann. of Math.* (2) **147** (1998), *no.* 2, 325–355. (Evgeniĭ V. Troitskiĭ) **99k:57072** 57R67 (19K35, 19L47, 46L89)

— Asymptotic Fredholm modules, vector bundles with small variation and a nonvanishing theorem for K-theoretic indices. (English summary) *K-Theory* **13** (1998), *no.* 4, 331–346. (Yuri A. Kordyukov) **99d:46096** 46L80 (19K56, 46L99, 58G12)

Yu, Guoxin (*with* Maekawa, Takashi; Patrikalakis, Nicholas M.; Sakkalis, Takis) Analysis and applications of pipe surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 437–458. (Summary) **99c:68254** 68U07 (65D17, 68U05)

Yu, H. (*with* Lloyd, Seth) Combined direct and indirect adaptive control of constrained robots. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 955–970. 93C85 (70Q05)

Yu, H. H. (*with* Suo, Zhigang) A finite element method for simulating interface motion. (English summary) *Computational and mathematical models of microstructural evolution* (*San Francisco, CA*, 1998), 113–124, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 80–08 (73B30, 80A22)

Yu, Hai Yuan (*with* Shu, Shi; Huang, Yun Qing) Superconvergence and a high accuracy combination formula for bicubic spline elements for plate problems. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 167–174. (Summary) **99e:65146** 65N12 (73K10, 73V20)

Yu, Haiyan (*with* Shu, Shi; Jin, Jicheng) On orthonormal spline wavelets of multi-knots in the periodic case. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 491–505, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Tian-Xiao He) **99i:42055** 42C15

Yu, Hao (*with* Lu, Chuan Rong) A note on how small are the increments of a fractional Wiener process? (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 303–310, *North-Holland, Amsterdam*, 1998. (Götz Kersting) **99k:60107** 60G15 (60G10)

Yu, He Ji (*with* Zhou, Yong; Dai, Qiong Hai; Chai, Tian You) Robust direct adaptive control based on dynamical neural networks. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 4, 272–276. 93C40 (93C83)

Yu, Heng (*with* Xin, Xiao-kang; Shen, Yi-fan) A new nonoscillatory characteristics scheme for hyperbolic convection equations. (English summary) *J. Hydrodyn. Ser. B* (*English Ed.*) **10** (1998), *no.* 4, 62–70. 65M06 (76M20)

Yu, Hong Bing On two problems of Mordell about exponential sums. *Acta Arith.* **86** (1998), *no.* 2, 149–154. (Charles Helou) **99i:11070** 11L07

— On Waring's problem with polynomial summands. II. *Acta Arith.* **86** (1998), *no.* 3, 245–254. (D. R. Heath-Brown) **99i:11093** 11P05

— On the Diophantine equation $(x+1)^y - x^z = 1$. *Amer. Math. Monthly* **105** (1998), *no.* 7, 656–657. 11D61

— Note on Heath-Brown's estimate for Heilbronn's exponential sum. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1995–1998. (Ming Gao Lu) **99j:11094** 11L07 (11L03)

Yu, Hong-Wei Black-hole entropy and horizon area. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 8, 953–958. (Summary) **99g:83062** 83C57 (83C45)

— Averaged energy conditions in 4D evaporating black hole backgrounds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064017, 5 *pp.* 83C57

Yu, Hong Xia (*with* Du, Xue Wu) Global convergence of a family of conjugate gradient methods. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 69–73. 90C30

Yu, Hong Yi[1] Solving parabolic problems with different time steps in different regions in space based on domain decomposition methods. (English summary) *Appl. Numer. Math.* **30** (1999), *no.* 4, 475–491. 65M55

Yu, Hong Yi[2] (*with* Bao, Zheng) Performance study of a class of cyclic weighted subspace fitting methods. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 519–526. 94A12

Yu, Hongquan (*with* Hsu, Leetsch Charles) On mutual representations of symmetrically weighted Stirling-type pairs with applications. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 399–405. (F. T. Howard) **99b:11014** 11B73 (05A10)

— (*with* Gao, Weidong) Note on the union-closed sets conjecture. (English summary) *Ars Combin.* **49** (1998), 280–288. (Dinesh G. Sarvate) **99f:05115** 05D05

— (*with* Wang, Tian Ming) An inequality on connected domination parameters. (English summary) *Ars Combin.* **50** (1998), 309–315. (Summary) **99k:05095** 05C35

— A generalization of Stirling numbers. *Fibonacci Quart.* **36** (1998), *no.* 3, 252–258. (F. T. Howard) **99g:11025** 11B73 (05A15, 11A07)

— (*with* Li, Chaoying) Intervals of gaps on cardinalities of Boolean matrices. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 114–116. (Summary) **99m:05033** 05B20

— On distributions of cardinalities of row spaces of Boolean matrices. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 321–330. (Fred W. Roush) **99i:15031** 15A48 (20M20)

Yu, Hongyi *see* **Yu, Hong Yi**[2]

Yu, Hua-Gen (*with* Smith, Sean C.) The elimination of Lanczos ghosting effects by MINRES filter diagonalization. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 484–494. (Summary) **99d:65119** 65F15 (65F50)

Yu, J. *see* **Yu, Jian**

Yu, J. S. *see* **Yu, Jian She**

Yu, Jang-Horng (*with* Fosdick, Roger; Ketema, Yohannes) A non-linear oscillator with history dependent force. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 3, 447–459. (Summary) **99a:73072** 73F15 (70K99, 73K12)

— (*with* Fosdick, Roger; Ketema, Yohannes) Dynamics of a viscoelastic spherical shell with a nonconvex strain energy function. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 221–244. (Summary) **99a:73073** 73F15 (73G25, 73K12, 73K15)

Yu, Ji Guo (*with* Zhang, Ju Liang) A new modified SQP method with global and superlinear convergence. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 21–26. 90C30 (65K05)

Yu, Jian (*with* Yuan, Xian-Zhi; Isac, George; Tan, Kok-Keong) The study of minimax inequalities, abstract economics and applications to variational inequalities and Nash equilibria. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 2, 135–166. (Xie Ping Ding) **99j:49018** 49J40 (49J35, 58E35, 90A14)

— (*with* Yuan, Xian-Zhi; Isac, George) The stability of solutions for differential inclusions and differential equations in the sense of Baire category theory. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 51–56. (Tzanko D. Donchev) **99d:34024** 34A60 (34D99)

— (*with* Yuan, Xian-Zhi) The study of Pareto equilibria for multiobjective games by fixed point and Ky Fan minimax inequality methods. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 17–24. (Summary) **99a:90248** 90D10 (90C29)

Yu, Jian Hui Existence of multiple positive solutions to second-order boundary value problems. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 1, 6–10. (Summary) **99b:34053** 34B15

Yu, Jian Ming (*with* Zou, Jian Cheng) A simple introduction to singularity theory. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 4, 301–308. 32S55 (14B05)

Yu, Jian Ning (*with* He, Chun Xiong) Explicit fundamental solutions for a class of nonhomogeneous invariant differential operators on the Heisenberg group H_{2n+1}. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 2, 7–15. (Summary) **99j:35002** 35A08 (35H05)

— (*with* Zhang, Zhi Jun) A class of quasilinear elliptic equations with singular boundary conditions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 17–20. 35J65

Yu, Jian She (*with* Wang, Zhi Cheng[1]) Nonoscillation of a neutral delay differential equation. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 127–133. (István Győri) **99g:34149** 34K15 (34K40)

— (*with* Shi, Bao; Wang, Zhi Cheng[1]) Asymptotic constancy of solutions of linear parabolic Volterra difference equations. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 8, 65–77. (Summary) **99c:39008** 39A10 (39A12)

— (*with* Shi, Bao; Wang, Zhi Cheng[1]) Stability of parabolic Volterra integro-partial differential equations and their discrete analogues. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 177–190. (Summary) **99h:45020** 45K05 (35B35, 35K55, 39A12, 45M10)

— (*with* Ma, Shi Wang) An extension of Yoshizawa's theorem on periodic solutions. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **23** (1996), *no.* 6, 27–29. (Summary) **99a:34196** 34K15

— (*with* Wang, Zhi Cheng[1]) Oscillation of neutral delay difference equations with summable coefficients. (English summary) *Advances in difference equations (Veszprém, 1995)*, 629–639, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39045** 39A10

— (*with* Zhang, Bing Gen) Uniform stability of a delay single population model. *Advances in nonlinear dynamics*, 137–146, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (From the introduction) **99a:92038** 92D40 (34K20)

— (*with* Shi, Bao; Wang, Zhi Cheng[1]) A necessary and sufficient condition for global asymptotic stability of the zero solution to delay difference equations and its applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 615–624. (Summary) **99i:39026** 39A11 (39A10)

— Asymptotic stability for nonautonomous delay differential equations. *Chinese Sci. Bull.* **42** (1997), *no.* 20, 1676–1679. (Ovide Arino) **99j:34114** 34K20

— (*with* Chen, Ming-Po; Lalli, B. S.) Oscillation and global attractivity in a multiplicative delay logistic equation. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 75–83. (Summary) **99i:34096** 34K15 (34K20)

— Global attractivity in a discrete delay logistic model. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 80–85. (Summary) **99d:92032** 92D25 (39A10)

— (*with* Zhou, Zhan) Decaying solutions of difference equations with continuous arguments. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 576–582. (Summary) **99k:39052** 39A10

— (*with* Ma, Shi Wang; Wang, Zhi Cheng[1]) Periodic solutions of periodically perturbed functional-differential equations. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 23, 1956–1959. (Tibor Krisztin) **99j:34106** 34K15 (47H15)

— (*with* Zhang, Bing Gen) Linearized oscillation theorems for certain nonlinear delay partial difference equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 111–116. (Summary) **99a:39040** 39A10 (35R10, 39A11)

— (*with* Chen, Ming-Po; Zhang, Hua) Oscillation and nonoscillation in neutral equations with integrable coefficients. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 65–71. (Guang Zhang) **99a:34203** 34K15 (34K40)

— (*with* Zhou, Zhan; Wang, Zhi Cheng[1]) Global attractivity of neutral difference equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 1–10. (Summary) **99i:39025** 39A10

— (*with* Shi, Bao; Wang, Zhi Cheng[1]) Stability and boundedness in difference systems with finite delay. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 369–376. (Summary) **99j:39015** 39A11

— (*with* Liu, Kai Yu; Luo, Jiao Wan) Global attractivity and uniform stability for a perturbed nonautonomous linear differential equation with delay. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 257–266. (Jian Hong Wu) **99m:34174** 34K20

— (*with* Zhang, Zheng Qiu) Periodic solutions of a class of Duffing equations with delay. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 389–392. (Summary) **99m:34171** 34K15

— (*with* Ma, Shi Wang; Wang, Zhi Cheng[1]) An abstract existence theorem at resonance and its applications. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 274–294. (Anna Capietto) **99c:47102** 47H15 (34C25, 34K10, 47N20)

— (*with* Tang, Xian Hua) Oscillation and existence of positive solutions for odd-order neutral equations with "integrally small" coefficients. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 286–296. (Hiroshi Onose) **99b:34120** 34K15 (34K40)

— (*with* Ma, Shi Wang; Wang, Zhi Cheng[1]) Global solutions of functional-differential equations with periodic perturbations. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 13, 1386–1389. 34K05 (47N20)

— (*with* Wen, Xian Zhang; Wang, Zhi Cheng[1]) The asymptotic behavior of reaction-diffusion equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 117–120. (Summary) **99k:35095** 35K57 (35B40)

— (*with* Zhang, Zheng Qiu) Asymptotic behavior of solutions of neutral difference equations with positive and negative coefficients. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 6, 1–12. (Summary) **99d:39016** 39A10

— (*with* Ma, Shi Wang; Wang, Zhi Cheng[1]) Coincidence degree and periodic solutions of Duffing equations. *Nonlinear Anal.* **34** (1998), *no.* 3, 443–460. (Anna Capietto) **99i:34062** 34C25 (34K10, 47H15, 47N20)

— (*with* Ma, Shi Wang; Wang, Zhi Cheng[1]) Semilinear equations at resonance with the kernel of an arbitrary dimension. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 513–529. (Andrey Ponomaryov) **99j:34088** 34K05 (47H15, 47N20)

— (*with* So, Joseph W.-H.) Global stability for a general population model with time delays. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 447–457, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Miklós Farkas) **99m:92039** 92D25 (34K20)

— *see also* **Zhang, Zheng Qiu**

Yu, Jiarong A theorem of Picard type for Dirichlet series. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 2, 129–131. (Summary) **99h:30005** 30B50 (30D05)

— (*with* Chen, Zong-Xuan) The zeros and order of meromorphic solutions of $f^{(k)} + Bf = H(z)$. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 433–444. (Gary G. Gundersen) **99m:34007** 34A20 (30D35)

Yu, Jie (*with* Sideris, Athanasios) H_∞ control synthesis via reduced-order LMIs. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 85–101. (Summary) **99c:93041** 93B36 (93B50)

Yu, Jie-Tai (*with* Shpilrain, Vladimir) Polynomial automorphisms and Gröbner reductions. (English summary) *J. Algebra* **197** (1997), *no.* 2, 546–558. (Franz Pauer) **99c:13055** 13P10 (13F20)

— (*with* Drensky, Vesselin) Orbits in free algebras of rank two. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1895–1906. (A. A. Iskander) **99d:17003** 17B01 (16S10)

— (*with* Drensky, Vesselin) Exponential automorphisms of polynomial algebras. *Comm. Algebra* **26** (1998), *no.* 9, 2977–2985. (Amartya K. Dutta) **99m:13014** 13B10 (13B25)

— (*with* Mikhalëv, A. A.) Test elements, retracts and automorphic orbits of free algebras. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 3, 295–310. (Vesselin Drensky) **99h:17002** 17A36 (17A50, 17B01)

— (*with* Drensky, Vesselin) Test polynomials for automorphisms of polynomial and free associative algebras. (English summary) *J. Algebra* **207** (1998), *no.* 2, 491–510. (P. M. Cohn) **99i:16062** 16W20 (16S10, 16S36)

— Complementary conjecture revisited. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 3, 319–322. (Summary) **99d:13006** 13B10 (14E09)

— (*with* Shpilrain, Vladimir) On generators of polynomial algebras in two commuting or non-commuting variables. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 3, 309–315. (L. Andrew Campbell) **99g:16044** 16W20 (08A35, 16S10, 17C99)

— Recognizing automorphisms of polynomial algebras. (English summary) Algebra Meeting (Rio de Janeiro, 1996). *Mat. Contemp.* **14** (1998), 215–225. (E. Formanek) **99j:14014** 14E09

Yu, Jin Qiao (*with* Yuan, Jin Jiang) Random (m, r)-orthogonal (g, f)-factorable graphs. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 311–318. (Summary) **99g:05148** 05C70

Yu, Jing (*with* Wang, Julie T.-Y.) On class number relations over function fields. (English summary) *J. Number Theory* **69** (1998), *no.* 2, 181–196. (Yoshinori Hamahata) **99b:11128** 11R58 (11G09, 11R29)

Yu, Jing Hu The dimensions of finite measures on a probability space and their distribution. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 103–106. (Zheng Yan Lin) **99m:60009** 60B05 (28A80)

Yu, Jixiong (*with* Han, Zhen) Derivative instability of some schemes for the Korteweg-de Vries equation. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 113–119. 65M06

Yu, Jue Bang (*with* Yuan, Xiao) Orthogonality conditions for bubble wavelets. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 1, 25–28. 42C15

Yu, Jun (*with* Wu, Li De; Zhu, Jun Mei) The visual perception and computation of global topological properties. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 601–608. 92J30 (68T05)

— (*with* Liang, Xue Bin; Wu, Li De) Segmenting and estimating multiple 3-D rigid motions from 2-D point correspondences. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 186–191. 93E10 (93C85)

Yu, Jun[3] (*with* Wang, Shi Gang; Liu, Li; Xiao, Shang Hong; Zhou, Ji[1]) A genetic algorithm for structural optimization. (Chinese. English and Chinese summaries)

Chinese J. Appl. Mech. **12** (1995), *no.* 3, 106–110, *X.* 73K40

Yu, Jun[4] (*with* Xie, Zhi-kun) Singularity analysis in $(2+1)$-dimensional generalization of the perturbation equations of the KdV hierarchy. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 2, 111–116. 35Q53

Yu, Kai Fun On estimating subpopulation means. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 235–273. (Sumitra Purkayastha) **99i:62141** 62H30

Yu, Keming (*with* Jones, Michael C.) Local linear quantile regression. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 228–237. (Summary) **99a:62059** 62G05

Yu, Kunrui p-adic logarithmic forms and group varieties. I. *J. Reine Angew. Math.* **502** (1998), 29–92. (Yann Bugeaud) **99g:11092** 11J86 (11J61)

Yu, Lan Mei A further discussion on the problem of power sums of matrices. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 3, 206–213. 15A33

Yu, Lee W. (*with* Bi, Guoan) DCT algorithms for composite sequence lengths. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 554–562. (Summary) **99h:94011** 94A12 (94A11)

Yu, Li (*with* Huang, Wenda; Huang, Meichun; Zhu, Zizhong; Zeng, Xiao Ming[2]; Ji, Wei) The Laguerre-Gaussian series representation of two-dimensional fractional Fourier transform. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9353–9357. (Summary) **99j:44012** 44A15 (33C45, 42B10)

Yu, Li[1] (*with* Wang, Wan Liang; Chu, Jian) Design of output feedback stabilizing controllers for uncertain time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 225–229. 93D21 (93C41)

— (*with* Pan, Hai Tian) Robust passive control of linear systems with time-varying uncertain parameters. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 368–372. 93D21

— (*with* Wang, Jing Cheng; Chu, Jian) Guaranteed cost control for uncertain discrete-time linear dynamical systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 3, 414–417. 93B35 (93C41)

— (*with* Su, Hong Ye; Wang, Jing Cheng; Chu, Jian) Memoryless robust stabilization control for uncertain linear systems with delayed state and control. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 769–773. 93D21 (93C30)

Yu, Lie (*with* Liu, Heng; Xie, You Bai; Yao, Fu Sheng) The Poincaré-like cell mapping method for nonlinear periodic nonautonomous systems and its application. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 4, 97–101. 34D05 (34C35)

— (*with* Duan, Ji An; Xie, You Bai) Recursive time-domain method of modal identification. (Chinese. Chinese summary) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 103–104, 107. 93E10 (93B30)

— (*with* Ji, Jin Chen) Bifurcation of a two-degree-of-freedom nonlinear vibrating system subject to parametric excitation. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 10, 83–87. 34C23 (58F14, 70K40)

— (*with* Liu, Heng; Xie, You Bai; Yao, Fu Sheng) Relationships between periodic solutions of nonlinear dynamical systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 12, 85–89. 34C25 (70K99)

— (*with* Liu, Heng; Xie, You Bai; Yao, Fu Sheng) A Poincaré-type cell mapping method of analysis and its application. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **31** (1999), *no.* 1, 91–99. 34D45 (58F12)

Yu, Lien-Tsai (*with* Chen, Cha'o-Kuang) The solution of the Blasius equation by the differential transformation method. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 101–111. (Summary) **99d:34017** 34A25 (76D10)

Yu, Lu (*with* Gogolin, Alexander O.; Nersesyan, Aleksandr Artëmovich; Tsvelik, Alexei M.) Zero-modes and thermodynamics of disordered spin-$\frac{1}{2}$ ladders. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 705–730. (Summary) **99j:82048** 82B44

Yu, M. Y. *see* **Yu, Ming-Young**

Yu, Ming[1] (*with* Fan, Jiang-Bei) G/G gauged supergroup valued WZNW field theory. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 253–266, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **99d:81140** 81T40 (81R10)

Yu, Ming-Shing (*with* Liu, Chuan-Ming) An optimal parallel algorithm for node ranking of cographs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 187–201. (Hans L. Bodlaender) **99g:05165** 05C85 (05C78, 68Q22)

Yu, Ming-Young (*with* Stenflo, L.) Plasma oscillons in spherically bounded magnetized plasmas. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3122–3125. (Summary) **99e:76133** 76X05

Yu, P. *see* **Yu, Pei**

Yu, P. K. N. (*with* Wang, Bin[2]; Su, Ru-Keng) Quantum entropy of two-dimensional extreme charged dilaton black hole. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2, 47–51. (Summary) **99g:83061** 83C57

— (*with* Wang, Bin[2]; Su, Ru-Keng; Young, Enoch C. M.) Can a nonextremal Reissner-Nordström black hole become extremal by assimilating an infalling charged particle and shell? (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5284–5286. 83C57

— (*with* Wang, Bin[2]; Su, Ru-Keng) Geometry of the extreme Kerr black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124026, 4 *pp.* (Summary) **99k:83088** 83C57

Yu, P. L. *see* **Yu, Po Lung**

Yu, Pei (*with* Huseyin, Koncay) Parametrically excited non-linear systems: a comparison of certain methods. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 967–978. (Yuri V. Mikhlin) **99b:34071** 34C23 (70K28)

— Computation of normal forms via a perturbation technique. (English summary) *J. Sound Vibration* **211** (1998), *no.* 1, 19–38. (James A. Murdock) **99f:34053** 34C20 (34C15, 34E10, 58F36, 70K99)

— (*with* Bi, Qin Sheng) Analysis of non-linear dynamics and bifurcations of a double pendulum. (English summary) *J. Sound Vibration* **217** (1998), *no.* 4, 691–736. (Summary) **99h:70033** 70K99 (34C15, 34C23, 70K50)

— (*with* Bi, Qin Sheng) Symbolic computation of normal forms for semi-simple cases. (English summary) *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 195–220. (Summary) **99k:34080** 34C20 (34-04, 58F36, 65-04, 65L99)

Yu, Philip L. H. (*with* Lam, Kin) Analysis of duplicate bridge tournament data. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 621–633. (Summary) **99d:62058** 62G99

Yu, Philip S. (*with* Schwiegelshohn, Uwe; Ludwig, Walter; Wolf, Joel L.; Turek, John) Smart SMART bounds for weighted response time scheduling. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 237–253 (*electronic*). (Mukkai S. Krishnamoorthy) **99e:68061** 68Q22 (68M20, 68Q25)

Yu, Pin Neng (*with* Jiang, Zeng Rong) A fast Fourier transform algorithm for the inversion of block K-circulant Toeplitz matrices. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 39–49. (Summary) **99h:65228** 65T20 (65F99, 65Y20)

Yu, Ping The separation numbers of two classes of graphs. (Chinese) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 4, 421–426. (Jing Zhong Mao) **99f:05066** 05C35 (05C78)

— An upper bound on the randic of trees. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 225–230. 05C35

Yu, Po Lung (*with* Feng, Jun Wen) Minimum spanning table and optimal expansion of competence set. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 655–679. (Koduvayur R. Parthasarathy) **99k:90186** 90C35 (05C05, 68T05, 92J45)

Yu, Qihuang (*with* Gong, Sheng; Zheng, Xuean) The Schwarzian derivative in several complex variables. II. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 1–8. (T. J. Suffridge) **99b:32035** 32H02 (30C55, 32A30)

— (*with* Gong, Sheng; Zheng, Xuean) The Schwarzian derivative in several complex variables. III. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 158–171. (T. J. Suffridge) **99g:32039** 32H02

Yu, Qing-Jian (*with* Wing, Omar; Jiang, Yao Lin) Rational approximation of irrational functions by linear fractional transformations. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 11, 1216–1221. (Summary) **99h:41023** 41A20 (30E10, 94C05)

Yu, Qinglin (*with* Liu, Gui Zhen) On n-edge-deletable and n-critical graphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 65–72. (Summary) **99c:05155** 05C70

Yu, Qiqing (*with* Li, Linxiong; Watkins, Terry) An EM algorithm for smoothing the self-consistent estimator of survival functions with interval-censored data. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 531–542. (Uttara V. Naik-Nimbalkar) **99j:62141** 62N05 (62G05, 65U05)

— (*with* Wong, George Y. C.) Consistency of self-consistent estimators of a discrete distribution function with bivariate right-censored data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 6, 1547–1556. (Summary) **99b:62071** 62G05

Yu, Rupert W. T. *see* **Lakshmibai, Venkatramani et al., 99j:20050**

Yu, S. S. *see* **Yū, Shih Shêng**

Yu, Sheng (*with* Salomaa, Kai) EDT0L structural equivalence is decidable. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 363–375, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:68077** 68Q40 (68Q45)

— (*with* Salomaa, Kai) Rewriting rules for synchronization languages. (English summary) *Structures in logic and computer science*, 322–338, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99d:68154** 68Q45 (68Q10)

— (*with* Calude, Cristian S.) Language-theoretic complexity of disjunctive sequences. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 203–209. (Summary) **99a:68105** 68Q45 (68Q30)

— (*with* Salomaa, Kai) Synchronization expressions with extended joint operation. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 73–88. (Summary) **99g:68106** 68Q42 (68Q10)

Yu, Sheng Hua (*with* He, Can Zhi) The BLU estimator of the parameter matrix in a general growth curve model. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 439–444. (Summary) **99k:62115** 62H12

— Linear minimax estimation of regression coefficients in general Gauss-Markov models under a matrix loss function. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 234–238. 62J05 (62C20)

— (*with* He, Can Zhi) Comparison of linear models with constraint conditions and remainder parameters. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 56–62. 62J05

Yu, Shiann-Jeng (*with* Lee, Ju Hong) Efficient eigenspace-based array signal processing using multiple shift-invariant subarrays. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 186–194. 78–08

Yu, Shih-Hsien (*with* Liu, Tai-Ping) Propagation of a stationary shock layer in the presence of a boundary. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 1, 57–82. (V. D. Sharma) **99b:35137** 35L65 (76L05, 76N10)

— (*with* Jiang, Guang-Shan) Discrete shocks for finite difference approximations to scalar conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 749–772 (*electronic*). (Summary) **99a:65099** 65M06 (35L65, 65M12, 65M15)

Yū, Shih Shêng (*with* Shyr, H. J.) Bi-catenation and shuffle product of languages. (English summary) *Acta Inform.* **35** (1998), *no.* 8, 689–707. (Summary) **99f:68127** 68Q45

— (*with* Fan, Chen-Ming; Shyr, H. J.) d-words and d-languages. (English summary) *Acta Inform.* **35** (1998), *no.* 8, 709–727. (Summary) **99e:68089** 68Q45 (68R15)

— d-minimal languages. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 243–262. (Summary) **99j:68113** 68R15 (05A99, 68Q45)

— (*with* Shyr, H. J.) 2-codes and 2-code annihilators. (English summary) *Semigroup Forum* **56** (1998), *no.* 1, 36–48. (Alessandra Cherubini) **99a:68112** 68Q45

— Properties of annihilators of languages. (English summary) *Semigroup Forum* **56** (1998), *no.* 1, 49–69. (G. J. Lallement) **99a:20070** 20M35 (68Q45)

— (*with* Shyr, H. J.) Midst-languages. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 113–130. (Pascal Weil) **99g:68120** 68Q45

Yu, Shihong Comparing the numerical performance of the EM and OSL algorithms for Poisson data. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 831–838, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65U05

Yu, Shiueh-Ling (*with* Agarwal, Ravi P.; Wong, Fu-Hsiang) Existence of solutions to $(k, n-k-2)$ discrete boundary value problems. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 7–20. (Johnny Henderson) **99k:39001** 39A10 (39A70)

Yu, Shoumian (*with* Yang, Pihua; Yu, Tian) Resonance theory of elastic head waves propagating in a solid layer in tight contact with a thick solid base. (English summary) *J. Vib. Control* **4** (1998), *no.* 3, 219–236. (Summary) **99a:73050** 73D15 (86A15)

Yu, Shu Lan (*with* Zhang, Xian Jun) Absolutely prime rings and absolutely prime radicals. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 3, 21–22. 16N60

Yu, Shu-Xiang Trajectories connecting critical points. (English summary) *Sci. Iran.* **1** (1995), *no.* 4, 315–320. (Klaudiusz Wójcik) **99g:34069** 34C05 (34C35)

Yu, Shuxia (*with* Ban, Gui Ning; Zhang, Jingsong) The lower bound for the orders of the automorphism groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 159–167. (Rifhat Z. Aleev) **99f:20034** 20D45

— (*with* Ban, Gui Ning) Minimal abelian groups that are not automorphism groups. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 6, 427–434. (H. Heineken) **99d:20032** 20D45 (20D15)

Yu, Sixia (*with* Zhang, Yong-de) A constructive index theorem, phase operators, and phase-difference operators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5260–5267. (Lech Jakóbczyk) **99k:81167** 81S99 (47N50)

Yu, Song-Ju (*with* Toda, Kouichi; Sasa, Narimasa; Fukuyama, Takeshi) *N* soliton solutions to the Bogoyavlenskii-Schiff equation and a quest for the soliton solution in (3 + 1) dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3337–3347. (Summary) **99b:35188** 35Q53

Yu, Stella X. (*with* Lin, Yuan Lie; Yan, Pingfan) Optimization models for the first arrival target distribution function in discrete time. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 193–223. (Masami Kurano) **99i:90116** 90C40 (90C39)

Yu, Tian (*with* Yu, Shoumian; Yang, Pihua) Resonance theory of elastic head waves propagating in a solid layer in tight contact with a thick solid base. (English summary) *J. Vib. Control* **4** (1998), *no.* 3, 219–236. (Summary) **99a:73050** 73D15 (86A15)

Yu, Wan Lun (*with* Li, Bo Zang; Hou, Bang Pin) Pure states and quantum systems of Berry type. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 5, 712–717. (Summary) **99f:81068** 81Q99

Yu, Wanghui Regularity of the weak solution of multi-dimensional Stefan-Signorini problem. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 53–66. (Summary) **99a:35281** 35R35 (35K10, 73B30, 80A22)

— A Stefan-Signorini problem with Gibbs-Thomson law. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 67–85. (Summary) **99a:73032** 73B30 (35K10, 35R35, 80A22)

— (*with* Jiang, Lishang) Analysis of Ginzburg-Landau model for superconductivity. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 85–97, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:58053** 58E50 (35Q55, 82D55)

— (*with* Ding, Shi Jin; Liu, Zu Han) A variational problem related to the Ginzburg-Landau model of superconductivity with normal impurity inclusion. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 48–68 (*electronic*). (Song Mu Zheng) **99f:35186** 35Q55 (35B40, 49J24, 58E50)

Yu, Wei Asymptotic behavior of nonoscillatory solutions of a nonlinear neutral differential-difference equation (continuation). (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 278–283. (Summary) **99a:34204** 34K15

Yu, Wen (*with* Poznyak, A. S.; Sanchez, Edgar N.; Sira-Ramírez, Hebertt) Robust identification by dynamic neural networks using sliding mode learning. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 135–144. (*see* **99a:93003**) 93B30 (93C83)

Yu, Wen-huan A quasi-Newton method in infinite-dimensional spaces and its application for solving a parabolic inverse problem. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 305–318. (Riccardo Fazio) **99g:65075** 65J20 (35R30, 47H17, 65J15)

Yu, Wen Sheng (*with* Lin, Shi-zhong; Yu, Yuan Hong) Oscillation of second-order delay difference equations. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 1, 42–48. (Summary) **99a:39039** 39A10 (39A70)

— (*with* Huang, Lin[1]) A necessary and sufficient condition for robust strictly positive stabilization of low order systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 21, 2275–2279. 93D21

Yu, X. M. *see* **Yu, Xiang Ming**

Yu, X. Y. *see* **Yu, Xiu Yuan**

Yu, Xi Jun An alternating explicit-implicit difference scheme for nonlinear wave equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 225–238. (Summary) **99m:65169** 65M06 (65M12)

Yu, Xian Jun (*with* Cao, Chong Guang) Inverse-preserving modular endomorphisms of matrices over a commutative ring. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 9–12. 15A33

Yu, Xiang Ming (*with* Anastassiou, George A.) Multivariable probabilistic scale approximation. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 41–57. (P. N. Rathie) **99d:41033** 41A29 (41A63)

Yu, Xin *see* **Yu, Alfred**

Yu, Xin[3] (*with* Sui, Yun Kang) Unification of K-S functions and norm functions. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 5, 502–505. 90C30 (65K05)

Yu, Xin-Zhen (*with* Song, Wen Zhong) Switching curve policy for manufacturing systems with no backlog permitted. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1628–1630. 90B30 (93C95)

— (*with* Song, Wen Zhong) Further properties of optimal hedging points in a class of manufacturing systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 379–382. 49L20 (90C30)

Yu, Xing-Huo (*with* Sira-Ramírez, Hebertt; Ledwich, Gerard) Switching control strategy for the power system stabilization problem. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1021–1036. 93D15 (93C95)

— Tracking periodic orbits in chaotic system. (English summary) *Complex. Int.* **3** (1996), 10 *HTML documents (electronic)*. (Summary) **99g:34096** 34C25 (34H05, 58F13, 93D15)

— (*with* Man, Zhihong) Model reference adaptive control systems with terminal sliding modes. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1165–1176. 93B12 (93C40)

— (*with* Xu, Jian-Xin; Lee, Tong-Heng; Wang, Mao) Design of variable structure controllers with continuous switching control. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 409–431. 93B51 (93B12)

— (*with* Mei, Fei; Man, Zhihong; Nguyen, Thong) A robust tracking control scheme for a class of nonlinear systems with fuzzy nominal model. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 145–158. (*see* **99a:93003**) 93C10 (93B99)

— (*with* Man, Zhihong) Multi-input uncertain linear systems with terminal sliding-mode control. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 389–392. (Summary) **99a:93015** 93B12 (93B51)

— (*with* Wu, Yuqiang) Adaptive terminal sliding mode control of uncertain nonlinear systems—backstepping approach. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 900–907. 93B12 (93C10)

— (*with* Wu, Yuqiang; Man, Zhihong) Terminal sliding mode control design for uncertain dynamic systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 281–287. (Summary) **99e:93015** 93B12 (93B05)

— (*with* Chen, Guanrong) On time-delayed feedback control of chaotic systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 6, 767–772. 93B52 (93D15)

— *see also* **Adaptive learning and control using sliding modes, 99a:93003**

Yu, Xing Jiang (*with* Song, Dao Jin) Integrals of interval-valued functions and fuzzy-valued functions over curves and surfaces. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 27–32. 65D30 (26B15, 65G10)

Yu, Xinshan (*with* Wang, Wenlong) The criticality of the transport system in a slab geometry with partially reflecting boundary conditions. (English summary) *Transport Theory Statist. Phys.* **28** (1999), *no.* 4, 419–430. 82C70

Yu, Xiu Yuan (*with* Brown, Thomas Craig; Shiue, Peter Jau-Shyong) Sequences with translates containing many primes. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 15–19. (Gérald Tenenbaum) **99b:11105** 11N25 (11N32, 11N56)

— A theorem on the transcendency of a function. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 1, 24–27. (Maurice Mignotte) **99e:30027** 30D99 (30C10)

Yu, Yan (*with* Zhang, Li) On the existence of equilibrium prices. (Chinese. Chinese summary) *Hunan Ann. Math.* **18** (1998), *no.* 2, 110–112. 90A12 (90C90)

Yu, Yandong (*with* Wang, Zhudeng) Normal TL-subgroups of TL-subgroup. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 46–51. 20N25

Yu, Yang The permanent rank of a matrix. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 2, 237–242. (Summary) **99j:15013** 15A15

Yu, Yanyan (*with* Liu, Yong Min) Compact Hankel operators on the Bergman spaces of the polydisk in $\mathbf{C}^n$. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 50–55. (Richard Rochberg) **99m:47031** 47B35 (46E20)

Yu, Yi (*with* Tan, Shaohua) Complementarity and equivalence relationships between convex fuzzy systems with symmetry restrictions and wavelets. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 423–438. 93C42 (42C15)

Yu, Yin (*with* Du, Jiang; Meng, Xiang Hui; Shi, Bao Chang) An improved algorithm for the branch and bound method. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 55–58. 90C05

Yu, Ying Da (*with* Qi, Chuan Da; Lu, Shi Tang) Asymptotic stability of solutions to investment control models. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 72–76. 90A09 (93C95)

Yu, Youhong (*with* Xu, Jingbo) Time evolution of the time-dependent harmonic oscillator. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 3, 385–388. 81Q05

Yu, Yuan Hong (*with* Liu, Bin[2]; Liu, Zheng-rong) Oscillation of solutions of nonlinear partial differential equations of neutral type. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 563–570. (Summary) **99b:35207** 35R10 (35B05)

— (*with* Yu, Wen Sheng; Lin, Shi-zhong) Oscillation of second-order delay difference equations. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 1, 42–48. (Summary) **99a:39039** 39A10 (39A70)

— (*with* Feng, Bin Lu; Chen, Wen Deng) Stability of a class of predator-prey systems. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 38–44. (Ying Guo Lei) **99b:92039** 92D25 (35B35, 35Q80)

— (*with* Li, Yan Sheng; Feng, Bin Lu) Lipschitz stability and exponential asymptotic stability of differential systems. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 4–8. (Rong Yuan) **99c:34107** 34D20 (34D05)

— (*with* Li, Guang Hua[2]; Lin, Shi-zhong) Oscillations of solutions of nonlinear functional-differential equations of higher order. (Chinese. Chinese summary) *Math. Practice Theory* **27** (1997), *no.* 3, 261–265. (Xiang Sheng Xie) **99a:34192** 34K15

— (*with* Ren, Chong Xun) Oscillation of neutral hyperbolic differential equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 271–277. 35R10 (35B05, 35L10)

— (*with* Wang, Peiguang; Fu, Xi Lin) Oscillations of solution for a class of higher-order neutral differential equation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 485. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 397–402. (George Karakostas) **99m:34168** 34K15 (34K40)

— (*with* Ge, Wei Gao; Liu, Zheng-rong) On the periodic solutions of a type of differential-iterative equations. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 204–206. (From the text) **99h:34104** 34K15 (34C25)

— (*with* Lin, Shi-zhong; Liu, Zheng-rong) Stability for certain fourth order nonlinear differential equations. *Demonstratio Math.* **31** (1998), *no.* 1, 87–96. (From the introduction) **99b:34088** 34D20

— (*with* Feng, Bin Lu) Oscillation of Volterra integral equations and of functional-differential equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 261–265. (Bo Zhang) **99d:34130** 34K15 (45G10, 45M99)

— (*with* Feng, Bin Lu; Wang, Zhi Bin) Forced oscillation of solutions of neutral parabolic equations. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 78–86. (Summary) **99g:35136** 35R10 (35B05)

— (*with* Yang, Qi Gui) Existence of a family of homoclinic orbits for a class of nonlinear systems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 17–20. (Jian Hua Sun) **99m:34108** 34C37

— (*with* Yan, Xing Min; Feng, Bin Lu) Oscillation of second-order differential equations with advanced argument. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 36–39. 34K15

— (*with* Ren, Chong Xun; Zhang, Yu Feng; Zhuang, Yu[1]) An oscillation theorem for second-order ordinary differential equations. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 110–114. (Guo Zhu Gao) **99j:34049** 34C10

— (*with* Niu, Peng Cheng) Eigenvalue problems of second order differential equations with indefinite weight. (English summary) *Ann. Differential Equations* **15** (1999), *no.* 1, 33–37. 35J25 (34L15)

Yu, Yue (*with* Wu, Yong Shi[1]) Bosonization based on Bethe ansatz equations and proof of the conformal conjecture. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 340–350, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23 (81V70)

Yu, Zenghai (*with* Bai, Changzhen; Wang, Ding Guo) On the generalization of injectivity and von Neumann regularity. (English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 2, 183–188. (Giuseppe Baccella) **99k:16008** 16D50 (16E50)

Yu, Zhao Xian (*with* Yu, Ge; Zhang, De-Xing) Clebsch-Gordan coefficients for the two-parameter deformed quantum algebra $SU(1,1)_{q,s}$. I. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 2, 179–184. (A. M. Gavrilik) **99d:81058** 81R50 (17B37)

— (*with* Yu, Ge; Zhang, De-Xing) Clebsch-Gordan coefficients for two-parameter deformed quantum algebra $SU(1,1)_{q,s}$. II. (English summary) *Commun. Theor. Phys.* (*Beijing*) **28** (1997), *no.* 1, 57–62. (A. M. Gavrilik) **99g:81101** 81R50 (17B37)

— (*with* Sui, Zhenlin; Yu, Ge) q,s-Taylor's formula with q,s-remainder. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 1, 133–136. (Introduction) **99k:26004** 26A24 (39A10)

— (*with* Liu, Ye-hou) Realizations of multimode quantum group $SU(2)_{q,s}$. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 4, 1225–1230. (Marcelo R. Ubriaco) **99c:81099** 81R50

— (*with* Liu, Ye-hou) Inhomogeneous inverse differential realization of multimode SU(1, 1) group. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1655–1665. (Violeta V. Tretynyk) **99g:81066** 81R05 (81R30)

— (*with* Liu, Ye-hou) Clebsch-Gordan coefficient for q,s-deformed two-dimensional hydrogen atom. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 7, 2043–2053. (A. M. Gavrilik) **99g:81102** 81R50 (81R30, 81V45)

— (*with* Liu, Ye-hou) Energy spectrum of a two-parameter deformed hydrogen atom. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 12, 2979–2983. 81Q05 (81V45)

Yu, Zheng Periodic solutions with the same period of the recursion $x_{n+1} = (\alpha + \beta x_n + \gamma x_{n-1})/(A + Bx_n + Cx_{n-1})$. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 51–58. (Summary) **99k:39045** 39A10

— Existence of nonperiodic solutions of the Lyness equation $x_{n+1} = (\alpha + x_n)/x_{n-1}$. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 94–102. (Summary) **99k:39046** 39A10

— On periodic cycles of the Lyness equations. (English summary) *Differential Equations Dynam. Systems* **6** (1998), *no.* 3, 319–324. (Summary) **99k:39047** 39A10 (39A12)

Yu, Zhengguang (*with* Lu, Mei; Song, Zeng Min) Sufficient condition for Hamiltonian graphs concerning degree and neighborhood union. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1194–1198. (Summary) **99i:05136** 05C45

— (*with* Lu, Mei) Pancyclism in claw-free graphs. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1218–1220. (Summary) **99i:05125** 05C38

Yu, Zu-Guo (*with* Ren, Fu yao; Zhou, Ji[2]) Fractional integral associated to generalized cookie-cutter set and its physical interpretation. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5569–5577. (Summary) **99a:82095** 82D20 (28A80, 73B30, 82D55)

— (*with* Wang, Jian[1]) Commutators of Möbius transformations in $\mathbf{R}^n$. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 135–142. (John R. Parker) **99e:20063** 20H10 (30F40)

Yu, Zuhuan (*with* Li, Zhen Qi) CMC surfaces in the hyperbolic 3-space. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 7, 547–550. (Luis J. Alías) **99m:53021** 53A10

Yu, Zurong (*with* Yang, Ya Ping; Zhao, Chunfeng) On q-deformed creation operator $a^\dagger$. (English summary) *Commun. Theor. Phys.* (*Beijing*) **28** (1997), *no.* 2, 191–194. (Marcelo R. Ubriaco) **99c:81107** 81S05 (81R50)

Yuan, A. (*with* Clarke, Bertrand S.) An information criterion for likelihood selection. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 562–571. (Summary) **99j:94027** 94A34 (94A29)

Yuan, Bin Xian The differential form spectrum of Riemannian manifolds of nonpositive curvature. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 711–718. (De Tang Zhou) **99d:58177** 58G25 (53C21)

Yuan, Bing Cheng (*with* Zhou, Jie) A result on minimal feasible graphs. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997,** *no.* 4, 8–12. 05C35

Yuan, Bo (*with* Zuo, Zheng; Hu, Shi Min; Sun, Jia Guang) A subdivision theorem for tensor product Bézier surfaces on a rectangular domain. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 25–27. 65D17 (41A63)

Yuan, Chang An (*with* Wei, Wen Zhan; Li, Ri Guang) Uniform PL-smoothness for a complex quasi-Banach space and its martingale characterization. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 321–332. (Bor-Luh Lin) **99k:46022** 46B20 (46B09)

Yuan, Cheng Gui A remark on the Li-Yorke chaotic property of the shift map on a general non-tight space. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 20–21. 58F13

Yuan, Cun De (*with* Wang, Chun Hua) Persistence and periodic solutions of nonautonomous Schoner models with diffusion. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 2, 7–16. (Jiong Yu Wu) **99c:92051** 92D25 (34C25)

— (*with* Liu, Qi Ming) Persistence in a two-predator, one-prey autonomous diffusion system. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 2, 145–151. (Summary) **99h:92036** 92D25 (34D99)

— (*with* Liu, Qi Ming) Existence and stability of the positive equilibrium point in a diffusion system with two predators and one prey. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 4, 462–465. 92D25

Yuan, Di (*with* Holmberg, Kaj) A Lagrangean heuristic based branch-and-bound method for the capacitated network design problem. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 78–83, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C25

Yuan, Fuyu (*with* Zhang, Weihai; Wei, Qicai) A Lyapunov-type equation on mean square stability of stochastic systems. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 133–134, 39. 34D20 (34F05)

Yuan, G. X.-Z. *see* **Yuan, Xian-Zhi**

Yuan, George Xian-Zhi *see* **Yuan, Xian-Zhi**

Yuan, Guangwei (*with* Guo, Bo Ling) Cauchy problem for the Ginzburg-Landau equation for the superconductivity model. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1181–1192. (Peter L. Christiansen) **99a:35237** 35Q55 (35Q99)

— (*with* Zhou, Yu Lin[1]; Shen, Long-jun) Finite difference method of first boundary problem for quasilinear parabolic systems. V. Convergence of iterative difference schemes. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1148–1157. (Summary) **99d:65260** 65M06

— (*with* Zhou, Yu Lin[1]) Stability of difference schemes for nonlinear parabolic systems with three dimensions. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 3, 284–299. (Chenglie Hu) **99i:65090** 65M06 (65M12)

— (*with* Zhou, Yu Lin[1]; Shen, Long-jun) Convergence of iterative difference method with nonuniform meshes for quasilinear parabolic systems. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 163–172. (Summary) **99c:65172** 65M12 (65M06)

Yuan, Guo-Feng (*with* Farouki, Rida T.; Tsai, Yi-Feng) Contour machining of free-form surfaces with real-time PH curve CNC interpolators. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 1, 61–76. 65D17 (41A63)

Yuan, Guohui (*with* Banerjee, Soumitro; Ott, Edward; Yorke, James A.) Border-collision bifurcations in the buck converter. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 707–716. (Summary) **99c:94071** 94C05

Yuan, Hong *see* **Hong, Yuan**

Yuan, Hong Jun (*with* Wu, Zhuoqun; Yin, Jingxue) Some properties of solutions for a system of dynamics of biological groups. *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1389–1403. (From the introduction) **99h:35097** 35K55 (35D05, 35Q80, 92D25)

— Existence and uniqueness of BV solutions for a conservation law with σ-finite Borel measures as initial conditions. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 90–120. (Yu. G. Rykov) **99d:35103** 35L65

— The Cauchy problem for a singular conservation law with measures as initial conditions. *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 427–439. (Si Ning Zheng) **99h:35131** 35L65

— Source-type solutions of a singular conservation law with absorption. *Nonlinear Anal.* **32** (1998), *no.* 4, 467–492. (Alberto Valli) **99d:35104** 35L65 (35L80)

Yuan, J. Y. *see* **Yuan, Jin Yun**

Yuan, Jia Wei (*with* Zhang, Shi Sheng) General versions of coincidence point theorems and a variational principle. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 565–572. 54H25 (54A40, 54C60)

Yuan, Jian-Min (*with* Bai, Zai-Qiao; Gu, Yan) Classical dynamics of collinear e^-Ze^- Coulomb three-body systems. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 17–39. (Roberto Artuso) **99c:70015** 70F07 (70K50, 81V35)

— (*with* Daniels, Vincent J.; Vallières, Michel) Chaotic scattering on a billiard. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1519–1531. (Roberto Markarian) **99b:58207** 58F27 (58F13, 81Q50)

Yuan, Jin Jiang (*with* Li, Xiulan) A note on the girth and the cycle basis interpolation property of planar graphs. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 9–10. (*see* **99i:05002**) 05C38

— (*with* Luo, Laixing) Treewidth, forward bandwidth and fill-in number of the composition of two graphs. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 6–9. (*see* **99k:05003**) 05C78

— (*with* Li, Huai En; Lin, Yi Xun) The topological bandwidths of some graphs. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 4, 13–17. (Summary) **99a:05129** 05C78

— (*with* Yu, Jin Qiao) Random (m,r)-orthogonal (g,f)-factorable graphs. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 311–318. (Summary) **99g:05148** 05C70

— Induced matching extendable graphs. (English summary) *J. Graph Theory* **28** (1998), *no.* 4, 203–213. (András Gyárfás) **99g:05149** 05C70 (05C35)

— (*with* Huang, Yu Qin) An upper bound of the fill-in number of a graph. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 22–24. 05C35

Yuan, Jin Yun Numerical comparisons of numerical methods for generalized least squares problems. (English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 63–78 (1997). 65F30

— (*with* de Sampaio, Raimundo J. B.; Sun, Wen Yu) Unified superlinear convergence of some algorithms for LC^1 optimization. (English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 79–85 (1997). 90C30 (49J52, 65K05)

— (*with* Matioli, Luiz Carlos) Asymptotically optimal row-action methods for generalized least squares problems. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 1–18. 65F10 (65F30)

— (*with* Santos, C. H.; Silva, B. P. B.) Block SOR methods for rank-deficient least-squares problems. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 1–9. (Summary) **99j:65050** 65F10

— Iterative refinement using splitting methods. (English summary) *Linear Algebra Appl.* **273** (1998), 199–214. (Dimitrios Noutsos) **99b:65041** 65F10

— (*with* Jin, Xiao-Qing) A wavelet method for the first kind integral equations with kernel $k(x-y)$. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 427–434. (Summary) **99h:65216** 65R20 (42C15, 65T99)

— (*with* Björck, Åke) Preconditioners for least squares problems by LU factorization. (English summary) *Electron. Trans. Numer. Anal.* **8** (1999), 26–35 (*electronic*). (Summary) **99j:65040** 65F10 (65F20)

Yuan, Ke-Hai A theorem on uniform convergence of stochastic functions with applications. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 1, 100–109. (Wilfried Grossmann) **99e:62026** 62F12

— (*with* Jennrich, Robert I.) Asymptotics of estimating equations under natural conditions. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 245–260. (Stavros Kourouklis) **99i:62047** 62F12

Yuan, Li Hong (*with* Li, Li[1]) Periodic solutions of second-order parametric systems under external excitation and their stability. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **15** (1998), *no.* 1, 36–42, *III.* 70K40 (34C25, 70K20)

Yuan, Li Yan (*with* You, Jia-Huai; Wang, Xian Chang[2]) Disjunctive logic programming as constrained inferences. (English summary) *Logic programming (Leuven, 1997)*, 361–375, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99a:68033** 68N17 (68Q55)

— (*with* You, Jia-Huai; Goebel, Randy) Disjunctive logic programming and autoepistemic logic. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY, 1997)*, 85–101, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99k:68031** 68N17 (03B70)

— (*with* You, Jia-Huai; Goebel, Randy) Regular extension semantics and disjunctive Eshghi-Kowalski procedure. (English summary) *Logic programming (Manchester, 1998)*, 175–189, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68Q55)

Yuan, Lisong (*with* Achenie, Luke E. K.; Jiang, Wei-Sun) Linear quadratic optimal output feedback control for systems with poles in a specified region. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1151–1164. 49N10 (93B55)

Yuan, Ping (Anti-)Hermitian matrix solutions to a system of matrix equations. (Chinese. Chinese summary) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 89–90. 15A24

Yuan, Ping Zhi (*with* Xiao, Guo Neng) A theorem on the representation of prime powers. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 6, 18–20. (Hong Bing Yu) **99k:11056** 11E25

— Rational and algebraic approximations of algebraic numbers and their application. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1045–1051. (Carsten Elsner) **99b:11079** 11J68 (11D25, 11J17)

— (*with* Wang, Jiabao) On the Diophantine equation $x^2 + b^y = c^z$. *Acta Arith.* **84** (1998), *no.* 2, 145–147. (Dimitrios Poulakis) **99b:11028** 11D61

— The divisibility of the class numbers of real quadratic fields. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 525–530. (Shao Wei Zhang) **99f:11145** 11R29 (11R11)

— Integral trees of diameter 4. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 177–181. 05C05

— The Diophantine equation $x^2 + b^y = c^z$. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 1, 5–7. (Zhen Fu Cao) **99f:11047** 11D61

— On the number of the solutions of $x^2 - D = p^n$. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 311–316. (Zhen Fu Cao) **99k:11048** 11D61

Yuan, Rong *see* **Yuan, Rong[2]**

Yuan, Rong[1] (*with* Hong, Jialin) The existence of almost periodic solution of a population equation with delay. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 45–52. (Summary) **99b:92050** 92D25

— (*with* Huang, Hai) Boundedness of solutions and existence of invariant tori for generalized pendulum type equation. *Chinese Sci. Bull.* **42** (1997), *no.* 20, 1673–1675. (Sergei A. Dovbysh) **99d:34055** 34C11 (58F27, 70H05, 70K99)

— Stability and almost periodic solutions of neutral functional-differential equations with infinite delay. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 68–73. (George Seifert) **99c:34169** 34K15 (34K20, 34K40)

— Almost periodic solutions of neutral delay differential equations with piecewise constant arguments. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 499–506. (Rong Yuan) **99k:34161** 34K15 (34K40)

— (*with* Hong, Jialin) Almost periodic solutions of linear differential equations with piecewise constant argument. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 59–64. (Alan R. Hausrath) **99c:34170** 34K15 (34A30, 34C27)

— The existence of almost periodic solutions of first order neutral delay differential equations with piecewise constant argument. *Funkcial. Ekvac.* **41** (1998), *no.* 2, 257–270. (George Seifert) **99k:34162** 34K15 (34K40)

— Quasiperiodic solutions and boundedness of solutions for a class of nonlinear differential equations of second order. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 649–664. (Ugo Locatelli) **99a:34130** 34C27 (34C11, 34D40, 58F27)

— Existence of almost periodic solutions of second order neutral delay differential equations with piecewise constant argument. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 232–241. (George Seifert) **99d:34144** 34K15 (34K40)

— On the existence of almost periodic solutions of a singularly perturbed differential equation with piecewise constant argument. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 1, 94–119. (George Seifert) **99m:34170** 34K15 (34C27, 34E15)

Yuan, Rong[2] (*with* Wang, Wenlong) On the spectrum of the linear transport operator in a slab geometry with generalized periodic boundary conditions. (English summary) *Transport Theory Statist. Phys.* **28** (1999), *no.* 2, 181–189. (A. Belleni-Morante) **99m:82044** 82C70 (47N55, 76P05)

Yuan, Shih-Yi (*with* Kuo, Sy-Yen) A new technique for optimization problems in graph theory. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 190–196. (Summary) **99b:90153** 90C35 (05C85, 68T05)

Yuan, Si (*with* Shi, Shao Chun; Cui, Jing Hao) An infinite FEMOL element–infinite line mapping technique. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 81–89. 65N40 (65N30)

Yuan, Wei (*with* Huang, Linpeng; Sun, Yong Qiang) Hierarchical bulk synchronous parallel model and performance optimization. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 3, 224–233. 68Q05 (68Q10, 68Q22)

Yuan, Wen Jun Some oscillation results of certain higher order linear complex differential equations. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 363–370. (Summary) **99a:34016** 34A20

— (*with* He, Yu Zan) On factorizable solution of the differential equation $(f')^2 = a_0(z)(f - a_1(z))^2 f$. *Chinese Sci. Bull.* **42** (1997), *no.* 21, 1779–1782. (Ilpo Laine) **99d:34013** 34A20

— A note on a result about complex oscillations of the differential equation $f'' + (Q_1 e^P + Q_2)f = 0$. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 1, 8–10. (Summary) **99d:30037** 30D99

Yuan, X. *see* **Yuan, Xiaojin**

Yuan, Xian-Zhi (*with* Tan, Kok-Keong) Generalized games and non-compact quasi-variational inequalities. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 635–661. (Summary) **99f:90214** 90D44 (47H19, 47N10, 49J40, 90C48)

— (*with* Chen, Yu Qing; Zhang, Shi Sheng; Thompson, H. B.) Nonlinear accretive operators and semigroups in locally convex spaces. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 215–234. (Vladimir E. Fedorov) **99j:47076** 47H06 (34A60, 34G20, 47H20)

— (*with* Isac, George; Tan, Kok-Keong; Yu, Jian) The study of minimax inequalities, abstract economics and applications to variational inequalities and Nash equilibria. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 2, 135–166. (Xie Ping Ding) **99j:49018** 49J40 (49J35, 58E35, 90A14)

— (*with* Yu, Jian; Isac, George) The stability of solutions for differential inclusions and differential equations in the sense of Baire category theory. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 51–56. (Tzanko D. Donchev) **99d:34024** 34A60 (34D99)

— Fixed points of upper semicontinuous mappings in locally G-convex spaces. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 469–478. (Summary) **99h:54065** 54H25 (47H10)

— (*with* Yu, Jian) The study of Pareto equilibria for multiobjective games by fixed point and Ky Fan minimax inequality methods. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 17–24. (Summary) **99a:90248** 90D10 (90C29)

— (*with* Ding, Xie Ping) The study of existence of equilibria for generalized games without lower semicontinuity in locally topological vector spaces. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 420–438. (Nicholas C. Yannelis) **99k:90066** 90A99 (90D99)

— (*with* Kim, Won Kyu) On a new existence of equilibrium in SSC. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 517–524. (Summary) **99k:90047** 90A14

— (*with* Yang, Gan Shan) A necessary and sufficient condition for upper hemicontinuous set-valued mappings without compact-values being upper demicontinuous. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3539–3544. (Summary) **99b:54020** 54C08 (47H04)

— (*with* Yang, Chang Cheng) Another new way to price American options by using interior point method. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 3, 1–8. 90A09 (90C30)

Yuan, Xiang Rong (*with* Zhang, Ling Mi; He, Bo Qing) Comparisons and evolution of modal methods for calculating derivatives of eigenvectors. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 3, 68–74, *VI–VII.* 65F15 (65N25)

Yuan, Xiao (*with* Yu, Jue Bang) Orthogonality conditions for bubble wavelets. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 1, 25–28. 42C15

Yuan, Xiao Feng (*with* Wu, Yun Hua; Liu, Shi Ze) Hopf bifurcations in a class of three-dimensional ecological dynamical systems. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 70–77. (Summary) **99b:92061** 92D40 (34C23)

Yuan, Xiao Ping (*with* Zhu, Zuo Jin; Wu, Tong Qiang; Chen, Yi Liang) Solution of the KdV-Burgers equation by the quasicharacteristic line method. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 4, 481–486. (Summary) **99b:65110** 65M25 (76B15, 76M25)

Yuan, Xiaojin (*with* Cakmak, S.; Fraser, Donald A. S.; McDunnough, Philip; Reid, N.) Likelihood centered asymptotic model exponential and location model versions. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 211–222. (Summary) **99g:62019** 62F03

Yuan, Xiaoping Invariant tori of Duffing-type equations. (English summary) *J. Differential Equations* **142** (1998), *no.* 2, 231–262. (Dmitry V. Treshchëv) **99a:34135** 34C30 (34C11, 58F99)

— Boundedness of solutions for Duffing-type equation. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 595–605. (Xiao Qiang Zhao) **99g:34074** 34C11 (34C20)

Yuan, Xiu Jiu On the accuracy of constrained empirical likelihood confidence regions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 30–35. 62G30

— (*with* Cui, Hengjian) The estimate and test in the symmetric auxiliary information. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 117–124. (Summary) **99c:62083** 62G05 (62G10)

Yuan, Xiu Yu (*with* Liu, Jian Zhou) Interlacing theorems for Schur complements of self-conjugate quaternion matrices. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 1–2. 15A33

Yuan, Xudong (*with* Cai, Mao Cheng) Tree decomposition. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 19, 1599–1601. (Summary) **99i:05173** 05C70 (05C05)

Yuan, Xue-hai Difference and symmetric difference of fuzzy sets based on the theory of falling shadows. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 467–473. (Summary) **99a:03055** 03E72

Yuan, Xue-Ming (*with* Cheung, Ki Ling) Modeling returns of merchandise in an inventory system. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 3, 147–154. (L. C. Thomas) **99k:90071** 90B05

— Busy periods of two-stage tandem service systems and their algorithmic implementation. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 319–332. (*see* **99m:90004**) 90B05 (90B22)

Yuan, Y. *see* **Yuan, Yong**

Yuan, Ya Xiang (*with* Nocedal, Jorge) Combining trust region and line search techniques. (English summary) *Advances in nonlinear programming (Beijing, 1996)*, 153–175, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Christian Zillober) **99g:90131** 90C30 (65K05)

— An example of non-convergence of trust region algorithms. (English summary) *Advances in nonlinear programming (Beijing, 1996)*, 205–215, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:90123** 90C30 (90C08)

— (*with* Dai, Yuhong) Some properties of a new conjugate gradient method. (English summary) *Advances in nonlinear programming (Beijing, 1996)*, 251–262, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C30

— (*with* Dai, Yuhong) Convergence properties of Beale-Powell restart algorithm. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 11, 1142–1150. (Nobuo Yamashita)

99m:90129 90C30 (65K05)
— *see also* **Advances in nonlinear programming**, **99b:90004**
Yuan, Yi Rang A mixed element method for moving boundary value problems and its numerical analysis. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 332–344. (Zheng Hui Xie) **99b:35223** 35R35 (65N30)
— A characteristic difference method with fractional step lengths for 3-dimensional heat-conducting semiconductors. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 15, 1608–1613. 65M06 (80A20, 82D99)
— (*with* Zhao, Wei Dong) The characteristic finite difference method for 2-dimensional compressible two-phase (oil and water) displacement problems with moving boundary values. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 6–15. 65M06 (76S05)
Yuan, Yi Wu (*with* Liu, You Wen) The interpolation perturbation method and its application in mechanics. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 2, 151–155, *XI.* 34C99 (34E05)
— (*with* Liu, You Wen) The interpolation perturbation method for solving a class of weakly nonlinear oscillation problems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 3, 115–119, *IX.* 34C15
Yuan, Yong (*with* Hodnett, P. F.) Effect of small thermal diffusion in a zonally uniform ocean model. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 193–207. 86A05
Yuan, Yong Xin Symmetric solutions of a class of linear matrix equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 25–29. 15A24
— Symmetric solutions of the matrix equation $AXB = D$ and their applications. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 2, 17–21. (Summary) **99j:15022** 15A24
— Approximation between the solution sets of two linear least squares problems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 16–20. 65F30 (90C20)
Yuan, Zhendong (*with* Chen, Qi; Ding, Sheng; Diao, Lianwang) Credible sets for system parameters and transfer functions. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 150–160. (Summary) **99c:93112** 93E12
Yuan, Zhi Zhong (*with* Lu, Yun Xia; Zhang, Shu Qing) An inequality for singular values of products of quaternion matrices and its applications. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 455–458. 15A42 (15A33)
Yuan, Zhiguo (*with* Vansteenkiste, Ghislain C.; Wen, Chuanyuan) Improving the observer-based FDI design for efficient fault isolation. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 197–218. 93B07 (93B30)
Yuan, Zhu Zhi (*with* Chen, Zeng Qiang; Zhao, Tian Hang) A constrained multivariable generalized predictive controller based on a Tank-Hopfield neural network. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 847–852. 93C83 (93B50)
Yuasa, A. (*with* Jameson, Leland; Adachi, T.; Ukai, O.) Wavelet-based numerical methods. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 4, 267–280. 76M25 (65–02, 65T20, 76M10)
Yuasa, Hidetaka (*with* Ishigame, Atsushi; Aihara, Tohru) Optimization with constraints using the chaos steepest descent method. (Japanese) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 5, 316–318. 90C30 (65K05)
Yubazaki, Naoyoshi (*with* Yan, Shi; Mizumoto, Masaharu) An improvement of fuzzy rules generation based on fuzzy c-means clustering algorithm. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 4, 395–405 (1998). 68T05
Yucas, Joseph L. (*with* Beintema, Mark B.; Bonn, Jeffrey T.; Fitzgerald, Robert W.) Orderings of finite fields and balanced tournaments. *Ars Combin.* **49** (1998), 41–48. (N. Ito) **99d:05037** 05C20 (05B15, 11T99)
— Extending AG(4, 2) to $S(4, \{5, 6\}, 17)$. (English summary) *J. Combin. Des.* **7** (1999), *no.* 2, 113–117. (Vladimir D. Tonchev) **99k:05032** 05B05
Yuchuan, Wang *see* **Wang, Yuchuan**
Yudashkin, A. A. Bifurcations of stationary solutions in a synergetic neural network, and the control of pattern recognition. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 139–147; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 2, 1647–1653 (1997). (Summary) **99c:68222** 68T10 (34C23)
Yudin, I. P. (*with* Zhidkov, E. P.; Ovsyannikov, V. P.; Polyakova, R. V.) Numerical modeling of some magnetic systems of solenoidal type. (Russian. Russian summary) *Computational modelling and computing in physics (Dubna*, 1996), 314–320, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 78–08 (78A30)
Yudin, M. D. Applications of the generalized Kolmogorov formula to sums of dependent vectors. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 28–31, 139. 60F05
Yudin, Vladimir Aleksandrovich (*with* Kolushov, A. V.) Extremal dispositions of points on the sphere. (Russian summary) *Anal. Math.* **23** (1997), *no.* 1, 25–34. (Carlo Bardaro) **99f:41039** 41A63 (52C07)
— Extremal properties of functions and designs on a torus. (Russian) *Mat. Zametki* **61** (1997), *no.* 4, 637–640; *translation in Math. Notes* **61** (1997), *no.* 3-4, 530–533. (Weiyi Su) **99e:42022** 42B10
— Location of points on a torus, and extremal properties of polynomials. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 453–463. (Sergeĭ V. Konyagin) **99k:42003** 42A05 (11C08)
Yuditskiĭ, A. B. *see* **Juditsky, Anatoli**
Yuditskiĭ, P. M. (*with* Sodin, Mikhail) Another approach to de Branges' theorem on weighted polynomial approximation. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 221–227, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (John G. Stalker) **99c:41014** 41A10
— (*with* Kupin, Stas) Analogs of the Nehari and Sarason theorems for character-automorphic functions and some related questions. (English summary) *Topics in interpolation theory (Leipzig*, 1994), 373–390, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (M. Hasumi) **99d:47016** 47A57 (30E05, 30F35, 46E99)
Yue, Bill Quan (*with* Chartrand, Gary; Harary, Frank) On the out-domination and in-domination numbers of a digraph. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 179–183. (Summary) **99i:05106** 05C35 (05C20)
Yue, Chao Yuan (*with* Zhao, Yong; Xu, Xiao Dong; Chen, Ting[1]) A study on preference in data envelopment analysis. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 47–54. 90C08 (90C90)
— (*with* Luo, Yun Feng; Zhu, Shi Jing; Chen, Ting[1]) A study on the order-of-voting effect of binary voting procedures. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 55–64. 90A28
— (*with* Luo, Yun Feng; Zhu, Ming Fu; Zhao, Yong) A comparative analysis of three rational choice functions and their revealed preference representations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 7, 49–52. 90A05
— (*with* Luo, Yun Feng; Xiao, Ren Bin; Zhu, Ming Fu) An analysis of the constraints on the maximum size of a preference profile. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 7, 53–56. 90A05
— (*with* Luo, Yun Feng) A non-oligarchy impossibility theorem with domain restriction. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 4–6. 90A08
— (*with* Luo, Yun Feng) A revealed preference description for a class of rationalized choice functions. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 7–9. 90A08
Yue, Chengbo (*with* Qian, Nantian) Local rigidity of Anosov higher-rank lattice actions. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 687–702. (Alexander Starkov) **99k:58138** 58F15 (22E40)
Yue, Dick K. P. (*with* Xue, Ming[2]) Nonlinear free-surface flow due to an impulsively started submerged point sink. (English summary) *J. Fluid Mech.* **364** (1998), 325–347. (Summary) **99b:76008** 76B10
— (*with* Liu, Yuming; Zhu, Qiang) Nonlinear radiated and diffracted waves due to the motions of a submerged circular cylinder. (English summary) *J. Fluid Mech.* **382** (1999), 263–282. (Summary) **99m:76021** 76B15
— (*with* Shen, Lian[1]; Zhang, Xiang; Triantafyllou, George S.) The surface layer for free-surface turbulent flows. (English summary) *J. Fluid Mech.* **386** (1999), 167–212. 76M25 (76F99)
Yue, Dong (*with* Xu, Shi Fan; Liu, Yong Qing) Designing robust controls for nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 427–431. 93D09 (93B51)
Yue, Fung Ling (*with* Lam, Tak Wah) Optimal edge ranking of trees in linear time. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA*, 1998), 436–445, *ACM, New York*, 1998. (Summary) **99d:68196** 68R10 (05C85, 68Q25)
— (*with* Lam, Tak Wah) Edge ranking of graphs is hard. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 71–86. (Irena C. Rusu) **99h:68080** 68Q25 (05C85)
Yue, Hong[1] (*with* Huang, Nian-Ning) Soliton solutions for a spin chain with an easy plane and the method of Riemann problem with zeros. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 331–344. (Summary) **99e:82022** 82B20
— (*with* Chen, Xiang-Jun; Huang, Nian-Ning) An inverse scattering transform for the Landau-Lifshitz equation for a spin chain with an easy plane. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2491–2501. (Summary) **99b:82025** 82B20 (81U40)
Yue, Jack C. (*with* Clayton, Murray K.) Bayesian sequential tests for comparing the number of species in two populations: a simulation study. (English summary) *Sequential Anal.* **18** (1999), *no.* 1, 57–79. 62L10
Yue, Jin Hai (*with* Huang, Tian Yi) Nonlinear phenomena in solving Kepler's equation in the case of elliptic orbits. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 1, 21–28. 70F05 (70K50)
Yue, Qin Projective dimension of singular modules over nonsingular rings with essential socle. *Comm. Algebra* **26** (1998), *no.* 4, 1185–1191. (Nan Qing Ding) **99b:16008** 16E10 (16D40)
Yue, Qingqi (*with* Jiang, Guorui) Unoriented cobordism classes of the manifolds $\mathbf{RP}(\xi^{10})$. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 217–221, *World Sci. Publishing, River Edge, NJ*, 1998. (R. E. Stong) **99k:57076** 57R75
Yue, Rong-Xian Applications of quasi-Monte Carlo methods in model-robust response surface designs. *Bull. Hong Kong Math. Soc.* **2** (1999), *no.* 2, 373–379. 65C05 (65D17)
Yue, Ruihong (*with* Deguchi, Tetsuo; Kusakabe, Koichi) A gapless charge mode induced by the boundary states in the half-filled Hubbard open chain. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7315–7330. (Summary) **99e:82096** 82D35 (82B20)
— (*with* Sasaki, Ryu) Lax pair for SU(n) Hubbard model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 9, 2967–2969. (Summary) **99g:82022** 82B23 (58F07, 82B20)
Yue, Shujie (*with* Guo, Shun Sheng; Li, Cuixiang; Yang, Ge; Sun, Yiguo) A pointwise approximation theorem for linear combinations of Bernstein polynomials. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 397–406. (Z. Ditzian) **99a:41028** 41A35 (41A25)
— (*with* Guo, Shun Sheng; Li, Cuixiang; Sun, Yiguo; Yang, Ge) Pointwise estimate for Szasz-type operators. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 160–171. (N. S. Kambo) **99f:41027** 41A35 (41A36)
Yue, Wuyi (*with* Lu, Ting-jie; Hasegawa, Toshiharu) A mutual overflow system with simultaneous occupation of resources. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 81–90. (*see* **99a:90008**) 90B12 (68M10)
Yue, Xian Chang (*with* Shao, Li; Zhu, Bin[2]) A maximum entropy constrained homotopy method for min-max problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 59–61. 90C30 (49J35)
— (*with* Zhu, Bin[2]; Shao, Li) A decomposition approach for the global minimization of concave functions. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 62–64. 90C26 (90C29)
— (*with* Zhu, Bin[2]; Shao, Li) A parametric algorithm for transportation problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 65–67. 90C08
Yue, Xiu-Kui Multipliers of A^p $(0 < p \leq 1)$ and its containing Banach space. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 305–309. (Summary) **99g:46026** 46E15
Yuen, K. C. (*with* Burke, M. D.) A test of fit for a semiparametric additive risk model. (English summary) *Biometrika* **84** (1997), *no.* 3, 631–639. (Lajos Horváth) **99c:62138**

62G10 (62G09)

Yuen, Shoji (*with* Sakabe, Toshiki; Inagaki, Yasuyoshi) Symbolic alternative characterizations of testing preorder for regular timed processes. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 5–22. (Summary) **99b:68078** 68Q10 (68Q55, 68Q60)

Yui, Noriko (*with* Zagier, Don) On the singular values of Weber modular functions. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1645–1662. (François Morain) **99i:11046** 11G15 (11F03, 11G16, 11R37)

— (*with* Gouvêa, Fernando Q.) Observations on Fermat motives of $K3$-type. (English summary) *J. Number Theory* **71** (1998), *no.* 2, 203–226. (Caterina Consani) **99f:11076** 11G25 (11G09, 14G15, 14J28)

Yukawa, Tetsuyuki (*with* Oda, Satsuki; Tsuda, Noritsugu) Grand-canonical simulation of two-dimensional simplicial gravity. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 875–884. (Summary) **99d:83033** 83C27 (83–08)

Yukhanson, T. *see* **Johansson, Thomas**

Yukhno, L. F. (*with* Abramov, A. A.) An elimination method for linear problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 547–556; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 527–535. (J. B. Butler, Jr.) **99j:65100** 65J10 (47A50, 65F05)

— (*with* Abramov, A. A.) On a method for finding the least eigenvalue of a nonlinear selfadjoint spectral problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1095–1105; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1046–1056. (V. L. Makarov) **99h:65060** 65F15

Yukich, J. E. (*with* Brito, M. R.; Chávez, E. L.; Quiroz, Adolfo J.) Connectivity of the mutual k-nearest-neighbor graph in clustering and outlier detection. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 33–42. (Tamas Lengyel) **99c:62165** 62H30

Yukie, Akihiko (*with* Kable, Anthony C.) Prehomogeneous vector spaces and field extensions. II. *Invent. Math.* **130** (1997), *no.* 2, 315–344. (Martin Epkenhans) **99c:12005** 12F10

— Prehomogeneous vector spaces and field extensions. III. *J. Number Theory* **67** (1997), *no.* 1, 115–137. (Martin Epkenhans) **99c:12006** 12F10

— On Shintani zeta functions for GL(2). (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5067–5094. (Hidenori Katsurada) **99b:11103** 11M41

Yukino, Yuko (*with* Sakai, Koukichi) Construction and enumeration of graphical sequences corresponding to graphs having exact three vertices with the same degree. (English summary) *Rep. Fac. Sci. Kagoshima Univ. No.* 30 (1997), 7–11. 05C75

Yukita, Shûichi The Moore-Myhill pseudo-tiling for the Heisenberg tessellation automata. (English summary) *Japan J. Indust. Appl. Math.* **16** (1999), *no.* 1, 47–63. (Zdzisław Grodzki) **99m:68137** 68Q80 (52C22)

Yüksel, Ş. (*with* Hatır, Eşref; Noiri, Takashi) Semi θ-continuous functions. (English and Turkish summaries) *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B* **20** (1997), *no.* 1-2, 231–239. 54C08

Yüksel, Uğur (*with* Çelebi, A. Okay) Solution of initial value problems for pseudoholomorphic functions in conical domains. *Generalized analytic functions* (*Graz*, 1997), 65–67, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 30G20

— (*with* Çelebi, A. Okay) Solution of initial value problems for pseudoholomorphic functions in conical domains. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 3, 195–205. (Summary) **99m:30096** 30G20 (35A20)

Yulen, G. *see* **Hulin, G.**

Yuliar, S. (*with* James, Matthew R.; Helton, J. William) Dissipative control systems synthesis with full state feedback. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 4, 335–356. (Éva Gyurkovics) **99j:93039** 93B50 (49L25, 93B36)

Yul′met′ev, R. M. (*with* Khusnutdinov, N. R.) The spectrum of the non-Markovity parameter for hydrodynamic systems. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 292–310; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1426–1441 (1996). (Daniel J. M. Schertzer) **99j:82052** 82C05 (76A02, 76M35, 82C35)

Yulmukhametov, R. S. Smooth regularization of plurisubharmonic functions. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 312–320; *translation in Math. Notes* **62** (1997), *no.* 1-2, 260–267 (1998). (J. Siciak) **99c:32019** 32F05 (31C10)

— (*with* Lutsenko, V. I.) On entire functions with given asymptotic behavior. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 413–423. (Summary) **99m:30057** 30D15

Yum, Sang Sup (*with* Oh, Hae Soo; Kim, June Gi) The weighted finite element method for elasticity equations on unbounded domains. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 259–280. (Michael Fröhner) **99d:73092** 73V05 (65N30)

Yumagulov, M. G. (*with* Khalikova, T. M.) Approximate solution of the von Kármán problem for a compressed-flexed rectangular plate with elastically fixed edges. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 6, 349–352 (1992). 73K10

— (*with* Krasnosel′skiĭ, Mark Aleksandrovich; Kuznetsov, N. A.) Functionalization of the parameter and the asymptotics of cycles in the Hopf bifurcation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 22–28; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1548–1553 (1997). (L. Górniewicz) **99d:34063** 34C23

— (*with* Krasnosel′skiĭ, Mark Aleksandrovich; Kuznetsov, N. A.) An operator method for analyzing the stability of cycles in the Hopf bifurcation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 12, 15–24; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1701–1708 (1997). (L. Górniewicz) **99d:34064** 34C23 (34D99, 47N20)

Yumin, Cheng *see* **Cheng, Yu Min**

Yuming, Shi *see* **Shi, Yu Ming²**

Yun, Gabjin Covering radius, volume comparison and sphere rigidity. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 365–371. (Zhongmin Shen) **99h:53053** 53C23 (53C20)

— (*with* Chi, Dong Pyo) ★ Gromov-Hausdorff topology and its applications to Riemannian manifolds. Lecture Notes Series, 41. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1998. *vi*+78 *pp.* (Zhongmin Shen) **99h:53051** 53C23 (53C20)

Yun, Jae Heon Performance analysis of a flexible restarted FOM(k) algorithm. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 667–678. (Derek S. Henderson) **99c:65065** 65F10

— Block incomplete factorization preconditioners for a symmetric block-tridiagonal M-matrix. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 2, 133–152. (Summary) **99i:65051** 65F35

— (*with* Kim, Sang Wook) Generalized stationary iterative method for solving linear systems. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 341–349. (George D. Poole) **99d:65113** 65F10

— (*with* Kim, Sang Wook) Parallel block ILU preconditioners for a block-tridiagonal M-matrix. (English summary) *J. Korean Math. Soc.* **36** (1999), *no.* 1, 209–227. (George D. Poole) **99m:65092** 65F35 (65F05, 65F10)

Yun, Min-Seon (*with* No, Jong-Seon; Chung, Habong) Binary pseudorandom sequences of period $2^m - 1$ with ideal autocorrelation generated by the polynomial $z^d + (z + 1)^d$. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1278–1282. (Summary) **99c:94021** 94A55

Yun, Seokhoon Asymptotic properties of upper spacings. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 289–297. (Summary) **99a:60023** 60F05 (62G30)

— On domains of attraction of multivariate extreme value distributions under absolute continuity. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 277–295. (R. Vasudeva) **99b:60036** 60F05 (60G70, 62E10)

— The extremal index of a higher-order stationary Markov chain. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 408–437. (Vipul A. Kalamkar) **99i:60136** 60J05 (60G70)

Yun, Yong Sik (*with* Kim, Dae Hong; Kim, Jai Heui) Non-symmetric Dirichlet forms for oblique reflecting diffusions. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 323–331. (Zhongmin Qian) **99b:60129** 60J60 (31C25, 60J35, 60J50)

Yung, A. V. Higher derivative terms in the effective action of $N = 2$ SUSY QCD from instantons. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 79–102. (Summary) **99a:81180** 81T60 (81T13, 81V05)

Yung, Chee-Fai (*with* Wu, Jenq-Lang; Lee, Tsu-Tian) H^∞ control for more general nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1724–1727. (Summary) **99h:93046** 93B36

Yung, Moti (*with* Di Crescenzo, Giovanni; Okamoto, Tatsuaki) Keeping the SZK-verifier honest unconditionally. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 31–45, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99e:94034** 94A60

— (*with* De Santis, Alfredo; Di Crescenzo, Giovanni; Persiano, G.) Image density is complete for non-interactive-SZK (extended abstract). (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 784–795, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q15 (94A60)

— (*with* Di Crescenzo, Giovanni; Sakurai, Kouichi) Result-indistinguishable zero-knowledge proofs: increased power and constant-round protocols. (English summary) *STACS 98* (*Paris*, 1998), 511–521, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q15 (94A60)

— (*with* Blundo, Carlo; De Santis, Alfredo; Herzberg, Amir; Kutten, Shay; Vaccaro, Ugo) Perfectly secure key distribution for dynamic conferences. (English summary) *Inform. and Comput.* **146** (1998), *no.* 1, 1–23. (Luis Hernández Encinas) **99j:94039** 94A60

— (*with* Naor, Moni; Ostrovsky, Rafail; Venkatesan, Ramarathnam) Perfect zero-knowledge arguments for NP using any one-way permutation. (English summary) *J. Cryptology* **11** (1998), *no.* 2, 87–108. (Juraj Hromkovič) **99j:94057** 94A60 (68Q15, 68Q25)

Yung, Siu Pang (*with* Luo, Yue Hu; Feng, De Xing) Stability of linear systems in Banach space. *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1399–1401. 34G10 (34D99, 47D06)

Yunganns, P. *see* **Junghanns, Peter**

Yunusov, A. S. Embedding of a topological group as a quasicomponent into another group in a variety of abelian groups. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995**, *no.* 2-3, 89–95, 114, 117. (I. I. Guran) **99c:22002** 22A05 (54H11)

Yurachkovskiĭ, A. P. The law of large numbers for the measure of a region covered by a flow of random sets. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 173–177; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 187–192 (1998). (Summary) **99e:60040** 60D05 (60F15)

Yurchenko, Alex (*with* Chang, Shau-Jin) Localized zero modes and the breakup of KAM tori. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 6, *part* 2, 780–788. (Dario Bambusi) **99e:58151** 58F27 (34B30, 34C35, 39A10)

Yurchenko, O. G. S-programs. (Russian. Russian summary) *Vychisl. Sistemy No.* 152, *Teor. Vychisl. i Yazyki Spets.* (1995), 20–37, 214. (Victor N. Kas′yanov) **99b:68128** 68Q60 (68P15)

Yurchuk, Nikolai I. (*with* Guezane-Lakoud, Assia; Rebbani, Faouzia) Problème aux limites pour une équation différentielle opérationnelle de second ordre. (English, French and Arabic summaries) [Boundary value problem for a second-order operator-differential equation] *Maghreb Math. Rev.* **6** (1997), *no.* 1, 39–48. (Angelo Favini) **99c:35257** 35R20 (34G10, 35L20)

— (*with* Alekseeva, S. M.) The quasi-reversibility method for the problem of the control of an initial condition for the heat equation with an integral boundary condition. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 495–502, 573; *translation in Differential Equations* **34** (1998), *no.* 4, 493–500. (Summary) **99j:35085** 35K20 (93C20)

Yurchuk, T. L. (*with* Protasov, I. V.) Decomposability of free groups. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 38–40. (Summary) **99m:20049** 20E05 (20K15)

Yurdakul, M. (*with* Djakov, P. B.; Önal, S.; Terzioğlu, T.) Strictly singular operators and isomorphisms of Cartesian products of power series spaces. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 1, 57–65. (M. S. Ramanujan) **99a:46012** 46A45 (47A05)

Yürekli, Osman (*with* Sayginsoy, Özgen) A theorem on a Laplace-type integral transform and its applications. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 4, 561–567. (Summary) **99c:44002** 44A10

— New identities involving the Laplace and the $\mathcal{L}_2$-transforms and their applications. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 141–151. (Summary)

99j:44003 44A10 (33C10)

Yur'ev, Denis V. Isotopic pairs and their representations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 1, 18–28; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 1, 1201–1209 (1996). (Alexei Zhedanov) **99k:81088** 81R05 (17B99)

— Classical and quantum dynamics of noncanonically coupled oscillators, and Lie superalgebras. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 437–446 (1998). (Anargyros Fellouris) **99e:81070** 81R05 (17B81)

— Isotopic pairs and their representations. II. A general supercase. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 1, 149–158; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 1, 511–518. (Alexei Zhedanov) **99k:81089** 81R05 (17B99)

— Remarks on nonassociative structures in quantum projective field theory: the central extension $jl(2, \mathbf{C})$ of the double $sl(2, \mathbf{C}) + sl(2, \mathbf{C})$ of the simple Lie algebra $sl(2, \mathbf{C})$ and related topics. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 191–196. (From the text) **99b:81081** 81R10 (17B69, 17B81, 81T40)

Yurgaĭtis, D. T. *see* **Jurgaitis, Donatas**

Yurgelenas, Yu. V. (*with* Bobrov, Yu. K.) Application of high-resolution schemes in problems of modeling ionization waves in gas discharge. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1721–1731; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1652–1661. (Summary) **99g:76087** 76M20 (65M06, 76X05, 78A99)

Yuri, Michiko (*with* Pollicott, Mark) ★ Dynamical systems and ergodic theory. (English summary) London Mathematical Society Student Texts, 40. *Cambridge University Press, Cambridge*, 1998. *xiv*+179 *pp. ISBN* 0-521-57294-0; 0-521-57599-0 (Boris Hasselblatt) **99f:58130** 58F11 (28Dxx, 54H20, 58–01)

— (*with* Pollicott, Mark; Sharp, Richard) Large deviations for maps with indifferent fixed points. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1173–1184. (Bernard Schmitt) **99j:58131** 58F11 (28D05)

— (*with* Pollicott, Mark) Regularity of solutions to the measurable Livsic equation. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 559–568. (Makoto Mori) **99d:58110** 58F11 (28D05)

Yurik, I. I. (*with* Barannik, A. F.) On some exact solutions of nonlinear wave equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 98–107, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35C05 (35L70, 35Q99)

— (*with* Bulavatskiĭ, V. M.) Nonlinear boundary-value problem for the heat mass transfer model of W. Fushchych. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 492–494, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 80A20

— (*with* Bulavatskiĭ, V. M.) Mathematical modeling of the process of underground leaching based on a biparabolic filtration model. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 9, 7–10. 76S05

— (*with* Barannik, A. F.) On a new method for constructing exact solutions of the nonlinear differential equations of mathematical physics. (English summary) *J. Phys. A* **31** (1998), *no.* 21, 4899–4907. (Ian M. Anderson) **99f:35015** 35C05 (35A30, 35Q53)

Yurinskiĭ, V. V. (*with* Antontsev, Stanislav N.; Meirmanov, A. M.) Homogenization of Stokes-type equations with variable viscosity. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 2, 1–29. (I. Aganović) **99m:35022** 35B27 (35Q30, 73B27, 76D07, 76S05)

Yurkin, M. Yu. On the stability of small oscillations of a rotating asymmetric top with fluid inside. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 170–173. (Vyacheslav N. Pivovarchik) **99m:70003** 70E05 (34G10, 70E15, 70K20, 76E10, 76U05)

— (*with* Kostyuchenko, A. G.; Shkalikov, A. A.) On the stability of a top with a cavity filled with viscous fluid. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 36–55, 95–96; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 100–113. (Summary) **99f:34086** 34G10 (70E99, 70K20, 76D99)

Yurko, V. A. An inverse problem for systems of differential equations with nonlinear dependence on the spectral parameter. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 390–395, 431; *translation in Differential Equations* **33** (1997), *no.* 3, 388–394. (Boris M. Levitan) **99b:34031** 34A55

— Sturm-Liouville differential operators with singularities. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 199–205, *Plenum, New York*, 1998. (Summary) **99b:34056** 34B24 (34A55, 34L40)

— (*with* Freiling, Gerhard) Expansion theorems for boundary value problems with a singularity. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 1, 25–39. (Christiane Tretter) **99b:34133** 34L10 (34B27)

— (*with* Freiling, Gerhard) On constructing differential equations with singularities from incomplete spectral information. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1131–1150. (Boris M. Levitan) **99k:34026** 34A55 (34L05)

— Integrable dynamical systems associated with higher-order difference operators. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 10, 71–81. (Vladislav G. Dubrovsky) **99k:39062** 39A70

Yurkov, D. I. (*with* Ukhinov, S. A.) Monte Carlo method of calculating the derivatives of polarized radiation. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 5, 425–444. (Summary) **99i:78006** 78–08 (45L05, 65C05)

Yurkovich, Stephen (*with* Watkins, John M.) Parameter set estimation algorithms for time-varying systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 711–731. 93B30 (93C41)

— A control engineer's perspective on fuzzy control. *Learning, control and hybrid systems* (*Bangalore*, 1998), 184–204, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C42 (93–02)

Yurova, Maria (*with* Kechkin, Oleg) U(1, 1)-invariant generation of charges for Einstein-Maxwell–dilaton-axion theory. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1283–1293. (Summary) **99d:83026** 83C22 (83C40)

— (*with* Kechkin, Oleg) $Sp(4, \mathbf{R})/GL(2, \mathbf{R})$ matrix structure of geodesic solutions for Einstein-Maxwell-dilaton-axion theory. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 24, 4357–4368. (Seth A. Major) **99f:83019** 83C22

— (*with* Kechkin, Oleg) Self-dual dyon in dilaton-axion gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 975–982. (Summary) **99a:83065** 83E30

— (*with* Kechkin, Oleg) Symplectic gravity models in four, three and two dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5446–5457. (Gagik T. Ter-Kazarian) **99j:83068** 83E30 (83C99)

— (*with* Kechkin, Oleg) BPS solutions in $D = 5$ dilaton-axion gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 219–226. (Marco Spaans) **99k:83122** 83E30 (81T30)

Yürüsoy, Muhammet (*with* Pakdemirli, Mehmet) Group classification of a non-Newtonian fluid model using classical approach and equivalence transformations. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 341–346. (Summary) **99i:76005** 76A05 (35Q35, 76D10, 76M99)

Yuryk, I. I. *see* **Yurik, I. I.**

Yuryk, Ivan *see* **Yurik, I. I.**

Yushanov, Sergei P. (*with* Bogdanovich, A. E.) Stochastic theory of composite materials with random waviness of the reinforcements. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 22, 2901–2930. (Summary) **99b:73030** 73K20 (73B27, 73B35, 73V30)

Yushchenko, E. L. (*with* Surzhko, S. V.) Complete interpretations of Ω-languages and of free algebras of Ω-elements. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 114–121, 189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 550–554 (1998). (K. G. Peeva) **99b:68118** 68Q45 (08A70, 68Q70)

Yushkanov, A. A. (*with* Latyshev, Anatoliĭ Vasil'evich; Slobodskoĭ, G. V.) A boundary value problem for the kinetic equation in a layer with mirror boundary conditions. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 6, 32–40; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 6, 842–849 (1998). (Alexander Orlov) **99e:82081** 82C40 (45K05, 76P05)

Yushkevich, A. P. (*with* Kopelevich, Yu. Kh.) ★ Christian Goldbach. 1690–1764. (German) Translated from the Russian by Annerose Purkert and Walter Purkert. Vita Mathematica, 8. *Birkhäuser Verlag, Basel*, 1994. *xii*+248 *pp. ISBN* 3-7643-2678-6 (E. Knobloch (Zbl 786.01021)) **99f:01024** 01A70 (01A50)

— ★ Математика в ее истории. (Russian. Russian summary) [Mathematics in its history] Edited and with a biography of Yushkevich by S. S. Demidov. Историки Науки России XX Века. [History of Science in Russia during the XXth Century] "*Yanus*", *Moscow*, 1996. 413 *pp. ISBN* 5-88929-018-5 (J. S. Joel) **99f:01031** 01A75 (01A05)

— *see also* **Mathematics of the 19th century**, **99d:01022**

Yushkevich, Aleksandr A. (*with* Hordijk, Arie) Blackwell optimality in the class of stationary policies in Markov decision chains with a Borel state space and unbounded rewards. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 1–39. (Jean B. Lasserre) **99m:90157** 90C40 (60K30)

Yushkov, S. A. (*with* Ermolenko, G. Yu.) A method for solving the first initial-boundary value problem in the linear theory of elasticity for isotropic bodies. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 715–718; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 665–668. (Summary) **99m:73024** 73D10 (73C02)

Yusifov, V. G. On the solution of the problem of an unloading wave of strong discontinuity. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 234–238. (From the text) **99k:73062** 73D40 (73E50)

Yusof, M. I. (*with* Billings, S. A.) Decomposition of generalized frequency response functions for nonlinear systems using symbolic computation. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 589–618. 93C80 (93B40)

Yussef, Kh. Chernykh-type inequalities and Kolmogorov widths. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 2, 64–70, 81. (Yuly Makovoz) **99m:41043** 41A46

bravo Yuste, Santos *see* **Bravo Yuste, Santos**

Yuste, Santos B. *see* **Bravo Yuste, Santos**

Yuster, Raphael (*with* Alon, Noga; Caro, Yair) Packing and covering dense graphs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 451–472. (Chris Rodger) **99i:05156** 05C70 (05B40)

— (*with* Caro, Yair) The characterization of zero-sum (mod 2) bipartite Ramsey numbers. (English summary) *J. Graph Theory* **29** (1998), *no.* 3, 151–166. (Martin Klazar) **99h:05089** 05C55

— Tree decomposition of graphs. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 3, 237–251. (C. St. J. A. Nash-Williams) **99g:05150** 05C70 (60C05)

Yuzbashyan, E. A. (*with* Derjagin, V. B.; Leznov, A. N.) Two-dimensional integrable mappings and explicit form of equations of $(1 + 2)$-dimensional hierarchies of integrable systems. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 247–257, *World Sci. Publishing, River Edge, NJ*, 1996. (Giulio Soliani) **99g:58063** 58F07 (35Q58)

— (*with* Leznov, A. N.) Fine structure of matrix Darboux-Toda integrable mapping. (English summary) *Phys. Lett. A* **242** (1998), *no.* 1-2, 31–35. (Wen Xiu Ma) **99d:58155** 58F37 (35Q55)

Yuzhakova, G. O. (*with* Virchenko, Nina) Systems of N-ary integral equations with a generalized Legendre function. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 20–25. (Summary) **99k:45013** 45F05 (33C45, 44A05)

Yuzvinsky, Sergey (*with* Shelton, Brad) Koszul algebras from graphs and hyperplane arrangements. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 477–490. (Alexander E. Polishchuk) **99c:16044** 16W50 (16S99, 52B30)

Yvinec, Mariette (*with* Boissonnat, Jean-Daniel) ★ Algorithmic geometry. (English summary) Translated from the 1995 French original by Hervé Brönnimann. *Cambridge University Press, Cambridge*, 1998. *xxii*+519 *pp. ISBN* 0-521-56529-4 (Hans-Dietrich Hecker) **99g:68207** 68U05 (52B55, 68–02)

— (*with* Boissonnat, Jean-Daniel; Sharir, Micha; Tagansky, B.) Voronoi diagrams in higher dimensions under certain polyhedral distance functions. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 485–519. (Rade Živaljević) **99c:52020** 52B55 (68Q25, 68U05)

— (*with* Nielsen, Franck) An output-sensitive convex hull algorithm for planar objects. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 1, 39–65. (Luiz Henrique de Figueiredo) **99a:68173** 68U05 (52B55, 68Q25)

–Z–

hashtrudi Zaad, K. *see* **Hashtrudi Zaad, K.**

Zaad, K. Hashtrudi *see* **Hashtrudi Zaad, K.**

Zaag, Hatem (*with* Merle, Frank) Reconnection of vortex with the boundary and finite time quenching. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1497–1550. (Peter L. Christiansen) **99b:35204** 35Q99 (35B40, 35K99, 82D55)

— Blow-up results for vector-valued nonlinear heat equations with no gradient structure. (English summary) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 5, 581–622. (Lubomira G. Softova) **99i:35066** 35K55 (35B05)

Zabalkanskaya, L. È. An estimate for the number of steps in algorithms for additive group testing. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 139–146, 224. (Summary) **99h:62127** 62N99

Zaballa, Ion Controllability and Hermite indices of matrix pairs. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 61–86. 93B05 (93C05)

— (*with* Roca Martinez, Alicia) Restricted invariant factor assignment under state-feedback. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 509–529. (T. Kaczorek) **99f:93030** 93B25 (15A21)

— (*with* Loiseau, Jean-Jacques; Mondié, Sabine; Zagalak, Petr) Assigning the Kronecker invariants of a matrix pencil by row or column completions. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 327–336. (Jacek Kabziński) **99e:15016** 15A22

Zabaras, Nicholas (*with* Yang, George Z.) An adjoint method for the inverse design of solidification processes with natural convection. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1121–1144. (Summary) **99c:80006** 80A22

Zabczyk, Jerzy ★ Chance and decision. Stochastic control in discrete time. Quaderni. [Publications] *Scuola Normale Superiore, Pisa*, 1996. *viii*+191 *pp.* (George Yin) **99m:93107** 93E20 (60G35, 90A05, 93C55)

— Stopping problems on Polish spaces. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 181–199. (Jakša Cvitanić) **99a:60046** 60G40 (90A09)

— (*with* Da Prato, Giuseppe) Differentiability of the Feynman-Kac semigroup and a control application. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 3, 183–188. (Piermarco Cannarsa) **99f:49041** 49L20 (35R15, 47D06, 47N70)

— (*with* Peszat, Szymon) Stochastic evolution equations with a spatially homogeneous Wiener process. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 2, 187–204. (Zdzisław Brzeźniak) **99k:60166** 60H15 (35K55, 35R60, 60G60)

— (*with* Tessitore, Gianmario) Invariant measures for stochastic heat equations. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 2, 271–287. (Giambattista Giacomin) **99k:60167** 60H15 (35K05, 35R60)

— (*with* Tessitore, Gianmario) Strict positivity for stochastic heat equations. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 83–98. (Ralf Manthey) **99j:60097** 60H15

Zabielski, L. (*with* Mestel, A. J.) Steady flow in a helically symmetric pipe. (English summary) *J. Fluid Mech.* **370** (1998), 297–320. (Summary) **99g:76162** 76Z05

— (*with* Mestel, A. J.) Unsteady blood flow in a helically symmetric pipe. (English summary) *J. Fluid Mech.* **370** (1998), 321–345. (Summary) **99g:76163** 76Z05

Zabinsky, Zelda B. Stochastic methods for practical global optimization. (English summary) Workshop on Global Optimization (Trier, 1997). *J. Global Optim.* **13** (1998), *no.* 4, 433–444. (*see* **99k:90005**) 90C15 (90C90)

Zabolotskiĭ, N. V. Strongly regular growth of entire functions of zero order. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 196–208; *translation in Math. Notes* **63** (1998), *no.* 1-2, 172–182. (Valentin Napalkov) **99g:30036** 30D15

Zaboronsky, Oleg (*with* Chau, Ling-Lie) On the structure of correlation functions in the normal matrix model. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 203–247. (Henrik Aratyn) **99g:58062** 58F07 (81V70)

Zabotin, I. Ya. A second-order algorithm with parametrized directions for conditional optimization problems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 62–72; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 12, 60–70 (1998). (Vera V. Kovačević-Vujčić) **99b:90127** 90C30

Zabotin, Ya. I. (*with* Dan′shin, I. N.) Algorithms with combination, parametrization and two-sided approximation in the center method. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 40–48. (Riho Lepp) **99m:90136** 90C30 (65K05)

Zabreĭko, Petr Petrovich The mean value theorem for differentiable mappings in Banach spaces. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 153–162. (Andreas Kriegl) **99c:46042** 46G05

— (*with* Appell, J.; Kalitvin, A. S.) Fixed point theorems in K-normed spaces and boundary values problems for nonlinear integro-differential equations of Barbashin type. (English summary) *Riv. Mat. Pura Appl. No.* 18 (1996), 31–44. (Da Jun Guo) **99b:47081** 47H10 (34K10, 45J05, 47N20)

— K-metric and K-normed linear spaces: survey. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 825–859. (George Isac) **99a:46010** 46A40 (39B99, 46B40, 47H10)

— (*with* Vignoli, Alfonso; Moroz, V. B.) Critical values of lower-bounded functionals, and Hammerstein equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 2, 16–21, 123. (Vyacheslav N. Pavlenko) **99i:58030** 58E05 (45G10)

— (*with* Bainov, Drumi Dimitrov; Kostadinov, St. I.) Stability of the notion of dichotomy of linear impulsive differential equations in a Banach space. (English summary) *Ital. J. Pure Appl. Math. No.* 1 (1997), 43–50 (1998). (Raúl M. Naulin) **99k:34017** 34A37 (34C11, 34D05, 34G10)

— (*with* Appell, J.; Kalitvin, A. S.) Partial integral operators in Orlicz spaces with mixed norm. *Colloq. Math.* **78** (1998), *no.* 2, 293–306. (Isaac V. Shragin) **99i:47090** 47G10 (46E30, 47B38)

— (*with* Aulbach, Bernd; Nguyễn Văn Minh) Structural stability of linear difference equations in Hilbert space. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 71–76. (Ulrich Krause) **99m:39003** 39A10 (47A50, 47B39)

— (*with* Moroz, V. B.; Vignoli, Alfonso) On the three critical points theorem. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 103–113. (Marco Degiovanni) **99j:58042** 58E05 (45G10, 47H15, 47H30)

— (*with* De Pascale, E.) Convergence of the Newton-Kantorovich method under Vertgeim conditions: a new improvement. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 271–280. (Mihai Turinici) **99d:65183** 65J15 (47H17)

Zabrodin, A. V. (*with* Krichever, Igor Moiseevich; Lipan, O.; Wiegmann, P. B.) Quantum integrable systems and classical discrete nonlinear dynamics. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin*, 1995), 211–227, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23 (58F07, 81U40)

— Bethe ansatz and classical Hirota equations. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow*, 1996), 627–632, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:82027** 82B23 (82B20)

— (*with* Krichever, Igor Moiseevich; Lipan, O.; Wiegmann, P. B.) Quantum integrable models and discrete classical Hirota equations. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 267–304. (Mayumi Ohmiya) **99c:58076** 58F07 (39A10, 82B23)

— (*with* Krichever, Igor Moiseevich; Wiegmann, P. B.) Elliptic solutions to difference non-linear equations and related many-body problems. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 373–396. (Andrey V. Tsiganov) **99e:58103** 58F07 (14H42, 33C90, 39A10, 81V70)

Zabusky, Norman J. (*with* Ray, Jaideep; Samtaney, R. S.) Vortex models for Richtmyer-Meshkov fast/slow environments: scaling laws for interface growth rates. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY*, 1995), 89–97, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99

— (*with* Fernandez, Victor M.; Silver, Deborah) Collapse, intensification and reconnection in vortex dominated flows: visiometrics and modeling. (English summary) *Computational physics (Canberra*, 1996), 59–78, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:76121** 76M25 (76C05)

— (*with* Zeng, S. M.) Shock cavity implosion morphologies and vortical projectile generation in axisymmetric shock-spherical fast/slow bubble interactions. (English summary) *J. Fluid Mech.* **362** (1998), 327–346. (Summary) **99a:76077** 76L05

— (*with* Samtaney, R. S.; Ray, Jaideep) Baroclinic circulation generation on shock accelerated slow/fast gas interfaces. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1217–1230. (Summary) **99b:76048** 76L05 (76N99)

— Vortex paradigm for accelerated inhomogeneous flows: visiometrics for the Rayleigh-Taylor and Richtmyer-Meshkov environments. (English summary) *Annual review of fluid mechanics, Vol.* 31, 495–536, *Annu. Rev. Fluid Mech.*, 31, *Annual Reviews, Palo Alto, CA*, 1999. (Summary) **99j:76103** 76M25 (76C05, 76E99, 76F99)

Zaccagnini, Alessandro Primes in almost all short intervals. *Acta Arith.* **84** (1998), *no.* 3, 225–244. (Nigel Watt) **99g:11105** 11N05 (11N36)

Zaccaria, F. (*with* Man′ko, V. I.; Marmo, Giuseppe) Deformations and nonlinear systems. (English summary) Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 4, 337–352. (Mathias Pillin) **99c:81092** 81R50 (81S05)

— (*with* Man′ko, V. I.; Marmo, Giuseppe) From equations of motion to canonical commutation relations: classical and quantum systems. (English summary) *Symmetries in science, X (Bregenz*, 1997), 223–284, *Plenum, New York*, 1998. (Anton V. Galajinsky) **99i:81115** 81S05 (58F05, 70H05)

Zach, Richard (*with* Baaz, Matthias) Compact propositional Gödel logics. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka*, 1998), 108–113, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

— (*with* Baaz, Matthias; Fermüller, Christian G.; Salzer, Gernot) Labeled calculi and finite-valued logics. (English summary) Many-valued logics. *Studia Logica* **61** (1998), *no.* 1, 7–33. (Radim Bělohlávek) **99m:03043** 03B50 (03B22, 03F05)

Zacharia, D. (*with* Green, Edward L.[1]; Martínez-Villa, Roberto; Reiten, Idun; Solberg, Øyvind) On modules with linear presentations. *J. Algebra* **205** (1998), *no.* 2, 578–604. (Sverre O. Smalø) **99i:16075** 16W50 (16E10, 16G20, 16G70)

Zachariáš, Svatopluk (*with* Mayer, Daniel) Maxwell stress tensor and forces in magnetic fields. (English summary) *Acta Tech. CSAV* **43** (1998), *no.* 6, 543–554. (A. P. Stone) **99k:78015** 78A25 (78A30)

Zachariasen, Martin Rectilinear full Steiner tree generation. (English summary) *Networks* **33** (1999), *no.* 2, 125–143. (Summary) **99k:05155** 05C85 (68Q35, 68R10, 90C27, 90C35)

Zachary, Woodford W. (*with* Shtelen, V. M.) On asymptotic nonlocal symmetry of nonlinear Schrödinger equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 4, 417–437. (Roman O. Popovich) **99j:35214** 35Q55 (35A30, 81Q05)

Zacher, Giovanni *see* **Cipolla, Michele, 99d:01038**

Zachos, Cosmas (*with* Curtright, Thomas; Fairlie, David B.) Features of time-independent Wigner functions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025002, 14 *pp.* (Summary) **99k:81146** 81S30

Zacks, Shelemyahu Adaptive designs for parametric models. *Design and analysis of experiments*, 151–180, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62L05 (62B10, 62F15)

— (*with* Rogatko, A.; Babb, James Scott) Optimal Bayesian-feasible dose escalation for cancer phase I trials. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 215–220. (Summary) **99b:62118** 62L05 (62P10)

— (*with* Wang, Xiao Dong[2]) Estimation of variance components in dynamic linear models. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 325–330. (Summary) **99k:62182** 62M99 (62F10)

hashtrudi Zad, S. *see* **Hashtrudi Zad, S.**

kasim-Zade, O. M. *see* **Kasim-Zade, O. M.**

gusein-Zade, Sabir M. *see* **Gusein-Zade, Sabir M.**

tahvildar-Zadeh, A. Shadi *see* **Tahvildar-Zadeh, A. Shadi**

akbar-Zadeh, H. *see* **Akbar-Zadeh, H.**

Zadeh, Lotfi A. Toward a theory of fuzzy information granulation and its centrality in human reasoning and fuzzy logic. (English summary) Fuzzy sets: Where do we stand?

Where do we go? (São Paulo, 1995). *Fuzzy Sets and Systems* **90** (1997), *no.* 2, 111–127. (Siegfried Gottwald) **99c:03038** 03B52 (68T30, 94D05)
— Some reflections on the anniversary of Fuzzy Sets and Systems. *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 5–7. 03B52 (01A60)
— *see also* **Pedrycz, Witold**, **99h:03033** *and* **Sugeno, Michio**
bijan-Zadeh, M. H. *see* **Bijan-Zadeh, M. H.**
Zádori, László Relational sets and categorical equivalence of algebras. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 5, 561–576. (Klaus Denecke) **99a:08006** 08C05 (08A05, 08B25)
Zadorin, A. I. Numerical solution of an equation with a small parameter on an infinite interval. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1671–1682; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1602–1614. (Pavel Năslău) **99j:65130** 65L10 (34A45, 34E15)
Zadrzyńska, Ewa (*with* Zajączkowski, Wojciech M.) Local existence of solutions of a free boundary problem for equations of compressible viscous heat-conducting fluids. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 2, 179–220. (Charles Bu) **99d:35189** 35R35 (35Q35, 76N10)
— (*with* Zajączkowski, Wojciech M.) On nonstationary motion of a fixed mass of a viscous compressible barotropic fluid bounded by a free boundary. *Colloq. Math.* **79** (1999), *no.* 2, 283–310. (Vladimir V. Shelukhin) **99j:76106** 76N10 (35Q35)
Zadvornov, O. A. (*with* Badriev, I. B.) On the strong convergence of an iterative method for operators with degeneration. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1424–1426; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1381–1383. (Erwin Schechter) **99b:65073** 65J15 (47H17)
Zafar, Asim (*with* Khan, Abdul Hamid) Prediction and estimation in exponential failure model. (English summary) *IAPQR Trans.* **22** (1997), *no.* 1, 81–89. (Summary) **99k:62190** 62N05 (62G30)
Zafer, A. (*with* Özgün, S. A.; Kaymakçalan, B.) Gronwall and Bihari type inequalities on time scales. (English summary) *Advances in difference equations (Veszprém, 1995)*, 481–490, *Gordon and Breach, Amsterdam*, 1997. (Kazimierz Nikodem) **99g:34100** 34C35 (26D10, 34A40)
— Oscillation of higher order neutral type difference equations. (English summary) *Advances in difference equations (Veszprém, 1995)*, 641–647, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39049** 39A10
— Oscillation criteria for even order neutral differential equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 21–25. (Summary) **99a:34205** 34K15 (34K40)
— Necessary and sufficient condition for oscillation of higher order nonlinear delay difference equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 125–130. (Summary) **99f:39014** 39A10
— The existence of positive solutions and oscillation of solutions of higher-order difference equations with forcing terms. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 27–35. (Sui Sun Cheng) **99k:39048** 39A10
— (*with* Kaymakçalan, B.; Özgün, S. A.) Asymptotic behavior of higher-order nonlinear equations on time scales. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 299–306. (Summary) **99h:39014** 39A10 (34A99)
— (*with* Taşeli, H.) Two-sided eigenvalue bounds for the spherically symmetric states of the Schrödinger equation. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 83–100. (Gh. Adam) **99m:65146** 65L15 (34L15, 35J10, 81Q05)
— (*with* Şahiner Yilmaz, Y.) Oscillation of even order nonlinear neutral differential equations with damping. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 445–451. (Summary) **99c:34165** 34K15
— (*with* Akhmetov, M. U.) The controllability of boundary-value problems for quasilinear impulsive systems. *Nonlinear Anal.* **34** (1998), *no.* 7, 1055–1065. (Georgi K. Kulev) **99g:93009** 93B05 (34A37, 34H05)
Zaffalon, Marco (*with* Fagiuoli, Enrico) A note about redundancy in influence diagrams. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 351–365. (Summary) **99k:90057** 90A46
Zaffanella, Enea (*with* Hill, Patricia M.; Bagnara, Roberto) The correctness of set-sharing. (English summary) *Static analysis (Pisa, 1998)*, 99–114, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68N17 (68N20)
Zaffaroni, A. *see* **Zaffaroni, Alberto[1]**
Zaffaroni, Alberto *see* **Zaffaroni, Alberto[2]**
Zaffaroni, Alberto[1] (*with* Girardello, Luciano; Giveon, Amit; Porrati, Massimo) S-duality in $N = 4$ Yang-Mills theories. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 209–219, *World Sci. Publishing, River Edge, NJ*, 1996. (From the text) **99j:81184** 81T60 (81T13)
— (*with* Girardello, Luciano; Porrati, Massimo) Spontaneously broken $N = 2$ supergravity without light mirror fermions. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 272–290. (Piet Termonia) **99b:83074** 83E50 (81R40, 81T30, 83E30)
— (*with* Hanany, Amihay) On the realization of chiral four-dimensional gauge theories using branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 1, 25 *pp.* (*electronic*). (Douglas J. Smith) **99e:81237** 81T60 (81T13, 81T30)
— (*with* Hanany, Amihay) Chiral symmetry from type IIA branes. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 145–168. (Dileep P. Jatkar) **99c:81240** 81T60 (81T13, 81T30)
— (*with* Hanany, Amihay; Strassler, Matthew J.) Confinement and strings in MQCD. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 87–118. (Summary) **99f:81201** 81T60 (81T13, 81T30)
— (*with* Hanany, Amihay) Branes and six-dimensional supersymmetric theories. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 180–206. (Douglas J. Smith) **99h:81165** 81T30 (81T60)
— (*with* Ferrara, Sergio; Kehagias, Alexandros A.; Partouche, H.) Membranes and fivebranes with lower supersymmetry and their AdS supergravity duals. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 42–48. (Summary) **99f:81159** 81T30 (83E30, 83E50)
— (*with* Ferrara, Sergio; Kehagias, Alexandros A.; Partouche, H.) AdS_6 interpretation of 5D superconformal field theories. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 57–62. (Summary) **99c:83098** 83E50 (81T30, 83E30)
Zaffaroni, Alberto[2] (*with* Molho, Elena) Quasiconcavity of sets and connectedness of the efficient frontier in ordered vector spaces. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 407–424, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Johannes Jahn) **99j:90074** 90C29 (90C48)
Zaffaroni, Paolo (*with* Robinson, Peter M.) Nonlinear time series with long memory: a model for stochastic volatility. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 359–371. (Roger Gay) **99e:62161** 62M10
Zafiriou, Evanghelos (*with* Zheng, Qingsheng) A local form of small gain theorem and analysis of feedback Volterra systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 635–640. 93B30 (93B52)
Zafiris, Elias Kinematical approach to brane worldsheet deformations in spacetime. (English summary) *Ann. Physics* **264** (1998), *no.* 1, 75–92. (Riccardo Capovilla) **99k:83129** 83E30 (83C99)
— Covariant generalisation of Codazzi-Raychaudhuri and area change equations for relativistic branes. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 271–288. (Riccardo Capovilla) **99m:53139** 53C80 (83C99)
— (*with* Halliwell, Jonathan J.) Decoherent histories approach to the arrival time problem. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3351–3364. (Summary) **99m:81033** 81P99 (81S99)
— Generalized Raychaudhuri and area change equations for classical brane models. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 043509, 8 *pp.* (Summary) **99k:83130** 83E30 (81T30)
Zafiropoulos, F. A. (*with* Vrahatis, M. N.; Grapsa, T. N.; Ragos, O.) On the localization and computation of zeros of Bessel functions. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 6, 467–475. (Summary) **99d:65064** 65D20 (33C10, 34B30)
Zafrullah, Muhammad (*with* Anderson, D. D.; Chapman, Scott T.; Halter-Koch, Franz) Criteria for unique factorization in integral domains. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 205–218. (David E. Rush) **99h:13026** 13F15 (13G05, 20M14)
Zagaglia Salvi, Norma On the existence of cycles of every even length on generalized Fibonacci cubes. (English summary) *Matematiche (Catania)* **51** (1996), *suppl.*, 241–251 (1997). (Shreedhara Prasada Mohanty) **99b:05088** 05C38
Zagalak, Petr (*with* Loiseau, Jean-Jacques; Mondié, Sabine; Zaballa, Ion) Assigning the Kronecker invariants of a matrix pencil by row or column completions. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 327–336. (Jacek Kabziński) **99e:15016** 15A22
Zagarola, M. V. (*with* Smits, Alexander J.) Response to: "Scaling of the intermediate region in wall-bounded turbulence: the power law. Comment on: 'Log laws or power laws: the scaling in the overlap region'" [Phys. Fluids **10** (1998), no. 4, 1043–1044; 1 613 975] by G. I. Barenblatt and A. J. Chorin. *Phys. Fluids* **10** (1998), *no.* 4, 1045–1046. 76F05 (76–05)
— *see also* **Barenblatt, G. I.**
Zagatti, Sandro On the Dirichlet problem for vectorial Hamilton-Jacobi equations. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1481–1491 (*electronic*). (Giulia Treu) **99k:35025** 35F30 (35D05, 49L20)
Zagermann, Marco A comparison of metric and Ashtekar variables in two Killing field reduced gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1367–1374. (Viqar Husain) **99d:83006** 83C05 (83C20)
Zaghrout, Afaf A. S. (*with* Attalah, S. H.) On asymptotic behaviour of neutral integrodifferential equations. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 49–64 (1997). (George Karakostas) **99a:45016** 45J05 (34K15, 45M99)
— (*with* Kandil, F. M.) Competition between three microbial populations for a single limiting resource in continuous culture. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 271–281. (Summary) **99b:92051** 92D25
— (*with* Kandil, F. M.) Model of competition in the chemostat with delayed nutrient recycling. (English summary) *J. Fract. Calc.* **13** (1998), 77–82. (Summary) **99a:92032** 92D25 (34K20)
— (*with* Kandil, F. M.) Model of competition in the chemostat with delayed nutrient recycling. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 106–110. (Summary) **99d:92033** 92D25
Zagier, Don (*with* Lewis, John B.[2]) Period functions and the Selberg zeta function for the modular group. *The mathematical beauty of physics (Saclay, 1996)*, 83–97, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Shin-ya Koyama) **99c:11108** 11M36 (11F37)
— (*with* Yui, Noriko) On the singular values of Weber modular functions. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1645–1662. (François Morain) **99i:11046** 11G15 (11F03, 11G16, 11R37)
— (*with* Kaneko, Masanobu) Supersingular j-invariants, hypergeometric series, and Atkin's orthogonal polynomials. *Computational perspectives on number theory (Chicago, IL, 1995)*, 97–126, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (M. Ram Murty) **99b:11064** 11G20 (11F11, 11F33)
— A modified Bernoulli number. *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 63–72. (L. Skula) **99i:11013** 11B68
— (*with* Göttsche, Lothar) Jacobi forms and the structure of Donaldson invariants for 4-manifolds with $b_+ = 1$. *Selecta Math. (N.S.)* **4** (1998), *no.* 1, 69–115. (Zhenbo Qin) **99d:57022** 57R57 (11F55, 14J26, 57R55)
redivo-Zaglia, M. *see* **Redivo-Zaglia, M.**
Zago, José Vitório (*with* Lopes, Vera Lúcia Rocha) A method to solve matricial equations of the type $\sum_{i=1}^{p} A_i X B_i = C$. (English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 25–39 (1998). (Summary) **99h:65083** 65F30 (15A24)
Zagorin, D. L. (*with* Kazarin, Lev S.) Absence of abelian ABA-factorizations in sporadic simple groups and their automorphism groups. (Russian. English summary) *Problems in algebra, No. 11 (Russian)*, 27–41, *Gomel. Gos. Univ., Gomel'*, 1997. (A. S. Kondrat'ev) **99h:20021** 20D08 (20D06, 20D40)
Zagorodnov, I. A. (*with* Zakharov, E. V.; Tarasov, R. P.) Hypersingular integral equations in problems of diffraction by a cube. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 38–42. 78A45 (45E05, 65R20, 78–08)
— Numerical solution of integral equations of first and second kind in scalar and vector problems of diffraction on a cube. (English summary) Problems of mathematical physics. *Comput. Math. Model.* **10** (1999), *no.* 1, 28–36. 78A45 (65R20, 78–08)

Zagorodnyuk, A. V. (*with* Plichko, A. N.) On automatic continuity and three problems of *The Scottish book* concerning the boundedness of polynomial functionals. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 477–494. (Jorge Mujica) **99c:46050** 46G20

— The connection of continuity and boundedness of polynomial operators on pseudonormed vector spaces. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 2, 1928–1929. (Jesús A. Jaramillo) **99h:46080** 46G20 (46A19)

Zagoskin, Alexandre M. ★ Quantum theory of many-body systems. (English summary) Techniques and applications. Graduate Texts in Contemporary Physics. *Springer-Verlag, New York*, 1998. *xvi+229 pp. ISBN* 0-387-98384-8 (Johanna K. Erdmenger) **99g:81250** 81V70 (81–01, 82–01, 82D55)

Zagrebnov, V. A. (*with* Neidhardt, Hagen) On the right Hamiltonian for singular perturbations: general theory. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 5, 609–633. (Alexei V. Rybkin) **99a:47020** 47A55 (47B25, 47N50, 81Q10, 81Q15)

— (*with* Neidhardt, Hagen) On semibounded restrictions of self-adjoint operators. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 489–512. (E. R. Tsekanovs'kiĭ) **99k:47055** 47B25 (47N50, 81Q10)

— (*with* Joussot, Patrice) Quantum critical fluctuations in a ferroelectric model: quasi-average approach. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 921–930. (Gustavo R. Guerberoff) **99j:82009** 82B10

— (*with* Bentosela, F.; Exner, Pavel) Electron trapping by a current vortex. (English summary) *J. Phys. A* **31** (1998), *no.* 17, *L*305–*L*311. (Summary) **99c:82072** 82D55 (81V10)

— (*with* Bru, J.-B.) Exact solution of the Bogoliubov Hamiltonian for weakly imperfect Bose gas. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9377–9404. (Summary) **99g:82002** 82B05

— (*with* Bleher, P. M.; Ruiz, Jean) On the phase diagram of the random field Ising model on the Bethe lattice. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 33–78. (Summary) **99h:82043** 82B44 (82B26)

— (*with* Georgii, Hans-Otto) On the interplay of magnetic and molecular forces in Curie-Weiss ferrofluid models. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 79–107. (Barbara Gentz) **99k:82029** 82B26 (60K35, 82B21)

— (*with* Neidhardt, Hagen) On error estimates for the Trotter-Kato product formula. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 3, 169–186. (J. A. Van Casteren) **99g:47099** 47D06 (47B25)

— (*with* Romano, Silvano) Orientational ordering transition in a continuous-spin ferrofluid. (English summary) *Phys. A* **253** (1998), *no.* 1-4, 483–497. (Gustavo R. Guerberoff) **99g:82016** 82B21 (82B05)

— (*with* Bru, J.-B.) Exact phase diagram of the Bogoliubov weakly imperfect Bose gas. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 371–376. (Summary) **99c:82005** 82B05 (82B26)

— (*with* Neidhardt, Hagen) Does each symmetric operator have a stability domain? (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 6, 829–850. (Vladimir Georgescu) **99k:47056** 47B25 (47A55, 47E05, 47N50, 81Q10, 81Q15)

Zagrodny, D. (*with* Rockafellar, R. T.) A derivative-coderivative inclusion in second-order nonsmooth analysis. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 1, 89–105. (Lionel Thibault) **99a:49025** 49J52 (58C20)

Zagrodziński, J. A. (*with* Prikarpat·skiĭ, A. K.; Blackmore, D. L.) Lax-type flows on Grassmann manifolds and dual momentum mappings. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 539–549. (Iskander A. Taimanov) **99a:58094** 58F07 (58B25)

Zagst, Rudi (*with* Kalin, Dieter) Portfolio optimization: volatility constraints versus shortfall constraints. (English and German summaries) *OR Spektrum* **21** (1999), *no.* 1-2, 97–122. (Summary) **99j:90011** 90A09

Zaguia, N. *see* **ORDAL '96, 99m:68011**

Zahalca, Cristina (*with* Chardi, Mohamed) Modelling the reliability of a complex system under stress environment. (English summary) *Statistical and probabilistic models in reliability (Bucharest, 1997)*, 225–234, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 60K10

Zahar, E. G. Poincaré's philosophy of geometry, or does geometric conventionalism deserve its name? (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 2, 183–218. (Umberto Bottazzini) **99m:00010** 00A30 (01A55)

el-Zahar, Mohamed H. *see* **El-Zahar, Mohamed H.**

Zaharescu, Alexandru (*with* Cobeli, Cristian) On the distribution of primitive roots mod *p*. *Acta Arith.* **83** (1998), *no.* 2, 143–153. (D. R. Heath-Brown) **99a:11110** 11N69

— (*with* Alexandru, Victor; Popescu, Nicolae) On the closed subfields of $\mathbf{C}_p$. *J. Number Theory* **68** (1998), *no.* 2, 131–150. (J. Browkin) **99k:11182** 11S15 (12F20, 12J25)

— (*with* Vâjâitu, Marian) A finiteness theorem for a class of exponential congruences. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2225–2232. (Jeffrey Lin Thunder) **99j:11003** 11A07

Zaharia, Alexandru (*with* Ta Lê Loi) Bifurcation sets of functions definable in o-minimal structures. *Illinois J. Math.* **42** (1998), *no.* 3, 449–457. (A. J. Wilkie) **99f:58023** 58C25 (03C62)

Zaharia, Maria Ioachim The homology of the Milnor fiber of a function germ defined on an arrangement of hyperplanes. *Saitama Math. J.* **15** (1997), 1–8. (P. Orlik) **99d:32049** 32S55 (52B30)

Zaharie, Daniela On stochastically perturbed differential systems. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **42** (1996), 77–85 (1998). (Summary) **99c:60122** 60H10

Zahariuta, V. P. *see* **Zakharyuta, V. P.**

Zahariuta, Vyacheslav Pavlovich *see* **Zakharyuta, V. P.**

Zahed, Ismail (*with* Janik, Romuald A.; Nowak, Maciej A.; Papp, Gábor) New developments in non-Hermitian random matrix models. *New developments in quantum field theory (Zakopane, 1997)*, 297–314, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Summary) **99j:82044** 82B41

Zahedi, M. M. (*with* Ameri, R.) Hypergroup and join space induced by a fuzzy subset. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 33–39, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99c:20098** 20N20 (03E72, 20N25)

— (*with* Ameri, R.) Hypergroup and join space induced by a fuzzy subset. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 155–168. (P. Corsini) **99d:20108** 20N20 (20N25)

— (*with* Hasankhani, A.; Talaie, M.) Fuzzy congruence relations on a BCK-algebra. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 83–96. (Summary) **99b:06020** 06F35 (03E72, 08A30)

— (*with* Hasankhani, A.) On F-polygroups and fuzzy sub-F-polygroups. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 97–110. (John Mordeson) **99b:20106** 20N20

Zaheer, N. (*with* Bajunaid, I.; Jamjoom, F. B. H.) On a theorem of Marden with applications. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 101–114. (Jay M. Jahangiri) **99c:30004** 30C15

Zahid, Mehdi Fonctionnelle additive et ellipticité. [Additive functional and ellipticity] *Extracta Math.* **11** (1996), *no.* 2, 288–300. (Introduction) **99c:60166** 60J45 (31C05, 60J55)

Zahireddine, Zaid *see* **Zahreddine, Ziad**

Zähle, M. Fractional differentiation in the self-affine case. V. The local degree of differentiability. (English summary) *Math. Nachr.* **185** (1997), 279–306. (Lars Olsen) **99a:26007** 26A33 (28A80)

— Integration with respect to fractal functions and stochastic calculus. I. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 3, 333–374. (Toshio Yamada) **99j:60073** 60H05 (26A33, 26A42)

— (*with* Klingenhöfer, F.) Ordinary differential equations with fractal noise. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1021–1028. (Summary) **99f:60111** 60H10

Zahorski, Zygmunt *see* **Obituary: Zahorski, Zygmunt**

Zahradník, Miloš (*with* van Enter, Aernout C. D.; Miękisz, Jacek) Nonperiodic long-range order for fast-decaying interactions at positive temperatures. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1441–1447. (Dimitri Petritis) **99e:82006** 82B05

Zahrai, Sarah Engel quasigroups associated with cycle systems. (English summary) *Australas. J. Combin.* **17** (1998), 175–183. (Charles C. Lindner) **99f:05022** 05B30

— Minimal bases for the laws of certain cycle systems. (English summary) *Australas. J. Combin.* **18** (1998), 105–110. (G. Pollák) **99k:20123** 20N02 (05B07)

Zahreddine, Ziad An extension of the binomial theorem with application to stability theory. (English summary) *Punjab Univ. J. Math. (Lahore)* **29** (1996), 57–71. (Lian Wang) **99f:34082** 34D99 (93D05)

— Stability of differential equations via the theory of continued fraction expansions. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 2, 271–277. (Anthony N. Michel) **99m:34118** 34D99 (93D99)

— On the stability of matrix systems of differential equations. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 127–130. (Summary) **99a:34154** 34D20 (34A30)

Zahrouni, Ezzedine (*with* Lemarié-Rieusset, Pierre Gilles) More regular wavelets. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 1, 92–105. (Hans W. Volkmer) **99b:42041** 42C15

Zaicev, M. *see* **Zaĭtsev, M. V.**

Zaicev, M. V. *see* **Zaĭtsev, M. V.**

Zaĭchenko, Yu. P. Multicriterial nonlinear programming problems with fuzzy parameters. An alternative approach. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 145–151, 157. 93C70 (90C29)

abou-Zaid, Moheb S. *see* **Abou-Zaid, Moheb S.**

Zaidenberg, Mikhail G. (*with* Dethloff, G.) Plane curves with hyperbolic and C-hyperbolic complements. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 749–778 (1997). (Junjiro Noguchi) **99b:32038** 32H20 (14H30)

— (*with* Skorik, A.) On isometric reflections in Banach spaces. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 212–247. (Wolfgang Lusky) **99a:46025** 46B20 (46C15, 47B99)

— A representation of isometries on function spaces. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 3, 339–347. (W. A. J. Luxemburg) **99b:46042** 46E30 (47B38)

Zaidman, Samuel ★ Advanced calculus. (English summary) An introduction to mathematical analysis. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. viii+171 *pp. ISBN* 981-02-2704-3 (Sherif T. El-Helaly) **99c:00002** 00A05 (26–01)

— Comments on pseudo-differential operators. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 111–121 (1998). (Elmar Schrohe) **99h:47058** 47G30 (35S05)

— A criterion of relative compactness in the space $B_{1,s}(\mathbf{R}^n)$. (English summary) *Libertas Math.* **18** (1998), 129–133. 46E35

— Estimates of the reversor operator $G(x,D) - \mathcal{I}(x,D)$ in $H^s(\mathbf{R}^n)$-spaces. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 2, 97–102. (Summary) **99b:47078** 47G30 (35S05, 46F10)

— Compactness of the reversor operator $G(x,D) - \mathcal{I}(x,D)$ in $L^2(\mathbf{R}^n)$. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 43–53. (Viorel Iftimie) **99g:47121** 47G30 (35S05)

Zaigraev, A. Yu. (*with* Jakubowski, Adam; Nagaev, Aleksandr Viktorovich) Large deviation probabilities for sums of heavy-tailed dependent random vectors. (English summary) Heavy tails and highly volatile phenomena. *Comm. Statist. Stochastic Models* **13** (1997), *no.* 4, 647–660. (Vadim R. Fatalov) **99d:60033** 60F10 (60G10)

— (*with* Nagaev, Aleksandr Viktorovich; Jakubowski, Adam) Probabilities of large deviations of the sums of lattice random vectors when the original distribution has heavy tails. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 68–81. (S. A. Book) **99d:60037** 60F10 (62E20)

Zaika, Yu. V. Integral operators of ideal observation of dynamical systems. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 8–21. 34H05

— Estimates for functionals on solutions of perturbed systems with delay. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes (Russian)*, 67–78, 244–245, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 49K25 (49K40)

— Mathematical justification of a diffusion model with reversible trapping and dynamic boundary conditions. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 44–78. (Vitaly A. Volpert) **99e:35234** 35Q99 (80A20, 82D35)

— (*with* Kruchek, M. M.) Suboptimal integral observation operators in dynamical systems with delay. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser.*

Mat. No. 4 (1997), 62–75. (Summary) **99d:93042** 93C41 (34K35)

Zaïmi, Toufik Sur la fermeture de l'ensemble des K-nombres de Pisot. [On the closedness of the set of Pisot K-numbers] *Acta Arith.* **83** (1998), *no.* 4, 363–367. (Christopher Smyth) **99e:11133** 11R06

— Caractérisation d'un ensemble généralisant l'ensemble des nombres de Pisot. [Characterization of a set generalizing the set of Pisot numbers] *Acta Arith.* **87** (1998), *no.* 2, 141–144. (D. Boyd) **99m:11121** 11R06

Zain, A. A. (*with* Rajan, B. Sundar) Quasideterminant characterization of MDS group codes over abelian groups. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 313–330. (Piroska Lakatos) **99b:94046** 94B05 (94B15, 94B60)

Zair, C. E. (*with* Tosan, E.) Computer aided geometric design with IFS techniques. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 443–452, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00014**) 65D17

— (*with* Tosan, E.) Fractal geometric modeling in computer graphics. (English summary) Fractal 97 (Estes Park, CO). *Fractals* **5** (1997), *suppl.*, 45–61. (*see* **99f:00017**) 65Y25 (28A80)

Zaisi, Zuo *see* **Zuo, Zai Si**

Zait, R. A. (*with* Shamardan, A. B.) Extended structures in the U(3) chiral model. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 1, 115–126. (Summary) **99g:81129** 81T10

— On the Bäcklund transformations for integrable models in two dimensions. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 631–640. (Ian A. B. Strachan) **99g:58113** 58F37 (35Q58, 58F07)

— Bäcklund transformations and solutions for some evolution equations. (English summary) *Phys. Scripta* **57** (1998), *no.* 5, 545–548. (Victor V. Zharinov) **99c:35216** 35Q53 (58F37)

Zaĭtsev, A. Yu.[1] Estimates for the quantiles of smooth conditional distributions and the multidimensional invariance principle. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 807–831, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 706–729. (Sándor Csörgő) **99h:60068** 60F15 (60F05, 60F10, 60F17)

— Approximation of convolutions by accompanying laws under the existence of moments of low orders. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **228** (1996), *Veroyatn. i Stat.* 1, 135–141, 359; *translation in J. Math. Sci.* (*New York*) **93** (1999), *no.* 3, 336–340. (Summary) **99e:60046** 60E05 (60E07)

— (*with* Bentkus, V.; Götze, Friedrich) Approximation of quadratic forms of independent random vectors by accompanying laws. (Russian) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 308–335; *translation in Theory Probab. Appl.* **42** (1997), *no.* 2, 189–212 (1998). (V. J. Paulauskas) **99b:60010** 60B12 (60F99, 60G42)

— Multidimensional version of the results of Komlós, Major and Tusnády for vectors with finite exponential moments. (English summary) *ESAIM Probab. Statist.* **2** (1998), 41–108 (*electronic*). (M. Csörgő) **99k:60094** 60F15 (60F17)

— (*with* Götze, Friedrich) Estimates for the rapid decay of concentration functions of n-fold convolutions. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 715–731. (R. Theodorescu) **99f:60032** 60E15 (60F99)

— *see also* **Probability theory and mathematical statistics, 99g:60004**

Zaitsev, Dmitri (*with* Kuś, Marek; Haake, Fritz; Huckleberry, Alan) Level dynamics for conservative and dissipative quantum systems. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8635–8651. (Alexei Khorunzhy) **99e:82088** 82C41 (15A52)

— Germs of local automorphisms of real-analytic CR structures and analytic dependence on k-jets. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 6, 823–842. (Zbigniew Szafraniec) **99a:32007** 32C16 (32D15)

Zaitsev, F. S. (*with* Longinov, V. V.; O'Brien, M. R.; Tanner, Robert) Difference schemes for the time evolution of three-dimensional kinetic equations. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 239–264. (Summary) **99j:82003** 82–08 (76M20, 76P05, 82C80)

Zaĭtsev, M. V. Skew-symmetric identities in special Lie algebras. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 65–78; *translation in Sb. Math.* **186** (1995), *no.* 1, 65–77. (Plamen Koshlukov) **99i:17006** 17B01 (16R10, 17B30)

— Varieties of affine Kac-Moody algebras. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 95–102; *translation in Math. Notes* **62** (1997), *no.* 1-2, 80–86 (1998). (Yuliy Billig) **99g:17013** 17B01 (17B67)

— (*with* Giambruno, Antonio) On codimension growth of finitely generated associative algebras. (English summary) *Adv. Math.* **140** (1998), *no.* 2, 145–155. (Amitai Regev) **99k:16049** 16R10 (16P90)

— (*with* Bakhturin, Yu. A.) Identities of graded algebras. *J. Algebra* **205** (1998), *no.* 1, 1–12. (Vesselin Drensky) **99f:17034** 17B70 (17A70, 17B01, 17B40)

— Finiteness conditions on special Lie algebras. Algebra, 5. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 4, 537–544. (Aleksandr Panov) **99c:17007** 17B01

— (*with* Bakhturin, Yu. A.; Giambruno, Antonio) G-identities on associative algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 63–69. (E. Formanek) **99b:16053** 16W20

Zaitsev, Oleg (*with* Prange, R. E.; Narevich, R.) Quasiclassical surface of section perturbation theory. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1694–1710. (Summary) **99j:81044** 81Q20 (81Q15)

Zaĭtsev, V. F. (*with* Polyanin, A. D.) ★ Справочник по обыкновенным дифференциальным уравнениям. (Russian. Russian summary) [Handbook of ordinary differential equations] Точные решения. [Exact solutions] *Fizmatlit* "*Nauka*", *Moscow*, 1995. 560 *pp. ISBN* 5-02-015182-3 (Editors) **99d:34001** 34–02 (00A20, 34A05)

Zaĭtseva, M. I. (*with* Repnikov, V. D.) Some semigroup properties of Hölder averagings. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 4, 442–444. (From the text) **99j:47049** 47B38 (35B99, 47D06)

Zaĭtseva, Yu. V. Controlled linear stochastic systems with coefficients that depend on a random sequence. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 29–33; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 2, 26–30. (From the text) **99d:93073** 93E20

Zając, Józef (*with* Reséndis O., Lino F.) Maximal dilatation of the Beurling-Ahlfors extension operator. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 141–154. (G. Lakshma Reddy) **99c:30042** 30C62

Zajac, Michal (*with* Müller, Vladimír) A quasi-nilpotent operator with reflexive commutant. II. (English summary) *Studia Math.* **132** (1999), *no.* 2, 173–177. (Warren R. Wogen) **99k:47015** 47A15 (47B37, 47C15)

Zajączkowski, Wojciech M. (*with* Ströhmer, Gerhard) Existence and stability theorems for abstract parabolic equations, and some of their applications. (English summary) *Singularities and differential equations* (*Warsaw*, 1993), 369–382, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Rodolfo Salvi) **99c:34141** 34G20 (35K55, 47N20)

— (*with* Ströhmer, Gerhard) On the existence and properties of the rotationally symmetric equilibrium states of compressible barotropic self-gravitating fluids. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1181–1220. (Gershon Wolansky) **99g:76124** 76N10 (35Q35, 76M30, 76U05)

— (*with* Burnat, Marek) On local motion of a compressible barotropic viscous fluid with the boundary slip condition. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 195–223. (Raphaël Danchin) **99h:35175** 35Q35 (76N10)

— (*with* Zadrzyńska, Ewa) Local existence of solutions of a free boundary problem for equations of compressible viscous heat-conducting fluids. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 2, 179–220. (Charles Bu) **99d:35189** 35R35 (35Q35, 76N10)

— On nonstationary motion of a compressible barotropic viscous fluid with boundary slip condition. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 2, 167–204. (Vladimir V. Shelukhin) **99k:35147** 35Q30 (76N10)

— Stability of equilibrium solution for free boundary problem for the motion of viscous compressible barotropic self-gravitating fluid. Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 110–124. (*see* **99f:35004**) 35R35 (35B35, 35Q35, 76E99, 76N10)

— (*with* Zadrzyńska, Ewa) On nonstationary motion of a fixed mass of a viscous compressible barotropic fluid bounded by a free boundary. *Colloq. Math.* **79** (1999), *no.* 2, 283–310. (Vladimir V. Shelukhin) **99j:76106** 76N10 (35Q35)

Zajic, Tim (*with* Glasserman, Paul; Heidelberger, Philip; Shahabuddin, Perwez) A look at multilevel splitting. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 98–108, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (*see* **99d:65005**) 65U05

— (*with* Glasserman, Paul; Heidelberger, Philip; Shahabuddin, Perwez) A large deviations perspective on the efficiency of multilevel splitting. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1666–1679. (Luisa Gargano) **99m:68016** 68M10 (65C05, 90B12)

Zajíček, Luděk Supergeneric results and Gateâux differentiability of convex and Lipschitz functions on small sets. *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 2, 19–37. (Warren B. Moors) **99d:46066** 46G05 (58C20)

— On differentiability properties of Lipschitz functions on a Banach space with a Lipschitz uniformly Gâteaux differentiable bump function. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 329–336. (Summary) **99b:46066** 46G05 (41A65, 46B20)

— Ordinary derivatives via symmetric derivatives and a Lipschitz condition via a symmetric Lipschitz condition. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 653–669. (Michael Evans) **99h:26011** 26A24 (28A99)

— (*with* Holický, P.; Šmídek, M.) Convex functions with non-Borel set of Gâteaux differentiability points. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 469–482. (Javier Gómez Gil) **99k:46073** 46G05 (46B26)

— (*with* Matoušková, Eva) Second order differentiability and Lipschitz smooth points of convex functionals. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 617–640. (Warren B. Moors) **99m:46107** 46G05 (26A24, 46N10, 49J52, 58C20)

Zajtz, Andrzej Equivalence problem via the Nash-Moser theorem. (English summary) *New developments in differential geometry, Budapest* 1996, 511–519, *Kluwer Acad. Publ., Dordrecht*, 1999. (Vadim V. Shurygin) **99m:58017** 58B25 (22E65, 58D05)

Żak, Bogdan (*with* Balicki, Jerzy; Stateczny, Andrzej) Genetic algorithms and Hopfield neural networks for solving combinatorial problems. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 567–592. (Summary) **99c:90100** 90C29 (90C27)

Zak, Joshua Orthonormal sets of localized functions for a Landau level. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4195–4200. 42C15

Zak, Michael (*with* Sadeh, Ilan; Keizelman, Alexander) Universal voice compression algorithms based on approximate string matching. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 659–675. (Summary) **99c:68263** 68U30 (68P99)

Zak, Michail (*with* Zbilut, Joseph P.; Meyers, Ronald E.) ★ From instability to intelligence. (English summary) Complexity and predictability in nonlinear dynamics. Lecture Notes in Physics. New Series m: Monographs, 49. *Springer-Verlag, Berlin*, 1997. xiv+552 *pp. ISBN* 3-540-63055-4 (Bing Hong Wang) **99c:92010** 92B20 (34C35, 58F12, 70K50, 76E30, 82C32, 92–02, 92J30)

Žák, Stanislav (*with* Savický, Petr) A hierarchy for $(1, +k)$-branching programs with respect to k. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 478–487, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99f:68057** 68Q05

— (*with* Jukna, Stasys) On branching programs with bounded uncertainty (extended abstract). (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 259–270, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q25 (68Q05)

Żak, Stanisław H. (*with* Glazos, Michael P.; Hui, Stefen) Sliding modes in solving convex programming problems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 680–697 (*electronic*). (L. E. Faybusovich) **99d:90113** 90C30 (93B12, 93D05)

Żak, Tomasz (*with* Ryznar, Michał) Uniform upper bound for a stable measure of a small ball. (English summary) *Electron. Comm. Probab.* **3** (1998), 75–78 (*electronic*). (Aleksandr Koldobsky) **99g:60034** 60E07 (46B20, 46G12)

Zakai, Moshe (*with* Üstünel, Ali Suleyman) The change of variables formula on Wiener space. (English summary) *Séminaire de Probabilités, XXXI*, 24–39, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (David Nualart) **99b:60074** 60H07 (60H05)

— (*with* Üstünel, Ali Suleyman) A monotonicity method for some elliptic SPDEs. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 315–322, *World Sci. Publishing, River Edge, NJ*, 1997. (Björn Schmalfuss) **99i:60128** 60H15 (35J65, 35R60, 47H05, 47N30)

— (*with* Üstünel, Ali Suleyman) Degree theory on Wiener space and an application to a class of SPDEs. *Stochastic differential and difference equations* (*Győr*, 1996), 339–343, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Rainer Buckdahn) **99i:60114** 60H07 (28C20, 60H15)

— (*with* Üstünel, Ali Suleyman) On the uniform integrability of the Radon-Nikodým densities for Wiener measure. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 642–663. (Kun Soo Chang) **99j:60055** 60G30 (46G12, 60B11)

Zakalyukin, Vladimir M. Singularities of the contact of circles with surfaces, and flags. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 2, 73–76; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 2, 131–133. (Stanisław Janeczko) **99e:58023** 58C27 (58A35, 58F14)

— Concave Darboux theorem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 633–638. (Dave Furth) **99k:58007b** 58A15 (53C15, 90A40)

— (*with* Myasnichenko, O. M.) Lagrangian singularities in symplectic reduction. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 1–11, 96; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 1–9. (Stanisław Janeczko) **99g:58056** 58F05 (58C27, 58F14)

— V. I. Arnol'd (on the occasion of his sixtieth birthday). (Russian) Local and global problems of singularity theory (Russian). *Tr. Mat. Inst. Steklova* **221** (1998), 7–8. (*see* **99m:58006**) 01A70

— *see also* **Local and global problems of singularity theory, 99m:58006**

Zakaryan, M. A. (*with* Shamoyan, F. A.) Some problems of representation in weighted spaces of functions harmonic in a ball. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 4, 210–216 (1994). 42C10

Zaker, M. (*with* Hajiabolhassan, H.; Mehrabadi, M. L.; Tusserkani, R.) Improving Erdős-Kubicka bounds. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 565–567, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C15

— (*with* Hajiabolhassan, H.; Mehrabadi, M. L.; Tusserkani, R.) Minimal defining sets in vertex coloring of graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 587–589, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C15

— (*with* Hajiabolhassan, H.; Mehrabadi, M. L.; Tusserkani, R.) A characterization of uniquely vertex colorable graphs using minimal defining sets. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 233–236. (Summary) **99k:05137** 05C75 (05C15)

Zakeri, H. (*with* Khashyarmanesh, K.; Salarian, Sh.) Characterizations of filter regular sequences and unconditioned strong d-sequences. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 39–50. (Liam O'Carroll) **99a:13014** 13H10 (13D25, 13D45)

— (*with* Khashyarmanesh, K.; Salarian, Sh.) On the flat dimension of certain modules of generalized fractions. (English summary) *Math. J. Toyama Univ.* **20** (1997), 79–90. (H. F. Kreimer) **99d:13009** 13B30 (13D05, 13D25)

— (*with* Khashyarmanesh, K.; Salarian, Sh.) Characterizations of filter regular sequences and unconditioned strong d-sequences. (English summary) *Nagoya Math. J.* **151** (1998), 37–50. (Editors) **99h:13030** 13H10 (13D25, 13D45)

Zakeri, Saeed On critical points of proper holomorphic maps on the unit disk. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 1, 62–66. (Carsten Lunde Petersen) **99d:30009** 30C15 (30F45)

Zakharenkov, M. N. Problems in the modeling of separated flow of a viscous incompressible fluid around bodies. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 840–854; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 810–823. (Summary) **99c:76036** 76D15 (76M20)

— Corrections to: "Problems in the modeling of separated flows of a viscous incompressible fluid around bodies" [Zh. Vychisl. Mat. Mat. Fiz. **38** (1998), no. 5, 840–854; MR 99c:76036]. (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 3, 544. 76D15 (76M20)

Zakharian, A. (*with* Webb, G. M.; Brio, M.; Zank, G. P.) Hamiltonian aspects of three-wave resonant interactions in gas dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4227–4257. (Peter L. Christiansen) **99b:76076** 76N15 (35Q35, 58F40, 76M30)

Zakharov, A. N. On an estimate for the closeness of solutions of the Cauchy problem for the Laplace operator. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 36–40, 112; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 34–37. (Summary) **99f:35027** 35J05 (35B45)

Zakharov, D. D. The Green tensor and boundary integral equations for thin elastic layer-asymmetric anisotropic plates. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 499–509; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 483–492. (Summary) **99c:73045** 73K10 (73B40)

Zakharov, E. V. (*with* Safronov, S. I.; Tarasov, R. P.) Numerical solution of boundary integral equations by reduction to a problem with a finite nonabelian symmetry group. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1227–1232, 1295; *translation in Differential Equations* **33** (1997), *no.* 9, 1233–1238 (1998). (Summary) **99e:65186** 65R20 (45L05)

— (*with* Zagorodnov, I. A.; Tarasov, R. P.) Hypersingular integral equations in problems of diffraction by a cube. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 38–42. 78A45 (45E05, 65R20, 78–08)

— (*with* Safronov, S. I.; Tarasov, R. P.) Iterative methods for solving boundary equations of canonical form in boundary value problems with symmetries. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 734–739; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 704–710. (Summary) **99d:65373** 65R20 (65N99)

Zakharov, S. V. (*with* Benattar, R.; Nikiforov, A. F.; Novikov, V. G.; Gasilov, V. A.; Krukovskii, A. Yu.; Zakharov, V. S.) Influence of magnetohydrodynamic Rayleigh-Taylor instability on radiation of imploded heavy ion plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 175–187. 76X05

Zakharov, V. A. (*with* Tsar'kov, D. V.) Efficient algorithms for testing formulas of the temporal logic CTL on a model, and their application for verifying parallel programs. (Russian) *Programmirovanie* **1998**, *no.* 4, 3–18; *translation in Program. Comput. Software* **24** (1998), *no.* 4, 151–161. (From the introduction) **99m:68125** 68Q60 (03B70)

— (*with* Tkhuan, N. N.; Ban, D. V.; Dang Van Hung) On the reconstruction of a process net from the firing sequence of a Petri net. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 31–34, 49; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 49–54. 68Q90

Zakharov, V. K. *see* **Zakharov, Valeriĭ Konstantinovich**

Zakharov, V. S. (*with* Benattar, R.; Zakharov, S. V.; Nikiforov, A. F.; Novikov, V. G.; Gasilov, V. A.; Krukovskii, A. Yu.) Influence of magnetohydrodynamic Rayleigh-Taylor instability on radiation of imploded heavy ion plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 175–187. 76X05

Zakharov, V. V. *see* **Zakharov, Viktor**

Zakharov, Valeriĭ Konstantinovich (*with* Mikhalev, A. V.) The problem of integral representation for Radon measures on a Hausdorff space. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 1, 13–15. 28C05 (28C15)

Zakharov, Viktor (*with* Petrosyan, L. A.) ★ Mathematical models in environmental policy analysis. Translated from the Russian by Y. M. Donets. *Nova Science Publishers, Inc., Commack, NY*, 1997. 246 *pp. ISBN* 1-56072-515-X (Alexander Abakumov) **99d:90001** 90–02 (49N55, 90D25, 92D25)

Zakharov, Vladimir E. (*with* Balk, A. M.) Stability of weak-turbulence Kolmogorov spectra. (English summary) *Nonlinear waves and weak turbulence*, 31–81, *Amer. Math. Soc. Transl. Ser.* 2, 182, *Amer. Math. Soc., Providence, RI*, 1998. (P. L. Sulem) **99e:76057** 76F05 (73D70, 76B15, 76B45)

— Weakly nonlinear waves on the surface of an ideal finite depth fluid. *Nonlinear waves and weak turbulence*, 167–197, *Amer. Math. Soc. Transl. Ser.* 2, 182, *Amer. Math. Soc., Providence, RI*, 1998. (Shu Ming Sun) **99f:35168** 35Q30 (76B15, 76M99)

— (*with* Manakov, S. V.) On reductions in systems integrable by the method of the inverse scattering problem. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 3, 324–327. 35Q58 (58F37)

— Description of the n-orthogonal curvilinear coordinate systems and Hamiltonian integrable systems of hydrodynamic type. I. Integration of the Lamé equations. *Duke Math. J.* **94** (1998), *no.* 1, 103–139. (Efthymia Meletlidou) **99e:58109** 58F07 (35Q58)

Zakharova, T. L. (*with* Ivlev, D. D.) On the flow of a tube weakened by cavities. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 40–42; *translation in Dokl. Phys.* **43** (1998), *no.* 3, 171–173. (From the text) **99j:73059** 73E99

Zakharyan, V. S. (*with* Gavrilov, V. I.) Nontangent growth and boundedness of normal holomorphic functions. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 2-4, 3–14 (1997). (Alexander I. Kheyfits) **99k:30058** 30D45

Zakhar'yashchev, M. V. Canonical formulas for K4. III. The finite model property. *J. Symbolic Logic* **62** (1997), *no.* 3, 950–975. (From the text) **99i:03020** 03B45

— (*with* Suzuki, Yasuhito; Wolter, Frank) Speaking about transitive frames in propositional languages. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 142–166. (*see* **99a:03003**) 03B45 (03B20)

— (*with* Bezhanishvili, Guram) Logics over MIPC. Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 86–95. (*see* **99d:03003**) 03B45

— (*with* Suzuki, Yasuhito; Wolter, Frank) Speaking about transitive frames in propositional languages. (English summary) *J. Logic Lang. Inform.* **7** (1998), *no.* 3, 317–339. (N. C. A. da Costa) **99i:03019** 03B45 (03B20)

— *see also* **Advances in modal logic**

Zakharyuta, V. P. (*with* Chalov, P. A.; Terzioğlu, T.) First type power Köthe spaces and m-rectangular invariants. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 30–44. (Plamen Dzhakov) **99e:46009** 46A45 (46A04)

— *see also* **Dedicated to Professor Vyacheslav Pavlovich Zahariuta, 99a:00052** *and* **Bibliography: Zakharyuta, V. P., (99a:00052)**

Zakhvataev, V. E. On the motion of a wave front in a bistable medium. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 4, 660–662. 35Q53 (35B25)

Zaki, Adel M. On cyclic representation and state spaces of C^*-algebras. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **23** (1994), *no.* 2, 1–6. (Summary) **99b:46092** 46L05

— Abundance of pure states in certain C^*-algebras. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 173–177. (Summary) **99i:46048** 46L30

Zaki, Mohammed J. (*with* Hemaspaandra, Lane A.; Zimand, Marius) Polynomial-time semi-rankable sets. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 50–67 (*electronic*). (Summary) **99h:68048** 68Q10

Zakian, V. Perspectives on the principle of matching and the method of inequalities. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 147–175. 93B50 (93C05)

Zakirov, B. S. Noncommutative Arens algebras. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 17–24. (Sh. A. Ayupov) **99f:46094** 46L50 (46J99)

Zakirov, S. Kh. Boundary value problems for a fourth-order elliptic equation with singular coefficients. (Russian) *Algebra and mathematical analysis* (*Russian*), 35–40, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 35J70 (35J40)

Zakkari, M. (*with* Ouarab, A.; El Kinani, E. H.) Supermulticonformal field theory. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 4, 1231–1242. (Summary) **99g:81204** 81T40 (81R10)

Zakoïan, Jean-Michel (*with* Francq, Christian) Estimation de la précision asymptotique dans l'estimation de modèles ARMA faibles. (English and French summaries) [Covariance matrix estimation for estimators of weak ARMA models] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 377–380. (V. V. Anh) **99i:62202** 62M10 (60G10)

— (*with* Broze, Laurence; Scaillet, Olivier) Quasi-indirect inference for diffusion processes. (English summary) *Econometric Theory* **14** (1998), *no.* 2, 161–186. (Summary) **99d:62083** 62M10 (62P20)

— (*with* Francq, Christian) Estimating linear representations of nonlinear processes. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 145–165. (Pham Dinh Tuan) **99f:62106** 62M10

Zakovic, S. (*with* Ulanowski, Z.; Bartholomew-Biggs, M. C.) Application of global optimization to particle identification using light scattering. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 1053–1067. 78–08 (78A45)

Zakrevskiĭ, A. D. (*with* Zakrevskiĭ, L. A.) Synthesis of the shortest Reed-Muller expansion for many-valued logic schemes. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 5, 5–9, 122. (Summary) **99i:94080** 94C10

Zakrevskiĭ, L. A. (*with* Zakrevskiĭ, A. D.) Synthesis of the shortest Reed-Muller expansion for many-valued logic schemes. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 5, 5–9, 122. (Summary) **99i:94080** 94C10

Zakrzewski, Jakub (*with* Delande, Dominique) Ionization of hydrogen atoms by circularly polarized microwaves. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 205–232, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45

Zakrzewski, P. *see* **Ross, Kenneth Allen, 99f:00001**

Zakrzewski, Stanisław Poisson Poincaré groups. (English summary) *Quantum groups* (*Karpacz*, 1994), 433–439, *PWN, Warsaw*, 1995. (Albert Jeu-Liang Sheu) **99g:81103** 81R50 (17B37)

— On the classical κ-particle. (English summary) *Quantum groups* (*Karpacz*, 1994), 573–577, *PWN, Warsaw*, 1995. (Summary) **99f:81082** 81R20

— Poisson homogeneous spaces. (English summary) *Quantum groups* (*Karpacz*, 1994), 629–639, *PWN, Warsaw*, 1995. (Tomasz Brzeziński) **99j:58082** 58F05 (58B30)

— Twisted Legendre transformation. (English summary) Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 4, 423–433. (Juan Carlos Marrero Gonzalez) **99h:58070** 58F05 (53C15, 58H05)

— A characterization of coboundary Poisson Lie groups and Hopf algebras. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 273–278, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Anatol Nowicki) **99b:16065** 16W30 (17B37, 58H99)

— On braided Poisson and quantum inhomogeneous groups. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1291–1298. (Hanna E. Makaruk) **99b:81109** 81R50 (16W30, 17B37)

— (*with* Bette, A.) Extended phase spaces and twistor theory. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 195–209. (Michael G. Eastwood) **99c:81072** 81R25 (70G35)

— Free motion on the Poisson SU(N) group. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6535–6543. (Władysław Marcinek) **99e:58082** 58F05 (17B37, 70H05, 81R50)

— Localization of relativistic systems. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8317–8323. (Andreas Bette) **99e:81115** 81S10 (70G35, 81R25, 83A05)

— Quantum Lorentz and braided Poincaré groups. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2929–2940. (Tomasz Brzeziński) **99d:81059** 81R50 (16W30, 17B37)

Zakrzewski, Wojciech J. (*with* Lukierski, Jerzy; Ruegg, H.) Classical and quantum mechanics of free κ-relativistic systems. (English summary) *Quantum groups* (*Karpacz*, 1994), 539–554, *PWN, Warsaw*, 1995. (Alexei Zhedanov) **99g:81095** 81R50

— Extended structures in two dimensions and their properties. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 158–164, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T10

— (*with* Lukierski, Jerzy; Stichel, Peter C.) Galilean-invariant $(2+1)$-dimensional models with a Chern-Simons-like term and $D=2$ noncommutative geometry. (English summary) *Ann. Physics* **260** (1997), *no.* 2, 224–249. (Dan Radu Grigore) **99a:58070** 58F05 (58B30, 70G50)

— (*with* Piette, B. M. A. G.) Soliton-like structures in two spatial dimensions and their properties. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 313–320. (Peter L. Christiansen) **99c:35201** 35Q40 (35Q51, 81T99)

— (*with* Piette, B. M. A. G.) Numerical integration of $(2+1)$-dimensional PDEs for S^2 valued functions. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 359–381. 65M12 (65M70)

— (*with* Ioannidou, T.) Solutions of the modified chiral model in $(2+1)$ dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2693–2701. (Bernd J. Schroers) **99e:58058** 58E50 (35Q58)

— (*with* Thomova, Z.; Winternitz, Pavel) Solutions of $(2+1)$-dimensional spin systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3927–3944. (Muthusamy Lakshmanan) **99f:82048** 82C21 (34A05, 34A34)

— (*with* Kudryavtsev, A. E.; Piette, B. M. A. G.) Skyrmions and domain walls in $(2+1)$ dimensions. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 783–795. (Summary) **99b:58074** 58E50 (81T10)

— (*with* Piette, B. M. A. G.) Metastable stationary solutions of the radial d-dimensional sine-Gordon model. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1103–1110. (Summary) **99c:35215** 35Q53

— (*with* Burzlaff, J.) CP^2 soliton scattering: the collective coordinate approximation. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1311–1320. (Bernd J. Schroers) **99h:81128** 81T10 (58E50)

— (*with* Piette, B. M. A. G.) Localized solutions in a two-dimensional Landau-Lifshitz model. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 314–326. (Summary) **99d:82077** 82D40

— (*with* Ioannidou, T.) A note on Ward's chiral model. (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 233–238. (Summary) **99c:81133** 81T13 (81T10)

Zakrzhevskiĭ, M. V. Global stable oscillations near unstable equilibrium positions: the hilltop effect. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 117–124, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 34C15 (70K40)

Zaks, Ayal (*with* Alon, Noga) T-choosability in graphs. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 1–13. (David M. Berman) **99d:05027** 05C15

— (*with* Alon, Noga) Progressions in sequences of nearly consecutive integers. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 1, 99–109. (Georges Grekos) **99g:11018** 11B25

Zaks, Kh. *see* **Sachs, Horst**

Zaks, Mikhail A. (*with* Pikovskiĭ, A. S.; Kurths, Jürgen) Symbolic dynamics behind the singular continuous power spectra of continuous flows. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 77–94. (Summary) **99b:58083** 58F03 (58F25)

Zaks, Shmuel (*with* Dinitz, Yefim; Feighelstein, Marcelo) On optimal graphs embedded into paths and rings, with analysis using l_1-spheres. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 171–183, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68M10

— (*with* Gerstel, Ornan; Wool, Avishai) Optimal layouts on a chain ATM network. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 157–178. (Sudhangshu B. Karmakar) **99e:90035** 90B12 (05C10, 68M10)

— (*with* Eilam, Tamar; Flammini, Michele) A complete characterization of the path layout construction problem for ATM networks with given hop count and load. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 207–220. (Summary) **99f:68093** 68Q25 (68M10)

— (*with* Golin, Mordecai J.) Labelled trees and pairs of input-output permutations in priority queues. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 99–114. (Ranjan Chaudhuri) **99f:68036** 68P05

— Path layout in ATM networks—a survey. (English summary) *Networks in distributed computing* (*Piscataway, NJ*, 1997), 145–160, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 45, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99h:68009**) 68M10 (90B12, 94A05)

Zakusilo, A. I. (*with* Usenko, V. M.) On triangular products of monoids. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 13–21, *Gomel. Gos. Univ., Gomel'*, 1998. (Grigori I. Žitomirskiĭ) **99k:20112** 20M10

Zakusilo, O. K. (*with* Dotsenko, S. Ī.) Optimal allocation of servers on an interval. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 73–76; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 75–78 (1998). (Vladimir V. Kalashnikov) **99g:60180** 60K30

Zalaletdinov, R. M. (*with* Mars, Marc) Space-time averages in macroscopic gravity and volume-preserving coordinates. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4741–4757. (A. D. Popova) **99b:83024** 83C25 (83C55)

— (*with* Tavakol, R. K.) On the domain of applicability of general relativity. (English summary) *Found. Phys.* **28** (1998), *no.* 2, 307–331. (Markku Lehto) **99b:83061** 83C99

Zalar, B. (*with* Stachó, László) Uniform primeness of the Jordan algebra of symmetric operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2241–2247. (A. Niknam) **99f:46101** 46L70 (17C65, 46H70)

— (*with* Bunce, L. J.; Chu, Cho-Ho; Stachó, László) On prime JB*-triples. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 279–290. (Sh. A. Ayupov) **99j:46085** 46L70 (17C65)

Zalcman, Lawrence Normal families: new perspectives. (English summary) *Bull. Amer. Math. Soc.* (*N.S.*) **35** (1998), *no.* 3, 215–230. (Daniel Girela) **99g:30048** 30D45 (34A20)

Zaldívar, Felipe A note on 2-primary localized algebraic K-theory. (English summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 25–29, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Summary) **99j:19001** 19D10 (19E20, 55P42)

Zalduendo, Ignacio (*with* Jaramillo, Jesús Angel; Prieto Yerro, Ángeles) The bidual of the space of polynomials on a Banach space. *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 457–471. (Luiza Amália de Moraes) **99a:46030** 46B28 (46B10, 46G20, 46M05)

— (*with* Carando, Daniel) A Hahn-Banach theorem for integral polynomials. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 241–250. (José Bonet) **99b:46067** 46G20 (46B28)

Zaleski, Stéphane (*with* Rothman, Daniel H.) ★ Lattice-gas cellular automata. (English summary) Simple models of complex hydrodynamics. Collection Aléa-Saclay: Monographs and Texts in Statistical Physics, 5. *Cambridge University Press, Cambridge*, 1997. xxii+297 *pp. ISBN* 0-521-55201-X (Lamberto Rondoni) **99d:82001** 82–02 (76D05, 76M25, 76P05, 82C70, 82D05)

— (*with* Scardovelli, Ruben) Direct numerical simulation of free-surface and interfacial flow. *Annual review of fluid mechanics, Vol.* 31, 567–603, *Annu. Rev. Fluid Mech.*, 31, *Annual Reviews, Palo Alto, CA*, 1999. (Nikolay P. Moshkin) **99m:76002** 76–02 (76D05)

Zalesskiĭ, Aleksandr E. (*with* Tiep, Pham Huu) Some characterizations of the Weil representations of the symplectic and unitary groups. (English summary) *J. Algebra* **192** (1997), *no.* 1, 130–165. (Toshiaki Shoji) **99d:20074** 20G05 (20C33, 20G40)

— (*with* Suprunenko, Irina D.) Irreducible representations of finite classical groups containing matrices with simple spectra. *Comm. Algebra* **26** (1998), *no.* 3, 863–888. (From the introduction) **99m:20098** 20G05 (20G40)

— (*with* Dixon, J. D.) Finite primitive linear groups of prime degree. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 126–134. (Irene Suprunenko) **99f:20005** 20B15 (20G05, 20G40, 20H20)

Zalesskiĭ, B. A. (*with* Blinova, E. I.) A hierarchical algorithm for reconstructing two-color images. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 24–29, 140. (Summary) **99k:94005** 94A12 (68U10)

Zalesskii, P. A. (*with* Herfort, W. N.; Ribes, L.) Finite extensions of free pro-p groups of rank at most two. (English summary) *Israel J. Math.* **107** (1998), 195–227. (Martyn Quick) **99m:20061** 20E18 (20E05)

— (*with* Ribes, L.; Segal, Daniel) Conjugacy separability and free products of groups with cyclic amalgamation. *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 609–628. (David Meier) **99m:20053** 20E06 (20E18, 20E26)

— (*with* Wilson, John S.) Conjugacy separability of certain Bianchi groups and HNN extensions. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 227–242. (Michael Anshel) **99b:20054** 20E26 (20E06, 20F10, 20H25)

Zalewski, Kacper ★ Wykłady z nierelatywistycznej mechaniki kwantowej. (Polish. Polish summary) [Lectures in nonrelativistic quantum mechanics] *Wydawnictwo Naukowe PWN, Warsaw*, 1997. 224 *pp. ISBN* 83-01-12261-7 (Radosław Szmytkowski) **99e:81001** 81–01 (81–02)

Zalgaller, V. A. (*with* Egorov, M. L.) Visibility curves for ovals. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **246** (1997), *Geom. i Topol.* 2, 13–35, 196. (E. Hertel) **99e:52002** 52A10

— On the representation of functions of several variables by the difference of convex functions. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **246** (1997), *Geom. i Topol.* 2, 36–65, 196. (Jaromír Šimša) **99f:26016** 26B25

— Some bendings of a long cylinder. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **246** (1997), *Geom. i Topol.* 2, 66–83, 197. (Summary) **99g:53007** 53A05

Zalik, Richard A. (*with* Favier, S. J.) Frames and Riesz bases. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 59–76, *New Age, New Delhi*, 1997. (Summary) **99d:42058** 42C15 (42–02)

— Relative differentiation, Descartes' rule of signs, and the Budan-Fourier theorem for Markov systems. (English summary) *Approximation theory*, 499–511, *Monogr.*

Textbooks Pure Appl. Math., 212, *Dekker, New York*, 1998. (Summary) **99d:41048** 41A50 (42A05)

— A class of quasi-orthogonal wavelet bases. (English summary) *Wavelets, multiwavelets, and their applications (San Diego, CA, 1997)*, 81–94, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Dinh Dung) **99e:42053** 42C15 (46B15, 46C99)

— (*with* Carnicer, J. M.; Peña, J. M.) Strictly totally positive systems. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 411–441. (Manfred Sommer) **99c:41054** 41A50

Zălinescu, C. On some conjectures of S. Simons. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 837–842. (S. Simons) **99m:49032** 49J52 (46N10, 47H05, 47N10, 58C20)

— A comparison of constraint qualifications in infinite-dimensional convex programming revisited. *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 353–378. (Bernard Lemaire) **99m:49056** 49N15 (49J52, 90C48)

Zalipaev, V. Ray optical analysis of a plane wave scattering by an echelette diffraction grating. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1414–1449 (*electronic*). (Youri G. Smirnov) **99f:78016** 78A45

Zalka, Christof Efficient simulation of quantum systems by quantum computers. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 877–879. (*see* **99j:81007**) 81P99

Zalmai, G. J. Proper efficiency principles and duality models for a class of continuous-time multiobjective fractional programming problems with operator constraints. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 1, 11–59. 90C29 (49K15)

— Optimality principles and duality models for a class of continuous-time generalized fractional programming problems with operator constraints. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 1, 61–100. 90C32 (49K15)

— Optimality conditions and duality models for a class of nonsmooth continuous-time fractional programming problems. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 2-3, 141–173. 90C32 (49K15)

— Proper efficiency conditions and duality models for a class of nonsmooth continuous-time multiobjective programming problems. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 2-3, 175–197. 90C29 (49K15)

Zalozhenkova, I. A. (*with* Parasyuk, I. N.) An integrated system for testing hypotheses: algorithmic software. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 5, 50–58, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 652–658 (1998). 68T35 (68T27, 68T30)

Zal'tsman, B. B. (*with* Rodrigues, José-Francisco) Regular solutions of a Stefan problem in strips. *Ann. Mat. Pura Appl.* (4) **172** (1997), 165–189. (Galina I. Bizhanova) **99f:35231** 35R35 (35K05, 80A22)

— (*with* Rubinstein, I.) Morphological instability of similarity solution to the Stefan problem with undercooling and surface tension. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 341–354. (Li Shang Jiang) **99d:35021** 35B35 (35K05, 35R35, 80A22)

Zalyubovskiĭ, V. V. (*with* Gimadi, È. Kh.) The problem of bin-packing: an asymptotically exact approach. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 25–33; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 12, 23–31 (1998). (Simon N. Litsyn) **99f:90093** 90C27 (05B40)

— (*with* Gimadi, È. Kh.; Sharygin, P. I.) The problem of packing into a strip: an asymptotically exact approach. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 34–44; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 12, 32–42 (1998). (Simon N. Litsyn) **99f:90094** 90C27 (05B40)

— (*with* Gimadi, È. Kh.; Glebov, N. I.) On problems of efficient barter. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser. 2* **5** (1998), *no.* 1, 3–11. 90A11 (90C90)

Zama, Fabiana (*with* Loli Piccolomini, E.) The conjugate gradient regularization method in computed tomography problems. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 1, 87–99. 65R20 (92C55)

Zamakhovskiĭ, M. P. Periodic and trisymmetric spaces of internal type with simple groups of motions. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 6, 103–118; *translation in Izv. Math.* **61** (1997), *no.* 6, 1215–1229. (Pavle Pandžić) **99h:53070** 53C35 (17B20, 22E46)

Zamar, Ruben H. (*with* Berrendero, José R.; Mazzi, Sonia; Romo, Juan) On the explosion rate of maximum-bias functions. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 333–351. (Summary) **99i:62057** 62F35

Zamaraeva, A. A. (*with* Bogomolov, S. V.; Karabelli, Kh.; Kuznetsov, K. V.) A conservative particle method for a quasilinear transport equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1602–1607. (From the text) **99k:76106** 76M25 (76P05)

Zamarashkin, N. L. (*with* Tyrtyshnikov, E. E.) On eigen and singular value clusters. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 71–78 (1998). (Hongyuan Zha) **99d:15008** 15A18

— (*with* Goreĭnov, S. A.; Tyrtyshnikov, E. E.) A theory of pseudoskeleton approximations. (English summary) *Linear Algebra Appl.* **261** (1997), 1–21. (Summary) **99d:15015** 15A42

— (*with* Tyrtyshnikov, E. E.; Erëmin, A. Yu.) Clusters, preconditioners, convergence. (English summary) *Linear Algebra Appl.* **263** (1997), 25–48. (Assem Deif) **99c:65073** 65F15

— (*with* Goreĭnov, S. A.; Tyrtyshnikov, E. E.) Pseudoskeleton approximations by submatrices of greatest size. (Russian) *Mat. Zametki* **62** (1997), *no.* 4, 619–623; *translation in Math. Notes* **62** (1997), *no.* 3-4, 515–519 (1998). (Weiyi Su) **99e:41017** 41A30

— (*with* Tyrtyshnikov, E. E.) On the distribution of the eigenvectors of Toeplitz matrices under weakened requirements for the generating function. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 161–162; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1333–1334. (Jacek Kabziński) **99a:15003** 15A18 (15A57, 47B35)

Zamastil, J. (*with* Skála, L.; Čížek, Jiří Karel) Large-order behaviour of the strong coupling perturbation expansion for anharmonic oscillators. (English summary) *J. Phys. A* **32** (1999), *no.* 9, *L*123–*L*127. 81Q15

Zambakhidze, L. G. Martin's axiom and realization problems of dimensional-like functions in Tychonoff's space class. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 269–271 (1991). 54A35 (03E50)

— On the addition and decomposition theorems for some dimensional functions. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 3, 365–368 (1995). 54F45

— Axiomatic characterizations of the dimension of the separable metrizable spaces. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 1, 27–30. (Summary) **99f:54045** 54F45

Zambella, Domenico End extensions of models of linearly bounded arithmetic. (English summary) Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 263–277. (Constantine Dimitracopoulos) **99g:03041** 03C62 (03D15, 03F30, 68Q15)

— Algebraic methods and bounded formulas. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 1, 37–48. (Thomas Glaß) **99a:03057** 03F35 (03-02, 03C85, 06E30, 68Q15, 94C10)

Zambelli, Vittoria (*with* Rossanigo, Alessandra) Existence of quasinormal complements for non-normal subgroups of a finite group. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 309–322 (1997). (Summary) **99d:20024** 20D10 (20D35)

Zamboni, Luca Q. (*with* Allouche, Jean-Paul) Algebraic irrational binary numbers cannot be fixed points of non-trivial constant length or primitive morphisms. (English summary) *J. Number Theory* **69** (1998), *no.* 1, 119–124. (Patrice Séébold) **99e:11104** 11J99

Zamboni, Pietro (*with* Ragusa, Maria Alessandra) An Adams' type inequality. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 4, 13–16. (Jiří Rákosník) **99k:46058** 46E35 (26D10)

— (*with* Vitanza, Carmela) Necessary and sufficient conditions for Hölder continuity of solutions of degenerate Schrödinger operators. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 2, 393–409 (1998). (Gary M. Lieberman) **99e:35083** 35J70 (35B65, 35J15, 46N20)

— (*with* Ragusa, Maria Alessandra) Local regularity of solutions to quasilinear elliptic equations with general structure. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 131–147. (Summary) **99j:35054** 35J60 (35B65)

Zambrano, Nancy (*with* Acosta, Eleonora) A method for constructing imperative programs starting from algebraic specifications. (Spanish. English and Spanish summaries) *Acta Cient. Venezolana* **48** (1997), *no.* 4, 199–210. (Summary) **99b:68130** 68Q65

Zambrini, Jean-Claude From quantum physics to probability theory and back. *Chaos—the interplay between stochastic and deterministic behaviour (Karpacz, 1995)*, 393–431, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Constantin Syros) **99g:81027** 81P20 (60J60, 60J65, 81–02, 81S20)

— Probabilistic interpretation of the symmetry group of heat equations. (English summary) *Stochastic analysis and related topics, VI (Geilo, 1996)*, 387–399, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Ana Bela Cruzeiro) **99j:60101** 60H30 (35A30, 35Q40, 81S40)

Zame, Alan (*with* Chen, Robert W.; Odlyzko, Andrew M.; Shepp, Lawrence A.) An optimal acceptance policy for an urn scheme. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 183–195 (*electronic*). (Vladimir Mazalov) **99e:60110** 60G40 (60K99)

Zame, William R. (*with* Bennett, Elaine; Maschler, Michael) A demand adjustment process. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 423–438. (Theo Driessen) **99f:90199** 90D12

— (*with* Anderson, Robert M.) Edgeworth's conjecture with infinitely many commodities: commodity differentiation. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 331–377. (Jacques F. Bair) **99a:90073** 90A40

al Zamel, A. *see* **Al Zamel, A.**

Zames, George Identification and adaptive control: towards a complexity-based general theory. (English summary) Learning theory. *Systems Control Lett.* **34** (1998), *no.* 3, 141–149. (Summary) **99f:93055** 93B36 (68T05, 93C40)

— *see also* **Mitter, Sanjoy K.**

Zamfirescu, Tudor Closed geodesic arcs in Aleksandrov spaces. II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 425–430. (Igor Belegradek) **99b:53063** 53C23 (53C21)

— (*with* Calude, Cristian S.) The typical number is a lexicon. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 7–13. (Douglas S. Bridges) **99f:03086** 03F60

Zamir, Ram A proof of the Fisher information inequality via a data processing argument. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1246–1250. (Summary) **99d:94011** 94A15

— (*with* Berger, Toby) Multiterminal source coding with high resolution. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 106–117. (Summary) **99j:94025** 94A29 (94A34)

— (*with* Linder, Tamás) High-resolution source coding for non-difference distortion measures: the rate-distortion function. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 533–547. (Summary) **99k:94024** 94A29 (94A34)

— (*with* Linder, Tamás; Zeger, Kenneth) High-resolution source coding for non-difference distortion measures: multidimensional companding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 548–561. (Summary) **99k:94025** 94A29 (94A34)

Zamolodchikov, A. *see* **Zamolodchikov, Aleksandr B.**

Zamolodchikov, Al. *see* **Zamolodchikov, Alekseĭ B.**

Zamolodchikov, Aleksandr B. (*with* Zamolodchikov, Alekseĭ B.) Conformal bootstrap in Liouville field theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 633–636, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T40 (81T10)

— (*with* Bazhanov, Vladimir V.; Lukyanov, Sergei L.) Integrable structure of conformal field theory. II. Q-operator and DDV equation. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 247–278. (Rinat Kedem) **99h:81191** 81T40 (81R10, 82B23)

— (*with* Lukyanov, Sergei L.) Exact expectation values of local fields in the quantum sine-Gordon model. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 571–587. (Summary) **99e:81143** 81T10

Zamolodchikov, Alekseĭ B. (*with* Zamolodchikov, Aleksandr B.) Conformal bootstrap in Liouville field theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 633–636, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T40 (81T10)

Zamolodchikov, Alexander *see* **Zamolodchikov, Aleksandr B.**

Zamolodchikov, Alexander B. *see* **Zamolodchikov, Aleksandr B.**

Zamora, Frederic (*with* Álvarez-Gaumé, Luis) Duality in quantum field theory (and string theory). (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 1–53, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Marco Spaans) **99g:81207** 81T60 (81T13, 81T30)

— (*with* Álvarez-Gaumé, Luis; Mariño, Marcos) Softly broken $N = 2$ QCD with massive quark hypermultiplets. I. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 3, 403–430. (Summary) **99e:81229a** 81T60 (81R40, 81T13, 81V05)

— (*with* Álvarez-Gaumé, Luis; Mariño, Marcos) Softly broken $N = 2$ QCD with massive quark hypermultiplets. II. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1847–1880. (Summary) **99e:81229b** 81T60 (81R40, 81T13, 81V05)

Zamora, L. (*with* Menéndez Acuña, Ernesto) Study of a ratio-type estimator assisted by superpopulation models. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 87–94. 62D05

Zamorano, Nelson (*with* Peña, Leda) Note on the quasinormal modes with a large imaginary component. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 063002, 6 *pp.* 83C57

Zampa, Alessandro (*with* Falqui, Gregorio; Reina, Cesare) Krichever maps, Faà di Bruno polynomials, and cohomology in KP theory. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 4, 349–361. (Francesco Bottacin) **99a:58088** 58F07 (14H15, 35Q53)

Zampaglione, Domenico (*with* Alfonsi, Giancarlo; Passoni, Giuseppe; Pancaldo, Lea) A spectral-finite difference solution of the Navier-Stokes equations in three dimensions. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 129–142. (Summary) **99d:76065** 76M20 (76M25)

Zampieri, E. (*with* Quarteroni, A.; Tagliani, Aldo) Generalized Galerkin approximations of elastic waves with absorbing boundary conditions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 323–341. (Summary) **99h:73088** 73V20 (73D15)

Zampieri, Gaetano (*with* Gorni, Gianluca) On cubic-linear polynomial mappings. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 4, 471–492. (Kamil Rusek) **99e:14016** 14E09 (32A15)

— *see also* **Berenstein, Carlos A. et al., 99c:00011**

Zampieri, Giuseppe Non-solvability of the tangential $\overline{\partial}_M$-systems. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **9** (1998), *no.* 2, 111–114. (Orlando Neto) **99j:32020** 32F20

— Extension of submanifolds of $\mathbf{C}^n$ preserving the number of negative Levi eigenvalues. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 39–49. (Andrea D'Agnolo) **99g:32033** 32F40

— L^2-estimates with Levi-singular weight, and existence for $\overline{\partial}$. (English summary) *J. Anal. Math.* **74** (1998), 99–111. (Der-Chen E. Chang) **99k:32025** 32F20 (35N15)

— (*with* Manfrin, Renato; Scalari, Alberto) Propagation along complex curves on a hypersurface. *Kyushu J. Math.* **52** (1998), *no.* 1, 15–22. (Dmitri Zaitsev) **99c:32013** 32D15 (32D20, 32F25)

Zampieri, Sandro (*with* Mitter, Sanjoy K.) Linear systems over Noetherian rings in the behavioural approach. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 26 *pp.* (*electronic*). (Summary) **99h:93032** 93B25 (93A30, 93C05)

— (*with* Fagnani, Fabio) Difference equations, shift operators and systems over Noetherian factorial domains. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 55–86. (C. Praagman) **99i:93015** 93B25 (15A33, 15A54, 39A10)

— (*with* Fagnani, Fabio) Canonical kernel representations for behaviors over finite abelian groups. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 271–282. (From the introduction) **99a:93019** 93B25 (93B05, 93B10)

— (*with* Fagnani, Fabio) Parameterized linear systems in the behavioral approach. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 40 *pp.* (*electronic*). (Margreet Kuijper) **99h:93029** 93B17 (34H05, 93A30)

Zamulin, Aleksandr Vasil'evich Program specification by typed Gurevich machines. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 3, 162–173. (Summary) **99d:68161** 68Q60 (68Q05)

al-Zanaidi, M. A. *see* **Al-Zanaidi, M. A.**

Zanardi, Paolo (*with* Rasetti, Mario) Error avoiding quantum codes. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 25, 1085–1093. (Władysław Adam Majewski) **99b:82066** 82C10 (94B99)

Zanardo, Paolo (*with* Goldsmith, Brendan) Endomorphism rings and automorphism groups of separable torsion-free modules over valuation domains. *Abelian groups, module theory, and topology* (*Padua*, 1997), 249–260, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Manfred Dugas) **99i:13011** 13B10 (13C99, 13F30)

— (*with* Fuchs, László[1]; Salce, Luigi) Note on the transitivity of pure essential extensions. *Colloq. Math.* **78** (1998), *no.* 2, 283–291. (Daniel Simson) **99m:13036** 13F05 (16E60, 18E15, 18G25)

— (*with* May, Warren Lee[2]) Non-Henselian valuation domains and the Krull-Schmidt property for torsion-free modules. (English summary) *Forum Math.* **10** (1998), *no.* 2, 249–257. (Günter Törner) **99b:13024** 13F30 (13C13)

— (*with* Salce, Luigi) Presentations of modules over local domains. *J. Algebra* **207** (1998), *no.* 1, 182–204. (Kwangil Koh) **99e:13012** 13C05 (13H99)

— Relations between localizations and I-adic completions in commutative domains. *Rend. Sem. Mat. Univ. Padova* **99** (1998), 247–254. (Douglass L. Grant) **99e:13029** 13J10 (13B30, 13J15)

Zanasi, Roberto[2] (*with* Bonivento, C.; Sandri, M.) Discrete variable-structure integral controllers. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 355–361. (Summary) **99a:93039** 93B51 (93B12, 93C55)

el-Zanati, S. I. *see* **El-Zanati, S. I.**

Zandbergen, Pieter J. (*with* Heeg, Ruerd S.; Dijkstra, D.) The stability of Falkner-Skan flows with several inflection points. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 1, 82–93. (Summary) **99k:76053** 76E05 (76D10)

— *see also* **Celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics, 99d:76001** *and* **Floating, flowing, flying**

Zandron, O. S. (*with* Foussats, A.) About the supersymmetric extension of the symplectic Faddeev-Jackiw quantization formalism. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L513–L517. (Summary) **99h:81100** 81S10 (81T60)

van Zandt, Timothy *see* **Van Zandt, Timothy**

Zane, Francis (*with* Paturi, Ramamohan) Dimension of projections in Boolean functions. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 624–632 (*electronic*). (Wen Li Chen) **99j:05187** 05D10 (68Q15, 68R05)

Zanella, Corrado Linear sections of the finite Veronese varieties and authentication systems defined using geometry. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 199–212. (Summary) **99m:94038** 94A60 (14N10)

Zanelli, Jorge (*with* Chandía, Osvaldo) Torsional topological invariants (and their relevance for real life). (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 251–264, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Chopin Soo) **99m:53138** 53C80 (81T50, 83D05)

— (*with* Chandía, Osvaldo) Supersymmetric particle in a spacetime with torsion and the index theorem. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045014, 4 *pp.* (Summary) **99k:81295** 81T60 (58G10, 81T20)

— (*with* Troncoso, Ricardo) New gauge supergravity in seven and eleven dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 101703, 5 *pp.* (Summary) **99m:83206** 83E50

Zanelli, Vanna Integral operators of fractional order. (Italian) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 309–336. (Introduction) **99d:28018a** 28C05 (26A33)

— Integral operators and probability measures. (Italian) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 337–351. (Introduction) **99d:28018b** 28C05 (26A33)

Zanfir, Ştefan (*with* Bolnăvescu, Lucian) The generator function for solving one-dimensional equation heat propagation by conduction and convection. *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 55–59 (1994). 65M06 (35K05)

— (*with* Bolnăvescu, Lucian) The generator function for solving the equation of longitudinal vibrations for a semi-infinite rod. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 92–97 (1998). 65M06 (73D30)

Zang, Huaiquan (*with* Shen, Tielong; Tamura, Katsutoshi) Riccati equation approach to robust L_2-gain synthesis for a class of uncertain nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1177–1188. 93B36 (93C05)

Zang, Israel (*with* Bar Niv, Moshe) "Costless" regulation of monopolies with large entry cost: a game-theoretic approach. (English summary) *Internat. J. Game Theory* **28** (1999), *no.* 1, 35–52. (Summary) **99k:90040** 90A11 (90D40)

Zang, Wenan Proof of Toft's conjecture: every graph containing no fully odd K_4 is 3-colorable (extended abstract). (English summary) *Computing and combinatorics* (*Taipei*, 1998), 261–268, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 05C15 (05C85, 68R10)

— Coloring graphs with no odd-K_4. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 205–212. (Gary MacGillivray) **99e:05056** 05C15

Zang, Yue Long A new boundary element method for the linear ship wave-making problem. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 4, 68–77, *VI.* 76M15 (76B20)

Zangeneh, Bijan Z. Galerkin approximations for a semilinear stochastic integral equation. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 8–11. (Peter E. Kloeden) **99i:60130** 60H20 (45L05)

— An energy-type inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 453–461. (Nicolae H. Pavel) **99e:34082** 34G10 (47D06)

Zanghirati, Gaetano Parallel methods for block-bordered systems of nonlinear equations. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 205–208. 65H10 (65Y05)

Zangurashvili, D. Factorization systems and adjunctions. (English summary) *Georgian Math. J.* **6** (1999), *no.* 2, 191–200. (Summary) **99j:18003** 18A25 (18A35)

Zani, Marguerite Grandes déviations pour des formes quadratiques de processus gaussiens localement stationnaires. (English and French summaries) [Large deviations for quadratic forms of locally stationary Gaussian processes] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 489–494. (Ofer Zeitouni) **99i:60060** 60F10 (60G15, 62M10)

Zani, N. (*with* Lucchesi, M.; Padovani, Cristina; Pasquinelli, G.) The maximum modulus eccentricities surface for masonry vaults and limit analysis. (English summary) *Math. Mech. Solids* **4** (1999), *no.* 1, 71–87. (Summary) **99j:73080** 73K99

Zani, Sergio (*with* Riani, Marco) An iterative method for the detection of multivariate outliers. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 101–117 (1998). 62H99 (62F35)

— (*with* Riani, Marco) Generalized distance measures for asymmetric multivariate distributions. (English summary) *Advances in data science and classification* (*Rome*, 1998), 503–508, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H11 (62H10)

Zani, Sérgio Luís Two-weight norm inequalities for maximal functions on homogeneous spaces and boundary estimates. (English summary) *Studia Math.* **126** (1997), *no.* 1, 67–94. (María Cristina Pereyra) **99a:42014** 42B25

Zaniolo, Carlo (*with* Greco, Sergio; Saccà, Domenico) DATALOG queries with stratified negation and choice: from P to D^P. (English summary) *Database theory—ICDT '95* (*Prague*), 82–96, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68073** 68P15 (68N17)

— (*with* Greco, Sergio) Greedy algorithms in Datalog with choice and negation. (English summary) *Logic programming* (*Manchester*, 1998), 294–309, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68Q25)

Zank, G. P. (*with* Webb, G. M.; Zakharian, A.; Brio, M.) Hamiltonian aspects of three-wave resonant interactions in gas dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4227–4257. (Peter L. Christiansen) **99b:76076** 76N15 (35Q35, 58F40, 76M30)

Zanna, Antonella (*with* Munthe-Kaas, Hans) Numerical integration of differential equations on homogeneous manifolds. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 305–315, *Springer, Berlin*, 1997. (Summary) **99i:65082** 65L99 (22E99, 34A45, 34C40, 58F25, 65M99)

— (*with* Munthe-Kaas, Hans) Iterated commutators, Lie's reduction method and ordinary differential equations on matrix Lie groups. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 434–441, *Springer, Berlin*, 1997. (Summary) **99k:34023** 34A45 (22E15, 34A26, 65L05)

Zannetti, Mauro Note on a characterization of projective planes. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 27–28. (Summary) **99e:51007** 51E15

(05B05, 51E10)

— Note on (a, b)-type sets. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 2-3, 135–139. (Summary) **99m:62112** 62K05 (05B05, 51E99)

Zanni, L. (*with* Galligani, E.; Ruggiero, V.) Splitting methods and parallel solution of constrained quadratic programs. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 121–136. (Nikolai K. Krivulin) **99e:90062** 90C20 (65K05, 65Y05, 90C33)

— (*with* Galligani, E.; Ruggiero, V.) A minimization method for the solution of large symmetric eigenproblems. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 99–115. (Summary) **99j:65058** 65F15 (65F50)

Zannias, T. On stationary black holes of the Einstein conformally invariant scalar system. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6651–6667. (Summary) **99j:83050** 83C57

— (*with* Sudarsky, Daniel) Spherical black holes cannot support scalar hair. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087502, 4 *pp.* (Summary) **99m:83141** 83C57

Zannier, Umberto Fields containing values of algebraic functions and related questions. *Number theory (Paris, 1993–1994)*, 199–213, *London Math. Soc. Lecture Note Ser.*, 235, *Cambridge Univ. Press, Cambridge*, 1996. (Martha Rzedowski-Calderón) **99f:12002** 12E25 (12E05)

— On a functional equation relating a Laurent series $f(x)$ to $f(x^m)$. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 15–43. (W. Smajdor) **99e:39085** 39B22 (12E05, 30D05)

— Polynomials modulo p whose values are squares (elementary improvements on some consequences of Weil's bounds). (English summary) *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 95–102. (Joseph H. Silverman) **99j:11072** 11G20

— (*with* Corvaja, P.) Values of rational functions on non-Hilbertian fields and a question of Weissauer. (English summary) *Israel J. Math.* **105** (1998), 323–335. (Zhi Jie Chen) **99g:12003** 12E25 (13F15)

— On the number of times of root of $f(n, x) = 0$ generates a field containing a given number field. (English summary) *J. Number Theory* **72** (1998), *no.* 1, 1–12. (Dimitrios Poulakis) **99k:11176** 11R32 (12E25, 12F05)

— Note on g-Hilbertian fields and nonrational curves with the Hilbert property. (English summary) *Manuscripta Math.* **97** (1998), *no.* 2, 155–162. (Peter Müller) **99i:12001** 12E25 (14G05)

— (*with* Dèbes, Pierre) Universal Hilbert subsets. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 127–134. (Daniel Berend) **99f:11141** 11R09 (11C08, 12E25)

— *see also* **Bombieri, Enrico**, **99k:11092**

Zanolin, Fabio (*with* Liu, Bin[1]) Boundedness of solutions of nonlinear differential equations. (English summary) *J. Differential Equations* **144** (1998), *no.* 1, 66–98. (Mikhail B. Sevryuk) **99b:34066** 34C11 (34C25, 34C27, 70H05)

Zanolli, Paola (*with* Casulli, Vincenzo) A conservative semi-implicit scheme for open channel flows. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 1, 1–10. (Summary) **99a:76092** 76M20 (76B10)

Zanon, Daniela (*with* Santambrogio, A.; Penati, Silvia) Gravitational dressing of sigma-model beta-functions. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 552–557, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C45

— (*with* Penati, Silvia; Refolli, Andrea; Sevrin, Alexander) Geometry and beta functions for $N = 2$ matter models in two dimensions. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 593–610. (Summary) **99g:81141** 81T17 (81T60)

Zanovello, Renato (*with* Dassiè, Silvia; Vianello, Marco) Asymptotic summation of power series. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 61–73. (M. S. Rangachari) **99k:65008** 65B10 (65D20)

van Zanten, A. J. (*with* Roos, Cornelis; Snijders, A.) Cyclonomial number systems and the ranking of lexicographically ordered constant-sum codes. (English summary) *Ars Combin.* **48** (1998), 173–184. (Summary) **99d:05002** 05A10 (94B60)

vanZanten, Margreet C. (*with* Duynkerke, Peter G.; Cuijpers, Joannes W. M.) Entrainment parameterization in convective boundary layers. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 6, 813–828. (Summary) **99j:86014** 86A10 (86–08)

Zanzinger, Stephan On informational divergences for general statistical theories. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 357–363. (S. Gudder) **99g:81012** 81P05 (81P15)

Zanzotto, Giovanni (*with* Pitteri, Mario) Beyond space groups: the arithmetic symmetry of deformable multilattices. (English summary) *Acta Cryst. Sect. A* **54** (1998), *no.* 4, 359–373. (Summary) **99d:52014** 52C07 (20H15, 82D25)

Zanzotto, P. A. On solutions of one-dimensional stochastic differential equations driven by stable Lévy motion. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 2, 209–228. (Summary) **99f:60114** 60H10 (60J30)

Zaoui, M. (*with* Dubuc, Serge) Sur la quasi-convexité des arcs trinomiaux. (English summary) [The quasiconvexity of trinomial arcs] *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 493–514. (Raphaële Supper) **99e:26011** 26A51 (30C15)

Zapała, August M. On the inversion formula for probability densities. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 201–214. (Alexander Ulanovskiĭ) **99b:60024** 60E05 (60E10)

Zapata, E. L. (*with* Ceron, C.; Dopazo, J.; Carazo, J. M.; Trelles, O.) Parallel implementation of DNAml program on message-passing architectures. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 701–716. 92D20

garcía Zapata, J. L. *see* **García Zapata, J. L.**

Zapata, Javier (*with* Cuenca, Javier; Giménez, Domingo) Using computational nuclei in the Jacobi method to calculate eigenvalues in multiprocessors. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 33 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65Y05 (15A18, 68Q22)

Zapata, José A. A combinatorial approach to diffeomorphism invariant quantum gauge theories. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5663–5681. (Summary) **99i:58024** 58D29 (58D19, 81T99)

— Combinatorial space from loop quantum gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1229–1245. (Viqar Husain) **99f:83036** 83C45

rincón Zapatero, J. P. *see* **Rincón Zapatero, J. P.**

Zapatrin, R. R. Finitary algebraic superspace. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 799–816. (Andreas Cap) **99j:58021** 58B30 (83C99)

Zapatrine, R. R. (*with* Parfionov, G. N.) A linear programming method for finding orthocomplements in finite lattices. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 211–213. (M. J. Mączyński) **99e:81019** 81P10 (06C15)

Zapletal, A. (*with* Babujian, H. M.; Karowski, Michael) Matrix difference equations and a nested Bethe ansatz. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6425–6450. (Summary) **99c:82023** 82B23 (39A10, 81R50)

— Difference equations and highest-weight modules of $U_q[\mathrm{sl}(n)]$. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9593–9600. (Zhong Qi Ma) **99j:17027** 17B37 (81R50)

— (*with* Babujian, H. M.; Fring, Andreas; Karowski, Michael) Exact form factors in integrable quantum field theories: the sine-Gordon model. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 3, 535–586. (Summary) **99j:81105** 81T10

Zapletal, Jindřich (*with* Balcar, Bohuslav; Jech, Thomas) Semi-Cohen Boolean algebras. (English summary) *Ann. Pure Appl. Logic* **87** (1997), *no.* 3, 187–208. (R. Gylys) **99a:03050** 03E40 (03G05, 04A30, 06E05)

— A dichotomy for forcing notions. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 213–226. (L. Bukovský) **99k:03042** 03E40 (06E10)

Zaporozhets, E. P. (*with* Kholpanov, L. P.; Zibert, G. K.; Kashchitskiĭ, Yu. A.) ★ Математическое моделирование нелинейных термогидрогазодинамических процессов в многокомпонентных струйных течениях. (Russian. Russian summary) [Mathematical modeling of nonlinear thermohydro-gas-dynamic processes in multicomponent jet flows] *"Nauka", Moscow*, 1998. 320 *pp. ISBN* 5-02-005221-3 (Publisher's description) **99k:76125** 76N15 (76D25, 76M25, 80A20)

Zappa, Anna (*with* Mantero, A. M.) The reduced group C^*-algebra of a triangle building. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 461–478. (Alain Valette) **99g:46080** 46L05 (20E42, 22D25, 51E24, 54H20)

Zappa, Guido *see* **Cipolla, Michele**, **99d:01038**

Zappa, Z. *see* **Zappa, Anna**

Zappalà, Giuseppe 0-dimensional subschemes of curves lying on a smooth quadric surface. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 115–127 (1998). (Martin Kreuzer) **99k:13023** 13D40 (14M07)

Zapperi, Stefano (*with* Vespignani, Alessandro) How self-organized criticality works: a unified mean-field picture. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6345–6362. (Summary) **99c:82050** 82C27

Zaprawa, Paweł (*with* Koczan, Leopold) Univalence problems in classes $\mathcal{T}(M)$. *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 63–74. (Dmitri Valentinović Prokhorov) **99f:30024** 30C45

— On typically real bounded functions with n-fold symmetry. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 151–160. (Chunyi Gao) **99h:30020** 30C45 (30C50)

Zaprianov, Stefan (*with* Tran, Thanh; Stephan, Ernst P.) Wavelet-based preconditioners for boundary integral equations. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 233–249. (Andreas Rathsfeld) **99m:65229** 65N38 (45L05, 65F35, 65R20)

Zapryanov, Zapryan (*with* Markov, N. M.) On some applications of the singularity method. (English and Russian summaries) *Annuaire Univ. Sofia Fac. Math. Inform.* **88** (1994), *no.* 2, 5–20 (1996). (A. M. J. Davis) **99f:76045** 76D07

— (*with* Tabakova, S.) ★ Dynamics of bubbles, drops and rigid particles. (English summary) Fluid Mechanics and its Applications, 50. *Kluwer Academic Publishers Group, Dordrecht*, 1999. $xx+514$ *pp. ISBN* 0-7923-5347-1 (C. Pozrikidis) **99m:76112** 76T05 (76B99, 76D99, 76M25)

Zara, François Generalized reflection groups. I. Constructing the algebra. (English summary) *Groups and geometries (Siena, 1996)*, 251–261, *Trends Math., Birkhäuser, Basel*, 1998. (Jonathan I. Hall) **99g:20057** 20F05

— Presentations of Fischer groups. (English summary) *The atlas of finite groups: ten years on (Birmingham, 1995)*, 274–287, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Jonathan I. Hall) **99g:20058** 20F05

morelos-Zaragoza, Robert *see* **Morelos-Zaragoza, Robert**

Zarantonello, Sergio E. SGI parallel technology for graphics and visualization. (English summary) Applied and computational mathematics (Gramado, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 1, 113–123. (*see* **99m:65003**) 65Y25 (65Y05, 68U05)

Zárate Azcuna, María José (*with* Calderón, Catalina) Note on a paper by A. Ivić. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 72–78. (Lutz Gerhard Lucht) **99b:11107** 11N37

Zare, K. (*with* Chesley, S.) Order and chaos in the planar isosceles three-body problem. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 475–494. (Summary) **99e:70033** 70F07 (58F13, 70K50)

Zaremba, A. T. Stabilization of programmed motions of a rigid body under uncertainty about the parameters of the dynamics equations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 37–43; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 33–39. (Alexander M. Kovalev) **99e:70069** 70Q05 (70E15, 70K20, 93D15)

Zaremba, Leszek S. Construction of a k-immunization strategy with the highest convexity. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 135–144. (Summary) **99k:90037** 90A09

Zaremba, Marek B. (*with* Frączak, Wojciech) A non-SOS operational semantics for a process algebra. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 47–54. (Summary) **99f:68061** 68Q10 (68Q55)

Zarembo, K. (*with* Ambjørn, Jan; Makeenko, Yu. M.) Supersymmetric matrix models and branched polymers. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 3, 660–674. (Summary) **99c:82034** 82B44 (82D30)

Zaretzky, A. N. (*with* Leguizamón, C. A.) Lattices due to increasing low energy relational processes. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 11, 75–81. (Summary) **99e:92003** 92B05 (06D20)

— (*with* Leguizamón, C. A.) Changing algebras in low energy biologic relational processes. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 13–22. (Richard A. Alò)

99d:92005 92B05 (06D99, 08B05)

Zargar, B. A. (*with* Aziz, Abdul[1]) On the critical points of a polynomial. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 173–174. (Summary) **99a:30006** 30C10

— (*with* Aziz, Abdul[1]) Inequalities for a polynomial and its derivative. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 543–550. (N. K. Govil) **99h:30001** 30A10 (30C10, 30E10)

Zarhin, Yu. G. *see* **Zarkhin, Yu. G.**

Zarhin, Yuri G. *see* **Zarkhin, Yu. G.**

Zarichnyĭ, M. M. Universal n-soft mappings of n-dimensional spaces in absolute Borel and projective classes. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 845–850, 958; *translation in Math. Notes* **60** (1996), *no.* 5-6, 638–641 (1997). (Marek Balcerzak) **99e:54011** 54C10 (54D45, 54H05)

— (*with* Chigogidze, A. Ch.) On absolute extensors modulo a complex. (English summary) *Topology Appl.* **86** (1998), *no.* 2, 169–178. (Leonard R. Rubin) **99f:54018** 54C20 (54C55, 55M10)

Zarins, Christopher K. (*with* Taylor, Charles A.; Hughes, Thomas J. R.) Finite element modeling of blood flow in arteries. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 155–196. (Summary) **99d:92014** 92C35 (76M10, 76Z05, 92C10)

Zariphopoulou, Thaleia (*with* Tourin, Agnès) Viscosity solutions and numerical schemes for investment/consumption models with transaction costs. *Numerical methods in finance*, 245–269, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (N. H. Bingham) **99c:90023** 90A09 (65M06)

Zaripov, M. N. (*with* Salyga, Valeriĭ) Analysis of the sufficiency of experimental and a priori information in the problem of the identification of a dynamical system. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 5–10. 93B30 (93E12)

Zarkevich, N. A. (*with* Pervushin, V. N.) Hamiltonian reduction for spherically symmetric gravity. (English summary) *Symmetry methods in physics, Vol. 2* (*Dubna*, 1995), 431–437, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 83C05 (58F40)

Zarkhin, Yu. G. (*with* Oort, Frans) Complex tori. *Indag. Math.* (*N.S.*) **7** (1996), *no.* 4, 473–487. (Elham Izadi) **99d:14044** 14K10 (14K05, 14K22)

— p-adic abelian integrals and commutative Lie groups. (English summary) Algebraic geometry, 4. *J. Math. Sci.* **81** (1996), *no.* 3, 2744–2750. (Enric Nart) **99e:14026** 14G20 (11G25, 14K20, 22E50)

— (*with* Silverberg, Alice) Subgroups of inertia groups arising from abelian varieties. (English summary) *J. Algebra* **209** (1998), *no.* 1, 94–107. (Ben Moonen) **99j:11069** 11G10 (14K15)

— (*with* Silverberg, Alice) Semistable reduction of abelian varieties over extensions of small degree. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 2, 179–193. (Dino J. Lorenzini) **99k:11085** 11G10 (14K15)

— (*with* Moonen, B. J. J.) Weil classes on abelian varieties. *J. Reine Angew. Math.* **496** (1998), 83–92. (Fumio Hazama) **99a:14010** 14C30 (14C25)

— (*with* Silverberg, Alice) Connectedness extensions for abelian varieties. *Math. Z.* **228** (1998), *no.* 2, 387–403. (Ben Moonen) **99d:11065** 11G10 (14K15)

Zarmi, Yair (*with* Kahn, Peter B.) Reduction of secular error in approximations to harmonic oscillator systems with nonlinear perturbations. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 221–249. (Summary) **99c:70030** 70K40 (34C15, 34C20, 58F36)

Zarnan, J. (*with* Ivanov, Ivan Ganchev; Petkov, Milko Georgiev) Two-sided iteration methods for matrix inversion. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 129–130, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65F20 (65F30)

Zaroliagis, Christos D. (*with* Träff, Jesper L.) A simple parallel algorithm for the single-source shortest path problem on planar digraphs. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 183–194, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (Summary) **99h:68069** 68Q22 (05C85, 68R10)

— (*with* Frigioni, Daniele; Miller, Tobias; Nanni, Umberto; Pasqualone, Giulio; Schaefer, Guido) An experimental study of dynamic algorithms for directed graphs. *Algorithms—ESA '98* (*Venice*), 368–380, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q25 (68R10)

— (*with* Arikati, Srinivasa R.; Chaudhuri, Shiva) All-pairs min-cut in sparse networks. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 82–110. (Summary) **99e:68116** 68R10 (05C85, 68M10, 90B10)

— (*with* Chaudhuri, Shiva) Shortest paths in digraphs of small treewidth. II. Optimal parallel algorithms. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 205–223. (Summary) **99f:68152** 68R10 (05C38, 05C85, 68Q22)

Zarrabi, Mohamed (*with* Kellay, Karim) Classes de fonctions non quasi-analytiques et existence de sous-espaces invariants. (English and French summaries) [Nonquasianalytic classes of functions and existence of invariant subspaces] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 793–796. (Hari Bercovici) **99k:47014** 47A15 (47A60)

Zarubin, A. N. An integral representation of the solution of the Cauchy problem for a degenerate hyperbolic equation with retarded argument. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1332–1336; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1501–1506 (1998). (Summary) **99j:35226** 35R10 (35L80)

— An initial-boundary value problem for an equation of mixed type with retarded argument. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 87–93, 143; *translation in Differential Equations* **34** (1998), *no.* 1, 88–94. (Summary) **99k:35183** 35R10 (35M10)

Zarubina, A. I. Deadlock partitioning sets of linear recognition problems with unstable exclusion. (Russian) *Probabilistic methods and cybernetics, No.* 25 (*Russian*), 62–75, *Izdat. Kazan. Univ., Kazan'*, 1993. (*see* **99h:00017**) 65F30 (90C08, 90C90)

Zarzo, A. (*with* Martínez-Finkelshtein, Andrei) Zero distribution of solutions of linear second order differential equations. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 93–108, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Summary) **99e:34038** 34C10 (33C45, 34A20, 34E20)

— (*with* Godoy, E.; Ronveaux, André; Area, I.) Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: continuous case. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 257–275. (Nicholay G. Tomin) **99g:33023** 33C45 (42C05)

— (*with* Area, I.; Godoy, E.; Ronveaux, André) Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: discrete case. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 321–337. (Summary) **99a:33004a** 33C45 (42C05, 65Q05)

— (*with* Ronveaux, André; Area, I.; Godoy, E.) Recursive approach to connection and linearization coefficients between polynomials. (English summary) *Special functions and differential equations* (*Madras*, 1997), 83–101, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33011** 33C45 (39A10)

— (*with* Ronveaux, André; Area, I.; Godoy, E.) Bernstein bases and Hahn-Eberlein orthogonal polynomials. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 87–96. (Summary) **99g:33032** 33C45

— (*with* Area, I.; Godoy, E.; Ronveaux, André) Corrigendum: "Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: discrete case". (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 309–325. (Summary) **99a:33004b** 33C45 (42C05, 68Q05)

— (*with* Ronveaux, André; Godoy, E.; Area, I.) Fourth-order difference equation for the first associated of classical discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 45–50. (Peter Schroth) **99h:33048** 33C45 (39A10)

— (*with* Godoy, E.; Ronveaux, André; Area, I.) On the limit relations between classical continuous and discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 97–105. (Summary) **99g:33024** 33C45

— (*with* Ronveaux, André; Area, I.; Godoy, E.) Transverse limits in the Askey tableau. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 327–335. (Summary) **99k:33033** 33C45 (39A10)

zarzuelo Zarzosa, José Manuel *see* **Zarzuelo Zarzosa, José Manuel**

Zarzuela Armengou, Santiago (*with* Améziane, S.; Costa, Douglas L.; Kabbaj, Salah-Eddine) On the spectrum of the group ring. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 387–403. (L. J. Ratliff, Jr.) **99k:13013** 13C15 (13A15, 13F20)

— *see also* **Six lectures on commutative algebra**, **99e:13001**

Zarzuelo Zarzosa, José Manuel (*with* Ruiz, Luis M.; Valenciano Llovera, Federico) The family of least square values for transferable utility games. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 109–130. (Milan Mareš) **99j:90126** 90D12

— (*with* Grafe, F.; Inarra, Elena) Population monotonic allocation schemes on externality games. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 71–80. (Summary) **99j:90123** 90D12

— (*with* Ruiz, Luis M.; Valenciano Llovera, Federico) Some new results on least square values for TU games. (English summary) *Top* **6** (1998), *no.* 1, 139–158. (Summary) **99e:90119** 90D12

Zarzycki, Piotr Corrigendum to the paper: "On multiplicity sequences" [Fibonacci Quart. **35** (1997), no. 1, 9–10; MR 97m:11004]. *Fibonacci Quart.* **36** (1998), *no.* 5, 434. (From the text) **99i:11003** 11A05 (11A25)

Zaslavskaya, M. I. (*with* Grigoryan, Suren Arshakovich) Uniform algebras of operator fields with an AF-fiber. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 5, 17–26 (1995); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 5, 13–20. (A. G. Myasnikov) **99h:46108** 46L05 (46J10, 47D25)

— Some properties of uniform algebras of operator fields with an approximately finite-dimensional fiber. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 3, 76–85; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 3, 67–74. (Summary) **99e:46063** 46J10 (46L05, 46M20, 47D25)

Zaslavski, Alexander J. On a class of dynamical systems arising in mathematical economics. I. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 215–236. (Laura Gardini) **99e:90023** 90A16

— Turnpike theorem for convex infinite-dimensional discrete-time control systems. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 237–248. (Gerhard Sorger) **99j:49056** 49K27 (49L20, 90C39, 90C48)

— Existence and structure of extremals for one-dimensional nonautonomous variational problems. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 731–757. (Krystyn Styczeń) **99d:49005** 49J05 (49J45, 49N35, 49S05)

— Structure of optimal trajectories of convex processes. (English summary) *Numer. Funct. Anal. Optim.* **20** (1999), *no.* 1-2, 175–200. (Jeffrey L. Coles) **99m:49019** 49J45 (90A16)

— Turnpike property for extremals of variational problems with vector-valued functions. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 211–231. (Zvi Artstein) **99c:49002** 49J05 (90A16)

Zaslavskiĭ, B. G. Generation of chaos by dynamical systems defined in ordered Banach spaces. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 3, 279–297. (Summary) **99f:47094** 47H99 (58F13, 92D25)

Zaslavskiĭ, G. M. (*with* Afraimovich, Valentin) Sticky orbits of chaotic Hamiltonian dynamics. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 59–82, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Guido Gentile) **99j:58138** 58F13 (58F05)

— (*with* Kassibrakis, S.; Benkadda, Sadruddin; White, Roscoe B.) Nonuniversality of transport for the standard map. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 403–438, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Summary) **99g:58083** 58F13 (58F40)

— (*with* White, Roscoe B.; Benkadda, Sadruddin; Kassibrakis, S.) Near threshold anomalous transport in the standard map. (English summary) *Chaos* **8** (1998), *no.* 4, 757–767. (Summary) **99h:58130** 58F13

— (*with* Virovlyanskiĭ, A. L.) Wave chaos in terms of normal modes. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1656–1668. (Summary) **99k:78023** 78A40 (35Q99, 58F40, 81Q50)

— *see also* **Chaos, kinetics and nonlinear dynamics in fluids and plasmas**, **99d:00014**

Zaslavskiĭ, L. Yu. (*with* Schlick, Tamar) An adaptive multigrid technique for evaluating long-range forces in biomolecular simulations. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 237–250. 65M55

Zaslavskii, O. B. Horizon/matter systems near the extreme state. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3251–3257. (Valter Moretti) **99j:83051** 83C57

— Two-dimensional self-consistent quantum-corrected geometries with a constant dilaton field. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 271–274. (Summary) **99b:83052** 83C57 (83E30)

— Entropy of quantum fields for nonextreme black holes in the extreme limit. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6265–6268. (Summary) **99m:83144** 83C57 (81T20, 83C47)

— Erratum: "Geometry of nonextreme black holes near the extreme state" [Phys. Rev. D (3) **56** (1997), no. 4, 2188–2191; MR 98d:83062]. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 069901, 1 *p.* 83C57

Zaslavsky, Boris *see* **Zaslavskiĭ, B. G.**

Zaslavsky, G. M. *see* **Zaslavskiĭ, G. M.**

Zaslavsky, George M. *see* **Zaslavskiĭ, G. M.**

Zaslavsky, Leonid Y. *see* **Zaslavskiĭ, L. Yu.**

Zaslavsky, Thomas The largest parity demigenus of a simple graph. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 325–345. (Summary) **99e:05043** 05C10

Zaslow, Eric (*with* Polishchuk, Alexander) Categorical mirror symmetry: the elliptic curve. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 2, 443–470. (I. Dolgachev) **99j:14034** 14H52 (14F05, 14H60, 14K22, 18E30, 18F99)

Zasorin, Yu. V. Harmonic analysis in Schwartz spaces of distributions and some applications to nonclassical problems of mathematical physics. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1282–1299, *ii*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1112–1129. (Bl. P. Damyanov) **99c:46038** 46F05 (35Dxx, 35E20)

— On the stabilization as $t \to +\infty$ of solutions of unsteady viscous transonic flows. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1162–1169; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1112–1118. (Summary) **99e:76074** 76H05 (35B40, 35Q35)

Zastavnyĭ, V. P. Some properties of a class of radial positive-definite functions. (Russian) *Mathematics today* '94, *No.* 9 (*Ukrainian*), 118–127, "*Vishcha Shkola*", *Kiev*, 1995. (*see* **99a:00016**) 42A82 (42B99)

Zastawniak, Tomasz (*with* Antonelli, Peter L.) Introduction to diffusion on Finsler manifolds [MR 95g:58259]. (English summary) *The theory of Finslerian Laplacians and applications*, 1–12, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (53C60, 60J60)

— (*with* Antonelli, Peter L.) Density dependent host/parasite systems of Rothschild type and Finslerian diffusion [MR 95h:92026]. *The theory of Finslerian Laplacians and applications*, 13–31, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 92D50 (53B40, 92D25)

— (*with* Antonelli, Peter L.) Stochastic Finsler geometry in the theory of evolution by symbiosis [MR 98a:58171]. *The theory of Finslerian Laplacians and applications*, 33–46, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (53C60, 92D25)

— (*with* Antonelli, Peter L.) Diffusions on Finsler manifolds [MR 94m:58236]. *The theory of Finslerian Laplacians and applications*, 47–62, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (53C60)

— (*with* Antonelli, Peter L.) Stochastic calculus on Finsler manifolds and an application in biology [MR 95h:58142]. *The theory of Finslerian Laplacians and applications*, 63–88, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (53C60, 60H10, 92B05, 92D25)

— (*with* Antonelli, Peter L.) Diffusion on the tangent and indicatrix bundles of a Finsler manifold [MR 97g:58176]. *The theory of Finslerian Laplacians and applications*, 89–110, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (53C60)

— (*with* Słomczyński, Wojciech) How long was the coast of Atlantis? *Math. Intelligencer* **21** (1999), *no.* 1, 38–41. 00A69 (01A99)

Zastrau, B. (*with* Schanz, M.; Gaul, L.; Wenzel, Wolfgang) A boundary element formulation for generalized viscoelastic solids in time domain. *Boundary element topics* (*Stuttgart*, 1995), 31–50, *Springer, Berlin*, 1997. (*see* **99e:00017**) 73V10 (65N38, 73F15)

Zastrow, Andreas Construction of an infinitely generated group that is not a free product of surface groups and abelian groups, but which acts freely on an **R**-tree. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 433–445. (Gilbert Levitt) **99d:20037** 20E08 (20E06, 20F32)

Zatini, E. (*with* Oneto, Anna) On the value set of modules. *Comm. Algebra* **26** (1998), *no.* 11, 3853–3870. (L. J. Ratliff, Jr.) **99i:13013** 13B22 (13C99, 13H10)

Zaugg, Ph. (*with* Perelomov, A. M.; Ragoucy, E.) Explicit solution of the quantum three-body Calogero-Sutherland model. (English summary) *J. Phys. A* **31** (1998), *no.* 32, *L*559–*L*565. (Summary) **99f:81233** 81V70 (33C80)

Zauner, Klaus G. A payoff uncertainty explanation of results in experimental centipede games. (English summary) *Games Econom. Behav.* **26** (1999), *no.* 1, 157–185. 90D05

Závada, Petr Operator of fractional derivative in the complex plane. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 261–285. (M. E. Muldoon) **99e:26007** 26A33 (30E20)

Zavadskiĭ, A. G. On tame vectorspace categories. II. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 525–561, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Iuliu Crivei) **99i:16032** 16G60

Zavadskiĭ, V. K. Approximation decomposition of conditioned optimization problems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 10–21; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 7–16. (Summary) **99a:90199** 90C30

Zavadskiĭ, V. L. (*with* Petrov, Valeriĭ Alekseevich) Approximate calculation of Wiener path integrals of a special form. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 30–34, 140. (Summary) **99j:28013** 28C20 (65D30)

Zavadskij, Alexander *see* **Zavadskiĭ, A. G.**

Zavala-Río, A. (*with* Brogliato, Bernard) On the control of a one degree-of-freedom juggling robot. (English summary) *Dynam. Control* **9** (1999), *no.* 1, 67–90. (Summary) **99j:70009** 70B15 (70Q05, 93C85)

Zavalishchin, S. T. (*with* Sesekin, A. N.) ★ Dynamic impulse systems. (English summary) Theory and applications. Mathematics and its Applications, 394. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xii+256 *pp. ISBN* 0-7923-4394-8 (Yuri V. Rogovchenko) **99h:34018** 34A37 (34H05, 34K99, 46F10, 46N10, 49J15, 93C15)

Zavalishin, N. N. (*with* Logofet, D. O.) Modeling ecological systems by a given "storage-flow" diagram. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 9, 3–17. (J. Milota) **99b:92062** 92D40 (34D99)

Zavattaro, Gianluigi Towards a hierarchy of negative test operators for generative communication. (English summary) *Fifth International Workshop on Expressiveness in Concurrency* (*EXPRESS* '98) (*Nice*), 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68Q10

Zavattieri, Pablo D. (*with* Espinosa, Horacio D.; Dwivedi, Sunil K.) A finite deformation continuum/discrete model for the description of fragmentation and damage in brittle materials. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1909–1942. (*see* **99g:73003**) 73M25 (73Gxx, 73V05)

Zavelani, B. (*with* Caprino, S.) The Boltzmann-Grad limit for a particle system in a slab with stochastic walls. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 17, 1543–1558. (Carlo Cercignani) **99h:82060** 82C40 (76P05)

Zaverucha, Gerson (*with* Fogel, Leonardo) Normal programs and multiple predicate learning. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 175–184, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (Summary) **99k:68155** 68T05 (68N17)

Zavialov, O. I. *see* **Zav'yalov, O. I.**

Zavizion, G. V. (*with* Shkil', Nikolaĭ Ivanovich; Kovalenko, S. M.) On a mixed problem for a system of differential equations of the hyperbolic type with rotation points. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 297–306, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Ya. A. Roĭtberg) **99c:35138** 35L20

Zavorotnyĭ, N. I. On the fourth moment of the Riemann zeta function. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II* (*Russian*), 69–124*a*, 254, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11M06

— *see also* **Automorphic functions and number theory, 99k:11003**

Zavrazhina, T. V. (*with* Gulyaev, V. I.; Koshkin, V. L.) Similarity rules for periodic motions of a satellite in an elliptic orbit in the transition to chaos. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 54–71. (Summary) **99e:70048** 70H05 (34C25, 58F13, 70K50, 70M20)

— Numerical modeling of transitions to chaos of dissipative oscillators with one degree of freedom. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 448–456; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 435–442. (Summary) **99d:65224** 65L07 (65H20)

Zavriev, S. K. (*with* Solodov, Michael V.) Error stability properties of generalized gradient-type algorithms. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 663–680. (Summary) **99f:90137** 90C30 (65K05, 90C31)

Zav'yalov, B. I. (*with* Drozhzhinov, Yu. N.) Local Tauberian theorems in spaces of generalized functions associated with cones, and their applications. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 6, 59–102; *translation in Izv. Math.* **61** (1997), *no.* 6, 1171–1214. (Alexandr M. Kytmanov) **99a:46075** 46F12 (32A07, 40E05, 46F05)

— (*with* Drozhzhinov, Yu. N.) On a real Tauberian theorem. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 2, 160–161. 40E05 (42B20, 46F12)

Zav'yalov, O. I. (*with* Kanenaga, Masahiko; Kirillov, A. I.; Mamakin, V. Yu.; Namiki, Mikio; Ohba, Ichiro; Polyachenko, E. V.) On evaluation of path integrals for bottomless systems. (English summary) *Path integrals: Dubna* '96, 181–186, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

Zawadowski, Marek *see* **Logic, algebra, and computer science, 99m:03004**

Zawistowski, Z. J. (*with* Turski, A. J.) Nonlocal equations of Schrödinger type for Langmuir wave in Vlasov plasmas. (English summary) *J. Tech. Phys.* **39** (1998), *no.* 1, 115–131. (Tadeusz Nadzieja) **99k:82075** 82D10 (35Q55)

— (*with* Turski, A. J.) Symmetries of nonlocal NLS equation for Langmuir waves in Vlasov plasmas. (English summary) *J. Tech. Phys.* **39** (1998), *no.* 2, 297–314. (George Rowlands) **99k:76165** 76X05 (35Q55, 82D10)

pando Zayas, Leopoldo A. *see* **Pando Zayas, Leopoldo A.**

Zayats, G. M. (*with* Veremeenko, T. V.; Gromyko, G. F.) Mathematical modeling of heat transfer under the interaction of a molten particle with the surface. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 923–926, 1005; *translation in Differential Equations* **33** (1997), *no.* 7, 927–930 (1998). 80A20 (80–08)

Zayed, Ahmed I. (*with* García, Antonio G.) Nonuniform sampling of bandlimited signals with polynomial growth on the real axis. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1717–1721. (Peter A. McCoy) **99a:94003** 94A11 (94A12)

— (*with* Annaby, Mahmoud H.) On the use of Green's function in sampling theory. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 2, 117–139. (Victor S. Rykhlov) **99g:34061** 34B27 (34L99, 41A05)

— (*with* García, Antonio G.) Kramer's sampling theorem with discontinuous kernels. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 197–206. (Paşc Găvruţa) **99g:41004** 41A05 (34B24, 41A58, 94A24)

Zayed, E. M. E. Eigenvalues of the negative Laplacian for simply connected bounded domains. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 639. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 3, 337–346. (Sulaimon A. Ishokov) **99f:35065** 35J70 (35P20, 47F05)

Zayed, Maher On formal extensions of near-fields. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 2, 105–108. 12K05 (16Y30)

Zaytsev, Oleg On closure of the pre-images of families of mappings. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 491–501. (Tomáš Roubíček) **99k:49029** 49J45 (49J15)

— On strong closure of sets of feasible states associated with families of elliptic operators. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 565–575. (Summary) **99g:35030** 35J15 (49J20)

Zazanis, Michael A. A Palm calculus approach to functional versions of Little's law. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 2, 195–201. (Ravi Mazumdar) **99f:60162** 60K25 (60G55, 90B22)

bernelli-Zazzera, Franco *see* **Bernelli-Zazzera, Franco**

Zbăganu, Gh. On a conjecture of Kemperman concerning the contractivity of a stochastic matrix with respect to sublinear functions. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 461–476. (D. J. Hartfiel) **99i:15032** 15A51 (60J10)

— (*with* Cohen, Joel E.; Kemperman, J. H. B.) ★ Comparisons of stochastic matrices. (English summary) With applications in information theory, statistics, economics, and

population sciences. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *viii*+158 *pp.* *ISBN* 0-8176-4082-7 (E. Seneta) **99m:15023** 15A51 (60J10, 90A16, 94A24)

Zbąszyniak, Zenon (*with* Hudzik, Henryk) Smoothness in Musielak-Orlicz spaces equipped with the Orlicz norm. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 543–561. (Ting Fu Wang) **99b:46035** 46E30 (46B20)

Zbilut, Joseph P. (*with* Zak, Michail; Meyers, Ronald E.) ★ From instability to intelligence. (English summary) Complexity and predictability in nonlinear dynamics. Lecture Notes in Physics. New Series m: Monographs, 49. *Springer-Verlag, Berlin*, 1997. xiv+552 *pp.* *ISBN* 3-540-63055-4 (Bing Hong Wang) **99c:92010** 92B20 (34C35, 58F12, 70K50, 76E30, 82C32, 92–02, 92J30)

Zboon, Radhi A. (*with* Yadav, Shiv Prasad; Mohan, Chander) Penalty method for an optimal control problem with equality and inequality constraints. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 1, 1–14. 49M30 (49K15)

Zdobnov, S. V. Upper bounds for Shannon functions for λ-circuits and λ-π-circuits. (Russian) *Probabilistic methods and cybernetics, No.* 25 (*Russian*), 75–91, *Izdat. Kazan. Univ., Kazan'*, 1993. (*see* **99h:00017**) 94C05

Zdun, Marek Cezary On the orbits of disjoint groups of continuous functions. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 95–104. (Summary) **99a:39053** 39B12 (26A18, 54H20)

— On the structure of iteration groups of homeomorphisms having fixed points. (English summary) *Aequationes Math.* **55** (1998), *no.* 3, 199–216. (K. D. Magill, Jr.) **99c:39026** 39B12 (54H20, 54H25)

Zeb, A. (*with* Elliott, Lionel; Ingham, D. B.; Lesnic, D.) Cauchy problem for the biharmonic equation solved using the regularization method. (English summary) *Boundary element research in Europe* (*Southampton*, 1998), 285–294, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 65N38 (35J40)

Zebic, A. *see* **LeHyaric, A.**

Żebrowski, Andrzej (*with* Rylko, Natalia) Boundary value problems for the Laplace equation, the Poincare series and the method of Schwarz. *Shup. Pr. Mat. Przyr. Fiz. A* **11** (1997), 229–239. 35J05 (35C10)

Zecca, Antonio (*with* Montaldi, Emilio) Second quantization of the Dirac field: normal modes in the Robertson-Walker space-time. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 995–1009. (Summary) **99a:81116** 81T20

— Well-barrier potential for the massless spin-1 field equation in the Robertson-Walker space-time. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 195–205. (Valdir B. Bezerra) **99i:83011** 83C10 (81R20, 81T20)

Zecca, Pietro (*with* Kamenskiĭ, Mikhail; Obukhovskiĭ, V. V.) Method of the solution sets for a quasilinear functional-differential inclusion in a Banach space. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 339–350. (Giovanni Colombo) **99h:34118** 34K30 (34A60, 47H04, 47H10, 47N20)

— (*with* Nistri, Paolo; Obukhovskiĭ, V. V.) Viability for feedback control systems in Banach spaces via Caratheodory closed-loop controls. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 367–378. (Summary) **99h:49008** 49J27 (49N35, 93B52)

— (*with* Kamenskiĭ, Mikhail; Obukhovskiĭ, V. V.) On the translation multioperator along the solutions of semilinear differential inclusions in Banach spaces. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 2, 139–155. (Teresa Winiarska) **99m:34137** 34G20 (34A60, 47H15, 47N20)

— (*with* Casavola, Alessandro; Mosca, Edoardo) Robust ripple-free deadbeat control design. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 564–573. (Summary) **99m:93037** 93B51

Zecchina, R. (*with* Ceresole, Anna; Rasetti, Mario) Geometry, topology, and physics of non-abelian lattices. *Riv. Nuovo Cimento Soc. Ital. Fis.* (4) **21** (1998), *no.* 5, 56 *pp.* (Vasily A. Chernecky) **99e:82014** 82B20 (52C07, 82–02)

Zečević, Aleksandar I. (*with* Šiljak, Dragoslav D.) Parallel solutions of very large sparse Lyapunov equations by balanced BBD decompositions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 612–618. 93B40 (65F30)

— (*with* Gačić, Nebojša) A partitioning algorithm for the parallel solution of differential-algebraic equations by waveform relaxation. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 4, 421–434. (Summary) **99m:65157** 65L99

Zeckendorf, Edouard *see* **Kimberling, Clark** *and* **Errata: "Edouard Zeckendorf"**

Zeckhauser, Richard J. (*with* Gollier, Christian; Lindsey, John) Investment flexibility and the acceptance of risk. (English summary) *J. Econom. Theory* **76** (1997), *no.* 2, 219–241. (V. V. Kolbin) **99a:90039** 90A09 (90A46)

Zedan, H. A. Equivalence transformation for the filtration problem. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 6, 1–5. 35Q35 (35A30, 76S05)

Zedník, Josef (*with* Mikeš, Josef; Bácsó, Sándor) On f-planar mappings of affine-connection spaces with infinite dimension. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 157–162. (Andrew Bucki) **99b:53020** 53B05

Zee, A. (*with* Brézin, E.) Non-Hermitean delocalization: multiple scattering and bounds. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 599–614. (George K. Savvidy) **99e:82044** 82B41 (82B27, 82D55)

Zeeger, A. *see* **Seeger, Alfred**

Zeeman, M. L. (*with* Pace, J. A.) A bridge between the Bendixson-Dulac criterion in $\mathbf{R}^2$ and Liapunov functions in $\mathbf{R}^n$. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 3, 189–193. (Pauline van den Driessche) **99m:34091** 34C25 (58F22)

— (*with* van den Driessche, P.) Three-dimensional competitive Lotka-Volterra systems with no periodic orbits. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 227–234 (*electronic*). (Miklós Farkas) **99g:92026** 92D25 (34C99)

Zeevi, Assaf J. (*with* Meir, Ron; Maĭorov, V. E.) Error bounds for functional approximation and estimation using mixtures of experts. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1010–1025. (Summary) **99b:68160** 68T05 (62F99, 92B20)

Zeevi, Yehoshua Y. (*with* Sochen, Nir) Representation of images by surfaces and higher-dimensional manifolds in non-Euclidean space. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 469–476, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:94012** 94A12

— (*with* Zibulski, Meir) The generalized Gabor scheme and its application in signal and image representation. (English summary) *Signal and image representation in combined spaces*, 121–164, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Gilbert Walter) **99i:94016** 94A12 (42C15)

Zefirov, I. V. Commuting algebraic correspondences and groups. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 662–670; *translation in Math. Notes* **61** (1997), *no.* 5-6, 553–560. (J. S. Joel) **99f:14033** 14H35 (20H05)

Zefran, Milos (*with* Desai, J. P.; Kumar, Vijay[5]) A geometric approach to second and higher order kinematic analysis. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 365–374, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70006** 70B15

— (*with* Howard, Stamps; Kumar, Vijay[5]) On the 6×6 Cartesian stiffness matrix for three-dimensional motions. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 4, 389–408. (Summary) **99i:70005** 70B15

Zegarlinski, Boguslaw (*with* Majewski, Adam W.; Olkiewicz, Robert) Dissipative dynamics for quantum spin systems on a lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2045–2056. (Bruno Nachtergaele) **99k:82053** 82C10 (46L55, 46L60, 82C20)

Zegeling, André (*with* Kooij, Robert E.) Qualitative properties of two-dimensional predator-prey systems. *Nonlinear Anal.* **29** (1997), *no.* 6, 693–715. 92D25 (34C05)

— (*with* Kooij, Robert E.) Uniqueness of limit cycles in models for microparasitic and macroparasitic diseases. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 407–417. (Summary) **99d:92042** 92D30 (34C05)

— (*with* Kooij, Robert E.) Limit cycles in quadratic systems with a weak focus and a strong focus. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 323–340. (I. D. Iliev) **99m:34065** 34C05 (58F21)

Zeger, Kenneth (*with* Hamkins, Jon) Asymptotically dense spherical codes. I. Wrapped spherical codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1774–1785. (Guy Jumarie) **99b:94050** 94B27

— (*with* Hamkins, Jon) Asymptotically dense spherical codes. II. Laminated spherical codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1786–1798. (Guy Jumarie) **99b:94051** 94B27

— (*with* Linder, Tamás; Zamir, Ram) High-resolution source coding for non-difference distortion measures: multidimensional companding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 548–561. (Summary) **99k:94025** 94A29 (94A34)

— (*with* Tarokh, Vahid; Vardy, Alexander) Universal bound on the performance of lattice codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 670–681. (Summary) **99j:94074** 94B35

— (*with* Méhes, András) Randomly chosen index assignments are asymptotically bad for uniform sources. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 788–794. 94A40

Zeghib, Abdelghani Sur les espaces-temps homogènes. (English summary) [On homogeneous space-times] *The Epstein birthday schrift*, 551–576 (*electronic*), *Geom. Topol. Monogr.*, 1, *Geom. Topol., Coventry*, 1998. (Scot Adams) **99k:57079** 57S20 (53C50)

— On closed anti-de Sitter spacetimes. (English summary) *Math. Ann.* **310** (1998), *no.* 4, 695–716. (William Goldman) **99c:53076** 53C50

— On affine actions of Lie groups. *Math. Z.* **227** (1998), *no.* 2, 245–262. (Scot Adams) **99c:53077** 53C50 (22E15, 53C20, 57S20)

— Geodesic foliations in Lorentz 3-manifolds. (English summary) *Comment. Math. Helv.* **74** (1999), *no.* 1, 1–21. (Scot Adams) **99k:53049** 53C12 (53C50)

Zeheb, Ezra (*with* Fruchter, Gila E.; Srebro, Uri) Stability of discrete nonlinear control systems. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 4, 333–351. (A. A. Martynyuk) **99b:93038** 93D09 (93C55)

— (*with* Naimark, Leonid; Kogan, Jacob; Leizarowitz, Arie) On rational stabilizing controllers for interval delay systems. (English summary) *Stability and control of time-delay systems*, 184–204, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (93C30)

— (*with* Hocherman, Judith; Kogan, Jacob; Leizarowitz, Arie) Robust stability of quasipolynomials with annular uncertainties. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 1, 77–92. (Summary) **99f:93110** 93D09

Zehnder, E. (*with* Hofer, Helmut H. W.; Wysocki, K.) Correction to: "Properties of pseudoholomorphic curves in symplectisations. I. Asymptotics" [Ann. Inst. H. Poincaré Anal. Non Linéaire **13** (1996), no. 3, 337–379; MR 97e:58029]. (English summary) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 4, 535–538. (Summary) **99e:58026** 58D10 (58F05)

— (*with* Hofer, Helmut H. W.; Wysocki, K.) The dynamics on three-dimensional strictly convex energy surfaces. (English summary) *Ann. of Math.* (2) **148** (1998), *no.* 1, 197–289. (Matthias Schwarz) **99m:58089** 58F05 (58D10, 58F22)

abou Zeid, Mohab *see* **Abou Zeid, Mohab**

Zeidan, Vera (*with* Páles, Zsolt) On the representation of certain bilinear forms on $C(T)$ and $L^\infty(T)$. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 497–511. (Anna Salvadori) **99g:49016** 49J52 (28A99, 46E99)

— (*with* Páles, Zsolt) Optimum problems with certain lower semicontinuous set-valued constraints. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 707–727 (*electronic*). (Jean B. Lasserre) **99d:49047** 49K27 (47N10, 58C06, 90C48)

Zeidler, Eberhard Eröffnung des neuen Max-Planck-Instituts für Mathematik in den Naturwissenschaften in Leipzig. [Opening of the new Max Planck Institute for Mathematics in the Natural Sciences, In Leipzig] *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 1, 57–60. 01A74

Zeifang, Rainer G^2 continuous G-splines: an interpolation property. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix-Mont-Blanc*, 1996), 473–480, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D07 (65D05)

Zeĭman, A. I. Stability of birth-and-death processes. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 3023–3031. (Götz Kersting) **99k:60217** 60J80 (60K25)

Zeilberger, Doron (*with* Regev, Amitai) Proof of a conjecture on multisets of hook numbers. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 391–394. (Jennifer R.

Galovich) **99g:05182** 05E10

— (*with* Amdeberhan, Tewodros) Hypergeometric series acceleration via the WZ method. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 3, *approx.* 4 *pp.* (*electronic*). (Peter Paule) **99e:33018** 33C99 (05A10, 68R05)

— (*with* Foata, Dominique) A classic proof of a recurrence for a very classical sequence. *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 380–384. (Peter Paule) **99h:11019** 11B83 (05A15, 11B37, 39A10)

— (*with* Amdeberhan, Tewodros) q-Apéry irrationality proofs by q-WZ pairs. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 2, 275–283. (G. Ramharter) **99d:11074** 11J72 (11J82, 33D15)

— (*with* Robertson, Aaron) A 2-coloring of $[1, n]$ can have $(1/22)n^2 + O(n)$ monochromatic Schur triples, but not less! (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 19, 4 *pp.* (*electronic*). (N. Hindman) **99j:05188** 05D10

— (*with* Corteel, Sylvie; Savage, Carla D.; Wilf, Herbert S.) A pentagonal number sieve. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 186–192. (David M. Bressoud) **99d:11111** 11P81 (05A15)

— How much should a 19th-century French bastard inherit. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 385–388. (Summary) **99a:39050** 39A70

— (*with* Ekhad, Shalosh B.) Curing the Andrews syndrome. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 3, 299–310. (Summary) **99f:05003** 05A15 (33C20)

— (*with* Ekhad, Shalosh B.) There are more than $2^{n/17}$ n-letter ternary square-free words. (English summary) *J. Integer Seq.* **1** (1998), *Article* 98.1.9 (1 *HTML document*). 68R15

— (*with* Foata, Dominique) A combinatorial proof of Bass's evaluations of the Ihara-Selberg zeta function for graphs. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2257–2274. (H. M. Stark) **99i:05137** 05C50 (11M41)

Zeiler, A. (*with* Biskamp, D.; Schwarz, E.) Instability of a magnetized plasma jet. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2485–2488. (Summary) **99b:76036** 76E25 (76X05)

— (*with* Biskamp, D.; Drake, J. F.; Rogers, B. N.) Transition from resistive ballooning to η_i driven turbulence in tokamaks. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2654–2663. (Summary) **99b:76102** 76X05

— (*with* Biskamp, D.; Schwarz, E.; Celani, A.; Drake, J. F.) Electron magnetohydrodynamic turbulence. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 751–758. (Summary) **99k:76149** 76W05 (76F99)

Zeilfelder, F. Hermite interpolation by periodic splines with equidistant knots. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 183–195. (Sven Ehrich) **99d:41007** 41A05 (65D05)

— (*with* Davydov, O. V.; Nürnberger, Günther) Approximation order of bivariate spline interpolation for arbitrary smoothness. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 117–134. (Summary) **99c:41062** 41A63 (65D07)

Zeilinger, Anton (*with* Krenn, Günther) Entangled entanglement. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1793–1797. (Summary) **99b:81019** 81P15

— (*with* Krenn, Günther) Erratum: "Entangled entanglement" [Phys. Rev. A (3) **54** (1996), no. 3, 1793–1797; MR 99b:81019]. *Phys. Rev. A* (3) **55** (1997), *no.* 5, 3970. (From the text of erratum) **99b:81020** 81P15

— (*with* Krenn, Günther) Reply to: "Comment on: 'Entangled entanglement'" [Phys. Rev. A (3) **56** (1997), no. 5, 4335; MR 99b:81021] by R. L. Schafir. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 5, 4336. (Summary) **99b:81022** 81P15

— (*with* Żukowski, Marek; Horne, Michael A.; Weinfurter, Harald) Independent photons and entanglement. A short overview. (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 501–517. (*see* **99k:00032**) 81P99

— (*with* Bouwmeester, Dik; Pan, Jian-Wei; Daniell, Matthew; Weinfurter, Harald) Observation of three-photon Greenberger-Horne-Zeilinger entanglement. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 7, 1345–1349. 81P15

— *see also* **Schafir, R. L., 99b:81021**

Zeilman, B. (*with* Gower, J. C.) Orthogonality and its approximation in the analysis of asymmetry. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 183–193. (Ilse C. F. Ipsen) **99d:15005** 15A18 (15A23, 65F99)

Zeiner, P. (*with* Dirl, R.; Davies, B. L.) Bloch and Wannier functions composed of Gaussian orbitals—analyticity, localization, and expectation values. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2437–2454. (Peter N. Zhevandrov) **99a:81028** 81Q05 (33E05)

Zeinstra, C. G. (*with* Kaashoek, M. A.) The band method and generalized Carathéodory-Toeplitz interpolation at operator points. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 2, 175–210. (L. Rodman) **99k:47035** 47A57

Zeitak, Reuven (*with* Gat, Omri) Multiscaling in passive scalar advection as stochastic shape dynamics. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 5511–5519. (Summary) **99c:76053** 76F99 (76M35)

Zeitler, Herbert Tetrahedron and octahedron fractals. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 3, 329–341. (Maria Moszyńska) **99c:28031** 28A80 (52A99)

— About a sculpture of St. George. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 1, 67–92. (Christian E. Bluhm) **99k:00017** 00A69 (28A80)

— (*with* Pagon, Dušan) Polar lines and tangents. (English summary) *Mitt. Math. Ges. Hamburg* **17** (1998), 127–141. (Summary) **99i:51021** 51N10 (51M04)

Zeitlin, M. G. *see* **Tseitlin, M. G.**

Zeitlin, V. *see* **Zeitlin, Vladimir**

Zeitlin, Vad. Yu. Spontaneous magnetization in Maxwell QED_{2+1}. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 637–641, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81V10

Zeitlin, Vladimir (*with* Holm, Darryl D.) Hamilton's principle for quasigeostrophic motion. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 800–806. (Yuri N. Skiba) **99a:76023** 76C05 (58D30, 58F05, 76M30, 76U05, 76V05, 86A05, 86A10)

— (*with* Dupont, F.; McLachlan, Robert I.) On a possible mechanism of anomalous diffusion by Rossby waves. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3185–3193. (Summary) **99g:76027** 76C20 (58F40, 76U05, 86A05, 86A10)

Zeitoun, Marc On embedding of finitely generated profinite semigroups into 2-generated profinite semigroups. (English summary) *Algebra Universalis* **38** (1997), *no.* 2, 210–213. (Sheila Oates-Williams) **99b:20090** 20M07

— (*with* Almeida, Jorge) The pseudovariety **J** is hyperdecidable. (English summary) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 5, 457–482. (A. A. Iskander) **99g:03010** 03B25 (08C15, 20M07, 68Q70)

— (*with* Azevedo, Assis) Three examples of join computations. (English summary) *Semigroup Forum* **57** (1998), *no.* 2, 249–277. (Jorge Almeida) **99g:20103** 20M07 (20M05)

Zeitouni, Ofer (*with* Dembo, Amir) Moderate deviations for iterates of expanding maps. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 1–11, *World Sci. Publishing, River Edge, NJ*, 1997. (Alexander Veretennikov) **99k:60072** 60F10 (28D05, 60G10)

— (*with* Dembo, Amir) ★ Large deviations techniques and applications. (English summary) Second edition. Applications of Mathematics, 38. *Springer-Verlag, New York*, 1998. *xvi*+396 *pp. ISBN* 0-387-98406-2 (Editors) **99d:60030** 60F10

— (*with* Klebaner, Fima C.; Lazar, Justin) On the quasi-stationary distribution for some randomly perturbed transformations of an interval. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 300–315. (Göran Högnäs) **99d:60095** 60J80 (60F10, 60J10, 92D25)

— (*with* Gantert, Nina) Quenched sub-exponential tail estimates for one-dimensional random walk in random environment. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 177–190. (Didier Piau) **99g:60186** 60K35 (60F10, 60J15, 82C44)

— (*with* Liptser, Robert Sh.) Robust diffusion approximation for nonlinear filtering. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 22 *pp.* (*electronic*). (Vivek S. Borkar) **99h:93106** 93E11

— (*with* Atar, Rami) A note on the memory length of optimal nonlinear filters. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 131–135. (Michael A. Kouritzin) **99j:93100** 93E11

— (*with* Pisztora, Agoston; Povel, Tobias) Precise large deviation estimates for a one-dimensional random walk in a random environment. (English summary) *Probab. Theory Related Fields* **113** (1999), *no.* 2, 191–219. (Timo Seppäläinen) **99m:60048** 60F10 (60J15, 60K35, 82C41)

Zeitz, M. (*with* Xia, Xiao Hua) On nonlinear continuous observers. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 943–954. 93B07 (93C10)

Zekri, Richard K-homology relative to semisplit ideals. (English summary) *K-Theory* **13** (1998), *no.* 1, 69–80. (Daniel Kucerovsky) **99f:46102** 46L80 (19K35, 46L87, 58G12)

coti Zelati, Vittorio *see* **Coti Zelati, Vittorio**

Żelawski, Marcin (*with* Mrozek, Marian) Heteroclinic connections in the Kuramoto-Sivashinsky equation: a computer assisted proof. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 277–285. (Mark J. Friedman) **99c:34090** 34C37 (34–04, 35Q99, 58F35, 65C99)

Żelazko, W. Topological simplicity of a certain $\mathscr{L}F$-algebra. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 145–148. (H. G. Dales) **99h:46097** 46J05

— Topologization of algebras—the results and open problems. *Functional analysis*, 42–46, *Narosa, New Delhi*, 1998. (*see* **99h:00036**) 46H05 (46J05)

— On some old problems and new questions in topological algebras. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 3–19, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Maria Fragoulopoulou) **99f:46066** 46Hxx (46A99, 46J30)

— A density theorem for algebra representations on the space (s). (English summary) *Studia Math.* **130** (1998), *no.* 3, 293–296. (Robert S. Doran) **99d:46069** 46H15 (46K10, 47A67)

Zeldin, B. A. (*with* Meade, A. J., Jr.) Establishing criteria to ensure successful feedforward artificial neural network modelling of mechanical systems. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 5, 61–74. (Summary) **99a:73135** 73V20 (65J20)

— (*with* Meade, A. J., Jr.) Approximation properties of local bases assembled from neural network transfer functions. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 43–62. 93B30 (41A30)

Zelditch, Steven Index and dynamics of quantized contact transformations. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 1, 305–363. (Alejandro Uribe) **99a:58082** 58F06 (35P99, 46N50, 47G30, 58G15, 58G25)

— Normal forms and inverse spectral theory. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1998), *Exp. No. XV*, 18 *pp., Univ. Nantes, Nantes*, 1998. (G. V. Rozenblyum) **99h:58197** 58G25 (35P20, 47F05, 47G30, 58G15)

— Asymptotics of holomorphic sections of powers of a positive line bundle. *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XXII*, 12 *pp., École Polytech., Palaiseau*, 1998. (Thierry Bouche) **99k:32050** 32L10 (58G18)

— Szegő kernels and a theorem of Tian. *Internat. Math. Res. Notices* **1998**, *no.* 6, 317–331. (Thierry Bouche) **99g:32055** 32L10 (47B35)

— The inverse spectral problem for surfaces of revolution. (English summary) *J. Differential Geom.* **49** (1998), *no.* 2, 207–264. (Edoh Amiran) **99k:58188** 58G25 (53C22, 58D27)

— Appendix to: "Weak quantum ergodicity" [Phys. D **121** (1998), no. 1-2, 1–18; MR 99k:81071] by L. Kaplan and E. J. Heller. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 19–23. (Jens Marklof) **99k:81072** 81Q50 (58F11)

Zelen, Marvin (*with* Hu, Ping[2]) Planning clinical trials to evaluate early detection programmes. (English summary) *Biometrika* **84** (1997), *no.* 4, 817–829. (Summary) **99a:62151** 62P10

Zelenjuk, E. G. *see* **Zelenyuk, E. G.**

Zelentsov, V. B. A dynamic problem of the impact of a rigid stamp into an elastic prestrained half-plane. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 3, 41–50, 111. 73T05 (73D05)

Zeleny, Milan From maximization to optimization: MCDM and the eight models of optimality. (English summary) *Essays in decision making*, 107–119, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90A05)

Zelenyuk, E. G. Finite groups in $\beta\mathbb{N}$ are trivial. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 12–14. (L. A. Kurdachenko) **99b:22005** 22A30

— Finite groups in $\beta\mathbb{N}$ are trivial. *Semigroup Forum* **55** (1997), *no.* 1, 131–132. (Franz Kinzl) **99b:22004** 22A15

Zelevinsky, Andrei (*with* Serganova, V. V.; Vince, Andrew) A geometric characterization of Coxeter matroids. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 173–181. (M. Stefănescu) **99g:05047** 05B35 (20F55)

— (*with* Berenstein, Arkady) Total positivity in Schubert varieties. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 1, 128–166. (Kailash C. Misra) **99g:14064** 14M15 (22E46)

— (*with* Leclerc, Bernard) Quasicommuting families of quantum Plücker coordinates. *Kirillov's seminar on representation theory*, 85–108, *Amer. Math. Soc. Transl. Ser.* 2, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Hiro-Fumi Yamada) **99g:14066** 14M15 (17B37)

— (*with* Magyar, Peter; Weyman, Jerzy) Multiple flag varieties of finite type. (English summary) *Adv. Math.* **141** (1999), *no.* 1, 97–118. (Michel Brion) **99m:14095** 14M15 (16G20)

Železnikar, Anton P. Informational graphs. (English summary) *Informatica (Ljubl.)* **21** (1997), *no.* 1, 79–114. (E. Pessa) **99c:92069** 92J99

Zelik, S. V. The Mathieu-Hill operator equation with dissipation, and estimates for its instability index. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 543–560; *translation in Math. Notes* **61** (1997), *no.* 3-4, 451–464. (Sergei A. Vakulenko) **99c:34143** 34G20 (35K57, 35R20, 47H20)

— Trajectory attractor of a nonlinear elliptic system in an unbounded domain. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 135–138; *translation in Math. Notes* **63** (1998), *no.* 1-2, 120–123. (Igor D. Chueshov) **99d:35052** 35J60 (35B40, 47H20, 58F39)

Zelikin, M. I. A quadratic system of partial differential equations that is associated with the problem of minimizing a multiple integral. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 1, 7–9. (V. Oproiu) **99d:58044** 58E15 (49J10)

Zelikovsky, Alexander (*with* Karpinski, Marek) New approximation algorithms for the Steiner tree problems. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 1, 47–65. (Yixun Lin) **99c:90147** 90C35 (05C05, 05C35)

— (*with* Helvig, C. S.; Robins, Gabriel) Moving-target TSP and related problems. (English summary) *Algorithms—ESA '98 (Venice)*, 453–464, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:90151** 90C35 (68Q25, 90C27)

— (*with* Karpinski, Marek) Approximating dense cases of covering problems. (English summary) *Network design: connectivity and facilities location (Princeton, NJ*, 1997), 169–178, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68126** 68Q25 (05C85, 68R10, 90C35)

Zelinka, Bohdan On two transformations of graphs. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 357–363. (A. Vijayakumar) **99b:05122** 05C75

— Dominating functions of graphs with two values. (English summary) *Math. Bohem.* **123** (1998), *no.* 3, 263–270. (Anthony E. Barkauskas) **99h:05070** 05C35

Zelinka, Jiří Multivariate density estimation. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings (Velké Karlovice*, 1994; *Čeřinek*, 1995), 205–209, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 62G05

Zelinskiĭ, D. I. On the effect of impulse noise on the accuracy of discrimination of signals of a time-frequency code. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 271–276, 301. 93E10 (93B30)

Zell, Andreas (*with* Reif, Konrad; Weinzierl, Klaus; Unbehauen, Rolf) Nonlinear feedback stabilization by tangential linearization. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 673–687. 93D15

— (*with* Reif, Konrad; Weinzierl, Klaus; Unbehauen, Rolf) A homotopy approach for nonlinear control synthesis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1311–1318. 93B50 (93B40)

Zelle, Christian (*with* Bose, Prosenjit; Everett, Hazel; Fekete, Sándor P.; Houle, Michael E.; Lubiw, Anna; Meijer, Henk; Romanik, Kathleen; Rote, Günter; Shermer, Thomas C.; Whitesides, S. H.) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)

Zeller, Karl (*with* Armitage, David H.; Haußmann, Werner) Best harmonic and polyharmonic approximation. *Approximation and optimization, Vol. I (Cluj-Napoca*, 1996), 17–34, *Transilvania, Cluj-Napoca*, 1997. (Stephen J. Gardiner) **99c:31008** 31B05 (41A50)

— (*with* Boos, J.; Leiger, T.) Consistency theory for SM-methods. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 109–142. (Heinz Junek (Zbl 902.40003)) **99i:40006** 40C05 (46A45)

— (*with* Tietz, Hubert) Tauber-Bedingungen für Verfahren mit Abschnittskonvergenz. (English summary) [Tauberian conditions for methods with sectional convergence] *Acta Math. Hungar.* **81** (1998), *no.* 3, 241–247. (S. Baron) **99m:40005** 40C05 (40E05)

— (*with* Tietz, Hubert) An elementary proof for the O_R-theorem of Hardy and Littlewood. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 632–635. (From the introduction) **99c:40007** 40E05

Zeller-Meier, Georges Dérivations et automorphismes des algèbres d'opérateurs (d'après R. V. Kadison et J. R. Ringrose). [Derivations and automorphisms of operator algebras (after R. V. Kadison and J. R. Ringrose)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 324, 179–188, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 46L57 (46L40)

Zellini, Paolo (*with* Bevilacqua, R.; Di Fiore, Carmine) h-space structure in matrix displacement formulas. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 11–35 (1998). (Israel Koltracht) **99g:15026** 15A57 (47B35, 68Q25)

— (*with* Di Fiore, Carmine) Matrix displacement decompositions and applications to Toeplitz linear systems. (English summary) *Linear Algebra Appl.* **268** (1998), 197–225. (Israel Koltracht) **99b:15016** 15A23

Zelmanov, Efim I. On the restricted Burnside problem. *Fields Medallists' lectures*, 623–632, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (Gunnar Traustason) **99d:20061** 20F50 (17B60, 20–02, 20F40)

— (*with* Barnea, Y.; Shalev, Aner) Graded subalgebras of affine Kac-Moody algebras. (English summary) *Israel J. Math.* **104** (1998), 321–334. (Zhe-xian Wan) **99d:17025** 17B67

— On some open problems related to the restricted Burnside problem. *Recent progress in algebra (Taejon/Seoul*, 1997), 237–243, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Martyn Quick) **99k:20082** 20F50 (20E18)

— *see also* **Recent progress in algebra**, **99e:00027** *and* **Feit, Walter**, (**99b:00010**)

Zelmanowitz, Julius M. On the endomorphism ring of a discrete module: a theorem of F. Kasch. (English summary) *Advances in ring theory (Granville, OH*, 1996), 317–322, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Ram Niwas Gupta) **99e:16034** 16S50 (16D40)

Zelnikov, A. I. (*with* Gusev, Yu. V.) Finite temperature nonlocal effective action for quantum fields in curved space. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 024002, 14 *pp.* 81T20

Zeltyn, Sergey (*with* Mandelbaum, Avi) Estimating characteristics of queueing networks using transactional data. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 1, 75–127. (Summary) **99e:60205** 60K25

Zemach, Asaph (*with* Shavit, Nir; Upfal, Eli) A steady state analysis of diffracting trees. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 403–423. (Summary) **99b:68075** 68Q10

Zemach, Charles (*with* Clark, Timothy T.) Symmetries and the approach to statistical equilibrium in isotropic turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2846–2858. (Summary) **99h:76044** 76F05 (76M35)

Zemanian, Armen H. Nonstandard electrical networks. New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 30–34. (From the text) **99k:94074** 94C05

Zemba, Guillermo R. (*with* Frau, M.; Lerda, A.; Sciuto, S.) The extended conformal theory of Luttinger systems. *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow*, 1996), 409–413, *World Sci. Publishing, River Edge, NJ*, 1997. (Kazuhiro Hikami) **99m:81294** 81V70 (81R10, 81T40, 82B10)

— (*with* Cappelli, Andrea) Modular invariant partition functions in the quantum Hall effect. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 3, 595–632. (Michael A. I. Flohr) **99b:81288** 81V70 (11Z05, 81R10, 81T40)

— (*with* Cappelli, Andrea) Hamiltonian formulation of the $W_{1+\infty}$ minimal models. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 610–638. (Matthias Dörrzapf) **99k:81278** 81T40 (81R10, 81V70)

Žemlička, Jan (*with* Růžička, Pavel; Trlifaj, Jan) Criteria of steadiness. (English summary) *Abelian groups, module theory, and topology (Padua*, 1997), 359–371, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Riccardo Colpi) **99k:16005** 16D10 (03C60, 13E10)

Zemlyakov, S. D. (*with* Firsova, E. M.) Operative adjustment of a time-dependent system based on the self-regulation criterion. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 76–83. 93C15 (93C95)

Zemskov, A. V. The selective search method for the eigenvectors of matrices and its practical applications. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 365–375; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 351–361. (J. Segethová) **99i:65043** 65F15

Zemskov, K. A. (*with* Pashkov, A. G.) Construction of optimal positional strategies in a differential pursuit-evasion game with one pursuer and two evaders. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 403–412; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 391–399. (Anatoliĭ F. Kleimenov) **99g:90175** 90D25 (49J15)

Zenati, Hanine (*with* Chabour, Ourida; Chabour, Rachid) Stabilisation des systèmes bilinéaires homogènes. (English and French summaries) [Stabilization of homogeneous bilinear systems] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 633–636. (Summary) **99f:93115** 93D15 (93C10)

Ženčák, Pavel (*with* Kobza, Jiří) Some algorithms for quartic smoothing splines. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 79–94. (John B. Kioustelidis) **99h:65019** 65D07 (41A15)

Zenchuk, A. I. (*with* Manakov, S. V.) The dual $\overline{\partial}$-problem, $(2+1)$-dimensional nonlinear integrable evolution equations and their reductions. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 371–382; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1490–1499 (1996). (Piotr G. Grinevich) **99b:58130** 58F07 (35Q58, 58F37)

Zeng, Ben Sheng (*with* Li, Shi Qu; Lian, Yu Zhong) The relationship between the Chrestenson linear spectra and the cyclic spectra of P-valued logic functions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 39–43, 58. (Lei Qian) **99c:03034** 03B50

Zeng, Chongchun (*with* Bates, Peter W.; Lu, Kening) Normally hyperbolic invariant manifolds for semiflow in a Banach space. *Differential equations and applications (Hangzhou*, 1996), 22–29, *Internat. Press, Cambridge, MA*, 199?. (Jürgen Scheurle) **99h:58136** 58F15 (58F30)

— (*with* Bates, Peter W.; Lu, Kening) Foliations for semiflows in Banach spaces near a normally hyperbolic invariant manifold. (English summary) *Differential equations and applications (Hangzhou*, 1996), 30–40, *Internat. Press, Cambridge, MA*, 199?. (Jürgen Scheurle) **99h:58137** 58F15 (58F18)

— (*with* Bates, Peter W.; Lu, Kening) Existence and persistence of invariant manifolds for semiflows in Banach space. (English summary) *Mem. Amer. Math. Soc.* **135** (1998), *no.* 645, *viii*+129 *pp.* (Jürgen Scheurle) **99b:58210** 58F30 (34G20, 35B40, 47H20, 58F15, 58F39)

Zeng, Da Cong Symmetric functions, antisymmetric functions and their Fourier coefficients. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 2, 92–96. 42A16

Zeng, Fan Ping (*with* Xi, Hong Jian) On Lorenz maps of the interval. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 939–946. (Gong Fu Liao) **99b:58084** 58F03

— Kneading sequences for unimodal expanding maps of the unit interval. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 481–486. 58F08 (58F20)

— (*with* Xi, Hong Jian) Partial Lyapunov stability and partial Lipschitz stability in flows. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 413–418. (L. Janos) **99e:58147** 58F25 (34C35, 34D20, 54H20, 58F10)

— (*with* Xi, Hong Jian; Luo, Zhi Ming) A note on Hillam's iteration scheme. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 2, 125–127. 58F08 (26A18, 58F03)

— (*with* Mai, Jie Hua) Transitivity and chaos. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 119–125. (Sergio Plaza) **99f:58142** 58F13

Zeng, Guang Xing Strictly real Hilbert rings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 103–106. (Jin Zhong Xu) **99e:13026** 13F20 (12D15)

Zeng, Guo Ping Conditions for an algebraic integer β to have a primitive root in the quadratic field $\mathbf{Q}(\sqrt{6})$. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 128–130. 11R11 (11A07)

Zeng, H. *see* **Zeng, Hanqing**

Zeng, Hanks H. (*with* Tong, Lang; Johnson, C. Richard, Jr.) Relationships between the constant modulus and Wiener receivers. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1523–1538. 94A05

Zeng, Hanqing (*with* Wang, Zidong; Unbehauen, Heinz) H_2/H_∞ control for linear systems with variance constraints: the state estimation feedback case. (English summary) *Systems Sci.* **24** (1998), *no.* 3, 29–47. 93B36 (93E10)

Zeng, J. Y. *see* **Zeng, Jin Yan**

Zeng, Ji Wen The problem of the Alperin conjecture for a block with a TI defect group. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 519–524. (Ji Ping Zhang) **99k:20023** 20C20

— Symmetry of Cartan matrices. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **38** (1999), *no.* 1, 17–20. 16L60

Zeng, Jian Chao (*with* Yang, Gen Ke; Wei, Jun Hu; Sun, Guo Ji) The uniform description of discrete, continuous and hybrid dynamics Petri nets. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 58–65. 68Q90 (68Q10)

Zeng, Jiang (*with* Clarke, Robert John[1]; Han, Guo-Niu) A combinatorial interpretation of the Seidel generation of q-derangement numbers. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 313–327. (D. P. Roselle) **99d:05006** 05A30

— (*with* Dumont, Dominique) Polynômes d'Euler et fractions continues de Stieltjes-Rogers. (English summary) [Euler polynomials and Stieltjes-Rogers continued fractions] *Ramanujan J.* **2** (1998), *no.* 3, 387–410. (Volker Strehl) **99i:05008** 05A15 (11B68, 30B70)

Zeng, Jin Ping (*with* Zhou, Shu Zi) Schwarz algorithms for a class of obstacle problems involving nonlinear operators. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 521–530. (Summary) **99c:49013** 49J40 (65N30)

— (*with* Li, Dong Hui; Zhang, Zhong Zhi) Gaussian pivoting method for solving linear complementarity problem. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 419–426. (C. Ilioi) **99b:90138** 90C33 (65F10, 65Y20)

— Estimation of the convergence rate of the multiplicative Schwarz algorithm for solving linear complementarity problems. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 226–232. (Summary) **99a:90214** 90C33

— (*with* Wang, Lie Heng) A nonoverlapping domain decomposition method for solving obstacle variational inequalities. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 421–430; *translation in Chinese J. Numer. Math. Appl.* **20** (1998), *no.* 1, 70–80. (Summary) **99b:65166** 65N55 (49J40)

— (*with* Zhou, Shu Zi) Schwarz algorithm for the solution of variational inequalities with nonlinear source terms. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 1, 23–35. (Zheng Hui Xie) **99f:65097** 65K05 (35L85, 65M55, 65N55)

— (*with* Li, Dong Hui; Zhou, Shu Zi) Convergence of Broyden-like matrix. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 35–37. 65H10

— (*with* Zhou, Shu Zi) On monotone and geometric convergence of Schwarz methods for two-sided obstacle problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 600–616 (*electronic*). (Viorel Arnautu) **99d:65199** 65K10 (49J40, 65N30)

Zeng, Jin Yan (*with* Wu, Zuo-Bing) Extension of Bertrand's theorem and factorization of the radial Schrödinger equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5253–5259. (Géza Lévai) **99g:81040** 81Q05 (70F05, 70H33)

— (*with* Liu, Yu Fen; Lei, Y. A.) Reply to the: "Comment by A. A. Stahlhofen on: 'Factorization of the radial Schrödinger equation and four kinds of raising and lowering operators of hydrogen atoms and isotropic harmonic oscillators' " [Phys. Lett. A **241** (1998), no. 4-5, 298–299; MR 99m:81291]. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 300–302. (Summary) **99m:81292** 81V45 (81Q05)

— *see also* **Stahlhofen, A. A., 99m:81291**

Zeng, Liu Chuan An iterative process for finding approximate solutions to nonlinear equations of strongly accretive operators. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 2, 132–141. (Charles Ejike Chidume) **99g:47145** 47H15 (47H17, 65J15)

— (*with* Yang, Ya Li) Asymptotic behavior and ergodicity of a new class of asymptotically nonexpansive curves in Hilbert spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 535–540. (Hong Kun Xu) **99k:47135** 47H09 (47H10)

— On the asymptotic behavior of almost-orbits of asymptotically non-expansive mappings in Banach spaces. (English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 3, 21–26. (Behzad Djafari-Rouhani) **99m:47060** 47H09 (47H10)

— A note on general algorithm for variational inequalities. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 354–363. (Muhammad Aslam Noor) **99k:49025** 49J40 (47H19, 90C33)

— A note on approximating fixed points of nonexpansive mappings by the Ishikawa iteration process. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 245–250. (Summary) **99g:47138** 47H10 (47H09, 47H17)

— The asymptotic behavior of almost-orbits of asymptotically nonexpansive mappings in uniformly convex Banach spaces. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 96–98. (Yuan Guo Zhu) **99a:47080** 47H09 (47H10)

— Iterative construction of solutions to nonlinear equations of strongly accretive operators in Banach spaces. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 329–334. (Charles Ejike Chidume) **99i:47114** 47H17 (47H06)

— On a general projection algorithm for variational inequalities. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 229–235. (Igor' V. Konnov) **99e:47096** 47H19 (47H17, 49M99, 65J05, 65K05)

Zeng, Min (*with* Morgan, Ronald B.) Harmonic projection methods for large non-symmetric eigenvalue problems. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 1, 33–55. (Rafael Bru) **99g:65046** 65F15

Zeng, Nianning (*with* Haslach, Henry W., Jr.) Maximum dissipation evolution equations for non-linear thermoviscoelasticity. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 361–385. (Summary) **99j:73060** 73F15 (73B30)

Zeng, Qiang[2] (*with* Combescure, Alain) A new one-point quadrature, general non-linear quadrilateral shell element with physical stabilization. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 7, 1307–1338. (Summary) **99c:73082** 73V05

Zeng, Qingguang (*with* He, Guoping; Wu, Fang) A robust superlinearly convergent algorithm for linearly constrained optimization problems under degeneracy. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 363–373. (G. M. Ostrovsky) **99i:90094** 90C30

Zeng, Qingli (*with* Wang, Xinfeng; Ge, Yu'an) Solutions of two-point BVP in Banach spaces. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1265–1269. (Summary) **99k:34141** 34G20 (34A45, 34B15)

Zeng, Ren Ying Optimality conditions for multiobjective mathematical programming. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 259–263. 90C29

Zeng, S. M. (*with* Zabusky, Norman J.) Shock cavity implosion morphologies and vortical projectile generation in axisymmetric shock-spherical fast/slow bubble interactions. (English summary) *J. Fluid Mech.* **362** (1998), 327–346. (Summary) **99a:76077** 76L05

Zeng, She Rong (*with* Liu, Song Tao; Li, Zheng Qi) Smooth interpolation of a discrete set of points on a surface. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 51–56. (*see* **99k:65006**) 65D17

Zeng, Wei-Bin (*with* Gupta, Arjun K.; Nguyen, Truc T.) Characterization of multivariate distributions through a functional equation of their characteristic functions. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 187–201. (P. Laurie Davies) **99f:62070** 62H05 (60E10, 62E10)

— (*with* Lau, Ka-Sing; Lawson, Jimmie D.) Embedding locally compact semigroups into groups. *Semigroup Forum* **57** (1998), *no.* 2, 151–156. (V. V. Mukhin) **99f:22004** 22A15

Zeng, Wei Yao Almost periodic solutions for nonlinear Duffing equations. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 640. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 3, 373–380. (Summary) **99d:34077** 34C27 (34C15)

— (*with* Zhou, Yu Bo) Mel'nikov vectors and general degenerate homoclinic bifurcations. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 2, 9–15. (Jian Hua Sun) **99a:34116** 34C23 (34C37, 58F14)

— (*with* Luo, Jiao Wan) Exponential dichotomies and Melnikov functions for singularly perturbed systems. *Nonlinear Anal.* **36** (1999), *no.* 4, *Ser. A: Theory Methods*, 401–422. (Mikhail B. Sevryuk) **99m:34094** 34C25 (34C11, 34C37, 34E15)

Zeng, Wen Ping A new class of stable difference schemes for a convection equation. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 225–230. 65M06 (65M12)

— Two new classes of stable difference schemes for fourth-order parabolic equations. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **18** (1997), *no.* 4, 334–340. 65M06 (65M12)

— Construction of symplectic schemes for higher-order Schrödinger equations using hyperbolic functions. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 6–11. (So-Hsiang Chou) **99h:65179** 65M99 (35A35)

— (*with* Zheng, Xing Hua[2]) A grouping explicit method for solving a convection equation. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 111–114. 65M06

— Stable explicit difference schemes for solving parabolic equations of higher order. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 124–127. 65M06 (65M12)

Zeng, Xianwu (*with* Du, Nai Lin; Chen, Shi Hua[3]) On reduced variational equations of coupled systems. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 2, 147–151. (Summary) **99h:34065** 34C25 (34C15)

— (*with* Du, Nai Lin) A note on the principal theorems in the theory of functional analysis. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 2, 152–154. (K. Floret) **99m:46057** 46B99 (46A22, 46A30)

Zeng, Xiao Dong[2] (*with* Zheng, Yu Fan) The realization and minimal order problems for nonlinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 523–527. 93B15 (93C10)

Zeng, Xiao Ming[2] (*with* Piriou, Alain) On the rate of convergence of two Bernstein-Bézier type operators for bounded variation functions. (English summary) *J. Approx. Theory* **95** (1998), *no.* 3, 369–387. (Geetha S. Rao) **99m:41028** 41A25 (41A35, 41A36)

— On the rate of convergence of the generalized Szász type operators for functions of bounded variation. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 309–325. (Paşc Găvruţa) **99i:41024** 41A36

— (*with* Yu, Li; Huang, Wenda; Huang, Meichun; Zhu, Zizhong; Ji, Wei) The Laguerre-Gaussian series representation of two-dimensional fractional Fourier transform. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9353–9357. (Summary) **99j:44012** 44A15 (33C45, 42B10)

— Probability-type operators on two different kinds of regions and their approximation properties. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 2, 161–165. 41A35 (41A30)

Zeng, Xiping (*with* Li, Jijuan; Ruan, Jiong; Huang, Zhen Xun) An improved strategy in controlling chaotic dynamics to any desired orbit. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 1, 31–35. 93C10 (34H05, 58F13)

Zeng, Yanni (*with* Glimm, James; Grove, John W.; Li, Xiao Lin; Shyue, Keh-Ming; Zhang, Qiang[1]) Three-dimensional front tracking. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 703–727 (*electronic*). (Alexander Doktor) **99c:35153** 35L67 (65M99)

Zeng, Yong (*with* Tang, Xiao Wo; Chen, Ke[2]) A supplement to criterion for determining redundant methods of optimal combining forecasts. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 190–193. 62P20

Zeng, Yong (*with* Du, Jiang; Liu, Hong Ju; Wu, Jie[9]) A path method for analyzing the reliability of reticulated systems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 51–54. 90B25

Zeng, Yong Hong (*with* Li, Xiao Mei) Computing multidimensional discrete W transforms by polynomial transforms. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 291–298. (Summary) **99m:65254** 65T20 (65R10)

— *see also* **Zhang, Zhen Xiang**

Zeng, Yunbo Constructing hierarchy of sinh-Gordon-type equations from soliton hierarchy with self-consistent source. (English summary) *Phys. A* **259** (1998), *no.* 3-4, 278–290.

35Q53 (58F07)
— (*with* Lin, Runliang) Jacobi inversion problem for the modified Jaulent-Miodek hierarchy. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1253–1259. (Xian Guo Geng) **99k:58093** 58F07 (35Q53)
— Bi-Hamiltonian structure of JM hierarchy with self-consistent sources. (English summary) *Phys. A* **262** (1999), *no.* 3-4, 405–419. (Marco Pedroni) **99k:58101** 58F07 (35Q51)
Zenga, Michele (*with* Polisicchio, Marcella) Kurtosis diagram for continuous variables. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 21–41 (1998). 62E15
Zeni, José Ricardo (*with* Barut, Asim Orhan) Neutrinos and electromagnetic fields. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 357–367. (Jayme Vaz, Jr.) **99a:81061** 81R25 (81R20, 81V10)
Zeni, Mauro (*with* Martellini, Maurizio; Fucito, Francesco) A new non-perturbative approach to QCD by *BF*-theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 504–508, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81192** 81T70 (81T13, 81V05)
— (*with* Fucito, Francesco; Martellini, Maurizio) Nonlocal observables and confinement in *BF* formulation of Yang-Mills theory. (English summary) *Quantum fields and quantum space time* (*Cargèse*, 1996), 339–348, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Sergei K. Lando) **99c:81254** 81T70 (58D29, 81T13)
— (*with* Accardi, Alberto; Belli, Andrea; Martellini, Maurizio) Topological Yang-Mills cohomology in pure Yang-Mills theory. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 127–134. (Summary) **99g:81218** 81T70 (81T13)
Zenios, Stavros A. (*with* Censor, Yair; Iusem, Alfredo N.) An interior point method with Bregman functions for the variational inequality problem with paramonotone operators. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 373–400. (M. Teboulle) **99f:90147** 90C33 (49J40, 90C25, 90C48)
Zenit, R. (*with* Hunt, M. L.) The impulsive motion of a liquid resulting from a particle collision. (English summary) With an appendix by Ludwig C. Nitsche. *J. Fluid Mech.* **375** (1998), 345–361. 76-05
Zenkevich, N. A. (*with* Petrosyan, L. A.; Semina, E. A.) ★ Теория игр. (Russian. Russian summary) [Game theory] "*Vyssh. Shkola*", *Moscow*; *Knizhnyĭ Dom* "*Universitet*", *Moscow*, 1998. 301 *pp. ISBN* 5-06-001005-8; 5-8013-0007-4 (Publisher's description) **99c:90001** 90-01 (90Dxx)
Zenkin, A. A. The generalized Waring problem: estimation of the function $G(m,r)$ in terms of the function $g(m-1,r)$ by means of the superinduction method. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 6, 727–730. (Ming Gao Lu) **99g:11117** 11P05
— The time-sharing principle and an analysis of a class of quasifinite plausible arguments (on the example of G. Cantor's theorem on uncountability). (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 6, 733–735. (A. Kučera) **99c:03101** 03F65
Zenkov, V. I. (*with* Mazurov, Viktor Danilovich) Intersections of Sylow subgroups in finite groups. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 191–197, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Michael C. Slattery) **99g:20036** 20D20 (20D06, 20D08)
Zennaro, M. (*with* Jackiewicz, Z.; Vermiglio, R.) Regularity properties of Runge-Kutta methods for delay differential equations. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 265–278. (Ming Zhu Liu) **99c:65135** 65L06 (34A45)
Zerbini, Sergio (*with* Bytsenko, Andrei A.; Odintsov, Sergei D.) The effective action in gauged supergravity and cosmological constant problem. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 381–387, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83071** 83E50
— (*with* Cognola, Guido) Zeta-function on a generalised cone. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 1, 95–101. (Summary) **99f:58217** 58G26 (81T16)
— (*with* Elizalde, Emilio; Vanzo, Luciano) Zeta-function regularization, the multiplicative anomaly and the Wodzicki residue. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 613–630. (Thomas Ackermann) **99e:58202** 58G26 (58G15, 81T50)
— (*with* Bytsenko, Andrei A.; Vanzo, Luciano) Quantum correction to the entropy of the $(2+1)$-dimensional black hole. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4917–4924. (Summary) **99m:83101** 83C57
— (*with* Elizalde, Emilio; Filippi, Antonio; Vanzo, Luciano) One-loop effective potential for a fixed charged self-interacting bosonic model at finite temperature with its related multiplicative anomaly. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7430–7443. (Summary) **99k:81195** 81T16 (58G26, 81T50)
— (*with* Bytsenko, Andrei A.; Vanzo, Luciano) One-loop quantum holography for higher-dimensional black holes. (English summary) *Phys. Lett. B* **449** (1999), *no.* 3-4, 168–172. (Summary) **99m:83102** 83C57
Zerbino, D. D. (*with* Val'kovskiĭ, V. A.) Realization of arithmetic computations in codes with alternating signs in cellular automata. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 2, 49–64, 153. 68Q80 (68M07)
Zeren, Murat (*with* Özbay, Hitay) On the synthesis of stable $\mathscr{H}^\infty$ controllers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 431–435. 93D21 (93B36)
Zerner, Martin P. W. Directional decay of the Green's function for a random nonnegative potential on $\mathbf{Z}^d$. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 246–280. (Wolfgang König) **99f:60172** 60K35 (82B44)
Žerovnik, Janez (*with* Juvan, Martin; Mohar, Bojan) Distance-related invariants on polygraphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 57–71. (Douglas J. Klein) **99a:05039** 05C12
Zerrik, E. (*with* El Jaï, Abdelhak; Simon, Marie Claude; Pritchard, A. J.) Regional controllability of distributed parameter systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1351–1365. 93B05 (93C20)
Zerroukat, M. Approximation of domain integrals in BEM using thin plate splines. (English summary) *Boundary element research in Europe* (*Southampton*, 1998), 261–269, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 65N55 (73V10)
Zerrouki, H. Ultraviolet and infrared finiteness in two-dimensional curved space-time. (English summary) *Ann. Physics* **263** (1998), *no.* 2, 198–213. (Valdir B. Bezerra) **99i:81163** 81T20 (81T15, 81T50, 81T70, 83C47)
— (*with* Feichtinger, U.; Moritsch, O.; Rant, J.; Schweda, M.) The finiteness of the four-dimensional antisymmetric tensor field model in a curved background. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4513–4537. (Summary) **99e:81165** 81T20 (81T60)
— (*with* Leitgeb, R.; Schweda, M.) Finiteness of 2D topological *BF*-theory with matter coupling. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 425–440. (Mohamed Kachkachi) **99m:81223** 81T40 (81T10, 81T15, 81T17)
Zertaj, Sh. (*with* Khan, Ahmad) Results concerning common fixed point in random normed spaces. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 5–12. (Xie Ping Ding) **99k:47184** 47S50 (47H10)
Zertuche, Federico (*with* Waelbroeck, Henri) Discrete chaos. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 175–189. (Summary) **99i:58110** 58F13 (58F03)
Zervos, M. (*with* Davis, Mark H. A.) A pair of explicitly solvable singular stochastic control problems. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 3, 327–352. (Jose Luis Menaldi) **99i:49028** 49K45 (33C90, 49L25, 93E20)
Zervos, Nicholas (*with* Karayiannis, Nicolaos B.; Pai, Pin-I) Image compression based on fuzzy algorithms for learning vector quantization and wavelet image decomposition. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 8, 1223–1230. 94A12
Zerz, Eva (*with* Hoffmann, Jörg; Prätzel-Wolters, Dieter) A balanced canonical form for discrete-time minimal systems using characteristic maps. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 63–81. (K. B. Datta) **99g:93017** 93B10 (15A21, 93C55)
— LFT representations of parametrized polynomial systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 3, 410–416. (Summary) **99k:94075** 94C05
Zessin, H. (*with* Fritz, József; Rœlly, S.) Stationary states of interacting Brownian motions. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 151–164. (Hans-Otto Georgii) **99h:60164** 60K35 (60J25)
Zet, Gheorghe Principal bundles and gauge theories. (English summary) *New frontiers in algebras, groups and geometries* (*Monteroduni*, 1995), 259–285, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Summary) **99f:53076** 53C80 (53C07, 81T13)
Zeugmann, Thomas (*with* Rossmanith, Peter) Learning k-variable pattern languages efficiently stochastically finite on average from positive data. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 13–24, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (Summary) **99m:68172** 68T05 (68Q45)
— Lange and Wiehagen's pattern language learning algorithm: an average-case analysis with respect to its total learning time. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 117–145. (Summary) **99k:68101** 68Q45 (68T05)
— (*with* Reischuk, Rüdiger) Learning one-variable pattern languages in linear average time. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 95–102. (Summary) **99i:68105** 68T05 (68Q45)
— *see also* **Algorithmic learning theory**, **99m:68005**
Zeuner, Hansmartin A limit theorem on a family of infinite joins of hypergroups. (English summary) *Harmonic analysis and hypergroups* (*Delhi*, 1995), 243–249, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Michael Voit) **99c:60005** 60B10 (43A62, 60B15, 60F05, 60J15)
— (*with* Hazod, W.; Hofmann, Karl H.; Scheffler, Hans-Peter; Wüstner, Michael) Normalizers of compact subgroups, the existence of commuting automorphisms, and applications to operator semistable measures. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 189–209. (Aleksy Tralle) **99j:22008** 22E15 (22E30, 60B15)
Zevallos, J. (*with* Nair, V. N.; James, D. A.; Ehrlich, W. K.) A statistical assessment of some software testing strategies and application of experimental design techniques. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 165–184. (Summary) **99a:62140** 62N05 (62K99)
Zevin, Aleksandr Aronovich On domains of stability of linear canonical systems with periodic coefficients. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 41–48; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 37–42. (Summary) **99c:34100** 34D05 (70H05, 70J25)
— (*with* Pinsky, Mark A.) Oscillations of a pendulum with a periodically varying length and a model of swing. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 105–109. (Summary) **99h:70032** 70K99 (34C15, 34C25, 70K20, 70K28)
Zeyada, F. M. (*with* Khedr, F. H.; Sayed, O. R.) Fuzzy semi-continuity and fuzzy csemi-continuity in fuzzifying topology. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 105–124. 54A40
Zezza, Pierluigi (*with* Agrachev, Andrei; Stefani, Gianna) An invariant second variation in optimal control. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 689–715. (Kevin A. Grasse) **99k:49040** 49K15 (49K27, 49N05, 58E25)
— (*with* Agrachev, Andrei; Stefani, Gianna) A Hamiltonian approach to strong minima in optimal control. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 11–22, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Peter R. Wolenski) **99i:49020** 49K15 (58E25)
Zgliczyński, Piotr An existence theorem for perturbation of nonlinear functional boundary value problems for ODE's. (English summary) *Riv. Mat. Pura Appl. No.* 19 (1996), 101–105. (From the text) **99k:34149** 34K10 (34B15)
— (*with* Galias, Zbigniew) Computer assisted proof of chaos in the Lorenz equations. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 165–188. (Timothy Sauer) **99k:58123** 58F13 (34-04, 34C28, 34C99, 58-04)
— (*with* Szymczak, Andrzej; Wójcik, Klaudiusz) On the discrete Conley index in the invariant subspace. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 105–115. (Christopher K. McCord) **99g:58079** 58F12 (54H20)
— (*with* Galias, Zbigniew) Chaos in the Lorenz equations for classical parameter values. A computer assisted proof. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 209–210. (*see* **99f:58002**) 58F13
— *see also* **Conley index theory**, **99m:58005**
Zgraja, Tomasz (*with* Matkowski, Janusz) A separation theorem for M_σ-convex functions. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 103–109. (Stefan Mititelu) **99e:26012** 26A51
Zgurovskiĭ, M. Z. (*with* Novikov, A. N.) Modeling of unilateral physical processes of diffusion and of heat and mass exchange. (Russian. English, Russian and Ukrainian

summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 60–68, 296. (Summary) **99d:80004** 80A20 (80–08)

— (*with* Bidyuk, P. I.) An approach to modeling and adaptive control of large space structures. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 44–53, 155. 93C95

— (*with* Podladchikov, V. N.) A priori choice of covariance noise matrices under conditions of a priori uncertainty. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 135–144, 157. 93E11 (93E12)

Zha, Chao-Zheng (*with* Zhao, Wei-zhong) Super high-order Virasoro gravity and high-order Virasoro topological matter. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 4, 277–284. (Summary) **99b:81082** 81R10 (81T70)

Zha, Hongyuan (*with* Marques, Osni; Simon, Horst D.) Large-scale SVD and subspace-based methods for information retrieval. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 29–42, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y20 (94A12)

— (*with* Zhang, Zhen Yue) Modifying the generalized singular value decomposition with application in direction-of-arrival finding. (English summary) *BIT* **38** (1998), *no.* 1, 200–216. (Cs. J. Hegedűs) **99d:65120** 65F15

— (*with* Zhang, Zhen Yue) A sorted partial Jacobi method and its convergence analysis. (English summary) *Linear Algebra Appl.* **270** (1998), 79–108. (Luis Verde-Star) **99f:65061** 65F15 (15A18)

— (*with* Zhang, Zhen Yue) A cubically convergent parallelizable method for the Hermitian eigenvalue problem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 468–486 (*electronic*). (Dao Sheng Zheng) **99f:65062** 65F15 (15A18, 65F25, 65Y05)

— (*with* Barlow, Jesse L.) Growth in Gaussian elimination, orthogonal matrices, and the 2-norm. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 807–815 (*electronic*). (Mei-Qin Chen) **99i:65027** 65F05 (65F35)

Zha, Jian Guo (*with* Cheng, Xiangguo) Classification of crystallographic groups associated with the infinite dihedral group. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 23–29. (Karel Dekimpe) **99a:20053** 20H15

— (*with* Huang, Lin Wen) Infinite-dimensional algebraic subgroups of Kac-Moody groups. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 9–13. (Zhi Xue Zhang) **99f:17027** 17B65 (22E65)

Zha, Wenxing (*with* Mathew, Thomas[1]) Some single use confidence regions in a multivariate calibration problem. (English summary) *Applied statistical science, III*, 351–363, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62077** 62H12

Zha, Xiaoya (*with* Plummer, Michael D.) On the connectivity of graphs embedded in surfaces. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 208–228. (Lorenzo Traldi) **99b:05044** 05C10 (05C40, 57M15)

Zhabbarov, N. M. On a geometric definition of quasiconformality in $\mathbf{R}^n$. (Russian) *Algebra and mathematical analysis* (*Russian*), 31–34, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 30C65

Zhabotinskiĭ, A. M. (*with* Rovinskiĭ, A. B.; Epstein, Irving R.) Target patterns arising from the short-wave instability in near-critical regimes of reaction-diffusion systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2412–2417. (Jian Hong Wu) **99b:92010** 92C05 (35K57, 35Q80, 92E20)

— (*with* Rovinskiĭ, A. B.; Epstein, Irving R.) Stability of planar reactive fronts in external fields. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5541–5547. (Summary) **99g:80012** 80A32 (80A25)

Zhadaeva, N. G. (*with* Abrashin, V. N.) A multicomponent alternating direction method for solving stationary problems of mathematical physics. I. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1212–1221, 1294; *translation in Differential Equations* **32** (1996), *no.* 9, 1213–1222 (1997). (Lutz Tobiska) **99a:65138** 65N22 (65N55)

— A multicomponent variant of the method of variable directions for evolution problems. II. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 998–1000, 1008; *translation in Differential Equations* **33** (1997), *no.* 7, 1006–1009 (1998). (G. W. Hedstrom) **99c:65171** 65M12

— (*with* Abrashin, V. N.) A multicomponent alternating direction method for solving stationary problems of mathematical physics. II. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1211–1219, 1294; *translation in Differential Equations* **33** (1997), *no.* 9, 1216–1225 (1998). (Lutz Tobiska) **99j:65223** 65N55 (65F10, 65N22)

Zhai, Bin A criterion for uniform continuity of a function. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 3, 19–21. 26A15

— Some problems on measures of sets. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 30–33. (Summary) **99h:28004** 28A12

Zhai, Dong Hua (*with* Mo, Jing Liang) Estimation of financial risk of health insurance. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 3, 10–13. 90A09

Zhai, Jian Harmonic maps and Ginzburg-Landau type system. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 340–345, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 58E20 (35J60, 35Q55)

— Non-constant stable solutions in Landau-Lifshitz equation. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 2, 159–171. (Xi Ping Zhu) **99j:35031** 35J10 (35Q55, 58E07)

— (*with* Jimbo, Shuichi) Ginzburg-Landau equation with magnetic effect: non-simply-connected domains. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 663–684. (John Albert) **99m:35231** 35Q55 (35B35, 35J20, 58E50)

— Heat flow with tangent penalisation converging to mean curvature motion. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 875–894. (Barbara Priwitzer) **99j:58051** 58E12 (35K55, 35Q55, 58G11)

Zhai, Jian Ren (*with* Xu, Gui Qiao) A Korovkin-type approximation theorem for set-valued functions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 119–122. 41A36 (41A65)

Zhai, Wen Guang A note on a result of Abercrombie. *Chinese Sci. Bull.* **42** (1997), *no.* 14, 1151–1154. (Grigori Kolesnik) **99e:11105** 11K31

— (*with* Cao, Xiao Dong[1]) On the average number of unitary factors of finite abelian groups. *Acta Arith.* **85** (1998), *no.* 4, 293–300. (R. C. Baker) **99e:11124** 11N45

— The Waring-Goldbach problem in thin sets of primes. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 595–608. (Jie Wu) **99h:11116** 11P32 (11L07, 11N36, 11P05, 11P55)

Zhai, Yanhui (*with* Fan, Qinjie; Li, Huiru) Topological entropy for solutions of p-order Feigenbaum's functional equations. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 328–334. (Witold Jarczyk) **99f:39034** 39B12 (26A18, 39B22, 58F08)

Zhan, Da Peng Isometric approximation from a two-dimensional Banach space into $L^1(\Omega, \mu)$. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 2, 184–191. (Hong Kun Xu) **99j:46023** 46B20 (41A65)

— Isometric approximation problems from finite-dimensional normed spaces into $C(\Omega)$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 177–184. (Summary) **99a:47027** 47A58 (41A65, 46B99, 47B38)

— Extensions of isometries between unit spheres. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 275–280. (Ting Fu Wang) **99m:46046** 46B20

— An application of the separation theorem for convex sets to isometric approximation problems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 333–335. (Ting Fu Wang) **99m:46047** 46B20

Zhan, Gui Bao (*with* Lu, Jun An; Xia, Jun; Chen, Shi Hua[3]) Self-memory numerical forecasting for solving dynamical systems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 11–14. 65D15 (65L06)

Zhan, Hua Shui (*with* Liang, Yixing) The geodesics without conjugate point on a complete manifold. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 325–327. (Introduction) **99f:53042** 53C22 (53C21)

— The curvature of a locally symmetric manifold. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 2, 257–260. (Chuan Yu Ma) **99m:53072** 53C20

Zhan, Jinlong (*with* Chen, Jian Bao) The inefficiency of least squares in Gauss-Markov and variance component models. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 2, 113–120. (Summary) **99a:62098** 62J05

Zhan, Ming Quan (*with* Xu, Xin Ping) An investigation on Hamiltonicity of k-connected claw center independent graphs using essential sets. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 258–265. (Summary) **99c:05129** 05C45

— (*with* Xu, Xin Ping) Hamilton connectedness of $(k+1)$-connected claw-free graphs. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 2, 12–16, 21. (Summary) **99j:05137** 05C45 (05C40)

Zhan, Shenghe (*with* Murio, D. A.; Mejía, C. E.) Discrete mollification and automatic numerical differentiation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 1–16. (De Hui Chen) **99d:65066** 65D25

Zhan, Tao (*with* Liu, Jian Ya) Exponential sums involving the Möbius function. *Indag. Math.* (*N.S.*) **7** (1996), *no.* 2, 271–278. (S. W. Graham) **99j:11095** 11L07

— (*with* Liu, Jian Ya) Sums of five almost equal prime squares. II. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 710–722. (Jie Wu) **99h:11115** 11P05 (11M06, 11P55)

— (*with* Liu, Jian Ya) Estimation of exponential sums over primes in short intervals. I. (English summary) *Monatsh. Math.* **127** (1999), *no.* 1, 27–41. (Jie Wu) **99j:11093** 11L07 (11P32)

Zhan, Wei (*with* Helton, J. William; Walker, Michael L.) H^∞ control of systems with compensators which read the command signal. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 9–27. 93B36

Zhan, Xingzhi Norm inequalities for Cartesian decompositions. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 297–301. (Chi-Kwong Li) **99j:15017** 15A18 (15A45, 15A60)

— Inequalities for unitarily invariant norms. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 466–470 (*electronic*). (Summary) **99i:15040** 15A60 (15A45, 47A30)

Zhang, A Bu (*with* Peng, Hong) Performance indices and perturbation analysis of series production lines. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **38** (1999), *no.* 1, 26–30. 93C85 (93C40)

Zhang, Ai Li (*with* Wang, Jie[5]) Hybrid H_2/H^∞ control theory and methods for the design of controllers. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 4, 40–48. 93B36 (93B51)

Zhang, Alex X. (*with* Cheung, Ki Ling) The impact of inventory information distortion due to customer order cancellations. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 213–231. 90B05 (90B22)

Zhang, B. G. *see* **Zhang, Bing Gen**

Zhang, Bang Li (*with* Ye, Zhong Quan; Cao, Chang Xiu) Convergence analysis of minimax neural networks. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **26** (1997), *no.* 1, 1–6. (Kaiqi Xiong) **99a:92003** 92B20 (49J35)

Zhang, Bao Lin[1] (*with* Li, Lei) A parallel algorithm for solving the implicit diffusion difference equations. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 435–440. 65Q05 (65Y05)

— (*with* Mo, Ze Yao; Li, Xiao Mei) Parallel multigrid algorithms for high Reynolds number incompressible Navier-Stokes equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 135–143. 65M55 (65Y05, 76M25)

— Alternating difference block methods and their difference graphs. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 482–487. (Summary) **99k:65078** 65M06

Zhang, Bao Shan (*with* Lu, Dong Qiang; Dai, Shi Qiang) Infinite-dimensional Lie algebras with a new type of Poisson bracket. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 3, 307–313. (Summary) **99h:58093** 58F07

— A comment on: "The proof of Fermat's last theorem [Appl. Math. (English Ed.) **17** (1996), no. 11, 1031–1038; MR 98e:11036] by C. H. Wong. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 11, 1115–1118; *translated from Appl. Math. Mech.* **19** (1998), *no.* 11, 1031–1034 (*Chinese. English and Chinese summaries*). 11D41

Zhang, Bao Sheng (*with* Cao, Jin De) A regular Cauchy problem for a class of singular hyperbolic equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 419–426. (Hidetoshi Tahara) **99g:35089** 35L80 (35L15)

Zhang, Baocai The completely integrable systems of the complex form and the coupled AKNS-Kaup-Newell equation hierarchy. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 408–418. (Oktay K. Pashaev) **99a:35246** 35Q55 (58F07)

— (*with* Liu, Xiang Lin; Chen, Qinghui) The symmetry constraint and Levy evolution equation hierarchy. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 526–533. 35Q58 (58F37)

Zhang, Baolin *see* **Zhang, Bao Lin**[1]

Zhang, Ben Yong (*with* Qiu, Yu Huang) Weight function matrices and zeros and poles of closed loop systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 2, 258–261. 93B60

Zhang, Bin (*with* Wang, Guo Ren; Yu, Ge; Zheng, Huai Yuan) A new filtering technique for join algorithms. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 713–721. 68P15

Zhang, Bing Gen (*with* Wang, Hui[1]) The existence of oscillatory and nonoscillatory solutions of neutral difference equations. (English summary) *Chinese J. Math.* **24** (1996), *no.* 4, 377–393. (Summary) **99e:39050** 39A10

— (*with* Cheng, Sui Sun) Nonexistence of positive solutions of discrete elliptic equations: a synopsis. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 119–124, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99i:39028** 39A12 (35B05, 35J60)

— (*with* Liu, Shu Tang[2]) Necessary and sufficient conditions for oscillations of hyperbolic type partial difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 649–656, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39051** 39A10

— (*with* Yu, Jian She) Uniform stability of a delay single population model. *Advances in nonlinear dynamics*, 137–146, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (From the introduction) **99a:92038** 92D40 (34K20)

— (*with* Wang, Hui[1]) The existence of nonoscillatory and oscillatory solutions of neutral difference equations. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 411–428. (Xiao Xin Liao) **99f:39015** 39A10

— The advancement of oscillation theory of functional-differential equations. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 12, 974–982. 34K15

— (*with* Yu, Jian She) Linearized oscillation theorems for certain nonlinear delay partial difference equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 111–116. (Summary) **99a:39040** 39A10 (35R10, 39A11)

— (*with* Tian, Chuan-Jun) Nonexistence and existence of positive solutions for difference equations with unbounded delay. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 1–8. (Summary) **99d:39015** 39A10

— (*with* Yan, Jun; Choi, Sung Kyu) Oscillation for difference equations with continuous variable. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 9, 11–18. (Summary) **99i:39019** 39A10

— (*with* Liu, Shu Tang[2]) Oscillation of partial difference equations with variable coefficients. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 235–242. (Summary) **99k:39049** 39A10

— (*with* Zhang, Guang) Oscillation of nonlinear difference equations of neutral type. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 85–92. (Summary) **99a:39041** 39A10

— (*with* Cheng, Sui Sun) Nonexistence criteria for positive solutions of a discrete elliptic equation. (English summary) *Fasc. Math. No.* 28 (1998), 19–30. (Summary) **99g:39004** 39A10

— (*with* Yang, Bo[2]) New approach of studying the oscillation of neutral differential equations. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 79–89. (A. F. Ivanov) **99e:34101** 34K15 (34K40)

— The development of the theory of oscillations of functional-differential equations. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 4, 345–354. 34K15

— (*with* Yang, Bo[2]) Oscillation of a class of higher order neutral differential equations. (English summary) *Math. Nachr.* **193** (1998), 243–253. (S. R. Bernfeld) **99i:34106** 34K15 (34C10, 34K40)

— (*with* Tian, Chuan-Jun) New oscillation criteria for a class of nonlinear delay differential equations. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 35–45. (Vladimir Sh. Burd) **99c:34167** 34K15

Zhang, Bing-Yu (*with* Morton, Blaise; Enns, Dale) Stability of dynamic inversion control laws applied to nonlinear aircraft pitch-axis models. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 1–25. 93D05 (93C95)

— Exact controllability of the generalized Boussinesq equation. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 297–310, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Guenter Leugering) **99i:93009** 93B05 (35L70, 35Q53, 93C20)

— (*with* Li, Da Qian) Global exact controllability of a class of quasilinear hyperbolic systems. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 289–311. (Florin Iacob) **99h:93018** 93B05 (35L80, 93C20)

Zhang, Bixia Stečkin-Marchaud inequality for Lupas-Kantorovich probabilistic type operator. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 1, 25–31. (Naseer Shahzad) **99a:41031** 41A35

Zhang, Bo[1] Periodic solutions of the retarded Liénard equation. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 25–42. (George Seifert) **99d:34145** 34K15 (47N20)

— (*with* Huang, Qichang) Liapunov functionals and asymptotic stability in infinite delay systems. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 503–516. (Harlan W. Stech) **99f:34110** 34K20

— (*with* Chandler-Wilde, Simon N.; Ross, Christopher R.) Scattering by rough surfaces. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 164–168, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35R30 (78A45)

— (*with* Xue, Xiao Ping[1]) Integrals of set-valued mappings with values in locally convex spaces. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 147–153. 28B20 (46G10)

— (*with* Wu, Qi Guang) Existence of UMRE estimators in growth curve models. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 182–196. 62H12

— Radiation condition and limiting amplitude principle for acoustic propagators with two unbounded media. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 173–192. (Plamen D. Stefanov) **99b:35118** 35L05 (35B99, 35P25, 76Q05)

— (*with* Chandler-Wilde, Simon N.) Electromagnetic scattering by an inhomogeneous conducting or dielectric layer on a perfectly conducting plate. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 519–542. (Summary) **99d:78028** 78A45

— (*with* Chandler-Wilde, Simon N.) A uniqueness result for scattering by infinite rough surfaces. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1774–1790 (*electronic*). (Vadim D. Kryakvin) **99i:35018** 35J05 (35B99, 78A45)

— (*with* Chandler-Wilde, Simon N.) Acoustic scattering by an inhomogeneous layer on a rigid plate. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1931–1950 (*electronic*). (Vadim D. Kryakvin) **99i:35019** 35J05 (35B99, 76Q05)

Zhang, Bo[3] Functional limit theorems for random sums. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 57–61; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 51–55. 60F17

Zhang, Bokan (*with* Wu, Cong Xin; Zhang, De Li; Guo, Cai Mei) Fuzzy number fuzzy measures and fuzzy integrals. II. Fuzzy integrals of fuzzy-valued functions with respect to fuzzy number fuzzy measures on fuzzy sets. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 137–141. 28E10

— (*with* Wu, Cong Xin) Embedding problem of noncompact fuzzy number space $E^{\sim}$. I. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 165–169. 54A40

Zhang, C. Q. *see* **Zhang, Cun Quan**

Zhang, C. Z. (*with* Li, Yong) Accuracy of solar eclipse calculations, 1644–1785, with the Chinese Shoushi calendar. *J. Hist. Astronom.* **30** (1999), *no.* 2, 161–167. 01A25

Zhang, Cai Ming (*with* Sun, De Fa; Wang, Jia Ye) Determination of a parabola from four points and its application in parametric interpolation. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 546–552. 65D15 (41A10)

— (*with* Cheng, Fuhua; Miura, Kenjiro T.) A method for determining knots in parametric curve interpolation. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 4, 399–416. (Yu Yu Feng) **99g:65023** 65D17 (65Y25, 68U05)

— (*with* Li, Yue) A method for determining tangent vectors in shape-preserving parametric interpolation. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 15–22. (*see* **99k:65006**) 65D17

— (*with* Chen, Hui[3]) A way of using boundary curves to construct C^1 Coons surfaces and determine the twist. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 79–85. (*see* **99k:65006**) 65D17 (65Y25)

— (*with* Cheng, Fuhua) Constructing parametric quadratic curves. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 21–36. (Summary) **99j:65017** 65D10 (65Y25)

Zhang, Ch. *see* **Zhang, Chuanzeng**

Zhang, Chang Bin (*with* Li, Xiao Nan) Quasi-pseudo variational inequalities and their applications. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 4, 373–378. 49J40 (47H19)

— Social equilibrium problems on paracompact sets. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 111–114. 90A08 (49K35)

— Pseudoquasivariational inequalities on paracompact sets. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 21–24, 71. 49J40 (90C48)

Zhang, Chang Qing (*with* Lu, Guo Ying) A new steady Kalman filter in general systems. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 20–23. 93E11

Zhang, Changgui Sur un théorème du type de Maillet-Malgrange pour les équations q-différences-différentielles. (English and French summaries) [A Maillet-Malgrange theorem for q-difference-differential equations] *Asymptot. Anal.* **17** (1998), *no.* 4, 309–314. (Summary) **99j:35005** 35A20 (35R10, 39A10)

— Sur la sommabilité des séries entières solutions formelles d'une équation aux q-différences. I. (English and French summaries) [On the summability of formal power series solutions of q-difference equations. I] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 349–352. (Summary) **99i:39020** 39A10 (40G99)

— (*with* Marotte, Fabienne) Sur la sommabilité des séries entières solutions formelles d'une équation aux q-différences. II. (English and French summaries) [On the summability of formal power series solutions of q-difference equations. II] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 715–718. (Summary) **99i:39021** 39A10 (40G99)

Zhang, Cheng[2] (*with* Yin, Guo Min) Embeddings of ordered sets and anti-fuzzy subgroups. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 20–23. 20N25 (04A72)

Zhang, Cheng Jian Stability of the implicit Euler method for nonlinear systems of multidelay differential equations. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 1, 1–4. (Summary) **99d:65233** 65L20

— $(k, \vec{\alpha}, \vec{\beta})$-algebraic stability of multistage one-step multiderivative methods. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 120–124. 65J15

— (*with* Zhou, Shu Zi) The asymptotic stability of theoretical and numerical solutions for systems of neutral multidelay-differential equations. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 11, 1151–1157. (Summary) **99k:65069** 65L99 (34K20, 34K40, 65L06)

Zhang, Cheng Jin (*with* Pan, Xue Jun; Chai, Tian You) A new pole-placement adaptive control scheme for time-varying systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 473–476. 93B55 (93C40)

Zhang, Chenghui (*with* Tan, Zhengyu; Cui, Naxin) A new solution method for state equations of nonlinear system. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 175–183. (From the summary) **99j:34014** 34A45 (65L06)

Zhang, Chengqi (*with* Luo, Xudong) LSLNCF: a hybrid uncertain reasoning model based on probability. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 401–422. (Summary) **99i:68116** 68T35 (03B48, 03B70)

Zhang, Chong-Qi (*with* Chan, Ling-Yau; Guan, Ying-Nan) *A*-optimal designs for an additive quadratic mixture model. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 979–990. (William I. Notz) **99i:62164** 62K05

Zhang, Chuan Lin Point estimate criteria for the continuous homotopy method. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 6–8. 65H17

Zhang, Chuanzeng (*with* Gross, Dietmar) ★ On wave propagation in elastic solids with cracks. (English summary) International Series on Advances in Fracture Mechanics, 2. *Computational Mechanics Publications, Southampton*, 1998. *xviii*+248 *pp. ISBN* 1-85312-535-0 (Publisher's description) **99g:73039** 73D15 (73M25)

Zhang, Chun Yuan² (*with* Ma, Chuan Gui) Classification of ideal two-operation homomorphic threshold schemes over the residue class ring Z_n and the Galois ring $GR(p^e, n)$. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 217–222. (Summary) **99i:94051** 94A60

Zhang, Chun Yue A sufficient condition for a graph to contain a D_4-cycle. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 3, 5–11. (Summary) **99b:05089** 05C38

Zhang, Cong Jun Gwinner variational inequalities and implicit variational inequalities. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 131–134. (Wing-Sum Cheung) **99e:58057** 58E35 (49J40)

Zhang, Cui² (*with* Olsson, Ronald A.; Levitt, Karl N.) Formal verification of a programming logic for a distributed programming language. (English summary) *Theoret. Comput. Sci.* **216** (1999), *no.* 1-2, 213–235. (Summary) **99k:68111** 68Q60 (03B70)

Zhang, Cun-Hui (*with* Chen, T. Timothy) An invariant selection rule for multi-treatment trial with linear prior preference. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 595–606. (Mohamed Tahir) **99b:62119** 62L10 (62F07)

— (*with* Bai, Zhi-Dong; Cheng, Philip E.) An extension of the Hardy-Littlewood strong law. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 923–928. (H. Teicher) **99h:60059** 60F15

— (*with* Brown, Lawrence D.) Asymptotic nonequivalence of nonparametric experiments when the smoothness index is 1/2. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 279–287. (Uttara V. Naik-Nimbalkar) **99f:62058** 62G07 (62G20, 62M05)

Zhang, Cun Quan (*with* Reid, K. B.) Score sequences of semicomplete digraphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 27–32. (Summary) **99c:05084** 05C20

— (*with* Heinrich, Katherine; Liu, Jiping) Triangle-free circuit decompositions and Petersen minor. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 197–207. (David A. Pike) **99g:05123** 05C45 (05C70)

— (*with* Goddyn, Luis A.; Tarsi, Michael) On (k, d)-colorings and fractional nowhere-zero flows. (English summary) *J. Graph Theory* **28** (1998), *no.* 3, 155–161. (Prabir Das) **99c:05063** 05C15

— (*with* Goldwasser, John L.) Permutation graphs and Petersen graph. (English summary) *Ars Combin.* **51** (1999), 240–248. (Summary) **99k:05130** 05C70 (05C15)

Zhang, D. F. *see* **Zhang, De Fu**

Zhang, D.-Q. *see* **Zhang, De-Qi**

Zhang, D. S. *see* **Zhang, De Sheng**

Zhang, Da Fang (*with* Xie, Gao Gang; Wang, Zhong Sheng²; Min, Ying Hua) Diagnosis algorithms based on the Chaw & Hakimi model. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 6, 96–101. 68M15

Zhang, Da Li (*with* Yang, Feng Lin; Gao, Guang Hong) The Stefan problem for the heat-conduction equation with an unknown coefficient and a nonlinear boundary condition. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 25–29. 35R35 (35K05, 80A22)

Zhang, Dan (*with* Liu, Chun Ping) Explicit solutions of the mixed Burgers-KdV equation. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 1–4. 35C05 (35Q53)

Zhang, Dan² (*with* Zhang, Mingyi) A framework for default logic with case reasoning. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 2, 215–224. (Petr Jirků) **99m:68191** 68T27 (03B70)

Zhang, Dan Qing (*with* Li, Wei Guo) A new proof on the unique existence of periodic solutions to the Newton equation. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 241–248. (Summary) **99g:34090** 34C25 (34B15)

— (*with* He, Song Nian; Yang, Cai Ping) The moduli of continuity of Bernstein polynomials. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 137–139. 41A35

Zhang, Dan Song (*with* Fu, Jun; Chen, Ren Zhao) The uniqueness theorem for solutions to a class of time-varying illness control systems. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 116–121. 49N55 (35B27)

Zhang, Daowen (*with* Lin, Xihong) Inference in generalized additive mixed models by using smoothing splines. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 381–400. 62J12

Zhang, De Fu (*with* Easton, Alan K.; Steiner, J. M.) Random walk methods for the solution of the diffusion equation. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 275–282, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65M70 (76M35)

Zhang, De Li (*with* Guo, Cai Mei; Wu, Cong Xin) Fuzzy-valued fuzzy measures and generalized fuzzy integrals. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 255–260. (Beloslav Riečan) **99h:28041** 28E10

— (*with* Wu, Cong Xin; Guo, Cai Mei; Wu, Cong) Fuzzy number fuzzy measures and fuzzy integrals. I. Fuzzy integrals of functions with respect to fuzzy number fuzzy measures. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 355–360. 28E10

— (*with* Guo, Cai Mei) Fuzzy-number fuzzy measures and fuzzy integrals. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 17–24. 28E10

— (*with* Wu, Cong Xin; Zhang, Bokan; Guo, Cai Mei) Fuzzy number fuzzy measures and fuzzy integrals. II. Fuzzy integrals of fuzzy-valued functions with respect to fuzzy number fuzzy measures on fuzzy sets. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 137–141. 28E10

— (*with* Wu, Cong Xin; Guo, Cai Mei) Representations of generalized fuzzy integrals. I. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 31–35. 26E50

Zhang, De-Qi Normal algebraic surfaces with trivial two or four times of the canonical divisor. (English summary) *Internat. J. Math.* **9** (1998), *no.* 3, 377–406. (Shigeyuki Kondo) **99d:14030** 14J28 (14J17)

— Quotients of $K3$ surfaces modulo involutions. *Japan. J. Math. (N.S.)* **24** (1998), *no.* 2, 335–366. (I. Dolgachev) **99m:14070** 14J28 (14J26)

— (*with* Oguiso, Keiji) On extremal log Enriques surfaces. II. (English summary) *Tohoku Math. J. (2)* **50** (1998), *no.* 3, 419–436. (Shigeyuki Kondo) **99f:14049** 14J28 (14J17, 14J26)

Zhang, De Sheng (*with* Wei, Guo Wei²; Althorpe, S. C.; Kouri, Donald J.; Hoffman, David K.) Wavelet-distributed approximating functional method for solving the Navier-Stokes equation. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 18–24. (Summary) **99h:76077** 76M25 (65M70, 76D05)

Zhang, De Wen Reduced variable methods for calculating derivatives of eigenvectors with repeated eigenvalues. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 2, 91–95, *VIII*. 65F15 (90C30)

Zhang, De-Xing (*with* Yu, Zhao Xian; Yu, Ge) Clebsch-Gordan coefficients for the two-parameter deformed quantum algebra $SU(1,1)_{q,s}$. I. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 2, 179–184. (A. M. Gavrilik) **99d:81058** 81R50 (17B37)

— (*with* Yu, Ge; Yu, Zhao Xian) Clebsch-Gordan coefficients for two-parameter deformed quantum algebra $SU(1,1)_{q,s}$. II. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 1, 57–62. (A. M. Gavrilik) **99g:81101** 81R50 (17B37)

Zhang, Dehai (*with* Wu, Zuyu) Exact solutions of the matrix KP equation. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 4, 479–482. (Summary) **99c:58085** 58F07 (35C05, 35Q53)

Zhang, Dengfu (*with* Powers, Thomas R.; Goldstein, Raymond E.; Stone, Howard A.) Propagation of a topological transition: the Rayleigh instability. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1052–1057. (Summary) **99a:76064** 76E99 (76D45)

Zhang, Dexue (*with* Herrlich, Horst) Categorical properties of probabilistic convergence spaces. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 4, 495–513. (Summary) **99i:54007** 54A20 (18B15, 18B30, 54B30, 54E70)

— (*with* Xu, Luo Shan) Categories isomorphic to FNS. (English summary) Categorical methods and techniques in fuzzy mathematics. *Fuzzy Sets and Systems* **104** (1999), *no.* 3, 373–380. (*see* **99m:03114**) 54A40 (18B99)

Zhang, Dianzhou *see* **Operator algebras and operator theory, 99h:46001**

Zhang, Ding (*with* Nagurney, Anna) A massively parallel implementation of a discrete-time algorithm for the computation of dynamic elastic demand traffic problems modeled as projected dynamical systems. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1467–1485. (Summary) **99d:90050** 90B20 (65K05)

Zhang, Dong Mo¹ (*with* Shi, Qing Sheng; Zhu, Wu Jia) A system of temporal logic based on medium logic. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 465–471. (Summary) **99e:03021** 03B45 (03B55)

— (*with* Li, Wei³) Open logic based on total-ordered partition model. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 6, 641–649. (Summary) **99k:68185** 68T27 (03B70)

Zhang, Duan Jin (*with* Yang, Cheng Wu) Upper and lower bounds for the traces of solutions to discrete algebraic Riccati equations. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 23–25, 31. 93B40 (93C05)

Zhang, Fa Ming Exponential dichotomies and degenerate homoclinic bifurcation of autonomous singularly perturbed systems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 9–16. (Jian Hua Sun) **99m:34084** 34C23 (34C11, 34C37)

Zhang, Fa Yong (*with* Xiang, Xin Min) The global error estimate of the pseudospectral method for a class of generalized Zakharov equations. I. (English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 1–6. (Summary) **99e:65138** 65M70 (65M15)

— (*with* Xiang, Xin Min) The global error estimate of the pseudospectral method for a class of generalized Zakharov equations. II. (English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 3, 1–7. (Summary) **99e:65139** 65M70 (65M15)

— (*with* Lu, Wan Jin; Xiao, Xiang Wu) A note on Gaussian type quadrature formulas with Chebyshev weight functions. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 3, 1–2, 6. 41A55 (65D32)

— Spectral and pseudospectral approximations in time for parabolic equations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 107–120. (W. Govaerts) **99c:65189** 65M70

Zhang, Fan (*with* Cheng, Jing; Xie, Sha Li) A study on queuing strategy for a CIMS network and its transfer probability. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 2, 93–97. 60K25

Zhang, Faqin Compound Poisson approximations for number of rare mutants. (English summary) *J. Biomath.* **11** (1996), *no.* 2, 7–10. (Warren J. Ewens) **99a:92017** 92D10 (60F05)

Zhang, Fei Jun (*with* Wang, Bao Qin; Chen, Chun Li) Casimir functions in Poisson manifolds and the generalized Hamilton equation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 129–132. 58F05 (70H05)

Zhang, Feng¹ (*with* Huang, Wanzhen) An $O(n^2)$ algorithm for a controllable machine scheduling problem. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 1, 15–26. (Summary) **99j:90037** 90B35 (93E20)

Zhang, Fengqin (*with* Yan, Ju Rang) Oscillation for system of delay difference equations. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 223–231. (I. P. Stavroulakis) **99m:39014** 39A10

Zhang, Fu Bao Minimal and maximal solutions to boundary value problems for integrodifferential equations. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 238–245. (Summary) **99e:45010** 45J05 (34B15, 34K10)

— Solvability of m-point boundary value problems for second order ordinary differential equations. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 221–226. (Maria Patrizia Pera) **99f:34022** 34B10 (47H11, 47N20)

— Three-point boundary value problems for a class of three order differential inclusions. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 144–149. (Summary) **99a:34043** 34B10 (34A60, 47H15, 47N20)

Zhang, Fu Lin Generalized a-associative BCI-algebras. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 94–98. (Yishu Pu) **99g:06028** 06F35 (03G25)

Zhang, Fu Tai Two kinds of convergence in an internal hyperreal metric space. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 1–4. 54A20 (03H05, 54E35)

Zhang, Fuji (*with* Chen, Zhibo) Interpolation theorem for a continuous function on orientations of a simple graph. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 433–438. (Yixun Lin) **99f:05049** 05C20

Zhang, Fuzhen (*with* Wang, Bo Ying[1]) On the precise number of $(0,1)$-matrices in $\mathfrak{A}(R,S)$. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 211–220. (Summary) **99f:05010** 05A19 (05B20, 15A36)

— (*with* Wang, Bo Ying[1]) On zero-one symmetric and normal matrices. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 159–164. (Shu An Hu) **99i:15038** 15A57

— (*with* Wang, Bo Ying[1]) On normal matrices of zeros and ones with fixed row sum. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 617–626. (Takeo Funakura) **99e:05028** 05B20 (15A36)

— ★ Matrix theory. (English summary) Basic results and techniques. Universitext. *Springer-Verlag, New York*, 1999. *xiv+277 pp. ISBN* 0-387-98696-0 15-01

Zhang, G. *see* **Zhang, Guo Chuan**

Zhang, Gai Ying (*with* Qu, Chang Zheng) Partially invariant solutions of nonlinear Schrödinger equations with variable coefficients and having four-dimensional symmetry algebras. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 1–5. 35Q55 (35A30)

Zhang, Gang *see* **Zhang, Gang[3]**

Zhang, Gang[2] (*with* Gao, Shu Ping) An adaptive pole placement algorithm without static error and its global convergence. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 52–56. 93B55 (93C05)

Zhang, Gang[3] (*with* Gong, Xin Bo; Wang, Xiang Rong) Partial practical stability of discontinuous systems with respect to continuous time-varying sets. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 4, 452–456, 394. (Xin-Zhi Liu) **99f:34080** 34D20

Zhang, Gaoyong (*with* Goodey, Paul) Inequalities between projection functions of convex bodies. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 345–367. (Robert J. McCann) **99h:52010** 52A40 (44A12, 52Axx)

— (*with* Gardner, Richard J.) Affine inequalities and radial mean bodies. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 505–528. (P. R. Goodey) **99e:52006** 52A20 (52A38, 52A40)

— (*with* Bourgain, Jean) On a generalization of the Busemann-Petty problem. (English summary) *Convex geometric analysis* (*Berkeley, CA*, 1996), 65–76, *Math. Sci. Res. Inst. Publ.*, 34, *Cambridge Univ. Press, Cambridge*, 1999. (Summary) **99m:52011** 52A40 (52A20, 52A38)

— (*with* Grinberg, Eric) Convolutions, transforms, and convex bodies. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 77–115. (P. McMullen) **99m:52009** 52A39 (52B12)

— Dual kinematic formulas. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 985–995. (W. J. Firey) **99e:52008** 52A22 (60D05)

Zhang, Genkai (*with* Ørsted, Bent) L^2-versions of the Howe correspondence. I. (English summary) *Math. Scand.* **80** (1997), *no.* 1, 125–160. (From the introduction) **99c:22017** 22E45

— (*with* Dooley, Anthony H.) Algebras of invariant functions on the Shilov boundaries of Siegel domains. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3693–3699. (Harald Upmeier) **99f:32055** 32M15 (22E46, 46J15)

Zhang, Guan-quan (*with* Zhang, Yu[4]) The multi-reflection elimination method for solving inverse problems for the 1-D wave equation. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 293–304; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 4, 16–29. (Summary) **99b:65112** 65M30 (73D50, 76Q05)

— (*with* Zhang, Yu[4]) The characteristic band method for acoustic impedance inversion with excitation by a wavelet. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 385–398; *translation in Chinese J. Numer. Math. Appl.* **20** (1998), *no.* 1, 16–30. (Summary) **99b:65106** 65M12 (76M25, 76Q05)

— (*with* Dou, Xue-li) Potential inversion problems for coupled system of downgoing and upcoming one-way wave equations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 551–560. (George Dassios) **99m:35269** 35R30 (35L99, 73D15, 73D50, 86A22)

— (*with* Wei, Su-hua) Stability analysis of absorbing boundary conditions for acoustic wave equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 103–112. (Summary) **99c:65177** 65M15 (35L05, 76M25, 76Q05)

Zhang, Guang (*with* Xie, Sheng Li; Cheng, Sui Sun) Positive solutions of second order difference inequalities. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 1–11. (From the introduction) **99k:39044** 39A10

— (*with* Gao, Ying) Oscillation of neutral delay differential equations with positive and negative coefficients. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 8–12. (Summary) **99c:34160** 34K15 (34K40)

— (*with* Zhang, Bing Gen) Oscillation of nonlinear difference equations of neutral type. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 85–92. (Summary) **99a:39041** 39A10

— Nonexistence of positive solutions of a partial difference equation with continuous arguments. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 89–92. (Sui Sun Cheng) **99h:39015** 39A10

— (*with* Cheng, Sui Sun) Monotone solutions of a higher-order neutral difference equation. (English summary) *Georgian Math. J.* **5** (1998), *no.* 1, 49–54. (Summary) **99b:39004** 39A10

— (*with* Cheng, Sui Sun) Elementary oscillation criteria for a three term recurrence relation with oscillatory coefficient sequence. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 227–232. (Vladimir Sh. Burd) **99i:39022** 39A10

— (*with* Cheng, Sui Sun; Gao, Ying) Classification schemes for positive solutions of a second-order nonlinear difference equation. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 39–51. (E. Thandapani) **99k:39050** 39A10

Zhang, Guang-Quan (*with* Liu, Yian-Kui) On the completeness of fuzzy measure-space. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 345–351. (Summary) **99k:28026** 28E10 (28A05)

Zhang, Guangji θ-continuous functions and θ-compactness in fuzzifying topology. (English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 57–64. 54A40 (54C05, 54D30)

Zhang, Gui Hong (*with* Yin, Zheng Qi; Qiu, Zu Lian) The configuration and design of an estimator for disturbance. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 631–635. 93E10

Zhang, Gui Sheng Fuzzy relations on groups and rings. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 14–17. 20N25

Zhang, Gui Xiang (*with* Zheng, Li Quan) Closed-loop stability of systems with control input saturation nonlinearity. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 6, 52–55. 93D05 (93D20)

Zhang, Gui Yi (*with* Shen, Yao Tian) The Neumann problem for quasilinear elliptic equations with critical Sobolev exponent and critical nonlinearity boundary conditions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 851–858. (Summary) **99j:35074** 35J65 (58E05)

Zhang, Guo Cai (*with* Wang, Xiu Lin) Secondary uniform convergence of integrals containing a parameter. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 18–22. 26A42

Zhang, Guo Chuan (*with* Yao, En Yu) The FFD algorithm for the bin packing problem with kernel items. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 335–340. 90C27 (68Q25)

— Parameterized on-line open-end bin packing. (English summary) *Computing* **60** (1998), *no.* 3, 267–273. (Summary) **99d:90096** 90C27 (90B35)

Zhang, Guo Feng *see* **Zhang, Guo Feng[2]**

Zhang, Guo Feng[1] (*with* Zhao, Shuangsuo; Wang, Changyin) The convergence of two Newton-like methods for solving block nonlinear equations and a class of r-point $(r+1)$st-order A-stable one-block methods. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 1, 117–133. (Summary) **99a:65095** 65L20

Zhang, Guo Feng[2] (*with* Wang, Xing Ren; Peng, Xiao Yuan; Wang, Guang Xiong) An H_∞ approach to discrete-time two-degree-of-freedom robust design. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 975–980. 93B36

Zhang, Guo-Hui (*with* Gibson, Peter M.) Combinatorially orthogonal matrices and related graphs. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 83–95. (Cyriel Van Nuffelen) **99i:05138** 05C50

Zhang, Guo Jing (*with* Wei, Jian Guo) Invariant sub-manifolds and modes of nonlinear autonomous systems. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 7, 687–693; *translated from Appl. Math. Mech.* **19** (1998), *no.* 7, 641–647 (*Chinese. English and Chinese summaries*). 34C30 (70K99)

Zhang, Guo Min (*with* Wu, You Lin; Meng, Guang Da; Ma, Guang Wen) Quantum decoherence and gravity. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 2, 40–54. (Summary) **99m:81040** 81P99 (83C99)

Zhang, Guo-Qiang (*with* Rounds, William C.) Power defaults (preliminary report). (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 152–169, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68T27

— (*with* Klavins, Eric; Rounds, William C.) Experimenting with power default reasoning. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 846–852, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B70)

Zhang, Guo Shan (*with* Chai, Tian You; Gu, Xing Yuan) Reliable stabilization using multicontroller configurations. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 552–556. 93D15

Zhang, Guo Xin (*with* Xiao, Jian[4]; Zhang, Zhao Gong) Some properties of λ-spiral functions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 24–27. 30C45

Zhang, Guo Zhi (*with* Bao, Man; Zhang, Jing Jie) Distributions of sample linear functions for a class of elliptical distributions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 19–22. (Zheng Yan Lin) **99i:60031** 60E05 (60E10)

Zhang, Guofeng *see* **Zhang, Guo Feng[1]**

Zhang, Guoping A sufficient condition for Banach spaces having Banach-Saks property. (English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 2, 216–220. (Summary) **99h:46023** 46B20

Zhang, H. (*with* Billings, S. A.) Gain bounds of higher-order nonlinear transfer functions. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 767–773. (Summary) **99g:93053** 93C80 (93B50)

Zhang, H. Q. *see* **Zhang, Hong Qiang**

Zhang, Han Fang The spread angle theorem in E^n and its application. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 108–112. 51M25

Zhang, Han Jiang (*with* Wu, Meng Da; Cheng, Li Zhi) An efficient learning algorithm for max-min neural networks. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 34–39. 68T05

— (*with* Liu, Pu Yin; Ma, Chao Qun) The stability of a kind of generalized fuzzy bidirectional associative memory. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 40–46. 68T99 (68P20)

— (*with* Liu, Pu Yin; Duan, Xiao Long) Analysis of the stability and the fault-tolerance of min-max fuzzy Hopfield neural networks with threshold. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 47–55. (Summary) **99k:68162** 68T05

Zhang, Han Lin (*with* Mo, Jia Qi) Singularly perturbed problems for nonlocal semilinear elliptic equations. (Chinese) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 471–473. 35B25 (35J65)

— (*with* Zhang, Heping) Regular-singular crossings on nonlinear systems with turning point. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 3, 191–193. (Summary) **99h:34039** 34B15 (34E15)

Zhang, Hangfu (*with* Liao, Xiaoxing; Yie, Mucai) Unique solvability of nonlinear systems in space $(\mathbf{R}^n, w(t))$. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 44–50. (S. N. Askhabov) **99h:45008** 45G10 (47H10, 47H30)

Zhang, Hanqin (*with* Xu, Guang Hui[1]) A new proof of the invariance principle for renewal processes. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 375–378. (J. Steinebach) **99i:60079** 60F17 (60K05)

— Strong approximations of irreducible closed queueing networks. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 2, 498–522. (Summary) **99c:60074** 60F17 (60J70, 60K25, 90B22)

— (*with* Sethi, Suresh P.; Zhang, Qing[1]) Hierarchical production control in a stochastic manufacturing system with long-run average cost. (English summary) *J. Math. Anal.*

Appl. **214** (1997), *no.* 1, 151–172. (Yannis A. Phillis) **99g:93088** 93E20 (90B70, 90C35)
— (*with* Presman, È. L.; Sethi, Suresh P.; Zhang, Qing[1]) Optimality of zero-inventory policies for an unreliable manufacturing system producing two part types. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 485–496. (Summary) **99h:90039** 90B05 (90C90)
— (*with* Sethi, Suresh P.; Zhang, Qing[1]) Minimum average cost production planning in stochastic manufacturing systems. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1251–1276. (Summary) **99i:93073** 93E20 (90B30)
— (*with* Chen, Hong[3]) Diffusion approximations for Kumar-Seidman network under a priority service discipline. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 171–181. (Maretsugu Yamasaki) **99m:90074** 90B22 (60K25)
Zhang, Hantao Specifying Latin square problems in propositional logic. *Automated reasoning and its applications*, 115–146, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 68R05 (05B15, 68T15)
— (*with* Bennett, Frank E.; Zhu, Lie[1]) Holey self-orthogonal Latin squares with symmetric orthogonal mates. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 107–118. (Katherine Heinrich) **99j:05035** 05B15
— (*with* Bennett, Frank E.) Existence of (3, 1, 2)-HCOLS and (3, 1, 2)-ICOILS. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 53–64. (Summary) **99d:05013** 05B15
— (*with* Abel, R. Julian R.; Bennett, Frank E.) Holey Steiner pentagon systems. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 41–56. (Charles C. Lindner) **99i:05053** 05B30
Zhang, Hao[2] Applications of random walks on graphs to Gibbs samplers. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 801–807. (Summary) **99c:60145** 60J10
Zhang, Harold H. (*with* Liu, Ming[2]) Overparameterization in the seminonparametric density estimation. (English summary) *Econom. Lett.* **60** (1998), *no.* 1, 11–18. 62G05 (62P20)
Zhang, Heping (*with* Zhang, Han Lin) Regular-singular crossings on nonlinear systems with turning point. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 3, 191–193. (Summary) **99h:34039** 34B15 (34E15)
Zhang, Hong (*with* Kannan, D.) Functional limit theorems for degenerate Lévy processes. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 17–50. (Jia Gang Wang) **99c:60072** 60F17 (60J25, 60J35)
Zhang, Hong (*with* Liu, Yi[1]; Wang, Yu Wen) The best approximation problem in topological linear spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 20–22. 41A65 (41A99)
Zhang, Hong Bin (*with* Wang, Qing) Gabor wavelet transformation and its application in detecting texture boundaries and phase unwrapping. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 12, 1096–1102. 68U10 (42C15, 65T20)
Zhang, Hong Bo (*with* Wu, Xian[3]) A new existence theorem of maximal elements in non-compact H-spaces with applications to minimax inequalities and variational inequalities. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 115–127. (Summary) **99d:49026** 49J40 (47H19, 54C60, 54H25)
Zhang, Hong Bo (*with* Zhao, Zhi Xin; Shi, Cheng Xian) (Almost) excellent extensions of rings. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 105–108. 16S20
Zhang, Hong Kun Selfadjointness of the product of two limit-circle differential operators in spaces of vector functions. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 5, 585–591. (Jing Lin Liu) **99d:34041** 34B20 (34L05, 47B25, 47E05)
Zhang, Hong Qian (*with* Liu, Li Shan) Solutions of mixed monotone operator equations and their application to nonlinear integral equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 17–24. (Da Jun Guo) **99m:47073** 47H15 (45G10, 47N20)
Zhang, Hong Qiang (*with* Li, Jing Wen[2]; Wang, Zhi Cheng[1]) Oscillation of neutral delay difference equations. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 113–121. (Summary) **99h:39006** 39A10
— (*with* Liu, Kai Yu) Oscillation and non-oscillation of bounded positive solutions to neutral delay logistic equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 41–45. (Qing Kai Kong) **99j:34105** 34K15
Zhang, Hong Qing[1] (*with* Fan, En Gui) Bäcklund transformations and exact solutions for Kadomtsev-Petviashvili equation in 2 + 1 dimensions. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 6, 624–626. (Xian Guo Geng) **99a:35231** 35Q53 (35Q51, 58F07, 58F37)
— (*with* Fan, En Gui) The homogeneous balance method for solving nonlinear soliton equations. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 3, 353–362. (Summary) **99c:35202** 35Q51 (35C05)
— (*with* Chao, Lu; Tang, Li Min) Taylor polynomial stepwise refinement algorithm for Lie and high symmetries of partial differential equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 3, 213–220; *translated from Appl. Math. Mech.* **19** (1998), *no.* 3, 195–201 (*Chinese. English and Chinese summaries*). (Summary) **99c:35013** 35A30 (35–04, 58G35)
— (*with* Fan, En Gui) A new approach to Backlund transformations of nonlinear evolution equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 7, 645–650; *translated from Appl. Math. Mech.* **19** (1998), *no.* 7, 603–608 (*Chinese. English and Chinese summaries*). 35Q53 (35A30, 58F37)
— (*with* Fan, En Gui) Backlund transformation and exact solutions for Whitham-Broer-Kaup equations in shallow water. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 8, 713–716; *translated from Appl. Math. Mech.* **19** (1998), *no.* 8, 667–670 (*Chinese. English and Chinese summaries*). 35Q53 (76B15)
— (*with* Chen, Yu Fu) A characterization of recursion operators. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 5, 497–501. (Wen Xiu Ma) **99m:35240** 35Q58 (58F07)
— (*with* Fan, En Gui) New exact solutions to a solutions to a system of coupled KdV equations. (English summary) *Phys. Lett. A* **245** (1998), *no.* 5, 389–392. 35Q53 (35C05)
— (*with* Yan, Zhenya) New explicit and exact travelling wave solutions for a system of variant Boussinesq equations in mathematical physics. (English summary) *Phys. Lett. A* **252** (1999), *no.* 6, 291–296. 35Q53 (35C05)
Zhang, Hong Wei A class of starlike functions defined using differential operators of fractional degree. (Chinese. Chinese summary) *Hunan Ann. Math.* **18** (1998), *no.* 1, 75–82. (Shusen Ding) **99k:30027** 30C45
Zhang, Hong-Yue (*with* Chen, Jie[1]; Patton, Ron J.) Design of unknown input observers and robust fault detection filters. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 85–105. 93E12 (93B50)
— *see also* **Kim, Dohyeon**
Zhang, Hongbuo *see* **Zhang, Hong Bo**
Zhang, Hongqing *see* **Zhang, Hong Qing[1]**
Zhang, Hongtao A multi-class cyclic arrival queue with a single server. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 333–350. (*see* **99m:90004**) 90B22
Zhang, Hongyu (*with* Lin, Wei Jun) Some combinatorial properties of ineffable cardinals. *Chinese Sci. Bull.* **42** (1997), *no.* 4, 274–277. (Pierre Matet) **99e:03035** 03E55 (03E05)
Zhang, Hu (*with* Zhao, Ning) On entropy condition of a high resolution Godunov scheme using flux limiters. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 59–64. 65M70 (35L65)
Zhang, Hua (*with* Yu, Jian She; Chen, Ming-Po) Oscillation and nonoscillation in neutral equations with integrable coefficients. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 65–71. (Guang Zhang) **99a:34203** 34K15 (34K40)
Zhang, Hua Guang (*with* Wang, Jie) Duality of fuzzy vector spaces. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 352–354. 15A99
Zhang, Huai Yu Postprocessing and superconvergence of Galerkin methods for nonlinear Sobolev equations. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 2, 225–229. 65N30
Zhang, Huan Guo (*with* Qin, Zhong Ping; Xu, Guo Ai; Jiang, Li Li) The computer-aided AIC method for finding the isotopy classes of Latin squares. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 669–673. (Summary) **99k:05042** 05B15
Zhang, Huan Jiong (*with* Li, Jian Qiu) Global existence and blow-up of solutions to a class of nonlinear parabolic equations. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 3, 26–31. (Summary) **99m:35131** 35K60 (35B40)
Zhang, Huan Shui (*with* Liu, Xiang Jie; Chai, Tian You) Structural analysis of three-dimensional fuzzy controllers. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 230–235. 93C42
Zhang, Hui Qun Exact solutions of a modified Kawachara equation. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 4, 24–26. 35Q53
Zhang, Huian Two-dimensional non-parametric test. (English summary) *Hunan Ann. Math.* **18** (1998), *no.* 1, 12–17. 62G05
Zhang, Huilong (*with* Saad, Mazen) Adaptive mesh for two-phase flow in porous media. (English summary) *Recent advances in problems of flow and transport in porous media (Marrakech, 1996)*, 179–193, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 76M25 (76S05, 76T05)
Zhang, J. *see* **Zhang, Jun[9]**
Zhang, J.-D. *see* **Zhang, Jin Dong**
Zhang, J. J. *see* **Zhang, James J.**
Zhang, J.-M. *see* **Zhang, Ji Min**
Zhang, J. Z. *see* **Zhang, Jian Zhong**
Zhang, James J. Linear modules over Sklyanin algebras are Cohen-Macaulay. *Comm. Algebra* **26** (1998), *no.* 6, 1979–1983. (From the text) **99c:16013** 16G50 (16W50)
— (*with* Ajitabh, K.; Smith, S. Paul) Auslander-Gorenstein rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2159–2180. (John Clark) **99g:16010** 16E10 (16D50, 16P40)
— The quantum Cayley-Hamilton theorem. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 1, 101–109. (Fabio Gavarini) **99g:17036** 17B37 (15A24)
Zhang, Ji-Feng (*with* Huang, Jie[1]) Impulse-free output regulation of singular nonlinear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 789–806. (V. A. Sobolev) **99i:93052** 93D15 (34H05)
Zhang, Ji Hong[2] (*with* Wang, Yaohong; Zhang, Sheng[1]) Multi-objective discounted semi-Markov decision processes with multiple constraints. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 551–555, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 90C40 (90C29)
Zhang, Ji Hui *see* **Zhang, Ji Hui[2]**
Zhang, Ji Hui[1] (*with* Ma, Ru Yun) Minimax inequalities of Ky Fan. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 37–41. (Summary) **99g:47139** 47H10 (47N10, 49J35)
— (*with* Li, Yongli; Li, Chuan) Note on some topological properties of sets in information systems. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 468, 563–564. 54A99
— (*with* Niu, Peng Cheng) Existence results for the positive solutions of semilinear equations on the Heisenberg group. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 181–189. (J. V. A. Gonçalves) **99d:35062** 35J65 (35B05)
— (*with* Niu, Peng Cheng) Estimates for eigenvalues of the bi-sub-Laplacian on the Heisenberg group. (Chinese. Englisi. and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 17–22. (Summary) **99e:35026** 35H05 (35P15)
Zhang, Ji Hui[2] (*with* Dai, Lian Gui; Xu, Xin He) Applications of lattice theory in supervisory control of discrete event systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 255–258. 93C83 (06A23)
— (*with* Xu, Xin He) An efficient evolutionary programming algorithm. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 7, 645–663. (Summary) **99k:90167** 90C30 (65K05)
Zhang, Ji Min (*with* Wong, Roderick) A uniform asymptotic expansion for the Jacobi polynomials with explicit remainder. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 17–29. (Summary) **99b:33022** 33C45
— (*with* Wong, Roderick) The asymptotics of a second solution to the Jacobi differential equation. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 287–308. (Summary) **99a:34072** 34B30 (33C45, 34E05)
Zhang, Jian *see* **Zhang, Jian[3]**
Zhang, Jian[1] (*with* Zhou, Shaoqian; Ding, Lixin; Tang, Xinhua) Linearization learning method of BP neural networks. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 35–39. (Summary) **99h:68147** 68T05

— Data sphering: some properties and applications. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 2, 223–240. (V. I. Serdobol'skiĭ) **99m:62081** 62H10

— (*with* Li, Guo Ying[1]) Breakdown properties of location M-estimators. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1170–1189. (Xuming He) **99f:62047** 62F35

— Limit theorems for empirical processes with random sample-lengths. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 483–492. (Summary) **99k:60010** 60B12

Zhang, Jian[3] (*with* Liu, Yong Qing; Shen, Jian Jing) Intelligent decentralized stabilization of large-scale interconnected linear systems with time delays. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 102–107. 93A14 (93C83)

Zhang, Jian Feng[1] Limit cycles for a class of Abel equations with coefficients that change sign. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 271–278. (Yang Kuang) **99c:34053** 34C05

— (*with* Xie, Xiang Dong) Weak transverse and weak chaos. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 3, 241–245. 58F13

Zhang, Jian Gang (*with* Zhang, Jie; Mao, Jian Qin) Pulse response identification approach based on multiresolution analysis. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 652–656. 93B30 (42C15)

Zhang, Jian Hua (*with* Du, Hong Ke) Derivations on nest subalgebras of von Neumann algebras. II. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 357–362. (Summary) **99k:47108** 47D25 (46L10, 47B47)

Zhang, Jian Hua[3] (*with* Cheng, Ziefeng) Limits to the acceleration of black holes. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 12, 3031–3039. 83C57

Zhang, Jian Jun (*with* Wang, De Ren) The embedding method for nonsmooth equations. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 184–190. (T. Y. Li) **99d:90132** 90C33 (65H05)

— (*with* Wang, De Ren) A class of decomposition methods for large-scale systems of nonlinear equations. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 1, 90–106. (Beny Neta) **99b:65069** 65H10

— (*with* Xiang, Kaili) Explicit two-step high-accuracy hybrid methods with minimal phase-lag for $y'' = f(x, y)$ and their application to the one-dimensional Schrödinger equation. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 1–11. 65L05

Zhang, Jian Ming (*with* Wang, Shu Li) Fuzzy measures defined by (G) fuzzy integrals. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 15–18. (Cong Xin Wu) **99k:28029** 28E10

Zhang, Jian Ying Vizing-type inequalities concerning the domination number of a graph. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 18–20. (*see* **99i:05002**) 05C35

Zhang, Jian Zhong (*with* Zhu, Meifang) Least change properties of ABS methods and their application in secant-type updates. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 111–131. (Summary) **99a:65055** 65F30 (90C08)

— (*with* Yang, Chao[1]; Ma, Zhong Fan) Inverse maximum flow and minimum cut problems. (English summary) *Optimization* **40** (1997), *no.* 2, 147–170. (Peter Butkovič) **99c:90151** 90C35 (90B10)

— (*with* Yang, Chao[1]) A constrained capacity expansion problem on networks. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 19–33. (Summary) **99i:90051** 90B12 (90C35)

— (*with* Pu, Dingguo) Inexact generalized Newton methods for second order C-differentiable optimization. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 2, 107–122. (Zhen Yu Huang) **99g:90134** 90C30 (90C33)

— (*with* Chen, Li Hua[2]; Deng, Nai Yang) Modified partial-update Newton-type algorithms for unary optimization. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 385–406. (José Mario Martínez) **99d:65196** 65K05

— (*with* Cai, Mao Cheng) Inverse problem of minimum cuts. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 1, 51–58. (Summary) **99a:90222** 90C35 (05C20)

— (*with* Yang, Chao[1]) Inverse maximum capacity problems. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 2, 97–100. (Mechthild Opperud) **99c:90098** 90C27 (90C35)

Zhang, Jian-zu A q-deformed quantum mechanics. (English summary) *Phys. Lett. B* **440** (1998), *no.* 1-2, 66–68. (Choo Hiap Oh) **99k:81123** 81R50 (81P99)

Zhang, Jiang-She (*with* Xu, Zong Ben; Leung, Yiu-Wing) An approximate algorithm for computing multidimensional convex hulls. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 193–226. (Summary) **99d:68240** 68U05 (65Y25)

Zhang, Jiang Tao (*with* Huang, He Jiao; Wei, Xian Sun) Edge arboricity decomposition of a finite graph. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 25–28. 05C05

— (*with* Liu, San Yang; Huang, He Jiao) Sufficient conditions and duality theorems for solutions to nonconvex fractional multiobjective programming problems with different denominators. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 43–48. 90C29 (49N15)

Zhang, Jianjun *see* **Zhang, Jian Jun**

Zhang, Jianxun (*with* Zhang, Zhong Fu; Liu, Lin Zhong[2]; Wang, Jianfang) On the relations between arboricity and independent number or covering number. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 279–283. (Summary) **99e:05079** 05C35

Zhang, Jie The spectrum of the simple self-converse Mendelsohn triple system MTS(v, λ). (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 487–497. (Qing De Kang) **99g:05029** 05B07

Zhang, Jie A numerical description and generation algorithm for curves. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 3, 61–64. 65D17 (65D15)

Zhang, Jie (*with* Feng, Ying Jun) A necessary condition for the existence of efficient sets for a class of multiobjective programming problems. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 51–52, 61. 90C29

Zhang, Jie (*with* Lin, Yan; Mao, Jian Qin) Variable structure robust adaptive control with unmodelled dynamics. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 647–651. 93B12 (93C41)

— (*with* Zhang, Jian Gang; Mao, Jian Qin) Pulse response identification approach based on multiresolution analysis. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 652–656. 93B30 (42C15)

Zhang, Jie Fang (*with* Guo, Hong[2]) Noether's theorem and its inverse theorem for nonholonomic nonconservative systems in phase space. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 2, 116–120, *X*. 70F25 (70H33)

— (*with* Xu, Xue Jun) New exact and explicit solitary wave solutions to a class of coupled nonlinear equations. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 189–193. 35Q53 (35C05)

— Multiple soliton-like solutions for (2 + 1)-dimensional dispersive long-wave equations. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2449–2455. 35Q53

— New exact solitary wave solutions of the KS equation. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 6, 1829–1834. 35Q53 (35C05)

Zhang, Jiewu (*with* Song, Shiji; Qiao, Xiao Lin; Che, Zhao Dong) The convergency of (DG) fuzzy integrals on L-fuzzy sets. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 821–836. (Summary) **99i:28026** 28E10

Zhang, JiHiu *see* **Zhang, Ji Hui**[1]

Zhang, Jihong *see* **Zhang, Ji Hong**[2]

Zhang, Jin[1] (*with* Wang, Xueren) Selecting the best regression equation via the P-value of F-test. (English summary) *Metrika* **46** (1997), *no.* 1, 33–40. (Summary) **99c:62194** 62J05

— Tests for multiple upper or lower outliers in an exponential sample. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 2, 245–255. (Summary) **99e:62020** 62F03

Zhang, Jin Dong (*with* Zhu, Tulong; Atluri, S. N.) A local boundary integral equation (LBIE) method in computational mechanics, and a meshless discretization approach. (English summary) *Comput. Mech.* **21** (1998), *no.* 3, 223–235. (From the summary) **99e:76079** 76M15 (76M25)

— (*with* Zhu, Tulong; Atluri, S. N.) A meshless local boundary integral equation (LBIE) method for solving nonlinear problems. (English summary) *Comput. Mech.* **22** (1998), *no.* 2, 174–186. (Summary) **99e:73100** 73V10

Zhang, Jin Ming (*with* Li, Ren Hou) Stability analysis and design of fuzzy control systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 7, 24–26. 93C42 (93D05)

Zhang, Jin Qing Maximal and minimal solutions of third-order nonlinear integrodifferential equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 33–38. (Wan Zhuang) **99f:45012** 45J05 (34K10, 45L05, 45M15)

— An iterative solution method for nonlinear integrodifferential equations in Banach spaces. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 5–9, 18. (Summary) **99k:45028** 45L05 (45J05, 65J15, 65R20)

Zhang, Jin-Ting (*with* Zhu, Li-Xing; Fang, Kai-Tai) A projection NT-type test for spherical symmetry of a multivariate distribution. (English summary) *New trends in probability and statistics, Vol. 3 (Tartu/Pühajärve, 1994)*, 109–122, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62H15

Zhang, Jinanying *see* **Zhang, Jian Ying**

Zhang, Jing (*with* Ji, Dong Hai; Lu, Yan Ming) A condition for β^*-normability of a topological linear space. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 15–17. (Li Xin Cheng) **99j:46002** 46A16 (46B99)

Zhang, Jing Fen (*with* Huang, Wen Qi; Xu, Ru Chu; Chen, Wei Dong) A physicalification and personification method for solving packing problems and the CNF-SAT problem. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 9, 5–7, 54. 68Q25 (03B05, 03B35)

Zhang, Jing Hui (*with* He, Cai Ying) The convex response sets of a class of vibrating systems with multiple degrees of freedom. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 5, 530–539. (Summary) **99a:70039** 70L05 (73K12)

Zhang, Jing Jie (*with* Zhang, Guo Zhi; Bao, Man) Distributions of sample linear functions for a class of elliptical distributions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 19–22. (Zheng Yan Lin) **99i:60031** 60E05 (60E10)

Zhang, Jing Tian (*with* Zheng, Li Hui; Feng, Shan; Wang, An Xing) A differential game approach to option pricing: theoretical analysis. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 10–12. 90A09 (90D25)

— (*with* Zheng, Li Hui; Feng, Shan; Wang, An Xing) A differential game approach to the option pricing problem: numerical analysis. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 11, 47–49. 90A09 (90D25)

Zhang, Jing Yi (*with* Wu, Sheng Miao) A new way of obtaining the Møller transformation. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 5, 724–727. 83A05

Zhang, Jing Zhong Twenty years of mechanical theorem proving in geometry. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 21, 2248–2259. 01A60 (03B35, 51-03, 68T15)

Zhang, Jingsong (*with* Ban, Gui Ning; Yu, Shuxia) The lower bound for the orders of the automorphism groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 159–167. (Rifhat Z. Aleev) **99f:20034** 20D45

Zhang, Jinyun (*with* Mond, B.) Higher order invexity and duality in mathematical programming. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy*, 1996), 357–372, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alberto Cambini) **99i:90075** 90C26 (49N15)

— (*with* Mond, B.) Generalized dual to the monotone nonlinear complementarity problem. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 73–86. (Alberto Seeger) **99a:90213** 90C33 (49N15)

— (*with* Mond, B.) Higher order duality and matrix game equivalence. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 87–96. (Alberto Seeger) **99b:90160** 90D05 (90C30)

Zhang, Jiping On a problem by Huppert. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 2-3, 143–150. (Mark L. Lewis) **99j:20014** 20C15

— On the lengths of conjugacy classes. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2395–2400. (David Chillag) **99m:20045** 20D99

Zhang, Jiu An (*with* Liu, Wen Sen; Ma, Gui Rong; Liang, Jiu Qing) Squeezed boson-pair number states in a quantum Bose fluid. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 9, 1699–1709. (Summary) **99d:82011** 82B10

Zhang, Jizhou Regularized cosine functions and polynomials of group generators. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 12–18. (Vladimir E. Fedorov) **99i:47073** 47D06

(34G10, 35Q53)
— Regularized semigroups generated by pseudodifferential operators on C^a. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 427–433. (Kamoliddin Kh. Boimatov) **99k:47099** 47D06 (35S05, 47D09, 47G30)
— (*with* Zheng, Quan[2]) Gaussian estimates and regularized groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1089–1096. (Michael A. Perel′muter) **99f:47050** 47D06 (35J99, 47F05)
Zhang, Ju Liang (*with* Xu, Ze Shui; Li, Qun) Global convergence properties of the PR and HS conjugate gradient methods for optimization. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 31–38. 90C30 (65K05)
— (*with* Yu, Ji Guo) A new modified SQP method with global and superlinear convergence. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 21–26. 90C30 (65K05)
Zhang, Jule (*with* Lu, Rongdian) Strongly regular rings and SF-rings. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 61–68. (Syed Tariq Rizvi) **99g:16015** 16E50 (16D60)
Zhang, Jun *see* **Zhang, Jun[7]**
Zhang, Jun[2] Symbolic and numerical computation on Bessel functions of complex argument and large magnitude. (English summary) *J. Comput. Appl. Math.* **75** (1996), *no.* 1, 99–118. (Dimitar Kolev Dimitrov) **99d:65065** 65D20 (33C10)
— (*with* Saad, Youcef; Sosonkina, Maria) Domain decomposition and multi-level type techniques for general sparse linear systems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 174–190, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65057** 65F10 (65N22, 65N55)
— Residual scaling techniques in multigrid. II. Practical applications. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 2-3, 229–252. (Summary) **99a:65056** 65F30 (65M55, 65N55)
— VML: a class of virtual multi-level iterative methods for solving partial differential equations. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 1, 29–48. (Summary) **99b:65129** 65N06 (65F10)
— Two-grid analysis of minimal residual smoothing as a multigrid acceleration technique. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 27–45. (Summary) **99d:65114** 65F10
— Multi-level minimal residual smoothing: a family of general purpose multigrid acceleration techniques. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 41–51. (Summary) **99h:65093** 65F99 (65N55)
— Acceleration and stabilization properties of minimal residual smoothing technique in multigrid. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 151–168. (From the summary) **99k:65037** 65F30 (65N55)
Zhang, Jun[7] (*with* Huang, Tie Jun; Liu, Jian) Quadratic residue functions and the beauty of their patterns. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 6, 21–23. (Zhen Fu Cao) **99j:11004** 11A15
— (*with* Liu, Xiao Mao) Admissible linear estimates of nonestimable parameter functions in a linear model. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 63–66. 62C15 (62J05)
Zhang, Jun[9] (*with* Walter, Gilbert G.) Orthonormal wavelets with simple closed-form expressions. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 8, 2248–2251. (Summary) **99i:94015** 94A12 (94A11)
Zhang, Jun Zu Oscillations of nonlinear integral equations. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 15–18. (Summary) **99k:45019** 45G10 (45M05)
Zhang, Junhua (*with* Chen, Han-Fu) Convergence of algorithms used for principal component analysis. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 597–604. (P. Neumann) **99e:62143** 62L20 (62H25, 65U05)
Zhang, K. *see* **Zhang, Ke Wei[1]**
Zhang, Kai Jun (*with* Wang, Liang Tao) The Cauchy problem for a reaction-diffusion system of Fujita type. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 717–732. (Summary) **99b:35099** 35K57
Zhang, Kaixia (*with* Mordukhovich, Boris S.) Dirichlet boundary control of parabolic systems with pointwise state constraints. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 223–236, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Uldis Ë. Raitums) **99f:49032** 49K20 (35K40, 49J20, 93C20)
Zhang, Kaizhong (*with* Yang, Yanling; Wang, Xiong; Wang, Jason T. L.; Shasha, Dennis) An approximate oracle for distance in metric spaces. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 104–117, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68021** 68P05 (68Q20)
Zhang, Ke Cun (*with* Yin, Hong You) Fritz John type conditions in quasidifferentiable programming with equality constraints and their sufficiency. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 99–104. (Summary) **99d:90122** 90C30 (49J52)
— (*with* Yang, Bo Ting) The new development of geometric programming. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 90–94. 90C32 (90–02)
Zhang, Ke Mei The solution of a nonlinear nonmonotone operator equation. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 2, 164–168. (Xian Zhi George Yuan) **99m:47077** 47H15
— Solutions to two-point boundary value problems for mixed integro-differential equations in a Banach space. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 425–428. (Summary) **99h:34119** 34K30 (34K10, 45J05)
Zhang, Ke Min[1] (*with* Song, Wen Jie; Wang, Jian Zhong[1]; Yao, Tian Xing) A note on 4-regular 4-chromatic graphs with girth 4. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 35–36. (Summary) **99h:05044** 05C15
— (*with* Bu, Yuehua) On the exponent set of primitive locally semicomplete digraphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 377. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 267–286. (Yong Bing Shi) **99a:05060** 05C20
— (*with* Pan, Lin Qiang) A sufficient condition for 2-connected Hamilton graphs. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 171–179. (Summary) **99c:05127** 05C45
— (*with* Zhang, Shu Sheng) Some tree-stars Ramsey numbers. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 287–291, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99g:05135** 05C55
— (*with* Wang, Weifan) Edge-face chromatic number of plane graphs with high maximum degree. (English summary) *Australas. J. Combin.* **18** (1998), 235–244. (Summary) **99j:05076** 05C15
— (*with* Huang, Yi Ru) New upper bounds for Ramsey numbers. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 391–394. (Summary) **99b:05100** 05C55
— (*with* Ye, Miao Lin) A neighborhood union condition for vertex pancyclicity. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 79–86. (Zheng Sheng Wu) **99g:05117** 05C38
— (*with* Huang, Yi Ru) A new upper bound formula for two color classical Ramsey numbers. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 347–350. (Summary) **99j:05143** 05C55
— (*with* Ye, Miao Lin) On the critical domination numbers. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 95–97. (Summary) **99m:05081** 05C35
— (*with* Miao, Zhengke) Two order exponent set of strong connected digraphs. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 9–14. (Summary) **99f:05076** 05C50 (05C20)
— (*with* Zhou, Guofei; Yao, Tian Xing) A note on cycles in regular multipartite tournaments. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 73–75. (Summary) **99f:05050** 05C20 (05C38)
— (*with* Pan, Lin Qiang) Some local conditions for Hamilton-connected graphs. (English summary) *Soochow J. Math.* **24** (1998), *no.* 3, 177–182. (Summary) **99f:05074** 05C45
Zhang, Ke Wei[1] Quasiconvex functions, SO(n) and two elastic wells. (English summary) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 6, 759–785. (Baisheng Yan) **99h:73025** 73C50 (49J45, 73V25)
— (*with* Li, Chun[2]; McIntosh, Alan G. R.; Wu, Zhi Jian[1]) Compensated compactness, paracommutators, and Hardy spaces. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 289–306. (Loukas Grafakos) **99c:42038** 42B30 (46E15)
— On the structure of quasiconvex hulls. (English summary) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 6, 663–686. (Sisto Baldo) **99h:49020** 49J45 (49J10, 73V25)
— On various semiconvex hulls in the calculus of variations. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 2, 143–160. (Bernard Brighi) **99a:49005** 49J10 (73C50, 73V25)
— On some quasiconvex functions with linear growth. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 133–146. (Fabián Flores-Bazán) **99j:49023** 49J45 (26B25, 73V25)
— (*with* Cai, Wentong; Turner, S. J.; Sun, Chengzheng) Interlock avoidance in transparent and dynamic parallel program instrumentation using logical clocks. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 569–591. 68Q10 (68Q60)
Zhang, Keke (*with* Bassom, Andrew P.) Finite amplitude thermal inertial waves in a rotating fluid layer. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 3-4, 193–214. (Summary) **99k:76145** 76U05 (76E15)
Zhang, Kemin *see* **Zhang, Ke Min[1]**
Zhang, Kewei *see* **Zhang, Ke Wei[1]**
Zhang, Kun Long (*with* Hirota, Kaoru) On fuzzy number lattice $(\widetilde{R}, \leq)$. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 113–122. (Summary) **99b:04003** 04A72
— (*with* Hirota, Kaoru; Nakagawa, Yukiko) On Kleene algebra with De Morgan algebra with centers. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 1, 131–146. (Manuel Abad) **99b:06012** 06D30 (03G25)
Zhang, L. W. *see* **Zhang, Li Wei**
Zhang, Lan (*with* Okazaki, Tokio; Inoue, Katsushi; Ito, Akira; Wang, Yue[2]) A note on two-dimensional probabilistic finite automata. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 303–314. (Summary) **99h:68122** 68Q68 (68Q45, 68Q75)
Zhang, Le Zhong (*with* Li, Gong Sheng) Existence of a nonlinear heat source in inverse heat conduction problems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 19–24. (Hong Ming Yin) **99e:35243** 35R30 (35K55)
Zhang, Lei *see* **Zhang, Lei[2]**
Zhang, Lei[1] (*with* Hu, Xi Yan; Xie, Dong Xiu) The solvability conditions for the inverse eigenvalue problem of bisymmetric matrices. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 409–418. (Jor-Ting Chan) **99k:15015** 15A18
— (*with* Liao, An-ping) The necessary and sufficient conditions for the solvability of a class of the matrix inverse problem. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 2, 195–200. 65F10 (15A09)
Zhang, Lei[2] (*with* Jonker, Leo B.) Torus homeomorphisms whose rotation sets have empty interior. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1173–1185. (Klaudiusz Wójcik) **99h:58147** 58F20 (58F12)
Zhang, Li (*with* Zheng, Hui Rao; Fang, Yun Lan; Wang, Zhi Ping) Fast inverse Cholesky decomposition for rectangular Toeplitz-block matrices. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 41–47. (Summary) **99d:65096** 65F05 (15A23)
— (*with* Zheng, Hui Rao; Wang, Zhi Ping) An algorithm for constructing generators of Toeplitz block matrices. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 141–144. 65F30
— (*with* Wang, Zhi Ping; Zheng, Hui Rao) A fast decomposition algorithm for Hankel matrices. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 145–147. 65F30 (65F10)
Zhang, Li (*with* Yu, Yan) On the existence of equilibrium prices. (Chinese. Chinese summary) *Hunan Ann. Math.* **18** (1998), *no.* 2, 110–112. 90A12 (90C90)
Zhang, Li-Chun (*with* Bredrup, Edvin) Imperfectly shuffled decks in bridge. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 2, 173–179. 60C05 (60J10, 62E15)
Zhang, Li Hong (*with* Wang, Wen Ju) Some properties of Artin-Rees modules and rings. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 315–320. (Nguyễn Tự Cư'ò'ng) **99g:13014** 13C13 (13J10)
— (*with* Wang, Wen Ju) The I-adic completion of rings satisfying (accr) and its flatness. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 125–130. (Ho Kuen Ng) **99c:13040** 13E99 (13J10)

— (*with* Wang, Wen Ju) Rings satisfying a special ascending chain condition for right annihilators. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 547–552. (Yuan Chun Guo) **99k:16046** 16P60

Zhang, Li Na (*with* Liu, Wen[1]; Yang, Wei Guo[1]) A class of strong limit theorems for sequences of arbitrary random variables. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 537–544. (Summary) **99e:60087** 60F15

Zhang, Li Qian[2] (*with* Zhang, Qing Ling; Dai, Guan Zhong; Lam, James; de la Sen, Manuel) Asymptotic stability and stabilization of descriptor systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 208–211. 93D20 (93D15)

— (*with* Lam, James) Optimal weighted L_2 model reduction of delay systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 39–48. (Krishnan Balachandran) **99j:93018** 93B11 (93C30)

Zhang, Li Qin[1] (*with* Fu, Xi Lin) Properties of solutions to a class of neutral delay differential inequalities and their applications. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 10–14. (Jian Hong Wu) **99b:34131** 34K40 (34K15, 35R10)

— (*with* Fu, Xi Lin) Criteria on boundedness in terms of two measures for Volterra type discrete systems. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2673–2681. (V. G. Kurbatov) **99f:39020** 39A11 (34D20, 34K20)

Zhang, Li Wei (*with* Tang, Huan Wen) A maximum entropy algorithm with parameters for solving minimax problem. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 1-2(42), 47–59. (Summary) **99b:90128** 90C30 (49K35)

— (*with* Spedicato, Emilio; Xia, Zun Quan) The implicit LX method of the ABS class. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 99–110. (Summary) **99a:90128** 90C05 (65F30)

— On the ABS algorithm with singular initial matrix and its application to linear programming. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 143–156. (Summary) **99a:90132** 90C05 (65F30)

— (*with* Xia, Zhong Hang) A simplified trust region method with projection and convergence. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 385–394. (Summary) **99b:90126** 90C30

— (*with* Tang, Huan Wen) A further study on a penalty function of Bertsekas. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 345–351, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C30 (49M30)

— (*with* Spedicato, Emilio; Xia, Zun Quan; Mirnia, K.) ABS algorithms for linear equations and applications to optimization. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 291–319, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F30 (65K05)

Zhang, Li-xiang (*with* Huang, Wen-hu; Tijsseling, Arris S.; Vardy, Alan E.) Normal modes of fluid-structure interaction in internal flows. (English summary) *J. Hydrodyn. Ser. B* (*English Ed.*) **10** (1998), *no.* 4, 71–89. 73K70

Zhang, Li-Xin A note on liminfs for increments of a fractional Brownian motion. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 145–154. (Qi Man Shao) **99f:60070** 60F15 (60G15, 60G17)

— A law of the iterated logarithm for geometrically weighted series of B-valued random variables. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 671–688. (Xia Chen) **99b:60012** 60B12 (60F15)

— Strong approximation theorems for geometrically weighted random series and their applications. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1621–1635. (Qi Man Shao) **99f:60071** 60F15

— On the fractal nature of increments of l^p-valued Gaussian processes. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 91–110. (Yimin Xiao) **99a:60041** 60G17 (28A80, 60G15)

— Rosenthal type inequalities for B-valued strong mixing random fields and their applications. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 736–745. (F. Móricz) **99e:60024** 60B12 (60F15)

Zhang, Li Ying[2] (*with* Deng, An Sheng) Limitations of quantitative operator fuzzy logic. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 6, 608–616. (Summary) **99k:03018** 03B52

Zhang, Lian-sheng (*with* Sun, Xiao-ling; Bai, Yan-qin) A SQP method for minimizing a class of nonsmooth functions. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 139–146. (Summary) **99a:90155** 90C25 (90C30)

— (*with* Sun, Xiao-ling) A nonmonotone algorithm for minimizing nonsmooth composite functions. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **6** (1997), *no.* 2, 152–162. (Khalil Mouallif) **99g:90082** 90C20 (65K05)

— (*with* Zheng, Quan[1]) Global minimization of constrained problems with discontinuous penalty functions. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 41–58. (Summary) **99k:90168** 90C30 (49M30, 65K05)

— (*with* Gao, Feng; Zhu, Wen Xing) Nonlinear integer programming and global optimization. (English summary) *J. Comput. Math.* **17** (1999), *no.* 2, 179–190. (Summary) **99m:90103** 90C10 (90C30)

Zhang, Lian Wen (*with* Liu, Wenju) A model approximation scheme for planning in partially observable stochastic domains. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 199–230 (*electronic*). (Aleksey B. Piunovskiĭ) **99d:90138** 90C40 (93E20)

— Probabilistic inference in influence diagrams. (English summary) *Comput. Intelligence* **14** (1998), *no.* 4, 475–497. (Summary) **99g:68201** 68T30 (90B10)

— (*with* Yan, Li) Independence of causal influence and clique tree propagation. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 335–349. (Summary) **99g:68202** 68T30

Zhang, Lian Zhu The enumeration of perfect matchings in catacondensed polyominoes. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 5, 629–633. 05C70 (05B50)

Zhang, Liang-Cheng (*with* Berndt, Bruce C.; Chan, Heng Huat) Ramanujan's class invariants with applications to the values of q-continued fractions and theta functions. (English summary) *Special functions, q-series and related topics* (*Toronto, ON*, 1995), 37–53, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Ronald J. Evans) **99c:11017** 11B65 (11A55, 11F27, 33D10)

— (*with* Berndt, Bruce C.; Chan, Heng Huat) Ramanujan's association with radicals in India. *Amer. Math. Monthly* **104** (1997), *no.* 10, 905–911. (Aleksander Grytczuk) **99a:11053** 11F20 (11R20, 11R37)

— (*with* Berndt, Bruce C.; Chan, Heng Huat) Radicals and units in Ramanujan's work. *Acta Arith.* **87** (1998), *no.* 2, 145–158. (Ronald J. Evans) **99m:11125** 11R27 (11A55)

Zhang, Liang Yun (*with* Li, Fang[2]) Weak Hopf algebras and rings of fractions of semigroup rings. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 98–104. (Shenglin Zhu) **99a:16032** 16W30

— (*with* Li, Shi Hong) Separable algebras and relative Hopf modules. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 2, 22–24. 16W30

— The duality between Hopf Galois extensions and Hopf co-Galois extensions. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 131–136. (George Szeto) **99h:16068** 16W30

Zhang, Liangxin (*with* Wang, Wenxin; Fan, Tian You) Analytic study on angular fields of HRR solution. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 313–323. (Summary) **99c:73063** 73M25 (73E99)

Zhang, Lichun (*with* Zhao, Ren; Liu, Liao) Back reaction of charged black hole. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2273–2280. 83C57

— (*with* Zhao, Ren) Hawking effect of non-static Kerr black holes. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 3, 343–348. (Summary) **99b:83053** 83C57

— (*with* Wu, Yueqin; Zhao, Ren) Quantum thermal effect of nonstatic charged black hole. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 665–673. 83C57

Zhang, Liming A limited memory algorithm for linearly constrained optimizations. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 61–72. 90C30 (65K05)

Zhang, Lin[4] (*with* Li, Li Kang) Some superconvergence results of Wilson-like elements. (English summary) *J. Comput. Math.* **16** (1998), *no.* 1, 81–96. (Tsorng-Whay Pan) **99c:65221** 65N30 (65N15)

— Local nonconforming finite element methods for stationary Stokes equations. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 97–102. (Zheng Hui Xie) **99i:65129** 65N30

Zhang, Lin Bo (*with* Ju, Li Li) Parallel implementation of a pressure-correction projection method for the unsteady incompressible Navier-Stokes equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 325–336. 65M60 (65Y05, 76D05, 76M25)

Zhang, Ling Mi (*with* He, Bo Qing; Yuan, Xiang Rong) Comparisons and evolution of modal methods for calculating derivatives of eigenvectors. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 3, 68–74, *VI–VII*. 65F15 (65N25)

Zhang, Ling Yun (*with* Li, Bo Zang; Zhang, Xiang Dong) Some notes on quantum invariants and their relation to the quantum phase. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2081–2094. (Summary) **99c:81124** 81S99

Zhang, Linghai Uniform stability and asymptotic behavior of solutions of 2-dimensional magnetohydrodynamics equations. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 35–58. (Jiří Nedoma) **99a:35215** 35Q35 (35B35, 35B40, 76E25, 76W05)

Zhang, Liqian *see* **Zhang, Li Qian[2]**

Zhang, Liying *see* **Zhang, Li Ying[2]**

Zhang, Louxin (*with* Dasgupta, Bhaskar[1]; He, Xin[1]; Jiang, Tao[1]; Li, Ming[1]; Tromp, John; Wang, Lusheng) Computing distances between evolutionary trees. *Handbook of combinatorial optimization, Vol. 2*, 35–76, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90C35)

Zhang, Lun Chuan (*with* Wang, Kun Yang[1]) A proof of the primitivity of a prime AW*-algebra. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **34** (1998), *no.* 3, 289–291. 46L10 (46L05)

— (*with* Ma, Ji Pu) A proof of the primitivity of inseparable prime C^*-algebras A with real rank 0. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 19, 2056–2058. 46L05

Zhang, Mei-Jie (*with* Scheike, Thomas H.) Cumulative regression function tests for regression models for longitudinal data. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1328–1355. (Somnath Datta) **99i:62217** 62M10 (62G10)

Zhang, Meirong (*with* Li, Weigu) [A] rigidity result on conjugacies of families of diffeomorphisms. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1036–1044. (Romeo F. Thomas) **99i:58089** 58F10 (58D05)

— Nonresonance conditions for asymptotically positively homogeneous differential systems: the Fučik spectrum and its generalization. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 332–366. (Anna Capietto) **99c:34040** 34B15 (34C25, 47H15)

— A relationship between the periodic and the Dirichlet BVPs of singular differential equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 1099–1114. (Anna Capietto) **99g:34058** 34B15 (34C25, 47H15, 47N20)

— Periodic solutions of damped differential systems with repulsive singular forces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 401–407. (Andrei N. Ronto) **99k:34092** 34C25 (34B15)

Zhang, Meng Ping (*with* Liu, Ru Xun) Numerical analysis and construction of limiter of high resolution difference scheme. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 7, 677–686; *translated from Appl. Math. Mech.* **19** (1998), *no.* 7, 631–640 (*Chinese. English and Chinese summaries*). 65M06 (76M20)

— (*with* Liu, Ru Xun) A theoretical analysis of numerical filters. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 4, 433–438. 65M12 (65M06)

Zhang, Meng Qiu Stability of the zero solution to nonlinear differential equations of order n. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 110–113. (Summary) **99c:34112** 34D20

— (*with* Liu, Ming Xian) The equivalence of two types of stability. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 75–78. (Zhanyuan Hou) **99k:34111** 34D20 (34D30)

Zhang, Min Yue Increments of stable Poisson processes on finite intervals and the distribution of the Poisson flow. (Chinese. English and Chinese summaries) *J. Gansu Univ. Technol.* **24** (1998), *no.* 2, 104–108. (Summary) **99h:60097** 60G55

Zhang, Ming[6] (*with* Feng, Yu Yu; Kozak, Jernej) On the dimension of the C^1 spline space for the Morgan-Scott triangulation from the blossoming approach. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 71–86, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41008** 41A15 (41A63)

— (*with* Chen, Zhi Bing; Xi, Mei Cheng; Chen, Xiao Qun; Feng, Yu Yu) The blossoming method for studying the dimension of a bivariate spline space. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 64–78. (Summary) **99m:41052** 41A65 (65D07)

Zhang, Ming Jun (*with* Cheng, Chu Wang; Sun, You Xian) Observer-based robust stabilization for uncertain delayed systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 508–511. 93D15

— (*with* Cheng, Chu Wang; Sun, You Xian) Observer-based memoryless stabilization of uncertain systems with state delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 589–592. 93D21

— (*with* Sun, You Xian) Observer-based robust stabilization of time-delay systems with uncertain state and control input. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 11–15, 22. 93D21 (93C41)

Zhang, Ming Wang (*with* Jiang, Ming Hui) An algorithm for inverse eigenvalue problems for a special class of matrices. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 23–27. 65F15

— (*with* Liu, Hong Mei) Some properties and constructions of geodetic graphs with diameter five. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 113–116. (Jing Zhong Mao) **99m:05137** 05C75 (05C12, 05C35)

— (*with* Huang, Chong Chao) An interior ellipsoid method for convex programming. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 129–132. (Wan Tao Fu) **99k:90120** 90C25

Zhang, Mingyi (*with* Zhang, Dan[2]) A framework for default logic with case reasoning. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 2, 215–224. (Petr Jirků) **99m:68191** 68T27 (03B70)

— (*with* Zhang, Ying) Characterizations and algorithms of extensions for CADL and QDL. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 140–145. (Summary) **99m:68192** 68T27

Zhang, Mou-Cheng (*with* Chen, Yu-Qun) On Z-semigroups. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 117–122, *World Sci. Publishing, River Edge, NJ*, 1998. (From the introduction) **99i:20083** 20M17 (20M19)

— (*with* Kan, Hai Bin; Li, Yong Hua[2]) The conjugate hull of a Brandt semigroup. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 301–304. (Pedro V. Silva) **99g:20112** 20M18 (20M20)

Zhang, Na (*with* Cai, Ruixian) Explicit analytical solutions of non-Fourier heat conduction equation for IC chip. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 13, 1080–1084. (Summary) **99j:80003** 80A20

Zhang, Nai Yao (*with* Li, Ning) Structural analysis of typical fuzzy controllers using different fuzzy control inference methods. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 85–92. 93C42 (93E03)

— (*with* Tang, Yuezhong; Li, Yan Da) Stable fuzzy adaptive control for a class of nonlinear systems. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 279–288. 93C42

Zhang, Nan-Yue (*with* Choi, Junesang; Srivastava, Hari M.) Integrals involving a function associated with the Euler-Maclaurin summation formula. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 101–116. (Dumitru Acu) **99h:33004** 33B15 (11M06, 40A25, 65B15)

Zhang, Neng Hui (*with* Cheng, Chang Jun) Chaotic and hyperchaotic behavior of viscoelastic rectangular plates under a transverse periodic load. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 6, 690–699. 73K12 (58F13, 58F40, 73F15, 73K10)

— (*with* Cheng, Chang Jun) Variational principles on static-dynamic analysis of viscoelastic thin plates with applications. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 33, 4491–4505. (Summary) **99f:73044** 73F15 (73K10, 73V25)

Zhang, Nevin L. *see* **Zhang, Lian Wen**

Zhang, Nevin Lianwen *see* **Zhang, Lian Wen**

Zhang, Pei Xuan (*with* ALBToush, R. H.) An asymptotic expression for the kernel functions of Legendre series. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 4, 405–411. (Summary) **99b:33023** 33C45

— Characterization of the convergence domains of polynomial series and the minimal convergence domain. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 4, 26–31. 41A50 (30E10)

— Approximation of continuous functions on a closed curve by a class of functions with logarithmic singularities. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 3, 261–264. (Jia-Ding Cao) **99m:41033** 41A30

Zhang, Peisen (*with* McMorris, F. R.; Wang, Chi) On probe interval graphs. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 315–324. (Michael A. Steel) **99k:92020** 92D20 (05C15, 05C90)

Zhang, Peng[1] (*with* Zhang, Tong[1]) Generalized characteristic analysis and Guckenheimer structure. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 409–430. (Yu. G. Rykov) **99m:35154** 35L65 (34C99)

Zhang, Peng Fei (*with* Zhu, Dong Pei) An exact interior solution for a static charged sphere in a higher-dimensional space-time. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 6, 652–657. 83C22

Zhang, Peter Liang (*with* Quine, J. R.) Extremal symplectic lattices. (English summary) *Israel J. Math.* **108** (1998), 237–251. (Stefan Kühnlein) **99m:11073** 11H50 (14H40)

Zhang, Ping *see* **Zhang, Ping[6]**

Zhang, Ping[4] (*with* Qiu, Qing Jiu) Propagation of higher-order regularities of the boundaries of 3-D vortex patches. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 381–390. (Shu Ming Sun) **99a:35216** 35Q35 (76C05)

— (*with* Zheng, Yuxi) On oscillations of an asymptotic equation of a nonlinear variational wave equation. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 3-4, 307–327. (Summary) **99j:35146** 35L70 (35B05, 35L05)

— (*with* Qiu, Qing Jiu) Remarks on the existence of weak solutions to 2-D incompressible Navier-Stokes equations. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 658. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 529–536. (Summary) **99j:35173** 35Q30 (35D05, 76D05)

— (*with* Wu, Guang Rong; Qiu, Qing Jiu) Propagation of oscillations to 2D incompressible Euler equations. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 449–460. (Summary) **99i:35130** 35Q30 (76C99)

Zhang, Ping[6] (*with* Schwenk, Allen J.) Starfree biclique decompositions of complete graphs. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 33–62. (Dalibor Fronček) **99c:05157** 05C70

— (*with* Chartrand, Gary; Salehi, Ebrahim) On the partition dimension of a graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 157–168. (Summary) **99j:05150** 05C70

— (*with* Chartrand, Gary; Harary, Frank) Extremal problems in geodetic graph theory. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 55–66. (Summary) **99j:05100** 05C35 (05C12)

Zhang, Ping Guang The problems of the distribution and the number of limit cycles of a quadratic system. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 1–12. (Summary) **99c:34054** 34C05

— Quadratic systems with a weak focus and a strong focus. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 1, 123. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 1, 7–14. (Douglas S. Shafer) **99m:34072** 34C05 (58F21)

Zhang, Ping Jia Identification of dynamic characteristics of controlled objects. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 5, 543–548. 93B30 (93E12)

Zhang, Pingjian A maximum principle for distributed parameter systems with mixed phase-control constraints and endpoint constraints. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 2, 151–158. (Urszula Ledzewicz) **99c:49022** 49K20

— (*with* Chen, Shuping) On infinite-dimensional Riccati integral equations with all coefficients indefinite. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 158–166. (Birgit Jacob) **99i:45011** 45G10 (93B99)

Zhang, Pingwen (*with* Hou, Thomas Yizhao) Growth rates for the linearized motion of 3-D fluid interfaces with surface tension far from equilibrium. (English summary) *Asian J. Math.* **2** (1998), *no.* 2, 263–288. (Summary) **99k:76033** 76B99 (35Q35, 76B45, 76E99, 76V05)

Zhang, Pu[1] Hochschild cohomology of truncated basis cycle. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1272–1278. (Thorsten Holm) **99d:16010** 16E40 (16D20, 16G10)

— Selforthogonal radical algebras. (English summary) *Algebras and modules, II (Geiranger, 1996)*, 563–569, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Karin Erdmann) **99i:16020** 16E40 (16G10, 16G20)

Zhang, Q. *see* **Zhang, Qiang[1]**

Zhang, Q. C. *see* **Zhang, Qi Chang**

Zhang, Qi (*with* Han, Zhen Xiang; Wen, Fu Shuan) Theory and applications of rough sets. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 37–45. 04A72 (68T27)

Zhang, Qi[1] Global holomorphic one-forms on projective manifolds with ample canonical bundles. *J. Algebraic Geom.* **6** (1997), *no.* 4, 777–787. (A. R. Shastri) **99k:14071** 14J99 (32L10)

Zhang, Qi Chang (*with* Leung, A. Y. T.) Complex normal form for strongly non-linear vibration systems exemplified by Duffing-van der Pol equation. (English summary) *J. Sound Vibration* **213** (1998), *no.* 5, 907–914. 34C15

— (*with* Leung, A. Y. T.) Higher order normal form and period averaging. (English summary) *J. Sound Vibration* **217** (1998), *no.* 5, 795–806. (James A. Murdock) **99g:34080** 34C20 (34C29, 58F36, 70-04, 70K99)

Zhang, Qi Fan A kind of classification on permutation polynomials in several indeterminates. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 1, 25–27. (Jau-Shyong Shiue) **99e:11150** 11T06

— (*with* Sun, Qi) A simple proof of a conjecture about complete mappings over finite fields. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 6, 840–842. (Zhen Fu Cao) **99m:11143** 11T06

Zhang, Qi S. Blow up and global existence of solutions to an inhomogeneous parabolic system. (English summary) *J. Differential Equations* **147** (1998), *no.* 1, 155–183. (Howard A. Levine) **99d:35073** 35K40 (35B05, 35B60)

— (*with* Zhao, Zhong Xin) Singular solutions of semilinear elliptic and parabolic equations. *Math. Ann.* **310** (1998), *no.* 4, 777–794. (Zuchi Chen) **99e:35078** 35J65 (35K60)

— The critical exponent of a reaction diffusion equation on some Lie groups. *Math. Z.* **228** (1998), *no.* 1, 51–72. (Qing Yi Chen) **99e:35114** 35K57 (22E30, 35B05, 35H05)

Zhang, Qian[2] The influence of conditional GM estimation with a linear transformation in a restricted singular linear model. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 49–52. 62J05

Zhang, Qian Chuan Random nonlinear complementarity problems for random fuzzy mappings. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 6, 823–828. 90C33 (90C70)

— (*with* Huang, Fa Lun) Compact perturbation of C_0-operator semigroups. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 6, 829–833. (Summary) **99m:47050** 47D06

Zhang, Qian Er (*with* Song, Ling Chun; Wu, Wei[3]; Lin, Meng Hai) Program implementation of a new algorithm for computing matrices of standard orthogonal irreducible representations of symmetric groups. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 2, 209–216. (Summary) **99h:20017** 20C40 (20C30)

Zhang, Qiang (*with* Sun, Che) A finite difference-streamline diffusion method for nonlinear convection-diffusion equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 213–224. (Summary) **99e:65121** 65M06 (76M20, 76Rxx)

Zhang, Qiang[1] (*with* Chen, Yupin; Glimm, James; Saltz, David; Sharp, David H.) A two-phase flow formulation for the Rayleigh-Taylor mixing zone and its renormalization group solution. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 23–32, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76144** 76T05 (76E99, 76M35)

— (*with* Glimm, James; Grove, John W.; Li, Xiao Lin; Shyue, Keh-Ming; Zeng, Yanni) Three-dimensional front tracking. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 703–727 (*electronic*). (Alexander Doktor) **99c:35153** 35L67 (65M99)

— (*with* Sohn, Sung-Ik) Quantitative theory of Richtmyer-Meshkov instability in three dimensions. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 1, 1–46. (Summary) **99k:76066** 76E99 (76E30, 76L05, 76N10)

Zhang, Qiang[2] (*with* Xu, Yang; Du, Wen) Lebesgue decomposition theorem for σ-finite signed fuzzy measures. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 445–451. (Summary) **99k:28030** 28E10 (28A12)

Zhang, Qin (*with* Ma, Zhi Sheng) Kähler hypersurfaces in complex projective spaces with constant scalar normal curvature. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 22–26. (Yi Bing Shen) **99e:53103** 53C55 (53C42)

— Real minimal hypersurfaces in a complex projective space. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 150–153. (Chuan Xi Wu) **99k:53119** 53C42 (53C20)

Zhang, Qin[1] (*with* Leung, Anthony W.) Reaction diffusion equations with non-linear boundary conditions, blowup and steady states. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 17, 1593–1617. (Summary) **99h:35102** 35K57 (35B05)

Zhang, Qin Qin (*with* Fang, Hui[1]) Linearized oscillations of odd-order neutral delay differential equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 398–408. (Summary) **99a:34187** 34K15 (34K40)

— (*with* Zhou, Zhan) Uniform stability of nonlinear difference systems. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 486–500. (Ulrich Krause) **99k:39058** 39A11

— (*with* Zhou, Zhan) Linearized oscillations for even-order neutral difference equations. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 8, 11–17. (Summary) **99h:39017** 39A10

Zhang, Qing (*with* Ossiander, Mina; Waymire, Edward C.) Some width function asymptotics for weighted trees. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 972–995. (Robert P. Dobrow) **99b:60146** 60J80 (60J85)

Zhang, Qing[1] (*with* Sethi, Suresh P.; Zhang, Hanqin) Hierarchical production control in a stochastic manufacturing system with long-run average cost. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 151–172. (Yannis A. Phillis) **99g:93088** 93E20 (90B70, 90C35)

— (*with* Li, Xin[3]; Yin, Gang George; Yin, Kewen) A numerical study of singularly perturbed Markovian systems. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 127–135, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 60J27 (65C05)

— (*with* Presman, È. L.; Sethi, Suresh P.; Zhang, Hanqin) Optimality of zero-inventory policies for an unreliable manufacturing system producing two part types. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 485–496. (Summary) **99h:90039** 90B05 (90C90)

— (*with* Kannan, D.; Rushton, J. Nelson) Finite-dimensional exact filters for linear systems in mixed time. I. Filters. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 145–163. (Alexander I. Matasov) **99e:93080** 93E11 (60G35)

— (*with* Kannan, D.; Rushton, J. Nelson) Finite-dimensional exact filters for linear systems in mixed time. II. Parameter estimation. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 165–185. (Alexander I. Matasov) **99e:93081** 93E11 (60G35)

— (*with* Sethi, Suresh P.) Near optimization of dynamic systems by decomposition and aggregation. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 1–22. (Summary) **99k:49072** 49M30 (93A14)

— (*with* Sethi, Suresh P.; Zhang, Hanqin) Minimum average cost production planning in stochastic manufacturing systems. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1251–1276. (Summary) **99i:93073** 93E20 (90B30)

— (*with* Fleming, Wendell H.) Risk-sensitive production planning of a stochastic manufacturing system. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1147–1170 (*electronic*). (Summary) **99c:90060** 90B30 (49L25, 93E20)

— Nonlinear filtering and control of a switching diffusion with small observation noise. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1638–1668 (*electronic*). (Martin Daumer) **99d:93070** 93E11

— (*with* Kannan, D.) Nonlinear filtering of an interactive multiple model with small observation noise: numerical methods. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 631–659. (Jean Picard) **99d:60051** 60G35 (65U05)

Zhang, Qing Cai Meromorphic functions f that share one value CM with $f^{(k)}$. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 68–74. (Summary) **99f:30050** 30D35

— The uniqueness of meromorphic functions with their derivatives. (English summary) *Kodai Math. J.* **21** (1998), *no.* 2, 179–184. (Hong Xun Yi) **99g:30044** 30D35

Zhang, Qing Ling (*with* Dai, Guan Zhong; Lam, James; Zhang, Li Qian[2]; de la Sen, Manuel) Asymptotic stability and stabilization of descriptor systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 208–211. 93D20 (93D15)

— (*with* Dai, Guan Zhong; Xu, Xin He; Xie, Xu Kai) Analysis and control of stability for discrete descriptor systems via Lyapunov methods. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 622–629. 93D05 (93C55)

— (*with* Zhang, Xiu Hua) Optimal control for discrete-time singular linear systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 435–438. 93C55 (49N10)

— (*with* Xing, Wei[1]; Wang, Qi Yi) Properties of operators in genetic algorithms. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 5, 540–542. 90C27

Zhang, Qing Zheng Fixed points for a class of noncompact binary operators and their applications. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 29–33, 22. (Da Jun Guo) **99m:47069** 47H10

Zhang, Qinglin (*with* Wang, Zhenyong; Pu, Xiaorong) Effects of contents on propositional reasoning: a representation-based explanation. (English summary) *Xinan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1996), *no.* 5, 505–512. 03A05 (92J10)

Zhang, Quan De A necessary condition for the existence of global solutions to nonlinear wave equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 1, 31–37. (Summary) **99b:35151** 35L70

— (*with* Wang, Yun) Classical global solutions to a class of systems of reaction-diffusion equations arising in biology. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 9–13. (Xiao Qiang Zhao) **99b:92052** 92D25 (35K57, 35Q80, 92B05)

— (*with* Li, Kai-tai) Existence and nonexistence of global solutions for the equation of dislocation of crystals. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 5–21. (Fumioki Asakura) **99k:35125** 35L70 (35Q40, 73C99, 73V25)

— (*with* Li, Kai-tai) Global solutions and blow up for activator inhibitor model. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 238–244. (Summary) **99h:92009** 92C15

Zhang, Quanxin (*with* Yan, Ju Rang) Comparison and oscillation for higher order delay differential equations. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 1–10. (Summary) **99i:34105** 34K15

Zhang, Qun Clutching a normal BCI-algebra to a BCK-algebra. (English summary) *Sci. Math.* **1** (1998), *no.* 3, 355–364 (*electronic*). 06F35

Zhang, Qunying (*with* Shi, Jinglin; Li, Tao; Yu, Bo; Han, Yueqiu) Improvement of CORDIC algorithm. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 4, 400–405. 65D20 (94A12)

Zhang, R. B. Structure and representations of the quantum general linear supergroup. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 525–547. (Jonathan Brundan) **99g:17037** 17B37 (17B10, 81R50)

— (*with* Scheunert, M.) Cohomology of Lie superalgebras and their generalizations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 5024–5061. (Elena Poletaeva) **99f:17025** 17B56

— (*with* Scheunert, M.) The second cohomology of $\mathrm{sl}(m|1)$ with coefficients in its enveloping algebra is trivial. (English summary) *Lett. Math. Phys.* **47** (1999), *no.* 1, 33–48. (Daniel K. Nakano) **99k:17039** 17B56 (17B35)

Zhang, Raoyang (*with* He, Xiaoyi; Chen, Shiyi; Doolen, Gary D.) On the three-dimensional Rayleigh-Taylor instability. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1143–1152. (Summary) **99m:76064** 76E99 (76M25, 76T05)

Zhang, Ren Jiang An asymptotic expansion formula for Bernstein polynomials on a triangle. (English summary) *Approx. Theory Appl.* (*N.S.*) **14** (1998), *no.* 1, 49–56. (D. D. Stancu) **99j:41052** 41A60

— (*with* Xie, Ting Fan; Zhou, Song Ping) Three conjectures on Shepard interpolatory operators. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 399–414. (Galimzian G. Islamov) **99c:41051** 41A36 (41A40)

Zhang, Ren Zhong Linearization with dynamic compensation of time-varying affine nonlinear systems. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 38–42. 93B18 (93C10)

Zhang, Ronghua A note on orthodox semidirect products and wreath products of monoids. (English summary) *Semigroup Forum* **58** (1999), *no.* 2, 262–266. (J. E. Mills) **99m:20147** 20M17 (20M19)

Zhang, Rongjun (*with* Sun, Fuchun; Sun, Zeng Qi; Guo, Muhe) A stable neural network-based adaptive controller for robot manipulators. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 413–432. 93C85 (93C40)

Zhang, Ru Qing A Newton-PCG parallel algorithm for solving systems of nonlinear equations. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 2, 98–102, *VII.* 65H10 (65Y05)

Zhang, Ru Yuan (*with* Wang, Ke[1]) Persistence for Lotka-Volterra equations with infinite delay. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 306–310. (Xiao Qiang Zhao) **99m:34167** 34K15 (92D25)

Zhang, Rui Feng A class of spectral schemes with weak stability for the Cahn-Hilliard equation. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 17–20. (Summary) **99b:65124** 65M70 (35K60)

— A pseudospectral method for a class of generalized KdV-Burgers equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 77–80. (Summary) **99e:65162** 65N35

Zhang, Rui Ping (*with* Sun, Jia Ju) A soliton-like solution for a nonlinear wave motion problem in elastic media. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 1, 99–102, *VIII.* 73D35

Zhang, Run Chu (*with* Chen, Xi Ru; Fang, Kai-Tai; Zhu, Li-Xing) Asymptotics in addition of pseudo-random sequences. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 6, 612–621. (Peter J. Hellekalek) **99a:65018** 65C10 (11K45)

— (*with* Liu, Min Qian) Equivalence of $E(s^2)$ optimal supersaturated designs and BIB designs. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 19, 2053–2056. 05B05

Zhang, Run Dong (*with* Yan, Feng Li; Li, Bo Zang) Hamiltonian operators constructed from two kinds of finite-depth quantum potential wells with time-dependent boundary conditions and their complex Berry phases. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 10, 1585–1599. 81Q99

Zhang, S. *see* **Zhang, Sheng[2]**

Zhang, S. L. *see* **Zhang, Shao Liang**

Zhang, Shan Qing (*with* Li, Zhi Bin[1]) Symbolic computation of exact solitary wave solutions to nonlinear wave equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 1, 81–89. (Summary) **99c:35204** 35Q51 (68Q40)

Zhang, Shanjun (*with* Dai, Lixin) The stability of the solution of partial functional-differential equation with delay. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 48 (1998), 61–66. (Summary) **99h:35219** 35R10 (35B35, 35Q80)

Zhang, Shao Liang (*with* Natori, Makoto; Jin, Cheng-Hai) Product-type Krylov-subspace methods for solving nonsymmetric linear systems. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 95–106, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:65059** 65F10

— (*with* Itoh, Shoji; Natori, Makoto) On an efficient solution method for vector computers related to block 5-diagonal matrix groups. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 180–187. (*see* **99i:00028**) 15-04

Zhang, Shao Tai (*with* Ding, Xiao Hua) Eventual boundedness of Volterra-Lotka differential equations. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 15–19. (Qing Kai Kong) **99c:34114** 34D40

— (*with* Ding, Xiao Hua; Liu, Hui Jie) Permanence and global stability for a class of Lotka-Volterra diffusion systems with infinite delay. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 5–6, 11. (Summary) **99h:34113** 34K20

Zhang, Shao Yi The existence of a ρ-optimal coupling operator for jump processes. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 393–398. (Shui Feng) **99k:60211** 60J75

Zhang, Shaohui *see* **Management science in China, 99m:90004**

Zhang, Shaowei A note on the Tate-Shafarevich group of some elliptic curves. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 6, 551–555. (Massimo Bertolini) **99i:11052** 11G40 (11G05, 11G15, 11R29)

Zhang, Sheng[1] (*with* Wang, Yaohong; Zhang, Ji Hong[2]) Multi-objective discounted semi-Markov decision processes with multiple constraints. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 551–555, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 90C40 (90C29)

Zhang, Sheng[2] (*with* Wang, Ming[1]) The optimal preconditioning in the domain decomposition method for Wilson element. (English summary) *J. Comput. Math.* **15** (1997), *no.* 3, 193–202. (E. G. D'yakonov) **99a:65179** 65N55

Zhang, Sheng Gui[1] On polynomial rings over a ring with a selfduality. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 571–576. (Yasuyuki Hirano) **99c:16007** 16D90

— Graded Morita duality over strongly graded rings with enough nilpotent elements. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 1, 10–14. (Weimin Xue) **99a:16005** 16D90 (16W50)

— Graded rings and localizations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 137–144. (Summary) **99b:16068** 16W50 (16P50)

Zhang, Sheng Kai (*with* Zhang, Ya Dong; Yan, Hui Zhen; Wang, Qi Yi) Convex linear generalization of random coalition games. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 9, 713–716. 90D15

— (*with* Zhang, Ya Dong; Yan, Hui Zhen; Wang, Qi Yi) Convex linear extensions of random coalition games. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 6, 582–586. 90D15

Zhang, Sheng Li[2] Yangian $Y(\mathrm{sl}(2))$ in Coulomb problem. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 5, 586–592. (Ashok Kumar Mishra) **99m:81102** 81R50 (17B37, 81Q05)

Zhang, Sheng Yuan Existence of a class of duadic group algebra codes. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 2, 1–5. (Summary) **99e:94050** 94B60

— On the nonexistence of extremal self-dual codes. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 277–286. (Summary) **99k:94066** 94B60

Zhang, Shengchang (*with* Ou, Zhiying; Wang, Baiyan; Yan, Keming) Weakly augmented Lagrange-function projected gradient methods for nonlinear programming. (English summary) *J. Gansu Univ. Technol. (Engl. Ed.)* **2** (1998), *no.* 1, 85–87. 90C30 (65K05)

Zhang, Shenggui *see* **Zhang, Sheng Gui**[1]

Zhang, Shenghai (*with* Joó, István) Approximate controllability of infinite-dimensional bilinear systems. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 58–67. (Sergei A. Avdonin) **99b:93013** 93B05 (93C25)

— Existence of nonnegative solutions for degenerate ecological models. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 8–14. (Toshio Horiuchi) **99d:35065** 35J70 (35B05, 35J55, 92D25)

— (*with* Liu, Xinzhi) A cell population model described by impulsive PDEs—existence and numerical approximation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 1–11. (Anthony Leung) **99m:92033** 92D25 (34G20, 35Q80)

Zhang, Shengli *see* **Zhang, Sheng Li**[2]

Zhang, Shi Qing Multiple closed orbits of fixed energy for N-body-type problems with gravitational potentials. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 365–374. (Zhi Qiang Wang) **99j:34063** 34C25 (58E09, 58F22, 70F10)

— Multiple closed orbits for N-body-type problems. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 1–13. (Vittorio Coti Zelati) **99i:58126** 58F22 (34C25, 70F07, 70F10)

Zhang, Shi Sheng (*with* Lee, Gue Myung; Lee, Byung Soo) Vector saddle point theorems and vector minimax theorems on H-spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 63–72. 90C29 (49K35)

— (*with* Wu, Xian[3]) Noncompact minimax theorems of Ben-El-Mechaiekh, Deguire and Grans type on interval spaces and their applications. (Chinese) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 473–477. 49J35 (90C48)

— (*with* Yuan, Jia Wei) General versions of coincidence point theorems and a variational principle. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 565–572. 54H25 (54A40, 54C60)

— On Chidume's open questions and approximate solutions of multivalued strongly accretive mapping equations in Banach spaces. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 94–111. (Claudio H. Morales) **99e:47083** 47H10 (47H04, 47H15, 47H17)

— (*with* Kang, Shi-kun; Wang, Fan[1]) On the existence problems of solutions for nonlinear operator equations with probabilistic contractor in PN-spaces. (English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **1** (1997), *no.* 1, 94–102. (S. L. Singh) **99e:47101** 47S50 (47H15, 47H40, 60H25)

— Some problems and results in the study of nonlinear analysis. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4197–4208. (Mo Tak Kiang) **99a:47089** 47H10

— (*with* Chen, Yu Qing; Thompson, H. B.; Yuan, Xian-Zhi) Nonlinear accretive operators and semigroups in locally convex spaces. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 215–234. (Vladimir E. Fedorov) **99j:47076** 47H06 (34A60, 34G20, 47H20)

— (*with* Wang, Fan[1]) On the initial value problems of first order impulsive differential systems. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 4, 303–308; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 279–284 (*Chinese. English and Chinese summaries*). (Summary) **99c:34019** 34A37 (34A12)

— (*with* Tan, Kok-Keong) Iteration processes for approximating fixed points of operators of monotone type. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 433–445. (Tomás Domínguez Benavides) **99d:47057** 47H10

— (*with* Chen, Yu Qing; Cho, Yeol Je; Lee, Byung Soo) Fixed point theorems for nonexpansive operators with dissipative perturbations in cones. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 49–54. (S. N. Askhabov) **99f:47083** 47H10 (45G10, 47H09)

— (*with* Cho, Yeol Je; Lee, Byung Soo; Jung, Jong Soo; Kang, Shin Min) Iterative approximations of fixed points and solutions for strongly accretive and strongly pseudo-contractive mappings in Banach spaces. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 149–165. (Charles Ejike Chidume) **99g:47146** 47H15 (47H06, 47H09, 47H17)

— (*with* Lee, Gue Myung; Lee, Byung Soo; Jung, Jong Soo) Minimization theorems and fixed point theorems in generating spaces of quasi-metric family. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 143–152. (Summary) **99k:54004** 54A40 (54H25)

— (*with* Jung, Jong Soo; Cho, Yeol Je; Lee, Byung Soo; Kang, Shin Min) Common fixed point theorems and variational principle in generating spaces of quasi-metric family. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 315–325. 54A40 (54C60, 54H25)

— (*with* Lee, Gue Myung; Lee, Byung Soo) Vector quasivariational inequalities for fuzzy mappings. II. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 333–344. (E. S. Lee) **99m:47082** 47H19 (47S40, 49J40)

Zhang, Shi Wu (*with* Zhang, Zhi Zheng) A multiple generalization of a combinatorial iterated triangular identity and its applications. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 4, 10–13. 05A19

Zhang, Shi Ying (*with* Gao, Ren Xiang; Liu, Bao) A method of simulated moment estimation for the Box-Cox transformation model. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 40–48. (Summary) **99m:62099** 62J05

— (*with* Rong, Xi Min; Zhang, Xi Bin) Research on portfolio investment models. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 81–88. 90A09

— (*with* Zhang, Xi Bin) A reconsideration of the nonlinear transformation of the integrated time series. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 2, 70–77. 62M10

— (*with* Zhu, Hui) Bayesian inference for seasonal cointegrated systems. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 30–37. (Summary) **99k:62062** 62F15

— (*with* Li, Tie Shan) Diagnosis problems of nonlinear regression. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 3, 257–264. 62J02

Zhang, Shou-Cheng (*with* Demler, Eugene) Non-abelian holonomy of BCS and SDW quasiparticles. (English summary) *Ann. Physics* **271** (1999), *no.* 1, 83–119. (Summary) **99i:82039** 82D55

Zhang, Shou-Wu Equidistribution of small points on abelian varieties. *Ann. of Math.* (2) **147** (1998), *no.* 1, 159–165. (Yuichiro Takeda) **99e:14032** 14G40 (11G10, 14G05, 14K15)

— Small points and Arakelov theory. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 217–225 (*electronic*). (Yuichiro Takeda) **99i:14030** 14G40 (11G10, 11G35, 14G05, 14K15)

Zhang, Shou Xin (*with* Zhou, Shan Shan) The application of RRURVD, a rank-revealing two-sided orthogonal decomposition for matrices. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **28** (1998), *no.* 3, 502–506. 65F30 (15A23, 65F10)

Zhang, Shouchuan The Baer and Jacobson radicals of crossed products. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 1-2, 11–24. (Summary) **99k:16039** 16N20 (16S35)

— Classical Yang-Baxter equation and low-dimensional triangular Lie bialgebras. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 71–81. (Summary) **99g:17054** 17B99 (16W30)

Zhang, Shu-gong (*with* Feng, Guo-chen) The eigenvalue method for solving multipolynomial system. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994)*, 1–8, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 65H05

Zhang, Shu-hua *see* **Zhang, Shu Hua**[3]

Zhang, Shu Hua[1] (*with* Hall, T. E.) On radical congruence systems. II. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 3, 363–397. (Pascal Weil) **99m:20138** 20M07 (08A30, 08B15)

— (*with* Reilly, Norman R.) Operators on the lattice of pseudovarieties of finite semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 2, 208–239. (Sheila Oates-Williams) **99j:20066** 20M07 (08C15)

Zhang, Shu Hua[3] (*with* Lin, Qun[1]; Yan, Ning-ning) Extrapolation and defect correction for diffusion equations with boundary integral conditions. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 4, 405–412. (Chuan Miao Chen) **99f:65143** 65M60 (45K05)

— (*with* Lin, Qun[1]; Yan, Ning-ning) An acceleration method for integral equations by using interpolation post-processing. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 117–129. (Wojciech Mydlarczyk) **99m:65249** 65R20 (45L05)

— (*with* Lin, Qun[1]; Yan, Ning-ning) Asymptotic error expansion and defect correction for Sobolev and viscoelasticity type equations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 1, 51–62. (Weimin Han) **99a:65126** 65M60

— (*with* Brunner, Hermann; Lin, Yanping) Higher accuracy methods for second-kind Volterra integral equations based on asymptotic expansions of iterated Galerkin methods. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 4, 375–396. (Yury Petrovich Yatsenko) **99m:65244** 65R20 (45L05)

— (*with* Lin, Qun[1]) High accuracy analysis for first order hyperbolic equations by Petrov-Galerkin methods. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2,

134–143. (Mu Sheng Wei) **99i:65106** 65M60 (65M12)

Zhang, Shu Li (*with* Wang, Feng Ru) A relation matrix scheduling algorithm for dependent tasks in multiprocessors. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 933–938. 68M20

Zhang, Shu Nian Invariance principles on delay difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 657–662, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39052** 39A10

— Quantitative result on stability for delay difference systems. *Chinese Sci. Bull.* **42** (1997), *no.* 22, 1858–1861. (Saber Elaydi) **99f:39016** 39A10

— Stability analysis of delay difference systems. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 41–52. (Xiao Xin Liao) **99f:39017** 39A10

— Invariance principles for autonomous infinite delay difference systems. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 411–421. (Guang Zhang) **99e:39053** 39A10

— Some Razumikhin-type theorems in stability theory. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 73–82; *translation in Chinese J. Contemp. Math.* **19** (1998), *no.* 1, 31–42. (Xin-Zhi Liu) **99c:34176** 34K20

— An improvement in stability of delay difference systems. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 7, 544–547. (Michail G. Blizorukov) **99m:39019** 39A11

— Almost periodic solutions of difference systems. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 24, 2041–2046. (P. Talpalaru) **99m:39015** 39A10 (42A99)

— (*with* Shen, Samuel Shan Pu) A quantitative study on the stability of quadratic delay difference systems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 1–16. (Michail G. Blizorukov) **99f:39023** 39A11 (39A10)

— (*with* Chen, Ming-Po) A new Razumikhin theorem for delay difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 405–412. (L. A. V. Carvalho) **99k:39051** 39A10

— (*with* Chen, Ming-Po) Boundedness and periodicity of solutions of functional-differential equations. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 339–344. (Ch. G. Philos) **99h:34111** 34K15 (34C11, 34C25)

Zhang, Shu Qing (*with* Lu, Yun Xia; Yuan, Zhi Zhong) An inequality for singular values of products of quaternion matrices and its applications. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 455–458. 15A42 (15A33)

Zhang, Shu Sheng (*with* Zhang, Ke Min[1]) Some tree-stars Ramsey numbers. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 287–291, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99g:05135** 05C55

Zhang, Shuang *see* **Operator algebras and operator theory, 99h:46001**

Zhang, Shuanglin (*with* Sha, Qiuying) On the best equivariant estimator of covariance matrix of a multivariate normal population. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 8, 2021–2034. (Yoshihiko Konno) **99c:62160** 62H12 (62F10)

Zhang, Shuguang A note on the selection of equivalent martingale measure. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 5, 519–525. 90A09 (93E20)

— (*with* Pardoux, Étienne) Generalized BSDEs and nonlinear Neumann boundary value problems. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 4, 535–558. (Fabio Antonelli) **99f:60113** 60H10

Zhang, Shuhua *see* **Zhang, Shu Hua[3]**

Zhang, Shujian (*with* Cattell, Kevin; Serra, Micaela; Muzio, Jon C.) 2-by-n hybrid cellular automata with regular configuration: theory and application. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 3, 285–295. (Summary) **99k:68116** 68Q80 (68Q35)

Zhang, Shun Hua Lie algebras determined by finite valued Auslander-Reiten quivers. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 7, 714–724. (Sverre O. Smalø) **99a:16014** 16G70 (16G20, 16G60, 17B35)

— Triangular decomposition of the composition algebra of $\widetilde{A}_{11}$. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 11–18. (Bang Ming Deng) **99e:16019** 16G10 (16E60)

— (*with* Yang, De Ping) V-modules and V-rings in the setting of a hereditary torsion theory. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 3, 248–253. (Shi Zhong Pan) **99k:16065** 16S90

Zhang, Shunming (*with* Wang, Yuyun) Finite horizon arbitrage-free security markets. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 203–211. (C. D. Aliprantis) **99m:90032** 90A09

— Existence of stochastic equilibrium with incomplete financial markets. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 77–94. (Summary) **99a:90048** 90A09 (90A60)

Zhang, Shunpu (*with* Karunamuni, Rohana J.) Empirical Bayes estimation for the continuous one-parameter exponential family with errors in variables. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 261–279. (Khursheed Alam) **99c:62018** 62C12 (62C25, 62F10, 62F12)

— (*with* Karunamuni, Rohana J.) On kernel density estimation near endpoints. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 301–316. (Sh. A. Khashimov) **99k:62080** 62G05

Zhang, Shunyan (*with* Fang, Qi Qin) Capacity and covering theorems. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 1, 11–19. (Summary) **99g:31005** 31A15

Zhang, Shuzhong (*with* Luo, Zhi-Quan; Sturm, Jos F.) Superlinear convergence of a symmetric primal-dual path following algorithm for SDP. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 283–297, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C30 (65K05)

— (*with* Sturm, Jos F.) An interior point method, based on rank-1 updates, for linear programming. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 77–87. (Summary) **99b:90079** 90C05

— (*with* van der Veen, Jack A. A.; Woeginger, Gerhard J.) Sequencing jobs that require common resources on a single machine: a solvable case of the TSP. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 235–254. (Panos M. Pardalos) **99d:90062** 90B35 (90C27)

— (*with* Sturm, Jos F.) On the long-step path-following method for semidefinite programming. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 145–150. (Levent Tunçel) **99m:90111** 90C25 (90C05)

— (*with* Luo, Zhi-Quan; Sturm, Jos F.) Superlinear convergence of a symmetric primal-dual path following algorithm for semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 59–81 (*electronic*). (Levent Tunçel) **99g:90127** 90C30 (65K05)

— (*with* Sturm, Jos F.) Symmetric primal-dual path-following algorithms for semidefinite programming. (English summary) Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96) (Delft). *Appl. Numer. Math.* **29** (1999), *no.* 3, 301–315. (Levent Tunçel) **99m:90110** 90C25 (90C05)

Zhang, Si Ying (*with* Lü, Xingya; Yan, Xing Gang) Robust stability and an estimation of PRD for nonlinear composite large-scale systems with uncertain parameters. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 50–55. (Han Sheng Wu) **99c:93081** 93D09 (93A15)

— (*with* Lu, Li Lei; Gao, Li Qun) Robust control for linear time-delay systems with structured uncertainty. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 345–349. 93D09 (93B36)

— (*with* She, Yan) Relative degree and normal form for general nonlinear control systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 4, 570–572. 93B10 (93C10)

— (*with* She, Yan) Decentralized linearization and decentralized control for nonlinear large-scale systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 585–592. 93A14 (93B18)

— (*with* Huang, Shou Dong) Comments on: "Design of decentralized control for symmetrically interconnected systems" [Automatica J. IFAC **32** (1996), no. 3, 475–476] by A. El Kashlan and M. El Geneidy. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 929–933. 93A14 (93B60)

— (*with* Yang, Guang-Hong; Lam, James; Wang, Jianliang) Reliable control using redundant controllers. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1588–1593. (Summary) **99g:93034** 93B50 (90B25)

— (*with* Lu, Li Lei; Gao, Li Qun) The design of robust strongly stabilizing controllers for uncertain time-delay linear systems. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 1, 6–10. 93D21 (93C30)

— (*with* Wang, Xiang Dong; Gao, Li Qun) Robust stabilization of a class of uncertain nonlinear systems via state feedback. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 299–301. 93D21

Zhang, Su Mei (*with* Wang, Xiao Li; Li, Tao[1]) Structural properties of outerplanar graphs and their applications to edge coloring. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 3, 13–15, 31. 05C15

Zhang, Suyu (*with* Mizukami, Koichi) Simultaneous robust stabilization control for a collection of systems with uncertainty. (English summary) *Bull. Fac. Eng. Hiroshima Univ.* **45** (1996), *no.* 1, 29–35. 93D21 (93C42)

— (*with* Wu, Hansheng; Mizukami, Koichi) Robust stability conditions for large-scale interconnected systems with structured and unstructured uncertainties. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 70–96. (Ji Tao Sun) **99m:93078** 93D09 (93A14)

Zhang, T. *see* **Zhang, Tong[2]**

Zhang, T. S. *see* **Zhang, Tu Sheng**

Zhang, Tai Zhong Some theorems on singular directions of meromorphic functions. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 3, 20–27. (Lo Yang) **99e:30024** 30D35

Zhang, Taiyan (*with* Ercolani, Nicholas M.; Levermore, C. David) The behavior of the Weyl function in the zero-dispersion KdV limit. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 119–143. (Naruyoshi Asano) **99b:35182** 35Q53 (34A55, 34L25, 35B25, 35P20)

Zhang, Tao (*with* Hu, Dong Cheng; Wang, Xiaofeng[2]) A study of a reliability estimation method for cold standby systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 166–172. 90B25

Zhang, Tian De (*with* Cao, Qing Jie; Li, Jiu Ping; Price, G. W.; Djidjeli, K.; Twizell, E. H.) Soliton solutions of a class of generalized N-dimensional nonlinear Schrödinger equations and their properties. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2166–2173. (Summary) **99c:35217** 35Q55

— (*with* Cao, Qing Jie; Djidjeli, K.; Price, G. W.; Twizell, E. H.) Soliton solutions of a class of generalized nonlinear Schrödinger equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 389–398. (Hong Yuan Fu) **99b:65096** 65M06 (35Q55)

— (*with* Cao, Qing Jie; Price, G. W.; Djidjeli, K.; Twizell, E. H.) Applications of the weighted scheme for GNLS equations in solving soliton solutions. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 525–541. (Summary) **99f:35198** 35Q55 (65M06)

Zhang, Tian Ping (*with* Zhou, Cai Ying) Stable indirect adaptive fuzzy control of interconnected systems. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 4, 1–6. 93C42 (93D09)

— (*with* Zhou, Cai Ying) Studies on adaptive fuzzy variable structure control. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 76–82. 93B12 (93C42)

Zhang, Tian Wen (*with* Yang, Yang) A tracking algorithm for active contours based on multiresolution. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 210–216. 68U05

Zhang, Tian Xu (*with* Xiong, Hui Lin) Perfect reconstruction of digital signals after orthogonal and compactly supported wavelet transformations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *suppl. I*, 91–92. 65T20 (42C15)

Zhang, Tie (*with* Huang, Ming-you) Superconvergence of Ritz-Volterra projection on finite element spaces. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 197–206. (K. Najzar) **99f:65147** 65M60 (65M12, 65R20)

— The superconvergence properties of finite element Ritz-Volterra projection and their applications. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 1–5. 65M60 (65R20)

Zhang, Ting Jie (*with* Li, Hai Tao; Qiu, Pei Zhang) Boundary value problems for a class of fourth-order difference equations and the generation of fractal surfaces. (Chinese.

English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 386–393. (Summary) **99e:39054** 39A10 (28A80)

Zhang, Ting Xuan (*with* Xuan, Heng Nong; Luo, Xian Fa; Liu, Shun Bao) A uniform boundedness principle for a family of operators. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 2, 8–10. 47A05

Zhang, Tong[1] (*with* Chen, Shao Zhong[1]; Li, Jiequan) Explicit construction of measure solutions of Cauchy problem for transportation equations. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1287–1299. (Vladimir V. Shelukhin) **99b:35181** 35Q53 (35C05, 76N10)

— (*with* Zhang, Peng[1]) Generalized characteristic analysis and Guckenheimer structure. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 409–430. (Yu. G. Rykov) **99m:35154** 35L65 (34C99)

— (*with* Sheng, Wancheng) The Riemann problem for the transportation equations in gas dynamics. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 654, *viii+77 pp.* (Hermano Frid) **99g:35109** 35Q35 (35L65, 76N10, 76N15)

Zhang, Tong[2] (*with* Golub, Gene H.; Law, K. H.) Eigenvalue perturbation and generalized Krylov subspace method. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 2, 185–202. (J. Segethová) **99i:65044** 65F15 (65F30)

— (*with* Law, K. H.; Golub, Gene H.) On the homotopy method for perturbed symmetric generalized eigenvalue problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1625–1645 (*electronic*). (Heike Faßbender) **99e:65065** 65F15 (15A18, 65F50)

Zhang, Tu Sheng (*with* Øksendal, Bernt) The general linear stochastic Volterra equation with anticipating coefficients. (English summary) *Stochastic analysis and applications (Powys, 1995)*, 343–366, *World Sci. Publishing, River Edge, NJ*, 1996. (David Nualart) **99c:60131** 60H20 (60E15, 60G20)

— (*with* Röckner, Michael) Convergence of operators semigroups generated by elliptic operators. *Osaka J. Math.* **34** (1997), *no.* 4, 923–932. (Ivor E. McGillivray) **99d:31005** 31C25 (35K10, 47D06, 60J45)

— (*with* Röckner, Michael) On the strong Feller property of the semigroups generated by non-divergence operators with L^p-drift. (English summary) *Stochastic analysis and related topics, VI (Geilo, 1996)*, 401–408, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (F. B. Knight) **99i:60144** 60J35 (47D07, 60J60)

— (*with* Ma, Zhi-Ming; Röckner, Michael) Approximation of arbitrary Dirichlet processes by Markov chains. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 1, 1–22. (Yoichi Ôshima) **99c:60160** 60J40 (31C25, 60J10)

— (*with* Lunt, John; Lyons, Terry) Integrability of functionals of Dirichlet processes, probabilistic representations of semigroups, and estimates of heat kernels. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 320–342. (Zhi Ming Ma) **99g:31012** 31C25 (47D07, 60G44, 60J25)

— (*with* Albeverio, Sergio; Wu, Jiang Lun) Parabolic SPDEs driven by Poisson white noise. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 21–36. (Fred Espen Benth) **99c:60124** 60H15 (35R60, 60H20)

— (*with* Albeverio, Sergio) Approximations of Ornstein-Uhlenbeck processes with unbounded linear drifts. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 303–312. (Summary) **99f:60077** 60G15 (31C25, 60J60)

Zhang, W. Y. *see* **Zhang, Wei Yi**

Zhang, Wan Min A further study of the extremal cases in the Ahlswede-Cai inequality. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 17–19, 24. 05A20

Zhang, Wei *see* **Zhang, Wei[3]**

Zhang, Wei[2] Absolute stability criteria for retarded Lurie systems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 129–132. 34K35 (34K20)

Zhang, Wei[3] Another characterization of the commutator subspace of a matrix algebra over a closed field. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 2, 11–13. (Summary) **99i:15023** 15A27

Zhang, Wei Dong (*with* Sun, You Xian; Xu, Xiao Ming) Dahlin controller design for multivariable time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 64–72. 93B51

Zhang, Wei Guo[1] Explicit exact solitary wave solutions for some classes of evolution equations with a strongly nonlinear term of degree 5. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 249–256. (Summary) **99e:35194** 35Q51

— The universal compact attractor for mixed equations of nonlinear waves and nerve conduction. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 339–352. (Summary) **99m:35246** 35Q80 (35B40)

— (*with* Kong, De Xing) Global classical solutions and explicit exact solutions to a kind of quasilinear partial differential equations. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 89–96. (Tie Hu Qin) **99a:35168** 35L60 (35L67)

Zhang, Wei Jiang (*with* Liu, Jian Hua; Xu, Xiao Ming) Probabilistic neural network filtering for nonlinear systems with colored noise. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 793–796. (Summary) **99a:93101** 93E11

— (*with* Mo, Jia Qi) The asymptotic behavior of solutions to a class of singularly perturbed reaction-diffusion problems. (Chinese) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 623–627. (Xiao Biao Lin) **99c:35016** 35B25 (35K57)

— (*with* Mo, Jia Qi) A class of singularly perturbed boundary value problems for higher-order elliptic equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 315–320. (Zong Chi Lin) **99m:35020** 35B25 (35J40, 35J65)

Zhang, Wei Nian A characterization of sequential compactness for sets of smooth functions. (Chinese. English and Chinese summaries) *Math. Practice Theory* **27** (1997), *no.* 4, 373–375. (Jingzhong Zhang) **99d:46037** 46E15 (46A50)

— (*with* Matkowski, Janusz) Characteristic analysis for a polynomial-like iterative equation. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 192–196. (B. Choczewski) **99h:39023** 39B12

Zhang, Wei Ping[1] (*with* Wu, Siye) Equivariant holomorphic Morse inequalities. III. Non-isolated fixed points. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 1, 149–178. (Summary) **99k:58172** 58G10 (58E05)

— (*with* Dai, Xianzhe) Higher spectral flow. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 432–469. (Éric Leichtnam) **99f:58196** 58G12 (19K56, 58G10)

— (*with* Tian, Youliang) Holomorphic Morse inequalities in singular reduction. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 3, 345–352. (Kenji Tsuboi) **99f:58190** 58G10 (58E05, 58F06)

Zhang, Wei Yi (*with* Huseyin, Koncay; Chen, Yushu S.) A new approach for obtaining normal forms of non-linear systems. (English summary) *J. Sound Vibration* **210** (1998), *no.* 5, 609–625. (James A. Murdock) **99g:34082** 34C20 (34C29, 58F36)

— (*with* Huseyin, Koncay; Chen, Yushu S.) On the analysis of certain high-dimensional systems with inner resonances. (English summary) *J. Sound Vibration* **213** (1998), *no.* 4, 739–756. (Peter Ashwin) **99g:34083** 34C20 (70K30)

Zhang, Weiguo *see* **Zhang, Wei Guo[1]**

Zhang, Weihai (*with* Yuan, Fuyu; Wei, Qicai) A Lyapunov-type equation on mean square stability of stochastic systems. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 133–134, 39. 34D20 (34F05)

Zhang, Weiping *see* **Zhang, Wei Ping[1]**

Zhang, Weiqing (*with* Kececioglu, John D.) Aligning alignments. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 189–208, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 92D20 (68Q25)

Zhang, Weitao (*with* Feng, De Xing; Shi, Donghua) Boundary feedback stabilization of Timoshenko beam with boundary dissipation. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 483–490. (Kenneth B. Hannsgen) **99i:93051** 93D15 (47H20, 73K05, 73K50)

Zhang, Wen[2] (*with* Xiao, Yi) Soliton solutions of the discrete nonlinear Schrödinger equation with nonvanishing boundary conditions. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 3, 341–342. 35Q55

Zhang, Wen-Bin[1] The prime element theorem in additive arithmetic semigroups. II. *Illinois J. Math.* **42** (1998), *no.* 2, 198–229. (Wolfgang Schwarz) **99j:11115** 11N80 (11M45, 30B30)

— Mean-value theorems of multiplicative functions on additive arithmetic semigroups. *Math. Z.* **229** (1998), *no.* 2, 195–233. (Wolfgang Schwarz) **99h:11113** 11N80 (11N37)

Zhang, Wen Jun (*with* Liu, Tai Shun; Liu, Cong Wen) An interpolation characterization of domains of holomorphy. *Chinese Sci. Bull.* **42** (1997), *no.* 23, 1954–1956. (Siqi Fu) **99h:32011** 32D05 (32E30)

— (*with* Lu, Tai Shun; Liu, Cong Wen) An interpolation characterization of domains of holomorphy. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 17, 1813–1814. 32D05

— (*with* Liu, Tai Shun) R-W polynomials and existence of inner functions on classical domains. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 2, 235–240. (Yan Da Zhao) **99h:32004** 32A07

Zhang, Wen Xiu (*with* Nie, Zan Kan; Gao, Yong) Optional (predictable) projections of measurable set-valued stochastic processes in reflexive Banach spaces. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 99–104. (Summary) **99b:60060** 60G44 (60B99)

Zhang, Wen Xu (*with* Shen, Long-jun) A finite difference method for higher-order nonlinear wave equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 419–430. (Summary) **99d:65258** 65M06

Zhang, Wen Zhong (*with* Wang, Shun Jin) An algebraic dynamics approach to the solution of the SU(3) linear nonautonomous quantum system. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 2, 209–226. (Ji Sheng Na) **99a:81059** 81R05

Zhang, Wenfei (*with* Li, Xiaojiang) Analytic solution of poro-mechanical problems in a hollow axisymmetric domain. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 209–221. (Summary) **99g:73019** 73B99 (73Q05)

Zhang, Wenkui (*with* Brunner, Hermann) Collocation approximations for second-order differential equations and Volterra integro-differential equations with variable delays. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 3, 269–285. (Iulian Coroian) **99j:65243** 65R20 (34K99, 45L05)

Zhang, Wenpeng Some estimates of trigonometric sums and their applications. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 17–30. (Matti Jutila) **99b:11093** 11L05

— On the asymptotic property of the mean values of Dedekind sums. (English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *Special Issue*, 1–8. (Marvin I. Knopp) **99b:11039** 11F20 (11M20)

— On a problem of P. Gallagher. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 345–357. (Ognian Trifonov) **99a:11112** 11N69 (11L05)

— On the distribution of primitive roots modulo p. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 245–255. (Francesco Pappalardi) **99j:11114** 11N69 (11L05, 11L07)

Zhang, Wenyao (*with* Lin, Bor-Luh) Three-space property of Kadec-Klee renorming in Banach spaces. *Functional analysis*, 68–74, *Narosa, New Delhi*, 1998. (Jesús M. F. Castillo) **99m:46016** 46B03 (46B20)

Zhang, Wu (*with* Li, Kai-tai) The Navier-Stokes equation on the stream surface and the inertial form. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **13** (1996), *no. 5, suppl.*, 90–103. (Shouhong Wang) **99a:76037** 76D05 (35Q30, 58G40)

— (*with* Cheng, Yu Min; Miaojuan, Peng) On the asymptotic behavior of the solutions of a class of second order nonlinear differential equations. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 63–79. (Mauro Marini) **99j:34051** 34C11 (34B15, 34D05)

Zhang, X. *see* **Zhang, Xing Ru**

Zhang, Xi (*with* Mai, Yiu-Wing) Damage wave propagation in elastic-brittle materials. (English summary) *IUTAM Symposium on Rheology of Bodies with Defects (Beijing, 1997)*, 179–190, *Solid Mech. Appl.*, 64, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99i:73001**) 73M25 (73D99)

Zhang, Xi Bin (*with* Rong, Xi Min; Zhang, Shi Ying) Research on portfolio investment models. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 81–88. 90A09

— (*with* Zhang, Shi Ying) A reconsideration of the nonlinear transformation of the integrated time series. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 2, 70–77. 62M10

Zhang, Xi Tang A criterion for Pettis integrability. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 2, 147–150. (Summary) **99j:28010** 28B05 (46G10)

Zhang, Xian[1] A generalization of KKM theorem. (English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 49–56. 54H25

Zhang, Xian[2] (*with* Cao, Chong Guang) Multiplicative semigroup automorphisms of upper triangular matrices over rings. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 85–90. (Summary) **99m:15017** 15A33

Zhang, Xian Di Total colorings of highly irregular graphs of high degree. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 6, 650–653. (Summary) **99b:05068** 05C15

Zhang, Xian Jun (*with* Yu, Shu Lan) Absolutely prime rings and absolutely prime radicals. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 3, 21–22. 16N60

Zhang, Xian Ke (*with* Washington, Lawrence C.) Modification of Cohen-Lenstra heuristics for ideal class groups and numbers of certain real quadratic fields. *Chinese Sci. Bull.* **42** (1997), *no.* 23, 1959–1962. (Stéphane Louboutin) **99g:11128b** 11R11 (11R29, 11Y40)

— (*with* Washington, Lawrence C.) Modification of Cohen-Lenstra heuristics for ideal class groups and numbers of certain real quadratic fields. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 19, 2053–2056. (Stéphane Louboutin) **99g:11128a** 11R11 (11R29, 11Y40)

— (*with* Washington, Lawrence C.) Heuristics and related results on class groups of real quadratic fields. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 365–370. (Stéphane Louboutin) **99j:11125** 11R11 (11R29)

Zhang, Xian-Mo (*with* Seberry, Jennifer; Zheng, Yuliang) The relationship between propagation characteristics and nonlinearity of cryptographic functions. (English summary) *J.UCS* **1** (1995), *no.* 2, 136–150 (*electronic*). (Summary) **99a:94039** 94A60 (68P25)

— (*with* Zheng, Yuliang) Cryptographically resilient functions. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1740–1747. (Irina Bocharova) **99b:94044** 94A60

Zhang, Xiang (*with* Shen, Lian[1]; Yue, Dick K. P.; Triantafyllou, George S.) The surface layer for free-surface turbulent flows. (English summary) *J. Fluid Mech.* **386** (1999), 167–212. 76M25 (76F99)

Zhang, Xiang[3] (*with* Mo, Jia Qi) A singular perturbation problem for higher-order quasilinear elliptic equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 544–550. (Jun Yu Wang) **99d:35015** 35B25 (35J65)

— Bifurcation problem of critical points for quadratic differential systems. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 12, 1177–1190; *translated from Appl. Math. Mech.* **18** (1997), *no.* 12, 1097–1110 (*Chinese. English and Chinese summaries*). (Douglas S. Shafer) **99a:34115** 34C23 (34C05)

Zhang, Xiang De (*with* Sun, Yan Rui) A linear-time algorithm to compute the reliability of 3-tree networks. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 439–441. 90B25 (05C85, 68M15, 68R10)

Zhang, Xiang Dong (*with* Li, Bo Zang; Zhang, Ling Yun) Some notes on quantum invariants and their relation to the quantum phase. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2081–2094. (Summary) **99c:81124** 81S99

Zhang, Xiang Wei (*with* Luo, Shao Ming) The wavelet analysis method of stationary random processes. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 10, 929–935; *translated from Appl. Math. Mech.* **19** (1998), *no.* 10, 859–864 (*Chinese. English and Chinese summaries*). (Summary) **99m:60061** 60G10 (42C15, 70L05)

Zhang, Xiangsun Trust region method in neural network. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 4, 342–352. (Behnam B. Malakooti) **99c:90127** 90C30 (92B20)

Zhang, Xiankun (*with* Chen, Zhi-Hong; Lai, Hong-Jian; Xu, Lei[2]) Group coloring and group connectivity of graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 123–130. (Summary) **99j:05068** 05C15 (05C25, 05C40)

Zhang, Xianwen Spectral properties of a transport operator in a slab with integral boundary conditions. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 192–207. (Hassan Emamirad) **99d:47046** 47G20 (35Q99, 45K05, 82C70)

Zhang, Xiao Lower bounds for eigenvalues of hypersurface Dirac operators. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 199–210. (Uwe Semmelmann) **99h:58198** 58G25 (53C40)

— The heat flow and harmonic maps on a class of manifolds. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 157–182. (Joseph F. Grotowski) **99i:58041** 58E20 (35K55, 58G11)

Zhang, Xiao-Dong *see* **Zhang, Xiao Dong**[3]

Zhang, Xiao Dong[1] (*with* Yang, Shang Jun) Systems of homogeneous linear equations with generalized diagonally dominant coefficient matrices. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 200–205. 15A06

— (*with* Li, Jiong Sheng) The two largest eigenvalues of Laplacian matrices of trees. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 5, 513–518. 05C50

— (*with* Li, Jiong Sheng) On the Laplacian eigenvalues of a graph. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 305–307. (Summary) **99g:05133** 05C50

— (*with* Yang, Shang Jun) Eigenvalues on the boundary of certain inclusion for the spectrum of a matrix. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 1, 61–71. (Jor-Ting Chan) **99g:15013** 15A18

Zhang, Xiao Dong[3] On extensions of compact positive operators on Banach lattices. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 4, 559–568. (Gerard Buskes) **99c:47048** 47B65 (46A22, 46B42)

Zhang, Xiao Hong[1] (*with* Dudek, Wiesław A.) On ideals and congruences in BCC-algebras. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 21–29. (C. S. Hoo) **99d:06024** 06F35 (03G25, 08A30)

— (*with* Xu, Jingming) On anti-grouped ideal in BZ-algebra. (English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 101–102, 84. 06F35 (03G25)

Zhang, Xiao Ling (*with* Yang, Xin Zhang; Liu, Fu Sheng) A special type of matrix—the variate dynamic linear model—and its forecasting. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 75–79. (Summary) **99i:62163** 62J99

Zhang, Xiao Ru (*with* Zhang, Zai Yue) A decomposition theorem for the equivalence classes of computational complexity functions in **A[F]**. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 1, 49–51. (Summary) **99c:68104** 68Q15 (03D15)

Zhang, Xiao Song (*with* Ye, Tian-qi) Analysis of a boundary element method for singular integrals arising from three-dimensional potential problems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 271–275. 65R20 (45E05)

Zhang, Xiao-Ying (*with* Li, Yongming) Basis conversion among Bézier, Tchebyshev and Legendre. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 6, 637–642. (Summary) **99c:65034** 65D17

Zhang, Xiaohang On the controller and observer design of non-redundant linear mechanical systems including actuator dynamics. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 827–845. 93B51 (70Q05, 93C85)

Zhang, Xiaohong *see* **Zhang, Xiao Hong**[1]

Zhang, Xiaojing (*with* Frenkel, Alexander L.) Large-scale instability of generalized oscillating Kolmogorov flows. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 540–564 (*electronic*). (Alexander Lifschitz) **99f:76067** 76E99 (76D99, 76F99)

Zhang, Xiaolan Minimax principles for functions with transfer lower semi-continuity and applications. (English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 555–560. (Carlo Bardaro) **99m:49010** 49J35 (49K35, 54C60)

Zhang, Xiaoshen (*with* Yan, Ju Rang) Global attractivity in impulsive functional-differential equations. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 871–878. (Summary) **99g:34153** 34K20 (34A37)

Zhang, Xin Hua Representing odd integers as sums of three primes belonging to three given arithmetic progressions. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 1, 17–22. (Hong Bing Yu) **99g:11124** 11P32

— (*with* Fu, Wei Ping; Xu, Jian Xue; Jiang, Yao Lin) A method of constructing nonlinear normal modes and Hopf bifurcation in an electromechanical coupled system. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 7–13, *I.* 70K99 (34C23)

Zhang, Xin Jian A class of equivalent norms on the space H^m. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 62–64. (Summary) **99h:46039** 46E15

Zhang, Xin-Min (*with* Ku, Hsu-Tung; Ku, Mei-Chin) Isoperimetric inequalities on surfaces of constant curvature. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1162–1187. (A. Florian) **99i:51020** 51M25 (52A40)

— Optimization of Schur-convex functions. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 319–330. (Ion Cojocaru) **99f:26017** 26B25 (26D07)

— From twin-peaks to multipeaks: an application of Jensen's inequality. *Missouri J. Math. Sci.* **11** (1999), *no.* 2, 113–120. 26D15 (26A51)

— (*with* Ku, Hsu-Tung; Ku, Mei-Chin) Generalized power means and interpolating inequalities. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 145–154. (Darko Veljan) **99b:26036** 26D15

Zhang, Xin Ping Optimization of direct methods for the approximate solution of weakly singular integral equations in several variables. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 295–300. (Jian Zhong Wang) **99g:45014** 45L05 (45E05, 65R20)

Zhang, Xin Yuan (*with* Wang, Xin Zheng; Lu, Deng Fang) An FCT method for 2-dimensional hydrodynamic equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 290–298. 65M70 (76M20)

Zhang, Xing Ru (*with* Boyer, Steven; Mattman, T.) The fundamental polygons of twist knots and the $(-2, 3, 7)$ pretzel knot. (English summary) *KNOTS '96* (*Tokyo*), 159–172, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57008** 57M25

Zhang, Xing You (*with* Li, Bin) Remarks on the expression of the Γ-limits of a class of functionals. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 334–338. (Baisheng Yan) **99m:49020** 49J45 (42A75)

Zhang, Xing Zhi (*with* Wang, Xin Jie) The conditions for validity of the polynomial identities $d_M^H(AX) = d_M^H(XA)$. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 109–112. 20C15 (15A24)

Zhang, Xingfang (*with* Meng, Guang Wu; Meng, Han; Chen, Shui-Li) On the category of L-fuzzy topological rings. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 381–394. (W. J. Kotzé) **99g:16058** 16W80 (54A40)

— (*with* Meng, Guang Wu) The stratodensity of L-fuzzy topological spaces. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 535–538. 54A40

Zhang, Xinzheng (*with* Liu, Xiao Hua; Gao, Cun Chen) Stabilization decomposition of neutral linear time-varying interconnected control systems with the multi-group multi-delays. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 794–801. 93D15 (93C30)

Zhang, Xiu Hua (*with* Zhang, Qing Ling) Optimal control for discrete-time singular linear systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 435–438. 93C55 (49N10)

Zhang, Xiu Ling (*with* Hou, Jin-Chuan) On the Weyl spectrum: spectral mapping theorem and Weyl's theorem. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 760–768. (Gerhard Garske) **99b:47003** 47A10 (47A55, 47B20)

— A note on operator polynomials. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 55–56. 47B25

Zhang, Xiu Yan (*with* Liu, Guang Yun; Meng, Qing Sheng) The concept of metacongruence in semigroups with identity and a classification theorem for them. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 1–3. 20M99

Zhang, Xu-Sheng (*with* Vivaldi, Franco) Small perturbations of a discrete twist map. (English and French summaries) Classical and quantum chaos. *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 4, 507–523. (M. L. Blank) **99e:58158** 58F30 (58F08)

— (*with* Peng, Shou-Li; Cao, Ke-Fei) Dual star products and metric universality in symbolic dynamics of three letters. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 87–96. (Summary) **99i:58054** 58F03 (58F13)

— (*with* Peng, Shou-Li) Second topological conjugate transformation in symbolic dynamics. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5311–5324. (Summary) **99g:58047** 58F03

Zhang, Xue Zhi (*with* Sun, Mingxuan; Huang, Bao Jian) PD-type iterative learning control for a class of nonlinear systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 5, 711–714. 93E35

— (*with* Sun, Mingxuan; Huang, Bao Jian) PD-type iterative learning control for a class of uncertain time-delay systems with arbitrary initial states. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 853–858. 93C30 (93B52)

Zhang, Xun[2] Gyro-stabilization of nonisolated systems. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 35–40. 34D99 (70J25)
Zhang, Y. *see* **Zhang, Yu[1]**
Zhang, Y. F. *see* **Zhang, Yong Fa**
Zhang, Y. H. *see* **Zhang, Yin Huo**
Zhang, Y. L. *see* **Zhang, Yinglong**
Zhang, Y. M. *see* **Zhang, Yu Ming[1]**
Zhang, Y.-Q. *see* **Zhang, Yan-Qing**
Zhang, Ya Dong (*with* Zhang, Sheng Kai; Yan, Hui Zhen; Wang, Qi Yi) Convex linear generalization of random coalition games. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 9, 713–716. 90D15
— (*with* Zhang, Sheng Kai; Yan, Hui Zhen; Wang, Qi Yi) Convex linear extensions of random coalition games. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 6, 582–586. 90D15
Zhang, Yan *see* **Zhang, Yan[5]**
Zhang, Yan[1] (*with* Foo, Norman Y.) Answer sets for prioritized logic programs. (English summary) *Logic programming (Port Washington, NY, 1997)*, 69–83, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17
Zhang, Yan[5] (*with* Dai, Bin Lin) A hyperbolic inequality. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 2, 13–15. (Hong Bo Li) **99m:15031** 15A66 (15A45)
— A condition ensuring convexity of Bernstein-Bézier surfaces over $(n-1)$-hedra. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 29–31. 65D17 (41A63, 52B40)
Zhang, Yan[6] (*with* Gu, Ben Yuan; Yang, Guo-Zhen) Generation of self-fractional Hankel functions. (English summary) *J. Phys. A* **31** (1998), *no.* 48, 9769–9772. (Summary) **99j:44013** 44A15 (33C10)
Zhang, Yan E (*with* Sun, Jian Ping; Lin, Wei Jun) Solving a kind of fuzzy possibilistic linear programming problems. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 3, 9–12. 90C70 (90C08)
— (*with* Sun, Jian Ping; Wang, Xi Zhao) The solution of the fuzzy matrix equation $Ax = b$ and its properties. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 72–78. 15A99 (15A24)
— (*with* Ji, Ai Bing; Sun, Jian Ping) Fuzzy measures on locally compact spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 36–40. 28E10 (28C15)
Zhang, Yan-Qing (*with* Kandel, Abraham) Fuzzy moves. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 159–177. 90D40 (90C70)
— (*with* Kandel, Abraham; Henne, Marlow) On use of fuzzy logic technology in operating systems. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 241–251. (Summary) **99e:68023** 68N25 (03B52, 03B70)
— (*with* Kandel, Abraham) Intrinsic mechanisms and application principles of general fuzzy logic through yin-yang analysis. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 87–104. (Summary) **99f:03022** 03B52
— (*with* Kandel, Abraham; Luo, Yue Hu) Stability analysis of fuzzy control systems. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 33–48. 93D05 (93C42)
Zhang, Yan Ying (*with* Li, Yun Hui) An exact solution method for systems of linear equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 3, 22–23. 65F05
— (*with* Yao, Huan Min; Huang, Li Bo) Multivariate interpolation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 9–12. 41A63 (65D15)
— (*with* Yao, Huan Min) A class of improved total variation diminishing schemes. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 1–7. 65M06
— An interpolating iterative method in reproducing kernel spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 1–4. 65D15 (41A10)
Zhang, Yang[2] (*with* Marubayashi, Hidetoshi; Yang, Po) On the rings of the Morita context which are some well-known orders. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1429–1444. (W. K. Nicholson) **99d:16036** 16U20 (16D20)
— (*with* Marubayashi, Hidetoshi; Yang, Po) Some examples of PBW extensions which are Krull orders. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 27–30. (Summary) **99d:16018** 16H05 (16S32)
Zhang, Yanjun The variance of two game tree algorithms. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 21–39. (Summary) **99b:68169** 68T20
— (*with* Ortynski, A.) Efficiency of randomized parallel backtrack search. (English summary) *Algorithmica* **24** (1999), *no.* 1, 14–28. (Summary) **99k:68178** 68T20
Zhang, Yansi (*with* Orszag, Steven A.) Two-equation RNG transport modeling of high Reynolds number pipe flow. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 471–483. (Summary) **99k:76084** 76F99
Zhang, Yao More about higher-dimensional generalizations and strengthenings of the Finsler-Hadwiger and Neuberg-Pedoe inequalities. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 2, 1–7. 51M16
— (*with* Leng, Gang Song) The generalized sine theorem and inequalities for simplices. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 237–247. (Gerard Sierksma) **99f:15004** 15A03
— (*with* Leng, Gang Song) Vertex angles for simplices. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 1–5. 15A99 (51M04)
Zhang, Yao-Zhong Comments on the Drinfeld realization of the quantum affine superalgebra $U_q[\mathrm{gl}(m|n)^{(1)}]$ and its Hopf algebra structure. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8325–8335. (Jintai Ding) **99e:81109** 81R50 (17B37)
— On the graded quantum Yang-Baxter and reflection equations. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 3, 377–380. (Summary) **99e:81110** 81R50 (82B23)
— (*with* Ge, Xiang-Yu; Gould, Mark D.; Zhou, Huan-Qiang) A new two-parameter integrable model of strongly correlated fermions with quantum superalgebra symmetry. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5233–5239. (Władysław Marcinek) **99g:82018** 82B23 (17B37, 81R50, 82B20)
— (*with* Zhou, Huan-Qiang) Nine classes of integrable boundary conditions for the eight-state supersymmetric fermion model. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7051–7059. (Andrey V. Tsiganov) **99f:82025** 82B23 (82B20)
— (*with* Gould, Mark D.) On super-RS algebra and Drinfeld realization of quantum affine superalgebras. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 4, 291–308. (Jintai Ding) **99h:17020** 17B37 (81R10, 81R50)
— (*with* Bracken, Anthony J.; Ge, Xiang-Yu; Zhou, Huan-Qiang) Integrable open-boundary conditions for the q-deformed supersymmetric U model of strongly correlated electrons. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 588–602. (Rinat M. Kashaev) **99e:82023** 82B23 (81R50)
— (*with* Bracken, Anthony J.; Ge, Xiang-Yu; Zhou, Huan-Qiang) An open-boundary integrable model of three coupled XY spin chains. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 603–622. (Rinat M. Kashaev) **99e:82024** 82B23 (81R50)
Zhang, Yaoting An inequality of matrix and Bayes unbiased estimates. (English summary) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 225–227. (Summary) **99g:62029** 62F10 (62H12)
Zhang, Yi *see* **Zhang, Yi[7]**
Zhang, Yi[11] (*with* Yap, Hian-Poh) Equitable colorings of planar graphs. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 97–105. (Adrian Riskin) **99c:05075** 05C15
Zhang, Yi[7] (*with* Mei, Feng Xiang) Algebraic structure of the dynamical equations of holonomic mechanical system in relative motion. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 12–18. (A. Sumbatov) **99e:70035** 70F20 (70H05)
— (*with* Mei, Feng Xiang) Differential variational principles and equations of motion of mechanical systems with unilateral constraints. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 19–25. (A. Sumbatov) **99e:70036** 70F20 (70F25, 70H30)
Zhang, Yi Bin (*with* Wei, Hong Zeng) A formula for the number of solutions to a symmetric matrix equation over a finite field of characteristic $\neq 2$ and its q-hypergeometric series representation. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 783–792. (Jau-Shyong Shiue) **99i:11115** 11T30 (11C20, 33D20)
— (*with* Wei, Hong Zeng) A formula for the number of solutions to a nonsingular symmetric matrix equation over a finite field of odd characteristic. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 49–56 (Zhi Yong Zheng) **99m:11026** 11C20 (11T30, 33D80)
Zhang, Yi-Cheng (*with* Maslov, Sergei S.) Probability distribution of drawdowns in risky investments. (English summary) *Phys. A* **262** (1999), *no.* 1-2, 232–241. (Summary) **99j:90014** 90A09
Zhang, Yin *see* **Zhang, Yin[3]**
Zhang, Yin[1] (*with* Monteiro, Renato D. C.) A unified analysis for a class of long-step primal-dual path-following interior-point algorithms for semidefinite programming. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 281–299. (Jos F. Sturm) **99c:90073** 90C05 (90C25)
— Solving large-scale linear programs by interior-point methods under the MATLAB environment. (English summary) *Optim. Methods Softw.* **10** (1998), *no.* 1, 1–31. 90–04 (90C05)
— On extending some primal-dual interior-point algorithms from linear programming to semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 365–386 (*electronic*). (Jos F. Sturm) **99c:90076** 90C05 (15A21, 90C25)
Zhang, Yin[3] (*with* Xu, Zhuoqun) Concurrent manipulation of expanded AVL trees. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 4, 325–336. 68P05 (68Q10)
Zhang, Yin He (*with* Duan, Qing Tang) Relative efficiency of least squares estimators in weighted regression models. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 25–29, 50. 62J05
Zhang, Yin Huo (*with* Van Oystaeyen, Freddy) Brauer groups of actions. *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996)*, 299–309, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Sorin Dăscălescu) **99g:18006** 18D10 (13A20, 16W30)
— (*with* Van Oystaeyen, Freddy) Finite-dimensional Hopf algebras coacting on coalgebras. *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 1–14. (Mitsuhiro Takeuchi) **99b:16063** 16W30
— (*with* Van Oystaeyen, Freddy) Embedding the Hopf automorphism group into the Brauer group. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 359–367. (Stefaan Caenepeel) **99h:16066** 16W30 (16H05)
— (*with* Van Oystaeyen, Freddy) The Brauer group of a braided monoidal category. *J. Algebra* **202** (1998), *no.* 1, 96–128. (Sorin Dăscălescu) **99c:18006** 18D10 (13A20, 16H05, 16W30)
— (*with* Torrecillas Jover, Blas; Van Oystaeyen, Freddy) Coflat monomorphisms of coalgebras. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 2, 171–183. (José A. Anquela) **99e:16055** 16W30
Zhang, Yin Ping (*with* Sun, Ji Tao) A necessary and sufficient condition for the oscillation of solutions of Liénard type system with multiple singular points. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 12, 1205–1210; *translated from Appl. Math. Mech.* **18** (1997), *no.* 12, 1125–1129 (*Chinese. English and Chinese summaries*). (Antonio Iván Ruiz Chaveco) **99g:34071** 34C10 (34C25)
— (*with* Sun, Ji Tao) Stability of linear differential equations with varying coefficients. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 642–645. 34D20 (34A30)
Zhang, Ying (*with* Qiu, Ruifeng) ∂-reducible Dehn surgery and annular Dehn surgery. (English summary) *Topology Appl.* **92** (1999), *no.* 1, 79–84. (Ying Qing Wu) **99m:57017** 57N10
Zhang, Ying (*with* Zhang, Mingyi) Characterizations and algorithms of extensions for CADL and QDL. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 140–145. (Summary) **99m:68192** 68T27
Zhang, Yingbo (*with* Li, Size; Lei, Tian-Gang; Bautista Ramos, Raymundo) The representation category of a bocs. III. Several classes of homogeneous almost split sequences. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 143–149. (Yasuo Iwanaga) **99c:16015** 16G70 (16G20)
— (*with* Lei, Tian-Gang; Bautista Ramos, Raymundo) The representation category of a bocs. IV. The case of $M(x) = J_1 \oplus J_2 \oplus J_3$. (English and Chinese summaries) *Beijing*

Shifan Daxue Xuebao **32** (1996), *no.* 3, 289–295. (Yasuo Iwanaga) **99c:16016** 16G70 (16G20)

— (*with* Assem, Ibrahim) Endomorphism algebras of exceptional sequences over path algebras ot type $\tilde{A}_n$. *Colloq. Math.* **77** (1998), *no.* 2, 271–292. (Hagen Meltzer) **99h:16024** 16G20 (16G60)

— (*with* Lei, Tian-Gang; Bautista Ramos, Raymundo) A matrix description of a wild category. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 461–475. (Summary) **99m:16028** 16G60 (18C99, 18E99)

Zhang, Yinglong (*with* Yeo, K. S.; Khoo, B. C.; Chong, W. K.) Three-dimensional computation of bubbles near a free surface. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 105–123. (Summary) **99e:76078** 76M15

Zhang, Yingshan (*with* Pang, Shanqi; Jiao, Zheng Ming; Zhao, Wen Zheng) Group partition and systems of orthogonal idempotents. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 249–262. (Harald E. Ellers) **99f:20009** 20C05

Zhang, Yiping On the thinness of non-tangential sets. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 30–34. (Summary) **99h:31015** 31C35

Zhang, Yong (*with* Xie, Fuding; Li, Ming) Algorithm for finding the solutions of linear ordinary differential equation at a singular point. (English summary) *J. Gansu Univ. Technol. (Engl. Ed.)* **1** (1997), *no.* 1, 121–124. (Summary) **99d:65244** 65L99 (68Q40)

Zhang, Yong A fixed-point technique for generalized strongly nonlinear implicit complementarity problems in Hilbert lattices. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 265–269. 49J40 (90C33, 90C48)

— A new class of completely generalized strongly nonlinear implicit quasivariational inequalities. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 404–409. 49J40 (90C33)

Zhang, Yong[2] (*with* Lian, Qing Rong) A refined incomplete orthogonalization algorithm for solving large unsymmetric eigenproblems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 273–279. (Summary) **99j:65065** 65F15

Zhang, Yong-de (*with* Xu, Xiu-wei) Two theorems for general n-mode boson exponential quadratic operators. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 11, 812–815. (Summary) **99f:81119** 81S99

— (*with* Yu, Sixia) A constructive index theorem, phase operators, and phase-difference operators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5260–5267. (Lech Jakóbczyk) **99k:81167** 81S99 (47N50)

Zhang, Yong Fa (*with* Mei, Feng Xiang; Wu, Run Heng) Lie symmetries and conserved quantities of nonholonomic systems of non-Chetaev type. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 4, 468–474. (Haiping Zhu) **99k:70016** 70F25 (70G10, 70H33)

— (*with* Mei, Feng Xiang; Shang, Mei) Lie symmetries and conserved quantities of Birkhoffian system. *Mech. Res. Comm.* **26** (1999), *no.* 1, 7–12. (I. A. Galiullin) **99m:70013** 70H33 (58F35)

Zhang, Yong Gang (*with* Li, Yu Cheng) A new type of Boussinesq equation. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 21, 2332–2334. 35Q35 (76D99)

— (*with* Li, Yu Cheng) The difference between the developing form of the Boussinesq equation and the theory of Airy waves. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **15** (1998), *no.* 1, 30–35, *III.* 76B15

Zhang, Yong Kang (*with* Qian, Guo Hua; Xu, He Xian) Seminormal quasidirect products in finite groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 2, 15–18. 20D40 (20D35)

Zhang, Yong Ping (*with* Li, Cui Hua; Zheng, Nan Ning) An underrelaxation scheme for a fast adaptive filter. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 11, 1–3, 16. 93E11

Zhang, Yong Zheng Mixed products of modules of infinite-dimensional Lie superalgebras of Cartan type. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 725–732. 17B65

— (*with* Nan, Ji Zhu) Finite-dimensional Lie superalgebras $W(m,n,\mathbf{t})$ and $S(m,n,\mathbf{t})$ of Cartan type. (English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 3, 240–246. (Summary) **99h:17012** 17B20

Zhang, Yongxin (*with* Teraoka, Yoshinobu) A noncooperative analysis of spatial duopoly with discriminatory pricing. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 205–212. (*see* **99b:90009**) 90A12 (90D10)

— (*with* Teraoka, Yoshinobu) A location game of spatial competition. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 187–190. 90A25 (90B85, 90D80)

Zhang, Yongzhi (*with* Doddaballapur, Vidya; Eloe, Paul W.) Quadratic convergence of approximate solutions of two-point boundary value problems with impulse. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS, 1997)*, 81–95 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Alberto Cabada) **99m:34019** 34A45 (34A37, 34B15)

— (*with* Eloe, Paul W.) A quadratic monotone iteration scheme for two-point boundary value problems for ordinary differential equations. *Nonlinear Anal.* **33** (1998), *no.* 5, 443–453. (Alberto Cabada) **99e:34015** 34A45 (34B15)

Zhang, You Sheng Forced oscillation of delay difference equations with continuous variables and variant coefficients. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 5, 6–10. (Shu Nian Zhang) **99e:39055** 39A10

Zhang, You Zheng (*with* Shu, Qin) A fast iterative algorithm for least squares deconvolution. (Chinese. English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **2** (1998), *no.* 1, 81–87. 65T20 (65F30)

Zhang, Youping (*with* Ioannou, Petros A.) A new class of nonlinear robust adaptive controllers. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 745–769. 93C40 (93B36)

— (*with* Ioannou, Petros A.) Robustness and performance of a modified adaptive backstepping controller. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 3, 247–265. (Summary) **99b:93025** 93B36 (93C40)

— (*with* Ioannou, Petros A.) Robustness of nonlinear control systems with respect to unmodeled dynamics. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 119–124. 93B35 (93D09)

Zhang, Yu *see* **Zhang, Yu**[4]

Zhang, Yu[1] (*with* Kesten, Harry; Sidoravicius, V.) Almost all words are seen in critical site percolation on the triangular lattice. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 10, 75 *pp.* (*electronic*). (Rahul Roy) **99j:60155** 60K35

Zhang, Yu[4] (*with* Zhang, Guan-quan) The multi-reflection elimination method for solving inverse problems for the 1-D wave equation. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 293–304; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 4, 16–29. (Summary) **99b:65112** 65M30 (73D50, 76Q05)

— (*with* Zhang, Guan-quan) The characteristic band method for acoustic impedance inversion with excitation by a wavelet. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 385–398; *translation in Chinese J. Numer. Math. Appl.* **20** (1998), *no.* 1, 16–30. (Summary) **99b:65106** 65M12 (76M25, 76Q05)

Zhang, Yu Fen Localization of the tensor product of orthodox semigroups. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 225–230. 20M50

— (*with* Wang, De Sheng) π-group congruence on an eventually regular semigroup. *J. Pure Math.* **14** (1997), 4–9. (Branka P. Alimpić) **99m:20148** 20M17

— (*with* Wang, De Sheng) Semidirect products and wreath products of right (left) inverse monoids. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 216–220. (Summary) **99g:20111** 20M18

— (*with* Wang, De Sheng; Li, Shi Zheng) Semidirect products of monoids and their congruences. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 1–4, 39. (Yu Qi Guo) **99m:20146** 20M17

Zhang, Yu Feng (*with* Ren, Chong Xun; Yu, Yuan Hong; Zhuang, Yu[1]) An oscillation theorem for second-order ordinary differential equations. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 110–114. (Guo Zhu Gao) **99j:34049** 34C10

Zhang, Yu-hai (*with* Li, Chang-ying) On the sufficient conditions for the solvability of the multiplicative inverse eigenvalue problem. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 337–344. (Summary) **99c:65074** 65F15

Zhang, Yu Hui[2] Regularity of linear combinations of Q-matrices. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **34** (1998), *no.* 3, 292–296. 60J27

Zhang, Yu-Lin (*with* Li, Jian-Lin; Srivastava, Hari M.) A certain class of analytic functions defined by means of the Ruscheweyh derivative. (English summary) *Complex Variables Theory Appl.* **38** (1999), *no.* 1, 85–93. (Summary) **99m:30022** 30C45

Zhang, Yu Ming[1] (*with* Yao, Yi Xin; Kovacevic, R.) Functional observer and state feedback for input time-delay systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 603–617. 93B07 (93C30)

Zhang, Yu Ping[2] (*with* Lu, Weifeng) Experimental study on strategy of combining SAT algorithms. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 608–614. (*see* **99i:68004**) 90C08 (68Q25)

— Horn style deduction relation. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 3, 280–287. (Aldo Ursini) **99g:03058** 03F03 (03B22)

Zhang, Yu Zhong (*with* Wang, Chang Yu) Global convergence property of s-dependent GFR conjugate gradient method. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 23, 1959–1965. 90C30 (65K05)

— (*with* Xu, Shi Meng; Lin, Jun Chang) The pricing of preferred hedging contingent claims under transaction costs. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 414–420. 90A12

— (*with* Wang, Chang Yu) Global convergence of the s-correlated GER conjugate gradient method. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 13, 1377–1382. 90C30 (65K05)

— (*with* Shi, Zhenjun; Li, Qun) A variation of Goldfarb's method for linearly constrained optimization problems and its superlinear convergence rate. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 351–358. (Summary) **99g:90135** 90C30 (65K05)

— (*with* Du, Dong Lei) The LPT algorithm for $P|s_{ij}|C_{\max}$ problems. (Chinese) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 154–157. 90B35

— (*with* Zhou, Guang Lu; Wang, Chang Yu) An efficient method for semi-infinite programming. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 1–8. 90C34

Zhang, Yu Zhu (*with* Yan, Ju Rang; Zhao, Aimin) Oscillation criteria for a difference equation. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1241–1249. (Binggen Zhang) **99c:39013** 39A10

— (*with* Dang, Xin Yi) Oscillation of solutions of impulsive neutral delay differential equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 219–224. (Summary) **99a:34206** 34K15 (34A37)

Zhang, Yuan Liang (*with* Dai, Ying; Zheng, Nan Ning) Polynomial-based robust adaptive tracking control of robot manipulators. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 5, 18–21. 70B15 (70Q05, 93C85)

Zhang, Yuan Zhong Difference between scalar-tensor theories of gravitation. (English summary) *Topics in theoretical physics (Sorak Mountain Resort, 1995)*, 217–220, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 83D05

Zhang, Yuangao (*with* Tabarrok, Behrouz) Modifications to the Lax-Wendroff scheme for hyperbolic systems with source terms. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 1, 27–40. (Summary) **99j:73109** 73V15 (65M06)

Zhang, Yue[1] (*with* Qiao, Zhong; Wang, Guangyuan) Solving processes for a system of first-order fuzzy differential equations. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 3, 333–347. (Peter E. Kloeden) **99b:34015** 34A30 (26E50, 93C42)

— (*with* Qiao, Zhong; Wang, Guangyuan) Fuzzy random variable-valued exponential function, logarithmic function and power function. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 311–324. (Cong Xin Wu) **99i:26032** 26E50

Zhang, Yue Hui Twisted double incidence algebras of tree posets and their Ringel duals. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 771–776. (Bai Ying Shen) **99m:06003** 06A06 (16G10)

— Ringel duals of a class of dual extension algebras. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 17, 1820–1823. 16G10

Zhang, Yueming (*with* Ballester-Bolinches, A.; Guo, Xiuyun) On the Deskins index complex of a maximal subgroup of a finite group. (English summary) *J. Pure Appl. Algebra* **136** (1999), *no.* 3, 211–216. (Alberto Delgado) **99m:20032** 20D10 (20E28)

Zhang, Yuming (*with* Deng, Guantie; Huang, Zheng Hai) Bouligand dimension of fractal curve of almost periodic series. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1,

57–60. (Summary) **99e:28009** 28A78 (28A80)

Zhang, Yun (*with* Mao, Zong Yuan; Yang, Yi Min) A parameter-separable learning algorithm for multilayer feedforward neural networks. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 439–446. 93E35 (93C83)

— (*with* Yang, Yi Min; Mao, Zong Yuan; Zhou, Qi Jie) Stability of an identification algorithm for fuzzy basis function networks. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 790–793. 93C42 (93B30)

Zhang, Yun Feng (*with* Wang, Run Jie) The best identification problem for the scattering-fission cross section of a nuclear reactor. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 5–8. 47N55 (82D75)

— (*with* Cui, Yun An) On the KR and WKR points of Orlicz spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 459–466. (Marian Nowak) **99f:46037** 46E30 (46B20)

— (*with* Wang, Ting Fu; Yao, Hui Li) LURWC conditions for Orlicz spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 473–476. 46E30

— (*with* Cui, Yun An) The KR and WKR points of Orlicz sequence spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 5–12. 46B45 (46E30)

Zhang, Yun Xin (*with* Liu, Jin Shan; Guo, Kun Yu) A new C^*-algebra and its essential commutators. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 5, 474–479. 47B35 (46L05)

Zhang, Yunlei (*with* Newton, Michael A.; Quintana, Fernando A.) Nonparametric Bayes methods using predictive updating. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 45–61, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62065** 62G05 (62F15)

— (*with* Newton, Michael A.) A recursive algorithm for nonparametric analysis with missing data. (English summary) *Biometrika* **86** (1999), *no.* 1, 15–26. (Summary) **99m:62048** 62G05

Zhang, Yuping *see* **Zhang, Yu Ping²**

Zhang, Yuzhong *see* **Zhang, Yu Zhong**

Zhang, Z. (*with* Morin, T. L.; Prabhu, Nagabhushana) Complexity of the gravitational method for linear programming. *Foundations of software technology and theoretical computer science (Hyderabad, 1996)*, 212–223, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Levent Tunçel) **99j:90044** 90C05 (90C60)

Zhang, Z. Q. *see* **Zhang, Zheng Qiu**

Zhang, Zai Yue (*with* Zhang, Xiao Ru) A decomposition theorem for the equivalence classes of computational complexity functions in **A[F]**. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 1, 49–51. (Summary) **99c:68104** 68Q15 (03D15)

Zhang, Ze Yin (*with* Huang, Da Ren) Asymptotic behavior of Gibbs functions for M-band wavelet expansions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 6, 1219–1224. 42C15

Zhang, Zhao Gong (*with* Xiao, Jian⁴; Zhang, Guo Xin) Some properties of λ-spiral functions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 24–27. 30C45

Zhang, Zhaozhi (*with* Luo, Yuan) Neural network models for design of block cipher system. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 161–167. (Summary) **99a:94038** 94A60 (68P25)

Zhang, Zhen¹ (*with* Ahlswede, Rudolf; Yang, En-hui) Identification via compressed data. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 48–70. (Summary) **99a:94018** 94A34 (94A29)

— (*with* Yang, En-hui; Berger, Toby) Fixed-slope universal lossy data compression. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1465–1476. (Summary) **99g:94010** 94A29 (94A34)

— (*with* Yeung, Raymond W.) A non-Shannon-type conditional inequality of information quantities. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1982–1986. (Leandro Pardo) **99b:94014** 94A15

— (*with* Ahlswede, Rudolf) Code pairs with specified parity of the Hamming distances. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 1–11. (Summary) **99c:94060** 94B60

— (*with* Yeung, Raymond W.) On characterization of entropy function via information inequalities. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1440–1452. (N. S. Kambo) **99m:94020** 94A17

— (*with* Perry, Patrick; Li, Mingche; Lin, Mao-Chao) Runlength limited codes for single error-detection and single error-correction with mixed type errors. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1588–1592. 94A45

— (*with* Yang, En-hui) Variable-rate trellis source encoding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 586–608. (Summary) **99k:94027** 94A29

— (*with* Yeung, Raymond W.) On symmetrical multilevel diversity coding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 609–621. 94A29 (94A15)

Zhang, Zhen Liang The structures and classification of hypergroups. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 36–41, 27. 20N20

Zhang, Zhen Qiu (*with* Xuan, Pei Cai) The equivalence between weighted K-functionals and moduli of smoothness on a simplex and its applications. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 345–353. (Summary) **99c:41065** 41A63 (46M35)

— (*with* Chen, Rong Sheng²) Mean oscillation spaces on homogeneous groups. II. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 6, 762–766. 43A07 (42B30)

— Hermite expansions and fractal measures. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 167–173. (Summary) **99g:28020** 28A80 (42C15)

Zhang, Zhen Xiang Comment: "Estimation of the number of operations of optimal algorithms for matrix multiplication and integer convolution" [Math. Numer. Sinica **15** (1993), no. 3, 342–345; 1391413] by L. Z. Cheng and Y. H. Zeng. (Chinese. English summary) *Math. Numer. Sin.* **18** (1996), *no.* 1, 8–11. 68Q25 (65F30)

Zhang, Zhen Yue (*with* He, Bingjin; Miller, Webb Colby) Local multiple alignment via subgraph enumeration. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 337–365. (Summary) **99a:92009** 92C40 (05C30, 92D20)

— (*with* Zha, Hongyuan) Modifying the generalized singular value decomposition with application in direction-of-arrival finding. (English summary) *BIT* **38** (1998), *no.* 1, 200–216. (Cs. J. Hegedűs) **99d:65120** 65F15

— (*with* Zha, Hongyuan) A sorted partial Jacobi method and its convergence analysis. (English summary) *Linear Algebra Appl.* **270** (1998), 79–108. (Luis Verde-Star) **99f:65061** 65F15 (15A18)

— (*with* Zha, Hongyuan) A cubically convergent parallelizable method for the Hermitian eigenvalue problem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 468–486 (*electronic*). (Dao Sheng Zheng) **99f:65062** 65F15 (15A18, 65F25, 65Y05)

Zhang, Zheng Qiu Notes and corrections on: "Asymptotic constancy criteria of solution of linear parabolic Volterra difference equations" [Comput. Math. Appl. **32** (1996), no. 8, 65–77; MR 99c:39008] (title variation) by B. Shi, Z. C. Wang and J. S. Yu. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 61–63. 39A10

— (*with* Yu, Jian She) Periodic solutions of a class of Duffing equations with delay. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 389–392. (Summary) **99m:34171** 34K15

— Oscillation of solutions of certain hyperbolic equations of neutral type with delays. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 4, 9–15. (E. C. Young) **99c:35256** 35R10 (35B05, 35L10, 35L15)

— (*with* Yu, Jian She) Asymptotic behavior of solutions of neutral difference equations with positive and negative coefficients. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 6, 1–12. (Summary) **99d:39016** 39A10

Zhang, Zhenguo (*with* Li, Qiaoluan) Oscillation theorems for second-order advanced functional difference equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 11–18. (Summary) **99i:39023** 39A10

Zhang, Zhengyou (*with* Xu, Gang) A unified theory of uncalibrated stereo for both perspective and affine cameras. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 3, 213–229. 68U10 (94A12)

Zhang, Zhenhua (*with* Geller, William) Maximal entropy permutations of even size. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3709–3713. (Louis Block) **99b:58078** 58F03 (54H20)

Zhang, Zhenjiu A discrete approach to the quantization of spacetime. (English summary) *Quantum gravity (Erice, 1995)*, 412–430, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99h:83027** 83C45 (83C27)

Zhang, Zhi Fen (*with* Li, Bao Yi) Bifurcation phenomenon of a class of planar codimension 3 polycycle $S^{(2)}$ with two saddles resonating. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1259–1271. (Douglas S. Shafer) **99a:34083** 34C05 (34C23, 58F14, 58F21)

— (*with* Li, Bao Yi) Bifurcation phenomena of the polycycle $S^{(3)}$ of a Hamiltonian system under small perturbations. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 5, 588–596. 34C23 (34C05)

— (*with* Zhao, Li Qin; Li, Weigu) Cyclicity of elementary polycycles and ensembles with codimension 3 degeneration. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 22, 1849–1864. (Robert Roussarie) **99k:58163** 58F27 (58F14)

Zhang, Zhi Jun (*with* Xiao, Li) Existence of solutions for a class of singular boundary value problems. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 3, 247–251. (Summary) **99h:35075** 35J70 (35J65)

— (*with* Yu, Jian Ning) A class of quasilinear elliptic equations with singular boundary conditions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 17–20. 35J65

Zhang, Zhi Li *see* **Zhang, Zhi Li²**

Zhang, Zhi Li¹ (*with* Liu, Zhen¹; Towsley, Don) Closed-form deterministic end-to-end performance bounds for the generalized processor sharing scheduling discipline. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 457–481. (Summary) **99d:68034** 68M20 (90B35)

— Large deviations and the generalized processor sharing scheduling for a multiple-queue system. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 4, 349–376. (Summary) **99e:60209** 60K25 (60F10)

Zhang, Zhi Li² (*with* Zhao, Yong Cheng) Algebraic-trigonometric mixed Lagrange interpolation. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 10–13. 41A10

Zhang, Zhi Min (*with* Wei, Cuiping; Zhou, Hui Shan) The Hadamard product of a positive reciprocal matrix and some results in AHP. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 59–71. 90C29 (15A18, 90A05)

Zhang, Zhi Qiang A bifurcation theorem under the action of a compact Lie group. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 1, 6–9. (Yong Qing Li) **99i:58033** 58E09 (47H15)

Zhang, Zhi Rang Groups whose proper subgroups or proper quotients have finite classes of isomorphic subgroups. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 499–504. 20F24

Zhang, Zhi Tao Fixed-point theorems for a class of noncompact decreasing operators and their applications. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 4, 422–426. 47H10

Zhang, Zhi Zheng (*with* Liu, Maixue) Generalizations of some identities involving generalized second-order integer sequences. *Fibonacci Quart.* **36** (1998), *no.* 4, 327–328. 11B37

— (*with* Jin, Jingyu) Some identities involving generalized Genocchi polynomials and generalized Fibonacci-Lucas sequences. *Fibonacci Quart.* **36** (1998), *no.* 4, 329–334. 11B39

— (*with* Zhang, Shi Wu) A multiple generalization of a combinatorial iterated triangular identity and its applications. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 4, 10–13. 05A19

— A binomial identity related to Calkin's. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 287–289. (Laurent Habsieger) **99k:05005** 05A10 (05A19, 11B65)

— A kind of binomial identity. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 291–298. (Laurent Habsieger) **99k:05006** 05A10 (05A19, 11B65)

Zhang, Zhifeng (*with* Mallat, Stéphane; Papanicolaou, George C.) Adaptive covariance estimation of locally stationary processes. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 1–47. (Albert Benassi) **99f:62116** 62M15 (60G12)

Zhang, Zhikang (*with* Wang, Rubin; Yasuda, Kimihiko) On joint stationary probability density function of nonlinear dynamic systems. (English summary) *Acta Mech.* **130** (1998), *no.* 1-2, 29–39. 34F05 (34L05)

Zhang, Zhimin (*with* Tomlinson, John; Martin, Clyde F.) Splines and linear control theory. (English summary) *Acta Appl. Math.* **49** (1997), *no.* 1, 1–34. (Summary) **99d:41021** 41A15 (49K15)

— (*with* Martin, Clyde F.) Convergence and Gibbs' phenomenon in cubic spline interpolation of discontinuous functions. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 359–371. (Hans Strauss) **99e:65014** 65D07 (41A15)

— (*with* Zhu, Jian Zhong[1]) The relationship of some a posteriori error estimators. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 25–42, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99d:65303** 65N15 (73V05)

— (*with* Babuška, Ivo M.) The partition of unity method for the elastically supported beam. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 1–18. (Michael Fröhner) **99b:73039** 73V05 (65N30, 73K05)

— (*with* Zhu, Jian Zhong[1]) Analysis of the superconvergent patch recovery technique and a posteriori error estimator in the finite element method. II. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 159–170. (Pekka Neittaanmäki) **99j:73103** 73V05

— Superconvergence in the projected-shear plate-bending finite element method. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 3, 367–386. (Juhani Pitkäranta) **99c:73083** 73V05 (65N30, 73K10)

— (*with* Allen, Edward J.; Novosel, S. J.) Finite element and difference approximation of some linear stochastic partial differential equations. (English summary) *Stochastics Stochastics Rep.* **64** (1998), *no.* 1-2, 117–142. (Summary) **99d:60067** 60H15 (65U05)

— (*with* Li, Bo[1]) Analysis of a class of superconvergence patch recovery techniques for linear and bilinear finite elements. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 2, 151–167. (Sándor Frivaldszky) **99m:65201** 65N12 (65N30)

Zhang, Zhixiang Large deviation for a discontinuous nonhomogeneous system. (English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 2, 166–174. (Wolfgang König) **99f:60065** 60F10 (60H10)

Zhang, Zhixue (*with* Jia, Yu Ting) On the generalized Virasoro-like algebras. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 83–88. (Shun-Jen Cheng) **99d:17028** 17B68 (17B37)

Zhang, Zhiyi Weighted combination of Wilcoxon tests with interlaboratory lifetime data. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 311–327. (Jagdish Saran) **99m:62075** 62G10

Zhang, Zhong Fu (*with* Sun, Liang) A note on n-edge chromatic number. *Chinese Sci. Bull.* **42** (1997), *no.* 23, 1952–1954. (Gerard J. Chang) **99g:05081** 05C15

— (*with* Liu, Lin Zhong[2]; Liu, Huan Ping) The number of edges of critical graphs. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 436–438. 05C15

— (*with* Liu, Lin Zhong[2]; Wang, Jianfang; Li, Hongxiang) A note on the total chromatic number of Halin graphs with maximum degree 4. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 23–27. (Summary) **99c:05076** 05C15

— (*with* Liu, Lin Zhong[2]; Zhang, Jianxun; Wang, Jianfang) On the relations between arboricity and independent number or covering number. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 279–283. (Summary) **99e:05079** 05C35

— (*with* Liu, Lin Zhong[2]) The edge function domination number of a graph. (Chinese. English and Chinese summaries) *J. Lanzhou Railway Inst.* **17** (1998), *no.* 1, 98–101. 05C35

— (*with* Liu, Lin Zhong[2]; Xie, Jiguo) On the adjacent strong edge colorings of 3-regular Halin graphs. (English summary) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 4, 1–3. 05C15

— (*with* Xu, Baogen; Li, Yinzhen; Liu, Lin Zhong[2]) A note on the lower bounds of signed domination number of a graph. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 295–298. (Summary) **99h:05071** 05C35

— (*with* Xu, Baogen) On mixed Ramsey numbers. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 285–289. (Summary) **99k:05118** 05C55

Zhang, Zhong Jun (*with* Chen, Wei Tian; Shi, Song Jiao) Adaptive output feedback control of a class of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 2, 140–148. (P. K. C. Wang) **99k:93060** 93C40 (93B50, 93C41)

— (*with* Wu, Guo Hua[1]; Xi, Yu Geng) Robust controller design based on simplified triangular model. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 319–325. (Summary) **99a:93044** 93B51 (93D09)

— (*with* Chen, Jian-Qin; Xi, Yu Geng) A clustering algorithm for fuzzy model identification. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 319–329. 93C41 (93B30)

— (*with* Chen, Wei Tian; Shi, Song Jiao) Robust adaptive control of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 6, 88–93. 93C41 (93B51)

Zhang, Zhong Xiu (*with* Chen, Zhi Ping; Xu, Cheng Xian) A smoothing generalized active set method for solving constrained linear l_1 problems. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 9–16. 90C20

— (*with* Du, Xue Wu; Xu, Cheng Xian) A class of conjugate gradient methods for unconstrained optimization. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 53–57. 90C30 (65K05)

Zhang, Zhong-Zhan (*with* Yanagawa, Takashi) Obtaining invariant estimators for multiple relative rates from their given pairwise estimators. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 69–77. (Summary) **99b:62031** 62F10 (62P10)

Zhang, Zhong Zhen (*with* Tang, Xiao Wo) New algorithms for the shortest path problems with negative weights. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 432–436, 444. 90C08 (90C20)

Zhang, Zhong Zhi (*with* Li, Dong Hui; Zeng, Jin Ping) Gaussian pivoting method for solving linear complementarity problem. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 419–426. (C. Ilioi) **99b:90138** 90C33 (65F10, 65Y20)

— (*with* Li, Xiao Yu) The complexity of Vandermonde systems. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **16** (1998), *no.* 2, 33–35. 65Y20 (65F05)

— (*with* Zhou, Shu Zi) Using discrete orthogonality to solve an inverse problem with respect to the initial value for second-order parabolic problems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 63–70. (Summary) **99h:65163** 65M30

Zhang, Zhongxin (*with* Wang, Junyu) A boundary value problem from draining and coating flows involving a third-order ordinary differential equation. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 506–513. (L. E. Bobisud) **99c:34039** 34B15 (76D99)

Zhang, Zhuo Sheng (*with* Liu, Feng[1]; Liu, Gui Zhong) Global convergence and convergence rate for genetic algorithms. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 79–85. 90C27 (90C15)

— (*with* Liu, Feng[1]) Convergence of an ergodic iteration for solutions to monotone mapping equations. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 2, 91–93, 97. (Summary) **99d:47049** 47H09 (47H17)

Zhang, Zhuoyuan *see* **Zhang, Zuo Yuan**

Zhang, Zi Long (*with* Jia, Yu Ting) Kaplansky's theorem of the q-analogue of the enveloping algebra of the Witt algebra. (English summary) *Comm. Algebra* **26** (1998), *no.* 1, 97–105. (Alejandro Tiraboschi) **99e:17023** 17B37 (17B68)

— (*with* Jia, Yu Ting) Classification of the indecomposable Harish-Chandra modules over the q-analogue of sl(2). (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 109–114. (Shao-Ming Fei) **99f:17020** 17B37

Zhang, Zong Lao (*with* Shu, Shi Chang) Complete spacelike submanifolds in a de Sitter space with parallel mean curvature vector. (Chinese. English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 3, 252–258. (Hong Wang) **99h:53077** 53C40 (53C50)

Zhang, Zongmao (*with* Wang, Jihong; Pu, Junsheng; Moore, Philip R.) Modelling study and servo-control of air motor systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 459–476. 93C95 (93A30)

Zhang, Zuo Yuan An algebraic principle for the stability of difference operators. (English summary) *J. Differential Equations* **136** (1997), *no.* 2, 236–247. (Summary) **99b:39020** 39A11 (39A70)

Zhanlav, T. (*with* Batgerel, B.) On the numerical solution of Shrödinger [Schrödinger] equation. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 95–99, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 81Q05 (81–08)

Zhao, Aimin (*with* Liu, Bin[2]; Yan, Ju Rang) Necessary and sufficient conditions for oscillations of delay partial difference equations. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 339–346. (Sui Sun Cheng) **99d:39009** 39A10

— (*with* Zhang, Yu Zhu; Yan, Ju Rang) Oscillation criteria for a difference equation. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1241–1249. (Binggen Zhang) **99c:39013** 39A10

— (*with* Yan, Ju Rang) Oscillation and stability of linear impulsive delay differential equations. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 187–194. (Eduardo Liz) **99h:34017** 34A37 (34K15, 34K20)

Zhao, Biao (*with* Li, Xueliang) Kernels, semikernels and quasi-kernels in super line digraphs. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 11–13. (Summary) **99h:05050** 05C20

Zhao, Bin[1] Limits in the category of molecular lattices. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 411–418. 06D10 (18A30)

— (*with* Zhao, Dong Sheng) A generalization of Lawson-Hoffmann duality. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 6, 1325–1332. 18A30 (06A06, 06D10)

— Inverse systems in topological molecular lattices and their inverse limits. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 1, 1–7. (Summary) **99h:06010** 06F30

Zhao, Bing (*with* Ruan, Xiao Qing) Inverse scattering solutions of the Helmholtz equation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 123–126. 76Q05 (35J05)

Zhao, Chun Jun (*with* Xie, San Ming; Wu, Cang Pu) Decentralized model reference adaptive control of large-scale nonlinear systems. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol.* (*Chin. Ed.*) **17** (1997), *no.* 3, 332–336. (*see* **99a:93004**) 93C10 (93A14)

Zhao, Chunfeng (*with* Yang, Ya Ping; Yu, Zurong) On q-deformed creation operator $a^{\dagger}$. (English summary) *Commun. Theor. Phys.* (*Beijing*) **28** (1997), *no.* 2, 191–194. (Marcelo R. Ubriaco) **99c:81107** 81S05 (81R50)

Zhao, Cong Jiang Generalizations and applications of the fixed point theorems for cone stretching or compression and for range stretching or compression in their normal forms. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 25–30. (Da Jun Guo) **99b:47089** 47H10 (45G10, 47H15, 47N20)

— The global characteristics of eigenvalues and eigenelements of completely continuous operators and an application. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 65–71. (Da Jun Guo) **99m:47070** 47H12

Zhao, D. *see* **Zhao, Dong Sheng**

Zhao, Dayu (*with* Tang, Hengyong) Computing Karmarkar's projections in stochastic linear programming. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 486. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 409–416. 90C15 (90C08)

Zhao, Di (*with* Pan, Yang Lian) Liouville-type theorems for harmonic maps. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 3, 255–258. (Yuan-Jen Chiang) **99g:58038** 58E20

Zhao, Dong Mei (*with* Guo, Yao Huang; Tao, Zhang Hua) A noninferior matrix method for solving multi-objective dynamic programming problems. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 204–208. 90C29 (90C39)

Zhao, Dong Sheng Semicontinuous lattices. (English summary) *Algebra Universalis* **37** (1997), *no.* 4, 458–476. (Marcel Erné) **99d:06011** 06B35 (06A15, 06D10)

— (*with* Zhao, Bin[1]) A generalization of Lawson-Hoffmann duality. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 6, 1325–1332. 18A30 (06A06, 06D10)

Zhao, Dun (*with* Fan, Xian Ling) The Nemytskiĭ operators from $L^{p_1(x)}(\Omega)$ to $L^{p_2(x)}(\Omega)$. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 1, 1–5. (Summary) **99i:47117** 47H30 (46E30, 49J99)

Zhao, Feng Zhen New proofs of a class of q-series identities. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 402–404. 05A30 (11B65)

Zhao, Fengguang (*with* Wang, De Ren) The globalization of Durand-Kerner algorithm. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 11, 1045–1057; *translated from Appl. Math. Mech.* **18** (1997), *no.* 11, 975–986 (*Chinese. English and Chinese summaries*). (Iliya Makrelov) **99d:65167** 65H20

— (*with* Wang, De Ren) A class of iteration method for the best approximation problems. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 1, 15–21. (Summary) **99d:65034** 65D15 (41A10)

Zhao, Gong Yun (*with* Sun, Jie) Quadratic convergence of a long-step interior-point method for nonlinear monotone variational inequality problems. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 471–491. (Guy Cohen) **99h:49014** 49J40 (90C33)

— (*with* Sonnevend, G.; Stoer, Josef) Subspace methods for solving linear programming problems. (English summary) Modern applied analysis (Ilieni, 1997). *Pure Math. Appl.* **9** (1998), *no.* 1-2, 193–212. (Shu Zhong Zhang) **99m:90096** 90C05

— Interior point algorithms for linear complementarity problems based on large neighborhoods of the central path. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 397–413 (*electronic*). (Tamás Terlaky) **99c:90138** 90C33 (90C05)

Zhao, Guangyu (*with* Li, Ji Bin) Chaotic behavior of a system of uniform web. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 446–453. (Summary) **99e:58131** 58F13 (34C23, 58F40, 70K50, 78A35)

Zhao, Guo Song Ovaloids with parallel Ricci curvature tensor in equiaffine spaces. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 2, 174–177. (Chuan Xi Wu) **99k:53009** 53A15 (53C40)

— Covariant symmetric tensor fields of order 2 on pseudo-Riemannian manifolds. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 5, 649–659. (Hui Li Liu) **99k:53023** 53B30

Zhao, Guohui (*with* Zheng, Chengde) B-spline functions of $s_3^2(\Delta_3)$ and $s_4^3(\Delta_3)$. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 329–332. 41A15 (41A63, 65D07)

Zhao, H. Z. *see* **Zhao, Huai Zhong**

Zhao, Hong-Kai (*with* Engquist, Björn) Absorbing boundary conditions for domain decomposition. *IUTAM Symposium on Computational Methods for Unbounded Domains (Boulder, CO, 1997)*, 315–324, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 65M55 (65N55)

— (*with* Engquist, Björn) Absorbing boundary conditions for domain decomposition. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 341–365. (Petr N. Vabishchevich) **99j:65228** 65N55

— (*with* Merriman, Barry; Osher, Stanley; Wang, Lihe) Capturing the behavior of bubbles and drops using the variational level set approach. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 495–518. (Summary) **99c:76089** 76M25 (76D99)

Zhao, Hong Liang (*with* Jiang, Da Qing) Multiple positive solutions of a third-order nonlinear differential equation. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 16–20. 34B15

Zhao, Hong Yong Persistence and global stability for a nonautonomous competition model with refugees. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 163–168. (Qing Kai Kong) **99h:34074** 34D20 (92D25)

— Global asymptotic stability of a class of third-order nonlinear systems. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 1, 11–14. (Summary) **99b:34093** 34D99

— (*with* Dai, Xiao Yan) The existence of periodic solutions and global stability for three-dimensional nonautonomous Lotka-Volterra cooperative systems with time delay. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 3, 16–20. (Jiong Yu Wu) **99k:34163** 34K15 (34K20, 92D25)

Zhao, Hongchao (*with* Chen, Degang) A finite energy property of stable inversion to nonminimum phase nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1170–1174. 93B30 (93C10)

Zhao, Hongyu (*with* Lange, Kenneth; Speed, Terence P.) The Poisson-skip model of crossing-over. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 299–313. (P. R. Parthasarathy) **99b:92024** 92D10 (60K05)

Zhao, Huai Zhong (*with* Truman, Aubrey) Stochastic Burgers' equations and their semi-classical expansions. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 231–248. (Reade H. Ryan) **99i:35186** 35R60 (35Q53, 60H15)

Zhao, Hui (*with* Leng, Zhi Jie; Xu, Zhong Ru) The loop analysis method and its application to determining the stability of agricultural ecosystems. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 28–32. 92D40

Zhao, Huijiang (*with* Yang, Tong; Zhu, Changjiang) Global smooth solutions for a class of quasilinear hyperbolic systems with dissipative terms. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1311–1324. (Maria Elena Schonbek) **99b:35127** 35L60

— (*with* Liu, Zaihua; Chen, Shi Ping[4]) On the Cauchy problem of the Kuramoto-Sivashinsky equation with singular initial data. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 25–34. (Summary) **99b:35100** 35K57 (35Q55)

— (*with* Jeffrey, Alan) Global existence and optimal temporal decay estimates for systems of parabolic conservation laws. I. The one-dimensional case. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 175–193. (Summary) **99m:35102** 35K55 (35B40, 35L65)

— (*with* Jeffrey, Alan) Global existence and optimal temporal decay estimates for systems of parabolic conservation laws. II. The multidimensional case. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 597–623. (Summary) **99m:35103** 35K55 (35B40, 35L65)

— (*with* Yang, Tong; Zhu, Changjiang) Compactness framework of L^p approximate solutions for scalar conservation laws. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 164–186. (Christophe Cheverry) **99b:35140** 35L65 (35A35)

Zhao, Jennifer J. Approximation to a parabolic system modeling the thermoelastic contacts of two rods. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 1–25. (Meir Shillor) **99j:73094** 73T05 (65M06, 73B30, 73V15)

Zhao, Jian[3] A proof of a newly discovered fundamental theorem in elementary number theory. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 43–46, 50. 11A05

Zhao, Jian Hua (*with* Han, Zhi Gang) Optimal solution of linear programming with simple connections. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 83–87. 90C05

Zhao, Jian Xin Admissibility of linear estimators of the Poisson parameter under a vector loss function. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **12** (1999), *no.* 1, 18–23. 62J05 (62C15)

Zhao, Jie[2] (*with* Guo, Qing Ting) Eigenstates of the third power of the q-deformed boson annihilation operator and their properties. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 4, 10–17. (Jiu Qing Liang) **99b:81092** 81R30 (81R50)

Zhao, Jin Zhou (*with* Chen, Xin Xiang) The Doob stopping theorem for set-valued martingales. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 25–28. (Summary) **99i:60094** 60G40 (60G42, 60G44)

Zhao, Jing Hui Approximation of unbounded functions by Feller operators derived from functions S and λ. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 466–472. (Ying Guang Shi) **99b:41015** 41A35 (41A25)

Zhao, Jing Jun (*with* Liu, Ming Zhu) Stability of numerical methods for neutral equations. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 6, 1–3, 10. (Summary) **99d:65234** 65L20

— (*with* Liu, Ming Zhu) Numerical stability of θ-methods for double delay equations. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 2, 51–53. 65L20

Zhao, Jingang (*with* Sah, Raaj) Some envelope theorems for integer and discrete choice variables. (English summary) *Internat. Econom. Rev.* **39** (1998), *no.* 3, 623–634. (J. M. Gutiérrez) **99m:90008** 90Axx (90C31)

Zhao, Jun[3] (*with* Sun, Liang; Yang, Gang) Two results on binary matroids. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 1–5. (Summary) **99d:05018** 05B35

— A new characterization of binary matroids and modular pairs of hyperplanes. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 96–98. 05B35

Zhao, Jun Feng Some properties of the β-dual spaces of vector sequence spaces. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 94–98, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99g:46006** 46A45

— (*with* Yang, Chang Sen) A generalization of a theorem on estimation of the modulus of convexity. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 81–86. (Summary) **99b:46023** 46B20 (46E40)

Zhao, Jun Ning (*with* Dong, Pi Ming) Uniqueness of solutions for a class of singular parabolic equations. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 3, 329–331. 35K65 (35K55)

Zhao, Jun Xi (*with* Ma, Ji Pu) Hyperreflexivity of some noncommutative subspace lattice algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 6, 721–727. (Summary) **99e:47055** 47D25

Zhao, K. Y. *see* **Zhao, Ke Yi**

Zhao, Kai A weighted norm inequality for generalized Calderón-Zygmund operators. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 2, 1–5. (Shan Zhen Lu) **99k:42038** 42B20

Zhao, Kaiming Isomorphisms between generalized Cartan type W Lie algebras in characteristic 0. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 210–224. (Miguel A. Rodríguez) **99e:17035** 17B65

— (*with* Osborn, J. Marshall) A characterization of the Block Lie algebra and its q-forms in characteristic 0. (English summary) *J. Algebra* **207** (1998), *no.* 2, 367–408. (Aleksandr A. Mikhalev) **99i:17034** 17B70

— (*with* Đoković, Dragomir Ž.) Some infinite-dimensional simple Lie algebras in characteristic 0 related to those of Block. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 153–165. (Gordon E. Brown) **99b:17027** 17B65 (17B40, 17B56)

— (*with* Osborn, J. Marshall) Infinite-dimensional Lie algebras of generalized Block type. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1641–1650. (Zhi Xue Zhang) **99i:17024** 17B65 (17B40)

Zhao, Ke Yi (*with* Tian, Bo; Gao, Yi Tian) Some analytical solutions for the (2 + 1)-dimensional nonintegrable and integrable dispersive long wave equations. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 133–135. 35Q51 (35C99)

— An order-adding method for linear programming. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 276–282. 90C05

Zhao, Ke-You (*with* Stoustrup, Jakob) Computation of the maximal robust $\mathscr{H}_2$ performance radius for uncertain discrete time systems with nonlinear parametric uncertainties. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 33–43. 93B36 (93B40)

— Parametric perturbation bounds for uncertain systems with quadric-curve pole location and H_2 performance constraints. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 615–620. 93B36

Zhao, Kun (*with* Wu, Huo Xiong) L_M^*-saturation of Stancu-Kantorovich operators. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 247–251. 41A36

Zhao, L. *see* **Zhao, Liu**

Zhao, Li Qin The three-parameter unfoldings of several kinds of planar polycycles with two saddle-nodes and one saddle. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 439–448. (Mao An Han) **99i:34046** 34C05 (34C20, 34C23, 58F21)

— (*with* Li, Weigu; Zhang, Zhi Fen) Cyclicity of elementary polycycles and ensembles with codimension 3 degeneration. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 22, 1849–1864. (Robert Roussarie) **99k:58163** 58F27 (58F14)

Zhao, Lian Cheng The relationship between δ signals and Heaviside signals. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 54–58. (Summary) **99f:46058** 46F10 (94A12)

Zhao, Lianchang (*with* Wang, Deqiang) The twisted-cube connected networks. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 181–187. 68M10

Zhao, Lijun (*with* Liu, Zhiyong; Gao, Qingshi) An efficient multiway merging algorithm. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 543–551. (Summary) **99k:68040**

68P10

Zhao, Likuan The kissing number of the regular polygon. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 293–296. (Summary) **99a:05028** 05B45

— (*with* Wu, Chuan-Kun) Construction of 2-designs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 1, 124. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 1, 99–102. (Summary) **99m:05025** 05B05

Zhao, Lin Cheng (*with* Chen, Xi Ru; Wu, Yue Hua) A necessary condition for the consistency of LAD estimate. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 158. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 3, 292–297. (Zhi-Dong Bai) **99a:62090** 62J05 (62F10, 62G20)

— (*with* Qin, Yong Song) Semi-empirical likelihood ratio tests for the difference of two sample quantiles. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 103–112. (Summary) **99a:62069** 62G10

— (*with* Wu, Yao Hua[1]) Asymptotic efficiency of randomly weighted bootstrap for linear models. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 9, 711–712. (Summary) **99i:62100** 62G09 (62J05)

Zhao, Lin Long A note on stability of second-order equations with variable coefficients. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **17** (1998), *no.* 2, 13–15. 34D99

— The butterfly theorem from a projective viewpoint. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 2, 29–32. 51N15

— A new integrability condition for Riccati differential equations and its application. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 5, 101–103. 34A05 (34A34)

Zhao, Linda H. (*with* Brown, Lawrence D.; Low, Mark G.) Superefficiency in nonparametric function estimation. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2607–2625. (Theo Gasser) **99b:62045** 62G05 (62B15, 62G20, 62M05)

Zhao, Liu (*with* Hou, Bo Yu) Note on the algebra of screening currents for the quantum-deformed W-algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7659–7666. (Summary) **99b:81110** 81R50 (17B37, 81R10)

— (*with* Liguori, Antonio; Mintchev, Mihail) Boundary exchange algebras and scattering on the half line. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 569–589. (Hanno Gottschalk) **99m:81129** 81T10 (81S05)

— (*with* Wang, Yan Shen; Hou, Bo Yu) Drinfeld-Sokolov construction of heterotic Toda model. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 3, 389–398. (Andrey V. Tsiganov) **99h:58092** 58F07 (82B20)

— (*with* Ding, Xiang Mao; Hou, Bo Yu) $\hbar$ (Yangian) deformation of the Miura map and Virasoro algebra. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 7, 1129–1144. (Stanislav Z. Pakuliak) **99e:81091** 81R50 (17B37, 17B68)

— (*with* Hou, Bo Yu; Ding, Xiang Mao) The algebra $\mathscr{A}_{\hbar,\eta}(\hat{g})$ and infinite Hopf family of algebras. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 249–266. (Stanislav Z. Pakuliak) **99i:16071** 16W30 (17B37, 17B69)

— (*with* Ding, Xiang Mao; Hou, Bo Yu; Hou, Bo-yuan) Free boson representation of $DY_\hbar(\mathrm{gl}_N)_k$ and $DY_\hbar(\mathrm{sl}_N)_k$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2273–2289. (Jun'ichi Shiraishi) **99g:81083** 81R50 (17B37)

Zhao, Mei Heng *see* **Cho, Min-Hyung**

Zhao, Ming Wang ELS identification and its numerical realization for stochastic continuous systems based on a filtering technique. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 438–442. 93E11

Zhao, Ning High resolution SCB scheme for hyperbolic systems of 2-D conservation laws. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 179–192. (Summary) **99d:65259** 65M06 (35L65, 76M20)

— (*with* Zheng, Hua Sheng; Dai, Jia Zun) A class of high resolution second-order MmB difference schemes. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 137–146. (Summary) **99e:65122** 65M06 (35L65)

— (*with* Zhang, Hu) On entropy condition of a high resolution Godunov scheme using flux limiters. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 59–64. 65M70 (35L65)

Zhao, Pei Biao Stable minimal hypersurfaces in E^n. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 3, 240–245. (From the text) **99k:53120** 53C42 (58E12)

— (*with* Sun, Guo Han; Chen, Guang Hua) Totally umbilical submanifolds. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 4, 345–348. (Chuan Yu Ma) **99e:53082** 53C40

— (*with* Sun, Guo Han; Chen, Guang Hua) Completely quasiumbilical submanifolds and completely umbilical submanifolds coincide. (Chinese) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 185–186. 53B25

— (*with* Song, Hong Zao; Wu, Bing Ye) Some notes on: "2-type spherical hypersurfaces" [Chinese Ann. Math. Ser. A **17** (1996), no. 4, 483–486; MR 97f:53092] by B. Y. Wu. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 128–130. 53C40

Zhao, Pei Hao (*with* Fan, Xian Ling) Periodic solutions of nonautonomous Lipschitz Hamiltonian differential inclusions. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 4, 6–13. (Shi Qing Zhang) **99e:34052** 34C25 (34A60)

— Multiplicity of positive solutions of a class of elliptic equations. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 1, 10–14. (Summary) **99h:35071** 35J65 (35B05, 58E05)

Zhao, Pengda (*with* Gao, Haiyu; Wang, Jiahua; Galli, Alain) Updating of population parameters and credibility of discriminant analysis. (English summary) *Math. Geol.* **31** (1999), *no.* 3, 249–275. (Summary) **99k:86009** 86A32

Zhao, Ping *see* **Zhao, Ping[2]**

Zhao, Ping[1] (*with* Diao, Ke Feng) The star chromatic number of a graph. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 6–9. (Summary) **99b:05056** 05C15

Zhao, Ping[2] Properties of solutions of a class of semilinear Schrödinger equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **19** (1999), *no.* 1, 7–10. 35Q55 (35J10)

Zhao, Qian Chuan (*with* Zheng, Da Zhong) Time-optimal routing for a class of hybrid dynamical systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 680–687. 49N55 (93C85)

— (*with* Zheng, Da Zhong) Stable and real-time scheduling of a class of hybrid dynamic systems. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 45–64. 90B35 (93E20)

Zhao, Qiang The representations of Lie groups and geometric quantizations. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 135–148. (Christopher T. Woodward) **99h:58074** 58F06 (22E46)

Zhao, Qing (*with* Karisch, Stefan E.; Rendl, Franz; Wolkowicz, Henry) Semidefinite programming relaxations for the quadratic assignment problem. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 71–109. (Yin Zhang) **99f:90103** 90C27 (90C26)

Zhao, Qing Yu (*with* Ding, Chang Ming) Absence of closed orbits in the Liénard plane. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1035–1038. (Summary) **99m:34088** 34C25

Zhao, Ren (*with* Liu, Liao) The static, spherically symmetric metric of the Schwarzschild space-time produced by back-reaction to Hawking evaporation. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 12, 2074–2078. 83C57 (83C47)

— (*with* Zhang, Lichun; Liu, Liao) Back reaction of charged black hole. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2273–2280. 83C57

— (*with* Zhang, Lichun) Hawking effect of non-static Kerr black holes. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 3, 343–348. (Summary) **99b:83053** 83C57

— (*with* Zhang, Lichun; Wu, Yueqin) Quantum thermal effect of nonstatic charged black hole. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 665–673. 83C57

Zhao, Ren Ke (*with* Gao, Chun Yi; Fang, Li Fei) Sharp neighborhoods of certain close-to-convex functions. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **14** (1998), *no.* 3, 1–6. 30C45

Zhao, Rong Xia The spectral mapping theorem for locally integrable subgroups. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 6, 515–522. (Jigen Peng) **99f:47049** 47D06 (34G10)

— Regularized smooth distribution groups. (English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 2, 169–175. (Evgeniĭ Mel'nikov) **99b:47056** 47D03 (46F99, 47D06)

Zhao, Ruhan (*with* Aulaskari, Rauno; Nowak, Maria) The nth derivative characterisation of Möbius invariant Dirichlet space. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 43–56. (David Bekolle) **99i:30051** 30D45 (30D50)

— (*with* Aulaskari, Rauno; He, Yu Zan; Ristioja, Juha) Q_p spaces on Riemann surfaces. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 449–464. (P. Lappan) **99g:30045** 30D45

— (*with* Ouyang, Cai Heng; Yang, Weisheng) Möbius invariant Q_p spaces associated with the Green's function on the unit ball of $\mathbf{C}^n$. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 69–99. (Manfred Stoll) **99h:46037** 46E15 (32A37, 47B35)

— Hankel operators from the space of bounded analytic functions to the Bloch space. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 53–58. (Miroslav Engliš) **99m:47034** 47B35 (47B38)

Zhao, Shen-Qi (*with* Pan, Zu-Liang; Zheng, Ke-Jie) An algebraic method for solving the KdV equation. I. Two-parameter solution family. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1733–1737. 35Q53

— (*with* Pan, Zu-Liang; Zheng, Ke-Jie) An algebraic method for solving the KdV equation. II. Three-parameter and four-parameter solution family. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1739–1745. 35Q53

Zhao, Sheng Min (*with* Tang, Wan Sheng; Li, Guang Quan; Zheng, Pi E) Optimal control of systems with continuous boundary conditions. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 9–15. 49K20 (93C20)

— (*with* Wang, Guang Lie) Initial-boundary value problems for a parabolic Monge-Ampère equation with Neumann boundary conditions. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 3, 303–309. (Summary) **99j:35117** 35K60

Zhao, Shiying (*with* Welland, Grant; Wang, Ge) Wavelet sampling and localization schemes for the Radon transform in two dimensions. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1749–1762. (Dominikus Noll) **99i:44003** 44A12 (42C15, 92C55, 94A12)

Zhao, Shuangsuo (*with* Zhang, Guo Feng[1]; Wang, Changyin) The convergence of two Newton-like methods for solving block nonlinear equations and a class of r-point $(r+1)$st-order A-stable one-block methods. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 1, 117–133. (Summary) **99a:65095** 65L20

Zhao, Song (*with* Ning, Hai Chun; Lang, Li; Sun, Tai Yi) A linearization method for a nonlinear system with disturbances. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 50–53. 93B18 (93C41)

Zhao, Tian Hang (*with* Chen, Zeng Qiang; Yuan, Zhu Zhi) A constrained multivariable generalized predictive controller based on a Tank-Hopfield neural network. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 847–852. 93C83 (93B50)

Zhao, Tian Xu (*with* Hao, Yue[2]; Li, Hong Tao) Some approximation results in stochastic programming. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 39–43. 90C15

Zhao, Tian Yu (*with* Chen, Guang Rong) Jackson's theorem and related problems in some function spaces. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 4, 14–18. (Jian Zhong Wang) **99a:41005** 41A10 (41A65)

Zhao, Tie Jun (*with* Wang, Hai Feng; Li, Sheng; Liu, Peng) A study of a pattern-matching algorithm for machine translation. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 11–14. 68T99

Zhao, Wei A penalty function method for bilevel multiobjective programming. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 331–337. 90C29 (49M37)

Zhao, Wei Dong (*with* Yuan, Yi Rang) The characteristic finite difference method for 2-dimensional compressible two-phase (oil and water) displacement problems with moving boundary values. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 6–15. 65M06 (76S05)

Zhao, Wei-zhong (*with* Cai, Jin-fang; Wang, Shi-kun; Wu, Ke[1]) Quantum affine superalgebra $U_q(\widehat{gl(1|1)})$ and its Drinfeld realization. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 1, 1–2. (From the text) **99j:17017** 17B37 (81R50)

— (*with* Zha, Chao-Zheng) Super high-order Virasoro gravity and high-order Virasoro topological matter. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 4, 277–284. (Summary) **99b:81082** 81R10 (81T70)

— (*with* Wang, Hong[5]; Wang, Luyu) q-deformed differential operator superalgebra on quantum superplane. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 1, 149–152. (Ludwig Pittner) **99e:81108** 81R50 (58B30)

— (*with* Cai, Jin-fang; Wang, Shi-kun; Wu, Ke[1]) Drinfel'd realization of quantum affine superalgebra $U_q(\widehat{gl(1|1)})$. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1989–1994. (Jun'ichi Shiraishi) **99k:81106** 81R50 (17B37)

Zhao, Wen Zheng (*with* Wang, Shuan Hong; Jiao, Zheng Ming) Twisted coproducts of Hopf algebras and H^R Hopf algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 591–596. (Fang Li) **99f:16045** 16W30

— (*with* Wang, Shuan Hong; Jiao, Zheng Ming) Hopf algebra structures on crossed products. *Comm. Algebra* **26** (1998), *no.* 4, 1293–1303. (M. Bettina Richmond) **99h:16067** 16W30 (16S35)

— (*with* Zhang, Yingshan; Pang, Shanqi; Jiao, Zheng Ming) Group partition and systems of orthogonal idempotents. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 249–262. (Harald E. Ellers) **99f:20009** 20C05

Zhao, Wenhuan (*with* Muehlegger, Erich J.; Raich, Andrew S.; Silva, Cesar E.) Lightly mixing on dense algebras. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 259–265. (Nathaniel Friedman) **99c:28052** 28D05

Zhao, X. H. *see* **Zhao, Xiao Hua**

Zhao, Xi Shun (*with* Wang, Ju) $Y_C\Omega_{2n}$ is an easy term. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 12, 1267–1269. 03B40 (68Q55)

Zhao, Xian Feng (*with* Hu, Yong Ming) An advanced nodal Green function method for boundary conditions of the second kind. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 4, 17–21. 65N30

Zhao, Xian Zhong (*with* Lu, Zhan Hua) Γ-monoids and Γ-groups. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 117–119. 20M99

Zhao, Xiao Hua (*with* Li, Ji Bin) Periodic solutions and heteroclinic cycles in the convection model of a rotating fluid layer. (English summary) *Recent advances in differential equations (Kunming, 1997)*, 35–45, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Mikhail Zaks) **99g:76139** 76R10 (34C37, 35Q35, 58F40, 76E15)

— (*with* Huang, Debin; Liu, Zeng Rong) Divergence-free vector-field and reduction. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 377–382. (Peter J. Topalov) **99k:58159** 58F25

Zhao, Xiao Hui[2] (*with* Yin, Bin; Feng, Chun Bo) Adaptive tracking control of time-varying systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 784–789. 93C40 (93D21)

— (*with* Feng, Chun Bo) A scheme for robust model reference adaptive control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 865–871. 93C40 (93B35)

Zhao, Xiao-Qiang Global asymptotic behavior in a periodic competitor-competitor-mutualist parabolic system. *Nonlinear Anal.* **29** (1997), *no.* 5, 551–568. (Ying Guo Lei) **99d:92034** 92D25

— (*with* Sleeman, B. D.) Target patterns and spiral waves in reaction-diffusion systems with limit cycle kinetics and weak diffusion. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 347–357. (Vitaly A. Volpert) **99j:35112** 35K57 (35Q80, 80A32, 92C15)

Zhao, Xin Quan Stability of solutions of singular integral equations. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 63–69. (Jian Zhong Wang) **99d:45002** 45E05 (45M10)

Zhao, Xing Hua[2] (*with* Shi, Zhan Wei) A divided region variational principle of A, φ-Ω method for 3-D eddy current problems. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 12, 1135–1140; *translated from Appl. Math. Mech.* **19** (1998), *no.* 12, 1049–1054 (*Chinese. English and Chinese summaries*). (Summary) **99m:78007** 78A25

Zhao, Xingqiu (*with* Ren, Fu yao; Jiang, Feng; Qiu, Weiyuan; Su, Feng; Qiang, Shaoxing) On fractal properties of reflection sequences from a well log and seismic trace. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 691–699. 86A15

Zhao, Xudong (*with* Bauer, Andrej; Clarke, Edmund M.) Analytica—an experiment in combining theorem proving and symbolic computation. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 295–325. 68T15 (68Q40)

Zhao, Xue Lei On the interacting measure-valued branching processes. *Stochastic differential and difference equations (Győr, 1996)*, 345–353, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Sylvie Roelly) **99i:60161** 60J80 (60G57)

— (*with* Yin, Chuan Cun) Joint density of hitting time and point to an ellipse for Brownian motion. *Chinese Sci. Bull.* **42** (1997), *no.* 24, 2054–2058. (Zoran Vondraček) **99j:60124** 60J65 (60G40)

— (*with* Yin, Chuan Cun) Joint density of hitting time and point to an ellipse for Brownian motion. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 18, 1931–1934. 60J65

Zhao, Xue Qin Absolute stability of delay systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 44–46. 34K20

Zhao, Xueqing (*with* Lü, Jingfa; Kruglov, S. I.) [A] wave equation for anyons and its exact solutions in external fields. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1103–1109. (Summary) **99c:81283** 81V70 (35Q40)

Zhao, Ya Qun (*with* Li, Shi Qu) Spectral characterization of the best affine approximation of a p-valued logic function. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 73–79. (Summary) **99c:03037** 03B50

Zhao, Yaoqing On the Deskins completions, theta completions and theta pairs for maximal subgroups. I, II. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3141–3153, 3155–3164. (È. M. Pal'chik) **99f:20032** 20D15 (20E28)

— On Deskins's conjecture concerning the supersolvability of a finite group. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 325–328. (È. M. Pal'chik) **99b:20059a** 20F16 (20D99, 20E28)

Zhao, Ying Liang (*with* Xu, Cheng Xian; Ma, Xiao Fang) A block conjugate directions method for solving unconstrained optimization problems. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 1–5. (Summary) **99c:90128** 90C30 (65Y05)

— (*with* Xu, Cheng Xian) Analysis of the properties of optimal paths for trust region methods. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 93–97. 90C30 (65K05)

Zhao, Yiqiang Q. (*with* Li, Wei; Braun, W. John) Stochastic scheduling on a repairable machine with Erlang uptime distribution. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 4, 1073–1088. (Jean B. Lasserre) **99k:90089** 90B35 (60K30, 62M20, 62N05)

— (*with* Chaudhry, Mohan L.) Transient solutions of some multiserver queueing systems with finite spaces. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 2, 161–182. 60K25 (90B22)

Zhao, Yong (*with* Yue, Chao Yuan; Xu, Xiao Dong; Chen, Ting[1]) A study on preference in data envelopment analysis. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 47–54. 90C08 (90C90)

— (*with* Luo, Yun Feng; Zhu, Ming Fu; Yue, Chao Yuan) A comparative analysis of three rational choice functions and their revealed preference representations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 7, 49–52. 90A05

Zhao, Yong Cheng (*with* Zhang, Zhi Li[2]) Algebraic-trigonometric mixed Lagrange interpolation. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 10–13. 41A10

Zhao, Yong Hui (*with* Yu, Dan; Xue, Hong Qi) Reliability confidence limits for exponential life distributions with type I censoring. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 2, 240–245. 90B25

Zhao, Yu (*with* Xie, Dong Qing; Ji, Jie) A competitive algorithm for on-line multiprocessor scheduling problems. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 4, 100–102. 90B35

Zhao, Yue[1] (*with* Sanders, Daniel P.) On simultaneous edge-face colorings of plane graphs. (English summary) *Combinatorica* **17** (1997), *no.* 3, 441–445. (O. V. Borodin) **99b:05064** 05C15

— (*with* Hind, Hugh R.) Edge colorings of graphs embeddable in a surface of low genus. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 107–114. (Michael O. Albertson) **99f:05038** 05C15 (05C10)

— (*with* Sanders, Daniel P.) On d-diagonal colorings of embedded graphs of low maximum face size. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 81–94. (O. V. Borodin) **99j:05075** 05C15 (05C10)

— (*with* Sanders, Daniel P.) On 2-connected spanning subgraphs with low maximum degree. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 64–86. (R. Bruce Richter) **99h:05077** 05C40

— On the edge reconstruction of graphs embedded in surfaces. III. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 302–310. (J. Lauri) **99i:05149** 05C60 (05C10)

— On the edge reconstruction of graphs embedded in surfaces. II. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 268–274. (J. Lauri) **99g:05136** 05C60 (05C10)

Zhao, Yue-gang (*with* Li, Bo Zang) Quantum phases of Pancharatnam type for a general spin in a time-dependent magnetic field. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 11, 801–804. (Summary) **99c:81127** 81S99

Zhao, Yumin (*with* Wu, Xiaohua[1]; Hsia, Yuanfu) Hardy's theorem for n spin-s particles in entanglement. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 1, 17–20. 81P99

Zhao, Yun Bin (*with* Sun, De Feng; Han, Ji Ye) The finite termination of the damped Newton algorithm for linear complementarity problems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 148–154. (Summary) **99c:90137** 90C33 (65K05)

— Extended projection methods for monotone variational inequalities. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 1, 219–231. (Christian Michelot) **99m:65126** 65K05 (49J40, 49M99)

Zhao, Yunhe (*with* Micchelli, Charles A.; Xu, Yuesheng) Wavelet Galerkin methods for second-kind integral equations. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 251–270. (Fritz Keinert) **99b:65176** 65R20 (42C15, 45L05)

Zhao, YuQiu (*with* Lin, Wei[1]; Xu, Yongzhi) Normal modes analysis for sound waves in an ocean with an ice cap and a perfectly reflecting bottom. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 167–181. (Summary) **99a:76138** 76Q05 (86A05)

Zhao, Yushen (*with* Lan, Kang; Lin, Weigan) A hybrid finite-difference method in time-domain. (English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 394–397. 65M06

Zhao, Z. *see* **Zhao, Zhong Xin**

Zhao, Zeng Qin A necessary and sufficient condition for the existence of positive solutions to a class of singular sublinear boundary value problems. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1025–1034. (Summary) **99m:34051** 34B15

— A necessary and sufficient condition for singular nonlinear second-order boundary value problems to have positive solutions. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 15–24. (Donal O'Regan) **99f:34034** 34B15

— (*with* Li, Xian Kui) Existence and uniqueness of positive solutions to a class of nonlinear integral equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 251–256. (Summary) **99f:45008** 45G10

— Uniqueness and existence of positive solutions for Hammerstein integral equations of polynomial type. *Nonlinear Anal.* **32** (1998), *no.* 6, 795–805. (Anatolij Semenovich Kalitvin) **99b:45004** 45G10 (34B15, 45M20, 47H30, 47N20)

— (*with* Xie, Shu Heng) Boundary solutions of operator equations in partial ordering sets with applications to systems of functional equations. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 9–17. (Seppo Heikkilä) **99c:47104** 47H15 (39B62, 47N20)

Zhao, Zhang-yin (*with* Huang, Tian Yi; Wang, Chang-bin) The relation between symmetric and symplectic methods. (English summary) *Chinese Astronom. Astrophys.* **22** (1998), *no.* 1, 101–112. (Benedict J. Leimkuhler) **99b:70001** 70–08 (58F05, 65L99)

Zhao, Zhen[1] Bianalytic functions and applications. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 99–103, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99h:31009** 31A30

— The Schwarz problem for a class of complex third-order partial differential equations. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998),

no. 1, 6–8. (Summary) **99e:35005** 35A20 (35J99)

Zhao, Zheng (*with* Li, Zhong Heng) New quantum effects for nonstationary black holes. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **34** (1998), *no.* 3, 345–346. 83C57

— (*with* Pei, Shou Yong; Liu, Liao) The Planck black body spectrum implies that the transitivity of clock rate synchronization is equivalent to the zeroth law of thermodynamics. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **34** (1998), *no.* 3, 356–359. 82B03

Zhao, Zhi Xin (*with* Zhang, Hong Bo; Shi, Cheng Xian) (Almost) excellent extensions of rings. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 105–108. 16S20

Zhao, Zhijian (*with* Aubry, Nadine; Legrand, Michel) Criteria for transition to turbulence induced by Richtmyer-Meshkov and Rayleigh-Taylor instabilities. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 108–117, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76079** 76F99 (76E99)

Zhao, Zhiye Error estimation in adaptive BEM by postprocessing interpolation. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 633–645. (Summary) **99d:65340** 65N38

— A simple error indicator for adaptive boundary element method. (English summary) *Comput. & Structures* **68** (1998), *no.* 5, 433–443. 73V10

Zhao, Zhong Xin (*with* Zhang, Qi S.) Singular solutions of semilinear elliptic and parabolic equations. *Math. Ann.* **310** (1998), *no.* 4, 777–794. (Zuchi Chen) **99e:35078** 35J65 (35K60)

— (*with* Ufuktepe, U.) Positive solutions of nonlinear elliptic equations in the Euclidean plane. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3681–3692. (Ross Pinsky) **99k:35068** 35J65 (35B05)

Zhao, Zhuxing (*with* Min, Ying Hua; Li, Zhongcheng) Boolean process. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 3, 250–257. (Christoph Meinel) **99a:94072** 94C10 (68Q35)

Zhao, Zu Sen (*with* Pan, Hui-yun; Li, Hai-yan) Bose-Einstein condensation of a quon gas in D dimensions. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 119–121. (Summary) **99f:82005** 82B05 (81R50)

Zhao, Zun Yu (*with* Niu, Xiao Qi) A complete system of invariants for the line of intersection of a quadratic surface with a plane. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 2, 24–28. 51N20

Zharikova, E. N. (*with* Sobolev, V. A.) Optimal periodic control systems with singular perturbations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 151–168; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1188–1202. (Tzanko D. Donchev) **99b:49026** 49K40 (34E15, 34H05, 49N20)

Zharinov, V. G. Unsteady viscous flows in a space and around plane surfaces. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 519–525; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 483–488. (Summary) **99m:76048** 76D05

Zharinov, V. V. On differentiations in differential algebras. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 163–180. (François Ollivier) **99a:12008** 12H05 (35A25)

— Algebraic constructions in generalized functions. Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 347–356. (Summary) **99d:46058** 46F10

— Operational calculus in differential algebras. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 145–158. (Summary) **99g:44011** 44A40 (35A30)

Zharkov, V. M. New functional representation for Hubbard model, coherent states and tower of algebras. (English summary) *Path integrals: Dubna '96*, 161–165, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99k:82016** 82B20 (81R30)

Zharnitsky, Vadim Instability in Fermi-Ulam "ping-pong" problem. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1481–1487. (Luigi Chierchia) **99m:58101** 58F05 (34D99, 58F10, 70K20)

— A note on adiabatic invariance in Hamiltonian systems depending singularly on the slow time. (English summary) *Phys. D* **122** (1998), *no.* 1-4, 62–72. (James A. Murdock) **99h:70026** 70H05 (34E10, 58F05, 70K99, 78A40)

— (*with* Mitkov, Igor) π-kinks in the parametrically driven sine-Gordon equation and applications. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 301–307. (*see* **99h:00031**) 35Q53 (35L70)

— (*with* Turitsyn, Sergei K.; Aceves, Alejandro B.; Jones, Christopher K. R. T.; Mezentsev, Vladimir K.) Hamiltonian averaging in soliton-bearing systems with a periodically varying dispersion. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 3843–3846. (Summary) **99m:78012** 78A60 (35Q55)

Zhdanov, O. N. (*with* Tsikh, A. K.) Computation of multiple Mellin-Barnes integrals by means of multidimensional residues. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 2, 154–156. (Harold P. Boas) **99k:32007** 32A27 (33B15, 33E20)

— (*with* Tsikh, A. K.) Investigation of multiple Mellin-Barnes integrals by means of multidimensional residues. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 281–298, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 245–260. (Faizo A. Shamoyan) **99j:30044** 30E20 (33B15, 44A20)

Zhdanov, Renat On conditional symmetries of multidimensional nonlinear equations of quantum field theory. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 53–61, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Woodford W. Zachary) **99c:58177** 58G35 (35Q40, 81T10)

— (*with* Fushchich, Vīl′gel′m Īlīch) On new representations of Galilei groups. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 426–435. (Eric Y. Leung) **99b:22030** 22E70 (81R05)

— On algebraic classification of quasi-exactly solvable matrix models. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8761–8770. (Federico Finkel) **99c:81063** 81R05 (17B66, 34L40, 81Q05)

— (*with* Lutfullin, Maxim) On separable Schrödinger-Maxwell equations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6454–6458. 35Q40 (81Q05)

— (*with* Lagno, Viktor Ivanovich) Conditional symmetry of a porous medium equation. (English summary) *Phys. D* **122** (1998), *no.* 1-4, 178–186. (Summary) **99g:76143** 76S05 (35K99, 35Q35, 76M99)

— (*with* Revenko, I. V.; Fushchich, Vīl′gel′m Īlīch) Stationary mKdV hierarchy and integrability of the Dirac equations by quadratures. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 155–158. (Woodford W. Zachary) **99d:58093** 58F07 (35Q53, 81Q05)

Zhdanovich, D. V. Outer automorphisms of locally simple Lie algebras. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 9, 31–54; *translation in Sb. Math.* **188** (1997), *no.* 9, 1295–1316. (Summary) **99i:17022** 17B40

— Orthogonal expansion of the category of representations of two projectors. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 2, 51–53; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 2, 32–34. (Serge N. Tronin) **99b:18014** 18E10 (16G99)

Zhedanov, A. S. The "classical" Laurent biorthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 121–147. (Mayumi Ohmiya) **99k:33065** 33E20 (33E30)

— (*with* Loutsenko, Igor M.; Spiridonov, Vyacheslav P.; Vinet, Luc) Spectral analysis of q-oscillator with general bilinear interaction. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9081–9094. (Marcelo R. Ubriaco) **99k:81117** 81R50 (81Q99)

— (*with* Vinet, Luc) An integrable chain and bi-orthogonal polynomials. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 3, 233–245. (Kazuhiro Hikami) **99k:58098** 58F07 (33C50)

— (*with* Ermolayeva, O.; Spiridonov, Vyacheslav P.; Vinet, Luc) Self-similarity and orthogonal polynomials. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1863–1867. (Summary) **99k:33026** 33C45

— On the polynomials orthogonal on regular polygons. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 1–14. (L. Leindler) **99m:42041** 42C05 (33C45)

Zhegalov, V. I. The structure of the solution of a partial differential equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1704–1705, 1728; *translation in Differential Equations* **33** (1997), *no.* 12, 1710–1712 (1998). (Summary) **99i:35012** 35E20 (35C99)

— On the three-dimensional Riemann function. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1074–1079, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 929–934. (R. Schimming) **99a:35160** 35L35

— (*with* Kotukhov, M. P.) On integral equations for the Riemann function. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 1, 26–30; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 1, 24–28. (A. O. Oganesyan) **99b:35119** 35L10 (35L25, 45A05)

Zheleva, S. Representation of right cyclically ordered groups as groups of automorphisms of a cyclically ordered set. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 291–294. 06F15 (20F60)

Zhelezovskiĭ, S. E. Sharpened error estimates for the Bubnov-Galerkin method for a coupled problem of the thermoelasticity of plates. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 75–77; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 4, 73–75. 73B30 (65M60, 73K10)

— On the existence and uniqueness of a solution and the rate of convergence of the Bubnov-Galerkin method for a quasilinear evolution problem in a Hilbert space. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 10, 37–45. (Ulrich Tautenhahn) **99j:65175** 65M60 (34A45, 34G20, 65J15)

Zhelobenko, D. P. On quantum methods in the classical theory of representations. (English summary) *Lie groups and Lie algebras*, 71–84, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:17024** 17B37

— Differential operators and differential calculus in quantum groups. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 4, 25–50; *translation in Izv. Math.* **62** (1998), *no.* 4, 673–694. (Tomasz Brzeziński) **99k:16056** 16S32 (16W30, 58B30)

Zheltukhin, A. A. (*with* Roshchupkin, S. N.) On a possibility of membrane cosmology. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 360–366, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99i:83108** 83F05 (83E30)

Zheltukhin, K. V. (*with* Kadets, V. M.) A vector-valued measure as a basis of a Banach space. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 25–34. (S. Cobzaş) **99f:46062** 46G10 (46B15)

Zheltukhina, N. A. (*with* Ostrovskiĭ, I. V.) Parametric representation of a class of multiply positive sequences. *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 457–469. 30D99

— (*with* Ostrovskiĭ, I. V.) On power series having sections with multiply positive coefficients and a theorem of Pólya. *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 97–110. (R. Wallisser) **99k:30047** 30D15 (30B10, 30C45, 30D10, 30E05)

Zheludev, M. V. (*with* Generalov, A. I.) Compatible decompositions of modules over Dedekind prime rings. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 47–62; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 695–708. (Juliusz Brzeziński) **99b:13014** 13C10 (13F05, 16D40)

Zheludev, V. A. Periodic splines, harmonic analysis, and wavelets. (English summary) *Signal and image representation in combined spaces*, 477–509, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Dinh Dung) **99d:41022** 41A15 (42C15)

Zhelyabin, V. N. The negation problem for inductive theories. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 1, 142–150. (Summary) **99f:03037** 03B70 (68N17, 68P15)

— Jordan bialgebras of symmetric elements and Lie bialgebras. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 299–316, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 261–276. (Aleksandr A. Mikhalev) **99e:17043** 17C50 (16W30)

Zheng, Ai Ming The conditional probability density $f(x_1|\overline{X}, S_n)$ of a multivariate normal population. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 1–5. (Zheng Yan Lin) **99i:60032** 60E05 (60F05)

Zheng, Bo (*with* Lee, Chun-Hian) The effects of limiters on high resolution computations of hypersonic flows over bodies with complex shapes. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 82–87. 76M20 (76K05)

Zheng, Buhong (*with* Bishop, John A.; Formby, John P.) Inference tests for Gini-based tax progressivity indexes. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 3, 322–330. 62P20

— (*with* Formby, John P.; Smith, W. James) The coefficient of variation, stochastic dominance and inequality: a new interpretation. (English summary) *Econom. Lett.* **62** (1999), *no.* 3, 319–323. (Summary) **99m:90045** 90A19

Zheng, Cheng Yao An edge convergence condition for iterative processes and its application. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **14** (1998),

no. 1, 4–7. 65H05
— A generalized iterative scheme for nonlinear equations and a condition for its monotone convergence. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **14** (1998), *no.* 3, 7–9. 65J10
Zheng, Chengde (*with* Zhao, Guohui) *B*-spline functions of $s_3^2(\Delta_3)$ and $s_4^3(\Delta_3)$. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 329–332. 41A15 (41A63, 65D07)
Zheng, Chong-You (*with* Cui, Hongbin; Fan, Lei) On induced mappings. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 2, 22–27. 06A23
— Connectivity in *L*-fuzzy bitopological spaces. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 257–259, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 54A40 (54D05, 54E55)
Zheng, Chun Yang (*with* Chen, Qing Hua[2]) Maschke theorems for graded gamma rings. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **14** (1998), *no.* 1, 10–13. 16Y99
Zheng, D. *see* **Zheng, De Chao**
Zheng, Da Zhong (*with* Zhao, Qian Chuan) Time-optimal routing for a class of hybrid dynamical systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 680–687. 49N55 (93C85)
— (*with* Zhao, Qian Chuan) Stable and real-time scheduling of a class of hybrid dynamic systems. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 45–64. 90B35 (93E20)
Zheng, Dao (*with* Sato, Masako; Mukouchi, Yasuhito) Characteristic sets for unions of regular pattern languages and compactness. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 220–233, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68Q45 (68T05)
Zheng, Dao Sheng On matrix unitarily invariant norm condition number. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 121–128. (Summary) **99a:65058** 65F35 (15A12, 65F20)
— A Jacobi-type method for symmetric singular value decomposition of symmetric complex matrices. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 2, 1–6. (Xinguo Liu) **99m:65076** 65F15 (15A18)
— Rayleigh quotient type schemes for symmetric and skew-symmetric definite generalized eigenvalue problems. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 3, 1–6. (Jin Yun Yuan) **99m:65077** 65F15
— (*with* Xu, Gui Ping; Wei, Mu Sheng) On solutions of matrix equation $AXB + CYD = F$. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 93–109. (Anna Lee) **99e:15020** 15A24
Zheng, De Chao (*with* Xia, Daoxing) Products of Hankel operators. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 339–363. (From the introduction) **99i:47049** 47B35
— (*with* Axler, Sheldon) Compact operators via the Berezin transform. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 387–400. (Miroslav Engliš) **99i:47045** 47B35 (46E22)
— (*with* Gu, Caixing) Products of block Toeplitz operators. (English summary) *Pacific J. Math.* **185** (1998), *no.* 1, 115–148. (Miroslav Engliš) **99h:47032** 47B35
— (*with* Gorkin, Pamela) Harmonic extensions and the Böttcher-Silbermann conjecture. (English summary) *Studia Math.* **127** (1998), *no.* 3, 201–222. (Raymond Mortini) **99b:46075** 46J15 (30H05, 47B35, 47B38)
Zheng, De Yin (*with* Hu, Zhi Quan) An extension of a theorem of Duffus et al. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 1, 17–19. (Summary) **99c:05124** 05C45
Zheng, Fangyang (*with* Florit, Luis A.) On nonpositively curved Euclidean submanifolds: splitting results. (English summary) *Comment. Math. Helv.* **74** (1999), *no.* 1, 54–62. (Sergio Console) **99m:53100** 53C40
— (*with* Florit, Luis A.) On nonpositively curved Euclidean submanifolds: splitting results. II. *J. Reine Angew. Math.* **508** (1999), 1–15. (Sergio Console) **99m:53101** 53C40
Zheng, Harry (*with* Gautier, Antoine; Granot, Frieda) Qualitative sensitivity analysis in monotropic programming. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 695–707. (Victor P. Il'ev) **99j:90063** 90C27 (90C31)
Zheng, Hengwu (*with* Jiang, Tongsong) Idempotent-separating congruences on weak $\mathscr{P}$-regular semigroups. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 573–578. (A. R. Rajan) **99c:20086** 20M17
Zheng, Hong Xing (*with* Liu, Chong Lin) Stability of standing waves in the generalized Davey-Stewartson system. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 197–201. 35Q55
Zheng, Hua Sheng (*with* Zhao, Ning; Dai, Jia Zun) A class of high resolution second-order MmB difference schemes. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 137–146. (Summary) **99e:65122** 65M06 (35L65)
Zheng, Huai Yuan (*with* Wang, Guo Ren; Yu, Ge; Zhang, Bin) A new filtering technique for join algorithms. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 713–721. 68P15
Zheng, Hui Rao (*with* Fang, Yun Lan; Hu, Xiao[2]) Fast inverse Cholesky decomposition for rectangular Toeplitz-block matrix. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 4, 418–422. 65F35 (65F10)
— (*with* Fang, Yun Lan; Zhang, Li; Wang, Zhi Ping) Fast inverse Cholesky decomposition for rectangular Toeplitz-block matrices. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 41–47. (Summary) **99d:65096** 65F05 (15A23)
— (*with* Zhang, Li; Wang, Zhi Ping) An algorithm for constructing generators of Toeplitz block matrices. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 141–144. 65F30
— (*with* Wang, Zhi Ping; Zhang, Li) A fast decomposition algorithm for Hankel matrices. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 145–147. 65F30 (65F10)
Zheng, J. J. *see* **Zheng, Jin Jin**
Zheng, Jia Mao (*with* Wu, Jian Cheng; Cai, Ri Zeng) A semidiscrete method for solving direct and inverse problems of the 2-D wave equation. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 66–70. 65M06 (65M70)
Zheng, Jian-Hua (*with* Langley, J. K.) On the fixpoints, multipliers and value distribution of certain classes of meromorphic functions. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 133–150. (Walter Bergweiler) **99b:30044** 30D35 (30D05)
— On the value distribution of iterated entire functions. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 18–31. (Walter Bergweiler) **99k:30057** 30D35 (30D05)
Zheng, Jiang Lin Using an equivalence relation in an integral domain to construct a division ring. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 2, 17–20. 16K20
Zheng, Jin Jin (*with* Ball, A. A.) Control point surfaces over non-four-sided areas. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 9, 807–821. (Luiz Henrique de Figueiredo) **99b:65022** 65D17 (65D07, 68U07)
Zheng, Jing-Bo (*with* Shieh, Leang-San; Wang, Wei Min[2]) Robust control of sampled-data uncertain systems using digitally redesigned observer-based controllers. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 43–64. 93B35 (93C62)
Zheng, John Xu A consistent nonparametric test of parametric regression models under conditional quantile restrictions. (English summary) *Econometric Theory* **14** (1998), *no.* 1, 123–138. (M. P. Moklyachuk) **99f:62067** 62G10 (62P20)
— Consistent specification testing for conditional symmetry. (English summary) *Econometric Theory* **14** (1998), *no.* 1, 139–149. (Luis Firinguetti) **99c:62139** 62G10 (62P20)
Zheng, Ke-Jie (*with* Pan, Zu-Liang; Yang, Qingjian) Lie algebra and Hamiltonian structures for nonlinear diffusion equation and Thompson equation. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 348–353, *World Sci. Publishing, River Edge, NJ*, 1994. (Irina Yehorchenko) **99e:35101** 35K55 (35A30, 35Q53, 58G37)
— (*with* Pan, Zu-Liang; Zhao, Shen-Qi) An algebraic method for solving the KdV equation. I. Two-parameter solution family. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1733–1737. 35Q53
— (*with* Pan, Zu-Liang; Zhao, Shen-Qi) An algebraic method for solving the KdV equation. II. Three-parameter and four-parameter solution family. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1739–1745. 35Q53
Zheng, Li Hui (*with* Feng, Shan; Pan, De Hui) A time domain approach to worst case H_∞ identification. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 154–159. 93B30 (93B36)
— (*with* Feng, Shan; Zhang, Jing Tian; Wang, An Xing) A differential game approach to option pricing: theoretical analysis. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 10–12. 90A09 (90D25)
— (*with* Feng, Shan; Zhang, Jing Tian; Wang, An Xing) A differential game approach to the option pricing problem: numerical analysis. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 11, 47–49. 90A09 (90D25)
Zheng, Li Quan (*with* Zhang, Gui Xiang) Closed-loop stability of systems with control input saturation nonlinearity. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 6, 52–55. 93D05 (93D20)
Zheng, Lian Cun (*with* Xu, Wan Da; He, Ji Cheng) Existence and nonuniqueness of positive solutions to a class of singular nonlinear boundary value problems. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 71–77. (Ching-An Wang) **99c:34041** 34B15 (76A05, 76D10)
— (*with* He, Ji Cheng) A class of singular nonlinear boundary value problems in the theory of pseudoplastic fluids. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 2, 208–211. 34B15 (76A05)
— (*with* He, Ji Cheng) Existence and non-uniqueness of positive solutions to a nonlinear boundary value problems in the theory of viscous fluids. (English summary) *Dynam. Systems Appl.* **8** (1999), *no.* 1, 133–145. (Summary) **99m:34052** 34B15 (35Q35, 76D10)
Zheng, Lian Wei (*with* Song, Shu Ni) Maximality and continuity of accretive operators. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 331–334. (Summary) **99j:47077** 47H06
Zheng, Mingli (*with* Liang, Zongxia) Exponential integrability, exponential decay of entropy and logarithmic Sobolev inequalities of symmetric diffusions. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 9–13. (Summary) **99e:60144** 60H30 (60J60)
Zheng, Nan Ning (*with* Dai, Ying; Li, Chunlai) Model-independent robust adaptive tracking control of robot manipulators. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 949–954. 93C85 (93D15)
— (*with* Dai, Ying; Zhang, Yuan Liang) Polynomial-based robust adaptive tracking control of robot manipulators. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 5, 18–21. 70B15 (70Q05, 93C85)
— (*with* Li, Cui Hua; Zhang, Yong Ping) An underrelaxation scheme for a fast adaptive filter. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 11, 1–3, 16. 93E11
Zheng, Pi E (*with* Tang, Wan Sheng; Zhao, Sheng Min; Li, Guang Quan) Optimal control of systems with continuous boundary conditions. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 9–15. 49K20 (93C20)
— (*with* Wang, Chun Feng; Li, Guang Quan) Two-level optimization problems: necessary condition and algorithms. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 92–99. 90C30 (90D65)
Zheng, Q. *see* **Zheng, Qing Hua**
Zheng, Qi[2] Note on the non-homogeneous Prendiville process. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 1–5. (Summary) **99b:92053** 92D25
— Computer algebra is indispensable in some problems of mathematical biology. *Math. Biosci.* **151** (1998), *no.* 2, 219–225. (From the text) **99i:92001** 92B05
— *see also* **Eisenfeld, J., 99i:92002**
Zheng, Qiang A generalization of elementary r-block circulant matrices. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 43–47. 15A57
Zheng, Qibing (*with* Lin, Jinkun) A new family of filtration seven in the stable homotopy of spheres. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 183–205. (Elias Micha) **99e:55021** 55Q45 (55T15)
— (*with* Wang, Xiangjun) The convergence of $\widetilde{\alpha}_t^{(n)} h_0 h_k$. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 622–628. (Summary) **99e:55022** 55Q45
Zheng, Qin[2] (*with* Qiu, Qing Jiu) Concentration-cancellation phenomena for the velocity fields in incompressible fluid flows. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1176–1184. (Benoît P. Desjardins) **99e:76044** 76D99 (35Q35, 76C99)

— (*with* Qiu, Qing Jiu) The concentration and oscillation of H^1 strong solutions for u^5-Klein Gordon equations. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 4, 387–392. (Summary) **99j:35147** 35L70 (35B25)

Zheng, Qing Hua (*with* Neubert, R.) Computation of periodic solutions of differential-algebraic equations in the neighborhood of Hopf bifurcation points. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 12, 2773–2787. (Summary) **99d:65245** 65L99 (34A09, 34C25, 58F14)

Zheng, Qing Yu (*with* Du, Hong Shan; Ren, Qing Jun; Zhou, Hou Chun) The quasi-Laplacian permanental polynomial of a graph. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 59–62. 05C50 (15A15)

Zheng, Qingsheng (*with* Zafiriou, Evanghelos) A local form of small gain theorem and analysis of feedback Volterra systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 635–640. 93B30 (93B52)

Zheng, Quan *see* **Zheng, Quan²**

Zheng, Quan¹ (*with* Yu, De Hao) An overlapping domain decomposition method based on the natural boundary reduction for biharmonic boundary value problems over unbounded domains. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 438–448; *translation in Chinese J. Numer. Math. Appl.* **20** (1998), *no.* 1, 89–101. (Summary) **99b:65167** 65N55

— (*with* Lu, Xi-Wen) Variable dimension algorithm for variational inequalities. *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 75–85. 49J40 (65K10)

— (*with* Yu, De Hao) An overlapping domain decomposition method for harmonic boundary value problems on unbounded sector domains. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 64–73. 65N55 (65N30)

— An overlapping domain decomposition method based on the natural boundary reduction for unbounded domains and its discretization. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 11–24. (Summary) **99c:65238** 65N55

— (*with* Zhang, Lian-sheng) Global minimization of constrained problems with discontinuous penalty functions. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 41–58. (Summary) **99k:90168** 90C30 (49M30, 65K05)

— (*with* Pan, Xing-Chen) Global optimum shape design. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 151–162. (*see* **99i:90003**) 90C90 (65C10, 73K40, 90C15)

Zheng, Quan² (*with* Zhang, Jizhou) Gaussian estimates and regularized groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1089–1096. (Michael A. Perel′muter) **99f:47050** 47D06 (35J99, 47F05)

Zheng, Quanan (*with* Huang, Norden E.; Shen, Zheng; Long, Steven R.; Wu, Manli C.; Shih, Hsing H.; Yen, Nai-Chyuan; Tung, Chi Chao; Liu, Henry H.) The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 903–995. (Summary) **99d:76082** 76M35 (62M10, 86–08)

Zheng, Rong (*with* Fan, Xi-Jun; Phan-Thien, Nhan) Completed double layer boundary element method for periodic suspensions. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 167–193. (Summary) **99c:76005** 76A99 (76M15, 76T05)

Zheng, Ruilun (*with* Ping, Ronggang) An improvement in selfconsistent cluster method for determining the critical point in Ising spin system. (English summary) *Xinan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1996), *no.* 5, 452–460. 82B20

Zheng, Sai Ying (*with* Qiu, Gan Di) Uniqueness of meromorphic functions that share three values. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 47–50, 60. 30D35

Zheng, Shaohui (*with* Chao, Xiuli) A result on networks of queues with customer coalescence and state-dependent signaling. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 151–164. (Summary) **99d:60102** 60K25 (60K20)

— (*with* Yao, David D.) Markov decision programming for process control in batch production. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 351–371. (Summary) **99c:90154** 90C40 (62N10)

Zheng, Shen (*with* Sriram, T. N.; Seila, Andrew F.) Sequential fixed-width confidence interval for the product of two means. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 119–145. (Rasul A. Khan) **99d:62078** 62L12

— (*with* Seila, Andrew F.; Sriram, T. N.) Asymptotically risk efficient two stage procedure for estimating the product of $k(\geq 2)$ means. (English summary) *Statist. Decisions* **16** (1998), *no.* 4, 369–387. (Summary) **99m:62119** 62L05 (62C05, 62L12)

Zheng, Shen Zhou Beltrami systems with double characteristic matrices and quasiregular mappings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 745–750. (Guo Chun Wen) **99d:35042** 35J45 (30C65, 35F99, 35J60)

— (*with* Fang, Ai Nong) L^p-integrability of (K_1, K_2)-quasiregular mappings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1019–1024. (Summary) **99m:46092** 46E35 (30C65, 35J45, 35J60)

— Partial regularity of A-harmonic systems of equations and quasiregular mappings. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 63–72; *translation in Chinese J. Contemp. Math.* **19** (1998), *no.* 1, 19–30. (Guo Chun Wen) **99b:35046** 35J45 (30C62, 35B60)

— (H, G)-transformations and quasiregular semigroups. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 3, 116–119. 20M20

Zheng, Shi-Biao A scheme for the generation of multi-mode Schrödinger cat states. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 5, 691–694. (Summary) **99g:81079** 81R30 (81V80)

— Preparation of motional Schrödinger cat states with controllable relative phases. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 5, 699–703. (Summary) **99g:81253** 81V80 (81R30)

Zheng, Shi-ming (*with* Kyurkchiev, Nikolaĭ V.; Marinov, P.) Parallel iteration for splitting factors of polynomials. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 2, 201–210. 65H05 (65Y05)

— (*with* Sun, Fang Yu) Some simultaneous iterations for finding all zeros of a polynomial with high order convergence. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 233–240. (Summary) **99h:65106** 65H05

Zheng, Shirong (*with* Li, Xiaofeng[1]; Shou, Biao) Research on the optimal parallel algorithms of broadcast-class problems. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 5, 455–463. (A. T. Amin) **99h:68067** 68Q22

Zheng, Shou Qi (*with* Wang, Mei Qing; Zheng, Wen Bo) A parallel task level scheduling algorithm for heterogeneous cluster systems. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 6, 9–14. 90B22 (68M20)

Zheng, Si-Qing (*with* Cong, B.; Li, Yueming) Hamiltonian paths and cycles of Fibonacci cubes with applications. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 451–464 (*electronic*). (*see* **99d:68010**) 68R10 (05C45, 68M10)

— (*with* Li, Yueming; Wu, Jie[5]) An optical interconnection structure based on the dual of a hypercube. (English summary) *Informatica (Ljubl.)* **22** (1998), *no.* 4, 499–508. (Summary) **99i:68094** 68R10 (68M10)

— (*with* Pan, Yi; Li, Keqin) Fast nearest neighbor algorithms on a linear array with a reconfigurable pipelined bus system. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 1, 1–25. (Summary) **99g:68211** 68U05 (68Q22)

— *see also* **Proceedings: Conference of Computing and Information, 99g:68005**

Zheng, SiNing Invariance and weak invariance for reaction-diffusion systems. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai, 1994)*, 210–217, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:35105** 35K57

— Nonexistence of positive solutions to a semilinear elliptic system and blow-up estimates for a reaction-diffusion system. (English summary) *J. Math. Anal. Appl.* **232** (1999), *no.* 2, 293–311. (Summary) **99m:35069** 35J60 (35B05, 35J45)

— Global boundedness of solutions to a reaction-diffusion system. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 1, 43–54. (Alexander L. Gladkov) **99m:35124** 35K57 (35B35)

Zheng, Songmu Global existence and asymptotic behavior of weak solutions to nonlinear thermoviscoelastic systems. (English summary) *Differential equations and applications (Hangzhou, 1996)*, 346–355, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 73B30 (35Q72)

— Mathematical results on the coupled Cahn-Hilliard equations. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 259–265, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:35172** 35Q99 (35K55)

— (*with* Li, Da Qian; Tan, Yongji; Shen, Weixi) ★ Boundary value problems with equivalued surface and resistivity well-logging. (English summary) Pitman Research Notes in Mathematics Series, 382. *Longman, Harlow*, 1998. *xiv*+210 *pp. ISBN* 0-582-27632-2 (Alexander S. Denisjuk) **99h:35230** 35R30 (35J15, 65N30, 86–08, 86A20)

— (*with* Sprekels, Jürgen) Maximal attractor for the system of a Landau-Ginzburg theory for structural phase transitions in shape memory alloys. (English summary) *Phys. D* **121** (1998), *no.* 3-4, 252–262. (Summary) **99g:35122** 35Q55 (35B40, 58F39)

Zheng, Tao (*with* Li, Xuandong; Dang Van Hung) Checking hybrid automata for linear duration invariants. (English summary) *Advances in computing science—ASIAN'97 (Kathmandu, 1997)*, 166–180, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60 (68Q68)

Zheng, Wei Min (*with* Yang, Guang Wen; Li, Xiao Ming[1]; Wang, Yi He; Wang, Ding Xing) Deterministic annealing. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 765–768. 90C27 (65C99)

Zheng, Wei-Mou Predicting orbits of the Lorenz equation from symbolic dynamics. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 191–198. (Alexander Loskutov) **99b:58085** 58F03 (34C35)

— Symbolic dynamics of the piecewise linear standard map. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 3, 369–376. (Doris Fiebig) **99i:58055** 58F03

— (*with* Ozorio de Almeida, Alfredo M.) Bifurcations in the periodic orbit sum: multiple windings. (English summary) *J. Phys. A* **31** (1998), *no.* 23, *L*441–*L*444. (Summary) **99c:81046** 81Q50 (81Q20)

— (*with* Hao, Bai-Lin; Liu, Jun-Xian) Symbolic dynamics analysis of the Lorenz equations. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5378–5396. (Summary) **99b:58080** 58F03

Zheng, Wei Xin On a least-squares-based algorithm for identification of stochastic linear systems. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1631–1638. (Summary) **99i:93069** 93E12

Zheng, Wei Xing (*with* Liu, Jian Ming) A Hardy-Littlewood theorem for weighted spaces. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 2, 211–218. (Gary Sampson) **99d:42011** 42A38 (33C45, 44A20)

— (*with* Zhou, Guangcai) Convolution operators on $H^p(H^n_g)$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 479. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 145–154. (Gerald B. Folland) **99c:22014** 22E35 (42B30, 43A15, 46S10)

— (*with* Shu, Li Sheng) About spherical functions on SL(2, **R**). (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 479. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 199–206. (Summary) **99h:43023** 43A90 (22E30, 33C80)

— (*with* Shu, Li Sheng) The asymptotic behavior of the Fourier transform on SL(2, **R**). (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 279–286. (Ji Sheng Na) **99c:43014** 43A80 (22E30)

— (*with* Zhu, Yue Ping) Weighted Φ-inequalities for fractional maximal functions on space of homogeneous type. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 165–170. (Lanzhe Liu) **99f:42043** 42B25

— Some problems on Lie group analysis. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 104–110, *World Sci. Publishing, River Edge, NJ*, 1998. (Bernhard Krötz) **99k:22016** 22E30

— (*with* Liu, Jian Ming) Riesz means of Fourier-Jacobi expansions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 693–702. 42B15 (41A15)

— (*with* Zhu, Yue Ping) Multipliers for weighted Hardy spaces on locally compact Vilenkin groups. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 19, 2041–2045. 43A22 (46E99)

— (*with* Zhu, Yue Ping) Besov spaces and Herz spaces on local fields. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 10, 1051–1060. (Ann Verdoodt) **99m:46093** 46E35

(42B20, 46S10)

Zheng, Wei Ying (*with* Qi, He; Liu, Ming Fang) The construction of 12-parameter rectangular plate elements. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 5–9. 65N30 (73K10, 73V05)

Zheng, Weian (*with* Chen, Zhen-Qing; Qian, Zhongmin; Hu, Yao Zhong) Stability and approximations of symmetric diffusion semigroups and kernels. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 255–280. (Zhi Ming Ma) **99f:60139** 60J60 (35A08, 35J45, 47D07)

Zheng, Wen Bo (*with* Wang, Mei Qing; Zheng, Shou Qi) A parallel task level scheduling algorithm for heterogeneous cluster systems. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 6, 9–14. 90B22 (68M20)

Zheng, Wen Xue (*with* Sun, Shi Xin) A fast algorithm for a special class of DFTs. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 6, 627–631. (Summary) **99a:65194** 65T20

Zheng, Xi Yin Series of convex functions on a Banach space. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 19–28. (Tian Xiong Han) **99g:49017** 49J52 (46G99, 46N10, 52A41, 90C48)

— (*with* Wen, Zhong Lin) Minimax theorem and saddle point theorem without linear structure. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 4, 375–380; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 349–354 (*Chinese. English and Chinese summaries*). (Ornella Naselli Ricceri) **99e:49027** 49K35 (90C48)

— Generalizations of a theorem of Arrow, Barankin, and Blackwell in topological vector spaces. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 221–233. (Juan-Enrique Martínez-Legaz) **99b:90115** 90C29 (46N10)

Zheng, Xiaodong (*with* Loh, Wei-Yin) A consistent variable selection criterion for linear models with high-dimensional covariates. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 311–325. (Summary) **99g:62099** 62J05

— Better saddlepoint confidence intervals via bootstrap calibration. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3669–3679. (Alfredas Račkauskas) **99c:62069** 62F25 (62E20, 62G09)

Zheng, Xing Hua[2] (*with* Zeng, Wen Ping) A grouping explicit method for solving a convection equation. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 111–114. 65M06

Zheng, Xite Evaluation of some lattice SU(2) group integrals. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 4, 463–468. (Summary) **99c:81155** 81T25

Zheng, Xizhong (*with* Weihrauch, Klaus) Effectiveness of the global modulus of continuity on metric spaces. (English summary) *Category theory and computer science (Santa Margherita Ligure, 1997)*, 210–219, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Summary) **99d:03059** 03F60 (03F65)

Zheng, Xuean (*with* Gong, Sheng; Yu, Qihuang) The Schwarzian derivative in several complex variables. II. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 1–8. (T. J. Suffridge) **99b:32035** 32H02 (30C55, 32A30)

— (*with* Gong, Sheng; Yu, Qihuang) The Schwarzian derivative in several complex variables. III. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 158–171. (T. J. Suffridge) **99g:32039** 32H02

Zheng, Ya Lin (*with* Li, Cai Ping) A 4-valued logic system G_4^2 associated with a nonlinearly ordered evaluation lattice. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 4, 1–4. 03B52 (03B50)

Zheng, Ya Rong Error estimates for a complete discretization solution of a singular time-dependent problem in a one-dimensional space. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 6, 744–752. (Summary) **99a:65128** 65M60 (65M15)

Zheng, Yi[2] Control problems for uncertain systems with constraint conditions. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 39–42. 93C41 (93B52)

Zheng, Ying Long (*with* Song, Guo Dong[1]) The value distribution of the meromorphic function $f + f^{(k)*}$. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 3, 7–10. 30D35

Zheng, Ying Ping (*with* Jiang, Chang Jun; Wang, Cheng Hong; Shu, Song Gui) Embedding operations of Petri nets and their use for establishing hierarchies in concurrent systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 551–557. 68Q90 (68Q10)

— (*with* Fan, Zhong) Comparison of input buffer scheduling algorithms in $M_1 + M_2/M/1/k$ system. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 656–662. 90B35 (90B22)

— (*with* Gui, Zhi Bo; Yang, Cheng Wu) Qualitative analysis of transition timed Petri nets with two-phase firing semantics under the weak firing rule. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 16–22. 68Q90

Zheng, Ying Wen A kind of multistage Stackelberg strategy. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **25** (1997), *no.* 6, 31–35. (Summary) **99b:90176** 90D20

Zheng, Yu *see* **Yu, Zheng**

Zheng, Yu Fan (*with* Zeng, Xiao Dong[2]) The realization and minimal order problems for nonlinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 523–527. 93B15 (93C10)

Zheng, Yu-Sheng (*with* Chen, Fangruo) Near-optimal echelon-stock (R, nQ) policies in multistage serial systems. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 592–602. 90B05

Zheng, Yuliang (*with* Seberry, Jennifer; Zhang, Xian-Mo) The relationship between propagation characteristics and nonlinearity of cryptographic functions. (English summary) *J.UCS* **1** (1995), *no.* 2, 136–150 (*electronic*). (Summary) **99a:94039** 94A60 (68P25)

— (*with* Zhang, Xian-Mo) Cryptographically resilient functions. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1740–1747. (Irina Bocharova) **99b:94044** 94A60

— (*with* Imai, Hideki) How to construct efficient signcryption schemes on elliptic curves. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 5, 227–233. (Summary) **99h:94058** 94A60

Zheng, Yun Long An improved importance sampling technique. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 4, 410–413. 62D05

Zheng, Yuxi (*with* Glassey, Robert T.; Hunter, John K.) Singularities and oscillations in a nonlinear variational wave equation. (English summary) *Singularities and oscillations (Minneapolis, MN, 1994/1995)*, 37–60, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (Linda M. Holt) **99a:35181** 35L70 (35A20, 35B05)

— Existence of solutions to the transonic pressure-gradient equations of the compressible Euler equations in elliptic regions. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1849–1868. (Emmanuel Grenier) **99c:35191** 35Q30 (76H05, 76N10)

— (*with* Zhang, Ping[4]) On oscillations of an asymptotic equation of a nonlinear variational wave equation. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 3-4, 307–327. (Summary) **99j:35146** 35L70 (35B05, 35L05)

— (*with* Lopes Filho, M. C.; Nussenzveig Lopes, H. J.) Convergence of the vanishing viscosity approximation for superpositions of confined eddies. (English summary) *Comm. Math. Phys.* **201** (1999), *no.* 2, 291–304. (Raphaël Danchin) **99m:76045** 76D05 (35D05, 35Q30)

Zheng, Yuxin The revolution in the philosophy of mathematics. (English summary) *Logique et Anal. (N.S.)* **40** (1997), *no.* 158, 155–173. (Summary) **99h:00006** 00A30 (01A60, 03A05)

Zheng, Zhao Bao (*with* Qin, Yu Yuan) On the discovery of algorithms. III. The nonnegative independent set problem and linear programming. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 75–80. 90C27

— (*with* Qin, Yu Yuan) On the discovery of algorithms. IV. A list of properties in combinatorial optimization. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 421–427. 90C27

Zheng, Zhi Yong (*with* Wang, Guo Qin) Kloosterman sums with oscillating coefficients. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 237–242. (Ping Ding) **99j:11091** 11L05 (11L07)

Zheng, Zhi Zhen (*with* Li, Shang Jian; Li, Zhi Gang[1]) A new algorithm for reducing the bandwidth of a sparse matrix. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 43–45. 65F50

Zheng, Zhiying Schur theory of crossed modules and projective semiunitary representations of groups. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 193–200, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 20C25

Zheng, Zhong guo (*with* Xue, Liu Gen) The application of random weighting methods in density estimation. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 600–608. (Summary) **99c:62120** 62G05

— (*with* Wang, Qi Hua) The Edgeworth expansions and smoothed bootstrap approximation for the Studentized Kaplan-Meier estimator. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 571–587. (Lajos Horváth) **99g:62052** 62G09

— (*with* Yang, Ying) Cross-validation and median criterion. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 907–921. (Summary) **99e:62064** 62G05

Zheng, Zhou Shun (*with* Zhou, Kai Shan) Strongly separable extensions and Galois extensions of commutative rings. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 59–61. 13B05

Zheng, Zu Xiu (*with* Jiang, Wei) On the degenerate differential system with delay. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 204–211. (Peter Dormayer) **99e:34098** 34K15 (34A09)

— (*with* Xu, Jian Hua[2]) The existence of almost periodic solution to nonlinear differential equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 346–349. (Summary) **99d:34076** 34C27

— (*with* Xu, Jian Hua[2]; Ren, Hongshan) A class of FDE with deviating argument which depends on state and rate of change of the state. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 454–459. (Angela Slavova Dimitrova) **99e:34102** 34K15 (34K05)

— (*with* Ren, Hongshan) The accurate solution of the initial value problem of the equation $x'(t) + ax(t) + bx(t-\tau) = 0$. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 546–560. (Summary) **99i:34092** 34K05

— (*with* Xu, Jian Hua[2]; Wang, Zhi Cheng[1]) On the existence of almost periodic solutions of neutral functional-differential equations. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 4, 9 *pp.* (*electronic*). (F. Vogl) **99d:34142** 34K15 (34K40)

— (*with* Jiang, Wei) The general solution of a degenerate system of difference equations with delay. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 44–50. (Summary) **99i:39008** 39A10

— (*with* Xu, Jian Hua[2]) Continuous solutions for a class of functional equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 1–3. (Summary) **99k:39069** 39B22

Zheng, Zukang Stability of testing hypotheses. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 9, 932–944. (Stavros Kourouklis) **99c:62048** 62F05

— Limit theorems for integral type estimators with censored data. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 245–251. (Summary) **99h:62043** 62G05 (60F05, 60F15, 62G20)

— (*with* Fang, Kai-Tai; Lu, Wenliang) Discrepancy with respect to Kaplan-Meier estimator. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 329–344. (Summary) **99b:62054** 62G05

Zheng, Zuo-Huan Chain transitivity and Lipschitz ergodicity. *Nonlinear Anal.* **34** (1998), *no.* 5, 733–744. (Saber Elaydi) **99i:54056** 54H20 (58F10)

— (*with* Chen, Mingwei) Globally topological equivalence of nonautonomous systems. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 299–304. (S. Yu. Pilyugin) **99k:34098** 34C99 (34D30, 58F99)

Zhengyi, Lu *see* **Lu, Zheng Yi**

Zhenhai, Liu *see* **Liu, Zhen Hai**

Zhensykbaev, A. A. Recovery problems on sets of multivariate functions by accurate data. (Russian summary) *Anal. Math.* **23** (1997), *no.* 2, 149–157. (Victor S. Rykhlov) **99f:41043** 41A63 (65D15)

Zherelo, A. V. (*with* Egorov, A. D.) Approximate formulae for functional integrals based on interpolation of measures. (English summary) *Computational modelling and*

computing in physics (*Dubna*, 1996), 156–158, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 58D30

Zhestkov, S. V. (*with* Ermolaev, E. A.; Kuvshinov, V. I.) Classes of exactly solvable degenerate systems of universal nonlinear partial differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 845–846, 864; *translation in Differential Equations* **33** (1997), *no.* 6, 849–851 (1998). (Florin Iacob) **99d:35011** 35A25 (35C05, 35E15, 35F20)

— (*with* Laptinskiĭ, V. N.) Existence and stability of periodic solutions of a class of nonlinear wave partial differential systems. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 5–10, 138. 35L70 (35B10)

Zhevandrov, P. N. (*with* Dobrokhotov, Sergeĭ Yu.; Quezada Batalla, Roberto; Vargas Jarillo, Cristóbal) In memoriam: Víctor Martínez Olivé. (Spanish) *Miscelánea Mat. No.* 23 (1996), 1–15. 01A70

— (*with* Merzon, A. E.) High-frequency asymptotics of edge waves on a beach of nonconstant slope. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 529–546 (*electronic*). (F. Ursell) **99j:76012** 76B15 (35B25, 86A05)

Zhi, Lihong Optimal algorithm for algebraic factoring. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 1, 1–9. (Dilip P. Patil) **99f:12007** 12Y05 (12E05)

Zhi, Xi Zhe (*with* Meng, Guang; Gu, Zhi Ping) A construction of Lyapunov functions by computer and its applications. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 59–63, *V.* 34D20 (70K15)

Zhidkov, E. P. (*with* Lobanov, Yu. Yu.; Shakhbagyan, R. R.) Functional measures and approximations for some imaginary-time path integrals. (English summary) *Path integrals: Dubna '96*, 359–363, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

— (*with* Airapetyan, R. G.; Shakhbagyan, R. L.) Regularizing numerical method for solving the inverse scattering problem. *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 1–7, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 65N99 (35J10, 81U40)

— (*with* Airapetyan, R. G.; Busha, J.) Numerical method for solving the inverse problem of quantum scattering theory. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 27–31, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 81U40 (34L25, 65R20)

— (*with* Ovsyannikov, V. P.; Polyakova, R. V.; Yudin, I. P.) Numerical modeling of some magnetic systems of solenoidal type. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 314–320, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 78–08 (78A30)

— (*with* Solov'ev, A. G.) Increasing the accuracy of approximate solutions of a boundary value problem on a half-line. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 321–326, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65L20

— (*with* Likhoded, N. A.; Petrov, Valeriĭ Alekseevich) Rapidly converging compound formulas for the approximate computation of Wiener functional integrals. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1621–1625; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1551–1555. (Summary) **99j:65254** 65U05 (60H05)

— *see also* **Computational modelling and computing in physics, 99k:65003**

Zhidkov, P. E. ★ Eigenfunction expansions associated with a nonlinear Schrödinger equation. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E5-98-61. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1998. 11 *pp.* (Petru A. Kozhukhar') **99f:34119** 34L10 (34B15, 34L30)

— On a problem with two-time data for the Vlasov equation. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 537–547. (Yves Elskens) **99d:82072** 82D10 (35Q99, 45K05)

Zhien, Ma *see* **Ma, Zhi En**

kul'chitskiĭ-Zhigaĭlo, R. D. *see* **Kul'chitskiĭ-Zhigaĭlo, R. D.**

Zhigalko, Yu. P. (*with* Toropova, M. M.) Analytic solutions of problems of oscillations of elastic plates and shells with patch-type supports. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 47–54. (From the text) **99i:73051** 73K15 (73D30, 73K12, 73T05)

Zhiglyavskiĭ, A. A. Asymptotic upper bounds for the optimal design length in factor screening experiments. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 85–92, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05

— (*with* Kondratovich, Marina) Comparison of independent and stratified sampling schemes in problems of global optimization. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 292–299, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:65005** 65C05

— (*with* Pronzato, Luc; Wynn, Henry P.) A generalized golden-section algorithm for line search. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 2, 185–214. (Summary) **99c:90125** 90C30 (65K05)

Zhihong, Man *see* **Man, Zhihong**

Zhijian, Yang *see* **Yang, Zhi Jian²**

Zhijie, Cai *see* **Cai, Zhi Jie**

Zhikov, V. V. Meyer-type estimates for solving the nonlinear Stokes system. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 107–114, 143; *translation in Differential Equations* **33** (1997), *no.* 1, 108–115. (Alexander Yurjevich Chebotarev) **99b:35170** 35Q30 (35J60)

Zhilin, A. A. (*with* Fedorov, Aleksandr V.) The structure of a shock wave in a two-velocity mixture of compressible media with different pressures. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 10–19. (Summary) **99i:76085** 76L05 (34C99, 76N10, 76T05)

— (*with* Fedorov, Aleksandr V.) Propagation of shock waves in a two-phase mixture with different pressures of the components. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **40** (1999), *no.* 1, 55–63. 76L05 (76M25)

Zhil'tsov, Ilya Yu. The free Archimedean epigroups of finite degree. *Semigroup Forum* **57** (1998), *no.* 3, 378–396. (Jorge Almeida) **99g:20105** 20M07 (20M05)

Zhirnyĭ, G. G. (*with* Bondarēv, B. V.) The functional law of the iterated logarithm for fields and its applications. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 883–894; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 989–1002 (1998). (F. Móricz) **99b:60048** 60F17 (60F15)

Zhislin, G. M. Essential spectrum and SO(2)-symmetry of the energy operators of the quantum systems with nonincreasing magnetic field. (English summary) *Partial differential equations and their applications* (*Toronto, ON*, 1995), 307–315, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (H. Hogreve) **99g:81044** 81Q10 (35J10, 35P05, 35Q40, 81V70)

— (*with* Vugal'ter, S. A.) Spectral properties of Hamiltonians with a magnetic field under fixation of pseudomomentum. I. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 413–431; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1543–1558 (1998). (Mihai Pascu) **99e:81049** 81Q10 (47N50)

— (*with* Vugal'ter, S. A.) Geometric methods for many-particle Hamiltonians with magnetic fields. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 121–135, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Tohru Ozawa) **99b:35031** 35J10 (35P20, 81V45, 81V70)

Zhitarashu, N. V. (*with* Eidelman, Samuil D.) L_p-theory of generalized solutions of linear parabolic conjugation problems. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 101–108, 121, 124. (Vladimir P. Burskiĭ) **99b:35083** 35K50 (35D05, 46F10)

— (*with* Eidelman, Samuil D.) On the asymptotic representation and stabilization of solutions of some model boundary value problems and conjugation problems for a parabolic system of second-order equations. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 2, 116–126, 128, 131. (Pavel Năslău) **99g:35024** 35C20 (35K10)

— (*with* Eidelman, Samuil D.) ★ Parabolic boundary value problems. (English summary) Translated from the Russian original by Gennady Pasechnik and Andrei Iacob. Operator Theory: Advances and Applications, 101. *Birkhäuser Verlag, Basel*, 1998. *xii*+298 *pp. ISBN* 3-7643-2972-6 (P. Szeptycki) **99h:35080** 35K20 (35–02)

Zhitetskiĭ, L. S. Adaptive control under conditions of constant perturbations: an identification approach. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 66–77, 156. 93C40 (93C41)

— Robustness conditions for adaptive control systems with parametric and nonparametric uncertainties. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 59–69, 155. 93B35 (93C41)

Zhitomirskiĭ, G. I. Inverse semigroups and fiberings. (English summary) *Semigroups* (*Luino*, 1992), 311–321, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M18

Zhitomirskiĭ, M. Ya. (*with* Jakubczyk, Bronisław) Odd-dimensional Pfaffian equations: reduction to the hypersurface of singular points. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 423–428. (Summary) **99e:58003** 58A17

Zhitomirskiy, G. I. *see* **Zhitomirskiĭ, G. I.**

Zhivitskaya, E. N. (*with* Minchenko, O. Yu.) On the sensitivity of discrete control systems to perturbations of the parameters. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 1, 29–32, 140. (T. R. Gichev) **99a:49037** 49K40 (93B35)

Zhixue, Luo *see* **Luo, Zhixue**

Zhizhiashvili, L. V. On the solution of a problem of P. L. Ul'yanov. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 241–243 (1991). 42A16

— Everywhere divergent trigonometric series. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 1, 5–6. 42A24

Zhizhina, E. A. An asymptotic formula for the decay of correlations in a stochastic model of planar rotators at high temperatures. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 1, 67–80; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 1, 844–856 (1998). (B. S. Nahapetian) **99b:82011** 82B05

— (*with* Minlos, R. A.) A limit diffusion process for an inhomogeneous random walk on a one-dimensional lattice. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 87–100; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 327–340. (B. L. Granovskiy) **99b:60112** 60J15 (60F17, 60J60)

— Two-particle spectrum of the generator for stochastic model of planar rotators at high temperatures. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 343–368. (Anatoliy Yu. Zakharov) **99j:82036** 82B31 (47N55, 82C31)

Zhmud', E. M. (*with* Berkovich, Ya. G.) ★ Characters of finite groups. Part 2. (English summary) Translated from the Russian manuscript by P. Shumyatsky [P. V. Shumyatskiĭ], V. Zobina and Berkovich. Translations of Mathematical Monographs, 181. *American Mathematical Society, Providence, RI*, 1999. *xxvi*+332 *pp. ISBN* 0-8218-0532-0 (David Chillag) **99j:20007** 20C15

Zhogova, T. B. A second-order projective bending of the families L^m_{2n-1}. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 9, 13–16; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 9, 11–14 (1998). (N. V. Gvozdovich) **99a:53010** 53A20

Zhong, Bing Lin (*with* Yan, Ting Hu; Mao, Yu Liang) A self-learning mechanism for a fuzzy relation matrix based on an associative memory model. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **27** (1997), *no.* 5, 1–5. 68T05

Zhong, Chang Yong Collective compact composition operator sequences on Hardy spaces. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 4, 419–422. (Summary) **99e:47037** 47B38 (47B07)

— (*with* Cao, Guang Fu) Collective compactness of sequences of Toeplitz operators on function spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 393–398. (Li Zhong Peng) **99i:47050** 47B35

— (*with* Cao, Guang Fu) Automorphism group of Toeplitz algebras on certain pseudoconvex domains. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 112–118. (Raúl E. Curto) **99m:47052** 47D25 (32F15, 47A13, 47A53, 47B35)

— (*with* Cao, Guang Fu) The Fredholm spectra and indices of multi-Toeplitz operators in $H^p(T)$. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 1, 1–4. (Ke He Zhu) **99c:47029** 47B35 (47A53)

Zhong, Cheng Kui A generalization of Ekeland's variational principle and its applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 185–190. 49J52 (47H15, 58E30)

— (*with* Shi, Ke) $Z_2 \times Z_2$-index theory on product spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 501–506. (Yong Qing Li) **99h:58036** 58E05 (47H11, 58E40)

— (*with* Li, De Sheng) Global attractor for the Cahn-Hilliard system with fast growing nonlinearity. *J. Differential Equations* **149** (1998), *no.* 2, 191–210. (Varga Kalantarov) **99m:35129** 35K60 (34G20, 35B40, 35Q35, 47H20)

— (*with* Ma, Yu Lan) Nonanalytic hypoellipticity of certain partial differential operators. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 3, 15–19. 35H05

Zhong, Hai Ping (*with* Nie, Cai Yun) Fuzzy mathematical appraisal of the quality of academic journals. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 4, 68–71. 00A99 (04A72)

Zhong, Huai Jie Some remarks about the operator ideals with type (A, B). (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 3, 1–6. (Summary) **99i:47079** 47D50 (46B28)

— (*with* Ruan, Ying Bin) On the zero variation sequences of the generalized operator ideals. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **14** (1998), *no.* 1, 6–9. (Summary) **99i:47078** 47D50 (46B15, 46B28)

Zhong, Ju Kang (*with* Kannappan, Palaniappan; Sahoo, Prasanna K.) On second differences in product form. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 44–60. (Shigeru Haruki) **99a:39063** 39B52

— (*with* Kannappan, Palaniappan; Sahoo, Prasanna K.) Corrigendum to: "On trigonometric functional equations of rectangular type" [Aequationes Math. **53** (1997), no. 1-2, 36–53; MR 98i:39009]. *Aequationes Math.* **56** (1998), *no.* 1-2, 199–200. (From the text) **99c:39038** 39B52

Zhong, Mao Hua (*with* Chen, Bao Zhi; Chen, Quan) A generalized catastrophe theory of risk assessment. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 2, 116–118. 90A46 (58C28)

Zhong, Mei (*with* Deng, Mou Jie) The Diophantine equation $3y(y+1)(y+2)(y+3) = 4x(x+1)(x+2)(x+3)$. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 30–34. 11D25

— (*with* Zhu, Jie) Multipliers and isomorphism of WCC-Banach algebras. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 13–14. 46H05

Zhong, Ning *see* **Zhong, Ning²**

Zhong, Ning¹ Recursively enumerable subsets of $\mathbf{R}^q$ in two computing models. Blum-Shub-Smale machine and Turing machine. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 79–94. (Klaus Weihrauch) **99d:03042** 03D65 (68Q05)

Zhong, Ning² (*with* Dong, Ju-Zhen; Ohsuga, Setsuo) Data mining: a probabilistic rough set approach. (English summary) *Rough sets in knowledge discovery*, 2, 127–144, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68T99

Zhong, Pei (*with* Howle, Laurens; Schaeffer, David G.; Shearer, Michael) Lithotripsy: the treatment of kidney stones with shock waves. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 356–371 (*electronic*). (Summary) **99d:92009** 92C05 (76Q05, 76Z99, 92C50)

Zhong, Qiao *see* **Qiao, Zhong**

Zhong, R. (*with* Boratav, Oluş N.; Elghobashi, S. E.) On the alignment of strain, vorticity and scalar gradient in turbulent, buoyant, nonpremixed flames. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2260–2267. (Summary) **99e:80004** 80A25 (76F99)

Zhong, Ren Bao (*with* Ma, Jian) An algorithm for the Chinese remainder problem. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 225–233. 68Q40 (11Y16)

Zhong, Shou Guo Bertrand-Poincaré formulas for changing the order of integration in singular integrals of high order on an open arc. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 145–150. (Summary) **99k:47125** 47G10 (26B15, 30E20, 45E05)

— Generalized Noether theorems for singular integral equations having solutions with higher-order singularities. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 361–366. (Sheng Gong) **99h:45003** 45E05 (47A53, 47G10)

Zhong, Shou Ming (*with* Li, Zheng Liang) The stability of a general continuous-time neural network. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 1, 92–97. 93D05 (93C30)

— Stability of large-scale delay-differential systems with uncertainty. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 1, 98–102. 93D09 (34K20)

— (*with* Huang, Ting Zhu) A note on a theorem of Brauer. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 6, 642–644. (Zhong Zhu Zou) **99g:30027** 30C99 (15A18)

— (*with* Wang, Yi; Wu, Xiao Qing) Robust stabilization of nonlinear systems with time delay. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 6, 652–655. 93D21 (34K35)

Zhong, Shou Nan (*with* Jiang, Chang Bin; Wang, Tian Hong) A neural network for vector optimization. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 47–50. 90C29 (90B10)

Zhong, Tan Yi (*with* Liu, Hui Zhao; Jiang, Da Qing) A four-point boundary value problem for a nonlinear third-order differential equation. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 40–45. (Summary) **99i:34029** 34B10 (34B15)

Zhong, Tong De $\overline{\partial}$-equation on complex manifolds. (English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 1, 15–20. (Lan Ma) **99i:32004** 32A25 (32F20)

— Koppelman-Leray-Norguet formula for a local q-concave wedge in Stein manifolds. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 2, 111–131. (Summary) **99i:32005** 32A25 (32F20)

— (*with* Ma, Zhong Tai) Integral representations and extension theorems for solutions of Cauchy-Riemann equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 30–34, 78. (Der-Chen E. Chang) **99g:32003** 32A25 (32F20)

— Homotopy formulas and $\overline{\partial}$-equations on q-convex domains in complex manifolds. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 1, 1–5. (Shu Jin Chen) **99d:32001** 32A25 (32F10, 32F20)

Zhong, Wan Xie (*with* Tang, Ji Ye) Parallel algorithms for precise integration of convection-diffusion equations. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **39** (1999), *no.* 1, 17–21. 65M06 (65Y05)

— (*with* Kong, Xiang Dong) A self-correcting algorithm for constraint errors of differential algebraic equations in nonlinear system dynamics. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **39** (1999), *no.* 1, 22–25. 65L06 (65L12)

Zhong, Xiao On nonhomogeneous quasilinear elliptic equations. Dissertation, University of Jyväskylä, Jyväskylä, 1998. *Ann. Acad. Sci. Fenn. Math. Diss. No.* 117 (1998), 46 *pp.* (Long-Yi Tsai) **99j:35075** 35J65

Zhong, Xiaolin High-order finite-difference schemes for numerical simulation of hypersonic boundary-layer transition. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 662–709. (Summary) **99e:76085** 76M20 (76K05, 80–08, 80A32)

Zhong, Xue Jun Linear admissible estimates of the mean vector under a matrix loss functio¬. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 719–724. (Summary) **99m:62012** 62C15

Zhong, Xuping *see* **Zong, Xu Ping**

Zhong, Yangchun (*with* Campbell, Stephen L.) Jacobian reuse in explicit integrators for higher index DAEs. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 391–412. (Michael Hanke) **99c:65124** 65L05 (34A45)

— (*with* Campbell, Stephen L.; Hollenbeck, R.; Yeomans, Kevin D.) Mixed symbolic-numerical computations with general DAEs. I. System properties. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 73–83. (Summary) **99m:65150** 65L99 (34–04, 34A09)

Zhong, Yu Bin The cardinal number theorem for fuzzy hypergroups. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 61–69. 20N20 (20N25)

Zhong, Zai-Zhe (*with* Gao, Ya-Jun; Gui, Yuan-Xing) Extended double Riemann-Hilbert problem and multiple representations of the infinite-dimensional symmetric group for the stationary axisymmetric vacuum field equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3155–3165. (Summary) **99f:83016** 83C20 (22E65, 22E67)

— (*with* Guo, Jianhong) Double soliton solutions of Belinsky-Zakharov equation related to the self-dual SU(N) gauge fields. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 7, 1987–1999. (Woodford W. Zachary) **99j:81198** 81U40 (81T13)

Zhong, Zhao Xian (*with* Sen, Mridul Kanti) On several classes of orthodox Γ-semigroups. (English summary) *J. Pure Math.* **14** (1997), 18–25. (R. J. Warne) **99m:20151** 20M19

Zhou, Ai Hui (*with* Allegretto, Walter; Lin, Yanping) Hölder solutions for the amorphous silicon system and related problems. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS, 1997)*, 1–9 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Summary) **99k:35179** 35Q99 (78A35, 82D99)

— (*with* Rüde, Ulrich) Multi-parameter extrapolation methods for boundary integral equations. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 173–190. (Summary) **99h:65220** 65R20 (45L05)

— (*with* Liao, Xiao-hai) A multi-parameter splitting extrapolation and a parallel algorithm for elliptic eigenvalue problem. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 213–220. (Summary) **99c:65208** 65N30 (65N25)

— (*with* Ding, Jiu) The projection method for a class of Frobenius-Perron operators. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 71–74. (Makoto Mori) **99i:47054** 47B38 (58F19, 65Q05)

— Multi-parameter asymptotic error resolution of the mixed finite element method for the Stokes problem. (English and French summaries) *M2AN Math. Model. Numer. Anal.* **33** (1999), *no.* 1, 89–97. (Summary) **99m:65227** 65N30 (76D07, 76M10)

Zhou, Bei (*with* Raghavarao, Damaraju) Universal optimality of UE 3-designs for a competing effects model. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 153–164. (Sanpei Kageyama) **99b:62115** 62K10 (62K05)

Zhou, Bing Some theorems concerning the star chromatic number of a graph. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 245–258. (Pavol Hell) **99b:05069** 05C15

Zhou, Bo² (*with* Liu, Bo Lian) Convergent indices of Boolean matrices with s-cycle positive elements on exactly t rows. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 517–524. (Chong Guang Cao) **99f:15023** 15A33 (05C50)

— (*with* Liu, Bo Lian) The kth upper multiexponents of primitive matrices. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 155–162. (N. J. Pullman) **99d:05063** 05C50

— Matrices with maximum upper multiexponents in the class of primitive, nearly reducible matrices. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 2, 181–190. (Summary) **99c:15024** 15A33 (05C50)

— (*with* Liu, Bo Lian) On almost regular matrices. (English summary) *Util. Math.* **54** (1998), 151–155. (Summary) **99f:15040** 15A60

— (*with* Liu, Bo Lian) Matrices with maximum exponents in the class of doubly stochastic primitive matrices. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 53–66. (Thomas H. Foregger) **99k:15038** 15A51

Zhou, Cai Ying (*with* Zhang, Tian Ping) Stable indirect adaptive fuzzy control of interconnected systems. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 4, 1–6. 93C42 (93D09)

— (*with* Zhang, Tian Ping) Studies on adaptive fuzzy variable structure control. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 76–82. 93B12 (93C42)

Zhou, Caijun Higher derivations and local cohomology modules. *J. Algebra* **201** (1998), *no.* 2, 363–372. (Michinori Sakaguchi) **99c:13038** 13D45 (13B10)

Zhou, Chang Tong (*with* Li, Yu Hua) Meromorphic functions with three CM common value sets. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 2, 140–145. (Summary) **99i:30048** 30D35

Zhou, Chizhong A general conclusion on Lucas numbers of the form px^2 where p is prime. *Fibonacci Quart.* **37** (1999), *no.* 1, 39–45. (Pentti Haukkanen) **99m:11014** 11B39

Zhou, Chun-Lian (*with* Lü, Zhi) A note on the Boardman theorem. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 819–822. (Summary) **99h:57065** 57R85

Zhou, Chun Qin Higher-dimensional ferromagnetic spin chain systems and p-harmonic maps. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 33–40. (Li Ma) **99h:58045** 58E20 (35Q99, 58E50, 82B20)

— (*with* Wang, Yuan Di) Existence and nonuniqueness for the flow of p-harmonic maps. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 511–516. (Y. L. Xin) **99f:58055** 58E20

— Regularity and compactness properties of weak solutions to inhomogeneous harmonic evolution equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 165–176. (Henghui Zou) **99m:35070** 35J60 (35D10, 35K55)

Zhou, Chunling (*with* Yang, Yuan Yuan) On the number of wavelengths required to embed multicast assignments in WDM networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 85–107, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99j:68005** 68M10 (78A55, 90B12, 94C15)

Zhou, D. H. *see* **Zhou, Dong Hua**

Zhou, De Xu (*with* Xue, Wei Min[2]) On $\mathscr{L}$-injective modules and $\mathscr{L}$-projective modules. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 4, 24–29. 16D40 (16D50)

— (*with* Xue, Wei Min[2]) On L-injective modules and Morita duality. (English summary) *Bull. Hong Kong Math. Soc.* **2** (1999), *no.* 2, 287–296. 16D50

Zhou, Detang On certain Laplace inequalities on manifolds. (English summary) *Geometry from the Pacific Rim* (*Singapore*, 1994), 415–422, *de Gruyter, Berlin*, 1997. (Leslie Coghlan) **99b:53057** 53C21 (53C20, 53C40, 53C42, 58G30)

— Spectrum of Laplacian on non-compact Riemannian manifolds. *Kyushu J. Math.* **52** (1998), *no.* 1, 187–207. (Stig I. Andersson) **99e:58200** 58G25

Zhou, Di (*with* Tian, Yan; Wu, Fang Tong) Generalized pseudodifferential operators with multiple symbols. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 37–43. (Qing Yi) **99m:35282** 35S05 (47G30)

Zhou, Ding-Xuan (*with* Jetter, Kurt) Seminorm and full norm order of linear approximation from shift-invariant spaces. (English summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 277–302 (1997). (Amos Ron) **99d:41057** 41A63 (41A25, 65D10)

— (*with* Jia, Rong Qing; Riemenschneider, Sherman D.) Approximation by multiple refinable functions. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 944–962. (J. W. Neuberger) **99f:39036** 39B12 (41A63, 65D15)

— Existence of multiple refinable distributions. *Michigan Math. J.* **44** (1997), *no.* 2, 317–329. (Don Hong) **99a:41021** 41A25 (42C15)

— (*with* Strang, Gilbert) Inhomogeneous refinement equations. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 6, 733–747. (Qing Tang Jiang) **99m:42056** 42C15 (41A25)

— (*with* Jia, Rong Qing; Riemenschneider, Sherman D.) Vector subdivision schemes and multiple wavelets. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1533–1563. (María Cristina Pereyra) **99d:42062** 42C15 (39B12, 65F15, 65T20)

— The p-norm joint spectral radius for even integers. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 1, 39–54. (Lars F. Villemoes) **99e:42054** 42C15 (15A18, 15A60, 47A13)

— Multiple refinable distributions: existence and factorization. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 565–583, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Hans W. Volkmer) **99i:42058** 42C15

— Solvability of linear systems of PDE's with constant coefficients. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2013–2017. (Paulo Domingos Cordaro) **99j:35018** 35E20 (12H99, 35A30)

Zhou, Dong Hua (*with* Frank, P. M.) Strong tracking filtering of nonlinear time-varying stochastic systems with coloured noise: application to parameter estimation and empirical robustness analysis. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 295–307. 93E11

— (*with* Wang, Qing Lin; Chen, Jin Di) A new method of designing controllers for nonlinear excitations of large-scale electric generators. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol.* (*Chin. Ed.*) **17** (1997), *no.* 3, 292–295. (*see* **99a:93004**) 93B51

Zhou, Dong Ming[2] (*with* Cao, Jin De; Li, Ji Bin) Stability analysis of Hopfield neural networks with delays. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 460–467. (Summary) **99e:34111** 34K20 (92B20)

— (*with* Cao, Jin De) Stability analysis of delayed cellular neural networks. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 1, 32–36, 45. (Summary) **99g:92009** 92B20

— (*with* Cao, Jin De) Stability of a class of models with continuously distributed delays. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 292–295. 34K20

Zhou, Feng[2] (*with* Hadiji, Rejeb) A problem of minimization with relaxed energy. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, 579–591. (Helmut Kaul) **99d:49006** 49J10 (58E20)

— A remark on duality for the sum of convex functions in general Banach spaces. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 533. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 249–254. (Summary) **99k:49077** 49N15 (46B99, 46N10)

Zhou, Gang[1] (*with* Wang, Ji Lin; Hu, Fen Lan) An initial parameter method for solving quasi-Hamilton linear equations. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 1, 105–107. 65L05

Zhou, Guang Lu (*with* Wang, Chang Yu; Zhang, Yu Zhong) An efficient method for semi-infinite programming. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 1–8. 90C34

Zhou, Guangcai (*with* Zheng, Wei Xing) Convolution operators on $H^p(H^n_k)$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 479. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 2, 145–154. (Gerald B. Folland) **99c:22014** 22E35 (42B30, 43A15, 46S10)

Zhou, Guanghui (*with* Yan, Jiaren; Tang, Yi) Soliton dynamics of NLS equation at the presence of perturbations. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 4, 537–540. 35Q55 (35B20)

— (*with* Yan, Jiaren; Tang, Yi; Chen, Zhenhua) Direct approach to the study of soliton perturbations of the nonlinear Schrödinger equation and the sine-Gordon equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 1064–1073. (Summary) **99c:35233** 35Q55 (35Q53)

Zhou, Guanzhen (*with* Zhou, Song Ping) A remark on a modified Szász-Mirakjan operator. (English summary) *Colloq. Math.* **79** (1999), *no.* 2, 157–160. (Sorin Gheorghe Gal) **99k:41039** 41A35 (41A36)

Zhou, Gui An (*with* Si, Jie; Li, Han; Han, Ying Duo) Theory and applications of a supervised learning method based on gradient algorithms. I. The fundamental algorithm. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 7, 71–73. (Summary) **99a:68145a** 68T05

— (*with* Si, Jie; Li, Han; Han, Ying Duo) Theory and applications of a supervised learning method based on gradient algorithms. II. The training mechanism. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 9, 104–107, 117. (Summary) **99a:68145b** 68T05

Zhou, Guofei (*with* Yao, Tian Xing; Zhang, Ke Min[1]) A note on cycles in regular multipartite tournaments. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 73–75. (Summary) **99f:05050** 05C20 (05C38)

Zhou, H. *see* **Zhou, Hui Shan**

Zhou, Hai Yun Some convergence theorems for the Ishikawa iterative sequences of a class of nonlinear operators in uniformly smooth Banach spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 751–758. (Xian Zhi George Yuan) **99b:47090** 47H10 (47H17)

— Iterative solutions of nonlinear equations involving strongly accretive operators without the Lipschitz assumption. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 296–307. (Claudio H. Morales) **99d:47058** 47H10 (47H06, 47H15)

— A note on a theorem of Xu and Roach. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 300–304. (Charles Ejike Chidume) **99k:47165** 47H17 (47H10)

— Remarks on the mapping theorems involving compact perturbations of M-accretive operators in Banach spaces. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 45–54. (D. Pascali) **99e:47069** 47H06

— A generalized degree theory for maximal monotone operators with compact perturbations and its applications. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 253–256. (Summary) **99e:47084** 47H11 (47H05)

— (*with* Chen, Dong Qing) Iterative approximation of fixed points for nonlinear mappings of Φ-hemicontractive type in normed linear spaces. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 118–121. (Shi Sheng Zhang) **99m:47061** 47H09 (47H10, 47H17)

Zhou, Hao-Min (*with* Chan, Raymond H.; Xu, Shu-Fang) On the convergence of a quasi-Newton method for inverse eigenvalue problems. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 436–441 (*electronic*). (J. Segethová) **99m:65069** 65F15 (65F10)

Zhou, Haoxuan (*with* Williams, Scott W.) Order-like structure of monotonically normal spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 207–217. (V. V. Mykhaylyuk) **99c:54029** 54D15 (54D30, 54F05)

Zhou, Heng (*with* Fujimura, Kaoru) Further improvement of weakly nonlinear theory of hydrodynamic stability. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 1, 84–92. (Isom H. Herron) **99d:76034** 76E05 (76E30)

Zhou, Hou Chun (*with* Du, Hong Shan; Ren, Qing Jun; Zheng, Qing Yu) The quasi-Laplacian permanental polynomial of a graph. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 59–62. 05C50 (15A15)

Zhou, Huan-Qiang (*with* Guan, Xi-Wen; Tong, Dian Min) The Lax pair and its boundary K-matrix for an XYZ open spin chain. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 4, 796–801. (Deng Feng Wang) **99a:82032** 82B23 (82B20)

— (*with* Guan, Xi-Wen; Yang, Shan-De) A new quasitriangular Hopf superalgebra and its universal R-matrix. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 2, 174–176. (Summary) **99e:16052** 16W30

— (*with* Ge, Xiang-Yu; Gould, Mark D.; Zhang, Yao-Zhong) A new two-parameter integrable model of strongly correlated fermions with quantum superalgebra symmetry. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5233–5239. (Władysław Marcinek) **99g:82018** 82B23 (17B37, 81R50, 82B20)

— (*with* Zhang, Yao-Zhong) Nine classes of integrable boundary conditions for the eight-state supersymmetric fermion model. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7051–7059. (Andrey V. Tsiganov) **99f:82025** 82B23 (82B20)

— (*with* Bracken, Anthony J.; Ge, Xiang-Yu; Zhang, Yao-Zhong) Integrable open-boundary conditions for the q-deformed supersymmetric U model of strongly correlated electrons. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 588–602. (Rinat M. Kashaev) **99e:82023** 82B23 (81R50)

— (*with* Bracken, Anthony J.; Ge, Xiang-Yu; Zhang, Yao-Zhong) An open-boundary integrable model of three coupled XY spin chains. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 603–622. (Rinat M. Kashaev) **99e:82024** 82B23 (81R50)

Zhou, Huan-Song Positive solutions for nonhomogeneous elliptic equations with critical growth on $\mathbf{R}^2$. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 2, 124–138. (Summary) **99g:35039** 35J60 (35B05)

— Positive solution for a semilinear elliptic equation which is almost linear at infinity. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 896–906. (Summary) **99j:35076** 35J65 (35B05, 58E05)

Zhou, Hui Shan (*with* Liu, Jiping) Edge k-to-1 homomorphisms. (English summary) *Ars Combin.* **48** (1998), 87–96. (Summary) **99b:05120** 05C75

— (*with* Wei, Cuiping; Zhang, Zhi Min) The Hadamard product of a positive reciprocal matrix and some results in AHP. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 59–71. 90C29 (15A18, 90A05)

Zhou, J. *see* **Zhou, Jigen**

Zhou, Ji[1] (*with* Wang, Shi Gang; Liu, Li; Xiao, Shang Hong; Yu, Jun[3]) A genetic algorithm for structural optimization. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 3, 106–110, *X*. 73K40

— (*with* Hu, Xin Sheng; Shi, Bao Chang) Convergence of maximum entropy approximations for multiobjective minimax problems. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 285–290. 90C29 (49K35)

— (*with* Wang, Xuelin) An accelerated subspace iteration method for generalized eigenproblems. (English summary) *Comput. & Structures* **71** (1999), *no.* 3, 293–301. (Summary) **99m:65074** 65F15 (65F10, 73V20)

Zhou, Ji[2] (*with* Yu, Zu-Guo; Ren, Fu yao) Fractional integral associated to generalized cookie-cutter set and its physical interpretation. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5569–5577. (Summary) **99a:82095** 82D20 (28A80, 73B30, 82D55)

— (*with* Qiu, Weiyuan; Ren, Fu yao) Julia sets of the random iteration systems and its subsystems. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 4, 265–268. (Petra Bonfert-Taylor) **99c:58135** 58F23 (30D05)

Zhou, Jia Liang (*with* Jia, Bo) An analysis of multistage tandem queueing systems with blocking. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18**

(1998), *no.* 1, 96–100. 60K25

— (*with* Jia, Bo) The Jackson queueing networks with N service nodes of finite capacity. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 95–99. 60K25

Zhou, Jian (*with* Cao, Huai-Dong) Equivariant cohomology and wall crossing formulas in Seiberg-Witten theory. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 6, 711–721. (Ignasi Mundet-Riera) **99k:57067** 57R57 (55N91)

Zhou, Jian-Ge (*with* Ohta, Nobuyoshi) Thermalization of Poincaré vacuum state and fermion emission from AdS_3 black holes in bulk-boundary correspondence. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 23, 12 *pp.* (*electronic*). (Summary) **99i:83068** 83C57 (81T30, 83E30)

— (*with* Ohta, Nobuyoshi) Euclidean path integral, D0-branes and Schwarzschild black holes in Matrix theory. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 125–136. (Summary) **99d:81144** 81T40 (83C57, 83E30)

— (*with* Kitao, Takuhiro; Ohta, Nobuyoshi) Fermionic zero mode and string creation between D4-branes at angles. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 68–74. (Summary) **99c:81195** 81T30

— (*with* Müller-Kirsten, H. J. W.; Ohta, Nobuyoshi) AdS_3/CFT correspondence, Poincaré vacuum state and greybody factors in BTZ black holes. (English summary) *Phys. Lett. B* **445** (1999), *no.* 3-4, 287–295. (Summary) **99m:83129** 83C57 (81T20, 81T40, 83E30)

Zhou, Jian Hua Derivations of splittable Lie algebras. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 227–231. (Zi-Xin Hou) **99h:17023** 17B40 (17B30)

Zhou, Jian Wei[1] The geodesics in Grassmann manifolds. (English summary) *Soochow J. Math.* **24** (1998), *no.* 4, 329–333. (Man Chun Leung) **99m:53082** 53C22

Zhou, Jianping (*with* Yang, Bingen) Distributed transfer function analysis of stepped and ring-stiffened cylindrical shells. (English summary) *Dynamics and control of distributed systems*, 264–303, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99b:73002**) 73K15 (73K12, 73V05)

Zhou, Jianwei *see* **Zhou, Jian Wei**[1]

Zhou, Jianxin (*with* Chen, Goong; Hsu, Sze-Bi) Chaotic vibrations of the one-dimensional wave equation due to a self-excitation boundary condition. II. Energy injection, period doubling and homoclinic orbits. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 423–445. (Summary) **99i:35084** 35L05 (34C37, 35L70, 58F39, 73D35, 93C20)

— (*with* Chen, Goong; Hsu, Sze-Bi) Chaotic vibrations of the one-dimensional wave equation due to a self-excitation boundary condition. III. Natural hysteresis memory effects. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 447–470. (Summary) **99i:35085** 35L05 (34C37, 35L70, 58F39, 73D35, 93C20)

— (*with* Chen, Goong; Hsu, Sze-Bi) Snapback repellers as a cause of chaotic vibration of the wave equation with a van der Pol boundary condition and energy injection at the middle of the span. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6459–6489. (Summary) **99i:58103** 58F13 (34C37, 35L70, 73D35)

— (*with* You, Puhong; Ding, Zhong Hai) Optimal boundary control of the Stokes fluids with point velocity observations. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 981–1004 (*electronic*). (Ruxandra Stavre) **99d:49014** 49J20 (35Q30, 76D07, 93C20)

— (*with* Chen, Goong; Hsu, Sze-Bi) Chaotic vibrations of the one-dimensional wave equation due to a self-excitation boundary condition. I. Controlled hysteresis. (English summary) Appendix C by Guanrong Chen and Giovanni Crosta. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4265–4311. (Jürgen Scheurle) **99a:35155** 35L05 (34C99, 58F39, 73D25, 93C20)

Zhou, Jianyi (*with* Zou, Jian Cheng; Pan, Jian Zhong) The basic invariants of long curve and closed curve perestroikas. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 527–548. (Juan Margalef-Roig) **99g:57032** 57R45 (57R42)

Zhou, Jiazhang (*with* Hua, Xin-Hou) Relative primeness of entire functions. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 2, 263–267. (Chung-Chun Yang) **99m:30054** 30D05 (30D35)

Zhou, Jie (*with* Yuan, Bing Cheng) A result on minimal feasible graphs. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 4, 8–12. 05C35

Zhou, Jigen (*with* Adrian, R. J.; Balachandar, S.; Kendall, T. M.) Mechanisms for generating coherent packets of hairpin vortices in channel flow. (English summary) *J. Fluid Mech.* **387** (1999), 353–396. 76F99

Zhou, Jin Sufficient conditions for the nonexistence of periodic solutions to Liénard equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 41–43. 34C25

Zhou, Jin Jun (*with* Qi, Wen Feng) The 0, 1 distribution of the highest power digits of primitive sequences over the ring $\mathbf{Z}(2^3)$. II. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 18, 1938–1940. 11B50

— (*with* Qi, Wen Feng) Distribution of 0 and 1 in the highest level of primitive sequences over $\mathbf{Z}/(2^e)$. II. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 633–635. (Jean-Paul Allouche) **99m:11015** 11B50 (11B37, 94A60)

— (*with* Chen, Wei Hong; Gao, Fengxiu) Best linear approximation and correlation immunity of functions over Z_m^n. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 303–308. (Summary) **99m:65255** 65T20 (94A55)

Zhou, Jin Yuan[1] (*with* Dow, Alan) On subspaces of pseudoradial spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1221–1230. (Hans-Peter A. Künzi) **99f:54037** 54E35

Zhou, Julie (*with* Wiens, Douglas P.) Robust designs based on the infinitesimal approach. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1503–1511. (William I. Notz) **99b:62112** 62K05

— (*with* Wiens, Douglas P.; Wu, K. H. Eden) On the trimmed mean and minimax-variance L-estimation in Kolmogorov neighbourhoods. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 231–238. (Mir Masoom Ali) **99i:62060** 62F35 (62C20)

Zhou, Junming (*with* Lin, Qun[1]; Yan, Ning-ning) Superclose and superconvergence for triangular elements. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 127–143, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:65157** 65N30 (65N12)

Zhou, K. *see* **Zhou, Kun**[1]

Zhou, Kai Shan (*with* Zheng, Zhou Shun) Strongly separable extensions and Galois extensions of commutative rings. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 59–61. 13B05

— (*with* Tuo, Qing) Generalized mixed Riemann-Hilbert-Carleman boundary value problems for a class of second-order elliptic systems. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 45–49. 35J55

Zhou, Kemin (*with* Salomon, Gregory; Wu, Eva) Balanced realization and model reduction for unstable systems. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 183–198. (*see* **99k:93005**) 93B15 (93B11)

— *see also* **Controller reduction and system approximation, 99k:93005**

Zhou, Kenneth Q. (*with* Portnoy, Stephen L.) Statistical inference on heteroscedastic models based on regression quantiles. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 3, 239–260. (Summary) **99e:62121** 62J05

Zhou, Kun *see* **Zhou, Kun**[2]

Zhou, Kun[1] On the problem of the number of bifurcation solutions at singular point. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 10, 969–973; *translated from Appl. Math. Mech.* **18** (1997), *no.* 10, 905–909 (*Chinese. English and Chinese summaries*). (Bernd Marx) **99c:58032** 58E07 (47H15)

— (*with* Wu, Ji Ke) On the definitions of bifurcation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 8, 1861–1865. (Bei Ye Feng) **99b:58178** 58F14 (34C23)

Zhou, Kun[2] (*with* Pan, Zhi Geng; Shi, Jiao Ying) A mesh simplification algorithm based on triangle collapse. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 506–513. 68U05 (65D15)

Zhou, Kun Ping (*with* Gao, Bing Song; Hu, Xin Xin) A primal-dual affine scaling algorithm for box linear programming. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 305–309. 90C05

Zhou, Lei (*with* Li, Kai-tai) Finite element nonlinear Galerkin methods for penalty Navier-Stokes equations. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 4, 360–380. (Summary) **99i:76125** 76M25 (65M60, 76D05, 76M10)

— (*with* Zhou, Tian Xiao) A combinatorial stabilized finite element method for second-order partial differential equations with a small coefficient. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 4, 298–306. (Summary) **99d:65331** 65N30

— (*with* Zhou, Tian Xiao) Stabilized finite element methods for a quasi-Newtonian flow obeying a power law. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 409–420; *translation in Chinese J. Numer. Math. Appl.* **20** (1998), *no.* 1, 44–58. (Summary) **99a:76090** 76M10 (65N30, 76A05)

— (*with* Zhou, Tian Xiao) A revised mixed element method for a quasi-Newtonian flow obeying a power law. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 34–38. (Summary) **99h:76063** 76M10 (65N30, 76A05)

Zhou, Lei The Tapia semi-inner product and geometric properties of Banach spaces. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 9, 110–112. (Summary) **99j:46027** 46C50 (46B20)

Zhou, Li[1] (*with* Duan, Zhiwen) Some remarks on the limit eigenvalue and an application. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 218–225, *World Sci. Publishing, River Edge, NJ*, 1997. (Siegfried Carl) **99k:34051** 34B24 (34L99, 35K57)

— (*with* Fu, Yi Ping) The asymptotic behavior of solutions of a periodic competitor-competitor-mutualist model with delay. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 102–104. 35K57 (35B10, 35B40)

— (*with* Fu, Yi Ping; Song, Kaitai) Asymptotic behavior of solutions for a periodic transport equation with delay. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 2, 135–138. (Summary) **99d:92012** 92C30

Zhou, Liang De A study on the intersection of a circular cone and a sphere. I. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 149–159. 51M04

Zhou, Lin (*with* Rubinstein, Ariel) Choice problems with a "reference" point. (English summary) *Math. Social Sci.* **37** (1999), *no.* 3, 205–209. (Summary) **99m:90019** 90A08

Zhou, Liuding (*with* Lu, Mi) A new algorithm for polynomial product modulo $(z^N + 1)$ implemented by the real-valued W transform. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 403–421 (*electronic*). (*see* **99f:68006**) 68Q25 (68Q35, 68U10)

Zhou, Mai[1] (*with* Ren, Jian-Jian) L-estimators and M-estimators for doubly censored data. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 1, 1–20. (Summary) **99g:62045** 62G05 (62F35, 62N05)

Zhou, Mei Lian (*with* Li, Qing; Shi, Bao Chang; Wang, Neng Chao) Design of a fast algorithm for Walsh transforms of inverse Walsh sequences. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 5, 482–488. 42C10

Zhou, Meike (*with* Sun, Yingfei; Fan, Tian You) The existence of generalized solutions for a nonhomogeneous boundary value problem. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 210–214. (Summary) **99j:35168** 35Q30 (35D05, 76A05)

Zhou, Meilian (*with* Li, Qing; Shi, Bao Chang; Wang, Neng Chao) Fast algorithms for Walsh transform in bit-reversed sequency order. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 627–633. 65T20 (42C15)

Zhou, Meng On filtered modules with finitely generated associated graded modules over Zariski rings. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 3, 268–272. (Blas Torrecillas Jover) **99k:16093** 16W60 (16W50)

Zhou, Ming (*with* Shi, Xianghua; Liu, Xiao Bing) Exact, general and asymptotic solutions of generalized master equation and continuous-time random walks. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 291–295. (Summary) **99k:60181** 60J15 (60J25)

— (*with* Liu, Xiao Bing; Shi, Xianghua) The general theory of generalized transport coefficient. I. (English summary) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 400–405. 82C70

Zhou, Mingru (*with* Liu, Chun Ping; Zhou, Ru Guang) A simple method to construct the traveling wave solutions to nonlinear evolution equations. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 113–116. 35K57 (35B40)

Zhou, P. *see* **Zhou, Ping**[2]

Zhou, Ping *see* **Zhou, Ping²**

Zhou, Ping¹ Minimal complete Hausdorff spaces. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 256–258. 54D10 (54A20, 54D50)

Zhou, Ping² (*with* Lubinsky, D. S.) On the irrationality of $\prod_{j=0}^{\infty}(1 \pm q^{-j}r + q^{-2j}s)$. (English summary) *Analysis* **17** (1997), *no.* 2-3, 129–153. (R. Wallisser) **99c:11089** 11J72 (41A21)

— (*with* Borwein, Peter B.) On the irrationality of a certain q series. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1605–1613. (Lawrence Washington) **99i:11057** 11J72 (41A21)

Zhou, Qi (*with* Yamamoto, Masahiro) Hautus condition on the exact controllability of conservative systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 371–379. (Summary) **99m:93011** 93B05 (93C25)

Zhou, Qi Jie (*with* Li, Qingxiang; Hu, Yueming; Pei, Hailong) Robust output tracking for mobile robot. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 515–524. 93C83 (70B15, 93B12)

— (*with* Xu, Jian Min; Zhu, Bei Bei) A robust force/position control method for a class of constrained flexible robots. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 716–721. 93C83 (93B12)

— (*with* Yang, Yi Min; Zhang, Yun; Mao, Zong Yuan) Stability of an identification algorithm for fuzzy basis function networks. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 790–793. 93C42 (93B30)

— (*with* Fan, Xiao Ping; Yan, Quan Sheng; Xu, Jian Min; Mao, Zong Yuan) Dynamic modeling for a class of constrained planar two-link flexible manipulators. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 933–938. 93C85

Zhou, Qin De (*with* Cong, Fu Zhong; Li, Yong⁶) The KAM theorem for symplectic mappings with degeneracy. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 781–788. (De Ming Zhu) **99d:58143** 58F27

Zhou, Qing² Subclasses of computable real valued functions. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 156–165, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Kazuyuki Tanaka) **99m:03123** 03F60 (03D15, 03F65)

— Recursive set functions. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 459–464. (Summary) **99g:03047** 03D60 (03E45)

Zhou, Rong Xing (*with* Su, Xi Lu) Qualitative analysis of a class of toral differential equations and an application. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 29–34. (Bo Zhang) **99j:34055** 34C23

Zhou, Ru Guang A method for finding finite-band solutions of soliton equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 2, 228–234. (Summary) **99f:35173** 35Q51 (35Q53)

— The r-matrix and separability of variables for restricted Tu flow with the Neumann constraint. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 463–468. (Wen Xiu Ma) **99k:58102** 58F07 (35Q53, 70H05)

— r-matrix for the restricted KdV flows with the Neumann constraints. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 181–189. (Ian A. B. Strachan) **99e:58110** 58F07 (35Q53)

— (*with* Liu, Chun Ping; Zhou, Mingru) A simple method to construct the traveling wave solutions to nonlinear evolution equations. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 113–116. 35K57 (35B40)

Zhou, Rujing (*with* Lim, Kia Yong; Wang, You Yi²; Guo, Guoxiao) A new decentralized robust controller design for multi-area load-frequency control via incomplete state feedback. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 345–361. 93B51 (93A14)

Zhou, S. *see* **Zhou, Sean**

Zhou, S. F. (*with* Yen, K. K.; Roig, G.) Extreme point result for robust stability of discrete systems with complex coefficients in a diamond. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 529–538. 93D09

Zhou, S. P. *see* **Zhou, Song Ping**

Zhou, Sanming Interpolation theorems for a family of spanning subgraphs. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 45–53. (Yixun Lin) **99b:05139** 05C99

— Interpolation theorems for graphs, hypergraphs and matroids. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 221–229. (Gary Gordon) **99c:05190** 05C99 (05B35)

— (*with* Chen, Beifang) Upper bounds for f-domination number of graphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 239–243. (Summary) **99a:05070** 05C35

— (*with* Chen, Beifang) Domination number and neighbourhood conditions. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 81–91. (Robert C. Brigham) **99k:05088** 05C35

— A sequential coloring algorithm for finite sets. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 291–297. (Summary) **99j:05077** 05C15

Zhou, Sean Weight distribution of the bases of a binary matroid. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 15–18. (Summary) **99e:05036** 05B35

Zhou, Shan Shan (*with* Zhang, Shou Xin) The application of RRURVD, a rank-revealing two-sided orthogonal decomposition for matrices. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **28** (1998), *no.* 3, 502–506. 65F30 (15A23, 65F10)

Zhou, Shanyou (*with* Hou, Bo-yuan; Xu, Lianchao) On the q-deformation of Heisenberg algebra. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 2, 231–236. (Summary) **99e:81094** 81R50 (17B37)

Zhou, Shao Sheng (*with* Chen, Wei Tian; Yan, Shi Tian; Chu, Xue Dao) Robust output feedback control of a class of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 668–674. 93D21 (93B36)

— (*with* Li, Ji Feng; Chen, Wei Tian; Chu, Xue Dao) A robust adaptive pole assignment algorithm for multivariable discrete systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 8–13. 93B55 (93C55)

Zhou, Shaoqian (*with* Ding, Lixin; Zhang, Jian¹; Tang, Xinhua) Linearization learning method of BP neural networks. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 35–39. (Summary) **99h:68147** 68T05

Zhou, Shengfan (*with* Zhu, Shu) Dynamics in coupled systems of Josephson junctions without capacity effect. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 1, 1–10. (Daniel Ševčovič) **99k:35096** 35K57 (34C15, 35B40, 35Q60)

— (*with* Qin, Wen-Xin) Zero-dimensional global attractor of damped sine-Gordon equation. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 3, 260–264. (Summary) **99g:35116** 35Q53 (35B40, 58F39)

— (*with* Qian, Min; Zhu, Shu) One-dimensional global attractor for the damped and driven sine-Gordon equation. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 113–122. (Peter E. Kloeden) **99a:35226** 35Q53 (34G20, 35B40, 35L70, 47H20)

— Dimension of the global attractor for discretization of damped sine-Gordon equation. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 95–100. 35L70 (35B40, 35Q53, 58F39, 65M06)

Zhou, Shiyu (*with* Saks, Michael E.) RSPACE(S) $\subseteq$ DSPACE($S^{3/2}$). (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 344–353, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15

— (*with* Allender, Eric) Uniform inclusions in nondeterministic logspace. (English summary) *Randomized algorithms* (*Brno*, 1998), 7 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (Summary) **99g:68069** 68Q15

— (*with* Saks, Michael E.; Srinivasan, Aravind) Explicit OR-dispersers with polylogarithmic degree. (English summary) *J. ACM* **45** (1998), *no.* 1, 123–154. (Ralf Klasing) **99c:68099** 68Q15 (68Q25, 68R05, 68R10)

Zhou, Shu Lin¹ (*with* Kinnunen, Juha) A note on very weak p-harmonic mappings. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 25, 4 *pp.* (*electronic*). (P. Lindqvist) **99a:35070** 35J60 (35B45)

Zhou, Shu Zi (*with* Zeng, Jin Ping) Schwarz algorithms for a class of obstacle problems involving nonlinear operators. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 521–530. (Summary) **99c:49013** 49J40 (65N30)

— (*with* Yang, Xiao Ping; Li, Guang Yao) On an axially symmetric elastic-plastic torsion problem. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 7, 707–720; *translated from Appl. Math. Mech.* **18** (1997), *no.* 7, 657–668 (*Chinese. English and Chinese summaries*). (Carsten Carstensen) **99a:73069** 73E99 (35Q72)

— (*with* Zeng, Jin Ping) Schwarz algorithm for the solution of variational inequalities with nonlinear source terms. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 1, 23–35. (Zheng Hui Xie) **99f:65097** 65K05 (35L85, 65M55, 65N55)

— (*with* Li, Dong Hui; Zeng, Jin Ping) Convergence of Broyden-like matrix. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 35–37. 65H10

— (*with* Zhang, Zhong Zhi) Using discrete orthogonality to solve an inverse problem with respect to the initial value for second-order parabolic problems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 63–70. (Summary) **99h:65163** 65M30

— (*with* Zhang, Cheng Jian) The asymptotic stability of theoretical and numerical solutions for systems of neutral multidelay-differential equations. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 11, 1151–1157. (Summary) **99k:65069** 65L99 (34K20, 34K40, 65L06)

— (*with* Zeng, Jin Ping) On monotone and geometric convergence of Schwarz methods for two-sided obstacle problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 600–616 (*electronic*). (Viorel Arnautu) **99d:65199** 65K10 (49J40, 65N30)

Zhou, Shulin *see* **Zhou, Shu Lin¹**

Zhou, Song Ping Pointwise approximation by monotone sequences of polynomials. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 49–55. (Jia-Ding Cao) **99c:41016** 41A10 (41A25)

— (*with* Xie, Ting Fan) Approximation by Lagrange interpolating polynomials using the zeros of Jacobi polynomials as nodes. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 181–186. (Shun Sheng Guo) **99j:41007** 41A05

— On approximation by Lagrange interpolating polynomials for a subset of the space of continuous functions. *Colloq. Math.* **75** (1998), *no.* 1, 1–5. (Kewal Krishna Mathur) **99c:41017** 41A10

— Some remarks on rational Müntz approximation on $[0, \infty)$. *Colloq. Math.* **77** (1998), *no.* 2, 233–243. (Juan Carlos Fariña Gil) **99g:41018** 41A20 (41A50)

— (*with* Xie, Ting Fan; Zhang, Ren Jiang) Three conjectures on Shepard interpolatory operators. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 399–414. (Galimzian G. Islamov) **99c:41051** 41A36 (41A40)

— (*with* Zhou, Guanzhen) A remark on a modified Szász-Mirakjan operator. (English summary) *Colloq. Math.* **79** (1999), *no.* 2, 157–160. (Sorin Gheorghe Gal) **99k:41039** 41A35 (41A36)

Zhou, Su Hua (*with* Huang, Yun Qing) Higher-order asymptotic expansions of corrected finite element solutions to a class of elliptic equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 17–21. 65N30

Zhou, Tian Xiao (*with* Zhou, Lei) A combinatorial stabilized finite element method for second-order partial differential equations with a small coefficient. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 4, 298–306. (Summary) **99d:65331** 65N30

— (*with* Zhou, Lei) Stabilized finite element methods for a quasi-Newtonian flow obeying a power law. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 409–420; *translation in Chinese J. Numer. Math. Appl.* **20** (1998), *no.* 1, 44–58. (Summary) **99a:76090** 76M10 (65N30, 76A05)

— (*with* Zhou, Lei) A revised mixed element method for a quasi-Newtonian flow obeying a power law. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 34–38. (Summary) **99h:76063** 76M10 (65N30, 76A05)

Zhou, Tie A remark on the nonlinear stability of discrete shocks for single hyperbolic conservation laws. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 5, 554–560. (Gholam-Ali Zakeri) **99a:35177** 35L67 (76L05)

Zhou, Tie Qiang (*with* Yao, Zheng An) Properties of solutions to a class of quasi-linear parabolic equations. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 345–348. 35K60

Zhou, W. *see* **Zhou, Weidong**

Zhou, Weibiao (*with* Dong, Shijie; Lee, Peter L.) Exponential tracking with disturbance attenuation (EDTA) and its numerical solution. (English summary) *Internat. J. Control* **69** (1998), *no.* 4, 561–575. 93D15 (93B40)

Zhou, Weidong (*with* Imai, Hitoshi; Shinohara, Yoshitane; Konno, T.; Natori, Makoto; Ohnishi, Isamu; Nishiura, Yasumasa) Numerical computations of free boundary problems in quadruple precision arithmetic using an explicit method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996;

Anacapri, 1996), 193–207, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 65L06 (65G05)

— (*with* Natori, Makoto) A free surface OGCM by FVM. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 227–237, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99g:86002** 86A05 (65Y25, 86–08)

Zhou, Wen Kun A class of fixed point theorems in fuzzy metric spaces. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 132–136. 54H25 (54A40)

— Fuzzy fixed point theorems for isotone mappings of partially ordered sets. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 259–260. 03E72 (47H10)

— (*with* Wang, Hong) Fixed-point theorems for pointwise fuzzy mappings. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 377–379. 54H25 (04A72, 54A40)

Zhou, Wu Neng (*with* Huang, Su Ming) Il-ultraparacompactness in L-fuzzy topological spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 10–14. 54A40 (54D20)

Zhou, X. *see* **Zhou, Xiangmin**

Zhou, X. P. Weak lower semicontinuity of a functional with any order. *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 217–237. (Paolo Marcellini) **99e:49017** 49J45 (49J10)

Zhou, Xian Bo The lifting scheme and biorthogonal wavelet Riesz bases. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 4, 38–42. (Xing Wei Zhou) **99m:42061** 42C15

Zhou, Xian Yin (*with* Kusuoka, Shigeo) Waves on fractal-like manifolds and effective energy propagation. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 4, 473–495. (Ben Hambly) **99i:58148** 58G16 (35L05, 58G32, 60J60, 73D99)

Zhou, Xiang Quan (*with* Ye, Wan Zhou) Some special kinds of maximal ideal rings. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 83–86. 16S99

Zhou, Xiang Yu On invariant domains in certain complex homogeneous spaces. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 4, 1101–1115. (Frank Kutzschebauch) **99a:32045** 32M10 (32M05)

— A proof of the extended future tube conjecture. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 1, 211–224; *translation in Izv. Math.* **62** (1998), *no.* 1, 201–213. (Frank Kutzschebauch) **99i:32017** 32D05 (32A07)

— The extended future tube is a domain of holomorphy. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 185–190. (Peter Heinzner) **99d:32011** 32D05 (32M05)

Zhou, Xiangmin (*with* Tamma, K. K.; Sha, Desong) Transient algorithms for heat transfer: general developments and approaches for theoretically generating nth-order time-accurate operators including practically useful second-order forms. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 10, 1545–1572. (Summary) **99k:80004** 80–08

Zhou, Xiao Liang (*with* Yan, Ju Rang) Oscillatory and asymptotic properties of higher order nonlinear difference equations. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 493–502. (Binggen Zhang) **99e:39056** 39A10

Zhou, Xiao Lin[1] (*with* Lin, En-Bing) Coiflet interpolation and approximate solutions of elliptic partial differential equations. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 303–320. (Zdeněk Dostál) **99a:65136** 65N15 (35A35, 42C99)

Zhou, Xiao Ping *see* **Zhou, Xiao Ping**[3]

Zhou, Xiao Ping[1] (*with* Li, Shu Yong) The stability of the equilibrium state of an m-dimensional non-uniformly distributed ecosystem with delays. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 159–163. 35Q80 (35B35, 92D40)

Zhou, Xiao Ping[3] (*with* Liu, Chaoyang) Nonexistence of basis functions for generating interpolatory curves with locality and convexity. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 2, 1–4. 41A30 (41A10)

Zhou, Xiao Yang (*with* Shi, Bao Chang; Chen, Ting[1]) Constrained variable metric type methods. I. The unified algorithm model and reduced gradient directions type algorithm. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 2, 24–31. 90C30 (65K05)

— (*with* Shi, Bao Chang; Chen, Ting[1]) Constrained variable metric type methods. II. The generalized projection gradient type algorithm with superlinear convergence. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 13–19. 90C30 (65K05)

Zhou, Xiaoe (*with* Yang, Zhong Qiang) A sufficient and necessary condition for an OWA bag mapping having the self-identity. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 327–334. (Summary) **99a:04003** 04A05 (04A72)

Zhou, Xiaoliang *see* **Zhou, Xiao Liang**

Zhou, Xiaolin *see* **Zhou, Xiao Lin**[1]

Zhou, Xin (*with* Deift, P.; Kriecherbauer, Thomas; McLaughlin, K. T.-R.; Venakides, Stephanos) Asymptotics for polynomials orthogonal with respect to varying exponential weights. *Internat. Math. Res. Notices* **1997**, *no.* 16, 759–782. (Alexander Vladimirovich Kitaev) **99g:34038** 34A55 (15A52, 34L25, 35Q53, 82B44)

— (*with* Deift, P.; Kriecherbauer, Thomas; McLaughlin, K. T.-R.; Venakides, Stephanos) Uniform asymptotics for orthogonal polynomials. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 491–501 (*electronic*). (V. Totik) **99m:42038** 42C05 (45E05, 81Q99)

Zhou, Xin Quan Stopping for two-parameter martingales. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 95–97. 60G40 (60G48)

Zhou, Xing He (*with* Wu, Zheng Sheng) Hamilton-connected graphs involving distances. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 1, 1–9. (Summary) **99a:05096** 05C45 (05C12)

— (*with* Xu, Xin Ping) A condition for Hamilton-connectedness of k-connected graphs that uses essential sets. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 1, 5–12. (Summary) **99b:05098** 05C45

— (*with* Wu, Zheng Sheng; Xu, Xin Ping) The neighborhood intersections of essential sets and Hamiltonicity of graphs. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 230–237. (Akira Saito) **99k:05104** 05C45 (05C38)

Zhou, Xing Wei (*with* Sun, Wen Chang) Construction of wavelet bases with hexagonal symmetry. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 11, 1141–1144. 42C15

— (*with* Sun, Wen Chang) Frames and sampling theorem. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 606–612. (Dale H. Mugler) **99m:94015** 94A12

Zhou, Xinlong The saturation class of Shepard operators. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 4, 293–310. (Detlef H. Mache) **99g:41021** 41A25 (41A35)

— Characterization of convergent subdivision schemes. (English summary) *Approx. Theory Appl.* (*N.S.*) **14** (1998), *no.* 3, 11–24. (Bert Jüttler) **99m:65041** 65D17 (41A63)

— (*with* Chen, Quande) Generalization of interpolation inequalities. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 130–142. (Georgi E. Karadzhov) **99h:46050** 46E35 (26D10, 46M35)

— (*with* Heckers, Erik; Knoop, Hans-Bernd) Approximation by convolution operators. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 523–536. (Summary) **99g:41033** 41A35

Zhou, Xun Yu (*with* Chan, Raymond H.; Ching, Wai Ki) Conjugate gradient methods for Markov modulated Poisson processes. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 406–417, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65U05 (60K25)

— (*with* Chen, Xi) Deterministic near-optimal controls with state constraints. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 513–526. (Summary) **99k:49043** 49K15

— (*with* Taksar, Michael I.) Optimal risk and dividend control for a company with a debt liability. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 105–122. (Angelos Dassios) **99i:90020** 90A09 (93E20)

— Stochastic near-optimal controls: necessary and sufficient conditions for near-optimality. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 929–947 (*electronic*). (Hagen Fritsch) **99d:49050** 49K45 (93E20)

— (*with* Chen, Shuping; Li, Xunjing) Stochastic linear quadratic regulators with indefinite control weight costs. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1685–1702 (*electronic*). (Jose Luis Menaldi) **99e:49028** 49K45 (49N10, 93E20)

Zhou, Y. B. *see* **Zhou, Yu Bo**

Zhou, Y.-K. *see* **Zhou, Yu Kui**

Zhou, Ya Li (*with* Lin, Zong Chi) Singular perturbations of boundary value problems for third-order nonlinear differential equations with two parameters. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 3, 13–18. (Summary) **99i:34038** 34B15 (34E15)

— (*with* You, Zhe Feng; Lin, Zong Chi) Singular perturbation of general boundary value problem for nonlinear differential equation system. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 6, 531–538; *translated from Appl. Math. Mech.* **19** (1998), *no.* 6, 497–504 (*Chinese. English and Chinese summaries*). (J. V. Baxley) **99m:34053** 34B15 (34E15)

Zhou, Ya Ping (*with* Yin, Bao Qun) Sensitivity formulas for the performance of open queueing networks. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 1, 27–32. 60K25

Zhou, Ye (*with* Speziale, Charles G.; Rubinstein, Robert) Some remarks concerning recent work on rotating turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3242–3244. 76F99 (76U05)

— (*with* Mahalov, Alex; Nicolaenko, Basil) Energy spectra of strongly stratified and rotating turbulence. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 6187–6190. (Summary) **99c:76055** 76F99 (76U05, 76V05)

— (*with* Wu, Jie-Zhi; Fan, Meng[2]) A note on kinetic energy, dissipation and enstrophy. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 503–505. (Summary) **99j:76105** 76N10

— (*with* Wu, Jie-Zhi; Lu, Xi-Yun; Fan, Meng[2]) Turbulent force as a diffusive field with vortical sources. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 627–635. (Summary) **99k:76083** 76F99 (76D05)

— *see also* **Canuto, V. M.**

Zhou, Yi[1] (*with* Li, Da Qian; Kong, De Xing) Weak linear degeneracy and global existence of classical solutions for quasilinear hyperbolic systems. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 283–291, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Ivan Straškraba) **99f:35124** 35L60 (35B05)

— Remarks on local regularity for two space-dimensional wave maps. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 1, 19–30. (Vladimir Tulovsky) **99c:35170** 35L70 (58G16)

Zhou, Yi Cang (*with* Cushing, Jim M.) Stability conditions for equilibria of nonlinear matrix population models. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 2, 95–126. (Summary) **99i:92026** 92D25 (39A11)

Zhou, Yi Feng (*with* Xie, Liu Hui; Li, Li[1]) An energy-iteration method for periodic solutions of a class of strongly nonlinear systems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 26–30, *III*. 34C25 (70K99)

Zhou, Yiqiang Nonsingular rings with finite type dimension. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 323–333, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (M. Teply) **99a:16004** 16D70 (16P60, 16S90)

— (*with* Page, Stanley S.) Generalizations of principally injective rings. (English summary) *J. Algebra* **206** (1998), *no.* 2, 706–721. (W. K. Nicholson) **99f:16004** 16D50

Zhou, Yong (*with* Dai, Qiong Hai; Chai, Tian You; Yu, He Ji) Robust direct adaptive control based on dynamical neural networks. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 4, 272–276. 93C40 (93C83)

Zhou, Yong[2] Estimation of quantiles of distribution functions in the case of right censored and left truncated data. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 456–465. (Summary) **99d:62044** 62G05 (62N05)

— Convergence rates of the increments of empirical processes with two dependent samples and their application to smooth estimation. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 603–614. (Summary) **99f:62057** 62G05 (60F05)

— (*with* Wang, Zhi Cheng[1]) The distribution of zeroes of solutions of neutral equations. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 12, 1197–1204; *translated from Appl.*

Math. Mech. **18** (1997), *no.* 12, 1117–1123 (*Chinese. English and Chinese summaries*). (Klaus Morgenthal) **99c:34171** 34K15 (34K40)

— A note on quantile estimator of the perturbed empirical distribution function. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 8–13. (Summary) **99c:62125** 62G05 (62E20, 62G30)

— (*with* Liang, Hua) Asymptotic normality in a semiparametric partially linear model with right-censored data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 2895–2907. (Summary) **99i:62072** 62G05

— (*with* Sun, Liu Quan) Sequential confidence bands for densities under truncated and censored data. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 31–41. (B. L. S. Prakasa Rao) **99k:62144** 62L12 (62G15)

— The distribution of limit points of increments of local time of the Wiener process. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 210–217. (Endre Csáki) **99i:60147** 60J55 (60F15, 60J65)

— (*with* Wang, Zhi Cheng[1]) Oscillation for delay difference equations. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 1, 21–29. (Summary) **99j:39013** 39A10

Zhou, Yong Guo Strengthened extensions of the Pedoe inequality in higher dimensions. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 5, 135–137. 51M16

Zhou, Yong Quan Factorization of multivariate polynomials over GF(p). (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 3, 79–83. (Jau-Shyong Shiue) **99a:11140** 11T06

Zhou, Yong-Sheng On m-self-complement circulant digraphs. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 292–296, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 05C20

— An upper bound on the band width of circulant graphs. (Chinese. English and Chinese summaries) *J. Gansu Univ. Technol.* **24** (1998), *no.* 3, 103–106. 05C78

Zhou, Yong Zheng Some remarks on a differential intermediate value formula for a complex function. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 4, 340–344. 30A99

Zhou, You He (*with* Wang, Ji Zeng) A dynamic control model of a piezoelectric cantilevered beam-plate based on wavelet theory. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 6, 719–727. 73K50

— (*with* Wang, Ji Zeng) An error estimate for the generalized Gaussian integral method in wavelet theory. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 2, 26–30. 65D30 (65T99)

Zhou, Yu Bin (*with* Wang, Ming Liang) A nonlinear functional transformation and a solitary wave solution for a system of approximate equations for long waves in shallow water. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 2, 21–25. (Summary) **99k:76031** 76B15 (35Q53, 76B25)

— (*with* Wang, Ming Liang; Li, Zhi Bin[1]) A nonlinear transformation of the dispersive long wave equations in (2 + 1) dimensions and its applications. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 120–125. (Yan Guo) **99c:35168** 35L70 (35A30, 35C05)

Zhou, Yu Bo (*with* Zeng, Wei Yao) Mel′nikov vectors and general degenerate homoclinic bifurcations. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 2, 9–15. (Jian Hua Sun) **99a:34116** 34C23 (34C37, 58F14)

Zhou, Yu Bo (*with* Xi, F. F.) Exact kinematic analysis of the general 5R robot. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 1-2, 175–184. (Summary) **99f:70015** 70B15

Zhou, Yu-Hong (*with* Allwright, John C.) The solution of an affine problem and its application in control. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 826–829. 90C30 (93B40)

Zhou, Yu Kui Fusion hierarchies with open boundaries and exactly solvable models. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 351–358, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23

— (*with* Loesch, S.; Zuber, Jean-Bernard) Identities in representations of the Hecke algebra. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 24, 4425–4443. (Yasuyuki Kawahigashi) **99f:81072** 81R05 (20C99, 82B23)

— The Ising model with boundaries: integrability and functional relations. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 3, 207–218. (Katherine A. Seaton) **99j:82028** 82B23 (82B20, 82B26)

— Integrable boundary Boltzmann weights and surface free energy inversion relations of the chiral Potts model. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 3, 550–568. (Gunter Schütz) **99e:82032** 82B23 (82B20)

Zhou, Yu Lin *see* **Zhou, Yu Lin[2]**

Zhou, Yu Lin[1] (*with* Guo, Bo Ling) The large time behavior of Cauchy problems for a dissipative Benjamin-Ono type equation. *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 91–105, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel B. Dix) **99b:35189** 35Q53 (35B40, 58F39, 76D99, 76F99)

— (*with* Shen, Long-jun; Yuan, Guangwei) Finite difference method of first boundary problem for quasilinear parabolic systems. V. Convergence of iterative difference schemes. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1148–1157. (Summary) **99d:65260** 65M06

— (*with* Yuan, Guangwei) Stability of difference schemes for nonlinear parabolic systems with three dimensions. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 284–299. (Chenglie Hu) **99i:65090** 65M06 (65M12)

— (*with* Shen, Long-jun; Yuan, Guangwei) Convergence of iterative difference method with nonuniform meshes for quasilinear parabolic systems. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 163–172. (Summary) **99c:65172** 65M12 (65M06)

Zhou, Yu Lin[2] (*with* Shi, Feng Xian; Xiong, Peng Rong; Zhu, Hong[1]) A deadlock-free routing algorithm on star graphs. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 946–951. 68M10

Zhou, Yu Rong (*with* Deng, Jin Yi; Wang, Xiang Rong) Global attractors and global weak attractors. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 2, 207–214, 219. (Xiao Qiang Zhao) **99b:34092** 34D45 (34C05, 58F12)

— Monotonicity conditions for divergence integrals. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 353–360. (Xue Min Li) **99j:34043** 34C05

Zhou, Yu Ying (*with* Yang, Dian Jun) kth order functions of bounded variation on sequence spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 2, 12–15. 26A45 (46G99)

Zhou, Yuan Ping Negative effects of mathematical culture. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 2, 68–71, 121. 01A80 (00A30)

Zhou, Yulin *see* **Zhou, Yu Lin[1]**

Zhou, Yun-Cai (*with* Guan, Zhi Hong; He, Xian-Ping) The equivalence of exponential stability for impulsive time-delay differential systems. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 47–56, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99c:34175** 34K20 (34A37)

— The improvement of the B-net algorithm. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 148–152. 65T20 (42C15)

Zhou, Yunshi (*with* Wang, Xianghai) A kind of GC^1 blending of triangular Bézier patches. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 3, 371–378. 65D17 (41A63)

Zhou, Yuqing (*with* Chichilnisky, Graciela) Smooth infinite economies. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 27–42. (Summary) **99j:90024** 90A53 (90A14)

Zhou, Ze Hua A compact operator on the space of (p, q)-forms. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 221–224. (Zhiqin Lu) **99h:58005** 58A14

— The properties of meromorphic functions of several complex variables. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 3, 261–264. (A. Yu. Rashkovskiĭ) **99m:32004** 32A17 (32A20)

Zhou, Zhan (*with* Liu, Shun Bao) Global attractivity of difference equations. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 6, 4–8. (Summary) **99h:39016** 39A10

— (*with* Dai, Bin Xiang; Huang, Li Hong) Convergence of solutions for a class of difference equations with variable delay. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 117–119. (Summary) **99h:39004** 39A10

— (*with* Huang, Li Hong; Dai, Bin Xiang) Oscillation for nonlinear neutral difference equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 468–473. (Summary) **99i:39024** 39A10

— (*with* Yu, Jian She) Decaying solutions of difference equations with continuous arguments. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 576–582. (Summary) **99k:39052** 39A10

— (*with* Yu, Jian She; Wang, Zhi Cheng[1]) Global attractivity of neutral difference equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 1–10. (Summary) **99i:39025** 39A10

— (*with* Zhang, Qin Qin) Uniform stability of nonlinear difference systems. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 486–500. (Ulrich Krause) **99k:39058** 39A11

— (*with* Zhang, Qin Qin) Linearized oscillations for even-order neutral difference equations. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 8, 11–17. (Summary) **99h:39017** 39A10

Zhou, Zhanfei (*with* Liu, Mu Lan) Ideal homomorphic secret sharing schemes over cyclic groups. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 6, 650–660. (Bal Kishan Dass) **99m:94033** 94A60

Zhou, Zhao Hui (*with* Chen, Zhi Hua) L^2 harmonic forms on noncompact complete Riemannian manifolds. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 14, 1478–1481. 58A14 (58G03)

Zhou, Zhe Yan (*with* Lin, Zong Chi) Application of diagonalization techniques to optimal control of quasilinear singular perturbation systems. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 1, 1–9. (Summary) **99g:49028** 49K40 (34E15, 34H05)

Zhou, Zhen-Gong (*with* Shen, Ya Peng; Ma, Xing Rui; Zou, Zhen Zhu) The dynamic response of an interface crack with adhesional contact at its ends to transient elastic waves. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 3, 38–44, *III.* 73M25

— (*with* Han, Jie-Cai; Du, Shan-Yi) Investigation of the scattering of harmonic elastic waves by a finite crack using the non-local theory. *Mech. Res. Comm.* **25** (1998), *no.* 5, 519–528. 73D25

Zhou, Zhengfang (*with* Yan, Baisheng) A theorem on improving regularity of minimizing sequences by reverse Hölder inequalities. *Michigan Math. J.* **44** (1997), *no.* 3, 543–553. (John M. Ball) **99c:49040** 49N60 (30C35, 46N10)

— (*with* Segal, Irving) Conformal extension of massive wave functions. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 550–570. (Brian C. Hall) **99e:81083** 81R20 (46N50)

— (*with* Segal, Irving; Vogan, David A., Jr.) Spinor currents as vector particles. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 252–262. (Ivailo M. Mladenov) **99h:81066** 81R05 (20C35, 22E70)

— (*with* Bao, Gang[1]) An inverse problem for scattering by a doubly periodic structure. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4089–4103. (Giovanni Crosta) **99b:78010** 78A45 (35J99, 35R30)

Zhou, Zhengming (*with* Thomas, Hywel Rhys) An analysis of factors that govern the minimum time step size to be used in the finite element analysis of diffusion problems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 9, 809–819. (Summary) **99e:65134** 65M60

Zhou, Zhenwei (*with* Sen, Pranab Kumar[1]) Stochastic approximation and selection of a conditional extremal function in continuum. (English summary) *Sequential Anal.* **16** (1997), *no.* 3, 235–248. (Summary) **99g:62127** 62L20

Zhou, Zhong (*with* Liu, Hong-Zhang; Peng, Shou-Li) Star transformations and their genealogical varieties in symbolic dynamics of four letters. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8431–8450. (Summary) **99i:58051** 58F03

Zhou, Zhong Qun (*with* Yang, Jian Xin) Lattice fuzzy nearly paracompact spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 32–37. 54A40

Zhou, Zhuomei (*with* Xu, Cai) Nonlinear evolution related to invariant functionals and the SUSY transformations. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 4, 637–640. (Sen Yue Lou) **99m:58120** 58F07 (35Q53, 58F35)

Zhou, Zixiang Darboux transformations for the twisted $so(p,q)$ system and local isometric immersion of space forms. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1353–1370. (Iskander A. Taimanov) **99j:58105** 58F07 (53C42, 58F37)
— Localized solitons of the hyperbolic su(N) AKNS system. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1371–1383. (Anatoly M. Kamchatnov) **99m:35198** 35Q51 (35Q58)
Zhou, Zongfang (*with* Shi, Yong[1]) A convergence of ODE method in constrained optimization. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 297–307. (Alfonso Laratta) **99d:90124** 90C30 (65K05)
Zhou, Zuo Yi The H_∞ local control problem for nonlinear systems. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 667–671. 93B36
Zhou, Zuoling (*with* Huang, Yu[1]) Minimal centers of attraction for noncompact dynamical systems. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 113–119, *Springer, Singapore*, 1997. (Summary) **99h:58119** 58F12 (54H20)
— The Hausdorff measure of the self-similar sets—the Koch curve. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 723–728. (Miguel Angel Martin) **99f:28012** 28A78 (28A80)
Zhou, Zusheng (*with* Yang, Da Chun) On local multilinear oscillatory integrals with variable Calderón-Zygmund kernel. (English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 2, 143–150. (Summary) **99f:42038** 42B20
— (*with* Lu, Shan Zhen; Yang, Da Chun) Sublinear operators with rough kernel on generalized Morrey spaces. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 219–232. (Javier Duoandikoetxea) **99h:42027** 42B20 (42B25)
— (*with* Ding, Yong; Yang, Da Chun) Boundedness of sublinear operators and commutators on $L^{p,\omega}(\mathbf{R}^n)$. (English summary) *Yokohama Math. J.* **46** (1998), *no.* 1, 15–27. (Maria A. Ragusa) **99k:42029** 42B20 (47B25, 47B38, 47B47)
Zhu, B. *see* **Zhu, Binhai**
Zhu, Bei Bei (*with* Xu, Jian Min; Zhou, Qi Jie) A robust force/position control method for a class of constrained flexible robots. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 716–721. 93C83 (93B12)
Zhu, Bin *see* **Zhu, Bin[2]**
Zhu, Bin[1] Isomorphism problems for incidence rings of partially ordered sets. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 423–428. (Shu Hao Sun) **99c:16029** 16S99 (06A06)
— A note about partial tilting modules. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **17** (1998), *no.* 2, 1–3. (Pu Zhang) **99k:16026** 16G10
— (*with* Wang, Wen Ju) Poset rings with Morita duality. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 273–276. (Zhong Kui Liu) **99f:16010** 16D90
Zhu, Bin[2] (*with* Shao, Li; Yue, Xian Chang) A maximum entropy constrained homotopy method for min-max problems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 59–61. 90C30 (49J35)
— (*with* Yue, Xian Chang; Shao, Li) A decomposition approach for the global minimization of concave functions. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 62–64. 90C26 (90C29)
— (*with* Shao, Li; Yue, Xian Chang) A parametric algorithm for transportation problems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 65–67. 90C08
Zhu, Binhai (*with* Asberg, B.; Blanco Viejo, Gregoria; Bose, Prosenjit; García López de Lacalle, Jesús; Overmars, Mark H.; Toussaint, G.; Wilfong, Gordon) Feasibility of design in stereolithography. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 61–83. (Joos Heintz) **99c:65260** 65Y25 (65D17, 68U05, 68U07)
— (*with* Mücke, Ernst P.; Saias, Isaac) Fast randomized point location without preprocessing in two- and three-dimensional Delaunay triangulations. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 63–83. (Summary) **99k:68197** 68U05 (65Y25)
— (*with* Cai, Leizhen; Xu, Yin-Feng) Computing the optimal bridge between two convex polygons. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 127–130. (Summary) **99k:68191** 68U05
— (*with* Avis, David; Beresford-Smith, Bryan; Devroye, Luc; ElGindy, Hossam; Guévremont, Eric; Hurtado, Ferran) Unoriented Θ-maxima in the plane: complexity and algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 278–296 (*electronic*). (Menachem Dishon) **99g:68088** 68Q25 (60D05, 68U10)
Zhu, Changjiang Convergence of the viscosity solutions for the system of nonlinear elasticity. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 585–604. (Nenad Antonić) **99b:35128** 35L60 (35D05, 73C50)
— (*with* Yang, Tong; Zhao, Huijiang) Global smooth solutions for a class of quasilinear hyperbolic systems with dissipative terms. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1311–1324. (Maria Elena Schonbek) **99b:35127** 35L60
— Existence of the entropy solution for a viscoelastic model. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 22–55. (Denis Serre) **99e:35135** 35L60 (35L80, 35Q72, 73F15)
— (*with* Yang, Tong; Zhao, Huijiang) Compactness framework of L^p approximate solutions for scalar conservation laws. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 164–186. (Christophe Cheverry) **99b:35140** 35L65 (35A35)
— (*with* Ying, Long An; Yang, Tong) Nonlinear stability of strong detonation waves for a dissipative model. (English summary) *J. Differential Equations* **151** (1999), *no.* 1, 134–160. (Roberto Natalini) **99k:76091** 76L05 (35K99, 80A25)
Zhu, Chen (*with* Hattori, Harumi) Asymptotic behavior of the solution to a nonisentropic hydrodynamic model of semiconductors. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 353–389. (Yuanming Wang) **99e:35235** 35Q99 (35B40, 76X05, 78A35, 82D99)
Zhu, Chen-Bo (*with* Tan, Eng-Chye) Poincaré series of holomorphic representations. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 1, 111–126. (Veena Sharma) **99f:22027** 22E46
— (*with* Lee, Soo Teck) Degenerate principal series and local theta correspondence. II. (English summary) *Israel J. Math.* **100** (1997), 29–59. (Jae-Hyun Yang) **99c:22022** 22E46 (11F27)
— (*with* Tan, Eng-Chye) On certain distinguished unitary representations supported on null cones. (English summary) *Amer. J. Math.* **120** (1998), *no.* 5, 1059–1076. (Michael Wüstner) **99h:22019** 22E46 (20G05)
— A result on the Gelfand-Kirillov dimension of representations of classical groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3125–3130. (Jeffrey Adams) **99a:22030** 22E46
— (*with* Lee, Soo Teck) Degenerate principal series and local theta correspondence. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5017–5046. (Jae-Hyun Yang) **99c:22021** 22E46 (11F27)
— (*with* Huang, Jing-Song) Weyl's construction and tensor power decomposition for G_2. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 925–934. (William M. McGovern) **99f:22025** 22E46 (20G05)
Zhu, Chuan Xi Random solutions of random operator equations. (Chinese. English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 5, 429–434. (Xue Rong Mao) **99a:47117** 47H40 (47H15)
Zhu, Ciyou (*with* Byrd, Richard H.; Lu, Peihuang; Nocedal, Jorge) Algorithm 778: L-BFGS-B: Fortran subroutines for large-scale bound-constrained optimization. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 550–560. 65Y15
Zhu, Dao Li (*with* Ye, Jane Juan-Juan) A note on: "Optimality conditions for bilevel programming problems" [Optimization **33** (1995), no. 1, 9–27; MR 96f:90093]. (English summary) *Optimization* **39** (1997), *no.* 4, 361–366. (From the text) **99b:90114** 90C29 (90C31)
— (*with* Marcotte, Patrice) Convergence properties of feasible descent methods for solving variational inequalities in Banach spaces. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 1, 35–49. (Mihail Yu. Kokurin) **99f:65090** 65J15 (47H17, 47H19, 49J40, 65K05)
— (*with* Marcotte, Patrice) Weak sharp solutions of variational inequalities. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 179–189 (*electronic*). (Doug Ward) **99k:90176** 90C33 (49J40)
Zhu, De Gao The automorphism group and the holomorph of the dihedral group D_{2^n}. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 2, 133–136. (Summary) **99i:20035** 20D45 (20C15)
Zhu, De Ming Orbits heteroclinic to invariant manifolds. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 159. *Acta Math. Sinica* (*N.S.*) **12** (1996), *no.* 4, 372–378. (Sonia Pinto de Carvalho) **99b:34083** 34C37 (34C30, 58F15)
— (*with* Xu, Min[3]) Exponential trichotomy, orthogonality condition and their application. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 1, 133. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 1, 55–64. (Xiao Biao Lin) **99d:34089** 34D05 (34C11, 34C37, 58F14)
— (*with* Han, Mao An) Invariant tori and subharmonic bifurcations from periodic manifolds. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 749–756. (Jian Hua Sun) **99m:58141** 58F14 (34C23, 58F15)
— Invariants of coordinate transformation. (English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 1, 19–21. (Stephen Schecter) **99i:34058** 34C23 (34A25, 34C37, 58F14)
Zhu, De Tong Nonmonotonic projection gradient methods for solving inequality-constrained optimization problems. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 6, 749–760. 65K05 (90C30)
— A nonmonotone trust region technique for unconstrained optimization problems. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 375–382. (E. Spedicato) **99h:90101** 90C30 (65K05)
Zhu, Dong Bi (*with* Choi, Bong Dae) The $M_1, M_2/G/1/K$ retrial queueing systems with priority. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 691–712. (Srinivas Chakravarthy) **99k:60227** 60K25 (90B22)
Zhu, Dong Jin A mean field limit of the voter model with large range. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 149–155. (Summary) **99g:60195** 60K35
Zhu, Dong Pei (*with* Zhang, Peng Fei) An exact interior solution for a static charged sphere in a higher-dimensional space-time. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 6, 652–657. 83C22
Zhu, Dongmei (*with* Chen, Shaozhu) Discrete analogues of a theorem of Wintner and Hartman. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 110–116. (Vladimir Sh. Burd) **99k:39060** 39A12 (39A11)
— (*with* Shi, Yu Ming[1]; Han, Zhen Lai) The generalized Airy functions. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 287–294. (Khélifa Trimèche) **99m:33003** 33C10 (34B30)
Zhu, Fang Sheng Solving trajectory-prescribed path control problems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 513–516. 93C85 (49N55)
— (*with* Li, Liang) A stability analysis for implementation of implicit Runge-Kutta methods. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 7–10. 65L06
Zhu, Fuliu Almost everywhere convergence of Riesz means on noncompact symmetric space SL(3, **H**)/Sp(3). (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 4, 545–552. (Bernhard Krötz) **99d:22019** 22E30 (43A85, 43A90)
— The inverse Abel transform for an exceptional bounded symmetric domain. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 7, 687–696. (A. Korányi) **99c:32050** 32M15 (43A90)
— The Radon transform on tangent space of bounded symmetric domain SO*(8)/U(4). (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 4, 394–404. (A. H. Dooley) **99k:43014** 43A85 (22E30, 44A12)
Zhu, Ge (*with* Ge, S. S.) A quasi-tracking approach for finite-time control of a mass-beam system. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 881- 888. 93C95 (93C20)
Zhu, Gong-qin (*with* Ning, Rong-jian) The construction of a kind of rational splines. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 134–138. (Crăciun Iancu) **99g:65016** 65D07 (41A15)
Zhu, Guang Tian (*with* Peng, Ji Gen; Song, De Gong; Wang, Mian Sen) The wellposedness of an abstract Cauchy problem and semigroups of operators. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 225–229. 34G10 (47D06)

— (*with* Kuang, Zhifeng; Yang, Ming Zhu) Optimal control applications in transport theory. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 691–700. (Edward W. Larsen) **99j:82071** 82D75 (49N55, 82C70)

Zhu, Guo Li (*with* Gong, Shi Hua; Deng, Yong; Duan, Zheng Cheng) Implementation of an algorithm for the no-fit-polygon problem in computer automated nesting. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 29–31. 68U07

Zhu, Guo-qing (*with* Fang, Kui; Tan, Jian Rong) C^2- (C^3-) continuous interpolation spline curve and surface. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 238–245. (Summary) **99c:65030** 65D17

— (*with* Fang, Kui; Luo, Jian-shu) C^k shape-preserving piecewise interpolating polynomials of degree $2k$. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 1–10. (Summary) **99c:65018** 65D07

Zhu, Guoming G. (*with* Skelton, Robert E.; Li, Pingkang) q-Markov cover identification using pseudo-random binary signals. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1273–1290. 93E12

Zhu, H.-Y. *see* **Zhu, Hongyao**

Zhu, Hong[1] (*with* Lu, Xian Jie; Richard, Denis) Undecidability of arithmetical structures. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 667–672. (Zhi Wei Sun) **99f:03060** 03D35 (11U05)

— (*with* Shi, Feng Xian; Xiong, Peng Rong; Zhou, Yu Lin[2]) A deadlock-free routing algorithm on star graphs. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 946–951. 68M10

Zhu, Hong-Tu (*with* Wei, Bo-Cheng) Some second order asymptotics in exponential family non-linear regression models (a geometric approach). (English summary) *Austral. J. Statist.* **39** (1997), *no.* 2, 129–148. (Summary) **99m:62091** 62J02 (62F12)

— (*with* Wei, Bo-Cheng) Preferred point α-manifold and Amari's α-connections. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 3, 219–229. (Summary) **99c:62010** 62B10

Zhu, Hong Wei (*with* Tian, Shen; Cui, Yun An) L_N° uniformly rotund points of Orlicz spaces L_M. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 50–54. (Bor-Luh Lin) **99a:46056** 46E30 (46B20)

Zhu, Hong Yi A note on characteristic of some coefficients of chromatic polynomials. (English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 94–97. 05C15

Zhu, Hong Zhang (*with* Hu, Bi Jin; Huang, Jian Zhong[2]; Tian, Jin Wen; Fu, Cai Fang; Cui, Jiong Cheng) LMS estimation and inversion in lithology. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 3, 246–250. 86A32 (62M09)

Zhu, Hongliang (*with* Duan, Kuichen) Persistence and periodic orbits for nonautonomous Lotka-Volterra diffusion model. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 104–108. (Summary) **99i:92027** 92D25 (34C25)

Zhu, Hongyao (*with* Klein, D. J.) Distances and volumina for graphs. (English summary) Girona 97 special issue. *J. Math. Chem.* **23** (1998), *no.* 1-2, 179–195. (R. C. Entringer) **99f:05032** 05C12 (92E10)

Zhu, Hui (*with* Zhang, Shi Ying) Bayesian inference for seasonal cointegrated systems. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 30–37. (Summary) **99k:62062** 62F15

Zhu, J. *see* **Zhu, Jian Ping[2]**

Zhu, J. K. *see* **Zhu, Jianmin Kevin**

Zhu, J. Y. *see* **Zhu, Jerry Ye**

Zhu, J. Z. *see* **Zhu, Jian Zhong[1]**

Zhu, Jerry Ye (*with* Martindale, S. C.; Dawson, Darren M.) A new design for model reference robust control using state-space techniques. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1061–1084. 93B51 (93B35)

Zhu, Jian Ping[1] (*with* Laflamme, Claude) The Rudin-Blass ordering of ultrafilters. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 584–592. (Žarko Mijajlović) **99m:04002** 04A20 (03E05, 54D40, 54F15)

Zhu, Jian Ping[2] (*with* Zhuang, Xinglai) An efficient numerical algorithm with adaptive regularization for parameter estimations. (English summary) *Inverse problems in engineering mechanics (Nagano, 1998)*, 299–308, *Elsevier, Oxford*, 1998. (Summary) **99k:65088** 65M30 (80–08)

— (*with* Cao, Lilun) Efficient and accurate local time stepping algorithm for multi-rate problems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plowdiv, 1997)*, 97–104, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65M06

— *see also* **Proceedings: Conference on Difference Equations and Computational Simulations, 99h:00032**

Zhu, Jian Qing (*with* Lai, Yan Lian; Guo, Wen Ying) A superlinearly convergent algorithm for generalized gradient projection. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 55–63. (Summary) **99c:65115** 65K05

Zhu, Jian Zhong[1] (*with* Zienkiewicz, O. C.; Boroomand, B.) Recovery procedures in error estimation and adaptivity: adaptivity in linear problems. (English summary) *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 3–23, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99g:73111a** 73V05 (65N99)

— (*with* Zhang, Zhimin) The relationship of some a posteriori error estimators. (English summary) *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 25–42, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99d:65303** 65N15 (73V05)

— (*with* Zhang, Zhimin) Analysis of the superconvergent patch recovery technique and a posteriori error estimator in the finite element method. II. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 159–170. (Pekka Neittaanmäki) **99j:73103** 73V05

Zhu, Jiang *see* **Zhu, Jiang[2]**

Zhu, Jiang[1] (*with* Ruas, V.) On the velocity-vorticity formulation of the two-dimensional Stokes system and its finite element approximation. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 1, 27–43. (Summary) **99d:76063** 76M10 (65M60, 65N30, 76D07)

Zhu, Jiang[2] (*with* Wang, Zhi Hua) Existence of solutions for integrodifferential inclusions of mixed type. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 4, 1–5. (Xian Zhi George Yuan) **99m:34185** 34K30 (45J05, 45N05)

Zhu, Jiangping *see* **Zhu, Jian Ping[2]**

Zhu, Jianmin Kevin (*with* Chan, Chiu Yeung) Blow-up of solutions of semilinear Euler-Poisson-Darboux equations with nonlocal boundary conditions. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 1, 17–28. (Summary) **99i:35122** 35Q05 (35B05, 35L80)

Zhu, Jianping *see* **Zhu, Jian Ping[2]**

Zhu, Jianyang (*with* Luo, Zhijian) Dirac quantum field theory in Rindler spacetime. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 575–584. (Summary) **99k:81203** 81T20

Zhu, Jie (*with* Zhong, Mei) Multipliers and isomorphism of WCC-Banach algebras. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 13–14. 46H05

Zhu, Jihong (*with* Wang, Zidong; Unbehauen, Heinz) Robust filter design with time-varying parameter uncertainty and error variance constraints. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 30–38. (Ryszard Gessing) **99k:93091** 93E11 (93B35)

Zhu, Jing Hao Optimal control theory on infinite intervals. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **25** (1997), *no.* 6, 709–714. (Summary) **99d:49060** 49N10 (93C15)

— Feedback approximation in nonlinear optimal control. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 99–106. 49N35 (93B52)

Zhu, Joe (*with* Seiford, Lawrence M.) An acceptance system decision rule with data envelopment analysis. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 4, 329–332. 90C08 (90A05)

— (*with* Seiford, Lawrence M.) On piecewise loglinear frontiers and log efficiency measures. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 389–395. 90C08 (90C90)

Zhu, Jun *see* **Zhu, Jun[2]**

Zhu, Jun[1] (*with* Rolfsen, Dale) Braids, orderings and zero divisors. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 6, 837–841. (Vitaly A. Roman'kov) **99g:20072** 20F36 (16S34, 57M25)

Zhu, Jun[2] (*with* Xiong, Chang Ping) $\mathscr{U}$-preserving kernel into range maps of Jacobson radicals of nest algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 377–384. (Summary) **99j:47066** 47D25 (47B47, 47B48)

— (*with* Xiong, Chang Ping) A characterization of infinite-dimensional Banach spaces. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 3, 29–30. 46B20

Zhu, Jun Mei (*with* Wu, Li De; Yu, Jun) The visual perception and computation of global topological properties. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 601–608. 92J30 (68T05)

Zhu, Kehe Restriction of the Bergman shift to an invariant subspace. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 519–532. (Daniel H. Luecking) **99a:47051** 47B38 (30D99, 46E20, 47A15)

Zhu, L. *see* **Zhu, Lie[1]**

Zhu, Li Less strongly semicontinuous mappings on topological spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 13–16. 54A40

Zhu, Li Qin (*with* Wu, Zhao Rong) Existence and uniqueness of solutions to a singular linear system $E\dot{x} = Ax$. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 64–67. 34A09 (34A30)

Zhu, Li-Xing (*with* Cheng, Ping[1]) The optimal lower bound for the tail probability of the Kolmogorov distance in the worst direction. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 265–293. (Miguel A. Arcones) **99j:60044** 60E15 (60B12)

— (*with* Fang, Kai-Tai; Zhang, Jin-Ting) A projection NT-type test for spherical symmetry of a multivariate distribution. (English summary) *New trends in probability and statistics, Vol. 3 (Tartu/Pühajärve, 1994)*, 109–122, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62H15

— (*with* Fang, Kai-Tai; Bhatti, M. Ishaq) On estimated projection pursuit-type Crámer-von Mises statistics. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 1–14. (Andrzej S. Kozek) **99e:62106** 62H15 (62F05, 62H40)

— (*with* An, Hong-Zhi; Hickernell, Fred J.) A new class of consistent estimators for stochastic linear regressive models. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 242–258. (Jiří Anděl) **99b:62098** 62J02 (62F12)

— (*with* Chen, Xi Ru; Fang, Kai-Tai; Zhang, Run Chu) Asymptotics in addition of pseudo-random sequences. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 6, 612–621. (Peter J. Hellekalek) **99a:65018** 65C10 (11K45)

— (*with* Jing, Ping) Bootstrap tests for the joint independence of variables. (English summary) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 51–69. (*see* **99a:62005**) 62G10 (62G09)

— (*with* Li, Run-Ze) Dimension-reduction type test for linearity of a stochastic regression model. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 165–175. (Summary) **99c:62126** 62G05 (62J05)

— (*with* Fang, Kai-Tai; Li, Run-Ze) A projection NT-type test of elliptical symmetry based on the skewness and kurtosis measures. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 314–323. (Summary) **99g:62087** 62H40 (62H15)

— (*with* Chen, Xi Ru) An iterative estimation method for the parameters of a censored linear model. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 123–132. (Summary) **99d:62030** 62G05 (62G20)

— (*with* Neuhaus, Georg) Permutation tests for reflected symmetry. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 129–153. (S. Rao Jammalamadaka) **99j:62068** 62G10

Zhu, Lie[1] (*with* Bennett, Frank E.; Zhang, Hantao) Holey self-orthogonal Latin squares with symmetric orthogonal mates. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 107–118. (Katherine Heinrich) **99j:05035** 05B15

— (*with* Kreher, D. L.; Stinson, Douglas R.) On the maximum number of fixed points in automorphisms of prime order of 2-$(v, k, 1)$ designs. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 227–243. (Giovanni Ferrero) **99d:05010** 05B05 (51A10)

— (*with* Chen, Ke Jun) Existence of $(q, 6, 1)$ difference families with q a prime power. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 167–173. (Charles J. Colbourn) **99j:05029** 05B10

— (*with* Chen, Ke Jun) Existence of $(q, k, 1)$ difference families with q a prime power and $k = 4, 5$. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 21–30. (Marco Buratti) **99m:05018** 05B05 (05B10)

— (*with* Chen, Ke Jun) Existence of APAV(q, k) with q a prime power $\equiv 3 \pmod 4$ and k odd > 1. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 57–68. (Marc M. Gysin) **99k:94031** 94A60 (05B15)

— (*with* Chen, Ke Jun) Improving Wilson's bound on difference families. (English summary) *Util. Math.* **55** (1999), 189–200. (Summary) **99m:05030** 05B10

Zhu, Lin Sheng[1] (*with* Meng, Dao Ji) Complete Lie algebras with nilpotent radicals of maximal rank. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 16, 1717–1720. 17B99

— The construction of some solvable complete Lie algebras. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 34–40. (José María Ancochea Bermúdez) **99j:17015** 17B30 (17B67)

— The classification and realization of complete Lie algebras with commutative nilpotent radicals. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 34–40. (Jörg Feldvoss) **99k:17012** 17B05 (17B40)

Zhu, Meifang (*with* Zhang, Jian Zhong) Least change properties of ABS methods and their application in secant-type updates. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 111–131. (Summary) **99a:65055** 65F30 (90C08)

Zhu, Meijun Some general forms of sharp Sobolev inequalities. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 75–120. (Gilles Carron) **99k:58197** 58G99 (35J60, 46E35)

Zhu, Meng Shu (*with* Wang, Guan Xiang) An analysis of the dimensions of the attractors of a reaction-diffusion equation containing a cubic polynomial. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 4, 20–23. (Zi Qian Yan) **99j:35113** 35K57 (34G20, 35B40, 47H20, 58F39)

Zhu, Ming Fu (*with* Luo, Yun Feng; Zhao, Yong; Yue, Chao Yuan) A comparative analysis of three rational choice functions and their revealed preference representations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 7, 49–52. 90A05

— (*with* Luo, Yun Feng; Xiao, Ren Bin; Yue, Chao Yuan) An analysis of the constraints on the maximum size of a preference profile. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 7, 53–56. 90A05

Zhu, Nan (*with* Broughan, Kevin) On aggregating two linear Diophantine equations. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 231–246. (Stefan M. Ritter) **99d:11025** 11D04

— A relation between the knapsack and group knapsack problems. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 255–268. (Klaus Jansen) **99j:90069** 90C27 (90C35, 90C39)

Zhu, Ning[2] A note on the behavior of blow-up solutions for one-phase Stefan problems. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 241–250. (Summary) **99g:35148** 35R35 (35B05, 35K60, 80A22)

— (*with* Wang, Lihe) Removable singular sets of fully nonlinear elliptic equations. (English summary) *Electron. J. Differential Equations* **1999**, *No.* 4, 5 *pp.* (*electronic*). (Summary) **99j:35072** 35J65 (35B99)

Zhu, Pei Cheng The asymptotic behavior of solutions to a system of thermoviscoelasticity equations for shape memory alloys. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 37–46. (Song Jiang) **99d:73014** 73B30 (35Q72, 73F15)

Zhu, Pei Yong Hereditarily σ-metacompact spaces and their product properties. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 531–538. 54D20 (54B10)

— Tikhonov products of σ-para-Lindelöf spaces. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 405–411. 54D20 (54B10)

— The products on σ-para-Lindelöf spaces. (English summary) *Sci. Math.* **1** (1998), *no.* 2, 217–221 (*electronic*). 54D20 (54B05, 54B10)

— Hereditary weak submetacompactness and weak submetacompactness of Tikhonov products. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 2, 168–173. 54D20 (54B10)

Zhu, Ping *see* **Zhu, Ping**[2]

Zhu, Ping[1] The $P\pi$-kernel normal system on the Pr-semigroup. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 583–587. 20M17

— (*with* Wan, Cui Zhen) Relations among some types of generalized regular semigroups (continued). (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 2, 55–57. 20M17

Zhu, Ping[2] The elliptic type node configuration and interpolation in $\mathbf{R}^2$. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 257–266. (Summary) **99e:65011** 65D05

— Interpolation on vertical line type node configurations and its extension to higher-dimensional spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 393–399. 41A10 (65D05)

Zhu, Pingtian (*with* Chen, Xiaolong) π-tower groups and their properties. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 2, 8–11, 28. (W. E. Deskins) **99e:20029** 20D20

Zhu, Q. M. *see* **Zhu, Quan Min**

Zhu, Qi-Ding (*with* Sun, Zhi-Zhong) On Tsertsvadze's difference scheme for the Kuramoto-Tsuzuki equation. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 289–304. (V. D. Glushenkov) **99m:65167** 65M06 (65M12)

Zhu, Qiang (*with* Liu, Yuming; Yue, Dick K. P.) Nonlinear radiated and diffracted waves due to the motions of a submerged circular cylinder. (English summary) *J. Fluid Mech.* **382** (1999), 263–282. (Summary) **99m:76021** 76B15

Zhu, Qiji J. (*with* Borwein, Jonathan M.) Limiting convex examples for nonconvex subdifferential calculus. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 221–235. (Lionel Thibault) **99m:49023** 49J52 (26B05)

— Clarke-Ledyaev mean value inequalities in smooth Banach spaces. *Nonlinear Anal.* **32** (1998), *no.* 3, 315–324. (Dariusz Zagrodny) **99f:49022** 49J52 (26D10, 46G05, 58C20)

— (*with* Ye, Jane Juan-Juan) Hamilton-Jacobi theory for a generalized optimal stopping time problem. *Nonlinear Anal.* **34** (1998), *no.* 7, 1029–1053. (E. N. Barron) **99f:49043** 49L20 (60G40)

Zhu, Qing Guo A second-order conformally invariant differential equation in a flat n-dimensional manifold. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 140–146. 58G30

Zhu, Quan Min (*with* Billings, S. A.) East orthogonal identification of nonlinear stochastic models and radial basis function neural networks. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 871–886. 93E12

— (*with* Qin, Hua Shu; Hong, Yi Guang; Mei, Sheng Wei) Finite attraction for nonlinear uncertain mechanical systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 397–407. (Alexander M. Kovalev) **99k:70024** 70Q05 (70H05, 93D21)

Zhu, Rui Ying (*with* Badalahu) The problem of minimizing products of logarithmic means. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 6, 764–767. (Summary) **99d:26023** 26D15 (90C31)

Zhu, S.-P. Time-dependent reaction-diffusion problems and the LTDRM approach. *Boundary integral methods: numerical and mathematical aspects*, 1–35, *Comput. Eng.*, 1, *WIT Press/Comput. Mech. Publ., Boston, MA*, 1999. (*see* **99m:65004**) 65M60 (35K57)

Zhu, Shi Jing (*with* Luo, Yun Feng; Yue, Chao Yuan; Chen, Ting[1]) A study on the order-of-voting effect of binary voting procedures. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 55–64. 90A28

— (*with* Luo, Yun Feng; Wang, Shu Ning; Chen, Ting[1]) A class of robustly efficient solutions for multiobjective decision-making with uncertain parameters. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 395–399. 90C29 (90A05)

Zhu, Shu (*with* Zhou, Shengfan) Dynamics in coupled systems of Josephson junctions without capacity effect. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 1–10. (Daniel Ševčovič) **99k:35096** 35K57 (34C15, 35B40, 35Q60)

— (*with* Qian, Min; Qin, Wen-Xin) One-dimensional global attractor for discretization of the damped driven sine-Gordon equation. *Nonlinear Anal.* **34** (1998), *no.* 7, 941–951. (Jean-Michel Rakotoson) **99g:35115** 35Q53 (34G20, 35B40, 47H20, 58F39)

— (*with* Qian, Min; Zhou, Shengfan) One-dimensional global attractor for the damped and driven sine-Gordon equation. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 113–122. (Peter E. Kloeden) **99a:35226** 35Q53 (34G20, 35B40, 35L70, 47H20)

— Unstable manifolds for endomorphisms. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 147–157. (Thomas Bogenschütz) **99c:58100** 58F11

Zhu, Shunhui Critical metrics on 2-dimensional orbifolds. *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1273–1288. (Santiago R. Simanca) **99d:58040** 58E11 (53C55)

— (*with* Cao, Huai-Dong; Shen, Ying) The structure of stable minimal hypersurfaces in $\mathbf{R}^{n+1}$. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 5, 637–644. (William P. Minicozzi, II) **99a:53037** 53C21 (53C42, 58E15)

— (*with* Cao, Huai-Dong; Shen, Ying) A Bernstein theorem for complete spacelike constant mean curvature hypersurfaces in Minkowski space. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 2, 141–157. (Rabah Souam) **99h:53007** 53A10 (53C50)

Zhu, Si-Ming (*with* Le, Jun) Ergodicity of dynamical systems on the torus. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 6, 715–718. (Summary) **99c:58094** 58F11

— (*with* Wu, Yong-Tang; Shi, Qiyan) Lax representations for Dirac soliton hierarchy. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 74–78. (Valery V. Obukhov) **99e:35193** 35Q51 (35Q40, 58F07)

— (*with* Hu, Xing-Biao; Wu, Yong-Tang; Geng, Xian-Guo) Some new results on the triple-humped soliton equation: Bäcklund transformation, superposition principle and new explicit solutions. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8859–8868. 35Q51 (35C99, 58F37)

Zhu, T. *see* **Zhu, Tulong**

Zhu, Tonglin (*with* Lin, Wei[1]) Fast wavelet algorithm of the Poisson integral. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 2-3, 127–144. (Don Hong) **99f:65037** 65D30 (42C15, 65T99)

Zhu, Tulong (*with* Atluri, S. N.) A modified collocation method and a penalty formulation for enforcing the essential boundary conditions in the element free Galerkin method. (English summary) *Comput. Mech.* **21** (1998), *no.* 3, 211–222. (Summary) **99d:73093** 73V05 (65N30)

— (*with* Zhang, Jin Dong; Atluri, S. N.) A local boundary integral equation (LBIE) method in computational mechanics, and a meshless discretization approach. (English summary) *Comput. Mech.* **21** (1998), *no.* 3, 223–235. (From the summary) **99e:76079** 76M15 (76M25)

— (*with* Atluri, S. N.) A new meshless local Petrov-Galerkin (MLPG) approach in computational mechanics. (English summary) *Comput. Mech.* **22** (1998), *no.* 2, 117–127. (Summary) **99g:73100** 73V05

— (*with* Zhang, Jin Dong; Atluri, S. N.) A meshless local boundary integral equation (LBIE) method for solving nonlinear problems. (English summary) *Comput. Mech.* **22** (1998), *no.* 2, 174–186. (Summary) **99e:73100** 73V10

Zhu, W. *see* **Zhu, Wei**[2]

Zhu, W. D. (*with* Mote, C. D., Jr.) On the transient response of distributed structures interacting with discrete components. (English summary) *Dynamics and control of distributed systems*, 1–68, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99b:73002**) 73K12 (70K99, 73Vxx)

Zhu, W. Q. *see* **Zhu, Wei Qiu**

Zhu, W. R. (*with* Granot, D.; Granot, Frieda) Characterization sets for the nucleolus. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 359–374. (Kensaku Kikuta) **99m:90171** 90D12 (68Q25, 90D06)

Zhu, Wei[2] (*with* Wong, Weng Kee) On the equal allocation rules in quantal dose-response experiments. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design (Marseilles, 1998)*, 93–101, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05 (62P10)

Zhu, Wei Qiu (*with* Huang, Zhilong; Yang, Yong Qin) Stochastic averaging of quasi-integrable Hamiltonian systems. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 4, 975–984. (Thomas Wanner) **99g:70023** 70H05 (34C29, 34F05, 70L05, 82C31)

— (*with* Huang, Zhilong) Stochastic Hopf bifurcation of quasi-nonintegrable-Hamiltonian systems. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 3, 437–447. (Klaus R. Schenk-Hoppé) **99m:34085** 34C23 (34F05, 58F14, 70H05, 70L05)

Zhu, Wei Yong (*with* Yan, De Jun) Quasi-Fibonacci sequences in the Markov decomposition of an Anosov map. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 2, 171–173. 58F03

— (*with* Wang, Yan) Computer construction of horseshoe maps and Cantor fractal graphs and some properties of their chaotic fractal dimensions. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 268–271. 58F13 (58–04)

— (*with* Wang, Yan) A knot topology distribution theorem concerning the dynamic character of hyperbolic torus automorphisms. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 370–373. 57M25 (58F15)

— (*with* Wang, Xing Yuan) Intermittent chaos and fractals of the coupled logistic map. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 5, 509–512. 58F13

— (*with* Liu, Xiang Dong; Wang, Guo Dong) Analysis of chaotic behavior of the six-roll UC mill and its OGY control. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 6, 591–594. 58F13

Zhu, Wen Ge A general wavelet transform and its application to artificial neural networks. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 175–180. (Summary) **99h:94086** 94C05 (42C15, 92B20)

Zhu, Wen-Hong[2] (*with* Bien, Zeungnam; De Schutter, Joris) Adaptive motion/force control of multiple manipulators with joint flexibility based on virtual decomposition. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 46–60. (Clementina D. Mladenova) **99b:93037** 93C85 (70B15, 70Q05)

Zhu, Wen Xing A convex filled function method for integer programming. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 8–12. 90C11 (90C25)

— A modification of a filled function method for global optimization. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 6, 15–20. 90C30 (65K05)

— On the equivalent continuous reformulation of 0-1 quadratic programming. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 68–71. (Jürgen Köhler) **99f:90064** 90C09 (90C20)

— (*with* Zhang, Lian-sheng; Gao, Feng) Nonlinear integer programming and global optimization. (English summary) *J. Comput. Math.* **17** (1999), *no.* 2, 179–190. (Summary) **99m:90103** 90C10 (90C30)

Zhu, Wenjie (*with* Petzold, Linda R.) Asymptotic stability of Hessenberg delay differential-algebraic equations of retarded or neutral type. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 309–325. (John R. Graef) **99i:34111** 34K20 (34A09, 65L99)

Zhu, Wu Jia (*with* Zhu, Zhao Hui; Wang, Xue) Universal models and finite models of Boolean modal logic. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 18, 1944–1950. 03B45

— (*with* Shi, Qing Sheng; Zhang, Dong Mo[1]) A system of temporal logic based on medium logic. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 465–471. (Summary) **99e:03021** 03B45 (03B55)

Zhu, Xi-Ping Asymptotic behavior of anisotropic curve flows. (English summary) *J. Differential Geom.* **48** (1998), *no.* 2, 225–274. (Yi Li) **99h:53046** 53C21 (35K99, 58E10)

— (*with* Tso, Kaising) An integrability condition for Monge-Ampère equations on a Kähler manifold. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 46–58. (Shanyu Ji) **99b:32015** 32F07 (35J99)

— *see also* **Advances in nonlinear partial differential equations and related areas, 99m:35002**

Zhu, Xiao Hua An existence theorem for Kähler-Einstein orbifold metrics on singular cubic surfaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 573–578. (Lin Weng) **99e:32050** 32L07

— (*with* Shen, Yi-Bing) On stable complete minimal hypersurfaces in $\mathbf{R}^{n+1}$. (English summary) *Amer. J. Math.* **120** (1998), *no.* 1, 103–116. (Zhi Ren Jin) **99c:58040** 58E15 (53A07)

— Nonexistence of Kähler-Einstein metrics and solutions of degenerate complex Monge-Ampère equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 93–104; *translation in Chinese J. Contemp. Math.* **19** (1998), *no.* 1, 55–68. (Fangyang Zheng) **99e:32051** 32L07 (32F07, 53C25, 53C55)

Zhu, Xiao Sheng (*with* Tong, Wen Ting) Categories of power stably free modules and their K_0 groups. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1239–1246. (Reinhard C. Laubenbacher) **99b:16009** 16E20 (19A99)

— Some remarks on Noetherian rings. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 451–454. (Shi Zhong Pan) **99i:16043** 16P40

— Characterizations of regular rings in terms of strongly finitely presented modules. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 115–120. 16E50

— Flat ascending and descending extensions of IF rings. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 229–233. 16S20

Zhu, Xiaodong A quantitative comparison theorem for nonlinear equations. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 216–232. (C. A. Swanson) **99c:34066** 34C10 (34A12, 35B05)

— Stability of a quasi-variational system. *Nonlinear Anal.* **34** (1998), *no.* 5, 701–717. (From the introduction) **99f:34081** 34D20 (34A34)

Zhu, Xiong Wei (*with* Cai, Shi Dong; Chen, Yan Ping) Progress in gyrokinetics. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 17, 1793–1799. 78A35 (76X05)

Zhu, Xiwen (*with* Feng, Mang; Wang, Ke Lin; Shi, Lei[3]; Fang, Ximing; Yan, Min) Exact solution of Jaynes-Cummings model without rotating wave approximation. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 2, 169–172. (Summary) **99h:81239** 81V80 (81R30)

Zhu, Xuding (*with* Bauslaugh, Bruce L.) Circular colourings of infinite graphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 79–80. (Summary) **99c:05060** 05C15

— Chromatic Ramsey numbers. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 215–222. (Summary) **99e:05091** 05C55

— (*with* Chang, Gerard J.; Huang, Lingling) Circular chromatic numbers and fractional chromatic numbers of distance graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 423–431. (Hansjoachim Walther) **99j:05066** 05C15

— (*with* Deuber, Walter A.) Relaxed coloring of a graph. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 121–130. (Douglas B. West) **99h:05040** 05C15 (05C38)

— Pattern periodic coloring of distance graphs. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 195–206. (Hansjoachim Walther) **99d:05036** 05C15

— (*with* Fan, Hong Bing) Oriented walk double covering and bidirectional double tracing. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 89–102. (R. Balakrishnan) **99m:05121** 05C70

— (*with* Guan, Dah-Jyh) Multiple capacity vehicle routing on paths. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 590–602 (*electronic*). (Summary) **99d:68191** 68R10 (05C85, 68Q25)

— A survey on Hedetniemi's conjecture. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 1–24. (Gary MacGillivray) **99e:05057** 05C15 (05–02)

— (*with* Dinski, Thomas) A bound for the game chromatic number of graphs. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 109–115. (O. V. Borodin) **99k:05077** 05C15

— The game coloring number of planar graphs. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 2, 245–258. (Hans L. Bodlaender) **99m:05064** 05C15

— (*with* Chang, Gerard J.; Liu, Daphne D.-F.) Distance graphs and T-coloring. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 2, 259–269. (R. C. Entringer) **99m:05058** 05C15 (05C12)

— Construction of uniquely H-colorable graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 1–6. (Hung-Lin Fu) **99j:05078** 05C15

— A simple proof of Moser's theorem. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 19–26. (Summary) **99g:05084** 05C15

— (*with* Guan, Dah-Jyh) Game chromatic number of outerplanar graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 67–70. (Summary) **99g:05076** 05C15

Zhu, Xue Li Affine-symplectic spaces over finite fields and their applications. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 433–438. (Summary) **99k:51017** 51E26

Zhu, Y. *see* **Zhu, Yong Jin**

Zhu, Y. Q. *see* **Zhu, Yi Quan**

Zhu, Yan Juan Exact solitary wave solutions of the KdV-mKdV-Burgers and KPP equations. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 3, 72–75. (Summary) **99j:35196** 35Q53 (35A25)

— Reduction of the modified Korteweg-de Vries equation in the bilinear form. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 1, 19–22. 35Q53

Zhu, Yan Tang (*with* Wen, Xian Bin; Shi, Jian[2]) Asymptotic properties of randomly weighted estimates of the sample mean. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 347–352. 62G05 (62G09)

— (*with* Wang, Da Wei[2]) The equivalence of robustness and stability for stationary sequences. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 74–77. 62M10

Zhu, Yao Chen Linear independence over a number field. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 713–716. (Guang Shan Xu) **99e:11097** 11J72 (11J85)

— Irrationality of certain series. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 857–860. (Ming-Chit Liu) **99c:11090** 11J72 (11B39)

— An arithmetic property of Mahler's series. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 640. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 3, 407–412. (P. Bundschuh) **99f:11092** 11J85

— Establishing algebraic independence by an approximation method. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 303–306. (Xiu Yuan Yu) **99k:11114** 11J85

Zhu, Yi Quan (*with* Pei, Li Wen) W-fuzzy lattices and W-ideals. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 91–96. 06D30

— (*with* Pei, Li Wen) Prime ideals and congruence relations of fuzzy lattices. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 411–416. (Venkat Murali) **99g:04003** 04A72 (06B10)

— (*with* Li, Zheng Rong) Relations between regular HFI algebras and lattice H implication algebras. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 137–140. 18B35 (03G25)

— (*with* Jun, Young Bae; Roh, Eun Hwan; Wei, Shi Min) Some ideals in BCI-algebras. II. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 147–154. (Summary) **99d:06026** 06F35 (03G25)

Zhu, Ying Hao The reduced enveloping algebras of Lie p-superalgebras. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 700–706. (Sen Qiu) **99e:17016** 17B35 (17B50)

Zhu, Yixin (*with* Cai, Jin-Yi; Cai, Pu) On a scheduling problem of time deteriorating jobs. (English summary) *J. Complexity* **14** (1998), *no.* 2, 190–209. (Stanislav Palúch) **99e:90047** 90B35 (68Q25)

Zhu, Yong Jin (*with* Wei, Bing[1]) A new neighborhood union condition for Hamiltonian graphs. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 479. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 187–192. (R. H. Schelp) **99b:05097** 05C45 (05C38)

— (*with* Wang, Jiang Lu) Full cycle extendability of $K_{1,p}$-controlled graphs. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 319–325. (Summary) **99g:05118** 05C38

— (*with* Wei, Bing[1]) On the panconnectivity of graphs with large degrees and neighborhood unions. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 263–274. (Akira Saito) **99i:05130** 05C40 (05C38, 05C45)

Zhu, Yongchang (*with* Yan, Min) Stabilizer for Hopf algebra actions. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 3885–3898. (Andrzej Tyc) **99k:16090** 16W30

Zhu, Yu Can Biholomorphic convex mappings in B_p. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 457–462. (Daowei Ma) **99m:32024** 32H02

— (*with* Liu, Ming Sheng) Some criteria for univalence of functions. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 80–85. (Summary) **99f:30028** 30C55

Zhu, Yuan Guo Positive solutions to a system of variational inequalities. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 63–70. (Summary) **99c:47116** 47H19 (47H11, 49J40)

— Variational inequalities for random vectors. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 20–23. 49J40 (47H19, 47H40)

Zhu, Yue Fei (*with* Chen, Wei Hong) A proof of a linear combination lemma on the ring $\mathbf{Z}_m$. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser.*

A **13** (1998), *no.* 4, 447–450. 11T71 (94A60)

Zhu, Yue Ping (*with* Zheng, Wei Xing) Weighted Φ-inequalities for fractional maximal functions on space of homogeneous type. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 165–170. (Lanzhe Liu) **99f:42043** 42B25

— (*with* Zheng, Wei Xing) Multipliers for weighted Hardy spaces on locally compact Vilenkin groups. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 19, 2041–2045. 43A22 (46E99)

— (*with* Zheng, Wei Xing) Besov spaces and Herz spaces on local fields. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 10, 1051–1060. (Ann Verdoodt) **99m:46093** 46E35 (42B20, 46S10)

Zhu, Yue Qiu (*with* Huang, Guang Yuan; Ning, Fei; Lu, Kun) Speech signal processing by inversion of equations of mathematical physics. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 44–51. 94A12 (35Q80, 35R30, 92C05)

Zhu, Yuejin (*with* Lou, Sen-yue) Exact solitary wave solutions of the coupled nonlinear scalar field equations. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 1, 147–152. 35Q51 (35L70)

Zhu, Yun Hua (*with* Yang, Bi Cheng) Inequalities for the Hurwitz zeta-function on the real axis. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 3, 30–35. (Zhi Yong Zheng) **99h:11101** 11M35

— (*with* Yang, Bi Cheng) An improvement of Euler's summation formula and some inequalities for sums of powers. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 4, 21–26. (Summary) **99i:40003** 40A25 (26D15)

— (*with* Yang, Bi Cheng) An improvement on Hardy's inequality. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 1, 41–44. 26A15

Zhu, Zhao Hui (*with* Wang, Xue; Zhu, Wu Jia) Universal models and finite models of Boolean modal logic. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 18, 1944–1950. 03B45

Zhu, Zhen Guang Some properties of graphs of class I. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 11–14. 05C75

Zhu, Zheng You (*with* Ding, Rui; Cheng, Chang Jun) Boundary element method for solving dynamical response of viscoelastic thin plate. I. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 3, 229–235; *translated from Appl. Math. Mech.* **18** (1997), *no.* 3, 211–216 (*Chinese. English and Chinese summaries*). (Summary) **99d:73095** 73V10 (73F15, 73K10)

— (*with* Ding, Rui; Cheng, Chang Jun) Boundary element method for solving dynamical response of viscoelastic thin plate. II. Theoretical analysis. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 2, 101–110; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 95–103 (*Chinese. English and Chinese summaries*). (Summary) **99e:73059** 73F15 (73K10, 73V10)

— (*with* Wang, Zong Xin; Fan, Xian Ling) Inertial manifolds for nonautonomous infinite-dimensional dynamical systems. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 7, 695–704; *translated from Appl. Math. Mech.* **19** (1998), *no.* 7, 649–657 (*Chinese. English and Chinese summaries*). (Almut Burchard) **99m:34145** 34G20 (35B40, 47H20, 58F39)

— (*with* Wang, Zong Xin; Fan, Xian Ling) Convergent families of approximate inertial manifolds for nonautonomous evolution equations. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 8, 765–775; *translated from Appl. Math. Mech.* **19** (1998), *no.* 8, 715–724 (*Chinese. English and Chinese summaries*). (Almut Burchard) **99m:34146** 34G20 (35B40, 47H20, 58F39)

Zhu, Zhi-Yuan (*with* Feng, Sze-Shiang; Qiu, Xi-Jun) Energy spectrum of excitations in the Proca-Chern-Simons system. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2105–2113. 81T13 (81S40)

Zhu, Zhong-Yuan (*with* Luo, Yan; Shao, Ming-Xue) Diffeomorphism invariance of geometric descriptions of Palatini and Ashtekar gravity. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 37–39. (Summary) **99c:83005** 83C05 (83C45)

Zhu, Zhuo Wen Unified representation of gravitation field in consideration of effect of ellipsoid flattening. *Chinese Sci. Bull.* **42** (1997), *no.* 19, 1631–1636. (Summary) **99g:86004** 86A30 (86A20)

— Unified representation of gravitation field in consideration of effect of ellipsoid flattening. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 16, 1744–1748. 86A20

Zhu, Zizhong (*with* Yu, Li; Huang, Wenda; Huang, Meichun; Zeng, Xiao Ming[2]; Ji, Wei) The Laguerre-Gaussian series representation of two-dimensional fractional Fourier transform. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9353–9357. (Summary) **99j:44012** 44A15 (33C45, 42B10)

Zhu, Zu (*with* Huang, Pei Qing; Li, Cong) Managerial labor market and product market. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 12, 124–127. 90A50 (90A60)

Zhu, Zuo Jin (*with* Wu, Tong Qiang; Yuan, Xiao Ping; Chen, Yi Liang) Solution of the KdV-Burgers equation by the quasicharacteristic line method. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 4, 481–486. (Summary) **99b:65110** 65M25 (76B15, 76M25)

Zhu, Zuo-Nong (*with* Hu, Xing-Biao) Some new results on the Blaszak-Marciniak lattice: Bäcklund transformation and nonlinear superposition formula. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4766–4772. (F. Pempinelli) **99h:58173** 58F37 (35Q51, 35R10, 58F07)

— (*with* Huang, Hong-ci) Some new nonlinear differential-difference integrable hierarchies. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 10, 3393–3396. (Summary) **99j:58106** 58F07 (34K99, 35Q58)

— (*with* Huang, Hong-ci; Xue, Wei Min[1]) Lax representations and integrable time discretizations of the DDKdV, DDmKdV, and DDHOKdV. (English summary) *Phys. Lett. A* **252** (1999), *no.* 3-4, 180–190. (Reda A. Zait) **99m:58121** 58F07 (35Q53, 58F37)

Zhu, Zuo Tong (*with* Wei, Jia Qun) Transitive lattice-ordered permutation groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 3, 12–15. (Summary) **99f:06021** 06F15

— (*with* Lu, Bing Xin) Highly transitive representation on **Q** for the free product of countable right ordered groups. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 4, 4–6. (Stephen H. McCleary) **99m:06033** 06F15

— (*with* Qin, Yong) Weak transitivity of lattice-ordered permutation groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 2, 17–20. (Summary) **99b:06017** 06F15 (20B99)

— (*with* Xu, He Xian) Universal mappings of wreath products of lattice-ordered groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 3, 1–4. 06F15 (20E22)

Zhuang, Jian Nan (*with* Tan, Ya) Second-order necessary conditions for nonsmooth optimization. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 141–153. (Jane Juan-Juan Ye) **99m:90137** 90C30 (49J52)

Zhuang, M. (*with* Peyton Jones, J. C.; Çankaya, I.) Symbolic computation of harmonic balance equations. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 449–460. 93B40

Zhuang, Ping Hui (*with* Lu, Lin Zhang) L^1 uniform convergence of a difference scheme for a semilinear singular perturbation problem involving two parameters. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 69–75. (Summary) **99h:65138** 65L12

— (*with* Sun, Jian Jing) L^∞ uniform convergence of a difference scheme for a singular perturbation problem involving two parameters. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 5, 634–639. 65L08 (34E15)

Zhuang, Qi Tai On theorems of Frank-Weissenborn and Hayman-Miles. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 3, 282–290. (N. V. Rao) **99b:30036** 30D30 (30D35)

— On a theorem of Hayman. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 1, 5–9. (Summary) **99c:30060** 30D35

Zhuang, Rong Kun Sturmian comparison theorems for solutions to second-order nonlinear differential equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 257–260. (Shen Qi Zhao) **99i:34051** 34C10 (34C11)

Zhuang, Tian Ge (*with* Lu, Dong Hui) Construction and properties of wavelet bases expressed in terms of Bessel functions. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 1, 41–45. 42C15 (33C10, 42C10)

Zhuang, Wa Jin Characterizations of the star type partial orders of morphism sets in a preadditive category. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 2, 121–124. 18E05

— Partial orderings for squares of positive semidefinite self-conjugate quaternion matrices. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 1, 15–17. (Summary) **99c:15025** 15A33 (15A48)

Zhuang, X. *see* **Zhuang, Xinglai**

Zhuang, Xin Lu (*with* Liang, Xi Quan) The index formula for a contingent asset market in an exchange economy with two periods. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 1–6. 90A09

Zhuang, Xing Wu (*with* Lin, Huo Nan) Note on the paper: "On right continuity of a family of two-parameter σ-fields" [Stochastic Process. Appl. **66** (1997), no. 1, 107–113; MR 97k:60131] by C. Zongxun. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 4, 22–23. (Summary) **99j:60060** 60G46 (60G07, 60G60)

Zhuang, Xinglai (*with* Zhu, Jian Ping[2]) An efficient numerical algorithm with adaptive regularization for parameter estimations. (English summary) *Inverse problems in engineering mechanics* (*Nagano*, 1998), 299–308, *Elsevier, Oxford*, 1998. (Summary) **99k:65088** 65M30 (80–08)

Zhuang, Yu *see* **Zhuang, Yu[2]**

Zhuang, Yu[1] (*with* Ren, Chong Xun; Zhang, Yu Feng; Yu, Yuan Hong) An oscillation theorem for second-order ordinary differential equations. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 110–114. (Guo Zhu Gao) **99j:34049** 34C10

Zhuang, Yu[2] (*with* Wolenski, Peter R.) Proximal analysis and the minimal time function. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1048–1072 (*electronic*). (Pierpaolo Soravia) **99i:49032** 49L20 (35F30, 49J52)

Zhuk, A. I. (*with* Günther, U.) Multidimensional perfect-fluid cosmology with stable compactified internal dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 2025–2035. (Summary) **99c:83077** 83E15 (83F05)

Zhuk, E. E. (*with* Kharin, Yu. S.) Asymptotic estimation of the risk for classification of dependent observations. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 22–27, 139. 62H30

Zhuk, P. F. (*with* Bondarenko, L. N.) Sharp estimates for the rate of convergence of s-step iterative methods of variational type in a Hilbert space. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1301–1310; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 11, 1259–1268. (A. V. Dzhishkariani) **99g:65064** 65J10 (47A50)

Zhuk, V. I. (*with* Popov, S. P.) On soliton solutions of the two-dimensional Zakharov-Kuznetsov equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 122–135. (Jan Cieśliński) **99g:76140** 76R10 (35Q53, 76D33, 76E15)

Zhuk, V. V. (*with* Kuzyutin, V. F.) ★ Аппроксимация функций и численное интегрирование. (Russian. Russian summary) [Approximation of functions and numerical integration] *Izdatel'stvo Sankt-Peterburgskogo Universiteta, St. Petersburg*, 1995. 352 *pp. ISBN* 5-288-01072-2 (Bl. Sendov) **99j:41001** 41–02 (41A55, 65D15, 65D32)

Zhukov, Alexander V. (*with* Zhukova, Polina N.) Quantum theory for coupled harmonic oscillators with exponentially changing masses. (English summary) *J. Phys. A* **32** (1999), *no.* 9, 1779–1785. 81Q05 (81S40)

Zhukov, Mikhail Yu. (*with* Ermakov, S. V.; Righetti, Pier Giorgio) Modeling of transport processes in the presence of substance-locking effects. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 743–776 (*electronic*). (Reinhard Redlinger) **99j:80006** 80A20 (35L65, 65M06, 76R50, 92E20)

Zhukov, V. P. On a divergence condition for the instability of nonlinear dynamical systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 73–79; *translation in Automat. Remote Control* **58** (1997), *no.* 12, *part* 1, 1900–1905 (1998). (János Karsai) **99d:34098** 34D20

— On the problem of investigating the asymptotic stability of nonautonomous nonlinear dynamical systems without requiring uniformity. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 25–40; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 1, 476–487. (Andrzej Trzepizur) **99m:34112** 34D05

— (*with* Fuks, G.) The influence of the Hall effect on the compressibility of a plasma in a strong toroidal magnetic field. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 3–9. (Summary) **99h:76042** 76E25 (76W05)

Zhukov, V. T. (*with* Shvedov, A. S.) Explicit iterative difference schemes for parabolic equations. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 2, 133–148. (Alexander Ostermann) **99e:65110** 65L06 (65M06, 65M20)

Zhukov, Yu. V. (*with* Korolev, V. Yu.) On the rate of convergence in the local limit theorem for densities. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci. (New York)* **91** (1998), *no.* 3, 2931–2941. (Makoto Maejima) **99j:60032** 60F05

Zhukova, A. V. (*with* Gertsenshteĭn, S. Ya.) On the "rigid" three-dimensional instability of a mixing layer. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 47–50; *translation in Dokl. Phys.* **43** (1998), *no.* 9, 573–576. 76E05

Zhukova, I. S. (*with* Saichev, A. I.) Statistics of the Euler density field of a passive tracer in incompressible and compressible media. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 788–797; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 765–773 (1998). (Summary) **99c:76057** 76F99 (76M35, 76R50)

— (*with* Saichev, A. I.) The arising and evolution of the passive tracer clusters in compressible random media. *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 353–371, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 82D30 (76F99, 76M35)

Zhukova, O. I. On modified classes of p-nuclear, p-summable and p-integrable operators. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1038–1053, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 894–907. (A. Pietsch) **99k:47048** 47B10 (47B60)

Zhukova, Polina N. (*with* Zhukov, Alexander V.) Quantum theory for coupled harmonic oscillators with exponentially changing masses. (English summary) *J. Phys. A* **32** (1999), *no.* 9, 1779–1785. 81Q05 (81S40)

Zhukovskiĭ, E. L. A stable method for finding a general solution of the Wiener-Hopf equation. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 3, 5–7. 65F30 (93B40)

— (*with* Meleshko, V. I.) The orthogonal projection method and its regularized and statistical interpretation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 724–727; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 694–697. (Summary) **99d:65379** 65U05 (62J05)

Zhukovskiĭ, V. Ch. (*with* Ebert, Dietmar; Vshivtsev, A. S.) Temperature behaviour of a SU(2) gauge theory with external fields. *Problems of quantum field theory* (*Alushta*, 1996), 47–50, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81V05 (81T13)

Zhukovskiĭ, V. E. (*with* Gostev, V. I.) Application of numerical optimization methods for reducing the order of the transfer function of a controlled plant. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 266–270, 301. 93B40 (90C90)

Zhukovskiĭ, V. I. (*with* Molostvov, V. S.; Vaisman, Konstantin S.) Non-cooperative games under uncertainty. *Game theory and applications, III*, 189–222, *Nova Sci. Publ., Commack, NY*, 1997. (Nina N. Subbotina) **99a:90249** 90D10 (90D06)

Zhukovsky, V. Ch. *see* **Zhukovskiĭ, V. Ch.**

Zhumatov, S. S. Stability of the program manifold of implicit differential systems. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 47–53. (Summary) **99e:93071** 93D15 (34A09, 34D99, 34H05)

Zhuo, Xiang Lai Determination of fine focal points of planar Liénard systems. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **15** (1996), *no.* 4, 97–103. (Sui Lin Cai) **99a:34093** 34C05

— Local periodic solutions of some classes of periodic systems. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 3, 334–337. (Bo Zhang) **99a:34126** 34C25 (34C23)

— (*with* Han, Mao An) Plane polynomial systems with an invariant set. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 77–80. (De Ming Zhu) **99k:34064** 34C05

— Bifurcation of invariant tori of periodic perturbed systems with second-order fine foci in the case of strong resonance. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 103–109. (Ding Jun Luo) **99j:34056** 34C23 (34C30, 58F14, 58F30)

Zhuo, Xin-Jian (*with* Su, Yong-Mei) Some results on ascending subgraph decomposition. (English summary) *Util. Math.* **55** (1999), 153–160. (Summary) **99m:05130** 05C70

Zhuraev, I. M. (*with* Berdikulov, M. A.) Normal positive functionals on spaces with an order unit. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 22–28 (1997). (Wojciech Bartoszek) **99f:46027** 46B40 (47A35, 47B60)

Zhuravits'kiĭ, D. G. (*with* Svishchuk, A. V.) Application of discontinuous evolution stochastic systems in financial mathematics. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 50–55. (Summary) **99a:90045** 90A09 (60H99)

Zhuravlev, V. F. A new algorithm for normalization, in the sense of Birkhoff, of Hamiltonian systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 12–17; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 9–13. (Summary) **99b:58101** 58F05 (34C20, 70H05)

— Generalization of Atkinson's theorem to the case of normally solvable operators in Banach spaces. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 2, 157–159. (N. L. Vasilevskiĭ) **99d:47013** 47A53

Zhuravlev, Yu. I. *see* **Pattern recognition. Classification. Prediction, 99k:68012**

Zhurov, A. I. (*with* Polyanin, A. D.) Exact solutions of nonlinear equations in mechanics and mathematical physics. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 5, 640–644; *translation in Dokl. Phys.* **43** (1998), *no.* 6, 381–385. 35Q99 (35C05)

Zhuzhoma, E. V. (*with* Aranson, S. Kh.; Medvedev, Vladislav Sergeevich) A strengthened C^r-closing lemma for dynamical systems and foliations on a torus. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 323–331; *translation in Math. Notes* **61** (1997), *no.* 3-4, 265–271. (Stanisław Sędziwy) **99d:58097** 58F10 (58F18)

— (*with* Aranson, S. Kh.; Medvedev, Vladislav Sergeevich) Continuity and collapse of geodesic distributions of flows on surfaces. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 7–11. (J. S. Joel) **99m:58145** 58F17

— (*with* Aranson, S. Kh.; Bronshteĭn, I. U.; Nikolaev, I. V.) Qualitative theory of foliations on closed surfaces. Dynamical systems, 5. *J. Math. Sci. (New York)* **90** (1998), *no.* 3, 2111–2149. (Athanase Papadopoulos) **99m:58148** 58F18 (57R30, 58F09, 58F10)

sirousse-Zia, Haydeh *see* **Sirousse-Zia, Haydeh**

Ziad, Abderrahmane On the necessary and sufficient conditions for Nash implementation. (English summary) *Econom. Lett.* **56** (1997), *no.* 2, 209–213. (Summary) **99a:90031** 90A08

— A new necessary condition for Nash implementation. (English summary) *J. Math. Econom.* **29** (1998), *no.* 4, 381–387. (Summary) **99d:90150** 90D10 (90A14)

Ziad, M. (*with* Qadir, Asghar) A positive energy density spacetime related to the Reboucas-Tiomno and Einstein universes. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 185–190. (Alicia M. Sintes) **99j:83016** 83C15 (83C20)

— (*with* Qadir, Asghar) Ricci collineations of spherically symmetric spacetimes. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 6, 773–784. (Brian Edgar) **99g:83019** 83C20 (83C40)

Ziadi, A. (*with* Cherruault, Yves) Generation of α-dense curves in a cube of $\mathbf{R}^n$. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 336, 416–425. 65Y25 (65K05)

Ziaie, S. A. (*with* Kumbhojkar, H. V.; Mashinchi, M.) On cardinality of the truth-value set of a fuzzy subgroup. (English summary) *Sci. Iran.* **3** (1996), *no.* 1-3, 97–103. (John Mordeson) **99h:20109** 20N25

Ziane, Mohammed (*with* Miranville, Alain) On the dimension of the attractor for the Bénard problem with free surfaces. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 489–502 (1998). (Igor D. Chueshov) **99c:76047** 76E15 (35B40, 35R35, 76D99)

— (*with* Moise, Ioana; Temam, Roger) Asymptotic analysis of the Navier-Stokes equations in thin domains. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 249–282. (Ivan Straškraba) **99h:35166** 35Q30 (76D05, 76D30)

— On the two-dimensional Navier-Stokes equations with the free boundary condition. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 1, 1–19. (Alexander Yurjevich Chebotarev) **99c:35192** 35Q30 (34G20, 35R35, 47H20, 76D05)

— (*with* Moise, Ioana; Simonnet, E.; Temam, Roger) Numerical simulation of differential systems displaying rapidly oscillating solutions. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 201–214. (Summary) **99d:65241** 65L99

— (*with* Hoff, David) Compact attractors for the Navier-Stokes equations of one-dimensional, compressible flow. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 239–244. (Summary) **99k:35143** 35Q30 (34G20, 35B40, 58F39, 76N10)

Ziani, Abdelhamid (*with* Amirat, Youcef) Global weak solutions for a parabolic system modeling a one-dimensional miscible flow in porous media. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 697–718. (Vladimir Grebenev) **99c:35096** 35K50 (35D05, 76S05)

Ziantz, L. H. (*with* Flaherty, J. E.; Loy, R. M.; Dindar, M.; Shephard, M. S.; Szymanski, B. K.; Teresco, J. D.) An adaptive and parallel framework for partial differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 74–90, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65189** 65Y05 (65M60, 65N30)

Zibert, G. K. (*with* Kholpanov, L. P.; Zaporozhets, E. P.; Kashchitskiĭ, Yu. A.) ★ Математическое моделирование нелинейных термогидрогазодинамических процессов в многокомпонентных струйных течениях. (Russian. Russian summary) [Mathematical modeling of nonlinear thermohydro-gas-dynamic processes in multicomponent jet flows] "*Nauka*", *Moscow*, 1998. 320 *pp. ISBN* 5-02-005221-3 (Publisher's description) **99k:76125** 76N15 (76D25, 76M25, 80A20)

Zibulevsky, Michael (*with* Kočvara, Michal; Zowe, Jochem) Mechanical design problems with unilateral contact. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 3, 255–281. (Anders Klarbring) **99e:73072** 73K40 (73T05, 73V20)

Zibulski, Meir (*with* Zeevi, Yehoshua Y.) The generalized Gabor scheme and its application in signal and image representation. (English summary) *Signal and image representation in combined spaces*, 121–164, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Gilbert Walter) **99i:94016** 94A12 (42C15)

Zichichi, Antonino *see* **Effective theories and fundamental interactions, 99c:81003**

Zidani, H. (*with* Casas Renteria, Eduardo; Raymond, J.-P.) Optimal control problem governed by semilinear elliptic equations with integral control constraints and pointwise state constraints. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 89–102, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (J. Frédéric Bonnans) **99f:49028** 49K20 (35J60)

— (*with* Raymond, J.-P.) Pontryagin's principle for state-constrained control problems governed by parabolic equations with unbounded controls. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1853–1879 (*electronic*). (Fredi Tröltzsch) **99f:49030** 49K20

— (*with* Raymond, J.-P.) Hamiltonian Pontryagin's principles for control problems governed by semilinear parabolic equations. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 2, 143–177. (J. Frédéric Bonnans) **99j:49050** 49K20 (35K55, 65K10)

Zidek, James V. (*with* Liu, Jian[3]; Wu, Shiying) On segmented multivariate regression. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 497–525. (Yutaka Kano) **99b:62063** 62G05 (62H12, 62J99)

— (*with* Le, Nhu D.; Wong, Huber; Burnett, R. T.) Including structural measurement errors in the nonlinear regression analysis of clustered data. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 4, 537–548. 62J02

— (*with* Le, Nhu D.; Sun, Li[1]) A note on the existence of maximum likelihood estimates for Gaussian-inverted Wishart models. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 133–137. (Summary) **99f:62073** 62H12

Zięba, Wiesław (*with* Dudek, Dorota) A note on the strong tightness in $C[0,1]$. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 27–34. (Jun Kawabe) **99f:60066** 60F15 (60F17)

— (*with* Gutkowska, Sylwia) On a stability in Renyi's sense. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 61–65. (V. K. Rohatgi) **99b:60007** 60B10 (60A10)

Ziebur, Allen D. Chain rules for functions of matrices. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 87–97. (A. Böttcher) **99h:15015** 15A24

Ziedins, Ilze (*with* Moretta, Brian) Admission controls for Erlang's loss system with service times distributed as a finite sum of exponential random variables. (English

summary) *J. Appl. Math. Decis. Sci.* **2** (1998), *no.* 2, 119–132. 90B12 (94C10)

— (*with* Bebbington, M. S.; Pollett, P. K.) Two-link approximation schemes for linear loss networks without controls. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 539–557. (Summary) **99i:90048a** 90B10 (60K30)

— (*with* Bebbington, M. S.; Pollett, P. K.) Errata to: "Two-link approximation schemes for linear loss networks without controls". *J. Korean Math. Soc.* **35** (1998), *no.* 4, 1061–1063. (Editors) **99i:90048b** 90B10 (60K30)

Ziefeng, Cheng *see* **Cheng, Ziefeng**

Ziegler, Franz (*with* Basmat, A.) Interaction of a plane solitary wave with a rigid vertical cylinder. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 8, 535–543. 76B15 (35Q35, 76B25)

Ziegler, Günter M. (*with* Schmidt, Vasco Alexander) Lebensspuren in und nach der DDR. Interviews mit Konrad Gröger und Horst Martini. (German summary) [Life in and after the GDR. Interviews with Konrad Gröger and Horst Martini] *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 2, 28–33. (Summary) **99b:01022** 01A70 (01A80)

— Shelling polyhedral 3-balls and 4-polytopes. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 2, 159–174. (Egon Schulte) **99b:52022** 52B11 (57Q15)

— (*with* Trappmann, Henryk) Shellability of complexes of trees. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 168–178. (Volker Strehl) **99f:05122** 05E25 (05C05, 57M15)

— Recent progress on polytopes. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 395–406, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52011** 52B10

Ziegler, Joachim Rudolf (*with* Mehlhorn, Kurt; Müller, M.; Näher, Stefan; Schirra, Stefan; Seel, Michael; Uhrig, Christian) A computational basis for higher-dimensional computational geometry and applications. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 289–303. (*see* **99b:68003**) 68U05 (52B55)

Ziegler, Klaus (*with* Gänssler, Peter) On function-indexed partial-sum processes. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 285–311, *TEV, Vilnius*, 1994. (Summary) **99e:60091** 60F17 (60F15)

— Functional integration in Bose systems with hard-core interaction. (English summary) *Path integrals: Dubna* '96, 305–309, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 82B20 (81S40, 82B26)

— On Hoffmann-Jørgensen-type inequalities for outer expectations with applications. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 179–192. (Evarist Giné) **99c:60034** 60E15 (60F17, 60G50)

— (*with* Gänssler, Peter; Rost, Daniel) On random measure processes with application to smoothed empirical processes. *High dimensional probability* (*Oberwolfach*, 1996), 93–102, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Miguel A. Arcones) **99h:60072** 60F17 (60B12, 60F20)

Ziegler, Markus Generalized biorthogonal bases and tridiagonalisation of matrices. (English summary) *Numer. Math.* **77** (1997), *no.* 3, 407–421. (E. Kreyszig) **99a:65050** 65F15 (93B17)

Ziegler, Martin *see* **Ziegler, Martin²**

Ziegler, Martin¹ Decidable modules. *Algebraic model theory* (*Toronto, ON*, 1996), 255–274, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (Mike Prest) **99c:03059** 03C60 (03B25, 16G20)

Ziegler, Martin² (*with* Fischer, Matthias; Lukovszki, Tamás) Geometric searching in walkthrough animations with weak spanners in real time. (English summary) *Algorithms—ESA* '98 (*Venice*), 163–174, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68U05 (68P05, 68Q20)

Ziehmann, Christine (*with* Smith, Leonard A.; Kurths, Jürgen) The bootstrap and Lyapunov exponents in deterministic chaos. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 49–59. (Summary) **99j:58145** 58F13

Zielezny, Z. (*with* Huang, Yu-Tai; Ibbotson, J.) An application of regularly varying functions. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 505–515. (Michael Langenbruch) **99m:46100** 46F10 (35H05)

Zielinski, Lech Scattering for a dispersive charge transfer model. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 4, 339–386. (Vladimir Georgescu) **99i:81262** 81U10 (47A40, 47N50, 81Q10)

— Asymptotic completeness for multiparticle dispersive charge transfer models. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 453–470. (Mihai Pascu) **99k:47021** 47A40 (35P25, 47N50, 81U05)

— Asymptotic distribution of eigenvalues for elliptic boundary value problems. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 181–201. (Norbert Weck) **99b:35163** 35P20 (35J35, 47F05, 47G30)

— Asymptotic distribution of eigenvalues for some elliptic operators with intermediate remainder estimate. (English summary) *Asymptot. Anal.* **17** (1998), *no.* 2, 93–120. (Junichi Aramaki) **99e:35172** 35P20 (35J40, 47F05)

— Asymptotic distribution of eigenvalues for some elliptic operators with simple remainder estimates. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 249–282. (Günter Berger) **99c:35180** 35P20 (35J40, 47F05)

Zieliński, Ryszard (*with* Boratyńska, Agata) Asymptotic behavior of sample median in a parametric model. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 11–14. (Kenneth Kaminsky) **99e:62085** 62G20

— (*with* Męczarski, Marek) Stability of the posterior mean in linear models: an admissibility property of D-optimum and E-optimum designs. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 117–123. (N. Gaffke) **99c:62013** 62C10 (62J05, 62K05)

— Uniform strong consistency of sample quantiles. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 2, 115–119. (Stergios B. Fotopoulos) **99g:62067** 62G20 (62E20)

Zielnica, Krzysztof Chaim Selig Słonimski und Alexander von Humboldt. [Chaim Selig Słonimski and Alexander von Humboldt] Natur, Mathematik und Geschichte. *Acta Hist. Leopold. No.* 27 (1997), 123–141. (R. L. Cooke) **99c:01027** 01A70 (01A55)

Zielonka, Wiesław (*with* Demichelis, François) Controlled timed automata. (English summary) *CONCUR*'98: *concurrency theory* (*Nice*), 455–469, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68119** 68Q60 (68Q10, 68Q68)

Ziemba, William T. (*with* Cariño, David R.) Formulation of the Russell-Yasuda Kasai financial planning model. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 433–449. (Summary) **99m:90024** 90A09 (90A46)

— (*with* Cariño, David R.; Myers, David H.) Concepts, technical issues, and uses of the Russell-Yasuda Kasai financial planning model. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 450–462. (Summary) **99m:90025** 90A09 (90A46)

— *see also* **Stochastic programming. State of the art**, **99m:90006**

Ziemer, William P. (*with* Stredulinsky, Edward) Area minimizing sets subject to a volume constraint in a convex set. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 4, 653–677. (Carlo Bardaro) **99k:49089** 49Q10 (49N35)

Ziemian, Bogdan (*with* Pliś, Maria E.) Convolution equations in the space of Laplace distributions. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 3, 271–281. (Hans-Jürgen Glaeske) **99m:44002** 44A10 (46F10)

— (*with* Szmydt, Zofia) Topological imbedding of Laplace distributions in Laplace hyperfunctions. *Dissertationes Math.* (*Rozprawy Mat.*) **376** (1998), 81 *pp.* (Stevan Pilipović) **99g:46055** 46F12 (46F15)

Ziemkiewicz, Jacek (*with* Marletta, Gianfranco; Ricci, Fulvio) Two-parameter maximal functions associated with degenerate homogeneous surfaces in $\mathbf{R}^3$. (English summary) *Studia Math.* **130** (1998), *no.* 1, 67–75. (Detlef Horst Müller) **99d:42033** 42B25

Ziemkiewicz, O. C. (*with* Boroomand, B.; Zhu, Jian Zhong[1]) Recovery procedures in error estimation and adaptivity: adaptivity in linear problems. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 3–23, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99g:73111a** 73V05 (65N99)

— (*with* Boroomand, B.) Recovery procedures in error estimation and adaptivity: adaptivity in non-linear problems of elasto-plasticity behaviour. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 383–410, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99g:73111b** 73V05 (65N99)

— (*with* Taylor, Robert Leroy; Oñate, Eugenio) A hierarchical finite element method based on the partition of unity. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 73–84. (Summary) **99a:73128** 73V05

— (*with* Oden, J. Tinsley; Duarte, C. A. M.) A new cloud-based *hp* finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 1-2, 117–126. (Michael Fröhner) **99c:73081** 73V05 (65N30)

— (*with* Rojek, J.; Taylor, Robert Leroy; Pastor, M.) Triangles and tetrahedra in explicit dynamic codes for solids. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 3, 565–583. (Summary) **99f:73085** 73V05

— (*with* Huang, Maosong) New unconditionally stable staggered solution procedures for coupled soil-pore fluid dynamic problems. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 6, 1029–1052. (Summary) **99i:76143** 76S05 (73N20, 76M20, 86A15)

— (*with* Pastor, M.; Li, Tongchun; Liu, Xiaoqing; Huang, Maosong) Stabilized finite elements with equal order of interpolation for soil dynamics problems. (English summary) *Arch. Comput. Methods Engrg.* **6** (1999), *no.* 1, 3–33. 73V05 (65M60, 73Q05)

— (*with* Pastor, M.; Li, Tongchun; Liu, Xiaoqing) Stabilized low-order finite elements for failure and localization problems in undrained soils and foundations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 1-2, 219–234. 73Q05 (73V05)

— *see also* **Valid, R.**, **99k:73085**

Zierau, R. (*with* Wolf, Joseph A.) Cayley transforms and orbit structure in complex flag manifolds. (English summary) *Transform. Groups* **2** (1997), *no.* 4, 391–405. (Harald Upmeier) **99b:32049** 32M15 (14M15)

— (*with* Barchini, L.) Square integrable harmonic forms and representation theory. *Duke Math. J.* **92** (1998), *no.* 3, 645–664. (Edward G. Dunne) **99e:22022** 22E45 (22E46, 32L10, 32M10)

Zierep, J. Transonic profile flow with heat addition. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 4, 279–282. (Summary) **99a:76075** 76H05 (80A20)

Zierke, Erik Absorption probabilities of a Brownian motion in a triangular domain. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 197–210, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99f:60148** 60J65

Zieschang, Heiner On the Nielsen and Whitehead methods in combinatorial group theory and topology. (English summary) *Groups—Korea* '94 (*Pusan*), 317–337, *de Gruyter, Berlin*, 1995. (Summary) **99g:20059** 20F05 (20E05, 57M25)

— (*with* Hayat-Legrand, Claude) On the cup product on Seifert manifolds. 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 159–180. (A. R. Shastri) **99h:57053** 57R19 (55R25, 57N10)

Zieschang, P.-H. (*with* Rassy, M.) Basic structure theory of association schemes. *Math. Z.* **227** (1998), *no.* 3, 391–402. (Sung-Yell Song) **99f:05127** 05E30

Ziesler, Sarah (*with* Seeger, Andreas; Wainger, Stephen; Wright, James Robert) Classes of singular integrals along curves and surfaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3757–3769. (Stephen Buckley) **99m:42029** 42B20

Zieve, Michael Bivariate factorizations via Galois theory, with application to exceptional polynomials. (English summary) *J. Algebra* **210** (1998), *no.* 2, 670–689. (Fernando Barrera-Mora) **99m:12001** 12E05 (12F10, 13P05)

Zigangareeva, L. M. (*with* Kiselev, Oleg M.) On semi-infinite bodies of revolution that are streamlined at maximal critical Mach number. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 97–107; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 93–102. (Summary) **99b:76077** 76N15

Zigangirov, Kamil Sh. (*with* Engdahl, Karin) On the calculation of the error probability for a multilevel modulation scheme using QAM-signaling. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1612–1620. 94B12

— (*with* Johansson, Thomas) A simple one-sweep algorithm for optimal APP symbol decoding of linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3124–3128. 94B35 (94B05)

— (*with* Höst, Stefan; Johannesson, Rolf; Zyablov, Viktor V.) Active distances for convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 658–669. (Summary) **99k:94050** 94B10

Ziglin, S. L. On the absence of an additional first integral in the special case of the G. K. Suslov problem. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 167–168; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 434–435. (Igor Gashenenko) **99b:70007** 70E15 (58F05, 70F25)

Ziizeki, Syôzô *see* **Niizeki, Syôzô**

Zijlema, M. (*with* Wesseling, Pieter) Higher-order flux-limiting schemes for the finite volume computation of incompressible flow. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 2, 89–109. 76M25

Zijm, W. H. M. (*with* van Houtum, G. J.; Adan, I. J. B. F.; Wessels, Jaap) Bounds for performance characteristics: a systematic approach via cost structures. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 205–224. (Gerard Hooghiemstra) **99g:60170** 60K25

Zikanov, O. (*with* Thess, A.; Nepomnyashchy, A.) Finite-time singularity in the vortex dynamics of a string. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part B*, 3637–3640. (Summary) **99k:73075** 73K03 (76C05)

Zikatanov, Ludmil (*with* Lirkov, I. D.; Margenov, Svetozar D.) Circulant block-factorization preconditioning of anisotropic elliptic problems. (English and German summaries) *Computing* **58** (1997), *no.* 3, 245–258. (Zdeněk Dostál) **99a:65057** 65F35 (65N22)

— (*with* Chan, Tony F. C.; Xu, Jinchao) An agglomeration multigrid method for unstructured grids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 67–81, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65205** 65N55

— (*with* Xu, Jinchao) A monotone finite element scheme for convection-diffusion equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1429–1446. (Martin Stynes) **99m:65225** 65N30 (65N15, 76M10, 76Rxx)

Žikić, Tatjana (*with* Hadžić, Olga) On Caristi's fixed point theorem in F-type topological spaces. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 91–98. 54H25 (47H10)

Zilahi-Sebess, L. *see* **Optimum methods in statistics, 99a:62003**

Zilber, Jorge C. (*with* Dubuc, Eduardo J.) Banach spaces in an analytic model of synthetic differential geometry. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 2, 117–136. (Maria H. Papatriantafillou) **99h:58003** 58A03 (18B25, 58A05, 58B10)

Zilberstein, Shlomo (*with* Hansen, Eric A.) Heuristic search in cyclic AND/OR graphs. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 412–418, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20

Zilcha, Itzhak (*with* Becker, Robert) Stationary Ramsey equilibria under uncertainty. (English summary) *J. Econom. Theory* **75** (1997), *no.* 1, 122–140. (Summary) **99d:90024** 90A14 (90D05)

Ziliani, Alicia (*with* Bianco, Estela) Implicative modal semilattices. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahia Blanca*, 1997), 127–140, *Univ. Nac. del Sur, Bahia Blanca*, 1997. (Summary) **99a:06016** 06D30

Zima, E. V. (*with* Abramov, Sergei A.) Ore polynomial rings and the reduction of linear systems. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 50–56; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 44–50. 34A05 (16U20, 34–04, 34A30, 65L12)

Zima, Mirosława The abstract Gronwall lemma for some nonlinear operators. (English summary) *Demonstratio Math.* **31** (1998), *no.* 2, 325–332. (Eduardo Liz) **99h:47061** 47H07 (34K05, 47N20)

Zimand, Marius On the size of classes with weak membership properties. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 48–60 (*electronic*). (Summary) **99d:68088** 68Q15

— Large sets in AC^0: a Kolmogorov complexity related property and some applications. (English summary) *J. Comput. Inf.* **1** (1995), *no.* 2, 61–71 (*electronic*). (Summary) **99d:68125** 68Q30 (68Q15)

— (*with* Hemaspaandra, Lane A.; Zaki, Mohammed J.) Polynomial-time semi-rankable sets. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 50–67 (*electronic*). (Summary) **99h:68048** 68Q10

— Efficient privatization of random bits. (English summary) *Randomized algorithms* (*Brno*, 1998), 12 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (Marc M. Gysin) **99k:94044** 94A60 (68P25)

— (*with* Hemaspaandra, Lane A.; Rajasethupathy, Kulathur S.; Sethupathy, Prasanna) Power balance and apportionment algorithms for the United States Congress. (English summary) *ACM J. Exp. Algorithmics* **3** (1998), *approx.* 16 *pp.* (*electronic*). 68Q25

— On the size of classes with weak membership properties. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 225–235. (Summary) **99h:68059** 68Q15

— Relative to a random oracle, P/poly is not measurable in EXP. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 83–86. (Summary) **99j:68045** 68Q15

— Weighted NP optimization problems: logical definability and approximation properties. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 36–56 (*electronic*). (Gerhard Lischke) **99g:68075** 68Q15 (03D15, 90C60)

Zimba, Jason Simple realism and canonically conjugate observables in non-relativistic quantum mechanics. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 6, 503–533. (Koichiro Matsuno) **99m:81026** 81P15

Zimdahl, Winfried (*with* Balakin, A. B.) Inflation in a self-interacting gas universe. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 063503, 10 *pp.* (Summary) **99m:83091** 83C55 (83F05)

Zimerman, A. H. (*with* Aratyn, Henrik; Ferreira, Luiz A.; Gomes, J. F.) Solitons from dressing in an algebraic approach to the constrained KP hierarchy. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9483–9492. (Alexander V. Shapovalov) **99k:58080** 58F07

— (*with* Blas Achic, H. S.; Ferreira, Luiz A.; Gomes, J. F.) Some comments on the bi(tri)-Hamiltonian structure of generalized AKNS and DNLS hierarchies. (English summary) *Phys. Lett. A* **237** (1998), *no.* 4-5, 225–233. (Roman G. Smirnov) **99a:58083** 58F07

— (*with* Gomes, J. F.; Sotkov, G. M.) $SU(2,\mathbf{R})_q$ symmetries of non-abelian Toda theories. (English summary) *Phys. Lett. B* **435** (1998), *no.* 1-2, 49–60. (Mathias Pillin) **99g:81199** 81T40 (81R50, 81T10)

Zimerman, V. R. (*with* Blokhin, A. M.; Pozdeev, A. A.) Numerical study of the stationary solution stability for the problem of supersonic flow around a cone with the help of the adequate computational model (method of lines). (English summary) *Siberian J. Differential Equations* **1** (1998), *no.* 4, 295–319. (Dietmar Kröner) **99k:76105** 76M25 (76E99, 76J20)

Zimka, Rudolf Existence of invariant tori of critical differential equation systems depending on more-dimensional parameter. I. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 11–25. (Dmitry V. Treshchëv) **99b:34078** 34C30 (58F27)

Zimmer, G. Beate (*with* Cutland, Nigel J.) A new proof of the Banach-Stone theorem. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 55–58. (Summary) **99a:46042** 46E25 (03H05, 46S20)

— An extension of the Bochner integral generalizing the Loeb-Osswald integral. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 119–131. (P. A. Loeb) **99a:28020** 28E05 (03H05, 46B22, 46G10, 46S20)

Zimmer, Horst G. Basic algorithms for elliptic curves. *Number theory* (*Eger*, 1996), 541–595, *de Gruyter, Berlin*, 1998. (Masanari Kida) **99c:11161** 11Y50 (11G05, 11G20)

— (*with* Pethö, Attila; Stein, Joachim; Weis, Thomas) Computing the torsion group of elliptic curves by the method of Gröbner bases. *Symbolic rewriting techniques* (*Ascona*, 1995), 245–265, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Joseph H. Silverman) **99e:11071** 11G05 (11Y50, 13P10)

— (*with* Pethö, Attila) On a system of norm-equations over cyclic cubic number fields. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 317–332. (Michel Olivier) **99k:11168** 11R16 (11G05, 11R27, 11R29)

Zimmermann, Alexander Two-sided tilting complexes for Gorenstein orders. (English summary) *J. Algebra* **209** (1998), *no.* 2, 585–621. (Thorsten Holm) **99m:16024** 16G30 (16E99, 18E30)

Zimmermann, Bruno Free products with amalgamation of finite groups and finite order automorphism groups of free groups. (English summary) *Rend. Sem. Mat. Univ. Padova* **99** (1998), 83–98. (Vincent Guirardel) **99f:20043** 20E06 (20E08, 20F28)

Zimmermann, Georg Spectral synthesis with wavelet methods. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 303–320, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (G. C. Bohnké) **99i:42059** 42C15 (42A15, 43A20)

— (*with* Benedetto, John J.) Sampling multipliers and the Poisson summation formula. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 505–523. (Peter A. McCoy) **99b:42011** 42A38 (42A45, 42A65)

— A minimax-condition for the characteristic center of a tree. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 161–187. (Summary) **99h:05088** 05C50 (05C05)

Zimmermann, Jürgen (*with* Neumann, Klaus) Heuristic procedures for parallel-machine scheduling problems with stochastic precedence constraints. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 115–136. (Summary) **99k:90091** 90B35 (68M20)

Zimmermann, Karel (*with* Tharwat, A.) Some optimization problems on solubility sets of separable max-min equations and inequalities. *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 2, 45–57. (Summary) **99b:90125** 90C30 (90C70)

— (*with* Vlach, Milan) Optimal starting times for a class of single machine scheduling problems with earliness and tardiness penalties. (English summary) Econometrics and operational research. *Kybernetika* (*Prague*) **33** (1997), *no.* 6, 675–686. (Summary) **99b:90072** 90B35

Zimmermann, Paul (*with* Bertault, F.; Ramaré, Olivier) On sums of seven cubes. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1303–1310. (S. Turjányi) **99j:11116** 11P05 (11Y35)

Zimmermann, Uwe *see* **Proceedings: Operations Research, 99a:90009**

Zimmermann, W. *see* **Zimmermann, Wolf D.**

Zimmermann, Walter *see* **Perspective look at nonlinear media, 99d:00025**

Zimmermann, Wolf D. (*with* Eisenbiegler, J.; Gottlieb, Johannes; Löwe, Welf; Schlaeger, S.; Thül, M.) Parallel CG-methods—automatically optimized for PC- and workstation-clusters. (English summary) *High performance algorithms for structured matrix problems*, 181–197, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65Y05

Zimmermann, Wolfgang Extensions of three classical theorems to modules with maximum condition for finite matrix subgroups. (English summary) *Forum Math.* **10** (1998), *no.* 3, 377–392. (Nan Qing Ding) **99b:16036** 16P70 (13E99)

Zimmermann-Huisgen, Birge (*with* Smalø, Sverre O.) Co- versus contravariant finiteness of categories of representations. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 129–144, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Peter Dräxler) **99k:16027** 16G10 (16E10, 18G20)

— (*with* Goodearl, K. R.) Repetitive resolutions over classical orders and finite-dimensional algebras. *Algebras and modules, II* (*Geiranger*, 1996), 205–225, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Héctor A. Merklen) **99m:16007** 16E10 (16H05)

— The geometry of uniserial representations of finite-dimensional algebra. I. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 1, 39–72. (Stanisław Kasjan) **99b:16020** 16G10 (16G20, 16G60)

— (*with* Happel, Dieter) Viewing finite-dimensional representations through infinite-dimensional ones. (English summary) *Pacific J. Math.* **187** (1999), *no.* 1, 65–89. (Sverre O. Smalø) **99m:16006** 16D90 (16E10, 16E30, 16G99)

— *see also* **Trends in the representation theory of finite-dimensional algebras, 99i:16003**

Zin, Md. Hanafiah Md. Expected duration of a classical gambling game involving two players when the coin is symmetric. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 572–574, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 90D60 (60G40)

Zinchenko, Alexander Z. Effective conductivity of loaded granular materials by numerical simulation. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1749, 2953–2998. 73B35 (73B27, 73K20, 78A99)

Zinchenko, I. L. The dimension of the closure of an almost periodic trajectory of a periodic system of differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 702–703, 719; *translation in Differential Equations* **33** (1997), *no.* 5, 704–706 (1998). (Igor N. Blinov) **99a:34131** 34C27

Zinchuk, N. A. (*with* Ivanenko, V. I.) A model of a class of dynamical systems with a discrete state space. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 96–103, 158. 93A30 (93C55)

Zinder, Yakov (*with* Roper, Duncan) An iterative algorithm for scheduling unit-time tasks with precedence constraints to minimise the maximum lateness. (English summary)

Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 321–340. (*see* **99b:90006**) 90B35 (90C35)

Zindinova, N. S. Uniformization of some Riemann surfaces with nodes. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1057–1064, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 929–935. (S. R. Nasyrov) **99h:30042** 30F40 (30F10, 32G15)

Zingano, Paulo R. On the time decay of diffusion waves for a class of parabolic systems of conservation laws. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 299–312. (Summary) **99j:35099** 35K55 (35B40, 35L65)

— Nonlinear L^2-stability under large disturbances. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 207–219. (Summary) **99m:35115** 35K55 (35B40)

Zinger, A. A. (*with* Klebanov, Lev B.) Stability of the inverse Radon transform. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 401–404, *TEV, Vilnius*, 1994. (*see* **99e:60004**) 60E05 (44A12)

Zink, Robert E. (*with* Kazaryan, K. S.) Some ramifications of a theorem of Boas and Pollard concerning the completion of a set of functions in L^2. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4367–4383. (D. Waterman) **99d:42050** 42C10 (41A30, 42C30, 46E30)

— (*with* Kazaryan, K. S.) Subsystems of the Schauder system that are quasibases for $L^p[0,1]$, $1 \le p < +\infty$. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2883–2893. (M. M. Popov) **99a:46050** 46E30 (46B25)

Zinn, Joel (*with* Schechtman, Gideon; Schlumprecht, Thomas) On the Gaussian measure of the intersection. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 346–357. (Werner Linde) **99c:60032** 60E15 (28C20)

— (*with* Hitczenko, Paweł; Kwapień, Stanisław; Li, Wenbo V.; Schechtman, Gideon; Schlumprecht, Thomas) Hypercontractivity and comparison of moments of iterated maxima and minima of independent random variables. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 2, 26 *pp.* (*electronic*). (From the text) **99k:60008** 60B11 (52A21, 60E07, 60E15, 60G15)

Zinner, Ernst *see* **Westman, Robert S., 99k:01092**

Zinn-Justin, J. Determination of critical exponents and equation of state by field theory methods. *New developments in quantum field theory* (*Zakopane*, 1997), 217–232, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (*see* **99e:81002**) 82B27 (81T17)

— (*with* Guida, R.) Critical exponents of the N-vector model. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8103–8121. (Summary) **99e:82039** 82B27

— *see also* **Quantum symmetries, 99k:81008** *and* **Quantum fluctuations, 99k:81356**

Zinn-Justin, P. Nonlinear integral equations for complex affine Toda models associated with simply laced Lie algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6747–6770. (Andrey V. Tsiganov) **99k:82017** 82B20 (17B81, 81R50, 82B23)

Zinober, Alan S. I. (*with* Chen, Huixin; Ruan, Rongyao) Strong consistency and convergence rate of parameter identification for bilinear systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 907–919. 93B30 (93B40)

— (*with* Sira-Ramírez, Hebertt; García-Esteban, Mauricio) Dynamical adaptive pulse-width-modulation control of DC-to-DC power converters: a backstepping approach. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 205–222. 93C95 (93C40)

— (*with* Liu, Pin) Nonlinear H_∞ method for Volterra systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 667–680. 93B36

— (*with* Rios-Bolívar, Miguel) A symbolic computation toolbox for the design of dynamical adaptive nonlinear controllers. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 73–88. (*see* **99a:93003**) 93B40 (93–04, 93B51, 93C40)

— *see also* **Cao, Yong-Yan, 99h:93024**

Zinov′ev, V. A. (*with* Lobstein, Antoine) On new perfect binary nonlinear codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 415–420. (Stefan Dodunekov) **99a:94062** 94B60

— (*with* Charpin, Pascale; Tietäväinen, Aimo A.) On binary cyclic codes with distance $d = 3$. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 3–14; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 287–296 (1998). (Summary) **99d:94037** 94B15

— (*with* Carlet, Claude; Charpin, Pascale) Codes, bent functions and permutations suitable for DES-like cryptosystems. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 125–156. (Zhen Zhang) **99k:94030** 94A60

— (*with* Moreno, Oscar) Three-regular subgraphs of four-regular graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 369–373. (Summary) **99c:05207** 05E30

Zinoviev, Dmitrii Relation of orbital integrals on SO(5) and PGL(2). (English summary) *Israel J. Math.* **106** (1998), 29–77. (Volker J. Heiermann) **99k:22018** 22E35 (11F70, 22E50)

Zinoviev, V. A. *see* **Zinov′ev, V. A.**

Zinoviev, Victor *see* **Zinov′ev, V. A.**

Zinoviev, Victor A. *see* **Zinov′ev, V. A.**

Zinsmeister, Michel Fleur de Leau-Fatou et dimension de Hausdorff. (English and French summaries) [Leau-Fatou flow and Hausdorff dimension] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1227–1232. (Peter Petek) **99j:58180** 58F23 (28A78, 30D05)

Zinterhof, Peter On optimal liftings of sequences. *Anz. Österreich. Akad. Wiss. Math.-Natur. Kl.* **133** (1996), 33–45 (1997). (Harald Niederreiter) **99g:11094** 11K38

— *see also* **Monte Carlo and quasi-Monte Carlo methods, 1996, 99d:65005**

Zio, E. (*with* Marseguerra, M.) Weight updating in forced Monte Carlo approach to dynamic PSA. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 4, 359–373. 90B25 (65C05, 65U05)

Zionts, Stanley *see* **Essays in decision making, 99f:90005**; **Ramesh, R., (99f:90005)** *and* **Biography: Zionts, Stanley, (99f:90005)**

Zippin, M. (*with* Elsner, Ludwig; Han, Lu; Koltracht, Israel; Neumann, Michael) On a polygon equality problem. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 67–75. (Michael Felten) **99d:41024** 41A17 (46C99)

— Applications of Michael's continuous selection theorem to operator extension problems. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1371–1378. (J. Schmets) **99h:46040** 46E15 (46B45, 47A05)

Zirbel, Craig L. (*with* Çinlar, Erhan) Mass transport by Brownian flows. (English summary) *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 459–492, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Luis G. Gorostiza) **99c:60104** 60G57 (60H10, 76F05, 76M35)

— Mean occupation times of continuous one-dimensional Markov processes. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 161–178. (M. G. Shur) **99e:60161** 60J25 (60J35, 60J60)

— Translation and dispersion of mass by isotropic Brownian flows. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 1, 1–29. (V. Mackevičius) **99c:60123** 60H10 (60G57, 76M35, 76R50)

Zirnbauer, Martin R. Toward a theory of the integer quantum Hall transition: continuum limit of the Chalker-Coddington model. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 2007–2036. (Summary) **99d:81190** 81V70 (82B27)

— Erratum: "Toward a theory of the integer quantum Hall transition: continuum limit of the Chalker-Coddington model" [J. Math. Phys. **38** (1997), no. 4, 2007–2036; MR 99d:81190]. (English summary) *J. Math. Phys.* **40** (1999), *no.* 4, 2197. (From the text) **99m:81297** 81V70 (82B27)

Zisgen, Horst Approximative analysis of series queues. (English and German summaries) *Operations Research Proceedings* 1996 (*Braunschweig*), 181–185, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B22 (60K25)

Zisman, Michel Travaux de Borel-Haefliger-Moore. [Works of Borel, Haefliger and Moore] *Séminaire Bourbaki, Vol. 7, Exp. No.* 240, 287–295, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 55N30

Zisserman, Andrew (*with* Liebowitz, David; Armstrong, Martin) Resolving ambiguities in auto-calibration. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1193–1211. (Summary) **99b:68207** 68U10 (68T10)

— *see also* **New geometric techniques in computer vision, 99a:00034**

Zitarosa, Antonio (*with* Messano, Basilio) Sequences of a compact metric space for which the limit set is rigid. (English and Italian summaries) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **131** (1997), 165–168. (Summary) **99i:54040** 54E40 (54H25)

Zítek, Pavel Frequency-domain synthesis of hereditary control systems via anisochronic state space. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 539–556. 93C80 (93B51, 93C30)

— Anisochronic state observers for hereditary systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 581–599. (Jerzy Klamka) **99h:93023** 93B07 (93C30)

Zitikis, Ričardas (*with* Csörgő, Miklós) On the rate of strong consistency of the total time on test statistic. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 99–117. (Lajos Horváth) **99i:60066** 60F15 (60K10)

— (*with* Csörgő, Miklós; Gastwirth, Joseph L.) Asymptotic confidence bands for the Lorenz and Bonferroni curves based on the empirical Lorenz curve. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 65–91. (Yves Lepage) **99k:62098** 62G15 (62P20)

Zítko, Jan Using successive approximations for improving the convergence of GMRES method. (English summary) *Appl. Math.* **43** (1998), *no.* 5, 321–350. (Tsorng-Whay Pan) **99f:65056** 65F10 (65N22)

— (*with* Tichý, Petr) Derivation of BiCG from the conditions defining Lanczos' method for solving a system of linear equations. (English summary) *Appl. Math.* **43** (1998), *no.* 5, 381–388. (Marc Van Barel) **99j:65052** 65F10

Zito, Jennifer S. (*with* Fiduccia, Charles M.; Scheinerman, Edward R.; Trenk, Ann N.) Dot product representations of graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 113–138. (Michael Jacobson) **99c:05161** 05C75

— (*with* Fiduccia, Charles M.; Forcade, Rodney W.) Geometry and diameter bounds of directed Cayley graphs of abelian groups. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 157–167 (*electronic*). (Dave Witte) **99g:05096** 05C25 (68R10, 90B12)

Zittartz, J. (*with* Klümper, Andreas; Wehner, T.) Thermodynamics of the quantum Perk-Schultz model. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1897–1912. (Aleksei P. Isaev) **99b:82014** 82B10 (82B20)

Ziv, Abraham Sharp ULP rounding error bound for the hypotenuse function. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1143–1148. (Summary) **99i:65052** 65G05

Ziv, Jacob (*with* Hershkovits, Yehuda) On fixed-database universal data compression with limited memory. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1966–1976. (Maxime Crochemore) **99f:94005** 94A29 (68P20, 94A15)

— (*with* Matias, Yossi; Muthukrishnan, S.; Şahinalp, Süleyman Cenk) Augmenting suffix trees, with applications. (English summary) *Algorithms—ESA '98* (*Venice*), 67–78, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q20 (68P20)

— (*with* Hershkovits, Yehuda) On sliding-window universal data compression with limited memory. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 66–78. (Summary) **99a:94015** 94A29

— (*with* Wyner, Aaron D.; Wyner, Abraham J.) On the role of pattern matching in information theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2045–2056. (Summary) **99h:94036** 94A29 (94A17)

Ziv, Ran (*with* Aharoni, Ron) The intersection of two infinite matroids. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 3, 513–525. (Talmage J. Reid) **99m:05042** 05B35

Živković, Miodrag The number of primes $\sum_{i=1}^{n}(-1)^{n-i}i!$ is finite. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 403–409. (Cécile Dartyge) **99c:11163** 11Y55 (11K31)

Živković-Zlatanović, Snežana Semi-Fredholm operators and perturbation functions. (English summary) *Filomat No.* 11 (1997), 77–88. (Hans-Olav Tylli) **99f:47018** 47A55 (47A53)

Živorad, Tomovski On the density on some special functions in L^2 space and in complex region. (English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 111–116. (Summary) **99i:42013** 42A65 (30E10)

— Convergence and integrability of cosine trigonometric sums with quasi-convex coefficients. (English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 117–120. (Summary) **99g:42002** 42A20

Zivot, Eric (*with* Startz, Richard; Nelson, Charles R.) Valid confidence intervals and inference in the presence of weak instruments. (English summary) Symposium on

Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 1119–1144. (Summary) **99i:62256** 62P20 (62J05)

Ziv-Ukelson, Michal (*with* Kershenbaum, Aaron) A dictionary matching algorithm fast on the average for terms of varying length. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 34–54, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 68Q25 (68U15)

Ziza, O. A. On the rate of convergence of (φ, λ)-means of orthogonal series. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 93–96; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 59–62. (F. Móricz) **99e:42012** 42A45 (42C15)

— On absolute summability of orthogonal series by the generalized method of the summatorial function. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 559–573. (Tamotsu Tsuchikura) **99k:42075** 42C15 (40F05)

Zizler, P. Norms of sampling operators. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 291–298. (Steen Pedersen) **99c:47030** 47B35 (47A10, 47B38)

— (*with* Lancaster, Peter) On the stability of gyroscopic systems. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 2, 519–522. (Alexander P. Seyranian) **99g:34112** 34D99 (70J25)

Zizler, Václav (*with* Fabian, Marián; Hájek, Petr[2]) Uniform Eberlein compacta and uniformly Gâteaux smooth norms. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 351–362. (John R. Giles) **99m:46014** 46B03 (46B20)

Zizza, Frank Differential forms for constrained max-min problems: eliminating Lagrange multipliers. *College Math. J.* **29** (1998), *no.* 5, 387–396. (Bernard Lemaire) **99m:49034** 49K10 (49K35)

Zlatanov, D. (*with* Fenton, R. G.; Benhabib, B.) Identification and classification of the singular configurations of mechanisms. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 6, 743–760. (Summary) **99f:70016** 70B15

živković-Zlatanović, Snežana *see* **Živković-Zlatanović, Snežana**

Zlatanovski, T. Axisymmetric creeping flow past a porous prolate spheroidal particle using the Brinkman model. (English summary) *Quart. J. Mech. Appl. Math.* **52** (1999), *no.* 1, 111–126. 76D07 (76S05)

Zlătescu, A. (*with* Udrişte, Constantin; Şandru, Ovidiu-Ilie; Dumitrescu, Constantin A.) Ţiţeica indicatrix and figuratrix. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 117–124, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Makoto Matsumoto) **99i:53020** 53B40

Zlatev, Ivaylo (*with* Greenberg, William R.; Klein, Abraham; Li, Ching-Teh) From Heisenberg matrix mechanics to semiclassical quantization: theory and first applications. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1820–1837. (Summary) **99c:81042** 81Q20

Zlatev, Stoyan I. (*with* Gitman, D. M.; Barros, Paulo B.) Application of path integration to operator calculus. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7791–7799. (Summary) **99m:58041** 58D30 (81S40)

Zlatev, Z. (*with* Ostromsky, Tz.; Hansen, Per Christian) A coarse-grained parallel QR-factorization algorithm for sparse least squares problems. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 937–964. (Summary) **99d:65380** 65Y05 (65F50)

Zlateva, Nadia (*with* Ivanov, Milen) Abstract subdifferential calculus and semi-convex functions. (English summary) *Serdica Math. J.* **23** (1997), *no.* 1, 35–58. (Jean-Noël Corvellec) **99f:49020** 49J52 (46G05, 46N10, 47H05, 47N10)

Zlatoš, Pavol (*with* Mendris, Robert) Axiomatization and undecidability results for linear betweenness relations. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 305–315. (Françoise Point) **99d:03036** 03C60 (03B30, 03C52, 03D35, 08A02)

— (*with* Haviar, Miroslav) Jubilee: the sixtieth birthday of Professor Tibor Katriňák. *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 91–98. (Editors) **99m:01067** 01A70

Zlatuška, Jiří *see* **Mathematical foundations of computer science, 99m:68010**

Zlobec, S. (*with* Floudas, Christodoulos A.) Optimality and duality in parametric convex lexicographic programming. (English summary) *Multilevel optimization: algorithms and applications*, 359–379, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99a:90165** 90C27 (90C31)

Zlobina, E. B. (*with* Aĭsagaliev, S. A.) On the absolute stability of controllable systems with differentiable nonlinearities. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 5, 3–12. (T. K. Sirazetdinov) **99g:93058** 93D05 (34D99, 34H05)

Zlochevsky, A. (*with* Halevi, Yoram; Gilat, T.) Parameter-dependent model order reduction. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 463–485. (Summary) **99j:93017** 93B11

Zloshchastiev, Konstantin G. Classical and quantum evolution of non-isentropic hot singular layers in finite-temperature general relativity. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 4, 571–577. 83C55 (83C45)

— Extended particle models based on hollow singular hypersurfaces in general relativity: classical and quantum aspects of charged textures. (English summary) *Internat. J. Modern Phys. D* **8** (1999), *no.* 2, 165–176. (Summary) **99m:81284** 81V17 (81V25, 83C99)

Złotkiewicz, Eligiusz J. *see* **Biography: Złotkiewicz, Eligiusz J., 99m:01099** *and* **Dedicated to Professor Eligiusz J. Złotkiewicz**

Zlotnik, A. A. (*with* Amosov, A. A.) Stability of generalized solutions of the one-dimensional motion of a viscous heat-conducting gas. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 6, 835–846. (Summary) **99k:76067** 76E99 (35Q35, 76N15)

— (*with* Amosov, A. A.) On the quasi-averaging of a system of equations of the one-dimensional motion of a viscous heat-conducting gas with rapidly oscillating data. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1204–1219; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1152–1167. (Summary) **99g:76125** 76N15 (35Q35)

— On a problem of Nishida. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1279–1286. (Summary) **99j:35237** 35R35 (76N10)

Zmazek, Blaž (*with* Jha, Pranava K.; Klavžar, Sandi) Isomorphic components of Kronecker product of bipartite graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 301–309. (Summary) **99d:05065** 05C60

Zmyślony, Roman (*with* Gnot, Stanisław; Urbańska-Motyka, Agnieszka) Nonnegative maximum likelihood estimation in a linear model of variance components. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 2, 215–224. (Summary) **99b:62102** 62J05 (62J10)

Znamenáček, J. (*with* Valášek, M.) An efficient implementation of the recursive approach to flexible multibody dynamics. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 3, 227–251. (Summary) **99g:73077** 73K12 (70B15, 70E99, 73V05)

Znojil, Miloslav Two numerical aspects of supersymmetry in quantum mechanics. *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 615–623, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 81Q60

— A quick perturbative method for Schrödinger equations. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8771–8783. (Summary) **99a:81036** 81Q15 (34L40, 35J10, 65L06, 81-08)

— Quantum exotic: a repulsive and bottomless confining potential. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3349–3355. (Summary) **99a:81029** 81Q05

Zó, Felipe (*with* Iturrieta, Miguel) Best monotone L_φ-approximations in several variables. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 3, 1–10. (Ion Badea) **99m:41045** 41A50

nguen Zoan Tuan *see* **Nguen Zoan Tuan**

Zobina, V. *see* **Berkovich, Ya. G., 99j:20007**

Zobnin, B. B. (*with* Korotaeva, L. N.; Chentsov, A. G.) On a route optimization problem and its applications. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 70–87; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 346–361 (1998). (Summary) **99c:90152** 90C35 (90B10)

Żochowski, A. (*with* Sokołowski, Jan) Topological derivatives for elliptic problems. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 123–134. (Summary) **99k:49088** 49Q10 (35J05, 35R30)

Zofotă, Daniela (*with* Moroşanu, Gheorghe) On a boundary value problem for a second order differential equation. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 89–94. (L. E. Bobisud) **99b:34048** 34B15

Zoghbi, Antoine (*with* Stojmenović, Ivan) Fast algorithms for generating integer partitions. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 1–16 (*electronic*). (*see* **99f:68006**) 68R05 (05A17)

Zograf, P. G. (*with* Takhtajan, Leon A.) Accessory parameters and Eisenstein series. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II* (*Russian*), 125–129, 254, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11F12

Zografos, K. On a measure of dependence based on Fisher's information matrix. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1715–1728. (Nariaki Sugiura) **99k:62120** 62H20

— (*with* Menéndez, M. L.; Morales, Domingo; Pardo, Leandro) Statistical inference for finite Markov chains based on divergences. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 9–17. (Summary) **99j:62119** 62M05

Zohdi, Tarek I. (*with* Moës, Nicolas; Oden, J. Tinsley) Investigation of the interactions between the numerical and the modeling errors in the homogenized Dirichlet projection method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 1-2, 79–101. (Summary) **99e:73096** 73V05 (73B27, 73K20)

— (*with* Oden, J. Tinsley) Erratum to: "Analysis and adaptive modeling of highly heterogeneous elastic structures" [Comput. Methods Appl. Mech. Engrg. **148** (1997), no. 3, 367–391; MR 98e:73011]. *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 395–396. 73B27 (73K20, 73V20)

— (*with* Wriggers, P.) A domain decomposition method for bodies with heterogeneous microstructure based on material regularization. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 17, 2507–2525. (Summary) **99m:73052** 73K20 (73V20)

Żołądek, Henryk Remarks on: "The classification of reversible cubic systems with center" [Topol. Methods Nonlinear Anal. **4** (1994), no. 1, 79–136; MR 96m:34057]. (English summary) *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 335–342 (1997). (Carmen Chicone) **99e:34035** 34C05 (58F21)

— Hilbert's Sixteenth Problem. (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 185–188, *Polsk. Akad. Nauk, Warsaw*, 1997. (*see* **99b:01001**) 34C05 (01A60, 34–03)

— (*with* Cherkas, L. A.; Romanovskii, V. G.) The centre conditions for a certain cubic system. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 299–302. (From the text) **99i:34041** 34C05

— Mathematical models of statistical mechanics. (Polish) *Wiadom. Mat.* **33** (1997), 75–89. (Robert Alicki) **99e:82002** 82–02 (57M25, 82B05, 82B20, 82B26)

— (*with* Fronville, Alexandra; Sadovskiĭ, A. P.) Solution of the 1:−2 resonant center problem in the quadratic case. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 191–207. (Summary) **99g:34063** 34C05 (58F21)

— The extended monodromy group and Liouvillian first integrals. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 1, 1–28. (Dmitri Novikov) **99d:34014** 34A20 (12H05)

— (*with* Rousseau, Christiane; Świrszcz, G.) Cyclicity of graphics with semi-hyperbolic points inside quadratic systems. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 2, 149–189. (Sergeĭ Yu. Yakovenko) **99h:58149** 58F21 (34C05, 34C23, 58F14)

— New examples of holomorphic foliations without algebraic leaves. (English summary) *Studia Math.* **131** (1998), *no.* 2, 137–142. (Armengol Gasull) **99g:58105** 58F21 (34C05)

Zolésio, Jean-Paul (*with* Delfour, Michel C.) Differential equations for linear shells: comparison between intrinsic and classical models. (English summary) *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 41–124, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Veronique Lods) **99a:73091** 73K15 (35Q72, 53B50)

— (*with* Delfour, Michel C.) Hidden boundary smoothness for some classes of differential equations on submanifolds. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 59–73, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Bernard Rousselet) **99e:73071** 73K40 (35J99, 49Q15, 73C99, 73K15)

— (*with* Delfour, Michel C.) Convergence to the asymptotic model for linear thin shells. (English summary) *Optimization methods in partial differential equations* (*South Hadley,*

MA, 1996), 75–93, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (From the introduction) **99f:73055** 73K15 (49Q10, 73V25)

— (*with* Bucur, Dorin) Anatomy of the shape Hessian via Lie brackets. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 127–143. (Maïtine Bergounioux) **99d:49073** 49Q10 (58E25)

— (*with* Bucur, Dorin) Wiener's criterion and shape continuity for the Dirichlet problem. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 757–771. (Neil A. Watson) **99b:35037** 35J25 (31B20, 35B35, 49Q10)

— (*with* Delfour, Michel C.) Shape analysis via distance functions: local theory. (English summary) *Boundaries, interfaces, and transitions* (*Banff, AB*, 1995), 91–123, *CRM Proc. Lecture Notes*, 13, *Amer. Math. Soc., Providence, RI*, 1998. (Maïtine Bergounioux) **99d:49074** 49Q10 (49J52)

— Shape differential equation with a non-smooth field. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 427–460, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Fredi Tröltzsch) **99h:49056** 49Q10 (49K20)

— (*with* Cagnol, John) Hidden shape derivative in the wave equation with Dirichlet boundary condition. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1079–1084. (Summary) **99h:35118** 35L05 (35B65)

— (*with* Aguilar, Jean-Christophe) Coque fluide intrinsèque sans approximation géométrique. (English and French summaries) [Intrinsic fluid shell without geometrical approximation] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1341–1346. (Veronique Lods) **99g:76047** 76D99 (73K15)

— (*with* Bucur, Dorin) Spectrum stability of an elliptic operator to domain perturbations. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 19–30. (Vladimir Tulovsky) **99i:35115** 35P05 (35J25, 49K20)

— (*with* Dziri, Raja) Dynamical shape control in non-cylindrical hydrodynamics. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 113–122. (Summary) **99k:49087** 49Q10 (35Q35, 76B99, 76M30)

Zolezzi, T. (*with* Bartolini, Giorgio; Ferrara, Antonella; Utkin, Vadim I.) A control vector simplex approach to variable structure control of nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 4, 321–335. (Summary) **99a:93013** 93B12 (93C10, 93C41)

Zoli, Claudio Intersecting generalized Lorenz curves and the Gini index. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 2, 183–196. (Summary) **99j:90006** 90A08 (90A19)

Zolin, E. E. The Craig interpolation property in logics of proofs with a strong provability operator. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 4, 53–55; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 4, 39–41. (A. Yu. Muravitsky) **99c:03028** 03B45 (03F40)

Zolla, F. (*with* Felbacq, D.; Guizal, B.) Limit analysis of the diffraction of a plane wave by a one-dimensional periodic medium. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4604–4607. (Summary) **99g:78021** 78A45 (78A05)

Zoller, Peter (*with* Gardiner, C. W.) Quantum noise in quantum optics: the stochastic Schrödinger equation. *Fluctuations quantiques* (*Les Houches*, 1995), 79–136, *North-Holland, Amsterdam*, 1997. (*see* **99k:81356**) 81V80 (81–02, 81S25, 82C10)

— (*with* van Enk, S.; Cirac, J. I.; Kimble, H. J.; Mabuchi, H.) Transmission of quantum information in a quantum network: a quantum optical implementation. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 689–695. (Summary) **99k:81042** 81P99 (81V80)

Zöllner, Michael *see* **Carroll, Lewis, 99g:01042**

Zolotarev, A. P. On change and distributivity numbers in geometric lattices. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1080–1088, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 935–941. (Manfred Stern) **99m:06017** 06C10

Zolotarev, V. A. A functional model of the Lie algebra ISO(1, 1) of linear nonselfadjoint operators. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 79–106; *translation in Sb. Math.* **186** (1995), *no.* 1, 79–106. (Alexei V. Rybkin) **99f:47021** 47A60 (17B99, 47A40, 47A45, 47D99)

Zolotarev, Vladimir M. ★ Modern theory of summation of random variables. Modern Probability and Statistics. *VSP, Utrecht*, 1997. *x*+412 *pp. ISBN* 90-6764-270-3 (V. J. Paulauskas) **99m:60002** 60–02 (60F05, 60G50)

— (*with* Partsch, L.; Szeidl, L.) On the rate of convergence in a limit theorem for random symmetric polynomials. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 2975–2983. (Lajos Horváth) **99m:60036** 60F05

— (*with* Szeidl, L.) The central limit theorem without the condition of independence. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 3002–3004. (Jongsig Bae) **99m:60038** 60F05

— Natural estimates of convergence rate in the central limit theorem. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 4112–4121. (Mark M. Meerschaert) **99m:60039** 60F05

— *see also* **Senatov, V. V., 99h:60015**

Zolotarevskiĭ, V. A. (*with* Andriesh, G.) The approximation of functions in generalized Hölder spaces. (English summary) *Comput. Sci. J. Moldova* **3** (1995), *no.* 3, 300–306. (John G. Stalker) **99c:41018** 41A10

— (*with* Cărăuş, Iu.) The approximate solution of singular integro-differential equations on smooth contours in the spaces L_p. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 1, 44–54. (Andreas Rathsfeld) **99j:65244** 65R20 (45L05)

— (*with* Spinei, I.) Direct methods for solving singular integral equations with complex conjugation. (English summary) *Comput. Sci. J. Moldova* **6** (1998), *no.* 1, 83–91. 65L20 (45L10)

Zolotaryuk, A. V. (*with* Christiansen, Peter Leth; Savin, A. V.) Solitons in an isolated helix chain. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part B*, 877–889. (George Rowlands) **99a:92020** 92D20 (82C20)

Zolotukhin, V. F. (*with* Krakhmalev, D. V.) An algorithm for the signs of the solution of the minimax transportation problem. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 1, 14–18, 93. 90C08

Zolotykh, Nikolai Yu. (*with* Shevchenko, V. N.) Lower bounds for the complexity of learning half-spaces with membership queries. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 61–71, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (Summary) **99m:68173** 68T05 (68Q99)

Zonenashvili, I. A. Optimal design of plates of finite dimensions. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 61–64. 73K10 (73K40)

Zong, C. A note on Hornich's problem. (English summary) *Arch. Math.* (*Basel*) **72** (1999), *no.* 2, 127–131. (Peter M. Gruber) **99k:52026** 52C07 (11H31, 52C17)

— (*with* Larman, David G.) On the kissing numbers of some special convex bodies. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 233–242. (Sándor Szabó) **99k:52030** 52C17

Zong, Hong-Shi (*with* Feng, Sze-Shiang; Wang, Bin^2; Qiu, Xi-Jun) Bosonization to order $1/m$ by duality in three dimensions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 29, 2393–2398. (Summary) **99g:81137** 81T16

Zong, Wengang (*with* Ma, Zhi En; Luo, Zhixue) The thresholds of survival for an n-dimensional food chain model in a polluted environment. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 440–458. (T. J. Mahar) **99e:92034** 92D40 (34C11)

Zong, Xu Ping (*with* Wei, Bo-Cheng) Some asymptotic inference on nonlinear models with random effects (a geometric approach). (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 301–308. (Summary) **99i:62143** 62J02

— (*with* Wei, Bo-Cheng) Influence analysis on linear models with random effects. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 2, 245–246. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 2, 169–176. 62J20

Zongxun, Chen *see* **Chen, Zong Xun**

nouri-Zonoz, M. *see* **Nouri-Zonoz, M.**

Zopounidis, C. (*with* Siskos, Yannis; Grigoroudis, E.; Saurais, O.) Measuring customer satisfaction using a collective preference disaggregation model. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 175–195. (*see* **99a:90011**) 90C29 (90A05)

— *see also* **Recent developments in multiple objective optimization, 99a:90011**

Zoppoli, R. (*with* Alessandri, A.; Parisini, T.) Neural approximators for nonlinear finite-memory state estimation. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 275–301. 93E10 (93C85)

— (*with* Parisini, T.; Sanguineti, M.) Nonlinear stabilization by receding-horizon neural regulators. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 341–362. (Summary) **99a:93087** 93D15

Zorich, A. V. Deviation for interval exchange transformations. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1477–1499. (Vadim A. Kaĭmanovich) **99e:58124** 58F11

Zorich, V. A. (*with* Kesel'man, V. M.) Conformal type and isoperimetric dimension of a Riemannian manifold. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 379–385; *translation in Math. Notes* **63** (1998), *no.* 3-4, 333–337. (Igor Belegradek) **99e:53044** 53C20 (53A30)

— Quasiconformal embeddings of Riemannian manifolds, and a Picard-type theorem. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 215–216; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 227–228. (Igor Belegradek) **99e:30015** 30C65 (53C20)

Zoriĭ, N. V. Capacities of a space condenser. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **23** (1997), 127–134. (Vladimir N. Dubinin) **99i:31007** 31C15 (31B15)

Zorlutuna, İ. (*with* Küçük, Y.) Almost weakly continuous and almost H-continuous fuzzy multifunctions. (English summary) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **27** (1998), 1–12. 54A40 (54C10, 54C60)

Zoroa Alonso, Noemí (*with* Navarro, Jorge; Ruiz Gómez, José María) A unified approach to characterization problems using conditional expectations. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 193–207. (Paweł J. Szabłowski) **99e:62015** 62E10

Zorski, Henryk *see* **Meeting: Current Ideas in Mechanics and Related Fields, 99e:00030**

Zorzano, M. P. (*with* Mais, H.; Vázquez, Luis) Numerical solution of two-dimensional Fokker-Planck equations. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 109–117. (Summary) **99g:82062** 82C31 (82–08)

Zorzitto, F. (*with* Okoh, Frank) A family of commutative endomorphism algebras. (English summary) *J. Algebra* **201** (1998), *no.* 2, 501–527. (John D. O'Neill) **99d:16034** 16S50 (13A99)

Zöschinger, Helmut Über koassoziierte Primideale. II. [On co-associated prime ideals. II] *Math. Scand.* **81** (1997), *no.* 2, 247–259. (Liam O'Carroll) **99c:13015** 13C05 (13A15, 13E10)

Zotniashvili, S. On the extension of selfadjoint operators from Hilbert spaces to Fréchet-Hilbert spaces. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 338–341. (V. D. Koshmanenko) **99k:47059** 47B25 (47A20)

— On the extension of selfadjoint operators from Hilbert spaces to Frechet-Hilbert ones. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 185–189. (Summary) **99f:47031** 47B25 (47A20)

Zotos, X. (*with* Binz, B.; Baeriswyl, D.) Solution of the infinite-range t-J model. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4225–4237. (Summary) **99b:82090** 82D55

Zotov, M. G. Analytic construction of control devices for plants with delay. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 3, 9–20; *translation in Automat. Remote Control* **59** (1998), *no.* 3, *part* 1, 310–319. 93B51 (93C30)

Zou, Chang An (*with* Wu, Tan; Che, Ke Jian) Global stability of a class of third-order nonlinear systems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 438–441. (Summary) **99b:34091** 34D20

Zou, Fan (*with* Li, Fan^2) A study of semantenes for reasoning consistently in the presence of inconsistency. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 1, 1–4. 03B45 (03B60, 03B70, 68T27)

Zou, Guo Hua (*with* Feng, Shi Yong) Sample rotation method with auxiliary variable. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1497–1509. (Summary) **99c:62024** 62D05

— (*with* Feng, Shi Yong) Comparison of variance estimates for systematic sampling—a new criterion. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 47–57. 62D05

— (*with* Feng, Shi Yong) A generalized ratio estimator and a generalized difference estimator and their optimality. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 359–365. 62D05

Zou, Henghui (*with* Serrin, James) Existence of positive solutions of the Lane-Emden system. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 369–380. (Giovanni Leoni) **99j:35055** 35J60 (35B05, 35J45)

— (*with* Serrin, James) Existence of positive entire solutions of elliptic Hamiltonian systems. *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 577–599. (C. A. Swanson) **99f:35054** 35J60 (34A34, 35B05)

Zou, Hui Wen The chromaticity of the bipartite graph $K(m,n)-2$. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 623–628. (Summary) **99i:05088** 05C15

Zou, Jian Cheng (r,s)-stability of unfoldings of bifurcation problems. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 647–654. (Yang Cheng Li) **99g:58013** 58C27

— Finite determination and universal unfoldings of bifurcation problems. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 817–822. (Summary) **99k:58024** 58C27

— (*with* Yu, Jian Ming) A simple introduction to singularity theory. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 4, 301–308. 32S55 (14B05)

— (*with* Zhou, Jianyi; Pan, Jian Zhong) The basic invariants of long curve and closed curve perestroikas. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 527–548. (Juan Margalef-Roig) **99g:57032** 57R45 (57R42)

— On the universal unfolding of C^∞ map germs under a subgroup of $\mathscr{A}$. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 487–498. (Maria Aparecida Soares Ruas) **99m:58034** 58C27

Zou, Jie Zhong (*with* Hou, Zhen Ting; Liu, Zai Ming) QNQL processes—(H,Q)-processes and their applications. *Chinese Sci. Bull.* **42** (1997), *no.* 11, 881–886. (O. A. Voina) **99e:60227** 60K99 (60G99)

— (*with* Hou, Zhen Ting; Liu, Zai Ming; Li, Xue Wei[2]) Markov framework processes. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 5, 457–467. 60J25

Zou, Jingye (*with* Cao, You'an; Yan, Wen) On the explicit limitations of irreducible unitary representations for nonsplit F_4. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 121–128. (Ivan V. Arzhantsev) **99d:22024** 22E46

Zou, Jun (*with* Seid, Yuk Fai) Identifying parameters in elliptic systems by finite element methods with multi-level initializing techniques. (English summary) *Recent advances in differential equations (Kunming, 1997)*, 213–228, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99c:65214** 65N30 (35J15, 35R30)

— (*with* Keung, Yee Lo) Numerical identifications of parameters in parabolic systems. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 83–100. (Julio Guacaneme Dix) **99a:65113** 65M30 (35R30)

— (*with* Li, Zhilin; Wang, Deshen) Theoretical and numerical analysis on a thermoelastic system with discontinuities. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 1, 37–58. (Summary) **99d:73012** 73B30 (65M06, 65M12, 73V20)

— (*with* Cheng, Xiao-liang; Huang, Hong-ci) Quadrilateral finite elements for planar linear elasticity problem with large Lamé constant. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 357–366. (Summary) **99g:73102** 73V05 (65N30, 73C02)

— (*with* Chen, Zhi Ming[1]) Finite element methods and their convergence for elliptic and parabolic interface problems. (English summary) *Numer. Math.* **79** (1998), *no.* 2, 175–202. (Ji Chun Li) **99d:65313** 65N30 (65F10, 65M60)

— (*with* Xu, Jinchao) Some nonoverlapping domain decomposition methods. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 857–914 (*electronic*). (Lutz Tobiska) **99m:65241** 65N55 (65F10, 65N30)

Zou, Kai Qi (*with* Li, Zheng Wu) Neural network methods for multifactorial evaluations. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 20–25. 68T05

Zou, Peng Cheng A theorem on symmetry and conservation laws. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 2, 36–40. (Summary) **99i:81113** 81R99

Zou, Wenming Multiple solutions results for two-point boundary value problem with resonance. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 485–496. (Thomas Bartsch) **99d:58038** 58E05 (34B15, 34C25, 58F22)

— Solutions for resonant elliptic systems with nonodd or odd nonlinearities. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 397–417. (Anna Maria Candela) **99e:35079** 35J65 (35J20, 35J55, 58E05)

— (*with* Li, Shu-Jie) Remarks on a class of elliptic problems with critical exponents. *Nonlinear Anal.* **32** (1998), *no.* 6, 769–774. (Jean-Noël Corvellec) **99e:35066** 35J65 (58E05)

Zou, Xingfu (*with* van den Driessche, P.) Global attractivity in delayed Hopfield neural network models. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1878–1890 (*electronic*). (Anthony N. Michel) **99h:34114** 34K20 (34C35, 92B20)

Zou, Xiong A generation theorem for local C-semigroups. (English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 4, 406–411. (Adam Bobrowski) **99k:47100** 47D06

Zou, Yi Ming (*with* Musson, Ian M.) Crystal bases for $U_q(\mathrm{osp}(1,2r))$. (English summary) *J. Algebra* **210** (1998), *no.* 2, 514–534. (Aleksandr Panov) **99j:17024** 17B37

— Integrable representations of $U_q(\mathrm{osp}(1,2n))$. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 1, 99–112. (Stefano Capparelli) **99e:17028** 17B37 (17B10)

— Crystal bases for $U_q(\mathrm{sl}(2,1))$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2213–2223. (Jia-Chen Ye) **99j:17028** 17B37

Zou, Yonghua (*with* Li, Wei) The algebraic criterion of unconditional stability of constant linear systems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 360–365. (Lj. T. Grujić) **99a:93074** 93D05 (93C30)

Zou, Yongkui (*with* Huang, Ming-you) Eigenstructure preserving schemes and their applications in dynamical systems. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 223–235, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Mark J. Friedman) **99j:65133** 65L15 (34C23)

Zou, Yun (*with* Du, Chun Ling; Yang, Cheng Wu) Design of regular observers for 2-D singular systems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 4, 497–504. 93B07 (93C55)

Zou, Ze Min (*with* Hong, Yong[2]) The function space $L^{P_1,P_2,\cdots,P_n}(X_1\times X_2\times\cdots\times X_n)$. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 19–22. (Summary) **99k:46042** 46E30

Zou, Zhen Zhu (*with* Zhou, Zhen-Gong; Shen, Ya Peng; Ma, Xing Rui) The dynamic response of an interface crack with adhesional contact at its ends to transient elastic waves. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 3, 38–44, *III.* 73M25

Zou, Zhenqiang (*with* Liang, Youdong; Wang, Guo Zhao) An extension of Clairaut equation and its application. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 1, 125. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 1, 1–14. (Summary) **99a:53003** 53A04 (68U07, 73K03)

Zou, Zhenyu A kind of structure models for double porosity medium systems and its identification problems. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 260–271. (Summary) **99g:76144** 76S05 (35Q35, 73B27, 93B30)

Zou, Zhi-hong (*with* Yang, Fu-gui; Sheng, Song-bai) A self-adaptive algorithm for nonlinear least squares with linear constraints. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **4** (1995), *no.* 2, 164–175. (Summary) **99c:65117** 65K05 (90C30)

Zoubi, H. (*with* Ben-Aryeh, Y.) The evolution of harmonic oscillator Wigner functions described by the use of group representations. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 2, 447–458. (Günter Braunss) **99k:81150** 81S30

Zounes, Randolph S. (*with* Rand, Richard H.) Transition curves for the quasi-periodic Mathieu equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1094–1115 (*electronic*). (James A. Murdock) **99f:34070** 34C27 (70K28)

— (*with* Rand, Richard H.; Hastings, Rachel) Dynamics of a quasiperiodically-forced Mathieu oscillator. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 61–70, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70K40 (34C15, 58F27, 70K50)

Zoupanos, George (*with* Karch, Andreas; Lüst, Dieter) Superconformal $N=1$ gauge theories, β-function invariants and their behavior under Seiberg duality. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 254–263. (Summary) **99d:81159** 81T60 (81T13, 81T17)

Zoupas, A. (*with* Anastopoulos, C.) Nonequilibrium quantum electrodynamics. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105006, 12 *pp.* 81V10

Zowe, Jochem (*with* Outrata, J. V.; Kočvara, Michal) ★ Nonsmooth approach to optimization problems with equilibrium constraints. (English summary) Theory, applications and numerical results. Nonconvex Optimization and its Applications, 28. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxii+273 pp. ISBN* 0-7923-5170-3 (Stephan Dempe) **99h:90002** 90-02 (49J40, 49J52, 90C31, 90D65)

— (*with* Kočvara, Michal) Free material optimization. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 707–716 (*electronic*). (Christian Zillober) **99h:73055** 73K40 (65K10, 73V20, 90C90)

— (*with* Kočvara, Michal; Zibulevsky, Michael) Mechanical design problems with unilateral contact. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 3, 255–281. (Anders Klarbring) **99e:73072** 73K40 (73T05, 73V20)

— (*with* Jarre, Florian; Kočvara, Michal) Optimal truss design by interior-point methods. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1084–1107 (*electronic*). (Summary) **99e:90091** 90C30

Zribi, Mohamed (*with* Huang, Loulin) Robust control of multiple robots handling a constrained load. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 215–231. (Summary) **99e:93052** 93C85 (70B15, 70Q05, 93B36)

— (*with* Lum, H. K.; Soh, Yeng Chai) Planning and control of a biped robot. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 10, 1319–1349. 70B15 (70Q05, 93C85)

Zsido, Laszlo (*with* Araki, Huzihiro) Modular inclusions. (Japanese) Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 63–79. (*see* **99d:46001**) 46L99

Zsilinszky, László Superporosity in a class of non-normable spaces. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 785–797. (Luděk Zajíček) **99b:28005** 28A20

— Polishness of the Wijsman topology revisited. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3763–3765. (Zbigniew Grande) **99b:54014** 54B20

— Topological games and hyperspace topologies. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 2, 187–207. (Summary) **99g:54005** 54B20 (54A05, 54E20, 90D44)

Zsombor-Murray, P. J. (*with* Hayes, M. J. D.) Inverse kinematics of a planar manipulator with holonomic higher pairs. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 59–68, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70008** 70B15

— (*with* Husty, Manfred L.; Gervasi, P.) Geometry in mechanics. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 267–276, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15 (51M99)

— (*with* Gervasi, P.; Karakusevic, V.) An algorithm for solving the inverse kinematics of a 6R serial manipulator using duai quaternions and Grassmannians. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 383–392, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:70006** 70B15

Zu, X. (*with* Huo, Yong Zhong) On the three phase mixtures in martensitic transformations of shape memory alloys: thermodynamical modeling and characteristic temperatures. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 3, 179–188. (Matthias Wilhelm Winter) **99e:73015** 73B30 (73E99)

Zuanni, Fulvio (*with* Buratti, Marco) G-invariantly resolvable Steiner 2-designs which are 1-rotational over G. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 221–235. (K. T. Phelps) **99k:05026** 05B05 (51E10)

Zuazua, Enrique (*with* Castro Barbero, Carlos) A hybrid system consisting of two flexible beams connected by a point mass: spectral analysis and well-posedness in asymmetric spaces. *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 17–54 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Hideo Soga) **99a:35248** 35Q72 (35L30, 35P15, 73D30)

— (*with* Lions, Jacques-Louis) The cost of controlling unstable systems: time irreversible systems. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 481–523. (Vilmos Komornik) **99b:49004** 49J20 (35K10, 93C20)

— (*with* Komornik, Vilmos; Loreti, Paola) On the control of coupled linear systems. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 183–189, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Tsvetomir Tsachev) **99g:93044** 93C20 (35L05, 93B05, 93D15)

— (*with* Micu, Sorin) On a weakly damped system arising in the control of noise. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 207–222, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Fausto Gozzi) **99i:93035** 93C20 (35B37, 35L99, 73K50, 73K70, 76Q05)

— Null controllability of the heat equation in thin domains. (English summary) *Équations aux dérivées partielles et applications*, 787–801, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Werner Horn) **99i:93010** 93B05 (35K05, 93C20)

— Some problems and results on the controllability of partial differential equations. (English summary) *European Congress of Mathematics, Vol. II* (*Budapest*, 1996), 276–311, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (Sergei A. Ivanov) **99k:93026** 93B05 (35B37, 49J20, 73K50)

— Some geometric aspects of the control of partial differential equations. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 119–130, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93C20 (35B37, 65M99, 73C02, 76D05)

— (*with* Lions, Jacques-Louis) Exact boundary controllability of Galerkin's approximations of Navier-Stokes equations. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 605–621. (Vilmos Komornik) **99m:93007** 93B05 (35Q30, 65M06, 76D05)

— (*with* Lebeau, Gilles) Null-controllability of a system of linear thermoelasticity. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 4, 297–329. (Shin-ichi Nakagiri) **99f:93013** 93B05 (35Q72, 73B30, 93C20)

— (*with* Infante, Juan-Antonio) Boundary observability for the space-discretizations of the 1-d wave equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 713–718. (Summary) **99g:65092** 65M12

— (*with* López, Antonio) Uniform null-controllability for the one-dimensional heat equation with rapidly oscillating coefficients. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 955–960. (Summary) **99g:35050** 35K05 (93B05, 93C20)

— (*with* López, Antonio) Null controllability of the 1-d heat equation as limit of the controllability of dissipative wave equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 753–758. (Summary) **99h:93019** 93B05 (35K05, 90C30)

— (*with* Perla Menzala, Gustavo) Energy decay rates for the von Kármán system of thermoelastic plates. (English summary) *Differential Integral Equations* **11** (1998), *no.* 5, 755–770. (Reinhard Racke) **99m:35244** 35Q72 (73B30, 73K10)

— (*with* Jaffard, Stéphane; Tucsnak, Marius) Singular internal stabilization of the wave equation. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 184–215. (Irina F. Sivergina) **99g:93073** 93D15 (35L70, 93C20)

— (*with* Bisognin, E.; Bisognin, V.; Perla Menzala, Gustavo) On exponential stability for von Kármán equations in the presence of thermal effects. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 5, 393–416. (Vilmos Komornik) **99a:73081** 73K10 (35J99, 35Q72, 73B30, 73H10)

— (*with* Castro Barbero, Carlos) Boundary controllability of a hybrid system consisting in two flexible beams connected by a point mass. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1576–1595 (*electronic*). (Irina F. Sivergina) **99h:93057** 93C20 (35Q72, 73K50, 93B05)

— (*with* Micu, Sorin) Asymptotics for the spectrum of a fluid/structure hybrid system arising in the control of noise. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 967–1001 (*electronic*). (Akira Tsutsumi) **99e:35170** 35P20 (35L05, 35L55, 73K70, 76Q05)

— (*with* Perla Menzala, Gustavo) The beam equation as a limit of a 1-D nonlinear von Kármán model. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 47–52. 35Q72 (73D35, 73K05)

— Erratum: "A uniqueness result for the linear system of elasticity and its control-theoretical consequences" [SIAM J. Control Optim. **34** (1996), no. 5, 1473–1495; MR 97g:73025]. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 330–331 (*electronic*). (Summary) **99i:73022** 73C15 (35Q72, 73K50, 93B05)

— *see also* **Control and partial differential equations, 99g:00037**

Zuazua Vega, Rita E. Duffin-Kemmer algebras, etc., a half-century later. (Spanish) *Miscelánea Mat. No.* 19 (1993), 91–95. 81R20

Zubairy, M. Suhail Quantum teleportation of a field state. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 6, 4368–4372. (Summary) **99k:81054** 81P99

Zubarev, Alexander L. (*with* Kim, Yeong E.) The Hilbert-Schmidt theorem formulation of the *R*-matrix theory. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6483–6494. (Summary) **99e:81253** 81U20 (81V35)

Zubė, S. Exceptional vector bundles on Enriques surfaces. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 825–834; *translation in Math. Notes* **61** (1997), *no.* 5-6, 693–699. (Alexey N. Rudakov) **99g:14054** 14J60 (14J28)

— Bidegree (2, 1) parametrizable surfaces in projective 3-space. (English and Lithuanian summaries) *Liet. Mat. Rink.* **38** (1998), *no.* 3, 379–402; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 3, 291–308 (1999). (Vladislav Goldberg) **99m:51030** 51N15 (53A20)

Zubelli, Jorge P. (*with* Magri, Franco; Pedroni, Marco) On the geometry of Darboux transformations for the KP hierarchy and its connection with the discrete KP hierarchy. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 305–325. (Naruyoshi Asano) **99b:35185** 35Q53 (58F07, 58F37)

— (*with* Casati, Paolo; Falqui, Gregorio; Magri, Franco; Pedroni, Marco) Darboux transformations and Darboux coverings: some applications to the KP hierarchy. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 45–65. (C. Rogers) **99m:58173** 58F37 (35A30, 35Q53, 58F07)

— *see also* **Workshop: Partial Differential Equations: Theory, Computation, and Applications, 99g:35006**

Zuber, Irina E. Stabilization of nonlinear systems by similarity transformations. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 519–526. (Peng Shi) **99j:93089** 93D15 (34H05)

Zuber, Jacques (*with* Diebolt, Jean) Goodness-of-fit tests for nonlinear heteroscedastic regression models. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 1, 53–60. (Summary) **99i:62102** 62G10

Zuber, Jean-Bernard (*with* Loesch, S.; Zhou, Yu Kui) Identities in representations of the Hecke algebra. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 24, 4425–4443. (Yasuyuki Kawahigashi) **99f:81072** 81R05 (20C99, 82B23)

— Generalized Dynkin diagrams and root systems and their folding. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 453–493, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Saeid Azam) **99i:17009** 17B20 (05C25, 20F55)

— (*with* Behrend, Roger E.; Pearce, Paul A.; Petkova, Valentina B.) On the classification of bulk and boundary conformal field theories. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 163–166. (Isabel P. Ennes) **99m:81214** 81T40 (81R10)

berlanga Zubiaga, Ricardo *see* **Berlanga Zubiaga, Ricardo**

Zubik-Kowal, Barbara Convergence of the method of lines for parabolic differential-functional equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 663–668, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:65127** 65M20

— The line method for impulsive functional partial differential equations of first order. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 111–128. (Emil Ivanov Minchev) **99i:65097** 65M20 (35R10)

— (*with* Kamont, Z.) Numerical methods for impulsive partial differential equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 29–51. (Emil Ivanov Minchev) **99i:65087** 65M06 (35R10, 65Q05)

— The method of lines for first order partial differential-functional equations. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 4, 413–428. (Muthusamy Vanninathan) **99i:65136** 65N40 (35R10, 65M20)

Zubkov, A. I. (*with* Vinogradov, Yu. A.; Panov, Yu. A.) Supersonic flow around two sequential obstacles. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 4, 103–106. 76J20

Zubov, A. G. (*with* Novikov, P. V.; Petrov, A. I.) On the problem of estimating periodic perturbations. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997,** *no.* 4, 21–28. 93E10 (93E12)

Zubov, Leonid M. (*with* Rudev, A. N.) On the instability of a nonlinearly elastic beam under tension. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 786–798; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 777–788. (Summary) **99c:73035** 73H05 (73C50, 73K05)

— ★ Nonlinear theory of dislocations and disclinations in elastic bodies. (English summary) Translated from the Russian by S. I. Moiseenko. Lecture Notes in Physics. New Series m: Monographs, 47. *Springer-Verlag, Berlin*, 1997. vi+205 *pp. ISBN* 3-540-62684-0 (Dimitris C. Lagoudas) **99a:73045** 73C50 (73C99)

— (*with* Rudev, A. N.) On the canonical representation of the deviator of a symmetric tensor. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 1, 44–47; *translation in Dokl. Phys.* **43** (1998), *no.* 1, 38–41. (Stan Chiriță) **99a:73006** 73B05

— (*with* Nikitin, E. S.) Conservation laws and conjugate solutions in the elasticity of simple materials and materials with couple stress. (English summary) *J. Elasticity* **51** (1998), *no.* 1, 1–22. (Summary) **99h:73003** 73B25

Zubov, N. V. (*with* Zubov, S. V.) ★ Математические методы стабилизации динамических систем. (Russian. Russian summary) [Mathematical methods for the stabilization of dynamical systems] *Izdatel'stvo Sankt-Peterburgskogo Universiteta, St. Petersburg*, 1996. 288 *pp. ISBN* 5-288-01255-5 (È. G. Al'brekht) **99f:93002** 93-02 (34Dxx, 34H05, 93C10, 93C15, 93D15)

Zubov, S. V. (*with* Zubov, N. V.) ★ Математические методы стабилизации динамических систем. (Russian. Russian summary) [Mathematical methods for the stabilization of dynamical systems] *Izdatel'stvo Sankt-Peterburgskogo Universiteta, St. Petersburg*, 1996. 288 *pp. ISBN* 5-288-01255-5 (È. G. Al'brekht) **99f:93002** 93-02 (34Dxx, 34H05, 93C10, 93C15, 93D15)

— Computational stability of solutions of systems of differential equations. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 79–89, 245–246, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 34D20

Zubov, V. I. Conservative numerical methods for the integration of differential equations in nonlinear mechanics. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 4, 446–448. (From the text) **99k:34024** 34A45 (65L06, 70–08, 70H05)

— On optimal profiles under low angles of attack in a supersonic gas flow. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 88–96; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 83–91. (Summary) **99c:76062** 76J20

Žubrinić, Darko (*with* Mitrović, Dragiša) ★ Fundamentals of applied functional analysis. (English summary) Distributions—Sobolev spaces—nonlinear elliptic equations. Pitman Monographs and Surveys in Pure and Applied Mathematics, 91. *Longman, Harlow*, 1998. x+399 *pp. ISBN* 0-582-24694-6 (J. Horváth) **99f:46001** 46–01 (35Jxx, 46N20, 47–01, 47F05)

— (*with* Čižmešija, Aleksandra; Pečarić, Josip) On Levin's generalization of Carleman's inequalities. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 473–481. (Feng Qi) **99k:26023** 26D15

Zu Castell, Wolfgang *see* **zu Castell, Wolfgang**

Zucca, Elena (*with* Ancona, Davide) An algebra of mixin modules. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 92–106, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68N15

— (*with* Cerioli, Maura) Implementation of derived programs (almost) for free. *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 141–155, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

— (*with* Ancona, Davide) A theory of mixin modules: basic and derived operators. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 4, 401–446. (Summary) **99d:68036** 68N15 (68Q55)

Zucca, Fabio (*with* Barchielli, Alberto) On a class of stochastic differential equations used in quantum optics. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 355–376

(1998). (Kalyanapuram R. Parthasarathy) **99g:81108** 81S25 (60H10, 81V80)
— (*with* Barchielli, Alberto; Paganoni, A. M.) On stochastic differential equations and semigroups of probability operators in quantum probability. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 69–86. (Summary) **99k:81138** 81S20 (47D06, 47N50, 60H10, 81P15)
Zucca, P. (*with* Tamburini Bellani, Maria Chiara) Generation of certain matrix groups by three involutions, two of which commute. *J. Algebra* **195** (1997), *no.* 2, 650–661. (John S. Wilson) **99b:20029** 20D06 (20F05)
Zuccalá, Norberto A. (*with* Chimento, Luis P.) Semi-classical cosmological models with scalar, Dirac and electromagnetic fields. (English summary) *Astrophys. Space Sci.* **254** (1997), *no.* 1, 37–49. (Dmitri V. Vassilevich) **99b:83042** 83C47 (83C15)
Zuccante, Rita (*with* Doplicher, Sergio; Pinzari, Claudia) The C^*-algebra of a Hilbert bimodule. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 263–281. (Michael Frank) **99i:46040** 46L05 (46H25)
Zuccherato, Robert (*with* Müller, Volker[2]; Vanstone, Scott A.) Discrete logarithm based cryptosystems in quadratic function fields of characteristic 2. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 159–178. (Thomas W. Cusick) **99c:94033** 94A60 (11T71)
Zucconi, Francesco Surfaces with canonical map of degree three and $K^2 = 3p_g - 5$. *Osaka J. Math.* **34** (1997), *no.* 2, 411–428. (Caryn Werner) **99c:14010** 14C20 (14J25)
— A note on a theorem of Horikawa. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 277–295. (Caryn Werner) **99a:14045** 14J10 (14J29)
Zucker, David M. Restricted mean life with covariates: modification and extension of a useful survival analysis method. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 702–709. (Per Kragh Andersen) **99h:62044** 62G05 (62N05)
Zucker, I. J. (*with* Joyce, G. S.; Delves, R. T.) Exact evaluation of the Baxter-Bazhanov Green function. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1781–1790. (M. Lawrence Glasser) **99g:33011** 33C20 (30E05, 82B20)
— (*with* Joyce, G. S.; Delves, R. T.) On the evaluation of the integral $\int_0^{\pi/4} \ln(\cos^{m/n}\theta \pm \sin^{m/n}\theta)d\theta$. (English summary) *Ramanujan J.* **2** (1998), *no.* 3, 317–326. (Summary) **99g:26019** 26A36
Zucker, Y. Block Toeplitz operators with rational symbol analytic at infinity. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 2, 246–254. (Daniel Alpay) **99e:47035** 47B35 (47N70, 93B28)
Zuckerman, David (*with* Winkler, Peter M.) Multiple cover time. *Random Structures Algorithms* **9** (1996), *no.* 4, 403–411. (Mark R. Jerrum) **99c:60153** 60J15 (05C99, 60C05)
— (*with* Linial, Nathan; Luby, Michael G.; Saks, Michael E.) Efficient construction of a small hitting set for combinatorial rectangles in high dimension. (English summary) *Combinatorica* **17** (1997), *no.* 2, 215–234. (E. Rodney Canfield) **99d:68115** 68Q25 (68Q15)
— Randomness-optimal oblivious sampling. (English summary) Proceedings of the Workshop on Randomized Algorithms and Computation (Berkeley, CA, 1995). *Random Structures Algorithms* **11** (1997), *no.* 4, 345–367. (Hsien-Kuei Hwang) **99a:68062** 68Q05 (65C10, 68Q15)
— (*with* Kushilevitz, Eyal; Mansour, Yishay; Rabin, Michael O.) Lower bounds for randomized mutual exclusion. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1550–1563 (*electronic*). (Julian Padget) **99h:68066** 68Q22 (60J10, 68Q10, 68Q25)
Zuckerman, Gregg J. (*with* Lian, Bong H.) Algebraic and geometric structures in string backgrounds. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 323–335, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81257** 81T70 (17B56, 81R10, 81T30)
— (*with* Kimura, Takashi[2]; Voronov, Alexander A.) Homotopy Gerstenhaber algebras and topological field theory. (English summary) *Operads: Proceedings of Renaissance Conferences* (*Hartford, CT/Luminy*, 1995), 305–333, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (J. P. C. Greenlees) **99c:58028** 58D29 (14H10, 18D99, 55U35)
— (*with* Brylinski, Jean-Luc) The outer derivation of a complex Poisson manifold. (English summary) *J. Reine Angew. Math.* **506** (1999), 181–189. (Johannes Huebschmann) **99k:58064** 58F05 (32S65)
Zudilin, V. V. On the algebraic structure of function matrices of a special form. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 851–860, 959; *translation in Math. Notes* **60** (1996), *no.* 5-6, 642–648 (1997). (Eugene M. Matveev) **99d:11077** 11J91 (11J82)
— On the measure of linear and algebraic independence of values of entire hypergeometric functions. (Russian) *Mat. Zametki* **61** (1997), *no.* 2, 302–304; *translation in Math. Notes* **61** (1997), *no.* 1-2, 246–248. (Eugene M. Matveev) **99f:11088; EA 99m** 11J82 (11J91)
— Recurrent sequences and the measure of irrationality of values of elliptic integrals. (Russian) *Mat. Zametki* **61** (1997), *no.* 5, 785–789; *translation in Math. Notes* **61** (1997), *no.* 5-6, 657–661. (Eugene M. Matveev) **99c:11092** 11J82 (11J89)
— Difference equations and the irrationality measure of numbers. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 165–178. (Eugene M. Matveev) **99g:11090** 11J82
Zuffi, Edna M. (*with* Bergamasco, Adalberto P.) On global hypoellipticity on the torus. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 2, 319–327. (A. Alexandrou Himonas) **99a:35028** 35H05 (35S05)
Zufiria, Pedro J. Learning in neural networks for identification and control of nonlinear dynamical systems. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 93B30 (93E12)
Zuidwijk, R. A. (*with* Bart, Harm; Kroon, Leo G.) Quasicomplete factorization and the two machine flow shop problem. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 195–219. (Jacek Błażewicz) **99j:90036** 90B35
— (*with* Bart, Harm) Simultaneous reduction to triangular forms after extension with zeroes. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 105–135. (Rafael Canto) **99f:15014** 15A21 (15A23)
van Zuijlen, M. C. A. (*with* Dzhaparidze, K. O.) Introduction to option pricing in a securities market. I. Binary models. (English summary) Mathematics of finance, Part I. *CWI Quarterly* **9** (1996), *no.* 4, 319–355. (Jostein Paulsen) **99a:90035** 90A09
— (*with* Pap, G.) Asymptotic properties of nearly unstable multivariate AR processes. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 11–19. (Summary) **99i:62215** 62M10
Zuily, Claude (*with* Robbiano, Luc) Uniqueness in the Cauchy problem for operators with partially holomorphic coefficients. *Invent. Math.* **131** (1998), *no.* 3, 493–539. (Masafumi Yoshino) **99e:35004** 35A20 (35A10)
Żuk, Andrzej On the norms of the random walks on planar graphs. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 5, 1463–1490. (Vadim A. Kaĭmanovich) **99g:60127** 60J15 (05B45, 52C20)
— (*with* Béguin, Cédric; Valette, Alain) On the spectrum of a random walk on the discrete Heisenberg group and the norm of Harper's operator. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 4, 337–356. (Nobuaki Obata) **99e:60025** 60B15 (39A70, 60J15)
Zukowski, Charles Albert (*with* Gristede, George Diedrich; Ruehli, Albert E.) Convergence properties of waveform relaxation circuit simulation methods. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 726–738. (Summary) **99c:94067** 94C05
Żukowski, Marek (*with* Popescu, Sandu; Hardy, Lucien) Revisiting Bell's theorem for a class of down-conversion experiments. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 6, *R*4353–*R*4356. (Summary) **99f:81030** 81P15
— (*with* Zeilinger, Anton; Horne, Michael A.; Weinfurter, Harald) Independent photons and entanglement. A short overview. (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 501–517. (*see* **99k:00032**) 81P99
Zukowski, Ulrich (*with* Brass, Stefan; Freitag, Burkhard) Improving the alternating fixpoint: the transformation approach. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 40–59, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68034** 68N17
Zulyarkina, N. D. Cyclic TI-subgroups of order 4 in classical Chevalley groups of odd characteristic [translation of *Trudy Instituta Matematiki, Vol. 30*, 89–110, Izdat. Ross. Akad. Nauk, Sibirsk. Otdel., Inst. Mat. Novosibirsk, 1996]. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 2, 122–150. (Donald L. White) **99h:20080** 20G40
Zumbrun, Kevin (*with* Lyons, Russell) Normality of tree-growing search strategies. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 112–130. (István Ratkó) **99d:68057** 68P10 (60F10)
— (*with* Sternberg, Peter) Connectivity of phase boundaries in strictly convex domains. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 4, 375–400. (Rustum Choksi) **99c:49045** 49Q20 (49J10, 73B30)
— (*with* Gardner, Robert A.) The gap lemma and geometric criteria for instability of viscous shock profiles. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 7, 797–855. (Roberto Natalini) **99c:35152** 35L67 (34C99, 35B35, 35L65, 58F39)
— (*with* Howard, Peter) Pointwise semigroup methods and stability of viscous shock waves. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 741–871. (Roberto Natalini) **99m:35157** 35L67 (35B35, 35L65, 47D06, 47N20)
— (*with* Sternberg, Peter) A Poincaré inequality with applications to volume-constrained area-minimizing surfaces. (English summary) *J. Reine Angew. Math.* **503** (1998), 63–85. (Silvano Delladio) **99g:58028** 58E12 (49Q05)
Zumbusch, Gerhard (*with* Griebel, Michael) Hash-storage techniques for adaptive multilevel solvers and their domain decomposition parallelization. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 271–278, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65Y05 (65N06, 65N50, 65N55)
Zumino, Bruno (*with* Chu, Chong-Sun; Ho, Pei-Ming) Some complex quantum manifolds and their geometry. *Quantum fields and quantum space time* (*Cargèse*, 1996), 281–322, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Tomasz Brzeziński) **99c:58012** 58B30 (17B37, 81R50)
Zumpano, Antônio Infinite type homeomorphisms of the circle and convergence of Fourier series. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4023–4040. (Eduard Belinskiĭ) **99b:42008** 42A28 (43A20)
nguyen tien Zung *see* **Nguyen Tien Zung**
Žunić, Joviša D. (*with* Acketa, Dragan M.; Matić-Kekić, Snežana) Limitations for the non-symmetric part of lattice convex n-gons with minimum L_∞ diameter. (English summary) *Filomat No.* 11 (1997), 19–28. (Rade Živaljević) **99c:52015** 52B20 (52A40, 52B55, 52C05)
— A parametrization of digital paraboloids by least square fits. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 71–81. (Summary) **99h:65244** 65Y25 (52B55, 68T10)
— Notes on optimal convex lattice polygons. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 4, 377–385. (Béla Uhrin) **99k:11102** 11H06 (52C05)
— Limit shape of convex lattice polygons having the minimal L_∞ diameter w.r.t. the number of their vertices. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 245–254. (Pavel Valtr) **99j:52017** 52C05
— (*with* Sladoje, Nataša) A reconstruction of digital parabolas from their least squares fit representation. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 273–287. 65Y10 (68U10)
ruiz Zúñiga, Ángel *see* **Ruiz Zúñiga, Ángel**
ovando Zúñiga, Gerardo *see* **Ovando Zúñiga, Gerardo**
Zúñiga, Roberto Salas (*with* Poznyak, A. S.) Information inequalities and limiting possibilities of adaptive control strategies in ARX models with a general quadratic criterion. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 1, 22 *pp.* (*electronic*). (Summary) **99h:93110** 93E12
ramos Zuñiga, Zenaida E. *see* **Ramos Zuñiga, Zenaida E.**
Zúñiga-Galindo, W. A. Zeta functions of singular curves over finite fields. (English summary) *Rev. Colombiana Mat.* **31** (1997), *no.* 2, 115–124. (Barry W. Green) **99m:14042** 14G10 (11G20, 14G15)
Zúñiga-Segundo, A. (*with* Torres-Vega, Go.; Morales-Guzmán, J. D.) Special functions in phase space: Mathieu functions. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6725–6739. (Bing Hong Wang) **99i:81084** 81R30 (33E10, 81S30)
Zuo, Guang Ji The indexes of convergence of line digraphs. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 144–147. (Summary) **99a:05061** 05C20
Zuo, Jian (*with* Gui, Yuan-Xing) Why no analytic continuation connects real-time and imaginary-time thermal propagators. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 537–543. (Dmitri V. Vassilevich) **99m:81276** 81T99 (83C47)

Zuo, Kang[1] (*with* Jost, Jürgen) Harmonic maps of infinite energy and rigidity results for representations of fundamental groups of quasiprojective varieties. (English summary) *J. Differential Geom.* **47** (1997), *no.* 3, 469–503. (Raul Quiroga) **99a:58046** 58E20 (53C20)

Zuo, Qiang (*with* Nguyen, Hung T.; Kreinovich, Vladik) Interval-valued degrees of belief: applications of interval computations to expert systems and intelligent control. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 317–358. (Summary) **99f:68189** 68T27 (03B48, 03B70, 68T35)

Zuo, Quan Ru (*with* Lin, Bo) Fermat points of finite point sets in metric spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 359–364. 51K05 (54E35)

Zuo, Wan Li (*with* Wang, La Zhu; Tang, Ze Sheng) A theorem for curved surface conversion. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 3, 16–19. 65D17

Zuo, Xiao Bo (*with* Ruan, Guo Zhen) The optimality conditions and fundamental properties of linear multilevel programming problems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 159–166. 90C08 (90C29)

Zuo, Zai Si (*with* Shen, Wen Huai) Semilocalization of epimorphisms and monomorphisms in homotopy theory. (English summary) *Topology Appl.* **88** (1998), *no.* 3, 207–217. (Kathryn P. Hess) **99e:55018** 55P60

Zuo, Zheng (*with* Hu, Shi Min; Yuan, Bo; Sun, Jia Guang) A subdivision theorem for tensor product Bézier surfaces on a rectangular domain. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 25–27. 65D17 (41A63)

Zupan, Blaž (*with* Bohanec, Marko; Demšar, Janez; Bratko, Ivan) Learning by discovering concept hierarchies. (English summary) *Artificial Intelligence* **109** (1999), *no.* 1-2, 211–242. 68T05

Zupnik, B. M. Dynamical analyticity in dual formulation of the harmonic-superfield gauge theory. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 407–410, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T60 (81T13)

— New formulation of $N = 2$ harmonic-superspace gauge theory and dynamical analyticity equation. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 642–645, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T60 (81T13)

— Alternative formulations of $N = 2$ supersymmetric gauge theory in harmonic superspace. (English summary) *Supersymmetry and quantum field theory (Kharkov, 1997)*, 157–160, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 81T60 (81T13)

— (*with* Ivanov, Evgeniĭ Alekseevich[2]; Ketov, Sergei V.) Induced hypermultiplet self-interactions in $N = 2$ gauge theories. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 53–82. (Summary) **99k:81310** 81T60 (81T13)

Żurakowski, Dariusz (*with* Waszak, Aleksander) Musielak-Orlicz spaces of sequences connected with strong summability. (English summary) *Fasc. Math. No.* 28 (1998), 157–165. (D. Somasundaram) **99m:40012** 40F05 (40D25, 40H05, 46A45)

Zurek, Wojciech Hubert (*with* Shizume, Kousuke; Habib, Salman) ·Chaos, noise and the quantum-classical correspondence. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 159–169. (*see* **99b:00018**) 81Q50 (58F13)

— (*with* Habib, Salman; Shizume, Kousuke) Decoherence, chaos, and the correspondence principle. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 20, 4361–4365. (Summary) **99a:81010** 81P05 (58F40, 81Q50, 81S30)

— Decoherence, einselection and the existential interpretation (the rough guide). (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1793–1821. (Summary) **99e:81015** 81P05

— (*with* Laflamme, R.; Knill, Emanuel; Catasti, P.; Mariappan, S. V. S.) NMR Greenberger-Horne-Zeilinger states. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1941–1948. (V. Ya. Kreinovich) **99m:81036** 81P99 (68Q75, 81-05, 81P05)

— (*with* Paz, Juan Pablo) Continuous error correction. (English summary) Quantum coherence and decoherence (Santa Barbara, CA, 1996). *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1969, 355–364. (Kotik K. Lee) **99m:94066** 94B60

— *see also* **Quantum coherence and decoherence, 99h:81007**

Zurita, J. M. (*with* Castro, J. L.) A heuristic in rules based systems for searching of inconsistencies. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 135–148. (Summary) **99e:68154** 68T35

— (*with* Castro, J. L.; Castro-Schez, J. J.) Learning maximal structure rules in fuzzy logic for knowledge acquisition in expert systems. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 331–342. 68T35 (03B52, 68T05)

Zuther, Jörg Ends in digraphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 225–244. (Sheshayya A. Choudum) **99f:05051** 05C20 (05C38, 06A07)

de Zutter, Daniel *see* **De Zutter, Daniel**

Zvan, R. (*with* Forsyth, P. A.; Vetzal, K. R.) Penalty methods for American options with stochastic volatility. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 199–218. (Summary) **99b:90025** 90A09 (65N30)

Zvengrowski, Peter (*with* Sankaran, Parameswaran) Stable parallelizability of partially oriented flag manifolds. II. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1323–1339. (R. E. Stong) **99a:57024** 57R15 (55N15, 57R25)

— Recent progress in the topology of projective Stiefel manifolds. (English summary) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 289–297. (Donald M. Davis) **99e:57041** 57R25 (55R25)

Zverovich, È. I. On solvability conditions for linear equations. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 63–65, 77. (Š. Schwabik) **99k:47025** 47A50 (45A05)

Zverovich, Igor E. (*with* Mel′nikov, O. I.; Sarvanov, V.; Tyshkevich, Regina I.; Emelichev, V. A.) ★ Exercises in graph theory. (English summary) Translated from the Russian by Nikolai Korneenko. Kluwer Texts in the Mathematical Sciences, 19. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *viii+354 pp. ISBN* 0-7923-4906-7 (From the introduction) **99c:05001** 05-01

— Proof of a conjecture in domination theory. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 297–298. (Summary) **99a:05081** 05C35

Zverovich, Vadim E. (*with* Tyshkevich, Regina I.) Line hypergraphs: a survey. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 209–222. (Nigel Martin) **99j:05149** 05C65

— (*with* Gutin, Gregory) Upper domination and upper irredundance perfect graphs. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 95–105. (Gary MacGillivray) **99g:05153** 05C75

Zvetkov, Zoran (*with* Popenda, Jerzy; Radicheva, Elena; Gruncharov, Lyuben) Growth estimates for solution of difference equation. (English summary) *Applications of mathematics in engineering (Sozopol, 1997)*, 200–202, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 39A10

Zvonkin, Alexander (*with* Adrianov, Nikolai) Composition of plane trees. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 239–245. (Theresa P. Vaughan) **99h:05026** 05C10 (12E10)

— How to draw a group? (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 403–413. (D. F. Holt) **99b:05079** 05C25 (05C10, 20B05, 20B40)

Zvonkine, Dimitri Configuration spaces of hinge constructions. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 247–266 (1998). (Robert Connelly) **99c:52034** 52C25 (58D99, 70B15, 70G25)

Zvyagin, V. G. (*with* Dmitrienko, V. T.) The topological degree method for equations of the Navier-Stokes type. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 1–45. (Ivan Straškraba) **99k:35142** 35Q30 (35K99, 47H11, 47N20, 76D05)

— On the set of critical values of potential Fredholm functionals. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 133–135; *translation in Math. Notes* **63** (1998), *no.* 1-2, 118–120. (Pando Georgiev) **99f:58036** 58E05 (47H99, 58C25)

Zvyagintsev, A. I. On exact inequalities for the derivatives of functions that satisfy the boundary conditions. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 712–724; *translation in Math. Notes* **62** (1997), *no.* 5-6, 596–606 (1998). (Jerzy Popenda) **99i:26019** 26D10

Zwara, Grzegorz Degenerations for modules over representation-finite biserial algebras. *J. Algebra* **198** (1997), *no.* 2, 563–581. (Otto Kerner) **99d:16016** 16G70 (14L30, 16G10)

— (*with* Skowroński, Andrzej) Degenerations for indecomposable modules and tame algebras. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 2, 153–180. (Ibrahim Assem) **99k:16032** 16G20 (16G60, 16G70)

— Degenerations for modules over representation-finite selfinjective algebras. *Colloq. Math.* **75** (1998), *no.* 1, 91–95. (Otto Kerner) **99d:16017** 16G70 (14L30, 16G10)

— Degenerations for representations of extended Dynkin quivers. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 1, 71–88. (Lidia Angeleri Hügel) **99b:16021** 16G10 (14L30, 16G70)

— (*with* Skowroński, Andrzej) Degenerations for modules over blocks of group algebras. (English summary) *Manuscripta Math.* **97** (1998), *no.* 2, 143–154. (William H. Gustafson) **99j:20016** 20C20 (16G60, 16S80)

— Degenerations for modules over representation-finite algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1313–1322. (Héctor A. Merklen) **99h:16034** 16G60 (16G70)

Zwart, Gysbert (*with* Hofman, Christiaan; Verlinde, E. P.) U-duality invariance of the four-dimensional Born-Infeld theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 10, *Paper* 20, 10 *pp.* (*electronic*). (C. Gauthier) **99k:81243** 81T30

— Matrix theory on non-orientable surfaces. (English summary) *Phys. Lett. B* **429** (1998), *no.* 1-2, 27–34. (Paulo Moniz) **99j:81162** 81T30

Zwart, H. J. (*with* Curtain, Ruth F.; Logemann, Hartmut; Townley, Stuart) Well-posedness, stabilizability, and admissibility for Pritchard-Salamon systems. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 4, 38 *pp.* (*electronic*). (Joseph A. Ball) **99e:93040** 93C25 (93D15)

— (*with* Kuiper, C. R.) Connections between the algebraic Riccati equation and the Hamiltonian for Riesz-spectral systems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 4, 48 *pp.* (*electronic*). (Martin Weiss) **99k:47037** 47A62 (47N70, 93B27)

— (*with* Hof, M. B.) Zeros of infinite-dimensional systems. Distributed parameter systems: analysis, synthesis and applications, Part 1. *IMA J. Math. Control Inform.* **14** (1997), *no.* 1, 85–94. (Introduction) **99a:93055** 93C25 (93B28, 93B55)

— (*with* Rebarber, Richard) Open-loop stabilizability of infinite-dimensional systems. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 2, 129–160. (Elena De Santis) **99g:93075** 93D15 (93C25)

— (*with* Jacob, Birgit; Larsen, Mikael) Corrections and extensions of: "Optimal control of linear systems with almost periodic inputs" [SIAM J. Control Optim. **25** (1987), no. 4, 1007–1019; MR 88i:93042] by G. Da Prato and A. Ichikawa. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1473–1480 (*electronic*). (Summary) **99d:49064** 49N20 (93C15)

— (*with* Weiss, George) An example in linear quadratic optimal control. (English summary) *Systems Control Lett.* **33** (1998), *no.* 5, 339–349. (Olof J. Staffans) **99c:49035** 49N10 (49K27, 93B28)

Zweifel, Paul F. (*with* Lange, Horst R.) Mixed boundary-value problems for the two-dimensional Schrödinger-Poisson system. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 283–297. (Reinhard Illner) **99a:82059** 82C10 (35Q55)

— (*with* Toomire, Bruce) Boundary conditions in quantum transport theory. (English summary) Proceedings of the International Conference on Latest Developments and Fundamental Advances in Radiative Transfer (Los Angeles, CA, 1996). *Transport Theory Statist. Phys.* **26** (1997), *no.* 4-5, 629–636. (Luisa Arlotti) **99a:82087** 82C70

— (*with* Lauro, Giuliana) Some comments on Case eigenfunctions. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 6, 727–735. (Summary) **99a:82086** 82C70 (45E05)

— (*with* Toomire, Bruce) Quantum transport theory. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 347–359. (Summary) **99d:82066** 82C70

Zweimüller, Roland Ergodic structure and invariant densities of non-Markovian interval maps with indifferent fixed points. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1263–1276. (Volker Matthias Gundlach) **99e:58125** 58F11 (26A18, 28D05)

van Zwet, Willem R. (*with* Putter, Hein) Empirical Edgeworth expansions for symmetric statistics. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1540–1569. (Zuzana

Prášková) **99k:62036** 62E20 (60F05, 62G09)

Zwick, Uri Approximation algorithms for constraint satisfaction problems involving at most three variables per constraint. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 201–210, *ACM, New York*, 1998. (*see* **99d:68011**) 90C30 (68Q25, 68T20)

— (*with* Nayak, Ashwin; Sinclair, Alistair) Spatial codes and the hardness of string folding problems (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 639–648, *ACM, New York*, 1998. (Summary) **99d:68118** 68Q25 (92D20)

Zwicker, William (*with* Felsenthal, Dan S.; Machover, Moshé) The bicameral postulates and indices of a priori voting power. (English summary) *Theory and Decision* **44** (1998), *no.* 1, 83–116. (Pavel Yu. Chebotarev) **99i:90032** 90A28

Zwiebach, Barton Closed-string field theory: an introduction. *Gravitation et quantifications (Les Houches, 1992)*, 647–678, *North-Holland, Amsterdam*, 1995. (Editors) **99c:81216** 81T30 (81T70)

— New moduli spaces from string background independence consistency conditions. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 3, 507–540. (Summary) **99a:81159** 81T30 (32G15, 32G81, 81T70)

— Building string field theory around non-conformal backgrounds. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 3, 541–572. (Summary) **99a:81160** 81T30 (32G15, 32G81, 81T70)

— (*with* Gaberdiel, Matthias R.) Tensor constructions of open string theories. I. Foundations. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 569–624. (Summary) **99m:81185a** 81T30 (81T70)

— (*with* Vafa, Cumrun) $N = 1$ dualities of SO and USp gauge theories and T-duality of string theory. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 143–156. (C. Gauthier) **99c:81249** 81T60 (81T13, 81T30)

— (*with* Gaberdiel, Matthias R.) Tensor constructions of open string theories. II. Vector bundles, D-branes and orientifold groups. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 151–159. (Summary) **99m:81185b** 81T30 (81R10, 81T70)

— (*with* Quiroz-Pérez, Norma) A brief introduction to duality and D-branes. (English summary) *Particles and fields (Morelia, 1997)*, 279–294, *AIP Conf. Proc.*, **445**, *Amer. Inst. Phys., Woodbury, NY*, 1998. (C. Gauthier) **99m:81208** 81T30 (81–02)

— Oriented open-closed string theory revisited. (English summary) *Ann. Physics* **267** (1998), *no.* 2, 193–248. (Hitoshi Nishino) **99i:81207** 81T30 (32G81, 81T70, 83E30)

— (*with* Gaberdiel, Matthias R.; Hauer, Tamás) Open string-string junction transitions. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 117–145. (Summary) **99i:81181** 81T30

— (*with* DeWolfe, Oliver; Hauer, Tamás; Iqbal, Amer) Constraints on the BPS spectrum of $\mathcal{N} = 2$, $D = 4$ theories with ADE flavor symmetry. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 261–274. (Summary) **99i:81229** 81T60 (81T13, 81T30)

Zwiesler, H. J. Consequences of the meromorphic equivalence of standard matrix differential equations. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 613–630. (Donald A. Lutz) **99d:34015** 34A20 (12H20, 34A30)

Zwirchmayr, Alexander (*with* Schmeiser, Christian) Elastic and drift-diffusion limits of electron-phonon interaction in semiconductors. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 37–53. (Summary) **99a:82102** 82D99 (45K05)

— (*with* Schmeiser, Christian) Convergence of moment methods for linear kinetic equations. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 74–88 (*electronic*). (Ester Gabetta) **99k:82065** 82C40 (65M99, 76M25, 76X05, 82–08)

Zwonek, Włodzimierz (*with* Edigarian, Armen) Invariance of the pluricomplex Green function under proper mappings with applications. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 4, 367–380. (Summary) **99d:32017** 32F05 (32H15, 32H35)

— (*with* Edigarian, Armen) On a symmetric pluricomplex Green function. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 35–40. (Marek Jarnicki) **99d:32031** 32H15 (32F05)

— On an example concerning the Kobayashi pseudodistance. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2945–2948. (John Bland) **99a:32032** 32H15

— On hyperbolicity of pseudoconvex Reinhardt domains. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 4, 304–314. (Marek Jarnicki) **99m:32027** 32H20 (32A07, 32H15)

Zworski, Maciej (*with* Melrose, Richard B.; Sá Barreto, Antônio) Semi-linear diffraction of conormal waves. (English and French summaries) *Astérisque* **1996**, *no.* 240, *vi*+132 *pp.* (1997). (Jean-Marc Delort) **99f:35136** 35L70 (58G17)

— (*with* Tang, Siu-Hung) From quasimodes to reasonances. *Math. Res. Lett.* **5** (1998), *no.* 3, 261–272. (B. Hellwig) **99i:47088** 47F05 (35P05)

Zyablov, Viktor V. (*with* Bossert, M.; Breitbach, Markus; Sidorenko, Vladimir) Codes that correct multiple burst errors or erasures. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 15–25; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 297–306 (1998). (Summary) **99d:94039** 94B20

— (*with* Höst, Stefan; Johannesson, Rolf; Zigangirov, Kamil Sh.) Active distances for convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 658–669. (Summary) **99k:94050** 94B10

Zybkin, K. P. (*with* Gurevich, Aleksandr Viktor; Él′, G. A.) Development of stochastic oscillations in a one-dimensional dynamical system described by the Korteweg-de Vries equation. *J. Experiment. Theoret. Phys.* **88** (1999), *no.* 1, 182–195; *translated from Zh. Éksper. Teoret. Fiz.* **115** (1999), *no.* 1, 333–360 (*Russian*). (Summary) **99k:35155** 35Q53 (35R60, 60H15)

Życzkowski, Karol (*with* Poźniak, Marcin; Kuś, Marek) Composed ensembles of random unitary matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1059–1071. (Alexei Khorunzhy) **99g:82032** 82B41 (15A52, 60G57, 65U05)

— (*with* Słomczyński, Wojciech) The Monge distance between quantum states. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9095–9104. (Laurence Nedelec) **99k:81168** 81S99

— (*with* Horodecki, Pawel; Sanpera, Anna; Lewenstein, Maciej) Volume of the set of separable states. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 883–892. (Summary) **99d:81011** 81P05

Życzkowski, Michał A family of efficient extrapolation formulae and their application in mechanics. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 4, 733–753. 65N35 (65D15)

— Discontinuous bifurcations in the case of the Burzyński-Torre yield condition. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 19–35. (Summary) **99g:73049** 73E05

Zydiak, James L. (*with* Güder, Faruk) Ordering policies for multi-item inventory systems subject to multiple resource constraints. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 6, 583–597. (Peter Köchel) **99m:90056** 90B05

Zygmund, Antoni *see* **Stein, Elias M., 99f:42002**

Zylka, Ch. (*with* Kästner, J.; Borobia, Alberto; Dress, Andreas W. M.) Extremal majorizing and anti-majorizing matrices. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 133–145. (Werner Kratz) **99f:15025** 15A39 (15A90)

Zyryanov, V. N. (*with* Sokolovskiĭ, M. A.; Davies, Peter A.) On the influence of an isolated submerged obstacle on a barotropic tidal flow. (English summary) *Geophys. Astrophys. Fluid Dynam.* **88** (1998), *no.* 1-2, 1–30. 76C99 (86A05)

Key Index

25 years of high level technical education in Arad ★ 25 years of high level technical education in Arad. Vol. I. Mathematics. Proceedings of the 4th Scientific Communications Meeting held at "Aurel Vlaicu" University of Arad, Arad, October 30–31, 1997. Edited by Gheorghe Halic and Gabriela Cristescu. *Universitatea "Aurel Vlaicu" din Arad, Arad*, 1997. 180 *pp. ISBN* 973-98365-0-X (Editors) **99i:00014** 00B25

75 Jahre GAMM ★ 75 Jahre GAMM. (German) [75 years of GAMM] Edited by R. Mennicken. Mitt. Ges. Angew. Math. Mech. **20** (1997), no. 2. *Akademie Verlag, Berlin*, 1997. *pp. i–xiv and* 1–83. (Editors) **99f:01027** 01A74 (01A70, 01A80)

75 years of GAMM ★ 75 Jahre GAMM. (German) [75 years of GAMM] Edited by R. Mennicken. Mitt. Ges. Angew. Math. Mech. **20** (1997), no. 2. *Akademie Verlag, Berlin*, 1997. *pp. i–xiv and* 1–83. (Editors) **99f:01027** 01A74 (01A70, 01A80)

Aachen ★ Clifford algebras and their application in mathematical physics. Papers from the 4th International Conference held in Aachen, May 28–31, 1996. Edited by Volker Dietrich, Klaus Habetha and Gerhard Jank. Fundamental Theories of Physics, 94. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxxii*+441 *pp. ISBN* 0-7923-5037-5 (Editors) **99a:00022** 00B25 (15–06, 30–06, 53A50, 58–06, 81–06)

— ★ Charlemagne and his heritage. 1200 years of civilization and science in Europe. Vol. 2. Mathematical arts. Papers from the International Colloquium held in Aachen, March 19–26, 1995. Edited by P. L. Butzer, H. Th. Jongen and W. Oberschelp in collaboration with J. Bemelmans, W. Dahmen, A. Krieg and W. Plesken. *Brepols Publishers, Turnhout*, 1998. *xxiv*+571 *pp. ISBN* 2-503-50674-7 (Editors) **99i:00015** 00B25 (01–06)

— ★ Analysis of systems of conservation laws. Papers from the 1st Summer Programme of the EU-TMR Network held at the Rheinisch-Westfälische Technische Hochschule, Aachen, August 21–30, 1997. Edited by Heinrich Freistühler. Chapman & Hall/CRC Monographs and Surveys in Pure and Applied Mathematics, 99. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *viii*+261 *pp. ISBN* 0-8493-0644-2 (Editors) **99k:35003** 35–06 (35L65)

Aalborg ★ Approximation algorithms for combinatorial optimization. Proceedings of the International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX'98) held at the University of Aalborg, Aalborg, July 18–19, 1998. Edited by Klaus Jansen and José Rolim. Lecture Notes in Computer Science, 1444. *Springer-Verlag, Berlin*, 1998. *viii*+199 *pp. ISBN* 3-540-64736-8 (Editors) **99i:68002** 68–06 (68Q20, 68Q25, 90C27)

— ★ Automata, languages and programming. Proceedings of the 25th International Colloquium (ICALP'98) held in Aalborg, July 13–17, 1998. Edited by Kim G. Larsen, Sven Skyum and Glynn Winskel. Lecture Notes in Computer Science, 1443. *Springer-Verlag, Berlin*, 1998. *xvi*+932 *pp. ISBN* 3-540-64781-3 (Editors) **99m:68007** 68–06

Aarhus ★ The interplay between insurance, finance and control. Proceedings of the International Workshop held in Aarhus, February 25–March 1, 1997. Insurance Math. Econom. **22** (1998), no. 1. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–vi and* 1–122. (Editors) **99a:90006** 90–06

Abelian groups, module theory, and topology ★ Abelian groups, module theory, and topology. Proceedings of the International Conference on Abelian Groups and Modules held in honor of Adalberto Orsatti's 60th birthday in Padua, 1997. Edited by Dikran Dikranjan and Luigi Salce. Lecture Notes in Pure and Applied Mathematics, 201. *Marcel Dekker, Inc., New York*, 1998. *xviii*+444 *pp. ISBN* 0-8247-1937-9 (Editors) **99f:00028** 00B30 (00B25, 16–06, 20–06, 22–06)

Abisko ★ Matter matters? On the material basis of the cognitive activity of mind. Papers from the workshop held in Abisko, 1993. Edited by Peter Århem, Hans Liljenström and Uno Svedin. *Springer-Verlag, Berlin*, 1997. *x*+269 *pp. ISBN* 3-540-61776-0 (Editors) **99a:92044** 92J99 (92–06, 92B99, 92C20)

Absorbing boundary conditions ★ Absorbing boundary conditions. Papers from the IUTAM Symposium held in July 1997. Edited by Eli Turkel. Appl. Numer. Math. **27** (1998), no. 4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 327–557. (Editors) **99c:65002** 65–06

ACM Symposium:

Computational Geometry ★ ACM Symposium on Computational Geometry. Selected papers from the symposium held in Nice, 1997. Edited by Raimund Seidel. Discrete Comput. Geom. **20** (1998), no. 3. *Springer-Verlag, New York*, 1998. *pp.* 285–404. (Editors) **99d:68241** 68U05 (52B55, 68–06)

— ★ 12th ACM Symposium on Computational Geometry. Selected papers from the Annual Symposium held in Philadelphia, PA, May 24–26, 1996. Edited by Michael T. Goodrich. Comput. Geom. **12** (1999), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–ii and* 1–152. (Editors) **99k:68001** 68–06 (00B25, 68U05)

Parallel Algorithms and Architectures ★ ACM Symposium on Parallel Algorithms and Architectures. Papers from the 8th Symposium held in Padua, June 24–26, 1996. Edited by Robert Cypher, Phillip B. Gibbons and Friedhelm Meyer auf der Heide. Theory Comput. Syst. **31** (1998), no. 4. *Springer-Verlag, New York*, 1998. *pp.* 329–487. (Editors) **99a:68002** 68–06 (68Q10, 68Q22)

— ★ ACM Symposium on Parallel Algorithms and Architectures. Papers from the 8th Symposium held in Padua, June 24–26, 1996. Edited by Susanne E. Hambrusch and Bruce M. Maggs. Theory Comput. Syst. **32** (1999), no. 3. *Springer-Verlag, New York*, 1999. *pp.* 211–420. (Editors) **99m:68004** 68–06 (68M20, 68Q10, 68Q22)

Principles of Database Systems ★ 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems. Selected papers from the symposium held in San Jose, CA, May 22–25, 1995. Edited by Serge Abiteboul. J. Comput. System Sci. **57** (1998), no. 3. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 233–355. (Editors) **99i:68001** 68–06 (68P15)

Theory of Computing ★ 27th Annual ACM Symposium on the Theory of Computing (STOC'95). Selected papers from the symposium held in Las Vegas, NV, May 29–June 1, 1995. Edited by Harold N. Gabow. J. Comput. System Sci. **57** (1998), no. 1. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 1–124. (Editors) **99e:68001** 68–06

Acoustic cavitation and sonoluminescence ★ Acoustic cavitation and sonoluminescence. Edited by J. R. Blake. R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci. **357** (1999), no. 1751. *Royal Society, London*, 1999. *pp.* 199–369. (Editors) **99k:76002** 76–06 (76B10, 76Q05, 78A99)

Acquafredda di Maratea ★ Proceedings of the Third International Conference on Functional Analysis and Approximation Theory. Vol. I. Held in Acquafredda di Maratea, September 23–28, 1996. Rend. Circ. Mat. Palermo (2) Suppl. No. 52, Vol. I (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp. i–xxxii and* 1–407. (Editors) **99d:00027** 00B25 (41–06, 46–06)

— ★ Proceedings of the Third International Conference on Functional Analysis and Approximation Theory. Vol. II. Held in Acquafredda di Maratea, September 23–28, 1996. Rend. Circ. Mat. Palermo (2) Suppl. No. 52, Vol. II (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp. i–xxxii and* 409–820. (Editors) **99d:00028** 00B25 (41–06, 46–06)

Acta numerica ★ Acta numerica. 1996. Edited by A. Iserles. Acta Numerica, 5. *Cambridge University Press, Cambridge*, 1996. *iv*+395 *pp. ISBN* 0-521-57234-7 (Editors) **99a:65003** 65–06

Actualité et universalité de la pensée scientifique d'Adolphe Quetelet ★ Actualité et universalité de la pensée scientifique d'Adolphe Quetelet. (French) [Universality and relevance today of the scientific thought of Adolphe Quetelet] Proceedings of the Colloquium "Quetelet: A Man of Ideas" held in Brussels, October 24–25, 1996, in honor of Adolphe Quetelet on the 200th anniversary of his birth. Acad. Roy. Belg. Cl. Sci. Mém. Collect. 8° (3) **13** (1997). *Académie Royale de Belgique, Brussels*, 1997. *pp.* 1–236. (Editors) **99a:01002** 01–06

Adaptive learning and control using sliding modes ★ Adaptive learning and control using sliding modes. Edited by Xinghuo Yu. Appl. Math. Comput. Sci. **8** (1998), no. 1. *Technical University Press, Zielona Góra*, 1998. *pp.* 1–197. (Editors) **99a:93003** 93–06

Addenda:

"On the relation between a theorem of Picone and the Cesàro-Stolz theorem" Addendum: "On the relation between a theorem of Picone and the Cesàro-Stolz theorem" [Stud. Cerc. Mat. **46** (1994), no. 2, 281–290] by C. Petre. (Romanian) *Stud. Cerc. Mat.* **46** (1994), *no.* 4, 501. 26A06

Advanced mathematical approach to biology ★ Advanced mathematical approach to biology. Edited by T. Hida. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *viii*+306 *pp. ISBN* 981-02-3065-6 (From the preface) **99c:92005** 92B05 (92–06)

Advanced topics in multivariate approximation ★ Advanced topics in multivariate approximation. Proceedings of the 5th International Workshop on Multivariate Approximation and Interpolation held in Montecatini Terme, September 27–October 3, 1995. Edited by F. Fontanella, K. Jetter and P. J. Laurent. Series in Approximations and Decompositions, 8. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xviii*+361 *pp. ISBN* 981-02-2852-X (Editors) **99f:41002** 41–06 (41A63, 42C15, 65D15)

Advances in adaptive computational methods in mechanics ★ Advances in adaptive computational methods in mechanics. Papers from the 3rd Workshop held in Cachan, September 17–19, 1997. Edited by P. Ladevèze and J. T. Oden. Studies in Applied Mechanics, 47. *Elsevier Science B.V., Amsterdam*, 1998. *x*+528 *pp. ISBN* 0-08-043327-8 (Editors) **99d:73001** 73–06 (65–06, 73V05)

Advances in algebra and model theory ★ Advances in algebra and model theory. Papers from the Conferences on Algebra and Model Theory held in Essen, June 9–11, 1994 and Dresden, June 8–10, 1995. Edited by Manfred Droste and Rüdiger Göbel. Algebra, Logic and Applications, 9. *Gordon and Breach Science Publishers, Amsterdam*, 1997. *xii*+499 *pp. ISBN* 90-5699-101-9 (Editors) **99k:00026** 00B25 (03–06, 03C60, 20–06)

Advances in combinatorial optimization ★ Advances in combinatorial optimization. Papers from the conference held at Imperial College, London, 1996. Edited by Y. M. Sharaiha and J. E. Beasley. Ann. Oper. Res. **86** (1999). *Baltzer Science Publishers BV, Bussum*, 1999. *pp. xii and* 1–663. (Editors) **99k:90002** 90–06 (90B35, 90C10, 90C27, 90C35)

Advances in computational electrodynamics ★ Advances in computational electrodynamics. The finite-difference time-domain method. Edited by Allen Taflove. Artech House Antenna Library. *Artech House, Inc., Boston, MA*, 1998. *xxii*+724 *pp. ISBN* 0-89006-834-8 (Editors) **99c:78001** 78–06 (78–08)

Advances in computational mathematics ★ Advances in computational mathematics. Proceedings of the International Symposium on Computational Mathematics held at Zhongshan University, Guangzhou, 1997. Edited by Zhongying Chen, Yuesheng Li, Charles A. Micchelli and Yuesheng Xu. Lecture Notes in Pure and Applied Mathematics, 202. *Marcel Dekker, Inc., New York*, 1999. *xx*+604 *pp. ISBN* 0-8247-1946-8 (Editors) **99g:65002** 65–06

Advances in computing science—ASIAN'97 ★ Advances in computing science—ASIAN'97. Proceedings of the 3rd Asian Computing Science Conference held in Kathmandu, December 9–11, 1997. Edited by R. K. Shyamasundar and K. Ueda. Lecture Notes in Computer Science, 1345. *Springer-Verlag, Berlin*, 1997. *xiv*+387 *pp. ISBN* 3-540-63875-X (Editors) **99b:68001** 68–06

Advances in cryptology—CRYPTO '97 ★ Advances in cryptology—CRYPTO '97. Proceedings of the 17th Annual International Cryptology Conference held in Santa Barbara, CA, August 17–21, 1997. Edited by Burton S. Kaliski, Jr. Lecture Notes in Computer Science, 1294. *Springer-Verlag, Berlin*, 1997. *xii*+540 *pp. ISBN* 3-540-63384-7 (Editors) **99a:94041** 94A60 (94–06)

Advances in cryptology—CRYPTO '98 ★ Advances in cryptology—CRYPTO '98.

Proceedings of the 18th Annual International Cryptology Conference held in Santa Barbara, CA, August 23–27, 1998. Edited by Hugo Krawczyk. Lecture Notes in Computer Science, 1462. *Springer-Verlag, Berlin*, 1998. *xii+519 pp. ISBN* 3-540-64892-5 (Editors) **99i:94059** 94A60 (94–06)

Advances in data science and classification ★ Advances in data science and classification. Papers from the 6th Conference of the International Federation of Classification Societies (IFCS-98) held at Università di Roma "La Sapienza", Rome, July 21–24, 1998. Edited by Alfredo Rizzi, Maurizio Vichi and Hans-Hermann Bock. Studies in Classification, Data Analysis, and Knowledge Organization. *Springer-Verlag, Berlin*, 1998. *xvi+677 pp. ISBN* 3-540-64641-8 (Editors) **99k:62003** 62–06 (62H30)

Advances in decision analysis ★ Advances in decision analysis. Papers from the International Conference on Methods and Applications of Multiple Criteria Decision Making held in Mons, May 1997. Edited by Nadine Meskens and Marc Roubens. Mathematical Modelling: Theory and Applications, 4. *Kluwer Academic Publishers, Dordrecht*, 1999. *x+202 pp. ISBN* 0-7923-5563-6 (Editors) **99m:90003** 90–06 (90A05)

Advances in difference equations ★ Advances in difference equations. Proceedings of the 2nd International Conference on Difference Equations (SICDE) held in Veszprém, August 7–11, 1995. Edited by S. Elaydi, I. Győri and G. Ladas. *Gordon and Breach Science Publishers, Amsterdam*, 1997. *xxii+668 pp. ISBN* 90-5699-521-9 (Editors) **99d:39001** 39–06 (34–06)

— ★ Advances in difference equations. II. Edited by Ravi P. Agarwal. Comput. Math. Appl. **36** (1998), no. 10-12. *Pergamon Press, Oxford*, 1998. *pp. ix–xvi and* 1–429. (Editors) **99h:39001** 39–06

Advances in discrete and computational geometry ★ Advances in discrete and computational geometry. Proceedings of the AMS-IMS-SIAM Joint Summer Research Conference on Discrete and Computational Geometry: Ten Years Later held at Mount Holyoke College, South Hadley, MA, July 14–18, 1996. Edited by Bernard Chazelle, Jacob E. Goodman and Richard Pollack. Contemporary Mathematics, 223. *American Mathematical Society, Providence, RI*, 1999. *xii+463 pp. ISBN* 0-8218-0674-2 (Editors) **99f:52003** 52–06 (00B25, 68U05)

Advances in economics and econometrics: theory and applications ★ Advances in economics and econometrics: theory and applications. Vol. I, II, III. Papers from the 7th World Congress of the Econometric Society held at Keio University, Tokyo, August 1995. Edited by David M. Kreps and Kenneth F. Wallis. Econometric Society Monographs, 26, 27, 28. *Cambridge University Press, Cambridge*, 1997. *Vol. I: vi+332 pp.; Vol. II: vi+356 pp.; Vol. III: x+334 pp. ISBN* 0-521-58139-7 (Editors) **99d:90003** 90–06 (62P20)

Advances in fluid mechanics ★ Advances in fluid mechanics. II. Papers from the 2nd International Conference held in Udine, May 1998. Edited by M. Rahman, G. Comini and C. A. Brebbia. Advances in Fluid Mechanics, 21. *Computational Mechanics Publications, Southampton*, 1998. *x+377 pp. ISBN* 1-85312-589-X (Editors) **99k:76003** 76–06 (76Mxx)

Advances in geometry ★ Advances in geometry. Edited by Jean-Luc Brylinski, Ranee Brylinski, Victor Nistor, Boris Tsygan and Ping Xu. Progress in Mathematics, 172. *Birkhäuser Boston, Inc., Boston, MA*, 1999. *xii+399 pp. ISBN* 0-8176-4044-4 (Editors) **99h:00015** 00B15 (58–06)

Advances in mathematical population dynamics—molecules, cells and man ★ Advances in mathematical population dynamics—molecules, cells and man. Papers from the 4th International Conference on Mathematical Population Dynamics held at Rice University, Houston, TX, May 23–27, 1995. Edited by O. Arino, D. Axelrod and M. Kimmel. Series in Mathematical Biology and Medicine, 6. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxvi+839 pp. ISBN* 981-02-3176-8 (Editors) **99d:92001** 92–06 (00B25)

Advances in modal logic ★ Advances in modal logic. Vol. 1. Selected papers from the 1st Conference (AiML'96) held at the Free University of Berlin, Berlin, October 1996. Edited by Marcus Kracht, Maarten de Rijke, Heinrich Wansing and Michael Zakharyaschev [M. V. Zakhar′yashchev]. CSLI Lecture Notes, 87. *CSLI Publications, Stanford, CA*, 1998. *xvi+392 pp. ISBN* 1-57586-102-X 03B45 (03–06)

Advances in nonlinear partial differential equations and related areas ★ Advances in nonlinear partial differential equations and related areas. A volume in honour of Professor Xiaqi Ding [Xia Xi Ding]. Papers from the conference held in Beijing, August 9–10, 1997. Edited by Gui-Qiang Chen, Yanyan Li, Xiping Zhu and Daomin Cao. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xxii+426 pp. ISBN* 981-02-3664-6 (Editors) **99m:35002** 35–06 (00B30)

Advances in nonlinear programming ★ Advances in nonlinear programming. Proceedings of the 1996 International Conference on Nonlinear Programming held in Beijing, September 2–5, 1996. Edited by Ya-xiang Yuan. Applied Optimization, 14. *Kluwer Academic Publishers, Dordrecht*, 1998. *xiv+351 pp. ISBN* 0-7923-5053-7 (Editors) **99b:90004** 90–06 (90C30)

Advances in pattern recognition ★ Advances in pattern recognition. Papers from the Joint IAPR International Workshops (SSPR'98 and SPR'98) held in Sydney, August 11–13, 1998. Edited by Adnan Amin, Dov Dori, Pavel Pudil and Herbert Freeman. Lecture Notes in Computer Science, 1451. *Springer-Verlag, Berlin*, 1998. *xxii+1047 pp. ISBN* 3-540-64858-5 (Editors) **99k:68002** 68–06 (68T10)

Advances in robot kinematics: analysis and control ★ Advances in robot kinematics: analysis and control. Papers from the 6th International Symposium on Advances in Robot Kinematics held in Salzburg, June–July 1998. Edited by Jadran Lenarčič and Manfred L. Husty. *Kluwer Academic Publishers, Dordrecht*, 1998. *iv+581 pp. ISBN* 0-7923-5169-X (Editors) **99d:70002** 70–06 (70B15)

Advances in stochastic inequalities ★ Advances in stochastic inequalities. Papers from the AMS Special Session on Stochastic Inequalities and their Applications held at the Georgia Institute of Technology, Atlanta, GA, October 17–19, 1997. Edited by Theodore P. Hill and Christian Houdré. Contemporary Mathematics, 234. *American Mathematical Society, Providence, RI*, 1999. *x+212 pp. ISBN* 0-8218-1086-3 (Editors) **99m:60004** 60–06 (60E15)

Advances in stochastic models for reliability, quality and safety ★ Advances in stochastic models for reliability, quality and safety. Papers from the Workshop on Stochastic Models of Reliability, Quality and Safety held in Schierke, 1997. Edited by Waltraud Kahle, Elart von Collani, Jürgen Franz and Uwe Jensen. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xxviii+382 pp. ISBN* 0-8176-4049-5 (Editors) **99f:62004** 62–06

Advances in switching networks ★ Advances in switching networks. Papers from the workshop held as part of the DIMACS Special Year on Network Switching at Princeton University, Princeton, NJ, July 7–9, 1997. Edited by Ding-Zhu Du and Frank K. Hwang. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 42. *American Mathematical Society, Providence, RI*, 1998. *xii+333 pp. ISBN* 0-8218-0831-1 (Editors) **99a:94001** 94–06 (68M10, 94C10)

Advances in turbulence ★ Advances in turbulence. VII. Proceedings of the 7th European Turbulence Conference held in Saint-Jean Cap Ferrat, June 30–July 3, 1998. Edited by Uriel Frisch. Fluid Mechanics and its Applications, 46. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxii+613 pp. ISBN* 0-7923-5115-0 76–06 (76Fxx)

Advances in wavelets ★ Advances in wavelets. Papers from the Programme on Wavelets and their Applications held at the Chinese University of Hong Kong, Hong Kong, 1997. Edited by Ka-Sing Lau. *Springer-Verlag Singapore, Singapore*, 1999. *viii+282 pp. ISBN* 981-4021-08-3 (Editors) **99m:42002** 42–06 (41A15, 42C15, 94A12)

Aggregation ★ Aggregation. Edited by W. Hildenbrand. J. Math. Econom. **31** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–ii and* 1–158. (Editors) **99k:90003** 90–06 (90A09)

Aggregation and fusion of imperfect information ★ Aggregation and fusion of imperfect information. Edited by Bernadette Bouchon-Meunier. Studies in Fuzziness and Soft Computing, 12. *Physica-Verlag, Heidelberg*, 1998. *viii+278 pp. ISBN* 3-7908-1048-7 (From the preface) **99e:04005** 04A72 (04–06)

Aizu-Wakamatsu City ★ Mathematical and computational biology. Computational morphogenesis, hierarchical complexity, and digital evolution. Proceedings of the International Workshop held at the University of Aizu, Aizu-Wakamatsu City, October 21–25, 1997. Edited by Chrystopher L. Nehaniv. Lectures on Mathematics in the Life Sciences, 26. *American Mathematical Society, Providence, RI*, 1999. *xii+201 pp. ISBN* 0-8218-0941-5 (Editors) **99k:92002** 92–06 (92D15)

Alden-Biesen ★ Drinfeld modules, modular schemes and applications. Proceedings of the workshop held in Alden-Biesen, September 9–14, 1996. Edited by E.-U. Gekeler, M. van der Put, M. Reversat and J. Van Geel. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv+361 pp. ISBN* 981-02-3067-2 (Editors) **99b:11002** 11–06 (11Gxx)

Alexisbad ★ Eighth Conference on the Numerical Treatment of Differential Equations. Selected papers from the conference (NUMDIFF-8) held in Alexisbad, September 1–5, 1997. Edited by P. J. van der Houwen, K. Strehmel and R. Weiner. Appl. Numer. Math. **28** (1998), no. 2-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 91–491. (Editors) **99e:65002** 65–06

Algebra ★ Algebra. 6. A translation of *Algebra. 6* (Russian), Itogi Nauki Tekh. Ser. Sovrem. Mat. Prilozh. Temat. Obz., 40, Vseross. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow, 1996. Edited by V. P. Sakharova. J. Math. Sci. (New York) **93** (1999), no. 2. *Consultants Bureau, New York*, 1999. *pp. i–vi and* 135–253. (Editors) **99m:16001** 16–06 (00B55)

— ★ Algebra. Some recent advances. Edited by I. B. S. Passi. Trends in Mathematics. *Birkhäuser Verlag, Basel*, 1999. *viii+249 pp. ISBN* 3-7643-6058-5 (Editors) **99m:20001** 20–06 (16–06)

Algebra and combinatorics: interactions and applications ★ Algebra and combinatorics: interactions and applications. Papers from the International Conference dedicated to the memory of Lev Arkad′evich Kalužnin [Lev Arkad′evich Kaluzhnin] held in Königstein, March 1994. Edited by M. Hazewinkel, A. A. Ivanov and A. J. Woldar. Acta Appl. Math. **52** (1998), no. 1-3. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 1–330. (Editors) **99e:00015** 00B25 (05–06, 20–06)

Algebra and mathematical analysis ★ Алгебра и математический анализ. (Russian) [Algebra and mathematical analysis] Edited by M. M. Lavrent′ev and V. N. Vragov. *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. 140 *pp. ISBN* 5-230-13456-9 (Editors) **99m:00019** 00B15 (30–06, 35–06)

Algebra and operator theory ★ Algebra and operator theory. Proceedings of the 2nd French-Uzbek Colloquium held in Tashkent, September 29–October 5, 1997. Edited by Yusupdjan Khakimdjanov [Yu. B. Khakimdzhanov], Michel Goze and Shavkat A. Ayupov. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii+250 pp. ISBN* 0-7923-5094-4 (Editors) **99d:00012** 00B25 (46–06)

Algebra, geometry, analysis and mathematical physics ★ Алгебра, геометрия, анализ и математическая физика. (Russian) [Algebra, geometry, analysis and mathematical physics] Papers from the 10th Siberian School held in Novosibirsk, August 14–22, 1996. Edited by Yu. G. Reshetnyak, L. A. Bokut′, S. K. Vodop′yanov and I. A. Taĭmanov. *Izdatel′stvo Rossiĭskoĭ Akademii Nauk, Sibirskoe Otdelenie, Institut Matematiki im. S. L. Soboleva, Novosibirsk*, 1997. 196 *pp. ISBN* 5-86134-036-6 (Editors) **99a:00019** 00B25

Algebraic and logic programming ★ Algebraic and logic programming. Proceedings of the 6th International Conference on Algebraic and Logic Programming (ALP'97) and the 3rd International Workshop on Higher-order Algebra, Logic and Term Rewriting (HOA'97) held jointly in Southampton, September 3–5, 1997. Edited by Michael Hanus, Jan Heering and Karl Meinke. Lecture Notes in Computer Science, 1298. *Springer-Verlag, Berlin*, 1997. *x+286 pp. ISBN* 3-540-63459-2 (Editors) **99b:68002** 68–06 (68N15, 68Q42)

Algebraic geometry ★ Algebraic geometry. 6. A translation of *Algebraic geometry. 6* (Russian), Vseross. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow, 1996. Edited by G. V. Il′ina. J. Math. Sci. (New York) **90** (1998), no. 4. *Consultants Bureau, New York*, 1998. *pp. i–vi and* 2215–2321. (Editors) **99e:00032** 00B55

— ★ Algebraic geometry. Papers from the EUROPROJ Conferences held in Catania, September 1993, and Barcelona, September 1994. Edited by Peter E. Newstead. Lecture Notes in Pure and Applied Mathematics, 200. *Marcel Dekker, Inc., New York*, 1998. *x+405 pp. ISBN* 0-8247-0234-4 (Editors) **99f:14001** 14–06

Algebraic groups and Lie groups ★ Algebraic groups and Lie groups. A volume of papers in honour of the late R. W. Richardson. Edited by Gus Lehrer, A. L. Carey, J. B. Carrell, M. K. Murray and T. A. Springer. Australian Mathematical Society Lecture Series, 9. *Cambridge University Press, Cambridge*, 1997. *vi+384 pp. ISBN* 0-521-58532-5 (Editors) **99b:00024** 00B30 (20–06, 22–06)

Algebraic groups and their representations ★ Algebraic groups and their representations. Proceedings of the NATO Advanced Study Institute on Modular Representations and Subgroup Structure of Algebraic Groups and Related Finite Groups held in Cambridge, June 23–July 4, 1997. Edited by R. W. Carter and J. Saxl. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 517. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xviii+374 pp. ISBN* 0-7923-5251-3 (Editors) **99i:20002** 20–06

(20Gxx)

Algebraic number theory and related topics ★ Daisūteki seisū ron to sono shūhen no kenkyū. (Japanese) [Algebraic number theory and related topics] Proceedings of a conference held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 25–29, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 998 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–202. (Editors) **99a:11003** 11–06

— ★ Daisūteki seisū ron to sono shūhen. (Japanese) [Algebraic number theory and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, October 27–31, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1026 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–231. (Editors) **99d:11001** 11–06

Algebras and modules ★ Algebras and modules. I. Papers from the Workshop on Representations of Algebras and Related Topics preceding the 8th International Conference on Representations of Algebras (ICRA VIII) held in Trondheim, July 29–August 3, 1996. Edited by Idun Reiten, Sverre O. Smalø and Øyvind Solberg. CMS Conference Proceedings, 23. *Published by the American Mathematical Society, Providence, RI; for the Canadian Mathematical Society, Ottawa, ON*, 1998. *xiv*+198 *pp. ISBN* 0-8218-0850-8 (Editors) **99e:16001** 16–06 (16Gxx)

— ★ Algebras and modules. II. Proceedings of the 8th International Conference on Representations of Algebras (ICRA VIII) held in Geiranger, August 4–10, 1996. Edited by Idun Reiten, Sverre O. Smalø and Øyvind Solberg. CMS Conference Proceedings, 24. *Published by the American Mathematical Society, Providence, RI; for the Canadian Mathematical Society, Ottawa, ON*, 1998. *xxii*+569 *pp. ISBN* 0-8218-1076-6 (Editors) **99e:16002** 16–06 (16Gxx)

Algebras, groups and varieties ★ Алгебры, группы, многообразия. (Russian) [Algebras, groups and varieties] Edited by G. K. Pak. *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. 84 *pp. ISBN* 5-7444-0198-9 (Editors) **99k:00020** 00B15 (11–06, 20–06)

Algorithm theory—SWAT'98 ★ Algorithm theory—SWAT'98. Proceedings of the 6th Scandinavian Workshop held in Stockholm, July 8–10, 1998. Edited by Stefan Arnborg and Lars Ivansson. Lecture Notes in Computer Science, 1432. *Springer-Verlag, Berlin*, 1998. *x*+347 *pp. ISBN* 3-540-64682-5 (Editors) **99k:68003** 68–06 (00B25, 68Q20, 68Q25)

Algorithmic algebra and number theory ★ Algorithmic algebra and number theory. Selected papers from the conference held at the University of Heidelberg, Heidelberg, October 1997. Edited by B. Heinrich Matzat, Gert-Martin Greuel and Gerhard Hiss. *Springer-Verlag, Berlin*, 1999. *viii*+434 *pp. ISBN* 3-540-64670-1 (Editors) **99h:00020** 00B25 (11–06, 13–06, 20–06)

Algorithmic learning theory ★ Algorithmic learning theory. Proceedings of the 9th International Conference (ALT'98) held in Otzenhausen, October 8–10, 1998. Edited by Michael M. Richter, Carl H. Smith, Rolf Wiehagen and Thomas Zeugmann. Lecture Notes in Computer Science, 1501. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xii*+439 *pp. ISBN* 3-540-65013-X (Editors) **99m:68005** 68–06 (68Q99, 68T05)

Algorithms—ESA '97 ★ Algorithms—ESA '97. Papers from the 5th Annual European Symposium held at Graz University of Technology, Graz, September 15–17, 1997. Edited by Rainer Burkard and Gerhard Woeginger. Lecture Notes in Computer Science, 1284. *Springer-Verlag, Berlin*, 1997. *xii*+515 *pp. ISBN* 3-540-63397-9 (Editors) **99d:68002** 68–06

Algorithms—ESA '98 ★ Algorithms—ESA '98. Proceedings of the 6th Annual European Symposium held in Venice, August 24–26, 1998. Edited by Gianfranco Bilardi, Giuseppe F. Italiano, Andrea Pietracaprina and Geppino Pucci. Lecture Notes in Computer Science, 1461. *Springer-Verlag, Berlin*, 1998. *xii*+516 *pp. ISBN* 3-540-64848-8 (Editors) **99k:68004** 68–06 (68Q20, 68Q25)

Algorithms and computation ★ Algorithms and computation. Proceedings of the 8th International Symposium (ISAAC'97) held in Singapore, December 17–19, 1997. Edited by Hon Wai Leong, Hiroshi Imai and Sanjay Jain. Lecture Notes in Computer Science, 1350. *Springer-Verlag, Berlin*, 1997. *xvi*+426 *pp. ISBN* 3-540-63890-3 (Editors) **99f:68001** 68–06

Algorithms and economic dynamics ★ Algorithms and economic dynamics. Selected papers from the 2nd Annual Meeting of the Society for Computational Economics held in Geneva, 1996. Edited by K. L. Judd. J. Econom. Dynam. Control **22** (1998), no. 8-9. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 1167–1506. (Editors) **99b:90005** 90–06

Algorithms and theory of computing ★ Arugorizumu to keisan no riron. (Japanese) [Algorithms and theory of computing] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, February 2–4, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1041 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–248. (Editors) **99i:65003** 65–06 (00B25)

Algorithms for large scale linear algebraic systems ★ Algorithms for large scale linear algebraic systems. Applications in science and engineering. Proceedings of the NATO Advanced Study Institute on Algorithms for Large Scale Linear Algebraic Systems: State of the Art and Applications in Science and Engineering held in Gran Canaria, June 23–July 6, 1996. Edited by G. Winter Althaus and E. Spedicato. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 508. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *viii*+409 *pp. ISBN* 0-7923-4975-X (Editors) **99a:65004** 65–06

Aligarh ★ Fourier analysis, approximation theory and applications. Papers from the conference held at the Aligarh Muslim University, Aligarh, September 6–9, 1993. Edited by Z. U. Ahmad, N. K. Govil and P. K. Jain. *New Age International Publishers Limited, New Delhi*, 1997. *vi*+401 *pp. ISBN* 81-224-1107-X (Editors) **99d:00019** 00B25 (42–06)

Almería ★ Complex methods in approximation theory. Proceedings of the Workshop on Methods of Complex Analysis in Approximation Theory held at the University of Almería, Almería, June 5–8, 1995. Edited by Andrei Martínez Finkelshtein, Francisco Marcellán and Juan J. Moreno-Balcázar. Monografías Ciencia y Tecnología [Science and Technology Monographs], 2. *Universidad de Almería, Servicio de Publicaciones, Almería*, 1997. *xvi*+171 *pp. ISBN* 84-8240-046-0 (Editors) **99b:00012** 00B25 (41–06)

ALT 94 and AII 94 ★ ALT 94 and AII 94. Selected papers from the 5th International Workshop on Algorithmic Learning Theory and the 4th International Workshop on Analogical and Inductive Inference held at Reinhardsbrunn Castle, October 1994. Edited by M. M. Richter. Ann. Math. Artificial Intelligence **23** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. vii–x and* 1–209. (Editors) **99g:68001** 68–06 (68T05)

Altenberg ★ Fundamental problems in statistical mechanics. Proceedings of the 9th International Summer School held in Altenberg, August 15–29, 1997. Edited by H. van Beijeren. Phys. Rep. **301** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 1–292. (Editors) **99d:82003** 82–06

Alushta ★ Problems of quantum field theory. Publ. No. E2-96-369. Proceedings of the 10th International Conference held in Alushta, May 13–18, 1996. Edited by D. V. Shirkov, D. I. Kazakov and A. A. Vladimirov. *Joint Inst. Nuclear Res., Dubna*, 1996. 437 *pp. ISBN* 5-85165-455-4 (Editors) **99i:81005** 81–06 (83–06)

Álxebra *see* **San Luis Fernández, Ana María, 99b:58008**

Ames, IA ★ Grammatical inference. Proceedings of the 4th International Colloquium (ICGI '98) held at Iowa State University, Ames, IA, July 12–14, 1998. Edited by Vasant Honavar and Giora Slutzki. Lecture Notes in Computer Science, 1433. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+271 *pp. ISBN* 3-540-64776-7 (Editors) **99h:68006** 68–06 (68Q45, 68T05)

AMiLP '95 ★ AMiLP '95. Papers from the 1st International AMAST Workshop on Algebraic Methods in Language Processing held at the University of Twente, Enschede, December 6–8, 1995. Edited by A. Nijholt and G. Scollo. Theoret. Comput. Sci. **199** (1998), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 1–247. (Editors) **99a:68003** 68–06

Amsterdam ★ {International Workshop on the Numerical Solution of Thin-layer Phenomena}. Papers from the workshop held in Amsterdam, November 20–21, 1997. CWI Quarterly **10** (1997), no. 3-4. *Centrum voor Wiskunde en Informatica, Amsterdam*, 1997. *pp. i–ii and* 207–359. (Editors) **99a:65009** 65–06 (76–06, 76M10, 76Rxx)

— ★ Strings '97. Proceedings of the International Conference held at the University of Amsterdam, Amsterdam, June 16–21, 1997. Edited by F. A. Bais, E. A. Bergshoeff, B. De Wit, R. Dijkgraaf, A. N. Schellekens, E. P. Verlinde and H. L. Verlinde. Nuclear Phys. B Proc. Suppl. **68** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–397. (Editors) **99d:81003** 81–06 (81T30, 83E30)

— ★ Mathematical morphology and its applications to image and signal processing. Papers from the 4th International Symposium (ISMM'98) held in Amsterdam, June 3–5, 1998. Edited by Henk J. A. M. Heijmans and Jos B. T. M. Roerdink. Computational Imaging and Vision, 12. *Kluwer Academic Publishers, Dordrecht*, 1998. *x*+442 *pp. ISBN* 0-7923-5133-9 (Editors) **99g:68217** 68U10 (68–06)

Anacapri ★ Recent developments in domain decomposition methods and flow problems. Papers from the International Symposium on Domain Decomposition Methods and Related Topics held in honor of the 60th birthday of Hideo Kawarada at Kyoto University, Kyoto, July 17–19, 1996, and the 1st JSIAM-SIMAI Joint Symposium on Flow Problems and Phase Field Models held in Anacapri, October 3–5, 1996. Edited by H. Fujita, H. Koshigoe, M. Mori, M. Nakamura, T. Nishida and T. Ushijima. GAKUTO International Series. Mathematical Sciences and Applications, 11. *Gakkōtosho Co., Ltd., Tokyo*, 1998. *vi*+378 *pp. ISBN* 4-7625-0420-3 (Editors) **99g:00054** 00B30 (00B25, 35–06, 65–06, 76–06, 76Mxx)

Analysis ★ Analysis. 10. A translation of *Analysis. 10* (Russian), Vseross. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow, 1996. Edited by V. A. Golubeva. J. Math. Sci. (New York) **91** (1998), no. 5. *Consultants Bureau, New York*, 1998. *pp. i–vi and* 3205–3338. (Editors) **99f:00032** 00B55

Analysis and modelling of discrete dynamical systems ★ Analysis and modelling of discrete dynamical systems. Papers from the Winter Workshop held in Aussois, February 1996. Edited by Daniel Benest and Claude Froeschlé. Advances in Discrete Mathematics and Applications, 1. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *x*+319 *pp. ISBN* 90-5699-625-8 (Editors) **99j:58002** 58–06

Analysis and topology ★ Analysis and topology. A volume dedicated to the memory of S. Stoilow. Edited by Cabiria Andreian Cazacu, Olli E. Lehto and Themistocles M. Rassias. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xii*+723 *pp. ISBN* 981-02-2761-2 (Editors) **99h:00035** 00B30

Analysis of discrete groups ★ Analysis of discrete groups. II. Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 2–6, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1022 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–234. (Editors) **99e:30001** 30–06

Analysis of systems of conservation laws ★ Analysis of systems of conservation laws. Papers from the 1st Summer Programme of the EU-TMR Network held at the Rheinisch-Westfälische Technische Hochschule, Aachen, August 21–30, 1997. Edited by Heinrich Freistühler. Chapman & Hall/CRC Monographs and Surveys in Pure and Applied Mathematics, 99. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *viii*+261 *pp. ISBN* 0-8493-0644-2 (Editors) **99k:35003** 35–06 (35L65)

Analytical and structural considerations in fuzzy modeling ★ Analytical and structural considerations in fuzzy modeling. Selected papers from the 4th International Workshop Fuzzy-Neuro Systems '97—Computational Intelligence held at the University of Paderborn, Soest, March 12–14, 1997. Edited by A. Grauel. Fuzzy Sets and Systems **101** (1999), no. 2. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iii and* 205–313. (Editors) **99k:93004** 93–06 (65D15, 93C42)

Analytical philosophy and epistomology in Ukraine ★ Analytical philosophy and epistomology in Ukraine. Edited by Yaroslav Shramko and Olga Korpalo. Theoria (San Sebastián) (2) **14** (1999), no. 34. *Centro de Análisis, Lógica e Informática Jurídica, San Sebastián*, 1999. *pp.* 1–127. (Editors) **99k:03002** 03–06 (00A30)

Ankara ★ Number theory and its applications. Papers from the Summer School held at Bilkent University, Ankara, July 29–August 9, 1996. Edited by Cem Y. Yıldırım and Serguei A. Stepanov. Lecture Notes in Pure and Applied Mathematics, 204. *Marcel Dekker, Inc., New York*, 1999. *xiv*+343 *pp. ISBN* 0-8247-1969-7 (Editors) **99g:11002** 11–06

Anniversary:

Birth of Aleksandrov, Pavel Sergeevich *see* **Shchepin, E. V.**

Birth of von Bach, Carl Julius ★ Carl Julius von Bach (1847–1931). (German) Pionier—Gestalter—Forscher—Lehrer—Visionär. [Pioneer—shaper—researcher—teacher—visionary] Papers from the Scientific Conference held at the TU Chemnitz, Chemnitz, March 7–8, 1997, and the academic ceremony held on the 150th anniversary of von Bach's birth at the Universität

Anniversary: (*cont'd.*)
Stuttgart, Stuttgart, July 4, 1997. Edited by Friedrich Naumann. *Verlag Konrad Wittwer, Stuttgart*, 1998. 352 *pp. ISBN* 3-87919-260-X (Editors) **99h:01001** 01–06 (00B30)

Birth of Bubnov, Ivan Grigor'evich *see* **Grigolyuk, È. I.**

Birth of Chebyshev, Pafnutiĭ L'vovich Pafnutiĭ L'vovich Chebyshev (on the 175th anniversary of his birth). (Russian) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 612–627; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 519–531 (1997). (Karl-Heinz Schlote) **99b:01025** 01A70 (01A55)

Birth of Chunikhin, Sergeĭ Antonovich *see* **Shemetkov, Leonid Aleksandrovich, (99g:20005)**

Birth of Ciorănescu, Nicolae *see* **Georgescu, Adelina**

Birth of Franscini, Stefano ★ Conference on Statistical Science Honouring the Bicentennial of Stefano Franscini's Birth. Papers from the conference held in Ascona, November 18–20, 1996. Edited by C. Malaguerra, S. Morgenthaler and E. Ronchetti. Monte Verità. *Birkhäuser Verlag, Basel*, 1997. *vi*+245 *pp. ISBN* 3-7643-5707-X (Editors) **99e:62002** 62–06

Birth of Gegelia, Tengiz Georgievich *see* **Buchukuri, Tengiz, 99m:01044**

Birth of Goluzin, Gennadiĭ Mikhaĭlovich *see* **Kuz'mina, G. V.**

Birth of Horák, Zdeněk *see* **Vybíral, Bohumil**

Birth of Jarník, Vojtěch *see* **Netuka, Ivan**

Birth of Killing, Wilhelm *see* **Killing, Wilhelm, 99e:01017**

Birth of Kreĭn, Mark Grigor'evich ★ {Dedicated to the memory of Mark Grigorievich Krein (1907–1989)}. On the occasion of the 90th anniversary of his birth. Integral Equations Operator Theory **30** (1998), no. 4. *Birkhäuser Verlag, Basel*, 1998. *pp.* 379–499. (Editors) **99a:00054** 00B30

Birth of Maslov, Petr Pavlovich *see* **Orlov, I. B., 99j:01022**

Birth of Newton, Isaac *see* **Bonilla Rius, Elisa, 99k:01081**

Birth of Obreschkoff, Nikola ★ Transform methods & special functions, Varna '96. Proceedings of the 2nd International Workshop, dedicated to the 100th anniversary of the birth of Nikola Obreschkoff, held in Varna, August 23–30, 1996. Edited by P. Rusev, I. Dimovski and V. Kiryakova. *Bulgarian Academy of Sciences, Institute of Mathematics and Informatics, Sofia*, 1998. *vi*+614 *pp. ISBN* 954-8986-05-1 (Editors) **99i:00031** 00B25 (26–06, 30–06, 33–06)

Birth of Persidskiĭ, Konstantin Petrovich *see* **Amerbaev, V. M. et al.**

Birth of Pontryagin, Lev Semenovich *see* **Kostomarov, D. P. et al.**

Birth of Quetelet, Lambert-Adolphe-Jacques ★ Actualité et universalité de la pensée scientifique d'Adolphe Quetelet. (French) [Universality and relevance today of the scientific thought of Adolphe Quetelet] Proceedings of the Colloquium "Quetelet: A Man of Ideas" held in Brussels, October 24–25, 1996, in honor of Adolphe Quetelet on the 200th anniversary of his birth. Acad. Roy. Belg. Cl. Sci. Mém. Collect. 8° (3) **13** (1997). *Académie Royale de Belgique, Brussels*, 1997. *pp.* 1–236. (Editors) **99a:01002** 01–06

Birth of Sibirskiĭ, Konstantin Sergeevich *see* **Shcherbakov, B. A. et al.**

Birth of Smorodinskiĭ, Ya. A. ★ VIII International Conference on Symmetry Methods in Physics. Papers from the conference dedicated to the 80th anniversary of the birth of Professor Ya. A. Smorodinsky [Ya. A. Smorodinskiĭ] held in Dubna, July 28–August 2, 1997. Edited by G. S. Pogosyan and A. N. Sissakian [A. N. Sisakyan]. Phys. Atomic Nuclei **61** (1998), no. 10. *MAIK Nauka/Interperiodica Publishing, Moscow*, 1998. *pp. i–vi and* 1617–1810. (Editors) **99i:81002** 81–06

— ★ VIII International Conference on Symmetry Methods in Physics. Papers from the conference dedicated to the 80th anniversary of the birth of Professor Ya. A. Smorodinsky [Ya. A. Smorodinskiĭ] held in Dubna, July 28–August 2, 1997. Edited by G. S. Pogosyan and A. N. Sissakian [A. N. Sisakyan]. Phys. Atomic Nuclei **61** (1998), no. 11. *MAIK Nauka/Interperiodica Publishing, Moscow*, 1998. *pp.* 1811–2006. (Editors) **99i:81003** 81–06 (00B30)

Birth of Sobolev, Sergeĭ L'vovich *see* **Lavrent'ev, Mikhail Mikhaĭlovich et al., 99m:01075**

Birth of Stoïlow, Simion ★ Analysis and topology. A volume dedicated to the memory of S. Stoilow. Edited by Cabiria Andreian Cazacu, Olli E. Lehto and Themistocles M. Rassias. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xii*+723 *pp. ISBN* 981-02-2761-2 (Editors) **99h:00035** 00B30

Birth of Talitskikh, Nikolaĭ Adrianovich Nikolaĭ Adrianovich Talitskikh (on the centenary of his birth). (Russian) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 1061–1063. 01A70

Birth of Vaidyanathaswamy, R. *see* **Narasinga Rao, A. et al.**

Birth of Vekua, Il'ya Nestorovich ★ International Symposium on Differential Equations and Mathematical Physics. Invited papers from the symposium, dedicated to the 90th anniversary of the birth of Ilia Vekua [Il'ya Nestorovich Vekua], held in Tbilisi, June 21–25, 1997. Mem. Differential Equations Math. Phys. **12** (1997). *Publishing House GCI, Tbilisi*, 1997. *pp.* 1–232. 00B30

Birth of Ważewski, Tadeusz ★ Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems". Held on the occasion of the 100th anniversary of the birth of Tadeusz Ważewski in Kraków-Przegorzały, July 17–20, 1996. Univ. Iagel. Acta Math. No. 36 (1998). *Uniwersytet Jagielloński, Instytut Matematyki, Kraków*, 1998. *pp.* 1–257. (Editors) **99f:58002** 58–06 (34–06, 34C35)

Canadian Association of Physicists ★ Field theory, integrable systems and symmetries. Papers from the Annual CAP Congress held in Quebec, PQ, June 11–16, 1995. Edited by Faqir Khanna and Luc Vinet. *Université de Montréal, Les Publications CRM, Montreal, QC*, 1997. vi+213 *pp. ISBN* 2-921120-29-1 (Editors) **99a:00027** 00B25 (81–06, 83–06)

Canadian Mathematical Society ★ Canadian Mathematical Society. 1945–1995. Vol. 1. Mathematics in Canada. Edited by Peter Fillmore. *Canadian Mathematical Society, Ottawa, ON*, 1995. *viii*+406 *pp. ISBN* 0-919558-06-2 (Jeremy Gray) **99m:01104** 01A74 (01–06, 01A70, 01A80)

— ★ Canadian Mathematical Society. 1945–1995. Vol. 3. Invited papers. Edited by James B. Carrell and Ram Murty [Maruti Ram Murty]. *Canadian Mathematical Society, Ottawa, ON*, 1996. *viii*+286 *pp. ISBN* 0-919558-08-9 (Editors) **99m:00020** 00B15 (00B30)

Death of Brambilla, Francisco *see* **Cifarelli, Donato Michele**

Anniversary: (*cont'd.*)

Death of Cipolla, Michele ★ Michele Cipolla (1880–1947). (Italian) La figura e l'opera. [The man and his works] Including papers from the meeting held in Palermo, September 8, 1997, in honor of the 50th anniversary of his death. Edited by A. Scimone and F. Spagnolo. Atti dei Convegni dell'A.I.C.M. [Proceedings of A.I.C.M. Conferences], 1 *Associazione degli Insegnanti e dei Cultori di Matematica (A.I.C.M.), Palermo; Gruppo di Ricerca sull'Insegnamento delle Matematiche (G.R.I.M.), Palermo*, 1998. 160 *pp.* (Editors) **99d:01043** 01A75 (01A70)

Death of Hilbert, David[1] ★ Problemy Hilberta. (Polish) [Hilbert's Problems] W pięćdziesięciolecie śmierci ich twórcy. [On the occasion of the fiftieth anniversary of the death of their creator] Proceedings of the 7th All-Polish School on the History of Mathematics held in Międzyzdroje, May 10–14, 1993. Edited by Witold Więsław. *Polska Akademia Nauk, Instytut Historii Nauki PAN, Warsaw*, 1997. 269 *pp. ISBN* 83-86062-90-8 (Editors) **99b:01001** 01–06 (01A60)

Division of Applied Mathematics, Brown University ★ Current and future challenges in the applications of mathematics. Papers from the symposium held to mark the 50th anniversary of the Division of Applied Mathematics, Brown University, Providence, RI, May 29–31, 1997. Quart. Appl. Math. **56** (1998), no. 4. *Brown University, Division of Applied Mathematics, Providence, RI*, 1998. *pp. i–x and* 601–820. (Editors) **99i:00017** 00B25

Founding of the Institut des Hautes Études Scientifiques (IHÉS) ★ Les relations entre les mathématiques et la physique théorique. [The relations between mathematics and theoretical physics] Festschrift for the 40th anniversary of the IHÉS. *Institut des Hautes Études Scientifiques, Bures-sur-Yvette*, 1998. 197 *pp.* (Editors) **99h:00038** 00B30

GAMM ★ 75 Jahre GAMM. (German) [75 years of GAMM] Edited by R. Mennicken. Mitt. Ges. Angew. Math. Mech. **20** (1997), no. 2. *Akademie Verlag, Berlin*, 1997. *pp. i–xiv and* 1–83. (Editors) **99f:01027** 01A74 (01A70, 01A80)

— *see also* **Dörr, J. et al., (99f:01027)**

IEEE Trans. Inform. Theory ★ Information theory: 1948–1998. Edited by Sergio Verdú. IEEE Trans. Inform. Theory **44** (1998), no. 6. *Institute of Electrical and Electronics Engineers, Inc. (IEEE), Zielona Góra*, 1998. *pp. i and* 2042–2772. (Editors) **99h:94002** 94–06 (94A15)

Journal of Differential Geometry ★ Surveys in differential geometry. Vol. III. A supplement to the Journal of Differential Geometry. Lectures on geometry and topology in honor of the 80th birthday of Chuan-Chih Hsiung held at Harvard University, Cambridge, MA, May 3–5, 1996. Edited by C.-C. Hsiung and S.-T. Yau. *International Press, Boston, MA*, 1998. *x*+339 *pp. ISBN* 1-57146-067-5 (Editors) **99k:58003** 58–06 (57–06)

Mathematical Institute, Serbian Academy of Sciences and Arts ★ {50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts}. Papers from the Anniversary Symposium held in Belgrade, December 1996. Publ. Inst. Math. (Beograd) (N.S.) **64(78)** (1998). *Institut Mathématique, Belgrade*, 1998. *pp.* 1–204. (Editors) **99h:00021** 00B25

Annual review of fluid mechanics ★ Annual review of fluid mechanics. Vol. 31. Edited by John L. Lumley, Milton Van Dyke and Helen L. Reed. Annual Review of Fluid Mechanics, 31. *Annual Reviews Inc., Palo Alto, CA*, 1999. *xii*+646 *pp. ISBN* 0-8243-0731-3 (Editors) **99h:76001** 76–06

Anogia Academic Village ★ Geometric modelling techniques. Papers from the International Workshop on Computer-Aided Geometric Design: New Trends and Applications held in Anogia Academic Village, June 16–20, 1997. Edited by P. D. Kaklis, N. S. Sapidis and M. N. Patrikalakis [Nicholas M. Patrikalakis]. Math. Engrg. Indust. **7** (1999), no. 2. *VSP, Zeist*, 1999. *pp.* 127–282. (Editors) **99i:65004** 65–06 (65D17, 65Y25)

Antwerp ★ Rings, Hopf algebras, and Brauer groups. Proceedings of the Fourth Week on Algebra and Algebraic Geometry (SAGA 4) held at the University of Antwerp, Antwerp, September 12–13, 1996, and at the Free University of Brussels, Brussels, September 16–17, 1996. Edited by Stefaan Caenepeel and Alain Verschoren. Lecture Notes in Pure and Applied Mathematics, 197. *Marcel Dekker, Inc., New York*, 1998. *x*+332 *pp. ISBN* 0-8247-0153-4 (Editors) **99a:16001** 16–06

Applications of mathematics in engineering ★ Applications of mathematics in engineering. Proceedings of the 23rd Summer School held in Sozopol, June 15–21, 1997. Edited by B. I. Cheshankov and M. D. Todorov. *Heron Press Ltd., Sofia*, 1998. 202 *pp. ISBN* 954-580-043-7 (Editors) **99d:00013** 00B25

— ★ Applications of mathematics in engineering. Proceedings of the 24th Summer School held in Sozopol, June 14–20, 1998. Edited by B. I. Cheshankov and M. D. Todorov. *Heron Press Ltd., Sofia*, 1999. 246 *pp. ISBN* 954-580-057-7 (Editors) **99m:00024** 00B25 (34–06, 65–06, 73–06)

Applied algebra, algebraic algorithms and error-correcting codes ★ Applied algebra, algebraic algorithms and error-correcting codes. Proceedings of the 12th International Symposium (AAECC-12) held in Toulouse, June 23–27, 1997. Edited by Teo Mora and Harold Mattson. Lecture Notes in Computer Science, 1255. *Springer-Verlag, Berlin*, 1997. *x*+353 *pp. ISBN* 3-540-63163-1 (Editors) **99b:94002** 94–06 (68Q40)

Applied analysis ★ Applied analysis. Proceedings of the conference held in Baton Rouge, LA, April 19–21, 1996. Edited by J. Robert Dorroh, Gisèle Ruiz Goldstein, Jerome A. Goldstein and Michael Mudi Tom. Contemporary Mathematics, 221. *American Mathematical Society, Providence, RI*, 1999. *x*+284 *pp. ISBN* 0-8218-0673-4 (Editors) **99e:00016** 00B25

Applied and computational mathematics ★ Applied and computational mathematics. Selected papers from the 2nd Panamerican Workshop held in Gramado, September 8–12, 1997. Edited by Victor Pereyra and Jose Castillo. Appl. Numer. Math. **30** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *i–viii and* 1–152. (Editors) **99m:65003** 65–06

Applied and computational topics in partial differential equations ★ Applied and computational topics in partial differential equations. Papers from the 2nd Panamerican Workshop on Applied and Numerical Mathematics held in Gramado, September 8–12, 1997. Edited by V. Pereyra and J. Castillo. J. Comput. Appl. Math. **103** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–vi and* 1–219. (Editors) **99k:65002** 65–06 (65Mxx, 65Nxx, 76–06)

Applied computational geometry ★ Applied computational geometry. Edited by Christoph M. Hoffmann. Comput. Geom. **10** (1998), no. 4. *Elsevier Science Publishers, B.V.*,

Amsterdam, 1998. *pp. i–ii and* 221–318. (Editors) **99b:68003** 68–06 (68U05)

Applied mathematical programming and modeling ★ Applied mathematical programming and modeling. III (APMOD95). Selected papers from the 3rd Seminar held at Brunel University, Uxbridge, 1995. Edited by I. Maros, G. Mitra and A. Sciomachen. Ann. Oper. Res. **81** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. ix–xiv and* 1–513. (Editors) **99b:90006** 90–06 (90C05, 90C27, 90C30)

Applied nonlinear dynamics and stochastic systems near the millenium ★ Applied nonlinear dynamics and stochastic systems near the millenium. Papers from the conference held in San Diego, CA, July 1997. Edited by James B. Kadtke and Adi Bulsara. AIP Conference Proceedings, 411. *American Institute of Physics, Woodbury, NY*, 1997. *xii+374 pp. ISBN* 1-56396-736-7 (Editors) **99h:00022** 00B25 (58–06, 58F13, 76–06, 76F20)

Applied statistical science ★ Applied statistical science. III. Papers in honor of A. K. Md. E. Saleh. Edited by S. E. Ahmed, M. Ahsanullah and B. K. Sinha. *Nova Science Publishers, Inc., Commack, NY*, 1998. *xvi+427 pp. ISBN* 1-56072-581-8 (Editors) **99j:62001** 62–06 (00B30)

Approximation algorithms for combinatorial optimization ★ Approximation algorithms for combinatorial optimization. Proceedings of the International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX'98) held at the University of Aalborg, Aalborg, July 18–19, 1998. Edited by Klaus Jansen and José Rolim. Lecture Notes in Computer Science, 1444. *Springer-Verlag, Berlin*, 1998. *viii+199 pp. ISBN* 3-540-64736-8 (Editors) **99i:68002** 68–06 (68Q20, 68Q25, 90C27)

Approximation theory ★ Approximation theory. In memory of A. K. Varma. Edited by N. K. Govil, R. N. Mohapatra, Z. Nashed [M. Zuhair Nashed], A. Sharma and J. Szabados. Monographs and Textbooks in Pure and Applied Mathematics, 212. *Marcel Dekker, Inc., New York*, 1998. *xxiv+517 pp. ISBN* 0-8247-0185-2 (Editors) **99a:00051** 00B30 (30–06, 41–06)

Approximations and numerical methods for the solution of Maxwell's equations ★ Approximations and numerical methods for the solution of Maxwell's equations. Proceedings of the 3rd International Conference held at the University of Oxford, Oxford, April 1995. Edited by F. El Dabaghi, K. Morgan, K. Parrott and J. Periaux. The Institute of Mathematics and its Applications Conference Series. New Series, 65. *The Clarendon Press, Oxford University Press, New York*, 1998. *xvi+390 pp. ISBN* 0-19-851483-2 (Editors) **99a:00020** 00B25 (65–06, 78–06, 78–08)

Arad ★ 25 years of high level technical education in Arad. Vol. I. Mathematics. Proceedings of the 4th Scientific Communications Meeting held at "Aurel Vlaicu" University of Arad, Arad, October 30–31, 1997. Edited by Gheorghe Halic and Gabriela Cristescu. *Universitatea "Aurel Vlaicu" din Arad, Arad*, 1997. 180 *pp. ISBN* 973-98365-0-X (Editors) **99i:00014** 00B25

— ★ Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University. Vol. 14A. Held in Arad, May 16–17, 1996. Edited by Gheorghe Halic and Gabriela Cristescu. "*Aurel Vlaicu*" *University of Arad, Arad*, 1997. 116 *pp. ISBN* 973-97708-0-0 (Editors) **99i:00027** 00B25

Argonne, IL ★ Large scale eigenvalue problems. Papers from the Workshop on The Use of Iterative Methods for Large Scale Eigenvalue Problems held in Argonne, IL, May 14–16, 1997. Electron. Trans. Numer. Anal. **7** (1998). *Kent State University Library, Kent, OH*, 1998. *front matter and pp.* 1–214 (*electronic*). (Editors) **99h:65006** 65–06 (65F15)

Arlington, VA ★ Computational methods for optimal design and control. Proceedings of the 2nd International Workshop on Optimal Design and Control held in Arlington, VA, September 30–October 3, 1997. Edited by Jeff Borggaard, John Burns, Eugene Cliff and Scott Schreck. Progress in Systems and Control Theory, 24. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xii+460 pp. ISBN* 0-8176-4064-9 (Editors) **99d:49001** 49–06 (49Q15, 93C20)

Artificial intelligence and mathematics ★ Artificial intelligence and mathematics. VIII. Selected papers from the 5th International Symposium held in Fort Lauderdale, FL, January 2–5, 1998. Edited by E. Boros, J. Franco, E. Freuder, M. Golumbic, R. Greiner and E. Mayoraz. Ann. Math. Artificial Intelligence **24** (1998), no. 1-4. *Baltzer Science Publishers BV, Bussum*, 1999. *pp. i–iv and* 1–250. (Editors) **99m:68006** 68–06

Artificial intelligence and symbolic computation ★ Artificial intelligence and symbolic computation. Proceedings of the 4th International Conference (AISC'98) held at the State University of New York, Plattsburgh, NY, September 16–18, 1998. Edited by Jacques Calmet and Jan Plaza. Lecture Notes in Computer Science, 1476. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xii+309 pp. ISBN* 3-540-64960-3 (Editors) **99k:68005** 68–06 (03–06, 03B35, 68Q40, 68T27)

Artificial life: grammatical models ★ Artificial life: grammatical models. Papers from the workshop held in Mangalia, August 28–September 4, 1994. Edited by Gheorghe Păun. *Black Sea University Press, Bucharest*, 1995. xii+275 *pp. ISBN* 973-0-00131-6 (From the introduction) **99d:68155** 68Q50 (92B05)

Ascona ★ Conference on Statistical Science Honouring the Bicentennial of Stefano Franscini's Birth. Papers from the conference held in Ascona, November 18–20, 1996. Edited by C. Malaguerra, S. Morgenthaler and E. Ronchetti. Monte Verità. *Birkhäuser . Verlag, Basel*, 1997. *vi+245 pp. ISBN* 3-7643-5707-X (Editors) **99e:62002** 62–06

— ★ Symbolic rewriting techniques. Papers from the workshop held in Ascona, April 30–May 4, 1995. Edited by Manuel Bronstein, Johannes Grabmeier and Volker Weispfenning. Progress in Computer Science and Applied Logic, 15. *Birkhäuser Verlag, Basel*, 1998. *viii+288 pp. ISBN* 3-7643-5901-3 (Editors) **99a:68014** 68–06 (68Q40, 68Q42)

Asymptotic and qualitative methods in the theory of nonlinear oscillations ★ Асимптотичні та якісні методи в теорії нелінійних коливань. (Ukrainian) [Asymptotic and qualitative methods in the theory of nonlinear oscillations] Abstracts from the International Conference "ASYM-97" and the 3rd Bogolyubov Readings held in Kiïv, August 18–23, 1997. Edited by V. G. Samoĭlenko. *Natsīonal'na Akademīya Nauk Ukraïni, Īnstitut Matematiki, Kiev*, 1997. 232 *pp.* (Editors) **99g:00030** 00B05 (34–06, 35–06)

Asymptotic methods in probability and statistics ★ Asymptotic methods in probability and statistics. A volume in honour of Miklós Csörgő. Proceedings of the International Conference (ICAMPS'97) held at Carleton University, Ottawa, ON, July 8–13, 1997. Edited by Barbara Szyszkowicz. *North-Holland, Amsterdam*, 1998. *xxxiv+889 pp. ISBN* 0-444-50083-9 (Editors) **99f:60002** 60–06 (00B30, 62–06)

Athens ★ Proceedings of the 1st Panhellenic Algebra Conference. Held in Athens, September 27–28, 1996. Bull. Greek Math. Soc. **38** (1996). *Greek Mathematical Society, Athens*, 1996. *pp.* 1–143. (Editors) **99a:00037** 00B25 (20–06)

Athens, GA ★ Symplectic, contact and low-dimensional topology. Proceedings of the Georgia Topology Conference held at the University of Georgia, Athens, GA, June 19–23, 1996. Edited by Gordana Matić and Clint McCrory. Topology Appl. **88** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–vi and* 1–178. (Editors) **99b:00020** 00B25

Atlanta, GA ★ 7th Annual ACM-SIAM Symposium on Discrete Algorithms. Selected papers from the symposium (SODA '96) held in Atlanta, GA, January 28–30, 1996. Edited by Éva Tardos. J. Algorithms **27** (1998), no. 2. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 169–358. (Editors) **99a:68015** 68–06 (05–06)

— ★ The mathemagician and pied puzzler. A collection in tribute to Martin Gardner. Papers from the Gathering for Gardner Meeting (G4G1) held in Atlanta, GA, January 1993. Edited by Elwyn Berlekamp and Tom Rodgers. *A K Peters, Ltd., Natick, MA*, 1999. *x+266 pp. ISBN* 1-56881-075-X (E. J. Barbeau) **99m:00002** 00A08 (00B30)

— ★ Advances in stochastic inequalities. Papers from the AMS Special Session on Stochastic Inequalities and their Applications held at the Georgia Institute of Technology, Atlanta, GA, October 17–19, 1997. Edited by Theodore P. Hill and Christian Houdré. Contemporary Mathematics, 234. *American Mathematical Society, Providence, RI*, 1999. *x+212 pp. ISBN* 0-8218-1086-3 (Editors) **99m:60004** 60–06 (60E15)

Atlas of finite groups: ten years on ★ The atlas of finite groups: ten years on. Proceedings of the Conference on Group Theory and its Applications held in Birmingham, July 10–13, 1995. Edited by Robert Curtis and Robert Wilson. London Mathematical Society Lecture Note Series, 249. *Cambridge University Press, Cambridge*, 1998. *xviii+293 pp. ISBN* 0-521-57587-7 (Editors) **99e:20002** 20–06 (20Dxx)

Auckland ★ Combinatorics, complexity, & logic. Proceedings of the 1st International Conference on Discrete Mathematics and Theoretical Computer Science (DMTCS'96) held at the University of Auckland, Auckland, December 9–13, 1996. Edited by D. S. Bridges, C. S. Calude, J. Gibbons, S. Reeves and I. H. Witten. Springer Series in Discrete Mathematics and Theoretical Computer Science. *Springer-Verlag Singapore, Singapore*, 1997. *viii+422 pp. ISBN* 981-3083-14-X (Editors) **99d:68003** 68–06 (03–06, 68Q15, 68Q30)

— ★ Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science. Held at the University of Auckland, Auckland, August 8, 1997. Edited by D. S. Bridges, C. S. Calude, M. J. Dinneen and B. Khoussainov [B. M. Khusainov]. J.UCS **3** (1997), no. 11. *Springer-Verlag, Heidelberg*, 1997. *front matter and pp.* 1134–1281 (*electronic*). (Editors) **99g:68006** 68–06 (03–06, 03B70)

— ★ Unconventional models of computation. Papers from the 1st International Conference (UMC'98) held at the University of Auckland, Auckland, January 5–9, 1998. Edited by C. S. Calude, J. Casti and M. J. Dinneen. Springer Series in Discrete Mathematics and Theoretical Computer Science. *Springer-Verlag Singapore, Singapore; Centre for Discrete Mathematics & Theoretical Computer Science, Auckland*, 1998. *viii+426 pp. ISBN* 981-3083-69-7 (Editors) **99f:68012** 68–06 (68Q05, 92D20)

Aussois ★ Analysis and modelling of discrete dynamical systems. Papers from the Winter Workshop held in Aussois, February 1996. Edited by Daniel Benest and Claude Froeschlé. Advances in Discrete Mathematics and Applications, 1. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *x+319 pp. ISBN* 90-5699-625-8 (Editors) **99j:58002** 58–06

— ★ Transfer phenomena in magnetohydrodynamic and electroconducting flows. Papers from the 3rd International Conference (PAMIR) held in Aussois, September 22–26, 1997. Edited by A. Alemany, Ph. Marty and J. P. Thibault. Fluid Mechanics and its Applications, 51. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xvi+421 pp. ISBN* 0-7923-5532-6 (Editors) **99k:76007** 76–06 (76E25, 76W05)

Austin, TX ★ Symposium on Advances in Computational Mechanics. Vol. 3. Papers from the symposium held in Austin, TX, January 12–15, 1997. Edited by L. Demkowicz and J. N. Reddy. Comput. Methods Appl. Mech. Engrg. **151** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. ix–x and* 1–276. (Editors) **99b:76003** 76–06 (76Mxx)

Automata, languages and programming ★ Automata, languages and programming. Proceedings of the 25th International Colloquium (ICALP'98) held in Aalborg, July 13–17, 1998. Edited by Kim G. Larsen, Sven Skyum and Glynn Winskel. Lecture Notes in Computer Science, 1443. *Springer-Verlag, Berlin*, 1998. *xvi+932 pp. ISBN* 3-540-64781-3 (Editors) **99m:68007** 68–06

Automated reasoning and its applications ★ Automated reasoning and its applications. Essays in honor of Larry Wos. Edited by Robert Veroff with the assistance of Gail W. Pieper. *MIT Press, Cambridge, MA*, 1997. x+247 *pp. ISBN* 0-262-22055-5 (J. A. Kalman) **99a:68152** 68T15 (00B30, 03B35, 68–06)

Automated reasoning with analytic tableaux and related methods ★ Automated reasoning with analytic tableaux and related methods. Proceedings of the International Conference (TABLEAUX '98) held in Oisterwijk, May 5–8, 1998. Edited by Harrie de Swart. Lecture Notes in Computer Science, 1397. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x+325 pp. ISBN* 3-540-64406-7 (Editors) **99f:03002** 03–06 (03B35)

Automatic control ★ Automatic control. J. Beijing Inst. Technol. (Chin. Ed.) **17** (1997), no. 3. *Journal of Beijing Institute of Technology, Editorial Department, Beijing*, 1997. *pp. i–vi and* 263–400. (Editors) **99a:93004** 93–06

Automorphic forms and number theory ★ Hokei keishiki to seisū ron. [Automorphic forms and number theory] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 26–30, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1052 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–230. (Editors) **99m:11002** 11–06 (11Fxx)

Automorphic functions and number theory ★ Автоморфные функции и теория чисел. Часть I, II. (Russian) [Automorphic functions and number theory. Part I, II] Edited by V. A. Bykovskiĭ and N. I. Zavorotnyĭ. *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. 255 *pp.* (Editors) **99k:11003** 11–06

Axiomatics of resource allocation ★ Axiomatics of resource allocation. I. Math. Social Sci. **35** (1998), no. 2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 87–218. (Editors) **99a:90084** 90A80 (90–06)

— ★ Axiomatics of resource allocation. II. Math. Social Sci. **36** (1998), no. 3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 183–268. (Editors) **99h:90005** 90–06

Bahía Blanca ★ Actas del Cuarto Congreso de Matemática "Dr. Antonio A. R. Monteiro". [Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics] Held in Bahía Blanca, April 23–25, 1997. *Universidad Nacional del Sur, Instituto de Matemática (INMABB–CONICET), Bahía Blanca*, 1997. *x*+241 *pp.* (Editors) **99a:00040** 00B25

Balatonlelle ★ Graph theory and combinatorial biology. Proceedings of the International Colloquium on Combinatorics and Graph Theory held in Balatonlelle, July 1996. Edited by L. Lovász, A. Gyárfás, G. Katona, A. Recski and L. Székely. Bolyai Society Mathematical Studies, 7. *János Bolyai Mathematical Society, Budapest*, 1999. 413 *pp. ISBN* 963-8022-90-6 (Editors) **99k:00031** 00B25 (05–06)

Baltimore, MD ★ Fundamental Problems in Quantum Theory Workshop. Papers from the workshop held at the University of Maryland-Baltimore County, Baltimore, MD, August 4–7, 1997. Fortschr. Phys. **46** (1998), no. 6-8. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. i–ii and* 595–926. (Editors) **99j:81007** 81–06

Banach algebras '97 ★ Banach algebras '97. Proceedings of the 13th International Conference held in Blaubeuren, July 20–August 3, 1997. Edited by Ernst Albrecht and Martin Mathieu. *Walter de Gruyter & Co., Berlin*, 1998. *x*+566 *pp. ISBN* 3-11-015466-8 (Editors) **99f:46002** 46–06 (00B25)

Banff, AB ★ Boundaries, interfaces, and transitions. Papers from the 2nd Annual CRM Summer School held in Banff, AB, August 6–18, 1995. Edited by Michel C. Delfour. CRM Proceedings & Lecture Notes, 13. *American Mathematical Society, Providence, RI*, 1998. *xii*+343 *pp. ISBN* 0-8218-0505-3 (Editors) **99a:00021** 00B25 (35–06, 49–06, 73–06)

— ★ Summer School in Group Theory in Banff, 1996. Papers from the 3rd Annual CRM Summer School held in Banff, AB, August 11–23, 1996. Edited by Olga Kharlampovich. CRM Proceedings & Lecture Notes, 17. *American Mathematical Society, Providence, RI*, 1999. *xiv*+145 *pp. ISBN* 0-8218-0948-2 (Editors) **99h:20003** 20–06

— ★ Particles and fields. Papers from the CAP-CRM Summer School held in Banff, AB, summer 1994. Edited by Gordon Semenoff and Luc Vinet. CRM Series in Mathematical Physics. *Springer-Verlag, New York*, 1999. *xvi*+489 *pp. ISBN* 0-387-98402-X (Editors) **99h:81004** 81–06 (00B25, 58–06)

Bangalore ★ International Conference on Advances in Mechanical Engineering (ICAME). Selected papers from the conference held in Bangalore, December 20–22, 1995. Mech. Mach. Theory **33** (1998), no. 8. *Pergamon Press, Oxford*, 1998. *pp. i–ii and* 1085–1193. (Editors) **99g:70013** 70B15 (70–06)

— ★ Learning, control and hybrid systems. Festschrift in honor of Bruce Allen Francis and Mathukumalli Vidyasagar on the occasion of their 50th birthdays. Papers from the workshop held in Bangalore, January 4–8, 1998. Edited by Yutaka Yamamoto and Shinji Hara. Lecture Notes in Control and Information Sciences, 241. *Springer-Verlag London, Ltd., London*, 1999. *xvi*+451 *pp. ISBN* 1-85233-076-7 (Editors) **99g:93003** 93–06 (00B30, 93B36, 93C30, 93E35)

Barcelona ★ Algebraic geometry. Papers from the EUROPROJ Conferences held in Catania, September 1993, and Barcelona, September 1994. Edited by Peter E. Newstead. Lecture Notes in Pure and Applied Mathematics, 200. *Marcel Dekker, Inc., New York*, 1998. *x*+405 *pp. ISBN* 0-8247-0234-4 (Editors) **99f:14001** 14–06

Baton Rouge, LA ★ Applied analysis. Proceedings of the conference held in Baton Rouge, LA, April 19–21, 1996. Edited by J. Robert Dorroh, Gisèle Ruiz Goldstein, Jerome A. Goldstein and Michael Mudi Tom. Contemporary Mathematics, 221. *American Mathematical Society, Providence, RI*, 1999. *x*+284 *pp. ISBN* 0-8218-0673-4 (Editors) **99e:00016** 00B25

Beer Sheva ★ Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology. Part I. Held at Ben Gurion University, Beer Sheva, June 29–30, 1997. Edited by E. I. Guendelman. Hadronic J. **21** (1998), no. 1. *Hadronic Press, Inc., Palm Harbor, FL*, 1998. *pp. i–iv and* 1–109. (Editors) **99m:83001** 83–06

— ★ Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology. Part II. Held at Ben Gurion University, Beer Sheva, June 29–30, 1997. Edited by E. I. Guendelman. Hadronic J. **21** (1998), no. 2. *Hadronic Press, Inc., Palm Harbor, FL*, 1998. *pp.* 111–253. (Editors) **99m:83002** 83–06

— ★ Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology. Part III. Held at Ben Gurion University, Beer Sheva, June 29–30, 1997. Edited by E. I. Guendelman. Hadronic J. **21** (1998), no. 3. *Hadronic Press, Inc., Palm Harbor, FL*, 1998. *pp. i–ii and* 255–386. (Editors) **99m:83003** 83–06

Behaviour of granular materials ★ Behaviour of granular materials. Edited by Bernard Cambou. CISM Courses and Lectures, 385. *Springer-Verlag, Vienna*, 1998. *vi*+400 *pp. ISBN* 3-211-82920-2 (Editors) **99g:73001** 73–06 (73E99)

Beijing ★ Advances in nonlinear programming. Proceedings of the 1996 International Conference on Nonlinear Programming held in Beijing, September 2–5, 1996. Edited by Ya-xiang Yuan. Applied Optimization, 14. *Kluwer Academic Publishers, Dordrecht*, 1998. *xiv*+351 *pp. ISBN* 0-7923-5053-7 (Editors) **99b:90004** 90–06 (90C30)

— ★ Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications. Held in Beijing, September 17–20, 1997. Edited by P.-L. Curien, M. Hennessy and H. Lin. J. Comput. Sci. Tech. **13** (1998), no. 6. *Science Press, Beijing*, 1998. *pp.* 481–622. (Editors) **99i:68004** 68–06

— ★ Advances in nonlinear partial differential equations and related areas. A volume in honour of Professor Xiaqi Ding [Xia Xi Ding]. Papers from the conference held in Beijing, August 9–10, 1997. Edited by Gui-Qiang Chen, Yanyan Li, Xiping Zhu and Daomin Cao. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xxii*+426 *pp. ISBN* 981-02-3664-6 (Editors) **99m:35002** 35–06 (00B30)

— ★ IUTAM Symposium on Rheology of Bodies with Defects. Proceedings of the symposium held in Beijing, September 2–5, 1997. Edited by Ren Wang. Solid Mechanics and its Applications, 64. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xvi*+292 *pp. ISBN* 0-7923-5297-1 (Editors) **99i:73001** 73–06 (73B99, 73M25, 76A99)

Beiträge zur Geometrie ★ Beiträge zur Geometrie. (German) [Contributions to geometry] Edited by Otto Röschel. Grazer Mathematische Berichte [Graz Mathematical Reports], 332. *Karl-Franzens-Universität Graz, Graz*, 1997. *ii*+54 *pp.* (Editors) **99c:53002** 53–06

Belgrade ★ {50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts}. Papers from the Anniversary Symposium held in Belgrade, December 1996. Publ. Inst. Math. (Beograd) (N.S.) **64(78)** (1998). *Institut Mathématique, Belgrade*, 1998. *pp.* 1–204. (Editors) **99h:00021** 00B25

Bellaterra ★ Six lectures on commutative algebra. Papers from the Summer School on Commutative Algebra held in Bellaterra, July 16–26, 1996. Edited by J. Elías, J. M. Giral, R. M. Miró-Roig and S. Zarzuela. Progress in Mathematics, 166. *Birkhäuser Verlag, Basel*, 1998. *xii*+398 *pp. ISBN* 3-7643-5951-X (Editors) **99e:13001** 13–06

Berkeley, CA ★ Holomorphic spaces. Papers from the MSRI Program held in Berkeley, CA, 1995. Edited by Sheldon Axler, John E. McCarthy and Donald Sarason. Mathematical Sciences Research Institute Publications, 33. *Cambridge University Press, Cambridge*, 1998. *x*+476 *pp. ISBN* 0-521-63193-9 (Editors) **99a:00028** 00B25 (30–06, 46–06, 47–06)

— ★ Solving irregularly structured problems in parallel. Papers from the 5th International Symposium (IRREGULAR'98) held in Berkeley, CA, August 9–11, 1998. Edited by A. Ferreira, J. Rolim, H. Simon and S.-H. Teng. Lecture Notes in Computer Science, 1457. *Springer-Verlag, Berlin*, 1998. *x*+408 *pp. ISBN* 3-540-64809-7 (Editors) **99h:65007** 65–06 (65F30, 65Y05, 65Y25)

— ★ Convex geometric analysis. Papers from the Program on Convex Geometry and Geometric Analysis held at the Mathematical Sciences Research Institute (MSRI), Berkeley, CA, 1996. Edited by Keith M. Ball and Vitali Milman. Mathematical Sciences Research Institute Publications, 34. *Cambridge University Press, Cambridge*, 1999. *xx*+236 *pp. ISBN* 0-521-64259-0 (Editors) **99h:00026** 00B25 (52–06)

Berlin ★ Graph-theoretic concepts in computer science. Proceedings of the 23rd International Workshop (WG '97) held in Berlin, June 18–20, 1997. Edited by Rolf H. Möhring. Lecture Notes in Computer Science, 1335. *Springer-Verlag, Berlin*, 1997. *x*+376 *pp. ISBN* 3-540-63757-5 (Editors) **99d:68005** 68–06 (05C85, 68R10)

— ★ Self-organization of complex structures. From individual to collective dynamics. Proceedings of the International Conference held in Berlin, September 24–28, 1995. Edited by Frank Schweitzer. *Gordon and Breach Science Publishers, Amsterdam*, 1997. xxiv+596 *pp. ISBN* 90-5699-027-6 (Yoram Schiffmann) **99k:92005** 92B05 (35Q80, 90A16, 90C90)

— ★ Proceedings of the International Congress of Mathematicians. Vol. I. Invited plenary lectures. Appendix. Held in Berlin, August 18–27, 1998. Doc. Math. **1998**, Extra Vol. I. *Documenta Mathematica, Bielefeld*, 1998. *front matter and pp.* 1–662 (*electronic*). (Editors) **99e:00023** 00B25

— ★ Proceedings of the International Congress of Mathematicians. Vol. II. Sections 1–9. Held in Berlin, August 18–27, 1998. Doc. Math. **1998**, Extra Vol. II. *Documenta Mathematica, Bielefeld*, 1998. *front matter and pp.* 1–881 (*electronic*). (Editors) **99e:00024** 00B25

— ★ Proceedings of the International Congress of Mathematicians. Vol. III. Sections 10–19. Held in Berlin, August 18–27, 1998. Doc. Math. **1998**, Extra Vol. III. *Documenta Mathematica, Bielefeld*, 1998. *front matter and pp.* 1–825 (*electronic*). (Editors) **99e:00025** 00B25

— ★ Proceedings of the International Quantum Structures Association 1996. Held in Berlin, July 28–August 3, 1996. Edited by Karl-Eberhard Hellwig, Michael Keyl, Werner Stulpe and Mathias Trucks. Internat. J. Theoret. Phys. **37** (1998), no. 1. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–vi and* 1–628. (Editors) **99e:81004** 81–06 (81Pxx)

— ★ Models, theories and disunity in physics. Papers from the colloquium held in Berlin, June 5–7, 1996. Edited by Brigitte Falkenburg and Wolfgang Muschik. Philos. Natur. **35** (1998), no. 1. *Vittorio Klostermann, Frankfurt am Main*, 1998. *pp.* 1–223. (Editors) **99g:00024** 00A30

— ★ Mathematical visualization. Algorithms, applications and numerics. Papers from the International Workshop on Visualization and Mathematics held in Berlin, September 16–19, 1997. Edited by Hans-Christian Hege and Konrad Polthier. *Springer-Verlag, Berlin*, 1998. *xx*+391 *pp. ISBN* 3-540-63991-8 (Editors) **99k:65005** 65–06 (00B25, 65Y25)

— ★ Advances in modal logic. Vol. 1. Selected papers from the 1st Conference (AiML'96) held at the Free University of Berlin, Berlin, October 1996. Edited by Marcus Kracht, Maarten de Rijke, Heinrich Wansing and Michael Zakharyaschev [M. V. Zakhar'yashchev]. CSLI Lecture Notes, 87. *CSLI Publications, Stanford, CA*, 1998. *xvi*+392 *pp. ISBN* 1-57586-102-X 03B45 (03–06)

— ★ Iterative methods and preconditioners. Papers from the session held as part of the 15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics in Berlin, August 24–29, 1997. Edited by Rüdiger Weiss and Willi Schönauer. Appl. Numer. Math. **30** (1999), no. 2-3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 153–391. (Editors) **99m:65005** 65–06

Berlin-Dahlem ★ Visualization and mathematics. Experiments, simulations and environments. Papers from the International Workshop held in Berlin-Dahlem, May 30–June 2, 1995. Edited by Hans-Christian Hege and Konrad Polthier. *Springer-Verlag, Berlin*, 1997. *xx*+386 *pp. ISBN* 3-540-61269-6 (Hellmuth Stachel) **99g:68212** 68U05 (53–04, 53–06)

Białowieża ★ Coherent states, differential and quantum geometry. Proceedings of the 16th Workshop on Geometric Methods in Physics, including the Special Session in Memory of Ryszard Rączka, held in Białowieża, June 30–July 6, 1997. Edited by Martin Schlichenmaier, Aleksander Strasburger, S. Twareque Ali and Anatol Odzijewicz. Rep. Math. Phys. **43** (1999), no. 1-2. *Pergamon Press, Oxford*, 1999. *pp.* 1–366. (Editors) **99k:81004** 81–06 (58–06)

Bibliography:

Abstract state machines *see* **Börger, Egon et al., 99d:68001**

Atkin, A. O. L. *see* **Birch, Bryan J., 99c:11002**

Azbelev, Nikolaĭ Viktorovich *see* **Izobov, N. A. et al., 99k:01062**

Bers, Lipman *see* **Bers, Lipman, 99g:01041a** *and* **99g:01041b**

Borcherds, Richard Ewen *see* **Goddard, Peter**

Brahe, Tychonis, in Scandinavian scholarship *see* **Christianson, J. R.**

Brieskorn, Egbert V. Publication list: Prof. Dr. Egbert Brieskorn. *Singularities (Oberwolfach*, 1996), *xxiii–xxv, Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Editors) **99m:01061b** 01A70

Brockett, Roger Ware Curriculum vitae: Roger Ware Brockett. *Mathematical control theory, xix–xxxii, Springer, New York*, 1999. (Editors) **99m:01098** 01A70

Butzer, Paul Leo, signal theory *see* **Higgins, J. R., 99m:01069a**

Cambanis, Stamatis Publications of Stamatis Cambanis. *Stochastic processes and related topics, xvii–xxv, Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99e:60007**) 01A70

Chandrasekhar, Subrahmanyan Publications by S. Chandrasekhar. Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, *xiii–xxxiii.* (*see* **99h:00030**) 01A70

Bibliography: (*cont'd.*)
Chitashvili, Revaz *see* **Lazrieva, N. et al., 99m:01076**
Ciorănescu, Nicolae *see* **Georgescu, Adelina**
Cipolla, Michele *see* **Cipolla, Michele, 99d:01038**
Clifton, Rodney James Preface: Rodney James Clifton. Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, *vii–xix.* (*see* **99g:73003**) 01A70
Combinatorial optimization ★ Annotated bibliographies in combinatorial optimization. Edited by Mauro Dell'Amico, Francesco Maffioli and Silvano Martello. Wiley-Interscience Series in Discrete Mathematics and Optimization. A Wiley-Interscience Publication. *John Wiley & Sons, Ltd., Chichester*, 1997. *xiv*+495 *pp. ISBN* 0-471-96574-X (Ulrich Faigle) **99j:90001** 90–00 (00A15, 05–00, 90C27)
Crumeyrolle, Albert List of publications of Albert Crumeyrolle (1919–1992). (French) *Clifford algebras and spinor structures*, xv–xix, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Summary) **99a:01022b** 01A70
Danilyuk, Ivan Il'ich *see* **Danilyuk, I. I., 99f:01029**
Descartes, René *see* **Pies, Eike, 99f:01022**
Dobrakov, Ivan *see* **Haluška, Ján, 99m:01063**
Doĭchinov, Doĭchin B. Doitchin Doitchinov (1926–1996). Bibliographical data. *Serdica Math. J.* **24** (1998), *no.* 1, *iii–viii.* (Editors) **99m:01101** 01A70
Dragomirescu, Mihai *see* **Iosifescu, Marius**
Duhem, Pierre-Maurice-Marie *see* **Duhem, Pierre, 99g:01043**
Dwork, Bernard Morris Bernard Morris Dwork (New York City 27.5.1923–Princeton 9.5.1998) [List of publications]. *Rend. Sem. Mat. Univ. Padova* **100** (1998), *v–x.* 01A70
Fichera, Gaetano List of publications of Gaetano Fichera. *Appl. Anal.* **65** (1997), *no.* 1-2, 3–18. 01A70
Flores, Antonio I. *see* **Padilla Gálvez, Jesús, 99f:54002**
Fox, Leslie Obituary: Leslie Fox. *Bull. London Math. Soc.* **31** (1999), *no.* 2, 241–247. (Editors) **99k:01078** 01A70
Franić, Ivan *see* **Neralić, Luka, 99m:01083**
Fushchich, Vil'gel'm Il'ich, monographs To memory of Wilhelm Illych Fushchych [1936–1997]. Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, ii–iv. (Editors) **99c:01025** 01A70
Fuzzy sets and systems *see* **Dubois, Didier et al.**
Gamkrelidze, Revaz Valerianovich *see* **Kharatishvili, Guram, 99m:01072**
Gegelia, Tengiz Georgievich *see* **Buchukuri, Tengiz, 99m:01044**
Gowers, William Timothy *see* **Bollobás, Béla**
Grassmann, Hermann Günther *see* **Grassmann, Hermann Günther, 99e:01015**
Grudo, Èduard Iosifovich *see* **Gaĭshun, I. V. et al., 99k:01057**
Gu, Chao Hao List of publications of Professor Gu Chaohao. *Collection of papers on geometry, analysis and mathematical physics*, 6–13, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00025**) 01A70
Hájek, Jaroslav *see* **Hájek, Jaroslav, 99k:01086**
Hasumi, Morisuke *see* **Hiai, Fumio, 99m:01068**
History of science and its cultural influences Current bibliography of the history of science and its cultural influences. 1998. Edited by John Neu. *Isis* **89** (1998), *Current Bibliography* 1998, *suppl., xvi*+308 *pp.* (Editors) **99m:00003** 00A15
Hurewicz, Witold *see* **Borsuk, Karol, (99a:01001)**
Jurchescu, Martin Martin Jurchescu (1927–1996). Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 1–8. (Editors) **99m:01102** 01A70
Kaluzhnin, Lev Arkad'evich *see* **Sushchanskiĭ, V. I. et al., 99m:01091**
Karatsuba, Anatoliĭ Alekseevich On the mathematical papers of Professor A. A. Karatsuba. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 7–19. (Matti Jutila) **99i:11001** 11–03 (01A70)
Kontsevich, Maxim *see* **Taubes, Clifford Henry**
Krasnosel'skiĭ, Mark Aleksandrovich *see* **Bobylev, N. A. et al., 99m:01042**
Kubenko, Veniamin Dmitrievich Veniamin Dmitrievich Kubenko (on the occasion of his sixtieth birthday). (Russian) *Prikl. Mekh.* **34** (1998), *no.* 7, 110–111; *translation in Internat. Appl. Mech.* **34** (1998), *no.* 7, 700–701 (1999). 01A70
Levinson, Norman *see* **Levinson, Norman, 99d:01039a** *and* **99d:01039b**
Liptser, Robert Sh. Publications of Robert Sh. Liptser. *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), *xiii–xxi, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99e:60005**) 01A70
Marchenko, Vladimir Aleksandrovich *see* **Berezanskiĭ, Yuriĭ Makarovich et al., 99m:01041**
McMullen, Curtis T. *see* **Smale, Stephen**
Nachbin, Leopoldo ★ Leopoldo Nachbin. (Portuguese) Edited by Jorge Alberto Barroso and André Nachbin. *Universidade Federal do Rio de Janeiro, Rio de Janeiro*, 1997. 143 *pp.* (Editors) **99f:01025** 01A70
Neuman, František *see* **Došlý, Ondřej, 99m:01052**
Orsatti, Adalberto List of Adalberto Orsatti's publications. *Abelian groups, module theory, and topology* (*Padua*, 1997), 31–33, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (*see* **99f:00028**) 01A70
Papers of the Mathematics-Natural Science Section, Austrian Academy of Sciences ★ Die Schriften der mathematisch-naturwissenschaftlichen Klasse. 1971–1996. (German) [Papers of the Mathematics-Natural Sciences Section. 1971–1996] Autorenverzeichnis (1971–1996). Schriftenreihen. Ergänzungen (bis 1925). Ergänzungen zu Band II (1926–1970). Preisträger der math.-nat. Klasse. [Author index (1971–1996). Text series. Supplements (until 1925). Supplements to Vol. II (1926–1970). Prize winners of the Mathematics-Natural Science Section] Compiled by Bruno Besser. Dokumentation zur Österreichischen Akademie der Wissenschaften [Documentation on the Austrian Academy of Sciences], IV. *Verlag der Österreichischen Akademie der Wissenschaften, Vienna*, 1998. *x*+535 *pp. ISBN* 3-7001-2726-X (Editors) **99k:00007** 00A15
Peierls, Rudolf Ernst *see* **Peierls, Rudolf, 99e:01035**
Pesce, Hubert Publications de Hubert Pesce (1966–1997). [Publications of Hubert Pesce (1966–1997)] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 5–6, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (*see* **99b:53003**) 01A70

Bibliography: (*cont'd.*)
Petrovskiĭ, Ivan Georgievich *see* **Petrovskiĭ, Ivan Georgievich, 99m:01106a** *and* **99m:01106b**
Pontryagin, Lev Semenovich *see* **Kostomarov, D. P. et al.**
Postnikov, Alekseĭ Georgievich *see* **Vladimirov, V. S. et al., 99m:01094**
Prasad, Badri Nath *see* **Singh, Udita Narayana, 99m:01090**
de Prony, Gaspard Clair François Marie Riche *see* **Bradley, Margaret, 99i:01031**
Prucnal, Tadeusz *see* **Dyrda, Kazimiera et al., 99m:01054**
Ribenboim, Paulo *see* **Ribenboim, Paulo, 99j:01029a**
Rough sets Selected bibliography on rough sets. *Rough sets in knowledge discovery*, 2, 491–552, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 00A15 (04A72)
Samoĭlenko, Anatoliĭ Mikhaĭlovich *see* **Boĭchuk, A. A. et al., 99k:01046**
Serrano, Fernando List of Publications of Fernando Serrano [1957–1997]. Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, *iii–iv.* (*see* **99i:00032**) 01A70
Shirokov, Aleksandr Petrovich *see* **Shapukov, B. N. et al., 99k:01073**
Shor, Peter W. *see* **Graham, Ronald L.**
Smale, Stephen Stephen Smale [biographic notice]. *Fields Medallists' lectures*, 134–141, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70
Sobociński, Bolesław *see* **Tatarkiewicz, Krzysztof, 99m:01092**
Speranza, Francesco ★ Convegno per i Sessantacinque Anni di Francesco Speranza. (Italian) [Conference in Honor of the Sixty-fifth Birthday of Francesco Speranza] Papers from the conference held in Bologna, October 11, 1997. Edited by Bruno D'Amore and Consolato Pellegrino. *Pitagora Editrice, Bologna*, 199?. *iv*+162 *pp.* (Editors) **99g:00052** 00B30 (00A30, 00A35, 00B05, 01–06)
Suliński, Adam *see* **Krempa, Jan et al., 99m:01074**
Šulka, Robert *see* **Grošek, Otokar et al., 99m:01062**
Sunyer i Balaguer, Ferran *see* **Malet, Antoni, 99a:01021**
Svoboda, Karel *see* **Janyška, Josef et al., 99m:01070**
Szlenk, Wiesław *see* **Nowicki, Tomasz, 99m:01084**
Tallini, Giuseppe *see* **Ceccherini, Pier Vittorio, 99m:01048**
Taussky-Todd, Olga Publications of Olga Taussky Todd. Special issue in memory of Olga Taussky Todd. *Linear Algebra Appl.* **280** (1998), *no.* 1, 67–85. (*see* **99c:01028**) 01A70
Theory of queueing networks *see* **Khan, S. U. et al.**
Ul'yanov, Petr Lavrent'evich *see* **Bakhalov, N. S. et al., 99m:01039**
Vaidyanathaswamy, R. *see* **Narasinga Rao, A. et al.**
Varadarajan, V. S. *see* **Varadarajan, V. S., 99j:01030**
Vekua, Il'ya Nestorovich *see* **Gilbert, Robert Pertsch et al., 99m:01058**
Volkov, D. V. List of main publications of D. V. Volkov. *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 399–405, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 01A70
Voronin, Sergeĭ Mikhaĭlovich *see* **Arkhipov, G. I. et al., 99m:01037**
Wigner, Eugene Paul *see* **Wigner, Eugene Paul, 99k:01088** *and* **99k:01089**
Witt, Ernst *see* **Witt, Ernst, 99i:01038**
Wójcik, Jan *see* **Schinzel, Andrzej, 99m:01087**
Works on Taussky-Todd, Olga Publications about Olga Taussky Todd. Special issue in memory of Olga Taussky Todd. *Linear Algebra Appl.* **280** (1998), *no.* 1, 59–61. (*see* **99c:01028**) 01–00 (00A15, 01A70)
Wos, Lawrence Thomas A bibliography of Larry Wos. *Automated reasoning and its applications*, 235–241, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 01A70
Zakharyuta, V. P. Selected works of V. P. Zahariuta. Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), *vii–xi.* (*see* **99a:00052**) 01A70
Zionts, Stanley Stanley Zionts [curriculum vitae and publications]. *Essays in decision making*, 407–428, *Springer, Berlin*, 1997. (*see* **99f:90005**) 01A70
Złotkiewicz, Eligiusz J. Eligiusz J. Złotkiewicz—a biography. Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, *vii–xi.* (Editors) **99m:01099** 01A70

Biography:
Ahlfors, Lars Valerian *see* **Ahlfors, Lars Valerian, (99b:00010)**
Atkin, A. O. L. *see* **Birch, Bryan J., 99c:11002**
Azbelev, Nikolaĭ Viktorovich *see* **Izobov, N. A. et al., 99k:01062**
Babbage, Charles The "last word" on Charles Babbage. (English summary) Compiled by Michael R. Williams. *IEEE Ann. Hist. Comput.* **20** (1998), *no.* 4, 10–14. (Summary) **99i:01021** 01A55
Banach, Stefan *see* **Szlenk, Wiesław**
Bazykin, A. D. *see* **Bazykin, A. D., 99k:92001**
Bers, Lipman *see* **Bers, Lipman, 99g:01041a** *and* **99g:01041b**
Birnbaum, Z. William *see* **Woyczyński, Wojbor A., 99g:01037**
Bobrowski, Dobiesław A. *see* **Werbowski, Jarosław**
Borcherds, Richard Ewen *see* **Jackson, Allyn** *and* **Goddard, Peter**
Bose, Raj Chandra *see* **Shrikhande, S. S., (99f:62006)**
Bridges, Douglas S. *see* **Kalnins, E. G. et al., 99k:01063**
Brockett, Roger Ware Curriculum vitae: Roger Ware Brockett. *Mathematical control theory, xix–xxxii, Springer, New York*, 1999. (Editors) **99m:01098** 01A70
Bronshtein, Matveĭ Petrovich *see* **Bronshtein, M. P.**
Butzer, Paul Leo *see* **Higgins, J. R., 99m:01069a**
Chitashvili, Revaz *see* **Lazrieva, N. et al., 99m:01076**
Cipolla, Michele *see* **Cipolla, Michele, 99d:01038**
Clifton, Rodney James Preface: Rodney James Clifton. Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, *vii–xix.* (*see* **99g:73003**) 01A70
Descartes, René *see* **Pies, Eike, 99f:01022**
Duhem, Pierre-Maurice-Marie *see* **Duhem, Pierre, 99g:01043**
Dürer, Albrecht *see* **Klingenberg, Wilhelm P. A., 99a:01026**
Einstein, Albert *see* **Einstein, Albert, 99e:01033**
Erdős, Paul[1] *see* **Csicsery, George Paul, 99g:01032**

Biography: (*cont'd.*)
Fleck, Albert *see* **Stürzbecher, Manfred, 99k:01076**
Flores, Antonio I. *see* **Padilla Gálvez, Jesús, 99f:54002**
Franscini, Stefano *see* **Marazzi, Christian, (99e:62002)**
Gamkrelidze, Revaz Valerianovich *see* **Kharatishvili, Guram, 99m:01072**
Gershgorin, S. A. *see* **Fujino, Seiji et al.**
Goldbach, Christian *see* **Yushkevich, A. P. et al., 99f:01024**
Gowers, William Timothy *see* **Jackson, Allyn** *and* **Bollobás, Béla**
Green, George *see* **Hall, George G., 99c:01021**
Hájek, Jaroslav *see* **Hájek, Jaroslav, 99k:01086**
Halford, William Dean *see* **Hendy, Mike**
Hartogs, Friedrich *see* **Bauer, Friedrich L., 99g:01031**
Hasumi, Morisuke *see* **Hiai, Fumio, 99m:01068**
Hermann, Jakob *see* **Mazzone, Silvia et al., 99f:01010**
Hörmander, Lars *see* **Hörmander, Lars, (99b:00010)**
Hurewicz, Witold *see* **Borsuk, Karol, (99a:01001)**
Jacobi, Carl Gustav Jacob ★ Korrespondenz Adrien-Marie Legendre–Carl Gustav Jacob Jacobi. (German) [The correspondence of Adrien-Marie Legendre and Carl Gustav Jacob Jacobi] Reprint of "Correspondance mathématique entre Legendre et Jacobi" (1875) with German translation by E. Knobloch and B. Mai. Edited, with commentaries and an essay by Herbert Pieper. Teubner-Archiv zur Mathematik [Teubner Archive on Mathematics], 19. *B. G. Teubner Verlagsgesellschaft mbH, Stuttgart*, 1998. 245 *pp. ISBN* 3-8154-2128-4 (Karl-Heinz Schlote) **99i:01022** 01A55 (01A70, 33–03)
— *see also* **Pieper, Herbert, (99k:01080)**
Kaczorek, Tadeusz Professor Tadeusz Kaczorek—65th anniversary. Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 199–200. (*see* **99a:93003**) 01A70
Kaluzhnin, Lev Arkad'evich *see* **Sushchanskiĭ, V. I. et al., 99m:01091**
Kantorovich, Leonid Vital'evich *see* **Kantorovich, L. V., 99f:01030**
Keldysh, Mstislav Vsevolodovich *see* **Grigor'yan, A. T., (99g:01002)**
Klein, Felix *see* **Siegmund-Schultze, Reinhard, 99k:01028**
Kontsevich, Maxim *see* **Jackson, Allyn** *and* **Taubes, Clifford Henry**
Levinson, Norman *see* **Levinson, Norman, 99d:01039a**
Liebmann, Karl Otto Heinrich *see* **Bauer, Friedrich L., 99g:01031**
Lifshits, Il'ya Mikhaĭlovich Reminiscences about Il'ya Mikhaĭlovich Lifshits. (Russian) With contributions by A. F. Andreev, M. I. Kaganov, S. A. Gredeskul, D. Shënberg, M. Ya. Azbel', A. R. Khokhlov, Yu. M. Kagan, A. Yu. Grosberg, Ya. G. Sinaĭ, L. A Pastur, A. A. Chernov, V. G. Peschanskiĭ, I. L. Ipatova, V. Ya. Kirpichenkov and D. E. Khmel'nitskiĭ. *Priroda* **1998**, *no.* 5, 71–103. 01A70
Markov, Andreĭ Andreevich *see* **Nikiforovskiĭ, V. A.**
Maxwell, James Clerk *see* **Toyoda, Toshiyuki, 99g:01025**
McMullen, Curtis T. *see* **Jackson, Allyn** *and* **Smale, Stephen**
Menger, Karl *see* **Menger, Karl, 99j:01028**
Murty, Vedula N. *see* **Wagner, Clifford H.**
Musil, Robert *see* **Klingenberg, Wilhelm P. A., 99a:01026**
Nachbin, Leopoldo ★ Leopoldo Nachbin. (Portuguese) Edited by Jorge Alberto Barroso and André Nachbin. *Universidade Federal do Rio de Janeiro, Rio de Janeiro*, 1997. 143 *pp.* (Editors) **99f:01025** 01A70
Nash, John Forbes, Jr. *see* **Nasar, Sylvia, 99j:01021**
Peirce, Charles Sanders *see* **Peirce, Charles Sanders, 99h:01043**
Pogrebysskiĭ, Iosif Benediktovich *see* **Pogrebysskiĭ, I. B., 99k:70001**
Postnikov, Alekseĭ Georgievich *see* **Vladimirov, V. S. et al., 99m:01094**
Prasad, Badri Nath *see* **Singh, Udita Narayana, 99m:01090**
Pringsheim, Alfred *see* **Bauer, Friedrich L., 99g:01031**
de Prony, Gaspard Clair François Marie Riche *see* **Bradley, Margaret, 99i:01031**
Quetelet, Lambert-Adolphe-Jacques *see* **André, Robert, (99a:01002)**
Ribenboim, Paulo *see* **Ribenboim, Paulo, 99j:01029f**
Rudin, Walter *see* **Rudin, Walter, 99g:01035**
Schnürlein, Ludwig Christoph *see* **Maurer, Bertram, 99i:01035**
Shor, Peter W. *see* **Jackson, Allyn** *and* **Graham, Ronald L.**
Słonimski, Chaim Selig *see* **Zielnica, Krzysztof, 99c:01027**
Smale, Stephen Stephen Smale [biographic notice]. *Fields Medallists' lectures*, 134–141, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70
Sobociński, Bolesław *see* **Tatarkiewicz, Krzysztof, 99m:01092**
Stäckel, Paul *see* **von Renteln, Michael, 99j:01023**
Sunyer i Balaguer, Ferran *see* **Malet, Antoni, 99a:01021** *and* **99m:01080**
Syski, Ryszard *see* **Dshalalow, Jewgeni H.**
Thom, René *see* **Thom, Réné, (99b:00010)**
Tukey, John Wilder Biographical information [on John Wilder Tukey]. *The practice of data analysis* (*Princeton, NJ*, 1995), 5–8, *Princeton Univ. Press, Princeton, NJ*, 1997. (*see* **99b:62003**) 01A70
Vaidyanathaswamy, R. *see* **Balachandran, V. K.**
Vekua, Il'ya Nestorovich *see* **Gilbert, Robert Pertsch et al., 99m:01058**
Wiles, Andrew *see* **Coates, John**
Witt, Ernst *see* **Witt, Ernst, 99i:01038**
Wójcik, Jan *see* **Schinzel, Andrzej, 99m:01087**
Women in mathematics ★ Notable women in mathematics. A biographical dictionary. Edited by Charlene Morrow and Teri Perl. *Greenwood Press, Westport, CT*, 1998. *xvi*+302 *pp. ISBN* 0-313-29131-4 (From the introduction) **99d:01037** 01A70 (00A20)
Wos, Lawrence Thomas ★ Automated reasoning and its applications. Essays in honor of Larry Wos. Edited by Robert Veroff with the assistance of Gail W. Pieper. *MIT Press, Cambridge, MA*, 1997. x+247 *pp. ISBN* 0-262-22055-5 (J. A. Kalman) **99a:68152** 68T15 (00B30, 03B35, 68–06)
Zionts, Stanley Stanley Zionts [curriculum vitae and publications]. *Essays in decision making*, 407–428, *Springer, Berlin*, 1997. (*see* **99f:90005**) 01A70
Złotkiewicz, Eligiusz J. Eligiusz J. Złotkiewicz—a biography. Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, *vii–xi*. (Editors) **99m:01099** 01A70

Birmingham ★ The atlas of finite groups: ten years on. Proceedings of the Conference on Group Theory and its Applications held in Birmingham, July 10–13, 1995. Edited by Robert Curtis and Robert Wilson. London Mathematical Society Lecture Note Series, 249. *Cambridge University Press, Cambridge*, 1998. *xviii*+293 *pp. ISBN* 0-521-57587-7 (Editors) **99e:20002** 20–06 (20Dxx)
— ★ Third Workshop on Computation and Approximation (Comprox III). Proceedings of the workshop held in Birmingham, September 11–13, 1997. Edited by Abbas Edalat, Achim Jung, Klaus Keimel and Marta Kwiatkowska. Electronic Notes in Theoretical Computer Science, 13. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+246 *pp.* (*electronic*). (Editors) **99i:00013** 00B15
Birthday:
Arnol'd, Vladimir Igorevich *see* **Zakalyukin, Vladimir M., (99m:58006)**
Arsen'ev, Alekseĭ Alekseevich Alekseĭ Alekseevich Arsen'ev (on the occasion of his sixtieth birthday). (Russian) *Mat. Model.* **10** (1998), *no.* 10, 123–124. 01A70
— Alekseĭ Alekseevich Arsen'ev (on the occasion of his sixtieth birthday). (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 2, 181–182. 01A70
Azlarov, Tursun Abdurakhimovich Tursun Abdurakhimovich Azlarov (on the occasion of his sixtieth birthday). (Russian) *Uzbek. Mat. Zh. No.* 1 (1998), 122–123. 01A70
Babich, Ivan Yur'evich Ivan Yur'evich Babich (on the occasion of his sixtieth birthday). (Russian) *Prikl. Mekh.* **34** (1998), *no.* 1, 111–112; *translation in Internat. Appl. Mech.* **34** (1998), *no.* 1, 101–102. 01A70
Bergmann, Peter Gabriel ★ Quantum gravity. Proceedings of the 14th Course of the International School of Cosmology and Gravitation held in honor of Peter Gabriel Bergmann on his 80th Birthday in Erice, May 11–19, 1995. Edited by Bergmann, V. de Sabbata and H.-J. Treder. The Science and Culture Series—Physics, 10. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xx*+435 *pp. ISBN* 981-02-2786-8 (Editors) **99f:83004** 83–06 (83C45)
Blekhman, Il'ya Izrailevich Il'ya Izrailevich Blekhman (on the occasion of his seventieth birthday). (Russian) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 1056–1057. 01A70
Brockett, Roger Ware ★ Mathematical control theory. Dedicated to Roger Ware Brockett on the occasion of his 60th birthday. Edited by J. Baillieul and J. C. Willems. *Springer-Verlag, New York*, 1999. *xxxii*+360 *pp. ISBN* 0-387-98317-1 (Editors) **99g:93004** 93–06 (00B30)
Bubnicki, Zdzisław Professor Zdzisław Bubnicki—60th anniversary. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 681–682. 01A70
Butzer, Paul Leo ★ {Dedicated to Paul Leo Butzer}. Results Math. **34** (1998), no. 1-2. *Birkhäuser Verlag, Basel*, 1998. *pp.* 1–206. 00B30
Chernous'ko, Feliks Leonidovich Feliks Leonidovich Chernous'ko (on the occasion of his sixtieth birthday). (Russian) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 723–725; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 669–670 (1999). 01A70
Chirikov, Boris Valerianovich ★ Classical and quantum chaos. Dedicated to Boris Chirikov on the occasion of his 70th birthday. Ann. Inst. H. Poincaré Phys. Théor. **68** (1998), no. 4. *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris*, 1998. *pp. i–ii and* 379–523. (Editors) **99b:58004** 58–06 (81–06)
— *see also* **Belissard, J. et al., (99b:58004)**
Clifton, Rodney James ★ Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials. Honoring Professor Rodney J. Clifton on the occasion of his 60th birthday. Held at the California Institute of Technology, Pasadena, CA, May 22–24, 1997. J. Mech. Phys. Solids **46** (1998), no. 10. *Pergamon Press, Oxford*, 1998. *pp. i–xx and* 1699–2181. (Editors) **99g:73003** 73–06 (00B30, 73M25, 73S10)
Csörgő, Miklós ★ Asymptotic methods in probability and statistics. A volume in honour of Miklós Csörgő. Proceedings of the International Conference (ICAMPS'97) held at Carleton University, Ottawa, ON, July 8–13, 1997. Edited by Barbara Szyszkowicz. *North-Holland, Amsterdam*, 1998. *xxxiv*+889 *pp. ISBN* 0-444-50083-9 (Editors) **99f:60002** 60–06 (00B30, 62–06)
Ehrenfeucht, Andrzej ★ Structures in logic and computer science. A selection of essays in honor of A. Ehrenfeucht. Edited by Jan Mycielski, Grzegorz Rozenberg and Arto Salomaa. Lecture Notes in Computer Science, 1261. *Springer-Verlag, Berlin*, 1997. *x*+371 *pp. ISBN* 3-540-63246-8 (Editors) **99b:68008** 68–06 (00B30, 03–06)
Elsner, Ludwig F. ★ Special issue celebrating the 60th birthday of Ludwig Elsner. Edited by R. Bhatia, A. Bunse-Gerstner, V. Mehrmann and D. D. Olesky. Linear Algebra Appl. **287** (1999), no. 1-3. *North-Holland Publishing Co., New York*, 1999. *pp. vii–x and* 1–379. 00B30 (15–06, 65–06)
Epstein, David B. A. ★ The Epstein birthday schrift. Edited by Igor Rivin, Colin Rourke and Caroline Series. Geometry & Topology Monographs, 1. *Geometry & Topology, Coventry*, 1998. *front matter*+576 *pp.* (*electronic*). (Editors) **99h:00016** 00B15 (00B30, 57–06)
Evtushenko, Yuriĭ Gavrilovich Yuriĭ Gavrilovich Evtushenko (on the occasion of his sixtieth birthday). (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 3, 355–356. 01A70
Gamkrelidze, Revaz Valerianovich ★ {Dedicated to Revaz Gamkrelidze}. Mem. Differential Equations Math. Phys. **11** (1997). *Publishing House GCI, Tbilisi*, 1997. *pp.* 1–156. 00B30
Gécseg, Ferenc ★ {Dedicated to Professor Ferenc Gécseg}. Acta Cybernet. **14** (1999), no. 1. *József Attila University, Department of Informatics, Szeged*, 1999. *pp. i–ii and* 1–214. 00B30
Gu, Chao Hao ★ Collection of papers on geometry, analysis and mathematical physics. In honor of Professor Gu Chaohao. Edited by Ta-Tsien Li [Da Qian Li]. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+175 *pp. ISBN* 981-02-3024-9 (Editors) **99b:00025** 00B30
Hsiung, Chuan-Chih ★ Surveys in differential geometry. Vol. III. A supplement to the Journal of Differential Geometry. Lectures on geometry and topology in honor of the 80th birthday of Chuan-Chih Hsiung held at Harvard University, Cambridge, MA, May 3–5, 1996. Edited by C.-C. Hsiung and S.-T. Yau. *International Press, Boston, MA*, 1998. *x*+339 *pp. ISBN* 1-57146-067-5 (Editors) **99k:58003** 58–06 (57–06)
Il'in, Vladimir Aleksandrovich[1] Vladimir Aleksandrovich Il'in (on the occasion of his seventieth birthday). (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 3–4. 01A70
Jaaksoo, Ülo *see* **Kotta, Ülle**

Birthday: (*cont'd.*)

Kaczorek, Tadeusz Professor Tadeusz Kaczorek—65th anniversary. Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 199–200. (*see* **99a:93003**) 01A70

Kalmbach, Gudrun ★ Quantum structures. II. Dedicated to Gudrun Kalmbach. Papers from the 4th Biannual Meeting of the International Quantum Structures Association held in Liptovský Ján, August 30–September 5, 1998. Edited by Anatolij Dvurečenskij and Sylvia Pulmannová. Tatra Mt. Math. Publ. **15** (1998). *Slovak Academy of Sciences, Mathematical Institute, Bratislava*, 1998. *pp.* 1–244. (Editors) **99g:00049** 00B25 (00B30)

Karatsuba, Anatoliĭ Alekseevich ★ К 60-летию со дня рождения профессора Анатолия Алексеевича Карацубы. (Russian) [Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday] Tr. Mat. Inst. Steklova **218** (1997), Anal. Teor. Chisel i Prilozh. *Mezhdunarodnaya Akademicheskaya Izdatel'skaya Kompaniya "Nauka", Moscow*, 1997. *pp.* 1–448. 11–06 (00B30)

— *see also* **Arkhipov, G. I. et al., 99m:01038**

Kawarada, Hideo ★ Recent developments in domain decomposition methods and flow problems. Papers from the International Symposium on Domain Decomposition Methods and Related Topics held in honor of the 60th birthday of Hideo Kawarada at Kyoto University, Kyoto, July 17–19, 1996, and the 1st JSIAM-SIMAI Joint Symposium on Flow Problems and Phase Field Models held in Anacapri, October 3–5, 1996. Edited by H. Fujita, H. Koshigoe, M. Mori, M. Nakamura, T. Nishida and T. Ushijima. GAKUTO International Series. Mathematical Sciences and Applications, 11. *Gakkōtosho Co., Ltd., Tokyo*, 1998. *vi*+378 *pp. ISBN* 4-7625-0420-3 (Editors) **99g:00054** 00B30 (00B25, 35–06, 65–06, 76–06, 76Mxx)

Ki, U-Hang ★ Dedicated to U-Hang Ki on the occasion of his 60th birthday. Kyungpook Math. J. **35** (1996), no. 3, Special Issue. *Kyungpook National University, Department of Mathematics, Taegu*, 1996. *pp. i–ii and* 393–875. (Editors) **99k:00040** 00B30

Koshlyakov, Vladimir Nikolaevich Volodimir Mikolaĭovich Koshlyakov (on the occasion of his 75th birthday). (Ukrainian) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1443; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1621 (1998). 01A70

Kosmodamianskiĭ, Aleksandr Sergeevich Aleksandr Sergeevich Kosmodamianskiĭ (on the occasion of his seventieth birthday). (Russian) *Prikl. Mekh.* **34** (1998), *no.* 3, 110–111. 01A70

Križanič, France F. *see* **Suhadolc, Anton**

Kubenko, Veniamin Dmitrievich Veniamin Dmitrievich Kubenko (on the occasion of his sixtieth birthday). (Russian) *Prikl. Mekh.* **34** (1998), *no.* 7, 110–111; *translation in Internat. Appl. Mech.* **34** (1998), *no.* 7, 700–701 (1999). 01A70

Kubilius, Jonas ★ New trends in probability and statistics. Vol. 4. Analytic and probabilistic methods in number theory. Proceedings of the 2nd International Conference held in honor of J. Kubilius on his 75th birthday in Palanga, September 23–27, 1996. Edited by A. Laurinčikas, E. Manstavičius and V. Stakėnas. *VSP, Utrecht*; *TEV Ltd., Vilnius*, 1997. *x*+501 *pp. ISBN* 90-6764-255-X (Editors) **99f:11003** 11–06 (11Kxx)

Lax, Peter D. ★ Differential equations: La Pietra 1996. Papers from the conference marking the 70th birthdays of Peter Lax and Louis Nirenberg held in Florence, July 3–7, 1996. Edited by M. Giaquinta, J. Shatah and S. R. S. Varadhan. Proceedings of Symposia in Pure Mathematics, 65. *American Mathematical Society, Providence, RI*, 1999. *xii*+219 *pp. ISBN* 0-8218-0610-6 (Editors) **99g:35004** 35–06 (00B25, 00B30, 58–06)

Lions, Jacques-Louis ★ Équations aux dérivées partielles et applications. [Partial differential equations and applications] Articles dédiés à Jacques-Louis Lions. [Articles dedicated to Jacques-Louis Lions] *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris*, 1998. *viii*+808 *pp. ISBN* 2-84299-041-2 (Editors) **99f:00029** 00B30 (35–06)

Liptser, Robert Sh. ★ Statistics and control of stochastic processes. The Liptser Festschrift. Papers from the Steklov Seminar held in Moscow, 1995–1996. Edited by Yu. M. Kabanov, B. L. Rozovskii and A. N. Shiryaev. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxii*+354 *pp. ISBN* 981-02-3292-6 (Editors) **99e:60005** 60–06 (00B30)

Łojasiewicz, Stanisław ★ Singularities Symposium—Łojasiewicz 70. Dedicated to Stanisław Łojasiewicz on the occasion of his 70th birthday. Papers from the Symposium on Singularities held at Jagellonian University, Kraków, September 25–29, 1996 and the Seminar on Singularities and Geometry held in Warsaw, September 30–October 4, 1996. Edited by Bronisław Jakubczyk, Wiesław Pawłucki and Jacek Stasica. Banach Center Publications, 44. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 292 *pp.* (Editors) **99i:00035** 00B30 (14–06, 32–06)

Luk'yanov, A. T. Academician A. T. Luk'yanov (on the occasion of his 75th birthday). (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1997**, *no.* 2, 69. 01A70

Lumiste, Ülo *see* **Rahula, Maido**

Marchenko, Vladimir Aleksandrovich *see* **Berezanskiĭ, Yuriĭ Makarovich et al., 99m:01041**

Miron, Radu ★ Collection of papers in honour of Academician Radu Miron on his 70th birthday. Rev. Roumaine Math. Pures Appl. **42** (1997), no. 9-10. *Editura Academiei Române, Bucharest*, 1997. *pp.* 673–842. 00B30

Moiseev, Evgeniĭ Ivanovich *see* **Belotserkovskiĭ, O. M. et al.**

Mróz, Zenon ★ Recent advances in structural modelling and optimization. Dedicated to Professor Zenon Mróz. Edited by Jan Sokołowski and John Taylor. Control Cybernet. **27** (1998), no. 2. *Polish Academy of Sciences, Systems Research Institute, Warsaw*, 1998. *pp.* 159–330. (Editors) **99k:73003** 73–06 (00B30, 49Q10, 73K40, 90C90)

Musielak, Julian ★ {Dedicated to Julian Musielak}. A collection of papers on the occasion of his 70th birthday. Funct. Approx. Comment. Math. **26** (1998). *Adam Mickiewicz University Press, Poznań*, 1998. *pp.* 1–319. 00B30

Nagaev, Aleksandr Viktorovich Aleksandr Viktorovich Nagaev (on the occasion of his sixtieth birthday). (Russian) *Uzbek. Mat. Zh. No.* 1 (1998), 123–124. 01A70

Neuman, František *see* **Došlý, Ondřej, 99m:01052**

Nirenberg, Louis ★ Differential equations: La Pietra 1996. Papers from the conference marking the 70th birthdays of Peter Lax and Louis Nirenberg held in Florence, July 3–7, 1996. Edited by M. Giaquinta, J. Shatah and S. R. S. Varadhan. Proceedings of Symposia in Pure Mathematics, 65. *American Mathematical Society, Providence, RI*, 1999. *xii*+219 *pp. ISBN* 0-8218-0610-6 (Editors) **99g:35004** 35–06 (00B25, 00B30, 58–06)

Orsatti, Adalberto ★ Abelian groups, module theory, and topology. Proceedings of the International Conference on Abelian Groups and Modules held in honor of Adalberto Orsatti's 60th birthday in Padua, 1997. Edited by Dikran Dikranjan and Luigi Salce. Lecture Notes in Pure and Applied Mathematics, 201. *Marcel Dekker, Inc., New York*, 1998. *xviii*+444 *pp. ISBN* 0-8247-1937-9 (Editors) **99f:00028** 00B30 (00B25, 16–06, 20–06, 22–06)

Parikh, Rohit J. ★ Festschrift on the occasion of Professor Rohit Parikh's 60th birthday. Edited by Melvin Fitting, Konstantinos Georgatos and R. Ramanujam. Ann. Pure Appl. Logic **96** (1999), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–vi and* 1–369. (Editors) **99i:03003** 03–06 (00B30)

Pastur, Leonid Andreevich *see* **Gurariĭ, V. P. et al.**

Pearcy, Carl M. ★ Nonselfadjoint operator algebras, operator theory, and related topics. The Carl M. Pearcy anniversary volume. Edited by Hari Bercovici and Ciprian Foias. Operator Theory: Advances and Applications, 104. *Birkhäuser Verlag, Basel*, 1998. *xx*+201 *pp. ISBN* 3-7643-5954-4 (Editors) **99b:47001** 47–06 (00B30)

Penrose, Roger ★ The geometric universe. Science, geometry, and the work of Roger Penrose. Papers from the Symposium on Geometric Issues in the Foundations of Science held in honor of the 65th birthday of Sir Roger Penrose at St. John's College, University of Oxford, Oxford, June 1996. Edited by S. A. Huggett, L. J. Mason, K. P. Tod, S. T. Tsou and N. M. J. Woodhouse. *Oxford University Press, Oxford*, 1998. *xviii*+431 *pp. ISBN* 0-19-850059-9 (Editors) **99b:00015** 00B25 (00B30, 81–06, 83–06)

Postnikov, Mikhail Mikhaĭlovich *see* **Anosov, D. V. et al.**

Reyn, John W. ★ Planar nonlinear dynamical systems. Proceedings of the symposium held on the occasion of the 65th birthday of J. W. Reyn in Delft, September 25–26, 1995. Edited by R. E. Kooij and A. H. P. van der Burg. Differential Equations Dynam. Systems **5** (1997), no. 3-4. *Research Square Publications, Hyderabad*, 1997. *pp. i–iv and* 197–477. (Editors) **99g:00053** 00B30 (58–06)

Romanov, Vladimir Gavrilovich ★ Inverse problems of mathematical physics. Papers from the International Conference held in honor of Vladimir Gavrilovich Romanov on the occasion of his 60th birthday in Novosibirsk, September 21–25, 1998. J. Inverse Ill-Posed Probl. **6** (1998), no. 5. *VSP, Zeist*, 1998. *pp. i–ii and* 387–520. 00B30

Rota, Gian-Carlo ★ Mathematical essays in honor of Gian-Carlo Rota. Including papers from the Conference in Honor of Gian-Carlo Rota (Rotafest) and the Umbral Calculus Workshop held in Cambridge, MA, April 1996. Edited by Bruce E. Sagan and Richard P. Stanley. Progress in Mathematics, 161. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xiv*+463 *pp. ISBN* 0-8176-3872-5 (Editors) **99a:00055** 00B30 (05–06)

Rozhdestvenskiĭ, Boris Leonidovich *see* **Samarskiĭ, Aleksandr Andreevich et al.**

Rozov, Nikolaĭ Khristovich *see* **Izobov, N. A. et al.**

Šalát, Tibor ★ Real functions. Dedicated to Tibor Šalát. Including papers from the Summer School on Real Functions Theory held in Liptovský Ján, September 8–13, 1996. Edited by Ján Borsík, Roman Frič and Ján Haluška. Tatra Mt. Math. Publ. **14** (1998). *Slovak Academy of Sciences, Mathematical Institute, Bratislava*, 1998. *pp.* 1–323. (Editors) **99f:00022** 00B25 (00B30, 26–06)

Saleh, A. K. Md. Ehsanes ★ Applied statistical science. III. Papers in honor of A. K. Md. E. Saleh. Edited by S. E. Ahmed, M. Ahsanullah and B. K. Sinha. *Nova Science Publishers, Inc., Commack, NY*, 1998. *xvi*+427 *pp. ISBN* 1-56072-581-8 (Editors) **99j:62001** 62–06 (00B30)

Samarskiĭ, Aleksandr Andreevich Aleksandr Andreevich Samarskiĭ (on the occasion of his eightieth birthday). (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1999**, *no.* 1, 3–4. 01A70

— Aleksandr Andreevich Samarskiĭ (on the occasion of his eightieth birthday). (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 4, 547–548. 01A70

Samoĭlenko, Anatoliĭ Mikhaĭlovich *see* **Boĭchuk, A. A. et al., 99k:01046** *and* **Berezanskiĭ, Yuriĭ Makarovich et al.**

Sarkisyan, Vladimir Sarkisovich Vladimir Sarkisovich Sarkisyan (on the occasion of his sixtieth birthday). (Russian) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 3, 3–4. 01A70

Schneider, Wilhelm ★ Recent advances in boundary layer theory. Dedicated to Prof. W. Schneider on the occasion of his 60th birthday. Lecture notes from a course held in Udine, July 7–11, 1997. Edited by Alfred Kluwick. CISM Courses and Lectures, 390. *Springer-Verlag, Vienna*, 1998. *vi*+330 *pp. ISBN* 3-211-83136-3 (Editors) **99h:76004** 76–06 (76D10, 76Fxx, 76N20)

Shemetkov, Leonid Aleksandrovich *see* **Skiba, A. N. et al., (99g:20007)**

Shirokov, Aleksandr Petrovich *see* **Shapukov, B. N. et al., 99k:01073**

Shushbaev, Sarsen Shushbaevich Sarsen Shushbaevich Shushbaev (on the occasion of his sixtieth birthday). (Russian) *Uzbek. Mat. Zh. No.* 1 (1998), 124. 01A70

Siotani, Minoru ★ MSI-2000. Vol. IV. Multivariate statistical analysis. Papers from the Multivariate Statistical Inference 2000 Conference held in honor of Minoru Siotani on his 70th birthday at the University of Hawaii, Honolulu, HI, August 1995. Edited by Vidya S. Taneja. Also Vol. 37 of Amer. Ser. Math. Management Sci. Amer. J. Math. Management Sci. **18** (1998), no. 1-2. *American Sciences Press, Syracuse, NY*, 1998. *pp. i–ii and* 1–226. (Editors) **99f:62009** 62–06

Speranza, Francesco ★ Convegno per i Sessantacinque Anni di Francesco Speranza. (Italian) [Conference in Honor of the Sixty-fifth Birthday of Francesco Speranza] Papers from the conference held in Bologna, October 11, 1997. Edited by Bruno D'Amore and Consolato Pellegrino. *Pitagora Editrice, Bologna*, 199?. *iv*+162 *pp.* (Editors) **99g:00052** 00B30 (00A30, 00A35, 00B05, 01–06)

Stasheff, James Dillon ★ Higher homotopy structures in topology and mathematical physics. Proceedings of the International Conference held in honor of the 60th birthday of Jim Stasheff at Vassar College, Poughkeepsie, NY, June 13–15, 1996. Edited by John McCleary. Contemporary Mathematics, 227. *American Mathematical Society, Providence, RI*, 1999. *xii*+321 *pp. ISBN* 0-8218-0913-X (Editors) **99g:00041** 00B25 (18–06, 55–06)

Šulka, Robert *see* **Grošek, Otokar et al., 99m:01062**

Sultangazin, U. M. Academician U. M. Sultangazin (on the occasion of his sixtieth birthday). (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1997**, *no.* 1, 62–65. 01A70

Birthday: (*cont'd.*)

Tukey, John Wilder ★ The practice of data analysis. Essays in honor of John W. Tukey. Papers from the symposium held in honor of Tukey on his 80th birthday at Princeton University, Princeton, NJ, June 19–20, 1995. Edited by D. R. Brillinger, L. T. Frenholz and S. Morgenthaler. *Princeton University Press, Princeton, NJ*, 1997. *viii*+337 *pp. ISBN* 0-691-05782-6 (Editors) **99b:62003** 62–06 (00B30)

Tulczyjew, Włodzimierz Marek ★ Geometrical structures for physical theories. I. Papers from the conference held in honor of Włodzimierz Marek Tulczyjew on his 65th birthday in Vietri, September 29–October 3, 1996. Rend. Sem. Mat. Univ. Politec. Torino **54** (1996), no. 3. *Libreria Editrice Universitaria Levrotto & Bella, Turin*, 1996. *pp. i–iv and* 191–318. (Editors) **99a:58001** 58–06 (00B25, 00B30, 70–06)

— ★ Geometrical structures for physical theories. II. Papers from the conference held in honor of Włodzimierz Marek Tulczyjew on his 65th birthday in Vietri, September 29–October 3, 1996. Rend. Sem. Mat. Univ. Politec. Torino **54** (1996), no. 4. *Libreria Editrice Universitaria Levrotto & Bella, Turin*, 1996. *pp. i–ii and* 319–433. (Editors) **99a:58002** 58–06 (00B25, 00B30, 70–06)

Ul'yanov, Petr Lavrent'evich ★ {Dedicated to P. L. Ul'yanov}. East J. Approx. **4** (1998), no. 2. *DARBA, Sofia*, 1998. *pp. i–ii and* 111–290. 00B30

— *see also* **Bakhalov, N. S. et al., 99m:01039**

Vinti, Calogero ★ Dedicato al Prof. C. Vinti. [Dedicated to Prof. C. Vinti] Proceedings of the Conference in Honor of Calogero Vinti held on the occasion of his 70th birthday at the Università degli Studi di Perugia, Perugia, September 30–October 4, 1996. Atti Sem. Mat. Fis. Univ. Modena **46** (1998), suppl. *Università di Modena, Dipartimento di Matematica Pura ed Applicata "G. Vitali", Modena*, 1998. *pp. i–xxxiv and* 1–989. (Editors) **99d:00031** 00B30 (00B25)

van Wijngaarden, Leen ★ In fascination of fluid dynamics. Papers from the symposium held in honor of Leen van Wijngaarden on his 65th birthday in Lattrop, March 20–22, 1997. Edited by Arie Biesheuvel and GertJan F. van Heijst. Reprinted from Appl. Sci. Res. **58** (1997), no. 1-4. Fluid Mechanics and its Applications, 45. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+501 *pp. ISBN* 0-7923-5078-2 76–06

Zakharyuta, V. P. ★ {Dedicated to Professor Vyacheslav Pavlovich Zahariuta}. Edited by A. Aytuna, P. B. Djakov and T. Terzioğlu. Linear Topol. Spaces Complex Anal. **3** (1997). *Scientific and Technical Research Council of Turkey, Ankara*, 1997. *pp. i–xiv and* 1–159. (Editors) **99a:00052** 00B30

Zandbergen, Pieter Jacobus ★ A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. Edited by D. Dijkstra, J. G. M. Kuerten and H. K. Kuiken. J. Engrg. Math. **34** (1998), no. 1-2. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. iii–vi and* 1–247. (Editors) **99d:76001** 76–06 (00B30)

— ★ Floating, flowing, flying. Pieter J. Zandbergen's life as innovator, inspirator and instigator in numerical fluid dynamics. Edited by D. Dijkstra, B. J. Geurts, J. G. M. Kuerten and H. K. Kuiken. Reprinted from J. Engrg. Math **34** (1998), no. 1-2 [MR 99d:76001]. *Kluwer Academic Publishers, Dordrecht*, 1998. *vi*+253 *pp. ISBN* 0-7923-5128-2 76–06 (00B30)

Złotkiewicz, Eligiusz J. ★ {Dedicated to Professor Eligiusz J. Złotkiewicz}. On the occasion of his 60th birthday. Ann. Univ. Mariae Curie-Skłodowska Sect. A **52** (1998), no. 1. *Uniwersytet Marii Curie-Skłodowskiej, Editorial Office, Lublin*, 1998. *pp. v–xii and* 1–190. 00B30

Zorski, Henryk ★ {Fourth Meeting on Current Ideas in Mechanics and Related Fields}. Papers from the meeting in honor of the 70th birthday of Henryk Zorski held in Kraków, August 25–28, 1997. Arch. Mech. (Arch. Mech. Stos.) **50** (1998), no. 3. *Polish Academy of Sciences, Institute of Fundamental Technological Research, Warsaw*, 1998. *pp. i–iv and* 343–669. (Editors) **99e:00030** 00B30

Black holes and relativistic stars ★ Black holes and relativistic stars. Papers from the symposium held at the University of Chicago, Chicago, IL, December 14–15, 1996. Edited by Robert M. Wald. *University of Chicago Press, Chicago, IL*, 1998. *xii*+278 *pp. ISBN* 0-226-87034-0 (Markku Lehto) **99d:83070** 83C57 (83–06)

Blaubeuren ★ Geometric modeling: theory and practice. The state of the art. Papers from the conference held in Blaubeuren, October 14–18, 1996. Edited by Wolfgang Strasser, Reinhard Klein and René Rau. Focus on Computer Graphics. *Springer-Verlag, Berlin*, 1997. *x*+434 *pp. ISBN* 3-540-61883-X (Editors) **99d:65003** 65–06 (52–06, 65D17, 65Y25, 68U05)

— ★ Banach algebras '97. Proceedings of the 13th International Conference held in Blaubeuren, July 20–August 3, 1997. Edited by Ernst Albrecht and Martin Mathieu. *Walter de Gruyter & Co., Berlin*, 1998. *x*+566 *pp. ISBN* 3-11-015466-8 (Editors) **99f:46002** 46–06 (00B25)

Boca Raton, FL ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **130** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00020** 00B25 (05–06, 68–06, 68R10)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **131** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–217. (Editors) **99i:00021** 00B25 (05–06)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **132** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00022** 00B25 (05–06)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **133** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00023** 00B25 (05–06)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **134** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00024** 00B25 (05–06, 68–06, 68R10)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **135** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–185. (Editors) **99i:00025** 00B25 (05–06)

Bôcher prize 1999 Bôcher prize. *Notices Amer. Math. Soc.* **46** (1999), *no.* 4, 463–466. (From the text) **99m:01100** 01A70

Bochum ★ IUTAM Symposium on Micro- and Macrostructural Aspects of Thermoplasticity. Proceedings of the symposium held at the Ruhr-Universität Bochum, Bochum, August 25–29, 1997. Edited by O. T. Bruhns and E. Stein. Solid Mechanics and its Applications, 62. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xxviii*+500 *pp. ISBN* 0-7923-5265-3 73–06 (73B30, 73Exx, 73S10)

Bogotá ★ Models, algebras, and proofs. Proceedings of the 10th Latin American Symposium on Mathematical Logic (SLALM) held at the Universidad de los Andes, Bogotá, 1995. Edited by Xavier Caicedo and Carlos H. Montenegro. Lecture Notes in Pure and Applied Mathematics, 203. *Marcel Dekker, Inc., New York*, 1999. *xvi*+448 *pp. ISBN* 0-8247-1970-0 (Editors) **99k:03005** 03–06

Boise, ID ★ Maximum entropy and Bayesian methods. Proceedings of the 17th International Workshop on Maximum Entropy and Bayesian Methods of Statistical Analysis held at Boise State University, Boise, ID, August 4–8, 1997. Edited by Gary J. Erickson, Joshua T. Rychert and C. Ray Smith. Fundamental Theories of Physics, 98. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+297 *pp. ISBN* 0-7923-5047-2 (Editors) **99k:62005** 62–06 (94–06)

Bologna ★ Convegno per i Sessantacinque Anni di Francesco Speranza. (Italian) [Conference in Honor of the Sixty-fifth Birthday of Francesco Speranza] Papers from the conference held in Bologna, October 11, 1997. Edited by Bruno D'Amore and Consolato Pellegrino. *Pitagora Editrice, Bologna*, 199?. *iv*+162 *pp.* (Editors) **99g:00052** 00B30 (00A30, 00A35, 00B05, 01–06)

— ★ Epistemologia della matematica. Seminari 1992–1993. (Italian) [Epistemology of mathematics. 1992–1993 Seminars] Papers from the seminars held in Siena, Bologna and Pavia, 1992–1993. Edited by Mario Ferrari and Francesco Speranza. Formazione e Aggiornamento in Matematica degli Insegnanti [Training and Continuing Education in Mathematics for Teachers], 14. *Consiglio Nazionale delle Ricerche (CNR), Rome*, 1994. *vi*+224 *pp.* (Editors) **99a:00007** 00A30 (00A35, 03A05)

— ★ Seminari di Geometria. 1996–1997. [Geometry Seminars. 1996–1997] Papers from the seminars held at the University of Bologna, Bologna, 1996–1997. Edited by Salvatore Coen. *Università degli Studi di Bologna, Dipartimento di Matematica, Bologna*, 1998. *viii*+312 *pp.* (Editors) **99b:00019** 00B25 (32–06)

— ★ Norms, logics and information systems. New studies in deontic logic and computer science. Papers from the ΔEON'98 Workshop on Deontic Logic in Computer Science held at the University of Bologna, Bologna, 1998. Edited by P. McNamara and H. Prakken. Frontiers in Artificial Intelligence and Applications, 49. *IOS Press, Amsterdam; Ohmsha Ltd., Tokyo*, 1999. *x*+363 *pp. ISBN* 90-5199-427-3; 4-274-90260-9 (Editors) **99k:03014** 03B45 (03–06, 03B70, 68–06, 68T27)

Boston, MA ★ Modular forms and Fermat's last theorem. Papers from the Instructional Conference on Number Theory and Arithmetic Geometry held at Boston University, Boston, MA, August 9–18, 1995. Edited by Gary Cornell, Joseph H. Silverman and Glenn Stevens. *Springer-Verlag, New York*, 1997. *xx*+582 *pp. ISBN* 0-387-94609-8 (M. Ram Murty) **99k:11004** 11–06 (11D41, 11F80, 11Fxx, 11G05)

— ★ PhysComp96. Proceedings of the 4th Workshop on Physics and Computation held in Boston, MA, November 22–24, 1996. Edited by Tommaso Toffoli and Michael Biafore. Phys. D **120** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–253. (Editors) **99j:81006** 81–06 (00B25)

Boulder, CO ★ Domain decomposition methods. 10. Proceedings of the 10th International Conference held in Boulder, CO, August 10–14, 1997. Edited by Jan Mandel, Charbel Farhat and Xiao-Chuan Cai. Contemporary Mathematics, 218. *American Mathematical Society, Providence, RI*, 1998. *xii*+554 *pp. ISBN* 0-8218-0988-1 (Editors) **99f:65005** 65–06 (65M55, 65N55)

— ★ Exterior problems of wave propagation. Papers from the IUTAM Symposium on Computational Methods for Unbounded Domains held in Boulder, CO, July 1997, and the minisymposium held in San Francisco, CA, August 1997. Edited by Dan Givoli and Isaac Harari. Comput. Methods Appl. Mech. Engrg. **164** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 1–264. (Editors) **99g:76001** 76–06 (65–06, 76M10, 76Q05)

— ★ IUTAM Symposium on Computational Methods for Unbounded Domains. Proceedings of the IUTAM Symposium held at the University of Colorado, Boulder, CO, July 27–31, 1997. Edited by Thomas L. Geers. Fluid Mechanics and its Applications, 49. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xvi*+324 *pp. ISBN* 0-7923-5266-1 (Editors) **99h:65004** 65–06 (76Mxx, 78–08)

— ★ Differential geometry and control. Papers of the Summer Research Institute held at the University of Colorado, Boulder, CO, June 29–July 19, 1997. Edited by G. Ferreyra, R. Gardner, H. Hermes and H. Sussmann. Proceedings of Symposia in Pure Mathematics, 64. *American Mathematical Society, Providence, RI*, 1999. *viii*+341 *pp. ISBN* 0-8218-0887-7 (Editors) **99f:93003** 93–06 (49–06, 53–06)

Boundaries, interfaces, and transitions ★ Boundaries, interfaces, and transitions. Papers from the 2nd Annual CRM Summer School held in Banff, AB, August 6–18, 1995. Edited by Michel C. Delfour. CRM Proceedings & Lecture Notes, 13. *American Mathematical Society, Providence, RI*, 1998. *xii*+343 *pp. ISBN* 0-8218-0505-3 (Editors) **99a:00021** 00B25 (35–06, 49–06, 73–06)

Boundary element research in Europe ★ Boundary element research in Europe. Papers from the European Boundary Element Symposium (EUROBEM '98) held in Southampton, May 19–21, 1998. Edited by C. A. Brebbia. *Computational Mechanics Publications, Southampton*, 1998. *x*+326 *pp. ISBN* 1-85312-594-6 (Editors) **99k:73001** 73–06 (65–06, 73V10)

Boundary element topics ★ Boundary element topics. Proceedings of the final conference of the Priority Research Programme "Boundary Element Methods 1989–1995" of the German Research Foundation held in Stuttgart, October 2–4, 1995. Edited by Wolfgang L. Wendland. *Springer-Verlag, Berlin*, 1997. *xviii*+498 *pp. ISBN* 3-540-62850-9 (Editors) **99e:00017** 00B25 (65–06, 73–06, 76–06)

Boundary elements ★ Boundary elements. XIX. Proceedings of the 19th International Boundary Element Conference held in Rome, September 1997. Edited by M. Marchetti, C. A. Brebbia and M. H. Aliabadi. *Computational Mechanics Publications, Southampton*, 1997. *xii*+840 *pp. ISBN* 1-85312-472-9 (From the preface) **99c:65003** 65–06 (73–06, 73V10, 76–06, 76M15)

Boundary integral methods: numerical and mathematical aspects ★ Boundary integral methods: numerical and mathematical aspects. Edited by M. Golberg. Computational Engineering, 1. *WIT Press/Computational Mechanics Publications, Boston, MA*, 1999. *xiv*+374 *pp. ISBN* 1-85312-529-6 (Editors) **99m:65004** 65-06 (35-06, 65M60, 65N38)

Bowling Green, OH ★ The Seventh Eugene Lukacs Conference. Papers from the Conference on Mathematical Statistics and Probability Theory held at Bowling Green State University, Bowling Green, OH, April 25–27, 1997. Edited by P. K. Sen. J. Statist. Plann. Inference **75** (1999), no. 2. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–viii and* 181–462. (Editors) **99k:62004** 62-06

Bratislava ★ Mathematical foundations of computer science 1997. Proceedings of the 22nd International Symposium (MFCS '97) held in Bratislava, August 25–29, 1997. Edited by Igor Privara and Peter Ružička. Lecture Notes in Computer Science, 1295. *Springer-Verlag, Berlin*, 1997. *x*+519 *pp. ISBN* 3-540-63437-1 (Editors) **99d:68009** 68-06

Braunschweig ★ Operations Research Proceedings 1996. Selected papers from the International Symposium (SOR 96) held at the Technical University of Braunschweig, Braunschweig, September 3–6, 1996. Edited by Uwe Zimmermann, Ulrich Derigs, Wolfgang Gaul, Rolf H. Möhring and Karl-Peter Schuster. *Springer-Verlag, Berlin*, 1997. *xiv*+524 *pp. ISBN* 3-540-62630-1 (Editors) **99a:90009** 90-06 (00B25)

Breakthroughs in statistics ★ Breakthroughs in statistics. Vol. III. Edited by Samuel Kotz and Norman L. Johnson. Springer Series in Statistics: Perspectives in Statistics. *Springer-Verlag, New York*, 1997. xxvi+559 *pp. ISBN* 0-387-94988-7; 0-387-94989-5 (C. C. Heyde) **99d:62001** 62-03 (60-03)

Bregenz ★ Symmetries in science. X. Proceedings of the 10th International Symposium held in Bregenz, July 13–18, 1997. Edited by Bruno Gruber and Michael Ramek. *Plenum Press, New York*, 1998. *x*+454 *pp. ISBN* 0-306-45908-6 (Editors) **99f:81004** 81-06

Bremen ★ Stochastic dynamics. Papers from the Conference on Random Dynamical Systems held in Bremen, April 28–May 2, 1997. Edited by Hans Crauel and Matthias Gundlach. *Springer-Verlag, New York*, 1999. *xxviii*+440 *pp. ISBN* 0-387-98512-3 (Editors) **99k:60003** 60-06 (58-06)

Brescia ★ Matrices and graphs. Theory and applications to economics. Proceedings of the Conference on Matrices and Graphs: Computational Problems and Economic Applications and the Conference on Matrices and Graphs: Theory and Economic Applications held June 1993 and June 1995, respectively, at the University of Brescia, Brescia. Edited by Sergio Camiz and Silvana Stefani. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+242 *pp. ISBN* 981-02-3038-9 (Editors) **99h:00029** 00B25 (90A05)

Brisbane ★ Information security and privacy. Proceedings of the 3rd Australasian Conference (ACISP '98) held in Brisbane, July 13–15, 1998. Edited by Colin Boyd and Ed Dawson. Lecture Notes in Computer Science, 1438. *Springer-Verlag, Berlin*, 1998. *xii*+423 *pp. ISBN* 3-540-64732-5 (Editors) **99i:94060** 94A60 (94-06)

Brno ★ Equadiff 9. Proceedings of the 9th Conference on Differential Equations and their Applications held in Brno, August 25–29, 1997. Edited by Ravi P. Agarwal and Jaromír Vosmanský. Arch. Math. (Brno) **34** (1998), no. 1. *Masaryk University, Faculty of Science, Brno*, 1998. *pp. i–iv and* 1–228. (Editors) **99a:00025** 00B25 (34-06, 35-06)

— ★ Randomized algorithms. Proceedings of the International Workshop held in Brno, August 27–28, 1998. Edited by Rūsiņš Freivalds. Available at http://www.eccc.uni-trier.de/eccc-local/ECCC-LectureNotes/randalg/index.html. Lecture Notes Series of ECCC. *Electronic Colloquium on Computational Complexity (ECCC), Trier*, 1998. *front matter*+112 *pp.* (*electronic*). (Editors) **99f:68008** 68-06

— ★ MFCS'98 Workshop on Concurrency. Proceedings of the workshop held in Brno, August 27–29, 1998. Edited by Petr Jancar and Mojmir Kretinsky. Electronic Notes in Theoretical Computer Science, 18. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+260 *pp.* (*electronic*). (Editors) **99h:68010** 68-06 (68Q10)

— ★ Mathematical foundations of computer science 1998. Proceedings of the 23rd International Symposium (MFCS'98) held in Brno, August 24–28, 1998. Edited by Luboš Brim, Jozef Gruska and Jiří Zlatuška. Lecture Notes in Computer Science, 1450. *Springer-Verlag, Berlin*, 1998. *xviii*+846 *pp. ISBN* 3-540-64827-5 (Editors) **99m:68010** 68-06

Brussels ★ Actualité et universalité de la pensée scientifique d'Adolphe Quetelet. (French) [Universality and relevance today of the scientific thought of Adolphe Quetelet] Proceedings of the Colloquium "Quetelet: A Man of Ideas" held in Brussels, October 24–25, 1996, in honor of Adolphe Quetelet on the 200th anniversary of his birth. Acad. Roy. Belg. Cl. Sci. Mém. Collect. 8° (3) **13** (1997). *Académie Royale de Belgique, Brussels*, 1997. *pp.* 1–236. (Editors) **99a:01002** 01-06

— ★ Rings, Hopf algebras, and Brauer groups. Proceedings of the Fourth Week on Algebra and Algebraic Geometry (SAGA 4) held at the University of Antwerp, Antwerp, September 12–13, 1996, and at the Free University of Brussels, Brussels, September 16–17, 1996. Edited by Stefaan Caenepeel and Alain Verschoren. Lecture Notes in Pure and Applied Mathematics, 197. *Marcel Dekker, Inc., New York*, 1998. *x*+332 *pp. ISBN* 0-8247-0153-4 (Editors) **99a:16001** 16-06

— ★ IMACS Seminar on Monte Carlo Methods. Selected papers from the seminar held in Brussels, April 1–3, 1997. Edited by R. Beauwens, A. Dubus and M. Hou. Math. Comput. Simulation **47** (1998), no. 2-5. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–vi and* 83–505. (Editors) **99d:65008** 65-06 (65C05)

— ★ Generalized functions, operator theory, and dynamical systems. Papers from the Workshop on Hyperfunctions, Operator Theory and Dynamical Systems held in Brussels, January 6–12, 1997. Edited by Ioannis Antoniou and Günter Lumer. Chapman & Hall/CRC Research Notes in Mathematics, 399. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *viii*+378 *pp. ISBN* 0-8493-0619-1 (Editors) **99k:00030** 00B25 (46-06, 47-06)

Bucharest ★ Statistical and probabilistic models in reliability. Papers from the 1st International Conference on Mathematical Methods in Reliability held at the Politehnica University of Bucharest, Bucharest, September 16–19, 1997. Edited by D. C. Ionescu and N. Limnios. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1999. *xxxvi*+352 *pp. ISBN* 0-8176-4068-1 (Editors) **99h:60004** 60-06 (60K10, 62-06, 62N05)

Budapest ★ Conformal field theories and integrable models. Papers from the Summer School held at the Eötvös Loránd University, Budapest, August 13–18, 1996. Edited by Zalán Horváth and László Palla. Lecture Notes in Physics, 498. *Springer-Verlag, Berlin*, 1997. *x*+251 *pp. ISBN* 3-540-63618-8 (Editors) **99b:81001** 81-06 (81T40, 82-06)

— ★ Chaos and irreversibility. Papers from the International Graduate School and Workshop held at Eötvös University, Budapest, August 31–September 6, 1997. Edited by T. Tél, P. Gaspard and G. Nicolis. Chaos **8** (1998), no. 2. *American Institute of Physics, Melville, NY*, 1998. *pp. i–ii and* 309–461. (Editors) **99d:58003** 58-06 (58F13)

— ★ European Congress of Mathematics. Vol. I. Papers from the 2nd Congress held in Budapest, July 22–26, 1996. Edited by A. Balog, G. O. H. Katona, A. Recski and D. Szász. Progress in Mathematics, 168. *Birkhäuser Verlag, Basel*, 1998. *xx*+334 *pp. ISBN* 3-7643-5497-6 (Editors) **99e:00018** 00B25

— ★ European Congress of Mathematics. Vol. II. Papers from the 2nd Congress held in Budapest, July 22–26, 1996. Edited by A. Balog, G. O. H. Katona, A. Recski, and D. Szász. Progress in Mathematics, 169. *Birkhäuser Verlag, Basel*, 1998. *viii*+402 *pp. ISBN* 3-7643-5498-4 (Editors) **99e:00019** 00B25

— ★ New developments in differential geometry, Budapest 1996. Proceedings of the Conference on Differential Geometry held in Budapest, July 27–30, 1996. Edited by J. Szenthe. *Kluwer Academic Publishers, Dordrecht*, 1999. *xii*+519 *pp. ISBN* 0-7923-5307-2 (Editors) **99h:53002** 53-06 (57-06)

— ★ Connectivity augmentation of networks: structures and algorithms. Papers from the workshop held at Eötvös University, Budapest, November 1994. Edited by András Frank. Math. Program. **84** (1999), no. 3, Ser. B. *Springer-Verlag, Heidelberg*, 1999. *pp.* 439–640. 00B25 (05C40, 90C35)

Buffalo, NY ★ Thirteenth Annual IEEE Conference on Computational Complexity. Proceedings of the conference held in Buffalo, NY, June 15–18, 1998. *IEEE Computer Society, Los Alamitos, CA*, 1998. *x*+281 *pp. ISBN* 0-8186-8395-3 (Editors) **99h:68007** 68-06 (68Q15)

Cachan ★ Advances in adaptive computational methods in mechanics. Papers from the 3rd Workshop held in Cachan, September 17–19, 1997. Edited by P. Ladevèze and J. T. Oden. Studies in Applied Mechanics, 47. *Elsevier Science B.V., Amsterdam*, 1998. *x*+528 *pp. ISBN* 0-08-043327-8 (Editors) **99d:73001** 73-06 (65-06, 73V05)

Cadenabbia ★ Graph-theoretic concepts in computer science. Selected papers from the 22nd Workshop (WG '96) held in Cadenabbia, June 12–14, 1996. Edited by G. Ausiello and A. Marchetti-Spaccamela. Theoret. Comput. Sci. **203** (1998), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 1–173. (Editors) **99b:68005** 68-06 (05C85, 68R10)

Cairns ★ Learning and reasoning with complex representations. Papers from the Workshops on Reasoning with Incomplete and Changing Information, and Inducing Complex Representations held at the Pacific Rim International Conference on Artificial Intelligence (PRICAI'96) in Cairns, August 26–30, 1996. Edited by Grigoris Antoniou, Aditya K. Ghose and Mirosław Truszczyński. Lecture Notes in Computer Science, 1359. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+283 *pp. ISBN* 3-540-64413-X (Editors) **99f:68003** 68-06 (68T27)

Calcutta ★ Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works. Part I. Held in Calcutta, January 1–7, 1994. Edited by R. N. Sen. Rev. Bull. Calcutta Math. Soc. **3** (1995), no. 1-2. *Calcutta Mathematical Society, Calcutta*, 1995. *pp. i–iv and* 1–118. (Editors) **99b:00016** 00B25 (76-06, 81-06)

— ★ Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works. Part II. Held in Calcutta, January 1–7, 1994. Edited by R. N. Sen. Rev. Bull. Calcutta Math. Soc. **4** (1996), no. 1-2. *Calcutta Mathematical Society, Calcutta*, 1996. *pp. i–iv and* 1–104. (Editors) **99b:00017** 00B25 (76-06, 81-06)

— ★ Proceedings of the Seminar on Continuum Mechanics. Held in Calcutta, September 10, 1996. Rev. Bull. Calcutta Math. Soc. **5** (1997), no. 2. *Calcutta Mathematical Society, Calcutta*, 1997. *pp. i–iv and* 67–138. (Editors) **99k:00035** 00B25 (73-06, 76-06)

— ★ Frontiers in probability and statistics. Papers from 2nd International Triennial Symposium on Probability and Statistics held in Calcutta, December 30, 1994–January 2, 1995. Edited by S. P. Mukherjee, S. K. Basu and B. K. Sinha. *Narosa Publishing House, New Delhi*, 1998. *xii*+379 *pp. ISBN* 81-7319-115-8 (Editors) **99g:62003** 62-06

Calgary, AB ★ Pacific Institute of Mathematical Sciences Workshop on Nonholonomic Constraints in Dynamics. Proceedings of the workshop held in Calgary, AB, August 26–30, 1997. Edited by Richard Cushman and Jędrzej Śniatycki. Rep. Math. Phys. **42** (1998), no. 1-2. *Pergamon Press, Oxford*, 1998. *pp. i–ii and* 1–271. (Editors) **99i:58004** 58-06 (58F05, 70-06, 70F25)

Cambridge ★ Semantics and logics of computation. Papers from the Summer School held at the University of Cambridge, Cambridge, September 1995. Edited by Andrew M. Pitts and Peter Dybjer. Publications of the Newton Institute, 14. *Cambridge University Press, Cambridge*, 1997. *xii*+361 *pp. ISBN* 0-521-58057-9 (Guo-Qiang Zhang) **99h:68111** 68Q55 (03-06, 03B70, 68-02, 68N15)

— ★ Algebraic groups and their representations. Proceedings of the NATO Advanced Study Institute on Modular Representations and Subgroup Structure of Algebraic Groups and Related Finite Groups held in Cambridge, June 23–July 4, 1997. Edited by R. W. Carter and J. Saxl. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 517. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xviii*+374 *pp. ISBN* 0-7923-5251-3 (Editors) **99i:20002** 20-06 (20Gxx)

Cambridge companion to Galileo ★ The Cambridge companion to Galileo. Edited and with an introduction by Peter Machamer. Cambridge Companions to Philosophy. *Cambridge University Press, Cambridge*, 1998. *xii*+462 *pp. ISBN* 0-521-58841-3 (Massimo Galuzzi) **99k:01020** 01A45

Cambridge, MA ★ Mathematical essays in honor of Gian-Carlo Rota. Including papers from the Conference in Honor of Gian-Carlo Rota (Rotafest) and the Umbral Calculus Workshop held in Cambridge, MA, April 1996. Edited by Bruce E. Sagan and Richard P. Stanley. Progress in Mathematics, 161. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xiv*+463 *pp. ISBN* 0-8176-3872-5 (Editors) **99a:00055** 00B30 (05-06)

— ★ Surveys in differential geometry. Vol. III. A supplement to the Journal of Differential Geometry. Lectures on geometry and topology in honor of the 80th birthday of Chuan-Chih Hsiung held at Harvard University, Cambridge, MA, May 3–5, 1996. Edited by C.-C. Hsiung and S.-T. Yau. *International Press, Boston, MA*, 1998. *x*+339 *pp. ISBN* 1-57146-067-5 (Editors) **99k:58003** 58-06 (57-06)

Campinas ★ LATIN'98: theoretical informatics. Proceedings of the 3rd Latin American Symposium held in Campinas, April 20–24, 1998. Edited by Cláudio L. Lucchesi and Arnaldo V. Moura. Lecture Notes in Computer Science, 1380. *Springer-Verlag, Berlin*, 1998. *xii*+391 *pp. ISBN* 3-540-64275-7 (Editors) **99d:68007** 68-06

— ★ Orthogonal functions, moment theory, and continued fractions. Theory and

applications. Proceedings of the Research Conference held in Campinas, June 19–28, 1996. Edited by William B. Jones and A. Sri Ranga. Lecture Notes in Pure and Applied Mathematics, 199. *Marcel Dekker, Inc., New York*, 1998. *xiv*+416 *pp. ISBN* 0-8247-0207-7 (Editors) **99f:00020** 00B25 (30–06, 41–06, 44–06)

Campos do Jordão ★ Particles and fields. Proceedings of the 9th Jorge André Swieca Summer School held in Campos do Jordão, February 16–28, 1997. Edited by J. C. A. Barata, A. P. C. Malbouisson and S. F. Novaes. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *viii*+515 *pp. ISBN* 981-02-3453-8 (Editors) **99i:81004** 81–06

Canadian Mathematical Society ★ Canadian Mathematical Society. 1945–1995. Vol. 1. Mathematics in Canada. Edited by Peter Fillmore. *Canadian Mathematical Society, Ottawa, ON*, 1995. *viii*+406 *pp. ISBN* 0-919558-06-2 (Jeremy Gray) **99m:01104** 01A74 (01–06, 01A70, 01A80)

— ★ Canadian Mathematical Society. 1945–1995. Vol. 3. Invited papers. Edited by James B. Carrell and Ram Murty [Maruti Ram Murty]. *Canadian Mathematical Society, Ottawa, ON*, 1996. *viii*+286 *pp. ISBN* 0-919558-08-9 (Editors) **99m:00020** 00B15 (00B30)

Canadian Mathematical Society—record of service Canadian Mathematical Society—record of service. Dual English-French text. *Canadian Mathematical Society*. 1945–1995, *Vol.* 1, 372–394, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A74

Canberra ★ Computational physics. Proceedings of the 9th Physics Summer School held at the Australian National University, Canberra, January 8–25, 1996. Edited by Henry J. Gardner and Craig M. Savage. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+210 *pp. ISBN* 981-02-3058-3 (Editors) **99f:00012** 00B25 (65–06, 76–06)

— ★ Theorem proving in higher order logics. Proceedings of the 11th International Conference (TPHOLs '98) held at the Australian National University, Canberra, September 27–October 2, 1998. Edited by Jim Grundy and Malcolm Newey. Lecture Notes in Computer Science, 1479. *Springer-Verlag, Berlin*, 1998. *viii*+497 *pp. ISBN* 3-540-64987-5 (Editors) **99k:68014** 68–06 (03–06, 03B15, 03B35, 68T15)

Cape Town ★ Trends in multicriteria decision making. Proceedings of the 13th International Conference held in Cape Town, January 6–10, 1997. Edited by Theodor J. Stewart and Robin C. van den Honert. Lecture Notes in Economics and Mathematical Systems, 465. *Springer-Verlag, Berlin*, 1998. *x*+448 *pp. ISBN* 3-540-64741-4 (Editors) **99g:90012** 90–06 (90A05, 90C29, 90C90)

Cardiff ★ Sieve methods, exponential sums, and their applications in number theory. Proceedings of the symposium held in Cardiff, July 17–21, 1995. Edited by G. R. H. Greaves, G. Harman and M. N. Huxley. London Mathematical Society Lecture Note Series, 237. *Cambridge University Press, Cambridge*, 1997. *xii*+344 *pp. ISBN* 0-521-58957-6 (Editors) **99b:11004** 11–06

Cargèse ★ Physics of dry granular media. Proceedings of the NATO Advanced Study Institute Summer School held in Cargèse, September 15–26, 1997. Edited by H. J. Herrmann, J.-P. Hovi and S. Luding. NATO Advanced Science Institutes Series E: Applied Sciences, 350. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxxii*+711 *pp. ISBN* 0-7923-5102-9 (Editors) **99e:73003** 73–06 (73Exx, 76–06, 76A99)

— ★ Strings, branes and dualities. Proceedings of the NATO Advanced Study Institute held in Cargèse, May 26–June 14, 1997. Edited by Laurent Baulieu, Philippe Di Francesco, Michael Douglas, Vladimir Kazakov, Marco Picco and Paul Windey. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 520. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xii*+493 *pp. ISBN* 0-7923-5344-7 (Editors) **99k:81009** 81–06

Carl Julius von Bach ★ Carl Julius von Bach (1847–1931). (German) Pionier—Gestalter—Forscher—Lehrer—Visionär. [Pioneer—shaper—researcher—teacher—visionary] Papers from the Scientific Conference held at the TU Chemnitz, Chemnitz, March 7–8, 1997, and the academic ceremony held on the 150th anniversary of von Bach's birth at the Universität Stuttgart, Stuttgart, July 4, 1997. Edited by Friedrich Naumann. *Verlag Konrad Wittwer, Stuttgart*, 1998. 352 *pp. ISBN* 3-87919-260-X (Editors) **99h:01001** 01–06 (00B30)

Carry-Le Rouet ★ Chaos, kinetics and nonlinear dynamics in fluids and plasmas. Proceedings of the workshop held in Carry-Le Rouet, June 16–21, 1997. Edited by Sadruddin Benkadda and George M. Zaslavsky [G. M. Zaslavskiĭ]. Lecture Notes in Physics, 511. *Springer-Verlag, Berlin*, 1998. *viii*+438 *pp. ISBN* 3-540-64635-3 (Editors) **99d:00014** 00B25 (58–06, 76–06, 76Fxx, 82–06)

— ★ Dynamics and statistics of concentrated vortices in turbulent flow. Selected papers from the Euromech Colloquium 364 held in Carry-le-Rouet, June 24–27, 1997. Edited by S. le Dizès, A. Verga, K. Moffatt [H. Keith Moffatt] and P. Huerre. Eur. J. Mech. B Fluids **17** (1998), no. 4. *Publications Elsevier, Paris*, 1998. *pp. i–iv and* 405–675. (Editors) **99e:76002** 76–06 (76Fxx)

Carthage ★ Conference on Inverse Problems, Control and Shape Optimization. Selected papers from the conference (Picof'98) held in Carthage, April 8–10, 1998. Edited by Mohamed Jaoua and Jérôme Jaffré. Inverse Problems **15** (1999), no. 1. *Institute of Physics Publishing, Bristol*, 1999. *pp.* 1–134. (Editors) **99h:00024** 00B25

Caserta ★ New perspectives in the physics of mesoscopic systems. Quantum-like descriptions and macroscopic coherence phenomena. Papers from the National Workshop held in Caserta, April 18–20, 1996. Edited by S. De Martino, S. De Nicola, S. De Siena, R. Fedele and G. Miele. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+318 *pp. ISBN* 981-02-3236-5 (Editors) **99e:81003** 81–06

Catania ★ Algebraic geometry. Papers from the EUROPROJ Conferences held in Catania, September 1993, and Barcelona, September 1994. Edited by Peter E. Newstead. Lecture Notes in Pure and Applied Mathematics, 200. *Marcel Dekker, Inc., New York*, 1998. *x*+405 *pp. ISBN* 0-8247-0234-4 (Editors) **99f:14001** 14–06

Categorical methods and techniques in fuzzy mathematics ★ Categorical methods and techniques in fuzzy mathematics. Edited by R. Lowen. Fuzzy Sets and Systems **104** (1999), no. 3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 357–433. (Editors) **99m:03114** 03E72 (03–06, 18–06)

Category theory and computer science ★ Category theory and computer science. Proceedings of the 7th International Conference (CTCS '97) held in Santa Margherita Ligure, September 4–6, 1997. Edited by Eugenio Moggi and Giuseppe Rosolini. Lecture Notes in Computer Science, 1290. *Springer-Verlag, Berlin*, 1997. *vi*+313 *pp. ISBN* 3-540-63455-X (Editors) **99c:68004** 68–06 (68Q55, 68Q65)

Causality and locality in modern physics ★ Causality and locality in modern physics. Proceedings of the Symposium on Causality and Locality in Modern Physics and Astronomy: Open Questions and Possible Solutions held in honor of Jean-Pierre Vigier at York University, Toronto, ON, August 1997. Edited by Geoffrey Hunter, Stanley Jeffers and Jean-Pierre Vigier. Fundamental Theories of Physics, 97. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+497 *pp. ISBN* 0-7923-5227-0 (Editors) **99j:81005** 81–06 (00B30, 78–06)

Celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics ★ A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. Edited by D. Dijkstra, J. G. M. Kuerten and H. K. Kuiken. J. Engrg. Math. **34** (1998), no. 1-2. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. iii–vi and* 1–247. (Editors) **99d:76001** 76–06 (00B30)

Cellular automata ★ Cellular automata. Selected papers from the 2nd Conference on Cellular Automata for Research and Industry (ACRI) held in Milan, October 16–18, 1996. Edited by S. Bandini and G. Mauri. Theoret. Comput. Sci. **217** (1999), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. ix–x and* 1–172. (Editors) **99k:68007** 68–06 (68Q80)

Čeřínek ★ Summer Schools MATLAB 94, 95 Proceedings. Held in Velké Karlovice August 27–31, 1994, and in Čeřínek, August 28–September 1, 1995. Edited by Ivana Horová. Folia Facultatis Scientiarium Naturalium Universitatis Masarykianae Brunensis. Mathematica, 5. *Masaryk University, Brno*, 1997. *iv*+209 *pp. ISBN* 80-210-1517-9 (Editors) **99a:00042** 00B25 (62–06, 65–06)

Cerisy-la-Salle ★ Mathématiques et art. (French) [Mathematics and art] Papers from the colloquium held in Cerisy-la-Salle, September 2–9, 1991. Edited by Maurice Loi. *Hermann, Paris*, 1995. ii+252 *pp. ISBN* 2-7056-6254-5 (C. J. Scriba) **99b:00009** 00A69 (00A05)

Chamonix–Mont-Blanc ★ Curves and surfaces with applications in CAGD. Vol. 1 of the Proceedings of the 3rd International Conference on Curves and Surfaces held in Chamonix–Mont-Blanc, June 27–July 3, 1996. Edited by Alain Le Méhauté, Christophe Rabut and Larry L. Schumaker. *Vanderbilt University Press, Nashville, TN*, 1997. *xvi*+480 *pp. ISBN* 0-8265-1293-3 (Editors) **99g:65004** 65–06 (65D17)

— ★ Surface fitting and multiresolution methods. Vol. 2 of the Proceedings of the 3rd International Conference on Curves and Surfaces held in Chamonix–Mont-Blanc, June 27–July 3, 1996. Edited by Alain Le Méhauté, Christophe Rabut and Larry L. Schumaker. *Vanderbilt University Press, Nashville, TN*, 1997. *xii*+354 *pp. ISBN* 0-8265-1294-1 (Editors) **99g:65005** 65–06 (41–06, 65D17)

Chaos and fractals ★ Chaos and fractals. A computer graphical journey. Ten year compilation of advanced research. Selected reprints from Computers & Graphics. Edited by Clifford A. Pickover. *Elsevier Science B.V., Amsterdam*, 1998. *xvi*+452 *pp. ISBN* 0-444-50002-2 (Remo Badii) **99g:58086** 58F13 (00A69, 28A80, 58–06)

Chaos and irreversibility ★ Chaos and irreversibility. Papers from the International Graduate School and Workshop held at Eötvös University, Budapest, August 31–September 6, 1997. Edited by T. Tél, P. Gaspard and G. Nicolis. Chaos **8** (1998), no. 2. *American Institute of Physics, Melville, NY*, 1998. *pp. i–ii and* 309–461. (Editors) **99d:58003** 58–06 (58F13)

Chaos in Uruguay ★ Caos en el Uruguay. (Spanish) [Chaos in Uruguay] ¿Qué hacen los investigadores uruguayos que trabajan en sistemas caóticos? [The contributions of Uruguayan researchers to the study of chaotic systems]. Papers from the First Interdisciplinary Conference on Chaotic Systems held in Piriápolis, May 23–25, 1996. Edited by Roberto Markarian and Gonzalo Tancredi. *Universidad de la República, Facultad de Ciencias–Facultad de Ingeniería, Montevideo*, 1997. *x*+126 *pp. ISBN* 9974-0-0074-2 (Francisco Balibrea) **99m:58004** 58–06 (58F13)

Chaos, kinetics and nonlinear dynamics in fluids and plasmas ★ Chaos, kinetics and nonlinear dynamics in fluids and plasmas. Proceedings of the workshop held in Carry-Le Rouet, June 16–21, 1997. Edited by Sadruddin Benkadda and George M. Zaslavsky [G. M. Zaslavskiĭ]. Lecture Notes in Physics, 511. *Springer-Verlag, Berlin*, 1998. *viii*+438 *pp. ISBN* 3-540-64635-3 (Editors) **99d:00014** 00B25 (58–06, 76–06, 76Fxx, 82–06)

Charingworth ★ New trends in stochastic analysis. Proceedings of the Taniguchi International Workshop held in Charingworth, September 21–27, 1994. Edited by K. D. Elworthy, Shigeo Kusuoka and Ichiro Shigekawa. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+429 *pp. ISBN* 981-02-2867-8 (Editors) **99f:60003** 60–06

Charlemagne and his heritage. 1200 years of civilization and science in Europe ★ Charlemagne and his heritage. 1200 years of civilization and science in Europe. Vol. 2. Mathematical arts. Papers from the International Colloquium held in Aachen, March 19–26, 1995. Edited by P. L. Butzer, H. Th. Jongen and W. Oberschelp in collaboration with J. Bemelmans, W. Dahmen, A. Krieg and W. Plesken. *Brepols Publishers, Turnhout*, 1998. *xxiv*+571 *pp. ISBN* 2-503-50674-7 (Editors) **99i:00015** 00B25 (01–06)

Chattanooga, TN ★ Summer Symposium in Real Analysis. XXI. Abstracts from the symposium held at the University of Tennessee, Chattanooga, TN, June 18–21, 1997. Real Anal. Exchange **23** (1997/98), no. 1. *Michigan State University Press, East Lansing, MI*, 1998. *pp.* 1–112. (Editors) **99a:00012** 00B05

Chebotarev Research Institute of Mathematics and Mechanics ★ Научно-Исследовательский Институт Математики и Механики имени Н. Г. Чеботарева. 1993–1997. (Russian) [The N. G. Chebotarev Research Institute of Mathematics and Mechanics. 1993–1997] Edited by A. M. Elizarov and S. A. Kuznetsov. *Kazanskoe Matematicheskoe Obshchestvo, Kazan'; Izdatel'stvo "DAS", Kazan'*, 1998. 236 *pp. ISBN* 5-8185-0002-0 (Publisher's description) **99k:01085** 01A74

Chemnitz ★ Proceedings of the Sixth Conference of the International Linear Algebra Society. Held at the Technical University of Chemnitz, Chemnitz, August 14–17, 1996. Edited by Steve Kirkland, Volker Mehrmann, Gerhard Michler and Bryan Shader. Linear Algebra Appl. **275/276** (1998). *North-Holland Publishing Co., New York*, 1998. *pp. iv–x and* 1–629. (Editors) **99a:00039** 00B25 (15–06, 93–06)

— ★ Carl Julius von Bach (1847–1931). (German) Pionier—Gestalter—Forscher—Lehrer—Visionär. [Pioneer—shaper—researcher—teacher—visionary] Papers from the Scientific Conference held at the TU Chemnitz, Chemnitz, March 7–8, 1997, and the academic ceremony held on the 150th anniversary of von Bach's birth at the Universität Stuttgart, Stuttgart, July 4, 1997. Edited by Friedrich Naumann. *Verlag Konrad Wittwer, Stuttgart*, 1998. 352 *pp. ISBN* 3-87919-260-X (Editors) **99h:01001** 01–06 (00B30)

Chicago, IL ★ Black holes and relativistic stars. Papers from the symposium held at the University of Chicago, Chicago, IL, December 14–15, 1996. Edited by Robert M.

Wald. *University of Chicago Press, Chicago, IL*, 1998. *xii+278 pp. ISBN* 0-226-87034-0 (Markku Lehto) **99d:83070** 83C57 (83–06)

Cieszyn ★ Number theory. Proceedings of the 2nd Czech-Polish Conference held at the University of Silesia, Cieszyn, June 16–18, 1998. Edited by Kazimierz Szymiczek. Ann. Math. Sil. No. 12 (1998). *Wydawnictwo Uniwersytetu Śląskiego, Katowice*, 1998. *pp.* 1–172. (Editors) **99i:11002** 11–06

Cirencester ★ Cryptography and coding. Proceedings of the 6th IMA International Conference held at the Royal Agricultural College, Cirencester, December 17–19, 1997. Edited by Michael Darnell. Lecture Notes in Computer Science, 1355. *Springer-Verlag, Berlin*, 1997. *x+335 pp. ISBN* 3-540-63927-6 (Editors) **99g:94019** 94A60 (90–02, 94–06)

Classic papers in shock compression science ★ Classic papers in shock compression science. Edited by James N. Johnson and Roger Chéret. High-pressure Shock Compression of Condensed Matter. *Springer-Verlag, New York*, 1998. *xii+524 pp. ISBN* 0-387-98410-0 (Roberto Natalini) **99m:76076** 76L05 (01A55, 01A60, 01A75, 76–03, 76Nxx, 76Q05)

Classical and quantum aspects of gravitation and cosmology ★ Classical and quantum aspects of gravitation and cosmology. Proceedings of the 18th Conference of the Indian Association for General Relativity and Gravitation (IAGRG) held in honor of S. Chandrasekhar at the Institute of Mathematical Sciences, Madras, February 15–17, 1996. Edited by G. Date and Bala R. Iyer. IMS Report, 117. *Institute of Mathematical Sciences, Madras*, 199?. *viii+231 pp.* (Editors) **99b:83003** 83–06

Classical and quantum chaos ★ Classical and quantum chaos. Dedicated to Boris Chirikov on the occasion of his 70th birthday. Ann. Inst. H. Poincaré Phys. Théor. **68** (1998), no. 4. *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris*, 1998. *pp. i–ii and* 379–523. (Editors) **99b:58004** 58–06 (81–06)

Classical problems in mechanics ★ Classical problems in mechanics. Edited by Remigio Russo. Quaderni di Matematica [Mathematics Series], 1. *Aracne Editrice, Rome*, 1997. *xii+376 pp. ISBN* 88-7999-187-6 (Editors) **99d:35001** 35–06 (35Q30, 73–06, 73C02, 76–06, 76D05)

Classical, semiclassical and quantum dynamics in atoms ★ Classical, semiclassical and quantum dynamics in atoms. Edited by Harald Friedrich and Bruno Eckhardt. Lecture Notes in Physics, 485. *Springer-Verlag, Berlin*, 1997. viii+340 *pp. ISBN* 3-540-63004-X (Charles A. Nelson) **99a:81002** 81–06 (81Q20, 81V45)

Classification, data analysis, and data highways ★ Classification, data analysis, and data highways. Proceedings of the 21st Annual Conference of the Gesellschaft für Klassifikation e.V. held at the University of Potsdam, Potsdam, March 12–14, 1997. Edited by Ingo Balderjahn, Rudolf Mathar and Martin Schader. Studies in Classification, Data Analysis, and Knowledge Organization. *Springer-Verlag, Berlin*, 1998. *x+414 pp. ISBN* 3-540-63909-8 (Editors) **99g:62002** 62–06

Clausthal ★ Lie theory and its applications in physics. Proceedings of the International Workshop held at the Technical University of Clausthal, Clausthal, August 14–17, 1995. Edited by H.-D. Doebner, V. K. Dobrev and J. Hilgert. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *viii+274 pp. ISBN* 981-02-2882-1 (Editors) **99d:00022** 00B25 (17B81, 58–06, 81–06)

Cleveland, OH ★ Topology of the Universe Conference. Papers from the conference held in Cleveland, OH, October 1997. Edited by Glenn D. Starkman. Classical Quantum Gravity **15** (1998), no. 9. *Institute of Physics Publishing, Bristol*, 1998. *pp.* 2529–2921. (Editors) **99f:83003** 83–06

Clifford algebras and their application in mathematical physics ★ Clifford algebras and their application in mathematical physics. Papers from the 4th International Conference held in Aachen, May 28–31, 1996. Edited by Volker Dietrich, Klaus Habetha and Gerhard Jank. Fundamental Theories of Physics, 94. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxxii+441 pp. ISBN* 0-7923-5037-5 (Editors) **99a:00022** 00B25 (15–06, 30–06, 53A50, 58–06, 81–06)

Cochin ★ Quality improvement through statistical methods. Papers from the International Conference held at Cochin University, Cochin, December 28–31, 1996. Edited by Bovas Abraham in association with N. Unnikrishnan Nair. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xxxiv+442 pp. ISBN* 0-8176-4052-5 (Editors) **99f:62011** 62–06 (62N10)

Coherent states, differential and quantum geometry ★ Coherent states, differential and quantum geometry. Proceedings of the 16th Workshop on Geometric Methods in Physics, including the Special Session in Memory of Ryszard Rączka, held in Białowieża, June 30–July 6, 1997. Edited by Martin Schlichenmaier, Aleksander Strasburger, S. Twareque Ali and Anatol Odzijewicz. Rep. Math. Phys. **43** (1999), no. 1-2. *Pergamon Press, Oxford*, 1999. *pp.* 1–366. (Editors) **99k:81004** 81–06 (58–06)

Coimbra ★ Multicriteria analysis. Proceedings of the 11th International Conference on MCDM held in Coimbra, August 1–6, 1994. Edited by João Clímaco. *Springer-Verlag, Berlin*, 1997. *x+617 pp. ISBN* 3-540-62074-5 (Editors) **99d:90006** 90–06

Colima ★ XXVIII Congreso Nacional de la Sociedad Matemática Mexicana. (Spanish) [XXVIII National Congress of the Mexican Mathematical Society] Papers from the congress held in Colima, October 1–7, 1995. Edited by J. L. Morales Pérez, S. Pérez Esteva, F. Sánchez Bringas and G. Villa Salvador. Aportaciones Matemáticas: Comunicaciones [Mathematical Contributions: Communications], 18. *Sociedad Matemática Mexicana, México*, 1996. *viii+326 pp. ISBN* 968-36-5409-6 (Editors) **99h:00025** 00B25

Collected Works:

Bers, Lipman *see* **Bers, Lipman, 99g:01041a** *and* **99g:01041b**

Bolzano, Bernard *see* **Bolzano, Bernard, 99h:01041** *and* **99j:01026**

Chevalley, Claude C. *see* **Chevalley, Claude, 99f:01028**

Cipolla, Michele *see* **Cipolla, Michele, 99d:01038**

Danilyuk, Ivan Il'ich *see* **Danilyuk, I. I., 99f:01029**

Einstein, Albert *see* **Einstein, Albert, 99e:01033**

Hájek, Jaroslav *see* **Hájek, Jaroslav, 99k:01086**

Kantorovich, Leonid Vital'evich *see* **Kantorovich, L. V., 99f:01030**

Levinson, Norman *see* **Levinson, Norman, 99d:01039a** *and* **99d:01039b**

Peierls, Rudolf Ernst *see* **Peierls, Rudolf, 99e:01035**

Peirce, Charles Sanders *see* **Peirce, Charles Sanders, 99h:01043**

Petrovskiĭ, Ivan Georgievich *see* **Petrovskiĭ, Ivan Georgievich, 99m:01106a** *and* **99m:01106b**

Ribenboim, Paulo *see* **Ribenboim, Paulo, 99j:01029a**; **99j:01029b**; **99j:01029c**; **99j:01029d**; **99j:01029e**; **99j:01029f** *and* **99j:01029g**

Collected Works: (*cont'd.*)

Varadarajan, V. S. *see* **Varadarajan, V. S., 99j:01030**

Wigner, Eugene Paul *see* **Wigner, Eugene Paul, 99k:01088** *and* **99k:01089**

Witt, Ernst *see* **Witt, Ernst, 99i:01038**

Collection of papers in honour of Academician Radu Miron on his 70th birthday ★ Collection of papers in honour of Academician Radu Miron on his 70th birthday. Rev. Roumaine Math. Pures Appl. **42** (1997), no. 9-10. *Editura Academiei Române, Bucharest*, 1997. *pp.* 673–842. 00B30

Collection of papers in memory of Martin Jurchescu ★ Collection of papers in memory of Martin Jurchescu. Rev. Roumaine Math. Pures Appl. **43** (1998), no. 1-2. *Editura Academiei Române, Bucharest*, 1998. *pp.* 1–251. 00B30

Collection of papers on geometry, analysis and mathematical physics ★ Collection of papers on geometry, analysis and mathematical physics. In honor of Professor Gu Chaohao. Edited by Ta-Tsien Li [Da Qian Li]. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii+175 pp. ISBN* 981-02-3024-9 (Editors) **99b:00025** 00B30

Colloquium:

20th Century Sciences ★ Sciences et développement. (French) [Science and development] Papers from the Colloquium on 20th Century Sciences held in Paris, September 1994. Edited by Martine Barrère. Les Sciences hors d'Occident au XXe Siècle [20th Century Sciences: Beyond the Metropolis], 5. *L'Institut Français de Recherche Scientifique pour le Développement en Coopération, Orstom, Paris*, 1996. 301 *pp. ISBN* 2-7099-1299-6 (Editors) **99e:00014** 00B15

Algebra and Operator Theory ★ Algebra and operator theory. Proceedings of the 2nd French-Uzbek Colloquium held in Tashkent, September 29–October 5, 1997. Edited by Yusupdjan Khakimdjanov [Yu. B. Khakimdzhanov], Michel Goze and Shavkat A. Ayupov. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii+250 pp. ISBN* 0-7923-5094-4 (Editors) **99d:00012** 00B25 (46–06)

Automata, Languages and Programming ★ Automata, languages and programming. Proceedings of the 25th International Colloquium (ICALP'98) held in Aalborg, July 13–17, 1998. Edited by Kim G. Larsen, Sven Skyum and Glynn Winskel. Lecture Notes in Computer Science, 1443. *Springer-Verlag, Berlin*, 1998. *xvi+932 pp. ISBN* 3-540-64781-3 (Editors) **99m:68007** 68–06

Carolus Magnus: 1200 Years of Civilization and Science in Europe ★ Charlemagne and his heritage. 1200 years of civilization and science in Europe. Vol. 2. Mathematical arts. Papers from the International Colloquium held in Aachen, March 19–26, 1995. Edited by P. L. Butzer, H. Th. Jongen and W. Oberschelp in collaboration with J. Bemelmans, W. Dahmen, A. Krieg and W. Plesken. *Brepols Publishers, Turnhout*, 1998. *xxiv+571 pp. ISBN* 2-503-50674-7 (Editors) **99i:00015** 00B25 (01–06)

Combinatorics and Graph Theory ★ Graph theory and combinatorial biology. Proceedings of the International Colloquium on Combinatorics and Graph Theory held in Balatonlelle, July 1996. Edited by L. Lovász, A. Gyárfás, G. Katona, A. Recski and L. Székely. Bolyai Society Mathematical Studies, 7. *János Bolyai Mathematical Society, Budapest*, 1999. 413 *pp. ISBN* 963-8022-90-6 (Editors) **99k:00031** 00B25 (05–06)

Differential Equations ★ Proceedings of the 5th International Colloquium on Differential Equations. Vol. 2. Held in Plovdiv, August 18–23, 1994. Edited by Drumi Bainov and Angel Dishliev. *Science Culture Technology Publishing (SCT), Singapore*, 1995. *iv+273 pp.* (Editors) **99g:00044** 00B25 (34–06, 35–06)

— ★ Proceedings of the Eighth International Colloquium on Differential Equations. Held in Plovdiv, August 18–23, 1997. Edited by D. Bainov. *VSP, Utrecht*, 1998. *xvi+459 pp. ISBN* 90-6764-279-7 (Editors) **99d:00026** 00B25 (34–06, 35–06, 65–06)

Dynamic Approaches in Logic, Language and Information ★ Logic, action and cognition. Essays in philosophical logic. Revised papers from the Colloquium on Dynamic Approaches in Logic, Language and Information (UmLLI-93) held at Umeå University, Umeå, September 24–26, 1993. Edited by Eva Ejerhed and Sten Lindström. Trends in Logic—Studia Logica Library, 2. *Kluwer Academic Publishers, Dordrecht*, 1997. *x+232 pp. ISBN* 0-7923-4560-6 (Editors) **99k:03012** 03B35 (03–06)

Dynamics and Statistics of Concentrated Vortices in Turbulent Flow ★ Dynamics and statistics of concentrated vortices in turbulent flow. Selected papers from the Euromech Colloquium 364 held in Carry-le-Rouet, June 24–27, 1997. Edited by S. le Dizès, A. Verga, K. Moffatt [H. Keith Moffatt] and P. Huerre. Eur. J. Mech. B Fluids **17** (1998), no. 4. *Publications Elsevier, Paris*, 1998. *pp. i–iv and* 405–675. (Editors) **99e:76002** 76–06 (76Fxx)

For Descartes ★ "Pour Descartes": mathématiques et physique cartésiennes. (French) ["For Descartes": Cartesian mathematics and physics] Papers from the colloquium held in Paris, November 20, 1996. Rev. Histoire Sci. **51** (1998), no. 2-3. *Presses Universitaires de France, Évry*, 1998. *pp. i–ii and* 171–379. (Editors) **99h:01003** 01–06 (01A45)

Fractional Differential Systems ★ Systèmes différentiels fractionnaires. [Fractional differential systems] Modèles, méthodes & applications. [Models, methods & applications] Proceedings of the colloquium (FDS'98) held in Paris, December 3–4, 1998. Edited by Denis Matignon and Gérard Montseny. ESAIM Proceedings, 5. *Société de Mathématiques Appliquées et Industrielles, Paris*, 1998. *front matter+204 pp.* (*electronic*). (Editors) **99h:00027** 00B25 (26A33)

Grammatical Inference ★ Grammatical inference. Proceedings of the 4th International Colloquium (ICGI '98) held at Iowa State University, Ames, IA, July 12–14, 1998. Edited by Vasant Honavar and Giora Slutzki. Lecture Notes in Computer Science, 1433. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x+271 pp. ISBN* 3-540-64776-7 (Editors) **99h:68006** 68–06 (68Q45, 68T05)

Group Theoretical Methods in Physics ★ Irreversibility and causality. Semigroups and rigged Hilbert spaces. Selected papers from the 21st International Colloquium on Group Theoretical Methods in Physics (ICGTMP) held in Goslar, July 16–21, 1996. Edited by Arno Bohm, Heinz-Dietrich Doebner and Piotr Kielanowski. Lecture Notes in Physics, 504. *Springer-Verlag, Berlin*, 1998. *xx+385 pp. ISBN* 3-540-64305-2 (Editors) **99b:81003** 81–06 (00B25, 47–06)

Hintikka, Jaakko ★ Jaakko Hintikka. (French) Questions de logique et de phénoménologie. [Questions of logic and phenomenology] Selected papers from the colloquium held in Paris, May 12–14, 1994. Edited by Élisabeth Rigal. Problèmes et Controverses. [Problems and Controversies] *Librairie Philosophique J. Vrin, Paris*, 1998. 338 *pp. ISBN* 2-7116-1242-2 (Editors) **99f:03005** 03A05 (03–06, 03B65)

Colloquium: (*cont'd.*)

Logic '95 ★ Logic Colloquium '95. Invited papers from the colloquium (the European Summer Meeting of the Association for Symbolic Logic) held at the Technion, Haifa, August 9–17, 1995. Edited by Gerhard Jaeger [Gerhard Jäger] Wolfram Pohlers and Stan Wainer. Arch. Math. Logic **37** (1998), no. 5-6. *Springer-Verlag, Heidelberg*, 1998. *pp.* 273–441. (Editors) **99b:03005** 03–06

— ★ Logic Colloquium '95. Papers from the colloquium held as part of the European Summer Meeting of the Association for Symbolic Logic in Haifa, August 9–18, 1995. Edited by Johann A. Makowsky and Elena V. Ravve. Lecture Notes in Logic, 11. *Springer-Verlag, Berlin*, 1998. *xvi*+349 *pp. ISBN* 3-540-63994-2 (Editors) **99m:03003** 03–06

Logic '96 ★ Logic Colloquium '96. Invited papers from the Colloquium (European Summer Meeting of the Association of Symbolic Logic) held at the University of the Basque Country, San Sebastián, July 9–15, 1996. Edited by J. M. Larrazabal, D. Lascar and G. Mints. Lecture Notes in Logic, 12. *Springer-Verlag, Berlin*, 1998. *viii*+261 *pp. ISBN* 3-540-64668-X (Editors) **99i:03002** 03–06

Logic in the Teaching of Mathematics ★ Logique dans l'enseignement des mathématiques. (French) [Logic in the teaching of mathematics] Papers from the colloquium held in Liège, May 29–30, 1996. Bull. Belg. Math. Soc. Simon Stevin **5** (1998), no. 5, suppl. *Société Mathématique de Belgique, Brussels*, 1998. *pp. i–vi and* 1–78. (Editors) **99g:00042** 00B25 (03–06)

Material for the History of Twentieth-century Mathematics ★ Matériaux pour l'histoire des mathématiques au XX^{e} siècle. (French) [Material for the history of twentieth-century mathematics] Papers from the colloquium held in Nice, January 6–8, 1996. Séminaires et Congrès [Seminars and Congresses], 3. *Société Mathématique de France, Paris*, 1998. 283 *pp. ISBN* 2-85629-065-5 (Editors) **99d:01001** 01–06 (00B25)

Mathematics and Art ★ Mathématiques et art. (French) [Mathematics and art] Papers from the colloquium held in Cerisy-la-Salle, September 2–9, 1991. Edited by Maurice Loi. *Hermann, Paris*, 1995. ii+252 *pp. ISBN* 2-7056-6254-5 (C. J. Scriba) **99b:00009** 00A69 (00A05)

Models, Theories and Disunity in Physics ★ Models, theories and disunity in physics. Papers from the colloquium held in Berlin, June 5–7, 1996. Edited by Brigitte Falkenburg and Wolfgang Muschik. Philos. Natur. **35** (1998), no. 1. *Vittorio Klostermann, Frankfurt am Main*, 1998. *pp.* 1–223. (Editors) **99g:00024** 00A30

Numerical Simulation of Flows ★ Numerical flow simulation. I. CNRS-DFG collaborative research programme. Results 1996–1998. Papers from the 6th Joint Colloquium on Numerical Simulation of Flows held in Marseille, November 21–22, 1997. Edited by Ernst Heinrich Hirschel. Notes on Numerical Fluid Mechanics, 66. *Friedr. Vieweg & Sohn, Braunschweig*, 1998. *viii*+425 *pp. ISBN* 3-528-06966-X (Editors) **99h:76003** 76–06 (76Mxx)

Quantum Groups ★ Quantum groups and integrable systems. Part I. Papers from 6th International Colloquium on Quantum Groups held in Prague, June 19–21, 1997. Edited by Č. Burdík. Czechoslovak J. Phys. **47** (1997), no. 11. *Academy of Sciences of the Czech Republic, Institute of Physics, Prague*, 1997. *pp.* 1067–1186. (Editors) **99b:17001** 17–06 (17B37, 58F07)

— ★ Quantum groups and integrable systems. II. Papers from the 6th International Colloquium on Quantum Groups held in Prague, June 19–21, 1997. Edited by Č. Burdík. Czechoslovak J. Phys. **47** (1997), no. 12. *Academy of Sciences of the Czech Republic, Institute of Physics, Prague*, 1997. *pp. i–ii and* 1187–1298. (Editors) **99b:81005** 81–06

— ★ Quantum groups and integrable systems. Papers from the 7th International Colloquium on Quantum Groups held in Prague, June 18–20, 1998. Edited by Č. Burdík and A. A. Vladimirov. Czechoslovak J. Phys. **48** (1998), no. 11. *Academy of Sciences of the Czech Republic, Institute of Physics, Prague*, 1998. *pp.* 1261–1514. (Editors) **99k:81007** 81–06 (17B37, 81R50)

Quetelet: A Man of Ideas ★ Actualité et universalité de la pensée scientifique d'Adolphe Quetelet. (French) [Universality and relevance today of the scientific thought of Adolphe Quetelet] Proceedings of the Colloquium "Quetelet: A Man of Ideas" held in Brussels, October 24–25, 1996, in honor of Adolphe Quetelet on the 200th anniversary of his birth. Acad. Roy. Belg. Cl. Sci. Mém. Collect. 8° (3) **13** (1997). *Académie Royale de Belgique, Brussels*, 1997. *pp.* 1–236. (Editors) **99a:01002** 01–06

Columbus, OH ★ The Monster and Lie algebras. Proceedings of the Special Research Quarter, including the 2nd Monster Conference, held at The Ohio State University, Columbus, OH, May 1996. Edited by J. Ferrar and K. Harada. Ohio State University Mathematical Research Institute Publications, 7. *Walter de Gruyter & Co., Berlin*, 1998. *x*+252 *pp. ISBN* 3-11-016184-2 (Editors) **99e:00021** 00B25 (17–06, 17Bxx, 20–06, 20D08)

Combinatorial designs and their applications ★ Combinatorial designs and their applications. Proceedings of the conference held at the Open University, Milton Keynes, March 19, 1997. Edited by Fred C. Holroyd, Kathleen A. S. Quinn, Chris Rowley and Bridget S. Webb. Chapman & Hall/CRC Research Notes in Mathematics, 403. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *viii*+152 *pp. ISBN* 0-8493-0659-0 (Editors) **99k:05002** 05–06

Combinatorial pattern matching ★ Combinatorial pattern matching. Proceedings of the 9th Annual Symposium (CPM 98) held in Piscataway, NJ, July 20–22, 1998. Edited by Martin Farach-Colton. Lecture Notes in Computer Science, 1448. *Springer-Verlag, Berlin*, 1998. *viii*+251 *pp. ISBN* 3-540-64739-2 (Editors) **99h:68002** 68–06 (68Q25, 68U15)

Combinatorics '98 ★ Combinatorics '98. Papers from the International Scientific Conference held in Mondello, June 14–20, 1998. Rend. Circ. Mat. Palermo (2) Suppl. No. 53 (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp.* 3–224. (Editors) **99c:00012** 00B25 (51–06)

Combinatorics, complexity, & logic ★ Combinatorics, complexity, & logic. Proceedings of the 1st International Conference on Discrete Mathematics and Theoretical Computer Science (DMTCS'96) held at the University of Auckland, Auckland, December 9–13, 1996. Edited by D. S. Bridges, C. S. Calude, J. Gibbons, S. Reeves and I. H. Witten. Springer Series in Discrete Mathematics and Theoretical Computer Science. *Springer-Verlag Singapore, Singapore*, 1997. *viii*+422 *pp. ISBN* 981-3083-14-X (Editors) **99d:68003** 68–06 (03–06, 68Q15, 68Q30)

Comillas 9th International Workshop on Stereology, Stochastic Geometry and Image Analysis. Abstracts from the workshop held in Comillas, October 6–10, 1997. *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 271–294. 60–06 (60D05)

Commutative harmonic analysis ★ Commutative harmonic analysis. II. Group methods in commutative harmonic analysis. A translation of *Current problems in mathematics. Fundamental directions. Vol. 25* (Russian) Akad. Nauk SSSR, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform., Moscow, 1988 [MR 89h:43001]. Translated by D. Dynin and S. Dynin. Translation edited by V. P. Havin [Viktor Petrovich Khavin] and N. K. Nikolski [Nikolai K. Nikol'skiĭ]. Encyclopaedia of Mathematical Sciences, 25. *Springer-Verlag, Berlin*, 1998. *viii*+325 *pp. ISBN* 3-540-51998-X (Editors) **99h:43002** 43–02 (43A25, 43A35)

Complex analysis and applications ★ Complex analysis and applications. Proceedings of the conference held in Warsaw, July 14–25, 1997. Edited by Anne-Marie Chollet, Evgeni Chirka, Roman Dwilewicz, Howard Jacobowitz and Józef Siciak. Ann. Polon. Math. **70** (1998). *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. *pp. i–x and* 1–231. (Editors) **99h:32001** 32–06 (00B25)

Complex analysis and representation theory ★ Complex analysis and representation theory. 1. A translation of *Complex analysis and representation theory. 1* (Russian), Vseross. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow, 1996. Edited by V. P. Saharova [V. P. Sakharova]. J. Math. Sci. (New York) **92** (1998), no. 2. *Consultants Bureau, New York*, 1998. *pp. i–vi and* 3685–3834. (Editors) **99h:00041** 00B55

Complex geometric analysis in Pohang ★ Complex geometric analysis in Pohang. Proceedings of the POSTECH-BSRI SNU-GARC International Conference on Several Complex Variables held at the Pohang University of Science and Technology, Pohang, June 23–27, 1997. Edited by Kang-Tae Kim and Steven G. Krantz. Contemporary Mathematics, 222. *American Mathematical Society, Providence, RI*, 1999. *viii*+256 *pp. ISBN* 0-8218-0957-1 (Editors) **99e:32002** 32–06

Complex matters of the mind ★ The complex matters of the mind. Papers from the International Conference on Chaos, Fractals and Models held at the University of Pavia, Pavia, November 1996. Edited by Franco Orsucci. Studies of Nonlinear Phenomena in Life Science, 6. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xviii*+210 *pp. ISBN* 981-02-3339-6 (Editors) **99e:92041** 92J10 (92–06, 92J30, 92J40)

Complex methods in approximation theory ★ Complex methods in approximation theory. Proceedings of the Workshop on Methods of Complex Analysis in Approximation Theory held at the University of Almería, Almería, June 5–8, 1995. Edited by Andrei Martínez Finkelshtein, Francisco Marcellán and Juan J. Moreno-Balcázar. Monografías Ciencia y Tecnología [Science and Technology Monographs], 2. *Universidad de Almería, Servicio de Publicaciones, Almería*, 1997. *xvi*+171 *pp. ISBN* 84-8240-046-0 (Editors) **99b:00012** 00B25 (41–06)

Complexity theory retrospective ★ Complexity theory retrospective. II. Edited by Lane A. Hemaspaandra and Alan L. Selman. *Springer-Verlag, New York*, 1997. xii+339 *pp. ISBN* 0-387-94973-9 (Marius Zimand) **99a:68078** 68Q15 (03D15, 68–06)

Computability theory ★ Computability theory. Edited by Douglas Cenzer and Jeffrey B. Remmel. Ann. Pure Appl. Logic **93** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–iv and* 1–263. (Editors) **99d:03038** 03Dxx (03–06)

Computation of three-dimensional complex flows ★ Computation of three-dimensional complex flows. Proceedings of the IMACS-COST Conference on Computational Fluid Dynamics held in Lausanne, September 13–15, 1995. Edited by Michel Deville, Spyros Gavrilakis and Inge L. Ryhming. Notes on Numerical Fluid Mechanics, 53. *Friedr. Vieweg & Sohn, Braunschweig*, 1996. *xiv*+392 *pp. ISBN* 3-528-07653-4 (Editors) **99c:76064** 76Mxx (76–06)

Computational and mathematical models of microstructural evolution ★ Computational and mathematical models of microstructural evolution. Proceedings of the symposium held as a part of the 1998 MRS Spring Meeting in San Francisco, CA, April 13–17, 1998. Edited by Jeffrey W. Bullard, Long-Qing Chen, Rajiv K. Kalia and A. Marshall Stoneham. Materials Research Society Symposium Proceedings, 529. *Materials Research Society, Warrendale, PA*, 1998. *xii*+183 *pp. ISBN* 1-55899-435-1 (Editors) **99k:73002** 73–06 (73B30, 73S10, 80–06)

Computational fluid dynamics in Russia ★ Computational fluid dynamics in Russia. Edited by Yu. Shokin. Int. J. Comput. Fluid Dyn. **10** (1998), no. 2. *Gordon and Breach Science Publishers, Yverdon*, 1998. *pp.* 91–182. (Editors) **99e:76001** 76–06

Computational mathematics and cybernetics ★ Computational mathematics and cybernetics. 2. A translation of *Computational mathematics and cybernetics. 2* (Russian), Veross. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow, 1995. Edited by A. G. Shipshina. J. Math. Sci. (New York) **89** (1998), no. 4. *Consultants Bureau, New York*, 1998. *pp. i–iv and* 1355–1457. (Editors) **99a:00058** 00B55

Computational methods and bifurcation theory with applications ★ Computational methods and bifurcation theory with applications. Edited by Tim Healey. Comput. Methods Appl. Mech. Engrg. **170** (1999), no. 3-4. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–ii and* 173–460. (Editors) **99k:34001** 34–06 (00B15, 34C23, 65–06, 73H05)

Computational methods for optimal design and control ★ Computational methods for optimal design and control. Proceedings of the 2nd International Workshop on Optimal Design and Control held in Arlington, VA, September 30–October 3, 1997. Edited by Jeff Borggaard, John Burns, Eugene Cliff and Scott Schreck. Progress in Systems and Control Theory, 24. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xii*+460 *pp. ISBN* 0-8176-4064-9 (Editors) **99d:49001** 49–06 (49Q15, 93C20)

Computational methods in computer graphics ★ Special issue: computational methods in computer graphics. Edited by D. S. Meek and D. J. Walton. J. Comput. Appl. Math. **102** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 1–180. (Editors) **99h:65003** 65–06 (65Dxx, 65Y25, 68U05)

Computational modelling and computing in physics ★ Computational modelling and computing in physics. Publ. No. D5,11-97-112. Proceedings of the 9th International Conference held in Dubna, September 16–21, 1996. Edited by E. P. Zhidkov, A. V. Fedorov and R. R. Shahbaghyan [R. R. Shakhbagyan]. *Joint Inst. Nuclear Res., Dubna*, 1997. 379 *pp. ISBN* 5-85165-472-4 (Editors) **99k:65003** 65–06

Computational physics ★ Computational physics. Proceedings of the 9th Physics Summer School held at the Australian National University, Canberra, January 8–25, 1996. Edited by Henry J. Gardner and Craig M. Savage. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+210 *pp. ISBN* 981-02-3058-3 (Editors) **99f:00012** 00B25 (65–06, 76–06)

Computational radiology and imaging ★ Computational radiology and imaging. Therapy and diagnostics. Proceedings of the IMA Workshop held at the University of Minnesota,

Minneapolis, MN, March 17–21, 1997. Edited by Christoph Börgers and Frank Natterer. The IMA Volumes in Mathematics and its Applications, 110. *Springer-Verlag, New York*, 1999. x+281 *pp. ISBN* 0-387-98799-1 (Editors) **99m:92012** 92C55 (92–06, 92C50)

Computational techniques and applications: CTAC95 ★ Computational techniques and applications: CTAC95. Proceedings of the Seventh Biennial Conference held at Swinburne University of Technology, Melbourne, July 3–5, 1995. Edited by Robert L. May and Alan K. Easton. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xx*+875 *pp. ISBN* 981-02-2820-1 (Editors) **99g:00035** 00B25 (65–06, 76–06, 76Mxx)

Computing and combinatorics ★ Computing and combinatorics. Proceedings of the 4th Annual International Conference (COCOON'98) held in Taipei, August 12–14, 1998. Edited by Wen-Lian Hsu and Ming-Yang Kao. Lecture Notes in Computer Science, 1449. *Springer-Verlag, Berlin*, 1998. *xii*+372 *pp. ISBN* 3-540-64824-0 (Editors) **99k:68008** 68–06 (05–06, 68Q25, 68R10)

Conceptual structures: theory, tools and applications ★ Conceptual structures: theory, tools and applications. Proceedings of the 6th International Conference on Conceptual Structures, (ICCS'98) held in Montpellier, August 10–12, 1998. Edited by Marie-Laure Mugnier and Michel Chein. Lecture Notes in Computer Science, 1453. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xiv*+439 *pp. ISBN* 3-540-64791-0 (Editors) **99h:68003** 68–06 (68T30)

CONCUR'98: concurrency theory ★ CONCUR'98: concurrency theory. Proceedings of the 9th International Conference held in Nice, September 8–11, 1998. Edited by Davide Sangiorgi and Robert de Simone. Lecture Notes in Computer Science, 1466. *Springer-Verlag, Berlin*, 1998. *xii*+657 *pp. ISBN* 3-540-64896-8 (Editors) **99k:68006** 68–06 (68Q10)

Concurrency theory and applications '96 ★ Concurrency theory and applications '96. Proceedings of the Workshop in Computing held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 22–24, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 996 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–242. (Editors) **99a:68004** 68–06 (68Q10)

Conference:

Abelian Groups and Modules ★ Abelian groups, module theory, and topology. Proceedings of the International Conference on Abelian Groups and Modules held in honor of Adalberto Orsatti's 60th birthday in Padua, 1997. Edited by Dikran Dikranjan and Luigi Salce. Lecture Notes in Pure and Applied Mathematics, 201. *Marcel Dekker, Inc., New York*, 1998. *xviii*+444 *pp. ISBN* 0-8247-1937-9 (Editors) **99f:00028** 00B30 (00B25, 16–06, 20–06, 22–06)

Advances in Fluid Mechanics ★ Advances in fluid mechanics. II. Papers from the 2nd International Conference held in Udine, May 1998. Edited by M. Rahman, G. Comini and C. A. Brebbia. Advances in Fluid Mechanics, 21. *Computational Mechanics Publications, Southampton*, 1998. *x*+377 *pp. ISBN* 1-85312-589-X (Editors) **99k:76003** 76–06 (76Mxx)

Advances in Mechanical Engineering ★ International Conference on Advances in Mechanical Engineering (ICAME). Selected papers from the conference held in Bangalore, December 20–22, 1995. Mech. Mach. Theory **33** (1998), no. 8. *Pergamon Press, Oxford*, 1998. *pp. i–ii and* 1085–1193. (Editors) **99g:70013** 70B15 (70–06)

Advances in Modal Logic ★ Advances in modal logic. Vol. 1. Selected papers from the 1st Conference (AiML'96) held at the Free University of Berlin, Berlin, October 1996. Edited by Marcus Kracht, Maarten de Rijke, Heinrich Wansing and Michael Zakharyaschev [M. V. Zakhar′yashchev]. CSLI Lecture Notes, 87. *CSLI Publications, Stanford, CA*, 1998. *xvi*+392 *pp. ISBN* 1-57586-102-X 03B45 (03–06)

Algebra ★ Proceedings of the 1st Panhellenic Algebra Conference. Held in Athens, September 27–28, 1996. Bull. Greek Math. Soc. **38** (1996). *Greek Mathematical Society, Athens*, 1996. *pp.* 1–143. (Editors) **99a:00037** 00B25 (20–06)

Algebra and Combinatorics: Interactions and Applications ★ Algebra and combinatorics: interactions and applications. Papers from the International Conference dedicated to the memory of Lev Arkad′evich Kalužnin [Lev Arkad′evich Kaluzhnin] held in Königstein, March 1994. Edited by M. Hazewinkel, A. A. Ivanov and A. J. Woldar. Acta Appl. Math. **52** (1998), no. 1-3. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 1–330. (Editors) **99e:00015** 00B25 (05–06, 20–06)

Algebra and Model Theory ★ Advances in algebra and model theory. Papers from the Conferences on Algebra and Model Theory held in Essen, June 9–11, 1994 and Dresden, June 8–10, 1995. Edited by Manfred Droste and Rüdiger Göbel. Algebra, Logic and Applications, 9. *Gordon and Breach Science Publishers, Amsterdam*, 1997. *xii*+499 *pp. ISBN* 90-5699-101-9 (Editors) **99k:00026** 00B25 (03–06, 03C60, 20–06)

Algebraic and Logic Programming ★ Algebraic and logic programming. Proceedings of the 6th International Conference on Algebraic and Logic Programming (ALP'97) and the 3rd International Workshop on Higher-order Algebra, Logic and Term Rewriting (HOA'97) held jointly in Southampton, September 3–5, 1997. Edited by Michael Hanus, Jan Heering and Karl Meinke. Lecture Notes in Computer Science, 1298. *Springer-Verlag, Berlin*, 1997. *x*+286 *pp. ISBN* 3-540-63459-2 (Editors) **99b:68002** 68–06 (68N15, 68Q42)

Algebraic Geometry ★ Algebraic geometry. Papers from the EUROPROJ Conferences held in Catania, September 1993, and Barcelona, September 1994. Edited by Peter E. Newstead. Lecture Notes in Pure and Applied Mathematics, 200. *Marcel Dekker, Inc., New York*, 1998. *x*+405 *pp. ISBN* 0-8247-0234-4 (Editors) **99f:14001** 14–06

Algebraic Number Theory and Related Topics ★ Daisūteki seisū ron to sono shūhen no kenkyū. (Japanese) [Algebraic number theory and related topics] Proceedings of a conference held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 25–29, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 998 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–202. (Editors) **99a:11003** 11–06

Algorithmic Algebra and Number Theory ★ Algorithmic algebra and number theory. Selected papers from the conference held at the University of Heidelberg, Heidelberg, October 1997. Edited by B. Heinrich Matzat, Gert-Martin Greuel and Gerhard Hiss. *Springer-Verlag, Berlin*, 1999. *viii*+434 *pp. ISBN* 3-540-64670-1 (Editors) **99h:00020** 00B25 (11–06, 13–06, 20–06)

Algorithmic Learning Theory ★ Algorithmic learning theory. Proceedings of the 9th International Conference (ALT'98) held in Otzenhausen, October 8–10, 1998. Edited by Michael M. Richter, Carl H. Smith, Rolf Wiehagen and Thomas Zeugmann. Lecture Notes in Computer Science, 1501. Lecture Notes in Artificial Intelligence.

Conference: (*cont'd.*)

Springer-Verlag, Berlin, 1998. *xii*+439 *pp. ISBN* 3-540-65013-X (Editors) **99m:68005** 68–06 (68Q99, 68T05)

Analytic and Probabilistic Methods in Number Theory ★ New trends in probability and statistics. Vol. 4. Analytic and probabilistic methods in number theory. Proceedings of the 2nd International Conference held in honor of J. Kubilius on his 75th birthday in Palanga, September 23–27, 1996. Edited by A. Laurinčikas, E. Manstavičius and V. Stakėnas. *VSP, Utrecht*; *TEV Ltd., Vilnius*, 1997. *x*+501 *pp. ISBN* 90-6764-255-X (Editors) **99f:11003** 11–06 (11Kxx)

Analytic Tableaux and Related Methods ★ Automated reasoning with analytic tableaux and related methods. Proceedings of the International Conference (TABLEAUX '98) held in Oisterwijk, May 5–8, 1998. Edited by Harrie de Swart. Lecture Notes in Computer Science, 1397. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+325 *pp. ISBN* 3-540-64406-7 (Editors) **99f:03002** 03–06 (03B35)

Applied Analysis ★ Applied analysis. Proceedings of the conference held in Baton Rouge, LA, April 19–21, 1996. Edited by J. Robert Dorroh, Gisèle Ruiz Goldstein, Jerome A. Goldstein and Michael Mudi Tom. Contemporary Mathematics, 221. *American Mathematical Society, Providence, RI*, 1999. *x*+284 *pp. ISBN* 0-8218-0673-4 (Editors) **99e:00016** 00B25

Applied Computer Algebra ★ Non-standard applications of computer algebra. Including papers from the 2nd and 3rd IMACS Conferences on Applied Computer Algebra held in Linz, 1996 and in Wailea, HI, 1997. Edited by E. Roanes-Lozano, S. Steinberg and H. Hong. Math. Comput. Simulation **45** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 1–217. (Editors) **99a:00035** 00B25 (68Q40)

Applied Nonlinear Dynamics and Stochastic Systems near the Millenium ★ Applied nonlinear dynamics and stochastic systems near the millenium. Papers from the conference held in San Diego, CA, July 1997. Edited by James B. Kadtke and Adi Bulsara. AIP Conference Proceedings, 411. *American Institute of Physics, Woodbury, NY*, 1997. *xii*+374 *pp. ISBN* 1-56396-736-7 (Editors) **99h:00022** 00B25 (58–06, 58F13, 76–06, 76F20)

Approximation and Optimization in the Caribbean ★ Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean. Held in Puebla, October 8–13, 1995. Edited by Bernd Bank, Jorge Bustamante, Jürgen Guddat, Miguel A. Jimenez, Hubertus Th. Jongen and Werner Römisch. *Benemérita Universidad Autónoma de Puebla, Puebla*, 1997. *front matter*+354 *pp.* (*electronic*). (Editors) **99e:00022** 00B25

Approximations and Numerical Methods for the Solution of Maxwell's Equations ★ Approximations and numerical methods for the solution of Maxwell's equations. Proceedings of the 3rd International Conference held at the University of Oxford, Oxford, April 1995. Edited by F. El Dabaghi, K. Morgan, K. Parrott and J. Periaux. The Institute of Mathematics and its Applications Conference Series. New Series, 65. *The Clarendon Press, Oxford University Press, New York*, 1998. *xvi*+390 *pp. ISBN* 0-19-851483-2 (Editors) **99a:00020** 00B25 (65–06, 78–06, 78–08)

Artificial Intelligence ★ KI-97: advances in artificial intelligence. Proceedings of the 21st Annual German Conference on Artificial Intelligence held in Freiburg, September 9–12, 1997. Edited by Gerhard Brewka, Christopher Habel and Bernhard Nebel. Lecture Notes in Computer Science, 1303. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *xii*+413 *pp. ISBN* 3-540-63493-2 (Editors) **99d:68006** 68–06 (68T15, 68T27)

— ★ Learning and reasoning with complex representations. Papers from the Workshops on Reasoning with Incomplete and Changing Information, and Inducing Complex Representations held at the Pacific Rim International Conference on Artificial Intelligence (PRICAI'96) in Cairns, August 26–30, 1996. Edited by Grigoris Antoniou, Aditya K. Ghose and Miroslaw Truszczyński. Lecture Notes in Computer Science, 1359. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+283 *pp. ISBN* 3-540-64413-X (Editors) **99f:68003** 68–06 (68T27)

— ★ AAAI-98/IAAI-98 Proceedings. Proceedings of the 15th National Conference on Artificial Intelligence and the 10th Conference on Innovative Applications of Artificial Intelligence held in Madison, WI, July 26–30, 1998. *MIT Press, Cambridge, MA*; *AAAI Press, Menlo Park, CA*, 1998. *xxiv*+1218 *pp. ISBN* 0-262-51098-7 (Editors) **99f:68005** 68–06 (68Txx)

Artificial Intelligence and Symbolic Computation ★ Artificial intelligence and symbolic computation. Proceedings of the 4th International Conference (AISC'98) held at the State University of New York, Plattsburgh, NY, September 16–18, 1998. Edited by Jacques Calmet and Jan Plaza. Lecture Notes in Computer Science, 1476. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xii*+309 *pp. ISBN* 3-540-64960-3 (Editors) **99k:68005** 68–06 (03–06, 03B35, 68Q40, 68T27)

Asymptotic and Qualitative Methods in the Theory of Nonlinear Oscillations ★ Асимптотичні та якісні методи в теорії нелінійних коливань. (Ukrainian) [Asymptotic and qualitative methods in the theory of nonlinear oscillations] Abstracts from the International Conference "ASYM-97" and the 3rd Bogolyubov Readings held in Kiïv, August 18–23, 1997. Edited by V. G. Samoĭlenko. *Natsīonal′na Akademīya Nauk Ukraïni, Īnstitut Matematiki, Kiev*, 1997. 232 *pp.* (Editors) **99g:00030** 00B05 (34–06, 35–06)

Asymptotic Methods in Probability and Statistics ★ Asymptotic methods in probability and statistics. A volume in honour of Miklós Csörgő. Proceedings of the International Conference (ICAMPS'97) held at Carleton University, Ottawa, ON, July 8–13, 1997. Edited by Barbara Szyszkowicz. *North-Holland, Amsterdam*, 1998. *xxxiv*+889 *pp. ISBN* 0-444-50083-9 (Editors) **99f:60002** 60–06 (00B30, 62–06)

Asymptotics in Nonlinear Diffusive Systems—Towards the Understanding of Singularities in Dissipative Structures ★ Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems. Towards the understanding of singularities in dissipative structures. Held at Tôhoku University, Sendai, July 28–August 1, 1997. Edited by Yasumasa Nishiura, Izumi Takagi and Eiji Yanagida. Tohoku Mathematical Publications, 8. *Tohoku University, Mathematical Institute, Sendai*, 1998. *x*+262 *pp.* (Editors) **99a:35004** 35–06 (00B25)

von Bach, Carl Julius ★ Carl Julius von Bach (1847–1931). (German) Pionier—Gestalter—Forscher—Lehrer—Visionär. [Pioneer—shaper—researcher—teacher—visionary] Papers from the Scientific Conference held at the TU Chemnitz, Chemnitz, March 7–8, 1997, and the academic

Conference: (*cont'd.*)
ceremony held on the 150th anniversary of von Bach's birth at the Universität Stuttgart, Stuttgart, July 4, 1997. Edited by Friedrich Naumann. *Verlag Konrad Wittwer, Stuttgart*, 1998. 352 *pp. ISBN* 3-87919-260-X (Editors) **99h:01001** 01–06 (00B30)

Banach Algebras ★ Banach algebras '97. Proceedings of the 13th International Conference held in Blaubeuren, July 20–August 3, 1997. Edited by Ernst Albrecht and Martin Mathieu. *Walter de Gruyter & Co., Berlin*, 1998. *x*+566 *pp. ISBN* 3-11-015466-8 (Editors) **99f:46002** 46–06 (00B25)

Bose, Raj Chandra ★ R. C. Bose Memorial Conference. Papers from the conference held at Colorado State University, Fort Collins, CO, June 7–11, 1995. Edited by J. N. Srivastava. J. Statist. Plann. Inference **72** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–x and* 1–405. (Editors) **99f:62005** 62–06 (00B30)

— ★ R. C. Bose Memorial Conference. Papers from the conference held at Colorado State University, Fort Collins, CO, June 7–11, 1995. Edited by J. N. Srivastava. J. Statist. Plann. Inference **73** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–x and* 1–416. (Editors) **99f:62006** 62–06 (00B30)

Boundary Element ★ Boundary elements. XIX. Proceedings of the 19th International Boundary Element Conference held in Rome, September 1997. Edited by M. Marchetti, C. A. Brebbia and M. H. Aliabadi. *Computational Mechanics Publications, Southampton*, 1997. *xii*+840 *pp. ISBN* 1-85312-472-9 (From the preface) **99c:65003** 65–06 (73–06, 73V10, 76–06, 76M15)

Boundary Elements ★ Boundary element topics. Proceedings of the final conference of the Priority Research Programme "Boundary Element Methods 1989–1995" of the German Research Foundation held in Stuttgart, October 2–4, 1995. Edited by Wolfgang L. Wendland. *Springer-Verlag, Berlin*, 1997. *xviii*+498 *pp. ISBN* 3-540-62850-9 (Editors) **99e:00017** 00B25 (65–06, 73–06, 76–06)

Brieskorn, Egbert V. ★ Singularities. The Brieskorn anniversary volume. Papers from the Conference in Honor of the 60th Birthday of Egbert V. Brieskorn held at the Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, July 1996. Edited by V. I. Arnold, G.-M. Greuel and J. H. M. Steenbrink. Progress in Mathematics, 162. *Birkhäuser Verlag, Basel*, 1998. *xxvi*+458 *pp. ISBN* 3-7643-5913-7 (Editors) **99e:00031** 00B30 (14–06, 32–06)

Canadian Number Theory Association ★ Number theory. Proceedings of the 5th Conference of the Canadian Number Theory Association held at Carleton University, Ottawa, ON, August 17–22, 1996. Edited by Rajiv Gupta and Kenneth S. Williams. CRM Proceedings & Lecture Notes, 19. *American Mathematical Society, Providence, RI*, 1999. *xxxii*+392 *pp. ISBN* 0-8218-0964-4 (Editors) **99k:11005** 11–06

Category Theory and Computer Science ★ Category theory and computer science. Proceedings of the 7th International Conference (CTCS '97) held in Santa Margherita Ligure, September 4–6, 1997. Edited by Eugenio Moggi and Giuseppe Rosolini. Lecture Notes in Computer Science, 1290. *Springer-Verlag, Berlin*, 1997. *vi*+313 *pp. ISBN* 3-540-63455-X (Editors) **99c:68004** 68–06 (68Q55, 68Q65)

Cellular Automata for Research and Industry ★ Cellular automata. Selected papers from the 2nd Conference on Cellular Automata for Research and Industry (ACRI) held in Milan, October 16–18, 1996. Edited by S. Bandini and G. Mauri. Theoret. Comput. Sci. **217** (1999), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. ix–x and* 1–172. (Editors) **99k:68007** 68–06 (68Q80)

Chaos, Fractals and Models ★ The complex matters of the mind. Papers from the International Conference on Chaos, Fractals and Models held at the University of Pavia, Pavia, November 1996. Edited by Franco Orsucci. Studies of Nonlinear Phenomena in Life Science, 6. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xviii*+210 *pp. ISBN* 981-02-3339-6 (Editors) **99e:92041** 92J10 (92–06, 92J30, 92J40)

Chaotic Systems ★ Caos en el Uruguay. (Spanish) [Chaos in Uruguay] ¿Qué hacen los investigadores uruguayos que trabajan en sistemas caóticos? [The contributions of Uruguayan researchers to the study of chaotic systems]. Papers from the First Interdisciplinary Conference on Chaotic Systems held in Piriápolis, May 23–25, 1996. Edited by Roberto Markarian and Gonzalo Tancredi. *Universidad de la República, Facultad de Ciencias–Facultad de Ingeniería, Montevideo*, 1997. *x*+126 *pp. ISBN* 9974-0-0074-2 (Francisco Balibrea) **99m:58004** 58–06 (58F13)

Clifford Algebras and their Application in Mathematical Physics ★ Clifford algebras and their application in mathematical physics. Papers from the 4th International Conference held in Aachen, May 28–31, 1996. Edited by Volker Dietrich, Klaus Habetha and Gerhard Jank. Fundamental Theories of Physics, 94. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxxii*+441 *pp. ISBN* 0-7923-5037-5 (Editors) **99a:00022** 00B25 (15–06, 30–06, 53A50, 58–06, 81–06)

Combinatorial ★ 16th British Combinatorial Conference. Selected papers from the conference held at Queen Mary and Westfield College, London, July 7–11, 1997. Edited by D. R. Woodall, I. Anderson, G. R. Brightwell, J. W. P. Hirschfeld, P. Rowlinson, J. Sheehan and D. H. Smith. Discrete Math. **197/198** (1999). *North-Holland Publishing Co., Amsterdam*, 1999. *pp. iii–xii and* 1–797. (Editors) **99h:00023** 00B25 (05–06)

Combinatorial Designs and their Applications ★ Combinatorial designs and their applications. Proceedings of the conference held at the Open University, Milton Keynes, March 19, 1997. Edited by Fred C. Holroyd, Kathleen A. S. Quinn, Chris Rowley and Bridget S. Webb. Chapman & Hall/CRC Research Notes in Mathematics, 403. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *viii*+152 *pp. ISBN* 0-8493-0659-0 (Editors) **99k:05002** 05–06

Combinatorial Optimisation ★ Advances in combinatorial optimization. Papers from the conference held at Imperial College, London, 1996. Edited by Y. M. Sharaiha and J. E. Beasley. Ann. Oper. Res. **86** (1999). *Baltzer Science Publishers BV, Bussum*, 1999. *pp. xii and* 1–663. (Editors) **99k:90002** 90–06 (90B35, 90C10, 90C27, 90C35)

Combinatorics '98 ★ Combinatorics '98. Papers from the International Scientific Conference held in Mondello, June 14–20, 1998. Rend. Circ. Mat. Palermo (2) Suppl. No. 53 (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp.* 3–224. (Editors) **99c:00012** 00B25 (51–06)

Combinatorics, Graph Theory and Computing ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **130** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00020** 00B25 (05–06, 68–06, 68R10)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **131** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–217. (Editors) **99i:00021** 00B25 (05–06)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **132** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00022** 00B25 (05–06)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **133** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00023** 00B25 (05–06)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **134** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00024** 00B25 (05–06, 68–06, 68R10)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **135** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–185. (Editors) **99i:00025** 00B25 (05–06)

Complex Analysis and Applications ★ Complex analysis and applications. Proceedings of the conference held in Warsaw, July 14–25, 1997. Edited by Anne-Marie Chollet, Evgeni Chirka, Roman Dwilewicz, Howard Jacobowitz and Józef Siciak. Ann. Polon. Math. **70** (1998). *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. *pp. i–x and* 1–231. (Editors) **99h:32001** 32–06 (00B25)

Complex Geometry and Mirror Symmetry ★ Mirror symmetry. III. Proceedings of the Conference on Complex Geometry and Mirror Symmetry held at the University of Montreal, Montreal, PQ, 1995. Edited by Duong H. Phong, Luc Vinet and Shing-Tung Yau. AMS/IP Studies in Advanced Mathematics, 10. *American Mathematical Society, Providence, RI*; *Université de Montréal, Centre de Recherches Mathématiques, Montreal, QC*, 1999. *x*+312 *pp. ISBN* 0-8218-1193-2 (Editors) **99i:14003** 14–06 (32–06)

Computability Theory ★ Conference on Computability Theory. Proceedings of the conference held in Oberwolfach, January 27–February 3, 1996. Edited by Klaus Ambos-Spies, Theodore A. Slaman and Robert I. Soare. Ann. Pure Appl. Logic **94** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–vi and* 1–296. (Editors) **99b:03006** 03–06 (03Dxx, 68Q05)

Computational Engineering in Systems Applications ★ Delay systems. Papers from the Special Session on Recent Results on Time-Delay Systems held as part of the Conference on Computational Engineering in Systems Applications in Lille, July 9–12, 1996. Edited by J.-P. Richard and V. B. Kolmanovskii. Math. Comput. Simulation **45** (1998), no. 3-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 219–395. (Editors) **99a:93005** 93–06

Computational Fluid Dynamics ★ Computation of three-dimensional complex flows. Proceedings of the IMACS-COST Conference on Computational Fluid Dynamics held in Lausanne, September 13–15, 1995. Edited by Michel Deville, Spyros Gavrilakis and Inge L. Ryhming. Notes on Numerical Fluid Mechanics, 53. *Friedr. Vieweg & Sohn, Braunschweig*, 1996. *xiv*+392 *pp. ISBN* 3-528-07653-4 (Editors) **99c:76064** 76Mxx (76–06)

Computational Modelling and Computing in Physics ★ Computational modelling and computing in physics. Publ. No. D5,11-97-112. Proceedings of the 9th International Conference held in Dubna, September 16–21, 1996. Edited by E. P. Zhidkov, A. V. Fedorov and R. R. Shahbaghyan [R. R. Shakhbagyan]. *Joint Inst. Nuclear Res., Dubna*, 1997. 379 *pp. ISBN* 5-85165-472-4 (Editors) **99k:65003** 65–06

Computational Techniques and Applications, 7th Biennial CTAC95 ★ Computational techniques and applications: CTAC95. Proceedings of the Seventh Biennial Conference held at Swinburne University of Technology, Melbourne, July 3–5, 1995. Edited by Robert L. May and Alan K. Easton. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xx*+875 *pp. ISBN* 981-02-2820-1 (Editors) **99g:00035** 00B25 (65–06, 76–06, 76Mxx)

Computing and Combinatorics ★ Computing and combinatorics. Proceedings of the 4th Annual International Conference (COCOON'98) held in Taipei, August 12–14, 1998. Edited by Wen-Lian Hsu and Ming-Yang Kao. Lecture Notes in Computer Science, 1449. *Springer-Verlag, Berlin*, 1998. *xii*+372 *pp. ISBN* 3-540-64824-0 (Editors) **99k:68008** 68–06 (05–06, 68Q25, 68R10)

— ★ Second Annual International Computing and Combinatorics Conference. Selected papers from the conference (COCOON '96) held in Hong Kong, June 17–19, 1996. Algorithmica **23** (1999), no. 4. *Springer-Verlag, New York*, 1999. *pp.* 277–373. (Editors) **99k:68009** 68–06

Computing and Information ★ Proceedings of the 7th International Conference on Computing and Information, ICCI '95. Held at Trent University, Peterborough, ON, July 5–8, 1995. Edited by Bart Domzy, Richard Hurley, John Palbom, David Krumme and S. K. Michael Wong. J. Comput. Inf. **1** (1995), no. 2. *Journal of Computing and Information, Sudbury, ON*, 1995. 1 *CD-ROM* (*DOS, Windows, Macintosh and UNIX*). (Editors) **99d:68010** 68–06

— ★ Proceedings of International Conference of Computing and Information, ICCI'94. 6th Conference held at Trent University, Peterborough, ON, May 26–28, 1994. Edited by Richard Hurley, David Krumme and Pradip K. Srimani. J. Comput. Inf. **1** (1995), no. 1. *Journal of Computing and Information, Sudbury, ON*, 1995. 1 *CD-ROM* (*DOS, Windows, Macintosh and UNIX*). (Editors) **99f:68006** 68–06

— ★ Proceedings of the 8th International Conference of Computing and Information, ICCI'96. Held at the University of Waterloo, Waterloo, ON, June 19–22, 1996. Edited by B. Domzy, F. Tompa, R. Hurley and S. Q. Zheng. J. Comput. Inf. **2** (1996), no. 1. *Journal of Computing and Information, Sudbury, ON*, 1996. 1 *CD-ROM* (*DOS, Windows, Macintosh and UNIX*). (Editors) **99g:68005** 68–06

Computing Science ★ Advances in computing science—ASIAN'97. Proceedings of the

Conference: (*cont'd.*)
3rd Asian Computing Science Conference held in Kathmandu, December 9–11, 1997. Edited by R. K. Shyamasundar and K. Ueda. Lecture Notes in Computer Science, 1345. *Springer-Verlag, Berlin*, 1997. *xiv*+387 *pp. ISBN* 3-540-63875-X (Editors) **99b:68001** 68–06

Conceptual Structures ★ Conceptual structures: theory, tools and applications. Proceedings of the 6th International Conference on Conceptual Structures, (ICCS'98) held in Montpellier, August 10–12, 1998. Edited by Marie-Laure Mugnier and Michel Chein. Lecture Notes in Computer Science, 1453. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xiv*+439 *pp. ISBN* 3-540-64791-0 (Editors) **99h:68003** 68–06 (68T30)

Concurrency Theory ★ CONCUR'98: concurrency theory. Proceedings of the 9th International Conference held in Nice, September 8–11, 1998. Edited by Davide Sangiorgi and Robert de Simone. Lecture Notes in Computer Science, 1466. *Springer-Verlag, Berlin*, 1998. *xii*+657 *pp. ISBN* 3-540-64896-8 (Editors) **99k:68006** 68–06 (68Q10)

Constraints in Computational Logics ★ International Conference on Constraints in Computational Logics. Selected papers from the conference held in Munich, 1994. Edited by Jean-Pierre Jouannaud. Inform. and Comput. **142** (1998), no. 1. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 1–126. (Editors) **99a:68005** 68–06 (68N17)

Control and Estimation of Distributed Parameter Systems ★ Control and estimation of distributed parameter systems. Proceedings of the International Conference held in Vorau, July 14–20, 1996. Edited by W. Desch, F. Kappel and K. Kunisch. International Series of Numerical Mathematics, 126. *Birkhäuser Verlag, Basel*, 1998. *x*+310 *pp. ISBN* 3-7643-5835-1 (Editors) **99b:49001** 49–06 (35–06, 49J20, 49K20, 93–06, 93C20)

Control and Partial Differential Equations ★ Control and partial differential equations. Papers from the conference held in Marseille-Luminy, June 16–20, 1997. Edited by Caroline Fabre, Fulbert Mignot, Jean-Pierre Puel, Marius Tucsnak and Enrique Zuazua. ESAIM Proceedings, 4. *Société de Mathématiques Appliquées et Industrielles, Paris*, 1998. *front matter* + 300 *pp.* (*electronic*). (Editors) **99g:00037** 00B25 (35–06, 49–06, 93–06, 93C20)

Cryptography and Coding ★ Cryptography and coding. Proceedings of the 6th IMA International Conference held at the Royal Agricultural College, Cirencester, December 17–19, 1997. Edited by Michael Darnell. Lecture Notes in Computer Science, 1355. *Springer-Verlag, Berlin*, 1997. *x*+335 *pp. ISBN* 3-540-63927-6 (Editors) **99g:94019** 94A60 (90–02, 94–06)

Cryptology ★ Advances in cryptology—CRYPTO '97. Proceedings of the 17th Annual International Cryptology Conference held in Santa Barbara, CA, August 17–21, 1997. Edited by Burton S. Kaliski, Jr. Lecture Notes in Computer Science, 1294. *Springer-Verlag, Berlin*, 1997. *xii*+540 *pp. ISBN* 3-540-63384-7 (Editors) **99a:94041** 94A60 (94–06)

— ★ Advances in cryptology—CRYPTO '98. Proceedings of the 18th Annual International Cryptology Conference held in Santa Barbara, CA, August 23–27, 1998. Edited by Hugo Krawczyk. Lecture Notes in Computer Science, 1462. *Springer-Verlag, Berlin*, 1998. *xii*+519 *pp. ISBN* 3-540-64892-5 (Editors) **99i:94059** 94A60 (94–06)

Current Trends in Algebraic Topology with Applications to Algebraic Geometry and Physics ★ Homotopy theory via algebraic geometry and group representations. Proceedings of the International Conference on Current Trends in Algebraic Topology with Applications to Algebraic Geometry and Physics held as part of The Special Year on Algebraic Topology at Northwestern University, Evanston, IL, March 23–27, 1997. Edited by Mark Mahowald and Stewart Priddy. Contemporary Mathematics, 220. *American Mathematical Society, Providence, RI*, 1998. *xii*+379 *pp. ISBN* 0-8218-0805-2 (Editors) **99c:55001** 55–06

Curves and Surfaces ★ Curves and surfaces with applications in CAGD. Vol. 1 of the Proceedings of the 3rd International Conference on Curves and Surfaces held in Chamonix–Mont-Blanc, June 27–July 3, 1996. Edited by Alain Le Méhauté, Christophe Rabut and Larry L. Schumaker. *Vanderbilt University Press, Nashville, TN*, 1997. *xvi*+480 *pp. ISBN* 0-8265-1293-3 (Editors) **99g:65004** 65–06 (65D17)

— ★ Surface fitting and multiresolution methods. Vol. 2 of the Proceedings of the 3rd International Conference on Curves and Surfaces held in Chamonix–Mont-Blanc, June 27–July 3, 1996. Edited by Alain Le Méhauté, Christophe Rabut and Larry L. Schumaker. *Vanderbilt University Press, Nashville, TN*, 1997. *xii*+354 *pp. ISBN* 0-8265-1294-1 (Editors) **99g:65005** 65–06 (41–06, 65D17)

Database Theory ★ Database theory—ICDT '95. Papers from the 5th International Conference held in Prague, January 11–13, 1995. Edited by Georg Gottlob and Moshe Y. Vardi. Lecture Notes in Computer Science, 893. *Springer-Verlag, Berlin*, 1995. *xii*+454 *pp. ISBN* 3-540-58907-4 (Editors) **99a:68006** 68–06 (68P15)

— ★ Database theory—ICDT '97. Proceedings of the 6th International Conference held in Delphi, January 8–10, 1997. Edited by Foto Afrati and Phokion Kolaitis. Lecture Notes in Computer Science, 1186. *Springer-Verlag, Berlin*, 1997. *xiv*+477 *pp. ISBN* 3-540-62222-5 (Editors) **99a:68007** 68–06 (68P15)

Deterministic and Stochastic Modelling of Biological Interaction ★ Epidemiology, cellular automata, and evolution. Part I: Selected papers from the Conference on Deterministic and Stochastic Modelling of Biological Interaction (DESTOBIO'97) held in Sofia, August 28–31, 1997. Edited by S. Agur, J. Cushing, O. Diekmann, M. Gyllenberg, H. Heesterbeek, P. Jagers, M. Kimmel, T. Kostova and F. Milner. Math. Biosci. **156** (1999), no. 1-2. *Elsevier, New York*, 1999. *pp. i–viii and* 1–342. (Editors) **99m:92001** 92–06

— ★ Deterministic models with applications in population dynamics and other fields of biology. Part II: Selected papers from the Conference on Deterministic and Stochastic Modelling of Biological Interaction (DESTOBIO'97) held in Sofia, August 28–31, 1997. Edited by S. Agur, J. Cushing, O. Diekmann, M. Gyllenberg, H. Heesterbeek, P. Jagers, M. Kimmel, T. Kostova and F. Milner. Math. Biosci. **157** (1999), no. 1-2. *Elsevier, New York*, 1999. *pp. i–viii and* 1–376. (Editors) **99m:92002** 92–06

Difference Equations ★ Advances in difference equations. Proceedings of the 2nd International Conference on Difference Equations (SICDE) held in Veszprém, August 7–11, 1995. Edited by S. Elaydi, I. Győri and G. Ladas. *Gordon and Breach Science Publishers, Amsterdam*, 1997. *xxii*+668 *pp. ISBN* 90-5699-521-9 (Editors) **99d:39001** 39–06 (34–06)

Difference Equations and Computational Simulations ★ Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations. Held at Mississippi State University, Mississippi State, MS, May 16–17, 1997. Edited by John Graef, Rathasingham Shivaji [Ratnasingham Shivaji], Jiangping Zhu [Jian Ping Zhu] and Bharat Soni. Electronic Journal of Differential Equations Conference, 1. *Southwest Texas State University, San Marcos, TX*, 1998. *front matter*+235 *pp.* (*electronic*). (Editors) **99h:00032** 00B25 (34–06, 35–06)

Differential Equations ★ Recent advances in differential equations. Papers from the 1st Pan-China Conference on Differential Equations held in Kunming, May 31–June 3, 1997. Edited by H.-H. Dai and P. L. Sachdev. Pitman Research Notes in Mathematics Series, 386. *Longman, Harlow*, 1998. *viii*+243 *pp. ISBN* 0-582-32219-7 (Editors) **99a:00045** 00B25 (34–06, 35–06)

— ★ International Conference on Differential Equations. Papers from the conference (EQUADIFF 95) held in Lisboa, July 24–29, 1995. Edited by L. Magalhães, C. Rocha and L. Sanchez. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xviii*+556 *pp. ISBN* 981-02-3421-X (Editors) **99d:00015** 00B25 (34–06, 35–06)

— ★ Differential equations: La Pietra 1996. Papers from the conference marking the 70th birthdays of Peter Lax and Louis Nirenberg held in Florence, July 3–7, 1996. Edited by M. Giaquinta, J. Shatah and S. R. S. Varadhan. Proceedings of Symposia in Pure Mathematics, 65. *American Mathematical Society, Providence, RI*, 1999. *xii*+219 *pp. ISBN* 0-8218-0610-6 (Editors) **99g:35004** 35–06 (00B25, 00B30, 58–06)

Differential Equations—Theory, Methods and Applications ★ Differential equations—theory, methods and applications. Proceedings of the International Conference held in Hyderabad, February 20–23, 1995. Differential Equations Dynam. Systems **4** (1996), no. 3-4. *Research Square Publications, Hyderabad*, 1996. *pp.* 253–478. (Editors) **99g:00038** 00B25 (34–06, 35–06)

Differential Equations and Applications ★ Differential equations and applications. Proceedings of the US-Chinese Conference held in Hangzhou, June 24–29, 1996. Edited by P. W. Bates, S.-N. Chow, K. Lu and X. Pan. *International Press, Cambridge, MA*, 199?. x+363 *pp. ISBN* 1-57146-048-9 (Editors) **99b:00013** 00B25 (34–06, 35–06)

Differential Equations and Dynamical Systems ★ Dynamics and optimization. Papers from the Special Session held as part of the International Conference on Differential Equations and Dynamical Systems at the University of Waterloo, Waterloo, ON, August 1–4, 1997. Edited by K. L. Teo and L. Caccetta. Dynam. Contin. Discrete Impuls. Systems **4** (1998), no. 4. *Watam Press, Waterloo, ON*, 1998. *pp. i–iv and* 485–631. (Editors) **99g:49003** 49–06 (93–06)

— ★ Differential equations and dynamical systems. Papers from the International Conference held at the University of Waterloo, Waterloo, ON, August 1–4, 1997. Edited by Xinzhi Liu and David Siegel. Dynam. Contin. Discrete Impuls. Systems **5** (1999), no. 1-4. *Watam Press, Waterloo, ON*, 1999. *pp. i–iv and* 1–597. (Editors) **99m:34001** 34–06 (00B25, 35–06, 93–06)

Differential Equations and Mathematical Biology ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **5** (1997), no. 3. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1997. *pp.* 205–318. 00B30

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **5** (1997), no. 4. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1997. *pp.* 319–422. 35–06 (34–06, 92–06)

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Natur. Resource Modeling **11** (1998), no. 2. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 81–171. 92–06 (00B30)

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **6** (1998), no. 1. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 1–88. 92–06 (34–06)

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Natur. Resource Modeling **11** (1998), no. 1. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 1–79. 92–06 (00B30)

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **6** (1998), no. 2. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 89–185. 00B25

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **6** (1998), no. 3. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 187–301. 00B25 (00B30)

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **6** (1998), no. 4. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 303–418. 00B25

Differential Equations and their Applications ★ Equadiff 9. Proceedings of the 9th Conference on Differential Equations and their Applications held in Brno, August 25–29, 1997. Edited by Ravi P. Agarwal and Jaromír Vosmanský. Arch. Math. (Brno) **34** (1998), no. 1. *Masaryk University, Faculty of Science, Brno*, 1998. *pp. i–iv and* 1–228. (Editors) **99a:00025** 00B25 (34–06, 35–06)

Differential Equations with Applications to Biology ★ Differential equations with applications to biology. Proceedings of the International Conference held at Dalhousie University, Halifax, NS, July 25–29, 1997. Edited by Shigui Ruan, Gail S. K. Wolkowicz and Jianhong Wu. Fields Institute Communications, 21. *American Mathematical Society, Providence, RI*, 1999. *x*+509 *pp. ISBN* 0-8218-0944-X (Editors) **99g:92002** 92–06 (34–06, 35–06)

Differential Geometry ★ New developments in differential geometry, Budapest 1996. Proceedings of the Conference on Differential Geometry held in Budapest, July 27–30, 1996. Edited by J. Szenthe. *Kluwer Academic Publishers, Dordrecht*, 1999. *xii*+519 *pp. ISBN* 0-7923-5307-2 (Editors) **99h:53002** 53–06 (57–06)

Conference: (*cont'd.*)

Discrete and Computational Geometry: Ten Years Later ★ Advances in discrete and computational geometry. Proceedings of the AMS-IMS-SIAM Joint Summer Research Conference on Discrete and Computational Geometry: Ten Years Later held at Mount Holyoke College, South Hadley, MA, July 14–18, 1996. Edited by Bernard Chazelle, Jacob E. Goodman and Richard Pollack. Contemporary Mathematics, 223. *American Mathematical Society, Providence, RI*, 1999. *xii*+463 *pp. ISBN* 0-8218-0674-2 (Editors) **99f:52003** 52–06 (00B25, 68U05)

Discrete Mathematics and Theoretical Computer Science ★ Combinatorics, complexity, & logic. Proceedings of the 1st International Conference on Discrete Mathematics and Theoretical Computer Science (DMTCS'96) held at the University of Auckland, Auckland, December 9–13, 1996. Edited by D. S. Bridges, C. S. Calude, J. Gibbons, S. Reeves and I. H. Witten. Springer Series in Discrete Mathematics and Theoretical Computer Science. *Springer-Verlag Singapore, Singapore*, 1997. *viii*+422 *pp. ISBN* 981-3083-14-X (Editors) **99d:68003** 68–06 (03–06, 68Q15, 68Q30)

Discrete Metric Spaces ★ Discrete metric spaces. Papers from the International Conference held at the Université Claude Bernard, Villeurbanne, September 17–20, 1996. Edited by W. Deuber, M. Deza and B. Leclerc. Discrete Math. **192** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–351. (Editors) **99f:00015** 00B25

Domain Decomposition Methods ★ Domain decomposition methods. 10. Proceedings of the 10th International Conference held in Boulder, CO, August 10–14, 1997. Edited by Jan Mandel, Charbel Farhat and Xiao-Chuan Cai. Contemporary Mathematics, 218. *American Mathematical Society, Providence, RI*, 1998. *xii*+554 *pp. ISBN* 0-8218-0988-1 (Editors) **99f:65005** 65–06 (65M55, 65N55)

Duality Symmetries in String Theory ★ String theory, gauge theory and quantum gravity. Proceedings of the 2nd Conference on Duality Symmetries in String Theory held in Trieste, April 1–4, 1997, and the Spring School on String Theory, Gauge Theory and Quantum Gravity held in Trieste, April 7–12, 1997. Edited by E. Gava, B. Greene, J. Louis, K. S. Narain and S. Randjbar-Daemi. Nuclear Phys. B Proc. Suppl. **67** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–251. (Editors) **99a:81005** 81–06 (81T30, 83E30)

Elliptic and Parabolic Problems ★ Progress in partial differential equations. Vol. 1. Papers from the 3rd European Conference on Elliptic and Parabolic Problems held in Pont-à-Mousson, June 1997. Edited by H. Amann, C. Bandle, M. Chipot, F. Conrad and I. Shafrir. Pitman Research Notes in Mathematics Series, 383. *Longman, Harlow*, 1998. *vi*+199 *pp. ISBN* 0-582-31708-8 (Editors) **99d:35003** 35–06

— ★ Progress in partial differential equations. Vol. 2. Papers from the 3rd European Conference on Elliptic and Parabolic Problems held in Pont-à-Mousson, June 1997. Edited by H. Amann, C. Bandle, M. Chipot, F. Conrad and I. Shafrir. Pitman Research Notes in Mathematics Series, 384. *Longman, Harlow*, 1998. *vi*+212 *pp. ISBN* 0-582-31709-6 (Editors) **99d:35004** 35–06

Elliptic Curves and Modular Forms ★ Elliptic curves, modular forms & Fermat's last theorem. Proceedings of the Conference on Elliptic Curves and Modular Forms held at the Chinese University of Hong Kong, Hong Kong, December 18–21, 1993. Edited by John Coates and S. T. Yau. Second edition. *International Press, Cambridge, MA*, 1997. *iv*+340 *pp. ISBN* 1-57146-049-7 (Editors) **99d:11002** 11–06 (11D41, 11Fxx, 11G05)

Finite Fields: Theory, Applications, and Algorithms ★ Finite fields: theory, applications, and algorithms. Proceedings of the 4th International Conference held at the University of Waterloo, Waterloo, ON, August 12–15, 1997. Edited by Ronald C. Mullin and Gary L. Mullen. Contemporary Mathematics, 225. *American Mathematical Society, Providence, RI*, 1999. *x*+243 *pp. ISBN* 0-8218-0817-6 (Editors) **99f:11002** 11–06 (11Txx)

Finite Geometry and Combinatorics ★ Finite geometry and combinatorics. Papers from the 3rd International Conference held in Deinze, May 18–24, 1997. Edited by F. De Clerck, A. Beutelspacher, A. Blokhuis, F. Buekenhout, J. Doyen, W. Haemers, J. W. P. Hirschfeld, J. A. Thas and H. Van Maldeghem. Bull. Belg. Math. Soc. Simon Stevin **5** (1998), no. 2-3. *Société Mathématique de Belgique, Brussels*, 1998. *pp. i–ii and* 121–482. (Editors) **99a:51001** 51–06 (05–06)

Formal Methods Pacific ★ Formal Methods Pacific '97. Proceedings of the conference (FMP '97) held in Wellington, July 9–11, 1997. Edited by Lindsay Groves and Steve Reeves. Springer Series in Discrete Mathematics and Theoretical Computer Science. *Springer-Verlag Singapore, Singapore*, 1997. *viii*+320 *pp. ISBN* 981-3083-31-X (Editors) **99a:68008** 68–06

Foundation and Applications of Utility, Risk and Decision Theories ★ Decision making under risk and uncertainty. New models and empirical findings. Papers from the 5th International Conference on the Foundation and Applications of Utility, Risk and Decision Theories held at Duke University, Durham, NC, June 9–13, 1990. Edited by John Geweke. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 22. *Kluwer Academic Publishers Group, Dordrecht*, 1992. *x*+260 *pp. ISBN* 0-7923-1904-4 (Editors) **99a:90003** 90–06 (90A05, 90A43, 90A46)

Foundations of Computational Mathematics ★ Foundations of computational mathematics. Selected papers from the conference held in Rio de Janeiro, January 1997. Edited by Felipe Cucker and Michael Shub. *Springer-Verlag, Berlin*, 1997. *xvi*+441 *pp. ISBN* 3-540-61647-0 (Editors) **99g:00039** 00B25 (65–06, 68–06)

Foundations of Software Science and Computation Structures ★ Foundations of software science and computation structures. Proceedings of the 1st International Conference (FoSSaCS'98) held as part of the Joint European Conferences on Theory and Practice of Software (ETAPS'98) in Lisbon, March 28–April 4, 1998. Edited by Maurice Nivat. Lecture Notes in Computer Science, 1378. *Springer-Verlag, Berlin*, 1998. *x*+289 *pp. ISBN* 3-540-64300-1 (Editors) **99c:68005** 68–06

Fourier Analysis, Approximation Theory and their Applications ★ Fourier analysis, approximation theory and applications. Papers from the conference held at the Aligarh Muslim University, Aligarh, September 6–9, 1993. Edited by Z. U. Ahmad, N. K. Govil and P. K. Jain. *New Age International Publishers Limited, New Delhi*, 1997. *vi*+401 *pp. ISBN* 81-224-1107-X (Editors) **99d:00019** 00B25 (42–06)

Fournier, Gilles ★ {Dedicated to the memory of Gilles Fournier}. Papers from the conference held at the University of Sherbrooke, Sherbrooke, PQ, August 13–16, 1997. Edited by Ibrahim Assem. Ann. Sci. Math. Québec **22** (1998), no. 2. *Groupe des Chercheurs en Sciences Mathématiques (Association Mathématique du Québec), Montreal, QC*, 1998. *pp. i–ii and* 95–252. (Editors) **99i:00033** 00B30

Fractal 97 ★ Fractal 97. Papers from the conference held in Estes Park, CO, April 8–11, 1997. Edited by M. M. Novak. Fractals **5** (1997), suppl. *World Scientific Publishing Co., Singapore*, 1997. *pp. i–iv and* 1–166. (Editors) **99f:00017** 00B25

Fractals ★ Fractal frontiers. Selected papers from the 4th International Multidisciplinary Conference on Fractals held in Denver, CO, 1997. Edited by M. M. Novak and T. G. Dewey. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv*+484 *pp. ISBN* 981-02-3155-5 (Editors) **99b:00014** 00B25

Function Spaces ★ Function spaces. Proceedings of the 3rd Conference held at Southern Illinois University, Edwardsville, IL, May 19–23, 1998. Edited by Krzysztof Jarosz. Contemporary Mathematics, 232. *American Mathematical Society, Providence, RI*, 1999. *xviii*+361 *pp. ISBN* 0-8218-0939-3 (Editors) **99k:46003** 46–06 (00B25)

Functional Analysis ★ Functional analysis. V. Vol. I. Proceedings of the Postgraduate School and Conference held in Dubrovnik, September 14–28, 1997. Edited by D. Butković, H. Kraljević and G. Peskir. Various Publications Series, 44. *University of Aarhus, Department of Mathematical Sciences, Aarhus*, 1998. 142 *pp.* (Editors) **99h:00028** 00B25 (60–06)

Functional Analysis and Approximation Theory ★ Proceedings of the Third International Conference on Functional Analysis and Approximation Theory. Vol. I. Held in Acquafredda di Maratea, September 23–28, 1996. Rend. Circ. Mat. Palermo (2) Suppl. No. 52, Vol. I (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp. i–xxxii and* 1–407. (Editors) **99d:00027** 00B25 (41–06, 46–06)

— ★ Proceedings of the Third International Conference on Functional Analysis and Approximation Theory. Vol. II. Held in Acquafredda di Maratea, September 23–28, 1996. Rend. Circ. Mat. Palermo (2) Suppl. No. 52, Vol. II (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp. i–xxxii and* 409–820. (Editors) **99d:00028** 00B25 (41–06, 46–06)

Functional Analysis and Global Analysis ★ Functional analysis and global analysis. Proceedings of the International Conference held at the University of the Philippines, Quezon City, October 20–26, 1996. Edited by Toshikazu Sunada and Polly Wee Sy. *Springer-Verlag Singapore, Singapore*, 1997. *x*+301 *pp. ISBN* 981-3083-13-1 (Editors) **99g:00040** 00B25 (35–06, 42–06, 46–06)

Functional-differential Equations and their Applications ★ Функционально-дифференциальные уравнения и их приложения. (Russian) [Functional-differential equations and their applications] Abstracts of the 4th Ural Region Conference. Edited by V. V. Vodop'yanov. *Ufim. Aviatsion. Inst., Ufa*, 1989. 151 *pp.* 34–06 (00B05, 34Kxx, 35–06)

Games and Politics ★ Games and politics. Selected papers from the conference held in Santiago de Compostela, 1996. Edited by I. García-Jurado, F. Valenciano and E. Winter. Ann. Oper. Res. **84** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. ix–xiv and* 1–240. (Editors) **99h:90007** 90–06 (90Dxx)

Garsia, Adriano M. ★ Selected papers in honor of Adriano Garsia. Papers from the conference held in Taormina, July 1994. Edited by I. Gessel. Discrete Math. **193** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–x and* 1–319. (Editors) **99f:00030** 00B30 (05–06)

General Algebra ★ Contributions to general algebra. 10. Proceedings of the Conference on General Algebra held in Klagenfurt, May 29–June 1, 1997. Edited by D. Dorninger, G. Eigenthaler, H. K. Kaiser, H. Kautschitsch, W. More and W. B. Müller. *Verlag Johannes Heyn, Klagenfurt*, 1998. *iv*+309 *pp. ISBN* 3-85366-890-9 (Editors) **99f:00014** 00B25

General Relativity and Gravitation ★ Proceedings of the 14th International Conference on General Relativity and Gravitation. Held in Florence, August 6–12, 1995. Edited by M. Francaviglia, G. Longhi, L. Lusanna and E. Sorace. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxvi*+551 *pp. ISBN* 981-02-2690-X (Editors) **99g:83002** 83–06

General Relativity and Gravitational Physics ★ 11th Italian Conference on General Relativity and Gravitational Physics. Proceedings of the conference held at the International School for Advanced Studies, Trieste, September 26–30, 1994. Edited by M. Carfora, M. Cavaglià, M. Francaviglia, P. Fré, G. Pizzella, C. Reina and A. Treves. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xvi*+483 *pp. ISBN* 981-02-2828-7 (Editors) **99e:83002** 83–06

Generalized Analytic Functions—Theory and Applications to Mechanics ★ Generalized analytic functions. Theory and applications to mechanics. Proceedings of the conference held in honor of R. P. Gilbert on his 65th birthday in Graz, January 6–10, 1997. Edited by Helmut Florian, Klaus Hackl, Franz Josef Schnitzer and Wolfgang Tutschke. International Society for Analysis, Applications and Computation, 1. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxvi*+311 *pp. ISBN* 0-7923-5043-X (Editors) **99d:00020** 00B25 (00B30, 30–06, 35–06, 73–06, 76–06)

Generalized Functions—Linear and Nonlinear Problems ★ Generalized functions—linear and nonlinear problems. Proceedings of the International Conference (GF96) held in Novi Sad, August 31–September 4, 1996. Integral Transform. Spec. Funct. **6** (1998), no. 1-4. *Gordon and Breach Science Publishers, Yverdon*, 1998. *pp. i–iii and* 1–356. (Editors) **99d:00009** 00B15 (35–06, 46–06)

Gentzen ★ Gentzen. Selected papers from the Gentzen Conference (Esprit-BRA Working Group 7232) held in Rome, October 3–5, 1996. Edited by C. Böhm and I. Guessarian. Theoret. Comput. Sci. **212** (1999), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–iv and* 1–303. (Editors) **99h:68005** 68–06 (03–06, 03B40, 03B70, 68N15)

Geometric Control Theory and Non-holonomic Problems in Mechanics ★ Geometric control and non-holonomic mechanics. Papers from the Conference on Geometric Control Theory and Non-holonomic Problems in Mechanics held in Mexico City, June 1996. Edited by V. Jurdjevic and R. W. Sharpe. CMS Conference Proceedings, 25. *Published by the American Mathematical Society, Providence, RI; for the Canadian Mathematical Society, Ottawa, ON*, 1998. *xii*+239 *pp. ISBN* 0-8218-0795-1 (Editors) **99d:93002** 93–06 (53–06, 58–06, 93C10)

Geometric Design ★ Proceedings of the 1997 Conference on Geometric Design (GD '97). (Chinese) Held in Hangzhou, June 21–22, 1997. Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), suppl. *Applied Mathematics. A Journal of Chinese*

Conference: (*cont'd.*)
Universities, Editorial Committee, Hangzhou, 1998. *pp. i–ii and* 1–126. (Editors) **99k:65006** 65–06 (00B25)

Geometrical Structures for Physical Theories ★ Geometrical structures for physical theories. I. Papers from the conference held in honor of Włodzimierz Marek Tulczyjew on his 65th birthday in Vietri, September 29–October 3, 1996. Rend. Sem. Mat. Univ. Politec. Torino **54** (1996), no. 3. *Libreria Editrice Universitaria Levrotto & Bella, Turin*, 1996. *pp. i–iv and* 191–318. (Editors) **99a:58001** 58–06 (00B25, 00B30, 70–06)

— ★ Geometrical structures for physical theories. II. Papers from the conference held in honor of Włodzimierz Marek Tulczyjew on his 65th birthday in Vietri, September 29–October 3, 1996. Rend. Sem. Mat. Univ. Politec. Torino **54** (1996), no. 4. *Libreria Editrice Universitaria Levrotto & Bella, Turin*, 1996. *pp. i–ii and* 319–433. (Editors) **99a:58002** 58–06 (00B25, 00B30, 70–06)

Geometry and Mathematical Physics ★ Conference on Geometry and Mathematical Physics. Papers from the conference held in Zlatograd, August 28–September 1, 1995. Serdica Math. J. **23** (1997), no. 2. *Bulgarian Academy of Sciences, Institute of Mathematics and Informatics, Sofia*, 1997. *pp. i–iv and* 95–202. (Editors) **99d:00016** 00B25

Gesellschaft für Klassifikation e.V. ★ Classification, data analysis, and data highways. Proceedings of the 21st Annual Conference of the Gesellschaft für Klassifikation e.V. held at the University of Potsdam, Potsdam, March 12–14, 1997. Edited by Ingo Balderjahn, Rudolf Mathar and Martin Schader. Studies in Classification, Data Analysis, and Knowledge Organization. *Springer-Verlag, Berlin*, 1998. *x*+414 *pp. ISBN* 3-540-63909-8 (Editors) **99g:62002** 62–06

Graph Theory ★ Graph theory. Papers from the conference held in Elgersburg, May 6–10, 1996. Edited by H. Sachs. Discrete Math. **191** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–x and* 1–245. (Editors) **99c:05002** 05–06

Group Theory and its Applications ★ The atlas of finite groups: ten years on. Proceedings of the Conference on Group Theory and its Applications held in Birmingham, July 10–13, 1995. Edited by Robert Curtis and Robert Wilson. London Mathematical Society Lecture Note Series, 249. *Cambridge University Press, Cambridge*, 1998. *xviii*+293 *pp. ISBN* 0-521-57587-7 (Editors) **99e:20002** 20–06 (20Dxx)

Groups and Geometries ★ Groups and geometries. Proceedings of the conference held in Sienna, September 1–7, 1996. Edited by Lino di Martino, William M. Kantor, Guglielmo Lunardon, Antonio Pasini and Maria Clara Tamburini [Maria Chiara Tamburini Bellani]. Trends in Mathematics. *Birkhäuser Verlag, Basel*, 1998. *xii*+261 *pp. ISBN* 3-7643-5881-5 (Editors) **99c:51004** 51–06 (20–06)

Harmonic Analysis ★ Harmonic analysis and hypergroups. Proceedings of the International Conference on Harmonic Analysis held at the University of Delhi, Delhi, December 18–22, 1995. Edited by K. A. Ross, J. M. Anderson, G. L. Litvinov, A. I. Singh, V. S. Sunder and N. J. Wildberger with the assistance of Alan L. Schwartz and Martin E. Walter. Trends in Mathematics. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *vi*+249 *pp. ISBN* 0-8176-3943-8 (Editors) **99a:43001** 43–06 (42–06, 60–06)

Heritage of Emmy Noether ★ The heritage of Emmy Noether. Proceedings of the conference held at Bar-Ilan University, Ramat-Gan, December 2–3, 1996. Edited by Mina Teicher. Israel Mathematical Conference Proceedings, 12. *Bar-Ilan University, Gelbart Research Institute for Mathematical Sciences, Ramat Gan; Bar-Ilan University, Emmy Noether Research Institute of Mathematics, Ramat Gan*, 1999. *viii*+101 *pp.* (Editors) **99g:01001** 01–06 (00B30, 01A70, 13–03, 16–03)

High Dimensional Probability ★ High dimensional probability. Papers from the conference held in Oberwolfach, August 1996. Edited by Ernst Eberlein, Marjorie Hahn and Michel Talagrand. Progress in Probability, 43. *Birkhäuser Verlag, Basel*, 1998. *viii*+330 *pp. ISBN* 3-7643-5867-X (Editors) **99e:60003** 60–06

Higher Homotopy Structures in Topology and Mathematical Physics ★ Higher homotopy structures in topology and mathematical physics. Proceedings of the International Conference held in honor of the 60th birthday of Jim Stasheff at Vassar College, Poughkeepsie, NY, June 13–15, 1996. Edited by John McCleary. Contemporary Mathematics, 227. *American Mathematical Society, Providence, RI*, 1999. *xii*+321 *pp. ISBN* 0-8218-0913-X (Editors) **99g:00041** 00B25 (18–06, 55–06)

History of Philosophy of Science ★ First Annual Conference for the History of Philosophy of Science. Selected papers from the conference (HOPOS) held in Roanoke, VA, April 19–21, 1996. Perspect. Sci. **5** (1997), no. 3. *University of Chicago Press, Chicago, IL*, 1997. *pp. i–iv and* 285–480. (Editors) **99a:00023** 00B25 (00A30)

Indian Association for General Relativity and Gravitation ★ Classical and quantum aspects of gravitation and cosmology. Proceedings of the 18th Conference of the Indian Association for General Relativity and Gravitation (IAGRG) held in honor of S. Chandrasekhar at the Institute of Mathematical Sciences, Madras, February 15–17, 1996. Edited by G. Date and Bala R. Iyer. IMS Report, 117. *Institute of Mathematical Sciences, Madras*, 199?. *viii*+231 *pp.* (Editors) **99b:83003** 83–06

Indian Mathematical Society ★ Pre-proceedings of the 64th Indian Mathematical Society Conference and Symposia on Traditions of Vedic Mathematics & Applications and Fixed Point Theory in Non-linear Analysis & Applications. Pre-proceedings of the conference and abstracts from the symposia held at Gurukula Kangri Vishwavidyalaya (University), Hardwar, December 19–22, 1998. J. Natur. Phys. Sci. **12** (1998), no. 1. *Gurukul Kangri Vishwavidyalaya, Hardwar*, 1998. *pp.* 1–126. (Editors) **99k:00027** 00B25

Inductive Logic Programming ★ Inductive logic programming. Proceedings of the 8th International Conference (ILP-98) held at the University of Wisconsin, Madison, WI, July 22–24, 1998. Edited by David Page [C. David Page, Jr.]. Lecture Notes in Computer Science, 1446. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *viii*+301 *pp. ISBN* 3-540-64738-4 (Editors) **99k:68010** 68–06 (68N17, 68T05)

Information Security and Privacy ★ Information security and privacy. Proceedings of the 3rd Australasian Conference (ACISP '98) held in Brisbane, July 13–15, 1998. Edited by Colin Boyd and Ed Dawson. Lecture Notes in Computer Science, 1438. *Springer-Verlag, Berlin*, 1998. *xii*+423 *pp. ISBN* 3-540-64732-5 (Editors) **99i:94060** 94A60 (94–06)

Innovative Applications of Artificial Intelligence ★ AAAI-98/IAAI-98 Proceedings. Proceedings of the 15th National Conference on Artificial Intelligence and the 10th

Conference: (*cont'd.*)
Conference on Innovative Applications of Artificial Intelligence held in Madison, WI, July 26–30, 1998. *MIT Press, Cambridge, MA; AAAI Press, Menlo Park, CA*, 1998. *xxiv*+1218 *pp. ISBN* 0-262-51098-7 (Editors) **99f:68005** 68–06 (68Txx)

International Federation of Classification Societies ★ Data science, classification, and related methods. Papers from the 5th Conference of the International Federation of Classification Societies (IFCS '96) held in Kobe, March 27–30, 1996. Edited by C. Hayashi, N. Ohsumi, K. Yajima, Y. Tanaka, H.-H. Bock and Y. Baba. Studies in Classification, Data Analysis, and Knowledge Organization. *Springer-Verlag, Tokyo*, 1998. *xvi*+780 *pp. ISBN* 4-431-70208-3 (Editors) **99b:62002** 62–06 (62H30, 68T10)

— ★ Advances in data science and classification. Papers from the 6th Conference of the International Federation of Classification Societies (IFCS-98) held at Università di Roma "La Sapienza", Rome, July 21–24, 1998. Edited by Alfredo Rizzi, Maurizio Vichi and Hans-Hermann Bock. Studies in Classification, Data Analysis, and Knowledge Organization. *Springer-Verlag, Berlin*, 1998. *xvi*+677 *pp. ISBN* 3-540-64641-8 (Editors) **99k:62003** 62–06 (62H30)

International Linear Algebra Society ★ Proceedings of the Sixth Conference of the International Linear Algebra Society. Held at the Technical University of Chemnitz, Chemnitz, August 14–17, 1996. Edited by Steve Kirkland, Volker Mehrmann, Gerhard Michler and Bryan Shader. Linear Algebra Appl. **275/276** (1998). *North-Holland Publishing Co., New York*, 1998. *pp. iv–x and* 1–629. (Editors) **99a:00039** 00B25 (15–06, 93–06)

Interval Methods and their Applications on Global Optimization ★ Proceedings of the International Conference on Interval Methods and their Applications on Global Optimization, Interval '98. Held in Nanjing, April 20–23, 1998. Edited by Zuhe Shen and Vladik Kreinovich. Reliab. Comput. **5** (1999), no. 1. *Kluwer Academic Publishers, Dordrecht*, 1999. *pp. i–ii and* 1–95. (Editors) **99m:65007** 65–06 (65G10)

Inverse Problems and Applications ★ Proceedings of the International Conference on Inverse Problems and Applications. Held at the University of the Philippines, Quezon City, February 23–27, 1998. Edited by Rudolf Gorenflo and Milagros P. Navarro. Matimyás Mat. **21** (1998), Special Issue. *Mathematical Society of the Philippines, Quezon City*, 1998. *pp. i–xii and* 1–191. (Editors) **99i:00026** 00B25

Inverse Problems, Control and Shape Optimization ★ Conference on Inverse Problems, Control and Shape Optimization. Selected papers from the conference (Picof'98) held in Carthage, April 8–10, 1998. Edited by Mohamed Jaoua and Jérôme Jaffré. Inverse Problems **15** (1999), no. 1. *Institute of Physics Publishing, Bristol*, 1999. *pp.* 1–134. (Editors) **99h:00024** 00B25

Inverse Problems of Mathematical Physics ★ Inverse problems of mathematical physics. Papers from the International Conference held in honor of Vladimir Gavrilovich Romanov on the occasion of his 60th birthday in Novosibirsk, September 21–25, 1998. J. Inverse Ill-Posed Probl. **6** (1998), no. 5. *VSP, Zeist*, 1998. *pp. i–ii and* 387–520. 00B30

Iteration Theory ★ Iteration theory (ECIT 94). Proceedings of the European Conference held in Opava, August 28–September 3, 1994. Edited by Ludwig Reich, Jaroslav Smítal and György Targonski. Grazer Mathematische Berichte [Graz Mathematical Reports], 334. *Karl-Franzens-Universität Graz, Graz*, 1997. *iv*+261 *pp.* (Frederick R. Marotto) **99h:58001** 58–06 (39B12, 54H20, 58F08, 58F13)

Knot Theory ★ KNOTS '96. Proceedings of the International Conference and Workshop on Knot Theory held at Waseda University, Tokyo, July 22–26, 1996. Edited by S. Suzuki. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+597 *pp. ISBN* 981-02-3093-1 (Editors) **99i:57002** 57–06

Logic, Algebra, and Computer Science ★ Logic, algebra, and computer science. Helena Rasiowa in memoriam. Papers from the conference held in Warsaw, December 2–22, 1996. Edited by Damian Niwiński and Marek Zawadowski. Banach Center Publications, 46. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1999. 225 *pp.* (Editors) **99m:03004** 03–06 (00B30)

Logic and Models of Computation ★ {Logic and models of computation}. Papers from the conference held in Marseille, September 1996. Edited by Thomas Ehrhard, Yves Lafont and Laurent Regnier. Math. Structures Comput. Sci. **8** (1998), no. 6. *Cambridge University Press, New York*, 1998. *pp.* 541–710. (Editors) **99h:03001** 03–06 (03B70, 68–06, 68N15)

Logic and the Theory of Games and Decisions ★ Logic & foundation of the theory of games and decisions. 2. Selected papers from the 2nd Conference on Logic and the Theory of Games and Decisions (LOFT2) held in Turin, December 1996. Edited by Mamoru Kaneko, Giacomo Bonanno and Philippe Mongin. Math. Social Sci. **36** (1998), no. 1. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 1–68. (Editors) **99m:03039** 03B45 (03–06)

Logic Programming ★ Logic programming. Proceedings of the 1998 Joint 15th International Conference and 15th Symposium (ICLP'98/ILPS'98) held at the University of Manchester, Manchester, June 16–19, 1998. Edited by Joxan Jaffar. MIT Press Series in Logic Programming. *MIT Press, Cambridge, MA*, 1998. *xviii*+361 *pp. ISBN* 0-262-60031-5 (Editors) **99f:68004** 68–06 (68N17)

— ★ Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming (DDLP'98). Held in conjunction with the Joint International Conference and Symposium on Logic Programming (JICSLP'98) in Manchester, June 20, 1998. Edited by Piero Fraternali, Ulrich Geske, Carolina Ruiz and Dietmar Seipel. GMD Report, 22. *GMD—Forschungszentrum Informationstechnik GmbH, St. Augustin*, 1998. 155 *pp.* (Editors) **99g:68052** 68P15 (68–06)

Logic Programming and Nonmonotonic Reasoning ★ Logic programming and nonmonotonic reasoning. Proceedings of the 4th International Conference (LPNMR '97) held in Dagstuhl, July 28–31, 1997. Edited by Jürgen Dix, Ulrich Furbach and Anil Nerode. Lecture Notes in Computer Science, 1265. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *x*+453 *pp. ISBN* 3-540-63255-7 (Editors) **99a:68011** 68–06 (68N17, 68T27)

Logical Aspects of Computational Linguistics ★ Logical aspects of computational linguistics. Papers from the 1st International Conference (LACL '96) held in Nancy, September 23–25, 1996. Edited by Christian Retoré. Lecture Notes in Computer Science, 1328. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *viii*+435 *pp. ISBN* 3-540-63700-1 (Editors) **99d:03004** 03–06 (03B65, 68–06, 68Q45, 68S05)

Conference: (*cont'd.*)

Management Science and the Economic Development of China ★ Management science in China. Selected papers from the International Conference on Management Science and the Economic Development of China held at the Hong Kong University of Science and Technology, Kowloon, July 1996. Edited by Liming Liu, Shouyang Wang and Shaohui Zhang. Ann. Oper. Res. **87** (1999). *Baltzer Science Publishers BV, Bussum*, 1999. *pp. i–vi and* 1–420. (Editors) **99m:90004** 90–06 (90Bxx, 90Cxx)

Mathematical ★ Proceedings of the Second Asian Mathematical Conference 1995. Held at Suranaree University of Technology, Nakhon Ratchasima, October 17–20, 1995. Edited by S. Tangmanee and E. Schulz. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xx*+612 *pp. ISBN* 981-02-3225-X (Editors) **99g:00046** 00B25

Mathematical Analysis ★ The 1st International Junior Conference on Mathematical Analysis. Abstracts from the conference (JUMA-98) held in Tbilisi, April 30–May 1, 1998. Proc. A. Razmadze Math. Inst. **117** (1998). *Publishing House GCI, Tbilisi*, 1998. *pp.* 133–166. 00B05 (00B25)

Mathematical and Numerical Aspects of Wave Propagation ★ Mathematical and numerical aspects of wave propagation. Proceedings of the 4th International Conference held at the Colorado School of Mines, Golden, CO, June 1–5, 1998. Edited by John A. DeSanto. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xx*+792 *pp. ISBN* 0-89871-423-0 (Editors) **99d:00023** 00B25 (35–06, 76–06, 76Q05, 78–06, 78A45)

Mathematical Chemistry ★ Girona 97 special issue. Selected papers from the 7th International Conference on Mathematical Chemistry and the 3rd Seminar on Molecular Similarity held in Girona, May 26–31, 1997. J. Math. Chem. **23** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. v–viii and* 1–261. (Editors) **99c:92002** 92–06 (80–06)

Mathematical Heritage of William Rowan Hamilton ★ The mathematical heritage of Sir William Rowan Hamilton. Papers from the International Conference held in Dublin, August 17–20, 1993. Edited by B. Goldsmith, T. J. Laffey and D. J. Simms. Proc. Roy. Irish Acad. Sect. A **95** (1995), suppl. *Royal Irish Academy, Dublin*, 1995. *pp. i–vi and* 1–88. (Editors) **99e:00020** 00B25

Mathematical Linguistics ★ Mathematical and computational analysis of natural language. Selected papers from the 2nd International Conference on Mathematical Linguistics (ICML '96) held in Tarragona, May 2–4, 1996. Edited by Carlos Martín-Vide. Studies in Functional and Structural Linguistics (SFSL), 45. *John Benjamins B.V., Amsterdam*, 1998. *xviii*+391 *pp. ISBN* 90-272-1554-5 (Editors) **99g:68003** 68–06 (68Q45, 68S05)

Mathematical Methods for Curves and Surfaces ★ Mathematical methods for curves and surfaces. II. Papers from the International Conference held in Lillehammer, July 3–8, 1997. Edited by Morten Dæhlen, Tom Lyche and Larry L. Schumaker. Innovations in Applied Mathematics. *Vanderbilt University Press, Nashville, TN*, 1998. *xx*+556 *pp. ISBN* 0-8265-1315-8 (Editors) **99d:65004** 65–06 (00B25, 65D17)

Mathematical Methods in Operations Research ★ Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems. Held in Sozopol, September 16–20, 1997. Dedicated to the memory of Prof. Dr. Radostin Ivanov. Edited by P. S. Kenderov and J. P. Revalski. Pliska Stud. Math. Bulgar. **12** (1998). *Publishing House of the Bulgarian Academy of Sciences, Amsterdam*, 1998. *pp.* 1–280. (Editors) **99k:49002** 49–06 (00B25, 00B30, 90–06)

Mathematical Methods in Reliability ★ Statistical and probabilistic models in reliability. Papers from the 1st International Conference on Mathematical Methods in Reliability held at the Politehnica University of Bucharest, Bucharest, September 16–19, 1997. Edited by D. C. Ionescu and N. Limnios. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1999. *xxxvi*+352 *pp. ISBN* 0-8176-4068-1 (Editors) **99h:60004** 60–06 (60K10, 62–06, 62N05)

Mathematical Population Dynamics ★ Advances in mathematical population dynamics—molecules, cells and man. Papers from the 4th International Conference on Mathematical Population Dynamics held at Rice University, Houston, TX, May 23–27, 1995. Edited by O. Arino, D. Axelrod and M. Kimmel. Series in Mathematical Biology and Medicine, 6. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxvi*+839 *pp. ISBN* 981-02-3176-8 (Editors) **99d:92001** 92–06 (00B25)

Mathematical Statistics and Probability Theory ★ The Seventh Eugene Lukacs Conference. Papers from the Conference on Mathematical Statistics and Probability Theory held at Bowling Green State University, Bowling Green, OH, April 25–27, 1997. Edited by P. K. Sen. J. Statist. Plann. Inference **75** (1999), no. 2. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–viii and* 181–462. (Editors) **99k:62004** 62–06

Mathematics ★ Proceedings of the 28th Annual Iranian Mathematics Conference. Part 1. English papers. Held at the University of Tabriz, Tabriz, March 28–31, 1997. Edited by A. Jodayree Akbarfam. Tabriz University Series, 377. *Tabriz University, Tabriz; Iranian Mathematical Society, Tehran*, 1997. *xii*+589 *pp.* (Editors) **99a:00041** 00B25

Matrices and Graphs: Computational Problems and Economic Applications ★ Matrices and graphs. Theory and applications to economics. Proceedings of the Conference on Matrices and Graphs: Computational Problems and Economic Applications and the Conference on Matrices and Graphs: Theory and Economic Applications held June 1993 and June 1995, respectively, at the University of Brescia, Brescia. Edited by Sergio Camiz and Silvana Stefani. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+242 *pp. ISBN* 981-02-3038-9 (Editors) **99h:00029** 00B25 (90A05)

Matrices and Graphs: Theory and Economic Applications ★ Matrices and graphs. Theory and applications to economics. Proceedings of the Conference on Matrices and Graphs: Computational Problems and Economic Applications and the Conference on Matrices and Graphs: Theory and Economic Applications held June 1993 and June 1995, respectively, at the University of Brescia, Brescia. Edited by Sergio Camiz and Silvana Stefani. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+242 *pp. ISBN* 981-02-3038-9 (Editors) **99h:00029** 00B25 (90A05)

MCDM ★ Multicriteria analysis. Proceedings of the 11th International Conference on MCDM held in Coimbra, August 1–6, 1994. Edited by João Clímaco. *Springer-Verlag, Berlin*, 1997. *x*+617 *pp. ISBN* 3-540-62074-5 (Editors) **99d:90006** 90–06

Methods and Applications of Multiple Criteria Decision Making ★ Advances in decision analysis. Papers from the International Conference on Methods and Applications of Multiple Criteria Decision Making held in Mons, May 1997. Edited by Nadine

Conference: (*cont'd.*)

Meskens and Marc Roubens. Mathematical Modelling: Theory and Applications, 4. *Kluwer Academic Publishers, Dordrecht*, 1999. *x*+202 *pp. ISBN* 0-7923-5563-6 (Editors) **99m:90003** 90–06 (90A05)

Mitrinović, Dragoslav S. ★ Dedicated to Professor Dragoslav S. Mitrinović (1908–1995). Including papers from the Memorial Conference held at the University of Niš, Niš, June 21–23, 1996. Facta Univ. Ser. Math. Inform. No. 12 (1997). *University of Niš, Niš*, 1997. *pp. i–iv and* 1–306. 00B30

Modern Applied Analysis ★ Modern applied analysis. Proceedings of the 2nd Joint Hungarian-Romanian Conference held in Ilieni, June 1997. Edited by Béla Vízvári and Sándor Horváth. Pure Math. Appl. **9** (1998), no. 1-2. *SAAS Ltd.—SAAS Publishing, Budapest*, 1998. *pp. i–iv and* 1–254. 00B25

Modern Modified Theories of Gravitation and Cosmology ★ Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology. Part I. Held at Ben Gurion University, Beer Sheva, June 29–30, 1997. Edited by E. I. Guendelman. Hadronic J. **21** (1998), no. 1. *Hadronic Press, Inc., Palm Harbor, FL*, 1998. *pp. i–iv and* 1–109. (Editors) **99m:83001** 83–06

— ★ Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology. Part II. Held at Ben Gurion University, Beer Sheva, June 29–30, 1997. Edited by E. I. Guendelman. Hadronic J. **21** (1998), no. 2. *Hadronic Press, Inc., Palm Harbor, FL*, 1998. *pp.* 111–253. (Editors) **99m:83002** 83–06

— ★ Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology. Part III. Held at Ben Gurion University, Beer Sheva, June 29–30, 1997. Edited by E. I. Guendelman. Hadronic J. **21** (1998), no. 3. *Hadronic Press, Inc., Palm Harbor, FL*, 1998. *pp. i–ii and* 255–386. (Editors) **99m:83003** 83–06

Monge Ampère Equation: Applications to Geometry and Optimization ★ Monge Ampère equation: applications to geometry and optimization. Proceedings of the NSF-CBMS Conference held at Florida Atlantic University, Deerfield Beach, FL, July 9–13, 1997. Edited by Luis A. Caffarelli and Mario Milman. Contemporary Mathematics, 226. *American Mathematical Society, Providence, RI*, 1999. *x*+172 *pp. ISBN* 0-8218-0917-2 (Editors) **99f:00018** 00B25

Monster ★ The Monster and Lie algebras. Proceedings of the Special Research Quarter, including the 2nd Monster Conference, held at The Ohio State University, Columbus, OH, May 1996. Edited by J. Ferrar and K. Harada. Ohio State University Mathematical Research Institute Publications, 7. *Walter de Gruyter & Co., Berlin*, 1998. *x*+252 *pp. ISBN* 3-11-016184-2 (Editors) **99e:00021** 00B25 (17–06, 17Bxx, 20–06, 20D08)

Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing ★ Monte Carlo and quasi-Monte Carlo methods 1996. Proceedings of the 2nd International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing held at the University of Salzburg, Salzburg, July 9–12, 1996. Edited by Harald Niederreiter, Peter Hellekalek, Gerhard Larcher and Peter Zinterhof. Lecture Notes in Statistics, 127. *Springer-Verlag, New York*, 1998. *xii*+448 *pp. ISBN* 0-387-98335-X (Editors) **99d:65005** 65–06 (65C05)

Multiple Criteria Decision Making ★ Trends in multicriteria decision making. Proceedings of the 13th International Conference held in Cape Town, January 6–10, 1997. Edited by Theodor J. Stewart and Robin C. van den Honert. Lecture Notes in Economics and Mathematical Systems, 465. *Springer-Verlag, Berlin*, 1998. *x*+448 *pp. ISBN* 3-540-64741-4 (Editors) **99g:90012** 90–06 (90A05, 90C29, 90C90)

Multivariate Approximation Theory ★ Multivariate approximation. Recent trends and results. Proceedings of the 2nd International Conference on Multivariate Approximation Theory held in Witten-Bommerholz, September 29–October 4, 1996. Edited by Werner Haußmann, Kurt Jetter and Manfred Reimer. Mathematical Research, 101. *Akademie Verlag, Berlin*, 1997. 320 *pp. ISBN* 3-05-501770-6 (Editors) **99a:41001** 41–06

Multivariate Statistical Inference 2000 ★ MSI-2000. Vol. IV. Multivariate statistical analysis. Papers from the Multivariate Statistical Inference 2000 Conference held in honor of Minoru Siotani on his 70th birthday at the University of Hawaii, Honolulu, HI, August 1995. Edited by Vidya S. Taneja. Also Vol. 37 of Amer. Ser. Math. Management Sci. Amer. J. Math. Management Sci. **18** (1998), no. 1-2. *American Sciences Press, Syracuse, NY*, 1998. *pp. i–ii and* 1–226. (Editors) **99f:62009** 62–06

Multivariate Statistics and Matrices in Statistics ★ New trends in probability and statistics. Vol. 3. Multivariate statistics and matrices in statistics. Proceedings of the 5th Conference on Multivariate Statistics and Matrices in Statistics held in Tartu and Pühajärve, May 23–28, 1994. Edited by E.-M. Tiit, T. Kollo and H. Niemi. *VSP, Utrecht; TEV Ltd., Vilnius*, 1995. *x*+342 *pp. ISBN* 90-6764-195-2 (Editors) **99g:62004** 62–06

Navier-Stokes Equations and Related Nonlinear Problems ★ Navier-Stokes equations and related nonlinear problems. Proceedings of the 6th International Conference (NSEC-6) held in Palanga, May 22–29, 1997. Edited by H. Amann, G. P. Galdi, K. Pileckas and V. A. Solonnikov. *VSP, Utrecht; TEV Ltd., Vilnius*, 1998. *x*+438 *pp. ISBN* 90-6764-288-6; 9986-546-40-0 (Editors) **99m:35004** 35–06 (00B25, 76–06, 76D05)

Navier-Stokes Equations: Theory and Numerical Methods ★ Theory of the Navier-Stokes equations. Proceedings of the 3rd International Conference on the Navier-Stokes Equations: Theory and Numerical Methods held in Oberwolfach. Edited by J. G. Heywood, K. Masuda, R. Rautmann and V. A. Solonnikov. Series on Advances in Mathematics for Applied Sciences, 47. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xii*+228 *pp. ISBN* 981-02-3300-0 (Editors) **99c:35002** 35–06 (35Q30, 65–06, 76–06)

New Directions in Applied Mathematics ★ New directions in applied mathematics. Proceedings of the International Conference held in Hyderabad, December 19–22, 1995. Edited by S. Umamaheswaram and M. Sitaramayya. Differential Equations Dynam. Systems **6** (1998), no. 1-2. *Research Square Publications, Hyderabad*, 1998. *pp. i–iv and* 1–260. (Editors) **99g:00043** 00B25 (00A69)

Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems ★ Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems. Held at Fudan University, Shanghai, June 12–16, 1995. Edited by Ta-Tsien Li [Da Qian Li]. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+272 *pp. ISBN* 981-02-3055-9 (Editors) **99g:35005** 35–06

Conference: (*cont'd.*)

Nonlinear Partial Differential Equations and Related Areas ★ Advances in nonlinear partial differential equations and related areas. A volume in honour of Professor Xiaqi Ding [Xia Xi Ding]. Papers from the conference held in Beijing, August 9–10, 1997. Edited by Gui-Qiang Chen, Yanyan Li, Xiping Zhu and Daomin Cao. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xxii*+426 *pp. ISBN* 981-02-3664-6 (Editors) **99m:35002** 35–06 (00B30)

Nonlinear Programming ★ Advances in nonlinear programming. Proceedings of the 1996 International Conference on Nonlinear Programming held in Beijing, September 2–5, 1996. Edited by Ya-xiang Yuan. Applied Optimization, 14. *Kluwer Academic Publishers, Dordrecht*, 1998. *xiv*+351 *pp. ISBN* 0-7923-5053-7 (Editors) **99b:90004** 90–06 (90C30)

Nonlinear Science, Center for Nonlinear Studies ★ Nonlinear waves and solitons in physical systems. Papers from the 17th Annual International Conference of the Center for Nonlinear Studies on Nonlinear Science held in Los Alamos, NM, May 12–16, 1997. Edited by Roberto Camassa, James M. Hyman and Benjamin P. Luce. Phys. D **123** (1998), no. 1-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–xii and* 1–547. (Editors) **99h:00031** 00B25 (35–06, 76–06)

Nuclear and Particle Physics ★ Perturbative and nonperturbative aspects of quantum field theory. Proceedings of the 35th International Universitätswochen für Kern- und Teilchenphysik held in Schladming, March 2–9, 1996. Edited by H. Latal and W. Schweiger. Lecture Notes in Physics, 479. *Springer-Verlag, Berlin*, 1997. x+430 *pp. ISBN* 3-540-62478-3 (K. S. Viswanathan) **99d:81177** 81V05 (81–06, 81T15)

Number Theory ★ Number theory. Diophantine, computational and algebraic aspects. Proceedings of the International Conference held in Eger, July 29–August 2, 1996. Edited by Kálmán Győry, Attila Pethő and Vera T. Sós. *Walter de Gruyter & Co., Berlin*, 1998. *xviii*+595 *pp. ISBN* 3-11-015364-5 (Editors) **99a:11004** 11–06 (00B25)

— ★ Number theory. Proceedings of the 2nd Czech-Polish Conference held at the University of Silesia, Cieszyn, June 16–18, 1998. Edited by Kazimierz Szymiczek. Ann. Math. Sil. No. 12 (1998). *Wydawnictwo Uniwersytetu Śląskiego, Katowice*, 1998. *pp.* 1–172. (Editors) **99i:11002** 11–06

Number Theory and Arithmetic Geometry ★ Modular forms and Fermat's last theorem. Papers from the Instructional Conference on Number Theory and Arithmetic Geometry held at Boston University, Boston, MA, August 9–18, 1995. Edited by Gary Cornell, Joseph H. Silverman and Glenn Stevens. *Springer-Verlag, New York*, 1997. *xx*+582 *pp. ISBN* 0-387-94609-8 (M. Ram Murty) **99k:11004** 11–06 (11D41, 11F80, 11Fxx, 11G05)

Numerical Analysis ★ Numerical analysis 1997. Proceedings of the 17th Biennial Conference held at the University of Dundee, Dundee, June 24–27, 1997. Edited by D. F. Griffiths, D. J. Higham and G. A. Watson. Pitman Research Notes in Mathematics Series, 380. *Longman, Harlow*, 1998. *viii*+254 *pp. ISBN* 0-582-31261-2 (Editors) **99d:65006** 65–06

Numerical Analysis of Hamiltonian Differential Equations ★ Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations. Held in Golden, CO, June 2–6, 1997. Edited by Graeme Fairweather, Ian Gladwell, Benedict Leimkuhler and Erik Van Vleck. Appl. Numer. Math. **29** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 1–165. (Editors) **99g:65008** 65–06 (34A45, 70–08, 70H05)

Numerical Methods and Computational Mechanics in Science and Engineering ★ Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96). Papers from the conference held at the University of Miskolc, Miskolc, July 15–19, 1996. Edited by I. Babuška. Comput. Methods Appl. Mech. Engrg. **157** (1998), no. 3-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 181–452. (Editors) **99b:73001** 73–06 (00B25, 65–06, 73V10)

Numerical Treatment of Differential Equations ★ Eighth Conference on the Numerical Treatment of Differential Equations. Selected papers from the conference (NUMDIFF-8) held in Alexisbad, September 1–5, 1997. Edited by P. J. van der Houwen, K. Strehmel and R. Weiner. Appl. Numer. Math. **28** (1998), no. 2-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 91–491. (Editors) **99e:65002** 65–06

Operations Research ★ Международная Сибирская Конференция по Исследованию Операций. (Russian) [International Siberian Conference on Operations Research] Abstracts from the conference held in Novosibirsk, June 22–27, 1998. Edited by Yu. A. Kochetov. *Rossiĭskaya Akademiya Nauk, Sibirskoe Otdelenie, Institut Matematiki, Novosibirsk*, 1998. 164 *pp. ISBN* 5-86134-046-3 90–06 (00B05, 90C10, 90C27, 90C30)

Operator Algebras and Operator Theory ★ Operator algebras and operator theory. Proceedings of the International Conference held at East China Normal University, Shanghai, July 4–9, 1997. Edited by Liming Ge, Huaxin Lin, Zhong-Jin Ruan, Dianzhou Zhang and Shuang Zhang. Contemporary Mathematics, 228. *American Mathematical Society, Providence, RI*, 1998. *xx*+389 *pp. ISBN* 0-8218-1093-6 (Editors) **99h:46001** 46–06 (00B25, 47–06)

Operator Theory ★ Report on the Sixteenth Conference on Operator Theory. Abstracts from the conference held in Timişoara, July 2–8, 1996. *Universitatea de Vest din Timişoara, Facultatea de Matematică, Timişoara*, 199?. *ii*+122 *pp.* (Editors) **99i:47001** 47–06 (00B05, 46–06)

Optimal Control: Theory, Algorithms, and Applications ★ Optimal control. Theory, algorithms, and applications. Papers from the conference held at the University of Florida, Gainesville, FL, February 27–March 1, 1997. Edited by William H. Hager and Panos M. Pardalos. Applied Optimization, 15. *Kluwer Academic Publishers, Dordrecht*, 1998. *xvi*+513 *pp. ISBN* 0-7923-5067-7 (Editors) **99d:49002** 49–06 (93–06)

Orders, Algorithms and Applications ★ ORDAL '96. Papers from the Conference on Orders, Algorithms and Applications held at the University of Ottawa, Ottawa, ON, August 5–9, 1996. Edited by I. Rival and N. Zaguia. Theoret. Comput. Sci. **217** (1999), no. 2. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–iv and* 173–436. (Editors) **99m:68011** 68–06 (06–06)

Orthogonal Functions, Moment Theory, and Continued Fractions ★ Orthogonal functions, moment theory, and continued fractions. Theory and applications. Proceedings of the Research Conference held in Campinas, June 19–28, 1996. Edited by William B. Jones and A. Sri Ranga. Lecture Notes in Pure and Applied Mathematics, 199. *Marcel Dekker, Inc., New York*, 1998. *xiv*+416 *pp. ISBN* 0-8247-0207-7 (Editors) **99f:00020** 00B25 (30–06, 41–06, 44–06)

Parallel CFD '97 ★ Parallel computational fluid dynamics. Recent developments and advances using parallel computers. Proceedings of the Parallel CFD '97 Conference held in Manchester, May 19–21, 1997. Edited by D. R. Emerson, A. Ecer, J. Periaux, N. Satofuka and P. Fox. *North-Holland, Amsterdam*, 1998. *xiv*+681 *pp. ISBN* 0-444-82849-4 (From the preface) **99d:76002** 76–06 (76Mxx)

Parametrized Relativistic Quantum Theory ★ Parametrized relativistic quantum theory. Part 1. Proceedings of the 1st International Conference (PRQT '98) held in Houston, TX, February 9–11, 1998. Edited by John R. Fanchi and Lawrence P. Horwitz. Found. Phys. **28** (1998), no. 9. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–ii and* 1401–1506. (Editors) **99k:81005** 81–06

— ★ Parametrized relativistic quantum theory. Part 2. Proceedings of the 1st International Conference (PRQT '98) held in Houston, TX, February 9–11, 1998. Edited by John R. Fanchi and Lawrence P. Horwitz. Found. Phys. **28** (1998), no. 10. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–ii and* 1509–1616. (Editors) **99k:81006** 81–06 (00B25)

Partial Differential Equations ★ Journées "Équations aux Dérivées Partielles". [Proceedings of the Conference on Partial Differential Equations] Held in Saint-Jean-de-Monts, June 2–5, 1998. *University of Nantes, Nantes*, 1998. *vi*+160+*xiii pp. ISBN* 2-86939-133-1 (Editors) **99d:35002** 35–06

Path Integrals from meV to MeV ★ Path integrals: Dubna '96. Publ. No. E-96-321. Proceedings of the International Seminar "Path Integrals: Theory & Applications" and the 5th International Conference "Path Integrals from meV to MeV" held in Dubna, May 27–31, 1996. Edited by Vladimir S. Yarunin and Mikhail A. Smondyrev. *Joint Inst. Nuclear Res., Dubna*, 1996. 393 *pp. ISBN* 5-85165-451-1 (Editors) **99h:81005** 81–06 (81S40)

Perturbative and Nonperturbative Aspects of Quantum Field Theory ★ Perturbative and nonperturbative aspects of quantum field theory. Proceedings of the 35th International Universitätswochen für Kern- und Teilchenphysik held in Schladming, March 2–9, 1996. Edited by H. Latal and W. Schweiger. Lecture Notes in Physics, 479. *Springer-Verlag, Berlin*, 1997. x+430 *pp. ISBN* 3-540-62478-3 (K. S. Viswanathan) **99d:81177** 81V05 (81–06, 81T15)

Physics, Sakharov, A. D. ★ Proceedings of the Second International A. D. Sakharov Conference on Physics. Held in Moscow, May 20–24, 1996. Edited by I. M. Dremin and A. M. Semikhatov. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxviii*+761 *pp. ISBN* 981-02-2861-9 (Editors) **99h:81006** 81–06

Probabilistic Methods in Discrete Mathematics ★ Probabilistic methods in discrete mathematics. Proceedings of the 4th International Conference held in Petrozavodsk, June 3–7, 1996. Edited by V. F. Kolchin, V. Ya. Kozlov, Yu. L. Pavlov and Yu. V. Prokhorov. *VSP, Utrecht*, 1997. *vi*+365 *pp. ISBN* 90-6764-245-2 (Editors) **99f:60004** 60–06

Probability Theory and its Applications ★ {International Conference on Probability Theory and its Applications}. Papers from the conference held in Taejon, February 24–26, 1998. J. Korean Math. Soc. **35** (1998), no. 3. *Korean Mathematical Society, Seoul*, 1998. *pp. i–ii and* 503–802. (Editors) **99g:60002** 60–06

Probability Theory and Mathematical Statistics ★ Probability theory and mathematical statistics. Proceedings of the 6th International Conference held in Vilnius, June 28–July 3, 1993. Edited by B. Grigelionis, J. Kubilius, H. Pragarauskas and V. Statulevičius [Vitautas Antanovich Statulyavichus]. *TEV Ltd., Vilnius; VSP, Utrecht*, 1994. *x*+742 *pp. ISBN* 90-6764-178-2 (Editors) **99e:60004** 60–06 (00B25, 62–06)

Problems in Algebra and Cybernetics ★ Вопросы алгебры. Вып. 9. (Russian) [Problems in algebra. No. 9] Papers from the Conference "Problems in Algebra and Cybernetics" dedicated to the memory of S. A. Chunikhin held in Gomel', September 21, 1995. Edited by L. A. Shemetkov. *Gomel'skiĭ Gosudarstvennyĭ Universititet imeni Frantsiska Skoriny, Gomel'*, 1996. 197 *pp.* (Editors) **99g:20005** 20–06 (00B30)

Problems of Quantum Field Theory ★ Problems of quantum field theory. Publ. No. E2-96-369. Proceedings of the 10th International Conference held in Alushta, May 13–18, 1996. Edited by D. V. Shirkov, D. I. Kazakov and A. A. Vladimirov. *Joint Inst. Nuclear Res., Dubna*, 1996. 437 *pp. ISBN* 5-85165-455-4 (Editors) **99i:81005** 81–06 (83–06)

Prospects in Mathematics ★ Prospects in mathematics. Papers from the conference held at Princeton University, Princeton, NJ, March 17–21, 1996. Edited by Hugo Rossi. *American Mathematical Society, Providence, RI*, 1999. *x*+162 *pp. ISBN* 0-8218-0975-X (Editors) **99g:00034** 00B20 (00B25)

Quality Improvement through Statistical Methods ★ Quality improvement through statistical methods. Papers from the International Conference held at Cochin University, Cochin, December 28–31, 1996. Edited by Bovas Abraham in association with N. Unnikrishnan Nair. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xxxiv*+442 *pp. ISBN* 0-8176-4052-5 (Editors) **99f:62011** 62–06 (62N10)

Quantum Coherence and Decoherence ★ Quantum coherence and decoherence. Proceedings of the ITP Conference held at the University of California, Santa Barbara, CA, December 15–18, 1996. Edited by D. DiVincenzo, E. Knill, R. Laflamme and W. Zurek. R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci. **454** (1998), no. 1969. *Royal Society, London*, 1998. *pp.* 257–486. (Editors) **99h:81007** 81–06

Random Dynamical Systems ★ Stochastic dynamics. Papers from the Conference on Random Dynamical Systems held in Bremen, April 28–May 2, 1997. Edited by Hans Crauel and Matthias Gundlach. *Springer-Verlag, New York*, 1999. *xxviii*+440 *pp. ISBN* 0-387-98512-3 (Editors) **99k:60003** 60–06 (58–06)

Random Structures and Algorithms ★ Proceedings of the Eighth International Conference "Random Structures and Algorithms". Held in Poznan, August 4–9, 1997. Random Structures Algorithms **13** (1998), no. 3-4. *John Wiley & Sons, Inc., New York*, 1998. *pp. i–iv and* 189–533. (Editors) **99g:00045** 00B25 (05C80, 60C05, 68Q20, 68Q25)

Recent Advances in Problems of Flow and Transport in Porous Media ★ Recent advances in problems of flow and transport in porous media. Papers from the International Conference held in Marrakech, June 1996. Edited by J. M. Crolet and M. El Hatri. Theory and Applications of Transport in Porous Media, 11. *Kluwer Academic Publishers, Dordrecht*, 1998. *xii*+247 *pp. ISBN* 0-7923-4938-5 (Editors) **99a:76001**

Conference: (*cont'd.*)
76–06 (76Mxx, 76S05, 76T05, 86–06)

Recent Progress in Algebra ★ Recent progress in algebra. Papers from the International Conference held in Taejon/Seoul, August 11–15, 1997. Edited by Sang Geun Hahn, Hyo Chul Myung and Efim Zelmanov. Contemporary Mathematics, 224. *American Mathematical Society, Providence, RI*, 1999. *x*+243 *pp. ISBN* 0-8218-0972-5 (Editors) **99e:00027** 00B25 (11–06, 17–06)

Renormalization Group '96 ★ Renormalization group '96. Publ. No. E2,4-97-263. Proceedings of the 3rd International Conference held in Dubna, August 26–31, 1996. Edited by D. V. Shirkov, D. I. Kazakov and V. B. Priezzhev. *Joint Inst. Nuclear Res., Dubna*, 1997. 437 *pp. ISBN* 5-85165-476-7 (R. Delbourgo) **99m:81155** 81T17 (81–06)

Representations of Algebras ★ Algebras and modules. I. Papers from the Workshop on Representations of Algebras and Related Topics preceding the 8th International Conference on Representations of Algebras (ICRA VIII) held in Trondheim, July 29–August 3, 1996. Edited by Idun Reiten, Sverre O. Smalø and Øyvind Solberg. CMS Conference Proceedings, 23. *Published by the American Mathematical Society, Providence, RI; for the Canadian Mathematical Society, Ottawa, ON*, 1998. *xiv*+198 *pp. ISBN* 0-8218-0850-8 (Editors) **99e:16001** 16–06 (16Gxx)

— ★ Algebras and modules. II. Proceedings of the 8th International Conference on Representations of Algebras (ICRA VIII) held in Geiranger, August 4–10, 1996. Edited by Idun Reiten, Sverre O. Smalø and Øyvind Solberg. CMS Conference Proceedings, 24. *Published by the American Mathematical Society, Providence, RI; for the Canadian Mathematical Society, Ottawa, ON*, 1998. *xxii*+569 *pp. ISBN* 0-8218-1076-6 (Editors) **99e:16002** 16–06 (16Gxx)

Rewriting Techniques and Applications ★ Rewriting techniques and applications. Proceedings of the 9th International Conference (RTA-98) held in Tsukuba, March 30–April 1, 1998. Edited by Tobias Nipkow. Lecture Notes in Computer Science, 1379. *Springer-Verlag, Berlin*, 1998. *x*+343 *pp. ISBN* 3-540-64301-X (Editors) **99d:68012** 68–06 (68Q42)

— ★ Rewriting techniques and applications. Papers from the 7th International Conference (RTA-96) held in New Brunswick, NJ, 1996. Edited by H. Ganzinger. Theoret. Comput. Sci. **208** (1998), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 1–191. (Editors) **99f:68010** 68–06 (68Q42)

Ring Theory ★ Ring theory. Selected papers from the conference held in Miskolc, July 15–20, 1996. Edited by L. Rowen. J. Pure Appl. Algebra **133** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 1–260. (Editors) **99g:16001** 16–06 (00B25)

Rota, Gian-Carlo, Rotafest ★ Mathematical essays in honor of Gian-Carlo Rota. Including papers from the Conference in Honor of Gian-Carlo Rota (Rotafest) and the Umbral Calculus Workshop held in Cambridge, MA, April 1996. Edited by Bruce E. Sagan and Richard P. Stanley. Progress in Mathematics, 161. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xiv*+463 *pp. ISBN* 0-8176-3872-5 (Editors) **99a:00055** 00B30 (05–06)

SCAN-97 ★ SCAN-97. Selected papers from the conference held in Lyon, September 1997. J.UCS **4** (1998), no. 1. *Springer-Verlag, Heidelberg*, 1998. *front matter and pp.* 1–88 (*electronic*). (Editors) **99g:65009** 65–06

— ★ SCAN-97. Selected papers from the conference held in Lyon, September 1997. J.UCS **4** (1998), no. 2. *Springer-Verlag, Heidelberg*, 1998. *front matter and pp.* 89–209 (*electronic*). (Editors) **99g:65010** 65–06

Scientific Computing ★ Proceedings of the Algoritmy'97 Conference on Scientific Computing. Plenary papers from the 14th Conference held in Zuberec, September 2–5, 1997. Edited by J. Kačur and K. Mikula. Acta Math. Univ. Comenian. (N.S.) **67** (1998), no. 1. *Comenius University Press, Bratislava*, 1998. *pp.* 1–214. (Editors) **99f:00021** 00B25

Secondary Calculus and Cohomological Physics ★ Secondary calculus and cohomological physics. Proceedings of the conference held at Moscow State University, Moscow, August 24–31, 1997. Edited by Marc Henneaux, Joseph Krasil′shchik [I. S. Krasil′shchik] and Alexandre Vinogradov. Contemporary Mathematics, 219. *American Mathematical Society, Providence, RI*, 1998. *xiv*+287 *pp. ISBN* 0-8218-0828-1 (Editors) **99d:58007** 58–06 (17–06, 81–06)

Self-organization of Complex Structures ★ Self-organization of complex structures. From individual to collective dynamics. Proceedings of the International Conference held in Berlin, September 24–28, 1995. Edited by Frank Schweitzer. *Gordon and Breach Science Publishers, Amsterdam*, 1997. xxiv+596 *pp. ISBN* 90-5699-027-6 (Yoram Schiffmann) **99k:92005** 92B05 (35Q80, 90A16, 90C90)

Semigroups: Algebraic Theory and Applications to Formal Languages and Codes ★ Semigroups. Algebraic theory and applications to formal languages and codes. Papers from the International Conference held in Luino, June 22–27, 1992. Edited by C. Bonzini, A. Cherubini and C. Tibiletti [Cesarina Marchionna Tibiletti]. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1993. *xiv*+331 *pp. ISBN* 981-02-1521-5 (Editors) **99f:20003** 20–06 (20Mxx)

Several Complex Variables ★ Complex geometric analysis in Pohang. Proceedings of the POSTECH-BSRI SNU-GARC International Conference on Several Complex Variables held at the Pohang University of Science and Technology, Pohang, June 23–27, 1997. Edited by Kang-Tae Kim and Steven G. Krantz. Contemporary Mathematics, 222. *American Mathematical Society, Providence, RI*, 1999. *viii*+256 *pp. ISBN* 0-8218-0957-1 (Editors) **99e:32002** 32–06

Smarandache Type Notions in Number Theory ★ Proceedings of the First International Conference on Smarandache Type Notions in Number Theory. Held in Craiova, August 21–24, 1997. Edited by C. Dumitrescu and V. Seleacu. *American Research Press, Lupton, AZ*, 1997. 206 *pp. ISBN* 1-879585-58-8 (Editors) **99a:11002** 11–06

Speranza, Francesco ★ Convegno per i Sessantacinque Anni di Francesco Speranza. (Italian) [Conference in Honor of the Sixty-fifth Birthday of Francesco Speranza] Papers from the conference held in Bologna, October 11, 1997. Edited by Bruno D'Amore and Consolato Pellegrino. *Pitagora Editrice, Bologna*, 199?. *iv*+162 *pp.* (Editors) **99g:00052** 00B30 (00A30, 00A35, 00B05, 01–06)

State of the Art in Numerical Analysis ★ The state of the art in numerical analysis. Proceedings of the conference held at the University of York, York, April 1996. Edited by I. S. Duff and G. A. Watson. The Institute of Mathematics and its Applications Conference Series. New Series, 63. *The Clarendon Press, Oxford University Press, New York*, 1997. *xiv*+562 *pp. ISBN* 0-19-850014-9 (Editors) **99a:65008** 65–06 (00B25)

Statistical Science ★ Conference on Statistical Science Honouring the Bicentennial of Stefano Franscini's Birth. Papers from the conference held in Ascona, November 18–20, 1996. Edited by C. Malaguerra, S. Morgenthaler and E. Ronchetti. Monte Verità. *Birkhäuser Verlag, Basel*, 1997. *vi*+245 *pp. ISBN* 3-7643-5707-X (Editors) **99e:62002** 62–06

Statistical Studies ★ Plans d'expériences. (French) [Experimental designs] Applications à l'entreprise. [Applications to business] Papers from the 7th Conference on Statistical Studies held in 1996. Edited by Jean-Jacques Droesbeke, Jeanne Fine and Gilbert Saporta. *Éditions Technip, Paris; Association pour la Statistique et ses Utilisations, Paris*, 1997. *xvi*+509 *pp. ISBN* 2-7108-0733-5 (Editors) **99a:62101** 62Kxx (62–06, 62N10)

Stochastic Differential and Difference Equations ★ Stochastic differential and difference equations. Papers from the conference held at Széchenyi István College, Győr, August 21–24, 1996. Edited by I. Csiszár and Gy. Michaletzky. Progress in Systems and Control Theory, 23. *Birkhäuser Boston, Inc., Boston, MA*, 1997. *xviii*+353 *pp. ISBN* 0-8176-3971-3 (Editors) **99c:60002** 60–06

Stochastic Programming ★ Stochastic programming. State of the art. 1998. Papers from the 8th International Conference on Stochastic Programming held at the University of British Columbia, Vancouver, BC, August 8–16, 1998. Edited by R. J.-B. Wets and W. T. Ziemba. Ann. Oper. Res. **85** (1999). *Baltzer Science Publishers BV, Bussum*, 1999. *pp. i–xviii and* 1–285. (Editors) **99m:90006** 90–06 (90C15)

Strings '95 ★ Strings '95. Future perspectives in string theory. Papers from the conference held at the University of Southern California, Los Angeles, CA, March 13–18, 1995. Edited by I. Bars, P. Bouwknegt, J. Minahan, D. Nemeschansky, K. Pilch, H. Saleur and N. Warner. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+523 *pp. ISBN* 981-02-2472-9 (Editors) **99h:81008** 81–06 (81T30, 83E30)

Strings '97 ★ Strings '97. Proceedings of the International Conference held at the University of Amsterdam, Amsterdam, June 16–21, 1997. Edited by F. A. Bais, E. A. Bergshoeff, B. De Wit, R. Dijkgraaf, A. N. Schellekens, E. P. Verlinde and H. L. Verlinde. Nuclear Phys. B Proc. Suppl. **68** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–397. (Editors) **99d:81003** 81–06 (81T30, 83E30)

Supersymmetries in Physics ★ SUSY '97. Proceedings of the 5th International Conference on Supersymmetries in Physics held at the University of Pennsylvania, Philadelphia, PA, May 27–31, 1997. Edited by Mirjam Cvetič and Paul Langacker. Nuclear Phys. B Proc. Suppl. **62** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–xv and* 1–503. (Editors) **99b:81006** 81–06

Symmetry in Nonlinear Mathematical Physics ★ Symmetry in nonlinear mathematical physics. Vol. 1, 2. Proceedings of the 2nd International Conference held in memory of Prof. W. Fushchych [Vil′gel′m Il′ich Fushchich] in Kyiv, July 7–13, 1997. Edited by Mykola Shkil [Nikolaĭ Ivanovich Shkil′], Anatoly Nikitin and Vyacheslav Boyko [V. K. Boĭko]. *National Academy of Sciences of Ukraine, Institute of Mathematics, Kiev*, 1997. *Vol.* 1: 248 *pp.*; *Vol.* 2: *pp.* 249–500. *ISBN* 966-02-0342-X (Editors) **99b:00027** 00B30 (00B25, 35–06, 58–06, 81–06)

Symmetry Methods in Physics ★ Symmetry methods in physics. Vol. 1. Publ. No. E2-96-224. Proceedings of the 7th International Conference (ICSMP-95) held in Dubna, July 10–16, 1995. Edited by A. N. Sissakian [A. N. Sisakyan] and G. S. Pogosyan. *Joint Inst. Nuclear Res., Dubna*, 1996. *viii*+328 *pp. ISBN* 5-85165-452-X (Editors) **99m:81006** 81–06 (00B25)

— ★ Symmetry methods in physics. Vol. 2. Publ. No. E2-96-224. Proceedings of the 7th International Conference (ICSMP-95) held in Dubna, July 10–16, 1995. Edited by A. N. Sissakian [A. N. Sisakyan] and G. S. Pogosyan. *Joint Inst. Nuclear Res., Dubna*, 1996. *vi*+630 *pp. ISBN* 5-85165-453-8 (Editors) **99m:81007** 81–06 (00B25)

— ★ VIII International Conference on Symmetry Methods in Physics. Papers from the conference dedicated to the 80th anniversary of the birth of Professor Ya. A. Smorodinsky [Ya. A. Smorodinskiĭ] held in Dubna, July 28–August 2, 1997. Edited by G. S. Pogosyan and A. N. Sissakian [A. N. Sisakyan]. Phys. Atomic Nuclei **61** (1998), no. 10. *MAIK Nauka/Interperiodica Publishing, Moscow*, 1998. *pp. i–vi and* 1617–1810. (Editors) **99i:81002** 81–06

— ★ VIII International Conference on Symmetry Methods in Physics. Papers from the conference dedicated to the 80th anniversary of the birth of Professor Ya. A. Smorodinsky [Ya. A. Smorodinskiĭ] held in Dubna, July 28–August 2, 1997. Edited by G. S. Pogosyan and A. N. Sissakian [A. N. Sisakyan]. Phys. Atomic Nuclei **61** (1998), no. 11. *MAIK Nauka/Interperiodica Publishing, Moscow*, 1998. *pp.* 1811–2006. (Editors) **99i:81003** 81–06 (00B30)

Theorem Proving in Higher Order Logics ★ Theorem proving in higher order logics. Proceedings of the 11th International Conference (TPHOLs '98) held at the Australian National University, Canberra, September 27–October 2, 1998. Edited by Jim Grundy and Malcolm Newey. Lecture Notes in Computer Science, 1479. *Springer-Verlag, Berlin*, 1998. *viii*+497 *pp. ISBN* 3-540-64987-5 (Editors) **99k:68014** 68–06 (03–06, 03B15, 03B35, 68T15)

Theory and Practice of Geometric Modeling ★ Geometric modeling: theory and practice. The state of the art. Papers from the conference held in Blaubeuren, October 14–18, 1996. Edited by Wolfgang Strasser, Reinhard Klein and René Rau. Focus on Computer Graphics. *Springer-Verlag, Berlin*, 1997. *x*+434 *pp. ISBN* 3-540-61883-X (Editors) **99d:65003** 65–06 (52–06, 65D17, 65Y25, 68U05)

Theory and Practice of Software ★ Foundations of software science and computation structures. Proceedings of the 1st International Conference (FoSSaCS'98) held as part of the Joint European Conferences on Theory and Practice of Software (ETAPS'98) in Lisbon, March 28–April 4, 1998. Edited by Maurice Nivat. Lecture Notes in Computer Science, 1378. *Springer-Verlag, Berlin*, 1998. *x*+289 *pp. ISBN* 3-540-64300-1 (Editors) **99c:68005** 68–06

Topics in Fluid Mechanics ★ Topics in fluid mechanics. Invited lectures from the International Conference held in memory of Professor Carlo Ferrari in Turin, April 3–4, 1998. Edited by Silvio Nocilla. Meccanica **33** (1998), no. 5. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 429–532. (Editors) **99h:76005** 76–06 (00B30)

Topics in Number Theory ★ Topics in number theory. In honor of B. Gordon and S. Chowla. Proceedings of the conference held at the Pennsylvania State University,

Conference: (*cont'd.*)
University Park, PA, July 31–August 3, 1997. Edited by Scott D. Ahlgren, George E. Andrews and Ken Ono. Mathematics and its Applications, 467. *Kluwer Academic Publishers, Dordrecht*, 1999. *viii+258 pp. ISBN* 0-7923-5583-0 (Editors) **99m:11004** 11–06

Topological Methods in Differential Equations and Dynamical Systems ★ Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems". Held on the occasion of the 100th anniversary of the birth of Tadeusz Ważewski in Kraków-Przegorzały, July 17–20, 1996. Univ. Iagel. Acta Math. No. 36 (1998). *Uniwersytet Jagielloński, Instytut Matematyki, Kraków*, 1998. *pp.* 1–257. (Editors) **99f:58002** 58–06 (34–06, 34C35)

Topology ★ Symplectic, contact and low-dimensional topology. Proceedings of the Georgia Topology Conference held at the University of Georgia, Athens, GA, June 19–23, 1996. Edited by Gordana Matić and Clint McCrory. Topology Appl. **88** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–vi and* 1–178. (Editors) **99b:00020** 00B25

Topology of the Universe ★ Topology of the Universe Conference. Papers from the conference held in Cleveland, OH, October 1997. Edited by Glenn D. Starkman. Classical Quantum Gravity **15** (1998), no. 9. *Institute of Physics Publishing, Bristol*, 1998. *pp.* 2529–2921. (Editors) **99f:83003** 83–06

Transfer Phenomena in Magnetohydrodynamic and Electrocoonducting Flows ★ Transfer phenomena in magnetohydrodynamic and electroconducting flows. Papers from the 3rd International Conference (PAMIR) held in Aussois, September 22–26, 1997. Edited by A. Alemany, Ph. Marty and J. P. Thibault. Fluid Mechanics and its Applications, 51. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xvi+421 pp. ISBN* 0-7923-5532-6 (Editors) **99k:76007** 76–06 (76E25, 76W05)

Transport Theory ★ Proceedings of the Fifteenth International Conference on Transport Theory. Part I. Held at Chalmers University of Technology, Göteborg, June 2–7, 1997. Edited by Leif Arkeryd, Imre Pazsit and Rolf Petterson. Transport Theory Statist. Phys. **27** (1998), no. 3-4. *Marcel Dekker, Inc., Monticello, NY*, 1998. *pp. v–viii and* 203–393. (Editors) **99b:82003** 82–06

— ★ Proceedings of the Fifteenth International Conference on Transport Theory. Part II. Held in Göteborg, June 1–7, 1997. Edited by Leif Arkeryd, Imre Pazsit and Rolf Petterson. Transport Theory Statist. Phys. **27** (1998), no. 5-7. *Marcel Dekker, Inc., Monticello, NY*, 1998. *pp. v–x and* 405–703. (Editors) **99d:82004** 82–06 (82C70)

Trends in the Representation Theory of Finite-Dimensional Algebras ★ Trends in the representation theory of finite-dimensional algebras. Papers from the Joint Summer Research Conference held at the University of Washington, Seattle, WA, July 20–24, 1997. Edited by Edward L. Green and Birge Huisgen-Zimmermann [Birge Zimmermann-Huisgen]. Contemporary Mathematics, 229. *American Mathematical Society, Providence, RI*, 1998. *xiv+356 pp. ISBN* 0-8218-0928-8 (Editors) **99i:16003** 16–06 (16Gxx)

Turbulence ★ Advances in turbulence. VII. Proceedings of the 7th European Turbulence Conference held in Saint-Jean Cap Ferrat, June 30–July 3, 1998. Edited by Uriel Frisch. Fluid Mechanics and its Applications, 46. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxii+613 pp. ISBN* 0-7923-5115-0 76–06 (76Fxx)

Typed Lambda-calculi and Applications ★ Typed lambda-calculi and applications. Selected papers from the 3rd International Conference (TLCA '97) held in Nancy, April 2–4, 1997. Edited by Roger Hindley [James Roger Hindley]. Fund. Inform. **33** (1998), no. 4. *IOS Press, Amsterdam*, 1998. *pp. i–ii and* 309–432. (Editors) **99i:68006** 68–06 (03B40, 68N15)

Uncertainty in Artificial Intelligence ★ Uncertainty in artificial intelligence. Proceedings of the 11th Conference (UAI-95) held at McGill University, Montreal, PQ, August 18–20, 1995. Edited by Philippe Besnard and Steve Hanks. *Morgan Kaufmann, San Francisco, CA*, 1995. *x+591 pp. ISBN* 1-55860-385-9 (Editors) **99a:68017** 68–06 (68T27, 68T30)

— ★ Uncertainty in artificial intelligence. Proceedings of the 12th Conference held at Reed College, Portland, OR, August 1–4, 1996. Edited by Eric Horvitz and Finn Jensen. *Morgan Kaufmann, San Francisco, CA*, 1996. *xii+572 pp. ISBN* 1-55860-412-X (Editors) **99a:68018** 68–06 (68T27, 68T30)

Unconventional Models of Computation ★ Unconventional models of computation. Papers from the 1st International Conference (UMC'98) held at the University of Auckland, Auckland, January 5–9, 1998. Edited by C. S. Calude, J. Casti and M. J. Dinneen. Springer Series in Discrete Mathematics and Theoretical Computer Science. *Springer-Verlag Singapore, Singapore; Centre for Discrete Mathematics & Theoretical Computer Science, Auckland*, 1998. *viii+426 pp. ISBN* 981-3083-69-7 (Editors) **99f:68012** 68–06 (68Q05, 92D20)

Venezuelan Mathematical Association ★ IX Jornadas de la Asociación Matemática Venezolana. (Spanish) [IX Conference of the Venezuelan Mathematical Association] Selected papers from the conference held at La Universidad del Zulia, Maracaibo, April 24–26, 1996. Divulg. Mat. **5** (1997), no. 1-2. *Universidad del Zulia, Facultad Experimental de Ciencias, Departamento de Matemática y Computación, Maracaibo*, 1998. *pp. iii–iv and* 1–27. (Editors) **99d:00017** 00B25

Vinti, Calogero ★ Dedicato al Prof. C. Vinti. [Dedicated to Prof. C. Vinti] Proceedings of the Conference in Honor of Calogero Vinti held on the occasion of his 70th birthday at the Università degli Studi di Perugia, Perugia, September 30–October 4, 1996. Atti Sem. Mat. Fis. Univ. Modena **46** (1998), suppl. *Università di Modena, Dipartimento di Matematica Pura ed Applicata "G. Vitali", Modena*, 1998. *pp. i–xxxiv and* 1–989. (Editors) **99d:00031** 00B30 (00B25)

Wind Engineering ★ Nonlinear and random dynamics in wind engineering. Selected papers from the 2nd European and African Conference on Wind Engineering (2 EACWE) held in Genoa, June 22–26, 1997. Edited by Giovanni Solari. Meccanica **33** (1998), no. 3. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 213–330. 73–06 (73K12, 73K35)

WORDS ★ WORDS. Papers from the International Conference held in Rouen, September 22–26, 1997. Edited by J. Néraud. Theoret. Comput. Sci. **218** (1999), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–iv and* 1–216. (Editors) **99k:68015** 68–06 (68R15)

Young Scientists and Specialists at the Joint Institute for Nuclear Research (JINR) ★ Первая Открытая Научная Конференция Молодых Ученых и Специалистов

Conference: (*cont'd.*)
ОИЯИ. (Russian) [First Open Scientific Conference of Young Scientists and Specialists at the Joint Institute for Nuclear Research (JINR)] Proceedings of the conference held in Dubna, February 24–26, 1997. Edited by S. P. Ivanova. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1997. 255 *pp. ISBN* 5-85165-486-4 (Editors) **99g:00031** 00B05

Conformal field theories and integrable models ★ Conformal field theories and integrable models. Papers from the Summer School held at the Eötvös Loránd University, Budapest, August 13–18, 1996. Edited by Zalán Horváth and László Palla. Lecture Notes in Physics, 498. *Springer-Verlag, Berlin*, 1997. *x+251 pp. ISBN* 3-540-63618-8 (Editors) **99b:81001** 81–06 (81T40, 82–06)

Congress:

Applied Mathematics ★ XIV CEDYA/IV Congrés de Matemàtica Aplicada. (Spanish) [XIV CEDYA/IV Congress of Applied Mathematics] Proceedings of the 14th Congress on Differential Equations and Applications and the 4th CMA held in Vic, September 18–22, 1995. *Universitat de Barcelona, Barcelona*, 199?. *front matter+1010 pp.* (*electronic*). (Editors) **99g:00036** 00B25

— ★ XV Congreso de Ecuaciones Diferenciales y Aplicaciones/V Congreso de Matemática Aplicada. Vol. I, II. (Spanish) [XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics. Vol. I, II] Proceedings of the congresses held in Vigo, September 23–26, 1997. Colección: Congresos [Conference Collection], 9. *Universidade de Vigo, Servicio de Publicacións, Vigo*, 1998. *Vol. I: xxxviii+548 pp.*; *Vol. II: pp. i–xxiv and* 549–1146. *ISBN* 84-8158-093-7 (Editors) **99d:00018** 00B25

Differential Equations and Applications ★ XIV CEDYA/IV Congrés de Matemàtica Aplicada. (Spanish) [XIV CEDYA/IV Congress of Applied Mathematics] Proceedings of the 14th Congress on Differential Equations and Applications and the 4th CMA held in Vic, September 18–22, 1995. *Universitat de Barcelona, Barcelona*, 199?. *front matter+1010 pp.* (*electronic*). (Editors) **99g:00036** 00B25

— ★ XV Congreso de Ecuaciones Diferenciales y Aplicaciones/V Congreso de Matemática Aplicada. Vol. I, II. (Spanish) [XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics. Vol. I, II] Proceedings of the congresses held in Vigo, September 23–26, 1997. Colección: Congresos [Conference Collection], 9. *Universidade de Vigo, Servicio de Publicacións, Vigo*, 1998. *Vol. I: xxxviii+548 pp.*; *Vol. II: pp. i–xxiv and* 549–1146. *ISBN* 84-8158-093-7 (Editors) **99d:00018** 00B25

Differential Equations and Applications/Applied Mathematics ★ XV Congreso de Ecuaciones Diferenciales y Aplicaciones/V Congreso de Matemática Aplicada. Vol. I, II. (Spanish) [XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics. Vol. I, II] Proceedings of the congresses held in Vigo, September 23–26, 1997. Colección: Congresos [Conference Collection], 9. *Universidade de Vigo, Servicio de Publicacións, Vigo*, 1998. *Vol. I: xxxviii+548 pp.*; *Vol. II: pp. i–xxiv and* 549–1146. *ISBN* 84-8158-093-7 (Editors) **99d:00018** 00B25

Econometric Society ★ Advances in economics and econometrics: theory and applications. Vol. I, II, III. Papers from the 7th World Congress of the Econometric Society held at Keio University, Tokyo, August 1995. Edited by David M. Kreps and Kenneth F. Wallis. Econometric Society Monographs, 26, 27, 28. *Cambridge University Press, Cambridge*, 1997. *Vol. I: vi+332 pp.*; *Vol. II: vi+356 pp.*; *Vol. III: x+334 pp. ISBN* 0-521-58139-7 (Editors) **99d:90003** 90–06 (62P20)

Field Theory, Integrable Systems and Symmetries ★ Field theory, integrable systems and symmetries. Papers from the Annual CAP Congress held in Quebec, PQ, June 11–16, 1995. Edited by Faqir Khanna and Luc Vinet. *Université de Montréal, Les Publications CRM, Montreal, QC*, 1997. vi+213 *pp. ISBN* 2-921120-29-1 (Editors) **99a:00027** 00B25 (81–06, 83–06)

Industrial and Applied Mathematics ★ ICIAM/GAMM 95. Applied analysis. Papers from the 3rd International Congress on Industrial and Applied Mathematics held in Hamburg, July 3–7, 1995. Edited by O. Mahrenholtz and R. Mennicken. Z. Angew. Math. Mech. **76** (1996), suppl. 2. *Akademie Verlag, Berlin*, 1996. *pp. i–xx and* 1–718. (Editors) **99f:00010a** 00B05

— ★ ICIAM/GAMM 95. Applied stochastics and optimization. Papers from the 3rd International Congress on Industrial and Applied Mathematics held in Hamburg, July 3–7, 1995. Edited by O. Mahrenholtz, K. Marti and R. Mennicken. Z. Angew. Math. Mech. **76** (1996), suppl. 3. *Akademie Verlag, Berlin*, 1996. *pp. i–xvi and* 1–585. (Editors) **99f:00010b** 00B05 (90–06, 93–06)

International Society for Analysis, Applications and Computation ★ Partial differential and integral equations. Papers from the Congress of the International Society for Analysis, Applications and Computation (ISAAC '97) held at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Heinrich G. W. Begehr, Robert P. Gilbert and Guo-Chun Wen. International Society for Analysis, Applications and Computation, 2. *Kluwer Academic Publishers, Dordrecht*, 1999. *x+369 pp. ISBN* 0-7923-5482-6 (Editors) **99k:00034** 00B25 (35–06)

International Society for Analysis, Applications and Computing (ISAAC) ★ Spectral and scattering theory. Selected papers from the Special Session, held as part of the 1st International Congress of the International Society for Analysis, Applications and Computing (ISAAC), at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Alexander G. Ramm. *Plenum Press, New York*, 1998. *viii+207 pp. ISBN* 0-306-45829-2 (Editors) **99a:00048** 00B25 (35–06)

ISAAC ★ Inverse problems, tomography, and image processing. Selected papers from the Special Sessions on Inverse Problems and on Tomography and Image Processing held at the 1st International Congress of the International Society for Analysis, Applications and Computing (ISAAC), at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Alexander G. Ramm. *Plenum Press, New York*, 1998. *x+258 pp. ISBN* 0-306-45828-4 (Editors) **99a:00030** 00B25 (44–06, 73–06, 76–06, 92–06)

Mathematicians ★ Международный Конгресс Математиков в Киото, 1990. (Russian) [International Congress of Mathematicians in Kyoto, 1990] Papers from the congress held in Kyoto, 1990. Selected translations from *Proceedings of the International Congress of Mathematicians, Vol. I, II (Kyoto, 1990)*, Math. Soc. Japan, Tokyo, 1991 [MR 92m:00054]. Translation from the English edited by A. I. Ovseevich and V. M. Tikhomirov. "*Mir*", *Moscow*, 1996. 431 *pp. ISBN* 5-03-003178-2 (Editors)

Congress: (*cont'd.*)
99h:00039 00B50 (00B25)

— ★ Proceedings of the International Congress of Mathematicians. Vol. I. Invited plenary lectures. Appendix. Held in Berlin, August 18–27, 1998. Doc. Math. **1998**, Extra Vol. I. *Documenta Mathematica, Bielefeld*, 1998. *front matter and pp.* 1–662 (*electronic*). (Editors) **99e:00023** 00B25

— ★ Proceedings of the International Congress of Mathematicians. Vol. II. Sections 1–9. Held in Berlin, August 18–27, 1998. Doc. Math. **1998**, Extra Vol. II. *Documenta Mathematica, Bielefeld*, 1998. *front matter and pp.* 1–881 (*electronic*). (Editors) **99e:00024** 00B25

— ★ Proceedings of the International Congress of Mathematicians. Vol. III. Sections 10–19. Held in Berlin, August 18–27, 1998. Doc. Math. **1998**, Extra Vol. III. *Documenta Mathematica, Bielefeld*, 1998. *front matter and pp.* 1–825 (*electronic*). (Editors) **99e:00025** 00B25

Mathematics ★ Actas del Cuarto Congreso de Matemática "Dr. Antonio A. R. Monteiro". [Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics] Held in Bahia Blanca, April 23–25, 1997. *Universidad Nacional del Sur, Instituto de Matemática* (*INMABB–CONICET*), *Bahia Blanca*, 1997. *x*+241 *pp.* (Editors) **99a:00040** 00B25

— ★ European Congress of Mathematics. Vol. I. Papers from the 2nd Congress held in Budapest, July 22–26, 1996. Edited by A. Balog, G. O. H. Katona, A. Recski and D. Szász. Progress in Mathematics, 168. *Birkhäuser Verlag, Basel*, 1998. *xx*+334 *pp. ISBN* 3-7643-5497-6 (Editors) **99e:00018** 00B25

— ★ European Congress of Mathematics. Vol. II. Papers from the 2nd Congress held in Budapest, July 22–26, 1996. Edited by A. Balog, G. O. H. Katona, A. Recski, and D. Szász. Progress in Mathematics, 169. *Birkhäuser Verlag, Basel*, 1998. *viii*+402 *pp. ISBN* 3-7643-5498-4 (Editors) **99e:00019** 00B25

Mexican Mathematical Society ★ XXVII Congreso Nacional de la Sociedad Matemática Mexicana. (Spanish) [XXVII National Congress of the Mexican Mathematical Society] Papers from the congress held in Queretaro, October 2–8, 1994. Edited by J. A. León, A. Nicolás, F. Ongay and A. Tamariz. Aportaciones Matemáticas: Comunicaciones [Mathematical Contributions: Communications], 16. *Sociedad Matemática Mexicana, México*, 1995. *vi*+538 *pp. ISBN* 968-36-4616-6 (Editors) **99f:00013** 00B25

— ★ XXVIII Congreso Nacional de la Sociedad Matemática Mexicana. (Spanish) [XXVIII National Congress of the Mexican Mathematical Society] Papers from the congress held in Colima, October 1–7, 1995. Edited by J. L. Morales Pérez, S. Pérez Esteva, F. Sánchez Bringas and G. Villa Salvador. Aportaciones Matemáticas: Comunicaciones [Mathematical Contributions: Communications], 18. *Sociedad Matemática Mexicana, México*, 1996. *viii*+326 *pp. ISBN* 968-36-5409-6 (Editors) **99h:00025** 00B25

— ★ XXIX Congreso Nacional de la Sociedad Matemática Mexicana. (Spanish) [XXIX National Congress of the Mexican Mathematical Society] Papers from the congress held in San Luis Potosí, October 6–12, 1996. Edited by F. Avila Murillo, R. Montes-de-Oca, R. del Río Castillo and J. Mucinõ-Raymundo. Aportaciones Matemáticas: Comunicaciones [Mathematical Contributions: Communications], 20. *Sociedad Matemática Mexicana, México*, 1997. *iv*+260 *pp. ISBN* 968-36-6261-7 (Editors) **99i:00016** 00B25

Numerical Analysis ★ Actes du 29ème Congrès d'Analyse Numérique: CANum'97. (French) [Proceedings of the 29th Congress of Numerical Analysis: CANum'97] Held in Larnas, May 26–30, 1997. Edited by Mario Ahues, Mahdi Boukrouche and Claude Carasso. ESAIM Proceedings, 3. *Société de Mathématiques Appliquées et Industrielles, Paris*, 1998. *front matter*+146 *pp.* (*electronic*). (Editors) **99e:00012** 00B15 (76–06)

Scientific Computation, Modelling and Applied Mathematics ★ Iterative methods and preconditioners. Papers from the session held as part of the 15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics in Berlin, August 24–29, 1997. Edited by Rüdiger Weiss and Willi Schönauer. Appl. Numer. Math. **30** (1999), no. 2-3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 153–391. (Editors) **99m:65005** 65–06

Wittgenstein and the Vienna Circle ★ Wittgenstein y el Círculo de Viena. (German) [Wittgenstein and the Vienna Circle] Proceedings of the International Congress held in Toledo, November 2–5, 1994. Edited by Jesús Padilla Gálvez and Raimundo Drudis Baldrich. Estudios [Studies], 49. *Ediciones de la Universidad de Castilla-La Mancha, Cuenca*, 1998. 316 *pp. ISBN* 84-89958-26-2 (Editors) **99b:00022** 00B25 (00A30)

Conley index theory ★ Conley index theory. Papers from the workshop held in Warsaw, June 1997. Edited by Konstantin Mischaikow, Marian Mrozek and Piotr Zgliczyński. Banach Center Publications, 47. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1999. 258 *pp.* (Editors) **99m:58005** 58–06 (00B25, 54–06, 54H20)

Connections between integer programming and constraint logic programming ★ Connections between integer programming and constraint logic programming. INFORMS J. Comput. **10** (1998), no. 3. *INFORMS* (*Institute for Operations Research and the Management Sciences*), *Linthicum, MD*, 1998. *pp. i–iv and* 261–308. (Editors) **99e:90002** 90–06

Connectivity augmentation of networks: structures and algorithms ★ Connectivity augmentation of networks: structures and algorithms. Papers from the workshop held at Eötvös University, Budapest, November 1994. Edited by András Frank. Math. Program. **84** (1999), no. 3, Ser. B. *Springer-Verlag, Heidelberg*, 1999. *pp.* 439–640. 00B25 (05C40, 90C35)

Contemporary Brazilian research in logic ★ Contemporary Brazilian research in logic. Part II. Edited by Jean-Yves Béziau and Marcelo Tsuji. Logique et Anal. (N.S.) **40** (1997), no. 157. *Centre National Belge de Recherches de Logique, Gent-Mariakerke*, 1997. *pp.* 1–141. (Editors) **99g:03003** 03–06

Contemporary Mathematics ★ Homotopy theory via algebraic geometry and group representations. Proceedings of the International Conference on Current Trends in Algebraic Topology with Applications to Algebraic Geometry and Physics held as part of The Special Year on Algebraic Topology at Northwestern University, Evanston, IL, March 23–27, 1997. Edited by Mark Mahowald and Stewart Priddy. Contemporary Mathematics, 220. *American Mathematical Society, Providence, RI*, 1998. *xii*+379 *pp. ISBN* 0-8218-0805-2 (Editors) **99c:55001** 55–06

— ★ Secondary calculus and cohomological physics. Proceedings of the conference held at Moscow State University, Moscow, August 24–31, 1997. Edited by Marc Henneaux, Joseph Krasil′shchik [I. S. Krasil′shchik] and Alexandre Vinogradov. Contemporary Mathematics, 219. *American Mathematical Society, Providence, RI*, 1998. *xiv*+287 *pp. ISBN* 0-8218-0828-1 (Editors) **99d:58007** 58–06 (17–06, 81–06)

— ★ Domain decomposition methods. 10. Proceedings of the 10th International Conference held in Boulder, CO, August 10–14, 1997. Edited by Jan Mandel, Charbel Farhat and Xiao-Chuan Cai. Contemporary Mathematics, 218. *American Mathematical Society, Providence, RI*, 1998. *xii*+554 *pp. ISBN* 0-8218-0988-1 (Editors) **99f:65005** 65–06 (65M55, 65N55)

— ★ Higher category theory. Papers from the Workshop on Higher Category Theory and Physics held at Northwestern University, Evanston, IL, March 28–30, 1997. Edited by Ezra Getzler and Mikhail Kapranov. Contemporary Mathematics, 230. *American Mathematical Society, Providence, RI*, 1998. *x*+134 *pp. ISBN* 0-8218-1056-1 (Editors) **99h:18002** 18–06

— ★ Operator algebras and operator theory. Proceedings of the International Conference held at East China Normal University, Shanghai, July 4–9, 1997. Edited by Liming Ge, Huaxin Lin, Zhong-Jin Ruan, Dianzhou Zhang and Shuang Zhang. Contemporary Mathematics, 228. *American Mathematical Society, Providence, RI*, 1998. *xx*+389 *pp. ISBN* 0-8218-1093-6 (Editors) **99h:46001** 46–06 (00B25, 47–06)

— ★ Trends in the representation theory of finite-dimensional algebras. Papers from the Joint Summer Research Conference held at the University of Washington, Seattle, WA, July 20–24, 1997. Edited by Edward L. Green and Birge Huisgen-Zimmermann [Birge Zimmermann-Huisgen]. Contemporary Mathematics, 229. *American Mathematical Society, Providence, RI*, 1998. *xiv*+356 *pp. ISBN* 0-8218-0928-8 (Editors) **99i:16003** 16–06 (16Gxx)

— ★ Applied analysis. Proceedings of the conference held in Baton Rouge, LA, April 19–21, 1996. Edited by J. Robert Dorroh, Gisèle Ruiz Goldstein, Jerome A. Goldstein and Michael Mudi Tom. Contemporary Mathematics, 221. *American Mathematical Society, Providence, RI*, 1999. *x*+284 *pp. ISBN* 0-8218-0673-4 (Editors) **99e:00016** 00B25

— ★ Recent progress in algebra. Papers from the International Conference held in Taejon/Seoul, August 11–15, 1997. Edited by Sang Geun Hahn, Hyo Chul Myung and Efim Zelmanov. Contemporary Mathematics, 224. *American Mathematical Society, Providence, RI*, 1999. *x*+243 *pp. ISBN* 0-8218-0972-5 (Editors) **99e:00027** 00B25 (11–06, 17–06)

— ★ Complex geometric analysis in Pohang. Proceedings of the POSTECH-BSRI SNU-GARC International Conference on Several Complex Variables held at the Pohang University of Science and Technology, Pohang, June 23–27, 1997. Edited by Kang-Tae Kim and Steven G. Krantz. Contemporary Mathematics, 222. *American Mathematical Society, Providence, RI*, 1999. *viii*+256 *pp. ISBN* 0-8218-0957-1 (Editors) **99e:32002** 32–06

— ★ Monge Ampère equation: applications to geometry and optimization. Proceedings of the NSF-CBMS Conference held at Florida Atlantic University, Deerfield Beach, FL, July 9–13, 1997. Edited by Luis A. Caffarelli and Mario Milman. Contemporary Mathematics, 226. *American Mathematical Society, Providence, RI*, 1999. *x*+172 *pp. ISBN* 0-8218-0917-2 (Editors) **99f:00018** 00B25

— ★ Finite fields: theory, applications, and algorithms. Proceedings of the 4th International Conference held at the University of Waterloo, Waterloo, ON, August 12–15, 1997. Edited by Ronald C. Mullin and Gary L. Mullen. Contemporary Mathematics, 225. *American Mathematical Society, Providence, RI*, 1999. *x*+243 *pp. ISBN* 0-8218-0817-6 (Editors) **99f:11002** 11–06 (11Txx)

— ★ Advances in discrete and computational geometry. Proceedings of the AMS-IMS-SIAM Joint Summer Research Conference on Discrete and Computational Geometry: Ten Years Later held at Mount Holyoke College, South Hadley, MA, July 14–18, 1996. Edited by Bernard Chazelle, Jacob E. Goodman and Richard Pollack. Contemporary Mathematics, 223. *American Mathematical Society, Providence, RI*, 1999. *xii*+463 *pp. ISBN* 0-8218-0674-2 (Editors) **99f:52003** 52–06 (00B25, 68U05)

— ★ Higher homotopy structures in topology and mathematical physics. Proceedings of the International Conference held in honor of the 60th birthday of Jim Stasheff at Vassar College, Poughkeepsie, NY, June 13–15, 1996. Edited by John McCleary. Contemporary Mathematics, 227. *American Mathematical Society, Providence, RI*, 1999. *xii*+321 *pp. ISBN* 0-8218-0913-X (Editors) **99g:00041** 00B25 (18–06, 55–06)

— ★ Function spaces. Proceedings of the 3rd Conference held at Southern Illinois University, Edwardsville, IL, May 19–23, 1998. Edited by Krzysztof Jarosz. Contemporary Mathematics, 232. *American Mathematical Society, Providence, RI*, 1999. *xviii*+361 *pp. ISBN* 0-8218-0939-3 (Editors) **99k:46003** 46–06 (00B25)

— ★ Advances in stochastic inequalities. Papers from the AMS Special Session on Stochastic Inequalities and their Applications held at the Georgia Institute of Technology, Atlanta, GA, October 17–19, 1997. Edited by Theodore P. Hill and Christian Houdré. Contemporary Mathematics, 234. *American Mathematical Society, Providence, RI*, 1999. *x*+212 *pp. ISBN* 0-8218-1086-3 (Editors) **99m:60004** 60–06 (60E15)

Contributions to general algebra ★ Contributions to general algebra. 10. Proceedings of the Conference on General Algebra held in Klagenfurt, May 29–June 1, 1997. Edited by D. Dorninger, G. Eigenthaler, H. K. Kaiser, H. Kautschitsch, W. More and W. B. Müller. *Verlag Johannes Heyn, Klagenfurt*, 1998. *iv*+309 *pp. ISBN* 3-85366-890-9 (Editors) **99f:00014** 00B25

Contributions to geometry ★ Beiträge zur Geometrie. (German) [Contributions to geometry] Edited by Otto Röschel. Grazer Mathematische Berichte [Graz Mathematical Reports], 332. *Karl-Franzens-Universität Graz, Graz*, 1997. *ii*+54 *pp.* (Editors) **99c:53002** 53–06

Control and estimation of distributed parameter systems ★ Control and estimation of distributed parameter systems. Proceedings of the International Conference held in Vorau, July 14–20, 1996. Edited by W. Desch, F. Kappel and K. Kunisch. International Series of Numerical Mathematics, 126. *Birkhäuser Verlag, Basel*, 1998. *x*+310 *pp. ISBN* 3-7643-5835-1 (Editors) **99b:49001** 49–06 (35–06, 49J20, 49K20, 93–06, 93C20)

Control and identification algorithms ★ Control and identification algorithms. A translation of *Control and identification algorithms* (Russian), Moskov. Gos. Univ., Moscow, 1997. Comput. Math. Model. **9** (1998), no. 2. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 103–185. (Editors) **99b:93002** 93–06 (00B55, 93B30, 93E10)

Control and identification algorithms; Methods of mathematical modeling ★ Control and identification algorithms; Methods of mathematical modeling. A translation of *Control and identification algorithms* (Russian) and *Methods of mathematical modeling* (Russian), Moskov. Gos. Univ., Moscow, 1997/1998. Comput. Math. Model. **9** (1998), no. 3. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 187–267. 00B55

Control and partial differential equations ★ Control and partial differential equations. Papers from the conference held in Marseille-Luminy, June 16–20, 1997. Edited by Caroline Fabre, Fulbert Mignot, Jean-Pierre Puel, Marius Tucsnak and Enrique Zuazua. ESAIM Proceedings, 4. *Société de Mathématiques Appliquées et Industrielles, Paris*, 1998. *front matter* + 300 *pp.* (*electronic*). (Editors) **99g:00037** 00B25 (35–06, 49–06, 93–06, 93C20)

Controller reduction and system approximation ★ Controller reduction and system approximation. Edited by Kemin Zhou and Davut Kavranoğlu. Internat. J. Robust Nonlinear Control **9** (1999), no. 3. *John Wiley & Sons, Ltd., Chichester*, 1999. *pp. i–ii and* 121–198. (Editors) **99k:93005** 93–06 (93B11, 93B17)

Convex geometric analysis ★ Convex geometric analysis. Papers from the Program on Convex Geometry and Geometric Analysis held at the Mathematical Sciences Research Institute (MSRI), Berkeley, CA, 1996. Edited by Keith M. Ball and Vitali Milman. Mathematical Sciences Research Institute Publications, 34. *Cambridge University Press, Cambridge*, 1999. *xx*+236 *pp. ISBN* 0-521-64259-0 (Editors) **99h:00026** 00B25 (52–06)

Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century ★ Copernico e la questione copernicana in Italia dal XVI al XIX secolo. (Italian) [Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century] Papers from the International Meeting held in Ferrara, October 18–20, 1993. Edited by Luigi Pepe. Pubblicazioni dell'Università di Ferrara [Publications of the University of Ferrara], IV. *Leo S. Olschki Editore, Florence*, 1996. xiv+294 *pp. ISBN* 88-222-4392-7 (E. Knobloch (Zbl 882.01002)) **99g:01014** 01A40 (01A45, 01A50, 01A55)

Copper Mountain, CO ★ Special issue on iterative methods. Papers from the 11th Copper Mountain Meeting held in Copper Mountain, CO, April 1996. SIAM J. Sci. Comput. **19** (1998), no. 1. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *pp. i–viii and* 1–318 (*electronic*). (Editors) **99a:65007** 65–06

Corfu ★ ESA '95. Selected papers from the 3rd European Symposium on Algorithms held in Corfu, September 1995. Edited by P. Spirakis. Theoret. Comput. Sci. **203** (1998), no. 2. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–iv and* 175–269. (Editors) **99b:68004** 68–06

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Beltrami, Eugenio–Hoüel, Jules *see* **Beltrami, Eugenio, 99j:01011**

Einstein, Albert *see* **Einstein, Albert, 99e:01033**

Goldbach, Christian *see* **Yushkevich, A. P. et al., 99f:01024**

Grothendieck, Alexander–Faltings, Gerd *see* **Grothendieck, Alexander, 99c:14023**

Hermann, Jakob *see* **Mazzone, Silvia et al., 99f:01010**

Killing, Wilhelm–Engel, Friedrich *see* **Killing, Wilhelm, 99e:01017**

Legendre, Adrien-Marie–Jacobi, Carl Gustav Jacob ★ Korrespondenz Adrien-Marie Legendre–Carl Gustav Jacob Jacobi. (German) [The correspondence of Adrien-Marie Legendre and Carl Gustav Jacob Jacobi] Reprint of "Correspondance mathématique entre Legendre et Jacobi" (1875) with German translation by E. Knobloch and B. Mai. Edited, with commentaries and an essay by Herbert Pieper. Teubner-Archiv zur Mathematik [Teubner Archive on Mathematics], 19. *B. G. Teubner Verlagsgesellschaft mbH, Stuttgart*, 1998. 245 *pp. ISBN* 3-8154-2128-4 (Karl-Heinz Schlote) **99i:01022** 01A55 (01A70, 33–03)

Serre, Jean-Pierre–Schneps, Leila *see* **Serre, Jean-Pierre, 99d:20081**

Cortona ★ Toeplitz matrices: structures, algorithms and applications. Papers from the workshop held in Cortona, September 9–14, 1996. Calcolo **33** (1996), no. 1-2. *Istituto di Elaborazione della Informazione del CNR, Pisa*, 1998. *pp. i–ii and* 1–176. (Editors) **99b:00021** 00B25 (15–06, 65–06)

CR geometry and isolated singularities ★ CR geometry to koritsu tokuiten. [CR geometry and isolated singularities] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 16–20, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1037 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–146. (Editors) **99f:32001** 32–06

Craiova ★ Proceedings of the First International Conference on Smarandache Type Notions in Number Theory. Held in Craiova, August 21–24, 1997. Edited by C. Dumitrescu and V. Seleacu. *American Research Press, Lupton, AZ*, 1997. 206 *pp. ISBN* 1-879585-58-8 (Editors) **99a:11002** 11–06

Creating fair and shape-preserving curves and surfaces ★ Creating fair and shape-preserving curves and surfaces. Papers from the International Workshop held in Kleinmachnow, September 14–17, 1997. Edited by Horst Nowacki and Panagiotis D. Kaklis. *B. G. Teubner, Stuttgart*, 1998. 288 *pp. ISBN* 3-519-02636-8 (Editors) **99g:65003** 65–06 (41A29, 65D17)

Cryptography and coding ★ Cryptography and coding. Proceedings of the 6th IMA International Conference held at the Royal Agricultural College, Cirencester, December 17–19, 1997. Edited by Michael Darnell. Lecture Notes in Computer Science, 1355. *Springer-Verlag, Berlin*, 1997. *x*+335 *pp. ISBN* 3-540-63927-6 (Editors) **99g:94019** 94A60 (90–02, 94–06)

Cultures of theory ★ Cultures of theory. Edited by Peter Galison and Andrew Warwick. Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys. **29** (1998), no. 3. *Pergamon Press, Exeter*, 1998. *pp. i–iv and* 287–434. (Editors) **99h:01002** 01–06 (00A79)

Current and future challenges in the applications of mathematics ★ Current and future challenges in the applications of mathematics. Papers from the symposium held to mark the 50th anniversary of the Division of Applied Mathematics, Brown University, Providence, RI, May 29–31, 1997. Quart. Appl. Math. **56** (1998), no. 4. *Brown University, Division of Applied Mathematics, Providence, RI*, 1998. *pp. i–x and* 601–820. (Editors) **99i:00017** 00B25

Current topics in nonstationary analysis ★ Current topics in nonstationary analysis. Proceedings of the 2nd Workshop on Nonstationary Random Processes and their Applications held in San Diego, CA, June 11–12, 1995. Edited by George Treviño, Jay Hardin, Bruce Douglas and Edgar Andreas. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *viii*+189 *pp. ISBN* 981-02-2703-5 (Editors) **99g:60003** 60–06

Curriculum vitae of John Wilder Tukey Curriculum vitae of John Wilder Tukey. *The practice of data analysis* (*Princeton, NJ*, 1995), 9–15, *Princeton Univ. Press, Princeton, NJ*, 1997. (*see* **99b:62003**) 01A70

Curves and surfaces with applications in CAGD ★ Curves and surfaces with applications in CAGD. Vol. 1 of the Proceedings of the 3rd International Conference on Curves and Surfaces held in Chamonix–Mont-Blanc, June 27–July 3, 1996. Edited by Alain Le Méhauté, Christophe Rabut and Larry L. Schumaker. *Vanderbilt University Press, Nashville, TN*, 1997. *xvi*+480 *pp. ISBN* 0-8265-1293-3 (Editors) **99g:65004** 65–06 (65D17)

Dagstuhl ★ Logic programming and nonmonotonic reasoning. Proceedings of the 4th International Conference (LPNMR '97) held in Dagstuhl, July 28–31, 1997. Edited by Jürgen Dix, Ulrich Furbach and Anil Nerode. Lecture Notes in Computer Science, 1265. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *x*+453 *pp. ISBN* 3-540-63255-7 (Editors) **99a:68011** 68–06 (68N17, 68T27)

Data processing and process control ★ Data processing and process control. Edited by Mikhail Skliar [M. V. Sklyar] and W. Fred Ramirez. Appl. Math. Comput. Sci. **8** (1998), no. 4. *Technical University Press, Zielona Góra*, 1998. *pp. i–vi and* 695–898. (Editors) **99h:93003** 93–06 (93A30, 93B30, 93E10)

Data science, classification, and related methods ★ Data science, classification, and related methods. Papers from the 5th Conference of the International Federation of Classification Societies (IFCS '96) held in Kobe, March 27–30, 1996. Edited by C. Hayashi, N. Ohsumi, K. Yajima, Y. Tanaka, H.-H. Bock and Y. Baba. Studies in Classification, Data Analysis, and Knowledge Organization. *Springer-Verlag, Tokyo*, 1998. *xvi*+780 *pp. ISBN* 4-431-70208-3 (Editors) **99b:62002** 62–06 (62H30, 68T10)

Database programming languages ★ Database programming languages. Proceedings of the 6th International Workshop (DBPL-6) held in Estes Park, CO, August 18–20, 1997. Edited by Sophie Cluet and Rick Hull. Lecture Notes in Computer Science, 1369. *Springer-Verlag, Berlin*, 1998. *xiv*+431 *pp. ISBN* 3-540-64823-2 (Editors) **99h:68004** 68–06 (68P15)

Database theory—ICDT '95 ★ Database theory—ICDT '95. Papers from the 5th International Conference held in Prague, January 11–13, 1995. Edited by Georg Gottlob and Moshe Y. Vardi. Lecture Notes in Computer Science, 893. *Springer-Verlag, Berlin*, 1995. *xii*+454 *pp. ISBN* 3-540-58907-4 (Editors) **99a:68006** 68–06 (68P15)

Database theory—ICDT '97 ★ Database theory—ICDT '97. Proceedings of the 6th International Conference held in Delphi, January 8–10, 1997. Edited by Foto Afrati and Phokion Kolaitis. Lecture Notes in Computer Science, 1186. *Springer-Verlag, Berlin*, 1997. *xiv*+477 *pp. ISBN* 3-540-62222-5 (Editors) **99a:68007** 68–06 (68P15)

Dawning of gauge theory ★ The dawning of gauge theory. Edited and with introductory essays by Lochlainn O'Raifeartaigh. Princeton Series in Physics. *Princeton University Press, Princeton, NJ*, 1997. xii+250 *pp. ISBN* 0-691-02978-4; 0-691-02977-6 (P. Mitra) **99b:81148** 81T13 (01A60, 81–03, 81–06)

Decision theory and related fields ★ Kettei riron to sono kanren bunya. (Japanese) [Decision theory and related fields] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 4–6, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1043 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–257. (Editors) **99h:90006** 90–06

Decison making under risk and uncertainty ★ Decision making under risk and uncertainty. New models and empirical findings. Papers from the 5th International Conference on the Foundation and Applications of Utility, Risk and Decision Theories held at Duke University, Durham, NC, June 9–13, 1990. Edited by John Geweke. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 22. *Khwer Academic Publishers Group, Dordrecht*, 1992. *x*+260 *pp. ISBN* 0-7923-1904-4 (Editors) **99a:90003** 90–06 (90A05, 90A43, 90A46)

Decline and obsolescence of logical empiricism ★ Decline and obsolescence of logical empiricism. Carnap vs. Quine and the critics. Edited and with introductions by Sahotra Sarkar. Readings in Philosophy. Science and Philosophy in the Twentieth Century. Basic Works of Logical Empiricism, 5. *Garland Publishing, Inc., New York*, 1996. *xviii*+415 *pp. ISBN* 0-8153-2266-6 (Editors) **99a:00006b** 00A30 (00B60, 01A75)

Dedicated to Ennio De Giorgi ★ {Dedicated to Ennio De Giorgi}. On his death in 1996. Ann. Scuola Norm. Sup. Pisa Cl. Sci. (4) **25** (1997), no. 1-2. *Scuola Normale Superiore, Pisa*, 1998. *pp.* 1–418. 00B30

— ★ {Dedicated to Ennio De Giorgi}. On his death in 1996. Ann. Scuola Norm. Sup. Pisa Cl. Sci. (4) **25** (1997), no. 3-4. *Scuola Normale Superiore, Pisa*, 1998. *pp.* 419–839. 00B30

Dedicated to Julian Musielak ★ {Dedicated to Julian Musielak}. A collection of papers on the occasion of his 70th birthday. Funct. Approx. Comment. Math. **26** (1998). *Adam Mickiewicz University Press, Poznań*, 1998. *pp.* 1–319. 00B30

Dedicated to Olga Ladyzhenskaya ★ {Dedicated to Olga Ladyzhenskaya}. Topol. Methods Nonlinear Anal. **10** (1997), no. 2. *Juliusz Schauder Center for Nonlinear Studies, Toruń*, 1997. *pp. i–ii and* 195–397. 00B30

Dedicated to P. L. Ul'yanov ★ {Dedicated to P. L. Ul'yanov}. East J. Approx. **4** (1998), no. 2. *DARBA, Sofia*, 1998. *pp. i–ii and* 111–290. 00B30

Dedicated to Paul Leo Butzer ★ {Dedicated to Paul Leo Butzer}. Results Math. **34** (1998), no. 1-2. *Birkhäuser Verlag, Basel*, 1998. *pp.* 1–206. 00B30

Dedicated to Prof. C. Vinti ★ Dedicato al Prof. C. Vinti. [Dedicated to Prof. C. Vinti] Proceedings of the Conference in Honor of Calogero Vinti held on the occasion of his 70th birthday at the Università degli Studi di Perugia, Perugia, September 30–October 4, 1996. Atti Sem. Mat. Fis. Univ. Modena **46** (1998), suppl. *Università di Modena, Dipartimento di Matematica Pura ed Applicata "G. Vitali", Modena*, 1998. *pp. i–xxxiv and* 1–989. (Editors) **99d:00031** 00B30 (00B25)

Dedicated to Professor Anatolīĭ Alekseevich Karatsuba on the occasion of his 60th birthday ★ К 60-летию со дня рождения профессора Анатолия Алексеевича Карацубы. (Russian) [Dedicated to Professor Anatolīĭ Alekseevich Karatsuba on the occasion of his 60th birthday] Tr. Mat. Inst. Steklova **218** (1997), Anal. Teor. Chisel i Prilozh. *Mezhdunarodnaya Akademicheskaya Izdatel'skaya Kompaniya "Nauka", Moscow*, 1997. *pp.* 1–448. 11–06 (00B30)

Dedicated to Professor Dragoslav S. Mitrinović ★ Dedicated to Professor Dragoslav S. Mitrinović (1908–1995). Including papers from the Memorial Conference held at the University of Niš, Niš, June 21–23, 1996. Facta Univ. Ser. Math. Inform. No. 12 (1997). *University of Niš, Niš*, 1997. *pp. i–iv and* 1–306. 00B30

Dedicated to Professor Eligiusz J. Złotkiewicz ★ {Dedicated to Professor Eligiusz J. Złotkiewicz}. On the occasion of his 60th birthday. Ann. Univ. Mariae

Curie-Skłodowska Sect. A **52** (1998), no. 1. *Uniwersytet Marii Curie-Skłodowskiej, Editorial Office, Lublin*, 1998. *pp. v–xii and* 1–190. 00B30

Dedicated to Professor Ferenc Gécseg ★ {Dedicated to Professor Ferenc Gécseg}. Acta Cybernet. **14** (1999), no. 1. *József Attila University, Department of Informatics, Szeged*, 1999. *pp. i–ii and* 1–214. 00B30

Dedicated to Professor Vyacheslav Pavlovich Zahariuta ★ {Dedicated to Professor Vyacheslav Pavlovich Zahariuta}. Edited by A. Aytuna, P. B. Djakov and T. Terzioğlu. Linear Topol. Spaces Complex Anal. **3** (1997). *Scientific and Technical Research Council of Turkey, Ankara*, 1997. *pp. i–xiv and* 1–159. (Editors) **99a:00052** 00B30

Dedicated to Revaz Gamkrelidze ★ {Dedicated to Revaz Gamkrelidze}. Mem. Differential Equations Math. Phys. **11** (1997). *Publishing House GCI, Tbilisi*, 1997. *pp.* 1–156. 00B30

Dedicated to the memory of Fernando Serrano ★ {Dedicated to the memory of Fernando Serrano}. Collect. Math. **49** (1998), no. 2-3. *Universitat de Barcelona, Barcelona*, 1998. *pp. i–iv and* 135–564. (Editors) **99i:00032** 00B30 (14–06)

Dedicated to the memory of Fritz John ★ Dedicated to the memory of Fritz John. Comm. Pure Appl. Math. **51** (1998), no. 9-10. *John Wiley & Sons, Inc., New York*, 1998. *pp.* 967–1246. (Editors) **99a:00053** 00B30

Dedicated to the memory of Gilles Fournier ★ {Dedicated to the memory of Gilles Fournier}. Papers from the conference held at the University of Sherbrooke, Sherbrooke, PQ, August 13–16, 1997. Edited by Ibrahim Assem. Ann. Sci. Math. Québec **22** (1998), no. 2. *Groupe des Chercheurs en Sciences Mathématiques (Association Mathématique du Québec), Montreal, QC*, 1998. *pp. i–ii and* 95–252. (Editors) **99i:00033** 00B30

Dedicated to the memory of Karl Weierstrass ★ Dedicado a Karl Weierstrass. (Spanish) [Dedicated to the memory of Karl Weierstrass] Miscelánea Mat. No. 25 (1997). *Sociedad Matemática Mexicana, México*, 1997. *pp.* 1–100. (Editors) **99i:00034** 00B30

Dedicated to the memory of Mark Grigorievich Krein (1907–1989) ★ {Dedicated to the memory of Mark Grigorievich Krein (1907–1989)}. On the occasion of the 90th anniversary of his birth. Integral Equations Operator Theory **30** (1998), no. 4. *Birkhäuser Verlag, Basel*, 1998. *pp.* 379–499. (Editors) **99a:00054** 00B30

Dedicated to the memory of Paul Erdős ★ Dedicated to the memory of Paul Erdős. Including papers from New York Graph Theory Day 32 held at Manhattan College, Riverdale, NY, November 2, 1996. Graph Theory Notes N. Y. **32** (1997). *New York Academy of Sciences, New York*, 1997. *pp.* 1–56. (Editors) **99k:05003** 05–06 (00B30)

Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin ★ Посвящается памяти профессора Сергея Борисовича Стечкина. (Russian) [Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin] Tr. Mat. Inst. Steklova **219** (1997), Teor. Priblizh. Garmon. Anal. *Mezhdunarodnaya Akademicheskaya Izdatel'skaya Kompaniya "Nauka", Moscow*, 1997. *pp.* 1–464. 00B30

Dedicated to the memory of Wiesław Szlenk ★ {Dedicated to the memory of Wiesław Szlenk}. Edited by Karol Krzyżewski, Michał Misiurewicz and Feliks Przytycki. Fund. Math. **157** (1998), no. 2-3. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. *pp. i–ii and* 97–341. 00B30

Dedicated to U-Hang Ki on the occasion of his 60th birthday ★ Dedicated to U-Hang Ki on the occasion of his 60th birthday. Kyungpook Math. J. **35** (1996), no. 3, Special Issue. *Kyungpook National University, Department of Mathematics, Taegu*, 1996. *pp. i–ii and* 393–875. (Editors) **99k:00040** 00B30

Deerfield Beach, FL ★ Monge Ampère equation: applications to geometry and optimization. Proceedings of the NSF-CBMS Conference held at Florida Atlantic University, Deerfield Beach, FL, July 9–13, 1997. Edited by Luis A. Caffarelli and Mario Milman. Contemporary Mathematics, 226. *American Mathematical Society, Providence, RI*, 1999. *x*+172 *pp. ISBN* 0-8218-0917-2 (Editors) **99f:00018** 00B25

Deinze ★ Finite geometry and combinatorics. Papers from the 3rd International Conference held in Deinze, May 18–24, 1997. Edited by F. De Clerck, A. Beutelspacher, A. Blokhuis, F. Buekenhout, J. Doyen, W. Haemers, J. W. P. Hirschfeld, J. A. Thas and H. Van Maldeghem. Bull. Belg. Math. Soc. Simon Stevin **5** (1998), no. 2-3. *Société Mathématique de Belgique, Brussels*, 1998. *pp. i–ii and* 121–482. (Editors) **99a:51001** 51–06 (05–06)

Delay systems ★ Delay systems. Papers from the Special Session on Recent Results on Time-Delay Systems held as part of the Conference on Computational Engineering in Systems Applications in Lille, July 9–12, 1996. Edited by J.-P. Richard and V. B. Kolmanovskiĭ. Math. Comput. Simulation **45** (1998), no. 3-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 219–395. (Editors) **99a:93005** 93–06

Delft ★ Planar nonlinear dynamical systems. Proceedings of the symposium held on the occasion of the 65th birthday of J. W. Reyn in Delft, September 25–26, 1995. Edited by R. E. Kooij and A. H. P. van der Burg. Differential Equations Dynam. Systems **5** (1997), no. 3-4. *Research Square Publications, Hyderabad*, 1997. *pp. i–iv and* 197–477. (Editors) **99g:00053** 00B30 (58–06)

– ★ Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96). Held in Delft, September 19–20, 1996. Edited by C. Roos and T. Terlaky. Appl. Numer. Math. **29** (1999), no. 3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 253–443. (Editors) **99i:90004** 90–06 (90C27, 90C30)

Delhi ★ Harmonic analysis and hypergroups. Proceedings of the International Conference on Harmonic Analysis held at the University of Delhi, Delhi, December 18–22, 1995. Edited by K. A. Ross, J. M. Anderson, G. L. Litvinov, A. I. Singh, V. S. Sunder and N. J. Wildberger with the assistance of Alan L. Schwartz and Martin E. Walter. Trends in Mathematics. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *vi*+249 *pp. ISBN* 0-8176-3943-8 (Editors) **99a:43001** 43–06 (42–06, 60–06)

– ★ 1996 India-U.S.A. Symposium on Emerging Trends in Vibration and Noise Engineering. Held in Delhi, March 18–20, 1996. Edited by R. Singh. J. Sound Vibration **211** (1998), no. 3. *Academic Press, Ltd., London*, 1998. *pp.* 293–536. (Editors) **99a:73001** 73–06

Delphi ★ Database theory—ICDT '97. Proceedings of the 6th International Conference held in Delphi, January 8–10, 1997. Edited by Foto Afrati and Phokion Kolaitis. Lecture Notes in Computer Science, 1186. *Springer-Verlag, Berlin*, 1997. *xiv*+477 *pp. ISBN* 3-540-62222-5 (Editors) **99a:68007** 68–06 (68P15)

Denver, CO ★ Fractal frontiers. Selected papers from the 4th International Multidisciplinary Conference on Fractals held in Denver, CO, 1997. Edited by M. M. Novak and T. G. Dewey. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv*+484 *pp. ISBN* 981-02-3155-5 (Editors) **99b:00014** 00B25

Design and analysis of experiments ★ Design and analysis of experiments. Edited by S. Ghosh and C. R. Rao. Handbook of Statistics, 13. *North-Holland Publishing Co., Amsterdam*, 1996. xviii+1229 *pp. ISBN* 0-444-82061-2 (Christine Hildegard Müller) **99f:62002** 62–00 (62G10, 62Kxx, 62L05, 62P10)

Deterministic models with applications in population dynamics and other fields of biology ★ Deterministic models with applications in population dynamics and other fields of biology. Part II: Selected papers from the Conference on Deterministic and Stochastic Modelling of Biological Interaction (DESTOBIO'97) held in Sofia, August 28–31, 1997. Edited by S. Agur, J. Cushing, O. Diekmann, M. Gyllenberg, H. Heesterbeek, P. Jagers, M. Kimmel, T. Kostova and F. Milner. Math. Biosci. **157** (1999), no. 1-2. *Elsevier, New York*, 1999. *pp. i–viii and* 1–376. (Editors) **99m:92002** 92–06

Detroit, MI ★ Systems modelling and optimization. Proceedings of the 18th IFIP TC7 Conference held in Detroit, MI, July 22–25, 1997. Edited by Michael P. Polis, Asen L. Dontchev, Peter Kall, Irena Lasiecka and Andrzej W. Olbrot. Chapman & Hall/CRC Research Notes in Mathematics, 396. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *xii*+513 *pp. ISBN* 0-8493-0607-8 (Editors) **99k:93007** 93–06 (49–06, 90–06)

Dictionary:

Mathematics, quotations ★ Mathematically speaking. A dictionary of quotations. Selected and arranged by Carl C. Gaither and Alma E. Cavazos-Gaither. *Institute of Physics Publishing, Bristol*, 1998. *xiv*+484 *pp. ISBN* 0-7503-0503-7 (From the preface) **99k:00008** 00A20 (00A08)

Solid state physics ★ Физика твердого тела. Энциклопедический словарь. Том 1. A–O. (Russian) [Solid state physics. Encyclopedic dictionary. Vol. 1. A–O] Edited by V. G. Bar'yakhtar. "*Naukova Dumka*", *Kiev*, 1996. 652 *pp. ISBN* 5-12-004063-2 (From the preface) **99c:82001** 82–00 (00A20)

Women in mathematics ★ Notable women in mathematics. A biographical dictionary. Edited by Charlene Morrow and Teri Perl. *Greenwood Press, Westport, CT*, 1998. *xvi*+302 *pp. ISBN* 0-313-29131-4 (From the introduction) **99d:01037** 01A70 (00A20)

Differential algebraic equations ★ Differential algebraic equations. Selected papers from the International Symposium held in Grenoble, May 1997. Edited by R. Coleman. Numer. Algorithms **19** (1998), no. 1-4. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–vi and* 1–266. (Editors) **99h:34001** 34–06 (34A09, 34A45, 65–06)

Differential and integral operators ★ Differential and integral operators. Proceedings of the International Workshop on Operator Theory and Applications (IWOTA 95) held at the University of Regensburg, Regensburg, July 31–August 4, 1995. Edited by I. Gohberg, R. Mennicken and C. Tretter. Operator Theory: Advances and Applications, 102. *Birkhäuser Verlag, Basel*, 1998. *xvi*+324 *pp. ISBN* 3-7643-5890-4 (Editors) **99d:47001** 47–06 (35–06, 47E05, 47F05, 47Gxx)

Differential equations—theory, methods and applications ★ Differential equations—theory, methods and applications. Proceedings of the International Conference held in Hyderabad, February 20–23, 1995. Differential Equations Dynam. Systems **4** (1996), no. 3-4. *Research Square Publications, Hyderabad*, 1996. *pp.* 253–478. (Editors) **99g:00038** 00B25 (34–06, 35–06)

Differential equations and applications ★ Differential equations and applications. Proceedings of the US-Chinese Conference held in Hangzhou, June 24–29, 1996. Edited by P. W. Bates, S.-N. Chow, K. Lu and X. Pan. *International Press, Cambridge, MA*, 199?. x+363 *pp. ISBN* 1-57146-048-9 (Editors) **99b:00013** 00B25 (34–06, 35–06)

Differential equations and dynamical systems ★ Differential equations and dynamical systems. Papers from the International Conference held at the University of Waterloo, Waterloo, ON, August 1–4, 1997. Edited by Xinzhi Liu and David Siegel. Dynam. Contin. Discrete Impuls. Systems **5** (1999), no. 1-4. *Watam Press, Waterloo, ON*, 1999. *pp. i–iv and* 1–597. (Editors) **99m:34001** 34–06 (00B25, 35–06, 93–06)

Differential equations with applications to biology ★ Differential equations with applications to biology. Proceedings of the International Conference held at Dalhousie University, Halifax, NS, July 25–29, 1997. Edited by Shigui Ruan, Gail S. K. Wolkowicz and Jianhong Wu. Fields Institute Communications, 21. *American Mathematical Society, Providence, RI*, 1999. *x*+509 *pp. ISBN* 0-8218-0944-X (Editors) **99g:92002** 92–06 (34–06, 35–06)

Differential equations: La Pietra ★ Differential equations: La Pietra 1996. Papers from the conference marking the 70th birthdays of Peter Lax and Louis Nirenberg held in Florence, July 3–7, 1996. Edited by M. Giaquinta, J. Shatah and S. R. S. Varadhan. Proceedings of Symposia in Pure Mathematics, 65. *American Mathematical Society, Providence, RI*, 1999. *xii*+219 *pp. ISBN* 0-8218-0610-6 (Editors) **99g:35004** 35–06 (00B25, 00B30, 58–06)

Differential geometry and control ★ Differential geometry and control. Papers of the Summer Research Institute held at the University of Colorado, Boulder, CO, June 29–July 19, 1997. Edited by G. Ferreyra, R. Gardner, H. Hermes and H. Sussmann. Proceedings of Symposia in Pure Mathematics, 64. *American Mathematical Society, Providence, RI*, 1999. *viii*+341 *pp. ISBN* 0-8218-0887-7 (Editors) **99f:93003** 93–06 (49–06, 53–06)

Dijon ★ Actes de l'Université d'Été 1996: Recherche Mathématique et Formation. (French) [Proceedings of the 1996 Summer University: Mathematical Research and Teaching] Held at the Université de Bourgogne, Dijon, July 8–11, 1996. *Université de Bourgogne, Institut de Recherche sur l'Enseignement des Mathématiques (IREM), Dijon*, 1997. *iv*+165 *pp.* (Editors) **99e:00026** 00B25

Discrete algorithms and computational complexity ★ Risanteki arugorizumu to keisanryō. [Discrete algorithms and computational complexity] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, June 16–20, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1054 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–95. (Editors) **99m:68009** 68–06 (68Q15, 68Q25)

Discrete integrable systems and discrete analysis ★ Risan kasekibun kei to risan kaiseki. (Japanese) [Discrete integrable systems and discrete analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 28–30, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1020 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–179. (Editors) **99c:00013** 00B25

Discrete metric spaces ★ Discrete metric spaces. Papers from the International Conference held at the Université Claude Bernard, Villeurbanne, September 17–20, 1996. Edited by W. Deuber, M. Deza and B. Leclerc. Discrete Math. **192** (1998), no. 1-3. *North-Holland*

Publishing Co., Amsterdam, 1998. *pp. i–viii and* 1–351. (Editors) **99f:00015** 00B25

Discrete structural optimization ★ Discrete structural optimization. Edited by W. Gutkowski. CISM Courses and Lectures, 373. *Springer-Verlag, Vienna*, 1997. vi+250 *pp. ISBN* 3-211-82901-6 (Vadim Komkov) **99b:90007** 90–06 (73K40, 73V20, 90C27, 90C90)

Discretization and MCMC convergence assessment ★ Discretization and MCMC convergence assessment. Edited by Christian P. Robert. Lecture Notes in Statistics, 135. *Springer-Verlag, New York*, 1998. *xii*+192 *pp. ISBN* 0-387-98591-3 (Jean Diebolt) **99m:65012** 65C05 (60J05, 60J10, 62F15, 62P10, 65U05)

Discretizations of integrable systems: theory and applications ★ Discretizations of integrable systems: theory and applications. (Japanese) Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 29–31, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1005 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–148. (Editors) **99a:00024** 00B25

Disordered systems ★ Disordered systems. Papers from the UNESCO-CIMPA First School on Dynamical and Disordered Systems held at the Universidad de la Frontera, Temuco, December 30, 1991–January 23, 1992. Edited by Rodrigo Bamon, Jean-Marc Gambaudo and Servet Martinez. Travaux en Cours [Works in Progress], 53. *Hermann, Paris*, 1996. viii+158 *pp. ISBN* 2-7056-6289-8 (Editors) **99b:82002** 82–06 (00B25, 60–06)

DNA based computers ★ DNA based computers II. Papers from the 2nd Annual DIMACS Workshop held at Princeton University, Princeton, NJ, June 10–12, 1996. Edited by Laura F. Landweber and Eric B. Baum. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 44. *American Mathematical Society, Providence, RI*, 1999. *xii*+275 *pp. ISBN* 0-8218-0756-0 (Editors) **99f:68002** 68–06 (68Q05, 92D20)

— ★ DNA based computers. III. Papers from the 3rd DIMACS Workshop held at the University of Pennsylvania, Philadelphia, PA, June 23–25, 1997. Edited by Harvey Rubin and David Harlan Wood. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 48. *American Mathematical Society, Providence, RI*, 1999. *xiv*+375 *pp. ISBN* 0-8218-0842-7 (Editors) **99m:68008** 68–06 (92–06)

Domain decomposition methods ★ Domain decomposition methods. 10. Proceedings of the 10th International Conference held in Boulder, CO, August 10–14, 1997. Edited by Jan Mandel, Charbel Farhat and Xiao-Chuan Cai. Contemporary Mathematics, 218. *American Mathematical Society, Providence, RI*, 1998. *xii*+554 *pp. ISBN* 0-8218-0988-1 (Editors) **99f:65005** 65–06 (65M55, 65N55)

Domain theory ★ Domain theory. Edited by Jimmie Lawson. Topology Appl. **89** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–vi and* 1–202. (Editors) **99c:00009** 00B15

Dresden ★ Advances in algebra and model theory. Papers from the Conferences on Algebra and Model Theory held in Essen, June 9–11, 1994 and Dresden, June 8–10, 1995. Edited by Manfred Droste and Rüdiger Göbel. Algebra, Logic and Applications, 9. *Gordon and Breach Science Publishers, Amsterdam*, 1997. *xii*+499 *pp. ISBN* 90-5699-101-9 (Editors) **99k:00026** 00B25 (03–06, 03C60, 20–06)

— ★ Localization in nonlinear lattices. Proceedings of the workshop held in Dresden, April 7–11, 1997. Edited by Sergej Flach and Robert S. MacKay. Phys. D **119** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–viii and* 1–238. (Editors) **99d:58004** 58–06

Drinfeld modules, modular schemes and applications ★ Drinfeld modules, modular schemes and applications. Proceedings of the workshop held in Alden-Biesen, September 9–14, 1996. Edited by E.-U. Gekeler, M. van der Put, M. Reversat and J. Van Geel. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv*+361 *pp. ISBN* 981-02-3067-2 (Editors) **99b:11002** 11–06 (11Gxx)

Dublin ★ The mathematical heritage of Sir William Rowan Hamilton. Papers from the International Conference held in Dublin, August 17–20, 1993. Edited by B. Goldsmith, T. J. Laffey and D. J. Simms. Proc. Roy. Irish Acad. Sect. A **95** (1995), suppl. *Royal Irish Academy, Dublin*, 1995. *pp. i–vi and* 1–88. (Editors) **99e:00020** 00B25

Dubna ★ Path integrals: Dubna '96. Publ. No. E-96-321. Proceedings of the International Seminar "Path Integrals: Theory & Applications" and the 5th International Conference "Path Integrals from meV to MeV" held in Dubna, May 27–31, 1996. Edited by Vladimir S. Yarunin and Mikhail A. Smondyrev. *Joint Inst. Nuclear Res., Dubna*, 1996. 393 *pp. ISBN* 5-85165-451-1 (Editors) **99h:81005** 81–06 (81S40)

— ★ Symmetry methods in physics. Vol. 1. Publ. No. E2-96-224. Proceedings of the 7th International Conference (ICSMP-95) held in Dubna, July 10–16, 1995. Edited by A. N. Sissakian [A. N. Sisakyan] and G. S. Pogosyan. *Joint Inst. Nuclear Res., Dubna*, 1996. *viii*+328 *pp. ISBN* 5-85165-452-X (Editors) **99m:81006** 81–06 (00B25)

— ★ Symmetry methods in physics. Vol. 2. Publ. No. E2-96-224. Proceedings of the 7th International Conference (ICSMP-95) held in Dubna, July 10–16, 1995. Edited by A. N. Sissakian [A. N. Sisakyan] and G. S. Pogosyan. *Joint Inst. Nuclear Res., Dubna*, 1996. *vi*+630 *pp. ISBN* 5-85165-453-8 (Editors) **99m:81007** 81–06 (00B25)

— ★ Первая Открытая Научная Конференция Молодых Ученых и Специалистов ОИЯИ. (Russian) [First Open Scientific Conference of Young Scientists and Specialists at the Joint Institute for Nuclear Research (JINR)] Proceedings of the conference held in Dubna, February 24–26, 1997. Edited by S. P. Ivanova. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1997. 255 *pp. ISBN* 5-85165-486-4 (Editors) **99g:00031** 00B05

— ★ Computational modelling and computing in physics. Publ. No. D5,11-97-112. Proceedings of the 9th International Conference held in Dubna, September 16–21, 1996. Edited by E. P. Zhidkov, A. V. Fedorov and R. R. Shahbaghyan [R. R. Shakhbagyan]. *Joint Inst. Nuclear Res., Dubna*, 1997. 379 *pp. ISBN* 5-85165-472-4 (Editors) **99k:65003** 65–06

— ★ Renormalization group '96. Publ. No. E2,4-97-263. Proceedings of the 3rd International Conference held in Dubna, August 26–31, 1996. Edited by D. V. Shirkov, D. I. Kazakov and V. B. Priezzhev. *Joint Inst. Nuclear Res., Dubna*, 1997. 437 *pp. ISBN* 5-85165-476-7 (R. Delbourgo) **99m:81155** 81T17 (81–06)

— ★ VIII International Conference on Symmetry Methods in Physics. Papers from the conference dedicated to the 80th anniversary of the birth of Professor Ya. A. Smorodinsky [Ya. A. Smorodinskiĭ] held in Dubna, July 28–August 2, 1997. Edited by G. S. Pogosyan and A. N. Sissakian [A. N. Sisakyan]. Phys. Atomic Nuclei **61** (1998), no. 10. *MAIK Nauka/Interperiodica Publishing, Moscow*, 1998. *pp. i–vi and* 1617–1810. (Editors) **99i:81002** 81–06

— ★ VIII International Conference on Symmetry Methods in Physics. Papers from the conference dedicated to the 80th anniversary of the birth of Professor Ya. A. Smorodinsky [Ya. A. Smorodinskiĭ] held in Dubna, July 28–August 2, 1997. Edited by G. S. Pogosyan and A. N. Sissakian [A. N. Sisakyan]. Phys. Atomic Nuclei **61** (1998), no. 11. *MAIK Nauka/Interperiodica Publishing, Moscow*, 1998. *pp.* 1811–2006. (Editors) **99i:81003** 81–06 (00B30)

Dubrovnik ★ Functional analysis. V. Vol. I. Proceedings of the Postgraduate School and Conference held in Dubrovnik, September 14–28, 1997. Edited by D. Butković, H. Kraljević and G. Peskir. Various Publications Series, 44. *University of Aarhus, Department of Mathematical Sciences, Aarhus*, 1998. 142 *pp.* (Editors) **99h:00028** 00B25 (60–06)

Dundee ★ Numerical analysis 1997. Proceedings of the 17th Biennial Conference held at the University of Dundee, Dundee, June 24–27, 1997. Edited by D. F. Griffiths, D. J. Higham and G. A. Watson. Pitman Research Notes in Mathematics Series, 380. *Longman, Harlow*, 1998. *viii*+254 *pp. ISBN* 0-582-31261-2 (Editors) **99d:65006** 65–06

Durham, NC ★ Decision making under risk and uncertainty. New models and empirical findings. Papers from the 5th International Conference on the Foundation and Applications of Utility, Risk and Decision Theories held at Duke University, Durham, NC, June 9–13, 1990. Edited by John Geweke. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 22. *Kluwer Academic Publishers Group, Dordrecht*, 1992. *x*+260 *pp. ISBN* 0-7923-1904-4 (Editors) **99a:90003** 90–06 (90A05, 90A43, 90A46)

Dynamic decision systems in uncertain environments ★ Fukakujitsuna kankyō moderu de no dōteki kōdō kettei shisutemu. [Dynamic decision systems in uncertain environments] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, February 12–13, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1048 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–116. (Editors) **99i:90002** 90–06

Dynamical systems ★ Dynamical systems. Papers from the UNESCO-CIMPA First School on Dynamical and Disordered Systems held at the Universidad de la Frontera, Temuco, December 30, 1991–January 23, 1992. Edited by Rodrigo Bamon, Jean-Marc Gambaudo and Servet Martinez. Travaux en Cours [Works in Progress], 52. *Hermann, Paris*, 1996. viii+178 *pp. ISBN* 2-7056-6288-X (Editors) **99b:58005** 58–06 (00B25)

— ★ Dynamical systems. Vol. 12. A translation of *Dynamical systems. Vol. 12* (Russian), Lybid′, Kiev, 1993. J. Math. Sci. (New York) **90** (1998), no. 6. *Consultants Bureau, New York*, 1998. *pp. i–i and* 2455–2550. (Editors) **99e:00033** 00B55

— ★ Dynamical systems. 5. A translation of *Dynamical systems. 5* (Russian), Vseross. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow, 1996. Edited by Z. A. Izmailova. J. Math. Sci. (New York) **90** (1998), no. 3. *Consultants Bureau, New York*, 1998. *pp. i–iv and* 2051–2213. (Editors) **99h:00042** 00B55 (58–06)

Dynamical systems, control, coding, computer vision ★ Dynamical systems, control, coding, computer vision. New trends, interfaces, and interplay. Papers from the Mathematical Theory of Networks and Systems Symposium (MTNS-98) held in Padova, July 6–10, 1998. Edited by Giorgio Picci and David S. Gilliam. Progress in Systems and Control Theory, 25. *Birkhäuser Verlag, Basel*, 1999. *vi*+493 *pp. ISBN* 3-7643-6060-7 (Editors) **99k:93006** 93–06 (00B15, 47N70, 68U10, 94–06)

Dynamics and control of distributed systems ★ Dynamics and control of distributed systems. Edited by H. S. Tzou and L. A. Bergman. *Cambridge University Press, Cambridge*, 1998. *xviii*+374 *pp. ISBN* 0-521-55074-2 (Editors) **99b:73002** 73–06 (73K12, 73K50, 93–06, 93C20, 93C95)

Dynamics and optimization ★ Dynamics and optimization. Papers from the Special Session held as part of the International Conference on Differential Equations and Dynamical Systems at the University of Waterloo, Waterloo, ON, August 1–4, 1997. Edited by K. L. Teo and L. Caccetta. Dynam. Contin. Discrete Impuls. Systems **4** (1998), no. 4. *Watam Press, Waterloo, ON*, 1998. *pp. i–iv and* 485–631. (Editors) **99g:49003** 49–06 (93–06)

Dynamics and statistics of concentrated vortices in turbulent flow ★ Dynamics and statistics of concentrated vortices in turbulent flow. Selected papers from the Euromech Colloquium 364 held in Carry-le-Rouet, June 24–27, 1997. Edited by S. le Dizès, A. Verga, K. Moffatt [H. Keith Moffatt] and P. Huerre. Eur. J. Mech. B Fluids **17** (1998), no. 4. *Publications Elsevier, Paris*, 1998. *pp. i–iv and* 405–675. (Editors) **99e:76002** 76–06 (76Fxx)

Dynamics of atmospheric flows ★ Dynamics of atmospheric flows. Atmospheric transport and diffusion processes. Edited by M. P. Singh and S. Raman. Advances in Fluid Mechanics, 18. *Computational Mechanics Publications, Southampton*, 1998. *viii*+246 *pp. ISBN* 1-85312-427-3 (Editors) **99j:86001** 86–06 (76R50, 86A15)

Dynamics of cell and tissue motion ★ Dynamics of cell and tissue motion. Papers from the Workshop on Cell and Tissue Motion held in Röttgen, March 1995. Edited by Wolfgang Alt, Andreas Deutsch and Graham Dunn. Mathematics and Biosciences in Interaction. *Birkhäuser Verlag, Basel*, 1997. *xvi*+336 *pp. ISBN* 3-7643-5781-9 (Editors) **99a:92008** 92C30 (92–06, 92C35, 92C45)

Dynamics of control systems, and computational processes ★ Динамика систем управления и вычислительные процессы. (Russian) [Dynamics of control systems, and computational processes] Edited by V. B. Khokholov. *Yakut-sk. Gos. Univ., Yakutsk*, 1991. 105 *pp. ISBN* 5-230-20970-4 (Editors) **99m:00021** 00B15 (90–06, 93–06)

Dynamics of vortex fields and the mathematics of turbulence ★ Kado ba no dainamikkusu to ranryū no sūri. (Japanese) [Dynamics of vortex fields and the mathematics of turbulence] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 19–21, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1051 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–243. (Editors) **99k:76004** 76–06 (00B25, 76Fxx)

Earth system analysis ★ Earth system analysis. Integrating science for sustainability. Complemented results of the symposium held in Potsdam, 1994. Edited by H.-J. Schellnhuber and V. Wenzel. *Springer-Verlag, Berlin*, 1998. *xxx*+530 *pp. ISBN* 3-540-58017-4 (Editors) **99f:00016** 00B25 (86–06, 93–06)

Econometrics in theory and practice ★ Econometrics in theory and practice. Festschrift for Hans Schneeweiß. Edited by Robert Galata and Helmut Küchenhoff. *Physica-Verlag, Heidelberg*, 1998. *x*+336 *pp. ISBN* 3-7908-1116-5 (Editors) **99f:62007** 62–06 (62P20)

Edmonton, AB ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **5** (1997), no. 3. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1997. *pp.* 205–318. 00B30

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **5** (1997), no. 4. *Rocky Mountain*

Mathematics Consortium, Tempe, AZ, 1997. *pp.* 319–422. 35-06 (34-06, 92-06)

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Natur. Resource Modeling **11** (1998), no. 2. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 81–171. 92-06 (00B30)

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **6** (1998), no. 1. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 1–88. 92-06 (34-06)

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Natur. Resource Modeling **11** (1998), no. 1. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 1–79. 92-06 (00B30)

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **6** (1998), no. 2. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 89–185. 00B25

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **6** (1998), no. 3. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 187–301. 00B25 (00B30)

— ★ Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology. Papers from the 3rd Conference held at the University of Alberta, Edmonton, AB, June 26–29, 1996. Canad. Appl. Math. Quart. **6** (1998), no. 4. *Rocky Mountain Mathematics Consortium, Tempe, AZ*, 1998. *pp.* 303–418. 00B25

Education: challenges for mathematics Education: challenges for mathematics. Edited by Vagn Lundsgaard Hansen. *European Congress of Mathematics, Vol. II (Budapest*, 1996), 380–402, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (*see* **99e:00019**) 01A80

Edwardsville, IL ★ Function spaces. Proceedings of the 3rd Conference held at Southern Illinois University, Edwardsville, IL, May 19–23, 1998. Edited by Krzysztof Jarosz. Contemporary Mathematics, 232. *American Mathematical Society, Providence, RI*, 1999. *xviii*+361 *pp. ISBN* 0-8218-0939-3 (Editors) **99k:46003** 46-06 (00B25)

Effective theories and fundamental interactions ★ Effective theories and fundamental interactions. Proceedings of the 34th Course of the International School of Subnuclear Physics held in Erice, July 1996. Edited by Antonino Zichichi. The Subnuclear Series, 34. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *viii*+595 *pp. ISBN* 981-02-3157-1 (Editors) **99c:81003** 81–06

Eger ★ Number theory. Diophantine, computational and algebraic aspects. Proceedings of the International Conference held in Eger, July 29–August 2, 1996. Edited by Kálmán Győry, Attila Pethő and Vera T. Sós. *Walter de Gruyter & Co., Berlin*, 1998. *xviii*+595 *pp. ISBN* 3-11-015364-5 (Editors) **99a:11004** 11–06 (00B25)

Electronic publishing and electronic publications in mathematics Electronic publishing and electronic publications in mathematics. (English summary) Edited by Bernd Wegner. *European Congress of Mathematics, Vol. II (Budapest*, 1996), 315–337, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (*see* **99e:00019**) 00A99

Elgersburg ★ Graph theory. Papers from the conference held in Elgersburg, May 6–10, 1996. Edited by H. Sachs. Discrete Math. **191** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–x and* 1–245. (Editors) **99c:05002** 05–06

Elliptic curves, modular forms & Fermat's last theorem ★ Elliptic curves, modular forms & Fermat's last theorem. Proceedings of the Conference on Elliptic Curves and Modular Forms held at the Chinese University of Hong Kong, Hong Kong, December 18–21, 1993. Edited by John Coates and S. T. Yau. Second edition. *International Press, Cambridge, MA*, 1997. *iv*+340 *pp. ISBN* 1-57146-049-7 (Editors) **99d:11002** 11–06 (11D41, 11Fxx, 11G05)

Emerging applications of number theory ★ Emerging applications of number theory. Papers from the IMA Summer Program held at the University of Minnesota, Minneapolis, MN, July 15–26, 1996. Edited by Dennis A. Hejhal, Joel Friedman, Martin C. Gutzwiller and Andrew M. Odlyzko. The IMA Volumes in Mathematics and its Applications, 109. *Springer-Verlag, New York*, 1999. *xiv*+689 *pp. ISBN* 0-387-98824-6 (Editors) **99m:11003** 11–06 (11Z05)

Encyclopaedia of Mathematical Sciences ★ Number theory. IV. Transcendental numbers. A translation of *Number theory. 4 (Russian)*, Ross. Akad. Nauk, Vseross. Inst. Nauchn. i Tekhn. Inform., Moscow. Translation by N. Koblitz. Translation edited by A. N. Parshin and I. R. Shafarevich. Encyclopaedia of Mathematical Sciences, 44. *Springer-Verlag, Berlin*, 1998. vi+345 *pp. ISBN* 3-540-61467-2 (Michel Waldschmidt) **99a:11088a** 11J81 (11–02, 11J25, 11J68, 11J82, 11J85, 11J86)

— ★ Commutative harmonic analysis. II. Group methods in commutative harmonic analysis. A translation of *Current problems in mathematics. Fundamental directions. Vol. 25* (Russian) Akad. Nauk SSSR, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform., Moscow, 1988 [MR 89h:43001]. Translated by D. Dynin and S. Dynin. Translation edited by V. P. Havin [Viktor Petrovich Khavin] and N. K. Nikolski [Nikolai K. Nikol'skiĭ]. Encyclopaedia of Mathematical Sciences, 25. *Springer-Verlag, Berlin*, 1998. *viii*+325 *pp. ISBN* 3-540-51998-X (Editors) **99h:43002** 43–02 (43A25, 43A35)

— ★ Partial differential equations. V. Asymptotic methods for partial differential equations. A translation of *Current problems in mathematics. Fundamental directions. Vol. 34* (Russian), Akad. Nauk SSSR, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform., Moscow, 1988 [MR 91e:35002]. Translation by J. S. Joel and S. A. Wolf. Translation edited by M. V. Fedoryuk. Encyclopaedia of Mathematical Sciences, 34. *Springer-Verlag, Berlin*, 1999. *vi*+248 *pp. ISBN* 3-540-53371-0 (Editors) **99i:35002** 35–06 (00B55)

Encyclopedia:

Current knowledge ★ Fracture. A topical encyclopedia of current knowledge. Edited by Genady P. Cherepanov. *Robert E. Krieger Publishing Co., Inc., Malabar, FL*, 1998. *xxii*+870 *pp. ISBN* 0-89464-924-8 (Paul Andrew Martin) **99j:73001** 73–02 (73M25)

History of Arabic science ★ Encyclopedia of the history of Arabic science. Vol. 1–3. Edited by Roshdi Rashed and Régis Morelon. *Routledge, London*, 1996. *Vol.* 1: *xiv*+330 *pp.*; *Vol.* 2: *pp. i–viii and* 331–750; *Vol.* 3: *pp. i–viii and* 751–1105. *ISBN* 0-415-02063-8 (Editors) **99k:01001** 01–06 (01A30)

Philosophy of language ★ Concise encyclopedia of philosophy of language. Edited by Peter V. Lamarque and R. E. Asher. *Pergamon Press, Oxford*, 1997. *xx*+599 *pp. ISBN* 0-08-042991-2 (Editors) **99f:00005** 00A20 (00A35, 03–01, 03A05, 03B65, 68S05)

Encyclopedia: (*cont'd.*)

Statistical sciences ★ Encyclopedia of statistical sciences. Update Vol. 1. Edited by Samuel Kotz, Campbell B. Read and David L. Banks. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xiv+568 *pp. ISBN* 0-471-11836-2 (Editors) **99a:62001a** 62–00 (00A20)

— ★ Encyclopedia of statistical sciences. Update Vol. 2. Edited by Samuel Kotz, Campbell B. Read and David L. Banks. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xvi*+745 *pp. ISBN* 0-471-11939-3 (Editors) **99a:62001b** 62–00 (00A20)

— ★ Encyclopedia of statistical sciences. Update Vol. 3. Edited by Samuel Kotz, Campbell B. Read and David L. Banks. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xviii*+898 *pp. ISBN* 0-471-23883-X (Editors) **99m:62001** 62–00 (00A20)

Enigmatic photon ★ The enigmatic photon. Vol. 4. New directions. Edited by Myron W. Evans, Jean-Pierre Vigier, Sisir Roy and Geoffrey Hunter. Fundamental Theories of Physics, 90. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+451 *pp. ISBN* 0-7923-4826-5 (You Quan Li) **99h:81226** 81V10 (78–06, 78A25, 81–06)

Enschede ★ AMiLP '95. Papers from the 1st International AMAST Workshop on Algebraic Methods in Language Processing held at the University of Twente, Enschede, December 6–8, 1995. Edited by A. Nijholt and G. Scollo. Theoret. Comput. Sci. **199** (1998), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 1–247. (Editors) **99a:68003** 68–06

Epidemiology, cellular automata, and evolution ★ Epidemiology, cellular automata, and evolution. Part I: Selected papers from the Conference on Deterministic and Stochastic Modelling of Biological Interaction (DESTOBIO'97) held in Sofia, August 28–31, 1997. Edited by S. Agur, J. Cushing, O. Diekmann, M. Gyllenberg, H. Heesterbeek, P. Jagers, M. Kimmel, T. Kostova and F. Milner. Math. Biosci. **156** (1999), no. 1-2. *Elsevier, New York*, 1999. *pp. i–viii and* 1–342. (Editors) **99m:92001** 92–06

Epistemic logic and the theory of games and decisions ★ Epistemic logic and the theory of games and decisions. Edited by M. O. L. Bacharach, L.-A. Gérard-Varet, P. Mongin and H. S. Shin. Theory and Decision Library. Series C: Game Theory, Mathematical Programming and Operations Research, 20. *Kluwer Academic Publishers, Boston, MA*, 1997. *xxxiv*+364 *pp. ISBN* 0-7923-4804-4 (Editors) **99k:00028** 00B25 (03B45, 90D40)

Epstein birthday schrift ★ The Epstein birthday schrift. Edited by Igor Rivin, Colin Rourke and Caroline Series. Geometry & Topology Monographs, 1. *Geometry & Topology, Coventry*, 1998. *front matter*+576 *pp.* (*electronic*). (Editors) **99h:00016** 00B15 (00B30, 57–06)

Equadiff ★ Equadiff 9. Proceedings of the 9th Conference on Differential Equations and their Applications held in Brno, August 25–29, 1997. Edited by Ravi P. Agarwal and Jaromír Vosmanský. Arch. Math. (Brno) **34** (1998), no. 1. *Masaryk University, Faculty of Science, Brno*, 1998. *pp. i–iv and* 1–228. (Editors) **99a:00025** 00B25 (34–06, 35–06)

Équations aux dérivées partielles et applications ★ Équations aux dérivées partielles et applications. [Partial differential equations and applications] Articles dédiés à Jacques-Louis Lions. [Articles dedicated to Jacques-Louis Lions] *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris*, 1998. *viii*+808 *pp. ISBN* 2-84299-041-2 (Editors) **99f:00029** 00B30 (35–06)

Equilibrium problems with side constraints. Lagrangean theory and duality ★ Equilibrium problems with side constraints. Lagrangean theory and duality. II. Proceedings of the 2nd Workshop held in Scilla, May 17–18, 1996. Edited by F. Giannessi, A. Maugeri and M. De Luca. Rend. Circ. Mat. Palermo (2) Suppl. No. 48 (1997). *Circolo Matematico di Palermo, Palermo*, 1997. *pp.* 1–224. (Editors) **99a:49002** 49–06 (49J40, 90–06)

Erice ★ Quantum gravity. Proceedings of the 14th Course of the International School of Cosmology and Gravitation held in honor of Peter Gabriel Bergmann on his 80th birthday in Erice, May 11–19, 1995. Edited by Bergmann, V. de Sabbata and H.-J. Treder. The Science and Culture Series—Physics, 10. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xx*+435 *pp. ISBN* 981-02-2786-8 (Editors) **99f:83004** 83–06 (83C45)

— ★ Effective theories and fundamental interactions. Proceedings of the 34th Course of the International School of Subnuclear Physics held in Erice, July 1996. Edited by Antonino Zichichi. The Subnuclear Series, 34. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *viii*+595 *pp. ISBN* 981-02-3157-1 (Editors) **99c:81003** 81–06

— ★ Minimax theory and applications. Proceedings of the workshop held in Erice, September 30–October 6, 1996. Edited by Biagio Ricceri and Stephen Simons. Nonconvex Optimization and its Applications, 26. *Kluwer Academic Publishers, Dordrecht*, 1998. *xii*+271 *pp. ISBN* 0-7923-5064-2 (Editors) **99c:49007** 49J35 (47H10, 47H19, 47N10, 49–06, 49K35)

Errata:

"A modified Lagrange function for linear programming problems" Erratum: "A modified Lagrange function for linear programming problems" [Izv. Vyssh. Uchebn. Zaved. Mat. **1997**, no. 12, 45–48; MR 99c:90072] by A. A. Golikov and Yu. G. Evtushenko. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. 90C05

"A unified approach to concrete Plancherel theory of homogeneous spaces" Errata: "A unified approach to concrete Plancherel theory of homogeneous spaces" [Manuscripta Math. **94** (1997), no. 2, 133–149; MR 99c:22013a] by R. L. Lipsman. *Manuscripta Math.* **95** (1998), *no.* 4, 545–546. (Chal Benson) **99c:22013b** 22E30 (22E25, 43A85)

"An alternative proof for a known result of noncentral Wishart distribution" Correction: "An alternative proof for a known result of noncentral Wishart distribution" [Probab. Engrg. Inform. Sci. **11** (1997), no. 4, 523–529] by T.-S. Lee and K.-C. Chang. *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 127. 62H10

"An exterior-point polytope sliding and deformation algorithm for linear programming problems" Correction note: "An exterior-point polytope sliding and deformation algorithm for linear programming problems" [Informatica (Vilnius) **8** (1997), no. 4, 559–582; MR 99a:90127] by H. D. Sherali, G. Choi and S. Sen. *Informatica (Vilnius)* **9** (1998), *no.* 2, 172. 90C05

"Automacity. IV. Sequences, sets, and diversity" Erratum: "Automaticity. IV. Sequences, sets, and diversity" [J. Théor. Nombres Bordeaux **8** (1996), no. 2, 347–367; MR 99a:11027a] by J. Shallit. (French) Text in French and English. *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 247. (George Tourlakis) **99a:11027b** 11B85 (68Q45, 68Q68, 68R15)

"Comments on: 'Mixed L^∞/H_∞ suboptimal controllers for SISO continuous time systems'" Correction to: "Comments on: 'Mixed L^∞/H_∞ suboptimal controllers

Errata: (*cont'd.*)
for SISO continuous time systems'" [IEEE Trans. Automat. Control **43** (1998), no. 9, 1285; 1 640 156] by B. Bernhardsson and H. Panagopoulos. *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1510. 93B36 (93C60)

"Direct connection between time-domain performance and frequency-domain characteristics" Erratum: "Direct connection between time-domain performance and frequency-domain characteristics" [Internat. J. Robust Nonlinear Control **8** (1998), no. 12, 1021–1042; MR 99f:93097] by M. A. Franchek and P. A. Herman. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 2, 120. 93C80 (93C05)

"Edouard Zeckendorf" Corrigendum: "Edouard Zeckendorf" [Fibonacci Quart. **36** (1998), no. 5, 416–418; 1657591] by C. Kimberling. *Fibonacci Quart.* **37** (1999), *no.* 1, 33. 01A70

"Geometric analysis of the generalized Jacobi problem" Errata: "Geometric analysis of the generalized Jacobi problem" [Vestnik Moskov. Univ. Ser. I Mat. Mekh. **1996**, no. 4, 69–73, 112; MR 99e:70050] by N. N. Kravchenko. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 2, 64. 70H05 (70F99)

"Invariants of Hopf algebras" Errata: "Invariants of Hopf algebras" [Vestnik Moskov. Univ. Ser. I Mat. Mekh. **1996**, no. 4, 45–49, 111; MR 99i:16064a] by V. A. Artamonov. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 2, 64. (Andrzej Tyc) **99i:16064b** 16W30

"Liftings of Galois covers of smooth curves" Errata: "Liftings of Galois covers of smooth curves" [Compositio Math. **113** (1998), no. 3, 237–272; MR 99k:14045a] by B. Green and M. Matignon. *Compositio Math.* **116** (1999), *no.* 2, 239. (Akio Tamagawa) **99k:14045b** 14H30 (11G20, 14D15, 14E22)

"Linear functionals on certain martingale Hardy spaces" Erratum: "Linear functionals on certain martingale Hardy spaces" [Interdiscip. Inform. Sci. **4** (1998), no. 1, 85–96; MR 99j:60059a] by M. Kikuchi. *Interdiscip. Inform. Sci.* **4** (1998), *no.* 2, 171. (Ferenc Weisz) **99j:60059b** 60G46 (42B30, 60B11)

"On structural comparative calibration under a t-model" Erratum: "On structural comparative calibration under a t-model" [Comput. Statist. **11** (1996), no. 1, 63–85; MR 97g:62117] by H. Bolfarine and M. Galea Rojas. *Comput. Statist.* **13** (1998), *no.* 3, 423–424. 62J05 (62H25)

"On the existence and uniqueness of a solution for second- or third-grade fluids" Erratum: "On the existence and uniqueness of a solution for second- or third-grade fluids" [C. R. Acad. Sci. Paris Sér. I Math. **324** (1997), no. 5, 605–610; MR 99a:76003a] by D. Bresch and J. Lemoine. (French) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 957. (Editors) **99a:76003b** 76A05 (35Q35)

"On the nucleation of cavities in planar elasticity" Errata: "On the nucleation of cavities in planar elasticity" [Philos. Trans. Roy. Soc. London Ser. A **355** (1997), no. 1734, 2417–2458; MR 99b:73016a] by A. J. Levy. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1749, 3185–3186. 73C99 (35Q72, 73M25)

"On the structure of the theory of polar elasticity" Errata: "On the structure of the theory of polar elasticity" [R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci. **356** (1998), no. 1741, 1367–1395; MR 99f:73002a] by G. A. Maugin. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1749, 3187. 73B25 (73B30, 73C50)

"Rigidity and inflexibility in conformal analysis" Editor's remark. Correction: "Rigidity and inflexibility in conformal dynamics" [Doc. Math. **1998**, Extra Vol. II, 841–855 (electronic); MR 99h:58159a] by C. T. McMullen. Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998,** *Extra Vol. I*, 630 (*electronic*). (Darryl McCullough) **99h:58159b** 58F23 (30D05, 30F40, 57M50, 58F11)

"Submanifolds in the context of infinite-dimensional manifolds with corners" Correction to: "Submanifolds in the context of infinite-dimensional manifolds with corners" [Acta Math. Hungar. **81** (1998), no. 1-2, 21–40; MR 99m:58027a] by P. M. G. Manchón. *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 171. (Edith Padrón) **99m:58027b** 58B99 (57N20)

"The principle of virtual velocities" An integration to: "The principle of virtual velocities" [in *Classical problems in mechanics*, 1–95, Aracne, Rome, 1997; MR 99g:70002] by B. Carbonaro and G. Starita. *Recent developments in partial differential equations*, 255–258, *Quad. Mat.*, 2, *Aracne, Rome*, 1998. (*see* **99m:35005**) 70–03 (01A45, 70C20, 70F10)

"Topological types of singularities of analytic functions (the work of the late Etsuo Yoshinaga)" Erratum: "Topological types of singularities of analytic functions (the work of the late Etsuo Yoshinaga)" [in Sūrikaisekikenkyūsho Kōkyūroku No. 952 (1996), 50–57; see MR 97m:58001] by T. Fukui and M. Suzuki. (Japanese summary) Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 221–223. (*see* **99a:00050**) 32S50

ESA '95 ★ ESA '95. Selected papers from the 3rd European Symposium on Algorithms held in Corfu, September 1995. Edited by P. Spirakis. Theoret. Comput. Sci. **203** (1998), no. 2. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–iv and* 175–269. (Editors) **99b:68004** 68–06

Essays in decision making ★ Essays in decision making. A volume in honour of Stanley Zionts. Edited by Mark H. Karwan, Jaap Spronk and Jyrki Wallenius. *Springer-Verlag, Berlin*, 1997. *viii*+428 *pp. ISBN* 3-540-62054-0 (Editors) **99f:90005** 90–06 (00B30, 90A05, 90C29, 90C90)

Essays on mathematical robotics ★ Essays on mathematical robotics. Papers from the IMA Workshop on Robotics held at the University of Minnesota, Minneapolis, MN, January 25–29, 1993. Edited by John Baillieul, Shankar S. Sastry and Hector J. Sussmann. The IMA Volumes in Mathematics and its Applications, 104. *Springer-Verlag, New York*, 1998. *x*+372 *pp. ISBN* 0-387-98596-4 (Editors) **99e:70001** 70–06 (70B15, 70Q05, 93–06, 93C85)

Essen ★ Advances in algebra and model theory. Papers from the Conferences on Algebra and Model Theory held in Essen, June 9–11, 1994 and Dresden, June 8–10, 1995. Edited by Manfred Droste and Rüdiger Göbel. Algebra, Logic and Applications, 9. *Gordon and Breach Science Publishers, Amsterdam*, 1997. *xii*+499 *pp. ISBN* 90-5699-101-9 (Editors) **99k:00026** 00B25 (03–06, 03C60, 20–06)

Estes Park, CO ★ Fractal 97. Papers from the conference held in Estes Park, CO, April 8–11, 1997. Edited by M. M. Novak. Fractals **5** (1997), suppl. *World Scientific Publishing Co., Singapore*, 1997. *pp. i–iv and* 1–166. (Editors) **99f:00017** 00B25

— ★ Database programming languages. Proceedings of the 6th International Workshop (DBPL-6) held in Estes Park, CO, August 18–20, 1997. Edited by Sophie Cluet and Rick Hull. Lecture Notes in Computer Science, 1369. *Springer-Verlag, Berlin*, 1998. *xiv*+431 *pp. ISBN* 3-540-64823-2 (Editors) **99h:68004** 68–06 (68P15)

Études spectrales d'opérateurs de transfert et applications ★ Études spectrales d'opérateurs de transfert et applications. (French) [Spectral studies of transfer operators and applications] Astérisque **1996**, no. 238. *Société Mathématique de France, Paris*, 1996. *pp. i–ii and* 1–177. (Editors) **99d:58008** 58–06

Evanston, IL ★ Homotopy theory via algebraic geometry and group representations. Proceedings of the International Conference on Current Trends in Algebraic Topology with Applications to Algebraic Geometry and Physics held as part of The Special Year on Algebraic Topology at Northwestern University, Evanston, IL, March 23–27, 1997. Edited by Mark Mahowald and Stewart Priddy. Contemporary Mathematics, 220. *American Mathematical Society, Providence, RI*, 1998. *xii*+379 *pp. ISBN* 0-8218-0805-2 (Editors) **99c:55001** 55–06

— ★ Higher category theory. Papers from the Workshop on Higher Category Theory and Physics held at Northwestern University, Evanston, IL, March 28–30, 1997. Edited by Ezra Getzler and Mikhail Kapranov. Contemporary Mathematics, 230. *American Mathematical Society, Providence, RI*, 1998. *x*+134 *pp. ISBN* 0-8218-1056-1 (Editors) **99h:18002** 18–06

— ★ Modelling and computation for applications in mathematics, science, and engineering. Papers from the workshop held at Northwestern University, Evanston, IL, May 3–4, 1996. Edited by Joseph W. Jerome. Numerical Mathematics and Scientific Computation. *The Clarendon Press, Oxford University Press, New York*, 1998. *xii*+215 *pp. ISBN* 0-19-850080-7 (Editors) **99k:00033** 00B25 (76–06, 78–06, 82–06)

Evolutionary computation ★ Evolutionary computation. Edited by Zbigniew Michalewicz and Marc Schoenauer. Control Cybernet. **26** (1997), no. 3. *Polish Academy of Sciences, Systems Research Institute, Warsaw*, 1997. *pp.* i–ii *and* 301–585. (Jacques A. Ferland) **99b:90008** 90–06 (90C27)

Exact C^*-algebras and related topics ★ Exact C^*-kan to sono shūhen. (Japanese) [Exact C^*-algebras and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 12–14, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1046 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–69. (Editors) **99i:46001** 46–06

Exact WKB analysis and Fourier analysis in the complex domain ★ Kanzen WKB kaiseki to fukuso Fūrie kaiseki. [Exact WKB analysis and Fourier analysis in the complex domain] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 9–10, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1001 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–vi and* 1–97. (Editors) **99a:00026** 00B25 (32–06)

Exactly solvable models of strongly correlated electrons ★ Exactly solvable models of strongly correlated electrons. Edited by Vladimir E. Korepin and Fabian H. L. Eßler. Advanced Series in Mathematical Physics, 18. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1994. *xii*+490 *pp. ISBN* 981-02-1534-7 (From the preface) **99a:82003** 82–06 (00B60, 81V70, 82B20, 82B23)

Experimental designs ★ Plans d'expériences. (French) [Experimental designs] Applications à l'entreprise. [Applications to business] Papers from the 7th Conference on Statistical Studies held in 1996. Edited by Jean-Jacques Droesbeke, Jeanne Fine and Gilbert Saporta. *Éditions Technip, Paris*; *Association pour la Statistique et ses Utilisations, Paris*, 1997. *xvi*+509 *pp. ISBN* 2-7108-0733-5 (Editors) **99a:62101** 62Kxx (62–06, 62N10)

Experimental economics ★ Experimental economics. Edited by Gary Bolton. J. Math. Psych. **42** (1998), no. 2-3. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 129–384. (Editors) **99d:90004** 90–06 (90A99)

Exponential functionals and principal values related to Brownian motion ★ Exponential functionals and principal values related to Brownian motion. A collection of research papers. Edited by Marc Yor. Biblioteca de la Revista Matemática Iberoamericana. [Library of the Revista Matemática Iberoamericana] *Revista Matemática Iberoamericana, Madrid*, 1997. *x*+247 *pp. ISBN* 84-600-9461-8 (Editors) **99d:60003** 60–06

Exterior problems of wave propagation ★ Exterior problems of wave propagation. Papers from the IUTAM Symposium on Computational Methods for Unbounded Domains held in Boulder, CO, July 1997, and the minisymposium held in San Francisco, CA, August 1997. Edited by Dan Givoli and Isaac Harari. Comput. Methods Appl. Mech. Engrg. **164** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 1–264. (Editors) **99g:76001** 76–06 (65–06, 76M10, 76Q05)

Fascicule de probabilités ★ Fascicule de probabilités. (French) [Issue on probability theory] Publications de l'Institut de Recherche Mathématique de Rennes [Publications of the Rennes Institute of Mathematical Research], 1996/1997. *Université de Rennes I, Institut de Recherche Mathématique de Rennes, Rennes*, 199?. 141 *pp.* (Editors) **99d:60004** 60–06 (28–06)

Ferrara ★ Copernico e la questione copernicana in Italia dal XVI al XIX secolo. (Italian) [Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century] Papers from the International Meeting held in Ferrara, October 18–20, 1993. Edited by Luigi Pepe. Pubblicazioni dell'Università di Ferrara [Publications of the University of Ferrara], IV. *Leo S. Olschki Editore, Florence*, 1996. xiv+294 *pp. ISBN* 88-222-4392-7 (E. Knobloch (Zbl 882.01002)) **99g:01014** 01A40 (01A45, 01A50, 01A55)

Festschrift:

Arnol'd, Vladimir Igorevich ★ Локальные и глобальные задачи теории особенностей. (Russian) [Local and global problems of singularity theory] Dedicated to Academician Vladimir Igorevich Arnol'd on the occasion of his 60th birthday. Edited by V. M. Zakalyukin. Tr. Mat. Inst. Steklova **221** (1998). *Mezhdunarodnaya Akademicheskaya Izdatel'skaya Kompaniya "Nauka", Moscow*, 1998. *pp.* 1–319. (Editors) **99m:58006** 58–06 (00B30, 58C27)

Brieskorn, Egbert V. ★ Singularities. The Brieskorn anniversary volume. Papers from the Conference in Honor of the 60th Birthday of Egbert V. Brieskorn held at the Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, July 1996. Edited by V. I. Arnold, G.-M. Greuel and J. H. M. Steenbrink. Progress in Mathematics, 162. *Birkhäuser Verlag, Basel*, 1998. *xxvi*+458 *pp. ISBN* 3-7643-5913-7 (Editors) **99e:00031** 00B30 (14–06, 32–06)

Brockett, Roger Ware ★ Mathematical control theory. Dedicated to Roger Ware Brockett on the occasion of his 60th birthday. Edited by J. Baillieul and J. C. Willems. *Springer-Verlag, New York*, 1999. *xxxii*+360 *pp. ISBN* 0-387-98317-1 (Editors) **99g:93004** 93–06 (00B30)

Festschrift: (*cont'd.*)

Butzer, Paul Leo ★ {Dedicated to Paul Leo Butzer}. Results Math. **34** (1998), no. 1-2. *Birkhäuser Verlag, Basel*, 1998. *pp.* 1–206. 00B30

Clifton, Rodney James ★ Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials. Honoring Professor Rodney J. Clifton on the occasion of his 60th birthday. Held at the California Institute of Technology, Pasadena, CA, May 22–24, 1997. J. Mech. Phys. Solids **46** (1998), no. 10. *Pergamon Press, Oxford*, 1998. *pp. i–xx and* 1699–2181. (Editors) **99g:73003** 73–06 (00B30, 73M25, 73S10)

Csörgő, Miklós ★ Asymptotic methods in probability and statistics. A volume in honour of Miklós Csörgő. Proceedings of the International Conference (ICAMPS'97) held at Carleton University, Ottawa, ON, July 8–13, 1997. Edited by Barbara Szyszkowicz. *North-Holland, Amsterdam*, 1998. *xxxiv*+889 *pp. ISBN* 0-444-50083-9 (Editors) **99f:60002** 60–06 (00B30, 62–06)

Ding, Xia Xi ★ Advances in nonlinear partial differential equations and related areas. A volume in honour of Professor Xiaqi Ding [Xia Xi Ding]. Papers from the conference held in Beijing, August 9–10, 1997. Edited by Gui-Qiang Chen, Yanyan Li, Xiping Zhu and Daomin Cao. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xxii*+426 *pp. ISBN* 981-02-3664-6 (Editors) **99m:35002** 35–06 (00B30)

Ehrenfeucht, Andrzej ★ Structures in logic and computer science. A selection of essays in honor of A. Ehrenfeucht. Edited by Jan Mycielski, Grzegorz Rozenberg and Arto Salomaa. Lecture Notes in Computer Science, 1261. *Springer-Verlag, Berlin*, 1997. *x*+371 *pp. ISBN* 3-540-63246-8 (Editors) **99b:68008** 68–06 (00B30, 03–06)

Elsner, Ludwig F. ★ Special issue celebrating the 60th birthday of Ludwig Elsner. Edited by R. Bhatia, A. Bunse-Gerstner, V. Mehrmann and D. D. Olesky. Linear Algebra Appl. **287** (1999), no. 1-3. *North-Holland Publishing Co., New York*, 1999. *pp. vii–x and* 1–379. 00B30 (15–06, 65–06)

Epstein, David B. A. ★ The Epstein birthday schrift. Edited by Igor Rivin, Colin Rourke and Caroline Series. Geometry & Topology Monographs, 1. *Geometry & Topology, Coventry*, 1998. *front matter*+576 *pp.* (*electronic*). (Editors) **99h:00016** 00B15 (00B30, 57–06)

Francis, Bruce Allen ★ Learning, control and hybrid systems. Festschrift in honor of Bruce Allen Francis and Mathukumalli Vidyasagar on the occasion of their 50th birthdays. Papers from the workshop held in Bangalore, January 4–8, 1998. Edited by Yutaka Yamamoto and Shinji Hara. Lecture Notes in Control and Information Sciences, 241. *Springer-Verlag London, Ltd., London*, 1999. *xvi*+451 *pp. ISBN* 1-85233-076-7 (Editors) **99g:93003** 93–06 (00B30, 93B36, 93C30, 93E35)

Gamkrelidze, Revaz Valerianovich ★ {Dedicated to Revaz Gamkrelidze}. Mem. Differential Equations Math. Phys. **11** (1997). *Publishing House GCI, Tbilisi*, 1997. *pp.* 1–156. 00B30

Gardner, Martin ★ The mathemagician and pied puzzler. A collection in tribute to Martin Gardner. Papers from the Gathering for Gardner Meeting (G4G1) held in Atlanta, GA, January 1993. Edited by Elwyn Berlekamp and Tom Rodgers. *A K Peters, Ltd., Natick, MA*, 1999. *x*+266 *pp. ISBN* 1-56881-075-X (E. J. Barbeau) **99m:00002** 00A08 (00B30)

Gécseg, Ferenc ★ {Dedicated to Professor Ferenc Gécseg}. Acta Cybernet. **14** (1999), no. 1. *József Attila University, Department of Informatics, Szeged*, 1999. *pp. i–ii and* 1–214. 00B30

Gilbert, Robert Pertsch ★ Generalized analytic functions. Theory and applications to mechanics. Proceedings of the conference held in honor of R. P. Gilbert on his 65th birthday in Graz, January 6–10, 1997. Edited by Helmut Florian, Klaus Hackl, Franz Josef Schnitzer and Wolfgang Tutschke. International Society for Analysis, Applications and Computation, 1. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxvi*+311 *pp. ISBN* 0-7923-5043-X (Editors) **99d:00020** 00B25 (00B30, 30–06, 35–06, 73–06, 76–06)

Gu, Chao Hao ★ Collection of papers on geometry, analysis and mathematical physics. In honor of Professor Gu Chaohao. Edited by Ta-Tsien Li [Da Qian Li]. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+175 *pp. ISBN* 981-02-3024-9 (Editors) **99b:00025** 00B30

Kalmbach, Gudrun ★ Quantum structures. II. Dedicated to Gudrun Kalmbach. Papers from the 4th Biannual Meeting of the International Quantum Structures Association held in Liptovský Ján, August 30–September 5, 1998. Edited by Anatolij Dvurečenskij and Sylvia Pulmannová. Tatra Mt. Math. Publ. **15** (1998). *Slovak Academy of Sciences, Mathematical Institute, Bratislava*, 1998. *pp.* 1–244. (Editors) **99g:00049** 00B25 (00B30)

Karatsuba, Anatoliĭ Alekseevich ★ К 60-летию со дня рождения профессора Анатолия Алексеевича Карацубы. (Russian) [Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday] Tr. Mat. Inst. Steklova **218** (1997), Anal. Teor. Chisel i Prilozh. *Mezhdunarodnaya Akademicheskaya Izdatel'skaya Kompaniya "Nauka", Moscow*, 1997. *pp.* 1–448. 11–06 (00B30)

Kawarada, Hideo ★ Recent developments in domain decomposition methods and flow problems. Papers from the International Symposium on Domain Decomposition Methods and Related Topics held in honor of the 60th birthday of Hideo Kawarada at Kyoto University, Kyoto, July 17–19, 1996, and the 1st JSIAM-SIMAI Joint Symposium on Flow Problems and Phase Field Models held in Anacapri, October 3–5, 1996. Edited by H. Fujita, H. Koshigoe, M. Mori, M. Nakamura, T. Nishida and T. Ushijima. GAKUTO International Series. Mathematical Sciences and Applications, 11. *Gakkōtosho Co., Ltd., Tokyo*, 1998. *vi*+378 *pp. ISBN* 4-7625-0420-3 (Editors) **99g:00054** 00B30 (00B25, 35–06, 65–06, 76–06, 76Mxx)

Ki, U-Hang ★ Dedicated to U-Hang Ki on the occasion of his 60th birthday. Kyungpook Math. J. **35** (1996), no. 3, Special Issue. *Kyungpook National University, Department of Mathematics, Taegu*, 1996. *pp. i–ii and* 393–875. (Editors) **99k:00040** 00B30

Ladyzhenskaya, Ol'ga Aleksandrovna ★ {Dedicated to Olga Ladyzhenskaya}. Topol. Methods Nonlinear Anal. **10** (1997), no. 2. *Juliusz Schauder Center for Nonlinear Studies, Toruń*, 1997. *pp. i–ii and* 195–397. 00B30

Lax, Peter D. ★ Differential equations: La Pietra 1996. Papers from the conference marking the 70th birthdays of Peter Lax and Louis Nirenberg held in Florence, July 3–7, 1996. Edited by M. Giaquinta, J. Shatah and S. R. S. Varadhan. Proceedings of Symposia in Pure Mathematics, 65. *American Mathematical Society, Providence, RI*, 1999. *xii*+219 *pp. ISBN* 0-8218-0610-6 (Editors) **99g:35004** 35–06 (00B25, 00B30,

Festschrift: (*cont'd.*)

58–06)

Lions, Jacques-Louis ★ Équations aux dérivées partielles et applications. [Partial differential equations and applications] Articles dédiés à Jacques-Louis Lions. [Articles dedicated to Jacques-Louis Lions] *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris*, 1998. *viii*+808 *pp. ISBN* 2-84299-041-2 (Editors) **99f:00029** 00B30 (35–06)

Liptser, Robert Sh. ★ Statistics and control of stochastic processes. The Liptser Festschrift. Papers from the Steklov Seminar held in Moscow, 1995–1996. Edited by Yu. M. Kabanov, B. L. Rozovskii and A. N. Shiryaev. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxii*+354 *pp. ISBN* 981-02-3292-6 (Editors) **99e:60005** 60–06 (00B30)

Łojasiewicz, Stanisław ★ Singularities Symposium—Łojasiewicz 70. Dedicated to Stanisław Łojasiewicz on the occasion of his 70th birthday. Papers from the Symposium on Singularities held at Jagellonian University, Kraków, September 25–29, 1996 and the Seminar on Singularities and Geometry held in Warsaw, September 30–October 4, 1996. Edited by Bronisław Jakubczyk, Wiesław Pawłucki and Jacek Stasica. Banach Center Publications, 44. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 292 *pp.* (Editors) **99i:00035** 00B30 (14–06, 32–06)

Miron, Radu ★ Collection of papers in honour of Academician Radu Miron on his 70th birthday. Rev. Roumaine Math. Pures Appl. **42** (1997), no. 9-10. *Editura Academiei Române, Bucharest*, 1997. *pp.* 673–842. 00B30

Mróz, Zenon ★ Recent advances in structural modelling and optimization. Dedicated to Professor Zenon Mróz. Edited by Jan Sokołowski and John Taylor. Control Cybernet. **27** (1998), no. 2. *Polish Academy of Sciences, Systems Research Institute, Warsaw*, 1998. *pp.* 159–330. (Editors) **99k:73003** 73–06 (00B30, 49Q10, 73K40, 90C90)

Musielak, Julian ★ {Dedicated to Julian Musielak}. A collection of papers on the occasion of his 70th birthday. Funct. Approx. Comment. Math. **26** (1998). *Adam Mickiewicz University Press, Poznań*, 1998. *pp.* 1–319. 00B30

Nirenberg, Louis ★ Differential equations: La Pietra 1996. Papers from the conference marking the 70th birthdays of Peter Lax and Louis Nirenberg held in Florence, July 3–7, 1996. Edited by M. Giaquinta, J. Shatah and S. R. S. Varadhan. Proceedings of Symposia in Pure Mathematics, 65. *American Mathematical Society, Providence, RI*, 1999. *xii*+219 *pp. ISBN* 0-8218-0610-6 (Editors) **99g:35004** 35–06 (00B25, 00B30, 58–06)

Orsatti, Adalberto ★ Abelian groups, module theory, and topology. Proceedings of the International Conference on Abelian Groups and Modules held in honor of Adalberto Orsatti's 60th birthday in Padua, 1997. Edited by Dikran Dikranjan and Luigi Salce. Lecture Notes in Pure and Applied Mathematics, 201. *Marcel Dekker, Inc., New York*, 1998. *xviii*+444 *pp. ISBN* 0-8247-1937-9 (Editors) **99f:00028** 00B30 (00B25, 16–06, 20–06, 22–06)

Parikh, Rohit J. ★ Festschrift on the occasion of Professor Rohit Parikh's 60th birthday. Edited by Melvin Fitting, Konstantinos Georgatos and R. Ramanujam. Ann. Pure Appl. Logic **96** (1999), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–vi and* 1–369. (Editors) **99i:03003** 03–06 (00B30)

Pearcy, Carl M. ★ Nonselfadjoint operator algebras, operator theory, and related topics. The Carl M. Pearcy anniversary volume. Edited by Hari Bercovici and Ciprian Foias. Operator Theory: Advances and Applications, 104. *Birkhäuser Verlag, Basel*, 1998. *xx*+201 *pp. ISBN* 3-7643-5954-4 (Editors) **99b:47001** 47–06 (00B30)

Penrose, Roger ★ The geometric universe. Science, geometry, and the work of Roger Penrose. Papers from the Symposium on Geometric Issues in the Foundations of Science held in honor of the 65th birthday of Sir Roger Penrose at St. John's College, University of Oxford, Oxford, June 1996. Edited by S. A. Huggett, L. J. Mason, K. P. Tod, S. T. Tsou and N. M. J. Woodhouse. *Oxford University Press, Oxford*, 1998. *xviii*+431 *pp. ISBN* 0-19-850059-9 (Editors) **99b:00015** 00B25 (00B30, 81–06, 83–06)

Rao, Calyampudi Radhakrishna ★ Statistical theory and applications. Dedicated to Professor C. Radhakrishna Rao. Int. J. Math. Stat. Sci. **7** (1998), no. 1. *Thesaurus Publishing, Miami, FL*, 1998. *pp.* 1–128. (Editors) **99f:00031** 00B30 (62–06)

Reyn, John W. ★ Planar nonlinear dynamical systems. Proceedings of the symposium held on the occasion of the 65th birthday of J. W. Reyn in Delft, September 25–26, 1995. Edited by R. E. Kooij and A. H. P. van der Burg. Differential Equations Dynam. Systems **5** (1997), no. 3-4. *Research Square Publications, Hyderabad*, 1997. *pp. i–iv and* 197–477. (Editors) **99g:00053** 00B30 (58–06)

Romanov, Vladimir Gavrilovich ★ Inverse problems of mathematical physics. Papers from the International Conference held in honor of Vladimir Gavrilovich Romanov on the occasion of his 60th birthday in Novosibirsk, September 21–25, 1998. J. Inverse Ill-Posed Probl. **6** (1998), no. 5. *VSP, Zeist*, 1998. *pp. i–ii and* 387–520. 00B30

Rota, Gian-Carlo ★ Mathematical essays in honor of Gian-Carlo Rota. Including papers from the Conference in Honor of Gian-Carlo Rota (Rotafest) and the Umbral Calculus Workshop held in Cambridge, MA, April 1996. Edited by Bruce E. Sagan and Richard P. Stanley. Progress in Mathematics, 161. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xiv*+463 *pp. ISBN* 0-8176-3872-5 (Editors) **99a:00055** 00B30 (05–06)

Šalát, Tibor ★ Real functions. Dedicated to Tibor Šalát. Including papers from the Summer School on Real Functions Theory held in Liptovský Ján, September 8–13, 1996. Edited by Ján Borsík, Roman Frič and Ján Haluška. Tatra Mt. Math. Publ. **14** (1998). *Slovak Academy of Sciences, Mathematical Institute, Bratislava*, 1998. *pp.* 1–323. (Editors) **99f:00022** 00B25 (00B30, 26–06)

Saleh, A. K. Md. Ehsanes ★ Applied statistical science. III. Papers in honor of A. K. Md. E. Saleh. Edited by S. E. Ahmed, M. Ahsanullah and B. K. Sinha. *Nova Science Publishers, Inc., Commack, NY*, 1998. *xvi*+427 *pp. ISBN* 1-56072-581-8 (Editors) **99j:62001** 62–06 (00B30)

Schneeweiss, Hans ★ Econometrics in theory and practice. Festschrift for Hans Schneeweiß. Edited by Robert Galata and Helmut Küchenhoff. *Physica-Verlag, Heidelberg*, 1998. *x*+336 *pp. ISBN* 3-7908-1116-5 (Editors) **99f:62007** 62–06 (62P20)

Schücking, Engelbert L. ★ On Einstein's path. Essays in honor of Engelbert Schucking. Papers from the symposium held at New York University, New York, December 12–13, 1996. Edited by Alex Harvey. *Springer-Verlag, New York*, 1999. *xxiv*+517 *pp. ISBN* 0-387-98564-6 (Editors) **99h:83002** 83–06 (00B30)

Sherstnev, A. N. ★ Measures on projections and orthomodular posets. Dedicated to A. N. Sherstnev on the occasion of his 60th anniversary. Kazan Tracts in Mathematics, 4.

Festschrift: (*cont'd.*)
Kazan Mathematics Society, Kazan', 1998. *iv*+114 *pp. ISBN* 5-900975-17-7 (Editors) **99h:00037** 00B30

Speranza, Francesco ★ Convegno per i Sessantacinque Anni di Francesco Speranza. (Italian) [Conference in Honor of the Sixty-fifth Birthday of Francesco Speranza] Papers from the conference held in Bologna, October 11, 1997. Edited by Bruno D'Amore and Consolato Pellegrino. *Pitagora Editrice, Bologna*, 199?. *iv*+162 *pp.* (Editors) **99g:00052** 00B30 (00A30, 00A35, 00B05, 01–06)

Street, Anne Penfold ★ Papers in honour of Anne Penfold Street. Edited by R. C. Mullin, Jennifer Seberry and W. D. Wallis. J. Combin. Math. Combin. Comput. **28** (1998). *Charles Babbage Research Centre, Winnipeg, MB*, 1998. *pp.* 1–352. 00B30

Tukey, John Wilder ★ The practice of data analysis. Essays in honor of John W. Tukey. Papers from the symposium held in honor of Tukey on his 80th birthday at Princeton University, Princeton, NJ, June 19–20, 1995. Edited by D. R. Brillinger, L. T. Frenholz and S. Morgenthaler. *Princeton University Press, Princeton, NJ*, 1997. *viii*+337 *pp. ISBN* 0-691-05782-6 (Editors) **99b:62003** 62–06 (00B30)

Tulczyjew, Włodzimierz Marek ★ Geometrical structures for physical theories. I. Papers from the conference held in honor of Włodzimierz Marek Tulczyjew on his 65th birthday in Vietri, September 29–October 3, 1996. Rend. Sem. Mat. Univ. Politec. Torino **54** (1996), no. 3. *Libreria Editrice Universitaria Levrotto & Bella, Turin*, 1996. *pp. i–iv and* 191–318. (Editors) **99a:58001** 58–06 (00B25, 00B30, 70–06)

— ★ Geometrical structures for physical theories. II. Papers from the conference held in honor of Włodzimierz Marek Tulczyjew on his 65th birthday in Vietri, September 29–October 3, 1996. Rend. Sem. Mat. Univ. Politec. Torino **54** (1996), no. 4. *Libreria Editrice Universitaria Levrotto & Bella, Turin*, 1996. *pp. i–ii and* 319–433. (Editors) **99a:58002** 58–06 (00B25, 00B30, 70–06)

Ul'yanov, Petr Lavrent'evich ★ {Dedicated to P. L. Ul'yanov}. East J. Approx. **4** (1998), no. 2. *DARBA, Sofia*, 1998. *pp. i–ii and* 111–290. 00B30

Vidyasagar, Mathukumalli ★ Learning, control and hybrid systems. Festschrift in honor of Bruce Allen Francis and Mathukumalli Vidyasagar on the occasion of their 50th birthdays. Papers from the workshop held in Bangalore, January 4–8, 1998. Edited by Yutaka Yamamoto and Shinji Hara. Lecture Notes in Control and Information Sciences, 241. *Springer-Verlag London, Ltd., London*, 1999. *xvi*+451 *pp. ISBN* 1-85233-076-7 (Editors) **99g:93003** 93–06 (00B30, 93B36, 93C30, 93E35)

Vigier, Jean-Pierre ★ Causality and locality in modern physics. Proceedings of the Symposium on Causality and Locality in Modern Physics and Astronomy: Open Questions and Possible Solutions held in honor of Jean-Pierre Vigier at York University, Toronto, ON, August 1997. Edited by Geoffrey Hunter, Stanley Jeffers and Jean-Pierre Vigier. Fundamental Theories of Physics, 97. *Kluwer Academic Publishers Group; Dordrecht*, 1998. *x*+497 *pp. ISBN* 0-7923-5227-0 (Editors) **99j:81005** 81–06 (00B30, 78–06)

Vinti, Calogero ★ Dedicato al Prof. C. Vinti. [Dedicated to Prof. C. Vinti] Proceedings of the Conference in Honor of Calogero Vinti held on the occasion of his 70th birthday at the Università degli Studi di Perugia, Perugia, September 30–October 4, 1996. Atti Sem. Mat. Fis. Univ. Modena **46** (1998), suppl. *Università di Modena, Dipartimento di Matematica Pura ed Applicata "G. Vitali", Modena*, 1998. *pp. i–xxxiv and* 1–989. (Editors) **99d:00031** 00B30 (00B25)

Wos, Lawrence Thomas ★ Automated reasoning and its applications. Essays in honor of Larry Wos. Edited by Robert Veroff with the assistance of Gail W. Pieper. *MIT Press, Cambridge, MA*, 1997. x+247 *pp. ISBN* 0-262-22055-5 (J. A. Kalman) **99a:68152** 68T15 (00B30, 03B35, 68–06)

Zakharyuta, V. P. ★ {Dedicated to Professor Vyacheslav Pavlovich Zahariuta}. Edited by A. Aytuna, P. B. Djakov and T. Terzioğlu. Linear Topol. Spaces Complex Anal. **3** (1997). *Scientific and Technical Research Council of Turkey, Ankara*, 1997. *pp. i–xiv and* 1–159. (Editors) **99a:00052** 00B30

Zandbergen, Pieter Jacobus ★ A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. Edited by D. Dijkstra, J. G. M. Kuerten and H. K. Kuiken. J. Engrg. Math. **34** (1998), no. 1-2. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. iii–vi and* 1–247. (Editors) **99d:76001** 76–06 (00B30)

— ★ Floating, flowing, flying. Pieter J. Zandbergen's life as innovator, inspirator and instigator in numerical fluid dynamics. Edited by D. Dijkstra, B. J. Geurts, J. G. M. Kuerten and H. K. Kuiken. Reprinted from J. Engrg. Math **34** (1998), no. 1-2 [MR 99d:76001]. *Kluwer Academic Publishers, Dordrecht*, 1998. *vi*+253 *pp. ISBN* 0-7923-5128-2 76–06 (00B30)

Zionts, Stanley ★ Essays in decision making. A volume in honour of Stanley Zionts. Edited by Mark H. Karwan, Jaap Spronk and Jyrki Wallenius. *Springer-Verlag, Berlin*, 1997. *viii*+428 *pp. ISBN* 3-540-62054-0 (Editors) **99f:90005** 90–06 (00B30, 90A05, 90C29, 90C90)

Złotkiewicz, Eligiusz J. ★ {Dedicated to Professor Eligiusz J. Złotkiewicz}. On the occasion of his 60th birthday. Ann. Univ. Mariae Curie-Skłodowska Sect. A **52** (1998), no. 1. *Uniwersytet Marii Curie-Skłodowskiej, Editorial Office, Lublin*, 1998. *pp. v–xii and* 1–190. 00B30

Zorski, Henryk ★ {Fourth Meeting on Current Ideas in Mechanics and Related Fields}. Papers from the meeting in honor of the 70th birthday of Henryk Zorski held in Kraków, August 25–28, 1997. Arch. Mech. (Arch. Mech. Stos.) **50** (1998), no. 3. *Polish Academy of Sciences, Institute of Fundamental Technological Research, Warsaw*, 1998. *pp. i–iv and* 343–669. (Editors) **99e:00030** 00B30

Field theoretical tools for polymer and particle physics ★ Field theoretical tools for polymer and particle physics. Papers from the workshop held at the University of Wuppertal, Wuppertal, June 1997. Edited by Hildegard Meyer-Ortmanns and Andreas Klümper. Lecture Notes in Physics, 508. *Springer-Verlag, Berlin*, 1998. *xvi*+258 *pp. ISBN* 3-540-64308-7 (Eric Derbez) **99k:82001** 82–06 (81T08, 81V55, 82B41, 82D60)

Field theory, integrable systems and symmetries ★ Field theory, integrable systems and symmetries. Papers from the Annual CAP Congress held in Quebec, PQ, June 11–16, 1995. Edited by Faqir Khanna and Luc Vinet. *Université de Montréal, Les Publications CRM, Montreal, QC*, 1997. vi+213 *pp. ISBN* 2-921120-29-1 (Editors) **99a:00027** 00B25 (81–06, 83–06)

Finite fields: theory, applications, and algorithms ★ Finite fields: theory, applications, and algorithms. Proceedings of the 4th International Conference held at the University of Waterloo, Waterloo, ON, August 12–15, 1997. Edited by Ronald C. Mullin and Gary L. Mullen. Contemporary Mathematics, 225. *American Mathematical Society, Providence, RI*, 1999. *x*+243 *pp. ISBN* 0-8218-0817-6 (Editors) **99f:11002** 11–06 (11Txx)

Finite geometry and combinatorics ★ Finite geometry and combinatorics. Papers from the 3rd International Conference held in Deinze, May 18–24, 1997. Edited by F. De Clerck, A. Beutelspacher, B. Blokhuis, F. Buekenhout, J. Doyen, W. Haemers, J. W. P. Hirschfeld, J. A. Thas and H. Van Maldeghem. Bull. Belg. Math. Soc. Simon Stevin **5** (1998), no. 2-3. *Société Mathématique de Belgique, Brussels*, 1998. *pp. i–ii and* 121–482. (Editors) **99a:51001** 51–06 (05–06)

Floating, flowing, flying ★ Floating, flowing, flying. Pieter J. Zandbergen's life as innovator, inspirator and instigator in numerical fluid dynamics. Edited by D. Dijkstra, B. J. Geurts, J. G. M. Kuerten and H. K. Kuiken. Reprinted from J. Engrg. Math **34** (1998), no. 1-2 [MR 99d:76001]. *Kluwer Academic Publishers, Dordrecht*, 1998. *vi*+253 *pp. ISBN* 0-7923-5128-2 76–06 (00B30)

Florence ★ Proceedings of the 14th International Conference on General Relativity and Gravitation. Held in Florence, August 6–12, 1995. Edited by M. Francaviglia, G. Longhi, L. Lusanna and E. Sorace. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxvi*+551 *pp. ISBN* 981-02-2690-X (Editors) **99g:83002** 83–06

— ★ Differential equations: La Pietra 1996. Papers from the conference marking the 70th birthdays of Peter Lax and Louis Nirenberg held in Florence, July 3–7, 1996. Edited by M. Giaquinta, J. Shatah and S. R. S. Varadhan. Proceedings of Symposia in Pure Mathematics, 65. *American Mathematical Society, Providence, RI*, 1999. *xii*+219 *pp. ISBN* 0-8218-0610-6 (Editors) **99g:35004** 35–06 (00B25, 00B30, 58–06)

Flow control and optimization ★ Flow control and optimization. Edited by Max D. Gunzburger and L. Steven Hou [LiSheng Hou]. Int. J. Comput. Fluid Dyn. **11** (1998), no. 1-2. *Gordon and Breach Science Publishers, Yverdon*, 1998. *pp.* 1–191. (Editors) **99k:76005** 76–06 (49–06)

Fluctuations quantiques ★ Fluctuations quantiques. [Quantum fluctuations] Papers from the NATO Advanced Study Institute held at the 63rd Session of the Summer School in Theoretical Physics in Les Houches, June 27–28, 1995. Edited by S. Reynaud, E. Giacobino and J. Zinn-Justin. *North-Holland Publishing Co., Amsterdam*, 1997. *xxxiv*+606 *pp. ISBN* 0-444-82593-2 (Apostolos Vourdas) **99k:81356** 81V80 (81–06)

Fluid transport in porous media ★ Fluid transport in porous media. Edited by J. Prieur du Plessis. Advances in Fluid Mechanics, 13. *Computational Mechanics Publications, Southampton*, 1997. xii+302 *pp. ISBN* 1-85312-429-X (Vadim S. Nustrov) **99a:76153** 76S05 (76–02, 76T05)

Fontainebleau ★ Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets. Held in Fontainebleau, October 9–11, 1996. Edited by D. Jeulin. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+326 *pp. ISBN* 981-02-3001-X (Editors) **99f:60005** 60–06 (60D05)

"For Descartes": Cartesian mathematics and physics ★ "Pour Descartes": mathématiques et physique cartésiennes. (French) ["For Descartes": Cartesian mathematics and physics] Papers from the colloquium held in Paris, November 20, 1996. Rev. Histoire Sci. **51** (1998), no. 2-3. *Presses Universitaires de France, Évry*, 1998. *pp. i–ii and* 171–379. (Editors) **99h:01003** 01–06 (01A45)

Formal Methods Pacific ★ Formal Methods Pacific '97. Proceedings of the conference (FMP '97) held in Wellington, July 9–11, 1997. Edited by Lindsay Groves and Steve Reeves. Springer Series in Discrete Mathematics and Theoretical Computer Science. *Springer-Verlag Singapore, Singapore*, 1997. *viii*+320 *pp. ISBN* 981-3083-31-X (Editors) **99a:68008** 68–06

Forschungsbeiträge der Naturwissenschaftlichen Klasse ★ Forschungsbeiträge der Naturwissenschaftlichen Klasse. Band 19. (German) [Research contributions of the Natural Sciences Section. Vol. 19] Edited by Barbara Geißmann. Schr. Sudet.dtsch. Akad. Wiss. Künste Forsch.beitr. Nat.wiss. Kl. **19** (1998). *Sudetendeutsche Akademie der Wissenschaften und Künste, Munich*, 1998. *pp.* 1–360. (Editors) **99k:00025** 00B15

Fort Collins, CO ★ R. C. Bose Memorial Conference. Papers from the conference held at Colorado State University, Fort Collins, CO, June 7–11, 1995. Edited by J. N. Srivastava. J. Statist. Plann. Inference **72** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–x and* 1–405. (Editors) **99f:62005** 62–06 (00B30)

— ★ R. C. Bose Memorial Conference. Papers from the conference held at Colorado State University, Fort Collins, CO, June 7–11, 1995. Edited by J. N. Srivastava. J. Statist. Plann. Inference **73** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–x and* 1–416. (Editors) **99f:62006** 62–06 (00B30)

Fort Lauderdale, FL ★ Artificial intelligence and mathematics. VIII. Selected papers from the 5th International Symposium held in Fort Lauderdale, FL, January 2–5, 1998. Edited by E. Boros, J. Franco, E. Freuder, M. Golumbic, R. Greiner and E. Mayoraz. Ann. Math. Artificial Intelligence **24** (1998), no. 1-4. *Baltzer Science Publishers BV, Bussum*, 1999. *pp. i–iv and* 1–250. (Editors) **99m:68006** 68–06

Foundations of computational mathematics ★ Foundations of computational mathematics. Selected papers from the conference held in Rio de Janeiro, January 1997. Edited by Felipe Cucker and Michael Shub. *Springer-Verlag, Berlin*, 1997. *xvi*+441 *pp. ISBN* 3-540-61647-0 (Editors) **99g:00039** 00B25 (65–06, 68–06)

Foundations of software science and computation structures ★ Foundations of software science and computation structures. Proceedings of the 1st International Conference (FoSSaCS'98) held as part of the Joint European Conferences on Theory and Practice of Software (ETAPS'98) in Lisbon, March 28–April 4, 1998. Edited by Maurice Nivat. Lecture Notes in Computer Science, 1378. *Springer-Verlag, Berlin*, 1998. *x*+289 *pp. ISBN* 3-540-64300-1 (Editors) **99c:68005** 68–06

Fourier analysis, approximation theory and applications ★ Fourier analysis, approximation theory and applications. Papers from the conference held at the Aligarh Muslim University, Aligarh, September 6–9, 1993. Edited by Z. U. Ahmad, N. K. Govil and P. K. Jain. *New Age International Publishers Limited, New Delhi*, 1997. *vi*+401 *pp. ISBN* 81-224-1107-X (Editors) **99d:00019** 00B25 (42–06)

Fourier transform in biomedical engineering ★ The Fourier transform in biomedical engineering. Edited by Terry M. Peters and Jackie Williams. Applied and Numerical Harmonic Analysis. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xx*+199 *pp. ISBN* 0-8176-3941-1 (Editors) **99c:94011** 94A12 (42A38, 92C55)

Fractal 97 ★ Fractal 97. Papers from the conference held in Estes Park, CO, April 8–11, 1997. Edited by M. M. Novak. Fractals **5** (1997), suppl. *World Scientific Publishing Co., Singapore*, 1997. *pp. i–iv and* 1–166. (Editors) **99f:00017** 00B25

Fractal frontiers ★ Fractal frontiers. Selected papers from the 4th International Multidisciplinary Conference on Fractals held in Denver, CO, 1997. Edited by M. M. Novak and T. G. Dewey. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv*+484 *pp. ISBN* 981-02-3155-5 (Editors) **99b:00014** 00B25

Fractional differential systems ★ Systèmes différentiels fractionnaires. [Fractional differential systems] Modèles, méthodes & applications. [Models, methods & applications] Proceedings of the colloquium (FDS'98) held in Paris, December 3–4, 1998. Edited by Denis Matignon and Gérard Montseny. ESAIM Proceedings, 5. *Société de Mathématiques Appliquées et Industrielles, Paris*, 1998. *front matter*+204 *pp.* (*electronic*). (Editors) **99h:00027** 00B25 (26A33)

Fracture ★ Fracture. A topical encyclopedia of current knowledge. Edited by Genady P. Cherepanov. *Robert E. Krieger Publishing Co., Inc., Malabar, FL*, 1998. *xxii*+870 *pp. ISBN* 0-89464-924-8 (Paul Andrew Martin) **99j:73001** 73–02 (73M25)

Freiburg ★ KI-97: advances in artificial intelligence. Proceedings of the 21st Annual German Conference on Artificial Intelligence held in Freiburg, September 9–12, 1997. Edited by Gerhard Brewka, Christopher Habel and Bernhard Nebel. Lecture Notes in Computer Science, 1303. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *xii*+413 *pp. ISBN* 3-540-63493-2 (Editors) **99d:68006** 68–06 (68T15, 68T27)

Frontiers in probability and statistics ★ Frontiers in probability and statistics. Papers from 2nd International Triennial Symposium on Probability and Statistics held in Calcutta, December 30, 1994–January 2, 1995. Edited by S. P. Mukherjee, S. K. Basu and B. K. Sinha. *Narosa Publishing House, New Delhi*, 1998. *xii*+379 *pp. ISBN* 81-7319-115-8 (Editors) **99g:62003** 62–06

Fukuoka ★ 28th IEEE International Symposium on Multiple-valued Logic. Proceedings of the symposium (ISMVL '98) held in Fukuoka, May 27–29, 1998. *IEEE Computer Society, Los Alamitos, CA*, 1998. *xvi*+384 *pp. ISBN* 0-8186-8371-6 (Editors) **99i:03025** 03B50 (03–06)

Function spaces ★ Function spaces. Proceedings of the 3rd Conference held at Southern Illinois University, Edwardsville, IL, May 19–23, 1998. Edited by Krzysztof Jarosz. Contemporary Mathematics, 232. *American Mathematical Society, Providence, RI*, 1999. *xviii*+361 *pp. ISBN* 0-8218-0939-3 (Editors) **99k:46003** 46–06 (00B25)

Functional analysis ★ Functional analysis. 1. A translation of *Functional analysis. 1* (Russian), Vseross. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow, 1996. Edited by Z. I. Izmailova. J. Math. Sci. (New York) **91** (1998), no. 4. *Consultants Bureau, New York*, 1998. *pp. i–vi and* 3033–3204. (Editors) **99g:00055** 00B55

– ★ Functional analysis. V. Vol. I. Proceedings of the Postgraduate School and Conference held in Dubrovnik, September 14–28, 1997. Edited by D. Butković, H. Kraljević and G. Peskir. Various Publications Series, 44. *University of Aarhus, Department of Mathematical Sciences, Aarhus*, 1998. 142 *pp.* (Editors) **99h:00028** 00B25 (60–06)

– ★ Functional analysis. Selected topics. Dedicated to the memory of the late Professor P. K. Kamthan. Edited by Pawan K. Jain. *Narosa Publishing House, New Delhi*, 1998. *xii*+232 *pp. ISBN* 81-7319-199-9 (Editors) **99h:00036** 00B30 (46–06, 47–06)

– ★ Functional analysis. 2. A translation of *Functional analysis. 2* (Russian), Itogi Nauki Tekh. Ser. Sovrem. Mat. Prilozh. Temat. Obz., 39, Vseross. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow, 1996. Edited by E. I. Krasnopolina. J. Math. Sci. (New York) **93** (1999), no. 1. *Consultants Bureau, New York*, 1999. *pp. i–vi and* 1–133. (Editors) **99k:00042** 00B55

Functional analysis and global analysis ★ Functional analysis and global analysis. Proceedings of the International Conference held at the University of the Philippines, Quezon City, October 20–26, 1996. Edited by Toshikazu Sunada and Polly Wee Sy. *Springer-Verlag Singapore, Singapore*, 1997. *x*+301 *pp. ISBN* 981-3083-13-1 (Editors) **99g:00040** 00B25 (35–06, 42–06, 46–06)

Functional-differential equations and their applications ★ Функционально-дифференциальные уравнения и их приложения. (Russian) [Functional-differential equations and their applications] Abstracts of the 4th Ural Region Conference. Edited by V. V. Vodop'yanov. *Ufim. Aviatsion. Inst., Ufa*, 1989. 151 *pp.* 34–06 (00B05, 34Kxx, 35–06)

Fundamental aspects of quantum mechanics ★ Irreversibility and cosmology. Fundamental aspects of quantum mechanics. Papers from the workshops held in Peyresq, July 7–11, 1997. Internat. J. Theoret. Phys. **38** (1999), no. 1. *Kluwer Academic/Plenum Publishers, New York*, 1999. *pp. i–ii and* 1–517. (Editors) **99k:00032** 00B25

Fundamental problems in statistical mechanics ★ Fundamental problems in statistical mechanics. Proceedings of the 9th International Summer School held in Altenberg, August 15–29, 1997. Edited by H. van Beijeren. Phys. Rep. **301** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 1–292. (Editors) **99d:82003** 82–06

Fuzzy measures and integrals ★ Fuzzy measures and integrals. Edited by Radko Mesiar and Endre Pap. Fuzzy Sets and Systems **102** (1999), no. 3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iii and* 361–469. (Editors) **99k:00021** 00B15 (04A72, 28–06)

Fuzzy sets and applications ★ Fuzzy sets and applications. Edited by Marc Pirlot. Belg. J. Oper. Res. Statist. Comput. Sci. **37** (1997), no. 1-2. *Sogesci, Brussels*, 1997. *pp.* 1–100. (Editors) **99a:90004** 90–06 (90C70)

Fuzzy sets in decision analysis, operations research and statistics ★ Fuzzy sets in decision analysis, operations research and statistics. Edited by Roman Słowiński. The Handbooks of Fuzzy Sets Series, 1. *Kluwer Academic Publishers, Boston, MA*, 1998. *xxiv*+453 *pp. ISBN* 0-7923-8112-2 (Editors) **99h:90001** 90–01 (04A72, 62–01, 90–06, 90C70)

Gainesville, FL ★ Optimal control. Theory, algorithms, and applications. Papers from the conference held at the University of Florida, Gainesville, FL, February 27–March 1, 1997. Edited by William H. Hager and Panos M. Pardalos. Applied Optimization, 15. *Kluwer Academic Publishers, Dordrecht*, 1998. *xvi*+513 *pp. ISBN* 0-7923-5067-7 (Editors) **99d:49002** 49–06 (93–06)

Game theory and applications ★ Game theory and applications. IV. Edited by L. A. Petrosjan [L. A. Petrosyan] and V. V. Mazalov. *Nova Science Publishers, Inc., Commack, NY*, 1998. *vi*+194 *pp. ISBN* 1-56072-629-6 (Editors) **99k:90203** 90Dxx (90–06)

Games and politics ★ Games and politics. Selected papers from the conference held in Santiago de Compostela, 1996. Edited by I. García-Jurado, F. Valenciano and E. Winter. Ann. Oper. Res. **84** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. ix–xiv and* 1–240. (Editors) **99h:90007** 90–06 (90Dxx)

GAMM 97 ★ GAMM 97. Minisymposia contributions and short communications in mechanics, A–G. Proceedings of the Annual Meeting held at the University of Regensburg, Regensburg, March 24–27, 1997. Edited by R. Mennicken and F. Pfeiffer. ZAMM Z. Angew. Math. Mech. **78** (1998), suppl. 1. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. S1–S432.* (Editors) **99m:00025a** 00B25 (00B05, 35–06, 65–06, 73–06, 76–06)

– ★ GAMM 97. Short communications in mechanics, H–Z. Proceedings of the Annual Meeting held at the University of Regensburg, Regensburg, March 24–27, 1997. Edited by R. Mennicken and F. Pfeiffer. ZAMM Z. Angew. Math. Mech. **78** (1998), suppl. 2. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. S435–S840.* (Editors) **99m:00025b** 00B25 (00B05, 35–06, 65–06, 73–06, 76–06)

– ★ GAMM 97. Short communications in applied mathematics. Proceedings of the Annual Meeting held at the University of Regensburg, Regensburg, March 24–27, 1997. Edited by R. Mennicken and F. Pfeiffer. ZAMM Z. Angew. Math. Mech. **78** (1998), suppl. 3. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. S843–S1144.* (Editors) **99m:00025c** 00B25 (00B05, 35–06, 65–06, 73–06, 76–06)

Gauge theories of gravitation ★ Gauge theories of gravitation. Proceedings of the workshop held in Jadwisin, September 4–10, 1997. Acta Phys. Polon. B **29** (1998), no. 4. *Jagellonian University, Institute of Physics, Kraków*, 1998. *pp.* 823–1138. (Editors) **99k:00029** 00B25

Gdańsk ★ Quantum probability. Proceedings of the workshop held in Gdańsk, July 1–6, 1997. Edited by Robert Alicki, Marek Bożejko and Władysław Adam Majewski. Banach Center Publications, 43. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 427 *pp.* (Editors) **99d:00029** 00B25 (46–06, 60–06, 81–06, 81S25)

Geilo ★ Stochastic analysis and related topics. VI. Proceedings of the 6th Oslo-Silivri Workshop held in Geilo, July 29–August 6, 1996. Edited by L. Decreusefond, Jon Gjerde, B. Øksendal and A. S. Üstünel. Progress in Probability, 42. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xii*+409 *pp. ISBN* 0-8176-4018-5 (Editors) **99e:60006** 60–06

Geiranger ★ Algebras and modules. II. Proceedings of the 8th International Conference on Representations of Algebras (ICRA VIII) held in Geiranger, August 4–10, 1996. Edited by Idun Reiten, Sverre O. Smalø and Øyvind Solberg. CMS Conference Proceedings, 24. *Published by the American Mathematical Society, Providence, RI; for the Canadian Mathematical Society, Ottawa, ON*, 1998. *xxii*+569 *pp. ISBN* 0-8218-1076-6 (Editors) **99e:16002** 16–06 (16Gxx)

Generalized analytic functions ★ Generalized analytic functions. Theory and applications to mechanics. Proceedings of the conference held in honor of R. P. Gilbert on his 65th birthday in Graz, January 6–10, 1997. Edited by Helmut Florian, Klaus Hackl, Franz Josef Schnitzer and Wolfgang Tutschke. International Society for Analysis, Applications and Computation, 1. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxvi*+311 *pp. ISBN* 0-7923-5043-X (Editors) **99d:00020** 00B25 (00B30, 30–06, 35–06, 73–06, 76–06)

Generalized convexity, generalized monotonicity: recent results ★ Generalized convexity, generalized monotonicity: recent results. Proceedings of the 5th International Symposium on Generalized Convexity held in Luminy, June 17–21, 1996. Edited by Jean-Pierre Crouzeix, Juan-Enrique Martinez-Legaz and Michel Volle. Nonconvex Optimization and its Applications, 27. *Kluwer Academic Publishers, Dordrecht*, 1998. *xvi*+467 *pp. ISBN* 0-7923-5088-X (Editors) **99f:90006** 90–06 (49N15, 90C26, 90C29)

Generalized functions—linear and nonlinear problems ★ Generalized functions—linear and nonlinear problems. Proceedings of the International Conference (GF96) held in Novi Sad, August 31–September 4, 1996. Integral Transform. Spec. Funct. **6** (1998), no. 1-4. *Gordon and Breach Science Publishers, Yverdon*, 1998. *pp. i–iii and* 1–356. (Editors) **99d:00009** 00B15 (35–06, 46–06)

Generalized functions, operator theory, and dynamical systems ★ Generalized functions, operator theory, and dynamical systems. Papers from the Workshop on Hyperfunctions, Operator Theory and Dynamical Systems held in Brussels, January 6–12, 1997. Edited by Ioannis Antoniou and Günter Lumer. Chapman & Hall/CRC Research Notes in Mathematics, 399. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *viii*+378 *pp. ISBN* 0-8493-0619-1 (Editors) **99k:00030** 00B25 (46–06, 47–06)

Geneva ★ Algorithms and economic dynamics. Selected papers from the 2nd Annual Meeting of the Society for Computational Economics held in Geneva, 1996. Edited by K. L. Judd. J. Econom. Dynam. Control **22** (1998), no. 8-9. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 1167–1506. (Editors) **99b:90005** 90–06

Genoa ★ Nonlinear and random dynamics in wind engineering. Selected papers from the 2nd European and African Conference on Wind Engineering (2 EACWE) held in Genoa, June 22–26, 1997. Edited by Giovanni Solari. Meccanica **33** (1998), no. 3. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 213–330. 73–06 (73K12, 73K35)

Gentzen ★ Gentzen. Selected papers from the Gentzen Conference (Esprit-BRA Working Group 7232) held in Rome, October 3–5, 1996. Edited by C. Böhm and I. Guessarian. Theoret. Comput. Sci. **212** (1999), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–iv and* 1–303. (Editors) **99h:68005** 68–06 (03–06, 03B40, 03B70, 68N15)

Geometric constraint solving and applications ★ Geometric constraint solving and applications. Edited by Beat Brüderlin and Dieter Roller. *Springer-Verlag, Berlin*, 1998. *viii*+304 *pp. ISBN* 3-540-64416-4 (Editors) **99e:68167** 68U07 (65Y25, 68–06, 68U05)

Geometric control and non-holonomic mechanics ★ Geometric control and non-holonomic mechanics. Papers from the Conference on Geometric Control Theory and Non-holonomic Problems in Mechanics held in Mexico City, June 1996. Edited by V. Jurdjevic and R. W. Sharpe. CMS Conference Proceedings, 25. *Published by the American Mathematical Society, Providence, RI; for the Canadian Mathematical Society, Ottawa, ON*, 1998. *xii*+239 *pp. ISBN* 0-8218-0795-1 (Editors) **99d:93002** 93–06 (53–06, 58–06, 93C10)

Geometric Galois actions ★ Geometric Galois actions. 2. The inverse Galois problem, moduli spaces and mapping class groups. Edited by Leila Schneps and Pierre Lochak. London Mathematical Society Lecture Note Series, 243. *Cambridge University Press, Cambridge*, 1997. *x*+347 *pp. ISBN* 0-521-59641-6 (Editors) **99f:14002** 14–06 (12–06, 20–06)

Geometric methods in asymptotic analysis ★ Zenkin kaiseki ni okeru kikagakuteki hōhō. [Geometric methods in asymptotic analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, May 20–23, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1014 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–138. (Editors) **99d:00021** 00B25

Geometric modeling: theory and practice ★ Geometric modeling: theory and practice. The state of the art. Papers from the conference held in Blaubeuren, October 14–18, 1996. Edited by Wolfgang Strasser, Reinhard Klein and René Rau. Focus on Computer Graphics. *Springer-Verlag, Berlin*, 1997. *x*+434 *pp. ISBN* 3-540-61883-X (Editors)

99d:65003 65–06 (52–06, 65D17, 65Y25, 68U05)

Geometric modelling techniques ★ Geometric modelling techniques. Papers from the International Workshop on Computer-Aided Geometric Design: New Trends and Applications held in Anogia Academic Village, June 16–20, 1997. Edited by P. D. Kaklis, N. S. Sapidis and M. N. Patrikalakis [Nicholas M. Patrikalakis]. Math. Engrg. Indust. **7** (1999), no. 2. *VSP, Zeist*, 1999. *pp.* 127–282. (Editors) **99i:65004** 65–06 (65D17, 65Y25)

Geometric universe ★ The geometric universe. Science, geometry, and the work of Roger Penrose. Papers from the Symposium on Geometric Issues in the Foundations of Science held in honor of the 65th birthday of Sir Roger Penrose at St. John's College, University of Oxford, Oxford, June 1996. Edited by S. A. Huggett, L. J. Mason, K. P. Tod, S. T. Tsou and N. M. J. Woodhouse. *Oxford University Press, Oxford*, 1998. *xviii+431 pp. ISBN* 0-19-850059-9 (Editors) **99b:00015** 00B25 (00B30, 81–06, 83–06)

Geometrical structures for physical theories ★ Geometrical structures for physical theories. I. Papers from the conference held in honor of Włodzimierz Marek Tulczyjew on his 65th birthday in Vietri, September 29–October 3, 1996. Rend. Sem. Mat. Univ. Politec. Torino **54** (1996), no. 3. *Libreria Editrice Universitaria Levrotto & Bella, Turin*, 1996. *pp. i–iv and* 191–318. (Editors) **99a:58001** 58–06 (00B25, 00B30, 70–06)

— ★ Geometrical structures for physical theories. II. Papers from the conference held in honor of Włodzimierz Marek Tulczyjew on his 65th birthday in Vietri, September 29–October 3, 1996. Rend. Sem. Mat. Univ. Politec. Torino **54** (1996), no. 4. *Libreria Editrice Universitaria Levrotto & Bella, Turin*, 1996. *pp. i–ii and* 319–433. (Editors) **99a:58002** 58–06 (00B25, 00B30, 70–06)

Geometry ★ Geometry. 3. A translation of *Geometry. 3* (Russian), Vseross. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow, 1995. Edited by N. M. Ostianu. J. Math. Sci. (New York) **89** (1998), no. 3. *Consultants Bureau, New York*, 1998. *pp. i–vi and* 1181–1353. (Editors) **99a:53001** 53–06 (00B55)

Geometry and physics ★ Geometría y física. [Geometry and physics] Proceedings of the 5th Fall Workshop (WOGP'96) held in Jaca, September 23–25, 1996. Edited by J. F. Cariñena, E. Martínez and M. F. Rañada. Mem. Real Acad. Cienc. Exact. Fís. Natur. Madrid **32** (1998). *Real Academia de Ciencias Exactas, Físicas y Naturales, Madrid*, 1998. *pp. i–xx and* 1–201. (Editors) **99g:58001** 58–06

Geometry, fields and cosmology ★ Geometry, fields and cosmology. Techniques and applications. Papers from the 1st Inter University Graduate School on Gravitation and Cosmology held in Pune, 1989. Edited by B. R. Iyer and C. V. Vishveshwara. Fundamental Theories of Physics, 88. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xvi+554 *pp. ISBN* 0-7923-4725-0 (Markku Lehto) **99a:83002** 83–06 (53–06, 58–06, 58Z05, 81–06)

Geometry of feedback and optimal control ★ Geometry of feedback and optimal control. Edited by Bronisław Jakubczyk and Witold Respondek. Monographs and Textbooks in Pure and Applied Mathematics, 207. *Marcel Dekker, Inc., New York*, 1998. x+564 *pp. ISBN* 0-8247-9068-5 (Kevin A. Grasse) **99b:93001** 93–02 (34H05, 49–02, 58E25, 70Q05, 93B27, 93B29)

Geometry of harmonic maps and submanifolds ★ Chōwa shazō to bubun tayōtai no kikagaku. (Japanese) [Geometry of harmonic maps and submanifolds] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 29–31, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 995 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–125. (Editors) **99a:58003** 58–06 (00B25, 53–06)

Geometry of homogeneous spaces and submanifolds ★ Tōshitsu kūkan to bubuntayōtai no kikagaku. (Japanese) [Geometry of homogeneous spaces and submanifolds] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, February 19–20, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1044 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–85. (Editors) **99i:53001** 53–06

Geometry, topology, and dynamics ★ Geometry, topology, and dynamics. Proceedings of the workshop held at the University of Montreal, Montreal, PQ, June 26–30, 1995. Edited by François Lalonde. CRM Proceedings & Lecture Notes, 15. *American Mathematical Society, Providence, RI*, 1998. *viii+148 pp. ISBN* 0-8218-0877-X (Editors) **99a:58004** 58–06

Gian-Carlo Rota on combinatorics ★ Gian-Carlo Rota on combinatorics. Introductory papers and commentaries. Edited by Joseph P. S. Kung. Contemporary Mathematicians. *Birkhäuser Boston, Inc., Boston, MA*, 1995. xliv+624 *pp. ISBN* 0-8176-3713-3 (Andreas Blass) **99b:01027** 01A75 (05–03)

Girona ★ Girona 97 special issue. Selected papers from the 7th International Conference on Mathematical Chemistry and the 3rd Seminar on Molecular Similarity held in Girona, May 26–31, 1997. J. Math. Chem. **23** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. v–viii and* 1–261. (Editors) **99c:92002** 92–06 (80–06)

Global optimization, control, and games ★ Global optimization, control, and games. III. Edited by Efim A. Galperin. Comput. Math. Appl. **37** (1999), no. 4-5. *Pergamon Press, Oxford*, 1999. *pp. i–xiv and* 1–208. (Editors) **99i:90003** 90–06 (49–06, 90Dxx)

Gödel ★ Gödel. I. Edited by Jaakko Hintikka. Synthese **114** (1998), no. 1. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 1–162. (Editors) **99d:00032** 00B30 (00B25, 03–06)

Golden, CO ★ Mathematical and numerical aspects of wave propagation. Proceedings of the 4th International Conference held at the Colorado School of Mines, Golden, CO, June 1–5, 1998. Edited by John A. DeSanto. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xx+792 pp. ISBN* 0-89871-423-0 (Editors) **99d:00023** 00B25 (35–06, 76–06, 76Q05, 78–06, 78A45)

— ★ Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations. Held in Golden, CO, June 2–6, 1997. Edited by Graeme Fairweather, Ian Gladwell, Benedict Leimkuhler and Erik Van Vleck. Appl. Numer. Math. **29** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 1–165. (Editors) **99g:65008** 65–06 (34A45, 70–08, 70H05)

Gomel' ★ Вопросы алгебры. Вып. 9. (Russian) [Problems in algebra. No. 9] Papers from the Conference "Problems in Algebra and Cybernetics" dedicated to the memory of S. A. Chunikhin held in Gomel', September 21, 1995. Edited by L. A. Shemetkov. *Gomel'skiĭ Gosudarstvennyĭ Universititet imeni Frantsiska Skoriny, Gomel'*, 1996. 197 *pp.* (Editors) **99g:20005** 20–06 (00B30)

Goslar ★ Irreversibility and causality. Semigroups and rigged Hilbert spaces. Selected papers from the 21st International Colloquium on Group Theoretical Methods in Physics (ICGTMP) held in Goslar, July 16–21, 1996. Edited by Arno Bohm, Heinz-Dietrich Doebner and Piotr Kielanowski. Lecture Notes in Physics, 504. *Springer-Verlag, Berlin*, 1998. *xx+385 pp. ISBN* 3-540-64305-2 (Editors) **99b:81003** 81–06 (00B25, 47–06)

Göteborg ★ Proceedings of the Fifteenth International Conference on Transport Theory. Part I. Held at Chalmers University of Technology, Göteborg, June 2–7, 1997. Edited by Leif Arkeryd, Imre Pazsit and Rolf Petterson. Transport Theory Statist. Phys. **27** (1998), no. 3-4. *Marcel Dekker, Inc., Monticello, NY*, 1998. *pp. v–viii and* 203–393. (Editors) **99b:82003** 82–06

— ★ Proceedings of the Fifteenth International Conference on Transport Theory. Part II. Held in Göteborg, June 1–7, 1997. Edited by Leif Arkeryd, Imre Pazsit and Rolf Petterson. Transport Theory Statist. Phys. **27** (1998), no. 5-7. *Marcel Dekker, Inc., Monticello, NY*, 1998. *pp. v–x and* 405–703. (Editors) **99d:82004** 82–06 (82C70)

Gramado ★ Applied and computational topics in partial differential equations. Papers from the 2nd Panamerican Workshop on Applied and Numerical Mathematics held in Gramado, September 8–12, 1997. Edited by V. Pereyra and J. Castillo. J. Comput. Appl. Math. **103** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–vi and* 1–219. (Editors) **99k:65002** 65–06 (65Mxx, 65Nxx, 76–06)

— ★ Applied and computational mathematics. Selected papers from the 2nd Panamerican Workshop held in Gramado, September 8–12, 1997. Edited by Victor Pereyra and Jose Castillo. Appl. Numer. Math. **30** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *i–viii and* 1–152. (Editors) **99m:65003** 65–06

Grammatical inference ★ Grammatical inference. Proceedings of the 4th International Colloquium (ICGI '98) held at Iowa State University, Ames, IA, July 12–14, 1998. Edited by Vasant Honavar and Giora Slutzki. Lecture Notes in Computer Science, 1433. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x+271 pp. ISBN* 3-540-64776-7 (Editors) **99h:68006** 68–06 (68Q45, 68T05)

Gran Canaria ★ Algorithms for large scale linear algebraic systems. Applications in science and engineering. Proceedings of the NATO Advanced Study Institute on Algorithms for Large Scale Linear Algebraic Systems: State of the Art and Applications in Science and Engineering held in Gran Canaria, June 23–July 6, 1996. Edited by G. Winter Althaus and E. Spedicato. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 508. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *viii+409 pp. ISBN* 0-7923-4975-X (Editors) **99a:65004** 65–06

Graph connections ★ Graph connections. Relationships between graph theory and other areas of mathematics. Edited by Lowell W. Beineke and Robin J. Wilson. Oxford Lecture Series in Mathematics and its Applications, 5. *The Clarendon Press, Oxford University Press, New York*, 1997. *xii+291 pp. ISBN* 0-19-851497-2 (Editors) **99a:05001** 05–06 (05–01)

Graph drawing ★ Graph drawing. Proceedings of the 5th International Symposium (GD '97) held in Rome, September 18–20, 1997. Edited by Giuseppe DiBattista. Lecture Notes in Computer Science, 1353. *Springer-Verlag, Berlin*, 1997. *xii+448 pp. ISBN* 3-540-63938-1 (Editors) **99d:68004** 68–06 (68R10, 68U05)

Graph-theoretic concepts in computer science ★ Graph-theoretic concepts in computer science. Proceedings of the 23rd International Workshop (WG '97) held in Berlin, June 18–20, 1997. Edited by Rolf H. Möhring. Lecture Notes in Computer Science, 1335. *Springer-Verlag, Berlin*, 1997. *x+376 pp. ISBN* 3-540-63757-5 (Editors) **99d:68005** 68–06 (05C85, 68R10)

— ★ Graph-theoretic concepts in computer science. Selected papers from the 22nd Workshop (WG '96) held in Cadenabbia, June 12–14, 1996. Edited by G. Ausiello and A. Marchetti-Spaccamela. Theoret. Comput. Sci. **203** (1998), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 1–173. (Editors) **99b:68005** 68–06 (05C85, 68R10)

Graph theory ★ Graph theory. Papers from the conference held in Elgersburg, May 6–10, 1996. Edited by H. Sachs. Discrete Math. **191** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–x and* 1–245. (Editors) **99c:05002** 05–06

Graph theory and combinatorial biology ★ Graph theory and combinatorial biology. Proceedings of the International Colloquium on Combinatorics and Graph Theory held in Balatonlelle, July 1996. Edited by L. Lovász, A. Gyárfás, G. Katona, A. Recski and L. Székely. Bolyai Society Mathematical Studies, 7. *János Bolyai Mathematical Society, Budapest*, 1999. 413 *pp. ISBN* 963-8022-90-6 (Editors) **99k:00031** 00B25 (05–06)

Gravity waves in water of finite depth ★ Gravity waves in water of finite depth. Edited by J. N. Hunt. Advances in Fluid Mechanics, 10. *Computational Mechanics Publications, Southampton*, 1997. xii+319 *pp. ISBN* 1-85312-351-X (Alan Jeffrey) **99b:76015** 76B15 (35Q35, 86A05)

Graz ★ Algorithms—ESA '97. Papers from the 5th Annual European Symposium held at Graz University of Technology, Graz, September 15–17, 1997. Edited by Rainer Burkard and Gerhard Woeginger. Lecture Notes in Computer Science, 1284. *Springer-Verlag, Berlin*, 1997. *xii+515 pp. ISBN* 3-540-63397-9 (Editors) **99d:68002** 68–06

— ★ Generalized analytic functions. Theory and applications to mechanics. Proceedings of the conference held in honor of R. P. Gilbert on his 65th birthday in Graz, January 6–10, 1997. Edited by Helmut Florian, Klaus Hackl, Franz Josef Schnitzer and Wolfgang Tutschke. International Society for Analysis, Applications and Computation, 1. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxvi+311 pp. ISBN* 0-7923-5043-X (Editors) **99d:00020** 00B25 (00B30, 30–06, 35–06, 73–06, 76–06)

Graz Mathematical Reports ★ Grazer Mathematische Berichte. 333. (German) [Graz mathematical reports. 333] Grazer Mathematische Berichte [Graz Mathematical Reports], 333. *Karl-Franzens-Universität Graz, Graz*, 1997. *ii+34 pp.* (Editors) **99d:11003** 11–06

Grazer Mathematische Berichte ★ Grazer Mathematische Berichte. 333. (German) [Graz mathematical reports. 333] Grazer Mathematische Berichte [Graz Mathematical Reports], 333. *Karl-Franzens-Universität Graz, Graz*, 1997. *ii+34 pp.* (Editors) **99d:11003** 11–06

Grenoble ★ Differential algebraic equations. Selected papers from the International Symposium held in Grenoble, May 1997. Edited by R. Coleman. Numer. Algorithms **19** (1998), no. 1-4. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–vi and* 1–266. (Editors) **99h:34001** 34–06 (34A09, 34A45, 65–06)

Groups and geometries ★ Groups and geometries. Proceedings of the conference held in Sienna, September 1–7, 1996. Edited by Lino di Martino, William M. Kantor, Guglielmo Lunardon, Antonio Pasini and Maria Clara Tamburini [Maria Chiara Tamburini Bellani]. Trends in Mathematics. *Birkhäuser Verlag, Basel*, 1998. *xii+261 pp. ISBN*

3-7643-5881-5 (Editors) **99c:51004** 51–06 (20–06)

Guanajuato ★ IV Simposio de Probabilidad y Procesos Estocásticos. [Fourth Symposium on Probability Theory and Stochastic Processes] Papers from the symposium held in Guanajuato, April 1–5, 1996. Edited by L. G. Gorostiza, J. A. León and J. A. López-Mimbela. Aportaciones Matemáticas: Notas de Investigación [Mathematical Contributions: Research Notes], 12. *Sociedad Matemática Mexicana, México*, 1996. *viii*+168 *pp. ISBN* 968-36-5777-X (Editors) **99e:60008** 60–06

Guangzhou ★ Advances in computational mathematics. Proceedings of the International Symposium on Computational Mathematics held at Zhongshan University, Guangzhou, 1997. Edited by Zhongying Chen, Yuesheng Li, Charles A. Micchelli and Yuesheng Xu. Lecture Notes in Pure and Applied Mathematics, 202. *Marcel Dekker, Inc., New York*, 1999. *xx*+604 *pp. ISBN* 0-8247-1946-8 (Editors) **99g:65002** 65–06

Gudauri ★ The Tbilisi Symposium on Logic, Language and Computation: selected papers. Held in Gudauri, October 19–22, 1995. Edited by Jonathan Ginzburg, Zurab Khasidashvili, Carl Vogel, Jean-Jacques Lévy and Enric Vallduví. Studies in Logic, Language and Information. *CSLI Publications, Stanford, CA*; *FoLLI: European Association for Logic, Language and Information, Amsterdam*, 1998. *xxxii*+376 *pp. ISBN* 1-57586-098-8 (Editors) **99m:03006** 03–06 (03B45, 03B65, 68N15, 68S05)

Győr ★ Stochastic differential and difference equations. Papers from the conference held at Széchenyi István College, Győr, August 21–24, 1996. Edited by I. Csiszár and Gy. Michaletzky. Progress in Systems and Control Theory, 23. *Birkhäuser Boston, Inc., Boston, MA*, 1997. *xviii*+353 *pp. ISBN* 0-8176-3971-3 (Editors) **99c:60002** 60–06

Haifa ★ Logic Colloquium '95. Invited papers from the colloquium (the European Summer Meeting of the Association for Symbolic Logic) held at the Technion, Haifa, August 9–17, 1995. Edited by Gerhard Jaeger [Gerhard Jäger] Wolfram Pohlers and Stan Wainer. Arch. Math. Logic **37** (1998), no. 5-6. *Springer-Verlag, Heidelberg*, 1998. *pp.* 273–441. (Editors) **99b:03005** 03–06

— ★ Logic Colloquium '95. Papers from the colloquium held as part of the European Summer Meeting of the Association for Symbolic Logic in Haifa, August 9–18, 1995. Edited by Johann A. Makowsky and Elena V. Ravve. Lecture Notes in Logic, 11. *Springer-Verlag, Berlin*, 1998. *xvi*+349 *pp. ISBN* 3-540-63994-2 (Editors) **99m:03003** 03–06

— ★ IUTAM Symposium on Non-linear Singularities in Deformation and Flow. Proceedings of the IUTAM Symposium held at the Technion, Haifa, March 17–21, 1997. Edited by D. Durban and J. R. A. Pearson. *Kluwer Academic Publishers, Dordrecht*, 1999. *xii*+360 *pp. ISBN* 0-7923-5349-8 (Editors) **99h:76002** 76–06 (76D45, 76D99)

Hajdúszoboszló ★ Proceedings of the 18th Seminar on Stability Problems for Stochastic Models. Part I. Held in Hajdúszoboszló, January 26–February 1, 1997. J. Math. Sci. (New York) **92** (1998), no. 3. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 3835–3971. (Editors) **99h:00033** 00B25 (00B55, 60–06)

— ★ Proceedings of the 18th Seminar on Stability Problems for Stochastic Models. Part II. Held in Hajdúszoboszló, January 26–February 1, 1997. J. Math. Sci. (New York) **92** (1998), no. 4. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 3973–4121. (Editors) **99i:00036** 00B55

Halifax, NS ★ International Workshop on Algorithms and Data Structures. Selected papers from the workshop (WADS'97) held in Halifax, NS, August 1997. Comput. Geom. **11** (1998), no. 3-4. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 125–208. (Editors) **99i:68007** 68–06 (68U05)

— ★ Differential equations with applications to biology. Proceedings of the International Conference held at Dalhousie University, Halifax, NS, July 25–29, 1997. Edited by Shigui Ruan, Gail S. K. Wolkowicz and Jianhong Wu. Fields Institute Communications, 21. *American Mathematical Society, Providence, RI*, 1999. *x*+509 *pp. ISBN* 0-8218-0944-X (Editors) **99g:92002** 92–06 (34–06, 35–06)

Hamburg ★ ICIAM/GAMM 95. Applied analysis. Papers from the 3rd International Congress on Industrial and Applied Mathematics held in Hamburg, July 3–7, 1995. Edited by O. Mahrenholtz and R. Mennicken. Z. Angew. Math. Mech. **76** (1996), suppl. 2. *Akademie Verlag, Berlin*, 1996. *pp. i–xx and* 1–718. (Editors) **99f:00010a** 00B05

— ★ ICIAM/GAMM 95. Applied stochastics and optimization. Papers from the 3rd International Congress on Industrial and Applied Mathematics held in Hamburg, July 3–7, 1995. Edited by O. Mahrenholtz, K. Marti and R. Mennicken. Z. Angew. Math. Mech. **76** (1996), suppl. 3. *Akademie Verlag, Berlin*, 1996. *pp. i–xvi and* 1–585. (Editors) **99f:00010b** 00B05 (90–06, 93–06)

Handbook:

Applied cryptography *see* **Menezes, Alfred J. et al., 99g:94015**

Combinatorial optimization ★ Handbook of combinatorial optimization. Vol. 1. Edited by Ding-Zhu Du and Panos M. Pardalos. *Kluwer Academic Publishers, Boston, MA*, 1998. *viii*+785 *pp. ISBN* 0-7923-5018-9 (Editors) **99g:90001** 90–00 (90C10, 90C27, 90C35)

— ★ Handbook of combinatorial optimization. Vol. 2. Edited by Ding-Zhu Du and Panos M. Pardalos. *Kluwer Academic Publishers, Boston, MA*, 1998. *viii*+753 *pp. ISBN* 0-7923-5293-9 (Editors) **99g:90002** 90–00 (90C10, 90C27, 90C35)

— ★ Handbook of combinatorial optimization. Vol. 3. Edited by Ding-Zhu Du and Panos M. Pardalos. *Kluwer Academic Publishers, Boston, MA*, 1998. *viii*+865 *pp. ISBN* 0-7923-5285-8 (Editors) **99g:90003** 90–00 (90C10, 90C27, 90C35)

Graph grammars and computing by graph transformation ★ Handbook of graph grammars and computing by graph transformation. Vol. 1. Foundations. Edited by Grzegorz Rozenberg. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xvi+553 *pp. ISBN* 981-02-2884-8 (Andrea Maggiolo-Schettini) **99b:68006** 68–06 (05C90, 68Q42, 68Q50, 68R10)

History of general topology ★ Handbook of the history of general topology. Vol. 1. Edited by C. E. Aull and R. Lowen. *Kluwer Academic Publishers, Dordrecht*, 1997. *x*+397 *pp. ISBN* 0-7923-4479-0 (Editors) **99a:01001** 01–06 (01A55, 01A60, 54–03, 54–06)

Mathematics *see* **Bronshtein, I. N. et al., 99g:00016**

Numerical analysis ★ Handbook of numerical analysis. Vol. VI. Numerical methods for solids. Part 3. Numerical methods for fluids. Part 1. Edited by P. G. Ciarlet and J. L. Lions. *North-Holland, Amsterdam*, 1998. *x*+689 *pp. ISBN* 0-444-82569-X (Editors) **99h:65001** 65–00 (65Mxx, 65Nxx, 73Vxx, 76Mxx)

Ordinary differential equations *see* **Zaĭtsev, V. F. et al., 99d:34001**

Handbook: (*cont'd.*)

Proof theory ★ Handbook of proof theory. Edited by Samuel R. Buss. Studies in Logic and the Foundations of Mathematics, 137. *North-Holland Publishing Co., Amsterdam*, 1998. *x*+811 *pp. ISBN* 0-444-89840-9 (Editors) **99d:03051** 03Fxx (03–06)

Recursive mathematics ★ Handbook of recursive mathematics. Vol. 1. Recursive model theory. Edited by Yu. L. Ershov, S. S. Goncharov, A. Nerode, J. B. Remmel and V. W. Marek. Studies in Logic and the Foundations of Mathematics, 138. *North-Holland, Amsterdam*, 1998. *xlvi*+620 *pp. ISBN* 0-444-50003-0 (Editors) **99k:03003** 03–06 (03C57)

— ★ Handbook of recursive mathematics. Vol. 2. Recursive algebra, analysis and combinatorics. Edited by Yu. L. Ershov, S. S. Goncharov, A. Nerode, J. B. Remmel and V. W. Marek. Studies in Logic and the Foundations of Mathematics, 139. *North-Holland, Amsterdam*, 1998. *pp. i–xlvi and* 621–1372. *ISBN* 0-444-50106-1 (Editors) **99k:03004** 03–06 (03D45, 03F60)

Handbook of logic in artificial intelligence and logic programming ★ Handbook of logic in artificial intelligence and logic programming. Vol. 5. Logic programming. Edited by Dov M. Gabbay, C. J. Hogger and J. A. Robinson. *The Clarendon Press, Oxford University Press, New York*, 1998. *xvi*+799 *pp. ISBN* 0-19-853792-1 (Editors) **99a:68009** 68–06 (03–06, 03B70, 68–00, 68N17)

Hangzhou ★ Differential equations and applications. Proceedings of the US-Chinese Conference held in Hangzhou, June 24–29, 1996. Edited by P. W. Bates, S.-N. Chow, K. Lu and X. Pan. *International Press, Cambridge, MA*, 199?. x+363 *pp. ISBN* 1-57146-048-9 (Editors) **99b:00013** 00B25 (34–06, 35–06)

— ★ Proceedings of the 1997 Conference on Geometric Design (GD '97). (Chinese) Held in Hangzhou, June 21–22, 1997. Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), suppl. *Applied Mathematics. A Journal of Chinese Universities, Editorial Committee, Hangzhou*, 1998. *pp. i–ii and* 1–126. (Editors) **99k:65006** 65–06 (00B25)

Hannover ★ Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids. Held in Hannover, August 17–20, 1994. Edited by A. Mielke and K. Kirchgässner. Advanced Series in Nonlinear Dynamics, 7. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. *x*+418 *pp. ISBN* 981-02-2124-X (Editors) **99m:76003** 76–06 (00B25, 35–06, 76B15, 76Exx)

Hardwar ★ Pre-proceedings of the 64th Indian Mathematical Society Conference and Symposia on Traditions of Vedic Mathematics & Applications and Fixed Point Theory in Non-linear Analysis & Applications. Pre-proceedings of the conference and abstracts from the symposia held at Gurukula Kangri Vishwavidyalaya (University), Hardwar, December 19–22, 1998. J. Natur. Phys. Sci. **12** (1998), no. 1. *Gurukul Kangri Vishwavidyalaya, Hardwar*, 1998. *pp.* 1–126. (Editors) **99k:00027** 00B25

Harmonic analysis and hypergroups ★ Harmonic analysis and hypergroups. Proceedings of the International Conference on Harmonic Analysis held at the University of Delhi, Delhi, December 18–22, 1995. Edited by K. A. Ross, J. M. Anderson, G. L. Litvinov, A. I. Singh, V. S. Sunder and N. J. Wildberger with the assistance of Alan L. Schwartz and Martin E. Walter. Trends in Mathematics. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *vi*+249 *pp. ISBN* 0-8176-3943-8 (Editors) **99a:43001** 43–06 (42–06, 60–06)

Harmonic/analytic function spaces and linear operators ★ Chōwa kaiseki kansū kūkan to senkei sayōso. (Japanese) [Harmonic/analytic function spaces and linear operators] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 19–21, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1049 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–161. (Editors) **99i:00018** 00B25

Havana ★ I Simposio de Inteligencia Artificial. (Spanish) [First Symposium on Artificial Intelligence] Papers from the symposium held in Havana, March 24–28, 1997. Edited by María Elena González Chang, Urbía Vila Abreu and Nilda Garzón Estrada. *Instituto de Cibernética, Matématica y Física, Centro de Inteligencia Artificial (CENIA), Havana*, 1998. *vi*+150 *pp. ISBN* 959-7056-10-0 (Editors) **99m:68013** 68–06 (68T10, 68T30)

Heidelberg ★ Algorithmic algebra and number theory. Selected papers from the conference held at the University of Heidelberg, Heidelberg, October 1997. Edited by B. Heinrich Matzat, Gert-Martin Greuel and Gerhard Hiss. *Springer-Verlag, Berlin*, 1999. *viii*+434 *pp. ISBN* 3-540-64670-1 (Editors) **99h:00020** 00B25 (11–06, 13–06, 20–06)

Heritage of Emmy Noether ★ The heritage of Emmy Noether. Proceedings of the conference held at Bar-Ilan University, Ramat-Gan, December 2–3, 1996. Edited by Mina Teicher. Israel Mathematical Conference Proceedings, 12. *Bar-Ilan University, Gelbart Research Institute for Mathematical Sciences, Ramat Gan*; *Bar-Ilan University, Emmy Noether Research Institute of Mathematics, Ramat Gan*, 1999. *viii*+101 *pp.* (Editors) **99g:01001** 01–06 (00B30, 01A70, 13–03, 16–03)

High dimensional probability ★ High dimensional probability. Papers from the conference held in Oberwolfach, August 1996. Edited by Ernst Eberlein, Marjorie Hahn and Michel Talagrand. Progress in Probability, 43. *Birkhäuser Verlag, Basel*, 1998. *viii*+330 *pp. ISBN* 3-7643-5867-X (Editors) **99e:60003** 60–06

High performance algorithms for structured matrix problems ★ High performance algorithms for structured matrix problems. Edited by Peter Arbenz, Marcin Paprzycki, Ahmed H. Sameh and Vivek Sarin. Advances in the Theory of Computation and Computational Mathematics, II. *Nova Science Publishers, Inc., Commack, NY*, 1998. *xii*+203 *pp. ISBN* 1-56072-594-X (Editors) **99k:65004** 65–06 (65Fxx)

Higher category theory ★ Higher category theory. Papers from the Workshop on Higher Category Theory and Physics held at Northwestern University, Evanston, IL, March 28–30, 1997. Edited by Ezra Getzler and Mikhail Kapranov. Contemporary Mathematics, 230. *American Mathematical Society, Providence, RI*, 1998. *x*+134 *pp. ISBN* 0-8218-1056-1 (Editors) **99h:18002** 18–06

Higher homotopy structures in topology and mathematical physics ★ Higher homotopy structures in topology and mathematical physics. Proceedings of the International Conference held in honor of the 60th birthday of Jim Stasheff at Vassar College, Poughkeepsie, NY, June 13–15, 1996. Edited by John McCleary. Contemporary Mathematics, 227. *American Mathematical Society, Providence, RI*, 1999. *xii*+321 *pp. ISBN* 0-8218-0913-X (Editors) **99g:00041** 00B25 (18–06, 55–06)

Hilbert's Problems ★ Problemy Hilberta. (Polish) [Hilbert's Problems] W pięćdziesięciolecie śmierci ich twórcy. [On the occasion of the fiftieth anniversary of the death of their creator] Proceedings of the 7th All-Polish School on the History of Mathematics held in Międzyzdroje, May 10–14, 1993. Edited by Witold Więsław. *Polska Akademia Nauk, Instytut Historii Nauki PAN, Warsaw*, 1997. 269 *pp. ISBN*

83-86062-90-8 (Editors) **99b:01001** 01–06 (01A60)

Histoires de problèmes. Histoire des mathématiques ★ Histoires de problèmes. Histoire des mathématiques. (French) [Histories of problems. History of mathematics] Edited by the Commission Inter-I.R.E.M. "Épistémologie et Histoire des Mathématiques". *Ellipses, Édition Marketing, Paris*, 1993. 432 *pp. ISBN* 2-7298-9368-7 (Victor J. Katz) **99m:00001a** 00A05 (01A05)

Histories of problems. History of mathematics ★ Histoires de problèmes. Histoire des mathématiques. (French) [Histories of problems. History of mathematics] Edited by the Commission Inter-I.R.E.M. "Épistémologie et Histoire des Mathématiques". *Ellipses, Édition Marketing, Paris*, 1993. 432 *pp. ISBN* 2-7298-9368-7 (Victor J. Katz) **99m:00001a** 00A05 (01A05)

History of mathematics. Histories of problems ★ History of mathematics. Histories of problems. Edited by the Inter-IREM Commission "Epistemology and History of Mathematics" [Commission Inter-I.R.E.M. "Epistémologie et Histoire des Mathématiques"]. Translated from the French by Chris Weeks. With a preface by John Fauvel. *Ellipses, Édition Marketing, Paris*, 1997. *ii*+430 *pp. ISBN* 2-7298-4730-8 (Victor J. Katz) **99m:00001b** 00A05 (01A05)

Holomorphic spaces ★ Holomorphic spaces. Papers from the MSRI Program held in Berkeley, CA, 1995. Edited by Sheldon Axler, John E. McCarthy and Donald Sarason. Mathematical Sciences Research Institute Publications, 33. *Cambridge University Press, Cambridge*, 1998. *x*+476 *pp. ISBN* 0-521-63193-9 (Editors) **99a:00028** 00B25 (30–06, 46–06, 47–06)

Homotopy and geometry ★ Homotopy and geometry. Papers from the workshop held in Warsaw, June 9–13, 1997. Edited by John Oprea and Aleksy Tralle. Banach Center Publications, 45. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 240 *pp.* (Editors) **99k:57001** 57–06

Homotopy theory via algebraic geometry and group representations ★ Homotopy theory via algebraic geometry and group representations. Proceedings of the International Conference on Current Trends in Algebraic Topology with Applications to Algebraic Geometry and Physics held as part of The Special Year on Algebraic Topology at Northwestern University, Evanston, IL, March 23–27, 1997. Edited by Mark Mahowald and Stewart Priddy. Contemporary Mathematics, 220. *American Mathematical Society, Providence, RI*, 1998. *xii*+379 *pp. ISBN* 0-8218-0805-2 (Editors) **99c:55001** 55–06

Hong Kong ★ International Workshop on Value Distribution Theory and its Applications. Selected papers from the workshop held at the Hong Kong University of Science and Technology, Hong Kong, July 23–26, 1996. Edited by Alan F. Beardon and Chung-Chun Yang. Bull. Hong Kong Math. Soc. **1** (1997), no. 2. *Gordon and Breach Science Publishers, Yverdon*, 1997. *pp.* 203–385. (Editors) **99a:30002** 30–06

— ★ Elliptic curves, modular forms & Fermat's last theorem. Proceedings of the Conference on Elliptic Curves and Modular Forms held at the Chinese University of Hong Kong, Hong Kong, December 18–21, 1993. Edited by John Coates and S. T. Yau. Second edition. *International Press, Cambridge, MA*, 1997. *iv*+340 *pp. ISBN* 1-57146-049-7 (Editors) **99d:11002** 11–06 (11D41, 11Fxx, 11G05)

— ★ Iterative methods in scientific computing. Papers from the Winter School on Iterative Methods in Scientific Computing and their Applications held in Hong Kong, December 14–20, 1995. Edited by Raymond H. Chan, Tony F. Chan and Gene H. Golub. *Springer-Verlag Singapore, Singapore*, 1997. *x*+384 *pp. ISBN* 981-3083-08-5 (Editors) **99g:65001** 65–02 (65–06)

— ★ Theoretical aspects of neural computation. A multidisciplinary perspective. Papers from the International Workshop (TANC-97) held at the Hong Kong University of Science and Technology, Hong Kong, May 26–28, 1997. Edited by Kwok-Yee Michael Wong, Irwin King and Dit-Yan Yeung. *Springer-Verlag Singapore, Singapore*, 1998. *xii*+320 *pp. ISBN* 981-3083-70-0 (Editors) **99f:00027** 00B25 (62–06, 68T05)

— ★ Second Annual International Computing and Combinatorics Conference. Selected papers from the conference (COCOON '96) held in Hong Kong, June 17–19, 1996. Algorithmica **23** (1999), no. 4. *Springer-Verlag, New York*, 1999. *pp.* 277–373. (Editors) **99k:68009** 68–06

— ★ Advances in wavelets. Papers from the Programme on Wavelets and their Applications held at the Chinese University of Hong Kong, Hong Kong, 1997. Edited by Ka-Sing Lau. *Springer-Verlag Singapore, Singapore*, 1999. *viii*+282 *pp. ISBN* 981-4021-08-3 (Editors) **99m:42002** 42–06 (41A15, 42C15, 94A12)

Honolulu, HI ★ MSI-2000. Vol. IV. Multivariate statistical analysis. Papers from the Multivariate Statistical Inference 2000 Conference held in honor of Minoru Siotani on his 70th birthday at the University of Hawaii, Honolulu, HI, August 1995. Edited by Vidya S. Taneja. Also Vol. 37 of Amer. Ser. Math. Management Sci. Amer. J. Math. Management Sci. **18** (1998), no. 1-2. *American Sciences Press, Syracuse, NY*, 1998. *pp. i–ii and* 1–226. (Editors) **99f:62009** 62–06

Hopf algebras and quantum groups ★ Hoppu daisū to ryōshi gun. (Japanese) [Hopf algebras and quantum groups] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 27–28, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 997 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–219. (Editors) **99a:00029** 00B25 (16–06)

Houston, TX ★ Advances in mathematical population dynamics—molecules, cells and man. Papers from the 4th International Conference on Mathematical Population Dynamics held at Rice University, Houston, TX, May 23–27, 1995. Edited by O. Arino, D. Axelrod and M. Kimmel. Series in Mathematical Biology and Medicine, 6. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxvi*+839 *pp. ISBN* 981-02-3176-8 (Editors) **99d:92001** 92–06 (00B25)

— ★ Parametrized relativistic quantum theory. Part 1. Proceedings of the 1st International Conference (PRQT '98) held in Houston, TX, February 9–11, 1998. Edited by John R. Fanchi and Lawrence P. Horwitz. Found. Phys. **28** (1998), no. 9. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–ii and* 1401–1506. (Editors) **99k:81005** 81–06

— ★ Parametrized relativistic quantum theory. Part 2. Proceedings of the 1st International Conference (PRQT '98) held in Houston, TX, February 9–11, 1998. Edited by John R. Fanchi and Lawrence P. Horwitz. Found. Phys. **28** (1998), no. 10. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–ii and* 1509–1616. (Editors) **99k:81006** 81–06 (00B25)

— ★ Robotics: the algorithmic perspective. Papers from the 3rd Workshop on the Algorithmic Foundations of Robotics (WAFR) held at Rice University, Houston, TX, March 5–7, 1998. Edited by Pankaj K. Agarwal, Lydia E. Kavraki and Matthew T. Mason. *A K Peters, Ltd., Natick, MA*, 1998. *x*+389 *pp. ISBN* 1-56881-081-4 (Editors) **99m:68012** 68–06 (93C85)

Hybrid control systems ★ Hybrid control systems. Edited by Panos J. Antsaklis and Anil Nerode. IEEE Trans. Automat. Control **43** (1998), no. 4. *Institute of Electrical and Electronics Engineers, Inc. (IEEE), Amsterdam*, 1998. *pp.* 457–587. (Editors) **99a:93006** 93–06 (34H05, 93C10, 93C57)

Hyderabad ★ Differential equations—theory, methods and applications. Proceedings of the International Conference held in Hyderabad, February 20–23, 1995. Differential Equations Dynam. Systems **4** (1996), no. 3-4. *Research Square Publications, Hyderabad*, 1996. *pp.* 253–478. (Editors) **99g:00038** 00B25 (34–06, 35–06)

— ★ New directions in applied mathematics. Proceedings of the International Conference held in Hyderabad, December 19–22, 1995. Edited by S. Umamaheswaram and M. Sitaramayya. Differential Equations Dynam. Systems **6** (1998), no. 1-2. *Research Square Publications, Hyderabad*, 1998. *pp. i–iv and* 1–260. (Editors) **99g:00043** 00B25 (00A69)

Hydrodynamics and nonlinear instabilities ★ Hydrodynamics and nonlinear instabilities. With chapters by Bernard Castaing, P. Huerre and M. Rossi, Vincent Hakim, Stephan Fauve, and G. Joulin and P. Vidal. Edited by Claude Godrèche and Paul Manneville. Collection Aléa-Saclay: Monographs and Texts in Statistical Physics, 3. *Cambridge University Press, Cambridge*, 1998. *xvi*+681 *pp. ISBN* 0-521-45503-0 (Arjen Doelman) **99i:76001** 76–02 (35Q35, 76Exx, 80A32)

Hyperbolic equations and frequency interactions ★ Hyperbolic equations and frequency interactions. Lectures from the Graduate Summer School on Nonlinear Wave Phenomena held in Park City, UT, July 9–29, 1995. Edited by Luis Caffarelli and Weinan E. IAS/Park City Mathematics Series, 5. *American Mathematical Society, Providence, RI; Institute for Advanced Study (IAS), Princeton, NJ*, 1999. *xii*+466 *pp. ISBN* 0-8218-0592-4 (Editors) **99h:35002** 35–06

ICIAM/GAMM 95 ★ ICIAM/GAMM 95. Applied analysis. Papers from the 3rd International Congress on Industrial and Applied Mathematics held in Hamburg, July 3–7, 1995. Edited by O. Mahrenholtz and R. Mennicken. Z. Angew. Math. Mech. **76** (1996), suppl. 2. *Akademie Verlag, Berlin*, 1996. *pp. i–xx and* 1–718. (Editors) **99f:00010a** 00B05

— ★ ICIAM/GAMM 95. Applied stochastics and optimization. Papers from the 3rd International Congress on Industrial and Applied Mathematics held in Hamburg, July 3–7, 1995. Edited by O. Mahrenholtz, K. Marti and R. Mennicken. Z. Angew. Math. Mech. **76** (1996), suppl. 3. *Akademie Verlag, Berlin*, 1996. *pp. i–xvi and* 1–585. (Editors) **99f:00010b** 00B05 (90–06, 93–06)

IEEE Conference:

Computational Complexity ★ Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity. Selected papers from the conference held in Philadelphia, PA, May 24–27, 1996. Edited by Jin-Yi Cai and Alan Selman. J. Comput. System Sci. **57** (1998), no. 2. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 125–232. (Editors) **99g:68002** 68–06 (68Q15)

— ★ Thirteenth Annual IEEE Conference on Computational Complexity. Proceedings of the conference held in Buffalo, NY, June 15–18, 1998. *IEEE Computer Society, Los Alamitos, CA*, 1998. *x*+281 *pp. ISBN* 0-8186-8395-3 (Editors) **99h:68007** 68–06 (68Q15)

IEEE Symposium:

Foundations of Computer Science ★ 36th Annual Symposium on Foundations of Computer Science. Held in Milwaukee, WI, October 23–25, 1995. *IEEE Computer Society Press, Los Alamitos, CA*, 1995. *xiii*+735 *pp. ISBN* 0-8186-7183-1 (Editors) **99a:68010** 68–06 (68Qxx)

Logic in Computer Science ★ Thirteenth Annual IEEE Symposium on Logic in Computer Science. Held in Indianapolis, IN, June 21–24, 1998. *IEEE Computer Society, Los Alamitos, CA*, 1998. *xvi*+538 *pp. ISBN* 0-8186-8506-9 (Editors) **99h:68008** 68–06 (03–06, 03B70)

Multiple-valued Logic ★ 28th IEEE International Symposium on Multiple-valued Logic. Proceedings of the symposium (ISMVL '98) held in Fukuoka, May 27–29, 1998. *IEEE Computer Society, Los Alamitos, CA*, 1998. *xvi*+384 *pp. ISBN* 0-8186-8371-6 (Editors) **99i:03025** 03B50 (03–06)

IFIP Conference:

Systems Modelling and Optimization ★ Systems modelling and optimization. Proceedings of the 18th IFIP TC7 Conference held in Detroit, MI, July 22–25, 1997. Edited by Michael P. Polis, Asen L. Dontchev, Peter Kall, Irena Lasiecka and Andrzej W. Olbrot. Chapman & Hall/CRC Research Notes in Mathematics, 396. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *xii*+513 *pp. ISBN* 0-8493-0607-8 (Editors) **99k:93007** 93–06 (49–06, 90–06)

Ilieni ★ Modern applied analysis. Proceedings of the 2nd Joint Hungarian-Romanian Conference held in Ilieni, June 1997. Edited by Béla Vízvári and Sándor Horváth. Pure Math. Appl. **9** (1998), no. 1-2. *SAAS Ltd.—SAAS Publishing, Budapest*, 1998. *pp. i–iv and* 1–254. 00B25

Impact of chaos on science and society ★ The impact of chaos on science and society. Proceedings of the symposium held at the University of Tokyo, Tokyo, April 15–17, 1991. Edited by Celso Grebogi and James A. Yorke. *United Nations University Press, Tokyo*, 1997. xiv+401 *pp. ISBN* 92-808-0882-6 (Sandra L. Arlinghaus) **99d:00006** 00A69 (00B25, 58F15)

Impossible worlds ★ Impossible worlds. Edited by Graham Priest. Notre Dame J. Formal Logic **38** (1997), no. 4. *University of Notre Dame, Notre Dame, IN*, 1997. *pp.* 481–660. (Editors) **99d:03002** 03–06 (03A05, 03B45, 03B53)

In fascination of fluid dynamics ★ In fascination of fluid dynamics. Papers from the symposium held in honor of Leen van Wijngaarden on his 65th birthday in Lattrop, March 20–22, 1997. Edited by Arie Biesheuvel and GertJan F. van Heijst. Reprinted from Appl. Sci. Res. **58** (1997), no. 1-4. Fluid Mechanics and its Applications, 45. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+501 *pp. ISBN* 0-7923-5078-2 76–06

In memoriam of Ronald V. Book ★ In memoriam of Ronald V. Book. Edited by D.-Z. Du and K.-I. Ko. Theoret. Comput. Sci. **207** (1998), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. ix–xiv and* 1–259. 68–06 (00B30)

Incomplete information: rough set analysis ★ Incomplete information: rough set analysis. Edited by Ewa Orłowska. Studies in Fuzziness and Soft Computing, 13. *Physica-Verlag,*

Heidelberg, 1998. *xii*+613 *pp. ISBN* 3-7908-1049-5 (Editors) **99d:04012** 04A72 (04–06)

Index:

Adv. in Appl. Probab. Applied probability. Complete author and subject index: 1995–97. *Appl. Probab. Index No.* 10 (1995/97), 63 *pp.* (1998). 00A15

Appl. Number. Math. Master index to Volumes 21–30. *Appl. Numer. Math.* **30** (1999), *no.* 4, 495–514. 00A15

Comm. Math. Phys. Author index to Volumes 191–200 (1998–1999). *Comm. Math. Phys.* **200** (1999), *no.* 3, 723–735. 00A15

Discrete Appl. Math. Master Index Volumes 81–90. *Discrete Appl. Math.* **1999,** *Master Index*, *iv*+18 *pp.* 00A15

Discrete Math. Master index: Volumes 181–190. *Discrete Math.* **1998,** *Master Index Volumes* 181–190., *vi*+20 *pp.* 00A15

— Master index: Volumes 191–200. *Discrete Math.* **1999,** *Master Index Volumes* 191–200, *vi*+21 *pp.* 00A15

Divulg. Mat. Cumulative contents 1993–1996. *Divulg. Mat.* **4** (1996), *no.* 1-2, 101–105 (1998). 00A15

Gen. Relativity Gravitation Index to Volumes 1–30. *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1823–2001. 00A15 (83–00)

Graph Theory Notes N. Y. Combined index supplement: Issues I–XXX, 1980–1996. *Graph Theory Notes N. Y.* **1996,** *Combined Index Supplement*, 53 *pp.* 05–00 (00B15)

J. Appl. Probab. Applied probability. Complete author and subject index: 1995–97. *Appl. Probab. Index No.* 10 (1995/97), 63 *pp.* (1998). 00A15

J. London Math. Soc. Complete author index: Series 1, Volumes 1–44, 1926–1969; Series 2, Volumes 1–48, 1969–1993. *J. London Math. Soc.* (2) **1998,** *Complete Author Index*, *ii*+199 *pp.* 00A15

J. London Math. Soc. (2) Complete author index: Series 1, Volumes 1–44, 1926–1969; Series 2, Volumes 1–48, 1969–1993. *J. London Math. Soc.* (2) **1998,** *Complete Author Index*, *ii*+199 *pp.* 00A15

J. Math. Soc. Japan General index: Volumes 41–50 (1989–1998). *J. Math. Soc. Japan* **50** (1998), *no.* 4, *i–xvi.* 00A15

J. Reine Angew. Math. Inhaltsverzeichnis der Bände 451–500. [Index of Volumes 451–500] *J. Reine Angew. Math.* **500** (1998), 213–228. 00A15

Math. Intelligencer The Mathematical Intelligencer cumulative index: Volumes 11–20. *Math. Intelligencer* **20** (1998), *no.* 4, 67–80. 00A15

Mathematical book reviews *see* **Grinstein, Louise S., 99f:00004**

Papers of the Mathematics-Natural Science Section, Austrian Academy of Sciences ★ Die Schriften der mathematisch-naturwissenschaftlichen Klasse. 1971–1996. (German) [Papers of the Mathematics-Natural Sciences Section. 1971–1996] Autorenverzeichnis (1971–1996). Schriftenreihen. Ergänzungen (bis 1925). Ergänzungen zu Band II (1926–1970). Preisträger der math.-nat. Klasse. [Author index (1971–1996). Text series. Supplements (until 1925). Supplements to Vol. II (1926–1970). Prize winners of the Mathematics-Natural Science Section] Compiled by Bruno Besser. Dokumentation zur Österreichischen Akademie der Wissenschaften [Documentation on the Austrian Academy of Sciences], IV. *Verlag der Österreichischen Akademie der Wissenschaften, Vienna*, 1998. *x*+535 *pp. ISBN* 3-7001-2726-X (Editors) **99k:00007** 00A15

Sūrikaisekikenkyūsho Kōkyūroku Cumulative index of volumes, titles, and authors (No. 1–No. 999). (Japanese) *Sūrikaisekikenkyūsho Kōkyūroku No.* 1000, *Index* (1997), *ii*+426 *pp.* (Editors) **99g:00015** 00A15

Theoret. Comput. Sci. Subject index and cumulative index: Volumes 1–200. *Theoret. Comput. Sci.* **213/214** (1999), *Cumulative Index*, *viii*+659 *pp.* (From the preface) **99m:68001** 68–00 (00A15)

Indianapolis, IN ★ Thirteenth Annual IEEE Symposium on Logic in Computer Science. Held in Indianapolis, IN, June 21–24, 1998. *IEEE Computer Society, Los Alamitos, CA*, 1998. *xvi*+538 *pp. ISBN* 0-8186-8506-9 (Editors) **99h:68008** 68–06 (03–06, 03B70)

Inductive logic programming ★ Inductive logic programming. Proceedings of the 7th International Workshop (ILP-97) held in Prague, September 17–20, 1997. Edited by Nada Lavrač and Sašo Džeroski. Lecture Notes in Computer Science, 1297. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *viii*+309 *pp. ISBN* 3-540-63514-9 (Editors) **99b:68007** 68–06 (68N17, 68T05)

— ★ Inductive logic programming. Proceedings of the 8th International Conference (ILP-98) held at the University of Wisconsin, Madison, WI, July 22–24, 1998. Edited by David Page [C. David Page, Jr.]. Lecture Notes in Computer Science, 1446. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *viii*+301 *pp. ISBN* 3-540-64738-4 (Editors) **99k:68010** 68–06 (68N17, 68T05)

Industrial and applied mathematics ★ Industrial and applied mathematics. Selected papers from the 1st and 2nd Meetings held at Okayama University of Science, Okayama, June 28, 1997, and June 26, 1998. Edited by Hiroshi Niki. Information **2** (1999), no. 1. *International Information Institute, Yamaguchi*, 1999. *pp.* 1–140. (Editors) **99h:65005** 65–06 (76–06)

Industrial applications of combinatorial optimization ★ Industrial applications of combinatorial optimization. Edited by Gang Yu. Applied Optimization, 16. *Kluwer Academic Publishers, Dordrecht*, 1998. *xviii*+347 *pp. ISBN* 0-7923-5073-1 (Editors) **99d:90005** 90–06 (90C10, 90C27, 90C90)

Inequalities in operator theory and related topics ★ Sayōso ron ni okeru futōshiki to sono shūhen. (Japanese) [Inequalities in operator theory and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 26–28, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1027 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–134. (Editors) **99f:47002** 47–06

Infinite-dimensional measure theory and representation theory of infinite-dimensional groups ★ Mugen jigen sokudo ron to mugen jigen gun no hyōgen ron. (Japanese) [Infinite-dimensional measure theory and representation theory of infinite-dimensional groups] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 25–26, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1017 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–123. (Editors) **99d:22001** 22–06

Information security and privacy ★ Information security and privacy. Proceedings of the 3rd Australasian Conference (ACISP '98) held in Brisbane, July 13–15, 1998. Edited by Colin Boyd and Ed Dawson. Lecture Notes in Computer Science, 1438. *Springer-Verlag, Berlin*, 1998. *xii*+423 *pp. ISBN* 3-540-64732-5 (Editors) **99i:94060** 94A60 (94–06)

Information theory ★ Information theory: 1948–1998. Edited by Sergio Verdú. IEEE Trans. Inform. Theory **44** (1998), no. 6. *Institute of Electrical and Electronics Engineers, Inc. (IEEE), Zielona Góra*, 1998. *pp. i and* 2042–2772. (Editors) **99h:94002** 94–06 (94A15)

Integrability of nonlinear systems ★ Integrability of nonlinear systems. Proceedings of the CIMPA International School on Nonlinear Systems, held at Pondicherry University, Pondicherry, January 8–26, 1996. Edited by Y. Kosmann-Schwarzbach, B. Grammaticos and K. M. Tamizhmani. Lecture Notes in Physics, 495. *Springer-Verlag, Berlin*, 1997. *viii*+380 *pp. ISBN* 3-540-63353-7 (Editors) **99b:58006** 58–06

Integrable systems and algebraic geometry ★ Integrable systems and algebraic geometry. Proceedings of the 41st Taniguchi Symposium held in Kobe, June 30–July 4, 1997, and at Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 7–11, 1997. Edited by M.-H. Saito, Y. Shimizu and K. Ueno. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xiv*+480 *pp. ISBN* 981-02-3266-7 (Editors) **99i:14002** 14–06

Integral transform method in thermal and fluids sciences and engineering ★ The integral transform method in thermal and fluids sciences and engineering. Papers from the 2nd Workshop on Integral Transforms held at the Military Institute of Engineering, Rio de Janeiro, November 1996. Edited by Renato M. Cotta. *Begell House, Inc., New York*, 1998. *xiv*+430 *pp. ISBN* 1-56700-120-3 44–00 (73–00, 76–00, 80–00)

Intelligence and artificial intelligence ★ Intelligence and artificial intelligence. An interdisciplinary debate. Edited by U. Ratsch, M. M. Richter and I.-O. Stamatescu. *Springer-Verlag, Berlin*, 1998. *viii*+216 *pp. ISBN* 3-540-63780-X (Editors) **99d:68211** 68T01 (68–06)

Interaction of superhigh-intensity laser radiation with a plasma ★ Взаимодействие лазерного излучения сверхвысокой интенсивности с плазмой. (Russian) [Interaction of superhigh-intensity laser radiation with a plasma] Edited by V. V. Korobkin. Труды Института Общей Физики [Proceedings of the Institute of General Physics], 50. *Fizmatlit "Nauka", Moscow*, 1995. 183 *pp. ISBN* 5-02-015192-0 (Editors) **99a:82094** 82D10 (76X05, 81V80)

Interior point methods of mathematical programming ★ Interior point methods of mathematical programming. Edited by Tamás Terlaky. Applied Optimization, 5. *Kluwer Academic Publishers, Dordrecht*, 1996. xxii+528 *pp. ISBN* 0-7923-4201-1 (Yin Zhang) **99a:90005** 90–06 (65K05, 90C05, 90C30)

Interplay between insurance, finance and control ★ The interplay between insurance, finance and control. Proceedings of the International Workshop held in Aarhus, February 25–March 1, 1997. Insurance Math. Econom. **22** (1998), no. 1. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–vi and* 1–122. (Editors) **99a:90006** 90–06

Introduction to implicit surfaces ★ Introduction to implicit surfaces. Edited by Jules Bloomenthal. The Morgan Kaufmann Series in Computer Graphics and Geometric Modeling. *Morgan Kaufmann, San Francisco, CA*, 1997. *xiii*+332 *pp. ISBN* 1-55860-233-X (Marshall Walker) **99i:00008** 00A69 (41A63, 65D17, 65Y25, 68U05)

Inverse problems in engineering mechanics ★ Inverse problems in engineering mechanics. Papers from the IUTAM Symposium (ISIP '98) held in Nagano, March 1998. Edited by M. Tanaka and G. S. Dulikravich. *Elsevier Science Ltd., Oxford*, 1998. *xii*+622 *pp. ISBN* 0-08-043319-7 (Editors) **99k:80001** 80–06 (73–06, 78–06)

Inverse problems of mathematical physics ★ Inverse problems of mathematical physics. Papers from the International Conference held in honor of Vladimir Gavrilovich Romanov on the occasion of his 60th birthday in Novosibirsk, September 21–25, 1998. J. Inverse Ill-Posed Probl. **6** (1998), no. 5. *VSP, Zeist*, 1998. *pp. i–ii and* 387–520. 00B30

Inverse problems, tomography, and image processing ★ Inverse problems, tomography, and image processing. Selected papers from the Special Sessions on Inverse Problems and on Tomography and Image Processing held at the 1st International Congress of the International Society for Analysis, Applications and Computing (ISAAC), at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Alexander G. Ramm. *Plenum Press, New York*, 1998. *x*+258 *pp. ISBN* 0-306-45828-4 (Editors) **99a:00030** 00B25 (44–06, 73–06, 76–06, 92–06)

Investigations of nonclassical logics based on sequent calculus and Kripke semantics ★ Sequent calculus to Kripke semantics ni motozuku hihoten ronrigaku no kenkyū. [Investigations of nonclassical logics based on sequent calculus and Kripke semantics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 9–11, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1021 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–205. (Editors) **99d:03003** 03–06

Investigations on the structure of solutions to partial differential equations ★ Hembibun hōteishiki no kai no kōzō no kenkyū. [Investigations on the structure of solutions to partial differential equations] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 6–8, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1036 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–159. (Editors) **99f:35004** 35–06

— ★ Hembibun hōteishiki no kai no kōzō no kenkyū. [Investigations on the structure of solutions to partial differential equations] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, April 6–7, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1056 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–109. (Editors) **99m:35003** 35–06

Invited papers dedicated to Asim O. Barut ★ Invited papers dedicated to Asim O. Barut. Part I. Found. Phys. **28** (1998), no. 3. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–iv and* 355–525. (Editors) **99h:81002** 81–06 (00B30)

— ★ Invited papers dedicated to Asim O. Barut. Part III. Found. Phys. **28** (1998), no. 5. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–iv and* 699–862. (Editors) **99f:81002** 81–06 (00B30)

Irresistible rise of the standard model ★ The irresistible rise of the standard model. Proceedings of the 5th Topical Seminar held in San Miniato, April 21–25, 1997. Edited by F.-L. Navarria and P. G. Pelfer. Nuclear Phys. B Proc. Suppl. **65** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–xii and* 1–331. (Editors) **99b:81002** 81–06

Irreversibility and causality ★ Irreversibility and causality. Semigroups and rigged Hilbert spaces. Selected papers from the 21st International Colloquium on Group Theoretical Methods in Physics (ICGTMP) held in Goslar, July 16–21, 1996. Edited by Arno Bohm, Heinz-Dietrich Doebner and Piotr Kielanowski. Lecture Notes in Physics, 504. *Springer-Verlag, Berlin*, 1998. *xx*+385 *pp. ISBN* 3-540-64305-2 (Editors) **99b:81003** 81–06 (00B25, 47–06)

Irreversibility and cosmology ★ Irreversibility and cosmology. Fundamental aspects of quantum mechanics. Papers from the workshops held in Peyresq, July 7–11, 1997. Internat. J. Theoret. Phys. **38** (1999), no. 1. *Kluwer Academic/Plenum Publishers, New York*, 1999. *pp. i–ii and* 1–517. (Editors) **99k:00032** 00B25

Irvine, CA ★ Topics in symplectic 4-manifolds. 1st International Press Lectures presented at the University of California, Irvine, CA, March 28–30, 1996. Edited by Ronald J. Stern. First International Press Lecture Series, I. *International Press, Cambridge, MA*, 1998. *iv*+124 *pp. ISBN* 1-57146-019-5 (Editors) **99b:57001** 57–06 (58–06)

Issue on probability theory ★ Fascicule de probabilités. (French) [Issue on probability theory] Publications de l'Institut de Recherche Mathématique de Rennes [Publications of the Rennes Institute of Mathematical Research], 1996/1997. *Université de Rennes I, Institut de Recherche Mathématique de Rennes, Rennes*, 199?. 141 *pp.* (Editors) **99d:60004** 60–06 (28–06)

Istanbul ★ Linear algebra and statistics. Including papers from the 6th International Workshop on Matrices and Statistics held in Istanbul, August 16–17, 1997. Edited by R. William Farebrother, Simo Puntanen, George P. H. Styan and Hans Joachim Werner. Linear Algebra Appl. **289** (1999), no. 1-3. *North-Holland Publishing Co., New York*, 1999. *pp. i–iv and* 1–344. (Editors) **99i:00019** 00B25 (15–06, 62–06)

Italian mathematics after Unity ★ La matematica italiana dopo l'Unità. (Italian) [Italian mathematics after Unity] Gli anni tra le due guerre mondiali. [The years between the two World Wars] Edited by Simonetta Di Sieno, Angelo Guerraggio and Pietro Nastasi. La Matematica Italiana dopo l'Unità [Italian Mathematics after Unity], 1. *Marcos y Marcos, Milan*, 1998. *xxxii*+970 *pp. ISBN* 88-7168-153-3 (Editors) **99i:01001** 01–06 (01A60, 01A72)

Iteration theory (ECIT 94) ★ Iteration theory (ECIT 94). Proceedings of the European Conference held in Opava, August 28–September 3, 1994. Edited by Ludwig Reich, Jaroslav Smítal and György Targonski. Grazer Mathematische Berichte [Graz Mathematical Reports], 334. *Karl-Franzens-Universität Graz, Graz*, 1997. *iv*+261 *pp.* (Frederick R. Marotto) **99h:58001** 58–06 (39B12, 54H20, 58F08, 58F13)

Iterative methods and preconditioners ★ Iterative methods and preconditioners. Papers from the session held as part of the 15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics in Berlin, August 24–29, 1997. Edited by Rüdiger Weiss and Willi Schönauer. Appl. Numer. Math. **30** (1999), no. 2-3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 153–391. (Editors) **99m:65005** 65–06

Iterative methods in scientific computing ★ Iterative methods in scientific computing. Papers from the Winter School on Iterative Methods in Scientific Computing and their Applications held in Hong Kong, December 14–20, 1995. Edited by Raymond H. Chan, Tony F. Chan and Gene H. Golub. *Springer-Verlag Singapore, Singapore*, 1997. *x*+384 *pp. ISBN* 981-3083-08-5 (Editors) **99g:65001** 65–02 (65–06)

Ithaca, NY ★ IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics. Proceedings of the IUTAM Symposium held in Ithaca, NY, July 27–August 1, 1997. Edited by Francis C. Moon. Solid Mechanics and its Applications, 63. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xiv*+562 *pp. ISBN* 0-7923-5276-9 (Editors) **99h:70002** 70–06 (58–06, 58F13, 58F40, 70K50)

Itogi Nauki i Tekhniki ★ Теория вероятностей. 7. (Russian) [Probability theory. 7] Edited by V. P. Sakharova. Итоги Науки и Техники. [Progress in Science and Technology] Современные Проблемы Математики. Фундаментальные Направления [Current Problems in Mathematics. Fundamental Directions], 82. *Vsesoyuz. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow*, 1995. 199 *pp.* (Anatolii A. Pukhal'skiĭ) **99d:60021a** 60Fxx

IUTAM Symposium:

Absorbing Boundary Conditions ★ Absorbing boundary conditions. Papers from the IUTAM Symposium held in July 1997. Edited by Eli Turkel. Appl. Numer. Math. **27** (1998), no. 4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 327–557. (Editors) **99c:65002** 65–06

Computational Methods for Unbounded Domains ★ Exterior problems of wave propagation. Papers from the IUTAM Symposium on Computational Methods for Unbounded Domains held in Boulder, CO, July 1997, and the minisymposium held in San Francisco, CA, August 1997. Edited by Dan Givoli and Isaac Harari. Comput. Methods Appl. Mech. Engrg. **164** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 1–264. (Editors) **99g:76001** 76–06 (65–06, 76M10, 76Q05)

—★ IUTAM Symposium on Computational Methods for Unbounded Domains. Proceedings of the IUTAM Symposium held at the University of Colorado, Boulder, CO, July 27–31, 1997. Edited by Thomas L. Geers. Fluid Mechanics and its Applications, 49. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xvi*+324 *pp. ISBN* 0-7923-5266-1 (Editors) **99h:65004** 65–06 (76Mxx, 78–08)

Inverse Problems in Engineering Mechanics ★ Inverse problems in engineering mechanics. Papers from the IUTAM Symposium (ISIP '98) held in Nagano, March 1998. Edited by M. Tanaka and G. S. Dulikravich. *Elsevier Science Ltd., Oxford*, 1998. *xii*+622 *pp. ISBN* 0-08-043319-7 (Editors) **99k:80001** 80–06 (73–06, 78–06)

Micro- and Macrostructural Aspects of Thermoplasticity ★ IUTAM Symposium on Micro- and Macrostructural Aspects of Thermoplasticity. Proceedings of the symposium held at the Ruhr-Universität Bochum, Bochum, August 25–29, 1997. Edited by O. T. Bruhns and E. Stein. Solid Mechanics and its Applications, 62. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xxviii*+500 *pp. ISBN* 0-7923-5265-3 73–06 (73B30, 73Exx, 73S10)

New Applications of Nonlinear and Chaotic Dynamics in Mechanics ★ IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics. Proceedings of the IUTAM Symposium held in Ithaca, NY, July 27–August 1, 1997. Edited by Francis C. Moon. Solid Mechanics and its Applications, 63. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xiv*+562 *pp. ISBN* 0-7923-5276-9 (Editors) **99h:70002** 70–06 (58–06, 58F13, 58F40, 70K50)

Non-linear Singularities in Deformation and Flow ★ IUTAM Symposium on Non-linear Singularities in Deformation and Flow. Proceedings of the IUTAM Symposium held at the Technion, Haifa, March 17–21, 1997. Edited by D. Durban and J. R. A. Pearson. *Kluwer Academic Publishers, Dordrecht*, 1999. *xii*+360 *pp. ISBN* 0-7923-5349-8 (Editors) **99h:76002** 76–06 (76D45, 76D99)

Rheology of Bodies with Defects ★ IUTAM Symposium on Rheology of Bodies with Defects. Proceedings of the symposium held in Beijing, September 2–5, 1997. Edited by Ren Wang. Solid Mechanics and its Applications, 64. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xvi*+292 *pp. ISBN* 0-7923-5297-1 (Editors) **99i:73001** 73–06 (73B99, 73M25, 76A99)

Variations of Domain and Free-boundary Problems in Solid Mechanics ★ Variations of domain and free-boundary problems in solid mechanics. Proceedings of the IUTAM Symposium held at the École des Mines and the École Polytechnique, Paris, April 22–25, 1997. Edited by P. Argoul, M. Frémond and Q. S. Nguyen. Solid Mechanics and its Applications, 66. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xii*+338 *pp. ISBN* 0-7923-5450-8 (Editors) **99k:73004** 73–06 (73B30, 80–06)

Jaakko Hintikka ★ Jaakko Hintikka. (French) Questions de logique et de phénoménologie. [Questions of logic and phenomenology] Selected papers from the colloquium held in Paris, May 12–14, 1994. Edited by Élisabeth Rigal. Problèmes et Controverses. [Problems and Controversies] *Librairie Philosophique J. Vrin, Paris*, 1998. 338 *pp. ISBN* 2-7116-1242-2 (Editors) **99f:03005** 03A05 (03–06, 03B65)

Jaca ★ Geometría y física. [Geometry and physics] Proceedings of the 5th Fall Workshop (WOGP'96) held in Jaca, September 23–25, 1996. Edited by J. F. Cariñena, E. Martínez and M. F. Rañada. Mem. Real Acad. Cienc. Exact. Fís. Natur. Madrid **32** (1998). *Real Academia de Ciencias Exactas, Físicas y Naturales, Madrid*, 1998. *pp. i–xx and* 1–201. (Editors) **99g:58001** 58–06

Jadwisin ★ Gauge theories of gravitation. Proceedings of the workshop held in Jadwisin, September 4–10, 1997. Acta Phys. Polon. B **29** (1998), no. 4. *Jagellonian University, Institute of Physics, Kraków*, 1998. *pp.* 823–1138. (Editors) **99k:00029** 00B25

Jena ★ Operations Research Proceedings 1997. Selected papers from the International Symposium (SOR'97) held at Friedrich-Schiller-Universität, Jena, September 3–5, 1997. Edited by Peter Kischka, Hans-Walter Lorenz, Ulrich Derigs, Wolfgang Domschke, Peter Kleinschmidt and Rolf Möhring. *Springer-Verlag, Berlin*, 1998. *xvi*+597 *pp. ISBN* 3-540-64240-4 (Editors) **99d:90008** 90–06

J.UCS. The Journal of Universal Computer Science ★ J.UCS. The Journal of Universal Computer Science. Vol. 2. 1996. Annual print and CD-ROM archive edition. With 1 CD-ROM (Windows and UNIX) containing full archive, 1994–1996. Edited by Hermann Maurer, Cristian Calude and Arto Salomaa. *Springer-Verlag, Berlin*, 1998. *xxxiv*+860 *pp. ISBN* 3-540-63210-7 (Editors) **99k:68011** 68–06

Kamakura ★ Performance evaluation of information communication networks. Papers from the Symposium on Performance Models of Information Communication Networks held in Kamakura, January 1997. Edited by Konosuke Kawashima, Issei Kino, Naoki Makimoto, Masakiyo Miyazawa and Yoshitaka Takahashi. J. Oper. Res. Soc. Japan **41** (1998), no. 1. *Operations Research Society of Japan, Tokyo*, 1998. *pp.* 1–169. (Editors) **99a:90008** 90–06 (60–06)

Karlsruhe ★ Risk measurement, econometrics and neural networks. Papers from the 6th Workshop on Econometrics held at the University of Karlsruhe, Karlsruhe, March 19–21, 1997. Edited by Georg Bol, Gholamreza Nakhaeizadeh and Karl-Heinz Vollmer. Contributions to Economics. *Physica-Verlag, Heidelberg*, 1998. *xii*+306 *pp. ISBN* 3-7908-1152-1 (Editors) **99j:62148** 62P20 (62–06, 90–06, 90A09)

Karpacz ★ Quantum groups. Formalism and applications. Papers from the 30th Winter School on Theoretical Physics held in Karpacz, February 14–26, 1994. Edited by Jerzy Lukierski, Ziemowit Popowicz and Jan Sobczyk. *Wydawnictwo Naukowe PWN, Warsaw*, 1995. *xxii*+639 *pp. ISBN* 83-01-11770-2 (Editors) **99e:17001** 17–06 (00B25, 16W30, 17B37, 81–06, 81R50)

—★ New symmetries in the theories of fundamental interactions. Proceedings of the 9th Max Born Symposium held in Karpacz, September 25–28, 1996. Edited by Jerzy Lukierski and Marek Mozrzymas. *Wydawnictwo Naukowe PWN, Warsaw*, 1997. *x*+323 *pp. ISBN* 83-01-12427-X (Editors) **99b:81004** 81–06 (16W30, 17B37, 81R50)

Kathmandu ★ Advances in computing science—ASIAN'97. Proceedings of the 3rd Asian Computing Science Conference held in Kathmandu, December 9–11, 1997. Edited by R. K. Shyamasundar and K. Ueda. Lecture Notes in Computer Science, 1345. *Springer-Verlag, Berlin*, 1997. *xiv*+387 *pp. ISBN* 3-540-63875-X (Editors) **99b:68001** 68–06

Katinkulta ★ Topology and Teichmüller spaces. Proceedings of the 37th Taniguchi Symposium held in Katinkulta, July 24–28, 1995. Edited by Sadayoshi Kojima, Yukio Matsumoto, Kyoji Saito and Mika Seppälä. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *x*+293 *pp. ISBN* 981-02-2686-1 (Editors) **99g:00051** 00B25 (30–06, 32–06, 57–06)

Kazan' ★ Труды Математического Центра имени Н. И. Лобачевского. Казанское Математическое Общество. (Russian) [Proceedings of the N. I. Lobachevskiĭ Mathematical Center. Kazan' Mathematical Society] Held in Kazan', September 1998. Edited by A. M. Elizarov. *Izdatel'stvo "UNIPRESS", Kazan'*, 1998. 269 *pp. ISBN* 5-900044-45-9 (Editors) **99m:00022** 00B15

Kazimierz Dolny ★ Proceedings of Workshop on Fixed Point Theory. Held in Kazimierz Dolny, June 23–28, 1997. Ann. Univ. Mariae Curie-Skłodowska Sect. A **51** (1997), no. 2. *Uniwersytet Marii Curie-Sklodowskiej, Editorial Office, Lublin*, 1997. *pp. i–viii and* 1–303. (Editors) **99g:00048** 00B25 (47H10, 54H25)

Kharkov ★ Supersymmetry and quantum field theory. Proceedings of the D. Volkov Memorial Seminar held in Kharkov, January 5–7, 1997. Edited by Julius Wess and Vladimir P. Akulov. Lecture Notes in Physics, 509. *Springer-Verlag, Berlin*, 1998. *xvi*+405 *pp. ISBN* 3-540-64623-X (Editors) **99k:81010** 81–06

KI-97: advances in artificial intelligence ★ KI-97: advances in artificial intelligence. Proceedings of the 21st Annual German Conference on Artificial Intelligence held in Freiburg, September 9–12, 1997. Edited by Gerhard Brewka, Christopher Habel and Bernhard Nebel. Lecture Notes in Computer Science, 1303. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *xii*+413 *pp. ISBN* 3-540-63493-2 (Editors) **99d:68006** 68–06 (68T15, 68T27)

Kïïv ★ Асимптотичні та якісні методи в теорії нелінійних коливань. (Ukrainian) [Asymptotic and qualitative methods in the theory of nonlinear oscillations] Abstracts from the International Conference "ASYM-97" and the 3rd Bogolyubov Readings held in Kïïv, August 18–23, 1997. Edited by V. G. Samoĭlenko. *Natsional'na Akademïya Nauk Ukraini, Institut Matematiki, Kiev*, 1997. 232 *pp.* (Editors) **99g:00030** 00B05 (34–06, 35–06)

Kingston, ON ★ The Curves Seminar at Queen's. Vol. XII. Papers from the seminar held

at Queen's University, Kingston, ON, 1998. Edited by Anthony V. Geramita. Queen's Papers in Pure and Applied Mathematics, 114. *Queen's University, Kingston, ON*, 1998. *vi*+162 *pp. ISBN* 0-88911-832-9 (Editors) **99m:13001** 13–06

Klagenfurt ★ Contributions to general algebra. 10. Proceedings of the Conference on General Algebra held in Klagenfurt, May 29–June 1, 1997. Edited by D. Dorninger, G. Eigenthaler, H. K. Kaiser, H. Kautschitsch, W. More and W. B. Müller. *Verlag Johannes Heyn, Klagenfurt*, 1998. *iv*+309 *pp. ISBN* 3-85366-890-9 (Editors) **99f:00014** 00B25

Kleinmachnow ★ Creating fair and shape-preserving curves and surfaces. Papers from the International Workshop held in Kleinmachnow, September 14–17, 1997. Edited by Horst Nowacki and Panagiotis D. Kaklis. *B. G. Teubner, Stuttgart*, 1998. 288 *pp. ISBN* 3-519-02636-8 (Editors) **99g:65003** 65–06 (41A29, 65D17)

Knot theory ★ Knot theory. Papers from the mini-semester held in Warsaw, July 13–August 17, 1995. Edited by Vaughan F. R. Jones, Joanna Kania-Bartoszyńska, Józef H. Przytycki, Paweł Traczyk and Vladimir G. Turaev. Banach Center Publications, 42. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 463 *pp.* (Editors) **99c:57002** 57–06 (57M25)

Knot theory and its applications ★ Knot theory and its applications. Expository articles on current research. Edited by C. Adams. Chaos Solitons Fractals **9** (1998), no. 4-5. *Pergamon Press, Oxford*, 1998. *pp. i–xii and* 531–824. (Editors) **99a:57001** 57–06 (57M25)

KNOTS '96 ★ KNOTS '96. Proceedings of the International Conference and Workshop on Knot Theory held at Waseda University, Tokyo, July 22–26, 1996. Edited by S. Suzuki. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+597 *pp. ISBN* 981-02-3093-1 (Editors) **99i:57002** 57–06

Knoxville, TN ★ Special issue on Barrett Lectures in control theory. Papers from the 1997 Barrett Lectures held at the University of Tennessee, Knoxville, TN, March 20–22, 1997. Math. Models Methods Appl. Sci. **8** (1998), no. 7. *World Scientific Publishing Co., Singapore*, 1998. *pp. i–iv and* 1119–1276. (Editors) **99g:93005** 93–06

Kobe ★ Data science, classification, and related methods. Papers from the 5th Conference of the International Federation of Classification Societies (IFCS '96) held in Kobe, March 27–30, 1996. Edited by C. Hayashi, N. Ohsumi, K. Yajima, Y. Tanaka, H.-H. Bock and Y. Baba. Studies in Classification, Data Analysis, and Knowledge Organization. *Springer-Verlag, Tokyo*, 1998. *xvi*+780 *pp. ISBN* 4-431-70208-3 (Editors) **99b:62002** 62–06 (62H30, 68T10)

— ★ Integrable systems and algebraic geometry. Proceedings of the 41st Taniguchi Symposium held in Kobe, June 30–July 4, 1997, and at Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 7–11, 1997. Edited by M.-H. Saito, Y. Shimizu and K. Ueno. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xiv*+480 *pp. ISBN* 981-02-3266-7 (Editors) **99i:14002** 14–06

Königstein ★ Algebra and combinatorics: interactions and applications. Papers from the International Conference dedicated to the memory of Lev Arkad′evich Kalužnin [Lev Arkad′evich Kaluzhnin] held in Königstein, March 1994. Edited by M. Hazewinkel, A. A. Ivanov and A. J. Woldar. Acta Appl. Math. **52** (1998), no. 1-3. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 1–330. (Editors) **99e:00015** 00B25 (05–06, 20–06)

Kowloon ★ Management science in China. Selected papers from the International Conference on Management Science and the Economic Development of China held at the Hong Kong University of Science and Technology, Kowloon, July 1996. Edited by Liming Liu, Shouyang Wang and Shaohui Zhang. Ann. Oper. Res. **87** (1999). *Baltzer Science Publishers BV, Bussum*, 1999. *pp. i–vi and* 1–420. (Editors) **99m:90004** 90–06 (90Bxx, 90Cxx)

Kraków ★ {Fourth Meeting on Current Ideas in Mechanics and Related Fields}. Papers from the meeting in honor of the 70th birthday of Henryk Zorski held in Kraków, August 25–28, 1997. Arch. Mech. (Arch. Mech. Stos.) **50** (1998), no. 3. *Polish Academy of Sciences, Institute of Fundamental Technological Research, Warsaw*, 1998. *pp. i–iv and* 343–669. (Editors) **99e:00030** 00B30

— ★ Singularities Symposium—Łojasiewicz 70. Dedicated to Stanisław Łojasiewicz on the occasion of his 70th birthday. Papers from the Symposium on Singularities held at Jagellonian University, Kraków, September 25–29, 1996 and the Seminar on Singularities and Geometry held in Warsaw, September 30–October 4, 1996. Edited by Bronisław Jakubczyk, Wiesław Pawłucki and Jacek Stasica. Banach Center Publications, 44. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 292 *pp.* (Editors) **99i:00035** 00B30 (14–06, 32–06)

Kraków-Przegorzały ★ Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems". Held on the occasion of the 100th anniversary of the birth of Tadeusz Ważewski in Kraków-Przegorzały, July 17–20, 1996. Univ. Iagel. Acta Math. No. 36 (1998). *Uniwersytet Jagielloński, Instytut Matematyki, Kraków*, 1998. *pp.* 1–257. (Editors) **99f:58002** 58–06 (34–06, 34C35)

Kunming ★ Recent advances in differential equations. Papers from the 1st Pan-China Conference on Differential Equations held in Kunming, May 31–June 3, 1997. Edited by H.-H. Dai and P. L. Sachdev. Pitman Research Notes in Mathematics Series, 386. *Longman, Harlow*, 1998. *viii*+243 *pp. ISBN* 0-582-32219-7 (Editors) **99a:00045** 00B25 (34–06, 35–06)

Kyiv ★ Symmetry in nonlinear mathematical physics. Vol. 1, 2. Proceedings of the 2nd International Conference held in memory of Prof. W. Fushchych [Vil′gel′m Il′ich Fushchich] in Kyiv, July 7–13, 1997. Edited by Mykola Shkil [Nikolaĭ Ivanovich Shkil′], Anatoly Nikitin and Vyacheslav Boyko [V. K. Boĭko]. *National Academy of Sciences of Ukraine, Institute of Mathematics, Kiev*, 1997. *Vol.* 1: 248 *pp.*; *Vol.* 2: *pp.* 249–500. *ISBN* 966-02-0342-X (Editors) **99b:00027** 00B30 (00B25, 35–06, 58–06, 81–06)

Kyoto ★ Международный Конгресс Математиков в Киото, 1990. (Russian) [International Congress of Mathematicians in Kyoto, 1990] Papers from the congress held in Kyoto, 1990. Selected translations from *Proceedings of the International Congress of Mathematicians, Vol. I, II (Kyoto, 1990)*, Math. Soc. Japan, Tokyo, 1991 [MR 92m:00054]. Translation from the English edited by A. I. Ovseevich and V. M. Tikhomirov. "*Mir*", *Moscow*, 1996. 431 *pp. ISBN* 5-03-003178-2 (Editors) **99h:00039** 00B50 (00B25)

— ★ Topological field theory, primitive forms and related topics. Proceedings of the 38th Taniguchi Symposium held in Kyoto, December 9–13, 1996 and the RIMS Symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 16–19, 1996. Edited by Masaki Kashiwara, Atsushi Matsuo, Kyoji Saito and Ikuo Satake. Progress in Mathematics, 160. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *x*+493 *pp. ISBN* 0-8176-3975-6 (Editors) **99e:00029** 00B25 (32–06, 54–06, 58–06, 81–06)

— ★ Recent developments in domain decomposition methods and flow problems. Papers from the International Symposium on Domain Decomposition Methods and Related Topics held in honor of the 60th birthday of Hideo Kawarada at Kyoto University, Kyoto, July 17–19, 1996, and the 1st JSIAM-SIMAI Joint Symposium on Flow Problems and Phase Field Models held in Anacapri, October 3–5, 1996. Edited by H. Fujita, H. Koshigoe, M. Mori, M. Nakamura, T. Nishida and T. Ushijima. GAKUTO International Series. Mathematical Sciences and Applications, 11. *Gakkōtosho Co., Ltd., Tokyo*, 1998. *vi*+378 *pp. ISBN* 4-7625-0420-3 (Editors) **99g:00054** 00B30 (00B25, 35–06, 65–06, 76–06, 76Mxx)

— ★ Third Fuji International Symposium on Functional and Logic Programming. Papers from the symposium held at Kyoto University, Kyoto, April 2–4, 1998. Edited by Masahiko Sato and Yoshihito Toyama. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *viii*+313 *pp. ISBN* 981-02-3384-1 (Editors) **99g:68008** 68–06 (68N15, 68N17)

— ★ Integrable systems and algebraic geometry. Proceedings of the 41st Taniguchi Symposium held in Kobe, June 30–July 4, 1997, and at Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 7–11, 1997. Edited by M.-H. Saito, Y. Shimizu and K. Ueno. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xiv*+480 *pp. ISBN* 981-02-3266-7 (Editors) **99i:14002** 14–06

La Plata ★ Trends in theoretical physics. Papers from the CERN Meeting held at La Plata University, La Plata, April–May 1997. Edited by Horacio Falomir, Ricardo E. Gamboa Saraví and Fidel A. Schaposnik. AIP Conference Proceedings, 419. *American Institute of Physics, Woodbury, NY*, 1998. *x*+443 *pp. ISBN* 1-56396-743-X (Editors) **99e:81005** 81–06

Laminar and turbulent boundary layers ★ Laminar and turbulent boundary layers. Edited by Matiur Rahman. Advances in Fluid Mechanics, 14. *Computational Mechanics Publications, Southampton*, 1997. xii+176 *pp. ISBN* 1-85312-294-7 (Murad Brutyan) **99d:76027** 76D10 (76–02, 76F99, 76N20)

Language, mind, and ontology ★ Language, mind, and ontology, 1998. Edited by James E. Tomberlin. Philosophical Perspectives. A Supplement to Noûs, 12. *Blackwell Publishers, Inc., Boston, MA*, 1997. *viii*+509 *pp.* (Editors) **99k:03028** 03B65 (03–06, 03A05)

Large deviation and statistical inference ★ Large deviation and statistical inference. Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 16–18, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1055 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–124. (Editors) **99m:62007** 62–06

Large scale eigenvalue problems ★ Large scale eigenvalue problems. Papers from the Workshop on The Use of Iterative Methods for Large Scale Eigenvalue Problems held in Argonne, IL, May 14–16, 1997. Electron. Trans. Numer. Anal. **7** (1998). *Kent State University Library, Kent, OH*, 1998. *front matter and pp.* 1–214 (*electronic*). (Editors) **99h:65006** 65–06 (65F15)

Large-scale scientific computations of engineering and environmental problems ★ Large-scale scientific computations of engineering and environmental problems. Proceedings of the 1st Workshop on Large-scale Scientific Computations held in Varna, June 7–11, 1997. Edited by Michael Griebel, Olep P. Iliev [Oleg P. Iliev], Svetozar D. Margenov and Panayot S. Vassilevski. Notes on Numerical Fluid Mechanics, 62. *Friedr. Vieweg & Sohn, Braunschweig*, 1998. *viii*+356 *pp. ISBN* 3-528-06962-7 (Editors) **99m:65006** 65–06 (76–06, 76Mxx)

Larnas ★ Actes du 29ème Congrès d'Analyse Numérique: CANum'97. (French) [Proceedings of the 29th Congress of Numerical Analysis: CANum'97] Held in Larnas, May 26–30, 1997. Edited by Mario Ahues, Mahdi Boukrouche and Claude Carasso. ESAIM Proceedings, 3. *Société de Mathématiques Appliquées et Industrielles, Paris*, 1998. *front matter*+146 *pp.* (*electronic*). (Editors) **99e:00012** 00B15 (76–06)

Las Vegas, NV ★ 27th Annual ACM Symposium on the Theory of Computing (STOC'95). Selected papers from the symposium held in Las Vegas, NV, May 29–June 1, 1995. Edited by Harold N. Gabow. J. Comput. System Sci. **57** (1998), no. 1. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 1–124. (Editors) **99e:68001** 68–06

LATIN'98: theoretical informatics ★ LATIN'98: theoretical informatics. Proceedings of the 3rd Latin American Symposium held in Campinas, April 20–24, 1998. Edited by Cláudio L. Lucchesi and Arnaldo V. Moura. Lecture Notes in Computer Science, 1380. *Springer-Verlag, Berlin*, 1998. *xii*+391 *pp. ISBN* 3-540-64275-7 (Editors) **99d:68007** 68–06

Lattrop ★ In fascination of fluid dynamics. Papers from the symposium held in honor of Leen van Wijngaarden on his 65th birthday in Lattrop, March 20–22, 1997. Edited by Arie Biesheuvel and GertJan F. van Heijst. Reprinted from Appl. Sci. Res. **58** (1997), no. 1-4. Fluid Mechanics and its Applications, 45. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+501 *pp. ISBN* 0-7923-5078-2 76–06

Lausanne ★ Computation of three-dimensional complex flows. Proceedings of the IMACS-COST Conference on Computational Fluid Dynamics held in Lausanne, September 13–15, 1995. Edited by Michel Deville, Spyros Gavrilakis and Inge L. Ryhming. Notes on Numerical Fluid Mechanics, 53. *Friedr. Vieweg & Sohn, Braunschweig*, 1996. *xiv*+392 *pp. ISBN* 3-528-07653-4 (Editors) **99c:76064** 76Mxx (76–06)

— ★ Reformulation: nonsmooth, piecewise smooth, semismooth and smoothing methods. Papers from the 16th International Symposium on Mathematical Programming (ismp97) held at the École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, August 24–29, 1997. Edited by Masao Fukushima and Liqun Qi. Applied Optimization, 22. *Kluwer Academic Publishers, Dordrecht*, 1999. *viii*+441 *pp. ISBN* 0-7923-5320-X (Editors) **99k:90004** 90–06 (49J40, 49J52, 90C30, 90C33)

Leading personalities in statistical sciences ★ Leading personalities in statistical sciences. From the seventeenth century to the present. Edited by Norman L. Johnson and Samuel Kotz. Wiley Series in Probability and Statistics: Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xxvi+399 *pp. ISBN* 0-471-16381-3 (Sándor Csörgő) **99c:62002** 62–03 (01–00, 01A70, 60–03)

Learning and reasoning with complex representations ★ Learning and reasoning with complex representations. Papers from the Workshops on Reasoning with Incomplete and Changing Information, and Inducing Complex Representations held at the Pacific Rim International Conference on Artificial Intelligence (PRICAI'96) in Cairns, August 26–30, 1996. Edited by Grigoris Antoniou, Aditya K. Ghose and Mirosław Truszczyński. Lecture Notes in Computer Science, 1359. Lecture Notes in Artificial Intelligence.

Springer-Verlag, Berlin, 1998. *x*+283 *pp. ISBN* 3-540-64413-X (Editors) **99f:68003** 68–06 (68T27)

Learning, control and hybrid systems ★ Learning, control and hybrid systems. Festschrift in honor of Bruce Allen Francis and Mathukumalli Vidyasagar on the occasion of their 50th birthdays. Papers from the workshop held in Bangalore, January 4–8, 1998. Edited by Yutaka Yamamoto and Shinji Hara. Lecture Notes in Control and Information Sciences, 241. *Springer-Verlag London, Ltd., London*, 1999. *xvi*+451 *pp. ISBN* 1-85233-076-7 (Editors) **99g:93003** 93–06 (00B30, 93B36, 93C30, 93E35)

Learning theory ★ Learning theory. Edited by P. L. Bartlett and M. Vidyasagar. Systems Control Lett. **34** (1998), no. 3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 113–158. (Editors) **99b:93003** 93–06 (68T05, 93B30, 93E35)

Lecture Notes in Computer Science ★ Database theory—ICDT '95. Papers from the 5th International Conference held in Prague, January 11–13, 1995. Edited by Georg Gottlob and Moshe Y. Vardi. Lecture Notes in Computer Science, 893. *Springer-Verlag, Berlin*, 1995. *xii*+454 *pp. ISBN* 3-540-58907-4 (Editors) **99a:68006** 68–06 (68P15)

– ★ Parallel algorithms for irregularly structured problems. Proceedings of the 3rd International Workshop (IRREGULAR '96) held in Santa Barbara, CA, August 19–21, 1996. Edited by A. Ferreira, J. Rolim, Y. Saad and T. Yang. Lecture Notes in Computer Science, 1117. *Springer-Verlag, Berlin*, 1996. *x*+358 *pp. ISBN* 3-540-61549-0 (Editors) **99g:65007** 65–06 (68–06, 68Q22)

– ★ Database theory—ICDT '97. Proceedings of the 6th International Conference held in Delphi, January 8–10, 1997. Edited by Foto Afrati and Phokion Kolaitis. Lecture Notes in Computer Science, 1186. *Springer-Verlag, Berlin*, 1997. *xiv*+477 *pp. ISBN* 3-540-62222-5 (Editors) **99a:68007** 68–06 (68P15)

– ★ Logic programming and nonmonotonic reasoning. Proceedings of the 4th International Conference (LPNMR '97) held in Dagstuhl, July 28–31, 1997. Edited by Jürgen Dix, Ulrich Furbach and Anil Nerode. Lecture Notes in Computer Science, 1265. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *x*+453 *pp. ISBN* 3-540-63255-7 (Editors) **99a:68011** 68–06 (68N17, 68T27)

– ★ Advances in cryptology—CRYPTO '97. Proceedings of the 17th Annual International Cryptology Conference held in Santa Barbara, CA, August 17–21, 1997. Edited by Burton S. Kaliski, Jr. Lecture Notes in Computer Science, 1294. *Springer-Verlag, Berlin*, 1997. *xii*+540 *pp. ISBN* 3-540-63384-7 (Editors) **99a:94041** 94A60 (94–06)

– ★ Advances in computing science—ASIAN'97. Proceedings of the 3rd Asian Computing Science Conference held in Kathmandu, December 9–11, 1997. Edited by R. K. Shyamasundar and K. Ueda. Lecture Notes in Computer Science, 1345. *Springer-Verlag, Berlin*, 1997. *xiv*+387 *pp. ISBN* 3-540-63875-X (Editors) **99b:68001** 68–06

– ★ Algebraic and logic programming. Proceedings of the 6th International Conference on Algebraic and Logic Programming (ALP'97) and the 3rd International Workshop on Higher-order Algebra, Logic and Term Rewriting (HOA'97) held jointly in Southampton, September 3–5, 1997. Edited by Michael Hanus, Jan Heering and Karl Meinke. Lecture Notes in Computer Science, 1298. *Springer-Verlag, Berlin*, 1997. *x*+286 *pp. ISBN* 3-540-63459-2 (Editors) **99b:68002** 68–06 (68N15, 68Q42)

– ★ Inductive logic programming. Proceedings of the 7th International Workshop (ILP-97) held in Prague, September 17–20, 1997. Edited by Nada Lavrač and Sašo Džeroski. Lecture Notes in Computer Science, 1297. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *viii*+309 *pp. ISBN* 3-540-63514-9 (Editors) **99b:68007** 68–06 (68N17, 68T05)

– ★ Structures in logic and computer science. A selection of essays in honor of A. Ehrenfeucht. Edited by Jan Mycielski, Grzegorz Rozenberg and Arto Salomaa. Lecture Notes in Computer Science, 1261. *Springer-Verlag, Berlin*, 1997. *x*+371 *pp. ISBN* 3-540-63246-8 (Editors) **99b:68008** 68–06 (00B30, 03–06)

– ★ Applied algebra, algebraic algorithms and error-correcting codes. Proceedings of the 12th International Symposium (AAECC-12) held in Toulouse, June 23–27, 1997. Edited by Teo Mora and Harold Mattson. Lecture Notes in Computer Science, 1255. *Springer-Verlag, Berlin*, 1997. *x*+353 *pp. ISBN* 3-540-63163-1 (Editors) **99b:94002** 94–06 (68Q40)

– ★ Category theory and computer science. Proceedings of the 7th International Conference (CTCS '97) held in Santa Margherita Ligure, September 4–6, 1997. Edited by Eugenio Moggi and Giuseppe Rosolini. Lecture Notes in Computer Science, 1290. *Springer-Verlag, Berlin*, 1997. *vi*+313 *pp. ISBN* 3-540-63455-X (Editors) **99c:68004** 68–06 (68Q55, 68Q65)

– ★ Logical aspects of computational linguistics. Papers from the 1st International Conference (LACL '96) held in Nancy, September 23–25, 1996. Edited by Christian Retoré. Lecture Notes in Computer Science, 1328. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *viii*+435 *pp. ISBN* 3-540-63700-1 (Editors) **99d:03004** 03–06 (03B65, 68–06, 68Q45, 68S05)

– ★ Algorithms—ESA '97. Papers from the 5th Annual European Symposium held at Graz University of Technology, Graz, September 15–17, 1997. Edited by Rainer Burkard and Gerhard Woeginger. Lecture Notes in Computer Science, 1284. *Springer-Verlag, Berlin*, 1997. *xii*+515 *pp. ISBN* 3-540-63397-9 (Editors) **99d:68002** 68–06

– ★ Graph drawing. Proceedings of the 5th International Symposium (GD '97) held in Rome, September 18–20, 1997. Edited by Giuseppe DiBattista. Lecture Notes in Computer Science, 1353. *Springer-Verlag, Berlin*, 1997. *xii*+448 *pp. ISBN* 3-540-63938-1 (Editors) **99d:68004** 68–06 (68R10, 68U05)

– ★ Graph-theoretic concepts in computer science. Proceedings of the 23rd International Workshop (WG '97) held in Berlin, June 18–20, 1997. Edited by Rolf H. Möhring. Lecture Notes in Computer Science, 1335. *Springer-Verlag, Berlin*, 1997. *x*+376 *pp. ISBN* 3-540-63757-5 (Editors) **99d:68005** 68–06 (05C85, 68R10)

– ★ KI-97: advances in artificial intelligence. Proceedings of the 21st Annual German Conference on Artificial Intelligence held in Freiburg, September 9–12, 1997. Edited by Gerhard Brewka, Christopher Habel and Bernhard Nebel. Lecture Notes in Computer Science, 1303. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *xii*+413 *pp. ISBN* 3-540-63493-2 (Editors) **99d:68006** 68–06 (68T15, 68T27)

– ★ Mathematical foundations of computer science 1997. Proceedings of the 22nd International Symposium (MFCS '97) held in Bratislava, August 25–29, 1997. Edited by Igor Privara and Peter Ružička. Lecture Notes in Computer Science, 1295. *Springer-Verlag, Berlin*, 1997. *x*+519 *pp. ISBN* 3-540-63437-1 (Editors) **99d:68009** 68–06

– ★ Algorithms and computation. Proceedings of the 8th International Symposium (ISAAC'97) held in Singapore, December 17–19, 1997. Edited by Hon Wai Leong, Hiroshi Imai and Sanjay Jain. Lecture Notes in Computer Science, 1350. *Springer-Verlag, Berlin*, 1997. *xvi*+426 *pp. ISBN* 3-540-63890-3 (Editors) **99f:68001** 68–06

– ★ Cryptography and coding. Proceedings of the 6th IMA International Conference held at the Royal Agricultural College, Cirencester, December 17–19, 1997. Edited by Michael Darnell. Lecture Notes in Computer Science, 1355. *Springer-Verlag, Berlin*, 1997. *x*+335 *pp. ISBN* 3-540-63927-6 (Editors) **99g:94019** 94A60 (90–02, 94–06)

– ★ Foundations of software science and computation structures. Proceedings of the 1st International Conference (FoSSaCS'98) held as part of the Joint European Conferences on Theory and Practice of Software (ETAPS'98) in Lisbon, March 28–April 4, 1998. Edited by Maurice Nivat. Lecture Notes in Computer Science, 1378. *Springer-Verlag, Berlin*, 1998. *x*+289 *pp. ISBN* 3-540-64300-1 (Editors) **99c:68005** 68–06

– ★ LATIN'98: theoretical informatics. Proceedings of the 3rd Latin American Symposium held in Campinas, April 20–24, 1998. Edited by Cláudio L. Lucchesi and Arnaldo V. Moura. Lecture Notes in Computer Science, 1380. *Springer-Verlag, Berlin*, 1998. *xii*+391 *pp. ISBN* 3-540-64275-7 (Editors) **99d:68007** 68–06

– ★ Rewriting techniques and applications. Proceedings of the 9th International Conference (RTA-98) held in Tsukuba, March 30–April 1, 1998. Edited by Tobias Nipkow. Lecture Notes in Computer Science, 1379. *Springer-Verlag, Berlin*, 1998. *x*+343 *pp. ISBN* 3-540-64301-X (Editors) **99d:68012** 68–06 (68Q42)

– ★ Automated reasoning with analytic tableaux and related methods. Proceedings of the International Conference (TABLEAUX '98) held in Oisterwijk, May 5–8, 1998. Edited by Harrie de Swart. Lecture Notes in Computer Science, 1397. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+325 *pp. ISBN* 3-540-64406-7 (Editors) **99f:03002** 03–06 (03B35)

– ★ Learning and reasoning with complex representations. Papers from the Workshops on Reasoning with Incomplete and Changing Information, and Inducing Complex Representations held at the Pacific Rim International Conference on Artificial Intelligence (PRICAI'96) in Cairns, August 26–30, 1996. Edited by Grigoris Antoniou, Aditya K. Ghose and Mirosław Truszczyński. Lecture Notes in Computer Science, 1359. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+283 *pp. ISBN* 3-540-64413-X (Editors) **99f:68003** 68–06 (68T27)

– ★ Recent trends in algebraic development techniques. Papers from the 12th International Workshop on Algebraic Development Techniques (WADT'97) held in Tarquinia, June 3–7, 1997. Edited by Francesco Parisi Presicce. Lecture Notes in Computer Science, 1376. *Springer-Verlag, Berlin*, 1998. *viii*+435 *pp. ISBN* 3-540-64299-4 (Editors) **99f:68009** 68–06 (68Q65)

– ★ STACS 98. Proceedings of the 15th Annual Symposium on Theoretical Aspects of Computer Science held in Paris, February 25–27, 1998. Edited by Michel Morvan, Christoph Meinel and Daniel Krob. Lecture Notes in Computer Science, 1373. *Springer-Verlag, Berlin*, 1998. *xvi*+630 *pp. ISBN* 3-540-64230-7 (Editors) **99f:68011** 68–06

– ★ Solving irregularly structured problems in parallel. Papers from the 5th International Symposium (IRREGULAR'98) held in Berkeley, CA, August 9–11, 1998. Edited by A. Ferreira, J. Rolim, H. Simon and S.-H. Teng. Lecture Notes in Computer Science, 1457. *Springer-Verlag, Berlin*, 1998. *x*+408 *pp. ISBN* 3-540-64809-7 (Editors) **99h:65007** 65–06 (65F30, 65Y05, 65Y25)

– ★ Combinatorial pattern matching. Proceedings of the 9th Annual Symposium (CPM 98) held in Piscataway, NJ, July 20–22, 1998. Edited by Martin Farach-Colton. Lecture Notes in Computer Science, 1448. *Springer-Verlag, Berlin*, 1998. *viii*+251 *pp. ISBN* 3-540-64739-2 (Editors) **99h:68002** 68–06 (68Q25, 68U15)

– ★ Conceptual structures: theory, tools and applications. Proceedings of the 6th International Conference on Conceptual Structures, (ICCS'98) held in Montpellier, August 10–12, 1998. Edited by Marie-Laure Mugnier and Michel Chein. Lecture Notes in Computer Science, 1453. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xiv*+439 *pp. ISBN* 3-540-64791-0 (Editors) **99h:68003** 68–06 (68T30)

– ★ Database programming languages. Proceedings of the 6th International Workshop (DBPL-6) held in Estes Park, CO, August 18–20, 1997. Edited by Sophie Cluet and Rick Hull. Lecture Notes in Computer Science, 1369. *Springer-Verlag, Berlin*, 1998. *xiv*+431 *pp. ISBN* 3-540-64823-2 (Editors) **99h:68004** 68–06 (68P15)

– ★ Grammatical inference. Proceedings of the 4th International Colloquium (ICGI '98) held at Iowa State University, Ames, IA, July 12–14, 1998. Edited by Vasant Honavar and Giora Slutzki. Lecture Notes in Computer Science, 1433. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+271 *pp. ISBN* 3-540-64776-7 (Editors) **99h:68006** 68–06 (68Q45, 68T05)

– ★ Lectures on proof verification and approximation algorithms. Papers from the Workshop on Proof Verification and Approximation Algorithms held at Schloß Dagstuhl, April 21–25, 1997. Edited by Ernst W. Mayr, Hans Jürgen Prömel and Angelika Steger. Lecture Notes in Computer Science, 1367. *Springer-Verlag, Berlin*, 1998. *xii*+344 *pp. ISBN* 3-540-64201-3 (Johan Håstad) **99h:68060** 68Q15 (68–02, 68Q20)

– ★ Approximation algorithms for combinatorial optimization. Proceedings of the International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX'98) held at the University of Aalborg, Aalborg, July 18–19, 1998. Edited by Klaus Jansen and José Rolim. Lecture Notes in Computer Science, 1444. *Springer-Verlag, Berlin*, 1998. *viii*+199 *pp. ISBN* 3-540-64736-8 (Editors) **99i:68002** 68–06 (68Q20, 68Q25, 90C27)

– ★ Logic programming and knowledge representation. Selected papers from the 3rd International Workshop (LPKR '97) held in Port Jefferson, NY, October 17, 1997. Edited by Jürgen Dix, Luis Moniz Pereira and Teodor C. Przymusinski. Lecture Notes in Computer Science, 1471. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+246 *pp. ISBN* 3-540-64958-1 (Editors) **99i:68003** 68–06 (68N17, 68T30)

– ★ Static analysis. Proceedings of the 5th International Symposium (SAS'98) held in Pisa, September 14–16, 1998. Edited by Giorgio Levi. Lecture Notes in Computer Science, 1503. *Springer-Verlag, Berlin*, 1998. *x*+383 *pp. ISBN* 3-540-65014-8 (Editors) **99i:68005** 68–06 (68N20, 68Q60)

– ★ Advances in cryptology—CRYPTO '98. Proceedings of the 18th Annual International Cryptology Conference held in Santa Barbara, CA, August 23–27, 1998. Edited by Hugo Krawczyk. Lecture Notes in Computer Science, 1462. *Springer-Verlag, Berlin*, 1998. *xii*+519 *pp. ISBN* 3-540-64892-5 (Editors) **99i:94059** 94A60 (94–06)

– ★ Information security and privacy. Proceedings of the 3rd Australasian Conference

(ACISP '98) held in Brisbane, July 13–15, 1998. Edited by Colin Boyd and Ed Dawson. Lecture Notes in Computer Science, 1438. *Springer-Verlag, Berlin*, 1998. *xii*+423 *pp. ISBN* 3-540-64732-5 (Editors) **99i:94060** 94A60 (94–06)

— ★ Advances in pattern recognition. Papers from the Joint IAPR International Workshops (SSPR'98 and SPR'98) held in Sydney, August 11–13, 1998. Edited by Adnan Amin, Dov Dori, Pavel Pudil and Herbert Freeman. Lecture Notes in Computer Science, 1451. *Springer-Verlag, Berlin*, 1998. *xxii*+1047 *pp. ISBN* 3-540-64858-5 (Editors) **99k:68002** 68–06 (68T10)

— ★ Algorithm theory—SWAT'98. Proceedings of the 6th Scandinavian Workshop held in Stockholm, July 8–10, 1998. Edited by Stefan Arnborg and Lars Ivansson. Lecture Notes in Computer Science, 1432. *Springer-Verlag, Berlin*, 1998. *x*+347 *pp. ISBN* 3-540-64682-5 (Editors) **99k:68003** 68–06 (00B25, 68Q20, 68Q25)

— ★ Algorithms—ESA '98. Proceedings of the 6th Annual European Symposium held in Venice, August 24–26, 1998. Edited by Gianfranco Bilardi, Giuseppe F. Italiano, Andrea Pietracaprina and Geppino Pucci. Lecture Notes in Computer Science, 1461. *Springer-Verlag, Berlin*, 1998. *xii*+516 *pp. ISBN* 3-540-64848-8 (Editors) **99k:68004** 68–06 (68Q20, 68Q25)

— ★ Artificial intelligence and symbolic computation. Proceedings of the 4th International Conference (AISC'98) held at the State University of New York, Plattsburgh, NY, September 16–18, 1998. Edited by Jacques Calmet and Jan Plaza. Lecture Notes in Computer Science, 1476. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xii*+309 *pp. ISBN* 3-540-64960-3 (Editors) **99k:68005** 68–06 (03–06, 03B35, 68Q40, 68T27)

— ★ CONCUR'98: concurrency theory. Proceedings of the 9th International Conference held in Nice, September 8–11, 1998. Edited by Davide Sangiorgi and Robert de Simone. Lecture Notes in Computer Science, 1466. *Springer-Verlag, Berlin*, 1998. *xii*+657 *pp. ISBN* 3-540-64896-8 (Editors) **99k:68006** 68–06 (68Q10)

— ★ Computing and combinatorics. Proceedings of the 4th Annual International Conference (COCOON'98) held in Taipei, August 12–14, 1998. Edited by Wen-Lian Hsu and Ming-Yang Kao. Lecture Notes in Computer Science, 1449. *Springer-Verlag, Berlin*, 1998. *xii*+372 *pp. ISBN* 3-540-64824-0 (Editors) **99k:68008** 68–06 (05–06, 68Q25, 68R10)

— ★ Inductive logic programming. Proceedings of the 8th International Conference (ILP-98) held at the University of Wisconsin, Madison, WI, July 22–24, 1998. Edited by David Page [C. David Page, Jr.]. Lecture Notes in Computer Science, 1446. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *viii*+301 *pp. ISBN* 3-540-64738-4 (Editors) **99k:68010** 68–06 (68N17, 68T05)

— ★ Theorem proving in higher order logics. Proceedings of the 11th International Conference (TPHOLs '98) held at the Australian National University, Canberra, September 27–October 2, 1998. Edited by Jim Grundy and Malcolm Newey. Lecture Notes in Computer Science, 1479. *Springer-Verlag, Berlin*, 1998. *viii*+497 *pp. ISBN* 3-540-64987-5 (Editors) **99k:68014** 68–06 (03–06, 03B15, 03B35, 68T15)

— ★ Online algorithms. The state of the art. Papers from the Workshop on the Competitive Analysis of On-line Algorithms held in Schloss Dagstuhl, June 1996. Edited by Amos Fiat and Gerhard J. Woeginger. Lecture Notes in Computer Science, 1442. *Springer-Verlag, Berlin*, 1998. *xviii*+436 *pp. ISBN* 3-540-64917-4 (Peter B. Gibbons) **99m:68003** 68–02 (68–06, 68Q25)

— ★ Algorithmic learning theory. Proceedings of the 9th International Conference (ALT'98) held in Otzenhausen, October 8–10, 1998. Edited by Michael M. Richter, Carl H. Smith, Rolf Wiehagen and Thomas Zeugmann. Lecture Notes in Computer Science, 1501. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xii*+439 *pp. ISBN* 3-540-65013-X (Editors) **99m:68005** 68–06 (68Q99, 68T05)

— ★ Automata, languages and programming. Proceedings of the 25th International Colloquium (ICALP'98) held in Aalborg, July 13–17, 1998. Edited by Kim G. Larsen, Sven Skyum and Glynn Winskel. Lecture Notes in Computer Science, 1443. *Springer-Verlag, Berlin*, 1998. *xvi*+932 *pp. ISBN* 3-540-64781-3 (Editors) **99m:68007** 68–06

— ★ Mathematical foundations of computer science 1998. Proceedings of the 23rd International Symposium (MFCS'98) held in Brno, August 24–28, 1998. Edited by Luboš Brim, Jozef Gruska and Jiří Zlatuška. Lecture Notes in Computer Science, 1450. *Springer-Verlag, Berlin*, 1998. *xviii*+846 *pp. ISBN* 3-540-64827-5 (Editors) **99m:68010** 68–06

Lecture Notes in Control and Information Sciences ★ Stability and control of time-delay systems. Edited by L. Dugard and E. I. Verriest. Lecture Notes in Control and Information Sciences, 228. *Springer-Verlag London, Ltd., London*, 1998. xx+317 *pp. ISBN* 3-540-76193-4 (From the preface) **99h:93004** 93–06 (34H05, 34K35, 93C30, 93D05)

— ★ Learning, control and hybrid systems. Festschrift in honor of Bruce Allen Francis and Mathukumalli Vidyasagar on the occasion of their 50th birthdays. Papers from the workshop held in Bangalore, January 4–8, 1998. Edited by Yutaka Yamamoto and Shinji Hara. Lecture Notes in Control and Information Sciences, 241. *Springer-Verlag London, Ltd., London*, 1999. *xvi*+451 *pp. ISBN* 1-85233-076-7 (Editors) **99g:93003** 93–06 (00B30, 93B36, 93C30, 93E35)

— *see also* **Emel'yanov, S. V. et al., 99a:93040**

Lecture Notes in Economics and Mathematical Systems ★ Non-linear dynamics and endogenous cycles. Papers from the workshop held in Nanterre, May 23–24, 1996. Edited by Gilbert Abraham-Frois. Lecture Notes in Economics and Mathematical Systems, 463. *Springer-Verlag, Berlin*, 1998. *vi*+204 *pp. ISBN* 3-540-64321-4 (Editors) **99d:90007** 90–06 (90A16)

— ★ Stochastic programming methods and technical applications. Proceedings of the 3rd GAMM/IFIP Workshop on Stochastic Optimization: Numerical Methods and Technical Applications held at the Federal Armed Forces University Munich, Neubiberg/Munich, June 17–20, 1996. Edited by Kurt Marti and Peter Kall. Lecture Notes in Economics and Mathematical Systems, 458. *Springer-Verlag, Berlin*, 1998. *x*+437 *pp. ISBN* 3-540-63924-1 (Editors) **99f:90007** 90–06 (90C15)

— ★ Trends in multicriteria decision making. Proceedings of the 13th International Conference held in Cape Town, January 6–10, 1997. Edited by Theodor J. Stewart and Robin C. van den Honert. Lecture Notes in Economics and Mathematical Systems, 465. *Springer-Verlag, Berlin*, 1998. *x*+448 *pp. ISBN* 3-540-64741-4 (Editors) **99g:90012** 90–06 (90A05, 90C29, 90C90)

Lecture Notes in Logic ★ Logic Colloquium '96. Invited papers from the Colloquium (European Summer Meeting of the Association of Symbolic Logic) held at the University of the Basque Country, San Sebastián, July 9–15, 1996. Edited by J. M. Larrazabal, D. Lascar and G. Mints. Lecture Notes in Logic, 12. *Springer-Verlag, Berlin*, 1998. *viii*+261 *pp. ISBN* 3-540-64668-X (Editors) **99i:03002** 03–06

— ★ Logic Colloquium '95. Papers from the colloquium held as part of the European Summer Meeting of the Association for Symbolic Logic in Haifa, August 9–18, 1995. Edited by Johann A. Makowsky and Elena V. Ravve. Lecture Notes in Logic, 11. *Springer-Verlag, Berlin*, 1998. *xvi*+349 *pp. ISBN* 3-540-63994-2 (Editors) **99m:03003** 03–06

Lecture Notes in Mathematics ★ Séminaire de Probabilités. XXXII. [Seminar on Probability Theory. XXXII] Edited by J. Azéma, M. Émery, M. Ledoux and M. Yor. Lecture Notes in Mathematics, 1686. *Springer-Verlag, Berlin*, 1998. *vi*+429 *pp. ISBN* 3-540-64376-1 (Editors) **99f:60006** 60–06

— ★ Model theory and algebraic geometry. An introduction to E. Hrushovski's proof of the geometric Mordell-Lang conjecture. Edited by Elisabeth Bouscaren. Lecture Notes in Mathematics, 1696. *Springer-Verlag, Berlin*, 1998. *xvi*+211 *pp. ISBN* 3-540-64863-1 (Editors) **99k:03032** 03C45 (03–06, 11–06, 11U09, 12L12, 14–06)

— *see also* **Eyre, Timothy M. W., 99i:81122**

Lecture Notes in Physics ★ Classical, semiclassical and quantum dynamics in atoms. Edited by Harald Friedrich and Bruno Eckhardt. Lecture Notes in Physics, 485. *Springer-Verlag, Berlin*, 1997. viii+340 *pp. ISBN* 3-540-63004-X (Charles A. Nelson) **99a:81002** 81–06 (81Q20, 81V45)

— ★ Integrability of nonlinear systems. Proceedings of the CIMPA International School on Nonlinear Systems, held at Pondicherry University, Pondicherry, January 8–26, 1996. Edited by Y. Kosmann-Schwarzbach, B. Grammaticos and K. M. Tamizhmani. Lecture Notes in Physics, 495. *Springer-Verlag, Berlin*, 1997. *viii*+380 *pp. ISBN* 3-540-63353-7 (Editors) **99b:58006** 58–06

— ★ Conformal field theories and integrable models. Papers from the Summer School held at the Eötvös Loránd University, Budapest, August 13–18, 1996. Edited by Zalán Horváth and László Palla. Lecture Notes in Physics, 498. *Springer-Verlag, Berlin*, 1997. *x*+251 *pp. ISBN* 3-540-63618-8 (Editors) **99b:81001** 81–06 (81T40, 82–06)

— ★ Perturbative and nonperturbative aspects of quantum field theory. Proceedings of the 35th International Universitätswochen für Kern- und Teilchenphysik held in Schladming, March 2–9, 1996. Edited by H. Latal and W. Schweiger. Lecture Notes in Physics, 479. *Springer-Verlag, Berlin*, 1997. x+430 *pp. ISBN* 3-540-62478-3 (K. S. Viswanathan) **99d:81177** 81V05 (81–06, 81T15)

— ★ Irreversibility and causality. Semigroups and rigged Hilbert spaces. Selected papers from the 21st International Colloquium on Group Theoretical Methods in Physics (ICGTMP) held in Goslar, July 16–21, 1996. Edited by Arno Bohm, Heinz-Dietrich Doebner and Piotr Kielanowski. Lecture Notes in Physics, 504. *Springer-Verlag, Berlin*, 1998. *xx*+385 *pp. ISBN* 3-540-64305-2 (Editors) **99b:81003** 81–06 (00B25, 47–06)

— ★ Chaos, kinetics and nonlinear dynamics in fluids and plasmas. Proceedings of the workshop held in Carry-Le Rouet, June 16–21, 1997. Edited by Sadruddin Benkadda and George M. Zaslavsky [G. M. Zaslavskiĭ]. Lecture Notes in Physics, 511. *Springer-Verlag, Berlin*, 1998. *viii*+438 *pp. ISBN* 3-540-64635-3 (Editors) **99d:00014** 00B25 (58–06, 76–06, 76Fxx, 82–06)

— ★ A perspective look at nonlinear media. From physics to biology and social sciences. Edited by Jürgen Parisi, Stefan C. Müller and Walter Zimmermann. Lecture Notes in Physics, 503. *Springer-Verlag, Berlin*, 1998. *viii*+372 *pp. ISBN* 3-540-63995-0 (Editors) **99d:00025** 00B25 (76–06, 92–06)

— ★ Supersymmetry and quantum field theory. Proceedings of the D. Volkov Memorial Seminar held in Kharkov, January 5–7, 1997. Edited by Julius Wess and Vladimir P. Akulov. Lecture Notes in Physics, 509. *Springer-Verlag, Berlin*, 1998. *xvi*+405 *pp. ISBN* 3-540-64623-X (Editors) **99k:81010** 81–06

— ★ Field theoretical tools for polymer and particle physics. Papers from the workshop held at the University of Wuppertal, Wuppertal, June 1997. Edited by Hildegard Meyer-Ortmanns and Andreas Klümper. Lecture Notes in Physics, 508. *Springer-Verlag, Berlin*, 1998. *xvi*+258 *pp. ISBN* 3-540-64308-7 (Eric Derbez) **99k:82001** 82–06 (81T08, 81V55, 82B41, 82D60)

Lecture Notes in Physics. New Series m: Monographs *see* **Zak, Michail et al., 99c:92010**

Lecture Notes in Statistics ★ Practical nonparametric and semiparametric Bayesian statistics. Edited by Dipak Dey, Peter Müller and Debajyoti Sinha. Lecture Notes in Statistics, 133. *Springer-Verlag, New York*, 1998. *xvi*+369 *pp. ISBN* 0-387-98517-4 (Editors) **99a:62004** 62–06

— ★ Probability towards 2000. Papers from the symposium held at Columbia University, New York, October 2–6, 1995. Edited by L. Accardi and C. C. Heyde. Lecture Notes in Statistics, 128. *Springer-Verlag, New York*, 1998. *xiii*+356 *pp. ISBN* 0-387-98458-5 (Editors) **99b:60004** 60–06

— ★ Monte Carlo and quasi-Monte Carlo methods 1996. Proceedings of the 2nd International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing held at the University of Salzburg, Salzburg, July 9–12, 1996. Edited by Harald Niederreiter, Peter Hellekalek, Gerhard Larcher and Peter Zinterhof. Lecture Notes in Statistics, 127. *Springer-Verlag, New York*, 1998. *xii*+448 *pp. ISBN* 0-387-98335-X (Editors) **99d:65005** 65–06 (65C05)

— ★ Random and quasi-random point sets. Edited by Peter Hellekalek and Gerhard Larcher. Lecture Notes in Statistics, 138. *Springer-Verlag, New York*, 1998. *xii*+332 *pp. ISBN* 0-387-98554-9 (Editors) **99g:11003** 11–06 (11Kxx, 60–06, 65C10)

— ★ Discretization and MCMC convergence assessment. Edited by Christian P. Robert. Lecture Notes in Statistics, 135. *Springer-Verlag, New York*, 1998. *xii*+192 *pp. ISBN* 0-387-98591-3 (Jean Diebolt) **99m:65012** 65C05 (60J05, 60J10, 62F15, 62P10, 65U05)

Lecture notes on aspects of nonlinear, functional and applicable analysis (ANFAA) ★ Lecture notes on aspects of nonlinear, functional and applicable analysis (ANFAA). Papers from the Q.I.P. Short-term Course held at the Indian Institute of Technology, Madras, May 26–June 1, 1998. Edited by P. V. Subrahmanyam. *Indian Institute of Technology, Madras*, 1998. *viii*+105 *pp.* (Editors) **99c:00014** 00B25 (46–06)

Lectures:

Barrett, John H. ★ Special issue on Barrett Lectures in control theory. Papers from the 1997 Barrett Lectures held at the University of Tennessee, Knoxville, TN, March 20–22, 1997. Math. Models Methods Appl. Sci. **8** (1998), no. 7. *World Scientific Publishing Co., Singapore*, 1998. *pp. i–iv and* 1119–1276. (Editors) **99g:93005** 93–06

Lectures: (*cont'd.*)

Fields Medallists ★ Fields Medallists' lectures. Edited by Michael Atiyah and Daniel Iagolnitzer. World Scientific Series in 20th Century Mathematics, 5. *World Scientific Publishing Co., Inc., River Edge, NJ; Singapore University Press, Singapore*, 1997. *x*+632 *pp. ISBN* 981-02-3117-2 (Editors) **99b:00010** 00B15 (00B60, 01–06)

International Press ★ Topics in symplectic 4-manifolds. 1st International Press Lectures presented at the University of California, Irvine, CA, March 28–30, 1996. Edited by Ronald J. Stern. First International Press Lecture Series, I. *International Press, Cambridge, MA*, 1998. *iv*+124 *pp. ISBN* 1-57146-019-5 (Editors) **99b:57001** 57–06 (58–06)

Lewis, Jacqueline B. *see* **Macdonald, I. G., 99f:05116**

Ramanujan, Srinivasa Aiyangar ★ Ramanujan Visiting Lectures. Technical Report, 4. *Madurai Kamaraj University, School of Mathematics, Madurai*, 199?. *vi*+129 *pp.* (Bruce C. Berndt) **99g:11001** 11–06

Lectures on proof verification and approximation algorithms ★ Lectures on proof verification and approximation algorithms. Papers from the Workshop on Proof Verification and Approximation Algorithms held at Schloß Dagstuhl, April 21–25, 1997. Edited by Ernst W. Mayr, Hans Jürgen Prömel and Angelika Steger. Lecture Notes in Computer Science, 1367. *Springer-Verlag, Berlin*, 1998. *xii*+344 *pp. ISBN* 3-540-64201-3 (Johan Håstad) **99h:68060** 68Q15 (68–02, 68Q20)

Leopoldo Nachbin ★ Leopoldo Nachbin. (Portuguese) Edited by Jorge Alberto Barroso and André Nachbin. *Universidade Federal do Rio de Janeiro, Rio de Janeiro*, 1997. 143 *pp.* (Editors) **99f:01025** 01A70

Les Houches ★ Fluctuations quantiques. [Quantum fluctuations] Papers from the NATO Advanced Study Institute held at the 63rd Session of the Summer School in Theoretical Physics in Les Houches, June 27–28, 1995. Edited by S. Reynaud, E. Giacobino and J. Zinn-Justin. *North-Holland Publishing Co., Amsterdam*, 1997. *xxxiv*+606 *pp. ISBN* 0-444-82593-2 (Apostolos Vourdas) **99k:81356** 81V80 (81–06)

— ★ Ocean modeling and parameterization. Proceedings of the NATO Advanced Study Institute held in Les Houches, January 20–30, 1998. Edited by Eric P. Chassignet and Jacques Verron. NATO Science Series C: Mathematical and Physical Sciences, 516. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii*+451 *pp. ISBN* 0-7923-5228-9 (Editors) **99f:86001** 86–06 (76–06)

— ★ Symétries quantiques. [Quantum symmetries] Papers from the NATO Advanced Study Institute held at the 64th Session of the Summer School in Theoretical Physics in Les Houches, August 1–September 8, 1995. Edited by A. Connes, K. Gawedzki and J. Zinn-Justin. *North-Holland Publishing Co., Amsterdam*, 1998. *xxxviii*+990 *pp. ISBN* 0-444-82867-2 (Editors) **99k:81008** 81–06 (58–06)

Lie computations ★ Lie computations. Papers from the MEDICIS Thematic Workshop held in Marseille, November 1994. Edited by Gérard Jacob and Pierre-Vincent Koseleff. Discrete Math. Theor. Comput. Sci. **1** (1997), no. 1. *Chapman & Hall, London*, 1997. *pp.* 99–246. (Editors) **99a:00031** 00B25 (68Q40)

Lie groups and Lie algebras ★ Lie groups and Lie algebras. Their representations, generalisations and applications. Edited by B. P. Komrakov, I. S. Krasil′shchik, G. L. Litvinov and A. B. Sossinsky [A. B. Sosinskiĭ]. Mathematics and its Applications, 433. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii*+442 *pp. ISBN* 0-7923-4916-4 (Editors) **99a:00013** 00B15 (17–06, 22–06, 43–06)

Lie theory and its applications in physics ★ Lie theory and its applications in physics. Proceedings of the International Workshop held at the Technical University of Clausthal, Clausthal, August 14–17, 1995. Edited by H.-D. Doebner, V. K. Dobrev and J. Hilgert. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *viii*+274 *pp. ISBN* 981-02-2882-1 (Editors) **99d:00022** 00B25 (17B81, 58–06, 81–06)

Liège ★ Logique dans l'enseignement des mathématiques. (French) [Logic in the teaching of mathematics] Papers from the colloquium held in Liège, May 29–30, 1996. Bull. Belg. Math. Soc. Simon Stevin **5** (1998), no. 5, suppl. *Société Mathématique de Belgique, Brussels*, 1998. *pp. i–vi and* 1–78. (Editors) **99g:00042** 00B25 (03–06)

Lille ★ Sparse matrices in industry. Papers from the 2nd Symposium on New Techniques for the Treatment of Sparse Matrices for Industrial Problems held at the Université des Sciences et Technologies de Lille, Lille, April 28–29, 1997. Numer. Algorithms **16** (1997), no. 1. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–vi and* 1–94. (Editors) **99a:65006** 65–06 (65F50)

— ★ Delay systems. Papers from the Special Session on Recent Results on Time-Delay Systems held as part of the Conference on Computational Engineering in Systems Applications in Lille, July 9–12, 1996. Edited by J.-P. Richard and V. B. Kolmanovskii. Math. Comput. Simulation **45** (1998), no. 3-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 219–395. (Editors) **99a:93005** 93–06

Lillehammer ★ Mathematical methods for curves and surfaces. II. Papers from the International Conference held in Lillehammer, July 3–8, 1997. Edited by Morten Dæhlen, Tom Lyche and Larry L. Schumaker. Innovations in Applied Mathematics. *Vanderbilt University Press, Nashville, TN*, 1998. *xx*+556 *pp. ISBN* 0-8265-1315-8 (Editors) **99d:65004** 65–06 (00B25, 65D17)

Lindau ★ Workshop on Proof Search in Type-theoretic Languages. Proceedings of the 3rd Workshop held in Lindau, July 5, 1998. Edited by Didier Galmiche. Electronic Notes in Theoretical Computer Science, 17. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+141 *pp.* (*electronic*). (Editors) **99h:68013** 68–06 (68T15)

Linear algebra and statistics ★ Linear algebra and statistics. Including papers from the 6th International Workshop on Matrices and Statistics held in Istanbul, August 16–17, 1997. Edited by R. William Farebrother, Simo Puntanen, George P. H. Styan and Hans Joachim Werner. Linear Algebra Appl. **289** (1999), no. 1-3. *North-Holland Publishing Co., New York*, 1999. *pp. i–iv and* 1–344. (Editors) **99i:00019** 00B25 (15–06, 62–06)

Linear matrix inequalities and positive semidefinite programming ★ Senkei gyōretsu futōshiki to hanseiteichi keikakuhō. [Linear matrix inequalities and positive semidefinite programming] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 15–17, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1004 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–199. (Editors) **99a:90007** 90–06

Linköping ★ 6th European Symposium on Programming. Selected papers from the symposium (ESOP'96) held in Linköping, April 22–24, 1996. Edited by Hanne Riis Nielson. Sci. Comput. Programming **32** (1998), no. 1-3. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. iii–iv and* 1–210. (Editors) **99c:68006** 68–06

Linz ★ 16th Linz Seminar on Fuzzy Set Theory. Papers from the seminar held in Linz, September 14–18, 1994. Edited by W. Kotzé. Quaestiones Math. **20** (1997), no. 3. *South African Mathematical Society, Potchefstroom*, 1997. *pp. iii–iv and* 269–530 *pp.* (Editors) **99c:54002** 54–06 (54A40)

— ★ Non-standard applications of computer algebra. Including papers from the 2nd and 3rd IMACS Conferences on Applied Computer Algebra held in Linz, 1996 and in Wailea, HI, 1997. Edited by E. Roanes-Lozano, S. Steinberg and H. Hong. Math. Comput. Simulation **45** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 1–217. (Editors) **99a:00035** 00B25 (68Q40)

— ★ Quantifier elimination and cylindrical algebraic decomposition. Proceedings of the symposium held at the Research Institute for Symbolic Computation, Johannes Kepler University, Linz, October 6–8, 1993. Edited by B. F. Caviness and J. R. Johnson. Texts and Monographs in Symbolic Computation. *Springer-Verlag, Vienna*, 1998. *xx*+431 *pp. ISBN* 3-211-82794-3 (Editors) **99b:03007** 03–06 (03B25, 03C10, 03C60, 03C62, 12L05, 68Q40)

Liptovský Ján ★ Real functions. Dedicated to Tibor Šalát. Including papers from the Summer School on Real Functions Theory held in Liptovský Ján, September 8–13, 1996. Edited by Ján Borsík, Roman Frič and Ján Haluška. Tatra Mt. Math. Publ. **14** (1998). *Slovak Academy of Sciences, Mathematical Institute, Bratislava*, 1998. *pp.* 1–323. (Editors) **99f:00022** 00B25 (00B30, 26–06)

— ★ Quantum structures. II. Dedicated to Gudrun Kalmbach. Papers from the 4th Biannual Meeting of the International Quantum Structures Association held in Liptovský Ján, August 30–September 5, 1998. Edited by Anatolij Dvurečenskij and Sylvia Pulmannová. Tatra Mt. Math. Publ. **15** (1998). *Slovak Academy of Sciences, Mathematical Institute, Bratislava*, 1998. *pp.* 1–244. (Editors) **99g:00049** 00B25 (00B30)

Lisboa ★ International Conference on Differential Equations. Papers from the conference (EQUADIFF 95) held in Lisboa, July 24–29, 1995. Edited by L. Magalhães, C. Rocha and L. Sanchez. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xviii*+556 *pp. ISBN* 981-02-3421-X (Editors) **99d:00015** 00B25 (34–06, 35–06)

Lisbon ★ Foundations of software science and computation structures. Proceedings of the 1st International Conference (FoSSaCS'98) held as part of the Joint European Conferences on Theory and Practice of Software (ETAPS'98) in Lisbon, March 28–April 4, 1998. Edited by Maurice Nivat. Lecture Notes in Computer Science, 1378. *Springer-Verlag, Berlin*, 1998. *x*+289 *pp. ISBN* 3-540-64300-1 (Editors) **99c:68005** 68–06

— ★ First Workshop on Coalgebraic Methods in Computer Science (CMCS '98). Proceedings of the workshop held in Lisbon, March 28–29, 1998. Edited by Bart Jacobs, Larry Moss, Horst Reichel and Jan Rutten. Electronic Notes in Theoretical Computer Science, 11. *Elsevier Science B.V., Amsterdam*, 1998. *Front matter*+258 *pp.* (*electronic*). (Editors) **99e:68002** 68–06 (03–06, 08–06, 16W30, 18–06, 68Q55, 68Q65)

Local and global problems of singularity theory ★ Локальные и глобальные задачи теории особенностей. (Russian) [Local and global problems of singularity theory] Dedicated to Academician Vladimir Igorevich Arnol′d on the occasion of his 60th birthday. Edited by V. M. Zakalyukin. Tr. Mat. Inst. Steklova **221** (1998). *Mezhdunarodnaya Akademicheskaya Izdatel′skaya Kompaniya "Nauka", Moscow*, 1998. *pp.* 1–319. (Editors) **99m:58006** 58–06 (00B30, 58C27)

Localization and fracture phenomena in inelastic solids ★ Localization and fracture phenomena in inelastic solids. Papers from the CISM Advanced School held in Udine, September 29–October 3, 1997. Edited by Piotr Perzyna. CISM Courses and Lectures, 386. *Springer-Verlag, Vienna*, 1998. *vi*+468 *pp. ISBN* 3-211-82918-0 (Editors) **99g:73002** 73–06 (73Exx, 73M25)

Localization in nonlinear lattices ★ Localization in nonlinear lattices. Proceedings of the workshop held in Dresden, April 7–11, 1997. Edited by Sergej Flach and Robert S. MacKay. Phys. D **119** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–viii and* 1–238. (Editors) **99d:58004** 58–06

Logic, action and cognition ★ Logic, action and cognition. Essays in philosophical logic. Revised papers from the Colloquium on Dynamic Approaches in Logic, Language and Information (UmLLI-93) held at Umeå University, Umeå, September 24–26, 1993. Edited by Eva Ejerhed and Sten Lindström. Trends in Logic—Studia Logica Library, 2. *Kluwer Academic Publishers, Dordrecht*, 1997. *x*+232 *pp. ISBN* 0-7923-4560-6 (Editors) **99k:03012** 03B35 (03–06)

Logic, algebra, and computer science ★ Logic, algebra, and computer science. Helena Rasiowa in memoriam. Papers from the conference held in Warsaw, December 2–22, 1996. Edited by Damian Niwiński and Marek Zawadowski. Banach Center Publications, 46. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1999. 225 *pp.* (Editors) **99m:03004** 03–06 (00B30)

Logic & foundation of the theory of games and decisions ★ Logic & foundation of the theory of games and decisions. 2. Selected papers from the 2nd Conference on Logic and the Theory of Games and Decisions (LOFT2) held in Turin, December 1996. Edited by Mamoru Kaneko, Giacomo Bonanno and Philippe Mongin. Math. Social Sci. **36** (1998), no. 1. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 1–68. (Editors) **99m:03039** 03B45 (03–06)

Logic and models of computation ★ {Logic and models of computation}. Papers from the conference held in Marseille, September 1996. Edited by Thomas Ehrhard, Yves Lafont and Laurent Regnier. Math. Structures Comput. Sci. **8** (1998), no. 6. *Cambridge University Press, New York*, 1998. *pp.* 541–710. (Editors) **99h:03001** 03–06 (03B70, 68–06, 68N15)

Logic in the teaching of mathematics ★ Logique dans l'enseignement des mathématiques. (French) [Logic in the teaching of mathematics] Papers from the colloquium held in Liège, May 29–30, 1996. Bull. Belg. Math. Soc. Simon Stevin **5** (1998), no. 5, suppl. *Société Mathématique de Belgique, Brussels*, 1998. *pp. i–vi and* 1–78. (Editors) **99g:00042** 00B25 (03–06)

Logic programming ★ Logic programming. Proceedings of the International Symposium (ILPS'97) held in Port Washington, NY, October 13–16, 1997. Edited by Jan Małuszyński. MIT Press Series in Logic Programming. *MIT Press, Cambridge, MA*, 1997. *xviii*+425 *pp. ISBN* 0-262-63180-6 (Editors) **99d:68008** 68–06 (68N17)

— ★ Logic programming. Proceedings of the 1998 Joint 15th International Conference and 15th Symposium (ICLP'98/ILPS'98) held at the University of Manchester, Manchester, June 16–19, 1998. Edited by Joxan Jaffar. MIT Press Series in Logic Programming. *MIT Press, Cambridge, MA*, 1998. *xviii*+361 *pp. ISBN* 0-262-60031-5 (Editors) **99f:68004**

68–06 (68N17)

Logic programming and knowledge representation ★ Logic programming and knowledge representation. Selected papers from the 3rd International Workshop (LPKR '97) held in Port Jefferson, NY, October 17, 1997. Edited by Jürgen Dix, Luis Moniz Pereira and Teodor C. Przymusinski. Lecture Notes in Computer Science, 1471. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+246 *pp. ISBN* 3-540-64958-1 (Editors) **99i:68003** 68–06 (68N17, 68T30)

Logic programming and nonmonotonic reasoning ★ Logic programming and nonmonotonic reasoning. Proceedings of the 4th International Conference (LPNMR '97) held in Dagstuhl, July 28–31, 1997. Edited by Jürgen Dix, Ulrich Furbach and Anil Nerode. Lecture Notes in Computer Science, 1265. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *x*+453 *pp. ISBN* 3-540-63255-7 (Editors) **99a:68011** 68–06 (68N17, 68T27)

Logical aspects of computational linguistics ★ Logical aspects of computational linguistics. Papers from the 1st International Conference (LACL '96) held in Nancy, September 23–25, 1996. Edited by Christian Retoré. Lecture Notes in Computer Science, 1328. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *viii*+435 *pp. ISBN* 3-540-63700-1 (Editors) **99d:03004** 03–06 (03B65, 68–06, 68Q45, 68S05)

Logical empiricism at its peak ★ Logical empiricism at its peak. Schlick, Carnap, and Neurath. Edited and with introductions by Sahotra Sarkar. Readings in Philosophy. Science and Philosophy in the Twentieth Century. Basic Works of Logical Empiricism, 2. *Garland Publishing, Inc., New York*, 1996. *xx*+404 *pp. ISBN* 0-8153-2263-1 (Editors) **99a:00006a** 00A30 (00B60, 01A75)

Logical investigations ★ Логические исследования. Вып. 4. (Russian) [Logical investigations. No. 4] Dedicated to the memory of V. A. Smirnov. Edited by A. S. Karpenko and E. D. Smirnova. "*Nauka*", *Moscow*, 1997. 320 *pp. ISBN* 5-02-013623-9 (Editors) **99m:03005** 03–06 (00B30)

Logique dans l'enseignement des mathématiques ★ Logique dans l'enseignement des mathématiques. (French) [Logic in the teaching of mathematics] Papers from the colloquium held in Liège, May 29–30, 1996. Bull. Belg. Math. Soc. Simon Stevin **5** (1998), no. 5, suppl. *Société Mathématique de Belgique, Brussels*, 1998. *pp. i–vi and* 1–78. (Editors) **99g:00042** 00B25 (03–06)

London ★ New geometric techniques in computer vision. Proceedings of the Royal Society Discussion Meeting held in London, July 23–24, 1997. Edited by J. Lasenby, A. Zisserman, R. Cipolla and H. C. Longuet-Higgins. R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci. **356** (1998), no. 1740. *Royal Society, London*, 1998. *pp. i–ii and* 1063–1340. (Editors) **99a:00034** 00B25 (68U10)

— ★ 16th British Combinatorial Conference. Selected papers from the conference held at Queen Mary and Westfield College, London, July 7–11, 1997. Edited by D. R. Woodall, I. Anderson, G. R. Brightwell, J. W. P. Hirschfeld, P. Rowlinson, J. Sheehan and D. H. Smith. Discrete Math. **197/198** (1999). *North-Holland Publishing Co., Amsterdam*, 1999. *pp. iii–xii and* 1–797. (Editors) **99h:00023** 00B25 (05–06)

— ★ Advances in combinatorial optimization. Papers from the conference held at Imperial College, London, 1996. Edited by Y. M. Sharaiha and J. E. Beasley. Ann. Oper. Res. **86** (1999). *Baltzer Science Publishers BV, Bussum*, 1999. *pp. xii and* 1–663. (Editors) **99k:90002** 90–06 (90B35, 90C10, 90C27, 90C35)

Los Alamos, NM ★ Nonlinear waves and solitons in physical systems. Papers from the 17th Annual International Conference of the Center for Nonlinear Studies on Nonlinear Science held in Los Alamos, NM, May 12–16, 1997. Edited by Roberto Camassa, James M. Hyman and Benjamin P. Luce. Phys. D **123** (1998), no. 1-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–xii and* 1–547. (Editors) **99h:00031** 00B25 (35–06, 76–06)

Los Angeles, CA ★ Strings '95. Future perspectives in string theory. Papers from the conference held at the University of Southern California, Los Angeles, CA, March 13–18, 1995. Edited by I. Bars, P. Bouwknegt, J. Minahan, D. Nemeschansky, K. Pilch, H. Saleur and N. Warner. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+523 *pp. ISBN* 981-02-2472-9 (Editors) **99h:81008** 81–06 (81T30, 83E30)

Luino ★ Semigroups. Algebraic theory and applications to formal languages and codes. Papers from the International Conference held in Luino, June 22–27, 1992. Edited by C. Bonzini, A. Cherubini and C. Tibiletti [Cesarina Marchionna Tibiletti]. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1993. *xiv*+331 *pp. ISBN* 981-02-1521-5 (Editors) **99f:20003** 20–06 (20Mxx)

Luminy ★ Generalized convexity, generalized monotonicity: recent results. Proceedings of the 5th International Symposium on Generalized Convexity held in Luminy, June 17–21, 1996. Edited by Jean-Pierre Crouzeix, Juan-Enrique Martinez-Legaz and Michel Volle. Nonconvex Optimization and its Applications, 27. *Kluwer Academic Publishers, Dordrecht*, 1998. *xvi*+467 *pp. ISBN* 0-7923-5088-X (Editors) **99f:90006** 90–06 (49N15, 90C26, 90C29)

Lyon ★ SCAN-97. Selected papers from the conference held in Lyon, September 1997. J.UCS **4** (1998), no. 1. *Springer-Verlag, Heidelberg*, 1998. *front matter and pp.* 1–88 (*electronic*). (Editors) **99g:65009** 65–06

— ★ SCAN-97. Selected papers from the conference held in Lyon, September 1997. J.UCS **4** (1998), no. 2. *Springer-Verlag, Heidelberg*, 1998. *front matter and pp.* 89–209 (*electronic*). (Editors) **99g:65010** 65–06

Madison, NJ ★ New York Graph Theory Day. 30. Papers from the meeting held at Drew University, Madison, NJ, November 4, 1995. Graph Theory Notes N. Y. **30** (1996). *New York Academy of Sciences, New York*, 1996. *pp.* 1–54. (Editors) **99g:05001** 05–06 (00B25)

Madison, WI ★ AAAI-98/IAAI-98 Proceedings. Proceedings of the 15th National Conference on Artificial Intelligence and the 10th Conference on Innovative Applications of Artificial Intelligence held in Madison, WI, July 26–30, 1998. *MIT Press, Cambridge, MA*; *AAAI Press, Menlo Park, CA*, 1998. *xxiv*+1218 *pp. ISBN* 0-262-51098-7 (Editors) **99f:68005** 68–06 (68Txx)

— ★ Inductive logic programming. Proceedings of the 8th International Conference (ILP-98) held at the University of Wisconsin, Madison, WI, July 22–24, 1998. Edited by David Page [C. David Page, Jr.]. Lecture Notes in Computer Science, 1446. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *viii*+301 *pp. ISBN* 3-540-64738-4 (Editors) **99k:68010** 68–06 (68N17, 68T05)

Madras ★ Classical and quantum aspects of gravitation and cosmology. Proceedings of the 18th Conference of the Indian Association for General Relativity and Gravitation (IAGRG) held in honor of S. Chandrasekhar at the Institute of Mathematical Sciences, Madras, February 15–17, 1996. Edited by G. Date and Bala R. Iyer. IMS Report, 117. *Institute of Mathematical Sciences, Madras*, 199?. *viii*+231 *pp.* (Editors) **99b:83003** 83–06

— ★ Lecture notes on aspects of nonlinear, functional and applicable analysis (ANFAA). Papers from the Q.I.P. Short-term Course held at the Indian Institute of Technology, Madras, May 26–June 1, 1998. Edited by P. V. Subrahmanyam. *Indian Institute of Technology, Madras*, 1998. *viii*+105 *pp.* (Editors) **99c:00014** 00B25 (46–06)

— ★ Special functions and differential equations. Proceedings of the workshop (WSSF97) held in Madras, January 13–24, 1997. Edited by K. Srinivasa Rao, R. Jagannathan, G. Vanden Berghe and J. Van der Jeugt. *Allied Publishers Private Limited, New Delhi*, 1998. *xvi*+486 *pp. ISBN* 81-7023-764-5 (Editors) **99h:33002** 33–06 (81–06)

Management science in China ★ Management science in China. Selected papers from the International Conference on Management Science and the Economic Development of China held at the Hong Kong University of Science and Technology, Kowloon, July 1996. Edited by Liming Liu, Shouyang Wang and Shaohui Zhang. Ann. Oper. Res. **87** (1999). *Baltzer Science Publishers BV, Bussum*, 1999. *pp. i–vi and* 1–420. (Editors) **99m:90004** 90–06 (90Bxx, 90Cxx)

Manchester ★ Parallel computational fluid dynamics. Recent developments and advances using parallel computers. Proceedings of the Parallel CFD '97 Conference held in Manchester, May 19–21, 1997. Edited by D. R. Emerson, A. Ecer, J. Periaux, N. Satofuka and P. Fox. *North-Holland, Amsterdam*, 1998. *xiv*+681 *pp. ISBN* 0-444-82849-4 (From the preface) **99d:76002** 76–06 (76Mxx)

— ★ Numerical methods for wave propagation. Selected papers from the International Workshop held in Manchester, May 1995. Edited by E. F. Toro and J. F. Clarke. Fluid Mechanics and its Applications, 47. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+385 *pp. ISBN* 0-7923-5125-8 (Editors) **99f:65006** 65–06 (76–06, 76Mxx)

— ★ Logic programming. Proceedings of the 1998 Joint 15th International Conference and 15th Symposium (ICLP'98/ILPS'98) held at the University of Manchester, Manchester, June 16–19, 1998. Edited by Joxan Jaffar. MIT Press Series in Logic Programming. *MIT Press, Cambridge, MA*, 1998. *xviii*+361 *pp. ISBN* 0-262-60031-5 (Editors) **99f:68004** 68–06 (68N17)

— ★ Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming (DDLP'98). Held in conjunction with the Joint International Conference and Symposium on Logic Programming (JICSLP'98) in Manchester, June 20, 1998. Edited by Piero Fraternali, Ulrich Geske, Carolina Ruiz and Dietmar Seipel. GMD Report, 22. *GMD—Forschungszentrum Informationstechnik GmbH, St. Augustin*, 1998. 155 *pp.* (Editors) **99g:68052** 68P15 (68–06)

Mangalia ★ Artificial life: grammatical models. Papers from the workshop held in Mangalia, August 28–September 4, 1994. Edited by Gheorghe Păun. *Black Sea University Press, Bucharest*, 1995. xii+275 *pp. ISBN* 973-0-00131-6 (From the introduction) **99d:68155** 68Q50 (92B05)

Many-valued logics ★ Many-valued logics. Edited by Daniele Mundici. Studia Logica **61** (1998), no. 1. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. iii–iv and* 1–169. (Editors) **99d:03005** 03–06

Maracaibo ★ IX Jornadas de la Asociación Matemática Venezolana. (Spanish) [IX Conference of the Venezuelan Mathematical Association] Selected papers from the conference held at La Universidad del Zulia, Maracaibo, April 24–26, 1996. Divulg. Mat. **5** (1997), no. 1-2. *Universidad del Zulia, Facultad Experimental de Ciencias, Departamento de Matemática y Computación, Maracaibo*, 1998. *pp. iii–iv and* 1–27. (Editors) **99d:00017** 00B25

Marrakech ★ Recent advances in problems of flow and transport in porous media. Papers from the International Conference held in Marrakech, June 1996. Edited by J. M. Crolet and M. El Hatri. Theory and Applications of Transport in Porous Media, 11. *Kluwer Academic Publishers, Dordrecht*, 1998. *xii*+247 *pp. ISBN* 0-7923-4938-5 (Editors) **99a:76001** 76–06 (76Mxx, 76S05, 76T05, 86–06)

Marseille ★ Lie computations. Papers from the MEDICIS Thematic Workshop held in Marseille, November 1994. Edited by Gérard Jacob and Pierre-Vincent Koseleff. Discrete Math. Theor. Comput. Sci. **1** (1997), no. 1. *Chapman & Hall, London*, 1997. *pp.* 99–246. (Editors) **99a:00031** 00B25 (68Q40)

— ★ MODA 5—advances in model-oriented data analysis and experimental design. Proceedings of the 5th International Workshop on Model-oriented Data Analysis held in Marseille, June 22–26, 1998. Edited by Anthony C. Atkinson, Luc Pronzato and Henry P. Wynn. Contributions to Statistics. *Physica-Verlag, Heidelberg*, 1998. *xiv*+300 *pp. ISBN* 3-7908-1111-4 (Editors) **99f:62008** 62–06

— ★ {Logic and models of computation}. Papers from the conference held in Marseille, September 1996. Edited by Thomas Ehrhard, Yves Lafont and Laurent Regnier. Math. Structures Comput. Sci. **8** (1998), no. 6. *Cambridge University Press, New York*, 1998. *pp.* 541–710. (Editors) **99h:03001** 03–06 (03B70, 68–06, 68N15)

— ★ Numerical flow simulation. I. CNRS-DFG collaborative research programme. Results 1996–1998. Papers from the 6th Joint Colloquium on Numerical Simulation of Flows held in Marseille, November 21–22, 1997. Edited by Ernst Heinrich Hirschel. Notes on Numerical Fluid Mechanics, 66. *Friedr. Vieweg & Sohn, Braunschweig*, 1998. *viii*+425 *pp. ISBN* 3-528-06966-X (Editors) **99h:76003** 76–06 (76Mxx)

Marseille-Luminy ★ Control and partial differential equations. Papers from the conference held in Marseille-Luminy, June 16–20, 1997. Edited by Caroline Fabre, Fulbert Mignot, Jean-Pierre Puel, Marius Tucsnak and Enrique Zuazua. ESAIM Proceedings, 4. *Société de Mathématiques Appliquées et Industrielles, Paris*, 1998. *front matter* + 300 *pp.* (*electronic*). (Editors) **99g:00037** 00B25 (35–06, 49–06, 93–06, 93C20)

Material for the history of twentieth-century mathematics ★ Matériaux pour l'histoire des mathématiques au XX^{e} siècle. (French) [Material for the history of twentieth-century mathematics] Papers from the colloquium held in Nice, January 6–8, 1996. Séminaires et Congrès [Seminars and Congresses], 3. *Société Mathématique de France, Paris*, 1998. 283 *pp. ISBN* 2-85629-065-5 (Editors) **99d:01001** 01–06 (00B25)

Matériaux pour l'histoire des mathématiques au XX^{e} siècle ★ Matériaux pour l'histoire des mathématiques au XX^{e} siècle. (French) [Material for the history of twentieth-century mathematics] Papers from the colloquium held in Nice, January 6–8, 1996. Séminaires et Congrès [Seminars and Congresses], 3. *Société Mathématique de France, Paris*, 1998. 283 *pp. ISBN* 2-85629-065-5 (Editors) **99d:01001** 01–06 (00B25)

Mathemagician and pied puzzler ★ The mathemagician and pied puzzler. A collection in tribute to Martin Gardner. Papers from the Gathering for Gardner Meeting (G4G1)

held in Atlanta, GA, January 1993. Edited by Elwyn Berlekamp and Tom Rodgers. *A K Peters, Ltd., Natick, MA*, 1999. *x*+266 *pp. ISBN* 1-56881-075-X (E. J. Barbeau) **99m:00002** 00A08 (00B30)

Mathematical and computational analysis of natural language ★ Mathematical and computational analysis of natural language. Selected papers from the 2nd International Conference on Mathematical Linguistics (ICML '96) held in Tarragona, May 2–4, 1996. Edited by Carlos Martín-Vide. Studies in Functional and Structural Linguistics (SFSL), 45. *John Benjamins B.V., Amsterdam*, 1998. *xviii*+391 *pp. ISBN* 90-272-1554-5 (Editors) **99g:68003** 68–06 (68Q45, 68S05)

Mathematical and computational biology ★ Mathematical and computational biology. Computational morphogenesis, hierarchical complexity, and digital evolution. Proceedings of the International Workshop held at the University of Aizu, Aizu-Wakamatsu City, October 21–25, 1997. Edited by Chrystopher L. Nehaniv. Lectures on Mathematics in the Life Sciences, 26. *American Mathematical Society, Providence, RI*, 1999. *xii*+201 *pp. ISBN* 0-8218-0941-5 (Editors) **99k:92002** 92–06 (92D15)

Mathematical and numerical aspects of wave propagation ★ Mathematical and numerical aspects of wave propagation. Proceedings of the 4th International Conference held at the Colorado School of Mines, Golden, CO, June 1–5, 1998. Edited by John A. DeSanto. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xx*+792 *pp. ISBN* 0-89871-423-0 (Editors) **99d:00023** 00B25 (35–06, 76–06, 76Q05, 78–06, 78A45)

Mathematical aspects of artificial intelligence ★ Mathematical aspects of artificial intelligence. Lectures presented at the American Mathematical Society Short Course held in Orlando, FL, January 8–9, 1996. Edited by Frederick Hoffman. Proceedings of Symposia in Applied Mathematics, 55. AMS Short Course Lecture Notes. *American Mathematical Society, Providence, RI*, 1998. *xii*+275 *pp. ISBN* 0-8218-0611-4 (Neculai Curteanu) **99g:68162** 68Txx (68–06)

Mathematical control theory ★ Mathematical control theory. Dedicated to Roger Ware Brockett on the occasion of his 60th birthday. Edited by J. Baillieul and J. C. Willems. *Springer-Verlag, New York*, 1999. *xxxii*+360 *pp. ISBN* 0-387-98317-1 (Editors) **99g:93004** 93–06 (00B30)

Mathematical essays in honor of Gian-Carlo Rota ★ Mathematical essays in honor of Gian-Carlo Rota. Including papers from the Conference in Honor of Gian-Carlo Rota (Rotafest) and the Umbral Calculus Workshop held in Cambridge, MA, April 1996. Edited by Bruce E. Sagan and Richard P. Stanley. Progress in Mathematics, 161. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xiv*+463 *pp. ISBN* 0-8176-3872-5 (Editors) **99a:00055** 00B30 (05–06)

Mathematical foundations of computer science ★ Mathematical foundations of computer science 1997. Proceedings of the 22nd International Symposium (MFCS '97) held in Bratislava, August 25–29, 1997. Edited by Igor Privara and Peter Ružička. Lecture Notes in Computer Science, 1295. *Springer-Verlag, Berlin*, 1997. *x*+519 *pp. ISBN* 3-540-63437-1 (Editors) **99d:68009** 68–06

— ★ Mathematical foundations of computer science 1998. Proceedings of the 23rd International Symposium (MFCS'98) held in Brno, August 24–28, 1998. Edited by Luboš Brim, Jozef Gruska and Jiří Zlatuška. Lecture Notes in Computer Science, 1450. *Springer-Verlag, Berlin*, 1998. *xviii*+846 *pp. ISBN* 3-540-64827-5 (Editors) **99m:68010** 68–06

Mathematical heritage of Sir William Rowan Hamilton ★ The mathematical heritage of Sir William Rowan Hamilton. Papers from the International Conference held in Dublin, August 17–20, 1993. Edited by B. Goldsmith, T. J. Laffey and D. J. Simms. Proc. Roy. Irish Acad. Sect. A **95** (1995), suppl. *Royal Irish Academy, Dublin*, 1995. *pp. i–vi and* 1–88. (Editors) **99e:00020** 00B25

Mathematical methods for curves and surfaces ★ Mathematical methods for curves and surfaces. II. Papers from the International Conference held in Lillehammer, July 3–8, 1997. Edited by Morten Dæhlen, Tom Lyche and Larry L. Schumaker. Innovations in Applied Mathematics. *Vanderbilt University Press, Nashville, TN*, 1998. *xx*+556 *pp. ISBN* 0-8265-1315-8 (Editors) **99d:65004** 65–06 (00B25, 65D17)

Mathematical methods for modeling and analysis of controlled processes ★ Математические методы моделирования и анализа управляемых процессов. (Russian) [Mathematical methods for modeling and analysis of controlled processes] Edited by Yu. Z. Aleshkov. Вопросы Механики и Процессов Управления [Questions of Mechanics and Control Processes], 17. *Izdatel'stvo Sankt-Peterburgskogo Universiteta, St. Petersburg*, 1996. 260 *pp. ISBN* 5-288-01426-4 (Editors) **99a:00014** 00B15 (93–06)

Mathematical morphology and its applications to image and signal processing ★ Mathematical morphology and its applications to image and signal processing. Papers from the 4th International Symposium (ISMM'98) held in Amsterdam, June 3–5, 1998. Edited by Henk J. A. M. Heijmans and Jos B. T. M. Roerdink. Computational Imaging and Vision, 12. *Kluwer Academic Publishers, Dordrecht*, 1998. *x*+442 *pp. ISBN* 0-7923-5133-9 (Editors) **99g:68217** 68U10 (68–06)

Mathematical programming for industrial engineers ★ Mathematical programming for industrial engineers. Edited by Mordecai Avriel and Boaz Golany. Industrial Engineering, 20. *Marcel Dekker, Inc., New York*, 1996. *xvi*+637 *pp. ISBN* 0-8247-9620-9 (Editors) **99g:90006** 90–01 (90–02, 90Cxx)

Mathematical recreations ★ Mathematical recreations. A collection in honor of Martin Gardner. Corrected reprint of *The Mathematical Gardner* [Wadsworth, Belmont, CA, 1981]. Edited by David A. Klarner. *Dover Publications, Inc., Mineola, NY*, 1998. *x*+382 *pp. ISBN* 0-486-40089-1 (G. A. Heuer) **99g:00014** 00A08

Mathematical support for molecular biology ★ Mathematical support for molecular biology. Papers from the DIMACS Special Year held 1994–1998. Edited by Martin Farach-Colton, Fred S. Roberts, Martin Vingron and Michael Waterman. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 47. *American Mathematical Society, Providence, RI*, 1999. *xvi*+288 *pp. ISBN* 0-8218-0826-5 (Editors) **99k:92003** 92–06 (92D15, 92D20)

Mathematical visualization ★ Mathematical visualization. Algorithms, applications and numerics. Papers from the International Workshop on Visualization and Mathematics held in Berlin, September 16–19, 1997. Edited by Hans-Christian Hege and Konrad Polthier. *Springer-Verlag, Berlin*, 1998. *xx*+391 *pp. ISBN* 3-540-63991-8 (Editors) **99k:65005** 65–06 (00B25, 65Y25)

Mathematical works ★ Travaux mathématiques. Fasc. X. (French) [Mathematical works. Part X.] Edited by Jean-Paul Pier. Séminaire de Mathématique de Luxembourg. [Luxembourg Mathematics Seminar] *Centre Universitaire de Luxembourg, Luxembourg*, 1998. *iv*+116 *pp. ISBN* 2-87971-219-X (Editors) **99k:00022** 00B15

Mathematically speaking ★ Mathematically speaking. A dictionary of quotations. Selected and arranged by Carl C. Gaither and Alma E. Cavazos-Gaither. *Institute of Physics Publishing, Bristol*, 1998. *xiv*+484 *pp. ISBN* 0-7503-0503-7 (From the preface) **99k:00008** 00A20 (00A08)

Mathematics and art ★ Mathématiques et art. (French) [Mathematics and art] Papers from the colloquium held in Cerisy-la-Salle, September 2–9, 1991. Edited by Maurice Loi. *Hermann, Paris*, 1995. ii+252 *pp. ISBN* 2-7056-6254-5 (C. J. Scriba) **99b:00009** 00A69 (00A05)

Mathematics education as a research domain: a search for identity ★ Mathematics education as a research domain: a search for identity. Book 1, 2. An ICMI study. Edited by Anna Sierpinska and Jeremy Kilpatrick. New ICMI Studies Series, 4. *Kluwer Academic Publishers, Dordrecht*, 1998. *Book* 1: *xiv*+240 *pp.*; *Book* 2: *pp. i–viii and* 241–576. *ISBN* 0-7923-4599-1 (Editors) **99a:00011** 00A99 (00A35, 00B25)

Mathematics from Berlin ★ Mathematik aus Berlin. (German) [Mathematics from Berlin] Edited by Heinrich G. W. Begehr. *WEIDLER Buchverlag Berlin, Berlin*, 1997. x+309 *pp. ISBN* 3-89693-116-4 (Michael von Renteln) **99f:01003** 01A05 (00B25, 01–06, 01A72, 01A73)

Mathematics from the inside and outside Mathematik von innen und außen. [Mathematics from the inside and outside] *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 1, 27–54. (Editors) **99a:01027** 01A99 (01A05)

Mathematics in Berlin ★ Mathematics in Berlin. Edited by H. G. W. Begehr, H. Koch, J. Kramer, N. Schappacher and E.-J. Thiele. *Birkhäuser Verlag, Berlin*, 1998. *xii*+200 *pp. ISBN* 3-7643-5943-9 (Albert C. Lewis) **99k:01080** 01A72 (01A70, 01A73)

Mathematics of models for climatology and environment ★ The mathematics of models for climatology and environment. Proceedings of the NATO Advanced Study Institute held in Puerto de la Cruz, January 11–21, 1995. Edited by Jesús Ildefonso Díaz. NATO Advanced Science Institutes Series, Series I: Global Environmental Change, 48. *Springer-Verlag, Berlin*, 1997. *xvi*+478 *pp. ISBN* 3-540-61879-1 (Editors) **99d:86001** 86–06 (35Q80, 86A05)

Mathematics of multiscale materials ★ Mathematics of multiscale materials. Papers from the IMA Workshops on Disordered Materials; Interface and Thin Films; Mechanical Response of Materials from Angstroms to Meters; and Phase Transformation, Composite Materials and Microstructure held at the University of Minnesota, Minneapolis, MN, 1995–1996. Edited by Kenneth M. Golden, Geoffrey R. Grimmett, Richard D. James, Graeme W. Milton and Pabitra N. Sen. The IMA Volumes in Mathematics and its Applications, 99. *Springer-Verlag, New York*, 1998. *x*+280 *pp. ISBN* 0-387-98528-X (Editors) **99c:73001** 73–06 (73B27, 73K20, 82–06)

Mathematics of nonlinear phenomena of wave motion and its applications ★ Hadō no hisenkei genshō no sūri to sono ōyō. (Japanese) [Mathematics of nonlinear phenomena of wave motion and its applications] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, October 30–November 1, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 993 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–266. (Editors) **99a:00032** 00B25 (35–06, 76–06)

Mathematics of the 19th century ★ Mathematics of the 19th century. Function theory according to Chebyshev, ordinary differential equations, calculus of variations, theory of finite differences. Edited by A. N. Kolmogorov and A. P. Yushkevich. Translated from the 1987 Russian original by Roger Cooke. *Birkhäuser Verlag, Basel*, 1998. *x*+353 *pp. ISBN* 3-7643-5845-9 (Editors) **99d:01022** 01A55

Mathematics today '93 ★ Математика сьогодні '93. Вип. 8. (Ukrainian) [Mathematics today '93. No. 8] Edited by A. Ya. Dorogovtsev. "*Vishcha Shkola*", *Kiev*, 1993. 216 *pp.* (Editors) **99a:00015** 00B15

Mathematics today '94 ★ Математика сьогодні '94. Вип. 9. (Russian) [Mathematics today '94. No. 9] Edited by A. Ya. Dorogovtsev. "*Vishcha Shkola*", *Kiev*, 1995. 184 *pp.* (Editors) **99a:00016** 00B15

Mathematics today '95 ★ Математика сегодня '95. Вып. 10. (Russian) [Mathematics today '95. No. 10] Edited by A. Ya. Dorogovtsev. *Nauchnoe Izdatel'stvo "TViMS"*, *Kiev*, 1995. 112 *pp.* (Editors) **99a:00017** 00B15

Mathematics today '97 ★ Математика сегодня '97. Вып. 11. (Russian) [Mathematics today '97. No. 11] Edited by A. Ya. Dorogovtsev. *Nauchnoe Izdatel'stvo "TViMS"*, *Kiev*, 1997. 167 *pp.* (Editors) **99d:00010** 00B15

Mathematik aus Berlin ★ Mathematik aus Berlin. (German) [Mathematics from Berlin] Edited by Heinrich G. W. Begehr. *WEIDLER Buchverlag Berlin, Berlin*, 1997. x+309 *pp. ISBN* 3-89693-116-4 (Michael von Renteln) **99f:01003** 01A05 (00B25, 01–06, 01A72, 01A73)

Mathématiques et art ★ Mathématiques et art. (French) [Mathematics and art] Papers from the colloquium held in Cerisy-la-Salle, September 2–9, 1991. Edited by Maurice Loi. *Hermann, Paris*, 1995. ii+252 *pp. ISBN* 2-7056-6254-5 (C. J. Scriba) **99b:00009** 00A69 (00A05)

Mátraháza ★ Recent trends in combinatorics. Papers from the Combinatorial Workshop on Some Trends in Discrete Mathematics held in Mátraháza, October 22–28, 1995. Edited by Ervin Győri and Vera T. Sós. Combin. Probab. Comput. **8** (1999), no. 1-2. *Cambridge University Press, Cambridge*, 1999. *pp. i–iv and* 1–192. (Editors) **99k:00041** 00B30 (05–06)

Matrices and graphs ★ Matrices and graphs. Theory and applications to economics. Proceedings of the Conference on Matrices and Graphs: Computational Problems and Economic Applications and the Conference on Matrices and Graphs: Theory and Economic Applications held June 1993 and June 1995, respectively, at the University of Brescia, Brescia. Edited by Sergio Camiz and Silvana Stefani. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+242 *pp. ISBN* 981-02-3038-9 (Editors) **99h:00029** 00B25 (90A05)

Matter matters? ★ Matter matters? On the material basis of the cognitive activity of mind. Papers from the workshop held in Abisko, 1993. Edited by Peter Århem, Hans Liljenström and Uno Svedin. *Springer-Verlag, Berlin*, 1997. *x*+269 *pp. ISBN* 3-540-61776-0 (Editors) **99a:92044** 92J99 (92–06, 92B99, 92C20)

Maximum entropy and Bayesian methods ★ Maximum entropy and Bayesian methods. Proceedings of the 17th International Workshop on Maximum Entropy and Bayesian Methods of Statistical Analysis held at Boise State University, Boise, ID, August 4–8,

1997. Edited by Gary J. Erickson, Joshua T. Rychert and C. Ray Smith. Fundamental Theories of Physics, 98. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+297 *pp. ISBN* 0-7923-5047-2 (Editors) **99k:62005** 62–06 (94–06)

Measures on projections and orthomodular posets ★ Measures on projections and orthomodular posets. Dedicated to A. N. Sherstnev on the occasion of his 60th anniversary. Kazan Tracts in Mathematics, 4. *Kazan Mathematics Society, Kazan'*, 1998. *iv*+114 *pp. ISBN* 5-900975-17-7 (Editors) **99h:00037** 00B30

Meeting:

Algebra ★ Algebra Meeting. Papers from the 14th Meeting held in Rio de Janeiro, July 28–August 3, 1996. Edited by A. Garcia, E. Esteves and A. Pacheco. Mat. Contemp. **14** (1998). *Sociedade Brasileira de Matemática, Rio de Janeiro*, 1998. *pp. i–viii and* 1–225. 00B25 (14–06)

Algebra and Algebraic Geometry ★ Rings, Hopf algebras, and Brauer groups. Proceedings of the Fourth Week on Algebra and Algebraic Geometry (SAGA 4) held at the University of Antwerp, Antwerp, September 12–13, 1996, and at the Free University of Brussels, Brussels, September 16–17, 1996. Edited by Stefaan Caenepeel and Alain Verschoren. Lecture Notes in Pure and Applied Mathematics, 197. *Marcel Dekker, Inc., New York*, 1998. *x*+332 *pp. ISBN* 0-8247-0153-4 (Editors) **99a:16001** 16–06

Association for Symbolic Logic ★ Logic Colloquium '95. Invited papers from the colloquium (the European Summer Meeting of the Association for Symbolic Logic) held at the Technion, Haifa, August 9–17, 1995. Edited by Gerhard Jaeger [Gerhard Jäger] Wolfram Pohlers and Stan Wainer. Arch. Math. Logic **37** (1998), no. 5-6. *Springer-Verlag, Heidelberg*, 1998. *pp.* 273–441. (Editors) **99b:03005** 03–06

— ★ Logic Colloquium '95. Papers from the colloquium held as part of the European Summer Meeting of the Association for Symbolic Logic in Haifa, August 9–18, 1995. Edited by Johann A. Makowsky and Elena V. Ravve. Lecture Notes in Logic, 11. *Springer-Verlag, Berlin*, 1998. *xvi*+349 *pp. ISBN* 3-540-63994-2 (Editors) **99m:03003** 03–06

— ★ Logic Colloquium '96. Invited papers from the Colloquium (European Summer Meeting of the Association for Symbolic Logic) held at the University of the Basque Country, San Sebastián, July 9–15, 1996. Edited by J. M. Larrazabal, D. Lascar and G. Mints. Lecture Notes in Logic, 12. *Springer-Verlag, Berlin*, 1998. *viii*+261 *pp. ISBN* 3-540-64668-X (Editors) **99i:03002** 03–06

Cipolla, Michele ★ Michele Cipolla (1880–1947). (Italian) La figura e l'opera. [The man and his works] Including papers from the meeting held in Palermo, September 8, 1997, in honor of the 50th anniversary of his death. Edited by A. Scimone and F. Spagnolo. Atti dei Convegni dell'A.I.C.M. [Proceedings of A.I.C.M. Conferences], 1 *Associazione degli Insegnanti e dei Cultori di Matematica (A.I.C.M.), Palermo; Gruppo di Ricerca sull'Insegnamento delle Matematiche (G.R.I.M.), Palermo*, 1998. 160 *pp.* (Editors) **99d:01043** 01A75 (01A70)

Copernicus and the Copernican Question ★ Copernico e la questione copernicana in Italia dal XVI al XIX secolo. (Italian) [Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century] Papers from the International Meeting held in Ferrara, October 18–20, 1993. Edited by Luigi Pepe. Pubblicazioni dell'Università di Ferrara [Publications of the University of Ferrara], IV. *Leo S. Olschki Editore, Florence*, 1996. xiv+294 *pp. ISBN* 88-222-4392-7 (E. Knobloch (Zbl 882.01002)) **99g:01014** 01A40 (01A45, 01A50, 01A55)

Current Ideas in Mechanics and Related Fields ★ {Fourth Meeting on Current Ideas in Mechanics and Related Fields}. Papers from the meeting in honor of the 70th birthday of Henryk Zorski held in Kraków, August 25–28, 1997. Arch. Mech. (Arch. Mech. Stos.) **50** (1998), no. 3. *Polish Academy of Sciences, Institute of Fundamental Technological Research, Warsaw*, 1998. *pp. i–iv and* 343–669. (Editors) **99e:00030** 00B30

Division of Plasma Physics, American Physical Society ★ 39th Annual Meeting of the Division of Plasma Physics of the American Physical Society. Invited and review papers from the meeting held in Pittsburgh, PA, November 17–21, 1997. Edited by Nathaniel J. Fisch. Phys. Plasmas **5** (1998), no. 5, part 2. *American Institute of Physics, Woodbury, NY*, 1998. *pp. i–ix and* 1577–2162. (Editors) **99b:76001** 76–06 (76W05, 76X05, 82D10)

GAMM ★ GAMM 97. Minisymposia contributions and short communications in mechanics, A–G. Proceedings of the Annual Meeting held at the University of Regensburg, Regensburg, March 24–27, 1997. Edited by R. Mennicken and F. Pfeiffer. ZAMM Z. Angew. Math. Mech. **78** (1998), suppl. 1. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. S*1–*S*432. (Editors) **99m:00025a** 00B25 (00B05, 35–06, 65–06, 73–06, 76–06)

— ★ GAMM 97. Short communications in mechanics, H–Z. Proceedings of the Annual Meeting held at the University of Regensburg, Regensburg, March 24–27, 1997. Edited by R. Mennicken and F. Pfeiffer. ZAMM Z. Angew. Math. Mech. **78** (1998), suppl. 2. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. S*435–*S*840. (Editors) **99m:00025b** 00B25 (00B05, 35–06, 65–06, 73–06, 76–06)

— ★ GAMM 97. Short communications in applied mathematics. Proceedings of the Annual Meeting held at the University of Regensburg, Regensburg, March 24–27, 1997. Edited by R. Mennicken and F. Pfeiffer. ZAMM Z. Angew. Math. Mech. **78** (1998), suppl. 3. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. S*843–*S*1144. (Editors) **99m:00025c** 00B25 (00B05, 35–06, 65–06, 73–06, 76–06)

Gathering for Gardner ★ The mathemagician and pied puzzler. A collection in tribute to Martin Gardner. Papers from the Gathering for Gardner Meeting (G4G1) held in Atlanta, GA, January 1993. Edited by Elwyn Berlekamp and Tom Rodgers. *A K Peters, Ltd., Natick, MA*, 1999. *x*+266 *pp. ISBN* 1-56881-075-X (E. J. Barbeau) **99m:00002** 00A08 (00B30)

Industrial and Applied Mathematics ★ Industrial and applied mathematics. Selected papers from the 1st and 2nd Meetings held at Okayama University of Science, Okayama, June 28, 1997, and June 26, 1998. Edited by Hiroshi Niki. Information **2** (1999), no. 1. *International Information Institute, Yamaguchi*, 1999. *pp.* 1–140. (Editors) **99h:65005** 65–06 (76–06)

International Quantum Structures Association ★ Quantum structures. II. Dedicated to Gudrun Kalmbach. Papers from the 4th Biannual Meeting of the International Quantum Structures Association held in Liptovský Ján, August 30–September 5, 1998. Edited by Anatolij Dvurečenskij and Sylvia Pulmannová. Tatra Mt. Math. Publ. **15** (1998). *Slovak Academy of Sciences, Mathematical Institute, Bratislava*, 1998. *pp.* 1–244. (Editors) **99g:00049** 00B25 (00B30)

Iterative Methods ★ Special issue on iterative methods. Papers from the 11th Copper Mountain Meeting held in Copper Mountain, CO, April 1996. SIAM J. Sci. Comput. **19** (1998), no. 1. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *pp. i–viii and* 1–318 (*electronic*). (Editors) **99a:65007** 65–06

New Geometric Techniques in Computer Vision ★ New geometric techniques in computer vision. Proceedings of the Royal Society Discussion Meeting held in London, July 23–24, 1997. Edited by J. Lasenby, A. Zisserman, R. Cipolla and H. C. Longuet-Higgins. R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci. **356** (1998), no. 1740. *Royal Society, London*, 1998. *pp. i–ii and* 1063–1340. (Editors) **99a:00034** 00B25 (68U10)

Quaternionic Structures in Mathematics and Physics ★ Quaternionic structures in mathematics and physics. Proceedings of the meeting held in Trieste, September 5–9, 1994. Edited by G. Gentili, S. Marchiafava and M. Pontecorvo. The papers are available electronically at http://www.emis.de/proceedings/QSMP94/. *International School for Advanced Studies (SISSA), Laboratorio Interdisciplinare per le Scienze Naturali ed Umanistiche, Trieste*, 1998. *front matter*+267 *pp.* (*electronic*). (Editors) **99d:53002** 53–06

Scientific Communications ★ Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University. Vol. 14A. Held in Arad, May 16–17, 1996. Edited by Gheorghe Halic and Gabriela Cristescu. "*Aurel Vlaicu*" *University of Arad, Arad*, 1997. 116 *pp. ISBN* 973-97708-0-0 (Editors) **99i:00027** 00B25

Scientific Communications, University of Arad ★ 25 years of high level technical education in Arad. Vol. I. Mathematics. Proceedings of the 4th Scientific Communications Meeting held at "Aurel Vlaicu" University of Arad, Arad, October 30–31, 1997. Edited by Gheorghe Halic and Gabriela Cristescu. *Universitatea "Aurel Vlaicu" din Arad, Arad*, 1997. 180 *pp. ISBN* 973-98365-0-X (Editors) **99i:00014** 00B25

Society for Computational Economics ★ Algorithms and economic dynamics. Selected papers from the 2nd Annual Meeting of the Society for Computational Economics held in Geneva, 1996. Edited by K. L. Judd. J. Econom. Dynam. Control **22** (1998), no. 8-9. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 1167–1506. (Editors) **99b:90005** 90–06

Statistical Models, Yang-Baxter Equation and Related Topics ★ Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications. Proceedings of the STATPHYS-19 Satellite Meeting held in Tianjin, August 8–10, 1995, and the 7th Nankai Workshop held in Tianjin, August 12–13, 1995. Edited by M. L. Ge and F. Y. Wu. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+444 *pp. ISBN* 981-02-2756-6 (Robert A. Weston) **99f:82002** 82–06 (82B20, 82B23)

String Gravity ★ String theory in curved space times. A collaborative research report. Papers from the String Gravity Meeting held in Paris, June 1996. Edited by N. Sanchez. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xiv*+483 *pp. ISBN* 981-02-3439-2 (Marco Cavaglià) **99m:83197** 83E30 (81–06, 81T30, 83–06)

Theoretical Physicists and Mathematicians ★ R.C.P. 25. Vol. 48. Papers from the Meeting of Theoretical Physicists and Mathematicians held in memory of Claude Itzykson. Prépublication de l'Institut de Recherche Mathématique Avancée [Prepublication of the Institute of Advanced Mathematical Research], 1997/42. *Université Louis Pasteur, Département de Mathématique, Institut de Recherche Mathématique Avancée, Strasbourg*, 1997. *vi*+170 *pp.* (Editors) **99g:00050** 00B25 (58–06, 81–06)

Topology ★ 10th Brazilian Topology Meeting. Papers from the meeting held at the University of São Paulo, São Carlos, July 22–26, 1996. Edited by Paul A. Schweitzer. Mat. Contemp. **13** (1997). *Sociedade Brasileira de Matemática, Rio de Janeiro*, 1997. *pp. i–viii and* 1–297. (Editors) **99b:55001** 55–06 (57–06)

Trends in Theoretical Physics ★ Trends in theoretical physics. Papers from the CERN Meeting held at La Plata University, La Plata, April–May 1997. Edited by Horacio Falomir, Ricardo E. Gamboa Saravi and Fidel A. Schaposnik. AIP Conference Proceedings, 419. *American Institute of Physics, Woodbury, NY*, 1998. *x*+443 *pp. ISBN* 1-56396-743-X (Editors) **99e:81005** 81–06

Melbourne ★ Computational techniques and applications: CTAC95. Proceedings of the Seventh Biennial Conference held at Swinburne University of Technology, Melbourne, July 3–5, 1995. Edited by Robert L. May and Alan K. Easton. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xx*+875 *pp. ISBN* 981-02-2820-1 (Editors) **99g:00035** 00B25 (65–06, 76–06, 76Mxx)

Memorial Issue:

Barut, Asim Orhan ★ Invited papers dedicated to Asim O. Barut. Part III. Found. Phys. **28** (1998), no. 5. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–iv and* 699–862. (Editors) **99f:81002** 81–06 (00B30)

— ★ Invited papers dedicated to Asim O. Barut. Part I. Found. Phys. **28** (1998), no. 3. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–iv and* 355–525. (Editors) **99h:81002** 81–06 (00B30)

Biot, Maurice Anthony ★ Poroelasticity. Maurice A. Biot memorial issue. Edited by A. H.-D. Cheng, E. Detournay, Y. Abousleiman and R. K. N. D. Rajapakse. Internat. J. Solids Structures **35** (1998), no. 34-35. *Pergamon Press, Oxford*, 1998. *pp.* 4513–5031. (Editors) **99f:73001** 73–06

Book, Ronald V. ★ In memoriam of Ronald V. Book. Edited by D.-Z. Du and K.-I. Ko. Theoret. Comput. Sci. **207** (1998), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. ix–xiv and* 1–259. 68–06 (00B30)

Darlington, Sidney ★ Darlington memorial issue. Edited by Ernest S. Kuh and Irwin W. Sandberg. IEEE Trans. Circuits Systems I Fund. Theory Appl. **46** (1999), no. 1. *Institute of Electrical and Electronics Engineers, Inc. (IEEE), Piscataway, NJ*, 1999. *pp.* 1–220. (Editors) **99m:94001** 94–06

De Giorgi, Ennio ★ {Dedicated to Ennio De Giorgi}. On his death in 1996. Ann. Scuola Norm. Sup. Pisa Cl. Sci. (4) **25** (1997), no. 1-2. *Scuola Normale Superiore, Pisa*, 1998. *pp.* 1–418. 00B30

— ★ {Dedicated to Ennio De Giorgi}. On his death in 1996. Ann. Scuola Norm. Sup. Pisa Cl. Sci. (4) **25** (1997), no. 3-4. *Scuola Normale Superiore, Pisa*, 1998. *pp.* 419–839. 00B30

Memorial Issue: (*cont'd.*)

Erdős, Paul[1] ★ Dedicated to the memory of Paul Erdős. Including papers from New York Graph Theory Day 32 held at Manhattan College, Riverdale, NY, November 2, 1996. Graph Theory Notes N. Y. **32** (1997). *New York Academy of Sciences, New York*, 1997. *pp.* 1–56. (Editors) **99k:05003** 05–06 (00B30)

— ★ Paul Erdős (1913–1996). A memorial tribute. Ramanujan J. **2** (1998), no. 1-2. *Kluwer Academic Publishers, Hingham, MA*, 1998. *pp.* 1–298. 11–06 (00B30)

— ★ Recent trends in combinatorics. Papers from the Combinatorial Workshop on Some Trends in Discrete Mathematics held in Mátraháza, October 22–28, 1995. Edited by Ervin Győri and Vera T. Sós. Combin. Probab. Comput. **8** (1999), no. 1-2. *Cambridge University Press, Cambridge*, 1999. *pp. i–iv and* 1–192. (Editors) **99k:00041** 00B30 (05–06)

Ferrari, Carlo ★ Topics in fluid mechanics. Invited lectures from the International Conference held in memory of Professor Carlo Ferrari in Turin, April 3–4, 1998. Edited by Silvio Nocilla. Meccanica **33** (1998), no. 5. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 429–532. (Editors) **99h:76005** 76–06 (00B30)

Fournier, Gilles ★ {Dedicated to the memory of Gilles Fournier}. Papers from the conference held at the University of Sherbrooke, Sherbrooke, PQ, August 13–16, 1997. Edited by Ibrahim Assem. Ann. Sci. Math. Québec **22** (1998), no. 2. *Groupe des Chercheurs en Sciences Mathématiques (Association Mathématique du Québec), Montreal, QC*, 1998. *pp. i–ii and* 95–252. (Editors) **99i:00033** 00B30

Gödel, Kurt Friedrich ★ Gödel. I. Edited by Jaakko Hintikka. Synthese **114** (1998), no. 1. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 1–162. (Editors) **99d:00032** 00B30 (00B25, 03–06)

Hallefjord, Åsa ★ Modelling: in memory of Åsa Hallefjord. Edited by S. W. Wallace. Ann. Oper. Res. **82** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–viii and* 1–484. (Editors) **99e:90003** 90–06 (00B30, 90Bxx, 90C15, 93A30)

Ivanov, Radostin Petrov ★ Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems. Held in Sozopol, September 16–20, 1997. Dedicated to the memory of Prof. Dr. Radostin Ivanov. Edited by P. S. Kenderov and J. P. Revalski. Pliska Stud. Math. Bulgar. **12** (1998). *Publishing House of the Bulgarian Academy of Sciences, Amsterdam*, 1998. *pp.* 1–280. (Editors) **99k:49002** 49–06 (00B25, 00B30, 90–06)

John, Fritz ★ Dedicated to the memory of Fritz John. Comm. Pure Appl. Math. **51** (1998), no. 9-10. *John Wiley & Sons, Inc., New York*, 1998. *pp.* 967–1246. (Editors) **99a:00053** 00B30

Jurchescu, Martin ★ Collection of papers in memory of Martin Jurchescu. Rev. Roumaine Math. Pures Appl. **43** (1998), no. 1-2. *Editura Academiei Române, Bucharest*, 1998. *pp.* 1–251. 00B30

Kreĭn, Mark Grigor'evich ★ {Dedicated to the memory of Mark Grigorievich Krein (1907–1989)}. On the occasion of the 90th anniversary of his birth. Integral Equations Operator Theory **30** (1998), no. 4. *Birkhäuser Verlag, Basel*, 1998. *pp.* 379–499. (Editors) **99a:00054** 00B30

Lawler, Eugene L. ★ Networks and matroids; Sequencing and scheduling. Dedicated to the memory of Eugene L. Lawler. Edited by Jan Karel Lenstra and David Shmoys. Math. Programming **82** (1998), no. 1-2, Ser. B. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–vi and* 1–289. (Editors) **99b:00026** 00B30 (90–06)

Lighthill, Michael James ★ Ocean mechanics. Dedicated to the late Sir James Lighthill [Michael James Lighthill]. Edited by R. W. Yeung and J. N. Newman. J. Engrg. Math. **35** (1999), no. 1-2. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *pp. i–ii and* 1–250. (Editors) **99k:76006** 76–06 (76B15, 86–06, 86A05)

Mitrinović, Dragoslav S. ★ Dedicated to Professor Dragoslav S. Mitrinović (1908–1995). Including papers from the Memorial Conference held at the University of Niš, Niš, June 21–23, 1996. Facta Univ. Ser. Math. Inform. No. 12 (1997). *University of Niš, Niš*, 1997. *pp. i–iv and* 1–306. 00B30

Serrano, Fernando ★ {Dedicated to the memory of Fernando Serrano}. Collect. Math. **49** (1998), no. 2-3. *Universitat de Barcelona, Barcelona*, 1998. *pp. i–iv and* 135–564. (Editors) **99i:00032** 00B30 (14–06)

Stechkin, Sergeĭ Borisovich ★ Посвящается памяти профессора Сергея Борисовича Стечкина. (Russian) [Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin] Tr. Mat. Inst. Steklova **219** (1997), Teor. Priblizh. Garmon. Anal. *Mezhdunarodnaya Akademicheskaya Izdatel'skaya Kompaniya "Nauka", Moscow*, 1997. *pp.* 1–464. 00B30

Susarla, Vyaghreshwarudu ★ Special issue in memory of V. Susarla. Edited by Hira L. Koul. Statist. Probab. Lett. **41** (1999), no. 3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 209–330. (Editors) **99i:62003** 62–06 (00B30)

Szlenk, Wiesław ★ {Dedicated to the memory of Wiesław Szlenk}. Edited by Karol Krzyżewski, Michał Misiurewicz and Feliks Przytycki. Fund. Math. **157** (1998), no. 2-3. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. *pp. i–ii and* 97–341. 00B30

Taussky-Todd, Olga ★ Special issue in memory of Olga Taussky Todd. Edited by Helene Shapiro. Linear Algebra Appl. **280** (1998), no. 1. *North-Holland Publishing Co., New York*, 1998. *pp. iv–viii and* 1–85. (Editors) **99c:01028** 01A70 (01–06)

Weierstrass, Karl Theodor Wilhelm ★ Dedicado a Karl Weierstrass. (Spanish) [Dedicated to the memory of Karl Weierstrass] Miscelánea Mat. No. 25 (1997). *Sociedad Matemática Mexicana, México*, 1997. *pp.* 1–100. (Editors) **99i:00034** 00B30

Memorial Volume:

Cambanis, Stamatis ★ Stochastic processes and related topics. In memory of Stamatis Cambanis. 1943–1995. Edited by Ioannis Karatzas, Balram S. Rajput and Murad S. Taqqu. Trends in Mathematics. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xxvi+375 pp. ISBN* 0-8176-3998-5 (Editors) **99e:60007** 60–06 (00B30)

Chandrasekhar, Subrahmanyan ★ Chandrasekhar memorial volume. Proceedings of the Memorial Symposium held at Arizona State University, Tempe, AZ, October 21–23, 1996. Edited by T. Chang. Internat. J. Engrg. Sci. **36** (1998), no. 12-14. *Pergamon Press, Oxford*, 1998. *pp. i–xxxvi and* 1325–1740. (Editors) **99h:00030** 00B25 (85–06)

Chunikhin, Sergeĭ Antonovich ★ Вопросы алгебры. Вып. 9. (Russian) [Problems in algebra. No. 9] Papers from the Conference "Problems in Algebra and Cybernetics" dedicated to the memory of S. A. Chunikhin held in Gomel', September 21, 1995.

Memorial Volume: (*cont'd.*)

Edited by L. A. Shemetkov. *Gomel'skiĭ Gosudarstvennyĭ Universititet imeni Frantsiska Skoriny, Gomel'*, 1996. 197 *pp.* (Editors) **99g:20005** 20–06 (00B30)

Fushchich, Vil'gel'm Il'ich ★ Symmetry in nonlinear mathematical physics. Vol. 1, 2. Proceedings of the 2nd International Conference held in memory of Prof. W. Fushchych [Vil'gel'm Il'ich Fushchich] in Kyiv, July 7–13, 1997. Edited by Mykola Shkil [Nikolaĭ Ivanovich Shkil'], Anatoly Nikitin and Vyacheslav Boyko [V. K. Boĭko]. *National Academy of Sciences of Ukraine, Institute of Mathematics, Kiev*, 1997. *Vol.* 1: 248 *pp.*; *Vol.* 2: *pp.* 249–500. *ISBN* 966-02-0342-X (Editors) **99b:00027** 00B30 (00B25, 35–06, 58–06, 81–06)

Kamthan, Pawan Kumar ★ Functional analysis. Selected topics. Dedicated to the memory of the late Professor P. K. Kamthan. Edited by Pawan K. Jain. *Narosa Publishing House, New Delhi*, 1998. *xii+232 pp. ISBN* 81-7319-199-9 (Editors) **99h:00036** 00B30 (46–06, 47–06)

Noether, Emmy ★ The heritage of Emmy Noether. Proceedings of the conference held at Bar-Ilan University, Ramat-Gan, December 2–3, 1996. Edited by Mina Teicher. Israel Mathematical Conference Proceedings, 12. *Bar-Ilan University, Gelbart Research Institute for Mathematical Sciences, Ramat Gan; Bar-Ilan University, Emmy Noether Research Institute of Mathematics, Ramat Gan*, 1999. *viii+101 pp.* (Editors) **99g:01001** 01–06 (00B30, 01A70, 13–03, 16–03)

Rasiowa, Helena ★ Logic, algebra, and computer science. Helena Rasiowa in memoriam. Papers from the conference held in Warsaw, December 2–22, 1996. Edited by Damian Niwiński and Marek Zawadowski. Banach Center Publications, 46. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1999. 225 *pp.* (Editors) **99m:03004** 03–06 (00B30)

Richardson, Roger Wolcott ★ Algebraic groups and Lie groups. A volume of papers in honour of the late R. W. Richardson. Edited by Gus Lehrer, A. L. Carey, J. B. Carrell, M. K. Murray and T. A. Springer. Australian Mathematical Society Lecture Series, 9. *Cambridge University Press, Cambridge*, 1997. *vi+384 pp. ISBN* 0-521-58532-5 (Editors) **99b:00024** 00B30 (20–06, 22–06)

Smirnov, Vladimir Aleksandrovich[4] ★ Логические исследования. Вып. 4. (Russian) [Logical investigations. No. 4] Dedicated to the memory of V. A. Smirnov. Edited by A. S. Karpenko and E. D. Smirnova. *"Nauka", Moscow*, 1997. 320 *pp. ISBN* 5-02-013623-9 (Editors) **99m:03005** 03–06 (00B30)

Stoĭlow, Simion ★ Analysis and topology. A volume dedicated to the memory of S. Stoilow. Edited by Cabiria Andreian Cazacu, Olli E. Lehto and Themistocles M. Rassias. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xii+723 pp. ISBN* 981-02-2761-2 (Editors) **99h:00035** 00B30

Vajda, Steven ★ New trends in mathematical programming. Homage to Steven Vajda. Edited by Franco Giannessi, Sándor Komlósi and Tamás Rapcsák. Applied Optimization, 13. *Kluwer Academic Publishers, Boston, MA*, 1998. *xii+314 pp. ISBN* 0-7923-5036-7 (Editors) **99c:90004** 90–06 (00B30)

Varma, Arun Kumar ★ Approximation theory. In memory of A. K. Varma. Edited by N. K. Govil, R. N. Mohapatra, Z. Nashed [M. Zuhair Nashed], A. Sharma and J. Szabados. Monographs and Textbooks in Pure and Applied Mathematics, 212. *Marcel Dekker, Inc., New York*, 1998. *xxiv+517 pp. ISBN* 0-8247-0185-2 (Editors) **99a:00051** 00B30 (30–06, 41–06)

Volkov, D. V. ★ Supersymmetry and quantum field theory. Proceedings of the D. Volkov Memorial Seminar held in Kharkov, January 5–7, 1997. Edited by Julius Wess and Vladimir P. Akulov. Lecture Notes in Physics, 509. *Springer-Verlag, Berlin*, 1998. *xvi+405 pp. ISBN* 3-540-64623-X (Editors) **99k:81010** 81–06

Mérida ★ First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields. Proceedings of the symposium and school held in Mérida, October 30–November 6, 1996. Edited by Juan Carlos D'Olivo, Martin Klein-Kreisler and Héctor Méndez. AIP Conference Proceedings, 400. *American Institute of Physics, New York*, 1997. *xx+578 pp. ISBN* 1-56396-686-7 (Editors) **99d:81004** 81–06

Messengers of mathematics: European mathematical journals (1800–1946) ★ Messengers of mathematics: European mathematical journals (1800–1946). Edited by Elena Ausejo and Mariano Hormigón. Ciencia. [Science] *Siglo XXI de España Editores, S.A., Madrid*, 1993. xxiv+297 *pp. ISBN* 84-323-0802-1 (Pietro Nastasi) **99d:01045** 01A80 (01A55, 01A60, 01A70, 01A74)

Methods of analysis of nonlinear systems ★ Methods of analysis of nonlinear systems. A translation of *Methods of analysis of nonlinear systems* (Russian), Moskov. Gos. Univ., Moscow, 1997. Comput. Math. Model. **9** (1998), no. 1. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 1–101. (Editors) **99a:00059** 00B55

Methods of mathematical modeling ★ Control and identification algorithms; Methods of mathematical modeling. A translation of *Control and identification algorithms* (Russian) and *Methods of mathematical modeling* (Russian), Moskov. Gos. Univ., Moscow, 1997/1998. Comput. Math. Model. **9** (1998), no. 3. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 187–267. 00B55

— ★ Methods of mathematical modeling. A translation of *Methods of mathematical modeling* (Russian), Moskov. Gos. Univ., Moscow, 1998. Comput. Math. Model. **9** (1998), no. 4. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 269–374. 00B55

Mexico City ★ Geometric control and non-holonomic mechanics. Papers from the Conference on Geometric Control Theory and Non-holonomic Problems in Mechanics held in Mexico City, June 1996. Edited by V. Jurdjevic and R. W. Sharpe. CMS Conference Proceedings, 25. *Published by the American Mathematical Society, Providence, RI; for the Canadian Mathematical Society, Ottawa, ON*, 1998. *xii+239 pp. ISBN* 0-8218-0795-1 (Editors) **99d:93002** 93–06 (53–06, 58–06, 93C10)

— ★ III Taller Iberoamericano de Reconocimiento de Patrones. (Spanish) [III Ibero-American Workshop on Pattern Recognition] Papers from the workshop held in México City, March 23–27, 1998. Edited by José Ruiz Shulcloper, Manuel Lazo Cortés, Stalin Muñoz Gutiérrez and Walterio Mayol Cuevas. *Instituto de Cibernética, Matématica y Física, Havana; Instituto Politécnico Nacional, Centro de Investigación en Computación, México*, 1998. 587 *pp. ISBN* 970-18-1081-3 (Editors) **99k:68016** 68–06 (68T10)

Michele Cipolla ★ Michele Cipolla (1880–1947). (Italian) La figura e l'opera. [The man and his works] Including papers from the meeting held in Palermo, September 8, 1997, in honor of the 50th anniversary of his death. Edited by A. Scimone and F. Spagnolo. Atti dei Convegni dell'A.I.C.M. [Proceedings of A.I.C.M. Conferences], 1 *Associazione*

degli Insegnanti e dei Cultori di Matematica (A.I.C.M.), Palermo; Gruppo di Ricerca sull'Insegnamento delle Matematiche (G.R.I.M.), Palermo, 1998. 160 *pp.* (Editors) **99d:01043** 01A75 (01A70)

Microsurveys in discrete probability ★ Microsurveys in discrete probability. Papers from the workshop held as part of the Dimacs Special Year on Discrete Probability in Princeton, NJ, June 2–6, 1997. Edited by David Aldous and James Propp. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 41. *American Mathematical Society, Providence, RI*, 1998. *x*+220 *pp. ISBN* 0-8218-0827-3 (Editors) **99b:60003** 60–06

Międzyzdroje ★ Problemy Hilberta. (Polish) [Hilbert's Problems] W pięćdziesięciolecie śmierci ich twórcy. [On the occasion of the fiftieth anniversary of the death of their creator] Proceedings of the 7th All-Polish School on the History of Mathematics held in Międzyzdroje, May 10–14, 1993. Edited by Witold Więsław. *Polska Akademia Nauk, Instytut Historii Nauki PAN, Warsaw*, 1997. 269 *pp. ISBN* 83-86062-90-8 (Editors) **99b:01001** 01–06 (01A60)

Milan ★ Cellular automata. Selected papers from the 2nd Conference on Cellular Automata for Research and Industry (ACRI) held in Milan, October 16–18, 1996. Edited by S. Bandini and G. Mauri. Theoret. Comput. Sci. **217** (1999), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. ix–x and* 1–172. (Editors) **99k:68007** 68–06 (68Q80)

Milovy ★ Czech-US Workshop in Iterative Methods and Parallel Computing. Part I. Papers from the workshop held in Milovy, June 16–21, 1997. Edited by Roland W. Freund and Ivo Marek. Numer. Linear Algebra Appl. **6** (1999), no. 1. *John Wiley & Sons, Ltd., Chichester*, 1999. *pp. i–ii and* 1–77. (Editors) **99m:65008** 65–06 (00B15)

Milton Keynes ★ Combinatorial designs and their applications. Proceedings of the conference held at the Open University, Milton Keynes, March 19, 1997. Edited by Fred C. Holroyd, Kathleen A. S. Quinn, Chris Rowley and Bridget S. Webb. Chapman & Hall/CRC Research Notes in Mathematics, 403. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *viii*+152 *pp. ISBN* 0-8493-0659-0 (Editors) **99k:05002** 05–06

Milwaukee, WI ★ 36th Annual Symposium on Foundations of Computer Science. Held in Milwaukee, WI, October 23–25, 1995. *IEEE Computer Society Press, Los Alamitos, CA*, 1995. *xiii*+735 *pp. ISBN* 0-8186-7183-1 (Editors) **99a:68010** 68–06 (68Qxx)

Mind, causation, and world ★ Mind, causation, and world, 1997. Edited by James E. Tomberlin. Philosophical Perspectives. A Supplement to Noûs, 11. *Blackwell Publishers, Inc., Cambridge, MA*, 1997. *viii*+471 *pp.* (Editors) **99f:00011** 00B15 (03A05)

Minimax theory and applications ★ Minimax theory and applications. Proceedings of the workshop held in Erice, September 30–October 6, 1996. Edited by Biagio Ricceri and Stephen Simons. Nonconvex Optimization and its Applications, 26. *Kluwer Academic Publishers, Dordrecht*, 1998. *xii*+271 *pp. ISBN* 0-7923-5064-2 (Editors) **99c:49007** 49J35 (47H10, 47H19, 47N10, 49–06, 49K35)

Minisymposium:

Exterior Problems of Wave Propagation ★ Exterior problems of wave propagation. Papers from the IUTAM Symposium on Computational Methods for Unbounded Domains held in Boulder, CO, July 1997, and the minisymposium held in San Francisco, CA, August 1997. Edited by Dan Givoli and Isaac Harari. Comput. Methods Appl. Mech. Engrg. **164** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 1–264. (Editors) **99g:76001** 76–06 (65–06, 76M10, 76Q05)

Minneapolis, MN ★ Progress in population genetics and human evolution. Proceedings of the Workshop on Mathematical Population Genetics held in Minneapolis, MN, January 24–28, 1994. Edited by Peter Donnelly and Simon Tavaré. The IMA Volumes in Mathematics and its Applications, 87. *Springer-Verlag, New York*, 1997. x+329 *pp. ISBN* 0-387-94944-5 (Prem Narain) **99h:92016** 92D10 (92–06, 92D15)

— ★ Mathematics of multiscale materials. Papers from the IMA Workshops on Disordered Materials; Interface and Thin Films; Mechanical Response of Materials from Angstroms to Meters; and Phase Transformation, Composite Materials and Microstructure held at the University of Minnesota, Minneapolis, MN, 1995–1996. Edited by Kenneth M. Golden, Geoffrey R. Grimmett, Richard D. James, Graeme W. Milton and Pabitra N. Sen. The IMA Volumes in Mathematics and its Applications, 99. *Springer-Verlag, New York*, 1998. *x*+280 *pp. ISBN* 0-387-98528-X (Editors) **99c:73001** 73–06 (73B27, 73K20, 82–06)

— ★ Nonlinear optical materials. Papers from the IMA Workshop held at the University of Minnesota, Minneapolis, MN, February 4–8, 1996. Edited by Jerome V. Moloney. The IMA Volumes in Mathematics and its Applications, 101. *Springer-Verlag, New York*, 1998. *xii*+245 *pp. ISBN* 0-387-98581-6 (Editors) **99d:78001** 78–06 (78A60)

— ★ Essays on mathematical robotics. Papers from the IMA Workshop on Robotics held at the University of Minnesota, Minneapolis, MN, January 25–29, 1993. Edited by John Baillieul, Shankar S. Sastry and Hector J. Sussmann. The IMA Volumes in Mathematics and its Applications, 104. *Springer-Verlag, New York*, 1998. *x*+372 *pp. ISBN* 0-387-98596-4 (Editors) **99e:70001** 70–06 (70B15, 70Q05, 93–06, 93C85)

— ★ Topology and geometry in polymer science. Papers from the IMA Workshop held at the University of Minnesota, Minneapolis, MN, June 1996. Edited by Stuart G. Whittington, De Witt Sumners and Timothy Lodge. The IMA Volumes in Mathematics and its Applications, 103. *Springer-Verlag, New York*, 1998. *x*+201 *pp. ISBN* 0-387-98580-8 (Editors) **99e:82103** 82D60 (82–06)

— ★ Numerical methods for polymeric systems. Papers from the workshop held at the University of Minnesota, Minneapolis, MN, May 1996. Edited by Stuart G. Whittington. The IMA Volumes in Mathematics and its Applications, 102. *Springer-Verlag, New York*, 1998. *xii*+215 *pp. ISBN* 0-387-98557-3 (Editors) **99f:82001** 82–06 (82B80, 82D60)

— ★ Emerging applications of number theory. Papers from the IMA Summer Program held at the University of Minnesota, Minneapolis, MN, July 15–26, 1996. Edited by Dennis A. Hejhal, Joel Friedman, Martin C. Gutzwiller and Andrew M. Odlyzko. The IMA Volumes in Mathematics and its Applications, 109. *Springer-Verlag, New York*, 1999. *xiv*+689 *pp. ISBN* 0-387-98824-6 (Editors) **99m:11003** 11–06 (11Z05)

— ★ Computational radiology and imaging. Therapy and diagnostics. Proceedings of the IMA Workshop held at the University of Minnesota, Minneapolis, MN, March 17–21, 1997. Edited by Christoph Börgers and Frank Natterer. The IMA Volumes in Mathematics and its Applications, 110. *Springer-Verlag, New York*, 1999. *x*+281 *pp. ISBN* 0-387-98799-1 (Editors) **99m:92012** 92C55 (92–06, 92C50)

Mirror symmetry ★ Mirror symmetry. I. Revised reprint of *Essays on mirror manifolds* [Internat. Press, Hong Kong, 1992; MR 94b:32001]. Edited by Shing-Tung Yau. AMS/IP Studies in Advanced Mathematics, 9. *American Mathematical Society, Providence, RI; International Press, Cambridge, MA*, 1998. *xiv*+444 *pp. ISBN* 0-8218-0665-3 (Editors) **99f:32002** 32–06 (14–06)

— ★ Mirror symmetry. III. Proceedings of the Conference on Complex Geometry and Mirror Symmetry held at the University of Montreal, Montreal, PQ, 1995. Edited by Duong H. Phong, Luc Vinet and Shing-Tung Yau. AMS/IP Studies in Advanced Mathematics, 10. *American Mathematical Society, Providence, RI; Université de Montréal, Centre de Recherches Mathématiques, Montreal, QC*, 1999. *x*+312 *pp. ISBN* 0-8218-1193-2 (Editors) **99i:14003** 14–06 (32–06)

Miskolc ★ Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96). Papers from the conference held at the University of Miskolc, Miskolc, July 15–19, 1996. Edited by I. Babuška. Comput. Methods Appl. Mech. Engrg. **157** (1998), no. 3-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 181–452. (Editors) **99b:73001** 73–06 (00B25, 65–06, 73V10)

— ★ Ring theory. Selected papers from the conference held in Miskolc, July 15–20, 1996. Edited by L. Rowen. J. Pure Appl. Algebra **133** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 1–260. (Editors) **99g:16001** 16–06 (00B25)

Mississippi State, MS ★ Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations. Held at Mississippi State University, Mississippi State, MS, May 16–17, 1997. Edited by John Graef, Rathasingham Shivaji [Ratnasingham Shivaji], Jiangping Zhu [Jian Ping Zhu] and Bharat Soni. Electronic Journal of Differential Equations Conference, 1. *Southwest Texas State University, San Marcos, TX*, 1998. *front matter*+235 *pp.* (*electronic*). (Editors) **99h:00032** 00B25 (34–06, 35–06)

Mito ★ Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields. Held at Ibaraki University, Mito, November 11–12, 1996. Research Reports on Information Sciences. *Toho University, Department of Information Sciences, Chiba*, 199?. *vi*+52 *pp.* (Editors) **99a:20001** 20–06 (00B05, 20Mxx)

MODA 5—advances in model-oriented data analysis and experimental design ★ MODA 5—advances in model-oriented data analysis and experimental design. Proceedings of the 5th International Workshop on Model-oriented Data Analysis held in Marseille, June 22–26, 1998. Edited by Anthony C. Atkinson, Luc Pronzato and Henry P. Wynn. Contributions to Statistics. *Physica-Verlag, Heidelberg*, 1998. *xiv*+300 *pp. ISBN* 3-7908-1111-4 (Editors) **99f:62008** 62–06

Model theory and algebraic geometry ★ Model theory and algebraic geometry. An introduction to E. Hrushovski's proof of the geometric Mordell-Lang conjecture. Edited by Elisabeth Bouscaren. Lecture Notes in Mathematics, 1696. *Springer-Verlag, Berlin*, 1998. *xvi*+211 *pp. ISBN* 3-540-64863-1 (Editors) **99k:03032** 03C45 (03–06, 11–06, 11U09, 12L12, 14–06)

Modelling and computation for applications in mathematics, science, and engineering ★ Modelling and computation for applications in mathematics, science, and engineering. Papers from the workshop held at Northwestern University, Evanston, IL, May 3–4, 1996. Edited by Joseph W. Jerome. Numerical Mathematics and Scientific Computation. *The Clarendon Press, Oxford University Press, New York*, 1998. *xii*+215 *pp. ISBN* 0-19-850080-7 (Editors) **99k:00033** 00B25 (76–06, 78–06, 82–06)

Modelling: in memory of Åsa Hallefjord ★ Modelling: in memory of Åsa Hallefjord. Edited by S. W. Wallace. Ann. Oper. Res. **82** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–viii and* 1–484. (Editors) **99e:90003** 90–06 (00B30, 90Bxx, 90C15, 93A30)

Models, algebras, and proofs ★ Models, algebras, and proofs. Proceedings of the 10th Latin American Symposium on Mathematical Logic (SLALM) held at the Universidad de los Andes, Bogotá, 1995. Edited by Xavier Caicedo and Carlos H. Montenegro. Lecture Notes in Pure and Applied Mathematics, 203. *Marcel Dekker, Inc., New York*, 1999. *xvi*+448 *pp. ISBN* 0-8247-1970-0 (Editors) **99k:03005** 03–06

Models and algorithms for planning and scheduling problems ★ Models and algorithms for planning and scheduling problems. Papers from the 2nd Workshop held in Wernigerode, May 22–26, 1995. Edited by H. Bräsel and F. Werner. Ann. Oper. Res. **83** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–vi and* 1–289. (Editors) **99g:90009** 90–06 (90B35, 90C27)

Models, theories and disunity in physics ★ Models, theories and disunity in physics. Papers from the colloquium held in Berlin, June 5–7, 1996. Edited by Brigitte Falkenburg and Wolfgang Muschik. Philos. Natur. **35** (1998), no. 1. *Vittorio Klostermann, Frankfurt am Main*, 1998. *pp.* 1–223. (Editors) **99g:00024** 00A30

Modern applied analysis ★ Modern applied analysis. Proceedings of the 2nd Joint Hungarian-Romanian Conference held in Ilieni, June 1997. Edited by Béla Vizvári and Sándor Horváth. Pure Math. Appl. **9** (1998), no. 1-2. *SAAS Ltd.—SAAS Publishing, Budapest*, 1998. *pp. i–iv and* 1–254. 00B25

Modern mathematics ★ Moderne Mathematik. (German) Edited by Gerd Faltings. Verständliche Forschung. [Comprehensible Research] *Spektrum Akademischer Verlag GmbH, Heidelberg*, 1996. 184 *pp. ISBN* 3-8274-0025-2 (J. S. Joel) **99a:00002** 00A05

Moderne Mathematik ★ Moderne Mathematik. (German) Edited by Gerd Faltings. Verständliche Forschung. [Comprehensible Research] *Spektrum Akademischer Verlag GmbH, Heidelberg*, 1996. 184 *pp. ISBN* 3-8274-0025-2 (J. S. Joel) **99a:00002** 00A05

Modular forms and Fermat's last theorem ★ Modular forms and Fermat's last theorem. Papers from the Instructional Conference on Number Theory and Arithmetic Geometry held at Boston University, Boston, MA, August 9–18, 1995. Edited by Gary Cornell, Joseph H. Silverman and Glenn Stevens. *Springer-Verlag, New York*, 1997. *xx*+582 *pp. ISBN* 0-387-94609-8 (M. Ram Murty) **99k:11004** 11–06 (11D41, 11F80, 11Fxx, 11G05)

Mondello ★ Combinatorics '98. Papers from the International Scientific Conference held in Mondello, June 14–20, 1998. Rend. Circ. Mat. Palermo (2) Suppl. No. 53 (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp.* 3–224. (Editors) **99c:00012** 00B25 (51–06)

Monge Ampère equation: applications to geometry and optimization ★ Monge Ampère equation: applications to geometry and optimization. Proceedings of the NSF-CBMS Conference held at Florida Atlantic University, Deerfield Beach, FL, July 9–13, 1997. Edited by Luis A. Caffarelli and Mario Milman. Contemporary Mathematics, 226. *American Mathematical Society, Providence, RI*, 1999. *x*+172 *pp. ISBN* 0-8218-0917-2 (Editors) **99f:00018** 00B25

Mons ★ Advances in decision analysis. Papers from the International Conference on Methods and Applications of Multiple Criteria Decision Making held in Mons, May

1997. Edited by Nadine Meskens and Marc Roubens. Mathematical Modelling: Theory and Applications, 4. *Kluwer Academic Publishers, Dordrecht*, 1999. *x*+202 *pp. ISBN* 0-7923-5563-6 (Editors) **99m:90003** 90–06 (90A05)

Monster and Lie algebras ★ The Monster and Lie algebras. Proceedings of the Special Research Quarter, including the 2nd Monster Conference, held at The Ohio State University, Columbus, OH, May 1996. Edited by J. Ferrar and K. Harada. Ohio State University Mathematical Research Institute Publications, 7. *Walter de Gruyter & Co., Berlin*, 1998. *x*+252 *pp. ISBN* 3-11-016184-2 (Editors) **99e:00021** 00B25 (17–06, 17Bxx, 20–06, 20D08)

Monte Carlo and quasi-Monte Carlo methods ★ Monte Carlo and quasi-Monte Carlo methods 1996. Proceedings of the 2nd International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing held at the University of Salzburg, Salzburg, July 9–12, 1996. Edited by Harald Niederreiter, Peter Hellekalek, Gerhard Larcher and Peter Zinterhof. Lecture Notes in Statistics, 127. *Springer-Verlag, New York*, 1998. *xii*+448 *pp. ISBN* 0-387-98335-X (Editors) **99d:65005** 65–06 (65C05)

Montecatini Terme ★ Advanced topics in multivariate approximation. Proceedings of the 5th International Workshop on Multivariate Approximation and Interpolation held in Montecatini Terme, September 27–October 3, 1995. Edited by F. Fontanella, K. Jetter and P. J. Laurent. Series in Approximations and Decompositions, 8. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xviii*+361 *pp. ISBN* 981-02-2852-X (Editors) **99f:41002** 41–06 (41A63, 42C15, 65D15)

Montpellier ★ Conceptual structures: theory, tools and applications. Proceedings of the 6th International Conference on Conceptual Structures, (ICCS'98) held in Montpellier, August 10–12, 1998. Edited by Marie-Laure Mugnier and Michel Chein. Lecture Notes in Computer Science, 1453. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xiv*+439 *pp. ISBN* 3-540-64791-0 (Editors) **99h:68003** 68–06 (68T30)

Montreal, QC ★ Uncertainty in artificial intelligence. Proceedings of the 11th Conference (UAI-95) held at McGill University, Montreal, PQ, August 18–20, 1995. Edited by Philippe Besnard and Steve Hanks. *Morgan Kaufmann, San Francisco, CA*, 1995. *x*+591 *pp. ISBN* 1-55860-385-9 (Editors) **99a:68017** 68–06 (68T27, 68T30)

— ★ Geometry, topology, and dynamics. Proceedings of the workshop held at the University of Montreal, Montreal, PQ, June 26–30, 1995. Edited by François Lalonde. CRM Proceedings & Lecture Notes, 15. *American Mathematical Society, Providence, RI*, 1998. *viii*+148 *pp. ISBN* 0-8218-0877-X (Editors) **99a:58004** 58–06

— ★ Representation theories and algebraic geometry. Proceedings of the NATO Advanced Study Institute and Séminaire de Mathématiques Supérieures held at the Université de Montréal, Montreal, PQ, July 28–August 8, 1997. Edited by A. Broer and Gert Sabidussi. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 514. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxii*+443 *pp. ISBN* 0-7923-5193-2 (Editors) **99e:00028** 00B25 (14–06, 22–06)

— ★ Mirror symmetry. III. Proceedings of the Conference on Complex Geometry and Mirror Symmetry held at the University of Montreal, Montreal, PQ, 1995. Edited by Duong H. Phong, Luc Vinet and Shing-Tung Yau. AMS/IP Studies in Advanced Mathematics, 10. *American Mathematical Society, Providence, RI; Université de Montréal, Centre de Recherches Mathématiques, Montreal, QC*, 1999. *x*+312 *pp. ISBN* 0-8218-1193-2 (Editors) **99i:14003** 14–06 (32–06)

— ★ Semi-analytic methods for the Navier-Stokes equations. Papers from the workshop held in Montreal, QC, 1995. Edited by Katie Coughlin. CRM Proceedings & Lecture Notes, 20. *American Mathematical Society, Providence, RI*, 1999. *xiv*+119 *pp. ISBN* 0-8218-0878-8 (Editors) **99k:00037** 00B25 (58–06, 76–06, 76Fxx)

— ★ Spline functions and the theory of wavelets. Proceedings of the workshops held at the Université de Montréal, Montreal, PQ, 1996. Edited by Serge Dubuc and Gilles Deslauriers. CRM Proceedings & Lecture Notes, 18. *American Mathematical Society, Providence, RI*, 1999. *x*+397 *pp. ISBN* 0-8218-0875-3 (Editors) **99i:65005** 65–06 (41–06, 42–06)

Morelia ★ Particles and fields. Papers from the 6th Mexican Workshop held in Morelia, November 1997. Edited by Juan Carlos D'Olivo, Martí Ruiz-Altaba and Luis Villaseñor Cendejas. AIP Conference Proceedings, 445. *American Institute of Physics, Woodbury, NY*, 1998. *x*+388 *pp. ISBN* 1-56396-791-X (Editors) **99h:81003** 81–06

Moscow ★ Численные методы и их приложения. (Russian) [Numerical methods and their applications] Papers from the seminar held at Moscow State University, Moscow, March 22–24, 1993. Edited by O. Aksel'son [Owe Axelsson] and A. A. Samarskiĭ. Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet. **1995**, no. 3. *Izdatel'stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1995. *pp.* 1–74. (Editors) **99a:65005** 65–06

— ★ Statistics and control of stochastic processes. The Liptser Festschrift. Papers from the Steklov Seminar held in Moscow, 1995–1996. Edited by Yu. M. Kabanov, B. L. Rozovskii and A. N. Shiryaev. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxii*+354 *pp. ISBN* 981-02-3292-6 (Editors) **99e:60005** 60–06 (00B30)

— ★ Proceedings of the Second International A. D. Sakharov Conference on Physics. Held in Moscow, May 20–24, 1996. Edited by I. M. Dremin and A. M. Semikhatov. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxviii*+761 *pp. ISBN* 981-02-2861-9 (Editors) **99h:81006** 81–06

— ★ Stability problems for stochastic models. Part 1. Proceedings of the seminar held at Moscow State University, Moscow, 1996. J. Math. Sci. (New York) **89** (1998), no. 5. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 1459–1589. (Editors) **99d:00033** 00B55 (60–06, 62–06)

— ★ Secondary calculus and cohomological physics. Proceedings of the conference held at Moscow State University, Moscow, August 24–31, 1997. Edited by Marc Henneaux, Joseph Krasil'shchik [I. S. Krasil'shchik] and Alexandre Vinogradov. Contemporary Mathematics, 219. *American Mathematical Society, Providence, RI*, 1998. *xiv*+287 *pp. ISBN* 0-8218-0828-1 (Editors) **99d:58007** 58–06 (17–06, 81–06)

— ★ Stability problems for stochastic models. Part II. Proceedings of the seminar held at Moscow State University, Moscow, 1996. J. Math. Sci. (New York) **91** (1998), no. 3. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 2895–3031. (Editors) **99g:00056** 00B55 (60–06, 62–06)

MSI-2000 ★ MSI-2000. Vol. IV. Multivariate statistical analysis. Papers from the Multivariate Statistical Inference 2000 Conference held in honor of Minoru Siotani on his 70th birthday at the University of Hawaii, Honolulu, HI, August 1995. Edited by Vidya S. Taneja. Also Vol. 37 of Amer. Ser. Math. Management Sci. Amer. J. Math. Management Sci. **18** (1998), no. 1-2. *American Sciences Press, Syracuse, NY*, 1998. *pp. i–ii and* 1–226. (Editors) **99f:62009** 62–06

Multichannel optical networks: theory and practice ★ Multichannel optical networks: theory and practice. Papers from the DIMACS Workshop held at Rutgers University, Piscataway, NJ, March 16–19, 1998. Edited by Peng-Jun Wan, Ding-Zhu Du and Panos M. Pardalos. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 46. *American Mathematical Society, Providence, RI*, 1998. *xiv*+249 *pp. ISBN* 0-8218-1004-9 (Editors) **99g:68004** 68–06 (05–06, 68M10, 90B12)

Multicriteria analysis ★ Multicriteria analysis. Proceedings of the 11th International Conference on MCDM held in Coimbra, August 1–6, 1994. Edited by João Climaco. *Springer-Verlag, Berlin*, 1997. *x*+617 *pp. ISBN* 3-540-62074-5 (Editors) **99d:90006** 90–06

Multivariate approximation ★ Multivariate approximation. Recent trends and results. Proceedings of the 2nd International Conference on Multivariate Approximation Theory held in Witten-Bommerholz, September 29–October 4, 1996. Edited by Werner Haußmann, Kurt Jetter and Manfred Reimer. Mathematical Research, 101. *Akademie Verlag, Berlin*, 1997. 320 *pp. ISBN* 3-05-501770-6 (Editors) **99a:41001** 41–06

Munich ★ International Conference on Constraints in Computational Logics. Selected papers from the conference held in Munich, 1994. Edited by Jean-Pierre Jouannaud. Inform. and Comput. **142** (1998), no. 1. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 1–126. (Editors) **99a:68005** 68–06 (68N17)

Nagano ★ Inverse problems in engineering mechanics. Papers from the IUTAM Symposium (ISIP '98) held in Nagano, March 1998. Edited by M. Tanaka and G. S. Dulikravich. *Elsevier Science Ltd., Oxford*, 1998. *xii*+622 *pp. ISBN* 0-08-043319-7 (Editors) **99k:80001** 80–06 (73–06, 78–06)

Nagoya ★ Perspectives of strong coupling gauge theories. Proceedings of the 3rd International Workshop (SCGT 96) held in Nagoya, November 13–16, 1996. Edited by J. Nishimura and K. Yamawaki. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv*+407 *pp. ISBN* 981-02-3187-3 (Editors) **99a:81003** 81–06

Nakhon Ratchasima ★ Proceedings of the Second Asian Mathematical Conference 1995. Held at Suranaree University of Technology, Nakhon Ratchasima, October 17–20, 1995. Edited by S. Tangmanee and E. Schulz. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xx*+612 *pp. ISBN* 981-02-3225-X (Editors) **99g:00046** 00B25

Namur ★ SAS'94. Selected papers from the 1st International Symposium on Static Analysis held in Namur, September 28–30, 1994. Edited by P. Cousot and B. Le Charlier. Sci. Comput. Programming **31** (1998), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. v–vi and* 1–173. (Editors) **99a:68013** 68–06

Nancy ★ Logical aspects of computational linguistics. Papers from the 1st International Conference (LACL '96) held in Nancy, September 23–25, 1996. Edited by Christian Retoré. Lecture Notes in Computer Science, 1328. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *viii*+435 *pp. ISBN* 3-540-63700-1 (Editors) **99d:03004** 03–06 (03B65, 68–06, 68Q45, 68S05)

— ★ Typed lambda-calculi and applications. Selected papers from the 3rd International Conference (TLCA '97) held in Nancy, April 2–4, 1997. Edited by Roger Hindley [James Roger Hindley]. Fund. Inform. **33** (1998), no. 4. *IOS Press, Amsterdam*, 1998. *pp. i–ii and* 309–432. (Editors) **99i:68006** 68–06 (03B40, 68N15)

— ★ Recent advances in logical and algebraic approaches to grammar. Selected papers from the Workshop on Logical Aspects of Computational Linguistics held in Nancy, September 1995. Edited by Christian Retoré. J. Logic Lang. Inform. **7** (1998), no. 4. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 395–520. (Editors) **99k:68013** 68–06 (03–06, 03B65, 68S05)

Nanjing ★ Proceedings of the International Conference on Interval Methods and their Applications on Global Optimization, Interval '98. Held in Nanjing, April 20–23, 1998. Edited by Zuhe Shen and Vladik Kreinovich. Reliab. Comput. **5** (1999), no. 1. *Kluwer Academic Publishers, Dordrecht*, 1999. *pp. i–ii and* 1–95. (Editors) **99m:65007** 65–06 (65G10)

Nanterre ★ Non-linear dynamics and endogenous cycles. Papers from the workshop held in Nanterre, May 23–24, 1996. Edited by Gilbert Abraham-Frois. Lecture Notes in Economics and Mathematical Systems, 463. *Springer-Verlag, Berlin*, 1998. *vi*+204 *pp. ISBN* 3-540-64321-4 (Editors) **99d:90007** 90–06 (90A16)

NATO Advanced Research Workshop:

New Developments in Quantum Field Theory ★ New developments in quantum field theory. Proceedings of the NATO Advanced Research Workshop held in Zakopane, June 14–20, 1997. Edited by Poul Henrik Damgaard and Jerzy Jurkiewicz. NATO Advanced Science Institutes Series B: Physics, 366. *Plenum Press, New York*, 1998. *x*+364 *pp. ISBN* 0-306-45816-0 (Editors) **99e:81002** 81–06

NATO Advanced Study Institute:

Algorithms for Large Scale Linear Algebraic Systems: State of the Art and Applications in Science and Engineering ★ Algorithms for large scale linear algebraic systems. Applications in science and engineering. Proceedings of the NATO Advanced Study Institute on Algorithms for Large Scale Linear Algebraic Systems: State of the Art and Applications in Science and Engineering held in Gran Canaria, June 23–July 6, 1996. Edited by G. Winter Althaus and E. Spedicato. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 508. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *viii*+409 *pp. ISBN* 0-7923-4975-X (Editors) **99a:65004** 65–06

Mathematics of Models for Climatology and Environment ★ The mathematics of models for climatology and environment. Proceedings of the NATO Advanced Study Institute held in Puerto de la Cruz, January 11–21, 1995. Edited by Jesús Ildefonso Díaz. NATO Advanced Science Institutes Series, Series I: Global Environmental Change, 48. *Springer-Verlag, Berlin*, 1997. *xvi*+478 *pp. ISBN* 3-540-61879-1 (Editors) **99d:86001** 86–06 (35Q80, 86A05)

Modular Representations and Subgroup Structure of Algebraic Groups and Related Finite Groups ★ Algebraic groups and their representations. Proceedings of the NATO Advanced Study Institute on Modular Representations and Subgroup Structure of Algebraic Groups and Related Finite Groups held in Cambridge, June 23–July 4, 1997. Edited by R. W. Carter and J. Saxl. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 517. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xviii*+374 *pp. ISBN* 0-7923-5251-3 (Editors) **99i:20002** 20–06 (20Gxx)

Ocean Modeling and Parameterization ★ Ocean modeling and parameterization.

NATO Advanced Study Institute: (*cont'd.*)
Proceedings of the NATO Advanced Study Institute held in Les Houches, January 20–30, 1998. Edited by Eric P. Chassignet and Jacques Verron. NATO Science Series C: Mathematical and Physical Sciences, 516. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii*+451 *pp. ISBN* 0-7923-5228-9 (Editors) **99f:86001** 86–06 (76–06)

Physics of Dry Granular Media ★ Physics of dry granular media. Proceedings of the NATO Advanced Study Institute Summer School held in Cargèse, September 15–26, 1997. Edited by H. J. Herrmann, J.-P. Hovi and S. Luding. NATO Advanced Science Institutes Series E: Applied Sciences, 350. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxxii*+711 *pp. ISBN* 0-7923-5102-9 (Editors) **99e:73003** 73–06 (73Exx, 76–06, 76A99)

Quantum Fluctuations ★ Fluctuations quantiques. [Quantum fluctuations] Papers from the NATO Advanced Study Institute held at the 63rd Session of the Summer School in Theoretical Physics in Les Houches, June 27–28, 1995. Edited by S. Reynaud, E. Giacobino and J. Zinn-Justin. *North-Holland Publishing Co., Amsterdam*, 1997. *xxxiv*+606 *pp. ISBN* 0-444-82593-2 (Apostolos Vourdas) **99k:81356** 81V80 (81–06)

Quantum Symmetries ★ Symétries quantiques. [Quantum symmetries] Papers from the NATO Advanced Study Institute held at the 64th Session of the Summer School in Theoretical Physics in Les Houches, August 1–September 8, 1995. Edited by A. Connes, K. Gawedzki and J. Zinn-Justin. *North-Holland Publishing Co., Amsterdam*, 1998. *xxxviii*+990 *pp. ISBN* 0-444-82867-2 (Editors) **99k:81008** 81–06 (58–06)

Representation Theories and Algebraic Geometry ★ Representation theories and algebraic geometry. Proceedings of the NATO Advanced Study Institute and Séminaire de Mathématiques Supérieures held at the Université de Montréal, Montreal, PQ, July 28–August 8, 1997. Edited by A. Broer and Gert Sabidussi. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 514. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxii*+443 *pp. ISBN* 0-7923-5193-2 (Editors) **99e:00028** 00B25 (14–06, 22–06)

Semigroups, Formal Languages and Groups ★ Semigroups, formal languages and groups. Proceedings of the NATO Advanced Study Institute held at the University of York, York, August 7–21, 1993. Edited by John Fountain. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 466. *Kluwer Academic Publishers Group, Dordrecht*, 1995. *x*+428 *pp. ISBN* 0-7923-3540-6 (Editors) **99b:20001** 20–06 (20Mxx, 68Q45)

Strings, Branes and Dualities ★ Strings, branes and dualities. Proceedings of the NATO Advanced Study Institute held in Cargèse, May 26–June 14, 1997. Edited by Laurent Baulieu, Philippe Di Francesco, Michael Douglas, Vladimir Kazakov, Marco Picco and Paul Windey. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 520. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xii*+493 *pp. ISBN* 0-7923-5344-7 (Editors) **99k:81009** 81–06

Natural deduction ★ Natural deduction. Edited by Frank Pfenning and Wilfried Sieg. Studia Logica **60** (1998), no. 1. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 1–231. (Editors) **99a:03002** 03–06 (03B35, 68T15)

Navier-Stokes equations and related nonlinear problems ★ Navier-Stokes equations and related nonlinear problems. Proceedings of the 6th International Conference (NSEC-6) held in Palanga, May 22–29, 1997. Edited by H. Amann, G. P. Galdi, K. Pileckas and V. A. Solonnikov. *VSP, Utrecht*; *TEV Ltd., Vilnius*, 1998. *x*+438 *pp. ISBN* 90-6764-288-6; 9986-546-40-0 (Editors) **99m:35004** 35–06 (00B25, 76–06, 76D05)

Network communications broadcasting and gossiping ★ Network communications broadcasting and gossiping. Edited by A. L. Liestman, R. Labahn and J. G. Peters. Discrete Appl. Math. **83** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 1–328. (Editors) **99a:68012** 68–06 (68M10)

Networks and matroids; Sequencing and scheduling ★ Networks and matroids; Sequencing and scheduling. Dedicated to the memory of Eugene L. Lawler. Edited by Jan Karel Lenstra and David Shmoys. Math. Programming **82** (1998), no. 1-2, Ser. B. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–vi and* 1–289. (Editors) **99b:00026** 00B30 (90–06)

Networks in distributed computing ★ Networks in distributed computing. Papers from the DIMACS Workshop held at Rutgers University, Piscataway, NJ, October 27–29, 1997. Edited by Marios Mavronicolas, Michael Merritt and Nir Shavit. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 45. *American Mathematical Society, Providence, RI*, 1999. *xii*+160 *pp. ISBN* 0-8218-0992-X (Editors) **99h:68009** 68–06 (68M10)

Neubiberg/Munich ★ Stochastic programming methods and technical applications. Proceedings of the 3rd GAMM/IFIP Workshop on Stochastic Optimization: Numerical Methods and Technical Applications held at the Federal Armed Forces University Munich, Neubiberg/Munich, June 17–20, 1996. Edited by Kurt Marti and Peter Kall. Lecture Notes in Economics and Mathematical Systems, 458. *Springer-Verlag, Berlin*, 1998. *x*+437 *pp. ISBN* 3-540-63924-1 (Editors) **99f:90007** 90–06 (90C15)

Neural networks and their applications ★ Neural networks and their applications. Papers from the Joint Workshop on Adaptive Information Technologies held at Brunel University, Uxbridge, April 3–5, 1995. Edited by J. G. Taylor. *John Wiley & Sons, Ltd., Chichester*, 1996. *xxviii*+293 *pp. ISBN* 0-471-96282-1 (Editors) **99b:68161** 68T05 (00B25, 92B20)

New aspects of non-classical logics and their Kripke semantics ★ Hikoten ronri to Kripke imi ron no shin kyokumen. [New aspects of non-classical logics and their Kripke semantics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 4–6, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1010 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–192. (Editors) **99a:03003** 03–06 (03Bxx)

New Brunswick, NJ ★ Rewriting techniques and applications. Papers from the 7th International Conference (RTA-96) held in New Brunswick, NJ, 1996. Edited by H. Ganzinger. Theoret. Comput. Sci. **208** (1998), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 1–191. (Editors) **99f:68010** 68–06 (68Q42)

New developments in convolution ★ Convolution no atarashii tenkai. [New developments in convolution] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 24–27, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1012 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–204. (Editors) **99a:00033** 00B25 (30C45)

New developments in differential geometry ★ New developments in differential geometry, Budapest 1996. Proceedings of the Conference on Differential Geometry held in Budapest, July 27–30, 1996. Edited by J. Szenthe. *Kluwer Academic Publishers, Dordrecht*, 1999. *xii*+519 *pp. ISBN* 0-7923-5307-2 (Editors) **99h:53002** 53–06 (57–06)

New developments in quantum field theory ★ New developments in quantum field theory. Proceedings of the NATO Advanced Research Workshop held in Zakopane, June 14–20, 1997. Edited by Poul Henrik Damgaard and Jerzy Jurkiewicz. NATO Advanced Science Institutes Series B: Physics, 366. *Plenum Press, New York*, 1998. *x*+364 *pp. ISBN* 0-306-45816-0 (Editors) **99e:81002** 81–06

New directions in applied mathematics ★ New directions in applied mathematics. Proceedings of the International Conference held in Hyderabad, December 19–22, 1995. Edited by S. Umamaheswaram and M. Sitaramayya. Differential Equations Dynam. Systems **6** (1998), no. 1-2. *Research Square Publications, Hyderabad*, 1998. *pp. i–iv and* 1–260. (Editors) **99g:00043** 00B25 (00A69)

New directions in the philosophy of mathematics ★ New directions in the philosophy of mathematics. An anthology. Revised and expanded edition. Edited by Thomas Tymoczko. Princeton Paperbacks. *Princeton University Press, Princeton, NJ*, 1998. *xviii*+436 *pp. ISBN* 0-691-03498-2 (Editors) **99m:00011** 00A30 (01A99, 03A05)

New geometric techniques in computer vision ★ New geometric techniques in computer vision. Proceedings of the Royal Society Discussion Meeting held in London, July 23–24, 1997. Edited by J. Lasenby, A. Zisserman, R. Cipolla and H. C. Longuet-Higgins. R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci. **356** (1998), no. 1740. *Royal Society, London*, 1998. *pp. i–ii and* 1063–1340. (Editors) **99a:00034** 00B25 (68U10)

New Orleans, LA ★ US-Brazil Joint Workshops on the Formal Foundations of Software Systems. Papers from the workshops held in Rio de Janeiro, May 1997, and in New Orleans, LA, November 1997. Edited by Rance Cleaveland, Michael Mislove and Philip Mulry. Electronic Notes in Theoretical Computer Science, 14. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+338 *pp.* (*electronic*). (Editors) **99h:68012** 68–06 (68Q10, 68Q60)

New perspectives in the physics of mesoscopic systems ★ New perspectives in the physics of mesoscopic systems. Quantum-like descriptions and macroscopic coherence phenomena. Papers from the National Workshop held in Caserta, April 18–20, 1996. Edited by S. De Martino, S. De Nicola, S. De Siena, R. Fedele and G. Miele. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+318 *pp. ISBN* 981-02-3236-5 (Editors) **99e:81003** 81–06

New symmetries in the theories of fundamental interactions ★ New symmetries in the theories of fundamental interactions. Proceedings of the 9th Max Born Symposium held in Karpacz, September 25–28, 1996. Edited by Jerzy Lukierski and Marek Mozrzymas. *Wydawnictwo Naukowe PWN, Warsaw*, 1997. *x*+323 *pp. ISBN* 83-01-12427-X (Editors) **99b:81004** 81–06 (16W30, 17B37, 81R50)

New trends in mathematical programming ★ New trends in mathematical programming. Homage to Steven Vajda. Edited by Franco Giannessi, Sándor Komlósi and Tamás Rapcsák. Applied Optimization, 13. *Kluwer Academic Publishers, Boston, MA*, 1998. *xii*+314 *pp. ISBN* 0-7923-5036-7 (Editors) **99c:90004** 90–06 (00B30)

New trends in microlocal analysis ★ New trends in microlocal analysis. Papers from the JSPS-CNRS Joint Seminar held in Tokyo, September 11–16, 1995. Edited by J.-M. Bony and M. Morimoto. *Springer-Verlag, Tokyo*, 1997. *viii*+242 *pp. ISBN* 4-431-70192-3 (Editors) **99d:00024** 00B25 (35–06, 58–06, 58G07)

New trends in probability and statistics ★ New trends in probability and statistics. Vol. 3. Multivariate statistics and matrices in statistics. Proceedings of the 5th Conference on Multivariate Statistics and Matrices in Statistics held in Tartu and Pühajärve, May 23–28, 1994. Edited by E.-M. Tiit, T. Kollo and H. Niemi. *VSP, Utrecht*; *TEV Ltd., Vilnius*, 1995. *x*+342 *pp. ISBN* 90-6764-195-2 (Editors) **99g:62004** 62–06

— ★ New trends in probability and statistics. Vol. 4. Analytic and probabilistic methods in number theory. Proceedings of the 2nd International Conference held in honor of J. Kubilius on his 75th birthday in Palanga, September 23–27, 1996. Edited by A. Laurinčikas, E. Manstavičius and V. Stakėnas. *VSP, Utrecht*; *TEV Ltd., Vilnius*, 1997. *x*+501 *pp. ISBN* 90-6764-255-X (Editors) **99f:11003** 11–06 (11Kxx)

New trends in stochastic analysis ★ New trends in stochastic analysis. Proceedings of the Taniguchi International Workshop held in Charingworth, September 21–27, 1994. Edited by K. D. Elworthy, Shigeo Kusuoka and Ichiro Shigekawa. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+429 *pp. ISBN* 981-02-2867-8 (Editors) **99f:60003** 60–06

New York ★ New York Graph Theory Day. 31. Papers from the meeting held in New York, May 11, 1996. Graph Theory Notes N. Y. **31** (1996). *New York Academy of Sciences, New York*, 1996. *pp.* 1–57. (Editors) **99i:05002** 05–06

— ★ Probability towards 2000. Papers from the symposium held at Columbia University, New York, October 2–6, 1995. Edited by L. Accardi and C. C. Heyde. Lecture Notes in Statistics, 128. *Springer-Verlag, New York*, 1998. *xiii*+356 *pp. ISBN* 0-387-98458-5 (Editors) **99b:60004** 60–06

— ★ New York Graph Theory Day. 34. Papers from the meeting held in New York, November 8, 1997. Graph Theory Notes N. Y. **34** (1998). *New York Academy of Sciences, New York*, 1998. *pp.* 1–59. (Editors) **99h:05003** 05–06

— ★ On Einstein's path. Essays in honor of Engelbert Schucking. Papers from the symposium held at New York University, New York, December 12–13, 1996. Edited by Alex Harvey. *Springer-Verlag, New York*, 1999. *xxiv*+517 *pp. ISBN* 0-387-98564-6 (Editors) **99h:83002** 83–06 (00B30)

New York Graph Theory Day ★ New York Graph Theory Day. 30. Papers from the meeting held at Drew University, Madison, NJ, November 4, 1995. Graph Theory Notes N. Y. **30** (1996). *New York Academy of Sciences, New York*, 1996. *pp.* 1–54. (Editors) **99g:05001** 05–06 (00B25)

— ★ New York Graph Theory Day. 31. Papers from the meeting held in New York, May 11, 1996. Graph Theory Notes N. Y. **31** (1996). *New York Academy of Sciences, New York*, 1996. *pp.* 1–57. (Editors) **99i:05002** 05–06

— ★ New York Graph Theory Day. 34. Papers from the meeting held in New York, November 8, 1997. Graph Theory Notes N. Y. **34** (1998). *New York Academy of Sciences, New York*, 1998. *pp.* 1–59. (Editors) **99h:05003** 05–06

Newark, DE ★ Inverse problems, tomography, and image processing. Selected papers from the Special Sessions on Inverse Problems and on Tomography and Image Processing held at the 1st International Congress of the International Society for Analysis, Applications and Computing (ISAAC), at the University of Delaware, Newark, DE, June 3–7,

1997. Edited by Alexander G. Ramm. *Plenum Press, New York*, 1998. *x*+258 *pp. ISBN* 0-306-45828-4 (Editors) **99a:00030** 00B25 (44–06, 73–06, 76–06, 92–06)

— ★ Spectral and scattering theory. Selected papers from the Special Session, held as part of the 1st International Congress of the International Society for Analysis, Applications and Computing (ISAAC), at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Alexander G. Ramm. *Plenum Press, New York*, 1998. *viii*+207 *pp. ISBN* 0-306-45829-2 (Editors) **99a:00048** 00B25 (35–06)

— ★ Partial differential and integral equations. Papers from the Congress of the International Society for Analysis, Applications and Computation (ISAAC '97) held at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Heinrich G. W. Begehr, Robert P. Gilbert and Guo-Chun Wen. International Society for Analysis, Applications and Computation, 2. *Kluwer Academic Publishers, Dordrecht*, 1999. *x*+369 *pp. ISBN* 0-7923-5482-6 (Editors) **99k:00034** 00B25 (35–06)

News of synergetics ★ {News of synergetics}. Reprinted from *News of synergetics: the puzzle of the world of nonequilibrium structures* ["Nauka", Moscow, 1996]. Int. J. Fluid Mech. Res. **22** (1995), no. 5-6. *Begell House, Inc., New York*, 1995. *pp.* 1–218. (Editors) **99c:00010** 00B15

Nice ★ Matériaux pour l'histoire des mathématiques au XX^{e} siècle. (French) [Material for the history of twentieth-century mathematics] Papers from the colloquium held in Nice, January 6–8, 1996. Séminaires et Congrès [Seminars and Congresses], 3. *Société Mathématique de France, Paris*, 1998. 283 *pp. ISBN* 2-85629-065-5 (Editors) **99d:01001** 01–06 (00B25)

— ★ ACM Symposium on Computational Geometry. Selected papers from the symposium held in Nice, 1997. Edited by Raimund Seidel. Discrete Comput. Geom. **20** (1998), no. 3. *Springer-Verlag, New York*, 1998. *pp.* 285–404. (Editors) **99d:68241** 68U05 (52B55, 68–06)

— ★ Fifth International Workshop on Expressiveness in Concurrency (EXPRESS '98). Proceedings of the workshop held in Nice, September 7, 1998. Edited by Ilaria Castellani and Catuscia Palamidessi. Electronic Notes in Theoretical Computer Science, 16, No. 2. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+110 *pp.* (*electronic*). (Editors) **99f:68013** 68–06 (68Q10)

— ★ HLCL '98 3rd International Workshop on High-level Concurrent Languages. Papers from the workshop held in Nice, September 12, 1998. Edited by Uwe Nestmann and Benjamin C. Pierce. Electronic Notes in Theoretical Computer Science, 16, No. 3. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+118 *pp.* (*electronic*). (Editors) **99g:68009** 68–06 (68N15, 68Q10)

— ★ COTIC '98: Second Workshop on Concurrent Constraint Programming for Time Critical Applications and Multi-agent Systems. Papers from the workshop held in Nice, September 7, 1998. Edited by Frank S. de Boer and Maurizio Gabbrielli. Electronic Notes in Theoretical Computer Science, 16, No. 1. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+74 *pp.* (*electronic*). (Editors) **99h:68011** 68–06 (68Q10, 68T20)

— ★ CONCUR'98: concurrency theory. Proceedings of the 9th International Conference held in Nice, September 8–11, 1998. Edited by Davide Sangiorgi and Robert de Simone. Lecture Notes in Computer Science, 1466. *Springer-Verlag, Berlin*, 1998. *xii*+657 *pp. ISBN* 3-540-64896-8 (Editors) **99k:68006** 68–06 (68Q10)

Niš ★ Dedicated to Professor Dragoslav S. Mitrinović (1908–1995). Including papers from the Memorial Conference held at the University of Niš, Niš, June 21–23, 1996. Facta Univ. Ser. Math. Inform. No. 12 (1997). *University of Niš, Niš*, 1997. *pp. i–iv and* 1–306. 00B30

Nishinomiya ★ Physics in the 21st century. Proceedings of the 11th Nishinomiya-Yukawa Memorial Symposium held in Nishinomiya, November 7–8, 1996. Edited by K. Kikkawa, H. Kunitomo and H. Ohtsubo. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+199 *pp. ISBN* 981-02-3088-5 (Editors) **99a:81004** 81–06

Nombre et répartition de points de hauteur bornée ★ Nombre et répartition de points de hauteur bornée. (French) [Number and distribution of points of bounded height] Papers from the seminars held in Paris, April/May 1996. Edited by Emmanuel Peyre. Astérisque No. 251 (1998). *Société Mathématique de France, Paris*, 1998. *pp. i–xviii and* 1–340. (Editors) **99j:11001** 11–06

Nonlinear and random dynamics in wind engineering ★ Nonlinear and random dynamics in wind engineering. Selected papers from the 2nd European and African Conference on Wind Engineering (2 EACWE) held in Genoa, June 22–26, 1997. Edited by Giovanni Solari. Meccanica **33** (1998), no. 3. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 213–330. 73–06 (73K12, 73K35)

Non-linear dynamics and endogenous cycles ★ Non-linear dynamics and endogenous cycles. Papers from the workshop held in Nanterre, May 23–24, 1996. Edited by Gilbert Abraham-Frois. Lecture Notes in Economics and Mathematical Systems, 463. *Springer-Verlag, Berlin*, 1998. *vi*+204 *pp. ISBN* 3-540-64321-4 (Editors) **99d:90007** 90–06 (90A16)

Nonlinear evolution equations and their applications ★ Hisenkei hatten hōteishiki to sono ōyō. [Nonlinear evolution equations and their applications] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, October 21–23, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1009 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–vi and* 1–191. (Editors) **99a:35003** 35–06 (00B25)

Nonlinear mathematics and functional equations ★ Hisenkei no sūri to kansū hōteishiki. [Nonlinear mathematics and functional equations] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 11–14, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1034 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–203. (Editors) **99f:00019** 00B25 (34–06)

Nonlinear optical materials ★ Nonlinear optical materials. Papers from the IMA Workshop held at the University of Minnesota, Minneapolis, MN, February 4–8, 1996. Edited by Jerome V. Moloney. The IMA Volumes in Mathematics and its Applications, 101. *Springer-Verlag, New York*, 1998. *xii*+245 *pp. ISBN* 0-387-98581-6 (Editors) **99d:78001** 78–06 (78A60)

Nonlinear waves and solitons in physical systems ★ Nonlinear waves and solitons in physical systems. Papers from the 17th Annual International Conference of the Center for Nonlinear Studies on Nonlinear Science held in Los Alamos, NM, May 12–16, 1997. Edited by Roberto Camassa, James M. Hyman and Benjamin P. Luce. Phys. D **123** (1998), no. 1-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–xii and* 1–547. (Editors) **99h:00031** 00B25 (35–06, 76–06)

Nonlinearity of flows and statistical properties of turbulence ★ Nagare no hisenkeisei to ranryū no tōkei seishitsu. (Japanese) [Nonlinearity of flows and statistical properties of turbulence] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, February 17–19, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1029 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–199. (Editors) **99e:76056** 76Fxx (76–06)

Nonselfadjoint operator algebras, operator theory, and related topics ★ Nonselfadjoint operator algebras, operator theory, and related topics. The Carl M. Pearcy anniversary volume. Edited by Hari Bercovici and Ciprian Foias. Operator Theory: Advances and Applications, 104. *Birkhäuser Verlag, Basel*, 1998. *xx*+201 *pp. ISBN* 3-7643-5954-4 (Editors) **99b:47001** 47–06 (00B30)

Non-standard applications of computer algebra ★ Non-standard applications of computer algebra. Including papers from the 2nd and 3rd IMACS Conferences on Applied Computer Algebra held in Linz, 1996 and in Wailea, HI, 1997. Edited by E. Roanes-Lozano, S. Steinberg and H. Hong. Math. Comput. Simulation **45** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 1–217. (Editors) **99a:00035** 00B25 (68Q40)

Norms, logics and information systems ★ Norms, logics and information systems. New studies in deontic logic and computer science. Papers from the ΔEON'98 Workshop on Deontic Logic in Computer Science held at the University of Bologna, Bologna, 1998. Edited by P. McNamara and H. Prakken. Frontiers in Artificial Intelligence and Applications, 49. *IOS Press, Amsterdam; Ohmsha Ltd., Tokyo*, 1999. *x*+363 *pp. ISBN* 90-5199-427-3; 4-274-90260-9 (Editors) **99k:03014** 03B45 (03–06, 03B70, 68–06, 68T27)

Notable mathematicians ★ Notable mathematicians. From ancient times to the present. Edited by Robyn V. Young and Zoran Minderovic. *Gale Research, Inc., Detroit, MI*, 1998. *xxiv*+612 *pp. ISBN* 0-7876-3071-3 (R. L. Cooke) **99f:01002** 01–00 (01A70)

Notable women in mathematics ★ Notable women in mathematics. A biographical dictionary. Edited by Charlene Morrow and Teri Perl. *Greenwood Press, Westport, CT*, 1998. *xvi*+302 *pp. ISBN* 0-313-29131-4 (From the introduction) **99d:01037** 01A70 (00A20)

Novi Sad ★ Generalized functions—linear and nonlinear problems. Proceedings of the International Conference (GF96) held in Novi Sad, August 31–September 4, 1996. Integral Transform. Spec. Funct. **6** (1998), no. 1-4. *Gordon and Breach Science Publishers, Yverdon*, 1998. *pp. i–iii and* 1–356. (Editors) **99d:00009** 00B15 (35–06, 46–06)

Novosibirsk ★ Алгебра, геометрия, анализ и математическая физика. (Russian) [Algebra, geometry, analysis and mathematical physics] Papers from the 10th Siberian School held in Novosibirsk, August 14–22, 1996. Edited by Yu. G. Reshetnyak, L. A. Bokut', S. K. Vodop'yanov and I. A. Taĭmanov. *Izdatel'stvo Rossiĭskoĭ Akademii Nauk, Sibirskoe Otdelenie, Institut Matematiki im. S. L. Soboleva, Novosibirsk*, 1997. 196 *pp. ISBN* 5-86134-036-6 (Editors) **99a:00019** 00B25

— ★ Международная Сибирская Конференция по Исследованию Операций. (Russian) [International Siberian Conference on Operations Research] Abstracts from the conference held in Novosibirsk, June 22–27, 1998. Edited by Yu. A. Kochetov. *Rossiĭskaya Akademiya Nauk, Sibirskoe Otdelenie, Institut Matematiki, Novosibirsk*, 1998. 164 *pp. ISBN* 5-86134-046-3 90–06 (00B05, 90C10, 90C27, 90C30)

— ★ Inverse problems of mathematical physics. Papers from the International Conference held in honor of Vladimir Gavrilovich Romanov on the occasion of his 60th birthday in Novosibirsk, September 21–25, 1998. J. Inverse Ill-Posed Probl. **6** (1998), no. 5. *VSP, Zeist*, 1998. *pp. i–ii and* 387–520. 00B30

Number and distribution of points of bounded height ★ Nombre et répartition de points de hauteur bornée. (French) [Number and distribution of points of bounded height] Papers from the seminars held in Paris, April/May 1996. Edited by Emmanuel Peyre. Astérisque No. 251 (1998). *Société Mathématique de France, Paris*, 1998. *pp. i–xviii and* 1–340. (Editors) **99j:11001** 11–06

Number theory ★ Number theory. Papers from the Séminaire de Théorie des Nombres de Paris, 1993–94. Edited by Sinnou David. London Mathematical Society Lecture Note Series, 235. *Cambridge University Press, Cambridge*, 1996. *viii*+213 *pp. ISBN* 0-521-58549-X (Editors) **99b:11003** 11–06

— ★ Number theory. Diophantine, computational and algebraic aspects. Proceedings of the International Conference held in Eger, July 29–August 2, 1996. Edited by Kálmán Győry, Attila Pethő and Vera T. Sós. *Walter de Gruyter & Co., Berlin*, 1998. *xviii*+595 *pp. ISBN* 3-11-015364-5 (Editors) **99a:11004** 11–06 (00B25)

— ★ Number theory. IV. Transcendental numbers. A translation of *Number theory. 4 (Russian)*, Ross. Akad. Nauk, Vseross. Inst. Nauchn. i Tekhn. Inform., Moscow. Translation by N. Koblitz. Translation edited by A. N. Parshin and I. R. Shafarevich. Encyclopaedia of Mathematical Sciences, 44. *Springer-Verlag, Berlin*, 1998. vi+345 *pp. ISBN* 3-540-61467-2 (Michel Waldschmidt) **99a:11088a** 11J81 (11–02, 11J25, 11J68, 11J82, 11J85, 11J86)

— ★ Number theory. Proceedings of the 2nd Czech-Polish Conference held at the University of Silesia, Cieszyn, June 16–18, 1998. Edited by Kazimierz Szymiczek. Ann. Math. Sil. No. 12 (1998). *Wydawnictwo Uniwersytetu Śląskiego, Katowice*, 1998. *pp.* 1–172. (Editors) **99i:11002** 11–06

— ★ Number theory. Proceedings of the 5th Conference of the Canadian Number Theory Association held at Carleton University, Ottawa, ON, August 17–22, 1996. Edited by Rajiv Gupta and Kenneth S. Williams. CRM Proceedings & Lecture Notes, 19. *American Mathematical Society, Providence, RI*, 1999. *xxxii*+392 *pp. ISBN* 0-8218-0964-4 (Editors) **99k:11005** 11–06

Number theory and its applications ★ Number theory and its applications. Papers from the Summer School held at Bilkent University, Ankara, July 29–August 9, 1996. Edited by Cem Y. Yıldırım and Serguei A. Stepanov. Lecture Notes in Pure and Applied Mathematics, 204. *Marcel Dekker, Inc., New York*, 1999. *xiv*+343 *pp. ISBN* 0-8247-1969-7 (Editors) **99g:11002** 11–06

Numerical analysis ★ Numerical analysis 1997. Proceedings of the 17th Biennial Conference held at the University of Dundee, Dundee, June 24–27, 1997. Edited by D. F. Griffiths, D. J. Higham and G. A. Watson. Pitman Research Notes in Mathematics Series, 380. *Longman, Harlow*, 1998. *viii*+254 *pp. ISBN* 0-582-31261-2 (Editors) **99d:65006** 65–06

Numerical flow simulation ★ Numerical flow simulation. I. CNRS-DFG collaborative research programme. Results 1996–1998. Papers from the 6th Joint Colloquium on

Numerical Simulation of Flows held in Marseille, November 21–22, 1997. Edited by Ernst Heinrich Hirschel. Notes on Numerical Fluid Mechanics, 66. *Friedr. Vieweg & Sohn, Braunschweig*, 1998. *viii*+425 *pp. ISBN* 3-528-06966-X (Editors) **99h:76003** 76–06 (76Mxx)

Numerical methods and their applications ★ Численные методы и их приложения. (Russian) [Numerical methods and their applications] Papers from the seminar held at Moscow State University, Moscow, March 22–24, 1993. Edited by O. Aksel'son [Owe Axelsson] and A. A. Samarskiĭ. Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet. **1995**, no. 3. *Izdatel'stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1995. *pp.* 1–74. (Editors) **99a:65005** 65–06

Numerical methods for polymeric systems ★ Numerical methods for polymeric systems. Papers from the workshop held at the University of Minnesota, Minneapolis, MN, May 1996. Edited by Stuart G. Whittington. The IMA Volumes in Mathematics and its Applications, 102. *Springer-Verlag, New York*, 1998. *xii*+215 *pp. ISBN* 0-387-98557-3 (Editors) **99f:82001** 82–06 (82B80, 82D60)

Numerical methods for wave propagation ★ Numerical methods for wave propagation. Selected papers from the International Workshop held in Manchester, May 1995. Edited by E. F. Toro and J. F. Clarke. Fluid Mechanics and its Applications, 47. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+385 *pp. ISBN* 0-7923-5125-8 (Editors) **99f:65006** 65–06 (76–06, 76Mxx)

Numerical methods in fluid mechanics ★ Numerical methods in fluid mechanics. Edited by Alain Vincent. CRM Proceedings & Lecture Notes, 16. *American Mathematical Society, Providence, RI*, 1998. *xiv*+199 *pp. ISBN* 0-8218-0813-3 (Editors) **99b:76002** 76–06 (76Mxx, 86–06, 86A10)

Numerical treatment of boundary integral equations ★ Numerical treatment of boundary integral equations. Edited by K. E. Atkinson and Y. Xu. Adv. Comput. Math. **9** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. iii–viii and* 1–249. (Editors) **99g:65006** 65–06

Oaxtepec ★ XXI Symposium on Nuclear Physics. Dedicated to the memory of Angel Dacal Alonso (1940–1997). Proceedings of the symposium held in Oaxtepec, January 5–8, 1998. Edited by Roelof Bijker and Enriqueta Hernández. Rev. Mexicana Fís. **44** (1998), suppl. 2. *Sociedad Mexicana de Física, México*, 1998. *pp. iii–viii and* 1–116. (Editors) **99g:81002** 81–06

Oberwolfach ★ Conference on Computability Theory. Proceedings of the conference held in Oberwolfach, January 27–February 3, 1996. Edited by Klaus Ambos-Spies, Theodore A. Slaman and Robert I. Soare. Ann. Pure Appl. Logic **94** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–vi and* 1–296. (Editors) **99b:03006** 03–06 (03Dxx, 68Q05)

— ★ Singularities. The Brieskorn anniversary volume. Papers from the Conference in Honor of the 60th Birthday of Egbert V. Brieskorn held at the Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, July 1996. Edited by V. I. Arnold, G.-M. Greuel and J. H. M. Steenbrink. Progress in Mathematics, 162. *Birkhäuser Verlag, Basel*, 1998. *xxvi*+458 *pp. ISBN* 3-7643-5913-7 (Editors) **99e:00031** 00B30 (14–06, 32–06)

— ★ High dimensional probability. Papers from the conference held in Oberwolfach, August 1996. Edited by Ernst Eberlein, Marjorie Hahn and Michel Talagrand. Progress in Probability, 43. *Birkhäuser Verlag, Basel*, 1998. *viii*+330 *pp. ISBN* 3-7643-5867-X (Editors) **99e:60003** 60–06

Obituary:

Atchison, William Franklin *see* **Lee, John A. N.**

Auslander, Louis *see* **Chern, Shiing-Shen et al., 99k:01053**

Chogoshvili, G. S. Academician Giorgi Chogoshvili. *Proc. A. Razmadze Math. Inst.* **118** (1998), 1–2. 01A70

Choi, Jong Sok *see* **Lee, Nak-Young**

Daniel, Cuthbert *see* **Hunter, J. Stuart**

De Giorgi, Ennio *see* **Cecconi, Jaures Pacifico**

Degtyarev, Lev Markovich Lev Markovich Degtyarev (1940–1998). (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1423–1424. 01A70

Dobrakov, Ivan *see* **Haluška, Ján, 99m:01063**

Doĭchinov, Doĭchin B. Doitchin Doitchinov (1926–1996). Bibliographical data. *Serdica Math. J.* **24** (1998), *no.* 1, *iii–viii*. (Editors) **99m:01101** 01A70

Dragomirescu, Mihai *see* **Iosifescu, Marius**

Dwork, Bernard Morris Bernard Morris Dwork (New York City 27.5.1923–Princeton 9.5.1998) [List of publications]. *Rend. Sem. Mat. Univ. Padova* **100** (1998), *v–x*. 01A70

Dzhrbashyan, Mkhitar M. Mkhitar M. Dzhrbashyan [1918–1994]. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 3, 3–4 (1996). 01A70

— *see also* **Nersesyan, A. B.**

Ene, Vasil Vasile Ene 1957–1998. *Real Anal. Exchange* **24** (1998/99), *no.* 1, 3. 01A70

Erdős, Paul[1] Erdős Pál in memoriam. (Spanish) *Divulg. Mat.* **4** (1996), *no.* 1-2, 3–4 (1998). 01A70

Fabes, Eugene Barry *see* **Kenig, Carlos E. et al., 99k:01064**

Fichera, Gaetano *see* **Grioli, Giuseppe** *and* **Ricci, Paolo Emilio et al.**

Fox, Leslie Obituary: Leslie Fox. *Bull. London Math. Soc.* **31** (1999), *no.* 2, 241–247. (Editors) **99k:01078** 01A70

Franić, Ivan *see* **Neralić, Luka, 99m:01083**

Fushchich, Vil'gel'm Il'ich To memory of Wilhelm Illych Fushchych [1936–1997]. Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, ii–iv. (Editors) **99c:01025** 01A70

Grudo, Èduard Iosifovich *see* **Gaĭshun, I. V. et al., 99k:01057**

Hamming, Richard Wesley *see* **Morgan, Samuel P., 99k:01069**

Il'yushin, Alekseĭ Antonovich Alekseĭ Antonovich Il'yushin (January 20, 1911–May 31, 1998). (Russian) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 1058–1060. 01A70

Johnson, Reynold B. *see* **Lee, John A. N.**

Jurchescu, Martin Martin Jurchescu (1927–1996). Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 1–8. (Editors) **99m:01102** 01A70

Kartsivadze, Iotam *see* **Chantladze, T. et al.**

Koiter, Warner Tjardus *see* **Pignataro, Marcello**

Korfhage, Robert Roy Robert Roy Korfhage (1930–1998). (Slovenian) *Obzornik Mat. Fiz.* **45** (1998), *no.* 6, 192–193. 01A70

Krasnosel'skiĭ, Mark Aleksandrovich *see* **Bobylev, N. A. et al., 99m:01042**

Obituary: (*cont'd.*)

Kuhn, Thomas Samuel *see* **Heilbron, J. L.**

Landis, Evgeniĭ Mikhaĭlovich *see* **Gerver, M. L.**

Lighthill, Michael James Sir James Lighthill, 1924–98. With contributions by Bryan Thwaites, Geoffrey Howson [Albert Geoffrey Howson] and T. J. Pedley. *Math. Today (Southend-on-Sea)* **34** (1998), *no.* 6, 163–166. 01A70

— *see also* **Hunt, J. C. R.**

Malevich, Tat'yana L'vovna Tat'yana L'vovna Malevich [1938–1996]. (Russian) *Uzbek. Mat. Zh. No.* 2 (1997), 114–115. 01A70

Mañé, Ricardo *see* **Mañé, Ricardo**

Mel'nichuk, Yuriĭ Vsevolodovich Yuriĭ Mel'nichuk [1948–1993]. (Ukrainian) *Mat. Stud.* **3** (1994), 125. 01A70

Muršič, Milan Prof. dr. Milan Muršič (1927–1998). (Slovenian) *Obzornik Mat. Fiz.* **45** (1998), *no.* 6, 176–177. 01A70

Olekhnik, Slav Nikolaevich *see* **Vinogradova, I. A. et al.**

Panagiotopoulos, Panagiotis D. *see* **Ballmann, Josef et al.**

Pedersen, Olaf *see* **North, J. D.**

Peierls, Rudolf Ernst *see* **Peierls, Rudolf, 99e:01035**

Prössdorf, Siegfried *see* **Meister, Erhard**

Prucnal, Tadeusz *see* **Dyrda, Kazimiera et al., 99m:01054**

Rafique, Mohammad *see* **Mir, Khalid Latif**

Rees, Mina Spiegel *see* **Green, Judy et al., 99h:01036**

Reissner, Eric *see* **Kröner, E.**

Scorza Dragoni, Giuseppe *see* **Magenes, Enrico**

Shirokov, Aleksandr Petrovich In memory of Aleksandr Petrovich Shirokov. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 100. 01A70

Siddiqui, Mohammad Raziuddin *see* **Siddiqui, Safiuddin**

Simo, Juan Carlos *see* **Hughes, Thomas J. R. et al., (99h:65001)**

Skorobogat'ko, Vitalii Yakovich In memory of Vitalii Yakovich Skorobogat'ko (18 July 1927–7 April 1996). *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2323. 01A70

Speziali, Pierre *see* **Pont, Jean-Claude**

Struminskiĭ, Vladimir Vasil'evich Vladimir Vasil'evich Struminskii (1914–1998). *Fluid Dynam.* **33** (1998), *no.* 3, 301; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 3, 3–4 (*Russian. Russian summary*). 01A70

— Vladimir Vasil'evich Struminskiĭ (1914–1998). (Russian) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 347–348; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 323–324. 01A70

Suliński, Adam *see* **Krempa, Jan et al., 99m:01074**

Svoboda, Karel *see* **Janyška, Josef et al., 99m:01070**

Sylvan, Richard *see* **Meyer, Robert K.**

Szlenk, Wiesław *see* **Nowicki, Tomasz, 99m:01084**

Szőkefalvi-Nagy, Béla Béla Szőkefalvi-Nagy (1913–1998). *J. Operator Theory* **41** (1999), *no.* 2, 219–222. 01A70

Tallini, Giuseppe *see* **Ceccherini, Pier Vittorio, 99m:01048**

Taussky-Todd, Olga *see* **Bauer, Friedrich L., (99c:01028)**

Voronin, Sergeĭ Mikhaĭlovich *see* **Arkhipov, G. I. et al., 99m:01037**

Włodarski, Lech *see* **Hensz-Chądzyńska, Ewa et al.**

Yablonskiĭ, Sergeĭ Vsevolodovich In memory of Sergeĭ Vsevolodovich Yablonskiĭ. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 50–51. 01A70

Yamaguti, Masaya Professor Masaya Yamaguti (1925–1998). *Japan J. Indust. Appl. Math.* **16** (1999), *no.* 1, *i*. 01A70

Zahorski, Zygmunt Zygmunt Zahorski [1914–1998]—an obituary. *Real Anal. Exchange* **23** (1997/98), *no.* 2, 359–361. 01A70

Ocean mechanics ★ Ocean mechanics. Dedicated to the late Sir James Lighthill [Michael James Lighthill]. Edited by R. W. Yeung and J. N. Newman. J. Engrg. Math. **35** (1999), no. 1-2. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *pp. i–ii and* 1–250. (Editors) **99k:76006** 76–06 (76B15, 86–06, 86A05)

Ocean modeling and parameterization ★ Ocean modeling and parameterization. Proceedings of the NATO Advanced Study Institute held in Les Houches, January 20–30, 1998. Edited by Eric P. Chassignet and Jacques Verron. NATO Science Series C: Mathematical and Physical Sciences, 516. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii*+451 *pp. ISBN* 0-7923-5228-9 (Editors) **99f:86001** 86–06 (76–06)

Oisterwijk ★ Automated reasoning with analytic tableaux and related methods. Proceedings of the International Conference (TABLEAUX '98) held in Oisterwijk, May 5–8, 1998. Edited by Harrie de Swart. Lecture Notes in Computer Science, 1397. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+325 *pp. ISBN* 3-540-64406-7 (Editors) **99f:03002** 03–06 (03B35)

Okayama ★ Industrial and applied mathematics. Selected papers from the 1st and 2nd Meetings held at Okayama University of Science, Okayama, June 28, 1997, and June 26, 1998. Edited by Hiroshi Niki. Information **2** (1999), no. 1. *International Information Institute, Yamaguchi*, 1999. *pp.* 1–140. (Editors) **99h:65005** 65–06 (76–06)

On Einstein's path ★ On Einstein's path. Essays in honor of Engelbert Schucking. Papers from the symposium held at New York University, New York, December 12–13, 1996. Edited by Alex Harvey. *Springer-Verlag, New York*, 1999. *xxiv*+517 *pp. ISBN* 0-387-98564-6 (Editors) **99h:83002** 83–06 (00B30)

Online algorithms ★ Online algorithms. The state of the art. Papers from the Workshop on the Competitive Analysis of On-line Algorithms held in Schloss Dagstuhl, June 1996. Edited by Amos Fiat and Gerhard J. Woeginger. Lecture Notes in Computer Science, 1442. *Springer-Verlag, Berlin*, 1998. *xviii*+436 *pp. ISBN* 3-540-64917-4 (Peter B. Gibbons) **99m:68003** 68–02 (68–06, 68Q25)

Opava ★ Iteration theory (ECIT 94). Proceedings of the European Conference held in Opava, August 28–September 3, 1994. Edited by Ludwig Reich, Jaroslav Smital and György Targonski. Grazer Mathematische Berichte [Graz Mathematical Reports], 334. *Karl-Franzens-Universität Graz, Graz*, 1997. *iv*+261 *pp.* (Frederick R. Marotto) **99h:58001** 58–06 (39B12, 54H20, 58F08, 58F13)

Operator algebras and operator theory ★ Operator algebras and operator theory. Proceedings of the International Conference held at East China Normal University, Shanghai, July 4–9, 1997. Edited by Liming Ge, Huaxin Lin, Zhong-Jin Ruan, Dianzhou Zhang and Shuang Zhang. Contemporary Mathematics, 228. *American Mathematical*

Society, Providence, RI, 1998. *xx*+389 *pp. ISBN* 0-8218-1093-6 (Editors) **99h:46001** 46–06 (00B25, 47–06)

Operator algebras and their applications ★ Operator algebras and their applications. II. Papers from the Special Year held at the Fields Institute for Research in Mathematical Sciences, Waterloo, ON, 1994–1995. Edited by Peter A. Fillmore and James A. Mingo. Fields Institute Communications, 20. *American Mathematical Society, Providence, RI*, 1998. *x*+170 *pp. ISBN* 0-8218-0908-3 (Editors) **99c:46002** 46–06

Optimal control ★ Optimal control. Theory, algorithms, and applications. Papers from the conference held at the University of Florida, Gainesville, FL, February 27–March 1, 1997. Edited by William H. Hager and Panos M. Pardalos. Applied Optimization, 15. *Kluwer Academic Publishers, Dordrecht*, 1998. *xvi*+513 *pp. ISBN* 0-7923-5067-7 (Editors) **99d:49002** 49–06 (93–06)

Optimal control of viscous flow ★ Optimal control of viscous flow. Edited by S. S. Sritharan. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xii*+198 *pp. ISBN* 0-89871-406-0 (Editors) **99a:49003** 49–06 (35Q30, 49J20, 49N55, 76D05, 93–06, 93C20)

Optimization theory in discrete and continuous mathematics ★ Risan sūri to renzoku sūri ni okeru saitekika riron. (Japanese) [Optimization theory in discrete and continuous mathematics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 16–18, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1015 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–225. (Editors) **99b:90009** 90–06 (03E72)

Optimum methods in statistics ★ Optimum methods in statistics. Edited by Ferenc Steiner. Translated by E. Bielek. English text revised by L. Zilahi-Sebess and J. Verő. *Akadémiai Kiadó (Publishing House of the Hungarian Academy of Sciences), Budapest; distributed by International Specialized Book Services, Inc., Portland, OR*, 1997. 370 *pp. ISBN* 963-05-7439-X (Editors) **99a:62003** 62–06

ORDAL '96 ★ ORDAL '96. Papers from the Conference on Orders, Algorithms and Applications held at the University of Ottawa, Ottawa, ON, August 5–9, 1996. Edited by I. Rival and N. Zaguia. Theoret. Comput. Sci. **217** (1999), no. 2. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–iv and* 173–436. (Editors) **99m:68011** 68–06 (06–06)

Orlando, FL ★ Mathematical aspects of artificial intelligence. Lectures presented at the American Mathematical Society Short Course held in Orlando, FL, January 8–9, 1996. Edited by Frederick Hoffman. Proceedings of Symposia in Applied Mathematics, 55. AMS Short Course Lecture Notes. *American Mathematical Society, Providence, RI*, 1998. *xii*+275 *pp. ISBN* 0-8218-0611-4 (Neculai Curteanu) **99g:68162** 68Txx (68–06)

Orthogonal functions, moment theory, and continued fractions ★ Orthogonal functions, moment theory, and continued fractions. Theory and applications. Proceedings of the Research Conference held in Campinas, June 19–28, 1996. Edited by William B. Jones and A. Sri Ranga. Lecture Notes in Pure and Applied Mathematics, 199. *Marcel Dekker, Inc., New York*, 1998. *xiv*+416 *pp. ISBN* 0-8247-0207-7 (Editors) **99f:00020** 00B25 (30–06, 41–06, 44–06)

Orthogonal geometry in infinite-dimensional vector spaces ★ Orthogonal geometry in infinite-dimensional vector spaces. Edited by Hans Arwed Keller, Urs-Martin Künzi and Marcel Wild. Bayreuth. Math. Schr. No. 53 (1998). *Universität Bayreuth, Bayreuth*, 1998. *pp. i–viii and* 1–326. (Editors) **99e:51001** 51–06 (11E88)

Osaka ★ Seventh International Symposium on Algorithms and Computation. Selected papers from the symposium held in Osaka, December 16–18, 1996. Edited by T. Asano, S. Miyano, S. Suri and O. Watanabe. Theory Comput. Syst. **31** (1998), no. 5. *Springer-Verlag, New York*, 1998. *pp.* 489–628. (Editors) **99d:68013** 68–06

Ottawa, ON ★ Asymptotic methods in probability and statistics. A volume in honour of Miklós Csörgő. Proceedings of the International Conference (ICAMPS'97) held at Carleton University, Ottawa, ON, July 8–13, 1997. Edited by Barbara Szyszkowicz. *North-Holland, Amsterdam*, 1998. *xxxiv*+889 *pp. ISBN* 0-444-50083-9 (Editors) **99f:60002** 60–06 (00B30, 62–06)

— ★ Number theory. Proceedings of the 5th Conference of the Canadian Number Theory Association held at Carleton University, Ottawa, ON, August 17–22, 1996. Edited by Rajiv Gupta and Kenneth S. Williams. CRM Proceedings & Lecture Notes, 19. *American Mathematical Society, Providence, RI*, 1999. *xxxii*+392 *pp. ISBN* 0-8218-0964-4 (Editors) **99k:11005** 11–06

— ★ ORDAL '96. Papers from the Conference on Orders, Algorithms and Applications held at the University of Ottawa, Ottawa, ON, August 5–9, 1996. Edited by I. Rival and N. Zaguia. Theoret. Comput. Sci. **217** (1999), no. 2. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–iv and* 173–436. (Editors) **99m:68011** 68–06 (06–06)

Otzenhausen ★ Algorithmic learning theory. Proceedings of the 9th International Conference (ALT'98) held in Otzenhausen, October 8–10, 1998. Edited by Michael M. Richter, Carl H. Smith, Rolf Wiehagen and Thomas Zeugmann. Lecture Notes in Computer Science, 1501. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xii*+439 *pp. ISBN* 3-540-65013-X (Editors) **99m:68005** 68–06 (68Q99, 68T05)

Outlines of the history of mathematics ★ Очерки по истории математики. (Russian) [Outlines of the history of mathematics] Edited by B. V. Gnedenko. *Izdatel'stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1997. 496 *pp. ISBN* 5-211-03401-5 (Editors) **99h:01004** 01–06

Oxford ★ Approximations and numerical methods for the solution of Maxwell's equations. Proceedings of the 3rd International Conference held at the University of Oxford, Oxford, April 1995. Edited by F. El Dabaghi, K. Morgan, K. Parrott and J. Periaux. The Institute of Mathematics and its Applications Conference Series. New Series, 65. *The Clarendon Press, Oxford University Press, New York*, 1998. *xvi*+390 *pp. ISBN* 0-19-851483-2 (Editors) **99a:00020** 00B25 (65–06, 78–06, 78–08)

— ★ The geometric universe. Science, geometry, and the work of Roger Penrose. Papers from the Symposium on Geometric Issues in the Foundations of Science held in honor of the 65th birthday of Sir Roger Penrose at St. John's College, University of Oxford, Oxford, June 1996. Edited by S. A. Huggett, L. J. Mason, K. P. Tod, S. T. Tsou and N. M. J. Woodhouse. *Oxford University Press, Oxford*, 1998. *xviii*+431 *pp. ISBN* 0-19-850059-9 (Editors) **99b:00015** 00B25 (00B30, 81–06, 83–06)

Padova ★ Dynamical systems, control, coding, computer vision. New trends, interfaces, and interplay. Papers from the Mathematical Theory of Networks and Systems Symposium (MTNS-98) held in Padova, July 6–10, 1998. Edited by Giorgio Picci and David S. Gilliam. Progress in Systems and Control Theory, 25. *Birkhäuser Verlag, Basel*, 1999. *vi*+493 *pp. ISBN* 3-7643-6060-7 (Editors) **99k:93006** 93–06 (00B15, 47N70, 68U10, 94–06)

Padua ★ ACM Symposium on Parallel Algorithms and Architectures. Papers from the 8th Symposium held in Padua, June 24–26, 1996. Edited by Robert Cypher, Phillip B. Gibbons and Friedhelm Meyer auf der Heide. Theory Comput. Syst. **31** (1998), no. 4. *Springer-Verlag, New York*, 1998. *pp.* 329–487. (Editors) **99a:68002** 68–06 (68Q10, 68Q22)

— ★ Abelian groups, module theory, and topology. Proceedings of the International Conference on Abelian Groups and Modules held in honor of Adalberto Orsatti's 60th birthday in Padua, 1997. Edited by Dikran Dikranjan and Luigi Salce. Lecture Notes in Pure and Applied Mathematics, 201. *Marcel Dekker, Inc., New York*, 1998. *xviii*+444 *pp. ISBN* 0-8247-1937-9 (Editors) **99f:00028** 00B30 (00B25, 16–06, 20–06, 22–06)

— ★ ACM Symposium on Parallel Algorithms and Architectures. Papers from the 8th Symposium held in Padua, June 24–26, 1996. Edited by Susanne E. Hambrusch and Bruce M. Maggs. Theory Comput. Syst. **32** (1999), no. 3. *Springer-Verlag, New York*, 1999. *pp.* 211–420. (Editors) **99m:68004** 68–06 (68M20, 68Q10, 68Q22)

Palanga ★ New trends in probability and statistics. Vol. 4. Analytic and probabilistic methods in number theory. Proceedings of the 2nd International Conference held in honor of J. Kubilius on his 75th birthday in Palanga, September 23–27, 1996. Edited by A. Laurinčikas, E. Manstavičius and V. Stakėnas. *VSP, Utrecht; TEV Ltd., Vilnius*, 1997. *x*+501 *pp. ISBN* 90-6764-255-X (Editors) **99f:11003** 11–06 (11Kxx)

— ★ Navier-Stokes equations and related nonlinear problems. Proceedings of the 6th International Conference (NSEC-6) held in Palanga, May 22–29, 1997. Edited by H. Amann, G. P. Galdi, K. Pileckas and V. A. Solonnikov. *VSP, Utrecht; TEV Ltd., Vilnius*, 1998. *x*+438 *pp. ISBN* 90-6764-288-6; 9986-546-40-0 (Editors) **99m:35004** 35–06 (00B25, 76–06, 76D05)

Palermo ★ Michele Cipolla (1880–1947). (Italian) La figura e l'opera. [The man and his works] Including papers from the meeting held in Palermo, September 8, 1997, in honor of the 50th anniversary of his death. Edited by A. Scimone and F. Spagnolo. Atti dei Convegni dell'A.I.C.M. [Proceedings of A.I.C.M. Conferences], 1 *Associazione degli Insegnanti e dei Cultori di Matematica (A.I.C.M.), Palermo; Gruppo di Ricerca sull'Insegnamento delle Matematiche (G.R.I.M.), Palermo*, 1998. 160 *pp.* (Editors) **99d:01043** 01A75 (01A70)

Panel discussion: the impact of chaos on science and society Panel discussion: the impact of chaos on science and society. *The impact of chaos on science and society (Tokyo*, 1991), 355–383, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 00A69 (58F13)

Papers in honor of Anne Penfold Street ★ Papers in honour of Anne Penfold Street. Edited by R. C. Mullin, Jennifer Seberry and W. D. Wallis. J. Combin. Math. Combin. Comput. **28** (1998). *Charles Babbage Research Centre, Winnipeg, MB*, 1998. *pp.* 1–352. 00B30

Parallel algorithms for irregularly structured problems ★ Parallel algorithms for irregularly structured problems. Proceedings of the 3rd International Workshop (IRREGULAR '96) held in Santa Barbara, CA, August 19–21, 1996. Edited by A. Ferreira, J. Rolim, Y. Saad and T. Yang. Lecture Notes in Computer Science, 1117. *Springer-Verlag, Berlin*, 1996. *x*+358 *pp. ISBN* 3-540-61549-0 (Editors) **99g:65007** 65–06 (68–06, 68Q22)

Parallel computational fluid dynamics ★ Parallel computational fluid dynamics. Recent developments and advances using parallel computers. Proceedings of the Parallel CFD '97 Conference held in Manchester, May 19–21, 1997. Edited by D. R. Emerson, A. Ecer, J. Periaux, N. Satofuka and P. Fox. *North-Holland, Amsterdam*, 1998. *xiv*+681 *pp. ISBN* 0-444-82849-4 (From the preface) **99d:76002** 76–06 (76Mxx)

Parametrized relativistic quantum theory ★ Parametrized relativistic quantum theory. Part 1. Proceedings of the 1st International Conference (PRQT '98) held in Houston, TX, February 9–11, 1998. Edited by John R. Fanchi and Lawrence P. Horwitz. Found. Phys. **28** (1998), no. 9. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–ii and* 1401–1506. (Editors) **99k:81005** 81–06

— ★ Parametrized relativistic quantum theory. Part 2. Proceedings of the 1st International Conference (PRQT '98) held in Houston, TX, February 9–11, 1998. Edited by John R. Fanchi and Lawrence P. Horwitz. Found. Phys. **28** (1998), no. 10. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–ii and* 1509–1616. (Editors) **99k:81006** 81–06 (00B25)

Paris ★ Number theory. Papers from the Séminaire de Théorie des Nombres de Paris, 1993–94. Edited by Sinnou David. London Mathematical Society Lecture Note Series, 235. *Cambridge University Press, Cambridge*, 1996. *viii*+213 *pp. ISBN* 0-521-58549-X (Editors) **99b:11003** 11–06

— ★ Sciences et développement. (French) [Science and development] Papers from the Colloquium on 20th Century Sciences held in Paris, September 1994. Edited by Martine Barrère. Les Sciences hors d'Occident au XXe Siècle [20th Century Sciences: Beyond the Metropolis], 5. *L'Institut Français de Recherche Scientifique pour le Développement en Coopération, Orstom, Paris*, 1996. 301 *pp. ISBN* 2-7099-1299-6 (Editors) **99e:00014** 00B15

— ★ Jaakko Hintikka. (French) Questions de logique et de phénoménologie. [Questions of logic and phenomenology] Selected papers from the colloquium held in Paris, May 12–14, 1994. Edited by Élisabeth Rigal. Problèmes et Controverses. [Problems and Controversies] *Librairie Philosophique J. Vrin, Paris*, 1998. 338 *pp. ISBN* 2-7116-1242-2 (Editors) **99f:03005** 03A05 (03–06, 03B65)

— ★ STACS 98. Proceedings of the 15th Annual Symposium on Theoretical Aspects of Computer Science held in Paris, February 25–27, 1998. Edited by Michel Morvan, Christoph Meinel and Daniel Krob. Lecture Notes in Computer Science, 1373. *Springer-Verlag, Berlin*, 1998. *xvi*+630 *pp. ISBN* 3-540-64230-7 (Editors) **99f:68011** 68–06

— ★ Systèmes différentiels fractionnaires. [Fractional differential systems] Modèles, méthodes & applications. [Models, methods & applications] Proceedings of the colloquium (FDS'98) held in Paris, December 3–4, 1998. Edited by Denis Matignon and Gérard Montseny. ESAIM Proceedings, 5. *Société de Mathématiques Appliquées et Industrielles, Paris*, 1998. *front matter*+204 *pp.* (*electronic*). (Editors) **99h:00027** 00B25 (26A33)

— ★ "Pour Descartes": mathématiques et physique cartésiennes. (French) ["For Descartes": Cartesian mathematics and physics] Papers from the colloquium held in Paris, November 20, 1996. Rev. Histoire Sci. **51** (1998), no. 2-3. *Presses Universitaires de France, Évry*, 1998. *pp. i–ii and* 171–379. (Editors) **99h:01003** 01–06 (01A45)

— ★ Nombre et répartition de points de hauteur bornée. (French) [Number and

distribution of points of bounded height] Papers from the seminars held in Paris, April/May 1996. Edited by Emmanuel Peyre. Astérisque No. 251 (1998). *Société Mathématique de France, Paris*, 1998. *pp. i–xviii and* 1–340. (Editors) **99j:11001** 11–06

— ★ String theory in curved space times. A collaborative research report. Papers from the String Gravity Meeting held in Paris, June 1996. Edited by N. Sanchez. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xiv*+483 *pp. ISBN* 981-02-3439-2 (Marco Cavaglià) **99m:83197** 83E30 (81–06, 81T30, 83–06)

— ★ Variations of domain and free-boundary problems in solid mechanics. Proceedings of the IUTAM Symposium held at the École des Mines and the École Polytechnique, Paris, April 22–25, 1997. Edited by P. Argoul, M. Frémond and Q. S. Nguyen. Solid Mechanics and its Applications, 66. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xii*+338 *pp. ISBN* 0-7923-5450-8 (Editors) **99k:73004** 73–06 (73B30, 80–06)

Park City, UT ★ Hyperbolic equations and frequency interactions. Lectures from the Graduate Summer School on Nonlinear Wave Phenomena held in Park City, UT, July 9–29, 1995. Edited by Luis Caffarelli and Weinan E. IAS/Park City Mathematics Series, 5. *American Mathematical Society, Providence, RI; Institute for Advanced Study (IAS), Princeton, NJ*, 1999. *xii*+466 *pp. ISBN* 0-8218-0592-4 (Editors) **99h:35002** 35–06

Partial differential and integral equations ★ Partial differential and integral equations. Papers from the Congress of the International Society for Analysis, Applications and Computation (ISAAC '97) held at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Heinrich G. W. Begehr, Robert P. Gilbert and Guo-Chun Wen. International Society for Analysis, Applications and Computation, 2. *Kluwer Academic Publishers, Dordrecht*, 1999. *x*+369 *pp. ISBN* 0-7923-5482-6 (Editors) **99k:00034** 00B25 (35–06)

Partial differential equations ★ Partial differential equations. V. Asymptotic methods for partial differential equations. A translation of *Current problems in mathematics. Fundamental directions. Vol. 34* (Russian), Akad. Nauk SSSR, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform., Moscow, 1988 [MR 91e:35002]. Translation by J. S. Joel and S. A. Wolf. Translation edited by M. V. Fedoryuk. Encyclopaedia of Mathematical Sciences, 34. *Springer-Verlag, Berlin*, 1999. *vi*+248 *pp. ISBN* 3-540-53371-0 (Editors) **99i:35002** 35–06 (00B55)

Partial differential equations and applications ★ Équations aux dérivées partielles et applications. [Partial differential equations and applications] Articles dédiés à Jacques-Louis Lions. [Articles dedicated to Jacques-Louis Lions] *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris*, 1998. *viii*+808 *pp. ISBN* 2-84299-041-2 (Editors) **99f:00029** 00B30 (35–06)

Partial differential equations in the complex domain ★ Fukuso ryōiki no hembibun hōteishiki. (Japanese) [Partial differential equations in the complex domain] Proceedings of the symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, September 1–5, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1028 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–132. (Editors) **99e:35002** 35–06

Partial list of John W. Tukey's grandstudents Partial list of John W. Tukey's grandstudents. *The practice of data analysis (Princeton, NJ*, 1995), 19–25, *Princeton Univ. Press, Princeton, NJ*, 1997. (*see* **99b:62003**) 01A70

Particles and fields ★ Particles and fields. Papers from the 6th Mexican Workshop held in Morelia, November 1997. Edited by Juan Carlos D'Olivo, Martí Ruiz-Altaba and Luis Villaseñor Cendejas. AIP Conference Proceedings, 445. *American Institute of Physics, Woodbury, NY*, 1998. *x*+388 *pp. ISBN* 1-56396-791-X (Editors) **99h:81003** 81–06

— ★ Particles and fields. Proceedings of the 9th Jorge André Swieca Summer School held in Campos do Jordão, February 16–28, 1997. Edited by J. C. A. Barata, A. P. C. Malbouisson and S. F. Novaes. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *viii*+515 *pp. ISBN* 981-02-3453-8 (Editors) **99i:81004** 81–06

— ★ Particles and fields. Papers from the CAP-CRM Summer School held in Banff, AB, summer 1994. Edited by Gordon Semenoff and Luc Vinet. CRM Series in Mathematical Physics. *Springer-Verlag, New York*, 1999. *xvi*+489 *pp. ISBN* 0-387-98402-X (Editors) **99h:81004** 81–06 (00B25, 58–06)

Pasadena, CA ★ Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials. Honoring Professor Rodney J. Clifton on the occasion of his 60th birthday. Held at the California Institute of Technology, Pasadena, CA, May 22–24, 1997. J. Mech. Phys. Solids **46** (1998), no. 10. *Pergamon Press, Oxford*, 1998. *pp. i–xx and* 1699–2181. (Editors) **99g:73003** 73–06 (00B30, 73M25, 73S10)

Path integrals: Dubna '96 ★ Path integrals: Dubna '96. Publ. No. E-96-321. Proceedings of the International Seminar "Path Integrals: Theory & Applications" and the 5th International Conference "Path Integrals from meV to MeV" held in Dubna, May 27–31, 1996. Edited by Vladimir S. Yarunin and Mikhail A. Smondyrev. *Joint Inst. Nuclear Res., Dubna*, 1996. 393 *pp. ISBN* 5-85165-451-1 (Editors) **99h:81005** 81–06 (81S40)

Pattern formation and singularities in wave motion phenomena ★ Hadō genshō ni okeru patān no seisei to tokuisei. (Japanese) [Pattern formation and singularities in wave motion phenomena] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, September 24–26, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1030 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–247. (Editors) **99f:76003** 76–06

Pattern matching algorithms ★ Pattern matching algorithms. Edited by Alberto Apostolico and Zvi Galil. *Oxford University Press, New York*, 1997. xiv+377 *pp. ISBN* 0-19-511367-5 (Wojciech Rytter) **99f:68109** 68Q25 (68Q20, 68Q22, 68U15)

Pattern recognition. Classification. Prediction ★ Распознавание. Классификация. Прогноз. (Russian) [Pattern recognition. Classification. Prediction.] Математические методы и их применение. Вып. 4. [Mathematical methods and their applications. No. 4] Edited by Yu. I. Zhuravlev. "*Nauka*", *Moscow*, 1992. 224 *pp. ISBN* 5-02-006828-4 (Editors) **99k:68012** 68–06 (68T10)

Paul Erdős ★ Paul Erdős (1913–1996). A memorial tribute. Ramanujan J. **2** (1998), no. 1-2. *Kluwer Academic Publishers, Hingham, MA*, 1998. *pp.* 1–298. 11–06 (00B30)

Pavia ★ Epistemologia della matematica. Seminari 1992–1993. (Italian) [Epistemology of mathematics. 1992–1993 Seminars] Papers from the seminars held in Siena, Bologna and Pavia, 1992–1993. Edited by Mario Ferrari and Francesco Speranza. Formazione e Aggiornamento in Matematica degli Insegnanti [Training and Continuing Education in Mathematics for Teachers], 14. *Consiglio Nazionale delle Ricerche (CNR), Rome*, 1994. *vi*+224 *pp.* (Editors) **99a:00007** 00A30 (00A35, 03A05)

— ★ The complex matters of the mind. Papers from the International Conference on Chaos, Fractals and Models held at the University of Pavia, Pavia, November 1996. Edited by Franco Orsucci. Studies of Nonlinear Phenomena in Life Science, 6. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xviii*+210 *pp. ISBN* 981-02-3339-6 (Editors) **99e:92041** 92J10 (92–06, 92J30, 92J40)

Performance evaluation ★ Performance evaluation. (French) Papers from the 6th Workshop held at the Université de Versailles-Saint-Quentin, Versailles, November 25–28, 1996. Edited by Yves Dallery, Jean-Michel Fourneau, Bernard Lemaire and Raymond Marie. RAIRO Rech. Opér. **32** (1998), no. 3. *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris*, 1998. *pp. i–iv and* 211–372. (Editors) **99e:90004** 90–06 (90B25)

Performance evaluation of information communication networks ★ Performance evaluation of information communication networks. Papers from the Symposium on Performance Models of Information Communication Networks held in Kamakura, January 1997. Edited by Konosuke Kawashima, Issei Kino, Naoki Makimoto, Masakiyo Miyazawa and Yoshitaka Takahashi. J. Oper. Res. Soc. Japan **41** (1998), no. 1. *Operations Research Society of Japan, Tokyo*, 1998. *pp.* 1–169. (Editors) **99a:90008** 90–06 (60–06)

Perspective look at nonlinear media ★ A perspective look at nonlinear media. From physics to biology and social sciences. Edited by Jürgen Parisi, Stefan C. Müller and Walter Zimmermann. Lecture Notes in Physics, 503. *Springer-Verlag, Berlin*, 1998. *viii*+372 *pp. ISBN* 3-540-63995-0 (Editors) **99d:00025** 00B25 (76–06, 92–06)

Perspectives of strong coupling gauge theories ★ Perspectives of strong coupling gauge theories. Proceedings of the 3rd International Workshop (SCGT 96) held in Nagoya, November 13–16, 1996. Edited by J. Nishimura and K. Yamawaki. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv*+407 *pp. ISBN* 981-02-3187-3 (Editors) **99a:81003** 81–06

Perspectives on intuitionism ★ Perspectives on intuitionism. Edited by Richard Tieszen. Philos. Math. (3) **6** (1998), no. 2. *Canadian Society for History and Philosophy of Mathematics, Winnipeg, MB*, 1998. *pp.* 129–226. (Editors) **99a:03004** 03–06 (03A05, 03B20)

Perturbative and nonperturbative aspects of quantum field theory ★ Perturbative and nonperturbative aspects of quantum field theory. Proceedings of the 35th International Universitätswochen für Kern- und Teilchenphysik held in Schladming, March 2–9, 1996. Edited by H. Latal and W. Schweiger. Lecture Notes in Physics, 479. *Springer-Verlag, Berlin*, 1997. x+430 *pp. ISBN* 3-540-62478-3 (K. S. Viswanathan) **99d:81177** 81V05 (81–06, 81T15)

Perugia ★ Dedicato al Prof. C. Vinti. [Dedicated to Prof. C. Vinti] Proceedings of the Conference in Honor of Calogero Vinti held on the occasion of his 70th birthday at the Università degli Studi di Perugia, Perugia, September 30–October 4, 1996. Atti Sem. Mat. Fis. Univ. Modena **46** (1998), suppl. *Università di Modena, Dipartimento di Matematica Pura ed Applicata "G. Vitali", Modena*, 1998. *pp. i–xxxiv and* 1–989. (Editors) **99d:00031** 00B30 (00B25)

Peterborough, ON ★ Proceedings of the 7th International Conference on Computing and Information, ICCI '95. Held at Trent University, Peterborough, ON, July 5–8, 1995. Edited by Bart Domzy, Richard Hurley, John Palbom, David Krumme and S. K. Michael Wong. J. Comput. Inf. **1** (1995), no. 2. *Journal of Computing and Information, Sudbury, ON*, 1995. 1 *CD-ROM (DOS, Windows, Macintosh and UNIX)*. (Editors) **99d:68010** 68–06

— ★ Proceedings of International Conference of Computing and Information, ICCI'94. 6th Conference held at Trent University, Peterborough, ON, May 26–28, 1994. Edited by Richard Hurley, David Krumme and Pradip K. Srimani. J. Comput. Inf. **1** (1995), no. 1. *Journal of Computing and Information, Sudbury, ON*, 1995. 1 *CD-ROM (DOS, Windows, Macintosh and UNIX)*. (Editors) **99f:68006** 68–06

Petrozavodsk ★ Probabilistic methods in discrete mathematics. Proceedings of the 4th International Conference held in Petrozavodsk, June 3–7, 1996. Edited by V. F. Kolchin, V. Ya. Kozlov, Yu. L. Pavlov and Yu. V. Prokhorov. *VSP, Utrecht*, 1997. *vi*+365 *pp. ISBN* 90-6764-245-2 (Editors) **99f:60004** 60–06

Peyresq ★ Irreversibility and cosmology. Fundamental aspects of quantum mechanics. Papers from the workshops held in Peyresq, July 7–11, 1997. Internat. J. Theoret. Phys. **38** (1999), no. 1. *Kluwer Academic/Plenum Publishers, New York*, 1999. *pp. i–ii and* 1–517. (Editors) **99k:00032** 00B25

Ph.D. theses directed by John W. Tukey Ph.D. theses directed by John W. Tukey—Princeton University, 1940–1990. *The practice of data analysis (Princeton, NJ*, 1995), 16–18, *Princeton Univ. Press, Princeton, NJ*, 1997. (*see* **99b:62003**) 01A70

Philadelphia, PA ★ SUSY '97. Proceedings of the 5th International Conference on Supersymmetries in Physics held at the University of Pennsylvania, Philadelphia, PA, May 27–31, 1997. Edited by Mirjam Cvetič and Paul Langacker. Nuclear Phys. B Proc. Suppl. **62** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–xv and* 1–503. (Editors) **99b:81006** 81–06

— ★ Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity. Selected papers from the conference held in Philadelphia, PA, May 24–27, 1996. Edited by Jin-Yi Cai and Alan Selman. J. Comput. System Sci. **57** (1998), no. 2. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 125–232. (Editors) **99g:68002** 68–06 (68Q15)

— ★ 12th ACM Symposium on Computational Geometry. Selected papers from the Annual Symposium held in Philadelphia, PA, May 24–26, 1996. Edited by Michael T. Goodrich. Comput. Geom. **12** (1999), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–ii and* 1–152. (Editors) **99k:68001** 68–06 (00B25, 68U05)

— ★ DNA based computers. III. Papers from the 3rd DIMACS Workshop held at the University of Pennsylvania, Philadelphia, PA, June 23–25, 1997. Edited by Harvey Rubin and David Harlan Wood. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 48. *American Mathematical Society, Providence, RI*, 1999. *xiv*+375 *pp. ISBN* 0-8218-0842-7 (Editors) **99m:68008** 68–06 (92–06)

Philosophers and mathematics ★ Les philosophes et les mathématiques. (French) [Philosophers and mathematics] Edited by Évelyne Barbin and Maurice Caveing. *Ellipses, Édition Marketing, Paris*, 1996. 320 *pp. ISBN* 2-7298-9687-2 (Eduard Glas) **99g:01038** 01A70 (00A30)

Philosophes et les mathématiques ★ Les philosophes et les mathématiques. (French) [Philosophers and mathematics] Edited by Évelyne Barbin and Maurice Caveing. *Ellipses, Édition Marketing, Paris*, 1996. 320 *pp. ISBN* 2-7298-9687-2 (Eduard Glas) **99g:01038** 01A70 (00A30)

PhysComp96 ★ PhysComp96. Proceedings of the 4th Workshop on Physics and Computation held in Boston, MA, November 22–24, 1996. Edited by Tommaso Toffoli and Michael Biafore. Phys. D **120** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–253. (Editors) **99j:81006** 81–06 (00B25)

Physics in the 21st century ★ Physics in the 21st century. Proceedings of the 11th Nishinomiya-Yukawa Memorial Symposium held in Nishinomiya, November 7–8, 1996. Edited by K. Kikkawa, H. Kunitomo and H. Ohtsubo. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+199 *pp. ISBN* 981-02-3088-5 (Editors) **99a:81004** 81–06

Physics of dry granular media ★ Physics of dry granular media. Proceedings of the NATO Advanced Study Institute Summer School held in Cargèse, September 15–26, 1997. Edited by H. J. Herrmann, J.-P. Hovi and S. Luding. NATO Advanced Science Institutes Series E: Applied Sciences, 350. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxxii*+711 *pp. ISBN* 0-7923-5102-9 (Editors) **99e:73003** 73–06 (73Exx, 76–06, 76A99)

Piriápolis ★ Caos en el Uruguay. (Spanish) [Chaos in Uruguay] ¿Qué hacen los investigadores uruguayos que trabajan en sistemas caóticos? [The contributions of Uruguayan researchers to the study of chaotic systems]. Papers from the First Interdisciplinary Conference on Chaotic Systems held in Piriápolis, May 23–25, 1996. Edited by Roberto Markarian and Gonzalo Tancredi. *Universidad de la República, Facultad de Ciencias–Facultad de Ingeniería, Montevideo*, 1997. *x*+126 *pp. ISBN* 9974-0-0074-2 (Francisco Balibrea) **99m:58004** 58–06 (58F13)

Pisa ★ Static analysis. Proceedings of the 5th International Symposium (SAS'98) held in Pisa, September 14–16, 1998. Edited by Giorgio Levi. Lecture Notes in Computer Science, 1503. *Springer-Verlag, Berlin*, 1998. *x*+383 *pp. ISBN* 3-540-65014-8 (Editors) **99i:68005** 68–06 (68N20, 68Q60)

Piscataway, NJ ★ Multichannel optical networks: theory and practice. Papers from the DIMACS Workshop held at Rutgers University, Piscataway, NJ, March 16–19, 1998. Edited by Peng-Jun Wan, Ding-Zhu Du and Panos M. Pardalos. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 46. *American Mathematical Society, Providence, RI*, 1998. *xiv*+249 *pp. ISBN* 0-8218-1004-9 (Editors) **99g:68004** 68–06 (05–06, 68M10, 90B12)

— ★ Combinatorial pattern matching. Proceedings of the 9th Annual Symposium (CPM 98) held in Piscataway, NJ, July 20–22, 1998. Edited by Martin Farach-Colton. Lecture Notes in Computer Science, 1448. *Springer-Verlag, Berlin*, 1998. *viii*+251 *pp. ISBN* 3-540-64739-2 (Editors) **99h:68002** 68–06 (68Q25, 68U15)

— ★ Networks in distributed computing. Papers from the DIMACS Workshop held at Rutgers University, Piscataway, NJ, October 27–29, 1997. Edited by Marios Mavronicolas, Michael Merritt and Nir Shavit. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 45. *American Mathematical Society, Providence, RI*, 1999. *xii*+160 *pp. ISBN* 0-8218-0992-X (Editors) **99h:68009** 68–06 (68M10)

Pittsburgh, PA ★ 39th Annual Meeting of the Division of Plasma Physics of the American Physical Society. Invited and review papers from the meeting held in Pittsburgh, PA, November 17–21, 1997. Edited by Nathaniel J. Fisch. Phys. Plasmas **5** (1998), no. 5, part 2. *American Institute of Physics, Woodbury, NY*, 1998. *pp. i–ix and* 1577–2162. (Editors) **99b:76001** 76–06 (76W05, 76X05, 82D10)

Planar nonlinear dynamical systems ★ Planar nonlinear dynamical systems. Proceedings of the symposium held on the occasion of the 65th birthday of J. W. Reyn in Delft, September 25–26, 1995. Edited by R. E. Kooij and A. H. P. van der Burg. Differential Equations Dynam. Systems **5** (1997), no. 3-4. *Research Square Publications, Hyderabad*, 1997. *pp. i–iv and* 197–477. (Editors) **99g:00053** 00B30 (58–06)

Plans d'expériences ★ Plans d'expériences. (French) [Experimental designs] Applications à l'entreprise. [Applications to business] Papers from the 7th Conference on Statistical Studies held in 1996. Edited by Jean-Jacques Droesbeke, Jeanne Fine and Gilbert Saporta. *Éditions Technip, Paris; Association pour la Statistique et ses Utilisations, Paris*, 1997. *xvi*+509 *pp. ISBN* 2-7108-0733-5 (Editors) **99a:62101** 62Kxx (62–06, 62N10)

Plattsburgh, NY ★ Artificial intelligence and symbolic computation. Proceedings of the 4th International Conference (AISC'98) held at the State University of New York, Plattsburgh, NY, September 16–18, 1998. Edited by Jacques Calmet and Jan Plaza. Lecture Notes in Computer Science, 1476. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *xii*+309 *pp. ISBN* 3-540-64960-3 (Editors) **99k:68005** 68–06 (03–06, 03B35, 68Q40, 68T27)

Plovdiv ★ Proceedings of the 5th International Colloquium on Differential Equations. Vol. 2. Held in Plovdiv, August 18–23, 1994. Edited by Drumi Bainov and Angel Dishliev. *Science Culture Technology Publishing (SCT), Singapore*, 1995. *iv*+273 *pp.* (Editors) **99g:00044** 00B25 (34–06, 35–06)

— ★ Proceedings of the Eighth International Colloquium on Differential Equations. Held in Plovdiv, August 18–23, 1997. Edited by D. Bainov. *VSP, Utrecht*, 1998. *xvi*+459 *pp. ISBN* 90-6764-279-7 (Editors) **99d:00026** 00B25 (34–06, 35–06, 65–06)

Pohang ★ Proceedings of the International Workshop on Nonlinear Dynamics and Chaos. Held at Pohang University of Science and Technology, Pohang, July 26–28, 1995. Edited by Hie-Tae Moon, Seunghwan Kim, Robert P. Behringer and Yoshiki Kuramoto. Reprinted from Internat. J. Bifur. Chaos Appl. Sci. Engrg. **7** (1995), no. 4, 5 [MR 98f:58005; MR 98f:58006]. World Scientific Series on Nonlinear Science. Series B: Special Theme Issues and Proceedings, 10. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+381 *pp. ISBN* 981-02-3143-1 (Editors) **99f:58003** 58–06 (58F13)

— ★ Complex geometric analysis in Pohang. Proceedings of the POSTECH-BSRI SNU-GARC International Conference on Several Complex Variables held at the Pohang University of Science and Technology, Pohang, June 23–27, 1997. Edited by Kang-Tae Kim and Steven G. Krantz. Contemporary Mathematics, 222. *American Mathematical Society, Providence, RI*, 1999. *viii*+256 *pp. ISBN* 0-8218-0957-1 (Editors) **99e:32002** 32–06

Pondicherry ★ Integrability of nonlinear systems. Proceedings of the CIMPA International School on Nonlinear Systems, held at Pondicherry University, Pondicherry, January 8–26, 1996. Edited by Y. Kosmann-Schwarzbach, B. Grammaticos and K. M. Tamizhmani. Lecture Notes in Physics, 495. *Springer-Verlag, Berlin*, 1997. *viii*+380 *pp. ISBN* 3-540-63353-7 (Editors) **99b:58006** 58–06

Pont-à-Mousson ★ Progress in partial differential equations. Vol. 1. Papers from the 3rd European Conference on Elliptic and Parabolic Problems held in Pont-à-Mousson, June 1997. Edited by H. Amann, C. Bandle, M. Chipot, F. Conrad and I. Shafrir. Pitman Research Notes in Mathematics Series, 383. *Longman, Harlow*, 1998. *vi*+199 *pp. ISBN* 0-582-31708-8 (Editors) **99d:35003** 35–06

— ★ Progress in partial differential equations. Vol. 2. Papers from the 3rd European Conference on Elliptic and Parabolic Problems held in Pont-à-Mousson, June 1997. Edited by H. Amann, C. Bandle, M. Chipot, F. Conrad and I. Shafrir. Pitman Research Notes in Mathematics Series, 384. *Longman, Harlow*, 1998. *vi*+212 *pp. ISBN* 0-582-31709-6 (Editors) **99d:35004** 35–06

— ★ International Workshop on Rewriting Logic and its Applications. Proceedings of the 2nd Workshop held in Pont-à-Mousson, September 1998. Edited by Claude Kirchner and Hélène Kirchner. Electronic Notes in Theoretical Computer Science, 15. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+433 *pp.* (*electronic*). (Editors) **99h:68014** 68–06 (68Q42, 68Q60, 68T15)

Poroelasticity ★ Poroelasticity. Maurice A. Biot memorial issue. Edited by A. H.-D. Cheng, E. Detournay, Y. Abousleiman and R. K. N. D. Rajapakse. Internat. J. Solids Structures **35** (1998), no. 34-35. *Pergamon Press, Oxford*, 1998. *pp.* 4513–5031. (Editors) **99f:73001** 73–06

Port Jefferson, NY ★ Logic programming and knowledge representation. Selected papers from the 3rd International Workshop (LPKR '97) held in Port Jefferson, NY, October 17, 1997. Edited by Jürgen Dix, Luís Moniz Pereira and Teodor C. Przymusinski. Lecture Notes in Computer Science, 1471. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+246 *pp. ISBN* 3-540-64958-1 (Editors) **99i:68003** 68–06 (68N17, 68T30)

Port Washington, NY ★ Logic programming. Proceedings of the International Symposium (ILPS'97) held in Port Washington, NY, October 13–16, 1997. Edited by Jan Małuszyński. MIT Press Series in Logic Programming. *MIT Press, Cambridge, MA*, 1997. *xviii*+425 *pp. ISBN* 0-262-63180-6 (Editors) **99d:68008** 68–06 (68N17)

Portland, OR ★ Uncertainty in artificial intelligence. Proceedings of the 12th Conference held at Reed College, Portland, OR, August 1–4, 1996. Edited by Eric Horvitz and Finn Jensen. *Morgan Kaufmann, San Francisco, CA*, 1996. *xii*+572 *pp. ISBN* 1-55860-412-X (Editors) **99a:68018** 68–06 (68T27, 68T30)

Potential theory and related fields ★ Potensharu ron to sono kanren bunya. (Japanese) [Potential theory and related fields] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, June 25–27, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1016 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–171. (Editors) **99a:00036** 00B25 (31–06)

Potsdam ★ Earth system analysis. Integrating science for sustainability. Complemented results of the symposium held in Potsdam, 1994. Edited by H.-J. Schellnhuber and V. Wenzel. *Springer-Verlag, Berlin*, 1998. *xxx*+530 *pp. ISBN* 3-540-58017-4 (Editors) **99f:00016** 00B25 (86–06, 93–06)

— ★ Classification, data analysis, and data highways. Proceedings of the 21st Annual Conference of the Gesellschaft für Klassifikation e.V. held at the University of Potsdam, Potsdam, March 12–14, 1997. Edited by Ingo Balderjahn, Rudolf Mathar and Martin Schader. Studies in Classification, Data Analysis, and Knowledge Organization. *Springer-Verlag, Berlin*, 1998. *x*+414 *pp. ISBN* 3-540-63909-8 (Editors) **99g:62002** 62–06

Poughkeepsie, NY ★ Higher homotopy structures in topology and mathematical physics. Proceedings of the International Conference held in honor of the 60th birthday of Jim Stasheff at Vassar College, Poughkeepsie, NY, June 13–15, 1996. Edited by John McCleary. Contemporary Mathematics, 227. *American Mathematical Society, Providence, RI*, 1999. *xii*+321 *pp. ISBN* 0-8218-0913-X (Editors) **99g:00041** 00B25 (18–06, 55–06)

"Pour Descartes": mathématiques et physique cartésiennes ★ "Pour Descartes": mathématiques et physique cartésiennes. (French) ["For Descartes": Cartesian mathematics and physics] Papers from the colloquium held in Paris, November 20, 1996. Rev. Histoire Sci. **51** (1998), no. 2-3. *Presses Universitaires de France, Évry*, 1998. *pp. i–ii and* 171–379. (Editors) **99h:01003** 01–06 (01A45)

Poznan ★ Proceedings of the Eighth International Conference "Random Structures and Algorithms". Held in Poznan, August 4–9, 1997. Random Structures Algorithms **13** (1998), no. 3-4. *John Wiley & Sons, Inc., New York*, 1998. *pp. i–iv and* 189–533. (Editors) **99g:00045** 00B25 (05C80, 60C05, 68Q20, 68Q25)

Practical guide to heavy tails ★ A practical guide to heavy tails. Statistical techniques and applications. Papers from the workshop held in Santa Barbara, CA, December 1995. Edited by Robert J. Adler, Raisa E. Feldman [Raisa Epstein-Feldman] and Murad S. Taqqu. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xvi*+533 *pp. ISBN* 0-8176-3951-9 (Editors) **99f:62010** 62–06 (60–06)

Practical nonparametric and semiparametric Bayesian statistics ★ Practical nonparametric and semiparametric Bayesian statistics. Edited by Dipak Dey, Peter Müller and Debajyoti Sinha. Lecture Notes in Statistics, 133. *Springer-Verlag, New York*, 1998. *xvi*+369 *pp. ISBN* 0-387-98517-4 (Editors) **99a:62004** 62–06

Practice of data analysis ★ The practice of data analysis. Essays in honor of John W. Tukey. Papers from the symposium held in honor of Tukey on his 80th birthday at Princeton University, Princeton, NJ, June 19–20, 1995. Edited by D. R. Brillinger, L. T. Frenholz and S. Morgenthaler. *Princeton University Press, Princeton, NJ*, 1997. *viii*+337 *pp. ISBN* 0-691-05782-6 (Editors) **99b:62003** 62–06 (00B30)

Prague ★ Database theory—ICDT '95. Papers from the 5th International Conference held in Prague, January 11–13, 1995. Edited by Georg Gottlob and Moshe Y. Vardi. Lecture Notes in Computer Science, 893. *Springer-Verlag, Berlin*, 1995. *xii*+454 *pp. ISBN* 3-540-58907-4 (Editors) **99a:68006** 68–06 (68P15)

— ★ Proceedings of the Eighth Prague Topological Symposium. Held in Prague, August 18–24, 1996. Edited by Petr Simon. *Topology Atlas, North Bay, ON*, 1997. *front matter*+392 *pp.* (*electronic*). (Editors) **99a:54002** 54–06

— ★ Quantum groups and integrable systems. Part I. Papers from 6th International Colloquium on Quantum Groups held in Prague, June 19–21, 1997. Edited by Č. Burdík. Czechoslovak J. Phys. **47** (1997), no. 11. *Academy of Sciences of the Czech Republic, Institute of Physics, Prague*, 1997. *pp.* 1067–1186. (Editors) **99b:17001** 17–06 (17B37, 58F07)

— ★ Inductive logic programming. Proceedings of the 7th International Workshop (ILP-97) held in Prague, September 17–20, 1997. Edited by Nada Lavrač and Sašo Džeroski. Lecture Notes in Computer Science, 1297. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *viii*+309 *pp. ISBN* 3-540-63514-9 (Editors) **99b:68007** 68–06 (68N17, 68T05)

— ★ Quantum groups and integrable systems. II. Papers from the 6th International Colloquium on Quantum Groups held in Prague, June 19–21, 1997. Edited by Č. Burdík. Czechoslovak J. Phys. **47** (1997), no. 12. *Academy of Sciences of the Czech Republic, Institute of Physics, Prague*, 1997. *pp. i–ii and* 1187–1298. (Editors) **99b:81005** 81–06

— ★ Quantum groups and integrable systems. Papers from the 7th International Colloquium on Quantum Groups held in Prague, June 18–20, 1998. Edited by Č. Burdík and A. A. Vladimirov. Czechoslovak J. Phys. **48** (1998), no. 11. *Academy of Sciences of the Czech Republic, Institute of Physics, Prague*, 1998. *pp.* 1261–1514. (Editors) **99k:81007** 81–06 (17B37, 81R50)

Preconditioned iterative methods ★ Preconditioned iterative methods. Edited by David J. Evans. Topics in Computer Mathematics, 4. *Gordon and Breach Science Publishers, Lausanne*, 1994. *xii*+491 *pp. ISBN* 2-88124-956-6 (Editors) **99d:65007** 65–06

Presidents of the Canadian Mathematical Society Presidents of the Canadian Mathematical Society (brief biographic notices, with photos). *Canadian Mathematical Society*. 1945–1995, *Vol.* 1, 328–371, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A70 (01A74)

Princeton, NJ ★ The practice of data analysis. Essays in honor of John W. Tukey. Papers from the symposium held in honor of Tukey on his 80th birthday at Princeton University, Princeton, NJ, June 19–20, 1995. Edited by D. R. Brillinger, L. T. Frenholz and S. Morgenthaler. *Princeton University Press, Princeton, NJ*, 1997. *viii*+337 *pp. ISBN* 0-691-05782-6 (Editors) **99b:62003** 62–06 (00B30)

— ★ Advances in switching networks. Papers from the workshop held as part of the DIMACS Special Year on Network Switching at Princeton University, Princeton, NJ, July 7–9, 1997. Edited by Ding-Zhu Du and Frank K. Hwang. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 42. *American Mathematical Society, Providence, RI*, 1998. *xii*+333 *pp. ISBN* 0-8218-0831-1 (Editors) **99a:94001** 94–06 (68M10, 94C10)

— ★ Microsurveys in discrete probability. Papers from the workshop held as part of the Dimacs Special Year on Discrete Probability in Princeton, NJ, June 2–6, 1997. Edited by David Aldous and James Propp. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 41. *American Mathematical Society, Providence, RI*, 1998. *x*+220 *pp. ISBN* 0-8218-0827-3 (Editors) **99b:60003** 60–06

— ★ DNA based computers II. Papers from the 2nd Annual DIMACS Workshop held at Princeton University, Princeton, NJ, June 10–12, 1996. Edited by Laura F. Landweber and Eric B. Baum. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 44. *American Mathematical Society, Providence, RI*, 1999. *xii*+275 *pp. ISBN* 0-8218-0756-0 (Editors) **99f:68002** 68–06 (68Q05, 92D20)

— ★ Randomization methods in algorithm design. Papers from the DIMACS Workshop held at Princeton University, Princeton, NJ, December 12–14, 1997. Edited by Panos Pardalos, Sanguthevar Rajasekaran and José Rolim. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 43. *American Mathematical Society, Providence, RI*, 1999. *xiv*+318 *pp. ISBN* 0-8218-0916-4 (Editors) **99f:68007** 68–06 (68Q25, 90–06)

— ★ Prospects in mathematics. Papers from the conference held at Princeton University, Princeton, NJ, March 17–21, 1996. Edited by Hugo Rossi. *American Mathematical Society, Providence, RI*, 1999. *x*+162 *pp. ISBN* 0-8218-0975-X (Editors) **99g:00034** 00B20 (00B25)

— ★ Probability theory and applications. Lectures from the Graduate Summer School on Probability Theory held in Princeton, NJ, June 23–July 13, 1996. Edited by Elton P. Hsu and S. R. S. Varadhan. IAS/Park City Mathematics Series, 6. *American Mathematical Society, Providence, RI*; *Institute for Advanced Study* (*IAS*), *Princeton, NJ*, 1999. *x*+374 *pp. ISBN* 0-8218-0590-8 (Editors) **99k:60002** 60–06

Probabilistic methods and cybernetics ★ Вероятностные методы и кибернетика. Вып. 25. (Russian) [Probabilistic methods and cybernetics. No 25] Edited by F. I. Salimov. *Izdatel'stvo Kazanskogo Universiteta, Kazan'*, 1993. 144 *pp.* (Editors) **99h:00017** 00B15

Probabilistic methods for algorithmic discrete mathematics ★ Probabilistic methods for algorithmic discrete mathematics. Edited by M. Habib, C. McDiarmid, J. Ramirez-Alfonsin and B. Reed. Algorithms and Combinatorics, 16. *Springer-Verlag, Berlin*, 1998. *xviii*+323 *pp. ISBN* 3-540-64622-1 (Editors) **99i:05003** 05–06 (60–06, 68Q20, 68Q25, 68R05)

Probabilistic methods in discrete mathematics ★ Probabilistic methods in discrete mathematics. Proceedings of the 4th International Conference held in Petrozavodsk, June 3–7, 1996. Edited by V. F. Kolchin, V. Ya. Kozlov, Yu. L. Pavlov and Yu. V. Prokhorov. *VSP, Utrecht*, 1997. *vi*+365 *pp. ISBN* 90-6764-245-2 (Editors) **99f:60004** 60–06

Probability theory ★ Теория вероятностей. 7. (Russian) [Probability theory. 7] Edited by V. P. Sakharova. Итоги Науки и Техники. [Progress in Science and Technology] Современные Проблемы Математики. Фундаментальные Направления [Current Problems in Mathematics. Fundamental Directions], 82. *Vsesoyuz. Inst. Nauchn. i Tekhn. Inform.* (*VINITI*), *Moscow*, 1995. 199 *pp.* (Anatolii A. Pukhal'skiĭ) **99d:60021a** 60Fxx

Probability theory and applications ★ Probability theory and applications. Lectures from the Graduate Summer School on Probability Theory held in Princeton, NJ, June 23–July 13, 1996. Edited by Elton P. Hsu and S. R. S. Varadhan. IAS/Park City Mathematics Series, 6. *American Mathematical Society, Providence, RI*; *Institute for Advanced Study* (*IAS*), *Princeton, NJ*, 1999. *x*+374 *pp. ISBN* 0-8218-0590-8 (Editors) **99k:60002** 60–06

Probability theory and mathematical statistics ★ Probability theory and mathematical statistics. Proceedings of the 6th International Conference held in Vilnius, June 28–July 3, 1993. Edited by B. Grigelionis, J. Kubilius, H. Pragarauskas and V. Statulevičius [Vitautas Antanovich Statulyavichus]. *TEV Ltd., Vilnius*; *VSP, Utrecht*, 1994. *x*+742 *pp. ISBN* 90-6764-178-2 (Editors) **99e:60004** 60–06 (00B25, 62–06)

— ★ Probability theory and mathematical statistics. Papers from the Semester on Probability and Mathematical Statistics held at the Euler International Mathematical Institute, St. Petersburg, March 2–April 23, 1993. Edited by I. A. Ibragimov and A. Yu. Zaitsev. *Gordon and Breach Publishers, Amsterdam*, 1996. *x*+321 *pp. ISBN* 2-919875-14-0 (Editors) **99g:60004** 60–06 (62–06)

Probability towards 2000 ★ Probability towards 2000. Papers from the symposium held at Columbia University, New York, October 2–6, 1995. Edited by L. Accardi and C. C. Heyde. Lecture Notes in Statistics, 128. *Springer-Verlag, New York*, 1998. *xiii*+356 *pp. ISBN* 0-387-98458-5 (Editors) **99b:60004** 60–06

Problems:

Algebraic topology Northwestern 1997 Algebraic Topology Conference—problems. *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 375–379, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99c:55001**) 55–02

Banach algebras List of open problems. *Banach algebras '97* (*Blaubeuren*), 549–560, *de Gruyter, Berlin*, 1998. (*see* **99f:46002**) 46H99 (00A07)

Descriptive geometry *see* **Koczyk, Henryk**

Differential calculus *see* **Wagschal, Claude**

Integration *see* **Wagschal, Claude**

Internal Agrégation in mathematics *see* **Meunier, Pierre**

Mathematical analysis *see* **Kudryavtsev, L. D. et al., 99h:00004**

Positivity in Lie theory ★ Positivity in Lie theory: open problems. Edited by Joachim Hilgert, Jimmie D. Lawson, Karl-Hermann Neeb and Ernest B. Vinberg. de Gruyter Expositions in Mathematics, 26. *Walter de Gruyter & Co., Berlin*, 1998. *xii*+290 *pp. ISBN* 3-11-016112-5 (Editors) **99f:22001** 22–06 (32–06)

Theory of functions of a complex variable Some open problems in theory of functions of a complex variable. *Mat. Stud.* **3** (1994), 117–119. 30–XX

Problems in algebra ★ Вопросы алгебры. Вып. 7. (Russian) [Problems in algebra. No. 7] Edited by L. A. Shemetkov. *Gomel'skiĭ Gosudarstvennyĭ Universititet imeni Frantsiska Skoriny, Gomel'*, 1992. 121 *pp.* (Editors) **99g:20003** 20–06 (00B15, 20Dxx)

— ★ Вопросы алгебры. Вып. 6. (Russian) [Problems in algebra. No. 6] Edited by L. A. Shemetkov. "*Universitet-skoe*", *Minsk*, 1993. 104 *pp.* (Editors) **99g:20002** 20–06 (00B15, 20D10)

— ★ Вопросы алгебры. Вып. 8. (Russian) [Problems in algebra. No. 8] Edited by L. A. Shemetkov. *Gomel'skiĭ Gosudarstvennyĭ Universititet imeni Frantsiska Skoriny, Gomel'*, 1995. 174 *pp.* (Editors) **99g:20004** 20–06 (00B15, 20D10)

— ★ Вопросы алгебры. Вып. 9. (Russian) [Problems in algebra. No. 9] Papers from the Conference "Problems in Algebra and Cybernetics" dedicated to the memory of S. A. Chunikhin held in Gomel', September 21, 1995. Edited by L. A. Shemetkov. *Gomel'skiĭ Gosudarstvennyĭ Universititet imeni Frantsiska Skoriny, Gomel'*, 1996. 197 *pp.* (Editors) **99g:20005** 20–06 (00B30)

— ★ Вопросы алгебры. Вып. 10. (Russian) [Problems in algebra. No. 10] Edited by L. A. Shemetkov. *Gomel'skiĭ Gosudarstvennyĭ Universititet imeni Frantsiska Skoriny, Gomel'*, 1996. 203 *pp.* (Editors) **99g:20006** 20–06 (00B15, 20Dxx)

— ★ Вопросы алгебры. Вып. 11. (Russian) [Problems in algebra. No. 11] Edited by V. S. Monakhov. *Gomel'skiĭ Gosudarstvennyĭ Universititet imeni Frantsiska Skoriny, Gomel'*, 1997. 182 *pp.* (Editors) **99g:20007** 20–06

— ★ Вопросы алгебры. Вып. 12. (Russian) [Problems in algebra. No. 12] Edited by L. A. Shemetkov. *Gomel'skiĭ Gosudarstvennyĭ Universititet imeni Frantsiska Skoriny, Gomel'*, 1998. 133 *pp.* (Editors) **99g:20008** 20–06 (00B15)

Problems in stochastic numerical analysis ★ Kakuritsu sūchi kaiseki ni okeru sho mondai. III. (Japanese) [Problems in stochastic numerical analysis. III] Proceedings of the 3rd Workshop on Stochastic Numerics held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 7–9, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1032 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–164. (Editors) **99f:65007** 65–06 (60–06)

Problems in the diffraction and propagation of waves ★ Проблемы дифракции и распространения волн. Вып. 27. (Russian) [Problems in the diffraction and propagation of waves. No. 27] Edited by M. P. Bazarova. *Izdatel'stvo Sankt-Peterburgskogo Universiteta, St. Petersburg*, 1997. 324 *pp.* (Editors) **99g:78002** 78–06 (78A40, 78A45)

Problems of mathematical physics ★ Problems of mathematical physics. A translation of *Problems of mathematical physics* (Russian), Moskov. Gos. Univ., Moscow, 1998. Comput. Math. Model. **10** (1999), no. 1. *Consultants Bureau, New York*, 1999. *pp. i–ii and* 1–122. (Editors) **99k:00043** 00B55

Problems of quantum field theory ★ Problems of quantum field theory. Publ. No. E2-96-369. Proceedings of the 10th International Conference held in Alushta, May 13–18, 1996. Edited by D. V. Shirkov, D. I. Kazakov and A. A. Vladimirov. *Joint Inst. Nuclear Res., Dubna*, 1996. 437 *pp. ISBN* 5-85165-455-4 (Editors) **99i:81005** 81–06 (83–06)

Problems on complex dynamical systems ★ Fukuso rikigakkei no shomondai. [Problems on complex dynamical systems] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, October 6–9, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1042 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–230. (Editors) **99h:58002** 58–06 (00B25, 30–06)

Proceedings:

A. D. Sakharov Conference on Physics ★ Proceedings of the Second International A. D. Sakharov Conference on Physics. Held in Moscow, May 20–24, 1996. Edited by I. M. Dremin and A. M. Semikhatov. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxviii*+761 *pp. ISBN* 981-02-2861-9 (Editors) **99h:81006** 81–06

AAAI-98/IAAI-98 ★ AAAI-98/IAAI-98 Proceedings. Proceedings of the 15th National Conference on Artificial Intelligence and the 10th Conference on Innovative Applications of Artificial Intelligence held in Madison, WI, July 26–30, 1998. *MIT Press, Cambridge, MA*; *AAAI Press, Menlo Park, CA*, 1998. *xxiv*+1218 *pp. ISBN* 0-262-51098-7 (Editors) **99f:68005** 68–06 (68Txx)

Algebra Conference ★ Proceedings of the 1st Panhellenic Algebra Conference. Held in Athens, September 27–28, 1996. Bull. Greek Math. Soc. **38** (1996). *Greek Mathematical Society, Athens*, 1996. *pp.* 1–143. (Editors) **99a:00037** 00B25 (20–06)

Catalan Days of Applied Mathematics ★ Proceedings of the IV Catalan Days of Applied Mathematics. Held in Tarragona, February 11–13, 1998. Edited by C. Garcia, C. Olivé and M. Sanromà. *Universitat Rovira i Virgili, Departament d'Enginyeria Informàtica, Tarragona*, 1998. *viii*+192 *pp.* (Editors) **99a:00038** 00B25

Colloquium on Differential Equations ★ Proceedings of the 5th International Colloquium on Differential Equations. Vol. 2. Held in Plovdiv, August 18–23, 1994. Edited by Drumi Bainov and Angel Dishliev. *Science Culture Technology Publishing* (*SCT*), *Singapore*, 1995. *iv*+273 *pp.* (Editors) **99g:00044** 00B25 (34–06, 35–06)

— ★ Proceedings of the Eighth International Colloquium on Differential Equations. Held in Plovdiv, August 18–23, 1997. Edited by D. Bainov. *VSP, Utrecht*, 1998. *xvi*+459 *pp. ISBN* 90-6764-279-7 (Editors) **99d:00026** 00B25 (34–06, 35–06, 65–06)

Proceedings: (*cont'd.*)

Conference of Computing and Information ★ Proceedings of International Conference of Computing and Information, ICCI'94. 6th Conference held at Trent University, Peterborough, ON, May 26–28, 1994. Edited by Richard Hurley, David Krumme and Pradip K. Srimani. J. Comput. Inf. **1** (1995), no. 1. *Journal of Computing and Information, Sudbury, ON*, 1995. 1 *CD-ROM* (*DOS, Windows, Macintosh and UNIX*). (Editors) **99f:68006** 68–06

— ★ Proceedings of the 8th International Conference of Computing and Information, ICCI'96. Held at the University of Waterloo, Waterloo, ON, June 19–22, 1996. Edited by B. Domzy, F. Tompa, R. Hurley and S. Q. Zheng. J. Comput. Inf. **2** (1996), no. 1. *Journal of Computing and Information, Sudbury, ON*, 1996. 1 *CD-ROM* (*DOS, Windows, Macintosh and UNIX*). (Editors) **99g:68005** 68–06

Conference of the International Linear Algebra Society ★ Proceedings of the Sixth Conference of the International Linear Algebra Society. Held at the Technical University of Chemnitz, Chemnitz, August 14–17, 1996. Edited by Steve Kirkland, Volker Mehrmann, Gerhard Michler and Bryan Shader. Linear Algebra Appl. **275/276** (1998). *North-Holland Publishing Co., New York*, 1998. *pp. iv–x and* 1–629. (Editors) **99a:00039** 00B25 (15–06, 93–06)

Conference on Approximation and Optimization in the Caribbean ★ Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean. Held in Puebla, October 8–13, 1995. Edited by Bernd Bank, Jorge Bustamante, Jürgen Guddat, Miguel A. Jimenez, Hubertus Th. Jongen and Werner Römisch. *Benemérita Universidad Autónoma de Puebla, Puebla*, 1997. *front matter*+354 *pp.* (*electronic*). (Editors) **99e:00022** 00B25

Conference on Asymptotics in Nonlinear Diffusive Systems—Towards the Understanding of Singularities in Dissipative Structures ★ Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems. Towards the understanding of singularities in dissipative structures. Held at Tôhoku University, Sendai, July 28–August 1, 1997. Edited by Yasumasa Nishiura, Izumi Takagi and Eiji Yanagida. Tohoku Mathematical Publications, 8. *Tohoku University, Mathematical Institute, Sendai*, 1998. *x*+262 *pp.* (Editors) **99a:35004** 35–06 (00B25)

Conference on Combinatorics, Graph Theory and Computing ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **130** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00020** 00B25 (05–06, 68–06, 68R10)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **131** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–217. (Editors) **99i:00021** 00B25 (05–06)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **132** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00022** 00B25 (05–06)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **133** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00023** 00B25 (05–06)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **134** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–218. (Editors) **99i:00024** 00B25 (05–06, 68–06, 68R10)

— ★ Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing. Held at Florida Atlantic University, Boca Raton, FL, March 9–13, 1998. Congr. Numer. **135** (1998). *Utilitas Mathematica Publishing, Inc., Winnipeg, MB*, 1998. *pp.* 1–185. (Editors) **99i:00025** 00B25 (05–06)

Conference on Computing and Information ★ Proceedings of the 7th International Conference on Computing and Information, ICCI '95. Held at Trent University, Peterborough, ON, July 5–8, 1995. Edited by Bart Domzy, Richard Hurley, John Palbom, David Krumme and S. K. Michael Wong. J. Comput. Inf. **1** (1995), no. 2. *Journal of Computing and Information, Sudbury, ON*, 1995. 1 *CD-ROM* (*DOS, Windows, Macintosh and UNIX*). (Editors) **99d:68010** 68–06

Conference on Difference Equations and Computational Simulations ★ Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations. Held at Mississippi State University, Mississippi State, MS, May 16–17, 1997. Edited by John Graef, Rathasingham Shivaji [Ratnasingham Shivaji], Jiangping Zhu [Jian Ping Zhu] and Bharat Soni. Electronic Journal of Differential Equations Conference, 1. *Southwest Texas State University, San Marcos, TX*, 1998. *front matter*+235 *pp.* (*electronic*). (Editors) **99h:00032** 00B25 (34–06, 35–06)

Conference on Functional Analysis and Approximation Theory ★ Proceedings of the Third International Conference on Functional Analysis and Approximation Theory. Vol. I. Held in Acquafredda di Maratea, September 23–28, 1996. Rend. Circ. Mat. Palermo (2) Suppl. No. 52, Vol. I (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp. i–xxxii and* 1–407. (Editors) **99d:00027** 00B25 (41–06, 46–06)

— ★ Proceedings of the Third International Conference on Functional Analysis and Approximation Theory. Vol. II. Held in Acquafredda di Maratea, September 23–28, 1996. Rend. Circ. Mat. Palermo (2) Suppl. No. 52, Vol. II (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp. i–xxxii and* 409–820. (Editors) **99d:00028** 00B25 (41–06, 46–06)

Conference on General Relativity and Gravitation ★ Proceedings of the 14th International Conference on General Relativity and Gravitation. Held in Florence, August 6–12, 1995. Edited by M. Francaviglia, G. Longhi, L. Lusanna and E. Sorace. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxvi*+551 *pp. ISBN* 981-02-2690-X (Editors) **99g:83002** 83–06

Conference on Geometric Design ★ Proceedings of the 1997 Conference on Geometric Design (GD '97). (Chinese) Held in Hangzhou, June 21–22, 1997. Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), suppl. *Applied Mathematics. A Journal of Chinese Universities, Editorial Committee, Hangzhou*, 1998. *pp. i–ii and* 1–126. (Editors) **99k:65006** 65–06 (00B25)

Proceedings: (*cont'd.*)

Conference on Interval Methods and their Applications on Global Optimization ★ Proceedings of the International Conference on Interval Methods and their Applications on Global Optimization, Interval '98. Held in Nanjing, April 20–23, 1998. Edited by Zuhe Shen and Vladik Kreinovich. Reliab. Comput. **5** (1999), no. 1. *Kluwer Academic Publishers, Dordrecht*, 1999. *pp. i–ii and* 1–95. (Editors) **99m:65007** 65–06 (65G10)

Conference on Inverse Problems and Applications ★ Proceedings of the International Conference on Inverse Problems and Applications. Held at the University of the Philippines, Quezon City, February 23–27, 1998. Edited by Rudolf Gorenflo and Milagros P. Navarro. Matimyás Mat. **21** (1998), Special Issue. *Mathematical Society of the Philippines, Quezon City*, 1998. *pp. i–xii and* 1–191. (Editors) **99i:00026** 00B25

Conference on Mathematical Methods in Operations Research/Workshop on Well-posedness and Stability of Optimization Problems ★ Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems. Held in Sozopol, September 16–20, 1997. Dedicated to the memory of Prof. Dr. Radostin Ivanov. Edited by P. S. Kenderov and J. P. Revalski. Pliska Stud. Math. Bulgar. **12** (1998). *Publishing House of the Bulgarian Academy of Sciences, Amsterdam*, 1998. *pp.* 1–280. (Editors) **99k:49002** 49–06 (00B25, 00B30, 90–06)

Conference on Modern Modified Theories of Gravitation and Cosmology ★ Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology. Part I. Held at Ben Gurion University, Beer Sheva, June 29–30, 1997. Edited by E. I. Guendelman. Hadronic J. **21** (1998), no. 1. *Hadronic Press, Inc., Palm Harbor, FL*, 1998. *pp. i–iv and* 1–109. (Editors) **99m:83001** 83–06

— ★ Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology. Part II. Held at Ben Gurion University, Beer Sheva, June 29–30, 1997. Edited by E. I. Guendelman. Hadronic J. **21** (1998), no. 2. *Hadronic Press, Inc., Palm Harbor, FL*, 1998. *pp.* 111–253. (Editors) **99m:83002** 83–06

— ★ Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology. Part III. Held at Ben Gurion University, Beer Sheva, June 29–30, 1997. Edited by E. I. Guendelman. Hadronic J. **21** (1998), no. 3. *Hadronic Press, Inc., Palm Harbor, FL*, 1998. *pp. i–ii and* 255–386. (Editors) **99m:83003** 83–06

Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems ★ Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems. Held at Fudan University, Shanghai, June 12–16, 1995. Edited by Ta-Tsien Li [Da Qian Li]. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+272 *pp. ISBN* 981-02-3055-9 (Editors) **99g:35005** 35–06

Conference on Numerical Analysis of Hamiltonian Differential Equations ★ Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations. Held in Golden, CO, June 2–6, 1997. Edited by Graeme Fairweather, Ian Gladwell, Benedict Leimkuhler and Erik Van Vleck. Appl. Numer. Math. **29** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 1–165. (Editors) **99g:65008** 65–06 (34A45, 70–08, 70H05)

Conference on Partial Differential Equations ★ Journées "Équations aux Dérivées Partielles". [Proceedings of the Conference on Partial Differential Equations] Held in Saint-Jean-de-Monts, June 2–5, 1998. *University of Nantes, Nantes*, 1998. *vi*+160+*xiii pp. ISBN* 2-86939-133-1 (Editors) **99d:35002** 35–06

Conference on Scientific Computing ★ Proceedings of the Algoritmy'97 Conference on Scientific Computing. Plenary papers from the 14th Conference held in Zuberec, September 2–5, 1997. Edited by J. Kačur and K. Mikula. Acta Math. Univ. Comenian. (N.S.) **67** (1998), no. 1. *Comenius University Press, Bratislava*, 1998. *pp.* 1–214. (Editors) **99f:00021** 00B25

Conference on Smarandache Type Notions in Number Theory ★ Proceedings of the First International Conference on Smarandache Type Notions in Number Theory. Held in Craiova, August 21–24, 1997. Edited by C. Dumitrescu and V. Seleacu. *American Research Press, Lupton, AZ*, 1997. 206 *pp. ISBN* 1-879585-58-8 (Editors) **99a:11002** 11–06

Conference on Topological Methods in Differential Equations and Dynamical Systems ★ Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems". Held on the occasion of the 100th anniversary of the birth of Tadeusz Ważewski in Kraków-Przegorzały, July 17–20, 1996. Univ. Iagel. Acta Math. No. 36 (1998). *Uniwersytet Jagielloński, Instytut Matematyki, Kraków*, 1998. *pp.* 1–257. (Editors) **99f:58002** 58–06 (34–06, 34C35)

Conference on Transport Theory ★ Proceedings of the Fifteenth International Conference on Transport Theory. Part I. Held at Chalmers University of Technology, Göteborg, June 2–7, 1997. Edited by Leif Arkeryd, Imre Pazsit and Rolf Petterson. Transport Theory Statist. Phys. **27** (1998), no. 3-4. *Marcel Dekker, Inc., Monticello, NY*, 1998. *pp. v–viii and* 203–393. (Editors) **99b:82003** 82–06

— ★ Proceedings of the Fifteenth International Conference on Transport Theory. Part II. Held in Göteborg, June 1–7, 1997. Edited by Leif Arkeryd, Imre Pazsit and Rolf Petterson. Transport Theory Statist. Phys. **27** (1998), no. 5-7. *Marcel Dekker, Inc., Monticello, NY*, 1998. *pp. v–x and* 405–703. (Editors) **99d:82004** 82–06 (82C70)

Conference "Random Structures and Algorithms" ★ Proceedings of the Eighth International Conference "Random Structures and Algorithms". Held in Poznan, August 4–9, 1997. Random Structures Algorithms **13** (1998), no. 3-4. *John Wiley & Sons, Inc., New York*, 1998. *pp. i–iv and* 189–533. (Editors) **99g:00045** 00B25 (05C80, 60C05, 68Q20, 68Q25)

Congress of Mathematicians ★ Proceedings of the International Congress of Mathematicians. Vol. I. Invited plenary lectures. Appendix. Held in Berlin, August 18–27, 1998. Doc. Math. **1998**, Extra Vol. I. *Documenta Mathematica, Bielefeld*, 1998. *front matter and pp.* 1–662 (*electronic*). (Editors) **99e:00023** 00B25

— ★ Proceedings of the International Congress of Mathematicians. Vol. II. Sections 1–9. Held in Berlin, August 18–27, 1998. Doc. Math. **1998**, Extra Vol. II. *Documenta Mathematica, Bielefeld*, 1998. *front matter and pp.* 1–881 (*electronic*). (Editors) **99e:00024** 00B25

— ★ Proceedings of the International Congress of Mathematicians. Vol. III. Sections 10–19. Held in Berlin, August 18–27, 1998. Doc. Math. **1998**, Extra Vol. III. *Documenta Mathematica, Bielefeld*, 1998. *front matter and pp.* 1–825 (*electronic*). (Editors) **99e:00025** 00B25

Proceedings: (*cont'd.*)

Congress of Numerical Analysis ★ Actes du 29ème Congrès d'Analyse Numérique: CANum'97. (French) [Proceedings of the 29th Congress of Numerical Analysis: CANum'97] Held in Larnas, May 26–30, 1997. Edited by Mario Ahues, Mahdi Boukrouche and Claude Carasso. ESAIM Proceedings, 3. *Société de Mathématiques Appliquées et Industrielles, Paris*, 1998. *front matter*+146 *pp.* (*electronic*). (Editors) **99e:00012** 00B15 (76–06)

Congress on Mathematics ★ Actas del Cuarto Congreso de Matemática "Dr. Antonio A. R. Monteiro". [Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics] Held in Bahía Blanca, April 23–25, 1997. *Universidad Nacional del Sur, Instituto de Matemática* (*INMABB–CONICET*), *Bahía Blanca*, 1997. *x*+241 *pp.* (Editors) **99a:00040** 00B25

International Quantum Structures Association ★ Proceedings of the International Quantum Structures Association 1996. Held in Berlin, July 28–August 3, 1996. Edited by Karl-Eberhard Hellwig, Michael Keyl, Werner Stulpe and Mathias Trucks. Internat. J. Theoret. Phys. **37** (1998), no. 1. *Kluwer Academic/Plenum Publishers, New York*, 1998. *pp. i–vi and* 1–628. (Editors) **99e:81004** 81–06 (81Pxx)

Lobachevskiĭ Mathematical Center. Kazan' Mathematical Society ★ Труды Математического Центра имени Н. И. Лобачевского. Казанское Математическое Общество. (Russian) [Proceedings of the N. I. Lobachevskiĭ Mathematical Center. Kazan' Mathematical Society] Held in Kazan', September 1998. Edited by A. M. Elizarov. *Izdatel'stvo "UNIPRESS", Kazan'*, 1998. 269 *pp. ISBN* 5-900044-45-9 (Editors) **99m:00022** 00B15

Mathematical Conference ★ Proceedings of the Second Asian Mathematical Conference 1995. Held at Suranaree University of Technology, Nakhon Ratchasima, October 17–20, 1995. Edited by S. Tangmanee and E. Schulz. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xx*+612 *pp. ISBN* 981-02-3225-X (Editors) **99g:00046** 00B25

Mathematics Conference ★ Proceedings of the 28th Annual Iranian Mathematics Conference. Part 1. English papers. Held at the University of Tabriz, Tabriz, March 28–31, 1997. Edited by A. Jodayree Akbarfam. Tabriz University Series, 377. *Tabriz University, Tabriz; Iranian Mathematical Society, Tehran*, 1997. *xii*+589 *pp.* (Editors) **99a:00041** 00B25

Operations Research ★ Operations Research Proceedings 1996. Selected papers from the International Symposium (SOR 96) held at the Technical University of Braunschweig, Braunschweig, September 3–6, 1996. Edited by Uwe Zimmermann, Ulrich Derigs, Wolfgang Gaul, Rolf H. Möhring and Karl-Peter Schuster. *Springer-Verlag, Berlin*, 1997. *xiv*+524 *pp. ISBN* 3-540-62630-1 (Editors) **99a:90009** 90–06 (00B25)

— ★ Operations Research Proceedings 1997. Selected papers from the International Symposium (SOR'97) held at Friedrich-Schiller-Universität, Jena, September 3–5, 1997. Edited by Peter Kischka, Hans-Walter Lorenz, Ulrich Derigs, Wolfgang Domschke, Peter Kleinschmidt and Rolf Möhring. *Springer-Verlag, Berlin*, 1998. *xvi*+597 *pp. ISBN* 3-540-64240-4 (Editors) **99d:90008** 90–06

School "Geometry and Physics" ★ Proceedings of the 17th Winter School "Geometry and Physics". Held in Srní, January 11–18, 1997. Edited by Jan Slovák and Martin Čadek. Rend. Circ. Mat. Palermo (2) Suppl. No. 54 (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp.* 1–126. (Editors) **99g:00047** 00B25

Scientific Communications Meeting of "Aurel Vlaicu" University ★ Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University. Vol. 14A. Held in Arad, May 16–17, 1996. Edited by Gheorghe Halic and Gabriela Cristescu. "*Aurel Vlaicu*" *University of Arad, Arad*, 1997. 116 *pp. ISBN* 973-97708-0-0 (Editors) **99i:00027** 00B25

Seminar on Continuum Mechanics ★ Proceedings of the Seminar on Continuum Mechanics. Held in Calcutta, September 10, 1996. Rev. Bull. Calcutta Math. Soc. **5** (1997), no. 2. *Calcutta Mathematical Society, Calcutta*, 1997. *pp. i–iv and* 67–138. (Editors) **99k:00035** 00B25 (73–06, 76–06)

Seminar on Stability Problems for Stochastic Models ★ Proceedings of the 18th Seminar on Stability Problems for Stochastic Models. Part I. Held in Hajdúszoboszló, January 26–February 1, 1997. J. Math. Sci. (New York) **92** (1998), no. 3. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 3835–3971. (Editors) **99h:00033** 00B25 (00B55, 60–06)

— ★ Proceedings of the 18th Seminar on Stability Problems for Stochastic Models. Part II. Held in Hajdúszoboszló, January 26–February 1, 1997. J. Math. Sci. (New York) **92** (1998), no. 4. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 3973–4121. (Editors) **99i:00036** 00B55

Summer School and Workshop on Formal Models of Programming and their Applications ★ Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications. Held in Beijing, September 17–20, 1997. Edited by P.-L. Curien, M. Hennessy and H. Lin. J. Comput. Sci. Tech. **13** (1998), no. 6. *Science Press, Beijing*, 1998. *pp.* 481–622. (Editors) **99i:68004** 68–06

Summer Schools MATLAB 94, 95 ★ Summer Schools MATLAB 94, 95 Proceedings. Held in Velké Karlovice August 27–31, 1994, and in Čeřínek, August 28–September 1, 1995. Edited by Ivana Horová. Folia Facultatis Scientiarium Naturalium Universitatis Masarykianae Brunensis. Mathematica, 5. *Masaryk University, Brno*, 1997. *iv*+209 *pp. ISBN* 80-210-1517-9 (Editors) **99a:00042** 00B25 (62–06, 65–06)

Symposium on Advances in Theory and Applications of Random Sets ★ Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets. Held in Fontainebleau, October 9–11, 1996. Edited by D. Jeulin. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+326 *pp. ISBN* 981-02-3001-X (Editors) **99f:60005** 60–06 (60D05)

Symposium on Applied Mathematics ★ Proceedings of the Symposium on Applied Mathematics. Wavelet, chaos and nonlinear PDEs. Held at Josai University, Sakado, September 18–20, 1997. Edited by Kiyoshi Mizohata. Sci. Bull. Josai Univ. **1998**, Special issue no. 5. *Josai University, Faculty of Science, Sakado*, 1998. *pp. i–vi and* 1–174. (Editors) **99a:00043** 00B25 (35–06, 58–06)

Symposium on Discrete Algorithms ★ Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms. Held in San Francisco, CA, January 25–27, 1998. *Association for Computing Machinery* (*ACM*), *New York*; *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1998. *xii*+704 *pp. ISBN* 0-89871-410-9 (Editors) **99d:68011** 68–06 (05–06, 68Rxx)

Symposium on Mathematical Physics with Special Sessions on Bose's Works

Proceedings: (*cont'd.*)

★ Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works. Part I. Held in Calcutta, January 1–7, 1994. Edited by R. N. Sen. Rev. Bull. Calcutta Math. Soc. **3** (1995), no. 1-2. *Calcutta Mathematical Society, Calcutta*, 1995. *pp. i–iv and* 1–118. (Editors) **99b:00016** 00B25 (76–06, 81–06)

— ★ Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works. Part II. Held in Calcutta, January 1–7, 1994. Edited by R. N. Sen. Rev. Bull. Calcutta Math. Soc. **4** (1996), no. 1-2. *Calcutta Mathematical Society, Calcutta*, 1996. *pp. i–iv and* 1–104. (Editors) **99b:00017** 00B25 (76–06, 81–06)

Symposium on Orthogonal Polynomials and Their Applications ★ Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications. Held at the University of Sevilla, Seville, September 22–26, 1997. Edited by Antonio J. Duran. J. Comput. Appl. Math. **99** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–viii and* 1–533. (Editors) **99h:33001** 33–06 (00B25, 33C45, 41A20, 42C05, 44A60)

Symposium on Semigroups, Languages and their Related Fields ★ Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields. Held at Ibaraki University, Mito, November 11–12, 1996. Research Reports on Information Sciences. *Toho University, Department of Information Sciences, Chiba*, 199?. *vi*+52 *pp.* (Editors) **99a:20001** 20–06 (00B05, 20Mxx)

Symposium on Structure and Dynamics of Nonlinear Waves in Fluids ★ Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids. Held in Hannover, August 17–20, 1994. Edited by A. Mielke and K. Kirchgässner. Advanced Series in Nonlinear Dynamics, 7. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. *x*+418 *pp. ISBN* 981-02-2124-X (Editors) **99m:76003** 76–06 (00B25, 35–06, 76B15, 76Exx)

Symposium on the Dynamic Deformation and Failure Mechanics of Materials ★ Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials. Honoring Professor Rodney J. Clifton on the occasion of his 60th birthday. Held at the California Institute of Technology, Pasadena, CA, May 22–24, 1997. J. Mech. Phys. Solids **46** (1998), no. 10. *Pergamon Press, Oxford*, 1998. *pp. i–xx and* 1699–2181. (Editors) **99g:73003** 73–06 (00B30, 73M25, 73S10)

Topological Symposium ★ Proceedings of the Eighth Prague Topological Symposium. Held in Prague, August 18–24, 1996. Edited by Petr Simon. *Topology Atlas, North Bay, ON*, 1997. *front matter*+392 *pp.* (*electronic*). (Editors) **99a:54002** 54–06

University on Mathematical Research and Teaching ★ Actes de l'Université d'Été 1996: Recherche Mathématique et Formation. (French) [Proceedings of the 1996 Summer University: Mathematical Research and Teaching] Held at the Université de Bourgogne, Dijon, July 8–11, 1996. *Université de Bourgogne, Institut de Recherche sur l'Enseignement des Mathématiques* (*IREM*), *Dijon*, 1997. *iv*+165 *pp.* (Editors) **99e:00026** 00B25

Workshop on Compressible Turbulent Mixing ★ Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing. Held at the State University of New York, Stony Brook, NY, July 18–21, 1995. Edited by R. Young, J. Glimm and B. Boston. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xv*+427 *pp. ISBN* 981-02-2910-0 (Editors) **99g:76002** 76–06 (76E99, 76F99, 76L05)

Workshop on Deductive Databases and Logic Programming ★ Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming (DDLP'98). Held in conjunction with the Joint International Conference and Symposium on Logic Programming (JICSLP'98) in Manchester, June 20, 1998. Edited by Piero Fraternali, Ulrich Geske, Carolina Ruiz and Dietmar Seipel. GMD Report, 22. *GMD—Forschungszentrum Informationstechnik GmbH, St. Augustin*, 1998. 155 *pp.* (Editors) **99g:68052** 68P15 (68–06)

Workshop on Differential Geometry ★ Proceedings of the Second International Workshop on Differential Geometry. Held at Kyungpook National University, Taegu, December 19–20, 1997. Edited by Young Jin Suh, Young Ho Kim and Ho Il Kim. *Kyungpook National University, Basic Science Research Institute, Taegu*, 1998. *xii*+107 *pp.* (Editors) **99b:53002** 53–06

Workshop on Fixed Point Theory ★ Proceedings of Workshop on Fixed Point Theory. Held in Kazimierz Dolny, June 23–28, 1997. Ann. Univ. Mariae Curie-Skłodowska Sect. A **51** (1997), no. 2. *Uniwersytet Marii Curie-Skłodowskiej, Editorial Office, Lublin*, 1997. *pp. i–viii and* 1–303. (Editors) **99g:00048** 00B25 (47H10, 54H25)

Workshop on Global Analysis, Differential Geometry and Lie Algebras ★ Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras. Held at Aristotle University of Thessaloniki, Thessaloniki, December 16–18, 1995. Edited by Grigorios Tsagas. BSG Proceedings, 1. *Geometry Balkan Press, Bucharest*; *Balkan Society of Geometers, Bucharest*, 1997. *vi*+165 *pp. ISBN* 973-97454-1-5 (Editors) **99e:53001** 53–06

— ★ Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras. Held at Aristotle University of Thessaloniki, Thessaloniki, December 14–17, 1994. Edited by Grigorios Tsagas. BSG Proceedings, 2. *Geometry Balkan Press, Bucharest*; *Balkan Society of Geometers, Bucharest*, 1998. *vi*+146 *pp. ISBN* 973-97454-7-4 (Editors) **99d:53001** 53–06

Workshop on High Performance Optimization Techniques ★ Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96). Held in Delft, September 19–20, 1996. Edited by C. Roos and T. Terlaky. Appl. Numer. Math. **29** (1999), no. 3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 253–443. (Editors) **99i:90004** 90–06 (90C27, 90C30)

Workshop on Logic in Computer Science ★ Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science. Held at the University of Auckland, Auckland, August 8, 1997. Edited by D. S. Bridges, C. S. Calude, M. J. Dinneen and B. Khoussainov [B. M. Khusainov]. J.UCS **3** (1997), no. 11. *Springer-Verlag, Heidelberg*, 1997. *front matter and pp.* 1134–1281 (*electronic*). (Editors) **99g:68006** 68–06 (03–06, 03B70)

Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories ★ Proceedings of International Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories. Held at Seoul National University, Seoul, February 23–24, 1998. Edited by Dongho Chae and Sung-Ki Kim. Lecture Notes Series, 42. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1998. *viii*+147 *pp.* (Editors) **99d:58005** 58–06 (00B25, 81–06)

Proceedings: (*cont'd.*)

Workshop on Nonlinear Dynamics and Chaos ★ Proceedings of the International Workshop on Nonlinear Dynamics and Chaos. Held at Pohang University of Science and Technology, Pohang, July 26–28, 1995. Edited by Hie-Tae Moon, Seunghwan Kim, Robert P. Behringer and Yoshiki Kuramoto. Reprinted from Internat. J. Bifur. Chaos Appl. Sci. Engrg. **7** (1995), no. 4, 5 [MR 98f:58005; MR 98f:58006]. World Scientific Series on Nonlinear Science. Series B: Special Theme Issues and Proceedings, 10. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+381 *pp. ISBN* 981-02-3143-1 (Editors) **99f:58003** 58–06 (58F13)

Proceedings of Symposia in Applied Mathematics ★ Mathematical aspects of artificial intelligence. Lectures presented at the American Mathematical Society Short Course held in Orlando, FL, January 8–9, 1996. Edited by Frederick Hoffman. Proceedings of Symposia in Applied Mathematics, 55. AMS Short Course Lecture Notes. *American Mathematical Society, Providence, RI*, 1998. *xii*+275 *pp. ISBN* 0-8218-0611-4 (Neculai Curteanu) **99g:68162** 68Txx (68–06)

Proceedings of Symposia in Pure Mathematics ★ Differential geometry and control. Papers of the Summer Research Institute held at the University of Colorado, Boulder, CO, June 29–July 19, 1997. Edited by G. Ferreyra, R. Gardner, H. Hermes and H. Sussmann. Proceedings of Symposia in Pure Mathematics, 64. *American Mathematical Society, Providence, RI*, 1999. *viii*+341 *pp. ISBN* 0-8218-0887-7 (Editors) **99f:93003** 93–06 (49–06, 53–06)

— ★ Differential equations: La Pietra 1996. Papers from the conference marking the 70th birthdays of Peter Lax and Louis Nirenberg held in Florence, July 3–7, 1996. Edited by M. Giaquinta, J. Shatah and S. R. S. Varadhan. Proceedings of Symposia in Pure Mathematics, 65. *American Mathematical Society, Providence, RI*, 1999. *xii*+219 *pp. ISBN* 0-8218-0610-6

Profound development of operator algebras ★ Sayōso kanron no shinka. (Japanese) [Profound development of operator algebras] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, May 14–16, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1024 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–111. (Editors) **99d:46001** 46–06

Progress in holomorphic dynamics ★ Progress in holomorphic dynamics. Edited by Hartje Kriete. Pitman Research Notes in Mathematics Series, 387. *Longman, Harlow*, 1998. *vi*+185 *pp. ISBN* 0-582-32388-6 (Editors) **99d:58006** 58–06 (58F23)

Progress in Mathematics ★ Mathematical essays in honor of Gian-Carlo Rota. Including papers from the Conference in Honor of Gian-Carlo Rota (Rotafest) and the Umbral Calculus Workshop held in Cambridge, MA, April 1996. Edited by Bruce E. Sagan and Richard P. Stanley. Progress in Mathematics, 161. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xiv*+463 *pp. ISBN* 0-8176-3872-5 (Editors) **99a:00055** 00B30 (05–06)

— ★ European Congress of Mathematics. Vol. I. Papers from the 2nd Congress held in Budapest, July 22–26, 1996. Edited by A. Balog, G. O. H. Katona, A. Recski and D. Szász. Progress in Mathematics, 168. *Birkhäuser Verlag, Basel*, 1998. *xx*+334 *pp. ISBN* 3-7643-5497-6 (Editors) **99e:00018** 00B25

— ★ European Congress of Mathematics. Vol. II. Papers from the 2nd Congress held in Budapest, July 22–26, 1996. Edited by A. Balog, G. O. H. Katona, A. Recski, and D. Szász. Progress in Mathematics, 169. *Birkhäuser Verlag, Basel*, 1998. *viii*+402 *pp. ISBN* 3-7643-5498-4 (Editors) **99e:00019** 00B25

— ★ Topological field theory, primitive forms and related topics. Proceedings of the 38th Taniguchi Symposium held in Kyoto, December 9–13, 1996 and the RIMS Symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 16–19, 1996. Edited by Masaki Kashiwara, Atsushi Matsuo, Kyoji Saito and Ikuo Satake. Progress in Mathematics, 160. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *x*+493 *pp. ISBN* 0-8176-3975-6 (Editors) **99e:00029** 00B25 (32–06, 54–06, 58–06, 81–06)

— ★ Singularities. The Brieskorn anniversary volume. Papers from the Conference in Honor of the 60th Birthday of Egbert V. Brieskorn held at the Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, July 1996. Edited by V. I. Arnold, G.-M. Greuel and J. H. M. Steenbrink. Progress in Mathematics, 162. *Birkhäuser Verlag, Basel*, 1998. *xxvi*+458 *pp. ISBN* 3-7643-5913-7 (Editors) **99e:00031** 00B30 (14–06, 32–06)

— ★ Six lectures on commutative algebra. Papers from the Summer School on Commutative Algebra held in Bellaterra, July 16–26, 1996. Edited by J. Elias, J. M. Giral, R. M. Miró-Roig and S. Zarzuela. Progress in Mathematics, 166. *Birkhäuser Verlag, Basel*, 1998. *xii*+398 *pp. ISBN* 3-7643-5951-X (Editors) **99e:13001** 13–06

— ★ Advances in geometry. Edited by Jean-Luc Brylinski, Ranee Brylinski, Victor Nistor, Boris Tsygan and Ping Xu. Progress in Mathematics, 172. *Birkhäuser Boston, Inc., Boston, MA*, 1999. *xii*+399 *pp. ISBN* 0-8176-4044-4 (Editors) **99h:00015** 00B15 (58–06)

Progress in partial differential equations ★ Progress in partial differential equations. Vol. 1. Papers from the 3rd European Conference on Elliptic and Parabolic Problems held in Pont-à-Mousson, June 1997. Edited by H. Amann, C. Bandle, M. Chipot, F. Conrad and I. Shafrir. Pitman Research Notes in Mathematics Series, 383. *Longman, Harlow*, 1998. *vi*+199 *pp. ISBN* 0-582-31708-8 (Editors) **99d:35003** 35–06

— ★ Progress in partial differential equations. Vol. 2. Papers from the 3rd European Conference on Elliptic and Parabolic Problems held in Pont-à-Mousson, June 1997. Edited by H. Amann, C. Bandle, M. Chipot, F. Conrad and I. Shafrir. Pitman Research Notes in Mathematics Series, 384. *Longman, Harlow*, 1998. *vi*+212 *pp. ISBN* 0-582-31709-6 (Editors) **99d:35004** 35–06

Progress in population genetics and human evolution ★ Progress in population genetics and human evolution. Proceedings of the Workshop on Mathematical Population Genetics held in Minneapolis, MN, January 24–28, 1994. Edited by Peter Donnelly and Simon Tavaré. The IMA Volumes in Mathematics and its Applications, 87. *Springer-Verlag, New York*, 1997. x+329 *pp. ISBN* 0-387-94944-5 (Prem Narain) **99h:92016** 92D10 (92–06, 92D15)

Prospects in mathematics ★ Prospects in mathematics. Papers from the conference held at Princeton University, Princeton, NJ, March 17–21, 1996. Edited by Hugo Rossi. *American Mathematical Society, Providence, RI*, 1999. *x*+162 *pp. ISBN* 0-8218-0975-X (Editors) **99g:00034** 00B20 (00B25)

Providence, RI ★ Current and future challenges in the applications of mathematics. Papers from the symposium held to mark the 50th anniversary of the Division of Applied Mathematics, Brown University, Providence, RI, May 29–31, 1997. Quart. Appl. Math. **56** (1998), no. 4. *Brown University, Division of Applied Mathematics, Providence, RI*, 1998. *pp. i–x and* 601–820. (Editors) **99i:00017** 00B25

Pseudorandom numbers and chaos ★ Giji ransū to kaosu. [Pseudorandom numbers and chaos] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 23–25, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1011 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–106. (Editors) **99a:00044** 00B25 (65C10)

Public image of mathematics Public image of mathematics. Edited by Roland Bulirsch. *European Congress of Mathematics, Vol. II* (*Budapest*, 1996), 376–379, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (*see* **99e:00019**) 01A80

Publications about Olga Taussky Todd Publications about Olga Taussky Todd. Special issue in memory of Olga Taussky Todd. *Linear Algebra Appl.* **280** (1998), *no.* 1, 59–61. (*see* **99c:01028**) 01–00 (00A15, 01A70)

Publications by S. Chandrasekhar Publications by S. Chandrasekhar. Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, *xiii–xxxiii.* (*see* **99h:00030**) 01A70

Publications du Centre de Recherches en Mathématiques Pures. Sér. I ★ Publications du Centre de Recherches en Mathématiques Pures. Sér. I. Fasc. 22. (French) [Publications of the Center for Research in Pure Mathematics. Ser. I. No. 22] Publications du Centre de Recherches en Mathématiques Pures, Séries I [Publications of the Center for Research in Pure Mathematics, Series I], 22. *Université de Neuchâtel, Centre de Recherches en Mathématiques Pures, Neuchâtel*, 1991. 16 *pp.* (Editors) **99f:11004** 11–06

— ★ Publications du Centre de Recherches en Mathématiques Pures. Sér. I. Fasc. 25. (French) [Publications of the Center for Research in Pure Mathematics. Series I. No. 25] Publications du Centre de Recherches en Mathématiques Pures, Séries I [Publications of the Center for Research in Pure Mathematics, Series I], 25. *Université de Neuchâtel, Centre de Recherches en Mathématiques Pures, Neuchâtel*, 1994. 16 *pp.* (Editors) **99h:00018** 00B15

— ★ Publications du Centre de Recherches en Mathématiques Pures. Sér. I. Fasc. 28. (French) [Publications of the Center for Research in Pure Mathematics. Ser. I. No. 28] Publications du Centre de Recherches en Mathématiques Pures, Séries I [Publications of the Center for Research in Pure Mathematics, Series I], 28. *Université de Neuchâtel, Centre de Recherches en Mathématiques Pures, Neuchâtel*, 1997. 20 *pp.* (Editors) **99e:00013** 00B15

Publications du Centre de Recherches en Mathématiques Pures. Sér. II ★ Publications du Centre de Recherches en Mathématiques Pures. Sér. II. Tome 13. (French) [Publications of the Center for Research in Pure Mathematics. Series II. Vol. 13] Publications du Centre de Recherches en Mathématiques Pures, Série II [Publications of the Center for Research in Pure Mathematics, Series II], 13. *Université de Neuchâtel, Centre de Recherches en Mathématiques Pures, Neuchâtel*, 1995. 24 *pp.* (Editors) **99g:00032** 00B15

— ★ Publications du Centre de Recherches en Mathématiques Pures. Sér. II. Tome 15. (French) [Publications of the Center for Research in Pure Mathematics. Series II. Vol. 15] Publications du Centre de Recherches en Mathématiques Pures, Série II [Publications of the Center for Research in Pure Mathematics, Series II], 15. *Centre de Recherches en Mathématiques Pures* (*C.R.M.P.*), *Chambéry*, 1997. 28 *pp.* (Editors) **99k:00023** 00B15

Publications of Olga Taussky Todd Publications of Olga Taussky Todd. Special issue in memory of Olga Taussky Todd. *Linear Algebra Appl.* **280** (1998), *no.* 1, 67–85. (*see* **99c:01028**) 01A70

Publications of Stamatis Cambanis Publications of Stamatis Cambanis. *Stochastic processes and related topics, xvii–xxv, Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99e:60007**) 01A70

Publications of the Center for Research in Pure Mathematics. Ser. I ★ Publications du Centre de Recherches en Mathématiques Pures. Sér. I. Fasc. 22. (French) [Publications of the Center for Research in Pure Mathematics. Ser. I. No. 22] Publications du Centre de Recherches en Mathématiques Pures, Séries I [Publications of the Center for Research in Pure Mathematics, Series I], 22. *Université de Neuchâtel, Centre de Recherches en Mathématiques Pures, Neuchâtel*, 1991. 16 *pp.* (Editors) **99f:11004** 11–06

— ★ Publications du Centre de Recherches en Mathématiques Pures. Sér. I. Fasc. 25. (French) [Publications of the Center for Research in Pure Mathematics. Series I. No. 25] Publications du Centre de Recherches en Mathématiques Pures, Séries I [Publications of the Center for Research in Pure Mathematics, Series I], 25. *Université de Neuchâtel, Centre de Recherches en Mathématiques Pures, Neuchâtel*, 1994. 16 *pp.* (Editors) **99h:00018** 00B15

— ★ Publications du Centre de Recherches en Mathématiques Pures. Sér. I. Fasc. 28. (French) [Publications of the Center for Research in Pure Mathematics. Ser. I. No. 28] Publications du Centre de Recherches en Mathématiques Pures, Séries I [Publications of the Center for Research in Pure Mathematics, Series I], 28. *Université de Neuchâtel, Centre de Recherches en Mathématiques Pures, Neuchâtel*, 1997. 20 *pp.* (Editors) **99e:00013** 00B15

Publications of the Center for Research in Pure Mathematics. Ser. II ★ Publications du Centre de Recherches en Mathématiques Pures. Sér. II. Tome 13. (French) [Publications of the Center for Research in Pure Mathematics. Series II. Vol. 13] Publications du Centre de Recherches en Mathématiques Pures, Série II [Publications of the Center for Research in Pure Mathematics, Series II], 13. *Université de Neuchâtel, Centre de Recherches en Mathématiques Pures, Neuchâtel*, 1995. 24 *pp.* (Editors) **99g:00032** 00B15

— ★ Publications du Centre de Recherches en Mathématiques Pures. Sér. II. Tome 15. (French) [Publications of the Center for Research in Pure Mathematics. Series II. Vol. 15] Publications du Centre de Recherches en Mathématiques Pures, Série II [Publications of the Center for Research in Pure Mathematics, Series II], 15. *Centre de Recherches en Mathématiques Pures* (*C.R.M.P.*), *Chambéry*, 1997. 28 *pp.* (Editors) **99k:00023** 00B15

Puebla ★ Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean. Held in Puebla, October 8–13, 1995. Edited by Bernd Bank, Jorge Bustamante, Jürgen Guddat, Miguel A. Jimenez, Hubertus Th. Jongen and Werner Römisch. *Benemérita Universidad Autónoma de Puebla, Puebla*, 1997. *front matter*+354 *pp.* (*electronic*). (Editors) **99e:00022** 00B25

Puerto de la Cruz ★ The mathematics of models for climatology and environment. Proceedings of the NATO Advanced Study Institute held in Puerto de la Cruz, January 11–21, 1995. Edited by Jesús Ildefonso Díaz. NATO Advanced Science Institutes Series, Series I: Global Environmental Change, 48. *Springer-Verlag, Berlin*, 1997. *xvi*+478 *pp.*

ISBN 3-540-61879-1 (Editors) **99d:86001** 86–06 (35Q80, 86A05)

Pühajärve ★ New trends in probability and statistics. Vol. 3. Multivariate statistics and matrices in statistics. Proceedings of the 5th Conference on Multivariate Statistics and Matrices in Statistics held in Tartu and Pühajärve, May 23–28, 1994. Edited by E.-M. Tiit, T. Kollo and H. Niemi. *VSP, Utrecht; TEV Ltd., Vilnius*, 1995. *x*+342 *pp. ISBN* 90-6764-195-2 (Editors) **99g:62004** 62–06

Pune ★ Geometry, fields and cosmology. Techniques and applications. Papers from the 1st Inter University Graduate School on Gravitation and Cosmology held in Pune, 1989. Edited by B. R. Iyer and C. V. Vishveshwara. Fundamental Theories of Physics, 88. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xvi+554 *pp. ISBN* 0-7923-4725-0 (Markku Lehto) **99a:83002** 83–06 (53–06, 58–06, 58Z05, 81–06)

Quality improvement through statistical methods ★ Quality improvement through statistical methods. Papers from the International Conference held at Cochin University, Cochin, December 28–31, 1996. Edited by Bovas Abraham in association with N. Unnikrishnan Nair. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xxxiv*+442 *pp. ISBN* 0-8176-4052-5 (Editors) **99f:62011** 62–06 (62N10)

Quantifier elimination and cylindrical algebraic decomposition ★ Quantifier elimination and cylindrical algebraic decomposition. Proceedings of the symposium held at the Research Institute for Symbolic Computation, Johannes Kepler University, Linz, October 6–8, 1993. Edited by B. F. Caviness and J. R. Johnson. Texts and Monographs in Symbolic Computation. *Springer-Verlag, Vienna*, 1998. *xx*+431 *pp. ISBN* 3-211-82794-3 (Editors) **99b:03007** 03–06 (03B25, 03C10, 03C60, 03C62, 12L05, 68Q40)

Quantifiers, deduction, and context ★ Quantifiers, deduction, and context. Papers from the 2nd CSLI Workshop on Logic, Language, and Computation held in Stanford, CA, June 4–6, 1993. Edited by Makoto Kanazawa, Christopher J. Piñón and Henriëtte de Swart. CSLI Lecture Notes, 57. *CSLI Publications, Stanford, CA*, 1996. *x*+197 *pp. ISBN* 1-57586-004-X (Editors) **99k:03029** 03B65 (03–06)

Quantum coherence and decoherence ★ Quantum coherence and decoherence. Proceedings of the ITP Conference held at the University of California, Santa Barbara, CA, December 15–18, 1996. Edited by D. DiVincenzo, E. Knill, R. Laflamme and W. Zurek. R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci. **454** (1998), no. 1969. *Royal Society, London*, 1998. *pp.* 257–486. (Editors) **99h:81007** 81–06

Quantum cohomology at the Mittag-Leffler Institute ★ Quantum cohomology at the Mittag-Leffler Institute. Edited by P. Aluffi. Appunti dei Corsi Tenuti da Docenti della Scuola. [Notes of Courses Given by Teachers at the School] *Scuola Normale Superiore, Pisa*, 1997. *vi*+163 *pp.* (Andreas Gathmann) **99m:14002** 14–06 (14N10)

Quantum fluctuations ★ Fluctuations quantiques. [Quantum fluctuations] Papers from the NATO Advanced Study Institute held at the 63rd Session of the Summer School in Theoretical Physics in Les Houches, June 27–28, 1995. Edited by S. Reynaud, E. Giacobino and J. Zinn-Justin. *North-Holland Publishing Co., Amsterdam*, 1997. *xxxiv*+606 *pp. ISBN* 0-444-82593-2 (Apostolos Vourdas) **99k:81356** 81V80 (81–06)

Quantum gravity ★ Quantum gravity. Proceedings of the 14th Course of the International School of Cosmology and Gravitation held in honor of Peter Gabriel Bergmann on his 80th birthday in Erice, May 11–19, 1995. Edited by Bergmann, V. de Sabbata and H.-J. Treder. The Science and Culture Series—Physics, 10. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xx*+435 *pp. ISBN* 981-02-2786-8 (Editors) **99f:83004** 83–06 (83C45)

Quantum groups ★ Quantum groups. Formalism and applications. Papers from the 30th Winter School on Theoretical Physics held in Karpacz, February 14–26, 1994. Edited by Jerzy Lukierski, Ziemowit Popowicz and Jan Sobczyk. *Wydawnictwo Naukowe PWN, Warsaw*, 1995. *xxii*+639 *pp. ISBN* 83-01-11770-2 (Editors) **99e:17001** 17–06 (00B25, 16W30, 17B37, 81–06, 81R50)

Quantum groups and integrable systems ★ Quantum groups and integrable systems. Part I. Papers from 6th International Colloquium on Quantum Groups held in Prague, June 19–21, 1997. Edited by Č. Burdík. Czechoslovak J. Phys. **47** (1997), no. 11. *Academy of Sciences of the Czech Republic, Institute of Physics, Prague*, 1997. *pp.* 1067–1186. (Editors) **99b:17001** 17–06 (17B37, 58F07)

— ★ Quantum groups and integrable systems. II. Papers from the 6th International Colloquium on Quantum Groups held in Prague, June 19–21, 1997. Edited by Č. Burdík. Czechoslovak J. Phys. **47** (1997), no. 12. *Academy of Sciences of the Czech Republic, Institute of Physics, Prague*, 1997. *pp. i–ii and* 1187–1298. (Editors) **99b:81005** 81–06

— ★ Quantum groups and integrable systems. Papers from the 7th International Colloquium on Quantum Groups held in Prague, June 18–20, 1998. Edited by Č. Burdík and A. A. Vladimirov. Czechoslovak J. Phys. **48** (1998), no. 11. *Academy of Sciences of the Czech Republic, Institute of Physics, Prague*, 1998. *pp.* 1261–1514. (Editors) **99k:81007** 81–06 (17B37, 81R50)

Quantum probability ★ Quantum probability. Proceedings of the workshop held in Gdańsk, July 1–6, 1997. Edited by Robert Alicki, Marek Bożejko and Władysław Adam Majewski. Banach Center Publications, 43. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 427 *pp.* (Editors) **99d:00029** 00B25 (46–06, 60–06, 81–06, 81S25)

Quantum probability theory and entropy analysis ★ Ryōshi kakuritsu ron to entoropi kaiseki. (Japanese) [Quantum probability theory and entropy analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 10–12, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1013 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–241. (Editors) **99b:00018** 00B25

Quantum structures ★ Quantum structures. II. Dedicated to Gudrun Kalmbach. Papers from the 4th Biannual Meeting of the International Quantum Structures Association held in Liptovský Ján, August 30–September 5, 1998. Edited by Anatolij Dvurečenskij and Sylvia Pulmannová. Tatra Mt. Math. Publ. **15** (1998). *Slovak Academy of Sciences, Mathematical Institute, Bratislava*, 1998. *pp.* 1–244. (Editors) **99g:00049** 00B25 (00B30)

Quantum symmetries ★ Symétries quantiques. [Quantum symmetries] Papers from the NATO Advanced Study Institute held at the 64th Session of the Summer School in Theoretical Physics in Les Houches, August 1–September 8, 1995. Edited by A. Connes, K. Gawedzki and J. Zinn-Justin. *North-Holland Publishing Co., Amsterdam*, 1998. *xxxviii*+990 *pp. ISBN* 0-444-82867-2 (Editors) **99k:81008** 81–06 (58–06)

Quasicrystals and discrete geometry ★ Quasicrystals and discrete geometry. Proceedings of the Fall Programme held at the University of Toronto, Toronto, ON, 1995. Edited by Jiří Patera. Fields Institute Monographs, 10. *American Mathematical Society, Providence, RI*, 1998. *xii*+289 *pp. ISBN* 0-8218-0682-3 (Editors) **99d:52001** 52–06 (52C22)

Quaternionic structures in mathematics and physics ★ Quaternionic structures in mathematics and physics. Proceedings of the meeting held in Trieste, September 5–9, 1994. Edited by G. Gentili, S. Marchiafava and M. Pontecorvo. The papers are available electronically at http://www.emis.de/proceedings/QSMP94/. *International School for Advanced Studies (SISSA), Laboratorio Interdisciplinare per le Scienze Naturali ed Umanistiche, Trieste*, 1998. *front matter*+267 *pp.* (*electronic*). (Editors) **99d:53002** 53–06

Quebec, PQ ★ Field theory, integrable systems and symmetries. Papers from the Annual CAP Congress held in Quebec, PQ, June 11–16, 1995. Edited by Faqir Khanna and Luc Vinet. *Université de Montréal, Les Publications CRM, Montreal, QC*, 1997. vi+213 *pp. ISBN* 2-921120-29-1 (Editors) **99a:00027** 00B25 (81–06, 83–06)

Queretaro ★ XXVII Congreso Nacional de la Sociedad Matemática Mexicana. (Spanish) [XXVII National Congress of the Mexican Mathematical Society] Papers from the congress held in Queretaro, October 2–8, 1994. Edited by J. A. León, A. Nicolás, F. Ongay and A. Tamariz. Aportaciones Matemáticas: Comunicaciones [Mathematical Contributions: Communications], 16. *Sociedad Matemática Mexicana, México*, 1995. *vi*+538 *pp. ISBN* 968-36-4616-6 (Editors) **99f:00013** 00B25

Queueing networks with blocking ★ Queueing networks with blocking. Edited by Y. Dallery and D. D. Kouvatsos. Ann. Oper. Res. **79** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. ix–xviii and* 1–409. (Editors) **99a:90010** 90–06 (60K25)

Quezon City ★ Functional analysis and global analysis. Proceedings of the International Conference held at the University of the Philippines, Quezon City, October 20–26, 1996. Edited by Toshikazu Sunada and Polly Wee Sy. *Springer-Verlag Singapore, Singapore*, 1997. *x*+301 *pp. ISBN* 981-3083-13-1 (Editors) **99g:00040** 00B25 (35–06, 42–06, 46–06)

— ★ Proceedings of the International Conference on Inverse Problems and Applications. Held at the University of the Philippines, Quezon City, February 23–27, 1998. Edited by Rudolf Gorenflo and Milagros P. Navarro. Matimyás Mat. **21** (1998), Special Issue. *Mathematical Society of the Philippines, Quezon City*, 1998. *pp. i–xii and* 1–191. (Editors) **99i:00026** 00B25

Ramat-Gan ★ The heritage of Emmy Noether. Proceedings of the conference held at Bar-Ilan University, Ramat-Gan, December 2–3, 1996. Edited by Mina Teicher. Israel Mathematical Conference Proceedings, 12. *Bar-Ilan University, Gelbart Research Institute for Mathematical Sciences, Ramat Gan; Bar-Ilan University, Emmy Noether Research Institute of Mathematics, Ramat Gan*, 1999. *viii*+101 *pp.* (Editors) **99g:01001** 01–06 (00B30, 01A70, 13–03, 16–03)

Random and quasi-random point sets ★ Random and quasi-random point sets. Edited by Peter Hellekalek and Gerhard Larcher. Lecture Notes in Statistics, 138. *Springer-Verlag, New York*, 1998. *xii*+332 *pp. ISBN* 0-387-98554-9 (Editors) **99g:11003** 11–06 (11Kxx, 60–06, 65C10)

Randomization methods in algorithm design ★ Randomization methods in algorithm design. Papers from the DIMACS Workshop held at Princeton University, Princeton, NJ, December 12–14, 1997. Edited by Panos Pardalos, Sanguthevar Rajasekaran and José Rolim. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 43. *American Mathematical Society, Providence, RI*, 1999. *xiv*+318 *pp. ISBN* 0-8218-0916-4 (Editors) **99f:68007** 68–06 (68Q25, 90–06)

Randomized algorithms ★ Randomized algorithms. Proceedings of the International Workshop held in Brno, August 27–28, 1998. Edited by Rūsiņš Freivalds. Available at http://www.eccc.uni-trier.de/eccc-local/ECCC-LectureNotes/randalg/index.html. Lecture Notes Series of ECCC. *Electronic Colloquium on Computational Complexity (ECCC), Trier*, 1998. *front matter*+112 *pp.* (*electronic*). (Editors) **99f:68008** 68–06

R.C.P. 25 ★ R.C.P. 25. Vol. 48. Papers from the Meeting of Theoretical Physicists and Mathematicians held in memory of Claude Itzykson. Prépublication de l'Institut de Recherche Mathématique Avancée [Prepublication of the Institute of Advanced Mathematical Research], 1997/42. *Université Louis Pasteur, Département de Mathématique, Institut de Recherche Mathématique Avancée, Strasbourg*, 1997. *vi*+170 *pp.* (Editors) **99g:00050** 00B25 (58–06, 81–06)

Real functions ★ Real functions. Dedicated to Tibor Šalát. Including papers from the Summer School on Real Functions Theory held in Liptovský Ján, September 8–13, 1996. Edited by Ján Borsík, Roman Frič and Ján Haluška. Tatra Mt. Math. Publ. **14** (1998). *Slovak Academy of Sciences, Mathematical Institute, Bratislava*, 1998. *pp.* 1–323. (Editors) **99f:00022** 00B25 (00B30, 26–06)

Realism and quantum physics ★ Realism and quantum physics. Edited by Evandro Agazzi. Poznań Studies in the Philosophy of the Sciences and the Humanities, 55. *Editions Rodopi B.V., Amsterdam*, 1997. 250 *pp. ISBN* 90-420-0272-7 (S. Gudder) **99k:81012** 81Pxx (00A30, 00A79, 03A05, 81–06)

Recent advances in boundary layer theory ★ Recent advances in boundary layer theory. Dedicated to Prof. W. Schneider on the occasion of his 60th birthday. Lecture notes from a course held in Udine, July 7–11, 1997. Edited by Alfred Kluwick. CISM Courses and Lectures, 390. *Springer-Verlag, Vienna*, 1998. *vi*+330 *pp. ISBN* 3-211-83136-3 (Editors) **99h:76004** 76–06 (76D10, 76Fxx, 76N20)

Recent advances in contact mechanics ★ Recent advances in contact mechanics. Edited by Meir Shillor. Math. Comput. Modelling **28** (1998), no. 4-8. *Pergamon Press, Exeter*, 1998. *pp. vii–xiv and* 1–534. (Editors) **99e:73004** 73–06 (73T05)

Recent advances in differential equations ★ Recent advances in differential equations. Papers from the 1st Pan-China Conference on Differential Equations held in Kunming, May 31–June 3, 1997. Edited by H.-H. Dai and P. L. Sachdev. Pitman Research Notes in Mathematics Series, 386. *Longman, Harlow*, 1998. *viii*+243 *pp. ISBN* 0-582-32219-7 (Editors) **99a:00045** 00B25 (34–06, 35–06)

Recent advances in logical and algebraic approaches to grammar ★ Recent advances in logical and algebraic approaches to grammar. Selected papers from the Workshop on Logical Aspects of Computational Linguistics held in Nancy, September 1995. Edited by Christian Retoré. J. Logic Lang. Inform. **7** (1998), no. 4. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 395–520. (Editors) **99k:68013** 68–06 (03–06, 03B65, 68S05)

Recent advances in problems of flow and transport in porous media ★ Recent advances in problems of flow and transport in porous media. Papers from the International Conference held in Marrakech, June 1996. Edited by J. M. Crolet and M. El Hatri. Theory and Applications of Transport in Porous Media, 11. *Kluwer Academic Publishers, Dordrecht*, 1998. *xii*+247 *pp. ISBN* 0-7923-4938-5 (Editors) **99a:76001** 76–06 (76Mxx, 76S05, 76T05, 86–06)

Recent advances in structural modelling and optimization ★ Recent advances in structural modelling and optimization. Dedicated to Professor Zenon Mróz. Edited by Jan Sokołowski and John Taylor. Control Cybernet. **27** (1998), no. 2. *Polish Academy of Sciences, Systems Research Institute, Warsaw*, 1998. *pp.* 159–330. (Editors) **99k:73003** 73–06 (00B30, 49Q10, 73K40, 90C90)

Recent developments in domain decomposition methods and flow problems ★ Recent developments in domain decomposition methods and flow problems. Papers from the International Symposium on Domain Decomposition Methods and Related Topics held in honor of the 60th birthday of Hideo Kawarada at Kyoto University, Kyoto, July 17–19, 1996, and the 1st JSIAM-SIMAI Joint Symposium on Flow Problems and Phase Field Models held in Anacapri, October 3–5, 1996. Edited by H. Fujita, H. Koshigoe, M. Mori, M. Nakamura, T. Nishida and T. Ushijima. GAKUTO International Series. Mathematical Sciences and Applications, 11. *Gakkōtosho Co., Ltd., Tokyo*, 1998. *vi*+378 *pp. ISBN* 4-7625-0420-3 (Editors) **99g:00054** 00B30 (00B25, 35–06, 65–06, 76–06, 76Mxx)

Recent developments in multiple objective optimization ★ Recent developments in multiple objective optimization. Edited by Y. Siskos and C. Zopounidis. J. Global Optim. **12** (1998), no. 2. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–iv and* 111–214. (Editors) **99a:90011** 90–06 (90C29)

Recent developments in partial differential equations ★ Recent developments in partial differential equations. Edited by Vsevolod A. Solonnikov. Quaderni di Matematica [Mathematics Series], 2. *Aracne Editrice, Rome*, 1998. *viii*+258. *ISBN* 88-7999-210-4 (Editors) **99m:35005** 35–06 (00B15)

Recent developments in robotics ★ Recent developments in robotics. Edited by Krzysztof Kozłowski. Appl. Math. Comput. Sci. **7** (1997), no. 2. *Technical University Press, Zielona Góra*, 1997. *pp. i–vi and* 225–472. (Editors) **99b:70004** 70B15 (70–06, 70Q05, 93C85)

Recent developments in two-dimensional linear systems theory ★ Recent developments in two-dimensional linear systems theory. Edited by Tadeusz Kaczorek. Appl. Math. Comput. Sci. **7** (1997), no. 4. *Technical University Press, Zielona Góra*, 1997. *pp. i–vi and* 713–941. (Editors) **99a:92001** 92–06

Recent progress in algebra ★ Recent progress in algebra. Papers from the International Conference held in Taejon/Seoul, August 11–15, 1997. Edited by Sang Geun Hahn, Hyo Chul Myung and Efim Zelmanov. Contemporary Mathematics, 224. *American Mathematical Society, Providence, RI*, 1999. *x*+243 *pp. ISBN* 0-8218-0972-5 (Editors) **99e:00027** 00B25 (11–06, 17–06)

Recent progress in operator theory ★ Recent progress in operator theory. Proceedings of the International Workshop on Operator Theory and Applications (IWOTA 95) held at the University of Regensburg, Regensburg, July 31–August 4, 1995. Edited by I. Gohberg, R. Mennicken and C. Tretter. Operator Theory: Advances and Applications, 103. *Birkhäuser Verlag, Basel*, 1998. *xiv*+283 *pp. ISBN* 3-7643-5891-2 (Editors) **99d:47002** 47–06 (47A57)

Recent topics on mathematical theory of viscous incompressible fluid ★ Recent topics on mathematical theory of viscous incompressible fluid. Papers from the Regional Workshop on Applications of Method in Real Analysis to Nonlinear Partial Differential Equations held at Tsukuba University, Tsukuba, December 2–12, 1996. Edited by Hideo Kozono and Yoshihiro Shibata. Lecture Notes in Numerical and Applied Analysis, 16. *Kinokuniya Company Ltd., Tokyo*, 1998. *viii*+270 *pp. ISBN* 4-314-10133-4 (Editors) **99a:35005** 35–06 (76–06)

Recent trends in algebraic development techniques ★ Recent trends in algebraic development techniques. Papers from the 12th International Workshop on Algebraic Development Techniques (WADT'97) held in Tarquinia, June 3–7, 1997. Edited by Francesco Parisi Presicce. Lecture Notes in Computer Science, 1376. *Springer-Verlag, Berlin*, 1998. *viii*+435 *pp. ISBN* 3-540-64299-4 (Editors) **99f:68009** 68–06 (68Q65)

Recent trends in combinatorics ★ Recent trends in combinatorics. Papers from the Combinatorial Workshop on Some Trends in Discrete Mathematics held in Mátraháza, October 22–28, 1995. Edited by Ervin Győri and Vera T. Sós. Combin. Probab. Comput. **8** (1999), no. 1-2. *Cambridge University Press, Cambridge*, 1999. *pp. i–iv and* 1–192. (Editors) **99k:00041** 00B30 (05–06)

Recent trends in infinite-dimensional noncommutative analysis ★ Mugen jigen hikakan kaisekigaku no dōkō. [Recent trends in infinite-dimensional noncommutative analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, October 14–17, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1035 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–169. (Editors) **99f:00023** 00B25 (81–06)

Reformulation: nonsmooth, piecewise smooth, semismooth and smoothing methods ★ Reformulation: nonsmooth, piecewise smooth, semismooth and smoothing methods. Papers from the 16th International Symposium on Mathematical Programming (ismp97) held at the École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, August 24–29, 1997. Edited by Masao Fukushima and Liqun Qi. Applied Optimization, 22. *Kluwer Academic Publishers, Dordrecht*, 1999. *viii*+441 *pp. ISBN* 0-7923-5320-X (Editors) **99k:90004** 90–06 (49J40, 49J52, 90C30, 90C33)

Regensburg ★ Differential and integral operators. Proceedings of the International Workshop on Operator Theory and Applications (IWOTA 95) held at the University of Regensburg, Regensburg, July 31–August 4, 1995. Edited by I. Gohberg, R. Mennicken and C. Tretter. Operator Theory: Advances and Applications, 102. *Birkhäuser Verlag, Basel*, 1998. *xvi*+324 *pp. ISBN* 3-7643-5890-4 (Editors) **99d:47001** 47–06 (35–06, 47E05, 47F05, 47Gxx)

— ★ Recent progress in operator theory. Proceedings of the International Workshop on Operator Theory and Applications (IWOTA 95) held at the University of Regensburg, Regensburg, July 31–August 4, 1995. Edited by I. Gohberg, R. Mennicken and C. Tretter. Operator Theory: Advances and Applications, 103. *Birkhäuser Verlag, Basel*, 1998. *xiv*+283 *pp. ISBN* 3-7643-5891-2 (Editors) **99d:47002** 47–06 (47A57)

— ★ GAMM 97. Minisymposia contributions and short communications in mechanics, A–G. Proceedings of the Annual Meeting held at the University of Regensburg, Regensburg, March 24–27, 1997. Edited by R. Mennicken and F. Pfeiffer. ZAMM Z. Angew. Math. Mech. **78** (1998), suppl. 1. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. S*1–*S*432. (Editors) **99m:00025a** 00B25 (00B05, 35–06, 65–06, 73–06, 76–06)

— ★ GAMM 97. Short communications in mechanics, H–Z. Proceedings of the Annual Meeting held at the University of Regensburg, Regensburg, March 24–27, 1997. Edited by R. Mennicken and F. Pfeiffer. ZAMM Z. Angew. Math. Mech. **78** (1998), suppl. 2. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. S*435–*S*840. (Editors) **99m:00025b** 00B25 (00B05, 35–06, 65–06, 73–06, 76–06)

— ★ GAMM 97. Short communications in applied mathematics. Proceedings of the Annual Meeting held at the University of Regensburg, Regensburg, March 24–27, 1997. Edited by R. Mennicken and F. Pfeiffer. ZAMM Z. Angew. Math. Mech. **78** (1998), suppl. 3. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. S*843–*S*1144. (Editors) **99m:00025c** 00B25 (00B05, 35–06, 65–06, 73–06, 76–06)

Regularity, blowup and related properties of solutions to nonlinear evolution equations ★ Hisenkei hatten hōteishiki no kai no seisokusei to kai no bakuhatsu to no kanren. (Japanese) [Regularity, blowup and related properties of solutions to nonlinear evolution equations] Proceedings of the Symposium on Related Topics on Regularity of Solutions to Nonlinear Evolution Equations held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, May 26–30, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1045 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–147. (Editors) **99h:35003** 35–06

Reinhardsbrunn Castle ★ ALT 94 and AII 94. Selected papers from the 5th International Workshop on Algorithmic Learning Theory and the 4th International Workshop on Analogical and Inductive Inference held at Reinhardsbrunn Castle, October 1994. Edited by M. M. Richter. Ann. Math. Artificial Intelligence **23** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. vii–x and* 1–209. (Editors) **99g:68001** 68–06 (68T05)

Relational methods in computer science ★ Relational methods in computer science. Edited by C. Brink, W. Kahl and G. Schmidt. Advances in Computing Science. *Springer-Verlag, Vienna*, 1997. xvi+272 *pp. ISBN* 3-211-82971-7 (From the preface) **99f:68148** 68Q99 (03B70, 03G15)

Relations between mathematics and theoretical physics ★ Les relations entre les mathématiques et la physique théorique. [The relations between mathematics and theoretical physics] Festschrift for the 40th anniversary of the IHÉS. *Institut des Hautes Études Scientifiques, Bures-sur-Yvette*, 1998. 197 *pp.* (Editors) **99h:00038** 00B30

Relations entre les mathématiques et la physique théorique ★ Les relations entre les mathématiques et la physique théorique. [The relations between mathematics and theoretical physics] Festschrift for the 40th anniversary of the IHÉS. *Institut des Hautes Études Scientifiques, Bures-sur-Yvette*, 1998. 197 *pp.* (Editors) **99h:00038** 00B30

Reminiscences about Il'ya Mikhaĭlovich Lifshits Reminiscences about Il'ya Mikhaĭlovich Lifshits. (Russian) With contributions by A. F. Andreev, M. I. Kaganov, S. A. Gredeskul, D. Shënberg, M. Ya. Azbel', A. R. Khokhlov, Yu. M. Kagan, A. Yu. Grosberg, Ya. G. Sinaĭ, L. A Pastur, A. A. Chernov, V. G. Peschanskiĭ, I. L. Ipatova, V. Ya. Kirpichenkov and D. E. Khmel'nitskiĭ. *Priroda* **1998**, *no.* 5, 71–103. 01A70

Renormalization group '96 ★ Renormalization group '96. Publ. No. E2,4-97-263. Proceedings of the 3rd International Conference held in Dubna, August 26–31, 1996. Edited by D. V. Shirkov, D. I. Kazakov and V. B. Priezzhev. *Joint Inst. Nuclear Res., Dubna*, 1997. 437 *pp. ISBN* 5-85165-476-7 (R. Delbourgo) **99m:81155** 81T17 (81–06)

Report of the Round Table on mathematical games Report of the Round Table on mathematical games. *European Congress of Mathematics, Vol. II (Budapest*, 1996), 338–346, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (*see* **99e:00019**) 90D80

Reports:

Conference on Operator Theory ★ Report on the Sixteenth Conference on Operator Theory. Abstracts from the conference held in Timişoara, July 2–8, 1996. *Universitatea de Vest din Timişoara, Facultatea de Matematică, Timişoara*, 199?. *ii*+122 *pp.* (Editors) **99i:47001** 47–06 (00B05, 46–06)

Representation theories and algebraic geometry ★ Representation theories and algebraic geometry. Proceedings of the NATO Advanced Study Institute and Séminaire de Mathématiques Supérieures held at the Université de Montréal, Montreal, PQ, July 28–August 8, 1997. Edited by A. Broer and Gert Sabidussi. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 514. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxii*+443 *pp. ISBN* 0-7923-5193-2 (Editors) **99e:00028** 00B25 (14–06, 22–06)

Representation theory of groups and homogeneous spaces ★ Gun to tōshitsu kūkan no hyōgen ron. (Japanese) [Representation theory of groups and homogeneous spaces] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 29–August 1, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1008 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–117. (Editors) **99a:17002** 17–06

Representations of scientific rationality ★ Representations of scientific rationality. Contemporary formal philosophy of science in Spain. Edited by Andoni Ibarra and Thomas Mormann. Poznań Studies in the Philosophy of the Sciences and the Humanities, 61. *Editions Rodopi B.V., Amsterdam*, 1997. 391 *pp. ISBN* 90-420-0314-6 (Editors) **99k:00024** 00B15 (00A30, 03B30)

Research contributions of the Natural Sciences Section ★ Forschungsbeiträge der Naturwissenschaftlichen Klasse. Band 19. (German) [Research contributions of the Natural Sciences Section. Vol. 19] Edited by Barbara Geißmann. Schr. Sudet.dtsch. Akad. Wiss. Künste Forsch.beitr. Nat.wiss. Kl. **19** (1998). *Sudetendeutsche Akademie der Wissenschaften und Künste, Munich*, 1998. *pp.* 1–360. (Editors) **99k:00025** 00B15

Research Institute:

Differential Geometry and Control ★ Differential geometry and control. Papers of the Summer Research Institute held at the University of Colorado, Boulder, CO, June 29–July 19, 1997. Edited by G. Ferreyra, R. Gardner, H. Hermes and H. Sussmann. Proceedings of Symposia in Pure Mathematics, 64. *American Mathematical Society, Providence, RI*, 1999. *viii*+341 *pp. ISBN* 0-8218-0887-7 (Editors) **99f:93003** 93–06 (49–06, 53–06)

Research into the structure of irregular estimator theory ★ Hi seisoku sui tei ron no kōzō no kenkyū. (Japanese) [Research into the structure of irregular estimator theory] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 17–19, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1007 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–185. (Editors) **99a:62005** 62–06

Research on algorithms for numerical computing ★ Sūchi keisan arugorizumo no kenkyū. (Japanese) [Research on algorithms for numerical computing] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 26–28, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1040 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and*

1–260. (Editors) **99i:00028** 00B25 (65–06)

Research on applied functional analysis ★ Ōyō kansū kaiseki no kenkyū. (Japanese) [Research on applied functional analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, June 2–4, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1039 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–179. (Editors) **99i:00029** 00B25

Research on automorphic forms and zeta functions ★ Hokei keishiki to zeeta kansū no kenkyū. (Japanese) [Research on automorphic forms and zeta functions] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 20–24, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1002 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–212. (Editors) **99a:11005** 11–06

Research on bimodules and quantum groups in operator algebras ★ Sayōso kan ni okeru sōkagun to ryōshi gun no kenkyū. (Japanese) [Research on bimodules and quantum groups in operator algebras] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 22–24, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1003 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–103. (Editors) **99a:46002** 46–06 (00B25, 46Lxx)

Research on local and global singularity theory ★ Kyokushoteki oyobi taiikiteki tokuiten ron no kenkyū. [Research on local and global singularity theory] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 9–12, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1050 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–145. (Editors) **99j:58003** 58–06

Research on nonlinear analysis and convex analysis ★ Hisenkei kaisekigaku to totsu kaisekigaku no kenkyū. [Research on nonlinear analysis and convex analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, August 27–29, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1031 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–186. (Editors) **99f:00024** 00B25 (46–06, 47–06, 47Hxx, 90–06)

Research on prehomogeneous vector spaces ★ Gai kinshitsu bekutoru kūkan no kenkyū. [Research on prehomogeneous vector spaces] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, April 8–12, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 999 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–205. (Editors) **99a:11006** 11–06 (14–06, 32–06)

Research on the theory and applications of computer algebra ★ Sūshiki shori ni okeru riron to ōyō no kenkyū. (Japanese) [Research on the theory and applications of computer algebra] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 17–20, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1038 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–254. (Editors) **99h:00034** 00B25 (65–06, 68Q40)

Research on the theory of topological quantum fields induced by $6j$-symbols ★ $6j$-symbol kara michibi kareru isōteki ryōshi ba no riron no kenkyū. (Japanese) [Research on the theory of topological quantum fields induced by $6j$-symbols] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 6–8, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1053 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–85. (Editors) **99k:00036** 00B25 (57–06)

Reviews in number theory ★ Reviews in number theory. 1984–96. Vol. 1B. As printed in Mathematical Reviews. Compiled by the Mathematical Reviews staff. *American Mathematical Society, Providence, RI*, 1997. *x*+405 *pp. ISBN* 0-8218-0848-6; 0-8218-0931-8 (Editors) **99c:11001a** 11–00 (00A15, 00A20, 11Axx, 11Bxx, 11Cxx)

— ★ Reviews in number theory. 1984–96. Vol. 2B. As printed in Mathematical Reviews. Compiled by the Mathematical Reviews staff. *American Mathematical Society, Providence, RI*, 1997. *xii*+1055 *pp. ISBN* 0-8218-0848-6; 0-8218-0932-6 (Editors) **99c:11001b** 11–00 (00A15, 00A20, 11Dxx, 11Exx, 11Fxx, 11Gxx)

— ★ Reviews in number theory. 1984–96. Vol. 3B. As printed in Mathematical Reviews. Compiled by the Mathematical Reviews staff. *American Mathematical Society, Providence, RI*, 1997. *x*+452 *pp. ISBN* 0-8218-0848-6; 0-8218-0933-4 (Editors) **99c:11001c** 11–00 (00A15, 00A20, 11Hxx, 11Jxx, 11Kxx)

— ★ Reviews in number theory. 1984–96. Vol. 4B. As printed in Mathematical Reviews. Compiled by the Mathematical Reviews staff. *American Mathematical Society, Providence, RI*, 1997. *x*+606 *pp. ISBN* 0-8218-0848-6; 0-8218-0935-0 (Editors) **99c:11001d** 11–00 (00A15, 00A20, 11Lxx, 11Mxx, 11Nxx, 11Pxx)

— ★ Reviews in number theory. 1984–96. Vol. 5B. As printed in Mathematical Reviews. Compiled by the Mathematical Reviews staff. *American Mathematical Society, Providence, RI*, 1997. *x*+764 *pp. ISBN* 0-8218-0848-6; 0-8218-0936-9 (Editors) **99c:11001e** 11–00 (00A15, 00A20, 11Rxx, 11Sxx, 11Txx, 11Uxx, 11Yxx)

— ★ Reviews in number theory. 1984–96. Vol. 6B. As printed in Mathematical Reviews. Compiled by the Mathematical Reviews staff. *American Mathematical Society, Providence, RI*, 1997. *x*+1012 *pp. ISBN* 0-8218-0848-6; 0-8218-0937-7 (Editors) **99c:11001f** 11–00 (00A15, 00A20)

Rewriting techniques and applications ★ Rewriting techniques and applications. Proceedings of the 9th International Conference (RTA-98) held in Tsukuba, March 30–April 1, 1998. Edited by Tobias Nipkow. Lecture Notes in Computer Science, 1379. *Springer-Verlag, Berlin*, 1998. *x*+343 *pp. ISBN* 3-540-64301-X (Editors) **99d:68012** 68–06 (68Q42)

— ★ Rewriting techniques and applications. Papers from the 7th International Conference (RTA-96) held in New Brunswick, NJ, 1996. Edited by H. Ganzinger. Theoret. Comput. Sci. **208** (1998), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 1–191. (Editors) **99f:68010** 68–06 (68Q42)

Ring theory ★ Ring theory. Selected papers from the conference held in Miskolc, July 15–20, 1996. Edited by L. Rowen. J. Pure Appl. Algebra **133** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 1–260. (Editors) **99g:16001** 16–06 (00B25)

Rings, Hopf algebras, and Brauer groups ★ Rings, Hopf algebras, and Brauer groups. Proceedings of the Fourth Week on Algebra and Algebraic Geometry (SAGA 4) held at the University of Antwerp, Antwerp, September 12–13, 1996, and at the Free University of Brussels, Brussels, September 16–17, 1996. Edited by Stefaan Caenepeel and Alain Verschoren. Lecture Notes in Pure and Applied Mathematics, 197. *Marcel Dekker, Inc., New York*, 1998. *x*+332 *pp. ISBN* 0-8247-0153-4 (Editors) **99a:16001** 16–06

Rio de Janeiro ★ VIII J. A. Swieca Summer School on Particles and Fields. Proceedings of the school held in Rio de Janeiro, February 5–18, 1995. Edited by J. Barcelos-Neto, S. F. Novaes and V. O. Rivelles. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *viii*+534 *pp. ISBN* 981-02-2917-8 (Editors) **99f:81003** 81–06 (00B25, 83–06)

— ★ Foundations of computational mathematics. Selected papers from the conference held in Rio de Janeiro, January 1997. Edited by Felipe Cucker and Michael Shub. *Springer-Verlag, Berlin*, 1997. *xvi*+441 *pp. ISBN* 3-540-61647-0 (Editors) **99g:00039** 00B25 (65–06, 68–06)

— ★ Fifth Workshop on Partial Differential Equations. Papers from the Workshop on Partial Differential Equations: Theory, Computation, and Applications held in Rio de Janeiro, July 14–18, 1997. Edited by Paulo Cordaro, Dan Marchesin, André Nachbin and Jorge P. Zubelli. Mat. Contemp. **15** (1998). *Sociedade Brasileira de Matemática, Rio de Janeiro*, 1998. *pp. i–viii and* 1–312. (Editors) **99g:35006** 35–06 (00B25)

— ★ US-Brazil Joint Workshops on the Formal Foundations of Software Systems. Papers from the workshops held in Rio de Janeiro, May 1997, and in New Orleans, LA, November 1997. Edited by Rance Cleaveland, Michael Mislove and Philip Mulry. Electronic Notes in Theoretical Computer Science, 14. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+338 *pp.* (*electronic*). (Editors) **99h:68012** 68–06 (68Q10, 68Q60)

— ★ I Brazilian School in Probability. Proceedings of the school held in Rio de Janeiro, August 11–16, 1997. Edited by Maria Eulália Vares and Mikhail Menshikov. Markov Process. Related Fields **4** (1998), no. 4. *Polymat, Moscow*, 1998. *pp.* 429–668. (Editors) **99i:60002** 60–06

— ★ The integral transform method in thermal and fluids sciences and engineering. Papers from the 2nd Workshop on Integral Transforms held at the Military Institute of Engineering, Rio de Janeiro, November 1996. Edited by Renato M. Cotta. *Begell House, Inc., New York*, 1998. *xiv*+430 *pp. ISBN* 1-56700-120-3 44–00 (73–00, 76–00, 80–00)

— ★ Algebra Meeting. Papers from the 14th Meeting held in Rio de Janeiro, July 28–August 3, 1996. Edited by A. Garcia, E. Esteves and A. Pacheco. Mat. Contemp. **14** (1998). *Sociedade Brasileira de Matemática, Rio de Janeiro*, 1998. *pp. i–viii and* 1–225. 00B25 (14–06)

Risk measurement, econometrics and neural networks ★ Risk measurement, econometrics and neural networks. Papers from the 6th Workshop on Econometrics held at the University of Karlsruhe, Karlsruhe, March 19–21, 1997. Edited by Georg Bol, Gholamreza Nakhaeizadeh and Karl-Heinz Vollmer. Contributions to Economics. *Physica-Verlag, Heidelberg*, 1998. *xii*+306 *pp. ISBN* 3-7908-1152-1 (Editors) **99j:62148** 62P20 (62–06, 90–06, 90A09)

Riverdale, NY ★ Dedicated to the memory of Paul Erdős. Including papers from New York Graph Theory Day 32 held at Manhattan College, Riverdale, NY, November 2, 1996. Graph Theory Notes N. Y. **32** (1997). *New York Academy of Sciences, New York*, 1997. *pp.* 1–56. (Editors) **99k:05003** 05–06 (00B30)

Roanoke, VA ★ First Annual Conference for the History of Philosophy of Science. Selected papers from the conference (HOPOS) held in Roanoke, VA, April 19–21, 1996. Perspect. Sci. **5** (1997), no. 3. *University of Chicago Press, Chicago, IL*, 1997. *pp. i–iv and* 285–480. (Editors) **99a:00023** 00B25 (00A30)

Robotics: the algorithmic perspective ★ Robotics: the algorithmic perspective. Papers from the 3rd Workshop on the Algorithmic Foundations of Robotics (WAFR) held at Rice University, Houston, TX, March 5–7, 1998. Edited by Pankaj K. Agarwal, Lydia E. Kavraki and Matthew T. Mason. *A K Peters, Ltd., Natick, MA*, 1998. *x*+389 *pp. ISBN* 1-56881-081-4 (Editors) **99m:68012** 68–06 (93C85)

Robust inference ★ Robust inference. Edited by G. S. Maddala and C. R. Rao. Handbook of Statistics, 15. *North-Holland Publishing Co., Amsterdam*, 1997. xviii+698 *pp. ISBN* 0-444-82172-4 (Xuming He) **99d:62025** 62F35 (62–00)

Rome ★ Boundary elements. XIX. Proceedings of the 19th International Boundary Element Conference held in Rome, September 1997. Edited by M. Marchetti, C. A. Brebbia and M. H. Aliabadi. *Computational Mechanics Publications, Southampton*, 1997. *xii*+840 *pp. ISBN* 1-85312-472-9 (From the preface) **99c:65003** 65–06 (73–06, 73V10, 76–06, 76M15)

— ★ Graph drawing. Proceedings of the 5th International Symposium (GD '97) held in Rome, September 18–20, 1997. Edited by Giuseppe DiBattista. Lecture Notes in Computer Science, 1353. *Springer-Verlag, Berlin*, 1997. *xii*+448 *pp. ISBN* 3-540-63938-1 (Editors) **99d:68004** 68–06 (68R10, 68U05)

— ★ Advances in data science and classification. Papers from the 6th Conference of the International Federation of Classification Societies (IFCS-98) held at Università di Roma "La Sapienza", Rome, July 21–24, 1998. Edited by Alfredo Rizzi, Maurizio Vichi and Hans-Hermann Bock. Studies in Classification, Data Analysis, and Knowledge Organization. *Springer-Verlag, Berlin*, 1998. *xvi*+677 *pp. ISBN* 3-540-64641-8 (Editors) **99k:62003** 62–06 (62H30)

— ★ Gentzen. Selected papers from the Gentzen Conference (Esprit-BRA Working Group 7232) held in Rome, October 3–5, 1996. Edited by C. Böhm and I. Guessarian. Theoret. Comput. Sci. **212** (1999), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–iv and* 1–303. (Editors) **99h:68005** 68–06 (03–06, 03B40, 03B70, 68N15)

Röttgen ★ Dynamics of cell and tissue motion. Papers from the Workshop on Cell and Tissue Motion held in Röttgen, March 1995. Edited by Wolfgang Alt, Andreas Deutsch and Graham Dunn. Mathematics and Biosciences in Interaction. *Birkhäuser Verlag, Basel*, 1997. *xvi*+336 *pp. ISBN* 3-7643-5781-9 (Editors) **99a:92008** 92C30 (92–06, 92C35, 92C45)

Rouen ★ WORDS. Papers from the International Conference held in Rouen, September 22–26, 1997. Edited by J. Néraud. Theoret. Comput. Sci. **218** (1999), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–iv and* 1–216. (Editors) **99k:68015** 68–06 (68R15)

Rough sets in knowledge discovery ★ Rough sets in knowledge discovery. 1. Methodology and applications. Edited by Lech Polkowski and Andrzej Skowron. Studies in Fuzziness and Soft Computing, 18. *Physica-Verlag, Heidelberg*, 1998. *x*+576 *pp. ISBN* 3-7908-1119-X (From the text) **99k:68188** 68T99 (04A72)

— ★ Rough sets in knowledge discovery. 2. Applications, case studies and software systems. Edited by Lech Polkowski and Andrzej Skowron. Studies in Fuzziness and Soft Computing, 19. *Physica-Verlag, Heidelberg*, 1998. *x*+601 *pp. ISBN* 3-7908-1120-3 (From

the text) **99k:68189** 68T99 (04A72)

Saint-Jean Cap Ferrat ★ Advances in turbulence. VII. Proceedings of the 7th European Turbulence Conference held in Saint-Jean Cap Ferrat, June 30–July 3, 1998. Edited by Uriel Frisch. Fluid Mechanics and its Applications, 46. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxii*+613 *pp. ISBN* 0-7923-5115-0 76–06 (76Fxx)

Saint-Jean-de-Monts ★ Journées "Équations aux Dérivées Partielles". [Proceedings of the Conference on Partial Differential Equations] Held in Saint-Jean-de-Monts, June 2–5, 1998. *University of Nantes, Nantes*, 1998. *vi*+160+*xiii pp. ISBN* 2-86939-133-1 (Editors) **99d:35002** 35–06

Sakado ★ Proceedings of the Symposium on Applied Mathematics. Wavelet, chaos and nonlinear PDEs. Held at Josai University, Sakado, September 18–20, 1997. Edited by Kiyoshi Mizohata. Sci. Bull. Josai Univ. **1998**, Special issue no. 5. *Josai University, Faculty of Science, Sakado*, 1998. *pp. i–vi and* 1–174. (Editors) **99a:00043** 00B25 (35–06, 58–06)

Salzburg ★ Monte Carlo and quasi-Monte Carlo methods 1996. Proceedings of the 2nd International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing held at the University of Salzburg, Salzburg, July 9–12, 1996. Edited by Harald Niederreiter, Peter Hellekalek, Gerhard Larcher and Peter Zinterhof. Lecture Notes in Statistics, 127. *Springer-Verlag, New York*, 1998. *xii*+448 *pp. ISBN* 0-387-98335-X (Editors) **99d:65005** 65–06 (65C05)

— ★ Advances in robot kinematics: analysis and control. Papers from the 6th International Symposium on Advances in Robot Kinematics held in Salzburg, June–July 1998. Edited by Jadran Lenarčič and Manfred L. Husty. *Kluwer Academic Publishers, Dordrecht*, 1998. *iv*+581 *pp. ISBN* 0-7923-5169-X (Editors) **99d:70002** 70–06 (70B15)

San Diego, CA ★ Current topics in nonstationary analysis. Proceedings of the 2nd Workshop on Nonstationary Random Processes and their Applications held in San Diego, CA, June 11–12, 1995. Edited by George Treviño, Jay Hardin, Bruce Douglas and Edgar Andreas. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *viii*+189 *pp. ISBN* 981-02-2703-5 (Editors) **99g:60003** 60–06

— ★ Applied nonlinear dynamics and stochastic systems near the millenium. Papers from the conference held in San Diego, CA, July 1997. Edited by James B. Kadtke and Adi Bulsara. AIP Conference Proceedings, 411. *American Institute of Physics, Woodbury, NY*, 1997. *xii*+374 *pp. ISBN* 1-56396-736-7 (Editors) **99h:00022** 00B25 (58–06, 58F13, 76–06, 76F20)

San Francisco, CA ★ Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms. Held in San Francisco, CA, January 25–27, 1998. *Association for Computing Machinery (ACM), New York*; *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xii*+704 *pp. ISBN* 0-89871-410-9 (Editors) **99d:68011** 68–06 (05–06, 68Rxx)

— ★ SODA '95. Selected papers from the 6th Annual ACM-SIAM Symposium on Discrete Algorithms held in San Francisco, CA, January 22–24, 1995. Edited by Kenneth L. Clarkson. J. Algorithms **29** (1998), no. 2. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 203–410. (Editors) **99g:68007** 68–06 (68Rxx)

— ★ Exterior problems of wave propagation. Papers from the IUTAM Symposium on Computational Methods for Unbounded Domains held in Boulder, CO, July 1997, and the minisymposium held in San Francisco, CA, August 1997. Edited by Dan Givoli and Isaac Harari. Comput. Methods Appl. Mech. Engrg. **164** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 1–264. (Editors) **99g:76001** 76–06 (65–06, 76M10, 76Q05)

— ★ Computational and mathematical models of microstructural evolution. Proceedings of the symposium held as a part of the 1998 MRS Spring Meeting in San Francisco, CA, April 13–17, 1998. Edited by Jeffrey W. Bullard, Long-Qing Chen, Rajiv K. Kalia and A. Marshall Stoneham. Materials Research Society Symposium Proceedings, 529. *Materials Research Society, Warrendale, PA*, 1998. *xii*+183 *pp. ISBN* 1-55899-435-1 (Editors) **99k:73002** 73–06 (73B30, 73S10, 80–06)

San Jose, CA ★ 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems. Selected papers from the symposium held in San Jose, CA, May 22–25, 1995. Edited by Serge Abiteboul. J. Comput. System Sci. **57** (1998), no. 3. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 233–355. (Editors) **99i:68001** 68–06 (68P15)

San Luis Potosí ★ XXIX Congreso Nacional de la Sociedad Matemática Mexicana. (Spanish) [XXIX National Congress of the Mexican Mathematical Society] Papers from the congress held in San Luis Potosí, October 6–12, 1996. Edited by F. Avila Murillo, R. Montes-de-Oca, R. del Río Castillo and J. Mucinõ-Raymundo. Aportaciones Matemáticas: Comunicaciones [Mathematical Contributions: Communications], 20. *Sociedad Matemática Mexicana, México*, 1997. *iv*+260 *pp. ISBN* 968-36-6261-7 (Editors) **99i:00016** 00B25

San Miniato ★ The irresistible rise of the standard model. Proceedings of the 5th Topical Seminar held in San Miniato, April 21–25, 1997. Edited by F.-L. Navarria and P. G. Pelfer. Nuclear Phys. B Proc. Suppl. **65** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–xii and* 1–331. (Editors) **99b:81002** 81–06

San Sebastián ★ Logic Colloquium '96. Invited papers from the Colloquium (European Summer Meeting of the Association of Symbolic Logic) held at the University of the Basque Country, San Sebastián, July 9–15, 1996. Edited by J. M. Larrazabal, D. Lascar and G. Mints. Lecture Notes in Logic, 12. *Springer-Verlag, Berlin*, 1998. *viii*+261 *pp. ISBN* 3-540-64668-X (Editors) **99i:03002** 03–06

Santa Barbara, CA ★ Parallel algorithms for irregularly structured problems. Proceedings of the 3rd International Workshop (IRREGULAR '96) held in Santa Barbara, CA, August 19–21, 1996. Edited by A. Ferreira, J. Rolim, Y. Saad and T. Yang. Lecture Notes in Computer Science, 1117. *Springer-Verlag, Berlin*, 1996. *x*+358 *pp. ISBN* 3-540-61549-0 (Editors) **99g:65007** 65–06 (68–06, 68Q22)

— ★ Advances in cryptology—CRYPTO '97. Proceedings of the 17th Annual International Cryptology Conference held in Santa Barbara, CA, August 17–21, 1997. Edited by Burton S. Kaliski, Jr. Lecture Notes in Computer Science, 1294. *Springer-Verlag, Berlin*, 1997. *xii*+540 *pp. ISBN* 3-540-63384-7 (Editors) **99a:94041** 94A60 (94–06)

— ★ A practical guide to heavy tails. Statistical techniques and applications. Papers from the workshop held in Santa Barbara, CA, December 1995. Edited by Robert J. Adler, Raisa E. Feldman [Raisa Epstein-Feldman] and Murad S. Taqqu. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xvi*+533 *pp. ISBN* 0-8176-3951-9 (Editors) **99f:62010** 62–06 (60–06)

— ★ Quantum coherence and decoherence. Proceedings of the ITP Conference held at the University of California, Santa Barbara, CA, December 15–18, 1996. Edited by D. DiVincenzo, E. Knill, R. Laflamme and W. Zurek. R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci. **454** (1998), no. 1969. *Royal Society, London*, 1998. *pp.* 257–486. (Editors) **99h:81007** 81–06

— ★ Advances in cryptology—CRYPTO '98. Proceedings of the 18th Annual International Cryptology Conference held in Santa Barbara, CA, August 23–27, 1998. Edited by Hugo Krawczyk. Lecture Notes in Computer Science, 1462. *Springer-Verlag, Berlin*, 1998. *xii*+519 *pp. ISBN* 3-540-64892-5 (Editors) **99i:94059** 94A60 (94–06)

Santa Cruz, CA ★ Eighth Annual Workshop on Computational Learning Theory (COLT). Papers from the workshop held in Santa Cruz, CA, July 5–8, 1995. Edited by Robert E. Schapire. J. Comput. System Sci. **56** (1998), no. 2. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 131–252. (Editors) **99a:68019** 68–06 (68Q99, 68T05)

Santa Margherita Ligure ★ Category theory and computer science. Proceedings of the 7th International Conference (CTCS '97) held in Santa Margherita Ligure, September 4–6, 1997. Edited by Eugenio Moggi and Giuseppe Rosolini. Lecture Notes in Computer Science, 1290. *Springer-Verlag, Berlin*, 1997. *vi*+313 *pp. ISBN* 3-540-63455-X (Editors) **99c:68004** 68–06 (68Q55, 68Q65)

Santiago de Compostela ★ Games and politics. Selected papers from the conference held in Santiago de Compostela, 1996. Edited by I. García-Jurado, F. Valenciano and E. Winter. Ann. Oper. Res. **84** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. ix–xiv and* 1–240. (Editors) **99h:90007** 90–06 (90Dxx)

São Carlos ★ Workshop on Real and Complex Singularities. Proceedings of the 4th Workshop held at the Universidade de São Paulo, São Carlos, July 22–26, 1996. Edited by Maria Aparecida Soares Ruas. Mat. Contemp. **12** (1997). *Sociedade Brasileira de Matemática, Rio de Janeiro*, 1997. *pp. i–vi and* 1–219. (Editors) **99b:00023** 00B25

— ★ 10th Brazilian Topology Meeting. Papers from the meeting held at the University of São Paulo, São Carlos, July 22–26, 1996. Edited by Paul A. Schweitzer. Mat. Contemp. **13** (1997). *Sociedade Brasileira de Matemática, Rio de Janeiro*, 1997. *pp. i–viii and* 1–297. (Editors) **99b:55001** 55–06 (57–06)

SAS'94 ★ SAS'94. Selected papers from the 1st International Symposium on Static Analysis held in Namur, September 28–30, 1994. Edited by P. Cousot and B. Le Charlier. Sci. Comput. Programming **31** (1998), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. v–vi and* 1–173. (Editors) **99a:68013** 68–06

Satter prize [awarded to Bernadette Perrin-Riou] 1999 Satter prize [awarded to Bernadette Perrin-Riou]. *Notices Amer. Math. Soc.* **46** (1999), *no.* 4, 467–468. 01A70

SCAN-97 ★ SCAN-97. Selected papers from the conference held in Lyon, September 1997. J.UCS **4** (1998), no. 1. *Springer-Verlag, Heidelberg*, 1998. *front matter and pp.* 1–88 (*electronic*). (Editors) **99g:65009** 65–06

— ★ SCAN-97. Selected papers from the conference held in Lyon, September 1997. J.UCS **4** (1998), no. 2. *Springer-Verlag, Heidelberg*, 1998. *front matter and pp.* 89–209 (*electronic*). (Editors) **99g:65010** 65–06

Schierke ★ Advances in stochastic models for reliability, quality and safety. Papers from the Workshop on Stochastic Models of Reliability, Quality and Safety held in Schierke, 1997. Edited by Waltraud Kahle, Elart von Collani, Jürgen Franz and Uwe Jensen. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xxviii*+382 *pp. ISBN* 0-8176-4049-5 (Editors) **99f:62004** 62–06

Schladming ★ Perturbative and nonperturbative aspects of quantum field theory. Proceedings of the 35th International Universitätswochen für Kern- und Teilchenphysik held in Schladming, March 2–9, 1996. Edited by H. Latal and W. Schweiger. Lecture Notes in Physics, 479. *Springer-Verlag, Berlin*, 1997. x+430 *pp. ISBN* 3-540-62478-3 (K. S. Viswanathan) **99d:81177** 81V05 (81–06, 81T15)

Schloß Dagstuhl ★ Lectures on proof verification and approximation algorithms. Papers from the Workshop on Proof Verification and Approximation Algorithms held at Schloß Dagstuhl, April 21–25, 1997. Edited by Ernst W. Mayr, Hans Jürgen Prömel and Angelika Steger. Lecture Notes in Computer Science, 1367. *Springer-Verlag, Berlin*, 1998. *xii*+344 *pp. ISBN* 3-540-64201-3 (Johan Håstad) **99h:68060** 68Q15 (68–02, 68Q20)

— ★ Online algorithms. The state of the art. Papers from the Workshop on the Competitive Analysis of On-line Algorithms held in Schloss Dagstuhl, June 1996. Edited by Amos Fiat and Gerhard J. Woeginger. Lecture Notes in Computer Science, 1442. *Springer-Verlag, Berlin*, 1998. *xviii*+436 *pp. ISBN* 3-540-64917-4 (Peter B. Gibbons) **99m:68003** 68–02 (68–06, 68Q25)

School:

Algebra, Geometry, Analysis and Mathematical Physics ★ Алгебра, геометрия, анализ и математическая физика. (Russian) [Algebra, geometry, analysis and mathematical physics] Papers from the 10th Siberian School held in Novosibirsk, August 14–22, 1996. Edited by Yu. G. Reshetnyak, L. A. Bokut', S. K. Vodop'yanov and I. A. Taĭmanov. *Izdatel'stvo Rossiĭskoĭ Akademii Nauk, Sibirskoe Otdelenie, Institut Matematiki im. S. L. Soboleva, Novosibirsk*, 1997. 196 *pp. ISBN* 5-86134-036-6 (Editors) **99a:00019** 00B25

Applications of Mathematics in Engineering ★ Applications of mathematics in engineering. Proceedings of the 23rd Summer School held in Sozopol, June 15–21, 1997. Edited by B. I. Cheshankov and M. D. Todorov. *Heron Press Ltd., Sofia*, 1998. 202 *pp. ISBN* 954-580-043-7 (Editors) **99d:00013** 00B25

— ★ Applications of mathematics in engineering. Proceedings of the 24th Summer School held in Sozopol, June 14–20, 1998. Edited by B. I. Cheshankov and M. D. Todorov. *Heron Press Ltd., Sofia*, 1999. 246 *pp. ISBN* 954-580-057-7 (Editors) **99m:00024** 00B25 (34–06, 65–06, 73–06)

Boundaries, Interfaces, and Transitions ★ Boundaries, interfaces, and transitions. Papers from the 2nd Annual CRM Summer School held in Banff, AB, August 6–18, 1995. Edited by Michel C. Delfour. CRM Proceedings & Lecture Notes, 13. *American Mathematical Society, Providence, RI*, 1998. *xii*+343 *pp. ISBN* 0-8218-0505-3 (Editors) **99a:00021** 00B25 (35–06, 49–06, 73–06)

Chaos and Irreversibility ★ Chaos and irreversibility. Papers from the International Graduate School and Workshop held at Eötvös University, Budapest, August 31–September 6, 1997. Edited by T. Tél, P. Gaspard and G. Nicolis. Chaos **8** (1998), no. 2. *American Institute of Physics, Melville, NY*, 1998. *pp. i–ii and* 309–461. (Editors) **99d:58003** 58–06 (58F13)

Commutative Algebra ★ Six lectures on commutative algebra. Papers from the Summer School on Commutative Algebra held in Bellaterra, July 16–26, 1996. Edited by

School: (*cont'd.*)
J. Elias, J. M. Giral, R. M. Miró-Roig and S. Zarzuela. Progress in Mathematics, 166. *Birkhäuser Verlag, Basel*, 1998. *xii*+398 *pp. ISBN* 3-7643-5951-X (Editors) **99e:13001** 13–06

Computational Physics ★ Computational physics. Proceedings of the 9th Physics Summer School held at the Australian National University, Canberra, January 8–25, 1996. Edited by Henry J. Gardner and Craig M. Savage. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+210 *pp. ISBN* 981-02-3058-3 (Editors) **99f:00012** 00B25 (65–06, 76–06)

Conformal Field Theories and Integrable Models ★ Conformal field theories and integrable models. Papers from the Summer School held at the Eötvös Loránd University, Budapest, August 13–18, 1996. Edited by Zalán Horváth and László Palla. Lecture Notes in Physics, 498. *Springer-Verlag, Berlin*, 1997. *x*+251 *pp. ISBN* 3-540-63618-8 (Editors) **99b:81001** 81–06 (81T40, 82–06)

Cosmology and Gravitation ★ Quantum gravity. Proceedings of the 14th Course of the International School of Cosmology and Gravitation held in honor of Peter Gabriel Bergmann on his 80th birthday in Erice, May 11–19, 1995. Edited by Bergmann, V. de Sabbata and H.-J. Treder. The Science and Culture Series—Physics, 10. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xx*+435 *pp. ISBN* 981-02-2786-8 (Editors) **99f:83004** 83–06 (83C45)

Dynamical and Disordered Systems ★ Dynamical systems. Papers from the UNESCO-CIMPA First School on Dynamical and Disordered Systems held at the Universidad de la Frontera, Temuco, December 30, 1991–January 23, 1992. Edited by Rodrigo Bamon, Jean-Marc Gambaudo and Servet Martinez. Travaux en Cours [Works in Progress], 52. *Hermann, Paris*, 1996. viii+178 *pp. ISBN* 2-7056-6288-X (Editors) **99b:58005** 58–06 (00B25)

— ★ Disordered systems. Papers from the UNESCO-CIMPA First School on Dynamical and Disordered Systems held at the Universidad de la Frontera, Temuco, December 30, 1991–January 23, 1992. Edited by Rodrigo Bamon, Jean-Marc Gambaudo and Servet Martinez. Travaux en Cours [Works in Progress], 53. *Hermann, Paris*, 1996. viii+158 *pp. ISBN* 2-7056-6289-8 (Editors) **99b:82002** 82–06 (00B25, 60–06)

Formal Models of Programming and their Applications ★ Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications. Held in Beijing, September 17–20, 1997. Edited by P.-L. Curien, M. Hennessy and H. Lin. J. Comput. Sci. Tech. **13** (1998), no. 6. *Science Press, Beijing*, 1998. *pp.* 481–622. (Editors) **99i:68004** 68–06

Functional Analysis ★ Functional analysis. V. Vol. I. Proceedings of the Postgraduate School and Conference held in Dubrovnik, September 14–28, 1997. Edited by D. Butković, H. Kraljević and G. Peskir. Various Publications Series, 44. *University of Aarhus, Department of Mathematical Sciences, Aarhus*, 1998. 142 *pp.* (Editors) **99h:00028** 00B25 (60–06)

Fundamental Problems in Statistical Mechanics ★ Fundamental problems in statistical mechanics. Proceedings of the 9th International Summer School held in Altenberg, August 15–29, 1997. Edited by H. van Beijeren. Phys. Rep. **301** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 1–292. (Editors) **99d:82003** 82–06

Geometry and Physics ★ Proceedings of the 17th Winter School "Geometry and Physics". Held in Srní, January 11–18, 1997. Edited by Jan Slovák and Martin Čadek. Rend. Circ. Mat. Palermo (2) Suppl. No. 54 (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp.* 1–126. (Editors) **99g:00047** 00B25

Gravitation and Cosmology ★ Geometry, fields and cosmology. Techniques and applications. Papers from the 1st Inter University Graduate School on Gravitation and Cosmology held in Pune, 1989. Edited by B. R. Iyer and C. V. Vishveshwara. Fundamental Theories of Physics, 88. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xvi+554 *pp. ISBN* 0-7923-4725-0 (Markku Lehto) **99a:83002** 83–06 (53–06, 58–06, 58Z05, 81–06)

Group Theory ★ Summer School in Group Theory in Banff, 1996. Papers from the 3rd Annual CRM Summer School held in Banff, AB, August 11–23, 1996. Edited by Olga Kharlampovich. CRM Proceedings & Lecture Notes, 17. *American Mathematical Society, Providence, RI*, 1999. *xiv*+145 *pp. ISBN* 0-8218-0948-2 (Editors) **99h:20003** 20–06

History of Mathematics ★ Problemy Hilberta. (Polish) [Hilbert's Problems] W pięćdziesięciolecie śmierci ich twórcy. [On the occasion of the fiftieth anniversary of the death of their creator] Proceedings of the 7th All-Polish School on the History of Mathematics held in Międzyzdroje, May 10–14, 1993. Edited by Witold Więsław. *Polska Akademia Nauk, Instytut Historii Nauki PAN, Warsaw*, 1997. 269 *pp. ISBN* 83-86062-90-8 (Editors) **99b:01001** 01–06 (01A60)

Iterative Methods in Scientific Computing and their Applications ★ Iterative methods in scientific computing. Papers from the Winter School on Iterative Methods in Scientific Computing and their Applications held in Hong Kong, December 14–20, 1995. Edited by Raymond H. Chan, Tony F. Chan and Gene H. Golub. *Springer-Verlag Singapore, Singapore*, 1997. *x*+384 *pp. ISBN* 981-3083-08-5 (Editors) **99g:65001** 65–02 (65–06)

Localization and Fracture Phenomena in Inelastic Solids ★ Localization and fracture phenomena in inelastic solids. Papers from the CISM Advanced School held in Udine, September 29–October 3, 1997. Edited by Piotr Perzyna. CISM Courses and Lectures, 386. *Springer-Verlag, Vienna*, 1998. *vi*+468 *pp. ISBN* 3-211-82918-0 (Editors) **99g:73002** 73–06 (73Exx, 73M25)

MATLAB 94, 95 ★ Summer Schools MATLAB 94, 95 Proceedings. Held in Velké Karlovice August 27–31, 1994, and in Čeřínek, August 28–September 1, 1995. Edited by Ivana Horová. Folia Facultatis Scientiarium Naturalium Universitatis Masarykianae Brunensis. Mathematica, 5. *Masaryk University, Brno*, 1997. *iv*+209 *pp. ISBN* 80-210-1517-9 (Editors) **99a:00042** 00B25 (62–06, 65–06)

Nonlinear Systems ★ Integrability of nonlinear systems. Proceedings of the CIMPA International School on Nonlinear Systems, held at Pondicherry University, Pondicherry, January 8–26, 1996. Edited by Y. Kosmann-Schwarzbach, B. Grammaticos and K. M. Tamizhmani. Lecture Notes in Physics, 495. *Springer-Verlag, Berlin*, 1997. *viii*+380 *pp. ISBN* 3-540-63353-7 (Editors) **99b:58006** 58–06

Nonlinear Wave Phenomena ★ Hyperbolic equations and frequency interactions. Lectures from the Graduate Summer School on Nonlinear Wave Phenomena held in Park City, UT, July 9–29, 1995. Edited by Luis Caffarelli and Weinan E. IAS/Park City Mathematics Series, 5. *American Mathematical Society, Providence, RI; Institute for Advanced Study (IAS), Princeton, NJ*, 1999. *xii*+466 *pp. ISBN* 0-8218-0592-4 (Editors) **99h:35002** 35–06

Number Theory and its Applications ★ Number theory and its applications. Papers from the Summer School held at Bilkent University, Ankara, July 29–August 9, 1996. Edited by Cem Y. Yıldırım and Serguei A. Stepanov. Lecture Notes in Pure and Applied Mathematics, 204. *Marcel Dekker, Inc., New York*, 1999. *xiv*+343 *pp. ISBN* 0-8247-1969-7 (Editors) **99g:11002** 11–06

Particles and Fields ★ VIII J. A. Swieca Summer School on Particles and Fields. Proceedings of the school held in Rio de Janeiro, February 5–18, 1995. Edited by J. Barcelos-Neto, S. F. Novaes and V. O. Rivelles. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *viii*+534 *pp. ISBN* 981-02-2917-8 (Editors) **99f:81003** 81–06 (00B25, 83–06)

— ★ First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields. Proceedings of the symposium and school held in Mérida, October 30–November 6, 1996. Edited by Juan Carlos D'Olivo, Martin Klein-Kreisler and Héctor Méndez. AIP Conference Proceedings, 400. *American Institute of Physics, New York*, 1997. *xx*+578 *pp. ISBN* 1-56396-686-7 (Editors) **99d:81004** 81–06

— ★ Particles and fields. Papers from the CAP-CRM Summer School held in Banff, AB, summer 1994. Edited by Gordon Semenoff and Luc Vinet. CRM Series in Mathematical Physics. *Springer-Verlag, New York*, 1999. *xvi*+489 *pp. ISBN* 0-387-98402-X (Editors) **99h:81004** 81–06 (00B25, 58–06)

Physics of Dry Granular Media ★ Physics of dry granular media. Proceedings of the NATO Advanced Study Institute Summer School held in Cargèse, September 15–26, 1997. Edited by H. J. Herrmann, J.-P. Hovi and S. Luding. NATO Advanced Science Institutes Series E: Applied Sciences, 350. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxxii*+711 *pp. ISBN* 0-7923-5102-9 (Editors) **99e:73003** 73–06 (73Exx, 76–06, 76A99)

Probability ★ I Brazilian School in Probability. Proceedings of the school held in Rio de Janeiro, August 11–16, 1997. Edited by Maria Eulália Vares and Mikhail Menshikov. Markov Process. Related Fields **4** (1998), no. 4. *Polymat, Moscow*, 1998. *pp.* 429–668. (Editors) **99i:60002** 60–06

Probability Theory ★ Probability theory and applications. Lectures from the Graduate Summer School on Probability Theory held in Princeton, NJ, June 23–July 13, 1996. Edited by Elton P. Hsu and S. R. S. Varadhan. IAS/Park City Mathematics Series, 6. *American Mathematical Society, Providence, RI; Institute for Advanced Study (IAS), Princeton, NJ*, 1999. *x*+374 *pp. ISBN* 0-8218-0590-8 (Editors) **99k:60002** 60–06

Real Functions Theory ★ Real functions. Dedicated to Tibor Šalát. Including papers from the Summer School on Real Functions Theory held in Liptovský Ján, September 8–13, 1996. Edited by Ján Borsík, Roman Frič and Ján Haluška. Tatra Mt. Math. Publ. **14** (1998). *Slovak Academy of Sciences, Mathematical Institute, Bratislava*, 1998. *pp.* 1–323. (Editors) **99f:00022** 00B25 (00B30, 26–06)

Semantics and Logics of Computation ★ Semantics and logics of computation. Papers from the Summer School held at the University of Cambridge, Cambridge, September 1995. Edited by Andrew M. Pitts and Peter Dybjer. Publications of the Newton Institute, 14. *Cambridge University Press, Cambridge*, 1997. *xii*+361 *pp. ISBN* 0-521-58057-9 (Guo-Qiang Zhang) **99h:68111** 68Q55 (03–06, 03B70, 68–02, 68N15)

String Theory, Gauge Theory and Quantum Gravity ★ String theory, gauge theory and quantum gravity. Proceedings of the 2nd Conference on Duality Symmetries in String Theory held in Trieste, April 1–4, 1997, and the Spring School on String Theory, Gauge Theory and Quantum Gravity held in Trieste, April 7–12, 1997. Edited by E. Gava, B. Greene, J. Louis, K. S. Narain and S. Randjbar-Daemi. Nuclear Phys. B Proc. Suppl. **67** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–251. (Editors) **99a:81005** 81–06 (81T30, 83E30)

Subnuclear Physics ★ Effective theories and fundamental interactions. Proceedings of the 34th Course of the International School of Subnuclear Physics held in Erice, July 1996. Edited by Antonino Zichichi. The Subnuclear Series, 34. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *viii*+595 *pp. ISBN* 981-02-3157-1 (Editors) **99c:81003** 81–06

Swieca, Jorge André ★ Particles and fields. Proceedings of the 9th Jorge André Swieca Summer School held in Campos do Jordão, February 16–28, 1997. Edited by J. C. A. Barata, A. P. C. Malbouisson and S. F. Novaes. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *viii*+515 *pp. ISBN* 981-02-3453-8 (Editors) **99i:81004** 81–06

Theoretical Physics ★ Quantum groups. Formalism and applications. Papers from the 30th Winter School on Theoretical Physics held in Karpacz, February 14–26, 1994. Edited by Jerzy Lukierski, Ziemowit Popowicz and Jan Sobczyk. *Wydawnictwo Naukowe PWN, Warsaw*, 1995. *xxii*+639 *pp. ISBN* 83-01-11770-2 (Editors) **99e:17001** 17–06 (00B25, 16W30, 17B37, 81–06, 81R50)

— ★ Topics in theoretical physics. Proceedings of the 2nd Pacific Winter School in Theoretical Physics held at Sorak Mountain Resort, January 19–24, 1995. Edited by Y. M. Cho. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+265 *pp. ISBN* 981-02-3083-4 (Editors) **99f:81005** 81–06

— ★ Fluctuations quantiques. [Quantum fluctuations] Papers from the NATO Advanced Study Institute held at the 63rd Session of the Summer School in Theoretical Physics in Les Houches, June 27–28, 1995. Edited by S. Reynaud, E. Giacobino and J. Zinn-Justin. *North-Holland Publishing Co., Amsterdam*, 1997. *xxxiv*+606 *pp. ISBN* 0-444-82593-2 (Apostolos Vourdas) **99k:81356** 81V80 (81–06)

— ★ Symétries quantiques. [Quantum symmetries] Papers from the NATO Advanced Study Institute held at the 64th Session of the Summer School in Theoretical Physics in Les Houches, August 1–September 8, 1995. Edited by A. Connes, K. Gawedzki and J. Zinn-Justin. *North-Holland Publishing Co., Amsterdam*, 1998. *xxxviii*+990 *pp. ISBN* 0-444-82867-2 (Editors) **99k:81008** 81–06 (58–06)

Schriftenreihe des Mathematischen Instituts der Universität Münster. 3. Serie
★ Schriftenreihe des Mathematischen Instituts der Universität Münster. 3. Serie. Heft 22. (German) [Series of the Mathematical Institute of the University of Münster. Series 3. Vol. 22] Edited by C. Deninger. Schriftenreihe des Mathematischen Instituts der Universität Münster, 3. Serie [Series of the Mathematical Institute of the University of Münster, 3rd Series], 22. *Universität Münster, Mathematisches Institut, Münster*, 1998.

xii+230 *pp.* (Editors) **99b:00011** 00B15 (32–06, 41–06)

— ★ Schriftenreihe des Mathematischen Instituts der Universität Münster. 3. Serie. Heft 23. (German) [Series of the Mathematical Institute of the University of Münster. Series 3. Vol. 23] Edited by C. Deninger. Schriftenreihe des Mathematischen Instituts der Universität Münster, 3. Serie [Series of the Mathematical Institute of the University of Münster, 3rd Series], 23. *Universität Münster, Mathematisches Institut, Münster*, 1999. *xii*+170 *pp.* (Editors) **99m:00023** 00B15 (14–06, 22–06)

Science and development ★ Sciences et développement. (French) [Science and development] Papers from the Colloquium on 20th Century Sciences held in Paris, September 1994. Edited by Martine Barrère. Les Sciences hors d'Occident au XXe Siècle [20th Century Sciences: Beyond the Metropolis], 5. *L'Institut Français de Recherche Scientifique pour le Développement en Coopération, Orstom, Paris*, 1996. 301 *pp. ISBN* 2-7099-1299-6 (Editors) **99e:00014** 00B15

Science in the twentieth century ★ Science in the twentieth century. Edited by John Krige and Dominique Pestre. *Harwood Academic Publishers, Amsterdam*, 1997. *xxxvi*+941 *pp. ISBN* 90-5702-172-2 (Editors) **99i:00012** 00A99

Sciences et développement ★ Sciences et développement. (French) [Science and development] Papers from the Colloquium on 20th Century Sciences held in Paris, September 1994. Edited by Martine Barrère. Les Sciences hors d'Occident au XXe Siècle [20th Century Sciences: Beyond the Metropolis], 5. *L'Institut Français de Recherche Scientifique pour le Développement en Coopération, Orstom, Paris*, 1996. 301 *pp. ISBN* 2-7099-1299-6 (Editors) **99e:00014** 00B15

Scilla ★ Equilibrium problems with side constraints. Lagrangean theory and duality. II. Proceedings of the 2nd Workshop held in Scilla, May 17–18, 1996. Edited by F. Giannessi, A. Maugeri and M. De Luca. Rend. Circ. Mat. Palermo (2) Suppl. No. 48 (1997). *Circolo Matematico di Palermo, Palermo*, 1997. *pp.* 1–224. (Editors) **99a:49002** 49–06 (49J40, 90–06)

Seattle, WA ★ Trends in the representation theory of finite-dimensional algebras. Papers from the Joint Summer Research Conference held at the University of Washington, Seattle, WA, July 20–24, 1997. Edited by Edward L. Green and Birge Huisgen-Zimmermann [Birge Zimmermann-Huisgen]. Contemporary Mathematics, 229. *American Mathematical Society, Providence, RI*, 1998. *xiv*+356 *pp. ISBN* 0-8218-0928-8 (Editors) **99i:16003** 16–06 (16Gxx)

Secondary calculus and cohomological physics ★ Secondary calculus and cohomological physics. Proceedings of the conference held at Moscow State University, Moscow, August 24–31, 1997. Edited by Marc Henneaux, Joseph Krasil′shchik [I. S. Krasil′shchik] and Alexandre Vinogradov. Contemporary Mathematics, 219. *American Mathematical Society, Providence, RI*, 1998. *xiv*+287 *pp. ISBN* 0-8218-0828-1 (Editors) **99d:58007** 58–06 (17–06, 81–06)

Selected papers in honor of Adriano Garsia ★ Selected papers in honor of Adriano Garsia. Papers from the conference held in Taormina, July 1994. Edited by I. Gessel. Discrete Math. **193** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–x and* 1–319. (Editors) **99f:00030** 00B30 (05–06)

Self-organization of complex structures ★ Self-organization of complex structures. From individual to collective dynamics. Proceedings of the International Conference held in Berlin, September 24–28, 1995. Edited by Frank Schweitzer. *Gordon and Breach Science Publishers, Amsterdam*, 1997. xxiv+596 *pp. ISBN* 90-5699-027-6 (Yoram Schiffmann) **99k:92005** 92B05 (35Q80, 90A16, 90C90)

Self-sustaining mechanisms of wall turbulence ★ Self-sustaining mechanisms of wall turbulence. Edited by Ronald L. Panton. Advances in Fluid Mechanics, 15. *Computational Mechanics Publications, Southampton*, 1997. vi+422 *pp. ISBN* 1-85312-453-2 (A. D. Khon′kin) **99d:76046** 76F10 (76–06, 76D10)

Semantics and logics of computation ★ Semantics and logics of computation. Papers from the Summer School held at the University of Cambridge, Cambridge, September 1995. Edited by Andrew M. Pitts and Peter Dybjer. Publications of the Newton Institute, 14. *Cambridge University Press, Cambridge*, 1997. *xii*+361 *pp. ISBN* 0-521-58057-9 (Guo-Qiang Zhang) **99h:68111** 68Q55 (03–06, 03B70, 68–02, 68N15)

Semantics and representation in scientific theories: formal analysis ★ Semantics and representation in scientific theories: formal analysis. Edited by José A. Díez and José L. Falguera. Theoria (San Sebastián) (2) **13** (1998), no. 31. *Centro de Análisis, Lógica e Informática Jurídica, San Sebastián*, 1998. *pp.* 57–185. (Editors) **99a:00056** 00B30

Semi-analytic methods for the Navier-Stokes equations ★ Semi-analytic methods for the Navier-Stokes equations. Papers from the workshop held in Montreal, QC, 1995. Edited by Katie Coughlin. CRM Proceedings & Lecture Notes, 20. *American Mathematical Society, Providence, RI*, 1999. *xiv*+119 *pp. ISBN* 0-8218-0878-8 (Editors) **99k:00037** 00B25 (58–06, 76–06, 76Fxx)

Semidefinite programming and interior-point approaches for combinatorial optimization problems ★ Semidefinite programming and interior-point approaches for combinatorial optimization problems. Papers from the workshop held at the University of Toronto, Toronto, ON, May 15–17, 1996. Edited by Panos M. Pardalos and Henry Wolkowicz. J. Comb. Optim. **2** (1998), no. 1. *Kluwer Academic Publishers, Hingham, MA*, 1998. *pp.* 1–109. (Editors) **99a:90012** 90–06 (90C26, 90C27)

Semigroups ★ Semigroups. Algebraic theory and applications to formal languages and codes. Papers from the International Conference held in Luino, June 22–27, 1992. Edited by C. Bonzini, A. Cherubini and C. Tibiletti [Cesarina Marchionna Tibiletti]. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1993. *xiv*+331 *pp. ISBN* 981-02-1521-5 (Editors) **99f:20003** 20–06 (20Mxx)

Semigroups, formal languages and groups ★ Semigroups, formal languages and groups. Proceedings of the NATO Advanced Study Institute held at the University of York, York, August 7–21, 1993. Edited by John Fountain. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 466. *Kluwer Academic Publishers Group, Dordrecht*, 1995. *x*+428 *pp. ISBN* 0-7923-3540-6 (Editors) **99b:20001** 20–06 (20Mxx, 68Q45)

Semi-infinite programming ★ Semi-infinite programming. Edited by Rembert Reemtsen and Jan-J. Rückmann. Nonconvex Optimization and its Applications, 25. *Kluwer Academic Publishers, Boston, MA*, 1998. *xvi*+411 *pp. ISBN* 0-7923-5054-5 (Editors) **99b:90141** 90C34 (90–06)

Seminar:

Bourbaki ★ Séminaire Bourbaki. Vol. 1. (French) [Bourbaki Seminar. Vol. 1] Années 1948/49-1949/50-1950/51. [Years 1948/49-1949/50-1950/51] Exposés 1–49. Reprint of the edition published by W. A. Benjamin, New York-Amsterdam, 1966 [MR **33** #5420a; MR **33** #5420b]. *Société Mathématique de France, Paris*, 1995. iv+422 *pp. ISBN* 2-85629-034-5 (Editors) **99f:00033** 00B60 (01A75)

— ★ Séminaire Bourbaki. Vol. 2. (French) [Bourbaki Seminar. Vol. 2] Années 1951/52-1952/53-1953/54. [Years 1951/52-1952/53-1953/54] Exposés 50–100. Reprint of the edition published by W. A. Benjamin, New York-Amsterdam, 1966 [MR **33** #5420b; MR **33** #5420c]. *Société Mathématique de France, Paris*, 1995. iv+454 *pp. ISBN* 2-85629-035-3 (Editors) **99f:00034** 00B60 (01A75)

— ★ Séminaire Bourbaki. Vol. 3. (French) [Bourbaki Seminar. Vol. 3] Années 1954/55-1955/56. [Years 1954/55-1955/56] Exposés 101–136. Reprint of the edition published by W. A. Benjamin, New York-Amsterdam, 1966 [MR **33** #5420d]. *Société Mathématique de France, Paris*, 1995. iv+387 *pp. ISBN* 2-85629-036-1 (Editors) **99f:00035** 00B60 (01A75)

— ★ Séminaire Bourbaki. Vol. 4. (French) [Bourbaki Seminar. Vol. 4] Années 1956/57-1957/58. [Years 1956/57-1957/58] Exposés 137–168. Reprint of the edition published by W. A. Benjamin, New York-Amsterdam, 1966 [MR **33** #5420e]. *Société Mathématique de France, Paris*, 1995. iv+419 *pp. ISBN* 2-85629-037-X (Editors) **99f:00036** 00B60 (01A75)

— ★ Séminaire Bourbaki. Vol. 5. (French) [Bourbaki Seminar. Vol. 5] Années 1958/59-1959/60. [Years 1958/59-1959/60] Exposés 169–204. Reprint of the edition published by W. A. Benjamin, New York-Amsterdam, 1966 [MR **33** #5420f; MR **33** #5420g]. *Société Mathématique de France, Paris*, 1995. iv+489 *pp. ISBN* 2-85629-038-8 (Editors) **99f:00037** 00B60 (01A75)

— ★ Séminaire Bourbaki. Vol. 6. (French) [Bourbaki Seminar. Vol. 6] Année 1960/61. [Year 1960/61] Exposés 205–222. Reprint of the edition published by W. A. Benjamin, New York-Amsterdam, 1966 [MR **33** #5420h]. *Société Mathématique de France, Paris*, 1995. iv+286 *pp. ISBN* 2-85629-039-6 (Editors) **99f:00038** 00B60 (01A70)

— ★ Séminaire Bourbaki. Vol. 7. (French) [Bourbaki Seminar. Vol. 7] Année 1961/62. [Year 1961/62] Exposés 223–240. Reprint of the edition published by W. A. Benjamin, New York-Amsterdam, 1966 [MR **33** #5420i]. *Société Mathématique de France, Paris*, 1995. iv+307 *pp. ISBN* 2-85629-040-X (Editors) **99f:00039** 00B60 (01A75)

— ★ Séminaire Bourbaki. Vol. 8. (French) [Bourbaki Seminar. Vol. 8] Années 1962/63-1963/64. [Years 1962/63-1963/64] Exposés 241–276. Reprint of the edition published by W. A. Benjamin, New York-Amsterdam, 1966 [MR **33** #5420j; MR **33** #5420k]. *Société Mathématique de France, Paris*, 1995. iv+460 *pp. ISBN* 2-85629-041-8 (Editors) **99f:00040** 00B60 (01A75)

— ★ Séminaire Bourbaki. Vol. 9. (French) [Bourbaki Seminar. Vol. 9] Années 1964/65-1965/66. [Years 1964/65-1965/66] Exposés 277–312. Reprint of the edition published by W. A. Benjamin, New York-Amsterdam, 1966 [MR **33** #5420l; MR **34** #5605]. *Société Mathématique de France, Paris*, 1995. iv+531 *pp. ISBN* 2-85629-042-6 (Editors) **99f:00041** 00B60 (01A75)

— ★ Séminaire Bourbaki. Vol. 10. (French) [Bourbaki Seminar. Vol. 10] Années 1966/67-1967/68. [Years 1966/67-1967/68] Exposés 313–346. Reprint of the edition published by W. A. Benjamin, New York-Amsterdam, 1968 [MR **37** #10] and 1969 [MR **41** #3]. *Société Mathématique de France, Paris*, 1995. iv+569 *pp. ISBN* 2-85629-043-4 (Editors) **99f:00042** 00B60 (01A75)

— ★ Séminaire Bourbaki. Vol. 1996/97. (French) [Bourbaki Seminar. Vol. 1996/97] Exposés 820–834. Astérisque No. 245 (1997). *Société Mathématique de France, Paris*, 1997. *pp. i–ii and* 1–469. (Editors) **99a:00046** 00B25

— ★ Séminaire Bourbaki. Vol. 1997/98. (French) [Bourbaki Seminar. Vol. 1997/98] Exposés 835–849. Astérisque No. 252 (1998). *Société Mathématique de France, Paris*, 1998. *pp. i–iv and* 1–367. (Editors) **99m:00026** 00B25

Continuum Mechanics ★ Proceedings of the Seminar on Continuum Mechanics. Held in Calcutta, September 10, 1996. Rev. Bull. Calcutta Math. Soc. **5** (1997), no. 2. *Calcutta Mathematical Society, Calcutta*, 1997. *pp. i–iv and* 67–138. (Editors) **99k:00035** 00B25 (73–06, 76–06)

Curves ★ The Curves Seminar at Queen's. Vol. XII. Papers from the seminar held at Queen's University, Kingston, ON, 1998. Edited by Anthony V. Geramita. Queen's Papers in Pure and Applied Mathematics, 114. *Queen's University, Kingston, ON*, 1998. *vi*+162 *pp. ISBN* 0-88911-832-9 (Editors) **99m:13001** 13–06

Epistemology of Mathematics ★ Epistemologia della matematica. Seminari 1992–1993. (Italian) [Epistemology of mathematics. 1992–1993 Seminars] Papers from the seminars held in Siena, Bologna and Pavia, 1992–1993. Edited by Mario Ferrari and Francesco Speranza. Formazione e Aggiornamento in Matematica degli Insegnanti [Training and Continuing Education in Mathematics for Teachers], 14. *Consiglio Nazionale delle Ricerche (CNR), Rome*, 1994. *vi*+224 *pp.* (Editors) **99a:00007** 00A30 (00A35, 03A05)

Fuzzy Set Theory ★ 16th Linz Seminar on Fuzzy Set Theory. Papers from the seminar held in Linz, September 14–18, 1994. Edited by W. Kotzé. Quaestiones Math. **20** (1997), no. 3. *South African Mathematical Society, Potchefstroom*, 1997. *pp. iii–iv and* 269–530 *pp.* (Editors) **99c:54002** 54–06 (54A40)

Geometry ★ Seminari di Geometria. 1996–1997. [Geometry Seminars. 1996–1997] Papers from the seminars held at the University of Bologna, Bologna, 1996–1997. Edited by Salvatore Coen. *Università degli Studi di Bologna, Dipartimento di Matematica, Bologna*, 1998. *viii*+312 *pp.* (Editors) **99b:00019** 00B25 (32–06)

Irresistible Rise of the Standard Model ★ The irresistible rise of the standard model. Proceedings of the 5th Topical Seminar held in San Miniato, April 21–25, 1997. Edited by F.-L. Navarria and P. G. Pelfer. Nuclear Phys. B Proc. Suppl. **65** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–xii and* 1–331. (Editors) **99b:81002** 81–06

Molecular Similarity ★ Girona 97 special issue. Selected papers from the 7th International Conference on Mathematical Chemistry and the 3rd Seminar on Molecular Similarity held in Girona, May 26–31, 1997. J. Math. Chem. **23** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. v–viii and* 1–261. (Editors) **99c:92002** 92–06 (80–06)

Monte Carlo Methods ★ IMACS Seminar on Monte Carlo Methods. Selected papers from the seminar held in Brussels, April 1–3, 1997. Edited by R. Beauwens, A. Dubus and M. Hou. Math. Comput. Simulation **47** (1998), no. 2-5. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–vi and* 83–505. (Editors) **99d:65008** 65–06 (65C05)

Seminar: (*cont'd.*)

New Trends in Microlocal Analysis ★ New trends in microlocal analysis. Papers from the JSPS-CNRS Joint Seminar held in Tokyo, September 11–16, 1995. Edited by J.-M. Bony and M. Morimoto. *Springer-Verlag, Tokyo*, 1997. *viii*+242 *pp. ISBN* 4-431-70192-3 (Editors) **99d:00024** 00B25 (35–06, 58–06, 58G07)

Number and Distribution of Points of Bounded Height ★ Nombre et répartition de points de hauteur bornée. (French) [Number and distribution of points of bounded height] Papers from the seminars held in Paris, April/May 1996. Edited by Emmanuel Peyre. Astérisque No. 251 (1998). *Société Mathématique de France, Paris*, 1998. *pp. i–xviii and* 1–340. (Editors) **99j:11001** 11–06

Number Theory ★ Number theory. Papers from the Séminaire de Théorie des Nombres de Paris, 1993–94. Edited by Sinnou David. London Mathematical Society Lecture Note Series, 235. *Cambridge University Press, Cambridge*, 1996. *viii*+213 *pp. ISBN* 0-521-58549-X (Editors) **99b:11003** 11–06

Numerical Methods and their Applications ★ Численные методы и их приложения. (Russian) [Numerical methods and their applications] Papers from the seminar held at Moscow State University, Moscow, March 22–24, 1993. Edited by O. Aksel'son [Owe Axelsson] and A. A. Samarskiĭ. Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet. **1995**, no. 3. *Izdatel'stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1995. *pp.* 1–74. (Editors) **99a:65005** 65–06

Partial Differential Equations ★ Séminaire sur les Équations aux Dérivées Partielles. 1997–1998. (French) [Seminar on Partial Differential Equations. 1997–1998] *École Polytechnique, Centre de Mathématiques, Palaiseau*, 1998. 353 *pp. ISBN* 2-7302-0515-3 (Editors) **99f:35005** 35–06

Path Integrals: Theory & Applications ★ Path integrals: Dubna '96. Publ. No. E-96-321. Proceedings of the International Seminar "Path Integrals: Theory & Applications" and the 5th International Conference "Path Integrals from meV to MeV" held in Dubna, May 27–31, 1996. Edited by Vladimir S. Yarunin and Mikhail A. Smondyrev. *Joint Inst. Nuclear Res., Dubna*, 1996. 393 *pp. ISBN* 5-85165-451-1 (Editors) **99h:81005** 81–06 (81S40)

Probability Theory ★ Séminaire de Probabilités. XXXII. [Seminar on Probability Theory. XXXII] Edited by J. Azéma, M. Émery, M. Ledoux and M. Yor. Lecture Notes in Mathematics, 1686. *Springer-Verlag, Berlin*, 1998. *vi*+429 *pp. ISBN* 3-540-64376-1 (Editors) **99f:60006** 60–06

Representation Theories and Algebraic Geometry ★ Representation theories and algebraic geometry. Proceedings of the NATO Advanced Study Institute and Séminaire de Mathématiques Supérieures held at the Université de Montréal, Montreal, PQ, July 28–August 8, 1997. Edited by A. Broer and Gert Sabidussi. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 514. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxii*+443 *pp. ISBN* 0-7923-5193-2 (Editors) **99e:00028** 00B25 (14–06, 22–06)

Singularities and Geometry ★ Singularities Symposium—Łojasiewicz 70. Dedicated to Stanisław Łojasiewicz on the occasion of his 70th birthday. Papers from the Symposium on Singularities held at Jagellonian University, Kraków, September 25–29, 1996 and the Seminar on Singularities and Geometry held in Warsaw, September 30–October 4, 1996. Edited by Bronisław Jakubczyk, Wiesław Pawłucki and Jacek Stasica. Banach Center Publications, 44. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 292 *pp.* (Editors) **99i:00035** 00B30 (14–06, 32–06)

Spectral Theory and Geometry ★ Séminaire de Théorie Spectrale et Géométrie. No. 15. Année 1996–1997. (French) [Seminar on Spectral Theory and Geometry. No. 15. Year 1996–1997] Séminaire de Théorie Spectrale et Géométrie [Seminar on Spectral Theory and Geometry], 15. *Université de Grenoble I, Institut Fourier, Saint-Martin-d'Hères*, 199?. 227 *pp.* (Editors) **99b:53003** 53–06 (00B25, 58–06)

— ★ Séminaire de Théorie Spectrale et Géométrie. Vol. 16. Année 1997–1998. (French) [Seminar on Spectral Theory and Geometry. Vol. 16. Year 1997–1998] Séminaire de Théorie Spectrale et Géométrie [Seminar on Spectral Theory and Geometry], 16. *Université de Grenoble I, Institut Fourier, Saint-Martin-d'Hères*, 199?. 228 *pp.* (Editors) **99h:53003** 53–06 (58–06)

Stability Problems for Stochastic Models ★ Stability problems for stochastic models. Part I. Proceedings of the seminar held at Moscow State University, Moscow, 1996. J. Math. Sci. (New York) **89** (1998), no. 5. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 1459–1589. (Editors) **99d:00033** 00B55 (60–06, 62–06)

— ★ Stability problems for stochastic models. Part II. Proceedings of the seminar held at Moscow State University, Moscow, 1996. J. Math. Sci. (New York) **91** (1998), no. 3. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 2895–3031. (Editors) **99g:00056** 00B55 (60–06, 62–06)

— ★ Proceedings of the 18th Seminar on Stability Problems for Stochastic Models. Part I. Held in Hajdúszoboszló, January 26–February 1, 1997. J. Math. Sci. (New York) **92** (1998), no. 3. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 3835–3971. (Editors) **99h:00033** 00B25 (00B55, 60–06)

— ★ Proceedings of the 18th Seminar on Stability Problems for Stochastic Models. Part II. Held in Hajdúszoboszló, January 26–February 1, 1997. J. Math. Sci. (New York) **92** (1998), no. 4. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 3973–4121. (Editors) **99i:00036** 00B55

Statistics and Control of Stochastic Processes ★ Statistics and control of stochastic processes. The Liptser Festschrift. Papers from the Steklov Seminar held in Moscow, 1995–1996. Edited by Yu. M. Kabanov, B. L. Rozovskiĭ and A. N. Shiryaev. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxii*+354 *pp. ISBN* 981-02-3292-6 (Editors) **99e:60005** 60–06 (00B30)

Volkov, D. V. ★ Supersymmetry and quantum field theory. Proceedings of the D. Volkov Memorial Seminar held in Kharkov, January 5–7, 1997. Edited by Julius Wess and Vladimir P. Akulov. Lecture Notes in Physics, 509. *Springer-Verlag, Berlin*, 1998. *xvi*+405 *pp. ISBN* 3-540-64623-X (Editors) **99k:81010** 81–06

Sendai ★ Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems. Towards the understanding of singularities in dissipative structures. Held at Tôhoku University, Sendai, July 28–August 1, 1997. Edited by Yasumasa Nishiura, Izumi Takagi and Eiji Yanagida. Tohoku Mathematical Publications, 8. *Tohoku University, Mathematical Institute, Sendai*, 1998. *x*+262 *pp.* (Editors) **99a:35004** 35–06 (00B25)

Seoul ★ Proceedings of International Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories. Held at Seoul National University, Seoul, February 23–24, 1998. Edited by Dongho Chae and Sung-Ki Kim. Lecture Notes Series, 42. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1998. *viii*+147 *pp.* (Editors) **99d:58005** 58–06 (00B25, 81–06)

— ★ Recent progress in algebra. Papers from the International Conference held in Taejon/Seoul, August 11–15, 1997. Edited by Sang Geun Hahn, Hyo Chul Myung and Efim Zelmanov. Contemporary Mathematics, 224. *American Mathematical Society, Providence, RI*, 1999. *x*+243 *pp. ISBN* 0-8218-0972-5 (Editors) **99e:00027** 00B25 (11–06, 17–06)

Series of the Mathematical Institute of the University of Münster, Series 3 ★ Schriftenreihe des Mathematischen Instituts der Universität Münster. 3. Serie. Heft 22. (German) [Series of the Mathematical Institute of the University of Münster. Series 3. Vol. 22] Edited by C. Deninger. Schriftenreihe des Mathematischen Instituts der Universität Münster, 3. Serie [Series of the Mathematical Institute of the University of Münster, 3rd Series], 22. *Universität Münster, Mathematisches Institut, Münster*, 1998. *xii*+230 *pp.* (Editors) **99b:00011** 00B15 (32–06, 41–06)

— ★ Schriftenreihe des Mathematischen Instituts der Universität Münster. 3. Serie. Heft 23. (German) [Series of the Mathematical Institute of the University of Münster. Series 3. Vol. 23] Edited by C. Deninger. Schriftenreihe des Mathematischen Instituts der Universität Münster, 3. Serie [Series of the Mathematical Institute of the University of Münster, 3rd Series], 23. *Universität Münster, Mathematisches Institut, Münster*, 1999. *xii*+170 *pp.* (Editors) **99m:00023** 00B15 (14–06, 22–06)

Session:

Dynamics and Optimization ★ Dynamics and optimization. Papers from the Special Session held as part of the International Conference on Differential Equations and Dynamical Systems at the University of Waterloo, Waterloo, ON, August 1–4, 1997. Edited by K. L. Teo and L. Caccetta. Dynam. Contin. Discrete Impuls. Systems **4** (1998), no. 4. *Watam Press, Waterloo, ON*, 1998. *pp. i–iv and* 485–631. (Editors) **99g:49003** 49–06 (93–06)

Inverse Problems ★ Inverse problems, tomography, and image processing. Selected papers from the Special Sessions on Inverse Problems and on Tomography and Image Processing held at the 1st International Congress of the International Society for Analysis, Applications and Computing (ISAAC), at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Alexander G. Ramm. *Plenum Press, New York*, 1998. *x*+258 *pp. ISBN* 0-306-45828-4 (Editors) **99a:00030** 00B25 (44–06, 73–06, 76–06, 92–06)

Iterative Methods and Preconditioners ★ Iterative methods and preconditioners. Papers from the session held as part of the 15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics in Berlin, August 24–29, 1997. Edited by Rüdiger Weiss and Willi Schönauer. Appl. Numer. Math. **30** (1999), no. 2-3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 153–391. (Editors) **99m:65005** 65–06

Rączka, Ryszard ★ Coherent states, differential and quantum geometry. Proceedings of the 16th Workshop on Geometric Methods in Physics, including the Special Session in Memory of Ryszard Rączka, held in Białowieża, June 30–July 6, 1997. Edited by Martin Schlichenmaier, Aleksander Strasburger, S. Twareque Ali and Anatol Odzijewicz. Rep. Math. Phys. **43** (1999), no. 1-2. *Pergamon Press, Oxford*, 1999. *pp.* 1–366. (Editors) **99k:81004** 81–06 (58–06)

Recent Results on Time-Delay Systems ★ Delay systems. Papers from the Special Session on Recent Results on Time-Delay Systems held as part of the Conference on Computational Engineering in Systems Applications in Lille, July 9–12, 1996. Edited by J.-P. Richard and V. B. Kolmanovskiĭ. Math. Comput. Simulation **45** (1998), no. 3-4. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 219–395. (Editors) **99a:93005** 93–06

Spectral and Scattering Theory ★ Spectral and scattering theory. Selected papers from the Special Session, held as part of the 1st International Congress of the International Society for Analysis, Applications and Computing (ISAAC), at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Alexander G. Ramm. *Plenum Press, New York*, 1998. *viii*+207 *pp. ISBN* 0-306-45829-2 (Editors) **99a:00048** 00B25 (35–06)

Stochastic Inequalities and their Applications ★ Advances in stochastic inequalities. Papers from the AMS Special Session on Stochastic Inequalities and their Applications held at the Georgia Institute of Technology, Atlanta, GA, October 17–19, 1997. Edited by Theodore P. Hill and Christian Houdré. Contemporary Mathematics, 234. *American Mathematical Society, Providence, RI*, 1999. *x*+212 *pp. ISBN* 0-8218-1086-3 (Editors) **99m:60004** 60–06 (60E15)

Tomography and Image Processing ★ Inverse problems, tomography, and image processing. Selected papers from the Special Sessions on Inverse Problems and on Tomography and Image Processing held at the 1st International Congress of the International Society for Analysis, Applications and Computing (ISAAC), at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Alexander G. Ramm. *Plenum Press, New York*, 1998. *x*+258 *pp. ISBN* 0-306-45828-4 (Editors) **99a:00030** 00B25 (44–06, 73–06, 76–06, 92–06)

Works of Bose, Satyendra Nath ★ Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works. Part I. Held in Calcutta, January 1–7, 1994. Edited by R. N. Sen. Rev. Bull. Calcutta Math. Soc. **3** (1995), no. 1-2. *Calcutta Mathematical Society, Calcutta*, 1995. *pp. i–iv and* 1–118. (Editors) **99b:00016** 00B25 (76–06, 81–06)

— ★ Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works. Part II. Held in Calcutta, January 1–7, 1994. Edited by R. N. Sen. Rev. Bull. Calcutta Math. Soc. **4** (1996), no. 1-2. *Calcutta Mathematical Society, Calcutta*, 1996. *pp. i–iv and* 1–104. (Editors) **99b:00017** 00B25 (76–06, 81–06)

Set-valued optimization ★ Set-valued optimization. Edited by Guang Ya Chen and Johannes Jahn. Math. Methods Oper. Res. **48** (1998), no. 2. *Physica-Verlag, Heidelberg*, 1998. *pp.* 151–285. (Editors) **99g:90010** 90–06 (49J52, 90C29, 90C48)

Seville ★ Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications. Held at the University of Sevilla, Seville, September 22–26, 1997. Edited by Antonio J. Duran. J. Comput. Appl. Math. **99** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–viii and* 1–533. (Editors) **99h:33001** 33–06 (00B25, 33C45, 41A20, 42C05, 44A60)

Shanghai ★ China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects. Held at Fudan University, Shanghai, October 30–November 4, 1994. Edited by T.-T. Li [Da Qian Li], M. Mimura, Y. Nishiura and Q.-X. Ye. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+229 *pp. ISBN* 981-02-2667-5 (Editors) **99f:00026** 00B25 (35–06)

— ★ Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems. Held at Fudan University, Shanghai, June 12–16, 1995. Edited by Ta-Tsien Li [Da Qian Li]. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+272 *pp. ISBN* 981-02-3055-9 (Editors) **99g:35005** 35–06

— ★ Operator algebras and operator theory. Proceedings of the International Conference held at East China Normal University, Shanghai, July 4–9, 1997. Edited by Liming Ge, Huaxin Lin, Zhong-Jin Ruan, Dianzhou Zhang and Shuang Zhang. Contemporary Mathematics, 228. *American Mathematical Society, Providence, RI*, 1998. *xx*+389 *pp. ISBN* 0-8218-1093-6 (Editors) **99h:46001** 46–06 (00B25, 47–06)

Sherbrooke, PQ ★ {Dedicated to the memory of Gilles Fournier}. Papers from the conference held at the University of Sherbrooke, Sherbrooke, PQ, August 13–16, 1997. Edited by Ibrahim Assem. Ann. Sci. Math. Québec **22** (1998), no. 2. *Groupe des Chercheurs en Sciences Mathématiques (Association Mathématique du Québec), Montreal, QC*, 1998. *pp. i–ii and* 95–252. (Editors) **99i:00033** 00B30

Siberian Advances in Mathematics ★ Siberian Advances in Mathematics. Selected translations. Siberian Adv. Math. **6** (1996), no. 3. *Allerton Press, Inc., New York*, 1996. *pp.* i–ii *and* 1–150. (Editors) **99b:00028** 00B55

Siena ★ Epistemologia della matematica. Seminari 1992–1993. (Italian) [Epistemology of mathematics. 1992–1993 Seminars] Papers from the seminars held in Siena, Bologna and Pavia, 1992–1993. Edited by Mario Ferrari and Francesco Speranza. Formazione e Aggiornamento in Matematica degli Insegnanti [Training and Continuing Education in Mathematics for Teachers], 14. *Consiglio Nazionale delle Ricerche (CNR), Rome*, 1994. *vi*+224 *pp.* (Editors) **99a:00007** 00A30 (00A35, 03A05)

— ★ Groups and geometries. Proceedings of the conference held in Sienna, September 1–7, 1996. Edited by Lino di Martino, William M. Kantor, Guglielmo Lunardon, Antonio Pasini and Maria Clara Tamburini [Maria Chiara Tamburini Bellani]. Trends in Mathematics. *Birkhäuser Verlag, Basel*, 1998. *xii*+261 *pp. ISBN* 3-7643-5881-5 (Editors) **99c:51004** 51–06 (20–06)

Sieve methods, exponential sums, and their applications in number theory ★ Sieve methods, exponential sums, and their applications in number theory. Proceedings of the symposium held in Cardiff, July 17–21, 1995. Edited by G. R. H. Greaves, G. Harman and M. N. Huxley. London Mathematical Society Lecture Note Series, 237. *Cambridge University Press, Cambridge*, 1997. *xii*+344 *pp. ISBN* 0-521-58957-6 (Editors) **99b:11004** 11–06

Simplification of systems of algebraic and differential equations with applications ★ Simplification of systems of algebraic and differential equations with applications. Edited by A. D. Bruno, V. F. Edneral and S. Steinberg. Math. Comput. Simulation **45** (1998), no. 5-6. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 409–576. (Editors) **99a:00047** 00B25 (34–06, 65–06, 70–06, 70–08)

Singapore ★ Algorithms and computation. Proceedings of the 8th International Symposium (ISAAC'97) held in Singapore, December 17–19, 1997. Edited by Hon Wai Leong, Hiroshi Imai and Sanjay Jain. Lecture Notes in Computer Science, 1350. *Springer-Verlag, Berlin*, 1997. *xvi*+426 *pp. ISBN* 3-540-63890-3 (Editors) **99f:68001** 68–06

Singularities ★ Singularities. The Brieskorn anniversary volume. Papers from the Conference in Honor of the 60th Birthday of Egbert V. Brieskorn held at the Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, July 1996. Edited by V. I. Arnold, G.-M. Greuel and J. H. M. Steenbrink. Progress in Mathematics, 162. *Birkhäuser Verlag, Basel*, 1998. *xxvi*+458 *pp. ISBN* 3-7643-5913-7 (Editors) **99e:00031** 00B30 (14–06, 32–06)

Singularities and complex analytic geometry ★ Tokuiten to fukuso kaiseki kika. [Singularities and complex analytic geometry] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 1–4, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1033 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–171. (Editors) **99h:32002** 32–06 (14–06)

Singularities Symposium—Łojasiewicz 70 ★ Singularities Symposium—Łojasiewicz 70. Dedicated to Stanisław Łojasiewicz on the occasion of his 70th birthday. Papers from the Symposium on Singularities held at Jagellonian University, Kraków, September 25–29, 1996 and the Seminar on Singularities and Geometry held in Warsaw, September 30–October 4, 1996. Edited by Bronisław Jakubczyk, Wiesław Pawłucki and Jacek Stasica. Banach Center Publications, **44**. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 292 *pp.* (Editors) **99i:00035** 00B30 (14–06, 32–06)

Six lectures on commutative algebra ★ Six lectures on commutative algebra. Papers from the Summer School on Commutative Algebra held in Bellaterra, July 16–26, 1996. Edited by J. Elías, J. M. Giral, R. M. Miró-Roig and S. Zarzuela. Progress in Mathematics, 166. *Birkhäuser Verlag, Basel*, 1998. *xii*+398 *pp. ISBN* 3-7643-5951-X (Editors) **99e:13001** 13–06

SODA '95 ★ SODA '95. Selected papers from the 6th Annual ACM-SIAM Symposium on Discrete Algorithms held in San Francisco, CA, January 22–24, 1995. Edited by Kenneth L. Clarkson. J. Algorithms **29** (1998), no. 2. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 203–410. (Editors) **99g:68007** 68–06 (68Rxx)

Soest ★ Analytical and structural considerations in fuzzy modeling. Selected papers from the 4th International Workshop Fuzzy-Neuro Systems '97—Computational Intelligence held at the University of Paderborn, Soest, March 12–14, 1997. Edited by A. Grauel. Fuzzy Sets and Systems **101** (1999), no. 2. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iii and* 205–313. (Editors) **99k:93004** 93–06 (65D15, 93C42)

Sofia ★ Epidemiology, cellular automata, and evolution. Part I: Selected papers from the Conference on Deterministic and Stochastic Modelling of Biological Interaction (DESTOBIO'97) held in Sofia, August 28–31, 1997. Edited by S. Agur, J. Cushing, O. Diekmann, M. Gyllenberg, H. Heesterbeek, P. Jagers, M. Kimmel, T. Kostova and F. Milner. Math. Biosci. **156** (1999), no. 1-2. *Elsevier, New York*, 1999. *pp. i–viii and* 1–342. (Editors) **99m:92001** 92–06

— ★ Deterministic models with applications in population dynamics and other fields of biology. Part II: Selected papers from the Conference on Deterministic and Stochastic Modelling of Biological Interaction (DESTOBIO'97) held in Sofia, August 28–31, 1997. Edited by S. Agur, J. Cushing, O. Diekmann, M. Gyllenberg, H. Heesterbeek, P. Jagers, M. Kimmel, T. Kostova and F. Milner. Math. Biosci. **157** (1999), no. 1-2. *Elsevier, New York*, 1999. *pp. i–viii and* 1–376. (Editors) **99m:92002** 92–06

Solving differential equations on parallel computers ★ Solving differential equations on parallel computers. Edited by Jacques J. B. de Swart. CWI Quarterly **11** (1998), no. 1. *Centrum voor Wiskunde en Informatica, Amsterdam*, 1998. *pp. i–ii and* 1–111. (Editors) **99g:65011** 65–06 (65M06, 65Y05)

Solving irregularly structured problems in parallel ★ Solving irregularly structured problems in parallel. Papers from the 5th International Symposium (IRREGULAR'98) held in Berkeley, CA, August 9–11, 1998. Edited by A. Ferreira, J. Rolim, H. Simon and S.-H. Teng. Lecture Notes in Computer Science, 1457. *Springer-Verlag, Berlin*, 1998. *x*+408 *pp. ISBN* 3-540-64809-7 (Editors) **99h:65007** 65–06 (65F30, 65Y05, 65Y25)

Some questions of mathematical physics and function theory ★ Some questions of mathematical physics and function theory. Edited by N. N. Ural'tseva. A translation of *Some questions of mathematical physics and function theory* (Russian), Probl. Mat. Anal., No. 16, S.-Petersburg Gos. Univ., St. Petersburg, 1997. Translation edited by I. N. Rozhkovskaya. J. Math. Sci. (New York) **92** (1998), no. 6. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 4231–4411. (Editors) **99h:00043** 00B55 (35–06)

Some tapas of computer algebra ★ Some tapas of computer algebra. Edited by Arjeh M. Cohen, Hans Cuypers and Hans Sterk. Algorithms and Computation in Mathematics, 4. *Springer-Verlag, Berlin*, 1999. *xiv*+352 *pp. ISBN* 3-540-63480-0 (Editors) **99k:00038** 00B25 (13–06, 14–06)

Sorak Mountain Resort ★ Topics in theoretical physics. Proceedings of the 2nd Pacific Winter School in Theoretical Physics held at Sorak Mountain Resort, January 19–24, 1995. Edited by Y. M. Cho. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+265 *pp. ISBN* 981-02-3083-4 (Editors) **99f:81005** 81–06

South Hadley, MA ★ Advances in discrete and computational geometry. Proceedings of the AMS-IMS-SIAM Joint Summer Research Conference on Discrete and Computational Geometry: Ten Years Later held at Mount Holyoke College, South Hadley, MA, July 14–18, 1996. Edited by Bernard Chazelle, Jacob E. Goodman and Richard Pollack. Contemporary Mathematics, 223. *American Mathematical Society, Providence, RI*, 1999. *xii*+463 *pp. ISBN* 0-8218-0674-2 (Editors) **99f:52003** 52–06 (00B25, 68U05)

Southampton ★ Algebraic and logic programming. Proceedings of the 6th International Conference on Algebraic and Logic Programming (ALP'97) and the 3rd International Workshop on Higher-order Algebra, Logic and Term Rewriting (HOA'97) held jointly in Southampton, September 3–5, 1997. Edited by Michael Hanus, Jan Heering and Karl Meinke. Lecture Notes in Computer Science, 1298. *Springer-Verlag, Berlin*, 1997. *x*+286 *pp. ISBN* 3-540-63459-2 (Editors) **99b:68002** 68–06 (68N15, 68Q42)

— ★ Boundary element research in Europe. Papers from the European Boundary Element Symposium (EUROBEM '98) held in Southampton, May 19–21, 1998. Edited by C. A. Brebbia. *Computational Mechanics Publications, Southampton*, 1998. *x*+326 *pp. ISBN* 1-85312-594-6 (Editors) **99k:73001** 73–06 (65–06, 73V10)

Sozopol ★ Applications of mathematics in engineering. Proceedings of the 23rd Summer School held in Sozopol, June 15–21, 1997. Edited by B. I. Cheshankov and M. D. Todorov. *Heron Press Ltd., Sofia*, 1998. 202 *pp. ISBN* 954-580-043-7 (Editors) **99d:00013** 00B25

— ★ Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems. Held in Sozopol, September 16–20, 1997. Dedicated to the memory of Prof. Dr. Radostin Ivanov. Edited by P. S. Kenderov and J. P. Revalski. Pliska Stud. Math. Bulgar. **12** (1998). *Publishing House of the Bulgarian Academy of Sciences, Amsterdam*, 1998. *pp.* 1–280. (Editors) **99k:49002** 49–06 (00B25, 00B30, 90–06)

— ★ Applications of mathematics in engineering. Proceedings of the 24th Summer School held in Sozopol, June 14–20, 1998. Edited by B. I. Cheshankov and M. D. Todorov. *Heron Press Ltd., Sofia*, 1999. 246 *pp. ISBN* 954-580-057-7 (Editors) **99m:00024** 00B25 (34–06, 65–06, 73–06)

Sparse matrices in industry ★ Sparse matrices in industry. Papers from the 2nd Symposium on New Techniques for the Treatment of Sparse Matrices for Industrial Problems held at the Université des Sciences et Technologies de Lille, Lille, April 28–29, 1997. Numer. Algorithms **16** (1997), no. 1. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–vi and* 1–94. (Editors) **99a:65006** 65–06 (65F50)

Special functions and differential equations ★ Special functions and differential equations. Proceedings of the workshop (WSSF97) held in Madras, January 13–24, 1997. Edited by K. Srinivasa Rao, R. Jagannathan, G. Vanden Berghe and J. Van der Jeugt. *Allied Publishers Private Limited, New Delhi*, 1998. *xvi*+486 *pp. ISBN* 81-7023-764-5 (Editors) **99h:33002** 33–06 (81–06)

Special Issue:

Adaptive learning and control using sliding modes ★ Adaptive learning and control using sliding modes. Edited by Xinghuo Yu. Appl. Math. Comput. Sci. **8** (1998), no. 1. *Technical University Press, Zielona Góra*, 1998. *pp.* 1–197. (Editors) **99a:93003** 93–06

Aggregation ★ Aggregation. Edited by W. Hildenbrand. J. Math. Econom. **31** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–ii and* 1–158. (Editors) **99k:90003** 90–06 (90A09)

Applied computational geometry ★ Applied computational geometry. Edited by Christoph M. Hoffmann. Comput. Geom. **10** (1998), no. 4. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 221–318. (Editors) **99b:68003** 68–06 (68U05)

Automatic control ★ Automatic control. J. Beijing Inst. Technol. (Chin. Ed.) **17** (1997), no. 3. *Journal of Beijing Institute of Technology, Editorial Department, Beijing*, 1997. *pp. i–vi and* 263–400. (Editors) **99a:93004** 93–06

Axiomatics of resource allocation ★ Axiomatics of resource allocation. I. Math. Social Sci. **35** (1998), no. 2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 87–218. (Editors) **99a:90084** 90A80 (90–06)

— ★ Axiomatics of resource allocation. II. Math. Social Sci. **36** (1998), no. 3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 183–268. (Editors) **99h:90005** 90–06

Barrett Lectures in control theory ★ Special issue on Barrett Lectures in control theory. Papers from the 1997 Barrett Lectures held at the University of Tennessee, Knoxville, TN, March 20–22, 1997. Math. Models Methods Appl. Sci. **8** (1998), no. 7. *World Scientific Publishing Co., Singapore*, 1998. *pp. i–iv and* 1119–1276. (Editors) **99g:93005** 93–06

Special Issue: (*cont'd.*)

Categorical methods and techniques in fuzzy mathematics ★ Categorical methods and techniques in fuzzy mathematics. Edited by R. Lowen. Fuzzy Sets and Systems **104** (1999), no. 3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 357–433. (Editors) **99m:03114** 03E72 (03–06, 18–06)

Celebrating the 60th birthday of Ludwig Elsner ★ Special issue celebrating the 60th birthday of Ludwig Elsner. Edited by R. Bhatia, A. Bunse-Gerstner, V. Mehrmann and D. D. Olesky. Linear Algebra Appl. **287** (1999), no. 1-3. *North-Holland Publishing Co., New York*, 1999. *pp. vii–x and* 1–379. 00B30 (15–06, 65–06)

Classical and quantum chaos ★ Classical and quantum chaos. Dedicated to Boris Chirikov on the occasion of his 70th birthday. Ann. Inst. H. Poincaré Phys. Théor. **68** (1998), no. 4. *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris*, 1998. *pp. i–ii and* 379–523. (Editors) **99b:58004** 58–06 (81–06)

Computability theory ★ Computability theory. Edited by Douglas Cenzer and Jeffrey B. Remmel. Ann. Pure Appl. Logic **93** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–iv and* 1–263. (Editors) **99d:03038** 03Dxx (03–06)

Computational fluid dynamics in Russia ★ Computational fluid dynamics in Russia. Edited by Yu. Shokin. Int. J. Comput. Fluid Dyn. **10** (1998), no. 2. *Gordon and Breach Science Publishers, Yverdon*, 1998. *pp.* 91–182. (Editors) **99e:76001** 76–06

Computational methods and bifurcation theory with applications ★ Computational methods and bifurcation theory with applications. Edited by Tim Healey. Comput. Methods Appl. Mech. Engrg. **170** (1999), no. 3-4. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–ii and* 173–460. (Editors) **99k:34001** 34–06 (00B15, 34C23, 65–06, 73H05)

Computational methods in computer graphics ★ Special issue: computational methods in computer graphics. Edited by D. S. Meek and D. J. Walton. J. Comput. Appl. Math. **102** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 1–180. (Editors) **99h:65003** 65–06 (65Dxx, 65Y25, 68U05)

Controller reduction and system approximation ★ Controller reduction and system approximation. Edited by Kemin Zhou and Davut Kavranoğlu. Internat. J. Robust Nonlinear Control **9** (1999), no. 3. *John Wiley & Sons, Ltd., Chichester*, 1999. *pp. i–ii and* 121–198. (Editors) **99k:93005** 93–06 (93B11, 93B17)

Cultures of theory ★ Cultures of theory. Edited by Peter Galison and Andrew Warwick. Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys. **29** (1998), no. 3. *Pergamon Press, Exeter*, 1998. *pp. i–iv and* 287–434. (Editors) **99h:01002** 01–06 (00A79)

Data processing and process control ★ Data processing and process control. Edited by Mikhail Skliar [M. V. Sklyar] and W. Fred Ramirez. Appl. Math. Comput. Sci. **8** (1998), no. 4. *Technical University Press, Zielona Góra*, 1998. *pp. i–vi and* 695–898. (Editors) **99h:93003** 93–06 (93A30, 93B30, 93E10)

Domain theory ★ Domain theory. Edited by Jimmie Lawson. Topology Appl. **89** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–vi and* 1–202. (Editors) **99c:00009** 00B15

Evolutionary computation ★ Evolutionary computation. Edited by Zbigniew Michalewicz and Marc Schoenauer. Control Cybernet. **26** (1997), no. 3. *Polish Academy of Sciences, Systems Research Institute, Warsaw*, 1997. *pp.* i–ii *and* 301–585. (Jacques A. Ferland) **99b:90008** 90–06 (90C27)

Experimental economics ★ Experimental economics. Edited by Gary Bolton. J. Math. Psych. **42** (1998), no. 2-3. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 129–384. (Editors) **99d:90004** 90–06 (90A99)

Flow control and optimization ★ Flow control and optimization. Edited by Max D. Gunzburger and L. Steven Hou [LiSheng Hou]. Int. J. Comput. Fluid Dyn. **11** (1998), no. 1-2. *Gordon and Breach Science Publishers, Yverdon*, 1998. *pp.* 1–191. (Editors) **99k:76005** 76–06 (49–06)

Fuzzy measures and integrals ★ Fuzzy measures and integrals. Edited by Radko Mesiar and Endre Pap. Fuzzy Sets and Systems **102** (1999), no. 3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iii and* 361–469. (Editors) **99k:00021** 00B15 (04A72, 28–06)

Fuzzy sets and applications ★ Fuzzy sets and applications. Edited by Marc Pirlot. Belg. J. Oper. Res. Statist. Comput. Sci. **37** (1997), no. 1-2. *Sogesci, Brussels*, 1997. *pp.* 1–100. (Editors) **99a:90004** 90–06 (90C70)

Girona 97 ★ Girona 97 special issue. Selected papers from the 7th International Conference on Mathematical Chemistry and the 3rd Seminar on Molecular Similarity held in Girona, May 26–31, 1997. J. Math. Chem. **23** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. v–viii and* 1–261. (Editors) **99c:92002** 92–06 (80–06)

Global optimization, control, and games ★ Global optimization, control, and games. III. Edited by Efim A. Galperin. Comput. Math. Appl. **37** (1999), no. 4-5. *Pergamon Press, Oxford*, 1999. *pp. i–xiv and* 1–208. (Editors) **99i:90003** 90–06 (49–06, 90Dxx)

Hybrid control systems ★ Hybrid control systems. Edited by Panos J. Antsaklis and Anil Nerode. IEEE Trans. Automat. Control **43** (1998), no. 4. *Institute of Electrical and Electronics Engineers, Inc. (IEEE), Amsterdam*, 1998. *pp.* 457–587. (Editors) **99a:93006** 93–06 (34H05, 93C10, 93C57)

IEEE Trans. Inform. Theory ★ Information theory: 1948–1998. Edited by Sergio Verdú. IEEE Trans. Inform. Theory **44** (1998), no. 6. *Institute of Electrical and Electronics Engineers, Inc. (IEEE), Zielona Góra*, 1998. *pp. i and* 2042–2772. (Editors) **99h:94002** 94–06 (94A15)

Imperfect recall ★ Special issue on imperfect recall. Edited by Ehud Kalai. Games Econom. Behav. **20** (1997), no. 1. *Academic Press, Inc., Orlando, FL*, 1997. *pp.* 1–130. (Akira Okada) **99b:90162** 90D06 (90–06, 90A05, 90D10)

Impossible worlds ★ Impossible worlds. Edited by Graham Priest. Notre Dame J. Formal Logic **38** (1997), no. 4. *University of Notre Dame, Notre Dame, IN*, 1997. *pp.* 481–660. (Editors) **99d:03002** 03–06 (03A05, 03B45, 03B53)

Iterative methods ★ Special issue on iterative methods. Papers from the 11th Copper Mountain Meeting held in Copper Mountain, CO, April 1996. SIAM J. Sci. Comput. **19** (1998), no. 1. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *pp. i–viii and* 1–318 (*electronic*). (Editors) **99a:65007** 65–06

Learning theory ★ Learning theory. Edited by P. L. Bartlett and M. Vidyasagar. Systems Control Lett. **34** (1998), no. 3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 113–158. (Editors) **99b:93003** 93–06 (68T05, 93B30, 93E35)

Linear algebra and statistics ★ Linear algebra and statistics. Including papers from the 6th International Workshop on Matrices and Statistics held in Istanbul, August 16–17, 1997. Edited by R. William Farebrother, Simo Puntanen, George P. H. Styan and Hans Joachim Werner. Linear Algebra Appl. **289** (1999), no. 1-3. *North-Holland Publishing Co., New York*, 1999. *pp. i–iv and* 1–344. (Editors) **99i:00019** 00B25 (15–06, 62–06)

Many-valued logics ★ Many-valued logics. Edited by Daniele Mundici. Studia Logica **61** (1998), no. 1. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. iii–iv and* 1–169. (Editors) **99d:03005** 03–06

New trends in discrete event systems ★ Special issue on new trends in discrete event systems. (Japanese) Systems Control Inform. **42** (1998), no. 8. *Institute of Systems, Control and Information Engineers, Kyoto*, 1998. *pp. i–ii and* 415–469. (Editors) **99g:93006** 93–06 (93C30, 93C83)

Numerical treatment of boundary integral equations ★ Numerical treatment of boundary integral equations. Edited by K. E. Atkinson and Y. Xu. Adv. Comput. Math. **9** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. iii–viii and* 1–249. (Editors) **99g:65006** 65–06

Perspectives on intuitionism ★ Perspectives on intuitionism. Edited by Richard Tieszen. Philos. Math. (3) **6** (1998), no. 2. *Canadian Society for History and Philosophy of Mathematics, Winnipeg, MB*, 1998. *pp.* 129–226. (Editors) **99a:03004** 03–06 (03A05, 03B20)

Recent advances in contact mechanics ★ Recent advances in contact mechanics. Edited by Meir Shillor. Math. Comput. Modelling **28** (1998), no. 4-8. *Pergamon Press, Exeter*, 1998. *pp. vii–xiv and* 1–534. (Editors) **99e:73004** 73–06 (73T05)

Recent advances in structural modelling and optimization ★ Recent advances in structural modelling and optimization. Dedicated to Professor Zenon Mróz. Edited by Jan Sokołowski and John Taylor. Control Cybernet. **27** (1998), no. 2. *Polish Academy of Sciences, Systems Research Institute, Warsaw*, 1998. *pp.* 159–330. (Editors) **99k:73003** 73–06 (00B30, 49Q10, 73K40, 90C90)

Recent developments in multiple objective optimization ★ Recent developments in multiple objective optimization. Edited by Y. Siskos and C. Zopounidis. J. Global Optim. **12** (1998), no. 2. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–iv and* 111–214. (Editors) **99a:90011** 90–06 (90C29)

Recent developments in two-dimensional linear systems theory ★ Recent developments in two-dimensional linear systems theory. Edited by Tadeusz Kaczorek. Appl. Math. Comput. Sci. **7** (1997), no. 4. *Technical University Press, Zielona Góra*, 1997. *pp. i–vi and* 713–941. (Editors) **99a:92001** 92–06

Set-valued optimization ★ Set-valued optimization. Edited by Guang Ya Chen and Johannes Jahn. Math. Methods Oper. Res. **48** (1998), no. 2. *Physica-Verlag, Heidelberg*, 1998. *pp.* 151–285. (Editors) **99g:90010** 90–06 (49J52, 90C29, 90C48)

Solving differential equations on parallel computers ★ Solving differential equations on parallel computers. Edited by Jacques J. B. de Swart. CWI Quarterly **11** (1998), no. 1. *Centrum voor Wiskunde en Informatica, Amsterdam*, 1998. *pp. i–ii and* 1–111. (Editors) **99g:65011** 65–06 (65M06, 65Y05)

Susarla, Vyaghreshwarudu ★ Special issue in memory of V. Susarla. Edited by Hira L. Koul. Statist. Probab. Lett. **41** (1999), no. 3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 209–330. (Editors) **99i:62003** 62–06 (00B30)

Symbolic numeric algebra for polynomials ★ Symbolic numeric algebra for polynomials. Edited by S. M. Watt and H. J. Stetter. J. Symbolic Comput. **26** (1998), no. 6. *Academic Press, Ltd., London*, 1998. *pp.* 649–803. (Editors) **99g:00033** 00B15 (65F30, 65H05, 68Q40)

Symplectic geometry ★ Symplectic geometry. Edited by Mark J. Gotay. Differential Geom. Appl. **9** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 1–238. (Editors) **99b:58007** 58–06

Taussky-Todd, Olga ★ Special issue in memory of Olga Taussky Todd. Edited by Helene Shapiro. Linear Algebra Appl. **280** (1998), no. 1. *North-Holland Publishing Co., New York*, 1998. *pp. iv–viii and* 1–85. (Editors) **99c:01028** 01A70 (01–06)

Ten years of Gurevich's abstract state machines ★ Ten years of Gurevich's abstract state machines. Part I. J.UCS **3** (1997), no. 4. *Springer-Verlag, Heidelberg*, 1997. *front matter and pp.* 230–413 (*electronic*). 68Q05

— ★ Ten years of Gurevich's abstract state machines. Part II. J.UCS **3** (1997), no. 5. *Springer-Verlag, Heidelberg*, 1997. *front matter and pp.* 414–701 (*electronic*). 68Q05

Topological groups ★ Special issue on topological groups. Edited by V. V. Uspenskij [Vladimir V. Uspenskiĭ]. Topology Appl. **86** (1998), no. 1. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–viii and* 1–104. (Editors) **99a:22001** 22–06 (54–06, 54H11)

Transportation ★ Transportation. Sci. Iran. **2** (1995), no. 3. *Sharif University of Technology, Tehran*, 1995. *pp. i–viii and* 185–276. (Editors) **99g:90011** 90–06 (90B06, 90C35)

Traveling salesman problem ★ The traveling salesman problem. Edited by A. Punnen. Comput. Oper. Res. **26** (1999), no. 4. *Pergamon Press, Exeter*, 1999. *pp.* 293–441. (Editors) **99m:90007** 90–06 (90C27, 90C35)

Twenty years of feedback linearization of nonlinear systems ★ Twenty years of feedback linearization of nonlinear systems. Edited by H. Nijmeijer and A. Isidori. Internat. J. Robust Nonlinear Control **8** (1998), no. 11. *John Wiley & Sons, Ltd., Chichester*, 1998. *pp. i–ii and* 921–1020. (Editors) **99f:93004** 93–06 (93B18, 93B29, 93C10)

Using fuzzy algebraic structures in intelligent systems ★ Using fuzzy algebraic structures in intelligent systems. Edited by A. Gisolfi, W. Pedrycz and S. Sessa. Inform. Sci. **106** (1998), no. 1-2. *North-Holland Publishing Co., New York*, 1998. *pp. i–iv and* 1–195. (Editors) **99d:68015** 68–06 (03B52, 04A72, 68T27)

Special Year:

Algebraic Topology ★ Homotopy theory via algebraic geometry and group representations. Proceedings of the International Conference on Current Trends in Algebraic Topology with Applications to Algebraic Geometry and Physics held as part of The Special Year on Algebraic Topology at Northwestern University, Evanston, IL, March 23–27, 1997. Edited by Mark Mahowald and Stewart Priddy. Contemporary Mathematics, 220. *American Mathematical Society, Providence, RI*, 1998. *xii+379 pp. ISBN* 0-8218-0805-2 (Editors) **99c:55001** 55–06

Discrete Probability ★ Microsurveys in discrete probability. Papers from the workshop held as part of the Dimacs Special Year on Discrete Probability in Princeton, NJ, June 2–6, 1997. Edited by David Aldous and James Propp. DIMACS Series in Discrete

Special Year: (*cont'd.*)
Mathematics and Theoretical Computer Science, 41. *American Mathematical Society, Providence, RI*, 1998. *x*+220 *pp. ISBN* 0-8218-0827-3 (Editors) **99b:60003** 60–06

Mathematical Support for Molecular Biology ★ Mathematical support for molecular biology. Papers from the DIMACS Special Year held 1994–1998. Edited by Martin Farach-Colton, Fred S. Roberts, Martin Vingron and Michael Waterman. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 47. *American Mathematical Society, Providence, RI*, 1999. *xvi*+288 *pp. ISBN* 0-8218-0826-5 (Editors) **99k:92003** 92–06 (92D15, 92D20)

Network Switching ★ Advances in switching networks. Papers from the workshop held as part of the DIMACS Special Year on Network Switching at Princeton University, Princeton, NJ, July 7–9, 1997. Edited by Ding-Zhu Du and Frank K. Hwang. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 42. *American Mathematical Society, Providence, RI*, 1998. *xii*+333 *pp. ISBN* 0-8218-0831-1 (Editors) **99a:94001** 94–06 (68M10, 94C10)

Operator Algebras and Applications ★ Operator algebras and their applications. II. Papers from the Special Year held at the Fields Institute for Research in Mathematical Sciences, Waterloo, ON, 1994–1995. Edited by Peter A. Fillmore and James A. Mingo. Fields Institute Communications, 20. *American Mathematical Society, Providence, RI*, 1998. *x*+170 *pp. ISBN* 0-8218-0908-3 (Editors) **99c:46002** 46–06

Spectral and scattering theory ★ Spectral and scattering theory. Selected papers from the Special Session, held as part of the 1st International Congress of the International Society for Analysis, Applications and Computing (ISAAC), at the University of Delaware, Newark, DE, June 3–7, 1997. Edited by Alexander G. Ramm. *Plenum Press, New York*, 1998. *viii*+207 *pp. ISBN* 0-306-45829-2 (Editors) **99a:00048** 00B25 (35–06)

Spectral and scattering theory and related topics ★ Supekutoru sanran riron to sono shūhen. (Japanese) [Spectral and scattering theory and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, February 5–7, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 994 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–202. (Editors) **99a:00049** 00B25 (35–06, 47–06)

Spectral-scattering theory and related topics ★ Supekutoru sanran riron to sono shūhen. (Japanese) [Spectral-scattering theory and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 2–7, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1047 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–133. (Editors) **99i:00030** 00B25 (35–06, 47–06, 81–06)

Spectral studies of transfer operators and applications ★ Études spectrales d'opérateurs de transfert et applications. (French) [Spectral studies of transfer operators and applications] Astérisque **1996**, no. 238. *Société Mathématique de France, Paris*, 1996. *pp. i–ii and* 1–177. (Editors) **99d:58008** 58–06

Spline functions and the theory of wavelets ★ Spline functions and the theory of wavelets. Proceedings of the workshops held at the Université de Montréal, Montreal, PQ, 1996. Edited by Serge Dubuc and Gilles Deslauriers. CRM Proceedings & Lecture Notes, 18. *American Mathematical Society, Providence, RI*, 1999. *x*+397 *pp. ISBN* 0-8218-0875-3 (Editors) **99i:65005** 65–06 (41–06, 42–06)

Srní ★ Proceedings of the 17th Winter School "Geometry and Physics". Held in Srní, January 11–18, 1997. Edited by Jan Slovák and Martin Čadek. Rend. Circ. Mat. Palermo (2) Suppl. No. 54 (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp.* 1–126. (Editors) **99g:00047** 00B25

St. Petersburg ★ Probability theory and mathematical statistics. Papers from the Semester on Probability and Mathematical Statistics held at the Euler International Mathematical Institute, St. Petersburg, March 2–April 23, 1993. Edited by I. A. Ibragimov and A. Yu. Zaitsev. *Gordon and Breach Publishers, Amsterdam*, 1996. *x*+321 *pp. ISBN* 2-919875-14-0 (Editors) **99g:60004** 60–06 (62–06)

Stability and control of time-delay systems ★ Stability and control of time-delay systems. Edited by L. Dugard and E. I. Verriest. Lecture Notes in Control and Information Sciences, 228. *Springer-Verlag London, Ltd., London*, 1998. xx+317 *pp. ISBN* 3-540-76193-4 (From the preface) **99h:93004** 93–06 (34H05, 34K35, 93C30, 93D05)

Stability problems for stochastic models ★ Stability problems for stochastic models. Part I. Proceedings of the seminar held at Moscow State University, Moscow, 1996. J. Math. Sci. (New York) **89** (1998), no. 5. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 1459–1589. (Editors) **99d:00033** 00B55 (60–06, 62–06)

— ★ Stability problems for stochastic models. Part II. Proceedings of the seminar held at Moscow State University, Moscow, 1996. J. Math. Sci. (New York) **91** (1998), no. 3. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 2895–3031. (Editors) **99g:00056** 00B55 (60–06, 62–06)

Stable and unstable homotopy ★ Stable and unstable homotopy. Papers from the Workshop on Stable Homotopy Theory and the Workshop on Unstable and Rational Homotopy Theory held in Toronto, ON, January–June 1996. Edited by William G. Dwyer, Steven Halperin, Richard Kane, Stanley O. Kochman, Mark E. Mahowald and Paul S. Selick. Fields Institute Communications, 19. *American Mathematical Society, Providence, RI*, 1998. *viii*+316 *pp. ISBN* 0-8218-0824-9 (Editors) **99a:55001** 55–06

STACS 98 ★ STACS 98. Proceedings of the 15th Annual Symposium on Theoretical Aspects of Computer Science held in Paris, February 25–27, 1998. Edited by Michel Morvan, Christoph Meinel and Daniel Krob. Lecture Notes in Computer Science, 1373. *Springer-Verlag, Berlin*, 1998. *xvi*+630 *pp. ISBN* 3-540-64230-7 (Editors) **99f:68011** 68–06

Stanford, CA ★ Quantifiers, deduction, and context. Papers from the 2nd CSLI Workshop on Logic, Language, and Computation held in Stanford, CA, June 4–6, 1993. Edited by Makoto Kanazawa, Christopher J. Piñón and Henriëtte de Swart. CSLI Lecture Notes, 57. *CSLI Publications, Stanford, CA*, 1996. *x*+197 *pp. ISBN* 1-57586-004-X (Editors) **99k:03029** 03B65 (03–06)

— ★ Second Workshop on Higher-order Operational Techniques in Semantics (HOOTS II). Papers from the workshop held at Stanford University, Stanford, CA, December 8–11, 1997. Edited by Andrew Gordon, Andrew Pitts and Carolyn Talcott. Electronic Notes in Theoretical Computer Science, 10. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+299 *pp.* (*electronic*). (Editors) **99e:68003** 68–06 (68N15, 68Q55)

State of the art in numerical analysis ★ The state of the art in numerical analysis. Proceedings of the conference held at the University of York, York, April 1996. Edited by I. S. Duff and G. A. Watson. The Institute of Mathematics and its Applications Conference Series. New Series, 63. *The Clarendon Press, Oxford University Press, New York*, 1997. *xiv*+562 *pp. ISBN* 0-19-850014-9 (Editors) **99a:65008** 65–06 (00B25)

Static analysis ★ Static analysis. Proceedings of the 5th International Symposium (SAS'98) held in Pisa, September 14–16, 1998. Edited by Giorgio Levi. Lecture Notes in Computer Science, 1503. *Springer-Verlag, Berlin*, 1998. *x*+383 *pp. ISBN* 3-540-65014-8 (Editors) **99i:68005** 68–06 (68N20, 68Q60)

Statistical and probabilistic models in reliability ★ Statistical and probabilistic models in reliability. Papers from the 1st International Conference on Mathematical Methods in Reliability held at the Politehnica University of Bucharest, Bucharest, September 16–19, 1997. Edited by D. C. Ionescu and N. Limnios. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1999. *xxxvi*+352 *pp. ISBN* 0-8176-4068-1 (Editors) **99h:60004** 60–06 (60K10, 62–06, 62N05)

Statistical methods in control and signal processing ★ Statistical methods in control and signal processing. Edited by Tohru Katayama and Sueo Sugimoto. Electrical Engineering and Electronics, 103. *Marcel Dekker, Inc., New York*, 1997. *xiv*+553 *pp. ISBN* 0-8247-9948-8 (Editors) **99b:93004** 93–06 (94–06)

Statistical methods in finance ★ Statistical methods in finance. Edited by G. S. Maddala and C. R. Rao. Handbook of Statistics, 14. *North-Holland Publishing Co., Amsterdam*, 1996. xvi+733 *pp. ISBN* 0-444-81964-9 (Editors) **99g:62157** 62P20 (90A09)

Statistical methods of estimation and testing of hypotheses ★ Statistical methods of estimation and testing of hypotheses. A translation of *Statistical methods of estimation and testing of hypotheses* (Russian), Perm. Gos. Univ., Perm′, 1995. J. Math. Sci. (New York) **88** (1998), no. 6. *Consultants Bureau, New York*, 1998. *pp. i–ii and* 763–907. (Editors) **99b:62004** 62–06 (00B55, 60–06)

Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications ★ Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications. Proceedings of the STATPHYS-19 Satellite Meeting held in Tianjin, August 8–10, 1995, and the 7th Nankai Workshop held in Tianjin, August 12–13, 1995. Edited by M. L. Ge and F. Y. Wu. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+444 *pp. ISBN* 981-02-2756-6 (Robert A. Weston) **99f:82002** 82–06 (82B20, 82B23)

Statistical theory and applications ★ Statistical theory and applications. Dedicated to Professor C. Radhakrishna Rao. Int. J. Math. Stat. Sci. **7** (1998), no. 1. *Thesaurus Publishing, Miami, FL*, 1998. *pp.* 1–128. (Editors) **99f:00031** 00B30 (62–06)

Statistics and control of stochastic processes ★ Statistics and control of stochastic processes. The Liptser Festschrift. Papers from the Steklov Seminar held in Moscow, 1995–1996. Edited by Yu. M. Kabanov, B. L. Rozovskii and A. N. Shiryaev. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xxii*+354 *pp. ISBN* 981-02-3292-6 (Editors) **99e:60005** 60–06 (00B30)

Stochastic analysis and related topics ★ Stochastic analysis and related topics. VI. Proceedings of the 6th Oslo-Silivri Workshop held in Geilo, July 29–August 6, 1996. Edited by L. Decreusefond, Jon Gjerde, B. Øksendal and A. S. Üstünel. Progress in Probability, 42. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xii*+409 *pp. ISBN* 0-8176-4018-5 (Editors) **99e:60006** 60–06

Stochastic and differential games ★ Stochastic and differential games. Theory and numerical methods. Edited by Martino Bardi, T. E. S. Raghavan and T. Parthasarathy. Annals of the International Society of Dynamic Games, 4. *Birkhäuser Boston, Inc., Boston, MA*, 1999. *xvi*+380 *pp. ISBN* 0-8176-4029-0 (Editors) **99m:90005** 90–06 (49L25, 49M25, 90C15, 90D25)

Stochastic differential and difference equations ★ Stochastic differential and difference equations. Papers from the conference held at Széchenyi István College, Győr, August 21–24, 1996. Edited by I. Csiszár and Gy. Michaletzky. Progress in Systems and Control Theory, 23. *Birkhäuser Boston, Inc., boston, MA*, 1997. *xviii*+353 *pp. ISBN* 0-8176-3971-3 (Editors) **99c:60002** 60–06

Stochastic dynamics ★ Stochastic dynamics. Papers from the Conference on Random Dynamical Systems held in Bremen, April 28–May 2, 1997. Edited by Hans Crauel and Matthias Gundlach. *Springer-Verlag, New York*, 1999. *xxviii*+440 *pp. ISBN* 0-387-98512-3 (Editors) **99k:60003** 60–06 (58–06)

Stochastic partial differential equations: six perspectives ★ Stochastic partial differential equations: six perspectives. Edited by Rene A. Carmona and Boris Rozovskii. Mathematical Surveys and Monographs, 64. *American Mathematical Society, Providence, RI*, 1999. *xii*+334 *pp. ISBN* 0-8218-0806-0 (Editors) **99g:60005** 60–06 (35–06, 35R60, 60H15)

Stochastic processes and related topics ★ Stochastic processes and related topics. In memory of Stamatis Cambanis. 1943–1995. Edited by Ioannis Karatzas, Balram S. Rajput and Murad S. Taqqu. Trends in Mathematics. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xxvi*+375 *pp. ISBN* 0-8176-3998-5 (Editors) **99e:60007** 60–06 (00B30)

Stochastic programming methods and technical applications ★ Stochastic programming methods and technical applications. Proceedings of the 3rd GAMM/IFIP Workshop on Stochastic Optimization: Numerical Methods and Technical Applications held at the Federal Armed Forces University Munich, Neubiberg/Munich, June 17–20, 1996. Edited by Kurt Marti and Peter Kall. Lecture Notes in Economics and Mathematical Systems, 458. *Springer-Verlag, Berlin*, 1998. *x*+437 *pp. ISBN* 3-540-63924-1 (Editors) **99f:90007** 90–06 (90C15)

Stochastic programming. State of the art ★ Stochastic programming. State of the art. 1998. Papers from the 8th International Conference on Stochastic Programming held at the University of British Columbia, Vancouver, BC, August 8–16, 1998. Edited by R. J.-B. Wets and W. T. Ziemba. Ann. Oper. Res. **85** (1999). *Baltzer Science Publishers BV, Bussum*, 1999. *pp. i–xviii and* 1–285. (Editors) **99m:90006** 90–06 (90C15)

Stockholm ★ Algorithm theory—SWAT'98. Proceedings of the 6th Scandinavian Workshop held in Stockholm, July 8–10, 1998. Edited by Stefan Arnborg and Lars Ivansson. Lecture Notes in Computer Science, 1432. *Springer-Verlag, Berlin*, 1998. *x*+347 *pp. ISBN* 3-540-64682-5 (Editors) **99k:68003** 68–06 (00B25, 68Q20, 68Q25)

Stony Brook, NY ★ Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing. Held at the State University of New York, Stony Brook, NY, July 18–21, 1995. Edited by R. Young, J. Glimm and B. Boston. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xv*+427 *pp. ISBN* 981-02-2910-0 (Editors) **99g:76002** 76–06 (76E99, 76F99, 76L05)

String theory, gauge theory and quantum gravity ★ String theory, gauge theory and

quantum gravity. Proceedings of the 2nd Conference on Duality Symmetries in String Theory held in Trieste, April 1–4, 1997, and the Spring School on String Theory, Gauge Theory and Quantum Gravity held in Trieste, April 7–12, 1997. Edited by E. Gava, B. Greene, J. Louis, K. S. Narain and S. Randjbar-Daemi. Nuclear Phys. B Proc. Suppl. **67** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–251. (Editors) **99a:81005** 81–06 (81T30, 83E30)

String theory in curved space times ★ String theory in curved space times. A collaborative research report. Papers from the String Gravity Meeting held in Paris, June 1996. Edited by N. Sanchez. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xiv*+483 *pp. ISBN* 981-02-3439-2 (Marco Cavaglià) **99m:83197** 83E30 (81–06, 81T30, 83–06)

Strings '95 ★ Strings '95. Future perspectives in string theory. Papers from the conference held at the University of Southern California, Los Angeles, CA, March 13–18, 1995. Edited by I. Bars, P. Bouwknegt, J. Minahan, D. Nemeschansky, K. Pilch, H. Saleur and N. Warner. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+523 *pp. ISBN* 981-02-2472-9 (Editors) **99h:81008** 81–06 (81T30, 83E30)

Strings '97 ★ Strings '97. Proceedings of the International Conference held at the University of Amsterdam, Amsterdam, June 16–21, 1997. Edited by F. A. Bais, E. A. Bergshoeff, B. De Wit, R. Dijkgraaf, A. N. Schellekens, E. P. Verlinde and H. L. Verlinde. Nuclear Phys. B Proc. Suppl. **68** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–397. (Editors) **99d:81003** 81–06 (81T30, 83E30)

Strings, branes and dualities ★ Strings, branes and dualities. Proceedings of the NATO Advanced Study Institute held in Cargèse, May 26–June 14, 1997. Edited by Laurent Baulieu, Philippe Di Francesco, Michael Douglas, Vladimir Kazakov, Marco Picco and Paul Windey. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 520. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xii*+493 *pp. ISBN* 0-7923-5344-7 (Editors) **99k:81009** 81–06

Structure of solutions to rectangular pipe flows ★ Kukei kan nagare no kai no kōzō. (Japanese) [Structure of solutions to rectangular pipe flows] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 22–24, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1018 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–55. (Editors) **99d:76003** 76–06 (76E99, 76F99)

Structures in logic and computer science ★ Structures in logic and computer science. A selection of essays in honor of A. Ehrenfeucht. Edited by Jan Mycielski, Grzegorz Rozenberg and Arto Salomaa. Lecture Notes in Computer Science, 1261. *Springer-Verlag, Berlin*, 1997. *x*+371 *pp. ISBN* 3-540-63246-8 (Editors) **99b:68008** 68–06 (00B30, 03–06)

Studies in the history of modern mathematics ★ Studies in the history of modern mathematics, III. Edited by U. Bottazzini. Rend. Circ. Mat. Palermo (2) Suppl. No. 55 (1998). *Circolo Matematico di Palermo, Palermo*, 1998. *pp.* 1–156. (Editors) **99i:01002** 01–06 (14–06)

Studies in the history of physics and mechanics ★ Исследования по истории физики и механики. 1991–1992. (Russian) [Studies in the history of physics and mechanics. 1991–1992] Edited by A. T. Grigor′yan. "*Nauka*", *Moscow*, 1997. 283 *pp. ISBN* 5-02-013622-0 (Editors) **99g:01002** 01–06

Study of the history of mathematics ★ Sūgaku shi no kenkyū. (Japanese) [Study of the history of mathematics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, May 12–13, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1019 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–132. (Editors) **99d:01002** 01–06

Stuttgart ★ Boundary element topics. Proceedings of the final conference of the Priority Research Programme "Boundary Element Methods 1989–1995" of the German Research Foundation held in Stuttgart, October 2–4, 1995. Edited by Wolfgang L. Wendland. *Springer-Verlag, Berlin*, 1997. *xviii*+498 *pp. ISBN* 3-540-62850-9 (Editors) **99e:00017** 00B25 (65–06, 73–06, 76–06)

—★ Carl Julius von Bach (1847–1931). (German) Pionier—Gestalter—Forscher—Lehrer—Visionär. [Pioneer—shaper—researcher—teacher—visionary] Papers from the Scientific Conference held at the TU Chemnitz, Chemnitz, March 7–8, 1997, and the academic ceremony held on the 150th anniversary of von Bach's birth at the Universität Stuttgart, Stuttgart, July 4, 1997. Edited by Friedrich Naumann. *Verlag Konrad Wittwer, Stuttgart*, 1998. 352 *pp. ISBN* 3-87919-260-X (Editors) **99h:01001** 01–06 (00B30)

Sugaku Expositions ★ Sugaku Expositions. A translation of Sūgaku. Sugaku Expositions **11** (1998), no. 1. *American Mathematical Society, Providence, RI*, 1998. *pp.* 1–121. (Editors) **99a:00057** 00B50

—★ Sugaku Expositions. A translation of Sūgaku. Sugaku Expositions **11** (1998), no. 2. *American Mathematical Society, Providence, RI*, 1998. *pp.* 123–234. (Editors) **99h:00040** 00B50

Supersymmetry and quantum field theory ★ Supersymmetry and quantum field theory. Proceedings of the D. Volkov Memorial Seminar held in Kharkov, January 5–7, 1997. Edited by Julius Wess and Vladimir P. Akulov. Lecture Notes in Physics, 509. *Springer-Verlag, Berlin*, 1998. *xvi*+405 *pp. ISBN* 3-540-64623-X (Editors) **99k:81010** 81–06

Surface fitting and multiresolution methods ★ Surface fitting and multiresolution methods. Vol. 2 of the Proceedings of the 3rd International Conference on Curves and Surfaces held in Chamonix–Mont-Blanc, June 27–July 3, 1996. Edited by Alain Le Méhauté, Christophe Rabut and Larry L. Schumaker. *Vanderbilt University Press, Nashville, TN*, 1997. *xii*+354 *pp. ISBN* 0-8265-1294-1 (Editors) **99g:65005** 65–06 (41–06, 65D17)

Surveys in differential geometry ★ Surveys in differential geometry. Vol. III. A supplement to the Journal of Differential Geometry. Lectures on geometry and topology in honor of the 80th birthday of Chuan-Chih Hsiung held at Harvard University, Cambridge, MA, May 3–5, 1996. Edited by C.-C. Hsiung and S.-T. Yau. *International Press, Boston, MA*, 1998. *x*+339 *pp. ISBN* 1-57146-067-5 (Editors) **99k:58003** 58–06 (57–06)

Surveys of mathematics ★ Überblicke Mathematik 1996/97. (German) [Surveys of mathematics 1996/97] Edited by Albrecht Beutelspacher, Norbert Henze, Ulrich Kulisch and Hans Wußing. Überblicke Mathematik. [Surveys on Mathematics] *Friedr. Vieweg & Sohn, Braunschweig*, 1997. *vi*+161 *pp. ISBN* 3-528-06892-2 (Editors) **99d:00011** 00B15

Surveys on mathematics ★ Überblicke Mathematik 1998. (German) [Surveys on mathematics 1998] Edited by Albrecht Beutelspacher, Norbert Henze, Ulrich Kulisch and Hans Wußing. Überblicke Mathematik. [Surveys on Mathematics] *Friedr. Vieweg & Sohn, Braunschweig*, 1997. *iv*+149 *pp. ISBN* 3-528-06944-9 (Editors) **99a:00018** 00B15

SUSY '97 ★ SUSY '97. Proceedings of the 5th International Conference on Supersymmetries in Physics held at the University of Pennsylvania, Philadelphia, PA, May 27–31, 1997. Edited by Mirjam Cvetič and Paul Langacker. Nuclear Phys. B Proc. Suppl. **62** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–xv and* 1–503. (Editors) **99b:81006** 81–06

Sydney ★ Advances in pattern recognition. Papers from the Joint IAPR International Workshops (SSPR'98 and SPR'98) held in Sydney, August 11–13, 1998. Edited by Adnan Amin, Dov Dori, Pavel Pudil and Herbert Freeman. Lecture Notes in Computer Science, 1451. *Springer-Verlag, Berlin*, 1998. *xxii*+1047 *pp. ISBN* 3-540-64858-5 (Editors) **99k:68002** 68–06 (68T10)

Symbolic methods in control system analysis and design ★ Symbolic methods in control system analysis and design. Edited by Neil Munro. IEE Control Engineering Series, 56. *Institution of Electrical Engineers (IEE), London*, 1999. *xviii*+393 *pp. ISBN* 0-85296-943-0 (Editors) **99h:93005** 93–06 (65Y10, 68Q40, 90C30, 93B40, 93B51)

Symbolic numeric algebra for polynomials ★ Symbolic numeric algebra for polynomials. Edited by S. M. Watt and H. J. Stetter. J. Symbolic Comput. **26** (1998), no. 6. *Academic Press, Ltd., London*, 1998. *pp.* 649–803. (Editors) **99g:00033** 00B15 (65F30, 65H05, 68Q40)

Symbolic rewriting techniques ★ Symbolic rewriting techniques. Papers from the workshop held in Ascona, April 30–May 4, 1995. Edited by Manuel Bronstein, Johannes Grabmeier and Volker Weispfenning. Progress in Computer Science and Applied Logic, 15. *Birkhäuser Verlag, Basel*, 1998. *viii*+288 *pp. ISBN* 3-7643-5901-3 (Editors) **99a:68014** 68–06 (68Q40, 68Q42)

Symétries quantiques ★ Symétries quantiques. [Quantum symmetries] Papers from the NATO Advanced Study Institute held at the 64th Session of the Summer School in Theoretical Physics in Les Houches, August 1–September 8, 1995. Edited by A. Connes, K. Gawedzki and J. Zinn-Justin. *North-Holland Publishing Co., Amsterdam*, 1998. *xxxviii*+990 *pp. ISBN* 0-444-82867-2 (Editors) **99k:81008** 81–06 (58–06)

Symmetries in science ★ Symmetries in science. X. Proceedings of the 10th International Symposium held in Bregenz, July 13–18, 1997. Edited by Bruno Gruber and Michael Ramek. *Plenum Press, New York*, 1998. *x*+454 *pp. ISBN* 0-306-45908-6 (Editors) **99f:81004** 81–06

Symmetry in nonlinear mathematical physics ★ Symmetry in nonlinear mathematical physics. Vol. 1, 2. Proceedings of the 2nd International Conference held in memory of Prof. W. Fushchych [Vil′gel′m Il′ich Fushchich] in Kyiv, July 7–13, 1997. Edited by Mykola Shkil [Nikolaĭ Ivanovich Shkil′], Anatoly Nikitin and Vyacheslav Boyko [V. K. Boĭko]. *National Academy of Sciences of Ukraine, Institute of Mathematics, Kiev*, 1997. *Vol.* 1: 248 *pp.*; *Vol.* 2: *pp.* 249–500. *ISBN* 966-02-0342-X (Editors) **99b:00027** 00B30 (00B25, 35–06, 58–06, 81–06)

Symmetry methods in physics ★ Symmetry methods in physics. Vol. 1. Publ. No. E2-96-224. Proceedings of the 7th International Conference (ICSMP-95) held in Dubna, July 10–16, 1995. Edited by A. N. Sissakian [A. N. Sisakyan] and G. S. Pogosyan. *Joint Inst. Nuclear Res., Dubna*, 1996. *viii*+328 *pp. ISBN* 5-85165-452-X (Editors) **99m:81006** 81–06 (00B25)

—★ Symmetry methods in physics. Vol. 2. Publ. No. E2-96-224. Proceedings of the 7th International Conference (ICSMP-95) held in Dubna, July 10–16, 1995. Edited by A. N. Sissakian [A. N. Sisakyan] and G. S. Pogosyan. *Joint Inst. Nuclear Res., Dubna*, 1996. *vi*+630 *pp. ISBN* 5-85165-453-8 (Editors) **99m:81007** 81–06 (00B25)

Symplectic, contact and low-dimensional topology ★ Symplectic, contact and low-dimensional topology. Proceedings of the Georgia Topology Conference held at the University of Georgia, Athens, GA, June 19–23, 1996. Edited by Gordana Matić and Clint McCrory. Topology Appl. **88** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–vi and* 1–178. (Editors) **99b:00020** 00B25

Symplectic geometry ★ Symplectic geometry. Edited by Mark J. Gotay. Differential Geom. Appl. **9** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–ii and* 1–238. (Editors) **99b:58007** 58–06

Symposium:

Advances in Computational Mechanics ★ Symposium on Advances in Computational Mechanics. Vol. 3. Papers from the symposium held in Austin, TX, January 12–15, 1997. Edited by L. Demkowicz and J. N. Reddy. Comput. Methods Appl. Mech. Engrg. **151** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. ix–x and* 1–276. (Editors) **99b:76003** 76–06 (76Mxx)

Advances in Robot Kinematics ★ Advances in robot kinematics: analysis and control. Papers from the 6th International Symposium on Advances in Robot Kinematics held in Salzburg, June–July 1998. Edited by Jadran Lenarčič and Manfred L. Husty. *Kluwer Academic Publishers, Dordrecht*, 1998. *iv*+581 *pp. ISBN* 0-7923-5169-X (Editors) **99d:70002** 70–06 (70B15)

Advances in Theory and Applications of Random Sets ★ Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets. Held in Fontainebleau, October 9–11, 1996. Edited by D. Jeulin. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+326 *pp. ISBN* 981-02-3001-X (Editors) **99f:60005** 60–06 (60D05)

Algebraic Number Theory and Related Topics ★ Daisūteki seisū ron to sono shūhen. (Japanese) [Algebraic number theory and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, October 27–31, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1026 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–231. (Editors) **99d:11001** 11–06

Algorithms ★ Algorithms—ESA '97. Papers from the 5th Annual European Symposium held at Graz University of Technology, Graz, September 15–17, 1997. Edited by Rainer Burkard and Gerhard Woeginger. Lecture Notes in Computer Science, 1284. *Springer-Verlag, Berlin*, 1997. *xii*+515 *pp. ISBN* 3-540-63397-9 (Editors) **99d:68002** 68–06

—★ ESA '95. Selected papers from the 3rd European Symposium on Algorithms held in Corfu, September 1995. Edited by P. Spirakis. Theoret. Comput. Sci. **203** (1998), no. 2. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–iv and* 175–269. (Editors) **99b:68004** 68–06

—★ Algorithms—ESA '98. Proceedings of the 6th Annual European Symposium held in Venice, August 24–26, 1998. Edited by Gianfranco Bilardi, Giuseppe F. Italiano, Andrea Pietracaprina and Geppino Pucci. Lecture Notes in Computer Science, 1461.

Symposium: (*cont'd.*)
Springer-Verlag, Berlin, 1998. *xii*+516 *pp. ISBN* 3-540-64848-8 (Editors) **99k:68004** 68–06 (68Q20, 68Q25)

Algorithms and Computation ★ Algorithms and computation. Proceedings of the 8th International Symposium (ISAAC'97) held in Singapore, December 17–19, 1997. Edited by Hon Wai Leong, Hiroshi Imai and Sanjay Jain. Lecture Notes in Computer Science, 1350. *Springer-Verlag, Berlin*, 1997. *xvi*+426 *pp. ISBN* 3-540-63890-3 (Editors) **99f:68001** 68–06

— ★ Seventh International Symposium on Algorithms and Computation. Selected papers from the symposium held in Osaka, December 16–18, 1996. Edited by T. Asano, S. Miyano, S. Suri and O. Watanabe. Theory Comput. Syst. **31** (1998), no. 5. *Springer-Verlag, New York*, 1998. *pp.* 489–628. (Editors) **99d:68013** 68–06

Algorithms and Theory of Computing ★ Arugorizumu to keisan no riron. (Japanese) [Algorithms and theory of computing] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, February 2–4, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1041 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–248. (Editors) **99i:65003** 65–06 (00B25)

Analysis of Discrete Groups ★ Analysis of discrete groups. II. Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 2–6, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1022 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–234. (Editors) **99e:30001** 30–06

Applied Algebra, Algebraic Algorithms and Error-correcting Codes ★ Applied algebra, algebraic algorithms and error-correcting codes. Proceedings of the 12th International Symposium (AAECC-12) held in Toulouse, June 23–27, 1997. Edited by Teo Mora and Harold Mattson. Lecture Notes in Computer Science, 1255. *Springer-Verlag, Berlin*, 1997. *x*+353 *pp. ISBN* 3-540-63163-1 (Editors) **99b:94002** 94–06 (68Q40)

Applied Mathematics ★ Proceedings of the Symposium on Applied Mathematics. Wavelet, chaos and nonlinear PDEs. Held at Josai University, Sakado, September 18–20, 1997. Edited by Kiyoshi Mizohata. Sci. Bull. Josai Univ. **1998**, Special issue no. 5. *Josai University, Faculty of Science, Sakado*, 1998. *pp. i–vi and* 1–174. (Editors) **99a:00043** 00B25 (35–06, 58–06)

Artificial Intelligence ★ I Simposio de Inteligencia Artificial. (Spanish) [First Symposium on Artificial Intelligence] Papers from the symposium held in Havana, March 24–28, 1997. Edited by María Elena González Chang, Urbía Vila Abreu and Nilda Garzón Estrada. *Instituto de Cibernética, Matématica y Física, Centro de Inteligencia Artificial (CENIA), Havana*, 1998. *vi*+150 *pp. ISBN* 959-7056-10-0 (Editors) **99m:68013** 68–06 (68T10, 68T30)

Artificial Intelligence and Mathematics ★ Artificial intelligence and mathematics. VIII. Selected papers from the 5th International Symposium held in Fort Lauderdale, FL, January 2–5, 1998. Edited by E. Boros, J. Franco, E. Freuder, M. Golumbic, R. Greiner and E. Mayoraz. Ann. Math. Artificial Intelligence **24** (1998), no. 1-4. *Baltzer Science Publishers BV, Bussum*, 1999. *pp. i–iv and* 1–250. (Editors) **99m:68006** 68–06

Automorphic Forms and Number Theory ★ Hokei keishiki to seisū ron. [Automorphic forms and number theory] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 26–30, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1052 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–230. (Editors) **99m:11002** 11–06 (11Fxx)

Black Holes and Relativistic Stars ★ Black holes and relativistic stars. Papers from the symposium held at the University of Chicago, Chicago, IL, December 14–15, 1996. Edited by Robert M. Wald. *University of Chicago Press, Chicago, IL*, 1998. *xii*+278 *pp. ISBN* 0-226-87034-0 (Markku Lehto) **99d:83070** 83C57 (83–06)

Born, Max ★ New symmetries in the theories of fundamental interactions. Proceedings of the 9th Max Born Symposium held in Karpacz, September 25–28, 1996. Edited by Jerzy Lukierski and Marek Mozrzymas. *Wydawnictwo Naukowe PWN, Warsaw*, 1997. *x*+323 *pp. ISBN* 83-01-12427-X (Editors) **99b:81004** 81–06 (16W30, 17B37, 81R50)

Boundary Element ★ Boundary element research in Europe. Papers from the European Boundary Element Symposium (EUROBEM '98) held in Southampton, May 19–21, 1998. Edited by C. A. Brebbia. *Computational Mechanics Publications, Southampton*, 1998. *x*+326 *pp. ISBN* 1-85312-594-6 (Editors) **99k:73001** 73–06 (65–06, 73V10)

Causality and Locality in Modern Physics and Astronomy: Open Questions and Possible Solutions ★ Causality and locality in modern physics. Proceedings of the Symposium on Causality and Locality in Modern Physics and Astronomy: Open Questions and Possible Solutions held in honor of Jean-Pierre Vigier at York University, Toronto, ON, August 1997. Edited by Geoffrey Hunter, Stanley Jeffers and Jean-Pierre Vigier. Fundamental Theories of Physics, 97. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+497 *pp. ISBN* 0-7923-5227-0 (Editors) **99j:81005** 81–06 (00B30, 78–06)

Chandrasekhar, Subrahmanyan ★ Chandrasekhar memorial volume. Proceedings of the Memorial Symposium held at Arizona State University, Tempe, AZ, October 21–23, 1996. Edited by T. Chang. Internat. J. Engrg. Sci. **36** (1998), no. 12-14. *Pergamon Press, Oxford*, 1998. *pp. i–xxxvi and* 1325–1740. (Editors) **99h:00030** 00B25 (85–06)

Combinatorial Pattern Matching ★ Combinatorial pattern matching. Proceedings of the 9th Annual Symposium (CPM 98) held in Piscataway, NJ, July 20–22, 1998. Edited by Martin Farach-Colton. Lecture Notes in Computer Science, 1448. *Springer-Verlag, Berlin*, 1998. *viii*+251 *pp. ISBN* 3-540-64739-2 (Editors) **99h:68002** 68–06 (68Q25, 68U15)

Computational and Mathematical Models of Microstructural Evolution ★ Computational and mathematical models of microstructural evolution. Proceedings of the symposium held as a part of the 1998 MRS Spring Meeting in San Francisco, CA, April 13–17, 1998. Edited by Jeffrey W. Bullard, Long-Qing Chen, Rajiv K. Kalia and A. Marshall Stoneham. Materials Research Society Symposium Proceedings, 529. *Materials Research Society, Warrendale, PA*, 1998. *xii*+183 *pp. ISBN* 1-55899-435-1 (Editors) **99k:73002** 73–06 (73B30, 73S10, 80–06)

Computational Mathematics ★ Advances in computational mathematics. Proceedings of the International Symposium on Computational Mathematics held at Zhongshan University, Guangzhou, 1997. Edited by Zhongying Chen, Yuesheng Li, Charles A. Micchelli and Yuesheng Xu. Lecture Notes in Pure and Applied Mathematics, 202. *Marcel Dekker, Inc., New York*, 1999. *xx*+604 *pp. ISBN* 0-8247-1946-8 (Editors)

Symposium: (*cont'd.*)
99g:65002 65–06

CR Geometry and Isolated Singularities ★ CR geometry to koritsu tokuiten. [CR geometry and isolated singularities] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 16–20, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1037 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–146. (Editors) **99f:32001** 32–06

Current and Future Challenges in the Applications of Mathematics ★ Current and future challenges in the applications of mathematics. Papers from the symposium held to mark the 50th anniversary of the Division of Applied Mathematics, Brown University, Providence, RI, May 29–31, 1997. Quart. Appl. Math. **56** (1998), no. 4. *Brown University, Division of Applied Mathematics, Providence, RI*, 1998. *pp. i–x and* 601–820. (Editors) **99i:00017** 00B25

Decision Theory and Related Fields ★ Kettei riron to sono kanren bunya. (Japanese) [Decision theory and related fields] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 4–6, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1043 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–257. (Editors) **99h:90006** 90–06

Differential Algebraic Equations ★ Differential algebraic equations. Selected papers from the International Symposium held in Grenoble, May 1997. Edited by R. Coleman. Numer. Algorithms **19** (1998), no. 1-4. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–vi and* 1–266. (Editors) **99h:34001** 34–06 (34A09, 34A45, 65–06)

Differential Equations and Mathematical Physics ★ International Symposium on Differential Equations and Mathematical Physics. Invited papers from the symposium, dedicated to the 90th anniversary of the birth of Ilia Vekua [Il'ya Nestorovich Vekua], held in Tbilisi, June 21–25, 1997. Mem. Differential Equations Math. Phys. **12** (1997). *Publishing House GCI, Tbilisi*, 1997. *pp.* 1–232. 00B30

Discrete Algorithms ★ 7th Annual ACM-SIAM Symposium on Discrete Algorithms. Selected papers from the symposium (SODA '96) held in Atlanta, GA, January 28–30, 1996. Edited by Éva Tardos. J. Algorithms **27** (1998), no. 2. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 169–358. (Editors) **99a:68015** 68–06 (05–06)

— ★ Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms. Held in San Francisco, CA, January 25–27, 1998. *Association for Computing Machinery (ACM), New York*; *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xii*+704 *pp. ISBN* 0-89871-410-9 (Editors) **99d:68011** 68–06 (05–06, 68Rxx)

— ★ SODA '95. Selected papers from the 6th Annual ACM-SIAM Symposium on Discrete Algorithms held in San Francisco, CA, January 22–24, 1995. Edited by Kenneth L. Clarkson. J. Algorithms **29** (1998), no. 2. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 203–410. (Editors) **99g:68007** 68–06 (68Rxx)

Discrete Algorithms and Computational Complexity ★ Risanteki arugorizumu to keisanryō. [Discrete algorithms and computational complexity] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, June 16–20, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1054 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–95. (Editors) **99m:68009** 68–06 (68Q15, 68Q25)

Discrete Integrable Systems and Discrete Analysis ★ Risan kasekibun kei to risan kaiseki. (Japanese) [Discrete integrable systems and discrete analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 28–30, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1020 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–179. (Editors) **99c:00013** 00B25

Discretizations of Integrable Systems: Theory and Applications ★ Discretizations of integrable systems: theory and applications. (Japanese) Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 29–31, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1005 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–148. (Editors) **99a:00024** 00B25

Domain Decomposition Methods and Related Topics ★ Recent developments in domain decomposition methods and flow problems. Papers from the International Symposium on Domain Decomposition Methods and Related Topics held in honor of the 60th birthday of Hideo Kawarada at Kyoto University, Kyoto, July 17–19, 1996, and the 1st JSIAM-SIMAI Joint Symposium on Flow Problems and Phase Field Models held in Anacapri, October 3–5, 1996. Edited by H. Fujita, H. Koshigoe, M. Mori, M. Nakamura, T. Nishida and T. Ushijima. GAKUTO International Series. Mathematical Sciences and Applications, 11. *Gakkōtosho Co., Ltd., Tokyo*, 1998. *vi*+378 *pp. ISBN* 4-7625-0420-3 (Editors) **99g:00054** 00B30 (00B25, 35–06, 65–06, 76–06, 76Mxx)

Dynamic Decision Systems in Uncertain Environments ★ Fukakujitsuna kankyō moderu de no dōteki kōdō kettei shisutemu. [Dynamic decision systems in uncertain environments] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, February 12–13, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1048 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–116. (Editors) **99i:90002** 90–06

Dynamic Deformation and Failure Mechanics of Materials ★ Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials. Honoring Professor Rodney J. Clifton on the occasion of his 60th birthday. Held at the California Institute of Technology, Pasadena, CA, May 22–24, 1997. J. Mech. Phys. Solids **46** (1998), no. 10. *Pergamon Press, Oxford*, 1998. *pp. i–xx and* 1699–2181. (Editors) **99g:73003** 73–06 (00B30, 73M25, 73S10)

Dynamics of Vortex Fields and the Mathematics of Turbulence ★ Kado ba no dainamikkusu to ranryū no sūri. (Japanese) [Dynamics of vortex fields and the mathematics of turbulence] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 19–21, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1051 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–243. (Editors) **99k:76004** 76–06 (00B25, 76Fxx)

Earth System Analysis ★ Earth system analysis. Integrating science for sustainability.

Symposium: (*cont'd.*)
Complemented results of the symposium held in Potsdam, 1994. Edited by H.-J. Schellnhuber and V. Wenzel. *Springer-Verlag, Berlin*, 1998. *xxx*+530 *pp. ISBN* 3-540-58017-4 (Editors) **99f:00016** 00B25 (86–06, 93–06)

Emerging Trends in Vibration and Noise Engineering ★ 1996 India-U.S.A. Symposium on Emerging Trends in Vibration and Noise Engineering. Held in Delhi, March 18–20, 1996. Edited by R. Singh. J. Sound Vibration **211** (1998), no. 3. *Academic Press, Ltd., London*, 1998. *pp.* 293–536. (Editors) **99a:73001** 73–06

Exact C^*-Algebras and Related Topics ★ Exact C^*-kan to sono shūhen. (Japanese) [Exact C^*-algebras and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 12–14, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1046 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–69. (Editors) **99i:46001** 46–06

Exact WKB Analysis and Fourier Analysis in the Complex Domain ★ Kanzen WKB kaiseki to fukuso Fūrie kaiseki. [Exact WKB analysis and Fourier analysis in the complex domain] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 9–10, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1001 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–vi and* 1–97. (Editors) **99a:00026** 00B25 (32–06)

Fast Algorithms for Control, Signals and Image Processing ★ ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing. Held at the University of Manitoba, Winnipeg, MB, June 6–8, 1997. Edited by Dianne O'Leary, Haesun Park, Ali H. Sayed and P. N. Shivakumar. Linear Algebra Appl. **284** (1998), no. 1-3. *North-Holland Publishing Co., New York*, 1998. *pp. v–x and* 1–359. (Editors) **99f:00025** 00B25

Finite Element Methods in Large-scale Computational Fluid Dynamics ★ Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics. Held April 1–3, 1996. Int. J. Comput. Fluid Dyn. **9** (1998), no. 3-4. *Gordon and Breach Science Publishers, Yverdon*, 1998. *pp.* 197–322. (Editors) **99f:76004** 76–06 (76Mxx)

Fixed Point Theory in Non-linear Analysis & Applications ★ Pre-proceedings of the 64th Indian Mathematical Society Conference and Symposia on Traditions of Vedic Mathematics & Applications and Fixed Point Theory in Non-linear Analysis & Applications. Pre-proceedings of the conference and abstracts from the symposia held at Gurukula Kangri Vishwavidyalaya (University), Hardwar, December 19–22, 1998. J. Natur. Phys. Sci. **12** (1998), no. 1. *Gurukul Kangri Vishwavidyalaya, Hardwar*, 1998. *pp.* 1–126. (Editors) **99k:00027** 00B25

Flow Problems and Phase Field Models ★ Recent developments in domain decomposition methods and flow problems. Papers from the International Symposium on Domain Decomposition Methods and Related Topics held in honor of the 60th birthday of Hideo Kawarada at Kyoto University, Kyoto, July 17–19, 1996, and the 1st JSIAM-SIMAI Joint Symposium on Flow Problems and Phase Field Models held in Anacapri, October 3–5, 1996. Edited by H. Fujita, H. Koshigoe, M. Mori, M. Nakamura, T. Nishida and T. Ushijima. GAKUTO International Series. Mathematical Sciences and Applications, 11. *Gakkōtosho Co., Ltd., Tokyo*, 1998. *vi*+378 *pp. ISBN* 4-7625-0420-3 (Editors) **99g:00054** 00B30 (00B25, 35–06, 65–06, 76–06, 76Mxx)

Forecasting and Empirical Methods in Macroeconomics and Finance ★ Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. Edited by Francis X. Diebold and Kenneth D. West. Internat. Econom. Rev. **39** (1998), no. 4. *University of Pennsylvania, Philadelphia, PA*, 1998. *pp.* 811–1144. (Editors) **99h:62001** 62–06 (00B25, 90–06)

Functional and Logic Programming ★ Third Fuji International Symposium on Functional and Logic Programming. Papers from the symposium held at Kyoto University, Kyoto, April 2–4, 1998. Edited by Masahiko Sato and Yoshihito Toyama. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *viii*+313 *pp. ISBN* 981-02-3384-1 (Editors) **99g:68008** 68–06 (68N15, 68N17)

Generalized Convexity ★ Generalized convexity, generalized monotonicity: recent results. Proceedings of the 5th International Symposium on Generalized Convexity held in Luminy, June 17–21, 1996. Edited by Jean-Pierre Crouzeix, Juan-Enrique Martinez-Legaz and Michel Volle. Nonconvex Optimization and its Applications, 27. *Kluwer Academic Publishers, Dordrecht*, 1998. *xvi*+467 *pp. ISBN* 0-7923-5088-X (Editors) **99f:90006** 90–06 (49N15, 90C26, 90C29)

Geometric Issues in the Foundations of Science ★ The geometric universe. Science, geometry, and the work of Roger Penrose. Papers from the Symposium on Geometric Issues in the Foundations of Science held in honor of the 65th birthday of Sir Roger Penrose at St. John's College, University of Oxford, Oxford, June 1996. Edited by S. A. Huggett, L. J. Mason, K. P. Tod, S. T. Tsou and N. M. J. Woodhouse. *Oxford University Press, Oxford*, 1998. *xviii*+431 *pp. ISBN* 0-19-850059-9 (Editors) **99b:00015** 00B25 (00B30, 81–06, 83–06)

Geometric Methods in Asymptotic Analysis ★ Zenkin kaiseki ni okeru kikagakuteki hōhō. [Geometric methods in asymptotic analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, May 20–23, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1014 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–138. (Editors) **99d:00021** 00B25

Geometry of Harmonic Maps and Submanifolds ★ Chōwa shazō to bubun tayōtai no kikagaku. (Japanese) [Geometry of harmonic maps and submanifolds] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 29–31, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 995 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–125. (Editors) **99a:58003** 58–06 (00B25, 53–06)

Geometry of Homogeneous Spaces and Submanifolds ★ Tōshitsu kūkan to bubuntayōtai no kikagaku. (Japanese) [Geometry of homogeneous spaces and submanifolds] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, February 19–20, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1044 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–85. (Editors) **99i:53001** 53–06

Graph Drawing ★ Graph drawing. Proceedings of the 5th International Symposium (GD '97) held in Rome, September 18–20, 1997. Edited by Giuseppe DiBattista. Lecture Notes in Computer Science, 1353. *Springer-Verlag, Berlin*, 1997. *xii*+448 *pp. ISBN* 3-540-63938-1 (Editors) **99d:68004** 68–06 (68R10, 68U05)

Harmonic/Analytic Function Spaces and Linear Operators ★ Chōwa kaiseki kansū kūkan to senkei sayōso. (Japanese) [Harmonic/analytic function spaces and linear operators] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 19–21, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1049 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–161. (Editors) **99i:00018** 00B25

High Energy Physics ★ First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields. Proceedings of the symposium and school held in Mérida, October 30–November 6, 1996. Edited by Juan Carlos D'Olivo, Martin Klein-Kreisler and Héctor Méndez. AIP Conference Proceedings, 400. *American Institute of Physics, New York*, 1997. *xx*+578 *pp. ISBN* 1-56396-686-7 (Editors) **99d:81004** 81–06

Hopf Algebras and Quantum Groups ★ Hoppu daisū to ryōshi gun. (Japanese) [Hopf algebras and quantum groups] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 27–28, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 997 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–219. (Editors) **99a:00029** 00B25 (16–06)

Impact of Chaos on Science and Society ★ The impact of chaos on science and society. Proceedings of the symposium held at the University of Tokyo, Tokyo, April 15–17, 1991. Edited by Celso Grebogi and James A. Yorke. *United Nations University Press, Tokyo*, 1997. xiv+401 *pp. ISBN* 92-808-0882-6 (Sandra L. Arlinghaus) **99d:00006** 00A69 (00B25, 58F15)

In Fascination of Fluid Dynamics ★ In fascination of fluid dynamics. Papers from the symposium held in honor of Leen van Wijngaarden on his 65th birthday in Lattrop, March 20–22, 1997. Edited by Arie Biesheuvel and GertJan F. van Heijst. Reprinted from Appl. Sci. Res. **58** (1997), no. 1-4. Fluid Mechanics and its Applications, 45. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+501 *pp. ISBN* 0-7923-5078-2 76–06

Inequalities in Operator Theory and Related Topics ★ Sayōso ron ni okeru futōshiki to sono shūhen. (Japanese) [Inequalities in operator theory and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 26–28, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1027 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–134. (Editors) **99f:47002** 47–06

Infinite-dimensional Measure Theory and Representation Theory of Infinite-dimensional Groups ★ Mugen jigen sokudo ron to mugen jigen gun no hyōgen ron. (Japanese) [Infinite-dimensional measure theory and representation theory of infinite-dimensional groups] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 25–26, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1017 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–123. (Editors) **99d:22001** 22–06

Integrable Systems and Algebraic Geometry ★ Integrable systems and algebraic geometry. Proceedings of the 41st Taniguchi Symposium held in Kobe, June 30–July 4, 1997, and at Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 7–11, 1997. Edited by M.-H. Saito, Y. Shimizu and K. Ueno. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xiv*+480 *pp. ISBN* 981-02-3266-7 (Editors) **99i:14002** 14–06

Investigations of Nonclassical Logics Based on Sequent Calculus and Kripke Semantics ★ Sequent calculus to Kripke semantics ni motozuku hihoten ronrigaku no kenkyū. [Investigations of nonclassical logics based on sequent calculus and Kripke semantics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 9–11, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1021 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–205. (Editors) **99d:03003** 03–06

Investigations on the Structure of Solutions to Partial Differential Equations ★ Hembibun hōteishiki no kai no kōzō no kenkyū. [Investigations on the structure of solutions to partial differential equations] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, April 6–7, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1056 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–109. (Editors) **99m:35003** 35–06

Large Deviation and Statistical Inference ★ Large deviation and statistical inference. Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 16–18, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1055 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–124. (Editors) **99m:62007** 62–06

Linear Matrix Inequalities and Positive Semidefinite Programming ★ Senkei gyōretsu futōshiki to hanseiteichi keikakuhō. [Linear matrix inequalities and positive semidefinite programming] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 15–17, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1004 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–199. (Editors) **99a:90007** 90–06

Logic, Language and Computation ★ The Tbilisi Symposium on Logic, Language and Computation: selected papers. Held in Gudauri, October 19–22, 1995. Edited by Jonathan Ginzburg, Zurab Khasidashvili, Carl Vogel, Jean-Jacques Lévy and Enric Vallduví. Studies in Logic, Language and Information. *CSLI Publications, Stanford, CA; FoLLI: European Association for Logic, Language and Information, Amsterdam*, 1998. *xxxii*+376 *pp. ISBN* 1-57586-098-8 (Editors) **99m:03006** 03–06 (03B45, 03B65, 68N15, 68S05)

Logic Programming ★ Logic programming. Proceedings of the International Symposium (ILPS'97) held in Port Washington, NY, October 13–16, 1997. Edited by Jan Małuszyński. MIT Press Series in Logic Programming. *MIT Press, Cambridge, MA*, 1997. *xviii*+425 *pp. ISBN* 0-262-63180-6 (Editors) **99d:68008** 68–06 (68N17)

— ★ Logic programming. Proceedings of the 1998 Joint 15th International Conference and 15th Symposium (ICLP'98/ILPS'98) held at the University of Manchester,

Symposium: (*cont'd.*)
Manchester, June 16–19, 1998. Edited by Joxan Jaffar. MIT Press Series in Logic Programming. *MIT Press, Cambridge, MA*, 1998. *xviii+361 pp. ISBN* 0-262-60031-5 (Editors) **99f:68004** 68–06 (68N17)

— ★ Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming (DDLP'98). Held in conjunction with the Joint International Conference and Symposium on Logic Programming (JICSLP'98) in Manchester, June 20, 1998. Edited by Piero Fraternali, Ulrich Geske, Carolina Ruiz and Dietmar Seipel. GMD Report, 22. *GMD—Forschungszentrum Informationstechnik GmbH, St. Augustin*, 1998. 155 *pp.* (Editors) **99g:68052** 68P15 (68–06)

Mathematical Foundations of Computer Science ★ Mathematical foundations of computer science 1997. Proceedings of the 22nd International Symposium (MFCS '97) held in Bratislava, August 25–29, 1997. Edited by Igor Prívara and Peter Ružička. Lecture Notes in Computer Science, 1295. *Springer-Verlag, Berlin*, 1997. *x+519 pp. ISBN* 3-540-63437-1 (Editors) **99d:68009** 68–06

— ★ Mathematical foundations of computer science 1998. Proceedings of the 23rd International Symposium (MFCS'98) held in Brno, August 24–28, 1998. Edited by Luboš Brim, Jozef Gruska and Jiří Zlatuška. Lecture Notes in Computer Science, 1450. *Springer-Verlag, Berlin*, 1998. *xviii+846 pp. ISBN* 3-540-64827-5 (Editors) **99m:68010** 68–06

Mathematical Institute, Serbian Academy of Sciences and Arts ★ {50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts}. Papers from the Anniversary Symposium held in Belgrade, December 1996. Publ. Inst. Math. (Beograd) (N.S.) **64(78)** (1998). *Institut Mathématique, Belgrade*, 1998. *pp.* 1–204. (Editors) **99h:00021** 00B25

Mathematical Logic ★ Models, algebras, and proofs. Proceedings of the 10th Latin American Symposium on Mathematical Logic (SLALM) held at the Universidad de los Andes, Bogotá, 1995. Edited by Xavier Caicedo and Carlos H. Montenegro. Lecture Notes in Pure and Applied Mathematics, 203. *Marcel Dekker, Inc., New York*, 1999. *xvi+448 pp. ISBN* 0-8247-1970-0 (Editors) **99k:03005** 03–06

Mathematical Modelling ★ 2nd IMACS Symposium on Mathematical Modelling. Selected papers from the symposium (MATHMOD) held in Vienna, February 5–7, 1997. Edited by Inge Troch. Math. Comput. Simulation **46** (1998), no. 5-6. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 441–639. (Editors) **99d:00030** 00B25 (00A71, 00A72)

Mathematical Morphology and its Applications to Image and Signal Processing ★ Mathematical morphology and its applications to image and signal processing. Papers from the 4th International Symposium (ISMM'98) held in Amsterdam, June 3–5, 1998. Edited by Henk J. A. M. Heijmans and Jos B. T. M. Roerdink. Computational Imaging and Vision, 12. *Kluwer Academic Publishers, Dordrecht*, 1998. *x+442 pp. ISBN* 0-7923-5133-9 (Editors) **99g:68217** 68U10 (68–06)

Mathematical Physics with Special Sessions on Bose's Works ★ Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works. Part I. Held in Calcutta, January 1–7, 1994. Edited by R. N. Sen. Rev. Bull. Calcutta Math. Soc. **3** (1995), no. 1-2. *Calcutta Mathematical Society, Calcutta*, 1995. *pp. i–iv and* 1–118. (Editors) **99b:00016** 00B25 (76–06, 81–06)

— ★ Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works. Part II. Held in Calcutta, January 1–7, 1994. Edited by R. N. Sen. Rev. Bull. Calcutta Math. Soc. **4** (1996), no. 1-2. *Calcutta Mathematical Society, Calcutta*, 1996. *pp. i–iv and* 1–104. (Editors) **99b:00017** 00B25 (76–06, 81–06)

Mathematical Programming ★ Reformulation: nonsmooth, piecewise smooth, semismooth and smoothing methods. Papers from the 16th International Symposium on Mathematical Programming (ismp97) held at the École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, August 24–29, 1997. Edited by Masao Fukushima and Liqun Qi. Applied Optimization, 22. *Kluwer Academic Publishers, Dordrecht*, 1999. *viii+441 pp. ISBN* 0-7923-5320-X (Editors) **99k:90004** 90–06 (49J40, 49J52, 90C30, 90C33)

Mathematical Theory of Networks and Systems ★ Dynamical systems, control, coding, computer vision. New trends, interfaces, and interplay. Papers from the Mathematical Theory of Networks and Systems Symposium (MTNS-98) held in Padova, July 6–10, 1998. Edited by Giorgio Picci and David S. Gilliam. Progress in Systems and Control Theory, 25. *Birkhäuser Verlag, Basel*, 1999. *vi+493 pp. ISBN* 3-7643-6060-7 (Editors) **99k:93006** 93–06 (00B15, 47N70, 68U10, 94–06)

Mathematics of Nonlinear Phenomena of Wave Motion and Its Applications ★ Hadō no hisenkei genshō no sūri to sono ōyō. (Japanese) [Mathematics of nonlinear phenomena of wave motion and its applications] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, October 30–November 1, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 993 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–266. (Editors) **99a:00032** 00B25 (35–06, 76–06)

New Aspects of Non-classical Logics and their Kripke Semantics ★ Hikoten ronri to Kripke imi ron no shin kyokumen. [New aspects of non-classical logics and their Kripke semantics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 4–6, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1010 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–192. (Editors) **99a:03003** 03–06 (03Bxx)

New Developments in Convolution ★ Convolution no atarashii tenkai. [New developments in convolution] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 24–27, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1012 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–204. (Editors) **99a:00033** 00B25 (30C45)

New Symmetries in the Theories of Fundamental Interactions ★ New symmetries in the theories of fundamental interactions. Proceedings of the 9th Max Born Symposium held in Karpacz, September 25–28, 1996. Edited by Jerzy Lukierski and Marek Mozrzymas. *Wydawnictwo Naukowe PWN, Warsaw*, 1997. *x+323 pp. ISBN* 83-01-12427-X (Editors) **99b:81004** 81–06 (16W30, 17B37, 81R50)

New Techniques for the Treatment of Sparse Matrices for Industrial Problems ★ Sparse matrices in industry. Papers from the 2nd Symposium on New Techniques for the Treatment of Sparse Matrices for Industrial Problems held at the Université des Sciences et Technologies de Lille, Lille, April 28–29, 1997. Numer. Algorithms **16** (1997), no. 1. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–vi and* 1–94. (Editors) **99a:65006** 65–06 (65F50)

Nonlinear Analysis and Convex Analysis ★ Hisenkei kaisekigaku to totsu kaisekigaku no kenkyū. [Research on nonlinear analysis and convex analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, August 27–29, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1031 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–186. (Editors) **99f:00024** 00B25 (46–06, 47–06, 47Hxx, 90–06)

Nonlinear Evolution Equations and their Applications ★ Hisenkei hatten hōteishiki to sono ōyō. [Nonlinear evolution equations and their applications] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, October 21–23, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1009 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–vi and* 1–191. (Editors) **99a:35003** 35–06 (00B25)

Nonlinear Mathematics and Functional Equations ★ Hisenkei no sūri to kansū hōteishiki. [Nonlinear mathematics and functional equations] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 11–14, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1034 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–203. (Editors) **99f:00019** 00B25 (34–06)

Nonlinearity of Flows and Statistical Properties of Turbulence ★ Nagare no hisenkeisei to ranryū no tōkei seishitsu. (Japanese) [Nonlinearity of flows and statistical properties of turbulence] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, February 17–19, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1029 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–199. (Editors) **99e:76056** 76Fxx (76–06)

Nuclear Physics ★ XXI Symposium on Nuclear Physics. Dedicated to the memory of Angel Dacal Alonso (1940–1997). Proceedings of the symposium held in Oaxtepec, January 5–8, 1998. Edited by Roelof Bijker and Enriqueta Hernández. Rev. Mexicana Fís. **44** (1998), suppl. 2. *Sociedad Mexicana de Física, México*, 1998. *pp. iii–viii and* 1–116. (Editors) **99g:81002** 81–06

Operations Research ★ Operations Research Proceedings 1996. Selected papers from the International Symposium (SOR 96) held at the Technical University of Braunschweig, Braunschweig, September 3–6, 1996. Edited by Uwe Zimmermann, Ulrich Derigs, Wolfgang Gaul, Rolf H. Möhring and Karl-Peter Schuster. *Springer-Verlag, Berlin*, 1997. *xiv+524 pp. ISBN* 3-540-62630-1 (Editors) **99a:90009** 90–06 (00B25)

— ★ Operations Research Proceedings 1997. Selected papers from the International Symposium (SOR'97) held at Friedrich-Schiller-Universität, Jena, September 3–5, 1997. Edited by Peter Kischka, Hans-Walter Lorenz, Ulrich Derigs, Wolfgang Domschke, Peter Kleinschmidt and Rolf Möhring. *Springer-Verlag, Berlin*, 1998. *xvi+597 pp. ISBN* 3-540-64240-4 (Editors) **99d:90008** 90–06

Optimization Theory in Discrete and Continuous Mathematics ★ Risan sūri to renzoku sūri ni okeru saitekika riron. (Japanese) [Optimization theory in discrete and continuous mathematics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 16–18, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1015 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–225. (Editors) **99b:90009** 90–06 (03E72)

Orthogonal Polynomials and Their Applications ★ Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications. Held at the University of Sevilla, Seville, September 22–26, 1997. Edited by Antonio J. Duran. J. Comput. Appl. Math. **99** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–viii and* 1–533. (Editors) **99h:33001** 33–06 (00B25, 33C45, 41A20, 42C05, 44A60)

Partial Differential Equations in the Complex Domain ★ Fukuso ryōiki no hembibun hōteishiki. (Japanese) [Partial differential equations in the complex domain] Proceedings of the symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, September 1–5, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1028 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–132. (Editors) **99e:35002** 35–06

Pattern Formation and Singularities in Wave Motion Phenomena ★ Hadō genshō ni okeru patān no seisei to tokuisei. (Japanese) [Pattern formation and singularities in wave motion phenomena] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, September 24–26, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1030 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–247. (Editors) **99f:76003** 76–06

Performance Models of Information Communication Networks ★ Performance evaluation of information communication networks. Papers from the Symposium on Performance Models of Information Communication Networks held in Kamakura, January 1997. Edited by Konosuke Kawashima, Issei Kino, Naoki Makimoto, Masakiyo Miyazawa and Yoshitaka Takahashi. J. Oper. Res. Soc. Japan **41** (1998), no. 1. *Operations Research Society of Japan, Tokyo*, 1998. *pp.* 1–169. (Editors) **99a:90008** 90–06 (60–06)

Physics in the 21st Century ★ Physics in the 21st century. Proceedings of the 11th Nishinomiya-Yukawa Memorial Symposium held in Nishinomiya, November 7–8, 1996. Edited by K. Kikkawa, H. Kunitomo and H. Ohtsubo. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x+199 pp. ISBN* 981-02-3088-5 (Editors) **99a:81004** 81–06

Planar Nonlinear Dynamical Systems ★ Planar nonlinear dynamical systems. Proceedings of the symposium held on the occasion of the 65th birthday of J. W. Reyn in Delft, September 25–26, 1995. Edited by R. E. Kooij and A. H. P. van der Burg. Differential Equations Dynam. Systems **5** (1997), no. 3-4. *Research Square Publications, Hyderabad*, 1997. *pp. i–iv and* 197–477. (Editors) **99g:00053** 00B30 (58–06)

Potential Theory and Related Fields ★ Potensharu ron to sono kanren bunya. (Japanese) [Potential theory and related fields] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, June 25–27, 1997.

Symposium: (*cont'd.*)
Sūrikaisekikenkyūsho Kōkyūroku No. 1016 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–171. (Editors) **99a:00036** 00B25 (31–06)

Practice of Data Analysis ★ The practice of data analysis. Essays in honor of John W. Tukey. Papers from the symposium held in honor of Tukey on his 80th birthday at Princeton University, Princeton, NJ, June 19–20, 1995. Edited by D. R. Brillinger, L. T. Frenholz and S. Morgenthaler. *Princeton University Press, Princeton, NJ*, 1997. *viii*+337 *pp. ISBN* 0-691-05782-6 (Editors) **99b:62003** 62–06 (00B30)

Probability and Statistics ★ Frontiers in probability and statistics. Papers from 2nd International Triennial Symposium on Probability and Statistics held in Calcutta, December 30, 1994–January 2, 1995. Edited by S. P. Mukherjee, S. K. Basu and B. K. Sinha. *Narosa Publishing House, New Delhi*, 1998. *xii*+379 *pp. ISBN* 81-7319-115-8 (Editors) **99g:62003** 62–06

Probability Theory and Stochastic Processes ★ IV Simposio de Probabilidad y Procesos Estocásticos. [Fourth Symposium on Probability Theory and Stochastic Processes] Papers from the symposium held in Guanajuato, April 1–5, 1996. Edited by L. G. Gorostiza, J. A. León and J. A. López-Mimbela. Aportaciones Matemáticas: Notas de Investigación [Mathematical Contributions: Research Notes], 12. *Sociedad Matemática Mexicana, México*, 1996. *viii*+168 *pp. ISBN* 968-36-5777-X (Editors) **99e:60008** 60–06

Probability Towards 2000 ★ Probability towards 2000. Papers from the symposium held at Columbia University, New York, October 2–6, 1995. Edited by L. Accardi and C. C. Heyde. Lecture Notes in Statistics, 128. *Springer-Verlag, New York*, 1998. *xiii*+356 *pp. ISBN* 0-387-98458-5 (Editors) **99b:60004** 60–06

Problems on Complex Dynamical Systems ★ Fukuso rikigakkei no shomondai. [Problems on complex dynamical systems] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, October 6–9, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1042 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–230. (Editors) **99h:58002** 58–06 (00B25, 30–06)

Profound Development of Operator Algebras ★ Sayōso kanron no shinka. (Japanese) [Profound development of operator algebras] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, May 14–16, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1024 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–111. (Editors) **99d:46001** 46–06

Programming ★ 6th European Symposium on Programming. Selected papers from the symposium (ESOP'96) held in Linköping, April 22–24, 1996. Edited by Hanne Riis Nielson. Sci. Comput. Programming **32** (1998), no. 1-3. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. iii–iv and* 1–210. (Editors) **99c:68006** 68–06

Pseudorandom Numbers and Chaos ★ Giji ransū to kaosu. [Pseudorandom numbers and chaos] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 23–25, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1011 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–106. (Editors) **99a:00044** 00B25 (65C10)

Quantifier Elimination and Cylindrical Algebraic Decomposition ★ Quantifier elimination and cylindrical algebraic decomposition. Proceedings of the symposium held at the Research Institute for Symbolic Computation, Johannes Kepler University, Linz, October 6–8, 1993. Edited by B. F. Caviness and J. R. Johnson. Texts and Monographs in Symbolic Computation. *Springer-Verlag, Vienna*, 1998. *xx*+431 *pp. ISBN* 3-211-82794-3 (Editors) **99b:03007** 03–06 (03B25, 03C10, 03C60, 03C62, 12L05, 68Q40)

Quantum Probability Theory and Entropy Analysis ★ Ryōshi kakuritsu ron to entoropi kaiseki. (Japanese) [Quantum probability theory and entropy analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 10–12, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1013 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–iv and* 1–241. (Editors) **99b:00018** 00B25

Reaction-Diffusion Equations and Their Applications and Computational Aspects ★ China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects. Held at Fudan University, Shanghai, October 30–November 4, 1994. Edited by T.-T. Li [Da Qian Li], M. Mimura, Y. Nishiura and Q.-X. Ye. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+229 *pp. ISBN* 981-02-2667-5 (Editors) **99f:00026** 00B25 (35–06)

Real Analysis ★ Summer Symposium in Real Analysis. XXI. Abstracts from the symposium held at the University of Tennessee, Chattanooga, TN, June 18–21, 1997. Real Anal. Exchange **23** (1997/98), no. 1. *Michigan State University Press, East Lansing, MI*, 1998. *pp.* 1–112. (Editors) **99a:00012** 00B05

Recent Trends in Infinite-dimensional Noncommutative Analysis ★ Mugen jigen hikakan kaisekigaku no dōkō. [Recent trends in infinite-dimensional noncommutative analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, October 14–17, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1035 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–169. (Editors) **99f:00023** 00B25 (81–06)

Related Topics on Regularity of Solutions to Nonlinear Evolution Equations ★ Hisenkei hatten hōteishiki no kai no seisokusei to kai no bakuhatsu to no kanren. (Japanese) [Regularity, blowup and related properties of solutions to nonlinear evolution equations] Proceedings of the Symposium on Related Topics on Regularity of Solutions to Nonlinear Evolution Equations held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, May 26–30, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1045 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–147. (Editors) **99h:35003** 35–06

Representation Theory of Groups and Homogeneous Spaces ★ Gun to tōshitsu kūkan no hyōgen ron. (Japanese) [Representation theory of groups and homogeneous spaces] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 29–August 1, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 1008 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–117. (Editors) **99a:17002** 17–06

Research into the Structure of Irregular Estimator Theory ★ Hi seisoku sui tei ron no kōzō no kenkyū. (Japanese) [Research into the structure of irregular estimator theory] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 17–19, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1007 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–185. (Editors) **99a:62005** 62–06

Research on Algorithms for Numerical Computing ★ Sūchi keisan arugorizumo no kenkyū. (Japanese) [Research on algorithms for numerical computing] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 26–28, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1040 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–260. (Editors) **99i:00028** 00B25 (65–06)

Research on Applied Functional Analysis ★ Ōyō kansū kaiseki no kenkyū. (Japanese) [Research on applied functional analysis] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, June 2–4, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1039 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–179. (Editors) **99i:00029** 00B25

Research on Automorphic Forms and Zeta Functions ★ Hokei keishiki to zeeta kansū no kenkyū. (Japanese) [Research on automorphic forms and zeta functions] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 20–24, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1002 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–212. (Editors) **99a:11005** 11–06

Research on Bimodules and Quantum Groups in Operator Algebras ★ Sayōso kan ni okeru sōkagun to ryōshi gun no kenkyū. (Japanese) [Research on bimodules and quantum groups in operator algebras] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 22–24, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1003 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–103. (Editors) **99a:46002** 46–06 (00B25, 46Lxx)

Research on Local and Global Singularity Theory ★ Kyokushoteki oyobi taiikiteki tokuiten ron no kenkyū. [Research on local and global singularity theory] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 9–12, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1050 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–145. (Editors) **99j:58003** 58–06

Research on Prehomogeneous Vector Spaces ★ Gai kinshitsu bekutoru kūkan no kenkyū. [Research on prehomogeneous vector spaces] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, April 8–12, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 999 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–205. (Editors) **99a:11006** 11–06 (14–06, 32–06)

Research on the Theory and Applications of Computer Algebra ★ Sūshiki shori ni okeru riron to ōyō no kenkyū. (Japanese) [Research on the theory and applications of computer algebra] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 17–20, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1038 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–254. (Editors) **99h:00034** 00B25 (65–06, 68Q40)

Research on the Theory of Topological Quantum Fields Induced by $6j$-symbols ★ $6j$-symbol kara michibi kareru isōteki ryōshi ba no riron no kenkyū. (Japanese) [Research on the theory of topological quantum fields induced by $6j$-symbols] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, March 6–8, 1998. Sūrikaisekikenkyūsho Kōkyūroku No. 1053 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–85. (Editors) **99k:00036** 00B25 (57–06)

Schücking, Engelbert L. ★ On Einstein's path. Essays in honor of Engelbert Schucking. Papers from the symposium held at New York University, New York, December 12–13, 1996. Edited by Alex Harvey. *Springer-Verlag, New York*, 1999. *xxiv*+517 *pp. ISBN* 0-387-98564-6 (Editors) **99h:83002** 83–06 (00B30)

Semigroups, Languages and their Related Fields ★ Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields. Held at Ibaraki University, Mito, November 11–12, 1996. Research Reports on Information Sciences. *Toho University, Department of Information Sciences, Chiba*, 199?. *vi*+52 *pp.* (Editors) **99a:20001** 20–06 (00B05, 20Mxx)

Sieve Methods, Exponential Sums, and their Applications in Number Theory ★ Sieve methods, exponential sums, and their applications in number theory. Proceedings of the symposium held in Cardiff, July 17–21, 1995. Edited by G. R. H. Greaves, G. Harman and M. N. Huxley. London Mathematical Society Lecture Note Series, 237. *Cambridge University Press, Cambridge*, 1997. *xii*+344 *pp. ISBN* 0-521-58957-6 (Editors) **99b:11004** 11–06

Singularities ★ Singularities Symposium—Łojasiewicz 70. Dedicated to Stanisław Łojasiewicz on the occasion of his 70th birthday. Papers from the Symposium on Singularities held at Jagellonian University, Kraków, September 25–29, 1996 and the Seminar on Singularities and Geometry held in Warsaw, September 30–October 4, 1996. Edited by Bronisław Jakubczyk, Wiesław Pawłucki and Jacek Stasica. Banach Center Publications, 44. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 292 *pp.* (Editors) **99i:00035** 00B30 (14–06, 32–06)

Singularities and Complex Analytic Geometry ★ Tokuiten to fukuso kaiseki kika. [Singularities and complex analytic geometry] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 1–4, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1033 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–171. (Editors) **99h:32002** 32–06 (14–06)

Solving Irregularly Structured Problems in Parallel ★ Solving irregularly structured problems in parallel. Papers from the 5th International Symposium (IRREGULAR'98) held in Berkeley, CA, August 9–11, 1998. Edited by A. Ferreira, J. Rolim, H. Simon and S.-H. Teng. Lecture Notes in Computer Science, 1457. *Springer-Verlag, Berlin*, 1998. *x*+408 *pp. ISBN* 3-540-64809-7 (Editors) **99h:65007** 65–06 (65F30, 65Y05,

Symposium: (*cont'd.*)
65Y25)

Spectral and Scattering Theory and Related Topics ★ Supekutoru sanran riron to sono shūhen. (Japanese) [Spectral and scattering theory and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, February 5–7, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 994 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–202. (Editors) **99a:00049** 00B25 (35–06, 47–06)

Spectral-scattering Theory and Related Topics ★ Supekutoru sanran riron to sono shūhen. (Japanese) [Spectral-scattering theory and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 2–7, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1047 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–133. (Editors) **99i:00030** 00B25 (35–06, 47–06, 81–06)

Static Analysis ★ SAS'94. Selected papers from the 1st International Symposium on Static Analysis held in Namur, September 28–30, 1994. Edited by P. Cousot and B. Le Charlier. Sci. Comput. Programming **31** (1998), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. v–vi and* 1–173. (Editors) **99a:68013** 68–06

— ★ Static analysis. Proceedings of the 5th International Symposium (SAS'98) held in Pisa, September 14–16, 1998. Edited by Giorgio Levi. Lecture Notes in Computer Science, 1503. *Springer-Verlag, Berlin*, 1998. *x*+383 *pp. ISBN* 3-540-65014-8 (Editors) **99i:68005** 68–06 (68N20, 68Q60)

Statistical Physics ★ Marian Smoluchowski Symposium on Statistical Physics. Held in Zakopane, September 1–10, 1997. Acta Phys. Polon. B **29** (1998), no. 6. *Jagellonian University, Institute of Physics, Kraków*, 1998. *pp.* 1523–1825. (Editors) **99d:82005** 82–06

Structure and Dynamics of Nonlinear Waves in Fluids ★ Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids. Held in Hannover, August 17–20, 1994. Edited by A. Mielke and K. Kirchgässner. Advanced Series in Nonlinear Dynamics, 7. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. *x*+418 *pp. ISBN* 981-02-2124-X (Editors) **99m:76003** 76–06 (00B25, 35–06, 76B15, 76Exx)

Structure of Solutions for Partial Differential Equations ★ Hembibun hōteishiki no kai no kōzō no kenkyū. [Investigations on the structure of solutions to partial differential equations] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, November 6–8, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1036 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–159. (Editors) **99f:35004** 35–06

Structure of Solutions to Rectangular Pipe Flows ★ Kukei kan nagare no kai no kōzō. (Japanese) [Structure of solutions to rectangular pipe flows] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 22–24, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1018 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–55. (Editors) **99d:76003** 76–06 (76E99, 76F99)

Study of the History of Mathematics ★ Sūgaku shi no kenkyū. (Japanese) [Study of the history of mathematics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, May 12–13, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1019 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–132. (Editors) **99d:01002** 01–06

Symmetries in Science ★ Symmetries in science. X. Proceedings of the 10th International Symposium held in Bregenz, July 13–18, 1997. Edited by Bruno Gruber and Michael Ramek. *Plenum Press, New York*, 1998. *x*+454 *pp. ISBN* 0-306-45908-6 (Editors) **99f:81004** 81–06

Theoretical Aspects of Computer Science ★ STACS 98. Proceedings of the 15th Annual Symposium on Theoretical Aspects of Computer Science held in Paris, February 25–27, 1998. Edited by Michel Morvan, Christoph Meinel and Daniel Krob. Lecture Notes in Computer Science, 1373. *Springer-Verlag, Berlin*, 1998. *xvi*+630 *pp. ISBN* 3-540-64230-7 (Editors) **99f:68011** 68–06

Theoretical Informatics ★ LATIN'98: theoretical informatics. Proceedings of the 3rd Latin American Symposium held in Campinas, April 20–24, 1998. Edited by Cláudio L. Lucchesi and Arnaldo V. Moura. Lecture Notes in Computer Science, 1380. *Springer-Verlag, Berlin*, 1998. *xii*+391 *pp. ISBN* 3-540-64275-7 (Editors) **99d:68007** 68–06

Topological ★ Proceedings of the Eighth Prague Topological Symposium. Held in Prague, August 18–24, 1996. Edited by Petr Simon. *Topology Atlas, North Bay, ON*, 1997. *front matter*+392 *pp.* (*electronic*). (Editors) **99a:54002** 54–06

Topological Field Theory, Primitive Forms and Related Topics ★ Topological field theory, primitive forms and related topics. Proceedings of the 38th Taniguchi Symposium held in Kyoto, December 9–13, 1996 and the RIMS Symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 16–19, 1996. Edited by Masaki Kashiwara, Atsushi Matsuo, Kyoji Saito and Ikuo Satake. Progress in Mathematics, 160. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *x*+493 *pp. ISBN* 0-8176-3975-6 (Editors) **99e:00029** 00B25 (32–06, 54–06, 58–06, 81–06)

Topology and Teichmüller Spaces ★ Topology and Teichmüller spaces. Proceedings of the 37th Taniguchi Symposium held in Katinkulta, July 24–28, 1995. Edited by Sadayoshi Kojima, Yukio Matsumoto, Kyoji Saito and Mika Seppälä. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *x*+293 *pp. ISBN* 981-02-2686-1 (Editors) **99g:00051** 00B25 (30–06, 32–06, 57–06)

Topology of Real Singularities and Related Topics ★ Jitsu tokuiten no toporojii to sono kanren wadai. [Topology of real singularities and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 27–30, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1006 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–223. (Editors) **99a:00050** 00B25 (32–06)

Traditions of Vedic Mathematics & Applications ★ Pre-proceedings of the 64th Indian Mathematical Society Conference and Symposia on Traditions of Vedic Mathematics & Applications and Fixed Point Theory in Non-linear Analysis & Applications. Pre-proceedings of the conference and abstracts from the symposia held at Gurukula Kangri Vishwavidyalaya (University), Hardwar, December 19–22, 1998. J. Natur. Phys. Sci. **12** (1998), no. 1. *Gurukul Kangri Vishwavidyalaya, Hardwar*, 1998. *pp.* 1–126. (Editors) **99k:00027** 00B25

Type Theory and its Application to Computer Systems ★ Type theory to sono compyūta shisutemu e no ōyō. [Type theory and its application to computer systems] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, September 19–21, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1023 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–156. (Editors) **99d:68014** 68–06 (03B70, 68N15, 68Q55)

Variational Problems and Related Topics ★ Hembun mondai to sono shūhen. [Variational problems and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, June 23–25, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1025 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–117. (Editors) **99d:35005** 35–06 (00B25)

Systèmes différentiels fractionnaires ★ Systèmes différentiels fractionnaires. [Fractional differential systems] Modèles, méthodes & applications. [Models, methods & applications] Proceedings of the colloquium (FDS'98) held in Paris, December 3–4, 1998. Edited by Denis Matignon and Gérard Montseny. ESAIM Proceedings, 5. *Société de Mathématiques Appliquées et Industrielles, Paris*, 1998. *front matter*+204 *pp.* (*electronic*). (Editors) **99h:00027** 00B25 (26A33)

Systems modelling and optimization ★ Systems modelling and optimization. Proceedings of the 18th IFIP TC7 Conference held in Detroit, MI, July 22–25, 1997. Edited by Michael P. Polis, Asen L. Dontchev, Peter Kall, Irena Lasiecka and Andrzej W. Olbrot. Chapman & Hall/CRC Research Notes in Mathematics, 396. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *xii*+513 *pp. ISBN* 0-8493-0607-8 (Editors) **99k:93007** 93–06 (49–06, 90–06)

Systems: theory and practice ★ Systems: theory and practice. Edited by R. Albrecht. Advances in Computing Science. *Springer-Verlag, Vienna*, 1998. *viii*+314 *pp. ISBN* 3-211-83206-8 (Editors) **99g:93002** 93–02 (90B30, 93A05, 93A30)

Systolic algorithms ★ Systolic algorithms. Selected reprints from Internat. J. Comput. Math., Parallel Comput., and Integration. Edited by David J. Evans. Topics in Computer Mathematics, 3. *Gordon and Breach Science Publishers, Philadelphia, PA*, 1991. *viii*+449 *pp. ISBN* 2-88124-804-7 65Y10 (65–06, 68M10, 68Q22, 68Q35)

Tabriz ★ Proceedings of the 28th Annual Iranian Mathematics Conference. Part 1. English papers. Held at the University of Tabriz, Tabriz, March 28–31, 1997. Edited by A. Jodayree Akbarfam. Tabriz University Series, 377. *Tabriz University, Tabriz; Iranian Mathematical Society, Tehran*, 1997. *xii*+589 *pp.* (Editors) **99a:00041** 00B25

Taegu ★ Proceedings of the Second International Workshop on Differential Geometry. Held at Kyungpook National University, Taegu, December 19–20, 1997. Edited by Young Jin Suh, Young Ho Kim and Ho Il Kim. *Kyungpook National University, Basic Science Research Institute, Taegu*, 1998. *xii*+107 *pp.* (Editors) **99b:53002** 53–06

Taejon ★ {International Conference on Probability Theory and its Applications}. Papers from the conference held in Taejon, February 24–26, 1998. J. Korean Math. Soc. **35** (1998), no. 3. *Korean Mathematical Society, Seoul*, 1998. *pp. i–ii and* 503–802. (Editors) **99g:60002** 60–06

— ★ Recent progress in algebra. Papers from the International Conference held in Taejon/Seoul, August 11–15, 1997. Edited by Sang Geun Hahn, Hyo Chul Myung and Efim Zelmanov. Contemporary Mathematics, 224. *American Mathematical Society, Providence, RI*, 1999. *x*+243 *pp. ISBN* 0-8218-0972-5 (Editors) **99e:00027** 00B25 (11–06, 17–06)

Taipei ★ Computing and combinatorics. Proceedings of the 4th Annual International Conference (COCOON'98) held in Taipei, August 12–14, 1998. Edited by Wen-Lian Hsu and Ming-Yang Kao. Lecture Notes in Computer Science, 1449. *Springer-Verlag, Berlin*, 1998. *xii*+372 *pp. ISBN* 3-540-64824-0 (Editors) **99k:68008** 68–06 (05–06, 68Q25, 68R10)

Taormina ★ Selected papers in honor of Adriano Garsia. Papers from the conference held in Taormina, July 1994. Edited by I. Gessel. Discrete Math. **193** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. iii–x and* 1–319. (Editors) **99f:00030** 00B30 (05–06)

Tarquinia ★ Recent trends in algebraic development techniques. Papers from the 12th International Workshop on Algebraic Development Techniques (WADT'97) held in Tarquinia, June 3–7, 1997. Edited by Francesco Parisi Presicce. Lecture Notes in Computer Science, 1376. *Springer-Verlag, Berlin*, 1998. *viii*+435 *pp. ISBN* 3-540-64299-4 (Editors) **99f:68009** 68–06 (68Q65)

Tarragona ★ Proceedings of the IV Catalan Days of Applied Mathematics. Held in Tarragona, February 11–13, 1998. Edited by C. García, C. Olivé and M. Sanromà. *Universitat Rovira i Virgili, Departament d'Enginyeria Informàtica, Tarragona*, 1998. *viii*+192 *pp.* (Editors) **99a:00038** 00B25

— ★ Mathematical and computational analysis of natural language. Selected papers from the 2nd International Conference on Mathematical Linguistics (ICML '96) held in Tarragona, May 2–4, 1996. Edited by Carlos Martín-Vide. Studies in Functional and Structural Linguistics (SFSL), 45. *John Benjamins B.V., Amsterdam*, 1998. *xviii*+391 *pp. ISBN* 90-272-1554-5 (Editors) **99g:68003** 68–06 (68Q45, 68S05)

Tartu ★ New trends in probability and statistics. Vol. 3. Multivariate statistics and matrices in statistics. Proceedings of the 5th Conference on Multivariate Statistics and Matrices in Statistics held in Tartu and Pühajärve, May 23–28, 1994. Edited by E.-M. Tiit, T. Kollo and H. Niemi. *VSP, Utrecht; TEV Ltd., Vilnius*, 1995. *x*+342 *pp. ISBN* 90-6764-195-2 (Editors) **99g:62004** 62–06

Tashkent ★ Algebra and operator theory. Proceedings of the 2nd French-Uzbek Colloquium held in Tashkent, September 29–October 5, 1997. Edited by Yusupdjan Khakimdjanov [Yu. B. Khakimdzhanov], Michel Goze and Shavkat A. Ayupov. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii*+250 *pp. ISBN* 0-7923-5094-4 (Editors) **99d:00012** 00B25 (46–06)

Tbilisi ★ International Symposium on Differential Equations and Mathematical Physics. Invited papers from the symposium, dedicated to the 90th anniversary of the birth of Ilia Vekua [Il'ya Nestorovich Vekua], held in Tbilisi, June 21–25, 1997. Mem. Differential Equations Math. Phys. **12** (1997). *Publishing House GCI, Tbilisi*, 1997. *pp.* 1–232. 00B30

— ★ The 1st International Junior Conference on Mathematical Analysis. Abstracts from the conference (JUMA-98) held in Tbilisi, April 30–May 1, 1998. Proc. A. Razmadze Math. Inst. **117** (1998). *Publishing House GCI, Tbilisi*, 1998. *pp.* 133–166. 00B05 (00B25)

Tempe, AZ ★ Chandrasekhar memorial volume. Proceedings of the Memorial Symposium held at Arizona State University, Tempe, AZ, October 21–23, 1996. Edited by T. Chang. Internat. J. Engrg. Sci. **36** (1998), no. 12-14. *Pergamon Press, Oxford*, 1998. *pp. i–xxxvi and* 1325–1740. (Editors) **99h:00030** 00B25 (85–06)

Temporal representation and reasoning ★ Temporal representation and reasoning. Papers from the 3rd International Workshop (TIME-96) held in 1996. Edited by Luca Chittaro and Angelo Montanari. Ann. Math. Artificial Intelligence **22** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–iv and* 1–192. (Editors) **99a:68016** 68–06 (68T27)

Temuco ★ Dynamical systems. Papers from the UNESCO-CIMPA First School on Dynamical and Disordered Systems held at the Universidad de la Frontera, Temuco, December 30, 1991–January 23, 1992. Edited by Rodrigo Bamon, Jean-Marc Gambaudo and Servet Martinez. Travaux en Cours [Works in Progress], 52. *Hermann, Paris*, 1996. viii+178 *pp. ISBN* 2-7056-6288-X (Editors) **99b:58005** 58–06 (00B25)

— ★ Disordered systems. Papers from the UNESCO-CIMPA First School on Dynamical and Disordered Systems held at the Universidad de la Frontera, Temuco, December 30, 1991–January 23, 1992. Edited by Rodrigo Bamon, Jean-Marc Gambaudo and Servet Martinez. Travaux en Cours [Works in Progress], 53. *Hermann, Paris*, 1996. viii+158 *pp. ISBN* 2-7056-6289-8 (Editors) **99b:82002** 82–06 (00B25, 60–06)

Ten years of Gurevich's abstract state machines ★ Ten years of Gurevich's abstract state machines. Part I. J.UCS **3** (1997), no. 4. *Springer-Verlag, Heidelberg*, 1997. *front matter and pp.* 230–413 (*electronic*). 68Q05

— ★ Ten years of Gurevich's abstract state machines. Part II. J.UCS **3** (1997), no. 5. *Springer-Verlag, Heidelberg*, 1997. *front matter and pp.* 414–701 (*electronic*). 68Q05

Tensor and vector analysis ★ Tensor and vector analysis. Geometry, mechanics and physics. Edited by A. T. Fomenko, O. V. Manturov and V. V. Trofimov. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *xiv+298 pp. ISBN* 90-5699-007-1 (Editors) **99g:53001** 53–06 (58–06)

Theorem proving in higher order logics ★ Theorem proving in higher order logics. Proceedings of the 11th International Conference (TPHOLs '98) held at the Australian National University, Canberra, September 27–October 2, 1998. Edited by Jim Grundy and Malcolm Newey. Lecture Notes in Computer Science, 1479. *Springer-Verlag, Berlin*, 1998. *viii+497 pp. ISBN* 3-540-64987-5 (Editors) **99k:68014** 68–06 (03–06, 03B15, 03B35, 68T15)

Theoretical aspects of neural computation ★ Theoretical aspects of neural computation. A multidisciplinary perspective. Papers from the International Workshop (TANC-97) held at the Hong Kong University of Science and Technology, Hong Kong, May 26–28, 1997. Edited by Kwok-Yee Michael Wong, Irwin King and Dit-Yan Yeung. *Springer-Verlag Singapore, Singapore*, 1998. *xii+320 pp. ISBN* 981-3083-70-0 (Editors) **99f:00027** 00B25 (62–06, 68T05)

Theory of Finslerian Laplacians and applications ★ The theory of Finslerian Laplacians and applications. Edited by Peter L. Antonelli and Bradley C. Lackey. Mathematics and its Applications, 459. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxx+282 pp. ISBN* 0-7923-5313-7 (Editors) **99i:58003** 58–06 (53–06, 53C60)

Theory of the Navier-Stokes equations ★ Theory of the Navier-Stokes equations. Proceedings of the 3rd International Conference on the Navier-Stokes Equations: Theory and Numerical Methods held in Oberwolfach. Edited by J. G. Heywood, K. Masuda, R. Rautmann and V. A. Solonnikov. Series on Advances in Mathematics for Applied Sciences, 47. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xii+228 pp. ISBN* 981-02-3300-0 (Editors) **99c:35002** 35–06 (35Q30, 65–06, 76–06)

Thessaloniki ★ Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras. Held at Aristotle University of Thessaloniki, Thessaloniki, December 16–18, 1995. Edited by Grigorios Tsagas. BSG Proceedings, 1. *Geometry Balkan Press, Bucharest*; *Balkan Society of Geometers, Bucharest*, 1997. *vi+165 pp. ISBN* 973-97454-1-5 (Editors) **99e:53001** 53–06

— ★ Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras. Held at Aristotle University of Thessaloniki, Thessaloniki, December 14–17, 1994. Edited by Grigorios Tsagas. BSG Proceedings, 2. *Geometry Balkan Press, Bucharest*; *Balkan Society of Geometers, Bucharest*, 1998. *vi+146 pp. ISBN* 973-97454-7-4 (Editors) **99d:53001** 53–06

Tianjin ★ Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications. Proceedings of the STATPHYS-19 Satellite Meeting held in Tianjin, August 8–10, 1995, and the 7th Nankai Workshop held in Tianjin, August 12–13, 1995. Edited by M. L. Ge and F. Y. Wu. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv+444 pp. ISBN* 981-02-2756-6 (Robert A. Weston) **99f:82002** 82–06 (82B20, 82B23)

Timişoara ★ Report on the Sixteenth Conference on Operator Theory. Abstracts from the conference held in Timişoara, July 2–8, 1996. *Universitatea de Vest din Timişoara, Facultatea de Matematică, Timişoara*, 199?. *ii+122 pp.* (Editors) **99i:47001** 47–06 (00B05, 46–06)

Toeplitz matrices: structures, algorithms and applications ★ Toeplitz matrices: structures, algorithms and applications. Papers from the workshop held in Cortona, September 9–14, 1996. Calcolo **33** (1996), no. 1-2. *Istituto di Elaborazione della Informazione del CNR, Pisa*, 1998. *pp. i–ii and* 1–176. (Editors) **99b:00021** 00B25 (15–06, 65–06)

Tokyo ★ The impact of chaos on science and society. Proceedings of the symposium held at the University of Tokyo, Tokyo, April 15–17, 1991. Edited by Celso Grebogi and James A. Yorke. *United Nations University Press, Tokyo*, 1997. xiv+401 *pp. ISBN* 92-808-0882-6 (Sandra L. Arlinghaus) **99d:00006** 00A69 (00B25, 58F15)

— ★ New trends in microlocal analysis. Papers from the JSPS-CNRS Joint Seminar held in Tokyo, September 11–16, 1995. Edited by J.-M. Bony and M. Morimoto. *Springer-Verlag, Tokyo*, 1997. *viii+242 pp. ISBN* 4-431-70192-3 (Editors) **99d:00024** 00B25 (35–06, 58–06, 58G07)

— ★ Advances in economics and econometrics: theory and applications. Vol. I, II, III. Papers from the 7th World Congress of the Econometric Society held at Keio University, Tokyo, August 1995. Edited by David M. Kreps and Kenneth F. Wallis. Econometric Society Monographs, 26, 27, 28. *Cambridge University Press, Cambridge*, 1997. *Vol. I*: *vi+332 pp.*; *Vol. II*: *vi+356 pp.*; *Vol. III*: *x+334 pp. ISBN* 0-521-58139-7 (Editors) **99d:90003** 90–06 (62P20)

— ★ KNOTS '96. Proceedings of the International Conference and Workshop on Knot Theory held at Waseda University, Tokyo, July 22–26, 1996. Edited by S. Suzuki. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii+597 pp. ISBN* 981-02-3093-1 (Editors) **99i:57002** 57–06

Toledo ★ Wittgenstein y el Círculo de Viena. (German) [Wittgenstein and the Vienna Circle] Proceedings of the International Congress held in Toledo, November 2–5, 1994. Edited by Jesús Padilla Gálvez and Raimundo Drudis Baldrich. Estudios [Studies], 49. *Ediciones de la Universidad de Castilla-La Mancha, Cuenca*, 1998. 316 *pp. ISBN* 84-89958-26-2 (Editors) **99b:00022** 00B25 (00A30)

Topics in fluid mechanics ★ Topics in fluid mechanics. Invited lectures from the International Conference held in memory of Professor Carlo Ferrari in Turin, April 3–4, 1998. Edited by Silvio Nocilla. Meccanica **33** (1998), no. 5. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 429–532. (Editors) **99h:76005** 76–06 (00B30)

Topics in number theory ★ Topics in number theory. In honor of B. Gordon and S. Chowla. Proceedings of the conference held at the Pennsylvania State University, University Park, PA, July 31–August 3, 1997. Edited by Scott D. Ahlgren, George E. Andrews and Ken Ono. Mathematics and its Applications, 467. *Kluwer Academic Publishers, Dordrecht*, 1999. *viii+258 pp. ISBN* 0-7923-5583-0 (Editors) **99m:11004** 11–06

Topics in symplectic 4-manifolds ★ Topics in symplectic 4-manifolds. 1st International Press Lectures presented at the University of California, Irvine, CA, March 28–30, 1996. Edited by Ronald J. Stern. First International Press Lecture Series, I. *International Press, Cambridge, MA*, 1998. *iv+124 pp. ISBN* 1-57146-019-5 (Editors) **99b:57001** 57–06 (58–06)

Topics in theoretical physics ★ Topics in theoretical physics. Proceedings of the 2nd Pacific Winter School in Theoretical Physics held at Sorak Mountain Resort, January 19–24, 1995. Edited by Y. M. Cho. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x+265 pp. ISBN* 981-02-3083-4 (Editors) **99f:81005** 81–06

Topological field theory, primitive forms and related topics ★ Topological field theory, primitive forms and related topics. Proceedings of the 38th Taniguchi Symposium held in Kyoto, December 9–13, 1996 and the RIMS Symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, December 16–19, 1996. Edited by Masaki Kashiwara, Atsushi Matsuo, Kyoji Saito and Ikuo Satake. Progress in Mathematics, 160. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *x+493 pp. ISBN* 0-8176-3975-6 (Editors) **99e:00029** 00B25 (32–06, 54–06, 58–06, 81–06)

Topology and geometry in polymer science ★ Topology and geometry in polymer science. Papers from the IMA Workshop held at the University of Minnesota, Minneapolis, MN, June 1996. Edited by Stuart G. Whittington, De Witt Sumners and Timothy Lodge. The IMA Volumes in Mathematics and its Applications, 103. *Springer-Verlag, New York*, 1998. *x+201 pp. ISBN* 0-387-98580-8 (Editors) **99e:82103** 82D60 (82–06)

Topology and Teichmüller spaces ★ Topology and Teichmüller spaces. Proceedings of the 37th Taniguchi Symposium held in Katinkulta, July 24–28, 1995. Edited by Sadayoshi Kojima, Yukio Matsumoto, Kyoji Saito and Mika Seppälä. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *x+293 pp. ISBN* 981-02-2686-1 (Editors) **99g:00051** 00B25 (30–06, 32–06, 57–06)

Topology of real singularities and related topics ★ Jitsu tokuiten no toporojii to sono kanren wadai. [Topology of real singularities and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, January 27–30, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1006 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–223. (Editors) **99a:00050** 00B25 (32–06)

Toronto, ON ★ Stable and unstable homotopy. Papers from the Workshop on Stable Homotopy Theory and the Workshop on Unstable and Rational Homotopy Theory held in Toronto, ON, January–June 1996. Edited by William G. Dwyer, Steven Halperin, Richard Kane, Stanley O. Kochman, Mark E. Mahowald and Paul S. Selick. Fields Institute Communications, 19. *American Mathematical Society, Providence, RI*, 1998. *viii+316 pp. ISBN* 0-8218-0824-9 (Editors) **99a:55001** 55–06

— ★ Semidefinite programming and interior-point approaches for combinatorial optimization problems. Papers from the workshop held at the University of Toronto, Toronto, ON, May 15–17, 1996. Edited by Panos M. Pardalos and Henry Wolkowicz. J. Comb. Optim. **2** (1998), no. 1. *Kluwer Academic Publishers, Hingham, MA*, 1998. *pp.* 1–109. (Editors) **99a:90012** 90–06 (90C26, 90C27)

— ★ Quasicrystals and discrete geometry. Proceedings of the Fall Programme held at the University of Toronto, Toronto, ON, 1995. Edited by Jiří Patera. Fields Institute Monographs, 10. *American Mathematical Society, Providence, RI*, 1998. *xii+289 pp. ISBN* 0-8218-0682-3 (Editors) **99d:52001** 52–06 (52C22)

— ★ Causality and locality in modern physics. Proceedings of the Symposium on Causality and Locality in Modern Physics and Astronomy: Open Questions and Possible Solutions held in honor of Jean-Pierre Vigier at York University, Toronto, ON, August 1997. Edited by Geoffrey Hunter, Stanley Jeffers and Jean-Pierre Vigier. Fundamental Theories of Physics, 97. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x+497 pp. ISBN* 0-7923-5227-0 (Editors) **99j:81005** 81–06 (00B30, 78–06)

Toulouse ★ Applied algebra, algebraic algorithms and error-correcting codes. Proceedings of the 12th International Symposium (AAECC-12) held in Toulouse, June 23–27, 1997. Edited by Teo Mora and Harold Mattson. Lecture Notes in Computer Science, 1255. *Springer-Verlag, Berlin*, 1997. *x+353 pp. ISBN* 3-540-63163-1 (Editors) **99b:94002** 94–06 (68Q40)

Transfer phenomena in magnetohydrodynamic and electroconducting flows ★ Transfer phenomena in magnetohydrodynamic and electroconducting flows. Papers from the 3rd International Conference (PAMIR) held in Aussois, September 22–26, 1997. Edited by A. Alemany, Ph. Marty and J. P. Thibault. Fluid Mechanics and its Applications, 51. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xvi+421 pp. ISBN* 0-7923-5532-6 (Editors) **99k:76007** 76–06 (76E25, 76W05)

Transform methods & special functions ★ Transform methods & special functions, Varna '96. Proceedings of the 2nd International Workshop, dedicated to the 100th anniversary of the birth of Nikola Obreschkoff, held in Varna, August 23–30, 1996. Edited by P. Rusev, I. Dimovski and V. Kiryakova. *Bulgarian Academy of Sciences, Institute of Mathematics and Informatics, Sofia*, 1998. *vi+614 pp. ISBN* 954-8986-05-1 (Editors) **99i:00031** 00B25 (26–06, 30–06, 33–06)

Transportation ★ Transportation. Sci. Iran. **2** (1995), no. 3. *Sharif University of Technology, Tehran*, 1995. *pp. i–viii and* 185–276. (Editors) **99g:90011** 90–06 (90B06, 90C35)

Travaux mathématiques ★ Travaux mathématiques. Fasc. X. (French) [Mathematical works. Part X.] Edited by Jean-Paul Pier. Séminaire de Mathématique de Luxembourg.

[Luxembourg Mathematics Seminar] *Centre Universitaire de Luxembourg, Luxembourg*, 1998. *iv*+116 *pp. ISBN* 2-87971-219-X (Editors) **99k:00022** 00B15

Traveling salesman problem ★ The traveling salesman problem. Edited by A. Punnen. Comput. Oper. Res. **26** (1999), no. 4. *Pergamon Press, Exeter*, 1999. *pp.* 293–441. (Editors) **99m:90007** 90–06 (90C27, 90C35)

Trends in multicriteria decision making ★ Trends in multicriteria decision making. Proceedings of the 13th International Conference held in Cape Town, January 6–10, 1997. Edited by Theodor J. Stewart and Robin C. van den Honert. Lecture Notes in Economics and Mathematical Systems, 465. *Springer-Verlag, Berlin*, 1998. *x*+448 *pp. ISBN* 3-540-64741-4 (Editors) **99g:90012** 90–06 (90A05, 90C29, 90C90)

Trends in the representation theory of finite-dimensional algebras ★ Trends in the representation theory of finite-dimensional algebras. Papers from the Joint Summer Research Conference held at the University of Washington, Seattle, WA, July 20–24, 1997. Edited by Edward L. Green and Birge Huisgen-Zimmermann [Birge Zimmermann-Huisgen]. Contemporary Mathematics, 229. *American Mathematical Society, Providence, RI*, 1998. *xiv*+356 *pp. ISBN* 0-8218-0928-8 (Editors) **99i:16003** 16–06 (16Gxx)

Trends in theoretical physics ★ Trends in theoretical physics. Papers from the CERN Meeting held at La Plata University, La Plata, April–May 1997. Edited by Horacio Falomir, Ricardo E. Gamboa Saravi and Fidel A. Schaposnik. AIP Conference Proceedings, 419. *American Institute of Physics, Woodbury, NY*, 1998. *x*+443 *pp. ISBN* 1-56396-743-X (Editors) **99e:81005** 81–06

Trier ★ Workshop on Global Optimization. Selected papers from the workshop held at the University of Trier, Trier, August 31–September 1, 1997. Edited by Reiner Horst and Nguyen Van Thoai. J. Global Optim. **13** (1998), no. 4. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 335–492. (Editors) **99k:90005** 90–06 (90C29, 90C30)

Trieste ★ 11th Italian Conference on General Relativity and Gravitational Physics. Proceedings of the conference held at the International School for Advanced Studies, Trieste, September 26–30, 1994. Edited by M. Carfora, M. Cavaglià, M. Francaviglia, P. Fré, G. Pizzella, C. Reina and A. Treves. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xvi*+483 *pp. ISBN* 981-02-2828-7 (Editors) **99e:83002** 83–06

— ★ String theory, gauge theory and quantum gravity. Proceedings of the 2nd Conference on Duality Symmetries in String Theory held in Trieste, April 1–4, 1997, and the Spring School on String Theory, Gauge Theory and Quantum Gravity held in Trieste, April 7–12, 1997. Edited by E. Gava, B. Greene, J. Louis, K. S. Narain and S. Randjbar-Daemi. Nuclear Phys. B Proc. Suppl. **67** (1998). *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–251. (Editors) **99a:81005** 81–06 (81T30, 83E30)

— ★ Quaternionic structures in mathematics and physics. Proceedings of the meeting held in Trieste, September 5–9, 1994. Edited by G. Gentili, S. Marchiafava and M. Pontecorvo. The papers are available electronically at http://www.emis.de/proceedings/QSMP94/. *International School for Advanced Studies (SISSA), Laboratorio Interdisciplinare per le Scienze Naturali ed Umanistiche, Trieste*, 1998. *front matter*+267 *pp.* (*electronic*). (Editors) **99d:53002** 53–06

Trondheim ★ Algebras and modules. I. Papers from the Workshop on Representations of Algebras and Related Topics preceding the 8th International Conference on Representations of Algebras (ICRA VIII) held in Trondheim, July 29–August 3, 1996. Edited by Idun Reiten, Sverre O. Smalø and Øyvind Solberg. CMS Conference Proceedings, 23. *Published by the American Mathematical Society, Providence, RI; for the Canadian Mathematical Society, Ottawa, ON*, 1998. *xiv*+198 *pp. ISBN* 0-8218-0850-8 (Editors) **99e:16001** 16–06 (16Gxx)

Tsukuba ★ Recent topics on mathematical theory of viscous incompressible fluid. Papers from the Regional Workshop on Applications of Method in Real Analysis to Nonlinear Partial Differential Equations held at Tsukuba University, Tsukuba, December 2–12, 1996. Edited by Hideo Kozono and Yoshihiro Shibata. Lecture Notes in Numerical and Applied Analysis, 16. *Kinokuniya Company Ltd., Tokyo*, 1998. *viii*+270 *pp. ISBN* 4-314-10133-4 (Editors) **99a:35005** 35–06 (76–06)

— ★ Rewriting techniques and applications. Proceedings of the 9th International Conference (RTA-98) held in Tsukuba, March 30–April 1, 1998. Edited by Tobias Nipkow. Lecture Notes in Computer Science, 1379. *Springer-Verlag, Berlin*, 1998. *x*+343 *pp. ISBN* 3-540-64301-X (Editors) **99d:68012** 68–06 (68Q42)

Turin ★ Topics in fluid mechanics. Invited lectures from the International Conference held in memory of Professor Carlo Ferrari in Turin, April 3–4, 1998. Edited by Silvio Nocilla. Meccanica **33** (1998), no. 5. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 429–532. (Editors) **99h:76005** 76–06 (00B30)

— ★ Logic & foundation of the theory of games and decisions. 2. Selected papers from the 2nd Conference on Logic and the Theory of Games and Decisions (LOFT2) held in Turin, December 1996. Edited by Mamoru Kaneko, Giacomo Bonanno and Philippe Mongin. Math. Social Sci. **36** (1998), no. 1. *North-Holland Publishing Co., Amsterdam*, 1998. *pp.* 1–68. (Editors) **99m:03039** 03B45 (03–06)

Twenty years of feedback linearization of nonlinear systems ★ Twenty years of feedback linearization of nonlinear systems. Edited by H. Nijmeijer and A. Isidori. Internat. J. Robust Nonlinear Control **8** (1998), no. 11. *John Wiley & Sons, Ltd., Chichester*, 1998. *pp. i–ii and* 921–1020. (Editors) **99f:93004** 93–06 (93B18, 93B29, 93C10)

Type theory and its application to computer systems ★ Type theory to sono compyūta shisutemu e no ōyō. [Type theory and its application to computer systems] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, September 19–21, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1023 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–156. (Editors) **99d:68014** 68–06 (03B70, 68N15, 68Q55)

Typed lambda-calculi and applications ★ Typed lambda-calculi and applications. Selected papers from the 3rd International Conference (TLCA '97) held in Nancy, April 2–4, 1997. Edited by Roger Hindley [James Roger Hindley]. Fund. Inform. **33** (1998), no. 4. *IOS Press, Amsterdam*, 1998. *pp. i–ii and* 309–432. (Editors) **99i:68006** 68–06 (03B40, 68N15)

Überblicke Mathematik ★ Überblicke Mathematik 1998. (German) [Surveys on mathematics 1998] Edited by Albrecht Beutelspacher, Norbert Henze, Ulrich Kulisch and Hans Wußing. Überblicke Mathematik. [Surveys on Mathematics] *Friedr. Vieweg & Sohn, Braunschweig*, 1997. *iv*+149 *pp. ISBN* 3-528-06944-9 (Editors) **99a:00018** 00B15

— ★ Überblicke Mathematik 1996/97. (German) [Surveys of mathematics 1996/97] Edited by Albrecht Beutelspacher, Norbert Henze, Ulrich Kulisch and Hans Wußing. Überblicke Mathematik. [Surveys on Mathematics] *Friedr. Vieweg & Sohn, Braunschweig*, 1997. *vi*+161 *pp. ISBN* 3-528-06892-2 (Editors) **99d:00011** 00B15

Udine ★ Localization and fracture phenomena in inelastic solids. Papers from the CISM Advanced School held in Udine, September 29–October 3, 1997. Edited by Piotr Perzyna. CISM Courses and Lectures, 386. *Springer-Verlag, Vienna*, 1998. *vi*+468 *pp. ISBN* 3-211-82918-0 (Editors) **99g:73002** 73–06 (73Exx, 73M25)

— ★ Recent advances in boundary layer theory. Dedicated to Prof. W. Schneider on the occasion of his 60th birthday. Lecture notes from a course held in Udine, July 7–11, 1997. Edited by Alfred Kluwick. CISM Courses and Lectures, 390. *Springer-Verlag, Vienna*, 1998. *vi*+330 *pp. ISBN* 3-211-83136-3 (Editors) **99h:76004** 76–06 (76D10, 76Fxx, 76N20)

— ★ Advances in fluid mechanics. II. Papers from the 2nd International Conference held in Udine, May 1998. Edited by M. Rahman, G. Comini and C. A. Brebbia. Advances in Fluid Mechanics, 21. *Computational Mechanics Publications, Southampton*, 1998. *x*+377 *pp. ISBN* 1-85312-589-X (Editors) **99k:76003** 76–06 (76Mxx)

Umeå ★ Logic, action and cognition. Essays in philosophical logic. Revised papers from the Colloquium on Dynamic Approaches in Logic, Language and Information (UmLLI-93) held at Umeå University, Umeå, September 24–26, 1993. Edited by Eva Ejerhed and Sten Lindström. Trends in Logic—Studia Logica Library, 2. *Kluwer Academic Publishers, Dordrecht*, 1997. *x*+232 *pp. ISBN* 0-7923-4560-6 (Editors) **99k:03012** 03B35 (03–06)

Uncertainty in artificial intelligence ★ Uncertainty in artificial intelligence. Proceedings of the 11th Conference (UAI-95) held at McGill University, Montreal, PQ, August 18–20, 1995. Edited by Philippe Besnard and Steve Hanks. *Morgan Kaufmann, San Francisco, CA*, 1995. *x*+591 *pp. ISBN* 1-55860-385-9 (Editors) **99a:68017** 68–06 (68T27, 68T30)

— ★ Uncertainty in artificial intelligence. Proceedings of the 12th Conference held at Reed College, Portland, OR, August 1–4, 1996. Edited by Eric Horvitz and Finn Jensen. *Morgan Kaufmann, San Francisco, CA*, 1996. *xii*+572 *pp. ISBN* 1-55860-412-X (Editors) **99a:68018** 68–06 (68T27, 68T30)

Unconventional models of computation ★ Unconventional models of computation. Papers from the 1st International Conference (UMC'98) held at the University of Auckland, Auckland, January 5–9, 1998. Edited by C. S. Calude, J. Casti and M. J. Dinneen. Springer Series in Discrete Mathematics and Theoretical Computer Science. *Springer-Verlag Singapore, Singapore; Centre for Discrete Mathematics & Theoretical Computer Science, Auckland*, 1998. *viii*+426 *pp. ISBN* 981-3083-69-7 (Editors) **99f:68012** 68–06 (68Q05, 92D20)

Universality and relevance today of the scientific thought of Adolphe Quetelet ★ Actualité et universalité de la pensée scientifique d'Adolphe Quetelet. (French) [Universality and relevance today of the scientific thought of Adolphe Quetelet] Proceedings of the Colloquium "Quetelet: A Man of Ideas" held in Brussels, October 24–25, 1996, in honor of Adolphe Quetelet on the 200th anniversary of his birth. Acad. Roy. Belg. Cl. Sci. Mém. Collect. 8° (3) **13** (1997). *Académie Royale de Belgique, Brussels*, 1997. *pp.* 1–236. (Editors) **99a:01002** 01–06

Universe at large ★ The Universe at large. Key issues in astronomy and cosmology. Edited by Guido Münch, Antonio Mampaso and Francisco Sánchez. *Cambridge University Press, Cambridge*, 1997. *xii*+447 *pp. ISBN* 0-521-58944-4 (Markku Lehto) **99e:85001** 85A40 (83F05, 85–06)

University Park, PA ★ Topics in number theory. In honor of B. Gordon and S. Chowla. Proceedings of the conference held at the Pennsylvania State University, University Park, PA, July 31–August 3, 1997. Edited by Scott D. Ahlgren, George E. Andrews and Ken Ono. Mathematics and its Applications, 467. *Kluwer Academic Publishers, Dordrecht*, 1999. *viii*+258 *pp. ISBN* 0-7923-5583-0 (Editors) **99m:11004** 11–06

Update of the issue *50 years of GAMM* Fortschreibungen des Heftes *50 Jahre GAMM*, 1972–1997. [Update of the issue *50 years of GAMM*, 1972–1997] 75 Jahre GAMM. *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 2, 59–83. (*see* **99f:01027**) 01A74

Using fuzzy algebraic structures in intelligent systems ★ Using fuzzy algebraic structures in intelligent systems. Edited by A. Gisolfi, W. Pedrycz and S. Sessa. Inform. Sci. **106** (1998), no. 1-2. *North-Holland Publishing Co., New York*, 1998. *pp. i–iv and* 1–195. (Editors) **99d:68015** 68–06 (03B52, 04A72, 68T27)

Uxbridge ★ Neural networks and their applications. Papers from the Joint Workshop on Adaptive Information Technologies held at Brunel University, Uxbridge, April 3–5, 1995. Edited by J. G. Taylor. *John Wiley & Sons, Ltd., Chichester*, 1996. *xxviii*+293 *pp. ISBN* 0-471-96282-1 (Editors) **99b:68161** 68T05 (00B25, 92B20)

— ★ Applied mathematical programming and modeling. III (APMOD95). Selected papers from the 3rd Seminar held at Brunel University, Uxbridge, 1995. Edited by I. Maros, G. Mitra and A. Sciomachen. Ann. Oper. Res. **81** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. ix–xiv and* 1–513. (Editors) **99b:90006** 90–06 (90C05, 90C27, 90C30)

Vancouver, BC ★ Stochastic programming. State of the art. 1998. Papers from the 8th International Conference on Stochastic Programming held at the University of British Columbia, Vancouver, BC, August 8–16, 1998. Edited by R. J.-B. Wets and W. T. Ziemba. Ann. Oper. Res. **85** (1999). *Baltzer Science Publishers BV, Bussum*, 1999. *pp. i–xviii and* 1–285. (Editors) **99m:90006** 90–06 (90C15)

Variational problems and related topics ★ Hembun mondai to sono shūhen. [Variational problems and related topics] Proceedings of a symposium held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, June 23–25, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1025 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–iv and* 1–117. (Editors) **99d:35005** 35–06 (00B25)

Variations of domain and free-boundary problems in solid mechanics ★ Variations of domain and free-boundary problems in solid mechanics. Proceedings of the IUTAM Symposium held at the École des Mines and the École Polytechnique, Paris, April 22–25, 1997. Edited by P. Argoul, M. Frémond and Q. S. Nguyen. Solid Mechanics and its Applications, 66. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xii*+338 *pp. ISBN* 0-7923-5450-8 (Editors) **99k:73004** 73–06 (73B30, 80–06)

Varna ★ Transform methods & special functions, Varna '96. Proceedings of the 2nd International Workshop, dedicated to the 100th anniversary of the birth of Nikola Obreschkoff, held in Varna, August 23–30, 1996. Edited by P. Rusev, I. Dimovski and V. Kiryakova. *Bulgarian Academy of Sciences, Institute of Mathematics and Informatics, Sofia*, 1998. *vi*+614 *pp. ISBN* 954-8986-05-1 (Editors) **99i:00031** 00B25 (26–06, 30–06, 33–06)

— ★ Large-scale scientific computations of engineering and environmental problems. Proceedings of the 1st Workshop on Large-scale Scientific Computations held in Varna,

June 7–11, 1997. Edited by Michael Griebel, Olep P. Iliev [Oleg P. Iliev], Svetozar D. Margenov and Panayot S. Vassilevski. Notes on Numerical Fluid Mechanics, 62. *Friedr. Vieweg & Sohn, Braunschweig*, 1998. *viii+356 pp. ISBN* 3-528-06962-7 (Editors) **99m:65006** 65–06 (76–06, 76Mxx)

Velké Karlovice ★ Summer Schools MATLAB 94, 95 Proceedings. Held in Velké Karlovice August 27–31, 1994, and in Čeřínek, August 28–September 1, 1995. Edited by Ivana Horová. Folia Facultatis Scientiarium Naturalium Universitatis Masarykianae Brunensis. Mathematica, 5. *Masaryk University, Brno*, 1997. *iv+209 pp. ISBN* 80-210-1517-9 (Editors) **99a:00042** 00B25 (62–06, 65–06)

Venice ★ Algorithms—ESA '98. Proceedings of the 6th Annual European Symposium held in Venice, August 24–26, 1998. Edited by Gianfranco Bilardi, Giuseppe F. Italiano, Andrea Pietracaprina and Geppino Pucci. Lecture Notes in Computer Science, 1461. *Springer-Verlag, Berlin*, 1998. *xii+516 pp. ISBN* 3-540-64848-8 (Editors) **99k:68004** 68–06 (68Q20, 68Q25)

Versailles ★ Performance evaluation. (French) Papers from the 6th Workshop held at the Université de Versailles-Saint-Quentin, Versailles, November 25–28, 1996. Edited by Yves Dallery, Jean-Michel Fourneau, Bernard Lemaire and Raymond Marie. RAIRO Rech. Opér. **32** (1998), no. 3. *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris*, 1998. *pp. i–iv and* 211–372. (Editors) **99e:90004** 90–06 (90B25)

Veszprém ★ Advances in difference equations. Proceedings of the 2nd International Conference on Difference Equations (SICDE) held in Veszprém, August 7–11, 1995. Edited by S. Elaydi, I. Győri and G. Ladas. *Gordon and Breach Science Publishers, Amsterdam*, 1997. *xxii+668 pp. ISBN* 90-5699-521-9 (Editors) **99d:39001** 39–06 (34–06)

Vic ★ XIV CEDYA/IV Congrés de Matemàtica Aplicada. (Spanish) [XIV CEDYA/IV Congress of Applied Mathematics] Proceedings of the 14th Congress on Differential Equations and Applications and the 4th CMA held in Vic, September 18–22, 1995. *Universitat de Barcelona, Barcelona*, 199?. *front matter+1010 pp.* (*electronic*). (Editors) **99g:00036** 00B25

Vienna ★ 2nd IMACS Symposium on Mathematical Modelling. Selected papers from the symposium (MATHMOD) held in Vienna, February 5–7, 1997. Edited by Inge Troch. Math. Comput. Simulation **46** (1998), no. 5-6. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 441–639. (Editors) **99d:00030** 00B25 (00A71, 00A72)

Vietri ★ Geometrical structures for physical theories. I. Papers from the conference held in honor of Włodzimierz Marek Tulczyjew on his 65th birthday in Vietri, September 29–October 3, 1996. Rend. Sem. Mat. Univ. Politec. Torino **54** (1996), no. 3. *Libreria Editrice Universitaria Levrotto & Bella, Turin*, 1996. *pp. i–iv and* 191–318. (Editors) **99a:58001** 58–06 (00B25, 00B30, 70–06)

— ★ Geometrical structures for physical theories. II. Papers from the conference held in honor of Włodzimierz Marek Tulczyjew on his 65th birthday in Vietri, September 29–October 3, 1996. Rend. Sem. Mat. Univ. Politec. Torino **54** (1996), no. 4. *Libreria Editrice Universitaria Levrotto & Bella, Turin*, 1996. *pp. i–ii and* 319–433. (Editors) **99a:58002** 58–06 (00B25, 00B30, 70–06)

Vigo ★ XV Congreso de Ecuaciones Diferenciales y Aplicaciones/V Congreso de Matemática Aplicada. Vol. I, II. (Spanish) [XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics. Vol. I, II] Proceedings of the congresses held in Vigo, September 23–26, 1997. Colección: Congresos [Conference Collection], 9. *Universidade de Vigo, Servicio de Publicacións, Vigo*, 1998. *Vol. I: xxxviii+548 pp.*; *Vol. II: pp. i–xxiv and* 549–1146. *ISBN* 84-8158-093-7 (Editors) **99d:00018** 00B25

Villeurbanne ★ Discrete metric spaces. Papers from the International Conference held at the Université Claude Bernard, Villeurbanne, September 17–20, 1996. Edited by W. Deuber, M. Deza and B. Leclerc. Discrete Math. **192** (1998), no. 1-3. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–351. (Editors) **99f:00015** 00B25

Vilnius ★ Probability theory and mathematical statistics. Proceedings of the 6th International Conference held in Vilnius, June 28–July 3, 1993. Edited by B. Grigelionis, J. Kubilius, H. Pragarauskas and V. Statulevičius [Vitautas Antanovich Statulyavichus]. *TEV Ltd., Vilnius*; *VSP, Utrecht*, 1994. *x+742 pp. ISBN* 90-6764-178-2 (Editors) **99e:60004** 60–06 (00B25, 62–06)

Visualization and mathematics ★ Visualization and mathematics. Experiments, simulations and environments. Papers from the International Workshop held in Berlin-Dahlem, May 30–June 2, 1995. Edited by Hans-Christian Hege and Konrad Polthier. *Springer-Verlag, Berlin*, 1997. *xx+386 pp. ISBN* 3-540-61269-6 (Hellmuth Stachel) **99g:68212** 68U05 (53–04, 53–06)

Vorau ★ Control and estimation of distributed parameter systems. Proceedings of the International Conference held in Vorau, July 14–20, 1996. Edited by W. Desch, F. Kappel and K. Kunisch. International Series of Numerical Mathematics, 126. *Birkhäuser Verlag, Basel*, 1998. *x+310 pp. ISBN* 3-7643-5835-1 (Editors) **99b:49001** 49–06 (35–06, 49J20, 49K20, 93–06, 93C20)

Wailea, HI ★ Non-standard applications of computer algebra. Including papers from the 2nd and 3rd IMACS Conferences on Applied Computer Algebra held in Linz, 1996 and in Wailea, HI, 1997. Edited by E. Roanes-Lozano, S. Steinberg and H. Hong. Math. Comput. Simulation **45** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–iv and* 1–217. (Editors) **99a:00035** 00B25 (68Q40)

Warsaw ★ Knot theory. Papers from the mini-semester held in Warsaw, July 13–August 17, 1995. Edited by Vaughan F. R. Jones, Joanna Kania-Bartoszyńska, Józef H. Przytycki, Paweł Traczyk and Vladimir G. Turaev. Banach Center Publications, 42. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 463 *pp.* (Editors) **99c:57002** 57–06 (57M25)

— ★ Complex analysis and applications. Proceedings of the conference held in Warsaw, July 14–25, 1997. Edited by Anne-Marie Chollet, Evgeni Chirka, Roman Dwilewicz, Howard Jacobowitz and Józef Siciak. Ann. Polon. Math. **70** (1998). *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. *pp. i–x and* 1–231. (Editors) **99h:32001** 32–06 (00B25)

— ★ Singularities Symposium—Łojasiewicz 70. Dedicated to Stanisław Łojasiewicz on the occasion of his 70th birthday. Papers from the Symposium on Singularities held at Jagellonian University, Kraków, September 25–29, 1996 and the Seminar on Singularities and Geometry held in Warsaw, September 30–October 4, 1996. Edited by Bronisław Jakubczyk, Wiesław Pawłucki and Jacek Stasica. Banach Center Publications, 44. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 292 *pp.* (Editors) **99i:00035** 00B30 (14–06, 32–06)

— ★ Homotopy and geometry. Papers from the workshop held in Warsaw, June 9–13, 1997. Edited by John Oprea and Aleksy Tralle. Banach Center Publications, 45. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 240 *pp.* (Editors) **99k:57001** 57–06

— ★ Logic, algebra, and computer science. Helena Rasiowa in memoriam. Papers from the conference held in Warsaw, December 2–22, 1996. Edited by Damian Niwiński and Marek Zawadowski. Banach Center Publications, 46. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1999. 225 *pp.* (Editors) **99m:03004** 03–06 (00B30)

— ★ Conley index theory. Papers from the workshop held in Warsaw, June 1997. Edited by Konstantin Mischaikow, Marian Mrozek and Piotr Zgliczyński. Banach Center Publications, 47. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1999. 258 *pp.* (Editors) **99m:58005** 58–06 (00B25, 54–06, 54H20)

Waterloo, ON ★ Proceedings of the 8th International Conference of Computing and Information, ICCI'96. Held at the University of Waterloo, Waterloo, ON, June 19–22, 1996. Edited by B. Domzy, F. Tompa, R. Hurley and S. Q. Zheng. J. Comput. Inf. **2** (1996), no. 1. *Journal of Computing and Information, Sudbury, ON*, 1996. 1 *CD-ROM* (*DOS, Windows, Macintosh and UNIX*). (Editors) **99g:68005** 68–06

— ★ Operator algebras and their applications. II. Papers from the Special Year held at the Fields Institute for Research in Mathematical Sciences, Waterloo, ON, 1994–1995. Edited by Peter A. Fillmore and James A. Mingo. Fields Institute Communications, 20. *American Mathematical Society, Providence, RI*, 1998. *x+170 pp. ISBN* 0-8218-0908-3 (Editors) **99c:46002** 46–06

— ★ Dynamics and optimization. Papers from the Special Session held as part of the International Conference on Differential Equations and Dynamical Systems at the University of Waterloo, Waterloo, ON, August 1–4, 1997. Edited by K. L. Teo and L. Caccetta. Dynam. Contin. Discrete Impuls. Systems **4** (1998), no. 4. *Watam Press, Waterloo, ON*, 1998. *pp. i–iv and* 485–631. (Editors) **99g:49003** 49–06 (93–06)

— ★ Finite fields: theory, applications, and algorithms. Proceedings of the 4th International Conference held at the University of Waterloo, Waterloo, ON, August 12–15, 1997. Edited by Ronald C. Mullin and Gary L. Mullen. Contemporary Mathematics, 225. *American Mathematical Society, Providence, RI*, 1999. *x+243 pp. ISBN* 0-8218-0817-6 (Editors) **99f:11002** 11–06 (11Txx)

— ★ Differential equations and dynamical systems. Papers from the International Conference held at the University of Waterloo, Waterloo, ON, August 1–4, 1997. Edited by Xinzhi Liu and David Siegel. Dynam. Contin. Discrete Impuls. Systems **5** (1999), no. 1-4. *Watam Press, Waterloo, ON*, 1999. *pp. i–iv and* 1–597. (Editors) **99m:34001** 34–06 (00B25, 35–06, 93–06)

Wavelets and their applications ★ Wavelets and their applications. Case studies. Edited by Mei Kobayashi. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xvi+142 pp. ISBN* 0-89871-416-8 (Editors) **99h:00019** 00B15 (00A69)

Wellington ★ Formal Methods Pacific '97. Proceedings of the conference (FMP '97) held in Wellington, July 9–11, 1997. Edited by Lindsay Groves and Steve Reeves. Springer Series in Discrete Mathematics and Theoretical Computer Science. *Springer-Verlag Singapore, Singapore*, 1997. *viii+320 pp. ISBN* 981-3083-31-X (Editors) **99a:68008** 68–06

Wernigerode ★ Models and algorithms for planning and scheduling problems. Papers from the 2nd Workshop held in Wernigerode, May 22–26, 1995. Edited by H. Bräsel and F. Werner. Ann. Oper. Res. **83** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–vi and* 1–289. (Editors) **99g:90009** 90–06 (90B35, 90C27)

Wigner distribution ★ The Wigner distribution. Theory and applications in signal processing. Edited by W. Mecklenbräuker and F. Hlawatsch. *Elsevier Science B.V., Amsterdam*, 1997. *xx+459 pp. ISBN* 0-444-88856-X (Patrick Flandrin) **99k:94018** 94A12 (94–02)

Winnipeg, MB ★ ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing. Held at the University of Manitoba, Winnipeg, MB, June 6–8, 1997. Edited by Dianne O'Leary, Haesun Park, Ali H. Sayed and P. N. Shivakumar. Linear Algebra Appl. **284** (1998), no. 1-3. *North-Holland Publishing Co., New York*, 1998. *pp. v–x and* 1–359. (Editors) **99f:00025** 00B25

Witten-Bommerholz ★ Multivariate approximation. Recent trends and results. Proceedings of the 2nd International Conference on Multivariate Approximation Theory held in Witten-Bommerholz, September 29–October 4, 1996. Edited by Werner Haußmann, Kurt Jetter and Manfred Reimer. Mathematical Research, 101. *Akademie Verlag, Berlin*, 1997. 320 *pp. ISBN* 3-05-501770-6 (Editors) **99a:41001** 41–06

Wittgenstein and the Vienna Circle ★ Wittgenstein y el Círculo de Viena. (German) [Wittgenstein and the Vienna Circle] Proceedings of the International Congress held in Toledo, November 2–5, 1994. Edited by Jesús Padilla Gálvez and Raimundo Drudis Baldrich. Estudios [Studies], 49. *Ediciones de la Universidad de Castilla-La Mancha, Cuenca*, 1998. 316 *pp. ISBN* 84-89958-26-2 (Editors) **99b:00022** 00B25 (00A30)

Women and mathematics Women and mathematics. Edited by Kari Hag. *European Congress of Mathematics, Vol. II (Budapest*, 1996), 347–375, *Progr. Math.*, 169, *Birkhäuser, Basel*, 1998. (*see* **99e:00019**) 01A80

WORDS ★ WORDS. Papers from the International Conference held in Rouen, September 22–26, 1997. Edited by J. Néraud. Theoret. Comput. Sci. **218** (1999), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1999. *pp. i–iv and* 1–216. (Editors) **99k:68015** 68–06 (68R15)

Workshop:

Adaptive Information Technologies ★ Neural networks and their applications. Papers from the Joint Workshop on Adaptive Information Technologies held at Brunel University, Uxbridge, April 3–5, 1995. Edited by J. G. Taylor. *John Wiley & Sons, Ltd., Chichester*, 1996. *xxviii+293 pp. ISBN* 0-471-96282-1 (Editors) **99b:68161** 68T05 (00B25, 92B20)

Advances in Adaptive Computational Methods in Mechanics ★ Advances in adaptive computational methods in mechanics. Papers from the 3rd Workshop held in Cachan, September 17–19, 1997. Edited by P. Ladevèze and J. T. Oden. Studies in Applied Mechanics, 47. *Elsevier Science B.V., Amsterdam*, 1998. *x+528 pp. ISBN* 0-08-043327-8 (Editors) **99d:73001** 73–06 (65–06, 73V05)

Algebraic Development Techniques ★ Recent trends in algebraic development techniques. Papers from the 12th International Workshop on Algebraic Development Techniques (WADT'97) held in Tarquinia, June 3–7, 1997. Edited by Francesco Parisi Presicce. Lecture Notes in Computer Science, 1376. *Springer-Verlag, Berlin*, 1998. *viii+435 pp.*

Workshop: (*cont'd.*)
ISBN 3-540-64299-4 (Editors) **99f:68009** 68–06 (68Q65)

Algebraic Methods in Language Processing ★ AMiLP '95. Papers from the 1st International AMAST Workshop on Algebraic Methods in Language Processing held at the University of Twente, Enschede, December 6–8, 1995. Edited by A. Nijholt and G. Scollo. Theoret. Comput. Sci. **199** (1998), no. 1-2. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 1–247. (Editors) **99a:68003** 68–06

Algorithm Theory ★ Algorithm theory—SWAT'98. Proceedings of the 6th Scandinavian Workshop held in Stockholm, July 8–10, 1998. Edited by Stefan Arnborg and Lars Ivansson. Lecture Notes in Computer Science, 1432. *Springer-Verlag, Berlin*, 1998. *x*+347 *pp. ISBN* 3-540-64682-5 (Editors) **99k:68003** 68–06 (00B25, 68Q20, 68Q25)

Algorithmic Foundations of Robotics ★ Robotics: the algorithmic perspective. Papers from the 3rd Workshop on the Algorithmic Foundations of Robotics (WAFR) held at Rice University, Houston, TX, March 5–7, 1998. Edited by Pankaj K. Agarwal, Lydia E. Kavraki and Matthew T. Mason. *A K Peters, Ltd., Natick, MA*, 1998. *x*+389 *pp. ISBN* 1-56881-081-4 (Editors) **99m:68012** 68–06 (93C85)

Algorithmic Learning Theory ★ ALT 94 and AII 94. Selected papers from the 5th International Workshop on Algorithmic Learning Theory and the 4th International Workshop on Analogical and Inductive Inference held at Reinhardsbrunn Castle, October 1994. Edited by M. M. Richter. Ann. Math. Artificial Intelligence **23** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. vii–x and* 1–209. (Editors) **99g:68001** 68–06 (68T05)

Algorithms and Data Structures ★ International Workshop on Algorithms and Data Structures. Selected papers from the workshop (WADS'97) held in Halifax, NS, August 1997. Comput. Geom. **11** (1998), no. 3-4. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 125–208. (Editors) **99i:68007** 68–06 (68U05)

Analogical and Inductive Inference ★ ALT 94 and AII 94. Selected papers from the 5th International Workshop on Algorithmic Learning Theory and the 4th International Workshop on Analogical and Inductive Inference held at Reinhardsbrunn Castle, October 1994. Edited by M. M. Richter. Ann. Math. Artificial Intelligence **23** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. vii–x and* 1–209. (Editors) **99g:68001** 68–06 (68T05)

Analysis and Modelling of Discrete Dynamical Systems ★ Analysis and modelling of discrete dynamical systems. Papers from the Winter Workshop held in Aussois, February 1996. Edited by Daniel Benest and Claude Froeschlé. Advances in Discrete Mathematics and Applications, 1. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *x*+319 *pp. ISBN* 90-5699-625-8 (Editors) **99j:58002** 58–06

Applications of Method in Real Analysis to Nonlinear Partial Differential Equations ★ Recent topics on mathematical theory of viscous incompressible fluid. Papers from the Regional Workshop on Applications of Method in Real Analysis to Nonlinear Partial Differential Equations held at Tsukuba University, Tsukuba, December 2–12, 1996. Edited by Hideo Kozono and Yoshihiro Shibata. Lecture Notes in Numerical and Applied Analysis, 16. *Kinokuniya Company Ltd., Tokyo*, 1998. *viii*+270 *pp. ISBN* 4-314-10133-4 (Editors) **99a:35005** 35–06 (76–06)

Applied and Computational Mathematics ★ Applied and computational mathematics. Selected papers from the 2nd Panamerican Workshop held in Gramado, September 8–12, 1997. Edited by Victor Pereyra and Jose Castillo. Appl. Numer. Math. **30** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *i–viii and* 1–152. (Editors) **99m:65003** 65–06

Applied and Numerical Mathematics ★ Applied and computational topics in partial differential equations. Papers from the 2nd Panamerican Workshop on Applied and Numerical Mathematics held in Gramado, September 8–12, 1997. Edited by V. Pereyra and J. Castillo. J. Comput. Appl. Math. **103** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–vi and* 1–219. (Editors) **99k:65002** 65–06 (65Mxx, 65Nxx, 76–06)

Approximation Algorithms for Combinatorial Optimization Problems ★ Approximation algorithms for combinatorial optimization. Proceedings of the International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX'98) held at the University of Aalborg, Aalborg, July 18–19, 1998. Edited by Klaus Jansen and José Rolim. Lecture Notes in Computer Science, 1444. *Springer-Verlag, Berlin*, 1998. *viii*+199 *pp. ISBN* 3-540-64736-8 (Editors) **99i:68002** 68–06 (68Q20, 68Q25, 90C27)

Artificial Life: Grammatical Models ★ Artificial life: grammatical models. Papers from the workshop held in Mangalia, August 28–September 4, 1994. Edited by Gheorghe Păun. *Black Sea University Press, Bucharest*, 1995. xii+275 *pp. ISBN* 973-0-00131-6 (From the introduction) **99d:68155** 68Q50 (92B05)

Cell and Tissue Motion ★ Dynamics of cell and tissue motion. Papers from the Workshop on Cell and Tissue Motion held in Röttgen, March 1995. Edited by Wolfgang Alt, Andreas Deutsch and Graham Dunn. Mathematics and Biosciences in Interaction. *Birkhäuser Verlag, Basel*, 1997. *xvi*+336 *pp. ISBN* 3-7643-5781-9 (Editors) **99a:92008** 92C30 (92–06, 92C35, 92C45)

Chaos and Irreversibility ★ Chaos and irreversibility. Papers from the International Graduate School and Workshop held at Eötvös University, Budapest, August 31–September 6, 1997. Edited by T. Tél, P. Gaspard and G. Nicolis. Chaos **8** (1998), no. 2. *American Institute of Physics, Melville, NY*, 1998. *pp. i–ii and* 309–461. (Editors) **99d:58003** 58–06 (58F13)

Chaos, Kinetics and Nonlinear Dynamics in Fluids and Plasmas ★ Chaos, kinetics and nonlinear dynamics in fluids and plasmas. Proceedings of the workshop held in Carry-Le Rouet, June 16–21, 1997. Edited by Sadruddin Benkadda and George M. Zaslavsky [G. M. Zaslavskiĭ]. Lecture Notes in Physics, 511. *Springer-Verlag, Berlin*, 1998. *viii*+438 *pp. ISBN* 3-540-64635-3 (Editors) **99d:00014** 00B25 (58–06, 76–06, 76Fxx, 82–06)

Coalgebraic Methods in Computer Science ★ First Workshop on Coalgebraic Methods in Computer Science (CMCS '98). Proceedings of the workshop held in Lisbon, March 28–29, 1998. Edited by Bart Jacobs, Larry Moss, Horst Reichel and Jan Rutten. Electronic Notes in Theoretical Computer Science, 11. *Elsevier Science B.V., Amsterdam*, 1998. *Front matter*+258 *pp.* (*electronic*). (Editors) **99e:68002** 68–06 (03–06, 08–06, 16W30, 18–06, 68Q55, 68Q65)

Competitive Analysis of On-line Algorithms ★ Online algorithms. The state of the art. Papers from the Workshop on the Competitive Analysis of On-line Algorithms held in Schloss Dagstuhl, June 1996. Edited by Amos Fiat and Gerhard J. Woeginger. Lecture Notes in Computer Science, 1442. *Springer-Verlag, Berlin*, 1998. *xviii*+436 *pp. ISBN* 3-540-64917-4 (Peter B. Gibbons) **99m:68003** 68–02 (68–06, 68Q25)

Compressible Turbulent Mixing ★ Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing. Held at the State University of New York, Stony Brook, NY, July 18–21, 1995. Edited by R. Young, J. Glimm and B. Boston. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xv*+427 *pp. ISBN* 981-02-2910-0 (Editors) **99g:76002** 76–06 (76E99, 76F99, 76L05)

Computation and Approximation ★ Third Workshop on Computation and Approximation (Comprox III). Proceedings of the workshop held in Birmingham, September 11–13, 1997. Edited by Abbas Edalat, Achim Jung, Klaus Keimel and Marta Kwiatkowska. Electronic Notes in Theoretical Computer Science, 13. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+246 *pp.* (*electronic*). (Editors) **99i:00013** 00B15

Computational Geometry ★ 13th European Workshop on Computational Geometry CG'97. Papers from the workshop held in Würzburg, March 20–21, 1997. Edited by Hartmut Noltemeier and Kokichi Sugihara. Discrete Appl. Math. **93** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–vi and* 1–140. (Editors) **99k:00039** 00B25 (65Y25)

Computational Learning Theory ★ Eighth Annual Workshop on Computational Learning Theory (COLT). Papers from the workshop held in Santa Cruz, CA, July 5–8, 1995. Edited by Robert E. Schapire. J. Comput. System Sci. **56** (1998), no. 2. *Academic Press, Inc., Orlando, FL*, 1998. *pp.* 131–252. (Editors) **99a:68019** 68–06 (68Q99, 68T05)

Computational Radiology and Imaging: Therapy and Diagnostics ★ Computational radiology and imaging. Therapy and diagnostics. Proceedings of the IMA Workshop held at the University of Minnesota, Minneapolis, MN, March 17–21, 1997. Edited by Christoph Börgers and Frank Natterer. The IMA Volumes in Mathematics and its Applications, 110. *Springer-Verlag, New York*, 1999. *x*+281 *pp. ISBN* 0-387-98799-1 (Editors) **99m:92012** 92C55 (92–06, 92C50)

Computer-Aided Geometric Design: New Trends and Applications ★ Geometric modelling techniques. Papers from the International Workshop on Computer-Aided Geometric Design: New Trends and Applications held in Anogia Academic Village, June 16–20, 1997. Edited by P. D. Kaklis, N. S. Sapidis and M. N. Patrikalakis [Nicholas M. Patrikalakis]. Math. Engrg. Indust. **7** (1999), no. 2. *VSP, Zeist*, 1999. *pp.* 127–282. (Editors) **99i:65004** 65–06 (65D17, 65Y25)

Concurrency ★ MFCS'98 Workshop on Concurrency. Proceedings of the workshop held in Brno, August 27–29, 1998. Edited by Petr Jancar and Mojmír Kretinsky. Electronic Notes in Theoretical Computer Science, 18. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+260 *pp.* (*electronic*). (Editors) **99h:68010** 68–06 (68Q10)

Concurrency Theory and Applications ★ Concurrency theory and applications '96. Proceedings of the Workshop in Computing held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 22–24, 1996. Sūrikaisekikenkyūsho Kōkyūroku No. 996 (1997). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1997. *pp. i–ii and* 1–242. (Editors) **99a:68004** 68–06 (68Q10)

Concurrent Constraint Programming for Time Critical Applications and Multi-agent Systems ★ COTIC '98: Second Workshop on Concurrent Constraint Programming for Time Critical Applications and Multi-agent Systems. Papers from the workshop held in Nice, September 7, 1998. Edited by Frank S. de Boer and Maurizio Gabbrielli. Electronic Notes in Theoretical Computer Science, 16, No. 1. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+74 *pp.* (*electronic*). (Editors) **99h:68011** 68–06 (68Q10, 68T20)

Conley Index Theory ★ Conley index theory. Papers from the workshop held in Warsaw, June 1997. Edited by Konstantin Mischaikow, Marian Mrozek and Piotr Zgliczyński. Banach Center Publications, 47. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1999. 258 *pp.* (Editors) **99m:58005** 58–06 (00B25, 54–06, 54H20)

Connectivity Augmentation of Networks: Structures and Algorithms ★ Connectivity augmentation of networks: structures and algorithms. Papers from the workshop held at Eötvös University, Budapest, November 1994. Edited by András Frank. Math. Program. **84** (1999), no. 3, Ser. B. *Springer-Verlag, Heidelberg*, 1999. *pp.* 439–640. 00B25 (05C40, 90C35)

Creating Fair and Shape-preserving Curves and Surfaces ★ Creating fair and shape-preserving curves and surfaces. Papers from the International Workshop held in Kleinmachnow, September 14–17, 1997. Edited by Horst Nowacki and Panagiotis D. Kaklis. *B. G. Teubner, Stuttgart*, 1998. 288 *pp. ISBN* 3-519-02636-8 (Editors) **99g:65003** 65–06 (41A29, 65D17)

Database Programming Languages; ★ Database programming languages. Proceedings of the 6th International Workshop (DBPL-6) held in Estes Park, CO, August 18–20, 1997. Edited by Sophie Cluet and Rick Hull. Lecture Notes in Computer Science, 1369. *Springer-Verlag, Berlin*, 1998. *xiv*+431 *pp. ISBN* 3-540-64823-2 (Editors) **99h:68004** 68–06 (68P15)

Deductive Databases and Logic Programming ★ Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming (DDLP'98). Held in conjunction with the Joint International Conference and Symposium on Logic Programming (JICSLP'98) in Manchester, June 20, 1998. Edited by Piero Fraternali, Ulrich Geske, Carolina Ruiz and Dietmar Seipel. GMD Report, 22. *GMD—Forschungszentrum Informationstechnik GmbH, St. Augustin*, 1998. 155 *pp.* (Editors) **99g:68052** 68P15 (68–06)

Deontic Logic in Computer Science ★ Norms, logics and information systems. New studies in deontic logic and computer science. Papers from the ΔEON'98 Workshop on Deontic Logic in Computer Science held at the University of Bologna, Bologna, 1998. Edited by P. McNamara and H. Prakken. Frontiers in Artificial Intelligence and Applications, 49. *IOS Press, Amsterdam; Ohmsha Ltd., Tokyo*, 1999. *x*+363 *pp. ISBN* 90-5199-427-3; 4-274-90260-9 (Editors) **99k:03014** 03B45 (03–06, 03B70, 68–06, 68T27)

Differential Geometry ★ Proceedings of the Second International Workshop on Differential Geometry. Held at Kyungpook National University, Taegu, December 19–20, 1997. Edited by Young Jin Suh, Young Ho Kim and Ho Il Kim. *Kyungpook National University, Basic Science Research Institute, Taegu*, 1998. *xii*+107 *pp.* (Editors) **99b:53002** 53–06

Workshop: (*cont'd.*)

Disordered Materials ★ Mathematics of multiscale materials. Papers from the IMA Workshops on Disordered Materials; Interface and Thin Films; Mechanical Response of Materials from Angstroms to Meters; and Phase Transformation, Composite Materials and Microstructure held at the University of Minnesota, Minneapolis, MN, 1995–1996. Edited by Kenneth M. Golden, Geoffrey R. Grimmett, Richard D. James, Graeme W. Milton and Pabitra N. Sen. The IMA Volumes in Mathematics and its Applications, 99. *Springer-Verlag, New York*, 1998. *x*+280 *pp. ISBN* 0-387-98528-X (Editors) **99c:73001** 73–06 (73B27, 73K20, 82–06)

DNA Based Computers ★ DNA based computers II. Papers from the 2nd Annual DIMACS Workshop held at Princeton University, Princeton, NJ, June 10–12, 1996. Edited by Laura F. Landweber and Eric B. Baum. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 44. *American Mathematical Society, Providence, RI*, 1999. *xii*+275 *pp. ISBN* 0-8218-0756-0 (Editors) **99f:68002** 68–06 (68Q05, 92D20)

— ★ DNA based computers. III. Papers from the 3rd DIMACS Workshop held at the University of Pennsylvania, Philadelphia, PA, June 23–25, 1997. Edited by Harvey Rubin and David Harlan Wood. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 48. *American Mathematical Society, Providence, RI*, 1999. *xiv*+375 *pp. ISBN* 0-8218-0842-7 (Editors) **99m:68008** 68–06 (92–06)

Drinfeld Modules, Modular Schemes and Applications ★ Drinfeld modules, modular schemes and applications. Proceedings of the workshop held in Alden-Biesen, September 9–14, 1996. Edited by E.-U. Gekeler, M. van der Put, M. Reversat and J. Van Geel. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv*+361 *pp. ISBN* 981-02-3067-2 (Editors) **99b:11002** 11–06 (11Gxx)

Econometrics ★ Risk measurement, econometrics and neural networks. Papers from the 6th Workshop on Econometrics held at the University of Karlsruhe, Karlsruhe, March 19–21, 1997. Edited by Georg Bol, Gholamreza Nakhaeizadeh and Karl-Heinz Vollmer. Contributions to Economics. *Physica-Verlag, Heidelberg*, 1998. *xii*+306 *pp. ISBN* 3-7908-1152-1 (Editors) **99j:62148** 62P20 (62–06, 90–06, 90A09)

Equilibrium Problems with Side Constraints. Lagrangean Theory and Duality ★ Equilibrium problems with side constraints. Lagrangean theory and duality. II. Proceedings of the 2nd Workshop held in Scilla, May 17–18, 1996. Edited by F. Giannessi, A. Maugeri and M. De Luca. Rend. Circ. Mat. Palermo (2) Suppl. No. 48 (1997). *Circolo Matematico di Palermo, Palermo*, 1997. *pp.* 1–224. (Editors) **99a:49002** 49–06 (49J40, 90–06)

Expressiveness in Concurrency ★ Fifth International Workshop on Expressiveness in Concurrency (EXPRESS '98). Proceedings of the workshop held in Nice, September 7, 1998. Edited by Ilaria Castellani and Catuscia Palamidessi. Electronic Notes in Theoretical Computer Science, 16, No. 2. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+110 *pp.* (*electronic*). (Editors) **99f:68013** 68–06 (68Q10)

Field Theoretical Tools for Polymer and Particle Physics ★ Field theoretical tools for polymer and particle physics. Papers from the workshop held at the University of Wuppertal, Wuppertal, June 1997. Edited by Hildegard Meyer-Ortmanns and Andreas Klümper. Lecture Notes in Physics, 508. *Springer-Verlag, Berlin*, 1998. *xvi*+258 *pp. ISBN* 3-540-64308-7 (Eric Derbez) **99k:82001** 82–06 (81T08, 81V55, 82B41, 82D60)

Fixed Point Theory ★ Proceedings of Workshop on Fixed Point Theory. Held in Kazimierz Dolny, June 23–28, 1997. Ann. Univ. Mariae Curie-Skłodowska Sect. A **51** (1997), no. 2. *Uniwersytet Marii Curie-Skłodowskiej, Editorial Office, Lublin*, 1997. *pp. i–viii and* 1–303. (Editors) **99g:00048** 00B25 (47H10, 54H25)

Formal Foundations of Software Systems ★ US-Brazil Joint Workshops on the Formal Foundations of Software Systems. Papers from the workshops held in Rio de Janeiro, May 1997, and in New Orleans, LA, November 1997. Edited by Rance Cleaveland, Michael Mislove and Philip Mulry. Electronic Notes in Theoretical Computer Science, 14. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+338 *pp.* (*electronic*). (Editors) **99h:68012** 68–06 (68Q10, 68Q60)

Formal Models of Programming and their Applications ★ Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications. Held in Beijing, September 17–20, 1997. Edited by P.-L. Curien, M. Hennessy and H. Lin. J. Comput. Sci. Tech. **13** (1998), no. 6. *Science Press, Beijing*, 1998. *pp.* 481–622. (Editors) **99i:68004** 68–06

Fundamental Aspects of Quantum Mechanics ★ Irreversibility and cosmology. Fundamental aspects of quantum mechanics. Papers from the workshops held in Peyresq, July 7–11, 1997. Internat. J. Theoret. Phys. **38** (1999), no. 1. *Kluwer Academic/Plenum Publishers, New York*, 1999. *pp. i–ii and* 1–517. (Editors) **99k:00032** 00B25

Fundamental Problems in Quantum Theory ★ Fundamental Problems in Quantum Theory Workshop. Papers from the workshop held at the University of Maryland-Baltimore County, Baltimore, MD, August 4–7, 1997. Fortschr. Phys. **46** (1998), no. 6-8. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. *pp. i–ii and* 595–926. (Editors) **99j:81007** 81–06

Fuzzy-Neuro Systems '97—Computational Intelligence ★ Analytical and structural considerations in fuzzy modeling. Selected papers from the 4th International Workshop Fuzzy-Neuro Systems '97—Computational Intelligence held at the University of Paderborn, Soest, March 12–14, 1997. Edited by A. Grauel. Fuzzy Sets and Systems **101** (1999), no. 2. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iii and* 205–313. (Editors) **99k:93004** 93–06 (65D15, 93C42)

Gauge Theories of Gravitation ★ Gauge theories of gravitation. Proceedings of the workshop held in Jadwisin, September 4–10, 1997. Acta Phys. Polon. B **29** (1998), no. 4. *Jagellonian University, Institute of Physics, Kraków*, 1998. *pp.* 823–1138. (Editors) **99k:00029** 00B25

Geometric Methods in Physics ★ Coherent states, differential and quantum geometry. Proceedings of the 16th Workshop on Geometric Methods in Physics, including the Special Session in Memory of Ryszard Rączka, held in Białowieża, June 30–July 6, 1997. Edited by Martin Schlichenmaier, Aleksander Strasburger, S. Twareque Ali and Anatol Odzijewicz. Rep. Math. Phys. **43** (1999), no. 1-2. *Pergamon Press, Oxford*, 1999. *pp.* 1–366. (Editors) **99k:81004** 81–06 (58–06)

Geometry and Physics ★ Geometría y física. [Geometry and physics] Proceedings of the 5th Fall Workshop (WOGP'96) held in Jaca, September 23–25, 1996. Edited by J. F. Cariñena, E. Martínez and M. F. Rañada. Mem. Real Acad. Cienc. Exact. Fís. Natur. Madrid **32** (1998). *Real Academia de Ciencias Exactas, Físicas y Naturales, Madrid*, 1998. *pp. i–xx and* 1–201. (Editors) **99g:58001** 58–06

Geometry, Topology, and Dynamics ★ Geometry, topology, and dynamics. Proceedings of the workshop held at the University of Montreal, Montreal, PQ, June 26–30, 1995. Edited by François Lalonde. CRM Proceedings & Lecture Notes, 15. *American Mathematical Society, Providence, RI*, 1998. *viii*+148 *pp. ISBN* 0-8218-0877-X (Editors) **99a:58004** 58–06

Global Analysis, Differential Geometry and Lie Algebras ★ Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras. Held at Aristotle University of Thessaloniki, Thessaloniki, December 16–18, 1995. Edited by Grigorios Tsagas. BSG Proceedings, 1. *Geometry Balkan Press, Bucharest; Balkan Society of Geometers, Bucharest*, 1997. *vi*+165 *pp. ISBN* 973-97454-1-5 (Editors) **99e:53001** 53–06

— ★ Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras. Held at Aristotle University of Thessaloniki, Thessaloniki, December 14–17, 1994. Edited by Grigorios Tsagas. BSG Proceedings, 2. *Geometry Balkan Press, Bucharest; Balkan Society of Geometers, Bucharest*, 1998. *vi*+146 *pp. ISBN* 973-97454-7-4 (Editors) **99d:53001** 53–06

Global Optimization ★ Workshop on Global Optimization. Selected papers from the workshop held at the University of Trier, Trier, August 31–September 1, 1997. Edited by Reiner Horst and Nguyen Van Thoai. J. Global Optim. **13** (1998), no. 4. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 335–492. (Editors) **99k:90005** 90–06 (90C29, 90C30)

Graph-theoretic Concepts in Computer Science ★ Graph-theoretic concepts in computer science. Proceedings of the 23rd International Workshop (WG '97) held in Berlin, June 18–20, 1997. Edited by Rolf H. Möhring. Lecture Notes in Computer Science, 1335. *Springer-Verlag, Berlin*, 1997. *x*+376 *pp. ISBN* 3-540-63757-5 (Editors) **99d:68005** 68–06 (05C85, 68R10)

— ★ Graph-theoretic concepts in computer science. Selected papers from the 22nd Workshop (WG '96) held in Cadenabbia, June 12–14, 1996. Edited by G. Ausiello and A. Marchetti-Spaccamela. Theoret. Comput. Sci. **203** (1998), no. 1. *Elsevier Science Publishers, B.V., Amsterdam*, 1998. *pp. i–ii and* 1–173. (Editors) **99b:68005** 68–06 (05C85, 68R10)

High-level Concurrent Languages ★ HLCL '98 3rd International Workshop on High-level Concurrent Languages. Papers from the workshop held in Nice, September 12, 1998. Edited by Uwe Nestmann and Benjamin C. Pierce. Electronic Notes in Theoretical Computer Science, 16, No. 3. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+118 *pp.* (*electronic*). (Editors) **99g:68009** 68–06 (68N15, 68Q10)

High Performance Optimization Techniques ★ Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96). Held in Delft, September 19–20, 1996. Edited by C. Roos and T. Terlaky. Appl. Numer. Math. **29** (1999), no. 3. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–iv and* 253–443. (Editors) **99i:90004** 90–06 (90C27, 90C30)

Higher Category Theory and Physics ★ Higher category theory. Papers from the Workshop on Higher Category Theory and Physics held at Northwestern University, Evanston, IL, March 28–30, 1997. Edited by Ezra Getzler and Mikhail Kapranov. Contemporary Mathematics, 230. *American Mathematical Society, Providence, RI*, 1998. *x*+134 *pp. ISBN* 0-8218-1056-1 (Editors) **99h:18002** 18–06

Higher-order Algebra, Logic and Term Rewriting ★ Algebraic and logic programming. Proceedings of the 6th International Conference on Algebraic and Logic Programming (ALP'97) and the 3rd International Workshop on Higher-order Algebra, Logic and Term Rewriting (HOA'97) held jointly in Southampton, September 3–5, 1997. Edited by Michael Hanus, Jan Heering and Karl Meinke. Lecture Notes in Computer Science, 1298. *Springer-Verlag, Berlin*, 1997. *x*+286 *pp. ISBN* 3-540-63459-2 (Editors) **99b:68002** 68–06 (68N15, 68Q42)

Higher-order Operational Techniques in Semantics ★ Second Workshop on Higher-order Operational Techniques in Semantics (HOOTS II). Papers from the workshop held at Stanford University, Stanford, CA, December 8–11, 1997. Edited by Andrew Gordon, Andrew Pitts and Carolyn Talcott. Electronic Notes in Theoretical Computer Science, 10. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+299 *pp.* (*electronic*). (Editors) **99e:68003** 68–06 (68N15, 68Q55)

Homotopy and Geometry ★ Homotopy and geometry. Papers from the workshop held in Warsaw, June 9–13, 1997. Edited by John Oprea and Aleksy Tralle. Banach Center Publications, 45. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 240 *pp.* (Editors) **99k:57001** 57–06

Hyperfunctions, Operator Theory and Dynamical Systems ★ Generalized functions, operator theory, and dynamical systems. Papers from the Workshop on Hyperfunctions, Operator Theory and Dynamical Systems held in Brussels, January 6–12, 1997. Edited by Ioannis Antoniou and Günter Lumer. Chapman & Hall/CRC Research Notes in Mathematics, 399. *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *viii*+378 *pp. ISBN* 0-8493-0619-1 (Editors) **99k:00030** 00B25 (46–06, 47–06)

Inducing Complex Representations ★ Learning and reasoning with complex representations. Papers from the Workshops on Reasoning with Incomplete and Changing Information, and Inducing Complex Representations held at the Pacific Rim International Conference on Artificial Intelligence (PRICAI'96) in Cairns, August 26–30, 1996. Edited by Grigoris Antoniou, Aditya K. Ghose and Mirosław Truszczyński. Lecture Notes in Computer Science, 1359. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+283 *pp. ISBN* 3-540-64413-X (Editors) **99f:68003** 68–06 (68T27)

Inductive Logic Programming ★ Inductive logic programming. Proceedings of the 7th International Workshop (ILP-97) held in Prague, September 17–20, 1997. Edited by Nada Lavrač and Sašo Džeroski. Lecture Notes in Computer Science, 1297. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1997. *viii*+309 *pp. ISBN* 3-540-63514-9 (Editors) **99b:68007** 68–06 (68N17, 68T05)

Integral Transforms ★ The integral transform method in thermal and fluids sciences and engineering. Papers from the 2nd Workshop on Integral Transforms held at the Military Institute of Engineering, Rio de Janeiro, November 1996. Edited by Renato M. Cotta. *Begell House, Inc., New York*, 1998. *xiv*+430 *pp. ISBN* 1-56700-120-3 44–00 (73–00, 76–00, 80–00)

Workshop: (*cont'd.*)

Interface and Thin Films ★ Mathematics of multiscale materials. Papers from the IMA Workshops on Disordered Materials; Interface and Thin Films; Mechanical Response of Materials from Angstroms to Meters; and Phase Transformation, Composite Materials and Microstructure held at the University of Minnesota, Minneapolis, MN, 1995–1996. Edited by Kenneth M. Golden, Geoffrey R. Grimmett, Richard D. James, Graeme W. Milton and Pabitra N. Sen. The IMA Volumes in Mathematics and its Applications, 99. *Springer-Verlag, New York*, 1998. *x*+280 *pp. ISBN* 0-387-98528-X (Editors) **99c:73001** 73–06 (73B27, 73K20, 82–06)

International Association of Pattern Recognition ★ Advances in pattern recognition. Papers from the Joint IAPR International Workshops (SSPR'98 and SPR'98) held in Sydney, August 11–13, 1998. Edited by Adnan Amin, Dov Dori, Pavel Pudil and Herbert Freeman. Lecture Notes in Computer Science, 1451. *Springer-Verlag, Berlin*, 1998. *xxii*+1047 *pp. ISBN* 3-540-64858-5 (Editors) **99k:68002** 68–06 (68T10)

Interplay between Insurance, Finance and Control ★ The interplay between insurance, finance and control. Proceedings of the International Workshop held in Aarhus, February 25–March 1, 1997. Insurance Math. Econom. **22** (1998), no. 1. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–vi and* 1–122. (Editors) **99a:90006** 90–06

Irreversibility and Cosmology ★ Irreversibility and cosmology. Fundamental aspects of quantum mechanics. Papers from the workshops held in Peyresq, July 7–11, 1997. Internat. J. Theoret. Phys. **38** (1999), no. 1. *Kluwer Academic/Plenum Publishers, New York*, 1999. *pp. i–ii and* 1–517. (Editors) **99k:00032** 00B25

Iterative Methods and Parallel Computing ★ Czech-US Workshop in Iterative Methods and Parallel Computing. Part I. Papers from the workshop held in Milovy, June 16–21, 1997. Edited by Roland W. Freund and Ivo Marek. Numer. Linear Algebra Appl. **6** (1999), no. 1. *John Wiley & Sons, Ltd., Chichester*, 1999. *pp. i–ii and* 1–77. (Editors) **99m:65008** 65–06 (00B15)

Knot Theory ★ KNOTS '96. Proceedings of the International Conference and Workshop on Knot Theory held at Waseda University, Tokyo, July 22–26, 1996. Edited by S. Suzuki. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+597 *pp. ISBN* 981-02-3093-1 (Editors) **99i:57002** 57–06

Large-scale Scientific Computations ★ Large-scale scientific computations of engineering and environmental problems. Proceedings of the 1st Workshop on Large-scale Scientific Computations held in Varna, June 7–11, 1997. Edited by Michael Griebel, Olep P. Iliev [Oleg P. Iliev], Svetozar D. Margenov and Panayot S. Vassilevski. Notes on Numerical Fluid Mechanics, 62. *Friedr. Vieweg & Sohn, Braunschweig*, 1998. *viii*+356 *pp. ISBN* 3-528-06962-7 (Editors) **99m:65006** 65–06 (76–06, 76Mxx)

Learning, Control and Hybrid Systems ★ Learning, control and hybrid systems. Festschrift in honor of Bruce Allen Francis and Mathukumalli Vidyasagar on the occasion of their 50th birthdays. Papers from the workshop held in Bangalore, January 4–8, 1998. Edited by Yutaka Yamamoto and Shinji Hara. Lecture Notes in Control and Information Sciences, 241. *Springer-Verlag London, Ltd., London*, 1999. *xvi*+451 *pp. ISBN* 1-85233-076-7 (Editors) **99g:93003** 93–06 (00B30, 93B36, 93C30, 93E35)

Lie Computations ★ Lie computations. Papers from the MEDICIS Thematic Workshop held in Marseille, November 1994. Edited by Gérard Jacob and Pierre-Vincent Koseleff. Discrete Math. Theor. Comput. Sci. **1** (1997), no. 1. *Chapman & Hall, London*, 1997. *pp.* 99–246. (Editors) **99a:00031** 00B25 (68Q40)

Lie Theory and its Applications in Physics ★ Lie theory and its applications in physics. Proceedings of the International Workshop held at the Technical University of Clausthal, Clausthal, August 14–17, 1995. Edited by H.-D. Doebner, V. K. Dobrev and J. Hilgert. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *viii*+274 *pp. ISBN* 981-02-2882-1 (Editors) **99d:00022** 00B25 (17B81, 58–06, 81–06)

Localization in Nonlinear Lattices ★ Localization in nonlinear lattices. Proceedings of the workshop held in Dresden, April 7–11, 1997. Edited by Sergej Flach and Robert S. MacKay. Phys. D **119** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. v–viii and* 1–238. (Editors) **99d:58004** 58–06

Logic in Computer Science ★ Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science. Held at the University of Auckland, Auckland, August 8, 1997. Edited by D. S. Bridges, C. S. Calude, M. J. Dinneen and B. Khoussainov [B. M. Khusainov]. J.UCS **3** (1997), no. 11. *Springer-Verlag, Heidelberg*, 1997. *front matter and pp.* 1134–1281 (*electronic*). (Editors) **99g:68006** 68–06 (03–06, 03B70)

Logic, Language, and Computation ★ Quantifiers, deduction, and context. Papers from the 2nd CSLI Workshop on Logic, Language, and Computation held in Stanford, CA, June 4–6, 1993. Edited by Makoto Kanazawa, Christopher J. Piñón and Henriëtte de Swart. CSLI Lecture Notes, 57. *CSLI Publications, Stanford, CA*, 1996. *x*+197 *pp. ISBN* 1-57586-004-X (Editors) **99k:03029** 03B65 (03–06)

Logic Programming and Knowledge Representation ★ Logic programming and knowledge representation. Selected papers from the 3rd International Workshop (LPKR '97) held in Port Jefferson, NY, October 17, 1997. Edited by Jürgen Dix, Luís Moniz Pereira and Teodor C. Przymusinski. Lecture Notes in Computer Science, 1471. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+246 *pp. ISBN* 3-540-64958-1 (Editors) **99i:68003** 68–06 (68N17, 68T30)

Logical Aspects of Computational Linguistics ★ Recent advances in logical and algebraic approaches to grammar. Selected papers from the Workshop on Logical Aspects of Computational Linguistics held in Nancy, September 1995. Edited by Christian Retoré. J. Logic Lang. Inform. **7** (1998), no. 4. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *pp. i–ii and* 395–520. (Editors) **99k:68013** 68–06 (03–06, 03B65, 68S05)

Mathematical and Computational Biology ★ Mathematical and computational biology. Computational morphogenesis, hierarchical complexity, and digital evolution. Proceedings of the International Workshop held at the University of Aizu, Aizu-Wakamatsu City, October 21–25, 1997. Edited by Chrystopher L. Nehaniv. Lectures on Mathematics in the Life Sciences, 26. *American Mathematical Society, Providence, RI*, 1999. *xii*+201 *pp. ISBN* 0-8218-0941-5 (Editors) **99k:92002** 92–06 (92D15)

Mathematical and Physical Aspects of Nonlinear Field Theories ★ Proceedings of International Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories. Held at Seoul National University, Seoul, February 23–24, 1998. Edited by Dongho Chae and Sung-Ki Kim. Lecture Notes Series, 42. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1998. *viii*+147 *pp.* (Editors) **99d:58005** 58–06 (00B25, 81–06)

Mathematical Population Genetics ★ Progress in population genetics and human evolution. Proceedings of the Workshop on Mathematical Population Genetics held in Minneapolis, MN, January 24–28, 1994. Edited by Peter Donnelly and Simon Tavaré. The IMA Volumes in Mathematics and its Applications, 87. *Springer-Verlag, New York*, 1997. x+329 *pp. ISBN* 0-387-94944-5 (Prem Narain) **99h:92016** 92D10 (92–06, 92D15)

Matrices and Statistics ★ Linear algebra and statistics. Including papers from the 6th International Workshop on Matrices and Statistics held in Istanbul, August 16–17, 1997. Edited by R. William Farebrother, Simo Puntanen, George P. H. Styan and Hans Joachim Werner. Linear Algebra Appl. **289** (1999), no. 1-3. *North-Holland Publishing Co., New York*, 1999. *pp. i–iv and* 1–344. (Editors) **99i:00019** 00B25 (15–06, 62–06)

Matter Matters? On the Material Basis of the Cognitive Activity of Mind ★ Matter matters? On the material basis of the cognitive activity of mind. Papers from the workshop held in Abisko, 1993. Edited by Peter Århem, Hans Liljenström and Uno Svedin. *Springer-Verlag, Berlin*, 1997. *x*+269 *pp. ISBN* 3-540-61776-0 (Editors) **99a:92044** 92J99 (92–06, 92B99, 92C20)

Maximum Entropy and Bayesian Methods of Statistical Analysis ★ Maximum entropy and Bayesian methods. Proceedings of the 17th International Workshop on Maximum Entropy and Bayesian Methods of Statistical Analysis held at Boise State University, Boise, ID, August 4–8, 1997. Edited by Gary J. Erickson, Joshua T. Rychert and C. Ray Smith. Fundamental Theories of Physics, 98. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+297 *pp. ISBN* 0-7923-5047-2 (Editors) **99k:62005** 62–06 (94–06)

Mechanical Response of Materials from Angstroms to Meters ★ Mathematics of multiscale materials. Papers from the IMA Workshops on Disordered Materials; Interface and Thin Films; Mechanical Response of Materials from Angstroms to Meters; and Phase Transformation, Composite Materials and Microstructure held at the University of Minnesota, Minneapolis, MN, 1995–1996. Edited by Kenneth M. Golden, Geoffrey R. Grimmett, Richard D. James, Graeme W. Milton and Pabitra N. Sen. The IMA Volumes in Mathematics and its Applications, 99. *Springer-Verlag, New York*, 1998. *x*+280 *pp. ISBN* 0-387-98528-X (Editors) **99c:73001** 73–06 (73B27, 73K20, 82–06)

Methods of Complex Analysis in Approximation Theory ★ Complex methods in approximation theory. Proceedings of the Workshop on Methods of Complex Analysis in Approximation Theory held at the University of Almería, Almería, June 5–8, 1995. Edited by Andrei Martínez Finkelshtein, Francisco Marcellán and Juan J. Moreno-Balcázar. Monografías Ciencia y Tecnología [Science and Technology Monographs], 2. *Universidad de Almería, Servicio de Publicaciones, Almería*, 1997. *xvi*+171 *pp. ISBN* 84-8240-046-0 (Editors) **99b:00012** 00B25 (41–06)

Microsurveys in Discrete Probability ★ Microsurveys in discrete probability. Papers from the workshop held as part of the Dimacs Special Year on Discrete Probability in Princeton, NJ, June 2–6, 1997. Edited by David Aldous and James Propp. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 41. *American Mathematical Society, Providence, RI*, 1998. *x*+220 *pp. ISBN* 0-8218-0827-3 (Editors) **99b:60003** 60–06

Minimax Theory and Applications ★ Minimax theory and applications. Proceedings of the workshop held in Erice, September 30–October 6, 1996. Edited by Biagio Ricceri and Stephen Simons. Nonconvex Optimization and its Applications, 26. *Kluwer Academic Publishers, Dordrecht*, 1998. *xii*+271 *pp. ISBN* 0-7923-5064-2 (Editors) **99c:49007** 49J35 (47H10, 47H19, 47N10, 49–06, 49K35)

Model-oriented Data Analysis ★ MODA 5—advances in model-oriented data analysis and experimental design. Proceedings of the 5th International Workshop on Model-oriented Data Analysis held in Marseille, June 22–26, 1998. Edited by Anthony C. Atkinson, Luc Pronzato and Henry P. Wynn. Contributions to Statistics. *Physica-Verlag, Heidelberg*, 1998. *xiv*+300 *pp. ISBN* 3-7908-1111-4 (Editors) **99f:62008** 62–06

Modelling and Computation for Applications in Mathematics, Science, and Engineering ★ Modelling and computation for applications in mathematics, science, and engineering. Papers from the workshop held at Northwestern University, Evanston, IL, May 3–4, 1996. Edited by Joseph W. Jerome. Numerical Mathematics and Scientific Computation. *The Clarendon Press, Oxford University Press, New York*, 1998. *xii*+215 *pp. ISBN* 0-19-850080-7 (Editors) **99k:00033** 00B25 (76–06, 78–06, 82–06)

Models and Algorithms for Planning and Scheduling Problems ★ Models and algorithms for planning and scheduling problems. Papers from the 2nd Workshop held in Wernigerode, May 22–26, 1995. Edited by H. Bräsel and F. Werner. Ann. Oper. Res. **83** (1998). *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–vi and* 1–289. (Editors) **99g:90009** 90–06 (90B35, 90C27)

Multichannel Optical Networks: Theory and Practice ★ Multichannel optical networks: theory and practice. Papers from the DIMACS Workshop held at Rutgers University, Piscataway, NJ, March 16–19, 1998. Edited by Peng-Jun Wan, Ding-Zhu Du and Panos M. Pardalos. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 46. *American Mathematical Society, Providence, RI*, 1998. *xiv*+249 *pp. ISBN* 0-8218-1004-9 (Editors) **99g:68004** 68–06 (05–06, 68M10, 90B12)

Multivariate Approximation and Interpolation ★ Advanced topics in multivariate approximation. Proceedings of the 5th International Workshop on Multivariate Approximation and Interpolation held in Montecatini Terme, September 27–October 3, 1995. Edited by F. Fontanella, K. Jetter and P. J. Laurent. Series in Approximations and Decompositions, 8. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xviii*+361 *pp. ISBN* 981-02-2852-X (Editors) **99f:41002** 41–06 (41A63, 42C15, 65D15)

Network Switching ★ Advances in switching networks. Papers from the workshop held as part of the DIMACS Special Year on Network Switching at Princeton University, Princeton, NJ, July 7–9, 1997. Edited by Ding-Zhu Du and Frank K. Hwang. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 42. *American Mathematical Society, Providence, RI*, 1998. *xii*+333 *pp. ISBN* 0-8218-0831-1 (Editors) **99a:94001** 94–06 (68M10, 94C10)

Networks in Distributed Computing ★ Networks in distributed computing. Papers from

Workshop: (*cont'd.*)
the DIMACS Workshop held at Rutgers University, Piscataway, NJ, October 27–29, 1997. Edited by Marios Mavronicolas, Michael Merritt and Nir Shavit. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 45. *American Mathematical Society, Providence, RI*, 1999. *xii*+160 *pp. ISBN* 0-8218-0992-X (Editors) **99h:68009** 68–06 (68M10)

New Perspectives in the Physics of Mesoscopic Systems ★ New perspectives in the physics of mesoscopic systems. Quantum-like descriptions and macroscopic coherence phenomena. Papers from the National Workshop held in Caserta, April 18–20, 1996. Edited by S. De Martino, S. De Nicola, S. De Siena, R. Fedele and G. Miele. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+318 *pp. ISBN* 981-02-3236-5 (Editors) **99e:81003** 81–06

New Trends in Stochastic Analysis ★ New trends in stochastic analysis. Proceedings of the Taniguchi International Workshop held in Charingworth, September 21–27, 1994. Edited by K. D. Elworthy, Shigeo Kusuoka and Ichiro Shigekawa. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+429 *pp. ISBN* 981-02-2867-8 (Editors) **99f:60003** 60–06

Non-linear Dynamics and Endogenous Cycles ★ Non-linear dynamics and endogenous cycles. Papers from the workshop held in Nanterre, May 23–24, 1996. Edited by Gilbert Abraham-Frois. Lecture Notes in Economics and Mathematical Systems, 463. *Springer-Verlag, Berlin*, 1998. *vi*+204 *pp. ISBN* 3-540-64321-4 (Editors) **99d:90007** 90–06 (90A16)

Nonholonomic Constraints in Dynamics ★ Pacific Institute of Mathematical Sciences Workshop on Nonholonomic Constraints in Dynamics. Proceedings of the workshop held in Calgary, AB, August 26–30, 1997. Edited by Richard Cushman and Jędrzej Śniatycki. Rep. Math. Phys. **42** (1998), no. 1-2. *Pergamon Press, Oxford*, 1998. *pp. i–ii and* 1–271. (Editors) **99i:58004** 58–06 (58F05, 70–06, 70F25)

Nonlinear Dynamics and Chaos ★ Proceedings of the International Workshop on Nonlinear Dynamics and Chaos. Held at Pohang University of Science and Technology, Pohang, July 26–28, 1995. Edited by Hie-Tae Moon, Seunghwan Kim, Robert P. Behringer and Yoshiki Kuramoto. Reprinted from Internat. J. Bifur. Chaos Appl. Sci. Engrg. **7** (1995), no. 4, 5 [MR 98f:58005; MR 98f:58006]. World Scientific Series on Nonlinear Science. Series B: Special Theme Issues and Proceedings, 10. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+381 *pp. ISBN* 981-02-3143-1 (Editors) **99f:58003** 58–06 (58F13)

Nonlinear Optical Materials ★ Nonlinear optical materials. Papers from the IMA Workshop held at the University of Minnesota, Minneapolis, MN, February 4–8, 1996. Edited by Jerome V. Moloney. The IMA Volumes in Mathematics and its Applications, 101. *Springer-Verlag, New York*, 1998. *xii*+245 *pp. ISBN* 0-387-98581-6 (Editors) **99d:78001** 78–06 (78A60)

Nonstationary Random Processes and their Applications ★ Current topics in nonstationary analysis. Proceedings of the 2nd Workshop on Nonstationary Random Processes and their Applications held in San Diego, CA, June 11–12, 1995. Edited by George Treviño, Jay Hardin, Bruce Douglas and Edgar Andreas. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *viii*+189 *pp. ISBN* 981-02-2703-5 (Editors) **99g:60003** 60–06

Numerical Methods for Polymeric Systems ★ Numerical methods for polymeric systems. Papers from the workshop held at the University of Minnesota, Minneapolis, MN, May 1996. Edited by Stuart G. Whittington. The IMA Volumes in Mathematics and its Applications, 102. *Springer-Verlag, New York*, 1998. *xii*+215 *pp. ISBN* 0-387-98557-3 (Editors) **99f:82001** 82–06 (82B80, 82D60)

Numerical Methods for Wave Propagation ★ Numerical methods for wave propagation. Selected papers from the International Workshop held in Manchester, May 1995. Edited by E. F. Toro and J. F. Clarke. Fluid Mechanics and its Applications, 47. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *x*+385 *pp. ISBN* 0-7923-5125-8 (Editors) **99f:65006** 65–06 (76–06, 76Mxx)

Numerical Solution of Thin-layer Phenomena ★ {International Workshop on the Numerical Solution of Thin-layer Phenomena}. Papers from the workshop held in Amsterdam, November 20–21, 1997. CWI Quarterly **10** (1997), no. 3-4. *Centrum voor Wiskunde en Informatica, Amsterdam*, 1997. *pp. i–ii and* 207–359. (Editors) **99a:65009** 65–06 (76–06, 76M10, 76Rxx)

Operator Theory and Applications ★ Differential and integral operators. Proceedings of the International Workshop on Operator Theory and Applications (IWOTA 95) held at the University of Regensburg, Regensburg, July 31–August 4, 1995. Edited by I. Gohberg, R. Mennicken and C. Tretter. Operator Theory: Advances and Applications, 102. *Birkhäuser Verlag, Basel*, 1998. *xvi*+324 *pp. ISBN* 3-7643-5890-4 (Editors) **99d:47001** 47–06 (35–06, 47E05, 47F05, 47Gxx)

— ★ Recent progress in operator theory. Proceedings of the International Workshop on Operator Theory and Applications (IWOTA 95) held at the University of Regensburg, Regensburg, July 31–August 4, 1995. Edited by I. Gohberg, R. Mennicken and C. Tretter. Operator Theory: Advances and Applications, 103. *Birkhäuser Verlag, Basel*, 1998. *xiv*+283 *pp. ISBN* 3-7643-5891-2 (Editors) **99d:47002** 47–06 (47A57)

Optimal Design and Control ★ Computational methods for optimal design and control. Proceedings of the 2nd International Workshop on Optimal Design and Control held in Arlington, VA, September 30–October 3, 1997. Edited by Jeff Borggaard, John Burns, Eugene Cliff and Scott Schreck. Progress in Systems and Control Theory, 24. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xii*+460 *pp. ISBN* 0-8176-4064-9 (Editors) **99d:49001** 49–06 (49Q15, 93C20)

Parallel Algorithms for Irregularly Structured Problems ★ Parallel algorithms for irregularly structured problems. Proceedings of the 3rd International Workshop (IRREGULAR '96) held in Santa Barbara, CA, August 19–21, 1996. Edited by A. Ferreira, J. Rolim, Y. Saad and T. Yang. Lecture Notes in Computer Science, 1117. *Springer-Verlag, Berlin*, 1996. *x*+358 *pp. ISBN* 3-540-61549-0 (Editors) **99g:65007** 65–06 (68–06, 68Q22)

Partial Differential Equations: Theory, Computation, and Applications ★ Fifth Workshop on Partial Differential Equations. Papers from the Workshop on Partial Differential Equations: Theory, Computation, and Applications held in Rio de Janeiro, July 14–18, 1997. Edited by Paulo Cordaro, Dan Marchesin, André Nachbin and Jorge P. Zubelli. Mat. Contemp. **15** (1998). *Sociedade Brasileira de Matemática, Rio de Janeiro*, 1998. *pp. i–viii and* 1–312. (Editors) **99g:35006** 35–06 (00B25)

Workshop: (*cont'd.*)

Particles and Fields ★ Particles and fields. Papers from the 6th Mexican Workshop held in Morelia, November 1997. Edited by Juan Carlos D'Olivo, Martí Ruiz-Altaba and Luis Villaseñor Cendejas. AIP Conference Proceedings, 445. *American Institute of Physics, Woodbury, NY*, 1998. *x*+388 *pp. ISBN* 1-56396-791-X (Editors) **99h:81003** 81–06

Pattern Recognition ★ III Taller Iberoamericano de Reconocimiento de Patrones. (Spanish) [III Ibero-American Workshop on Pattern Recognition] Papers from the workshop held in México City, March 23–27, 1998. Edited by José Ruiz Shulcloper, Manuel Lazo Cortés, Stalin Muñoz Gutiérrez and Walterio Mayol Cuevas. *Instituto de Cibernética, Matématica y Física, Havana; Instituto Politécnico Nacional, Centro de Investigación en Computación, México*, 1998. 587 *pp. ISBN* 970-18-1081-3 (Editors) **99k:68016** 68–06 (68T10)

Performance Evaluation ★ Performance evaluation. (French) Papers from the 6th Workshop held at the Université de Versailles-Saint-Quentin, Versailles, November 25–28, 1996. Edited by Yves Dallery, Jean-Michel Fourneau, Bernard Lemaire and Raymond Marie. RAIRO Rech. Opér. **32** (1998), no. 3. *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris*, 1998. *pp. i–iv and* 211–372. (Editors) **99e:90004** 90–06 (90B25)

Perspectives of Strong Coupling Gauge Theories ★ Perspectives of strong coupling gauge theories. Proceedings of the 3rd International Workshop (SCGT 96) held in Nagoya, November 13–16, 1996. Edited by J. Nishimura and K. Yamawaki. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv*+407 *pp. ISBN* 981-02-3187-3 (Editors) **99a:81003** 81–06

Phase Transformation, Composite Materials and Microstructure ★ Mathematics of multiscale materials. Papers from the IMA Workshops on Disordered Materials; Interface and Thin Films; Mechanical Response of Materials from Angstroms to Meters; and Phase Transformation, Composite Materials and Microstructure held at the University of Minnesota, Minneapolis, MN, 1995–1996. Edited by Kenneth M. Golden, Geoffrey R. Grimmett, Richard D. James, Graeme W. Milton and Pabitra N. Sen. The IMA Volumes in Mathematics and its Applications, 99. *Springer-Verlag, New York*, 1998. *x*+280 *pp. ISBN* 0-387-98528-X (Editors) **99c:73001** 73–06 (73B27, 73K20, 82–06)

Physics and Computation ★ PhysComp96. Proceedings of the 4th Workshop on Physics and Computation held in Boston, MA, November 22–24, 1996. Edited by Tommaso Toffoli and Michael Biafore. Phys. D **120** (1998), no. 1-2. *North-Holland Publishing Co., Amsterdam*, 1998. *pp. i–viii and* 1–253. (Editors) **99j:81006** 81–06 (00B25)

Practical Guide to Heavy Tails ★ A practical guide to heavy tails. Statistical techniques and applications. Papers from the workshop held in Santa Barbara, CA, December 1995. Edited by Robert J. Adler, Raisa E. Feldman [Raisa Epstein-Feldman] and Murad S. Taqqu. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xvi*+533 *pp. ISBN* 0-8176-3951-9 (Editors) **99f:62010** 62–06 (60–06)

Proof Search in Type-theoretic Languages ★ Workshop on Proof Search in Type-theoretic Languages. Proceedings of the 3rd Workshop held in Lindau, July 5, 1998. Edited by Didier Galmiche. Electronic Notes in Theoretical Computer Science, 17. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+141 *pp.* (*electronic*). (Editors) **99h:68013** 68–06 (68T15)

Proof Verification and Approximation Algorithms ★ Lectures on proof verification and approximation algorithms. Papers from the Workshop on Proof Verification and Approximation Algorithms held at Schloß Dagstuhl, April 21–25, 1997. Edited by Ernst W. Mayr, Hans Jürgen Prömel and Angelika Steger. Lecture Notes in Computer Science, 1367. *Springer-Verlag, Berlin*, 1998. *xii*+344 *pp. ISBN* 3-540-64201-3 (Johan Håstad) **99h:68060** 68Q15 (68–02, 68Q20)

Quantum Probability ★ Quantum probability. Proceedings of the workshop held in Gdańsk, July 1–6, 1997. Edited by Robert Alicki, Marek Bożejko and Władysław Adam Majewski. Banach Center Publications, 43. *Polish Academy of Sciences, Institute of Mathematics, Warsaw*, 1998. 427 *pp.* (Editors) **99d:00029** 00B25 (46–06, 60–06, 81–06, 81S25)

Randomization Methods in Algorithm Design ★ Randomization methods in algorithm design. Papers from the DIMACS Workshop held at Princeton University, Princeton, NJ, December 12–14, 1997. Edited by Panos Pardalos, Sanguthevar Rajasekaran and José Rolim. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 43. *American Mathematical Society, Providence, RI*, 1999. *xiv*+318 *pp. ISBN* 0-8218-0916-4 (Editors) **99f:68007** 68–06 (68Q25, 90–06)

Randomized Algorithms ★ Randomized algorithms. Proceedings of the International Workshop held in Brno, August 27–28, 1998. Edited by Rūsiņš Freivalds. Available at http://www.eccc.uni-trier.de/eccc-local/ECCC-LectureNotes/randalg/index.html. Lecture Notes Series of ECCC. *Electronic Colloquium on Computational Complexity* (*ECCC*), *Trier*, 1998. *front matter*+112 *pp.* (*electronic*). (Editors) **99f:68008** 68–06

Real and Complex Singularities ★ Workshop on Real and Complex Singularities. Proceedings of the 4th Workshop held at the Universidade de São Paulo, São Carlos, July 22–26, 1996. Edited by Maria Aparecida Soares Ruas. Mat. Contemp. **12** (1997). *Sociedade Brasileira de Matemática, Rio de Janeiro*, 1997. *pp. i–vi and* 1–219. (Editors) **99b:00023** 00B25

Reasoning with Incomplete and Changing Information ★ Learning and reasoning with complex representations. Papers from the Workshops on Reasoning with Incomplete and Changing Information, and Inducing Complex Representations held at the Pacific Rim International Conference on Artificial Intelligence (PRICAI'96) in Cairns, August 26–30, 1996. Edited by Grigoris Antoniou, Aditya K. Ghose and Mirosław Truszczyński. Lecture Notes in Computer Science, 1359. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1998. *x*+283 *pp. ISBN* 3-540-64413-X (Editors) **99f:68003** 68–06 (68T27)

Representations of Algebras and Related Topics ★ Algebras and modules. I. Papers from the Workshop on Representations of Algebras and Related Topics preceding the 8th International Conference on Representations of Algebras (ICRA VIII) held in Trondheim, July 29–August 3, 1996. Edited by Idun Reiten, Sverre O. Smalø and Øyvind Solberg. CMS Conference Proceedings, 23. *Published by the American Mathematical Society, Providence, RI; for the Canadian Mathematical Society, Ottawa, ON*, 1998. *xiv*+198 *pp. ISBN* 0-8218-0850-8 (Editors) **99e:16001** 16–06 (16Gxx)

Rewriting Logic and its Applications ★ International Workshop on Rewriting Logic

Workshop: (*cont'd.*)
and its Applications. Proceedings of the 2nd Workshop held in Pont-à-Mousson, September 1998. Edited by Claude Kirchner and Hélène Kirchner. Electronic Notes in Theoretical Computer Science, 15. *Elsevier Science B.V., Amsterdam*, 1998. *front matter*+433 *pp.* (*electronic*). (Editors) **99h:68014** 68–06 (68Q42, 68Q60, 68T15)

Robotics ★ Essays on mathematical robotics. Papers from the IMA Workshop on Robotics held at the University of Minnesota, Minneapolis, MN, January 25–29, 1993. Edited by John Baillieul, Shankar S. Sastry and Hector J. Sussmann. The IMA Volumes in Mathematics and its Applications, 104. *Springer-Verlag, New York*, 1998. *x*+372 *pp. ISBN* 0-387-98596-4 (Editors) **99e:70001** 70–06 (70B15, 70Q05, 93–06, 93C85)

Semi-Analytic Methods for the Navier-Stokes Equations ★ Semi-analytic methods for the Navier-Stokes equations. Papers from the workshop held in Montreal, QC, 1995. Edited by Katie Coughlin. CRM Proceedings & Lecture Notes, 20. *American Mathematical Society, Providence, RI*, 1999. *xiv*+119 *pp. ISBN* 0-8218-0878-8 (Editors) **99k:00037** 00B25 (58–06, 76–06, 76Fxx)

Semidefinite Programming and Interior-point Approaches for Combinatorial Optimization Problems ★ Semidefinite programming and interior-point approaches for combinatorial optimization problems. Papers from the workshop held at the University of Toronto, Toronto, ON, May 15–17, 1996. Edited by Panos M. Pardalos and Henry Wolkowicz. J. Comb. Optim. **2** (1998), no. 1. *Kluwer Academic Publishers, Hingham, MA*, 1998. *pp.* 1–109. (Editors) **99a:90012** 90–06 (90C26, 90C27)

Some Trends in Discrete Mathematics ★ Recent trends in combinatorics. Papers from the Combinatorial Workshop on Some Trends in Discrete Mathematics held in Mátraháza, October 22–28, 1995. Edited by Ervin Győri and Vera T. Sós. Combin. Probab. Comput. **8** (1999), no. 1-2. *Cambridge University Press, Cambridge*, 1999. *pp. i–iv and* 1–192. (Editors) **99k:00041** 00B30 (05–06)

Special Functions and Differential Equations ★ Special functions and differential equations. Proceedings of the workshop (WSSF97) held in Madras, January 13–24, 1997. Edited by K. Srinivasa Rao, R. Jagannathan, G. Vanden Berghe and J. Van der Jeugt. *Allied Publishers Private Limited, New Delhi*, 1998. *xvi*+486 *pp. ISBN* 81-7023-764-5 (Editors) **99h:33002** 33–06 (81–06)

Spline Functions and the Theory of Wavelets ★ Spline functions and the theory of wavelets. Proceedings of the workshops held at the Université de Montréal, Montreal, PQ, 1996. Edited by Serge Dubuc and Gilles Deslauriers. CRM Proceedings & Lecture Notes, 18. *American Mathematical Society, Providence, RI*, 1999. *x*+397 *pp. ISBN* 0-8218-0875-3 (Editors) **99i:65005** 65–06 (41–06, 42–06)

Stable Homotopy Theory ★ Stable and unstable homotopy. Papers from the Workshop on Stable Homotopy Theory and the Workshop on Unstable and Rational Homotopy Theory held in Toronto, ON, January–June 1996. Edited by William G. Dwyer, Steven Halperin, Richard Kane, Stanley O. Kochman, Mark E. Mahowald and Paul S. Selick. Fields Institute Communications, 19. *American Mathematical Society, Providence, RI*, 1998. *viii*+316 *pp. ISBN* 0-8218-0824-9 (Editors) **99a:55001** 55–06

Statistical Techniques in Pattern Recognition ★ Advances in pattern recognition. Papers from the Joint IAPR International Workshops (SSPR'98 and SPR'98) held in Sydney, August 11–13, 1998. Edited by Adnan Amin, Dov Dori, Pavel Pudil and Herbert Freeman. Lecture Notes in Computer Science, 1451. *Springer-Verlag, Berlin*, 1998. *xxii*+1047 *pp. ISBN* 3-540-64858-5 (Editors) **99k:68002** 68–06 (68T10)

Stereology, Stochastic Geometry and Image Analysis 9th International Workshop on Stereology, Stochastic Geometry and Image Analysis. Abstracts from the workshop held in Comillas, October 6–10, 1997. *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 271–294. 60–06 (60D05)

Stochastic Analysis and Related Topics ★ Stochastic analysis and related topics. VI. Proceedings of the 6th Oslo-Silivri Workshop held in Geilo, July 29–August 6, 1996. Edited by L. Decreusefond, Jon Gjerde, B. Øksendal and A. S. Üstünel. Progress in Probability, 42. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xii*+409 *pp. ISBN* 0-8176-4018-5 (Editors) **99e:60006** 60–06

Stochastic Models of Reliability, Quality and Safety ★ Advances in stochastic models for reliability, quality and safety. Papers from the Workshop on Stochastic Models of Reliability, Quality and Safety held in Schierke, 1997. Edited by Waltraud Kahle, Elart von Collani, Jürgen Franz and Uwe Jensen. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xxviii*+382 *pp. ISBN* 0-8176-4049-5 (Editors) **99f:62004** 62–06

Stochastic Numerics ★ Kakuritsu sūchi kaiseki ni okeru sho mondai. III. (Japanese) [Problems in stochastic numerical analysis. III] Proceedings of the 3rd Workshop on Stochastic Numerics held at the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, July 7–9, 1997. Sūrikaisekikenkyūsho Kōkyūroku No. 1032 (1998). *Kyoto University, Research Institute for Mathematical Sciences, Kyoto*, 1998. *pp. i–ii and* 1–164. (Editors) **99f:65007** 65–06 (60–06)

Stochastic Optimization: Numerical Methods and Technical Applications ★ Stochastic programming methods and technical applications. Proceedings of the 3rd GAMM/IFIP Workshop on Stochastic Optimization: Numerical Methods and Technical Applications held at the Federal Armed Forces University Munich, Neubiberg/Munich, June 17–20, 1996. Edited by Kurt Marti and Peter Kall. Lecture Notes in Economics and Mathematical Systems, 458. *Springer-Verlag, Berlin*, 1998. *x*+437 *pp. ISBN* 3-540-63924-1 (Editors) **99f:90007** 90–06 (90C15)

Structural and Syntactic Pattern Recognition ★ Advances in pattern recognition. Papers from the Joint IAPR International Workshops (SSPR'98 and SPR'98) held in Sydney, August 11–13, 1998. Edited by Adnan Amin, Dov Dori, Pavel Pudil and Herbert Freeman. Lecture Notes in Computer Science, 1451. *Springer-Verlag, Berlin*, 1998. *xxii*+1047 *pp. ISBN* 3-540-64858-5 (Editors) **99k:68002** 68–06 (68T10)

Symbolic Rewriting Techniques ★ Symbolic rewriting techniques. Papers from the workshop held in Ascona, April 30–May 4, 1995. Edited by Manuel Bronstein, Johannes Grabmeier and Volker Weispfenning. Progress in Computer Science and Applied Logic, 15. *Birkhäuser Verlag, Basel*, 1998. *viii*+288 *pp. ISBN* 3-7643-5901-3 (Editors) **99a:68014** 68–06 (68Q40, 68Q42)

Symmetry, Statistical Mechanical Models and Applications ★ Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications. Proceedings of the STATPHYS-19 Satellite Meeting held in Tianjin, August 8–10, 1995, and the 7th Nankai Workshop held in Tianjin, August 12–13, 1995. Edited by M. L. Ge and F. Y. Wu. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+444 *pp. ISBN* 981-02-2756-6 (Robert A. Weston) **99f:82002** 82–06 (82B20, 82B23)

Temporal Representation and Reasoning ★ Temporal representation and reasoning. Papers from the 3rd International Workshop (TIME-96) held in 1996. Edited by Luca Chittaro and Angelo Montanari. Ann. Math. Artificial Intelligence **22** (1998), no. 1-2. *Baltzer Science Publishers BV, Bussum*, 1998. *pp. i–iv and* 1–192. (Editors) **99a:68016** 68–06 (68T27)

Theoretical Aspects of Neural Computation: A Multi-disciplinary Perspective ★ Theoretical aspects of neural computation. A multidisciplinary perspective. Papers from the International Workshop (TANC-97) held at the Hong Kong University of Science and Technology, Hong Kong, May 26–28, 1997. Edited by Kwok-Yee Michael Wong, Irwin King and Dit-Yan Yeung. *Springer-Verlag Singapore, Singapore*, 1998. *xii*+320 *pp. ISBN* 981-3083-70-0 (Editors) **99f:00027** 00B25 (62–06, 68T05)

Toeplitz Matrices: Structures, Algorithms and Applications ★ Toeplitz matrices: structures, algorithms and applications. Papers from the workshop held in Cortona, September 9–14, 1996. Calcolo **33** (1996), no. 1-2. *Istituto di Elaborazione della Informazione del CNR, Pisa*, 1998. *pp. i–ii and* 1–176. (Editors) **99h:00021** 00B25 (15–06, 65–06)

Topology and Geometry of Polymers ★ Topology and geometry in polymer science. Papers from the IMA Workshop held at the University of Minnesota, Minneapolis, MN, June 1996. Edited by Stuart G. Whittington, De Witt Sumners and Timothy Lodge. The IMA Volumes in Mathematics and its Applications, 103. *Springer-Verlag, New York*, 1998. *x*+201 *pp. ISBN* 0-387-98580-8 (Editors) **99e:82103** 82D60 (82–06)

Transform Methods & Special Functions ★ Transform methods & special functions, Varna '96. Proceedings of the 2nd International Workshop, dedicated to the 100th anniversary of the birth of Nikola Obreschkoff, held in Varna, August 23–30, 1996. Edited by P. Rusev, I. Dimovski and V. Kiryakova. *Bulgarian Academy of Sciences, Institute of Mathematics and Informatics, Sofia*, 1998. *vi*+614 *pp. ISBN* 954-8986-05-1 (Editors) **99i:00031** 00B25 (26–06, 30–06, 33–06)

Umbral Calculus ★ Mathematical essays in honor of Gian-Carlo Rota. Including papers from the Conference in Honor of Gian-Carlo Rota (Rotafest) and the Umbral Calculus Workshop held in Cambridge, MA, April 1996. Edited by Bruce E. Sagan and Richard P. Stanley. Progress in Mathematics, 161. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xiv*+463 *pp. ISBN* 0-8176-3872-5 (Editors) **99a:00055** 00B30 (05–06)

Unstable and Rational Homotopy Theory ★ Stable and unstable homotopy. Papers from the Workshop on Stable Homotopy Theory and the Workshop on Unstable and Rational Homotopy Theory held in Toronto, ON, January–June 1996. Edited by William G. Dwyer, Steven Halperin, Richard Kane, Stanley O. Kochman, Mark E. Mahowald and Paul S. Selick. Fields Institute Communications, 19. *American Mathematical Society, Providence, RI*, 1998. *viii*+316 *pp. ISBN* 0-8218-0824-9 (Editors) **99a:55001** 55–06

Use of Iterative Methods for Large Scale Eigenvalue Problems ★ Large scale eigenvalue problems. Papers from the Workshop on The Use of Iterative Methods for Large Scale Eigenvalue Problems held in Argonne, IL, May 14–16, 1997. Electron. Trans. Numer. Anal. **7** (1998). *Kent State University Library, Kent, OH*, 1998. *front matter and pp.* 1–214 (*electronic*). (Editors) **99h:65006** 65–06 (65F15)

Value Distribution Theory and its Applications ★ International Workshop on Value Distribution Theory and its Applications. Selected papers from the workshop held at the Hong Kong University of Science and Technology, Hong Kong, July 23–26, 1996. Edited by Alan F. Beardon and Chung-Chun Yang. Bull. Hong Kong Math. Soc. **1** (1997), no. 2. *Gordon and Breach Science Publishers, Yverdon*, 1997. *pp.* 203–385. (Editors) **99a:30002** 30–06

Visualization and Mathematics ★ Visualization and mathematics. Experiments, simulations and environments. Papers from the International Workshop held in Berlin-Dahlem, May 30–June 2, 1995. Edited by Hans-Christian Hege and Konrad Polthier. *Springer-Verlag, Berlin*, 1997. *xx*+386 *pp. ISBN* 3-540-61269-6 (Hellmuth Stachel) **99g:68212** 68U05 (53–04, 53–06)

—★ Mathematical visualization. Algorithms, applications and numerics. Papers from the International Workshop on Visualization and Mathematics held in Berlin, September 16–19, 1997. Edited by Hans-Christian Hege and Konrad Polthier. *Springer-Verlag, Berlin*, 1998. *xx*+391 *pp. ISBN* 3-540-63991-8 (Editors) **99k:65005** 65–06 (00B25, 65Y25)

Well-posedness and Stability of Optimization Problems ★ Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems. Held in Sozopol, September 16–20, 1997. Dedicated to the memory of Prof. Dr. Radostin Ivanov. Edited by P. S. Kenderov and J. P. Revalski. Pliska Stud. Math. Bulgar. **12** (1998). *Publishing House of the Bulgarian Academy of Sciences, Amsterdam*, 1998. *pp.* 1–280. (Editors) **99k:49002** 49–06 (00B25, 00B30, 90–06)

Wuppertal ★ Field theoretical tools for polymer and particle physics. Papers from the workshop held at the University of Wuppertal, Wuppertal, June 1997. Edited by Hildegard Meyer-Ortmanns and Andreas Klümper. Lecture Notes in Physics, 508. *Springer-Verlag, Berlin*, 1998. *xvi*+258 *pp. ISBN* 3-540-64308-7 (Eric Derbez) **99k:82001** 82–06 (81T08, 81V55, 82B41, 82D60)

Würzburg ★ 13th European Workshop on Computational Geometry CG'97. Papers from the workshop held in Würzburg, March 20–21, 1997. Edited by Hartmut Noltemeier and Kokichi Sugihara. Discrete Appl. Math. **93** (1999), no. 1. *North-Holland Publishing Co., Amsterdam*, 1999. *pp. i–vi and* 1–140. (Editors) **99k:00039** 00B25 (65Y25)

Yearbook:
Game theory and applications ★ International year-book of game theory and applications. Vol. 1. Edited by L. A. Petrosjan [L. A. Petrosyan] and V. V. Mazalov. *VO "Nauka", Novosibirsk*, 1993. 106 *pp. ISBN* 5-02-030665-7 (Editors) **99k:90006** 90–06 (90D05, 90D25, 90D40)

York ★ Semigroups, formal languages and groups. Proceedings of the NATO Advanced Study Institute held at the University of York, York, August 7–21, 1993. Edited by John Fountain. NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences, 466. *Kluwer Academic Publishers Group, Dordrecht*, 1995. *x*+428 *pp. ISBN* 0-7923-3540-6 (Editors) **99b:20001** 20–06 (20Mxx, 68Q45)

— ★ The state of the art in numerical analysis. Proceedings of the conference held at the University of York, York, April 1996. Edited by I. S. Duff and G. A. Watson. The Institute of Mathematics and its Applications Conference Series. New Series, 63. *The Clarendon Press, Oxford University Press, New York*, 1997. *xiv*+562 *pp. ISBN* 0-19-850014-9 (Editors) **99a:65008** 65–06 (00B25)

Zakopane ★ Marian Smoluchowski Symposium on Statistical Physics. Held in Zakopane, September 1–10, 1997. Acta Phys. Polon. B **29** (1998), no. 6. *Jagellonian University, Institute of Physics, Kraków*, 1998. *pp.* 1523–1825. (Editors) **99d:82005** 82–06

— ★ New developments in quantum field theory. Proceedings of the NATO Advanced Research Workshop held in Zakopane, June 14–20, 1997. Edited by Poul Henrik Damgaard and Jerzy Jurkiewicz. NATO Advanced Science Institutes Series B: Physics, 366. *Plenum Press, New York*, 1998. *x*+364 *pp. ISBN* 0-306-45816-0 (Editors) **99e:81002** 81–06

Zlatograd ★ Conference on Geometry and Mathematical Physics. Papers from the conference held in Zlatograd, August 28–September 1, 1995. Serdica Math. J. **23** (1997), no. 2. *Bulgarian Academy of Sciences, Institute of Mathematics and Informatics, Sofia*, 1997. *pp. i–iv and* 95–202. (Editors) **99d:00016** 00B25

Zuberec ★ Proceedings of the Algoritmy'97 Conference on Scientific Computing. Plenary papers from the 14th Conference held in Zuberec, September 2–5, 1997. Edited by J. Kačur and K. Mikula. Acta Math. Univ. Comenian. (N.S.) **67** (1998), no. 1. *Comenius University Press, Bratislava*, 1998. *pp.* 1–214. (Editors) **99f:00021** 00B25

Abbreviations of Names of Serials

This list gives the form of references used in Mathematical Reviews (MR). The abbreviation is followed by the complete title, the place of publication and other pertinent information.

* not previously listed
§ journal reviewed cover-to-cover
† monographic series
Ⓔ available electronically
Ⓥ videocassette series
¶ bibliographic journal

Abh. Braunschweig. Wiss. Ges. Abhandlungen der Braunschweigischen Wissenschaftlichen Gesellschaft. Goltze, Göttingen.

§**Abh. Math. Sem. Univ. Hamburg** Abhandlungen aus dem Mathematischen Seminar der Universität Hamburg. Vandenhoeck & Ruprecht, Göttingen. ISSN 0025-5858.

†**Abh. Math.-Naturwiss. Kl. Akad. Wiss. Lit. Mainz** Abhandlungen der Mathematisch-Naturwissenschaftlichen Klasse. Akademie der Wissenschaften und der Literatur in Mainz. [Transactions of the Mathematical-Scientific Section. Academy of Sciences and Literature in Mainz] Steiner, Stuttgart. ISSN 0002-2993.

§**Abstr. Appl. Anal.** Abstract and Applied Analysis. Mancorp, Tampa, FL. ISSN 1085-3375.

¶**Abstracts Amer. Math. Soc.** Abstracts of Papers Presented to the American Mathematical Society. Amer. Math. Soc., Providence, RI. ISSN 0192-5857.

Acad. J. Kon-Kuk Univ. See *Hak-sul Chi*

Acad. Roy. Belg. Bull. Cl. Sci. (6) Académie Royale de Belgique. Bulletin de la Classe des Sciences. 6e Série. Acad. Roy. Belgique, Brussels. ISSN 0001-4141.

Acad. Roy. Belg. Cl. Sci. Mém. Collect. 8° (3) Académie Royale de Belgique. Classe des Sciences. Mémoires. Collection in-8°. 3e Série. Acad. Roy. Belgique, Brussels. ISSN 0365-0936.

Acad. Serbe Sci. Arts Glas Académie Serbe des Sciences et des Arts. Glas. Classe des Sciences Naturelles et Mathématiques. Srpska Akad. Nauk. i Umetnost., Belgrade. ISSN 0374-7956.

†**Accès Sci.** Accès Sciences. [Access to Sciences] De Boeck Univ., Brussels.

†**ACM Disting. Theses** ACM Distinguished Theses. Springer, Berlin.

*§Ⓔ**ACM J. Exp. Algorithmics** The ACM Journal of Experimental Algorithmics. ACM, New York. ISSN 1084-6654.

ACM Trans. Math. Software Association for Computing Machinery. Transactions on Mathematical Software. ACM, New York. ISSN 0098-3500.

Acta Acad. Åbo. Ser. B Acta Academiae Åboensis. Ser. B. Mathematica et Physica.. Åbo Akad. Univ. Press, Åbo. ISSN 0001-5105.

§**Acta Appl. Math.** Acta Applicandae Mathematicae. An International Survey Journal on Applying Mathematics and Mathematical Applications. Kluwer Acad. Publ., Dordrecht. ISSN 0167-8019.

§**Acta Arith.** Acta Arithmetica. Polish Acad. Sci., Warsaw. ISSN 0065-1036.

Acta Astronom. Sinica Acta Astronomica Sinica. Tianwen Xuebao. Kexue Chubanshe (Science Press), Beijing. (Translated in *Chinese Astronom. Astrophys.*) ISSN 0001-5245.

Acta Astrophys. Sinica Acta Astrophysica Sinica. Tianti Wuli Xuebao. Kexue Chubanshe (Science Press), Beijing. (Translated in *Chinese Astronom. Astrophys.*) ISSN 0253-2379.

Acta Automat. Sinica Acta Automatica Sinica. Zidonghua Xuebao. Kexue Chubanshe (Science Press), Beijing. ISSN 0254-4156.

Acta Cienc. Indica Math. Acta Ciencia Indica. Mathematics. Pragati Prakashan, Meerut. ISSN 0970-0455.

Acta Cient. Venezolana Acta Científica Venezolana. Asociación Venezolana para el Avance de la Ciencia. Asoc. Venezolana Avance Cien., Caracas. ISSN 0001-5504.

*§**Acta Comment. Univ. Tartu. Math.** Acta et Commentationes Universitatis Tartuensis de Mathematica. Univ. Tartu, Fac. Math., Tartu. (Formerly *Tartu Ül. Toimetised*) ISSN 1406-2283.

Acta Cryst. Sect. A Acta Crystallographica. Section A: Foundations of Crystallography. Munksgaard, Copenhagen. ISSN 0108-7673.

§**Acta Cybernet.** Acta Cybernetica. József Attila Univ., Szeged. ISSN 0324-721X.

Acta Hist. Leopold. Acta Historica Leopoldina. Deutsche Akad. Naturforscher Leopoldina, Halle an der Saale. ISSN 0001-5857.

§**Acta Inform.** Acta Informatica. Springer, Heidelberg. ISSN 0001-5903.

§**Acta Math.** Acta Mathematica. Inst. Mittag-Leffler, Djursholm. ISSN 0001-5962.

*§Ⓔ**Acta Math. Acad. Paedagog. Nyházi. (N.S.)** Acta Mathematica. Academiae Paedagogicae Nyíregyháziensis. New Series. Bessenyei György Coll., Nyíregyháza. ISSN 0866-0182.

§**Acta Math. Appl. Sinica** Acta Mathematicae Applicatae Sinica. Yingyong Shuxue Xuebao. Kexue Chubanshe (Science Press), Beijing. ISSN 0254-3079.

§**Acta Math. Appl. Sinica (English Ser.)** Acta Mathematicae Applicatae Sinica. English Series. Yingyong Shuxue Xuebao. Science Press, Beijing. ISSN 0168-9673.

§**Acta Math. Hungar.** Acta Mathematica Hungarica. Akad. Kiadó, Budapest. ISSN 0236-5294.

§**Acta Math. Inform. Univ. Ostraviensis** Acta Mathematica et Informatica Universitatis Ostraviensis. Univ. Ostrava, Ostrava. ISSN 1211-4774.

§**Acta Math. Sci. (Chinese)** Acta Mathematica Scientia. Shuxue Wuli Xuebao. Chinese Edition. Kexue Chubanshe (Science Press), Beijing. (See also *Acta Math. Sci. (English Ed.)*) ISSN 1003-3998.

§**Acta Math. Sci. (English Ed.)** Acta Mathematica Scientia. English Edition. Shuxue Wuli Xuebao. Science Press, Beijing. (See also *Acta Math. Sci. (Chinese)*) ISSN 0252-9602.

*§**Acta Math. Sin. (Engl. Ser.)** Acta Mathematica Sinica. English Series. Springer, Singapore. (Formerly *Acta Math. Sinica (N.S.)*) ISSN 1000-9574.

§**Acta Math. Sinica** Acta Mathematica Sinica. Chinese Math. Soc., Acta Math. Sinica Ed. Comm., Beijing. (Differs from *Acta Math. Sinica (N.S.)*) ISSN 0583-1431.

§**Acta Math. Sinica (N.S.)** Acta Mathematica Sinica. New Series. Acad. Sinica, Inst. Math., Beijing. (Continued as *Acta Math. Sin. (Engl. Ser.)*) (Differs from *Acta Math. Sinica*) ISSN 1000-9574.

§**Acta Math. Univ. Comenian. (N.S.)** Acta Mathematica Universitatis Comenianae. New Series. Comenius Univ. Press, Bratislava. ISSN 0862-9544.

§**Acta Math. Vietnam.** Acta Mathematica Vietnamica. Nat. Center Natur. Sci. Tech., Hanoi. ISSN 0251-4184.

Acta Mech. Acta Mechanica. Springer, Vienna. ISSN 0001-5970.

Acta Mech. Sinica (Beijing) Acta Mechanica Sinica. Lixue Xuebao. Chinese J. Mech. Press, Beijing. (See also *Acta Mech. Sinica (English Ed.)*) ISSN 0459-1879.

Acta Mech. Sinica (English Ed.) Acta Mechanica Sinica. English Edition. Lixue Xuebao. Kexue Chubanshe (Science Press), Beijing. (See also *Acta Mech. Sinica (Beijing)*) ISSN 0567-7718.

†**Acta Numer.** Acta Numerica. Cambridge Univ. Press, Cambridge. ISSN 0962-4929.

Acta Phys. Polon. A Polish Academy of Sciences. Institute of Physics and Polish Physical Society. Acta Physica Polonica. A. Polish Acad. Sci., Warsaw. ISSN 0587-4246.

Acta Phys. Polon. B Jagellonian University. Institute of Physics and Polish Physical Society. Acta Physica Polonica B. Jagellonian Univ., Kraków. ISSN 0587-4254.

Acta Phys. Sinica Acta Physica Sinica. Wuli Xuebao. Chinese Phys. Soc., Beijing. ISSN 1000-3290.

Acta Polytech. Scand. Math. Comput. Manage. Eng. Ser. Acta Polytechnica Scandinavica. Mathematics, Computing and Management in Engineering Series. Finn. Acad. Tech., Espoo. ISSN 1238-9803.

§**Acta Sci. Math. (Szeged)** Acta Universitatis Szegediensis. Acta Scientiarum Mathematicarum. Univ. Szeged, Szeged. ISSN 0001-6969.

Acta Sci. Natur. Univ. Jilin. Acta Scientiarum Naturalium Universitatis Jilinensis. Jilin Daxue. Ziran Kexue Xuebao. Jilin University. Natural Sciences Journal. Jilin Univ. Nat. Sci. J., Editor. Dept., Changchun. ISSN 0529-0279.

Acta Sci. Natur. Univ. Norm. Hunan. Acta Scientiarum Naturalium Universitatis Normalis Hunanensis. Hunan Shifan Daxue Ziran Kexue Xuebao. J. Hunan Norm. Univ., Editor. Dept., Changsha. ISSN 1000-2537.

Acta Sci. Natur. Univ. Pekinensis See *Beijing Daxue Xuebao Ziran Kexue Ban*

Acta Sci. Natur. Univ. Sunyatseni Acta Scientiarum Naturalium Universitatis Sunyatseni. Zhongshan Daxue Xuebao. Ziran Kexue Ban. Journal of Sun Yatsen University. Natural Sciences. J. Zhongshan Univ., Editor. Dept., Guangzhou. ISSN 0529-6579.

Acta Tech. CSAV Acta Technica CSAV. Acad. Sci. Czech Repub., Prague. ISSN 0001-7043.

§**Acta Univ. Carolin. Math. Phys.** Acta Universitatis Carolinae. Mathematica et Physica. Karolinum, Prague. ISSN 0001-7140.

§**Acta Univ. Lodz. Folia Math.** Acta Universitatis Lodziensis. Folia Mathematica. Wydawn. Uniw. Łódzkiego, Łódź. ISSN 0208-6204.

Acta Univ. Lodz. Folia Philos. Acta Universitatis Lodziensis. Folia Philosophica. Wydawn. Uniw. Łódzkiego, Łódź. ISSN 0208-6107.

§**Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math.** Matej Bel University. Acta. Natural Science Series. Series Mathematics. Matej Bel Univ., Banská Bystrica.

Acta Univ. Oulu. Ser. A Sci. Rerum Natur. Acta Universitatis Ouluensis. Series A. Scientiae Rerum Naturalium. Univ. Oulu, Oulu. ISSN 0355-3191.

§**Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.** Acta Universitatis Palackianae Olomucensis. Facultas Rerum Naturalium. Mathematica. ISSN 0231-9721.

Acta Univ. Tampere. Acta Universitatis Tamperensis. Univ. Tampere, Tampere. ISSN 1455-1616.

†**Acta Univ. Ups. Stud. Philos. Ups.** Acta Universitatis Upsaliensis. Studia Philosophica Upsaliensia. Uppsala Univ., Uppsala. ISSN 0585-5497.

†**Acta Univ. Ups. Stud. Stat. Ups.** Acta Universitatis Upsaliensis. Studia Statistica Upsaliensia. Uppsala Univ., Uppsala. ISSN 1104-1560.

†**Actualités Math.** Actualités Mathématiques. [Current Mathematical Topics] Hermann, Paris.

†**Actualités Sci. Indust.** Actualités Scientifiques et Industrielles. [Current Scientific and Industrial Topics] Hermann, Paris.

†**Adapt. Learn. Syst. Signal Process. Commun. Control** Adaptive and Learning Systems for Signal Processing, Communications, and Control. Wiley, New York.

Adapt. Sistemy Avtomat. Upravleniya Kievskiĭ Politekhnicheskiĭ Institut. Adaptivnye Sistemy Avtomaticheskogo Upravleniya. "Tekhnika", Kiev. ISSN 0320-720X.

Adv. Appl. Clifford Algebras Advances in Applied Clifford Algebras. Univ. Nac. Autónoma México, México. ISSN 0188-7009.

†**Adv. Appl. Mech.** Advances in Applied Mechanics. Academic Press, Boston, MA. ISSN 0065-2165.

†**Adv. Book Class.** Advanced Book Classics. Perseus, Reading, MA.
†**Adv. Bound. Elem. Ser.** Advances in Boundary Elements Series. Comput. Mech., Southampton. ISSN 1368-258X.
†**Adv. Chem. Phys.** Advances in Chemical Physics. Wiley, New York.
§**Adv. Comput. Math.** Advances in Computational Mathematics. Baltzer, Bussum. ISSN 1019-7168.
†**Adv. Comput. Sci.** Advances in Computing Science. Springer, Vienna. ISSN 1433-0113.
§**Adv. Differential Equations** Advances in Differential Equations. Khayyam, Athens, OH. ISSN 1079-9389.
*†**Adv. Discrete Math. Appl.** Advances in Discrete Mathematics and Applications. Gordon and Breach, Amsterdam. ISSN 1028-3129.
†**Adv. Fluid Mech.** Advances in Fluid Mechanics. Comput. Mech., Southampton. ISSN 1353-808X.
†**Adv. Fuzzy Systems Appl. Theory** Advances in Fuzzy Systems—Applications and Theory. World Sci. Publishing, River Edge, NJ.
§**Adv. in Appl. Math.** Advances in Applied Mathematics. Academic Press, Orlando, FL. ISSN 0196-8858.
§**Adv. in Appl. Probab.** Advances in Applied Probability. Appl. Probab. Trust, Sheffield. ISSN 0001-8678.
†**Adv. Lectures Math.** Advanced Lectures in Mathematics. Vieweg, Braunschweig. ISSN 0932-7134.
§**Adv. Math.** Advances in Mathematics. Academic Press, Orlando, FL. ISSN 0001-8708.
§**Adv. Math. (China)** Advances in Mathematics (China). Shuxue Jinzhan. Peking Univ. Press, Beijing. ISSN 1000-0917.
*†**Adv. Math. Econ.** Advances in Mathematical Economics. Springer, Tokyo.
†**Adv. Math. Sci.** Advances in the Mathematical Sciences. Amer. Math. Soc., Providence, RI.
§**Adv. Math. Sci. Appl.** Advances in Mathematical Sciences and Applications. An International Journal. Gakkōtosho, Tokyo. ISSN 1343-4373.
§**Adv. Nonlinear Var. Inequal.** Advances in Nonlinear Variational Inequalities. An International Journal. Internat. Publ., Orlando, FL. ISSN 1092-910X.
†**Adv. Numer. Anal.** Advances in Numerical Analysis. Oxford Univ. Press, New York.
†**Adv. Numer. Math.** Advances in Numerical Mathematics. Teubner, Stuttgart.
*†**Adv. Partial Differ. Equ.** Advances in Partial Differential Equations. Wiley-VCH, Berlin.
†**Adv. Partial Differential Equations** Advances in Partial Differential Equations. Akademie Verlag, Berlin.
*†**Adv. Sci. Tech.** Advances in Science and Technology. Mir Publishers, Moscow.
†**Adv. Ser. Dynam. Systems** Advanced Series in Dynamical Systems. World Sci. Publishing, River Edge, NJ.
†**Adv. Ser. Electr. Comput. Engrg.** Advanced Series in Electrical and Computer Engineering. World Sci. Publishing, River Edge, NJ.
†**Adv. Ser. Math. Phys.** Advanced Series in Mathematical Physics. World Sci. Publishing, River Edge, NJ.
†**Adv. Ser. Math. Sci. Eng.** Advanced Series in Mathematical Science and Engineering. World Fed. Publ., Atlanta, GA.
†**Adv. Ser. Neurosci.** Advanced Series in Neuroscience. World Sci. Publishing, River Edge, NJ.
†**Adv. Ser. Nonlinear Dynam.** Advanced Series in Nonlinear Dynamics. World Sci. Publishing, River Edge, NJ.
†**Adv. Ser. Stat. Sci. Appl. Probab.** Advanced Series on Statistical Science & Applied Probability. World Sci. Publishing, River Edge, NJ.
†**Adv. Ser. Theoret. Phys. Sci.** Advanced Series on Theoretical Physical Science. World Sci. Publishing, River Edge, NJ.
†**Adv. Spat. Sci.** Advances in Spatial Science. Springer, Berlin.
†**Adv. Stud. Contemp. Math.** Advanced Studies in Contemporary Mathematics. Gordon and Breach, New York.
*§**Adv. Stud. Contemp. Math.** Advanced Studies in Contemporary Mathematics. Adv. Stud. Contemp. Math., Editor. Comm., Saga. ISSN 1229-3067.
†**Adv. Stud. Pure Math.** Advanced Studies in Pure Mathematics. Kinokuniya, Tokyo.
*†**Adv. Textb. Control Signal Process.** Advanced Textbooks in Control and Signal Processing. Springer, London.
§**Adv. Theor. Math. Phys.** Advances in Theoretical and Mathematical Physics. Internat. Press, Cambridge, MA. ISSN 1095-0761.
*†**Adv. Theory Comput. Comput. Math.** Advances in the Theory of Computation and Computational Mathematics. Nova Sci. Publ., Commack, NY.
†**Adv. Top. Math.** Advanced Topics in Mathematics. PWN, Warsaw.
§**Aequationes Math.** Aequationes Mathematicae. Birkhäuser, Basel. ISSN 0001-9054.
Aerosp. Sci. Technol. Aerospace Science and Technology. Éd. Elsevier, Paris. ISSN 1270-9638.
§**Afrika Mat. (3)** Afrika Matematika. Journal of the African Mathematical Union. Journal de l'Union Mathématique Africaine. Série 3. Union Math. Africaine, Caluire.
†**Agrég. Math.** Agrégation de Mathématiques. Masson, Paris.
*†**AI Commun.** AI Communications. The European Journal on Artificial Intelligence. IOS, Amsterdam. ISSN 0921-7126.
†**AIP Conf. Proc.** AIP Conference Proceedings. Amer. Inst. Phys., New York. ISSN 0094-243X.
†**AIP Ser. Modern Acoust. Signal Process.** AIP Series in Modern Acoustics and Signal Processing. Amer. Inst. Phys., New York.
Akad. Nauk Respub. Kazakhstan Trudy Astrofiz. Inst. Akademiya Nauk Respubliki Kazakhstan. Trudy Astrofizicheskogo Instituta. "Gylym", Alma Ata.
Akad. Nauka Umjet. Bosne Hercegov. Rad. Odjelj. Prirod. Mat. Nauka Akademija Nauka i Umjetnosti Bosne i Hercegovine. Radovi. Odjeljenje Prirodnih i Matematičkih Nauka. Akad. Nauk. i Umjetnost. Bosne i Hercegovine, Sarajevo. ISSN 0350-0047.
Akad. Nauka Umjet. Bosne Hercegov. Rad. Odjelj. Tehn. Nauka Akademija Nauka i Umjetnosti Bosne i Hercegovine. Radovi. Odjeljenje Tehničkih Nauka. Akad. Nauk. i Umjetnost. Bosne i Hercegovine, Sarajevo. ISSN 0350-008X.
†**AKP Class.** AKP Classics. A K Peters, Wellesley, MA.
†**Albion Math. Appl. Ser.** Albion Mathematics & Applications Series. Albion, Chichester.
*§**Algebr. Represent. Theory** Algebras and Representation Theory. Kluwer Acad. Publ., Dordrecht. ISSN 1386-923X.
Algebra and Logic Algebra and Logic. Consultants Bureau, New York. (Translation of *Algebra i Logika*) ISSN 0002-5232.
†**Algebra Ber.** Algebra Berichte. [Algebra Reports] Fischer, Munich. ISSN 0942-1270.
§**Algebra Colloq.** Algebra Colloquium. Springer, Singapore. ISSN 1005-3867.
§**Algebra i Analiz** Rossiĭskaya Akademiya Nauk. Algebra i Analiz. "Nauka" S.-Peterburg. Otdel., St. Petersburg. (Translated in *St. Petersburg Math. J.*) ISSN 0234-0852.
§**Algebra i Logika** Sibirskiĭ Fond Algebry i Logiki. Algebra i Logika. (Translated in *Algebra and Logic*) ISSN 0373-9252.
†**Algebra Logic Appl.** Algebra, Logic and Applications. Gordon and Breach, Amsterdam. ISSN 1041-5394.
§**Algebra Universalis** Algebra Universalis. Univ. Manitoba, Winnipeg, MB. ISSN 0002-5240.
§**Algebras Groups Geom.** Algebras, Groups and Geometries. Hadronic Press, Palm Harbor, FL. ISSN 0741-9937.
§**Algorithmica** Algorithmica. An International Journal in Computer Science. Springer, New York. ISSN 0178-4617.
†**Algorithms Combin.** Algorithms and Combinatorics. Springer, Berlin. ISSN 0937-5511.
†**Algorithms Comput. Math.** Algorithms and Computation in Mathematics. Springer, Berlin. ISSN 1431-1550.
Aligarh J. Statist. The Aligarh Journal of Statistics. Aligarh Muslim Univ., Aligarh. ISSN 0971-0388.
§**Alkalmaz. Mat. Lapok** Alkalmazott Matematikai Lapok. Magyar Tudományos Akad., Budapest. ISSN 0133-3399.
†**Álxebra** Álxebra. [Algebra] Univ. Santiago de Compostela, Santiago de Compostela.
†**Am. Univ. Stud. Ser. IX Hist.** American University Studies. Series IX: History. Lang, New York. ISSN 0740-0462.
§**Amer. J. Math.** American Journal of Mathematics. Johns Hopkins Univ. Press, Baltimore, MD. ISSN 0002-9327.
Amer. J. Math. Management Sci. American Journal of Mathematical and Management Sciences. Amer. Sci. Press, Syracuse, NY. ISSN 0196-6324.
Amer. J. Phys. American Journal of Physics. Amer. Assoc. Phys. Teach., College Park, MD. ISSN 0002-9505.
Amer. Math. Monthly The American Mathematical Monthly. Math. Assoc. America, Washington, DC. ISSN 0002-9890.
†**Amer. Math. Soc. Colloq. Publ.** American Mathematical Society Colloquium Publications. Amer. Math. Soc., Providence, RI. ISSN 0065-9258.
†**Amer. Math. Soc. Transl. Ser. 2** American Mathematical Society Translations, Series 2. Amer. Math. Soc., Providence, RI. ISSN 0065-9290.
Amer. Statist. The American Statistician. Amer. Statist. Assoc., Alexandria, VA. ISSN 0003-1305.
†**Amer. Univ. Stud. Ser. V Philos.** American University Studies. Series V: Philosophy. Lang, New York. ISSN 0739-6392.
†**AMS Progr. Math. Lecture Ser.** AMS Progress in Mathematics Lecture Series. Amer. Math. Soc., Providence, RI.
†**AMS Short Course Lecture Notes** AMS Short Course Lecture Notes. Amer. Math. Soc., Providence, RI.
†Ⓥ**AMS-MAA Joint Lecture Ser.** AMS-MAA Joint Lecture Series. Amer. Math. Soc., Providence, RI.
†**AMS/IP Stud. Adv. Math.** AMS/IP Studies in Advanced Mathematics. Amer. Math. Soc., Providence, RI. ISSN 1089-3288.
†**Amst. Stud. Theory Hist. Linguist. Sci. Ser. IV Curr. Issues Linguist. Theory** Amsterdam Studies in the Theory and History of Linguistic Science. Series IV: Current Issues in Linguistic Theory. Benjamins, Amsterdam. ISSN 0304-0763.
An. Acad. Brasil. Ciênc. Anais da Academia Brasileira de Ciências. Acad. Brasil. Ciênc., Rio de Janeiro. ISSN 0001-3765.
†**An. Fís. Monogr.** Anales de Física. Monografías. [Annals of Physics. Monographs] CIEMAT, Madrid.
§**An. Inst. Mat. Univ. Nac. Autónoma México** Anales del Instituto de Matemáticas. Universidad Nacional Autónoma de México. Univ. Nac. Autónoma México, México. ISSN 0185-0644.
§**An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform.** (N.S.) Analele Ştiinţifice ale Universităţii "Al. I. Cuza" din Iaşi. Informatică. Serie Nouă. Ed. Univ. "Al. I. Cuza", Iaşi. ISSN 1224-2268.
§**An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.** (N.S.) Analele Ştiinţifice ale Universităţii "Al. I. Cuza" din Iaşi. Serie Nouă. Matematică. Ed. Univ. "Al. I. Cuza", Iaşi. ISSN 1221-8421.
§**An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.** Universităţii "Ovidius" Constanţa. Analele Ştiinţifice. Seria Matematică. "Ovidius" Univ. Press, Constanţa. ISSN 1223-723X.
§**An. Univ. Bucureşti Mat.** Analele Universităţii Bucureşti. Matematică. Univ. Bucharest, Bucharest. ISSN 1013-4123.
An. Univ. Craiova Ser. Mat. Inform. Analele Universităţii din Craiova. Seria Matematică-Informatică. Univ. Craiova, Craiova. ISSN 1223-6934.
An. Univ. Dunărea de Jos Galaţi Fasc. II Mat. Fiz. Mec. Teor. Analele Universităţii "Dunărea de Jos" din Galaţi. Fascicula II. Matematică, Fizică, Mecanică Teoretică. The Annals of the University "Dunărea de Jos" Galaţi. Fascicle II. Mathematics, Physics, Theoretical Mechanics. Univ. "Dunărea Jos" Galaţi, Galaţi. ISSN 1221-4531.
An. Univ. Târgovişte Fasc. I Analele Universităţii din Târgovişte. Fascicula I. Secţiunea Ştiinţe Umane, Ştiinţe Juridice şi Economice. Secţiunea Ştiinţe Fundamentale: Matematică, Fizică, Chimie. Univ. Târgovişte, Târgovişte.
§**An. Univ. Timişoara Ser. Mat.-Inform.** Universităţii din Timişoara. Analele. Seria Matematică-Informatică. Univ. Timişoara, Timişoara. ISSN 1224-970X.
An. Univ. Timişoara Ser. Ştiinţ. Fiz. Analele Universităţii din Timişoara. Seria Ştiinţe Fizice. Univ. Vest Timişoara, Timişoara.

†**Anal. Appl.** Analysis and its Applications. IOS, Amsterdam. ISSN 1345-4240.
§**Anal. Math.** Analysis Mathematica. Akad. Kiadó, Budapest. ISSN 0133-3852.
*†**Anal. Methods Spec. Funct.** Analytical Methods and Special Functions. Gordon and Breach, Amsterdam. ISSN 1027-0264.
†**Anal. Modern. Apl.** Analiză Modernă şi Aplicaţii. [Modern Analysis and Applications] Ed. Acad. Române, Bucharest.
§**Analysis (Munich)** Analysis. International Mathematical Journal of Analysis and its Applications. Oldenbourg, Munich. ISSN 0174-4747.
Analysis (Oxford) Analysis. Blackwell, Oxford. ISSN 0003-2638.
†**Angew. Statist. Ökonom.** Angewandte Statistik und Ökonometrie. [Applied Statistics and Econometrics] Vandenhoeck & Ruprecht, Göttingen.
§**Ann. Acad. Sci. Fenn. Math.** Annales Academiæ Scientiarium Fennicæ. Mathematica. Acad. Sci. Fennica, Helsinki. ISSN 1239-629X.
§**Ann. Acad. Sci. Fenn. Math. Diss.** Academiæ Scientiarum Fennicæ. Annales. Mathematica. Dissertationes. Acad. Sci. Fennica, Helsinki. ISSN 1239-6303.
§**Ann. Appl. Probab.** The Annals of Applied Probability. Inst. Math. Statist., Hayward, CA. ISSN 1050-5164.
§**Ann. Comb.** Annals of Combinatorics. Springer, Singapore. ISSN 0218-0006.
§**Ann. Differential Equations** Annals of Differential Equations. Weifen Fangcheng Niankan. Fuzhou Univ., Fuzhou. ISSN 1002-0942.
†**Ann. Discrete Math.** Annals of Discrete Mathematics. North-Holland, Amsterdam.
Ann. Économ. Statist. Annales d'Économie et de Statistique. Inst. Nat. Statist. Étud. Économ., Amiens. ISSN 0769-489X.
§**Ann. Fac. Sci. Toulouse Math. (6)** Annales de la Faculté des Sciences de Toulouse. Mathématiques. Série 6. Univ. Paul Sabatier, Toulouse. ISSN 0240-2963.
†**Ann. Fac. Sci. Univ. Kinshasa** Annales de la Faculté des Sciences. Université de Kinshasa. [Annals of the Faculty of Science. University of Kinshasa] Presses Univ. Kinshasa, Kinshasa.
Ann. Fond. Louis de Broglie Fondation Louis de Broglie. Annales. Fond. Louis de Broglie, Paris. ISSN 0182-4295.
§**Ann. Global Anal. Geom.** Annals of Global Analysis and Geometry. Kluwer Acad. Publ., Dordrecht. ISSN 0232-704X.
§**Ann. Inst. Fourier (Grenoble)** Université de Grenoble. Annales de l'Institut Fourier. Univ. Grenoble I, Saint-Martin-d'Hères. ISSN 0373-0956.
§**Ann. Inst. H. Poincaré Anal. Non Linéaire** Annales de l'Institut Henri Poincaré. Analyse Non Linéaire. Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris. ISSN 0294-1449.
Ann. Inst. H. Poincaré Phys. Théor. Annales de l'Institut Henri Poincaré. Physique Théorique. Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris. ISSN 0246-0211.
§**Ann. Inst. H. Poincaré Probab. Statist.** Annales de l'Institut Henri Poincaré. Probabilités et Statistiques. Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris. ISSN 0246-0203.
Ann. Inst. Statist. Math. Annals of the Institute of Statistical Mathematics. Kluwer Acad. Publ., Norwell, MA. ISSN 0020-3157.
†**Ann. Internat. Soc. Dynam. Games** Annals of the International Society of Dynamic Games. Birkhäuser Boston, Boston, MA.
†**Ann. Israel Phys. Soc.** Annals of the Israel Physical Society. IOP, Bristol. ISSN 0309-8710.
Ann. Japan Assoc. Philos. Sci. Annals of the Japan Association for Philosophy of Science. Japan Assoc. Philos. Sci., Tokyo. ISSN 0453-0691.
§**Ann. Mat. Pura Appl. (4)** Annali di Matematica Pura ed Applicata. Serie Quarta. Zanichelli, Bologna. ISSN 0003-4622.
Ann. Math. Artificial Intelligence Annals of Mathematics and Artificial Intelligence. Baltzer, Bussum. ISSN 1012-2443.
§**Ann. Math. Blaise Pascal** Annales Mathématiques Blaise Pascal. Univ. Blaise Pascal, Lab. Math. Pures Appl., Aubière. ISSN 1259-1734.
§**Ann. Math. Sil.** Annales Mathematicae Silesianae. Wydawn. Univ. Śląskiego, Katowice. (See also *Fr. Nauk. Univ. Śl. Katow.*) ISSN 0860-2107.
†**Ann. New York Acad. Sci.** Annals of the New York Academy of Sciences. New York Acad. Sci., New York. ISSN 0077-8923.
§**Ann. of Math. (2)** Annals of Mathematics. Second Series. Princeton Univ. Press, Princeton, NJ. ISSN 0003-486X.
†**Ann. of Math. Stud.** Annals of Mathematics Studies. Princeton Univ. Press, Princeton, NJ.
Ann. of Sci. Annals of Science. Taylor & Francis, London. ISSN 0003-3790.
Ann. Oper. Res. Annals of Operations Research. Baltzer, Bussum. ISSN 0254-5330.
*†**Ann. Phys. (8)** Annalen der Physik (8). Wiley-VCH, Berlin. (Formerly *Ann. Physik (8)*) ISSN 0003-3804.
Ann. Physics Annals of Physics. Academic Press, Orlando, FL. ISSN 0003-4916.
Ann. Physik (8) Annalen der Physik (8). Johann Ambrosius Barth, Heidelberg. (Continued as *Ann. Phys. (8)*) ISSN 0003-3804.
§**Ann. Polon. Math.** Annales Polonici Mathematici. Polish Acad. Sci., Warsaw. ISSN 0066-2216.
§**Ann. Probab.** The Annals of Probability. Inst. Math. Statist., Hayward, CA. ISSN 0091-1798.
§**Ann. Pure Appl. Logic** Annals of Pure and Applied Logic. North-Holland, Amsterdam. ISSN 0168-0072.
§**Ann. Sci. École Norm. Sup. (4)** Annales Scientifiques de l'École Normale Supérieure. Quatrième Série. Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris. ISSN 0012-9593.
Ann. Sci. Kanazawa Univ. Kanazawa University. College of Liberal Arts. Annals of Science. Kanazawa Univ., Kanazawa. ISSN 0302-0479.
§**Ann. Sci. Math. Québec** Annales des Sciences Mathématiques du Québec. Groupe Cherch. Sci. Math., Montreal, QC. ISSN 0707-9109.
§**Ann. Scuola Norm. Sup. Pisa Cl. Sci. (4)** Annali della Scuola Normale Superiore di Pisa. Classe di Scienze. Serie IV. Scuola Norm. Sup., Pisa.
§**Ann. Statist.** The Annals of Statistics. Inst. Math. Statist., Hayward, CA. ISSN 0090-5364.
§**Ann. Univ. Ferrara Sez. VII (N.S.)** Annali dell'Università di Ferrara. Nuova Serie. Sezione VII. Scienze Matematiche. Univ. Ferrara, Ferrara.
§**Ann. Univ. Mariae Curie-Skłodowska Sect. A** Annales Universitatis Mariae Curie-Skłodowska. Sectio A. Mathematica. Uniw. Marii Curie-Skłodowskiej, Lublin. ISSN 0365-1029.
Ann. Univ. Sarav. Ser. Math. Annales Universitatis Saraviensis. Series Mathematicae. Univ. Saarlandes, Saarbrücken. ISSN 0933-8268.
§**Ann. Univ. Sci. Budapest. Eötvös Sect. Math.** Annales Universitatis Scientiarum Budapestinensis de Rolando Eötvös Nominatae. Sectio Mathematica. Eötvös Loránd Univ., Budapest. ISSN 0524-9007.
§**Ann. Univ. Sci. Budapest. Sect. Comput.** Annales Universitatis Scientiarum Budapestinensis de Rolando Eötvös Nominatae. Sectio Computatorica. Eötvös Loránd Univ., Budapest. ISSN 0138-9491.
Ann. Univ. Turku. Ser. A I Annales Universitatis Turkuensis. Series A. I. Astronomica-Chemica-Physica-Mathematica. Univ. Turku, Turku. ISSN 0082-7002.
†**Annu. Rev. Fluid Mech.** Annual Review of Fluid Mechanics. Annual Reviews, Palo Alto, CA. ISSN 0066-4189.
Annuaire Univ. Sofia Fac. Math. Inform. Godishnik na Sofiĭskiya Universitet "Sv. Kliment Okhridski". Fakultet po Matematika i Informatika. Annuaire de l'Université de Sofia "St. Kliment Ohridski". Faculté de Mathématiques et Informatique. Presses Univ. "St. Kliment Ohridski", Sofia. ISSN 0205-0808.
Annuaire Univ. Sofia Fac. Phys. Godishnik na Sofiĭskiya Universitet "Sv. Kliment Okhridski". Fizicheski Fakultet. Annuaire de l'Université de Sofia "St. Kliment Ohridski". Faculté de Physique. Presses Univ. "St. Kliment Ohridski", Sofia. ISSN 0584-0279.
Annual Rep. Fac. Ed. Iwate Univ. Iwate University. Faculty of Education. Annual Report. Iwate Univ., Morioka. ISSN 0367-7370.
†**Annual Rev. Comput. Phys.** Annual Reviews of Computational Physics. World Sci. Publishing, River Edge, NJ.
†**Anu. Filol. Univ. Barc.** Anuari de Filologia (Universitat de Barcelona). [Philology Yearbook (University of Barcelona)] Univ. Barcelona, Barcelona.
†**Anwend.orientier. Stat.** Anwendungsorientierte Statistik. [Applications-Oriented Statistics] Lang, Frankfurt am Main. ISSN 1431-7982.
Anz. Österreich. Akad. Wiss. Math.-Natur. Kl. Österreichische Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse. Anzeiger. Österreich. Akad. Wissensch., Vienna. ISSN 0065-535X.
†**Aportaciones Mat. Comun.** Aportaciones Matemáticas: Comunicaciones. [Mathematical Contributions: Communications] Soc. Mat. Mexicana, México.
†**Aportaciones Mat. Notas Investigación** Aportaciones Matemáticas: Notas de Investigación. [Mathematical Contributions: Research Notes] Soc. Mat. Mexicana, México.
†**Aportaciones Mat. Textos** Aportaciones Matemáticas: Textos. [Mathematical Contributions: Texts] Soc. Mat. Mexicana, México.
§**Appl. Algebra Engrg. Comm. Comput.** Applicable Algebra in Engineering, Communication and Computing. Springer, Heidelberg. ISSN 0938-1279.
§**Appl. Anal.** Applicable Analysis. An International Journal. Gordon and Breach, Yverdon. ISSN 0003-6811.
§**Appl. Categ. Structures** Applied Categorical Structures. A Journal Devoted to Applications of Categorical Methods in Algebra, Analysis, Order, Topology and Computer Science. Kluwer Acad. Publ., Dordrecht. ISSN 0927-2852.
*†**Appl. Comput. Control Signals Circuits** Applied and Computational Control, Signals, and Circuits. Birkhäuser Boston, Boston, MA. ISSN 1522-8363.
§**Appl. Comput. Harmon. Anal.** Applied and Computational Harmonic Analysis. Time-Frequency and Time-Scale Analysis, Wavelets, Numerical Algorithms, and Applications. Academic Press, Orlando, FL. ISSN 1063-5203.
†**Appl. Log. Ser.** Applied Logic Series. Kluwer Acad. Publ., Dordrecht.
†**Appl. Math.** Applications of Mathematics. Springer, New York. ISSN 0172-4568.
§**Appl. Math.** Applications of Mathematics. Acad. Sci. Czech Repub., Prague. ISSN 0862-7940.
§**Appl. Math. Comput.** Applied Mathematics and Computation. North-Holland, New York. ISSN 0096-3003.
Appl. Math. Comput. Sci. Applied Mathematics and Computer Science. Tech. Univ. Press, Zielona Góra. (Continued as *Int. J. Appl. Math. Comput. Sci.*) ISSN 0867-857X.
Appl. Math. J. Chinese Univ. Ser. A and B See *Gaoxiao Yingyong Shuxue Xuebao Ser. A*
Appl. Math. J. Chinese Univ. Ser. B Applied Mathematics. A Journal of Chinese Universities. Ser. B. Zhejiang Univ. Press, Hangzhou. (See also *Gaoxiao Yingyong Shuxue Xuebao Ser. A*) ISSN 1005-1031.
Appl. Math. Lett. Applied Mathematics Letters. An International Journal of Rapid Publication. Pergamon, Exeter. ISSN 0893-9659.
†**Appl. Math. Math. Comput.** Applied Mathematics and Mathematical Computation. Chapman & Hall, London. (Continued as *Appl. Math. Math. Comput.*)
*†**Appl. Math. Math. Comput.** Applied Mathematics and Mathematical Computation. Chapman & Hall/CRC, Boca Raton, FL. (Formerly *Appl. Math. Math. Comput.*)
Appl. Math. Mech. Applied Mathematics and Mechanics. Yingyong Shuxue he Lixue. Chongqing, Chongqing. (Translated in *Appl. Math. Mech. (English Ed.)*) ISSN 1000-0887.
Appl. Math. Mech. (English Ed.) Applied Mathematics and Mechanics. English Edition. Shanghai Univ. Press, Shanghai. (Translation of *Appl. Math. Mech.*) ISSN 0253-4827.
§**Appl. Math. Optim.** Applied Mathematics and Optimization. An International Journal with Applications to Stochastics. Springer, New York. ISSN 0095-4616.
†**Appl. Math. Sci.** Applied Mathematical Sciences. Springer, New York.
§**Appl. Math. (Warsaw)** Applicationes Mathematicae. Polish Acad. Sci., Warsaw. ISSN 1233-7234.
†**Appl. Numer. Harmon. Anal.** Applied and Numerical Harmonic Analysis. Birkhäuser Boston, Boston, MA.
Appl. Numer. Math. Applied Numerical Mathematics. An IMACS Journal. North-Holland, Amsterdam. ISSN 0168-9274.
†**Appl. Optim.** Applied Optimization. Kluwer Acad. Publ., Dordrecht.
Appl. Probab. Index Applied Probability. Complete Author and Subject Index: Journal of Applied Probability and Advances in Applied Probability. Appl. Probab. Trust,

Sheffield.

Appl. Sci. Res. Applied Scientific Research. An International Journal on the Applications of Fluid Dynamics. Kluwer Acad. Publ., Dordrecht. (Continued as *Flow Turbul. Combust.*) ISSN 0003-6994.

Appl. Stochastic Models Data Anal. Applied Stochastic Models and Data Analysis. Wiley, Chichester. ISSN 8755-0024.

†**Approx. Optim.** Approximation & Optimization. Lang, Frankfurt am Main. ISSN 0937-4051.

§**Approx. Theory Appl. (N.S.)** Approximation Theory and its Applications. New Series. Nanjing Univ., Nanjing. ISSN 1000-9221.

*E **APPS Appl. Sci.** APPS. Applied Sciences. Balkan Soc. Geometers, Bucharest.

*†**Appunti Corsi Tenuti Docenti Sc.** Appunti dei Corsi Tenuti da Docenti della Scuola. [Notes of Courses Given by Teachers at the School] Scuola Norm. Sup., Pisa.

Arab Gulf J. Sci. Res. Arab Gulf Journal of Scientific Research. Arab Bureau Ed. Gulf States, Riyadh. ISSN 1015-4442.

§**Arab J. Math. Sci.** Arab Journal of Mathematical Sciences. Saudi Assoc. Math. Sci., Riyadh. ISSN 1319-5166.

Arab. J. Sci. Eng. Sect. A Sci. The Arabian Journal for Science and Engineering. Section A. Sciences. King Fahd Univ. Petroleum Minerals, Dhahran. ISSN 1319-8025.

Arab. J. Sci. Eng. Sect. B Eng. The Arabian Journal for Science and Engineering. Section B. Engineering. King Fahd Univ. Petroleum Minerals, Dhahran. ISSN 1319-8025.

Arab. J. Sci. Eng. Sect. C Theme Issues The Arabian Journal for Science and Engineering. Section C. Theme Issues. King Fahd Univ. Petroleum Minerals, Dhahran. ISSN 0377-9211.

Arabic Sci. Philos. Arabic Sciences and Philosophy. A Historical Journal. Cambridge Univ. Press, New York. ISSN 0957-4239.

†**Arbeitsber. Inst. Math. Masch. Datenverarb. Inform.** Arbeitsberichte des Instituts für Mathematische Maschinen und Datenverarbeitung (Informatik). [Reports of the Institute for Mathematical Machines and Data Processing (Information Science)] Friedrich-Alexander-Univ., Erlangen. ISSN 0344-3515.

Arch. Comput. Methods Engrg. Archives of Computational Methods in Engineering. State of the Art Reviews. Internat. Center Numer. Methods Eng. (CIMNE), Barcelona. ISSN 1134-3060.

Arch. Control Sci. Polish Academy of Sciences. Committee of Automatic Control and Robotics. Archives of Control Sciences. Warsaw Univ. Tech., Warsaw. ISSN 0004-072X.

†**Arch. Corrisp. Sci. Italiani** Archivio della Corrispondenza degli Scienziati Italiani. [Archive of the Correspondence of Italian Scientists] Olschki, Florence.

§**Arch. Hist. Exact Sci.** Archive for History of Exact Sciences. Springer, Berlin. ISSN 0003-9519.

Arch. Internat. Hist. Sci. Archives Internationales d'Histoire des Sciences. Ist. Encicl. Ital., Rome. ISSN 0003-9810.

§**Arch. Math. (Basel)** Archiv der Mathematik. Archives of Mathematics. Archives Mathématiques. Birkhäuser, Basel. ISSN 0003-889X.

§**Arch. Math. (Brno)** Universitatis Masarykianae Brunensis. Facultas Scientiarum Naturalium. Archivum Mathematicum. Masaryk Univ., Brno. ISSN 0044-8753.

§**Arch. Math. Logic** Archive for Mathematical Logic. Springer, Heidelberg. ISSN 0933-5846.

Arch. Mech. (Arch. Mech. Stos.) Polish Academy of Sciences. Institute of Fundamental Technological Research. Archives of Mechanics (Archiwum Mechaniki Stosowanej). Polish Acad. Sci., Warsaw. ISSN 0373-2029.

*§**Arch. Ration. Mech. Anal.** Archive for Rational Mechanics and Analysis. Springer, Heidelberg. (Formerly *Arch. Rational Mech. Anal.*) ISSN 0003-9527.

§**Arch. Rational Mech. Anal.** Archive for Rational Mechanics and Analysis. Springer, Berlin. (Continued as *Arch. Ration. Mech. Anal.*) ISSN 0945-8396.

Archaeoastronomy Archaeoastronomy. Sci. Hist. Publ., Cambridge. ISSN 0142-7253.

Archimede Archimede. Rivista per gli Insegnanti e i Cultori di Matematiche Pure e Applicate. Monnier, Florence. ISSN 0390-5543.

§**Ark. Mat.** Arkiv för Matematik. Inst. Mittag-Leffler, Djursholm. ISSN 0004-2080.

Arkhimedes Arkhimedes. Finn. Phys. Soc., Helsinki. ISSN 0004-1920.

§**Ars Combin.** Ars Combinatoria. Charles Babbage Res. Centre, Winnipeg, MB. (See also *Australas. J. Combin.*) ISSN 0381-7032.

†**Artech House Antenna Lib.** Artech House Antenna Library. Artech House, Boston, MA.

†**Artech House Signal Process. Libr.** The Artech House Signal Processing Library. Artech House, Boston, MA.

†**Artificial Intelligence** Artificial Intelligence. MIT Press, Cambridge, MA.

†**Artificial Intelligence** Artificial Intelligence. Springer, Berlin. ISSN 1431-0066.

Artificial Intelligence Artificial Intelligence. Elsevier, Amsterdam. ISSN 0004-3702.

†**ASA-SIAM Ser. Stat. Appl. Probab.** ASA-SIAM Series on Statistics and Applied Probability. SIAM, Philadelphia, PA.

§**Asian J. Math.** The Asian Journal of Mathematics. Int. Press, Cambridge, MA. ISSN 1093-6106.

*†**Asian Math. Ser.** Asian Mathematics Series. Gordon and Breach, Amsterdam.

†**Aspects Math.** Aspects of Mathematics. Vieweg, Braunschweig. ISSN 0179-2156.

§**Astérisque** Astérisque. Soc. Math. France, Paris. ISSN 0303-1179.

Astron. Nachr. Astronomische Nachrichten. News in Astronomy and Astrophysics. Wiley-VCH, Berlin. ISSN 0004-6337.

†**Astronom. Astrophys. Lib.** Astronomy and Astrophysics Library. Springer, New York.

Astrophys. Space Sci. Astrophysics and Space Science. An International Journal of Astronomy, Astrophysics and Space Science. Kluwer Acad. Publ., Dordrecht. ISSN 0004-640X.

†**Astrophys. Space Sci. Lib.** Astrophysics and Space Science Library. Kluwer Acad. Publ., Dordrecht.

§**Asymptot. Anal.** Asymptotic Analysis. IOS, Amsterdam. ISSN 0921-7134.

Atti Accad. Ligure Sci. Lett. (5) Accademia Ligure di Scienze e Lettere. Atti. Accademia Nazionale Consociata nella Unione Accademica Nazionale. Accad. Ligure Sci. Lett., Genoa. (Continued as *Atti Accad. Ligure Sci. Lett. (6)*) ISSN 1122-651X.

*†**Atti Accad. Ligure Sci. Lett. (6)** Atti della Accademia Ligure di Scienze e Lettere. Serie VI. Accad. Ligure Sci. Lett., Genoa. (Formerly *Atti Accad. Ligure Sci. Lett. (5)*) ISSN 1122-651X.

§**Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) Mat. Appl.** Atti della Accademia Nazionale dei Lincei. Classe di Scienze Fisiche, Matematiche e Naturali. Rendiconti Lincei. Serie IX. Matematica e Applicazioni. Accad. Naz. Lincei, Rome. ISSN 1120-6330.

Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) Suppl. Atti della Accademia Nazionale dei Lincei. Classe di Scienze Fisiche, Matematiche e Naturali. Rendiconti Lincei. Serie IX. Supplemento. Accad. Naz. Lincei, Rome. ISSN 1121-3094.

Atti Accad. Peloritana Pericolanti Cl. Sci. Fis. Mat. Natur. Accademia Peloritana dei Pericolanti. Classe di Scienze, Fisiche, Matematiche e Naturali. Atti. Accad. Pelorit. Pericol., Messina.

Atti Accad. Pontaniana (N.S.) Atti della Accademia Pontaniana. Nuova Serie. Giannini & Figli, Naples. ISSN 1121-9238.

Atti Accad. Sci. Istit. Bologna Cl. Sci. Fis. Rend. (14) Atti della Accademia delle Scienze dell'Istituto di Bologna. Classe di Scienze Fisiche. Rendiconti. Serie XIV. Ist. Bologna, Bologna. ISSN 0365-0057.

Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur. Atti della Accademia delle Scienze di Torino. Classe di Scienze Fisiche, Matematiche e Naturali. Accad. Sci. Torino, Turin. ISSN 0001-4419.

†**Atti Convegni A.I.C.M.** Atti dei Convegni dell'A.I.C.M.. [Proceedings of A.I.C.M. Conferences] Assoc. Insegn. Cultori Mat., Palermo.

§**Atti Sem. Mat. Fis. Univ. Modena** Atti del Seminario Matematico e Fisico dell'Università di Modena. Univ. Modena, Modena. ISSN 0041-8986.

†**Augsbg. Math.-Naturwiss. Schrift.** Augsburger Mathematisch-Naturwissenschaftliche Schriften. [Augsburg Mathematical-Scientific Texts] Wißner, Augsburg.

*†**Aust. Comput. Sci. Commun.** Australian Computer Science Communications. Springer, Singapore. (Formerly *Austral. Comput. Sci. Comm.*)

Aust. N. Z. J. Stat. Australian & New Zealand Journal of Statistics. Blackwell, Oxford. ISSN 1369-1473.

Austral. Comput. Sci. Comm. Australian Computer Science Communications. Univ. Melb., Parkville. (Continued as *Aust. Comput. Sci. Commun.*) ISSN 0157-3055.

Austral. J. Phys. Australian Journal of Physics. CSIRO, Canberra. ISSN 0004-9506.

Austral. Math. Soc. Gaz. The Australian Mathematical Society. Gazette. Austral. Math. Publ. Assoc., Canberra. ISSN 0311-0729.

†**Austral. Math. Soc. Lect. Ser.** Australian Mathematical Society Lecture Series. Cambridge Univ. Press, Cambridge.

§**Australas. J. Combin.** The Australasian Journal of Combinatorics. Univ. Qld., Brisbane. (See also *Ars Combin.*) ISSN 1034-4942.

Automat. Comput. Appl. Math. Automation Computers Applied Mathematics. Scientific Journal. Tech. Univ. Cluj-Napoca, Cluj-Napoca. ISSN 1221-437X.

†**Automat. Reason. Ser.** Automated Reasoning Series. Kluwer Acad. Publ., Dordrecht.

Automat. Remote Control Automation and Remote Control. Consultants Bureau, New York. (Translation of *Avtomat. i Telemekh.*) ISSN 0005-1179.

Automatica J. IFAC Automatica. A Journal of IFAC, the International Federation of Automatic Control. Pergamon, Oxford. ISSN 0005-1098.

Avtomat. i Telemekh. Rossiĭskaya Akademiya Nauk. Avtomatika i Telemekhanika. "Nauka", Moscow. (Translated in *Automat. Remote Control*) ISSN 0005-2310.

Avtomat. i Vychisl. Tekhn. (Minsk) Minskiĭ Radiotekhnicheskiĭ Institut. Avtomatika i Vychislitel'naya Tekhnika. "Vysh. Shkola", Minsk. ISSN 0132-4160.

§**Balkan J. Geom. Appl.** Balkan Journal of Geometry and its Applications. Balkan Soc. Geometers, Bucharest. ISSN 1224-2780.

†**Balkan Soc. Geom. Monogr. Textb.** Balkan Society of Geometers Monographs and Textbooks. Geom. Balkan Press, Bucharest.

†**Banach Center Publ.** Banach Center Publications. Polish Acad. Sci., Warsaw. ISSN 0137-6934.

Baoji Wenli Xueyuan Xuebao Ziran Kexue Ban See *J. Baoji College Arts Sci. Nat. Sci.*

Bayer. Akad. Wiss. Math.-Natur. Kl. Abh. (N.F.) Bayerische Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse. Abhandlungen. Neue Folge. Bayer. Akad. Wiss., Munich. ISSN 0005-6995.

Bayer. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. Bayerische Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse. Sitzungsberichte. Bayer. Akad. Wiss., Munich. ISSN 0340-7586.

Bayer. Akad. Wiss. Philos.-Hist. Kl. Sitzungsber. Bayerische Akademie der Wissenschaften. Philosophisch-Historische Klasse. Sitzungsberichte. Bayer. Akad. Wiss., Munich. ISSN 0342-5991.

§**Bayreuth. Math. Schr.** Bayreuther Mathematische Schriften. Univ. Bayreuth, Bayreuth. ISSN 0172-1062.

Beijing Daxue Xuebao Ziran Kexue Ban Beijing Daxue Xuebao. Ziran Kexue Ban. Beijing University Journal. Natural Sciences Edition. Acta Scientiarum Naturalium Universitatis Pekinensis. Peking Univ. Press, Beijing. ISSN 0479-8023.

Beijing Shifan Daxue Xuebao Beijing Shifan Daxue Xuebao. Ziran Kexue Ban. Journal of Beijing Normal University (Natural Science). J. Beijing Normal Univ. (Nat. Sci.), Editor. Dept., Beijing. ISSN 0476-0301.

Beijing Univ. J. Nat. Sci. Ed. See *Beijing Daxue Xuebao Ziran Kexue Ban*

§**Beiträge Algebra Geom.** Beiträge zur Algebra und Geometrie. Contributions to Algebra and Geometry. Heldermann, Lemgo. ISSN 0138-4821.

Belg. J. Oper. Res. Statist. Comput. Sci. Belgian Journal of Operations Research, Statistics and Computer Science (JORBEL). Sogesci, Brussels. ISSN 0770-0512.

†**Ber. Math.** Berichte aus der Mathematik. [Reports from Mathematics] Shaker, Aachen. ISSN 0945-0882.

Ber. Wiss.gesch. Berichte zur Wissenschaftsgeschichte. Wiley-VCH, Weinheim. ISSN 0170-6233.

†**Bericht** Bericht. [Report] Inst. Computeranwend. Univ. Stuttgart, Stuttgart.

†**Berlin-Brandenburgische Akad. Wiss. Ber. Abh.** Berlin-Brandenburgische Akademie der Wissenschaften. Berichte und Abhandlungen. [Berlin-Brandenburg Academy of

Sciences. Reports and Treatises] Akademie Verlag, Berlin.

†**Berliner Studienreihe Math.** Berliner Studienreihe zur Mathematik. [Berlin Study Series on Mathematics] Heldermann, Lemgo.

§**Bernoulli** Bernoulli. Official Journal of the Bernoulli Society for Mathematical Statistics and Probability. Chapman & Hall, London. (Continued as *Bernoulli*) ISSN 1350-7265.

*§**Bernoulli** Bernoulli. Official Journal of the Bernoulli Society for Mathematical Statistics and Probability. Internat. Statist. Inst., Voorburg. (Formerly *Bernoulli*) ISSN 1350-7265.

†**Bibl. Bibliogr. Ital.** Biblioteca di Bibliografia Italiana. [Library of Italian Bibliography] Olschki, Florence. ISSN 0067-7418.

†**Bibl. Cienc. Esp.** Biblioteca de la Ciencia Española. [Spanish Science Library] Fund. Banco Exter., Madrid.

†**Bibl. Hist. Sci.** Bibliothèque d'Histoire des Sciences. [History of Science Library] Presses Univ. France, Paris.

†**Bibl. Mat.** Библиотека Математика. [Mathematics Library] FAZIS, Moscow.

†**Bibl. Metron** Biblioteca di "Metron". ["Metron" Library] Univ. Studi Roma "La Sapienza", Rome.

†**Bibl. Nuncius Studi Testi** Biblioteca di Nuncius: Studi e Testi. [Nuncius Library: Studies and Texts] Olschki, Florence. ISSN 1122-0910.

*†E **Bibl. R&C Dyn.** Библиотека "R&C Dynamics". [Library "R&C Dynamics"] Izd. Dom "Udmurt. Univ.", Izhevsk.

†**Bibl. Rev. Mat. Iberoamericana** Biblioteca de la Revista Matemática Iberoamericana. [Library of the Revista Matemática Iberoamericana] Rev. Mat. Iberoam., Madrid. ISSN 0213-2230.

†**Bibl. Storia Sci.** Biblioteca di Storia della Scienza. [Library of the History of Science] Olschki, Florence. ISSN 0394-5065.

†**Bibl. Stud.-Mat.** Библиотека Студента-Математика. [Undergraduate Mathematics Library] FAZIS, Moscow.

†**Bibl. Text. Philos.** Bibliothèque des Textes Philosophiques. [Library of Philosophical Texts] Vrin, Paris. ISSN 0249-7972.

Biom. J. Biometrical Journal. Journal of Mathematical Methods in Biosciences. Wiley-VCH, Berlin. ISSN 0323-3847.

Biometrics Biometrics. Journal of the International Biometric Society. Internat. Biometric Soc., Washington, DC. ISSN 0006-341X.

§**Biometrika** Biometrika. Biometrika Trust, London. ISSN 0006-3444.

§**BIT** BIT. Numerical Mathematics. Swets & Zeitlinger, Lisse. ISSN 0006-3835.

†**Boethius Texte Abh. Gesch. Math. Naturwiss.** Boethius: Texte und Abhandlungen zur Geschichte der Mathematik und der Naturwissenschaften. [Boethius: Texts and Essays on the History of Mathematics and the Natural Sciences] Steiner, Stuttgart.

*§**Bol. Acad. Nac. Cienc. (Cordoba)** Boletin de la Academia Nacional de Ciencias. Acad. Nac. Cie., Córdoba. ISSN 0325-2051.

§**Bol. Soc. Brasil. Mat. (N.S.)** Boletim da Sociedade Brasileira de Matemática. Nova Série. Soc. Brasil. Mat., Rio de Janeiro. ISSN 0100-3569.

§**Bol. Soc. Mat. Mexicana (3)** Sociedad Matemática Mexicana. Boletín. Tercera Serie. Soc. Mat. Mexicana, México. ISSN 1405-213X.

§**Bol. Soc. Parana. Mat. (2)** Sociedade Paranaense de Matemática. Boletim. Segunda Série. Editora UFPR, Curitiba. ISSN 0037-8712.

§**Boll. Storia Sci. Mat.** Bollettino di Storia delle Scienze Matematiche. Compositori, Bologna. ISSN 0392-4432.

§**Boll. Un. Mat. Ital. A (7)** Unione Matematica Italiana. Bollettino. A. Serie VII. Zanichelli, Bologna. (Continued as *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult. (8)*)

*§**Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult. (8)** Bolletino della Unione Matematica Italiana. Sezione A. La Matematica nella Società e nella Cultura. Serie VIII. Zanichelli, Bologna. (Formerly *Boll. Un. Mat. Ital. A (7)*)

§**Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat. (8)** Bollettino della Unione Matematica Italiana. Serie VIII. Sezione B. Articoli di Ricerca Matematica. Zanichelli, Bologna.

†**Bolyai Soc. Math. Stud.** Bolyai Society Mathematical Studies. János Bolyai Math. Soc., Budapest. ISSN 1217-4696.

†**Bonner Math. Schriften** Bonner Mathematische Schriften. [Bonn Mathematical Publications] Univ. Bonn, Bonn. ISSN 0524-045X.

†**Boston Stud. Philos. Sci.** Boston Studies in the Philosophy of Science. Kluwer Acad. Publ., Dordrecht.

†**Bradford Book** A Bradford Book. MIT Press, Cambridge, MA.

†**British Acad. Classical Medieval Logic Texts** The British Academy Classical and Medieval Logic Texts. Oxford Univ. Press, Oxford.

British J. Hist. Sci. British Society for the History of Science. British Journal for the History of Science. Cambridge Univ. Press, Cambridge. ISSN 0007-0874.

British J. Math. Statist. Psych. The British Journal of Mathematical and Statistical Psychology. British Psych. Soc., Leicester. ISSN 0007-1102.

British J. Philos. Sci. British Journal for the Philosophy of Science. Oxford Univ. Press, Oxford. ISSN 0007-0882.

†**BSG Proc.** BSG Proceedings. Geom. Balkan Press, Bucharest.

*§**Bul. Acad. Ştiinţe Repub. Mold. Mat.** Buletinul Academiei de Ştiinţe a Republicii Moldova. Matematica. Izvestiya Akademii Nauk Respubliki Moldova. Matematika. Acad. Ştiinţe Repub. Mold. Inst. Mat., Chişinău. (Formerly *Izv. Akad. Nauk Respub. Moldova Mat.*) ISSN 0236-3089.

Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz. Buletinul Institutului Politehnic din Iaşi. Secţia I. Matematică. Mecanică Teoretică. Fizică. Tech. Univ. "Gh. Asachi" Jassy, Iaşi. ISSN 0304-5188.

Bul. Ştiinţ. Inst. Politehn. Cluj-Napoca Ser. Mat. Apl. Mec. Buletinul Ştiinţific al Institutului Politehnic Cluj-Napoca. Seria Matematică Aplicată, Mecanică. Inst. Politehnic, Cluj-Napoca.

§**Bul. Ştiinţ. Univ. Baia Mare Ser. B** Buletinul Ştiinţific al Universităţii din Baia Mare. Seria B. Fascicola Matematică-Informatică. Univ. Baia Mare, Baia Mare. ISSN 1224-3221.

Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz. Buletinul Ştiinţific al Universităţii "Politehnica" din Timişoara. Seria Matematică-Fizică. Univ. Politeh. Timişoara, Timişoara. ISSN 1224-6069.

Bulgar. J. Phys. Bulgarian Journal of Physics. St. Kliment Ohridski Univ. Press, Sofia. ISSN 1310-0157.

Bull. Acad. Sci. People's Republic of Korea See *Cho-sŏn In-min Kong-hwa-kuk Kwa-hak-wŏn T'ong-bo*

§**Bull. Allahabad Math. Soc.** Bulletin of the Allahabad Mathematical Society. Allahabad Math. Soc., Allahabad. ISSN 0971-0493.

§**Bull. Amer. Math. Soc. (N.S.)** American Mathematical Society. Bulletin. New Series. Amer. Math. Soc., Providence, RI. ISSN 0273-0979.

§**Bull. Austral. Math. Soc.** Bulletin of the Australian Mathematical Society. Austral. Math. Publ. Assoc., Canberra. ISSN 0004-9727.

§**Bull. Belg. Math. Soc. Simon Stevin** Bulletin of the Belgian Mathematical Society. Simon Stevin. Soc. Math. Belgique, Brussels. ISSN 1370-1444.

Bull. Biomath. Bulletin of Biomathematics. Chin. Soc. Biomath., Nanjing.

Bull. Calcutta Math. Soc. Bulletin of the Calcutta Mathematical Society. Calcutta Math. Soc., Calcutta. ISSN 0008-0659.

Bull. Central Res. Inst. Fukuoka Univ. Bulletin of Central Research Institute Fukuoka University. Fukuoka Univ., Fukuoka. ISSN 0287-0002.

§**Bull. Cl. Sci. Math. Nat. Sci. Math.** Bulletin. Classe de Sciences, Mathématiques et Naturelles. Sciences Mathématiques. Acad. Serbe Sci. Arts, Belgrade. ISSN 0561-7332.

Bull. College Sci. Univ. Ryukyus University of the Ryukyus. College of Science. Bulletin. Univ. Ryukyus, Okinawa. (Continued as *Bull. Fac. Sci. Univ. Ryukyus*) ISSN 0286-9640.

Bull. Dept. Gen. Ed. College Sci. Tech. Nihon Univ. Bulletin of Department of General Education. College of Science and Technology. Nihon University. Nihon Univ., Tokyo. ISSN 0286-7370.

Bull. Études Orient. Bulletin d'Études Orientales. ISSN 0253-1623.

Bull. Eur. Assoc. Theor. Comput. Sci. EATCS Bulletin of the European Association for Theoretical Computer Science. EATCS. Eur. Assoc. Theor. Comput. Sci., Leiden. ISSN 0252-9742.

Bull. Fac. Ed. Kagoshima Univ. Natur. Sci. Bulletin of the Faculty of Education. Kagoshima University. Natural Science. Kagoshima Univ., Kagoshima. ISSN 0389-6692.

Bull. Fac. Ed. Wakayama Univ. Natur. Sci. Wakayama University. Faculty of Education. Bulletin. Natural Science. Wakayama Univ., Wakayama. ISSN 1342-4645.

*§**Bull. Fac. Educ. Kanazawa Univ. Nat. Sci.** Bulletin of the Faculty of Education. Kanazawa University. Natural Sciences. Kanazawa Univ., Kanazawa. ISSN 0387-0095.

*§**Bull. Fac. Educ. Nagasaki Univ. Nat. Sci.** Bulletin of Faculty of Education. Nagasaki University. Natural Science. Nagasaki Univ., Nagasaki. (Formerly *Sci. Bull. Fac. Ed. Nagasaki Univ.*) ISSN 0386-443X.

Bull. Fac. Educ. Utsunomiya Univ. Sect. 2 Bulletin of the Faculty of Education. Utsunomiya University. Section 2. Utsunomiya Univ., Utsunomiya-shi. ISSN 0385-2415.

Bull. Fac. Eng. Hiroshima Univ. Bulletin of the Faculty of Engineering. Hiroshima University. Hiroshima Univ., Hiroshima. ISSN 0018-2060.

*§**Bull. Fac. Eng. Kyushu Sangyo Univ.** Bulletin of the Faculty of Engineering. Kyushu Sangyo University. Kyushu Sangyo Univ., Fukuoka. ISSN 0286-7826.

Bull. Fac. Gen. Ed. Gifu Univ. Gifu University. Faculty of General Education. Bulletin. Gifu Univ., Gifu. ISSN 0286-3251.

Bull. Fac. Liberal Arts Chukyo Univ. Bulletin of the Faculty of the Liberal Arts. Chukyo University. Soc. Sci. Res., Nagoya. ISSN 0286-7982.

Bull. Fac. Sch. Educ. Hiroshima Univ. Part II Bulletin of the Faculty of School Education Hiroshima University. Part II. Hiroshima Univ., Hiroshima. ISSN 0387-4869.

Bull. Fac. Sci. Alexandria Univ. University of Alexandria. Faculty of Science. Bulletin. Alexandria Univ., Alexandria. ISSN 0568-9619.

Bull. Fac. Sci. Assiut Univ. A Bulletin of the Faculty of Science. Assiut University. A. Physics. Univ. Assiut, Assiut. ISSN 1110-0958.

Bull. Fac. Sci. Assiut Univ. C Bulletin of the Faculty of Science. Assiut University. C. Mathematics. Univ. Assiut, Assiut. ISSN 1110-0958.

*§**Bull. Fac. Sci. Eng. Chuo Univ.** Bulletin of the Faculty of Science and Engineering. Chuo University. Chuo Univ., Tokyo. (Formerly *Bull. Fac. Sci. Engrg. Chuo Univ. Ser. I Math.*) ISSN 0578-2228.

Bull. Fac. Sci. Engrg. Chuo Univ. Ser. I Math. Bulletin of the Faculty of Science and Engineering. Chuo University. Series I. Mathematics. Chuo Univ., Tokyo. (Continued as *Bull. Fac. Sci. Eng. Chuo Univ.*)

*§**Bull. Fac. Sci. Technol. Hirosaki Univ.** Bulletin of the Faculty of Science and Technology. Hirosaki University. Hirosaki Univ., Hirosaki. (Formerly *Sci. Rep. Hirosaki Univ.*) ISSN 1344-2139.

*§**Bull. Fac. Sci. Univ. Ryukyus** Bulletin of the Faculty of Science. University of the Ryukyus. Univ. Ryukyus, Okinawa. (Formerly *Bull. College Sci. Univ. Ryukyus*) ISSN 0286-9640.

Bull. Fukuoka Univ. Ed. III Bulletin of Fukuoka University of Education. Part III. Mathematics, Natural Sciences and Technology. Fukuoka Univ. Education, Fukuoka. ISSN 0532-811X.

Bull. Gen. Ed. Dokkyo Univ. School Medicine Bulletin of General Education. Dokkyo University. School of Medicine. Dokkyo Ika Daigaku Kyoyo Iggaka Kiyo. Dokkyo Univ., Mibu. ISSN 0387-4133.

§**Bull. Greek Math. Soc.** Bulletin of the Greek Mathematical Society. Greek Math. Soc., Athens. ISSN 0072-7466.

§**Bull. Honam Math. Soc.** Honam Mathematical Society. Bulletin. Honam Math. Soc., Kwangju. ISSN 1225-2921.

§**Bull. Hong Kong Math. Soc.** Bulletin of the Hong Kong Mathematical Society. Gordon and Breach, Yverdon. ISSN 1026-2636.

Bull. Inform. Cybernet. Bulletin of Informatics and Cybernetics. Res. Assoc. Statist. Sci., Fukuoka. ISSN 0286-522X.

§**Bull. Inst. Combin. Appl.** Bulletin of the Institute of Combinatorics and its Applications. Inst. Combin. Appl., Winnipeg, MB. ISSN 1183-1278.

§**Bull. Inst. Math. Acad. Sinica** Bulletin of the Institute of Mathematics. Academia Sinica. Acad. Sinica, Taipei. ISSN 0304-9825.
§**Bull. Iranian Math. Soc.** Iranian Mathematical Society. Bulletin. Iranian Math. Soc., Tehran. ISSN 1017-060X.
§**Bull. Korean Math. Soc.** Bulletin of the Korean Mathematical Society. Korean Math. Soc., Seoul. ISSN 1015-8634.
Bull. Koshien Univ. B Bulletin of Koshien University. B. Koshien Univ., Takarazuka-shi. ISSN 0913-5545.
Bull. Kyoto Univ. Ed. Ser. B Bulletin of the Kyoto University of Education. Series B. Mathematics and Natural Science. Kyoto Univ. Education, Kyoto. ISSN 0023-6101.
Bull. Kyushu Inst. Technol. Pure Appl. Math. Bulletin of the Kyushu Institute of Technology. Pure and Applied Mathematics. Kyushu Inst. Tech., Tobata. ISSN 1343-8670.
§**Bull. London Math. Soc.** The Bulletin of the London Mathematical Society. London Math. Soc., London. ISSN 0024-6093.
Bull. Malaysian Math. Soc. (2) Malaysian Mathematical Society. Bulletin. Second Series. Malaysian Math. Soc., Selangor. ISSN 0126-6705.
Bull. Math. Assoc. India Bulletin Mathematical Association of India. Math. Assoc. India, New Delhi.
Bull. Nagoya Inst. Tech. Bulletin of Nagoya Institute of Technology. Nagoya Inst. Tech., Nagoya. ISSN 0918-595X.
Bull. Nara Univ. Ed. Natur. Sci. Bulletin of Nara University of Education. Natural Science. Nara Univ. Ed., Nara. ISSN 0547-2407.
Bull. Osaka Prefect. College Tech. Bulletin of Osaka Prefectural College of Technology. Osaka Prefectural College Tech., Neyagawa. ISSN 0387-365X.
Bull. Osaka Prefect. Univ. Ser. A Eng. Nat. Sci. Bulletin of Osaka Prefecture University. Series A. Engineering and Natural Sciences. Osaka Prefect. Univ., Sakai. ISSN 1342-3258.
§**Bull. Polish Acad. Sci. Math.** Polish Academy of Sciences. Bulletin. Mathematics. Polska Akad. Nauk, Warsaw. ISSN 0239-7269.
§**Bull. Pure Appl. Sci. Sect. E Math. Stat.** Bulletin of Pure & Applied Sciences. Section E. Mathematics and Statistics. Sharma, New Delhi. ISSN 0970-6577.
§**Bull. Sci. Math.** Bulletin des Sciences Mathématiques. Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris. ISSN 0007-4497.
†**Bull. Sci. Ser.** Bulletin's Science Series. Sharma, Delhi.
§**Bull. Sect. Logic Univ. Łódź** University of Łódź. Department of Logic. Bulletin of the Section of Logic. Univ. Łódź, Łódź. ISSN 0138-0680.
Bull. Seismol. Soc. Amer. Bulletin of the Seismological Society of America. Seismol. Soc. Amer., El Cerrito, CA. ISSN 0037-1106.
§**Bull. Soc. Math. Banja Luka** Bulletin of Society of Mathematicians. Banja Luka. Soc. Math. Banja Luka, Banja Luka. ISSN 0354-5792.
§**Bull. Soc. Math. France** Bulletin de la Société Mathématique de France. Soc. Math. France, Marseille. ISSN 0037-9484.
Bull. Soc. Roy. Sci. Liège Bulletin de la Société Royale des Sciences de Liège. Soc. Roy. Sci. Liège, Liège. ISSN 0037-9565.
Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform. Bulletin de la Société des Sciences et des Lettres de Łódź. Série: Recherches sur les Déformations. Łódz. Tow. Nauk., Łódź. ISSN 0459-6854.
Bull. Soc. Vaud. Sci. Nat. Société Vaudoise des Sciences Naturelles. Bulletin. Soc. Vaud. Sci. Natur., Lausanne. ISSN 0037-9603.
Bull. Symbolic Logic The Bulletin of Symbolic Logic. Assoc. Symbol. Logic, Champaign, IL. ISSN 1079-8986.
Bull. Tokyo Gakugei Univ. Sect. IV Math. Nat. Sci. Bulletin of Tokyo Gakugei University. Section IV. Mathematics and Natural Sciences. Tokyo Gakugei Univ., Tokyo. ISSN 1341-1705.
Bull. Transilv. Univ. Braşov Ser. B (N.S.) Transilvania University of Braşov. Bulletin. Series B. New Series. Transilvania Univ. Press, Braşov. ISSN 1223-964X.
Bull. Univ. Electro-Comm. Bulletin of the University of Electro-Communications. Univ. Electro-Comm., Tokyo. ISSN 0915-0935.
Bull. Vijnana Parishad India Vijnana Parishad of India. Bulletin. Vijnana Parishad of India, Orai.
Bull. Yamagata Univ. Natur. Sci. Bulletin of Yamagata University. Natural Science. Yamagata Univ., Yamagata. ISSN 0513-4692.
Bulletin of the Georgian Academy of Sciences Bull. Georgian Acad. Sci.. Georgian Acad. Sci., Tbilisi. ISSN 0132-1447.
Butl. Soc. Catalana Mat. Butlletí de la Societat Catalana de Matemàtiques. Soc. Catalana Mat., Barcelona. ISSN 0214-316X.
C. R. Acad. Bulgare Sci. Dokladi na B$^{\prime\prime}$lgarskata Akademiya na Naukite. Comptes Rendus de l'Académie Bulgare des Sciences. Publ. House Bulgar. Acad. Sci., Sofia. ISSN 0861-1459.
§**C. R. Acad. Sci. Paris Sér. I Math.** Comptes Rendus de l'Académie des Sciences. Série I. Mathématique. Publ. Elsevier, Paris. ISSN 0764-4442.
§**C. R. Math. Acad. Sci. Soc. R. Can.** Comptes Rendus Mathématiques de l'Académie des Sciences. La Société Royale du Canada. Mathematical Reports of the Academy of Science. The Royal Society of Canada. Acad. Sci. R. Soc. Can., Ottawa, ON. ISSN 0706-1994.
Cad. Hist. Filos. Ciênc. (3) Cadernos de História e Filosofia da Ciência. Série 3. Univ. Estad. Campinas, Campinas. ISSN 0101-3424.
†**Cah. Phys.** Cahiers de Physique. [Physics Texts] Presses Polytech. Univ. Romandes, Lausanne.
*¶**Cah. Sémin. Ibn al-Haytham Hist. Math. Arabes** Cahier du Séminaire Ibn al-Haytham sur l'Histoire des Mathématiques Arabes. Assoc. Algér. Hist. Math., Algiers. ISSN 1111-3170.
†**Cahiers Centre Logique** Cahiers du Centre de Logique. [Reports of the Center of Logic] Acad.-Bruylant, Louvain-la-Neuve.
§**Cahiers Topologie Géom. Différentielle Catég.** Cahiers de Topologie et Géométrie Différentielle Catégoriques. Univ. Picardie, Amiens. ISSN 0008-0004.
§**Calc. Var. Partial Differential Equations** Calculus of Variations and Partial Differential Equations. Springer, Heidelberg. ISSN 0944-2669.
§**Calcolo** Calcolo. A Quarterly on Numerical Analysis and Theory of Computation. Ist. Elab. Inform. CNR, Pisa. ISSN 0008-0624.
§**Calcutta Statist. Assoc. Bull.** Calcutta Statistical Association Bulletin. Calcutta Statist. Assoc., Calcutta. ISSN 0008-0683.
†**Camb. Aerosp. Ser.** Cambridge Aerospace Series. Cambridge Univ. Press, Cambridge.
†**Camb. Companions Philos.** Cambridge Companions to Philosophy. Cambridge Univ. Press, Cambridge.
*†**Camb. Contemp. Astrophys.** Cambridge Contemporary Astrophysics. Cambridge Univ. Press, Cambridge.
†**Camb. Monogr. At. Mol. Chem. Phys.** Cambridge Monographs on Atomic, Molecular and Chemical Physics. Cambridge Univ. Press, Cambridge.
†**Camb. Monogr. Part. Phys. Nucl. Phys. Cosmol.** Cambridge Monographs on Particle Physics, Nuclear Physics and Cosmology. Cambridge Univ. Press, Cambridge.
†**Camb. Ser. Stat. Probab. Math.** Cambridge Series in Statistical and Probabilistic Mathematics. Cambridge Univ. Press, Cambridge.
†**Camb. Texts Hist. Philos.** Cambridge Texts in the History of Philosophy. Cambridge Univ. Press, Cambridge.
†**Cambridge Internat. Ser. Parallel Comput.** Cambridge International Series on Parallel Computation. Cambridge Univ. Press, Cambridge.
†**Cambridge Lecture Notes Phys.** Cambridge Lecture Notes in Physics. Cambridge Univ. Press, Cambridge.
†**Cambridge Math. Lib.** Cambridge Mathematical Library. Cambridge Univ. Press, Cambridge.
†**Cambridge Monogr. Appl. Comput. Math.** Cambridge Monographs on Applied and Computational Mathematics. Cambridge Univ. Press, Cambridge.
†**Cambridge Monogr. Math. Phys.** Cambridge Monographs on Mathematical Physics. Cambridge Univ. Press, Cambridge.
†**Cambridge Monogr. Mech.** Cambridge Monographs on Mechanics. Cambridge Univ. Press, Cambridge.
†**Cambridge Nonlinear Sci. Ser.** Cambridge Nonlinear Science Series. Cambridge Univ. Press, Cambridge.
†**Cambridge Stud. Adv. Math.** Cambridge Studies in Advanced Mathematics. Cambridge Univ. Press, Cambridge.
†**Cambridge Stud. Math. Biol.** Cambridge Studies in Mathematical Biology. Cambridge Univ. Press, Cambridge.
†**Cambridge Stud. Philos.** Cambridge Studies in Philosophy. Cambridge Univ. Press, Cambridge.
†**Cambridge Stud. Probab. Induc. Decis. Theory** Cambridge Studies in Probability, Induction, and Decision Theory. Cambridge Univ. Press, Cambridge.
†**Cambridge Texts Appl. Math.** Cambridge Texts in Applied Mathematics. Cambridge Univ. Press, Cambridge.
†**Cambridge Tracts in Math.** Cambridge Tracts in Mathematics. Cambridge Univ. Press, Cambridge.
†**Cambridge Tracts Theoret. Comput. Sci.** Cambridge Tracts in Theoretical Computer Science. Cambridge Univ. Press, Cambridge.
†**Campi Sapere Filos.** Campi del Sapere/Filosofia. [Fields of Knowledge/Philosophy] Feltrinelli, Milan.
§**Canad. Appl. Math. Quart.** The Canadian Applied Mathematics Quarterly. Rocky Mountain Math. Consortium, Tempe, AZ. ISSN 1073-1849.
§**Canad. J. Math.** Canadian Journal of Mathematics. Journal Canadien de Mathématiques. Canadian Math. Soc., Ottawa, ON. ISSN 0008-414X.
Canad. J. Statist. The Canadian Journal of Statistics. La Revue Canadienne de Statistique. Statist. Soc. Canada, Ottawa, ON. ISSN 0319-5724.
§**Canad. Math. Bull.** Canadian Mathematical Bulletin. Bulletin Canadien de Mathématiques. Canadian Math. Soc., Ottawa, ON. ISSN 0008-4395.
†**Canad. Math. Soc. Ser. Monogr. Adv. Texts** Canadian Mathematical Society Series of Monographs and Advanced Texts. Wiley, New York.
§**Caribbean J. Math. Comput. Sci.** Caribbean Journal of Mathematical and Computing Sciences. Univ. West Indies, Bridgetown. ISSN 1017-6764.
†**Carus Math. Monogr.** Carus Mathematical Monographs. Math. Assoc. America, Washington, DC.
*†**Cattedra Galileiana** Cattedra Galileiana. [Galileo Chair] Sc. Norm. Super., Pisa.
†**CBMS Issues Math. Ed.** CBMS Issues in Mathematics Education. Amer. Math. Soc., Providence, RI. ISSN 1047-398X.
*†**CBMS Reg. Conf. Ser. Math.** CBMS Regional Conference Series in Mathematics. Amer. Math. Soc., Providence, RI. (Formerly *CBMS Regional Conf. Ser. in Math.*) ISSN 0160-7642.
†**CBMS Regional Conf. Ser. in Math.** CBMS Regional Conference Series in Mathematics. Conf. Board Math. Sci., Washington, DC. (Continued as *CBMS Reg. Conf. Ser. Math.*)
†**CBMS-NSF Regional Conf. Ser. in Appl. Math.** CBMS-NSF Regional Conference Series in Applied Mathematics. SIAM, Philadelphia, PA.
CC AI CC AI. The Journal for the Integrated Study of Artificial Intelligence, Cognitive Science and Applied Epistemology. Communication and Cognition, Ghent. ISSN 0773-4182.
*†**CEJOR Cent. Eur. J. Oper. Res.** Central European Journal of Operations Research (CEJOR). Physica, Heidelberg. ISSN 1435-246X.
Celestial Mech. Dynam. Astronom. Celestial Mechanics & Dynamical Astronomy. An International Journal of Space Dynamics. Kluwer Acad. Publ., Dordrecht. ISSN 0923-2958.
†**Cent. Phys. Les Houches** Centre de Physique Les Houches. [Physics Center of Les Houches] Springer, Berlin.
Centaurus Centaurus. International Magazine of the History of Mathematics, Science, and Technology. Munksgaard, Copenhagen. ISSN 0008-8994.
*†**Chance** Chance. Springer, New York. ISSN 0933-2480.
Changsha Dianli Xueyuan Xuebao Ziran Kexue Ban See *J. Changsha Univ. Electr. Power Nat. Sci. Ed.*
Changsha Jiaotong Xueyuan Xuebao See *J. Changsha Comm. Univ.*
Chaos Chaos. An Interdisciplinary Journal of Nonlinear Science. Amer. Inst. Phys., Melville, NY. ISSN 1054-1500.

Chaos Solitons Fractals Chaos, Solitons and Fractals. Applications in Science and Engineering.. Pergamon, Oxford. ISSN 0960-0779.
†**Chapman and Hall Math. Ser.** Chapman and Hall Mathematics Series. Chapman and Hall, London.
*†**Chapman & Hall/CRC Monogr. Surv. Pure Appl. Math.** Chapman & Hall/CRC Monographs and Surveys in Pure and Applied Mathematics. Chapman & Hall/CRC, Boca Raton, FL. (Formerly *Pitman Monogr. Surveys Pure Appl. Math.*)
*†**Chapman & Hall/CRC Res. Notes Math.** Chapman & Hall/CRC Research Notes in Mathematics. Chapman & Hall/CRC, Boca Raton, FL. (Formerly *Pitman Res. Notes Math. Ser.*)
*†**Chapman & Hall/CRC Texts Stat. Sci. Ser.** Chapman & Hall/CRC Texts in Statistical Science Series. Chapman & Hall/CRC, Boca Raton, FL.
§E**Chicago J. Theoret. Comput. Sci.** Chicago Journal of Theoretical Computer Science. MIT Press, Cambridge, MA. ISSN 1073-0486.
†**Chicago Lectures in Math.** Chicago Lectures in Mathematics. Univ. Chicago Press, Chicago, IL.
†**Chicago Lectures Phys.** Chicago Lectures in Physics. Univ. Chicago Press, Chicago, IL.
§**Chinese Ann. Math. Ser. A** Chinese Annals of Mathematics. Series A. Shuxue Niankan. Ji A. Shanghai Sci. Tech. Lit., Shanghai. (Translated in *Chinese J. Contemp. Math.*) ISSN 1000-8314.
§**Chinese Ann. Math. Ser. B** Chinese Annals of Mathematics. Series B. Shanghai Sci. Tech. Lit., Shanghai. ISSN 0252-9599.
Chinese Astronom. Astrophys. Chinese Astronomy and Astrophysics. Pergamon, Oxford. (Translation of *Acta Astronom. Sinica* and *Acta Astrophys. Sinica*) ISSN 0275-1062.
Chinese J. Appl. Mech. Chinese Journal of Applied Mechanics. Xi'an Jiaotong Univ., Xi'an. ISSN 1000-4939.
Chinese J. Appl. Probab. Statist. Chinese Journal of Applied Probability and Statistics. Yingyong Gailü Tongji. East China Normal Univ. Press, Shanghai. ISSN 1001-4268.
Chinese J. Comput. Chinese Journal of Computers. Jisuanji Xuebao. ISSN 0254-4164.
Chinese J. Contemp. Math. Chinese Journal of Contemporary Mathematics. Allerton, New York. (Partial translation of *Chinese Ann. Math. Ser. A*) ISSN 0898-5111.
Chinese J. Engrg. Math. See *Gongcheng Shuxue Xuebao*
Chinese J. Numer. Math. Appl. Chinese Journal of Numerical Mathematics and Applications. Allerton, New York. (Partial translation of *J. Numer. Methods Comput. Appl.* and *Math. Numer. Sin.*) ISSN 0899-4358.
Chinese J. Phys. Chinese Journal of Physics. Phys. Soc. Repub. China, Taipei. ISSN 0577-9073.
Chinese Phys. Lett. Chinese Physics Letters. Chinese Phys. Soc., Beijing. ISSN 0256-307X.
Chinese Quart. J. Math. Chinese Quarterly Journal of Mathematics. Shuxue Jikan. Henan Univ. Press, Kaifeng. ISSN 1002-0462.
Chinese Sci. Bull. Chinese Science Bulletin. Sci. China Press, Beijing. (Translation of *Kexue Tongbao* (*Chinese*)) ISSN 1001-6538.
Chittagong Univ. Stud. Part II Sci. Chittagong University Studies. Part II: Science. Univ. Chittagong, Chittagong. ISSN 0253-5459.
Cho-sŏn In-min Kong-hwa-kuk Kwa-hak-wŏn T'ong-bo Cho-sŏn Min-ju-ju-ŭi In-min Kong-hwa-kuk Kwa-hak-wŏn. T'ong-bo. Academy of Science of the People's Republic of Korea. Bulletin. Acad. Sci., P'yŏngyang. ISSN 0366-6662.
†**Chuncui Shuxue yu Yingyong Shuxue Zhuanzhu** Chuncui Shuxue yu Yingyong Shuxue Zhuanzhu. [Series of Monographs in Pure and Applied Mathematics] Kexue Chubanshe (Science Press), Beijing.
Cienc. Mat. (Havana) Revista Ciencias Matemáticas. Univ. Habana, Havana. ISSN 0256-5374.
†**Cienc. Téc.** Ciencia y Técnica. [Science and Technology] Siglo XXI España Ed., Madrid.
Cienc. Tecn. Ciencia y Tecnología. Univ. Costa Rica, San José. ISSN 0378-052X.
†**Ciencia** Ciencia. [Science] Siglo XXI España Ed., Madrid.
Ciencia Ciencia. Univ. del Zulia, Exper. Fac. Sci., Maracaibo. ISSN 1315-2076.
†**Ciencias** Ciencias. [Sciences] Univ. Sevilla, Seville.
Circuits Systems Signal Process. Circuits, Systems, and Signal Processing. Birkhäuser Boston, Cambridge, MA. ISSN 0278-081X.
†**CISM Courses and Lectures** CISM Courses and Lectures. Springer, Vienna.
†**Clarendon Aristotle Ser.** Clarendon Aristotle Series. Oxford Univ. Press, New York. (See also *Oxf. Aristotle Stud.*)
†**Class. Probl. Collect.** Classic Problem Collections. MathPro, Westford, MA.
*†**Class. Rev. Math. Math. Phys.** Classic Reviews in Mathematics and Mathematical Physics. Harwood Academic Publ., Amsterdam. ISSN 1028-0340.
*†**Class. Rev. Phys.** Classic Reviews in Physics. Harwood Academic Publ., Amsterdam. ISSN 1028-0359.
Classical Quantum Gravity Classical and Quantum Gravity. Inst. Phys., Bristol. ISSN 0264-9381.
†**Classical Theoret. Phys.** Classical Theoretical Physics. Springer, New York.
†**Classics Appl. Math.** Classics in Applied Mathematics. SIAM, Philadelphia, PA.
†**Classics Math.** Classics in Mathematics. Springer, Berlin. ISSN 1431-0821.
†**Classics Soviet Math.** Classics of Soviet Mathematics. Gordon and Breach, New York.
†**Classr. Res. Mater. Ser.** Classroom Resource Materials Series. Math. Assoc. America, Washington, DC.
¶**CMP** Current Mathematical Publications. Amer. Math. Soc., Providence, RI. ISSN 0361-4794.
†**CMS Conf. Proc.** CMS Conference Proceedings. Amer. Math. Soc., Providence, RI.
†**Colec. Enrique Pérez Arbeláez** Colección Enrique Pérez Arbeláez. [Enrique Pérez Arbeláez Collection] Acad. Colombiana Cienc. Exact. Fís. Natur., Bogotá.
†**Colec. Mem.** Colección Memorias. [Conference Proceedings Collection] Acad. Colombiana Cienc. Exact. Fís. Natur., Bogotá.
†**Colecc. Congr.** Colección: Congresos. [Conference Collection] Univ. Vigo, Vigo.
†**Colecc. Julio Carrizosa Valenzuela** Colección Julio Carrizosa Valenzuela. [Julio Carrizosa Valenzuela Collection] Acad. Colombiana Cienc. Exact. Fís. Natur., Bogotá.
†**Coll. Logicum Ann. Kurt-Gödel-Soc.** Collegium Logicum. Annals of the Kurt-Gödel-Society. Springer, Vienna. ISSN 0947-577X.
†**Coll. Studi** Collana di Studi. [Studies Collection] Accad. Naz. Sci. Lett. Arti, Modena.
†**Collect. Aléa-Saclay Monogr. Texts Statist. Phys.** Collection Aléa-Saclay: Monographs and Texts in Statistical Physics. Cambridge Univ. Press, Cambridge.
†**Collect. Études** Collection Études. [Studies Collection] Presses Univ. Perpignan, Perpignan.
†**Collect. Hist. Pensée** Collection Histoire de la Pensée. [History of Thought Collection] Hermann, Paris.
†**Collect. Inform.** Collection Informatique. [Data Processing Collection] Presses Polytech. Romandes, Lausanne.
†**Collect. Inform.** Collection Informatique. [Data Processing Collection] Presses Polytech. Univ. Romandes, Lausanne.
*†**Collect. Livrets Exerc.** Collection Livrets d'Exercices. [Collection of Exercise Booklets] Hermann, Paris.
§**Collect. Math.** Universitat de Barcelona. Collectanea Mathematica. Univ. Barcelona, Barcelona. ISSN 0010-0757.
†**Collect. META** Collection META. [META Collection] Presses Polytech. Univ. Romandes, Lausanne.
†**Collect. Méthodes** Collection Méthodes. [Methods Collection] Hermann, Paris.
†**Collect. Sci. Hist.** Collection Sciences dans l'Histoire. [Science in History Collection] Lib. Sci. Tech. Albert Blanchard, Paris. ISSN 1258-0996.
†**Collect. Studies Ser.** Collected Studies Series. Variorum, Aldershot.
†**Collect. Univ. France** Collection des Universités de France. [Collection of the Universities of France] Les Belles Lettres, Paris. ISSN 0184-7155.
†**Collect. Works** Collected Works. Amer. Math. Soc., Providence, RI.
College Math. J. The College Mathematics Journal. Math. Assoc. America, Washington, DC. ISSN 0746-8342.
§**Colloq. Math.** Colloquium Mathematicum. Polish Acad. Sci., Warsaw. ISSN 0010-1354.
†**Colloq. Math. Soc. János Bolyai** Colloquia Mathematica Societatis János Bolyai. North-Holland, Amsterdam. ISSN 0139-3383.
†**Comb. Optim.** Combinatorial Optimization. Kluwer Acad. Publ., Dordrecht.
§**Combin. Probab. Comput.** Combinatorics, Probability and Computing. Cambridge Univ. Press, Cambridge. ISSN 0963-5483.
§**Combinatorica** Combinatorica. An International Journal on Combinatorics and the Theory of Computing. János Bolyai Math. Soc., Budapest. ISSN 0209-9683.
Combust. Theory Model. Combustion Theory and Modelling. Inst. Phys., Bristol. ISSN 1364-7830.
§**Comm. Algebra** Communications in Algebra. Dekker, Monticello, NY. ISSN 0092-7872.
§**Comm. Anal. Geom.** Communications in Analysis and Geometry. Internat. Press, Cambridge, MA. ISSN 1019-8385.
Comm. Anal. Theory Contin. Fractions Communications in the Analytic Theory of Continued Fractions. Univ. Southern Colorado, Pueblo, CO. (Continued as *Commun. Anal. Theory Contin. Fract.*)
§**Comm. Appl. Nonlinear Anal.** Communications on Applied Nonlinear Analysis. Internat. Publ., Orlando, FL. ISSN 1074-133X.
Comm. Cogn. Communication and Cognition. Communication and Cognition, Ghent. ISSN 0378-0880.
†**Comm. Control Engrg. Ser.** Communications and Control Engineering Series. Springer, Berlin.
§**Comm. Math. Phys.** Communications in Mathematical Physics. Springer, Berlin. ISSN 0010-3616.
Comm. Numer. Methods Engrg. Communications in Numerical Methods in Engineering. Wiley, Chichester. ISSN 1069-8299.
§**Comm. Partial Differential Equations** Communications in Partial Differential Equations. Dekker, Monticello, NY. ISSN 0360-5302.
§**Comm. Pure Appl. Math.** Communications on Pure and Applied Mathematics. Wiley, New York. ISSN 0010-3640.
Comm. Statist. Simulation Comput. Communications in Statistics. Simulation and Computation. Dekker, Monticello, NY. ISSN 0361-0918.
§**Comm. Statist. Stochastic Models** Communications in Statistics. Stochastic Models. Dekker, Monticello, NY. ISSN 0882-0287.
Comm. Statist. Theory Methods Communications in Statistics. Theory and Methods. Dekker, Monticello, NY. ISSN 0361-0926.
Comm. Theoret. Phys. (Allahabad) Communications in Theoretical Physics (Allahabad). Allahabad Math. Soc., Allahabad. ISSN 0971-2828.
§**Comment. Math. Helv.** Commentarii Mathematici Helvetici. Birkhäuser, Basel. ISSN 0010-2571.
§**Comment. Math. Prace Mat.** Polskiego Towarzystwa Matematycznego. Roczniki. Seria I. Commentationes Mathematicae. Prace Matematyczne. Polsk. Tow. Mat., Warsaw. ISSN 0373-8299.
§**Comment. Math. Univ. Carolin.** Commentationes Mathematicae Universitatis Carolinae. Charles Univ., Prague. ISSN 0010-2628.
§**Comment. Math. Univ. St. Paul.** Commentarii Mathematici Universitatis Sancti Pauli. Kinokuniya, Tokyo. ISSN 0010-258X.
***Commun. Anal. Theory Contin. Fract.** Communications in the Analytic Theory of Continued Fractions. Mesa State Coll., Grand Junction, CO. (Formerly *Comm. Anal. Theory Contin. Fractions*)
§**Commun. Appl. Anal.** Communications in Applied Analysis. An International Journal for Theory and Applications. Dynamic, Atlanta, GA. ISSN 1083-2564.
*§**Commun. Contemp. Math.** Communications in Contemporary Mathematics. World Sci. Publishing, Singapore. ISSN 0219-1997.
Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat. Communications. Faculty of Sciences. University of Ankara. Séries A1. Mathematics and Statistics. Communications de la Faculté des Sciences de l'Université d'Ankara. Univ. Ankara, Ankara. ISSN 0251-0871.
*†**Commun. Inf. Theory** Communications and Information Theory. Kluwer Acad. Publ., Boston, MA.

§**Commun. Korean Math. Soc.** Korean Mathematical Society. Communications. Korean Math. Soc., Seoul. ISSN 1225-1763.
*§**Commun. Nonlinear Sci. Numer. Simul.** Communications in Nonlinear Science & Numerical Simulation. Peking Univ., Beijing. ISSN 1007-5704.
Commun. Theor. Phys. (Beijing) Communications in Theoretical Physics. Internat. Acad. Publ., Beijing. ISSN 0253-6102.
COMPEL COMPEL. The International Journal for Computation and Mathematics in Electrical and Electronic Engineering. MCB Univ. Press, Bradford. ISSN 0332-1649.
†**Complementi Mat. Indirizzo Didàtt.** Complementi di Matematica per l'Indirizzo Didattico. [Complements of Mathematics for the Teaching Program] Pitagora, Bologna.
†**CompLex** CompLex. TANO, Oslo.
†**Complex Adapt. Systems** Complex Adaptive Systems. MIT Press, Cambridge, MA.
Complex Systems Complex Systems. Complex Systems Publ., Champaign, IL. ISSN 0891-2513.
§**Complex Variables Theory Appl.** Complex Variables. Theory and Application. An International Journal. Gordon and Breach, Yverdon. ISSN 0278-1077.
E**Complex. Int.** Complexity International. An Electronic Journal of Complex Systems Research. Charles Sturt Univ., Albury. ISSN 1320-0682.
Complexity Complexity. Wiley, New York. ISSN 1076-2787.
§**Compositio Math.** Compositio Mathematica. Kluwer Acad. Publ., Dordrecht. ISSN 0010-437X.
Comput. Aided Geom. Design Computer Aided Geometric Design. North-Holland, Amsterdam. ISSN 0167-8396.
*§**Comput. Appl. Math.** Computational and Applied Mathematics. Birkhäuser Boston, Cambridge, MA. (Formerly *Mat. Apl. Comput.*) ISSN 0101-8205.
Comput. Artificial Intelligence Computers and Artificial Intelligence. Slovak Acad. Press, Bratislava. ISSN 0232-0274.
*§**Comput. Assist. Mech. Eng. Sci.** Computer Assisted Mechanics and Engineering Sciences. Polish Acad. Sci., Warsaw. ISSN 1232-308X.
§**Comput. Complexity** Computational Complexity. Birkhäuser, Basel. ISSN 1016-3328.
*†**Comput. Eng.** Computational Engineering. WIT Press/Comput. Mech. Publ., Boston, MA. (Formerly *Internat. Ser. Comput. Engrg.*) ISSN 1460-1419.
Comput. & Fluids Computers & Fluids. An International Journal. Pergamon, Oxford. ISSN 0045-7930.
§**Comput. Geom.** Computational Geometry. Theory and Applications. Elsevier, Amsterdam. ISSN 0925-7721.
*§**Comput. Geosci.** Computational Geosciences. Baltzer, Bussum. ISSN 1420-0597.
†**Comput. Imaging Vision** Computational Imaging and Vision. Kluwer Acad. Publ., Dordrecht.
*†**Comput. Intell.** Computational Intelligence. Vieweg, Braunschweig. ISSN 0949-5665.
Comput. Intelligence Computational Intelligence. An International Journal. Blackwell, Malden, MA. ISSN 0824-7935.
*§**Comput. Linguist.** Computational Linguistics. MIT Press, Cambridge, MA. ISSN 0891-2017.
†**Comput. Math. Anal. Ser.** Computational Mathematics and Analysis Series. Nova Sci. Publ., Commack, NY.
§**Comput. Math. Appl.** Computers & Mathematics with Applications. An International Journal. Pergamon, Oxford. ISSN 0898-1221.
§**Comput. Math. Appl. (Athens)** Hellenic Mathematical Society. Computer Mathematics and its Applications. Hellenic Math. Soc., Athens. ISSN 1106-5281.
Comput. Math. Math. Phys. Computational Mathematics and Mathematical Physics. Pergamon, Oxford. (Continued as *Comput. Math. Math. Phys.*) (Translation of *Zh. Vychisl. Mat. Mat. Fiz.*) ISSN 0965-5425.
*§**Comput. Math. Math. Phys.** Computational Mathematics and Mathematical Physics. MAIK Nauka/Interperiod. Publ., Moscow. (Formerly *Comput. Math. Math. Phys.*) (Translation of *Zh. Vychisl. Mat. Mat. Fiz.*) ISSN 0965-5425.
§**Comput. Math. Model.** Computational Mathematics and Modeling. Consultants Bureau, New York. (Selected translations of Russian language publications) ISSN 1046-283X.
Comput. Math. Organ. Theory Computational & Mathematical Organization Theory. Kluwer Acad. Publ., Norwell, MA. ISSN 1381-298X.
Comput. Mech. Computational Mechanics. Solids, Fluids, Engineered Materials, Aging Infrastructure, Molecular Dynamics, Heat Transfer, Manufacturing Processes, Optimization, Fracture & Integrity. Springer, Berlin. ISSN 0178-7675.
Comput. Methods Appl. Mech. Engrg. Computer Methods in Applied Mechanics and Engineering. North-Holland, Amsterdam. ISSN 0045-7825.
Comput. Oper. Res. Computers & Operations Research and their Application to Problems of World Concern. An International Journal. Pergamon, Exeter. ISSN 0305-0548.
§**Comput. Optim. Appl.** Computational Optimization and Applications. An International Journal. Kluwer Acad. Publ., Hingham, MA. ISSN 0926-6003.
Comput. Phys. Comm. Computer Physics Communications. An International Journal and Program Library for Computational Physics and Physical Chemistry. North-Holland, Amsterdam. ISSN 0010-4655.
Comput. Sci. J. Moldova Academy of Sciences of Moldova. Institute of Mathematics. Computer Science Journal of Moldova. Acad. Sci. Moldova, Inst. Math., Kishinev.
†**Comput. Sci. Sci. Comput.** Computer Science and Scientific Computing. Academic Press, Boston, MA.
Comput. Statist. Computational Statistics. Physica, Heidelberg. ISSN 0943-4062.
Comput. Statist. Data Anal. Computational Statistics & Data Analysis. North-Holland, Amsterdam. ISSN 0167-9473.
Comput. & Structures Computers & Structures. An International Journal. Pergamon, Oxford. ISSN 0045-7949.
†**Comput. Suppl.** Computing. Supplement. Springer, Vienna. ISSN 0344-8029.
§**Computing** Computing. Archives for Scientific Computing. Springer, Vienna. ISSN 0010-485X.
Conceptus Conceptus. Zeitschrift für Philosophie. Academia, Sankt Augustin. ISSN 0010-5155.
*†**Conf. Proc. Theory Comput.** Conference Proceedings on Theory of Computing. ACM, New York.
§**Conf. Semin. Mat. Univ. Bari** Conferenze del Seminario di Matematica dell'Università di Bari. Aracne, Rome.
Configurations Configurations. Johns Hopkins Univ. Press, Baltimore, MD. ISSN 1080-6520.
§E**Conform. Geom. Dyn.** Conformal Geometry and Dynamics. An Electronic Journal of the American Mathematical Society. Amer. Math. Soc., Providence, RI. ISSN 1088-4173.
§**Congr. Numer.** Congressus Numerantium. Utilitas Math., Winnipeg, MB. ISSN 0384-9864.
§**Constr. Approx.** Constructive Approximation. An International Journal for Approximations and Expansions. Springer, New York. ISSN 0176-4276.
§**Constraints** Constraints. An International Journal. Kluwer Acad. Publ., Hingham, MA. ISSN 1383-7133.
†**Contemp. Concepts Phys.** Contemporary Concepts in Physics. Harwood Academic Publ., Chur.
†**Contemp. Math.** Contemporary Mathematics. Amer. Math. Soc., Providence, RI. ISSN 0271-4132.
†**Contemp. Mathematicians** Contemporary Mathematicians. Birkhäuser Boston, Boston, MA.
†**Contests Math.** Contests in Mathematics. MathPro, Westford, MA.
Contin. Mech. Thermodyn. Continuum Mechanics and Thermodynamics. Analysis of Complex Materials and Judicious Evaluation of the Environment. Springer, Berlin. ISSN 0935-1175.
Contrib. Appl. Math. Stat. Contributions to Applied and Mathematical Statistics. Research Journal of Statistics. Gauhati Univ., Guwahati.
†**Contrib. Econom.** Contributions to Economics. Physica, Heidelberg.
†**Contrib. Econom. Anal.** Contributions to Economic Analysis. North-Holland, Amsterdam.
†**Contrib. Statist.** Contributions to Statistics. Physica, Heidelberg.
Control Cybernet. Control and Cybernetics. Polish Acad. Sci., Warsaw. ISSN 0324-8569.
*†**Control Eng.** Control Engineering. Birkhäuser Boston, Boston, MA.
Control Theory Appl. Control Theory & Applications. Kongzhi Lilun yu Yingyong. Control Theory Appl., Editor. Comm., S. China Univ. Tech., Guangzhou. ISSN 1000-8152.
*†**Courant Lect. Notes Math.** Courant Lecture Notes in Mathematics. New York Univ., Courant Inst. Math. Sci., New York.
†**Cours Géom. Fac. Sci.** Cours de Géométrie de la Faculté des Sciences. [Course on Geometry of the Faculty of Science] Éd. Jacques Gabay, Sceaux.
†**Cours Spéc.** Cours Spécialisés. [Specialized Courses] Soc. Math. France, Paris. ISSN 1284-6090.
†**CPHC/BCS Disting. Diss.** CPHC/BCS Distinguished Dissertations. Springer, London.
†**CRC Math. Model. Ser.** CRC Mathematical Modelling Series. CRC, Boca Raton, FL.
*†**CRC Mech. Eng. Ser.** CRC Mechanical Engineering Series. Chapman & Hall/CRC, Boca Raton, FL.
†**CRC Press Ser. Discrete Math. Appl.** CRC Press Series on Discrete Mathematics and its Applications. CRC, Boca Raton, FL.
†**CRC Ser. Comput. Mech. Appl. Anal.** CRC Series in Computational Mechanics and Applied Analysis. CRC, Boca Raton, FL.
†**CRM Monogr. Ser.** CRM Monograph Series. Amer. Math. Soc., Providence, RI. ISSN 1065-8599.
†**CRM Proc. Lecture Notes** CRM Proceedings & Lecture Notes. Amer. Math. Soc., Providence, RI. ISSN 1065-8580.
*†**CRM Ser. Math. Phys.** CRM Series in Mathematical Physics. Springer, New York.
†**CSLI Lecture Notes** CSLI Lecture Notes. CSLI Publ., Stanford, CA.
†**Cuad. UNED** Cuadernos de la UNED. [UNED Books] Univ. Nac. Educ. Distancia, Madrid.
†**Cuadern. Inst. Mat. Beppo Levi** Cuadernos del Instituto de Matemática "Beppo Levi". [Notes of the Beppo Levi Institute of Mathematics] Univ. Nac. Rosario, Rosario.
†**Cult. Sci.** Culture Scientifique. [Scientific Education] Masson, Paris.
†**Cult. Sci.** La Cultura Scientifica. [Scientific Culture] Boringhieri, Turin.
Current Sci. Current Science. Curr. Sci. Assoc., Bangalore. ISSN 0011-3891.
†**Cursos Congr. Univ. Santiago de Compostela** Cursos e Congresos da Universidade de Santiago de Compostela. [Courses and Conferences of the University of Santiago de Compostela] Univ. Santiago de Compostela, Santiago de Compostela.
CWI Quarterly Centrum voor Wiskunde en Informatica. Centre for Mathematics and Computer Science. CWI Quarterly. Centrum Wisk. Inform., Amsterdam. ISSN 0922-5366.
†**CWI Syllabi** CWI Syllabi. Math. Centrum, Centrum Wisk. Inform., Amsterdam.
†**CWI Tract** CWI Tract. Math. Centrum, Centrum Wisk. Inform., Amsterdam.
Cybernet. Systems Anal. Cybernetics and Systems Analysis. Consultants Bureau, New York. (Translation of *Kibernet. Sistem. Anal.*) ISSN 1060-0396.
Cybernetica Cybernetica. Internat. Assoc. Cybernet., Namur. ISSN 0011-4227.
Czechoslovak J. Phys. Czechoslovak Journal of Physics. Acad. Sci. Czech Repub., Prague. ISSN 0011-4626.
§**Czechoslovak Math. J.** Czechoslovak Mathematical Journal. Acad. Sci. Czech Repub., Prague. ISSN 0011-4642.
Dalian Lilong Daxue Xuebao See *J. Dalian Univ. Tech.* and *J. Dalian Univ. Technol.*
*†**Dal'nevost. Mat. Sb.** Dal'nevostochnyĭ Matematicheskiĭ Sbornik. Rossiĭskaya Akademiya Nauk. Dal'nevostochnoe Otdelenie, Institut Prikladnoĭ Matematiki. Dal'nauka, Vladivostok.
*†**David Hume Ser. Philos. Cogn. Sci. Reissues** The David Hume Series of Philosophy and Cognitive Science Reissues. CSLI Publ., Stanford, CA.
†**de Gruyter Exp. Math.** de Gruyter Expositions in Mathematics. de Gruyter, Berlin. ISSN 0938-6572.
*†**de Gruyter Ser. Log. Appl.** de Gruyter Series in Logic and its Applications. de Gruyter, Berlin. ISSN 1438-1893.

†**de Gruyter Ser. Nonlinear Anal. Appl.** de Gruyter Series in Nonlinear Analysis and Applications. de Gruyter, Berlin. ISSN 0941-813X.
†**de Gruyter Stud. Math.** de Gruyter Studies in Mathematics. de Gruyter, Berlin.
†**de Gruyter Textbook** de Gruyter Textbook. de Gruyter, Berlin.
Delta J. Sci. Delta Journal of Science. Univ. Tanta, Tanta. ISSN 1012-5965.
§**Demonstratio Math.** Demonstratio Mathematica. Warsaw Univ. Tech., Warsaw. ISSN 0420-1213.
§**Des. Codes Cryptogr.** Designs, Codes and Cryptography. An International Journal. Kluwer Acad. Publ., Hingham, MA. ISSN 0925-1022.
†**Deutsche Hochschulschrift.** Deutsche Hochschulschriften. [German University Publications] Hänsel-Hohenhausen, Egelsbach.
*†**Dev. Environ. Model.** Developments in Environmental Modelling. Elsevier, Amsterdam.
§**Diagrammes** Diagrammes. Univ. Paris 7—Denis Diderot, Paris. ISSN 0224-3911.
Dialectica Dialectica. International Journal of Philosophy. Soc. Dialectica, Bern. ISSN 0012-2017.
Dialogue Dialogue. Canadian Philosophical Review. Revue Canadienne de Philosophie. Laurier Univ. Press, Waterloo, ON. ISSN 0012-2173.
Dianzi Keji Daxue Xuebao Dianzi Keji Daxue Xuebao. Journal of University of Electronic Science and Technology of China. J. Univ. Electron. Sci. Tech. China, Editor. Dept., Chengdu. ISSN 1001-0548.
*§E**Differ. Geom. Dyn. Syst.** Differential Geometry–Dynamical Systems. Balkan Soc. Geometers, Bucharest. ISSN 1454-511X.
§**Differ. Uravn.** Differentsial'nye Uravneniya. Akad. Nauk Belarusi, Inst. Mat., Minsk. (Translated in *Differential Equations*) ISSN 0374-0641.
Differential Equations Differential Equations. Consultants Bureau, New York. (Translation of *Differ. Uravn.*) ISSN 0012-2661.
§**Differential Equations Dynam. Systems** Differential Equations and Dynamical Systems. An International Journal for Theory and Applications. Res. Sq. Publ., Hyderabad. ISSN 0971-3514.
§**Differential Geom. Appl.** Differential Geometry and its Applications. North-Holland, Amsterdam. ISSN 0926-2245.
§**Differential Integral Equations** Differential and Integral Equations. An International Journal for Theory and Applications. Khayyam, Athens, OH. ISSN 0893-4983.
§**Differentsial'naya Geom. Mnogoobraz. Figur** Differentsial'naya Geometriya Mnogoobraziĭ Figur. Kaliningradskiĭ Gosudarstvennyĭ Universitet. Kaliningrad. Gos. Univ., Kaliningrad. ISSN 0321-4796.
†**DIMACS Ser. Discrete Math. Theoret. Comput. Sci.** DIMACS Series in Discrete Mathematics and Theoretical Computer Science. Amer. Math. Soc., Providence, RI. ISSN 1052-1798.
Dinamika i Prochnost' Mashin Dinamika i Prochnost' Mashin. "Vishcha Shkola", Khar'kov. ISSN 0419-1544.
§**Dinamika Sistem** Nizhegorodskiĭ Gosudavstvennyĭ Universitet. Dinamika Sistem. Izdat. Nizhegorod. Gos. Univ., Nizhniĭ Novgorod.
Dinamika Sploshn. Sredy Rossiĭskaya Akademiya Nauk. Sibirskoe Otdelenie. Institut Gidrodinamiki. Dinamika Sploshnoĭ Sredy. Ross. Akad. Nauk Sibirsk. Otdel., Inst. Gidrodin., Novosibirsk. ISSN 0420-0497.
†**Dir. Chaos** Directions in Chaos. World Sci. Publishing, River Edge, NJ.
*§**Dirasat Eng. Sci.** Dirasat. Engineering Sciences. An International Refereed Research Journal. Univ. Jordan, Amman. (Formerly *Dirasat Nat. Engrg. Sci.*) ISSN 1560-4551.
Dirasat Nat. Engrg. Sci. Dirasat. Natural and Engineering Sciences. An International Refereed Research Journal. Univ. Jordan, Amman. (Continued as *Dirasat Eng. Sci.*) ISSN 1026-3756.
*§**Dirasat Pure Sci.** Dirasat. Pure Sciences. An International Refereed Research Journal. Univ. Jordan, Amman. ISSN 1560-456X.
†**Discourses Math. Appl.** Discourses in Mathematics and its Applications. Texas A & M Univ., College Station, TX.
§**Discrete Appl. Math.** Discrete Applied Mathematics. Combinatorial Algorithms, Optimization and Computer Science. North-Holland, Amsterdam. ISSN 0166-218X.
§**Discrete Comput. Geom.** Discrete & Computational Geometry. An International Journal of Mathematics and Computer Science. Springer, New York. ISSN 0179-5376.
§**Discrete Contin. Dynam. Systems** Discrete and Continuous Dynamical Systems. Southwest Missouri State Univ., Springfield, MO. ISSN 1078-0947.
*§**Discrete Event Dyn. Syst.** Discrete Event Dynamic Systems: Theory and Applications. Kluwer Acad. Publ., Dordrecht. ISSN 0924-6703.
§**Discrete Math.** Discrete Mathematics. North-Holland, Amsterdam. ISSN 0012-365X.
Discrete Math. Appl. Discrete Mathematics and Applications. VSP, Zeist. (Translation of *Diskret. Mat.*) ISSN 0924-9265.
§E**Discrete Math. Theor. Comput. Sci.** Discrete Mathematics and Theoretical Computer Science. Chapman & Hall, London. (Continued as *Discrete Math. Theor. Comput. Sci.*) ISSN 1365-8050.
*§E**Discrete Math. Theor. Comput. Sci.** Discrete Mathematics & Theoretical Computer Science. DMTCS. An Electronic Journal. Maison Inform. Math. Discrèt. (MIMD), Paris. (Formerly *Discrete Math. Theor. Comput. Sci.*) ISSN 1365-8050.
§**Discuss. Math. Algebra Stochastic Methods** Discussiones Mathematicae. Algebra and Stochastic Methods. Tech. Univ. Press, Zielona Góra. ISSN 1234-3080.
§**Discuss. Math. Differential Incl.** Discussiones Mathematicae. Differential Inclusions. Tech. Univ. Press, Zielona Góra. ISSN 1234-3072.
§**Discuss. Math. Graph Theory** Discussiones Mathematicae. Graph Theory. Tech. Univ. Press, Zielona Góra. ISSN 1234-3099.
§**Diskret. Mat.** Diskretnaya Matematika. "Nauka", Moscow. (Translated in *Discrete Math. Appl.*) ISSN 0234-0860.
Diskretn. Anal. Issled. Oper. Ser. 1 Diskretnyĭ Analiz i Issledovanie Operatsiĭ. Seriya 1. Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk.
Diskretn. Anal. Issled. Oper. Ser. 2 Diskretnyĭ Analiz i Issledovanie Operatsiĭ. Seriya 2. Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk.
†**Diss. Math. Univ. Tartu.** Dissertationes Mathematicae Universitatis Tartuensis. Tartu Univ. Press, Tartu. ISSN 1024-4214.
§**Diss. Summ. Math.** Dissertation Summaries in Mathematics. Khayyam, Athens, OH. ISSN 1086-962X.
§**Dissertationes Math. (Rozprawy Mat.)** Dissertationes Mathematicae (Rozprawy Matematyczne). Polish Acad. Sci., Warsaw. ISSN 0012-3862.
†**Disting. Diss. Comput. Sci.** Distinguished Dissertations in Computer Science. Cambridge Univ. Press, Cambridge.
§**Divulg. Mat.** Revista de Matemática de La Universidad del Zulia. Divulgaciones Matemáticas. Univ. Zulia, Maracaibo. ISSN 1315-2068.
†**DLR-Forschungsber.** DLR-Forschungsbericht. [DLR-Research Report] Deutsche Forschungsanst. Luft. Raumfahrt, Cologne. ISSN 0939-2963.
†**DMV Sem.** DMV Seminar. Birkhäuser, Basel.
§E**Doc. Math.** Documenta Mathematica. Doc. Math., Bielefeld. ISSN 1431-0643.
*†**Dok. Österr. Akad. Wiss.** Dokumentation zur Österreichischen Akademie der Wissenschaften. [Documentation on the Austrian Academy of Sciences] Österreich. Akad. Wiss., Vienna.
Dokl. Akad. Nauk Rossiĭskaya Akademiya Nauk. Doklady Akademii Nauk. MAIK "Nauka", Moscow. ISSN 0869-5652.
Dokl. Akad. Nauk Armen. Doklady. Natsional'naya Akademiya Nauk Armenii. Idzat. Nats. Akad. Nauk Armen., Erevan. ISSN 0321-1339.
Dokl. Akad. Nauk Azerbaĭdzhana Doklady. Akademiya Nauk Azerbaĭdzhana. "Èlm", Baku. ISSN 0002-3078.
Dokl. Akad. Nauk Belarusi Doklady Akademii Nauk Belarusi. Izdat. Belarus. Navuka, Minsk. (Continued as *Dokl. Nats. Akad. Nauk Belarusi*) ISSN 0002-354X.
Dokl. Akad. Nauk Respub. Tadzhikistan Akademiya Nauk Respubliki Tadzhikistan. Doklady. "Donish", Dushanbe. ISSN 0002-3469.
*†**Dokl. Nats. Akad. Nauk Belarusi** Doklady Natsional'noĭ Akademii Nauk Belarusi. Izdat. Belarus. Navuka, Minsk. (Formerly *Dokl. Akad. Nauk Belarusi*) ISSN 0002-354X.
Dokl. Phys. Doklady Physics. A Journal of the Russian Academy of Sciences. MAIK Nauka/Interperiod. Publ., Moscow. ISSN 1028-3358.
Dokl. Semin. Inst. Prikl. Mat. im. I. N. Vekua Doklady. Seminar Instituta Prikladnoĭ Matematiki imeni I. N. Vekua. Reports. Seminar of I. Vekua Institute of Applied Mathematics. Izdat. Tbilis. Univ., Tbilisi.
†**Dokumente Gesch. Math.** Dokumente zur Geschichte der Mathematik. [Documents on the History of Mathematics] Deutsche Math. Ver., Freiburg.
†**Dolciani Math. Exp.** The Dolciani Mathematical Expositions. Math. Assoc. America, Washington, DC.
Dongbei Daxue Xuebao Ziran Kexue Ban See *J. Northeast. Univ. Nat. Sci.*
Dongbei Shida Xuebao Dongbei Shida Xuebao. Ziran Kexue Ban. Journal of Northeast Normal University. Natural Sciences Edition. Northeast Norm. Univ., Changchun. ISSN 1000-1832.
Dongbei Shuxue See *Northeast. Math. J.*
Dongnan Daxue Xuebao See *J. Southeast Univ.*
Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki Dopovīdī Natsīonal'noï Akademiï Nauk Ukraïni. Matematika. Prirodoznavstvo. Tekhnīchnī Nauki. Prezid. Nats. Akad. Nauk Ukr., Kiev. ISSN 1025-6415.
§**Duke Math. J.** Duke Mathematical Journal. Duke Univ. Press, Durham, NC. ISSN 0012-7094.
DVT—Dějiny Věd Tech. Dějiny Věd a Techniky. Společnost pro Dějiny Věd a Techniky. Společnost dějiny věd tech., Prague. ISSN 0300-4414.
§**Dynam. Contin. Discrete Impuls. Systems** Dynamics of Continuous, Discrete and Impulsive Systems. An International Journal for Theory and Applications. Watam Press, Waterloo, ON. ISSN 1201-3390.
§**Dynam. Control** Dynamics and Control. An International Journal. Kluwer Acad. Publ., Hingham, MA. ISSN 0925-4668.
†**Dynam. Report. Expositions Dynam. Systems** (N.S.) Dynamics Reported: Expositions in Dynamical Systems (New Series). Springer, Berlin.
Dynam. Stability Systems Dynamics and Stability of Systems. An International Journal. Carfax, Abingdon. ISSN 0268-1110.
§**Dynam. Systems Appl.** Dynamic Systems and Applications. Dynamic, Atlanta, GA. ISSN 1056-2176.
Early Sci. Med. Early Science and Medicine. A Journal for the Study of Science, Technology and Medicine in the Pre-modern Period. Brill, Leiden. ISSN 1383-7427.
§**East J. Approx.** East Journal on Approximations. DARBA, Sofia. ISSN 1310-6236.
*§**East-West J. Math.** East-West Journal of Mathematics. Chiang Mai Univ., Chiang Mai. ISSN 0125-2526.
§**East-West J. Numer. Math.** East-West Journal of Numerical Mathematics. VSP, Zeist. ISSN 0928-0200.
†**Éc. Prat. Ht. Études IV^{e} Sect. Sci. Hist. Philol. V Ht. Études Médiév. Mod.** École Pratique des Hautes Études. IV^{e} Section, Sciences Historiques et Philologiques. V. Hautes Études Médiévales et Modernes. [Practical School of Higher Studies. IVth Section, Historical and Philological Sciences. V. Higher Medieval and Modern Studies] Droz, Geneva. ISSN 0073-0955.
Econom. Comput. Econom. Cybernet. Stud. Res. Economic Computation and Economic Cybernetics Studies and Research. Acad. Econom. Stud., Bucharest. ISSN 0424-267X.
†**Econom. Inf. Age Theory Pract. Meas.** Econometrics in the Information Age: Theory and Practice of Measurement. World Sci. Publishing, River Edge, NJ.
Econom. Lett. Economics Letters. North-Holland, Lausanne. ISSN 0165-1765.
†**Econom. Soc. Monogr.** Econometric Society Monographs. Cambridge Univ. Press, Cambridge.
Econom. Theory Economic Theory. Springer, Heidelberg. ISSN 0938-2259.
†**Econom. Theory Econometrics Math. Econom.** Economic Theory, Econometrics, and Mathematical Economics. Academic Press, San Diego, CA.
Econometric Rev. Econometric Reviews. Dekker, Monticello, NY. ISSN 0747-4938.
Econometric Theory Econometric Theory. Cambridge Univ. Press, New York. ISSN 0266-4666.
Econometrica Econometrica. Journal of the Econometric Society. Econometric Soc., Evanston, IL. ISSN 0012-9682.
*†**Ege Univ. J. Fac. Sci.** Ege University. Journal of the Faculty of Science. Ege Üniv., Bornova. (Formerly *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B*) ISSN 0254-5527.

Egyptian Statist. J. The Egyptian Statistical Journal. Cairo Univ., Inst. Statist. Stud. Research, Cairo. ISSN 0542-1748.
†**Einblicke Wiss.** Einblicke in die Wissenschaft. [Glances at Science] Teubner, Stuttgart.
†**Einstein Stud.** Einstein Studies. Birkhäuser Boston, Boston, MA.
†**Elec. Engrg. Electron.** Electrical Engineering and Electronics. Dekker, New York.
†**Electr. Engrg. Handbook Ser.** The Electrical Engineering Handbook Series. CRC, Boca Raton, FL.
†**Electromagnetism** Electromagnetism. Academic Press, San Diego, CA.
§[E] **Electron. Comm. Probab.** Electronic Communications in Probability. Electron. J. Probab. and Electron. Comm. Probab., Seattle, WA. ISSN 1083-589X.
†**Electron. Eng. Syst. Ser.** Electronic Engineering Systems Series. CRC, Boca Raton, FL.
§[E] **Electron. J. Combin.** Electronic Journal of Combinatorics. Electron. J. Combin., Clemson, SC. ISSN 1077-8926.
*†[E] **Electron. J. Differ. Equ. Conf.** Electronic Journal of Differential Equations Conference. Southwest Texas State Univ., San Marcos, TX.
§[E] **Electron. J. Differential Equations** Electronic Journal of Differential Equations. Southwest Texas State Univ., San Marcos, TX. ISSN 1072-6691.
§[E] **Electron. J. Linear Algebra** Electronic Journal of Linear Algebra. Internat. Linear Algebra Soc. (ILAS), Haifa. ISSN 1081-3810.
§[E] **Electron. J. Probab.** Electronic Journal of Probability. Electron. J. Probab. and Electron. Comm. Probab., Seattle, WA. ISSN 1083-6489.
§[E] **Electron. J. Qual. Theory Differ. Equ.** Electronic Journal of Qualitative Theory of Differential Equations. Electron. J. Qual. Theory Differ. Equ., Szeged. ISSN 1417-3875.
*[E] **Electron. J. SADIO** Electronic Journal of SADIO. The Electronic Journal of the Argentine Society for Informatics and Operations Research (SADIO). Argent. Soc. Inform. Oper. Res. (SADIO), Buenos Aires.
†[E] **Electron. Notes Theor. Comput. Sci.** Electronic Notes in Theoretical Computer Science. Elsevier, Amsterdam.
§[E] **Electron. Res. Announc. Amer. Math. Soc.** Electronic Research Announcements of the American Mathematical Society. Amer. Math. Soc., Providence, RI. ISSN 1079-6762.
*[E] **Electron. Trans. Artif. Intell.** Electronic Transactions on Artificial Intelligence. Linköping Univ. Electron. Press, Linköping. ISSN 1403-3534.
§[E] **Electron. Trans. Numer. Anal.** Electronic Transactions on Numerical Analysis. Kent State Univ. Lib., Kent, OH. ISSN 1068-9613.
§**Elem. Math.** Elemente der Mathematik. Eine Zeitschrift der Schweizerischen Mathematischen Gesellschaft. Une Revue de la Société Mathématique Suisse. Una Rivista della Società Matematica Svizzera. Birkhäuser, Basel. ISSN 0013-6018.
†**Encyclopaedia Math. Sci.** Encyclopaedia of Mathematical Sciences. Springer, Berlin. (Selected translation of *Itogi Nauki i Tekhniki* and *Sovrem. Probl. Mat. Fund. Naprav.*) ISSN 0938-0396.
†**Encyclopedia Math. Appl.** Encyclopedia of Mathematics and its Applications. Cambridge Univ. Press, Cambridge.
*†**Endeavor** Endeavor. Elsevier, Oxford. ISSN 0160-9327.
Engrg. Comput. Engineering Computations. International Journal for Computer-Aided Engineering and Software. MCB Univ. Press, Bradford. ISSN 0264-4401.
Engrg. Trans. Polish Academy of Sciences. Institute of Fundamental Technological Research. Engineering Transactions. Rozprawy Inżynierskie. Polish Acad. Sci., Warsaw. ISSN 0867-888X.
*†**Enrahonar Monogr.** Enrahonar. Monografies. [Enrahonar. Monographs] Univ. Autòn. Barc., Bellaterra (Barcelona).
†**Enseign. Math.** Enseignement des Mathématiques. [The Teaching of Mathematics] Masson, Paris. ISSN 1269-7842.
§**Enseign. Math. (2)** L'Enseignement Mathématique. Revue Internationale. IIe Série. Enseignement Math., Geneva. ISSN 0013-8584.
†**Environ. Fluid Mech.** Environmental Fluid Mechanics. Kluwer Acad. Publ., Dordrecht.
†**Epistemata Würzburg. Wissensch. Schrift. Reihe Philos.** Epistemata. Würzburger Wissenschaftliche Schriften, Reihe Philosophie. [Epistemata. Würzburg Scientific Publications, Series Philosophy] Königshausen & Neumann, Würzburg.
Epsilon Epsilon. Revista de la Sociedad Andaluza de Educación Matemática "Thales". Soc. Andaluza Ed. Mat. "Thales", Seville. ISSN 1131-9321.
†**ERCOFTAC Ser.** ERCOFTAC Series. Kluwer Acad. Publ., Dordrecht.
Erevan. Gos. Univ. Uchen. Zap. Estestv. Nauki Erevanskiĭ Gosudarstvennyĭ Universitet. Uchenye Zapiski. Estestvennye Nauki. Izdat. Erevan. Univ., Erevan. ISSN 0132-0173.
†**Ergeb. Math. Grenzgeb. (3)** Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge. A Series of Modern Surveys in Mathematics. [Results in Mathematics and Related Areas. 3rd Series. A Series of Modern Surveys in Mathematics] Springer, Berlin. ISSN 0071-1136.
§**Ergodic Theory Dynam. Systems** Ergodic Theory and Dynamical Systems. Cambridge Univ. Press, New York. ISSN 0143-3857.
Erkenntnis Erkenntnis. An International Journal of Analytic Philosophy. Kluwer Acad. Publ., Dordrecht. ISSN 0165-0106.
†**Ertel's Collect. Pap.** Ertel's Collected Papers. Interdiv. Comm. Hist. IAGA, Bremen-Rönnebeck.
§[E] **ESAIM Control Optim. Calc. Var.** ESAIM. Control, Optimisation and Calculus of Variations. European Series in Applied and Industrial Mathematics. Soc. Math. Appl. Indust., Paris. ISSN 1292-8119.
§[E] **ESAIM Probab. Statist.** European Series in Applied and Industrial Mathematics. Probability and Statistics. Soc. Math. Appl. Indust., Paris. ISSN 1292-8100.
†**ESAIM Proc.** ESAIM Proceedings. Soc. Math. Appl. Indust., Paris. ISSN 1270-900X.
[E] **Estadíst. Española** Instituto Nacional de Estadística. Estadística Española. Inst. Nac. Estadíst., Madrid. ISSN 0014-1151.
Estadística Estadística. Revista del Instituto Interamericano de Estadística. IASI, Buenos Aires. ISSN 0014-1135.
†**Estudios** Estudios. [Studies] Ed. Univ. Castilla-La Mancha, Cuenca.
*†**Eur. Hochsch.schr. Reihe XI Pädagog.** Europäische Hochschulschriften. Reihe XI. Pädagogik. [European University Studies. Series XI. Education] Lang, Frankfurt am Main. ISSN 0531-7398.
Eur. J. Mech. A Solids European Journal of Mechanics. A. Solids. Éd. Elsevier, Paris. ISSN 0997-7538.
Eur. J. Mech. B Fluids European Journal of Mechanics. B. Fluids. Publ. Elsevier, Paris. ISSN 0997-7546.
Eur. Phys. J. B Condens. Matter Phys. The European Physical Journal. B. Condensed Matter Physics. Springer, Heidelberg. ISSN 1434-6028.
Eur. Phys. J. C Part. Fields The European Physical Journal C. Particles and Fields. Springer, Berlin. ISSN 1434-6044.
Eur. Phys. J. D At. Mol. Opt. Phys. The European Physical Journal. D. Atomic, Molecular and Optical Physics. Springer, Heidelberg. ISSN 1434-6060.
Euromath Bull. Euromath Bulletin. Euro. Math. Trust, Canterbury. ISSN 1359-4346.
†**Europäische Hochschulschrift. Reihe V Volks- Betriebswirtsch.** Europäische Hochschulschriften. Reihe V. Volks- und Betriebswirtschaft. [European University Publications. Series V. Economics and Management] Lang, Frankfurt am Main. ISSN 0531-7339.
†**Europäische Hochschulschrift. Reihe VI Psych.** Europäische Hochschulschriften. Reihe VI. Psychologie. [European University Publications. Series VI. Psychology] Lang, Frankfurt am Main. ISSN 0531-7347.
†**Europäische Hochschulschrift. Reihe XX Philos.** Europäische Hochschulschriften. Reihe XX. Philosophie. [European University Publications. Series XX. Philosophy] Lang, Frankfurt am Main. ISSN 0721-3417.
†**European Consort. Math. Indust.** European Consortium for Mathematics in Industry. Teubner, Stuttgart.
European J. Appl. Math. European Journal of Applied Mathematics. Cambridge Univ. Press, New York. ISSN 0956-7925.
§**European J. Combin.** European Journal of Combinatorics. Academic Press, London. ISSN 0195-6698.
European J. Phys. European Journal of Physics. Inst. Phys., Bristol. ISSN 0143-0807.
Europhys. Lett. Europhysics Letters. European Phys. Soc., Petit-Lancy. ISSN 0295-5075.
†**EUT Report-WSK** EUT Report-WSK. Eindhoven Univ. Tech., Eindhoven. ISSN 0167-9708.
§**Experiment. Math.** Experimental Mathematics. A K Peters, Natick, MA. ISSN 1058-6458.
§**Exposition. Math.** Expositiones Mathematicae. International Journal. Spektrum Akad., Berlin. ISSN 0723-0869.
Extracta Math. Extracta Mathematicae. Univ. Extremadura, Badajoz. ISSN 0213-8743.
*†**Extremes** Extremes. Statistical Theory and Applications in Science, Engineering and Economics. Kluwer Acad. Publ., Hingham, MA. ISSN 1386-1999.
†**Facetten** Facetten. [Facets] Vieweg, Braunschweig.
§**Facta Univ. Ser. Math. Inform.** Facta Universitatis. Series: Mathematics and Informatics. Univ. Niš, Niš. ISSN 0352-9665.
Facta Univ. Ser. Mech. Automat. Control Robot. University of Niš. Facta Universitatis. Series: Mechanics, Automatic Control and Robotics. Univ. Niš, Niš. ISSN 0354-2009.
§**Far East J. Appl. Math.** Far East Journal of Applied Mathematics. Pushpa, Allahabad.
§**Far East J. Math. Sci.** Far East Journal of Mathematical Sciences. Pushpa, Allahabad. (Continued as *Far East J. Math. Sci. (FJMS)*) ISSN 0971-4332.
*§**Far East J. Math. Sci. (FJMS)** Far East Journal of Mathematical Sciences (FJMS). Pushpa, Allahabad. (Formerly *Far East J. Math. Sci.*) ISSN 0972-0871.
*§**Far East J. Theor. Stat.** Far East Journal of Theoretical Statistics. Pushpa, Allahabad. ISSN 0972-0863.
§**Fasc. Math.** Polytechnica Posnaniensis. Institutum Mathematicum. Fasciculi Mathematici. Politech. Poznańska, Poznań. ISSN 0044-4413.
†**Featur. Rev. Math. Rev.** Featured Reviews in Mathematical Reviews. Amer. Math. Soc., Providence, RI. ISSN 1094-3706.
*†**Femmes Math** Femmes & Math. Assoc. Femmes Math., Paris. ISSN 1271-3546.
Few-Body Systems Few-Body Systems. Springer, Vienna. ISSN 0177-7963.
Fibonacci Quart. The Fibonacci Quarterly. The Official Journal of the Fibonacci Association. Fibonacci Assoc., Aurora, SD. ISSN 0015-0517.
†**Fields Inst. Commun.** Fields Institute Communications. Amer. Math. Soc., Providence, RI. ISSN 1069-5265.
†**Fields Inst. Monogr.** Fields Institute Monographs. Amer. Math. Soc., Providence, RI. ISSN 1069-5273.
Filomat Univerzitet u Nišu. Filozofski Fakultet. Filomat. Univ. Niš, Niš. ISSN 0354-5180.
†**Filosofía** Filosofía. [Philosophy] Siglo XXI España Ed., Madrid.
Finite Elem. Anal. Des. Finite Elements in Analysis and Design. The International Journal of Applied Finite Elements and Computer Aided Engineering. Elsevier, Amsterdam. ISSN 0168-874X.
§**Finite Fields Appl.** Finite Fields and their Applications. Academic Press, Orlando, FL. ISSN 1071-5797.
†**First Int. Press Lect. Ser.** First International Press Lecture Series. Internat. Press, Cambridge, MA.
Fiz. Atmos. Okeana Rossiĭskaya Akademiya Nauk. Izvestiya Akademii Nauk. Fizika Atmosfery i Okeana. MAIK "Nauka", Moscow. (Translated in *Izv. Atmos. Ocean. Phys.*) ISSN 0002-3515.
Fiz. Èlementar. Chastits i Atom. Yadra Fizika Èlementarnykh Chastits i Atomnogo Yadra. Ob″ed. Inst. Yadernykh Issled., Moscow. (Translated in *Phys. Particles Nuclei*) ISSN 0367-2026.
Fiz. Zemli Rossiĭskaya Akademiya Nauk. Fizika Zemli. MAIK "Nauka", Moscow. ISSN 0002-3337.
Fiz.-Mat. Spis. Fiziko-Matematichesko Spisanie. Univ. Izdat. "Sv. Kliment Okhridski", Sofia. ISSN 0015-3265.
*†**Flow Turbul. Combust.** Flow, Turbulence and Combustion. An International Journal. Kluwer Acad. Publ., Dordrecht. (Formerly *Appl. Sci. Res.*) ISSN 1386-6184.
Fluid Dynam. Fluid Dynamics. Consultants Bureau, New York. (Translation of *Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza*) ISSN 0015-4628.
Fluid Dynam. Res. Japan Society of Fluid Mechanics. Fluid Dynamics Research. An International Journal. North-Holland, Amsterdam. ISSN 0169-5983.

†**Fluid Mech. Appl.** Fluid Mechanics and its Applications. Kluwer Acad. Publ., Dordrecht.
†**FMDA Abt. I: Texte** Forschungen und Materialien zur Deutschen Aufklärung (FMDA). Abteilung I: Texte. [Research and Materials on the German Enlightenment. Section I: Texts] Frommann-Holzboog, Stuttgart.
†**Focus Comput. Graph.** Focus on Computer Graphics. Springer, Berlin.
†**Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.** Folia Facultatis Scientiarium Naturalium Universitatis Masarykianae Brunensis. Mathematica. Masaryk Univ., Brno.
†**Fond. C.I.M.E.** Fondazione C.I.M.E.. [C.I.M.E. Foundation] C.I.M.E., Florence.
†**Fondations** Fondations. [Foundations] Diderot Editeur, Paris.
†**Form. Aggiorn. Mat. Insegn.** Formazione e Aggiornamento in Matematica degli Insegnanti. [Training and Continuing Education in Mathematics for Teachers] CNR, Rome.
Forma Forma. KTK Scientific, Tokyo. ISSN 0911-6036.
†**Forsch.ergeb. Inform.** Forschungsergebnisse zur Informatik. [Research Results in Informatics] Kovač, Hamburg.
†**Fortran Numer. Recipes** Fortran Numerical Recipes. Cambridge Univ. Press, Cambridge.
Fortschr. Phys. Fortschritte der Physik. Progress of Physics. Wiley-VCH, Berlin. ISSN 0015-8208.
§**Forum Math.** Forum Mathematicum. de Gruyter, Berlin. ISSN 0933-7741.
Found. Comput. Decision Sci. Poznań University of Technology. Institute of Computing Science. Foundations of Computing and Decision Sciences. Poznań Univ. Tech., Poznań. ISSN 0867-6356.
†**Found. Comput. Ser.** Foundations of Computing Series. MIT Press, Cambridge, MA.
†**Found. Eng. Mech.** Foundations of Engineering Mechanics. Springer, Berlin.
Found. Phys. Foundations of Physics. An International Journal Devoted to the Conceptual Bases and Fundamental Theories of Modern Physics, Biophysics, and Cosmology. Kluwer/Plenum, New York. ISSN 0015-9018.
Found. Phys. Lett. Foundations of Physics Letters. Kluwer/Plenum, New York. ISSN 0894-9875.
*†**Found. Sci.** Foundations of Science. Kluwer Acad. Publ., Dordrecht. ISSN 1233-1821.
*§**Fract. Calc. Appl. Anal.** Fractional Calculus & Applied Analysis. An International Journal for Theory and Applications. Bulgarian Acad. Sci., Sofia. ISSN 1311-0454.
Fractals Fractals. Complex Geometry, Patterns, and Scaling in Nature and Society. World Sci. Publishing, Singapore. ISSN 0218-348X.
†**Freibg. Stud. Frühen Neuzeit** Freiburger Studien zur Frühen Neuzeit. [Freiburg Studies on the Early Modern Era] Lang, Bern.
†**Frieling-Erinnerungen** Frieling-Erinnerungen. [Frieling Memoirs] Frieling, Berlin.
*†**Front. Sci.** Frontiers of Science. Perseus, Reading, MA.
†**Frontiers Appl. Math.** Frontiers in Applied Mathematics. SIAM, Philadelphia, PA.
†**Frontiers Artificial Intelligence Appl.** Frontiers in Artificial Intelligence and Applications. IOS, Amsterdam. ISSN 0922-6389.
†**Frontiers Econom. Res.** Frontiers of Economic Research. Princeton Univ. Press, Princeton, NJ.
Fudan Xuebao Ziran Kexue Ban See *J. Fudan Univ. Nat. Sci.*
Fujian Shifan Daxue Xuebao Ziran Kexue Ban Fujian Shifan Daxue Xuebao. Ziran Kexue Ban. Journal of Fujian Teachers University. Natural Science Edition. J. Fujian Teachers Univ., Editor. Dept., Fuzhou. ISSN 1000-5277.
Fukuoka Univ. Sci. Rep. Fukuoka University Science Reports. Fukuoka Univ., Fukuoka. ISSN 0386-118X.
Funct. Anal. Appl. Functional Analysis and its Applications. Consultants Bureau, New York. (Translation of *Funktsional. Anal. i Prilozhen.*) ISSN 0016-2663.
§**Funct. Approx. Comment. Math.** Uniwersytet im. Adama Mickiewicza w Poznaniu. Wydział Matematyki i Informatyki. Functiones et Approximatio Commentarii Mathematici. Mickiewicz Univ. Press, Poznań. ISSN 0208-6573.
§**Funct. Differ. Equ.** Functional Differential Equations. Coll. Judea Samaria, Ariel. ISSN 0793-1786.
§**Fund. Inform.** Fundamenta Informaticae. IOS, Amsterdam. ISSN 0169-2968.
§**Fund. Math.** Fundamenta Mathematicae. Polish Acad. Sci., Warsaw. ISSN 0016-2736.
†**Fund. Theories Phys.** Fundamental Theories of Physics. Kluwer Acad. Publ., Dordrecht.
§**Funkcial. Ekvac.** Fako de l'Funkcialaj Ekvacioj Japana Matematika Societo. Funkcialaj Ekvacioj. Serio Internacia. Math. Soc. Japan, Kobe. ISSN 0532-8721.
§**Funktsional. Anal. i Prilozhen.** Rossiĭskaya Akademiya Nauk. Funktsional'nyĭ Analiz i ego Prilozheniya. "Nauka", Moscow. (Translated in *Funct. Anal. Appl.*) ISSN 0374-1990.
Fuzhou Daxue Xuebao Ziran Kexue Ban See *J. Fuzhou Univ. Nat. Sci. Ed.*
Fuzzy Sets and Systems Fuzzy Sets and Systems. International Journal of Soft Computing and Intelligence. North-Holland, Amsterdam. ISSN 0165-0114.
Fuzzy Systems Math. See *Mohu Xitong yu Shuxue*
Gac. R. Soc. Mat. Esp. La Gaceta de la Real Sociedad Matemática Española. R. Soc. Mat. Esp., Madrid. ISSN 1138-8927.
†**GAKUTO Internat. Ser. Math. Sci. Appl.** GAKUTO International Series. Mathematical Sciences and Applications. Gakkōtosho, Tokyo.
Games Econom. Behav. Games and Economic Behavior. Academic Press, Orlando, FL. ISSN 0899-8256.
GAMM Mitt. Ges. Angew. Math. Mech. Mitteilungen der Gesellschaft für Angewandte Mathematik und Mechanik. WILEY-VCH, Berlin. ISSN 0936-7195.
Ganit Ganit. Journal of Bangladesh Mathematical Society. Bangladesh Math. Soc., Dhaka.
Ganita Ganita. Bharata Ganita Parisad, Dept. Math. Astron., Lucknow Univ., Lucknow. ISSN 0046-5402.
Gaṇita Sandesh Gaṇita Sandesh. Rajasthan Gaṇita Parishad, Ajmer. ISSN 0970-9169.
§**Gaṇita-Bhāratī** Gaṇita-Bhāratī. Indian Society for History of Mathematics. Bulletin. Indian Soc. Hist. Math., Jhansi. ISSN 0970-0307.
Gansu Gongye Daxue Xuebao See *J. Gansu Univ. Technol.*
Gaodeng Xuexiao Jisuan Shuxue Xuebao See *Numer. Math. J. Chinese Univ.*
Gaoneng Wuli yu He Wuli See *High Energy Phys. Nuclear Phys.*
§**Gaoxiao Yingyong Shuxue Xuebao Ser. A** Gaoxiao Yingyong Shuxue Xuebao. Applied Mathematics. A Journal of Chinese Universities. Series A (Chinese Edition). Appl. Math. J. Chinese Univ., Editor. Comm., Hangzhou. (See also *Appl. Math. J. Chinese Univ. Ser. B*) ISSN 1000-4424.
†**Garland Ref. Libr. Soc. Sci.** Garland Reference Library of Social Science. Garland, New York.
Gauss-Ges. Göttingen Mitt. Gauss-Gesellschaft e. V. Göttingen. Mitteilungen. Gauß-Ges., Göttingen.
Gaz. Math. Gazette des Mathématiciens. Soc. Math. France, Paris. ISSN 0224-8999.
†**Gelfand Math. Sem.** The Gelfand Mathematical Seminars. Birkhäuser Boston, Boston, MA. ISSN 1068-7122.
Gen. Relativity Gravitation General Relativity and Gravitation. Kluwer/Plenum, New York. ISSN 0001-7701.
§**Geom. Dedicata** Geometriae Dedicata. Kluwer Acad. Publ., Dordrecht. ISSN 0046-5755.
§**Geom. Funct. Anal.** Geometric and Functional Analysis. Birkhäuser, Basel. ISSN 1016-443X.
§E**Geom. Topol.** Geometry and Topology. Geom. Topol., Coventry. ISSN 1364-0380.
*†E**Geom. Topol. Monogr.** Geometry & Topology Monographs. Geom. Topol., Coventry. ISSN 1464-8997.
Geombinatorics Geombinatorics. Center Excell. Math. Ed., Colorado Springs, CO. ISSN 1065-7371.
Geophys. Astrophys. Fluid Dynam. Geophysical and Astrophysical Fluid Dynamics. Gordon and Breach, Yverdon. ISSN 0309-1929.
§**Georgian Math. J.** Georgian Mathematical Journal. Kluwer/Plenum, New York. ISSN 1072-947X.
†**Gesammelten Werke Math. Phys. Fam. Bernoulli** Die Gesammelten Werke der Mathematiker und Physiker der Familie Bernoulli. [The Collected Works of the Mathematicians and Physicists of the Bernoulli Family] Birkhäuser, Basel.
Gibrid. Vychisl. Mashiny Kompleksy Akademiya Nauk Ukrainy. Gibridnye Vychislitel'nye Mashiny i Kompleksy. "Naukova Dumka", Kiev. ISSN 0207-0111.
Gidromekh. (Kiev) Natsional'naya Akademiya Nauk Ukrainy. Institut Gidromekhaniki. Gidromekhanika. "Naukova Dumka", Kiev. ISSN 0367-4088.
§**Glas. Mat. Ser. III** Glasnik Matematički. Serija III. Croatian Math. Soc., Zagreb. ISSN 0017-095X.
*§**Glasg. Math. J.** Glasgow Mathematical Journal. Cambridge Univ. Press, Cambridge. (Formerly *Glasgow Math. J.*) ISSN 0017-0895.
§**Glasgow Math. J.** Glasgow Mathematical Journal. Oxford Univ. Press, Oxford. (Continued as *Glasg. Math. J.*) ISSN 0017-0895.
*†**GMD Rep.** GMD Report. GMD—Forschungszentrum Informationstech., St. Augustin. ISSN 1435-2702.
†**GMD Res. Ser.** GMD Research Series. GMD—Forschungszentrum Informationstech., St. Augustin. ISSN 1435-2699.
†**GMD-Ber.** GMD-Berichte. [GMD Reports] Oldenbourg, Munich. ISSN 0533-9480.
God. Univ. Arkhit. Stroit. Geod. Sofiya Svit"k II Mat. Mekh. Universitet po Arkhitektura, Stroitelstvo i Geodeziya Sofiya. Godishnik. Svit"k II. Matematika. Mekhanika. L'Universite d'Architecture, de Génie Civil et de Geodesie Sofia. Annuaire. Fascicule II. Mathématique. Mecanique. Univ. Arkh. Stroit. Geod., Sofia.
God. Vissh. Pedagog. Inst. "Konstantin Preslavski" Shumen Prir.-Mat. Fak. B Godishnik na Visshiya Pedagogicheski Institut "Konstantin Preslavski" v Shumen. Prirodo-Matematicheski Fakultet. B. Annual of the Higher Pedagogical Institute "Konstantin Preslavski" in Shoumen. Faculty of Natural Sciences. B. Izdat. VPI Shoumen, Shumen. ISSN 0204-4218.
Godishnik Sofiĭsk. Univ. Fak. Mat. Inform. See *Annuaire Univ. Sofia Fac. Math. Inform.*
Godishnik Sofiĭsk. Univ. Fiz. Fak. See *Annuaire Univ. Sofia Fac. Phys.*
Gongcheng Shuxue Xuebao Gongcheng Shuxue Xuebao. Chinese Journal of Engineering Mathematics. Chinese J. Engrg. Math., Editor. Dept., Xi'an. ISSN 1005-3085.
†**Grad. Stud. Math.** Graduate Studies in Mathematics. Amer. Math. Soc., Providence, RI. ISSN 1065-7339.
†**Grad. Student Ser. Phys.** Graduate Student Series in Physics. Inst. Phys., Bristol.
†**Grad. Texts Comput. Sci.** Graduate Texts in Computer Science. Springer, New York.
†**Grad. Texts Contemp. Phys.** Graduate Texts in Contemporary Physics. Springer, New York.
†**Grad. Texts in Math.** Graduate Texts in Mathematics. Springer, New York.
*†**Grammars** Grammars. A Journal of Mathematical Research on Formal and Natural Languages. Kluwer Acad. Publ., Dordrecht. ISSN 1386-7393.
†**Grands Class. Gauthier-Villars** Les Grands Classiques Gauthier-Villars. [Gauthier-Villars Great Classics] Éd. Jacques Gabay, Paris. ISSN 0989-0602.
*§**Graph Theory Notes N. Y.** Graph Theory Notes of New York. New York Acad. Sci., New York. ISSN 1040-8118.
*†**Graphica** Graphica: the World of Mathematica® Graphics. Wolfram Media, Champaign, IL.
§**Graphs Combin.** Graphs and Combinatorics. Springer, Tokyo. ISSN 0911-0119.
Gravitatsiya i Teor. Otnositel'nosti Kazanskiĭ Gosudarstvennyĭ Universitet. Gravitatsiya i Teoriya Otnositel'nosti. Kazan. Gos. Univ., Kazan'. ISSN 0320-4294.
†**Grazer Math. Ber.** Grazer Mathematische Berichte. [Graz Mathematical Reports] Karl-Franzens-Univ. Graz, Graz. ISSN 1016-7692.
†**Grundlehren Math. Wiss.** Grundlehren der Mathematischen Wissenschaften. [Fundamental Principles of Mathematical Sciences] Springer, New York. ISSN 0072-7830.
*†**Grundstud. Math.** Grundstudium Mathematik. [Basic Study of Mathematics] Birkhäuser, Basel.
*†**Gt. Books Philos.** Great Books in Philosophy. Prometheus, Amherst, NY.
*†**Guangxi Daxue Xuebao Ziran Kexue Ban** See *J. Guangxi Univ. Nat. Sci. Ed.*
Guangxi Sci. Guangxi Sciences. Guangxi Kexue. Guangxi Sci., Editor. Office, Nanning. ISSN 1005-9164.
Guizhou Shifan Daxue Xuebao Ziran Kexue Ban Guizhou Shifan Daxue Xuebao. Ziran Kexue Ban. Journal of Guizhou Normal University. Natural Science. J. Guizhou Normal Univ. (Natur. Sci.), Editor. Dept., Guiyang. ISSN 1004-5570.
Gujarat Statist. Rev. Gujarat Statistical Review. Gujarat Statist. Assoc., Ahmedabad.

Gurukula Kangri Vijñāna Patrikā Āryabhaṭa Gurukula Kangri Vijñāna Patrikā Āryabhaṭa. Gurukula Kangri Vishwavidyalaya, Hardwar.
§**Hacet. Bull. Nat. Sci. Eng. Ser. B** Hacettepe Bulletin of Natural Sciences and Engineering. Series B. Mathematics and Statistics. Hacettepe Univ., Ankara. ISSN 1300-4263.
Hadronic J. Hadronic Journal. Hadronic Press, Palm Harbor, FL. ISSN 0162-5519.
Hadronic J. Suppl. Hadronic Journal Supplement. Hadronic Press, Palm Harbor, FL. ISSN 0882-5394.
†**Hadronic Press Monogr. Math.** Hadronic Press Monographs in Mathematics. Hadronic Press, Palm Harbor, FL.
Hak-sul Chi Kŏn'guk Taehakkyo, Haksul Yŏn'guwon. Hak-sul Chi. The Academic Journal of Kon-Kuk University. Kŏn'guk Univ., Seoul. ISSN 1225-5750.
*†**Handb. Fuzzy Sets Ser.** The Handbooks of Fuzzy Sets Series. Kluwer Acad. Publ., Boston, MA.
†**Handb. Numer. Anal.** Handbook of Numerical Analysis. North-Holland, Amsterdam.
†**Handbook of Statist.** Handbook of Statistics. North-Holland, Amsterdam.
†**Handbooks in Econom.** Handbooks in Economics. North-Holland, Amsterdam.
†**Handbooks Oper. Res. Management Sci.** Handbooks in Operations Research and Management Science. North-Holland, Amsterdam.
Hangzhou Daxue Xuebao See *J. Hangzhou Univ. Natur. Sci. Ed.*
Harbin Gongye Daxue Xuebao See *J. Harbin Inst. Tech.*
§**Hardy-Ramanujan J.** Hardy-Ramanujan Journal. Tata Inst. Fund. Res., Bombay.
Hehai Daxue Xuebao See *J. Hohai Univ.*
Heilongjiang Daxue Ziran Kexue Xuebao Heilongjiang Daxue Ziran Kexue Xuebao. Heilongjiang University. Journal of Natural Science. J. Nat. Sci. Heilongjiang Univ., Editor. Dept., Harbin. ISSN 1001-7011.
†**Helsinki Univ. Tech. Digit. Systems Lab. Ser. A Res. Rep.** Helsinki University of Technology. Digital Systems Laboratory. Series A: Research Reports. Hels. Univ. Technol., Espoo. ISSN 0783-5396.
†**Helsinki Univ. Tech. Inst. Math. Res. Rep.** Helsinki University of Technology. Institute of Mathematics. Research Reports. Helsinki Univ. Tech., Espoo. ISSN 0784-3143.
Helv. Phys. Acta Helvetica Physica Acta. Physica Theoretica. Societatis Physicae Helveticae Commentaria Publica. Birkhäuser, Basel. ISSN 0018-0238.
†**Heuresis V Ling. Log. Sci.** Heuresis V. Linguaggio, Logica, Scienza. [Heuresis V. Language, Logic, Science] CLUEB, Bologna.
High Energy Phys. Nuclear Phys. High Energy Physics and Nuclear Physics. Gaoneng Wuli yu He Wuli. Kexue Chubanshe (Science Press), Beijing. ISSN 0254-3052.
Hiroshima J. Math. Ed. Hiroshima Journal of Mathematics Education. Hiroshima Univ., Hiroshima. ISSN 0919-1720.
§**Hiroshima Math. J.** Hiroshima Mathematical Journal. Hiroshima Univ., Hiroshima. ISSN 0018-2079.
†**Hist. Math.** History of Mathematics. Amer. Math. Soc., Providence, RI.
Hist. Philos. Logic History and Philosophy of Logic. Taylor & Francis, London. ISSN 0144-5340.
†**Hist. Sci.** Histoire des Sciences. [History of Science] Presses Univ. Lille, Villeneuve d'Ascq.
Hist. Sci. History of Science. Sci. Hist. Publ., Cambridge. ISSN 0073-2753.
§**Historia Math.** Historia Mathematica. Academic Press, Orlando, FL. ISSN 0315-0860.
Historia Sci. (2) Historia Scientiarum. Second Series. International Journal of the History of Science Society of Japan. Hist. Sci. Soc. Japan, Tokyo. ISSN 0285-4821.
Hitotsubashi J. Arts Sci. Hitotsubashi Journal of Arts & Sciences. Hitotsubashi Univ., Tokyo. ISSN 0073-2788.
Hiyoshi Rev. Natur. Sci. Keio University. Hiyoshi Review of Natural Science. Keio Univ., Hiyoshi Rev. Publ. Comm., Yokohama. ISSN 0911-7237.
†**Hohenh. Volkswirtsch. Schr.** Hohenheimer Volkswirtschaftliche Schriften. [Hohenheim Writings in Economics] Lang, Frankfurt am Main. ISSN 0721-3085.
§**Hokkaido Math. J.** Hokkaido Mathematical Journal. Hokkaido Univ., Sapporo. ISSN 0385-4035.
*§E**Homology Homotopy Appl.** Homology, Homotopy and Applications. Homology Homotopy Appl., Tbilisi. ISSN 1512-0139.
§**Honam Math. J.** Honam Mathematical Journal. Honam Math. Soc., Kwangju. ISSN 1225-293X.
†**Horwood Ser. Math. Appl.** Horwood Series in Mathematics & Applications. Horwood, Chichester.
§**Houston J. Math.** Houston Journal of Mathematics. Houston J. Math., Houston, TX. ISSN 0362-1588.
Huadong Shifan Daxue Xuebao Ziran Kexue Ban See *J. East China Norm. Univ. Natur. Sci. Ed.*
Huaihua Shizhuan Xuebao Huaihua Shizhuan Xuebao. Journal of Huaihua Teachers College. J. Huaihua Teach. Coll., Editor. Board, Huaihua. ISSN 1007-1814.
Huaqiao Daxue Xuebao Ziran Kexue Ban See *J. Huaqiao Univ. Nat. Sci. Ed.*
Huazhong Ligong Daxue Xuebao See *J. Huazhong Univ. Sci. Tech.*
Huazhong Shifan Daxue Xuebao Ziran Kexue Ban See *J. Central China Normal Univ. Natur. Sci.*
Hunan Ann. Math. Hunan Annals of Mathematics. Hunan Shuxue Niankan. Hunan Math. Soc., Changsha. ISSN 1006-8074.
Hunan Daxue Xuebao Hunan Daxue Xuebao. Ziran Kexue Ban. Journal of Hunan University. Natural Sciences. J. Hunan Univ., Editor. Dept., Changsha. ISSN 1000-2472.
Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue) Hunan Jiaoyu Xueyuan. Xuebao (Ziran Kexue). Hunan Educational Institute. Journal (Natural Sciences). J. Hunan Ed. Inst., Editor. Dept., Changsha. ISSN 1001-6074.
Hunan Shuxue Niankan See *Hunan Ann. Math.*
Hyogo Univ. J. Hyogo University Journal. Hyogo Univ., Kakogawa. ISSN 1342-1646.
IAPQR Trans. IAPQR Transactions. Journal of the Indian Association for Productivity, Quality & Reliability. Indian Assoc. Productivity, Quality and Reliability, Calcutta. ISSN 0970-0102.
†**IAS/Park City Math. Ser.** IAS/Park City Mathematics Series. Amer. Math. Soc., Providence, RI.
†**ICASE/LaRC Interdiscip. Ser. Sci. Eng.** ICASE/LaRC Interdisciplinary Series in Science and Engineering. Kluwer Acad. Publ., Dordrecht.
†**ICTP Ser. Theoret. Phys.** The ICTP Series in Theoretical Physics. World Sci. Publishing, River Edge, NJ. ISSN 0218-0243.
†**Ideas Context** Ideas in Context. Cambridge Univ. Press, Cambridge.
*†**IEE Control Eng. Ser.** IEE Control Engineering Series. IEE, London.
†**IEE Electromagnet. Waves Ser.** IEE Electromagnetic Waves Series. IEE, London.
IEEE Ann. Hist. Comput. IEEE Annals of the History of Computing. IEEE Computer Soc., Los Alamitos, CA. ISSN 1058-6180.
IEEE Trans. Antennas and Propagation Institute of Electrical and Electronics Engineers. Transactions on Antennas and Propagation. IEEE, Piscataway, NJ. ISSN 0018-926X.
IEEE Trans. Automat. Control Institute of Electrical and Electronics Engineers. Transactions on Automatic Control. IEEE, New York. ISSN 0018-9286.
IEEE Trans. Circuits Systems I Fund. Theory Appl. IEEE Transactions on Circuits and Systems. I. Fundamental Theory and Applications. IEEE, Piscataway, NJ. ISSN 1057-7122.
IEEE Trans. Comput. Institute of Electrical and Electronics Engineers. Transactions on Computers. IEEE, Piscataway, NJ. ISSN 0018-9340.
IEEE Trans. Image Process. IEEE Transactions on Image Processing. IEEE, New York. ISSN 1057-7149.
§**IEEE Trans. Inform. Theory** Institute of Electrical and Electronics Engineers. Transactions on Information Theory. IEEE, Piscataway, NJ. ISSN 0018-9448.
IEEE Trans. Signal Process. IEEE Transactions on Signal Processing. IEEE, New York. ISSN 1053-587X.
†**IEEE/OUP Class. Reissue** An IEEE/OUP Classic Reissue. IEEE, New York.
†**IEEE/OUP Ser. Electromagn. Wave Theory** IEEE/OUP Series on Electromagnetic Wave Theory. IEEE, New York.
†**IFAC Proc. Ser.** IFAC Proceedings Series. IFAC, Laxenburg.
†**IFAC Sympos. Ser.** IFAC Symposia Series. Pergamon, Oxford.
†**IFIP State-of-the-Art Rep.** IFIP State-of-the-Art Reports. Springer, Berlin.
§**Illinois J. Math.** Illinois Journal of Mathematics. Univ. Illinois Press, Champaign, IL. ISSN 0019-2082.
§**IMA J. Appl. Math.** IMA Journal of Applied Mathematics. Oxford Univ. Press, Oxford. ISSN 0272-4960.
IMA J. Math. Appl. Bus. Indust. IMA Journal of Mathematics Applied in Business and Industry. Oxford Univ. Press, Oxford. ISSN 0953-0061.
E**IMA J. Math. Control Inform.** IMA Journal of Mathematical Control and Information. Oxford Univ. Press, Oxford. ISSN 0265-0754.
§**IMA J. Numer. Anal.** IMA Journal of Numerical Analysis. Oxford Univ. Press, Oxford. ISSN 0272-4979.
†**IMA Vol. Math. Appl.** The IMA Volumes in Mathematics and its Applications. Springer, New York.
§**IMHOTEP J. Afr. Math. Pures Appl.** IMHOTEP. Journal Africain de Máthematiques Pures et Appliquées. African Journal of Pure and Applied Mathematics. IMHOTEP—Afr. J. Pure Appl. Math., Orléans.
†**IMS Lecture Notes Monogr. Ser.** Institute of Mathematical Statistics Lecture Notes—Monograph Series. Inst. Math. Statist., Hayward, CA.
†**IMS Rep.** IMS Report. Inst. Math. Sci., Madras.
§**Indag. Math. (N.S.)** Koninklijke Nederlandse Akademie van Wetenschappen. Proceedings. Indagationes Mathematicae. New Series. North-Holland, Amsterdam. ISSN 0019-3577.
Indian J. Hist. Sci. Indian Journal of History of Science. Indian Nat. Sci. Acad., New Delhi. ISSN 0019-5235.
§**Indian J. Math.** Indian Journal of Mathematics. Allahabad Math. Soc., Allahabad. ISSN 0019-5324.
Indian J. Pure Appl. Math. Indian Journal of Pure and Applied Mathematics. Indian Nat. Sci. Acad., New Delhi. ISSN 0019-5588.
§**Indiana Univ. Math. J.** Indiana University Mathematics Journal. Indiana Univ., Bloomington, IN. ISSN 0022-2518.
Indust. Math. Industrial Mathematics. Indust. Math. Soc., Roseville, MI. ISSN 0019-8528.
§**Infin. Dimens. Anal. Quantum Probab. Relat. Top.** Infinite Dimensional Analysis, Quantum Probability and Related Topics. World Sci. Publishing, Singapore. ISSN 0219-0257.
§**Inform. and Comput.** Information and Computation. Academic Press, Orlando, FL. ISSN 0890-5401.
Inform. and Control (Shenyang) Information and Control. Xinxi yu Kongzhi. Chinese Automat. Soc., Shenyang. ISSN 1002-0411.
Inform. Process. Lett. Information Processing Letters. Elsevier, Amsterdam. ISSN 0020-0190.
Inform. Sci. Information Sciences. An International Journal. North-Holland, New York. ISSN 0020-0255.
Informatica (Ljubl.) Informatica. An International Journal of Computing and Informatics. Slovene Soc. Inform., Ljubljana. ISSN 0350-5596.
Informatica (Vilnius) Lithuanian Academy of Sciences. Informatica (Vilnius). Lith. Acad. Sci., Inst. Math. Inform., Vilnius. ISSN 0868-4952.
Information Information. An International Interdisciplinary Journal. Int. Info. Inst., Yamaguchi. ISSN 1343-4500.
INFORMS J. Comput. INFORMS Journal on Computing. INFORMS, Linthicum, MD. ISSN 0899-1499.
†**Innov. Appl. Math.** Innovations in Applied Mathematics. Vanderbilt Univ. Press, Nashville, TN.
†**Inst. Élie Cartan** Institut Élie Cartan. Univ. Nancy I, Vandoeuvre-les-Nancy. ISSN 0290-7889.
§**Inst. Hautes Études Sci. Publ. Math.** Institut des Hautes Études Scientifiques. Publications Mathématiques. Presses Univ. France, Paris. ISSN 0073-8301.
†**Inst. Math. Appl. Conf. Ser. New Ser.** The Institute of Mathematics and its Applications Conference Series. New Series. Oxford Univ. Press, New York.
†**Inst. Nonlinear Sci.** Institute for Nonlinear Science. Springer, New York.

Inst. Politehn. Traian Vuia Timişoara Lucrăr. Sem. Mat. Fiz. Institutul Politehnic "Traian Vuia" Timişoara. Lucrările Seminarului de Matematică şi Fizică. Inst. Politehnic "Traian Vuia", Timişoara.

Insurance Math. Econom. Insurance: Mathematics & Economics. North-Holland, Amsterdam. ISSN 0167-6687.

*§**Int. J. Appl. Math.** International Journal of Applied Mathematics. Acad. Publ., Sofia. ISSN 1311-1728.

*§**Int. J. Appl. Math. Comput. Sci.** International Journal of Applied Mathematics and Computer Science. Tech. Univ. Press, Zielona Góra. (Formerly *Appl. Math. Comput. Sci.*) ISSN 0867-857X.

Int. J. Comput. Fluid Dyn. International Journal of Computational Fluid Dynamics. Gordon and Breach, Yverdon. ISSN 1061-8562.

Int. J. Comput. Math. International Journal of Computer Mathematics. Gordon and Breach, Yverdon. ISSN 0020-7160.

Int. J. Fluid Mech. Res. International Journal of Fluid Mechanics Research. Begell, New York. ISSN 1064-2277.

Int. J. Intell. Control Syst. The International Journal of Intelligent Control and Systems. World Sci. Publishing, Singapore. ISSN 0218-7965.

§**Int. J. Math. Game Theory Algebra** International Journal of Mathematics, Game Theory, and Algebra. Nova Sci. Publ., Commack, NY. (Formerly *Nova J. Math. Game Theory Algebra*) ISSN 1060-9881.

*§**Int. J. Math. Math. Sci.** International Journal of Mathematics and Mathematical Sciences. Electron. Publ. House, Stony Brook, NY. (Formerly *Internat. J. Math. Math. Sci.*) ISSN 0161-1712.

§**Int. J. Math. Stat. Sci.** International Journal of Mathematical and Statistical Sciences. Thesaurus, Miami, FL. ISSN 1055-7490.

***Int. J. Theor. Appl. Finance** International Journal of Theoretical and Applied Finance. World Sci. Publishing, Singapore. ISSN 0219-0249.

***Int. J. Theor. Phys. Group Theory Nonlinear Opt.** International Journal of Theoretical Physics, Group Theory, and Nonlinear Optics. Nova Sci. Publ., Commack, NY. (Formerly *Nova J. Theor. Phys.*) ISSN 1070-2458.

*†**Int. Math. Ser.** International Mathematics Series. Addison Wesley Longman, Harlow.

*†**Int. Ser. Adv. Fract. Mech.** International Series on Advances in Fracture Mechanics. Comput. Mech., Southampton. ISSN 1369-7323.

†**Int. Soc. Anal. Appl. Comput.** International Society for Analysis, Applications and Computation. Kluwer Acad. Publ., Dordrecht.

***Int. Trans. Oper. Res.** International Transactions in Operational Research. Pergamon, New York. ISSN 0969-6016.

*†**Integral Equ. Methods Eng.** Integral Equation Methods in Engineering. Integr. Sound Softw., Hebden Bridge.

§**Integral Equations Operator Theory** Integral Equations and Operator Theory. Birkhäuser, Basel. ISSN 0378-620X.

§**Integral Transform. Spec. Funct.** Integral Transforms and Special Functions. An International Journal. Gordon and Breach, Yverdon. ISSN 1065-2469.

†**Interdiscip. Appl. Math.** Interdisciplinary Applied Mathematics. Springer, New York.

Interdiscip. Inform. Sci. Interdisciplinary Information Sciences. Tohoku Univ., Sendai. ISSN 1340-9050.

†**Interf. Ser.** "Interferences" Series. "Al. I. Cuza" Univ. Press, Iaşi.

Internat. Appl. Mech. International Applied Mechanics. Consultants Bureau, New York. (Translation of *Prikl. Mekh.*) ISSN 1063-7095.

Internat. Econom. Rev. International Economic Review. Univ. Pennsylvania, Philadelphia, PA. ISSN 0020-6598.

Internat. J. Adapt. Control Signal Process. International Journal of Adaptive Control and Signal Processing. Wiley, Chichester. ISSN 0890-6327.

§**Internat. J. Algebra Comput.** International Journal of Algebra and Computation. World Sci. Publishing, Singapore. ISSN 0218-1967.

Internat. J. Appl. Sci. Comput. International Journal of Applied Science and Computations. Inst. Appl. Sci. Comput., Charleston, IL. ISSN 1089-0025.

Internat. J. Approx. Reason. International Journal of Approximate Reasoning. North-Holland, New York. ISSN 0888-613X.

Internat. J. Bifur. Chaos Appl. Sci. Engrg. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering. World Sci. Publishing, Singapore. ISSN 0218-1274.

§**Internat. J. Comput. Geom. Appl.** International Journal of Computational Geometry & Applications. World Sci. Publishing, Singapore. ISSN 0218-1959.

Internat. J. Control International Journal of Control. Taylor & Francis, London. ISSN 0020-7179.

Internat. J. Engrg. Sci. International Journal of Engineering Science. Pergamon, Oxford. ISSN 0020-7225.

Internat. J. Game Theory International Journal of Game Theory. Physica, Heidelberg. ISSN 0020-7276.

Internat. J. Gen. Systems International Journal of General Systems. Methodology, Applications, Education. ISSN 0308-1079.

Internat. J. Inform. Management Sci. International Journal of Information and Management Sciences. Tamkang Univ., Tamsui. ISSN 1017-1819.

§**Internat. J. Math.** International Journal of Mathematics. World Sci. Publishing, Singapore. ISSN 0129-167X.

Internat. J. Math. Ed. Sci. Tech. International Journal of Mathematical Education in Science and Technology. Taylor & Francis, London. ISSN 0020-739X.

§**Internat. J. Math. Math. Sci.** International Journal of Mathematics and Mathematical Sciences. Univ. Central Florida, Orlando, FL. (Continued as *Int. J. Math. Math. Sci.*) ISSN 0161-1712.

Internat. J. Modern Phys. A International Journal of Modern Physics A. Particles and Fields. Gravitation. Cosmology. Nuclear Physics. World Sci. Publishing, Singapore. ISSN 0217-751X.

Internat. J. Modern Phys. B International Journal of Modern Physics B. Condensed Matter Physics. Statistical Physics. Applied Physics. World Sci. Publishing, Singapore. ISSN 0217-9792.

Internat. J. Modern Phys. C International Journal of Modern Physics C. Computational Physics. Physical Computation. World Sci. Publishing, Singapore. ISSN 0129-1831.

Internat. J. Modern Phys. D International Journal of Modern Physics. D. Gravitation, Astrophysics, Cosmology. World Sci. Publishing, Singapore. ISSN 0218-2718.

Internat. J. Modern Phys. E International Journal of Modern Physics. E. Nuclear Physics. World Sci. Publishing, Singapore. ISSN 0218-3013.

Internat. J. Non-Linear Mech. International Journal of Non-Linear Mechanics. Pergamon, Exeter. ISSN 0020-7462.

Internat. J. Numer. Methods Engrg. International Journal for Numerical Methods in Engineering. Wiley, Chichester. ISSN 0029-5981.

Internat. J. Numer. Methods Fluids International Journal for Numerical Methods in Fluids. Wiley, Chichester. ISSN 0271-2091.

Internat. J. Numer. Methods Heat Fluid Flow International Journal of Numerical Methods for Heat & Fluid Flow. MCB Univ. Press, Bradford. ISSN 0961-5539.

Internat. J. Robust Nonlinear Control International Journal of Robust and Nonlinear Control. Wiley, Chichester. ISSN 1049-8923.

Internat. J. Solids Structures International Journal of Solids and Structures. Pergamon, Oxford. ISSN 0020-7683.

Internat. J. Theoret. Phys. International Journal of Theoretical Physics. Kluwer/Plenum, New York. ISSN 0020-7748.

Internat. J. Uncertain. Fuzziness Knowledge-Based Systems International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems. World Sci. Publishing, Singapore. ISSN 0218-4885.

¶**Internat. Math. News** International Mathematical News. Österreich. Math. Gesellsch., Vienna. ISSN 0020-7926.

§**Internat. Math. Res. Notices** International Mathematics Research Notices. Duke Univ. Press, Durham, NC. ISSN 1073-7928.

†**Internat. Ser. Comput. Engrg.** International Series on Computational Engineering. Comput. Mech., Southampton. (Continued as *Comput. Eng.*)

†**Internat. Ser. Intell. Tech.** International Series in Intelligent Technologies. Kluwer Acad. Publ., Boston, MA.

†**Internat. Ser. Numer. Math.** International Series of Numerical Mathematics. Birkhäuser, Basel.

†**Internat. Ser. Oper. Res. Management Sci.** International Series in Operations Research & Management Science. Kluwer Acad. Publ., Boston, MA.

Internat. Stud. Philos. Sci. International Studies in the Philosophy of Science. Carfax, Abingdon. ISSN 0269-8595.

†**Internat. Sympos. Econom. Theory Econometrics** International Symposia in Economic Theory and Econometrics. Cambridge Univ. Press, Cambridge.

Internat. Year-Book Game Theory Appl. International Year-Book of Game Theory and Applications. Teoriya Igr i ee Prilozheniya. VO "Nauka", Novosibirsk.

§**Invent. Math.** Inventiones Mathematicae. Springer, Berlin. ISSN 0020-9910.

†**Inverse Ill-posed Probl. Ser.** Inverse and Ill-posed Problems Series. VSP, Utrecht. ISSN 1381-4524.

Inverse Problems Inverse Problems. An International Journal on the Theory and Practice of Inverse Problems, Inverse Methods and Computerized Inversion of Data. Inst. Phys., Bristol. ISSN 0266-5611.

Investigación Oper. Investigación Operacional. Revista. Univ. Habana, Dept. Mat. Apl., Havana. ISSN 0257-4306.

†**IPA Diss. Ser.** IPA Dissertation Series. Eindhoven Univ. Technol., Eindhoven.

Iranian J. Sci. Tech. Iranian Journal of Science and Technology. Shiraz Univ. Press, Shiraz. ISSN 0363-1307.

Irish Math. Soc. Bull. Irish Mathematical Society Bulletin. Irish Math. Soc., Dublin. ISSN 0791-5578.

†**Isaac Newton Inst. Ser. Lectures** The Isaac Newton Institute Series of Lectures. Princeton Univ. Press, Princeton, NJ.

Isis Isis. An International Review Devoted to the History of Science and its Cultural Influences. Univ. Chicago Press, Chicago, IL. ISSN 0021-1753.

†**Islam. Philos. Theol. Sci.** Islamic Philosophy, Theology, and Science. Brill, Leiden. ISSN 0169-8729.

§**Israel J. Math.** Israel Journal of Mathematics. Magnes Press, Jerusalem. ISSN 0021-2172.

†**Israel Math. Conf. Proc.** Israel Mathematical Conference Proceedings. Bar-Ilan Univ., Ramat Gan.

Issled. Operatsiĭ i ASU Kievskiĭ Gosudarstvennyĭ Universitet. Issledovanie Operatsiĭ i ASU. "Lybid'", Kiev. ISSN 0321-2467.

Issled. Prikl. Mat. Kazanskiĭ Universitet. Issledovaniya po Prikladnoĭ Matematike. Izdat. Kazan. Univ., Kazan'. (Translated in *J. Math. Sci. (New York)*) ISSN 0205-8758.

Issled. Teor. Plastin i Obolochek Kazanskiĭ Universitet. Issledovaniya po Teorii Plastin i Obolochek. Kazan. Gos. Univ., Kazan'. ISSN 0578-9575.

İstanbul Tek. Üniv. Bül. İstanbul Teknik Üniversitesi Bülteni. Bulletin of the Technical University of Istanbul. İstanbul Teknik Üniv., Istanbul. ISSN 0368-0355.

§**İstanbul Üniv. Fen Fak. Mat. Derg.** İstanbul Üniversitesi. Fen Fakültesi. Matematik Dergisi. University of Istanbul. Faculty of Science. The Journal of Mathematics. Univ. Istanbul, Istanbul. ISSN 1300-0713.

§**Istit. Lombardo Accad. Sci. Lett. Rend. A** Istituto Lombardo. Accademia di Scienze e Lettere. Rendiconti. Scienze Matematiche e Applicazioni. A. Ist. Lombardo Accad. Sci. Lett., Milan. ISSN 0021-2504.

†**Istit. Ric. Base Ser. Monogr. Adv. Math.** Istituto per la Ricerca di Base. Series of Monographs in Advanced Mathematics. Hadronic Press, Palm Harbor, FL.

Istit. Veneto Sci. Lett. Arti Atti Cl. Sci. Fis. Mat. Natur. Istituto Veneto di Scienze, Lettere ed Arti. Venezia. Atti Classe de Scienze Fisiche, Matematiche e Naturali. Ist. Veneto Sci. Lett. Art., Venice. ISSN 0392-6680.

Istor. Metodol. Estestv. Nauk Istoriya i Metodologiya Estestvennykh Nauk. Moskov. Gos. Univ., Moscow. ISSN 0579-0204.

†**Istor. Nauki Ross. XX Veka** Историки Науки России XX Века. [History of Science in Russia during the XXth Century] "Yanus", Moscow.

†**Istor.-Astronom. Issled.** Историко-Астрономические Исследования. [Research in the History of Astronomy] TOO "Yanus", Moscow. ISSN 0234-8632.

§**Istor.-Mat. Issled.** Istoriko-Matematicheskie Issledovaniya. "Nauka", Moscow. ISSN 0136-0949.

*§**Ital. J. Pure Appl. Math.** Italian Journal of Pure and Applied Mathematics. Forum, Udine. (Formerly *Riv. Mat. Pura Appl.*) ISSN 1126-8042.

†**Itogi Nauki i Tekhniki** Итоги Науки и Техники. [Progress in Science and Technology] Ross. Akad. Nauk, Vseross. Inst. Nauchn. i Tekhn. Inform., Moscow. (Translated in *Encyclopaedia Math. Sci.* and *J. Math. Sci. (New York)*) (See also *Sovrem. Probl. Mat. Fund. Naprav.*)

*†**Iwanami Ser. Mod. Math.** Iwanami Series in Modern Mathematics. Amer. Math. Soc., Providence, RI.

***Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk** Izvestiya Akademii Nauk Azerbaĭdzhana. Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk. Izdat. "Èlm", Baku. ISSN 0002-3108.

Izv. Akad. Nauk Respub. Kyrgyzstan Akademiya Nauk Respubliki Kyrgyzstan. Izvestiya. Fiziko-Tekhnicheskie, Matematicheskie i Gorno-Geologicheskie Nauki. "Ilim", Bishkek. ISSN 0235-0076.

Izv. Akad. Nauk Respub. Moldova Fiz. Tekhn. Akademiya Nauk Respubliki Moldova. Izvestiya. Fizika i Tekhnika. Academia de Ştiinţa Republicii Moldova. Buletinul. Fizica şi Tehnica. "Ştiinţa", Chişinău. ISSN 0236-3097.

§**Izv. Akad. Nauk Respub. Moldova Mat.** Akademiya Nauk Respubliki Moldova. Izvestiya. Matematika. Academia de Ştiinţe a Republicii Moldova. Buletinul. Matematica. "Ştiinţa", Chişinău. (Continued as *Bul. Acad. Ştiinţe Repub. Mold. Mat.*) ISSN 0236-3089.

***Izv. Akad. Nauk Teor. Sist. Upr.** Rossiĭskaya Akademiya Nauk. Izvestiya Akademii Nauk. Teoriya i Sistemy Upravleniya. MAIK "Nauka", Moscow. ISSN 0002-3388.

Izv. Atmos. Ocean. Phys. Izvestiya, Atmospheric and Oceanic Physics. MAIK Nauka/Interperiod. Publ., Moscow. (Translation of *Fiz. Atmos. Okeana*) ISSN 0001-4338.

Izv. Math. Izvestiya. Mathematics. Presidium Russ. Acad. Sci., Moscow. (Translation of *Izv. Ross. Akad. Nauk Ser. Mat.*) ISSN 1064-5632.

Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat. Izvestiya Ministerstva Nauki–Akademii Nauk Respubliki Kazakhstan. Seriya Fiziko-Matematicheskaya. "Gylym", Almaty. ISSN 0002-3191.

Izv. Nats. Akad. Nauk Armen. Mekh. Izvestiya Natsional'noĭ Akademii Nauk Armenii. Mekhanika. Idzat. Nats. Akad. Nauk Armen., Erevan. ISSN 0002-3051.

§**Izv. Nats. Akad. Nauk Armenii Mat.** Natsional'naya Akademiya Nauk Armenii. Izvestiya. Matematika. Idzat. Nats. Akad. Nauk Armen., Erevan. (Translated in *J. Contemp. Math. Anal.*) ISSN 0002-3043.

Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza Rossiĭskaya Akademiya Nauk. Izvestiya. Mekhanika Zhidkosti i Gaza. "Nauka", Moscow. (Translated in *Fluid Dynam.*) ISSN 0568-5281.

§**Izv. Ross. Akad. Nauk Ser. Mat.** Rossiĭskaya Akademiya Nauk. Izvestiya. Seriya Matematicheskaya. "Nauka", Moscow. (Translated in *Izv. Math.*) ISSN 0373-2436.

Izv. Vyssh. Uchebn. Zaved. Fiz. Izvestiya Vysshikh Uchebnykh Zavedeniĭ. Fizika. Izd. Tomsk. Gosuniv., Tomsk. (Translated in *Russian Phys. J.*) ISSN 0021-3411.

§**Izv. Vyssh. Uchebn. Zaved. Mat.** Izvestiya Vysshikh Uchebnykh Zavedeniĭ. Matematika. "Fort Dialog", Kazan'. (Continued as *Izv. Vyssh. Uchebn. Zaved. Mat.*) (Translated in *Russian Math. (Iz. VUZ)*) ISSN 0021-3446.

*§**Izv. Vyssh. Uchebn. Zaved. Mat.** Izvestiya Vysshikh Uchebnykh Zavedeniĭ. Matematika. Kazanskiĭ Gosudarstvennyĭ Universitet. Izdat. "UNIPRESS", Kazan'. (Formerly *Izv. Vyssh. Uchebn. Zaved. Mat.*) (Translated in *Russian Math. (Iz. VUZ)*) ISSN 0021-3446.

Izv. Vyssh. Uchebn. Zaved. Prikl. Nelineĭn. Dinamika Izvestiya Vysshikh Uchebnykh Zavedeniĭ. Prikladnaya Nelineĭnaya Dinamika. Saratov. Gos. Univ., Saratov. ISSN 0869-6632.

Izv. Vyssh. Uchebn. Zaved. Radiofiz. Izvestiya Vysshikh Uchebnykh Zavedeniĭ. Radiofizika. Izd. Nizhegorod. Univ., Nizhniĭ Novgorod. (Translated in *Radiophys. and Quantum Electronics*) ISSN 0021-3462.

Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki Izvestiya Vysshikh Uchebnykh Zavedeniĭ. Severo-Kavkazskiĭ Region. Estestvennye Nauki. Rostov. Gos. Univ., Rostov-on-Don. ISSN 0321-3005.

§**J. ACM** Journal of the ACM. ACM, New York. ISSN 0004-5411.

§**J. Algebra** Journal of Algebra. Academic Press, Orlando, FL. ISSN 0021-8693.

§**J. Algebraic Combin.** Journal of Algebraic Combinatorics. An International Journal. Kluwer Acad. Publ., Hingham, MA. ISSN 0925-9899.

§**J. Algebraic Geom.** Journal of Algebraic Geometry. Univ. Press, Hong Kong. ISSN 1056-3911.

§**J. Algorithms** Journal of Algorithms. Academic Press, Orlando, FL. ISSN 0196-6774.

§**J. Amer. Math. Soc.** Journal of the American Mathematical Society. Amer. Math. Soc., Providence, RI. ISSN 0894-0347.

J. Amer. Statist. Assoc. Journal of the American Statistical Association. Amer. Statist. Assoc., Alexandria, VA. ISSN 0162-1459.

§**J. Anal.** Journal of Analysis. Forum d'Analystes, Madras. ISSN 0971-3611.

§**J. Anal. Math.** Journal d'Analyse Mathématique. Magnes Press, Jerusalem. ISSN 0021-7670.

J. Anhui Normal Univ. Nat. Sci. Journal of Anhui Normal University. Natural Science.

§**J. Appl. Anal.** Journal of Applied Analysis. Heldermann, Lemgo. ISSN 1425-6908.

J. Appl. Math. Decis. Sci. Journal of Applied Mathematics & Decision Sciences. J. Appl. Math. Decis. Sci., Palmerston North. ISSN 1173-9126.

J. Appl. Math. Mech. Journal of Applied Mathematics and Mechanics. Pergamon, Oxford. (Translation of *Prikl. Mat. Mekh.*) ISSN 0021-8928.

§**J. Appl. Math. Stochastic Anal.** Journal of Applied Mathematics and Stochastic Analysis. North Atlantic Sci., Melbourne, FL. ISSN 1048-9533.

J. Appl. Mech. Tech. Phys. Journal of Applied Mechanics and Technical Physics. Consultants Bureau, New York. ISSN 0021-8944.

§**J. Appl. Non-Classical Logics** Journal of Applied Non-Classical Logics. Hermès, Paris. ISSN 1166-3081.

§**J. Appl. Probab.** Journal of Applied Probability. Appl. Probab. Trust, Sheffield. ISSN 0021-9002.

J. Appl. Statist. Journal of Applied Statistics. Carfax, Basingstoke. ISSN 0266-4763.

J. Appl. Statist. Sci. Journal of Applied Statistical Science. Nova Sci. Publ., Commack, NY. ISSN 1067-5817.

§**J. Approx. Theory** Journal of Approximation Theory. Academic Press, Orlando, FL. ISSN 0021-9045.

[E]**J. Artificial Intelligence Res.** Journal of Artificial Intelligence Research. AI Access Found., Cupertino, CA. ISSN 1076-9757.

J. Asahikawa Nat. College Tech. Journal of the Asahikawa National College of Technology. Asahikawa Nat. College Tech., Asahikawa. ISSN 0389-9306.

J. Assam Sci. Soc. Journal of the Assam Science Society. Assam Sci. Soc., Guwahati. ISSN 0587-1921.

J. Astronaut. Sci. American Astronautical Society. Journal of the Astronautical Sciences. Amer. Astronaut. Soc., Springfield, VA. ISSN 0021-9142.

J. Atmospheric Sci. Journal of the Atmospheric Sciences. Amer. Meteor. Soc., Boston, MA. ISSN 0022-4928.

§**J. Austral. Math. Soc. Ser. A** Australian Mathematical Society. Journal. Series A. Pure Mathematics and Statistics. Austral. Math. Soc., Canberra. ISSN 0263-6115.

§**J. Austral. Math. Soc. Ser. B** Australian Mathematical Society. Journal. Series B. Applied Mathematics. Austral. Math. Soc., Canberra. ISSN 0334-2700.

J. Autom. Lang. Comb. Journal of Automata, Languages and Combinatorics. O. von Guericke Univ. Magdebg., Magdeburg. ISSN 1430-189X.

J. Automat. Inform. Sci. Journal of Automation and Information Sciences. Scripta, New York. (Translation of *Problemy Upravlen. Inform.*) ISSN 1064-2315.

J. Automat. Reason. Journal of Automated Reasoning. Kluwer Acad. Publ., Dordrecht. ISSN 0168-7433.

J. Baoji College Arts Sci. Nat. Sci. Baoji College of Arts and Science. Journal. Natural Science Edition. Baoji Wenli Xueyuan Xuebao. Ziran Kexue Ban. Press of Js. Baoji Coll. Arts Sci., Baoji. ISSN 1007-1261.

J. Beijing Inst. Tech. Beijing Institute of Technology. Journal. J. Beijing Inst. Tech., Editor. Dept., Beijing. (See also *J. Beijing Inst. Technol. (Chin. Ed.)*) ISSN 1004-0579.

J. Beijing Inst. Technol. (Chin. Ed.) Journal of Beijing Institute of Technology (Chinese Edition). Beijing Ligong Daxue Xuebao. J. Beijing Inst. Tech., Editor. Dept., Beijing. (See also *J. Beijing Inst. Tech.*) ISSN 1001-0645.

J. Beijing Normal Univ. (Natur. Sci.) See *Beijing Shifan Daxue Xuebao*

J. Bihar Math. Soc. Bihar Mathematical Society. Journal. Bihar Math. Soc., Bhagalpur.

J. Biomath. Journal of Biomathematics. Shengwu Shuxue Xuebao. Science Press, Beijing. ISSN 1001-9626.

J. Bus. Econom. Statist. Journal of Business & Economic Statistics. Amer. Statist. Assoc., Alexandria, VA. ISSN 0735-0015.

J. Central China Normal Univ. Natur. Sci. Journal of Central China Normal University. Natural Sciences. Huazhong Shifan Daxue Xuebao. Ziran Kexue Ban. J. Central China Normal Univ., Editor. Dept., Wuchang. ISSN 1000-1190.

J. Changsha Comm. Univ. Changsha Communications University. Journal. Changsha Jiaotong Xueyuan Xuebao. J. Changsha Comm. Univ., Editor. Board, Changsha. ISSN 1000-9779.

J. Changsha Univ. Electr. Power Nat. Sci. Ed. Changsha University of Electric Power. Journal. Natural Science Edition. Changsha Dianli Xueyuan Xuebao. Ziran Kexue Ban. J. Changsha Univ. Electr. Power, Editor. Dept., Changsha. ISSN 1006-7140.

J. Chengdu Univ. Natur. Sci. Journal of Chengdu University. Natural Sciences. Chengdu Daxue Xuebao. Ziran Kexue Ban. J. Chengdu Univ., Editor. Office, Chengdu. ISSN 1004-5422.

J. China Univ. Sci. Tech. Journal of China University of Science and Technology. Zhongguo Kexue Jishu Daxue Xuebao. Univ. Sci. Tech. China, Hefei. (Continued as *J. Univ. Sci. Technol. China*) ISSN 0253-2778.

J. Chinese Inst. Engrs. Chinese Institute of Engineers. Journal. Chinese Inst. Engrs., Taipei. ISSN 0253-3839.

J. Classification Journal of Classification. Springer, New York. ISSN 0176-4268.

J. Comb. Optim. Journal of Combinatorial Optimization. Kluwer Acad. Publ., Hingham, MA. ISSN 1382-6905.

§**J. Combin. Des.** Journal of Combinatorial Designs. Wiley, New York. ISSN 1063-8539.

§**J. Combin. Inform. System Sci.** Journal of Combinatorics, Information & System Sciences. Forum Interdisciplinary Math., Delhi. ISSN 0250-9628.

§**J. Combin. Math. Combin. Comput.** Journal of Combinatorial Mathematics and Combinatorial Computing. Charles Babbage Res. Centre, Winnipeg, MB. ISSN 0835-3026.

§**J. Combin. Theory Ser. A** Journal of Combinatorial Theory. Series A. Academic Press, Orlando, FL. ISSN 0097-3165.

§**J. Combin. Theory Ser. B** Journal of Combinatorial Theory. Series B. Academic Press, Orlando, FL. ISSN 0095-8956.

§**J. Complexity** Journal of Complexity. Academic Press, Orlando, FL. ISSN 0885-064X.

§**J. Comput. Appl. Math.** Journal of Computational and Applied Mathematics. North-Holland, Amsterdam. ISSN 0377-0427.

J. Comput. Graph. Statist. Journal of Computational and Graphical Statistics. Amer. Statist. Assoc., Alexandria, VA. ISSN 1061-8600.

[E]**J. Comput. Inf.** Journal of Computing and Information. J. Comput. Inf., Sudbury, ON. ISSN 1201-8511.

§**J. Comput. Math.** Journal of Computational Mathematics. An International Journal on Numerical Methods, Analysis and Applications. VSP, Zeist. ISSN 0254-9409.

J. Comput. Phys. Journal of Computational Physics. Academic Press, Orlando, FL. ISSN 0021-9991.

J. Comput. Sci. Tech. Journal of Computer Science and Technology. Science Press, Beijing. ISSN 1000-9000.

§**J. Comput. System Sci.** Journal of Computer and System Sciences. Academic Press, Orlando, FL. ISSN 0022-0000.

J. Contemp. Math. Anal. Journal of Contemporary Mathematical Analysis. Allerton, New York. (Translation of *Izv. Nats. Akad. Nauk Armenii Mat.*) ISSN 1068-3623.
§**J. Convex Anal.** Journal of Convex Analysis. Heldermann, Lemgo. ISSN 0944-6532.
J. Cryptology Journal of Cryptology. The Journal of the International Association for Cryptologic Research. Springer, New York. ISSN 0933-2790.
J. Dalian Univ. Tech. Journal of Dalian University of Technology. Dalian Ligong Daxue Xuebao. J. Dalian Univ. Tech., Editor. Office, Dalian. (Continued as *J. Dalian Univ. Technol.*) ISSN 1000-8608.
∗**J. Dalian Univ. Technol.** Journal of Dalian University of Technology. Dalian Ligong Daxue Xuebao. Dalian Univ. Tech. Press, Dalian. (Formerly *J. Dalian Univ. Tech.*) ISSN 1000-8608.
§**J. Differ. Equations Appl.** Journal of Difference Equations and Applications. Gordon and Breach, Yverdon. ISSN 1023-6198.
§**J. Differential Equations** Journal of Differential Equations. Academic Press, Orlando, FL. ISSN 0022-0396.
§**J. Differential Geom.** Journal of Differential Geometry. Lehigh Univ., Bethlehem, PA. ISSN 0022-040X.
J. Discrete Math. Sci. Cryptography Journal of Discrete Mathematical Sciences & Cryptography. Acad. Forum, Delhi. ISSN 0972-0529.
§**J. Dynam. Control Systems** Journal of Dynamical and Control Systems. Kluwer/Plenum, New York. ISSN 1079-2724.
§**J. Dynam. Differential Equations** Journal of Dynamics and Differential Equations. Kluwer/Plenum, New York. ISSN 1040-7294.
J. East China Norm. Univ. Natur. Sci. Ed. Journal of East China Normal University. Natural Science Edition. Huadong Shifan Daxue Xuebao. Ziran Kexue Ban. East China Normal Univ. Press, Shanghai. ISSN 1000-5641.
J. Econom. Dynam. Control Journal of Economic Dynamics & Control. North-Holland, Amsterdam. ISSN 0165-1889.
J. Econom. Theory Journal of Economic Theory. Academic Press, Orlando, FL. ISSN 0022-0531.
J. Econometrics Journal of Econometrics. North-Holland, Amsterdam. ISSN 0304-4076.
§**J. Egyptian Math. Soc.** Journal of the Egyptian Mathematical Society. Egypt. Math. Soc., Cairo. ISSN 1110-256X.
J. Elasticity Journal of Elasticity. Kluwer Acad. Publ., Dordrecht. ISSN 0374-3535.
J. Electrotech. Math. Journal of Electrotechnics and Mathematics. Univ. Priština, Priština. ISSN 0354-9399.
J. Engrg. Math. Journal of Engineering Mathematics. Kluwer Acad. Publ., Dordrecht. ISSN 0022-0833.
∗§**J. Eur. Math. Soc. (JEMS)** Journal of the European Mathematical Society (JEMS). Springer, Berlin. ISSN 1435-9855.
J. Experiment. Theoret. Phys. Journal of Experimental and Theoretical Physics. Amer. Inst. Phys., Woodbury, NY. ISSN 1063-7761.
J. Fac. Engrg. Chiba Univ. Journal of Faculty of Engineering. Chiba University. Chiba Univ., Chiba. ISSN 0577-6848.
J. Fac. Internat. Stud. Cult. Kyushu Sangyo Univ. Kyushu Sangyo University. Faculty of International Studies of Culture. Journal. Kyushu Sangyo Univ., Fukuoka. ISSN 1340-9425.
J. Fac. Liberal Arts Yamaguchi Univ. Natur. Sci. Journal of the Faculty of Libera! Arts. Yamaguchi University. (Natural Science). Yamaguchi Univ., Yamaguchi. ISSN 0387-4087.
J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B Ege Üniversitesi. Fen Fakültesi Dergisi. Series A-B. Ege University. Science Faculty. Journal Series A-B. Ege Üniv., Bornova. (Continued as *Ege Univ. J. Fac. Sci.*) ISSN 0254-5527.
J. Fac. Sci. Eng. Kinki Univ. Journal of the Faculty of Science and Engineering. Kinki University. Kinki Univ., Osaka. ISSN 0386-4928.
J. Fac. Sci. Shinshu Univ. Journal of the Faculty of Science. Shinshu University. Shinshu Univ., Matsumoto. ISSN 0583-063X.
J. Fluid Mech. Journal of Fluid Mechanics. Cambridge Univ. Press, Cambridge. ISSN 0022-1120.
§**J. Fourier Anal. Appl.** The Journal of Fourier Analysis and Applications. CRC, Boca Raton, FL. (Continued as *J. Fourier Anal. Appl.*) ISSN 1069-5869.
∗§**J. Fourier Anal. Appl.** The Journal of Fourier Analysis and Applications. Birkhäuser Boston, Cambridge, MA. (Formerly *J. Fourier Anal. Appl.*) ISSN 1069-5869.
§**J. Fract. Calc.** Journal of Fractional Calculus. Descartes Press, Koriyama. ISSN 0918-5402.
∗**J. Franklin Inst.** Journal of the Franklin Institute. Engineering and Applied Mathematics. Pergamon, Exeter. (Formerly *J. Franklin Inst. B*) ISSN 0016-0032.
J. Franklin Inst. B Journal of the Franklin Institute. B. Engineering and Applied Mathematics. Pergamon, Exeter. (Continued as *J. Franklin Inst.*) ISSN 0016-0032.
J. Fudan Univ. Nat. Sci. Fudan University. Journal. Natural Science. Fudan Xuebao. Ziran Kexue Ban. Fudan Univ. Press, Shanghai. ISSN 0427-7104.
J. Fujian Norma! Univ. Natur. Sci. Ed. See *Fujian Shifan Daxue Xuebao Ziran Kexue Ban*
§**J. Funct. Anal.** Journal of Functional Analysis. Academic Press, Orlando, FL. ISSN 0022-1236.
E **J. Funct. Logic Programming** The Journal of Functional and Logic Programming. MIT Press, Cambridge, MA. ISSN 1080-5230.
J. Funct. Programming Journal of Functional Programming. Cambridge Univ. Press, New York. ISSN 0956-7968.
J. Fuzhou Univ. Nat. Sci. Ed. Journal of Fuzhou University. Natural Science Edition. Fuzhou Daxue Xuebao. Ziran Kexue Ban. J. Fuzhou Univ., Editor. Dept., Fuzhou. ISSN 1000-2243.
§**J. Fuzzy Math.** Journal of Fuzzy Mathematics. Internat. Fuzzy Math. Inst., San Gabriel, CA. ISSN 1066-8950.
J. Gansu Univ. Technol. Journal of Gansu University of Technology. Gansu Gongye Daxue Xuebao. J. Gansu Univ. Technol., Editor. Dept., Lanzhou. ISSN 1000-5889.
J. Gansu Univ. Technol. (Engl. Ed.) Journal of Gansu University of Technology. English Edition. J. Gansu Univ. Technol., Editor. Dept., Lanzhou.
J. Gen. Philos. Sci. Journal for General Philosophy of Science. Zeitschrift für Allgemeine Wissenschaftstheorie. Kluwer Acad. Publ., Dordrecht. ISSN 0925-4560.
§**J. Geom.** Journal of Geometry. Birkhäuser, Basel. ISSN 0047-2468.
§**J. Geom. Anal.** The Journal of Geometric Analysis. Math. Josephina, St. Louis, MO. ISSN 1050-6926.
J. Geom. Graph. Journal for Geometry and Graphics. Heldermann, Lemgo. ISSN 1433-8157.
§**J. Geom. Phys.** Journal of Geometry and Physics. North-Holland, Amsterdam. ISSN 0393-0440.
§**J. Global Optim.** Journal of Global Optimization. An International Journal Dealing with Theoretical and Computational Aspects of Seeking Global Optima and Their Applications in Science, Management and Engineering. Kluwer Acad. Publ., Dordrecht. ISSN 0925-5001.
J. Grad. Sch. Fac. Eng. Univ. Tokyo Ser. B Journal of the Graduate School and Faculty of Engineering. The University of Tokyo. Series B. Univ. Tokyo, Tokyo. ISSN 1341-7932.
J. Graph Algorithms Appl. Journal of Graph Algorithms and Applications. J. Graph. Algorithms Appl., Providence, RI.
§**J. Graph Theory** Journal of Graph Theory. Wiley, New York. ISSN 0364-9024.
§**J. Group Theory** Journal of Group Theory. de Gruyter, Berlin. ISSN 1433-5883.
∗**J. Guangxi Univ. Nat. Sci. Ed.** Journal of Guangxi University. Natural Science Edition. Guangxi Daxue Xuebao. Ziran Kexue Ban. Guangxi Univ., Nanning. ISSN 1001-7445.
J. Hangzhou Univ. Natur. Sci. Ed. Journal of Hangzhou University. Natural Science Edition. Hangzhou Daxue Xuebao. Ziran Kexue Ban. J. Hangzhou Univ., Editor. Dept., Hangzhou. (Continued as *J. Zhejiang Univ. Sci. Ed.*) ISSN 0253-3618.
J. Harbin Inst. Tech. Harbin Institute of Technology. Journal. Harbin Gongye Daxue Xuebao. J. Harbin Inst. Tech., Editor. Board, Harbin. ISSN 0367-6234.
J. Heilongjiang Univ. Natur. Sci. See *Heilongjiang Daxue Ziran Kexue Xuebao*
E **J. High Energy Phys.** The Journal of High Energy Physics. J. High Energy Phys., Trieste. ISSN 1029-8479.
J. Hist. Arabic Sci. Journal for the History of Arabic Science. Univ. Aleppo, Aleppo. ISSN 0379-2927.
J. Hist. Astronom. Journal for the History of Astronomy. Sci. Hist. Publ., Cambridge. ISSN 0021-8286.
∗**J. Hist. Ideas** Journal of the History of Ideas. Johns Hopkins Univ. Press, Baltimore, MD. ISSN 0022-5037.
J. Hohai Univ. Journal of Hohai University. Hehai Daxue Xuebao. J. Hohai Univ., Editor. Board, Nanjing. ISSN 1000-1980.
J. Hokkaido Univ. Ed. Sect. II A Journal of Hokkaido University of Education. Section II A. Hokkaido Univ. Ed., Sapporo. (Continued as *J. Hokkaido Univ. Educ. Nat. Sci.*) ISSN 0367-5939.
∗**J. Hokkaido Univ. Educ. Nat. Sci.** Journal of Hokkaido University of Education. Natural Sciences. Hokkaido Univ. Ed., Sapporo. (Formerly *J. Hokkaido Univ. Ed. Sect. II A*) ISSN 1344-2570.
J. Huaqiao Univ. Nat. Sci. Ed. Journal of Huaqiao University. Natural Science Edition. Huaqiao Daxue Xuebao. Ziran Kexue Ban. J. Huaqiao Univ., Editor. Dept., Quanzhou. ISSN 1000-5013.
J. Huazhong Univ. Sci. Tech. Huazhong (Central China) University of Science and Technology. Journal. Huazhong Ligong Daxue Xuebao. J. Huazhong Univ. Sci. Tech, Editor. Board, Wuhan. ISSN 1000-8616.
J. Hunan Educational Inst. See *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)*
J. Hunan University See *Hunan Daxue Xuebao*
J. Hydrodyn. Ser. B (English Ed.) Journal of Hydrodynamics. Series B (English Edition). China Ocean, Beijing. ISSN 1001-6058.
J. Indian Acad. Math. Indian Academy of Mathematics. Journal. Indian Acad. Math., Indore. ISSN 0970-5120.
J. Indian Inst. Sci. Indian Institute of Science. Journal. Indian Inst. Sci., Bangalore. ISSN 0970-4140.
§**J. Indian Math. Soc. (N.S.)** The Journal of the Indian Mathematical Society. New Series. Indian Math. Soc., New Delhi. ISSN 0019-5839.
J. Indian Soc. Agricultural Statist. Journal of the Indian Society of Agricultural Statistics. Indian Soc. Agricultural Statist., New Delhi. ISSN 0019-6363.
J. Indian Soc. Statist. Oper. Res. Journal of Indian Society of Statistics and Operations Research. Pure Appl. Math. Sci., Saharanpur. ISSN 0250-9636.
J. Indian Statist. Assoc. Journal of the Indian Statistical Association. Indian Statist. Assoc., Poona. ISSN 0537-2585.
∗§**J. Inequal. Appl.** Journal of Inequalities and Applications. Gordon and Breach, Yverdon. ISSN 1025-5834.
J. Inform. Optim. Sci. Journal of Information & Optimization Sciences. A Journal Devoted to Advances in Information Sciences, Optimization Sciences and Related Aspects. Analytic, Delhi. ISSN 0252-2667.
J. Inner Mongolia Teach. Univ. Natur. Sci. See *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban*
J. Inst. Math. Comput. Sci. Comput. Sci. Ser. Institute of Mathematics & Computer Sciences. Journal. (Computer Science Series). Inst. Math. Comput. Sci., Calcutta.
J. Inst. Math. Comput. Sci. Math. Ser. Institute of Mathematics & Computer Sciences. Journal. (Mathematics Series). Inst. Math. Comput. Sci., Calcutta.
∗§**J. Integer Seq.** Journal of Integer Sequences. J. Integer Seq., Florham Park, NJ.
§**J. Integral Equations Appl.** Journal of Integral Equations and Applications. Rocky Mountain Math. Consortium, Tempe, AZ. ISSN 0897-3962.
§**J. Integral Equations Math. Phys.** Journal of Integral Equations and Mathematical Physics. J. Integral Eq. Math. Phys., Inst. Math., Erevan. ISSN 0868-8966.
J. Interdiscip. Math. Journal of Interdisciplinary Mathematics. Acad. Forum, Delhi. ISSN 0972-0502.
§**J. Inverse Ill-Posed Probl.** Journal of Inverse and Ill-Posed Problems. VSP, Zeist. ISSN 0928-0219.
J. Japan Statist. Soc. Journal of the Japan Statistical Society (Nihon Tôkei Gakkai Kaihô). Japan Statist. Soc., Tokyo. ISSN 0389-5602.

J. Japanese Soc. Comput. Statist. Journal of the Japanese Society of Computational Statistics. Japan. Soc. Comput. Statist., Okayama. ISSN 0915-2350.

J. Jiangxi Norm. Univ. Nat. Sci. Ed. Journal of Jiangxi Normal University. Natural Sciences Edition. Jiangxi Shifan Daxue Xuebao. Ziran Kexue Ban. J. Jiangxi Norm. Univ., Editor. Dept., Nanchang. ISSN 1000-5862.

J. Jishou Univ. Nat. Sci. Ed. Jishou University. Journal. Natural Science Edition. Jishou Daxue Xuebao. Ziran Kexue Ban. J. Jishou Univ., Editor. Dept., Jishou. ISSN 1007-2985.

§**J. Knot Theory Ramifications** Journal of Knot Theory and its Ramifications. World Sci. Publishing, Singapore. ISSN 0218-2165.

§**J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.** Journal of the Korea Society of Mathematical Education. Series B. The Pure and Applied Mathematics. Korea Soc. Math. Educ., Seoul. ISSN 1226-0657.

§**J. Korean Math. Soc.** Journal of the Korean Mathematical Society. Korean Math. Soc., Seoul. ISSN 0304-9914.

J. Korean Statist. Soc. Journal of the Korean Statistical Society. Korean Statist. Soc., Seoul. ISSN 1226-3192.

J. Lanzhou Railway Inst. Journal of Lanzhou Railway Institute. Lanzhou Tiedao Xueyuan Xuebao. J. Lanzhou Railw. Inst., Editor. Dept., Lanzhou. ISSN 1001-4373.

J. Lanzhou Univ. Nat. Sci. Journal of Lanzhou University. Natural Sciences. Lanzhou Daxue Xuebao. Ziran Kexue Ban. J. Lanzhou Univ., Editor. Board, Lanzhou. ISSN 0455-2059.

§**J. Lie Theory** Journal of Lie Theory. Heldermann, Lemgo. ISSN 0949-5932.

§**J. Logic Comput.** Journal of Logic and Computation. Oxford Univ. Press, Oxford. ISSN 0955-792X.

§**J. Logic Lang. Inform.** Journal of Logic, Language and Information. Kluwer Acad. Publ., Dordrecht. ISSN 0925-8531.

§**J. Logic Programming** Journal of Logic Programming. North-Holland, New York. ISSN 0743-1066.

§**J. London Math. Soc. (2)** The Journal of the London Mathematical Society. Second Series. London Math. Soc., London. ISSN 0024-6107.

J. Luoyang Univ. Luoyang University. Journal. Luoyang Daxue Xuebao. J. Luoyang Univ., Editor. Dept., Luoyang. ISSN 1007-113X.

§**J. Math. Anal. Appl.** Journal of Mathematical Analysis and Applications. Academic Press, Orlando, FL. ISSN 0022-247X.

J. Math. Biol. Journal of Mathematical Biology. Springer, Heidelberg. ISSN 0303-6812.

J. Math. Chem. Journal of Mathematical Chemistry. Baltzer, Bussum. ISSN 0259-9791.

§**J. Math. Econom.** Journal of Mathematical Economics. North-Holland, Amsterdam. ISSN 0304-4068.

*§**J. Math. Fluid Mech.** Journal of Mathematical Fluid Mechanics. Birkhäuser, Basel. ISSN 1422-6928.

J. Math. Imaging Vision Journal of Mathematical Imaging and Vision. Kluwer Acad. Publ., Norwell, MA. ISSN 0924-9907.

§**J. Math. Kyoto Univ.** Journal of Mathematics of Kyoto University. Kyoto Univ., Kyoto. ISSN 0023-608X.

§**J. Math. Phys.** Journal of Mathematical Physics. Amer. Inst. Phys., Melville, NY. ISSN 0022-2488.

J. Math. Phys. Sci. Journal of Mathematical and Physical Sciences. Indian Inst. Tech., Madras. ISSN 0047-2557.

J. Math. Psych. Journal of Mathematical Psychology. Academic Press, Orlando, FL. ISSN 0022-2496.

§**J. Math. Pures Appl. (9)** Journal de Mathématiques Pures et Appliquées. Neuvième Série. Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris. ISSN 0021-7824.

J. Math. Res. Exposition Journal of Mathematical Research and Exposition. J. Math. Res. Exposition, Editor. Board, Dalian. ISSN 1000-341X.

§**J. Math. Sci. (Calcutta)** Journal of Mathematical Sciences (Calcutta). T. B. Cent. Sci. Tech., Calcutta.

§**J. Math. Sci. (New York)** Journal of Mathematical Sciences (New York). Consultants Bureau, New York. (Continued as *J. Math. Sci. (New York)*) (Selected translations of Russian language publications *Issled. Prikl. Mat., Itogi Nauki i Tekhniki, Mat. Metody i Fiz.-Mekh. Polya, Probl. Mat. Anal., Teor. Funktsiĭ Funktsional. Anal. i Prilozhen., Teoret. i Prikl. Mekh. (Donetsk), Trudy Sem. Petrovsk., Ukrain. Geom. Sb., Vychisl. Prikl. Mat. (Kiev)* and *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)*) ISSN 1072-3374.

*§**J. Math. Sci. (New York)** Journal of Mathematical Sciences (New York). Consultants Bureau, New York. (Formerly *J. Math. Sci. (New York)*) (Selected translations of Russian language publications *Itogi Nauki Tekh. Ser. Sovrem. Mat. Prilozh. Temat. Obz., Mat. Metodi Fiz.-Mekh. Polya, Mat. Metody i Fiz.-Mekh. Polya, Probl. Mat. Anal., Teoret. i Prikl. Mekh. (Donetsk), Trudy Sem. Petrovsk., Vychisl. Prikl. Mat. (Kiev)* and *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)*) ISSN 1072-3374.

§**J. Math. Sci. Univ. Tokyo** The University of Tokyo. Journal of Mathematical Sciences. Univ. Tokyo, Tokyo. ISSN 1340-5705.

§**J. Math. Soc. Japan** Journal of the Mathematical Society of Japan. Math. Soc. Japan, Tokyo. ISSN 0025-5645.

J. Math. Sociol. The Journal of Mathematical Sociology. Gordon and Breach, Yverdon. ISSN 0022-250X.

§**J. Math. Study** Journal of Mathematical Study. Shuxue Yanjiu. J. Math. Study, Editor. Board, Xiamen. ISSN 1006-6837.

§**J. Math. Tokushima Univ.** Journal of Mathematics. Tokushima University. Tokushima Univ., Tokushima. ISSN 0075-4293.

§**J. Math. (Wuhan)** Journal of Mathematics. Shuxue Zazhi. J. Math., Editor. Dept., Wuhan. ISSN 0255-7797.

J. Maulana Azad College Tech. Maulana Azad College of Technology. Journal. Maulana Azad College Tech., Bhopal. ISSN 0379-5144.

J. Mech. Phys. Solids Journal of the Mechanics and Physics of Solids. Pergamon, Oxford. ISSN 0022-5096.

J. Modern Opt. Journal of Modern Optics. Taylor & Francis, London. ISSN 0950-0340.

§**J. Mong. Math. Soc.** Journal of the Mongolian Mathematical Society. Mong. Math. Soc., Ulaanbaatar.

J. Moscow Phys. Soc. Moscow Physical Society. Journal. Allerton, New York. ISSN 0960-0175.

§**J. Multivariate Anal.** Journal of Multivariate Analysis. Academic Press, Orlando, FL. ISSN 0047-259X.

J. Nanjing Norm. Univ. Nat. Sci. Ed. Journal of Nanjing Normal University. Natural Science Edition. Nanjing Shida Xuebao. Ziran Kexue Ban. J. Nanjing Norm. Univ., Editor. Dept., Nanjing. ISSN 1001-4616.

J. Nanjing Univ. Natur. Sci. See *Nanjing Daxue Xuebao Ziran Kexue Ban*

*§**J. Nat. Geom.** Journal of Natural Geometry. A Quarterly Journal Dedicated to Bringing Unity through Simplicity in the Mathematics of Natural Structures. Jnan Bhawan, London. (Formerly *J. Natur. Geom.*) ISSN 0963-2654.

J. Natur. Geom. Journal of Natural Geometry. A Quarterly Journal Dedicated to Bringing Unity Through Simplicity in the Mathematics of Natural Structures. Math. Res. Unit, London. (Continued as *J. Nat. Geom.*) ISSN 0963-2654.

J. Natur. Phys. Sci. Journal of Natural & Physical Sciences. Gurukul Kangri Vishwavidyalaya, Hardwar. ISSN 0970-3799.

J. Natur. Sci. Math. The Journal of Natural Sciences and Mathematics. Government College, Lahore. ISSN 0022-2941.

§**J. Nigerian Math. Soc.** Journal of the Nigerian Mathematical Society. Nigerian Math. Soc., Ibadan. ISSN 0189-8965.

J. Ningxia Univ. Nat. Sci. Ed. Journal of Ningxia University. Natural Science Edition. Ningxia Daxue Xuebao. Ziran Kexue Ban. J. Ningxia Univ., Editor. Dept., Yinchuan. ISSN 0253-2328.

§**J. Nonlinear Math. Phys.** Journal of Nonlinear Mathematical Physics. J. Nonlinear Math. Phys., Luleå. ISSN 1402-9251.

J. Nonlinear Sci. Journal of Nonlinear Science. Springer, New York. (See also *Nonlinear Sci. Today*) ISSN 0938-8974.

§**J. Nonparametr. Statist.** Journal of Nonparametric Statistics. Gordon and Breach, Yverdon. ISSN 1048-5252.

J. Northeast. Univ. Nat. Sci. Journal of Northeastern University. Natural Science. Dongbei Daxue Xuebao. Ziran Kexue Ban. J. Northeastern Univ., Editor. Dept., Shenyang. ISSN 1005-3026.

J. Northwest Univ. Journal of Northwest University. Natural Science Edition. Xibei Daxue Xuebao. Ziran Kexue Ban. J. Northwest Univ., Editor. Board, Xi'an. ISSN 1000-274X.

§**J. Number Theory** Journal of Number Theory. Academic Press, Orlando, FL. ISSN 0022-314X.

J. Numer. Methods Comput. Appl. Journal on Numerical Methods and Computer Applications. Shuxue Jisuan yu Jisuanji Yingyong. Kexue Chubanshe (Science Press), Beijing. (Translated in *Chinese J. Numer. Math. Appl.*) ISSN 1000-3266.

J. Ocean Univ. Qingdao Ocean University of Qingdao. Journal. Qingdao Haiyang Daxue Xuebao. J. Ocean Univ. Qingdao, Editor. Board, Qingdao. ISSN 1001-1862.

J. Oper. Res. Soc. Japan Journal of the Operations Research Society of Japan. Oper. Res. Soc. Japan, Tokyo. ISSN 0453-4514.

§**J. Operator Theory** Journal of Operator Theory. Theta Found., Bucharest. ISSN 0379-4024.

*§**J. Opt. B Quantum Semiclass. Opt.** Journal of Optics B. Quantum and Semiclassical Optics. Journal of the European Optical Society. Inst. Phys., Bristol. (Formerly *Quantum Semiclass. Optics*) ISSN 1464-4266.

J. Opt. Soc. Amer. A Journal of the Optical Society of America A. Opt. Soc. Amer., Washington, DC. ISSN 0740-3232.

*§**J. Opt. Soc. Amer. B Opt. Phys.** Journal of the Optical Society of America. B. Optical Physics. Opt. Soc. Amer., Washington, DC. ISSN 0740-3224.

§**J. Optim. Theory Appl.** Journal of Optimization Theory and Applications. Kluwer/Plenum, New York. ISSN 0022-3239.

J. Orissa Math. Soc. Journal of Orissa Mathematical Society. Orissa Math. Soc., Bhubaneswar.

§**J. Partial Differential Equations** Journal of Partial Differential Equations. Internat. Acad. Publ., Beijing. ISSN 1000-940X.

J. Philos. The Journal of Philosophy. J. Philos., New York. ISSN 0022-362X.

§**J. Philos. Logic** Journal of Philosophical Logic. Kluwer Acad. Publ., Dordrecht. ISSN 0022-3611.

J. Phys. A Journal of Physics. A. Mathematical and General. Inst. Phys., Bristol. ISSN 0305-4470.

J. Phys. Soc. Japan Journal of the Physical Society of Japan. Phys. Soc. Japan, Tokyo. ISSN 0031-9015.

§**J. Pure Appl. Algebra** Journal of Pure and Applied Algebra. North-Holland, Amsterdam. ISSN 0022-4049.

§**J. Pure Math.** Journal of Pure Mathematics. Univ. Calcutta, Calcutta.

J. Qingdao Univ. Nat. Sci. Ed. Journal of Qingdao University. Natural Science Edition. Qingdao Daxue Xuebao. Ziran Kexue Ban. J. Qingdao Univ., Editor. Office, Qingdao. ISSN 1006-1037.

J. Qufu Norm. Univ. Nat. Sci. Ed. See *Qufu Shifan Daxue Xuebao Ziran Kexue Ban*

§**J. R. Stat. Soc. Ser. B Stat. Methodol.** Journal of the Royal Statistical Society. Series B. Statistical Methodology. Roy. Statist. Soc., London. ISSN 1369-7412.

§**J. Ramanujan Math. Soc.** Journal of the Ramanujan Mathematical Society. Ramanujan Math. Soc., Mysore. ISSN 0970-1249.

§**J. Reine Angew. Math.** Journal für die Reine und Angewandte Mathematik. de Gruyter, Berlin. ISSN 0075-4102.

J. Roy. Statist. Soc. Ser. A Journal of the Royal Statistical Society. Series A. Statistics in Society. Roy. Statist. Soc., London. ISSN 0964-1998.

J. Roy. Statist. Soc. Ser. C Journal of the Royal Statistical Society. Series C. Applied Statistics. Roy. Statist. Soc., London. ISSN 0035-9254.

J. Sched. Journal of Scheduling. Wiley, Chichester. ISSN 1094-6136.

J. Sci. Comput. Journal of Scientific Computing. Plenum, New York. ISSN 0885-7474.

J. Sci. Islam. Repub. Iran Islamic Republic of Iran. Journal of Sciences. Nat. Center Sci. Res., Tehran. ISSN 1016-1104.

J. Sci. Univ. Tehran Int. Ed. Journal of Science of the University of Tehran. International Edition. Univ. Tehran, Tehran. ISSN 1026-5139.

J. Shaanxi Normal Univ. Nat. Sci. Ed. Shaanxi Normal University. Journal. Natural Science Edition. Shaanxi Shifan Daxue Xuebao. Ziran Kexue Ban. J. Shaanxi Norm. Univ., Editor. Dept., Xi'an. ISSN 1001-3857.

J. Shandong Univ. Nat. Sci. Ed. See *Shandong Daxue Xuebao Ziran Kexue Ban*

J. Shanghai Jiaotong Univ. (Chin. Ed.) Journal of Shanghai Jiaotong University. Chinese Edition. Shanghai Jiaotong Daxue Xuebao. Shanghai Jiaotong Univ. Press, Shanghai. (See also *J. Shanghai Jiaotong Univ. (Engl. Ed.)*) ISSN 1006-2467.

J. Shanghai Jiaotong Univ. (Engl. Ed.) Journal of Shanghai Jiaotong University. English Edition. Shanghai Jiaotong Daxue Xuebao. Shanghai Jiaotong Univ. Press, Shanghai. (See also *J. Shanghai Jiaotong Univ. (Chin. Ed.)*) ISSN 1007-1172.

J. Shanghai Univ. Journal of Shanghai University. Shanghai Univ. Press, Shanghai. ISSN 1007-6417.

J. Shanghai Univ. Nat. Sci. Journal of Shanghai University. Natural Science. Shanghai Daxue Xuebao. Ziran Kexue Ban. Shanghai Univ. Press, Shanghai. ISSN 1007-2861.

J. Sichuan Normal Univ. Nat. Sci. Ed. See *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban*

J. Sichuan Union Univ. Eng. Sci. Ed. Journal of Sichuan Union University. Engineering Science Edition. Sichuan Lianhe Daxue Xuebao. Gongcheng Kexue Ban. Ed. Dept., SUU Journal, Chengdu. ISSN 0253-2263.

J. Sound Vibration Journal of Sound and Vibration. Academic Press, London. ISSN 0022-460X.

J. South China Normal Univ. Natur. Sci. Ed. Journal of South China Normal University. Natural Science Edition. Huanan Shifan Daxue Xuebao. Ziran Kexue Ban. J. South China Normal Univ., Editor. Dept., Guangzhou. ISSN 1000-5463.

J. Southeast Univ. Journal of Southeast University. Dongnan Daxue Xuebao. J. Southeast Univ., Editor. Dept., Nanjing. (Selectively translated in *J. Southeast Univ. (English Ed.)*) ISSN 1001-0505.

J. Southeast Univ. (English Ed.) Journal of Southeast University. English Edition. Dongnan Daxue Xuebao. J. Southeast Univ., Editor. Dept., Nanjing. (Selected translation of *J. Southeast Univ.*) ISSN 1003-7985.

J. Southwest China Normal Univ. See *Xinan Shifan Daxue Xuebao Ziran Kexue Ban*

J. Stat. Manag. Syst. Journal of Statistics & Management Systems. Acad. Forum, Delhi. ISSN 0972-0510.

J. Stat. Stud. Journal of Statistical Studies. Jahangirnagar Univ., Dhaka. ISSN 1022-4734.

J. Statist. Comput. Simulation Journal of Statistical Computation and Simulation. Gordon and Breach, Yverdon. ISSN 0094-9655.

J. Statist. Phys. Journal of Statistical Physics. Kluwer/Plenum, New York. ISSN 0022-4715.

§**J. Statist. Plann. Inference** Journal of Statistical Planning and Inference. North-Holland, Amsterdam. ISSN 0378-3758.

J. Statist. Res. Journal of Statistical Research. Univ. Dhaka, Dhaka. ISSN 0256-422X.

J. Sun Yatsen Univ. See *Acta Sci. Natur. Univ. Sunyatseni*

§**J. Symbolic Comput.** Journal of Symbolic Computation. Academic Press, London. ISSN 0747-7171.

§**J. Symbolic Logic** The Journal of Symbolic Logic. Assoc. Symbol. Logic, Champaign, IL. ISSN 0022-4812.

J. Syst. Eng. Journal of Systems Engineering. Xitong Gongcheng Xuebao. J. Syst. Eng., Editor. Dept., Tianjin. ISSN 1000-5781.

J. Systems Sci. Math. Sci. Journal of Systems Science and Mathematical Sciences. Xitong Kexue yu Shuxue. Kexue Chubanshe (Science Press), Beijing. ISSN 1000-0577.

J. Tech. Phys. Journal of Technical Physics. Polish Acad. Sci., Warsaw. ISSN 0324-8313.

J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math. Journal of the Technical University at Plovdiv. Fundamental Sciences and Applications. Series A. Pure and Applied Mathematics. Tech Univ. Plovdiv, Plovdiv. ISSN 1310-8271.

§**J. Théor. Nombres Bordeaux** Journal de Théorie des Nombres de Bordeaux. Univ. Bordeaux I, Talence. ISSN 1246-7405.

J. Theoret. Appl. Mech. Journal of Theoretical and Applied Mechanics. Bulgar. Acad. Sci., Sofia. ISSN 0861-6663.

§**J. Theoret. Probab.** Journal of Theoretical Probability. Kluwer/Plenum, New York. ISSN 0894-9840.

J. Thermal Stresses Journal of Thermal Stresses. An International Quarterly. Taylor & Francis, Washington, DC. ISSN 0149-5739.

J. Tianjin Norm. Univ. Nat. Sci. Ed. Journal of Tianjin Normal University. Natural Science Edition. Tianjin Shida Xuebao. Ziran Kexue Ban. J. Tianjin Univ., Editor. Board, Tianjin. ISSN 1001-7720.

J. Tianjin Univ. Journal of Tianjin University. Tianjin Daxue Xuebao. J. Tianjin Univ., Editor. Board, Tianjin. (Continued as *J. Tianjin Univ. Nat. Sci. Technol. Ed.*) ISSN 0493-2137.

∗**J. Tianjin Univ. Nat. Sci. Technol. Ed.** Journal of Tianjin University. Natural Science and Technology Edition. Tianjin Daxue Xuebao. Ziran Kexue yu Gong Cheng Jixue Ban. J. Tianjin Univ., Editor. Board, Tianjin. (Formerly *J. Tianjin Univ.*) ISSN 0493-2137.

J. Time Ser. Anal. Journal of Time Series Analysis. Blackwell, Oxford. ISSN 0143-9782.

J. Tsinghua Univ. Journal of Tsinghua University. Science and Technology. Qinghua Daxue Xuebao. Ziran Kexue Ban. Tsinghua Univ. Press, Beijing. ISSN 1000-0054.

J. Tsuda College Journal of Tsuda College. Tsuda College, Tokyo. ISSN 0287-7805.

J. Univ. Electron. Sci. Tech. China See *Dianzi Keji Daxue Xuebao*

∗**J. Univ. Sci. Technol. Beijing (Engl. Ed.)** Journal of University of Science and Technology. Beijing (English Edition). Univ. Sci. Tech. Beijing, Beijing. ISSN 1005-8850.

∗**J. Univ. Sci. Technol. China** Journal of University of Science and Technology of China. Univ. Sci. Tech. China, Hefei. (Formerly *J. China Univ. Sci. Tech.*) ISSN 0253-2778.

J. Vib. Control Journal of Vibration and Control. Sage Science Press, Thousand Oaks, CA. ISSN 1077-5463.

J. Warburg Courtauld Inst. Journal of the Warburg and Courtauld Institutes. Univ. London, London. ISSN 0075-4390.

J. Wuhan Univ. Natur. Sci. Ed. Journal of Wuhan University. Natural Science Edition. Wuhan Daxue Xuebao. Ziran Kexue Ban. J. Wuhan Univ., Editor. Dept., Wuhan. (See also *Wuhan Univ. J. Nat. Sci.*) ISSN 0253-9888.

J. Xi'an Jiaotong Univ. See *Xi'an Jiaotong Daxue Xuebao*

J. Xiamen Univ. Natur. Sci. See *Xiamen Daxue Xuebao Ziran Kexue Ban*

J. Xinjiang Univ. Natur. Sci. Xinjiang University. Journal. Natural Science Edition. Xinjiang Daxue Xuebao. Ziran Kexue Ban. Publ. House Xinjiang Univ., Urumqi. ISSN 1000-2839.

∗**J. Xuzhou Norm. Univ. Nat. Sci. Ed.** Journal of Xuzhou Normal University. Natural Science Edition. Xuzhou Shifan Daxue Xuebao. Ziran Kexue Ban. J. Xuzhou Norm. Univ., Editor. Dept., Xuzhou. ISSN 1007-6573.

J. Yangzhou Univ. Nat. Sci. Ed. Journal of Yangzhou University. Natural Science Edition. Yangzhou Daxue Xuebao. Ziran Kexue Ban. J. Yangzhou Univ., Editor. Dept., Yangzhou. ISSN 1007-824X.

J. Yiyang Teachers College Journal of Yiyang Teachers' College. Yiyang Shizhuan Xuebao. J. Yiyang Teach. Coll., Editor. Dept., Yiyang. ISSN 1001-876X.

∗**J. Zhangzhou Teach. Coll. Nat. Sci.** Journal of Zhangzhou Teachers College. Natural Science. Zhangzhou Shifan Xueyuan Xuebao. Ziran Kexue Ban. J. Zhangzhou Teach. Coll., Editor. Dept., Zhangzhou. (Formerly *Zhangzhou Shiyuan Xuebao (Ziran Kexue Ban)*) ISSN 1008-7826.

J. Zhejiang Univ. Natur. Sci. Ed. See *Zhejiang Daxue Xuebao Ziran Kexue Ban*

∗**J. Zhejiang Univ. Sci. Ed.** Journal of Zhejiang University. Sciences Edition. Zhejiang Daxue Xuebao. Lixue Ban. J. Zhejiang Univ., Editor. Board, Hangzhou. (Formerly *J. Hangzhou Univ. Natur. Sci. Ed.*)

J. Zhengzhou Univ. Nat. Sci. Ed. Journal of Zhengzhou University. Natural Science Edition. Zhengzhou Daxue Xuebao. Ziran Kexue Ban. J. Zhengzhou Univ., Editor. Dept., Zhengzhou. ISSN 1001-8212.

E **J.UCS** J.UCS. The Journal of Universal Computer Science. Springer, Heidelberg. ISSN 0948-6968.

†**Jaakko Hintikka Sel. Pap.** Jaakko Hintikka Selected Papers. Kluwer Acad. Publ., Dordrecht.

§**Jahresber. Deutsch. Math.-Verein.** Jahresbericht der Deutschen Mathematiker-Vereinigung. Teubner, Stuttgart. ISSN 0012-0456.

§**Japan J. Indust. Appl. Math.** Japan Journal of Industrial and Applied Mathematics. Kinokuniya, Tokyo. ISSN 0916-7005.

§**Japan. J. Math. (N.S.)** Japanese Journal of Mathematics. New Series. Math. Soc. Japan, Tokyo. ISSN 0289-2316.

Japanese J. Fuzzy Theory Systems Japanese Journal of Fuzzy Theory and Systems. Allerton, New York. ISSN 1058-7349.

JETP Lett. JETP Letters. Amer. Inst. Phys., Woodbury, NY. (Translation of *Pis'ma Zh. Èksper. Teoret. Fiz.*) ISSN 0021-3640.

Jiangxi Shifan Daxue Xuebao Ziran Kexue Ban See *J. Jiangxi Norm. Univ. Nat. Sci. Ed.*

Jilin Daxue Ziran Kexue Xuebao See *Acta Sci. Natur. Univ. Jilin.*

Jishou Daxue Xuebao Ziran Kexue Ban See *J. Jishou Univ. Nat. Sci. Ed.*

Jisuan Shuxue (See *Math. Numer. Sin.*)

Jñānābha Jñānābha. The Vijnana Parishad of India. Bundelkhand University. Vijnana Parishad of India, Orai. ISSN 0304-9892.

†**JNUL Publ.** JNUL Publications. Hebr. Univ. Jerus., Jerusalem.

†**Joensuun Yliop. Luonnont. Julk.** Joensuun Yliopiston Luonnontieteellisiä Julkaisuja. [University of Joensuu Publications in Sciences] Univ. Joensuu, Joensuu. ISSN 0781-0342.

†**Johns Hopkins Stud. Math. Sci.** Johns Hopkins Studies in the Mathematical Sciences. Johns Hopkins Univ. Press, Baltimore, MD.

†**Jones Bartlett Books Math. Comput. Sci.** Jones and Bartlett Books in Mathematics and Computer Science. Jones and Bartlett, Boston, MA.

∗†**Josai Math. Monogr.** Josai Mathematical Monographs. Josai Univ., Sakado.

†***K*-Monogr. Math.** *K*-Monographs in Mathematics. Kluwer Acad. Publ., Dordrecht.

§***K*-Theory** *K*-Theory. An Interdisciplinary Journal for the Development, Application, and Influence of *K*-Theory in the Mathematical Sciences. Kluwer Acad. Publ., Dordrecht. ISSN 0920-3036.

†**K. Ned. Akad. Wet. Verh. Afd. Lett. (N. S.)** Koninklijke Nederlandse Akademie van Wetenschappen. Verhandelingen, Afd. Letterkunde. Nieuwe Reeks. [Royal Netherlands Academy of Arts and Sciences. Proceedings, Sect. Literature. New Series] North-Holland, Amsterdam.

Karachi Univ. J. Sci. Karachi University. Journal of Science. Univ. Karachi, Karachi. ISSN 0250-5363.

∗†**Kazan Tracts Math.** Kazan Tracts in Mathematics. Kazan Math. Found., Kazan′. (See also *Monogr. Mat. (Kazan′)*)

Keio Sci. Tech. Rep. Keio Science and Technology Reports. Keio Univ., Fac. of Sci. and Tech., Yokohama. ISSN 0286-4215.

†**Kendall's Lib. Statist.** Kendall's Library of Statistics. Arnold, London.

Kexue Tongbao (Chinese) Kexue Tongbao. Chinese Science Bulletin. Zhongguo Kexue Zazhishe, Beijing. (Translated in *Chinese Sci. Bull.*) ISSN 0023-074X.

†**Key Texts Classic Stud. Hist. Ideas** Key Texts: Classic Studies in the History of Ideas. Thoemmes Press, Bristol.

†**Kibern. Neogranich. Vozmozhn. Vozmozhn. Ogranich.** Кибернетика: Неограниченные Возможности и Возможные Ограничения. [Cybernetics: Unlimited Possibilities and Possible Limitations] "Nauka", Moscow.

Kibernet. i Vychisl. Tekhn. Akademiya Nauk Ukrainy. Institut Kibernetiki im. V. M. Glushkova. Kibernetika i Vychislitel'naya Tekhnika. "Naukova Dumka", Kiev. ISSN 0454-9910.

Kibernet. Sistem. Anal. Natsional'naya Akademiya Nauk Ukrainy. Institut Kibernetiki im. V. M. Glushkova. Kibernetika i Sistemnyĭ Analiz. Nats. Akad. Nauk Ukr. Inst.

Kibern. im. V. M. Glushkova, Kiev. (Translated in *Cybernet. Systems Anal.*) ISSN 0023-1274.

†**Kluwer Int. Handb. Educ.** Kluwer International Handbooks of Education. Kluwer Acad. Publ., Dordrecht.

†**Kluwer Int. Ser. Discrete Event Dyn. Syst.** The Kluwer International Series on Discrete Event Dynamic Systems. Kluwer Acad. Publ., Boston, MA.

†**Kluwer Internat. Ser. Engrg. Comput. Sci.** The Kluwer International Series in Engineering and Computer Science. Kluwer Acad. Publ., Boston, MA.

†**Kluwer Texts Math. Sci.** Kluwer Texts in the Mathematical Sciences. Kluwer Acad. Publ., Dordrecht.

§**Kobe J. Math.** Kobe Journal of Mathematics. Kobe Univ., Kobe. ISSN 0289-9051.

§**Kodai Math. J.** Kodai Mathematical Journal. Tokyo Inst. Tech., Tokyo. ISSN 0386-5991.

∗**KoG** KoG. Croat. Soc. Constr. Geom. Comput. Graph., Zagreb. ISSN 1331-1611.

Kongzhi Lilun yu Yingyong See *Control Theory Appl.*

†**Konink. Nederl. Akad. Wetensch. Verh. Afd. Natuurk. Eerste Reeks** Koninklijke Nederlandse Akademie van Wetenschappen. Verhandelingen, Afd. Natuurkunde. Eerste Reeks. [Royal Netherlands Academy of Sciences. Proceedings, Physics Section. Series 1] North-Holland, Amsterdam.

Korean J. Appl. Statist. Korean Journal of Applied Statistics. Ŭngyong T'ongkye Yŏnku. Korean Statist. Soc., Seoul. ISSN 1225-066X.

§**Korean J. Comput. Appl. Math.** The Korean Journal of Computational & Applied Mathematics. Korean SIGCOAM, Korea Inform. Process. Soc., Asan. ISSN 1226-0061.

†**Krit. Jahrb. Philos.** Kritisches Jahrbuch der Philosophie. [Critical Yearbook of Philosophy] Königshausen & Neumann, Würzburg. ISSN 1431-9837.

§**Kumamoto J. Math.** Kumamoto Journal of Mathematics. Kumamoto Univ., Kumamoto. ISSN 0914-675X.

Kuwait J. Sci. Engrg. Kuwait Journal of Science & Engineering. An International Journal of Kuwait University. Kuwait Univ., Khaldiya. ISSN 1024-8684.

Kwansei Gakuin Univ. Nat. Sci. Rev. Kwansei Gakuin University. Natural Sciences Review. Kwansei Gakuin Univ., Nishinomiya. ISSN 1342-887X.

Kwart. Hist. Nauk. Tech. Kwartalnik Historii Nauki i Techniki. Quarterly Journal of the History of Science and Technology. Polsk. Akad. Nauk, Warsaw. ISSN 0023-589X.

Kybernetes Kybernetes. The International Journal of Systems & Cybernetics. MCB Univ. Press, Bradford. ISSN 0368-492X.

Kybernetika (Prague) Kybernetika. Acad. Sci. Czech Repub., Prague. ISSN 0023-5954.

Kybernetika (Prague) Suppl. Kybernetika. Supplement. Czech. Acad. Sci., Prague.

§**Kyungpook Math. J.** Kyungpook National University. Kyungpook Mathematical Journal. Kyungpook Nat. Univ., Taegu. ISSN 1225-6951.

§**Kyushu J. Math.** Kyushu Journal of Mathematics. Kyushu Univ., Fukuoka. ISSN 1340-6116.

†**Lang. Speech Commun.** Language, Speech, and Communication. MIT Press, Cambridge, MA.

Lanzhou Daxue Xuebao Ziran Kexue Ban See *J. Lanzhou Univ. Nat. Sci.*

§**Latv. Mat. Ezhegodnik** Latviĭskaya Akademiya Nauk. Latviĭskiĭ Universitet. Latviĭskiĭ Matematicheskiĭ Ezhegodnik. "Zinatne", Riga. ISSN 0321-2270.

†**Latv. Univ. Zināt. Raksti** Latvijas Universitātes Zinātniskie Raksti. [Latvian University Science Reports] Latv. Univ., Riga.

∗†**Lect. Algebra Geom.** Lectures in Algebra and Geometry. Int. Press, Boston, MA.

§**Lect. Mat.** Lecturas Matemáticas. Soc. Colombiana Mat., Bogotá. ISSN 0120-1980.

∗†**Lect. Math. Phys.** Lectures in Mathematical Physics. Int. Press, Boston, MA.

†**Lect. Notes Comput. Sci. Eng.** Lecture Notes in Computational Science and Engineering. Springer, Berlin.

∗†**Lect. Notes Ser. ECCC** Lecture Notes Series of ECCC. Electron. Colloq. Comput. Complex., Trier.

†**Lecture Notes in Artificial Intelligence** Lecture Notes in Artificial Intelligence. Springer, Berlin. (See also *Lecture Notes in Comput. Sci.*)

†**Lecture Notes in Comput. Sci.** Lecture Notes in Computer Science. Springer, New York. (See also *Lecture Notes in Artificial Intelligence*) ISSN 0302-9743.

†**Lecture Notes in Control and Inform. Sci.** Lecture Notes in Control and Information Sciences. Springer, New York.

†**Lecture Notes in Econom. and Math. Systems** Lecture Notes in Economics and Mathematical Systems. Springer, New York. ISSN 0075-8442.

†**Lecture Notes in Math.** Lecture Notes in Mathematics. Springer, New York. ISSN 0075-8434.

†**Lecture Notes in Phys.** Lecture Notes in Physics. Springer, Berlin. ISSN 0075-8450.

†**Lecture Notes in Phys. New Ser. m Monogr.** Lecture Notes in Physics. New Series m: Monographs. Springer, Berlin. ISSN 0940-7677.

†**Lecture Notes in Pure and Appl. Math.** Lecture Notes in Pure and Applied Mathematics. Dekker, New York.

†**Lecture Notes in Statist.** Lecture Notes in Statistics. Springer, New York.

†**Lecture Notes Logic** Lecture Notes in Logic. Springer, Berlin.

†**Lecture Notes Numer. Appl. Anal.** Lecture Notes in Numerical and Applied Analysis. Kinokuniya, Tokyo. ISSN 1340-5772.

†**Lecture Notes Ser.** Lecture Notes Series. Aarhus Univ., Aarhus. ISSN 0065-017X.

†**Lecture Notes Ser.** Lecture Notes Series. Seoul Nat. Univ., Seoul.

†**Lecture Notes Ser. Comput.** Lecture Notes Series on Computing. World Sci. Publishing, River Edge, NJ.

†**Lectures in Appl. Math.** Lectures in Applied Mathematics. Amer. Math. Soc., Providence, RI.

†**Lectures Math. ETH Zürich** Lectures in Mathematics ETH Zürich. Birkhäuser, Basel.

†**Lectures Math. Life Sci.** Lectures on Mathematics in the Life Sciences. Amer. Math. Soc., Providence, RI.

∗†**Lehr- Handb. Geld Börse Bank Versicher.** Lehr- und Handbücher zu Geld, Börse, Bank und Versicherung. [Textbooks and Manuals on Money, Stock Markets, Banks and Insurance] Oldenbourg, Munich.

∗†**Lehrbuch** Lehrbuch. [Textbook] Vieweg, Braunschweig.

†**Lehrbuch Math.** Lehrbuch Mathematik. [Mathematics Textbook] Vieweg, Braunschweig.

†**Lehrbücher Monogr. Didakt. Math.** Lehrbücher und Monographien zur Didaktik der Mathematik. [Textbooks and Monographs on the Didactics of Mathematics] Bibliographisches Inst., Mannheim.

†**Leitfäden Angew. Math. Mech.** Leitfäden der Angewandten Mathematik und Mechanik. [Guides to Applied Mathematics and Mechanics] Teubner, Stuttgart.

†**Leitfäden Inform.** Leitfäden der Informatik. [Basic Textbooks in Computer Science] Teubner, Stuttgart.

§**Lett. Math. Phys.** Letters in Mathematical Physics. A Journal for the Rapid Dissemination of Short Contributions in the Field of Mathematical Physics. Kluwer Acad. Publ., Dordrecht. ISSN 0377-9017.

†**Leuven Notes Math. Theoret. Phys. Ser. B Theoret. Particle Phys.** Leuven Notes in Mathematical and Theoretical Physics. Series B: Theoretical Particle Physics. Leuven Univ. Press, Leuven.

∗†**Lez. Lagrange** Lezioni Lagrange. [Lagrange Lectures] Sc. Norm. Super., Pisa.

†**Lezioni Lincee** Lezioni Lincee. [Lincei Lectures] Cambridge Univ. Press, Cambridge.

†**Lib. Engrg. Math.** Library of Engineering Mathematics. CRC, Boca Raton, FL.

§**Libertas Math.** Libertas Mathematica. Amer. Roman. Acad. Arts Sci. Publ., Arlington, TX. ISSN 0278-5307.

†**Libr. Theor.** Library of Theoria. Thales, Stockholm. ISSN 0459-2603.

§**Liet. Mat. Rink.** Matematikos ir Informatikos Institutas. Lietuvos Matematikų Draugija. Vilniaus Universitetas. Lietuvos Matematikos Rinkinys. Leidykla TEV, Vilnius. (Translated in *Lithuanian Math. J.*) ISSN 0132-2818.

Lifetime Data Anal. Lifetime Data Analysis. An International Journal Devoted to Statistical Methods and Applications for Time-to-Event Data. Kluwer Acad. Publ., Hingham, MA. ISSN 1380-7870.

§**Linear Algebra Appl.** Linear Algebra and its Applications. North-Holland, New York. ISSN 0024-3795.

§**Linear and Multilinear Algebra** Linear and Multilinear Algebra. Gordon and Breach, Yverdon. ISSN 0308-1087.

§**Linear Topol. Spaces Complex Anal.** Linear Topological Spaces and Complex Analysis. Sci. Tech. Res. Council Turkey, Ankara.

†**Linköping Stud. Sci. Tech. Diss.** Linköping Studies in Science and Technology. Dissertations. Linköping Univ., Linköping. ISSN 0345-7524.

Lithuanian Math. J. Lithuanian Mathematical Journal. Consultants Bureau, New York. (Translation of *Liet. Mat. Rink.*) ISSN 0363-1672.

∗E**Living Rev. Relativ.** Living Reviews in Relativity. Albert Einstein Inst., Potsdam. ISSN 1433-8351.

Lixue Xuebao See *Acta Mech. Sinica (English Ed.)*

§E**LMS J. Comput. Math.** LMS Journal of Computation and Mathematics. London Math. Soc., London. ISSN 1461-1570.

∗§E**Lobachevskii J. Math.** Lobachevskii Journal of Mathematics. Kazan State Univ., Kazan′.

§**Log. J. IGPL** Logic Journal of the IGPL. Interest Group in Pure and Applied Logics. Oxford Univ. Press, Oxford. ISSN 1367-0751.

§**Logica Trianguli** Logica Trianguli. Logic in Łódź, Nantes, Santiago de Compostela. Univ. Nantes, Nantes.

†**Logic Comput. Philos.** Logic and Computation in Philosophy. Oxford Univ. Press, New York.

Logic Log. Philos. Logic and Logical Philosophy. N. Copernicus Univ. Press, Toruń. ISSN 1425-3305.

†**Logica Nova** Logica Nova. Akademie Verlag, Berlin. ISSN 0323-5157.

§**Logique et Anal. (N.S.)** Logique et Analyse. Nouvelle Série. Centre Nat. Belge Recherches de Logique, Gent-Mariakerke. ISSN 0024-5836.

†**London Math. Soc. Lecture Note Ser.** London Mathematical Society Lecture Note Series. Cambridge Univ. Press, Cambridge.

†**London Math. Soc. Monogr. (N.S.)** London Mathematical Society Monographs. New Series. Oxford Univ. Press, New York.

†**London Math. Soc. Stud. Texts** London Mathematical Society Student Texts. Cambridge Univ. Press, Cambridge.

Luoyang Daxue Xuebao See *J. Luoyang Univ.*

∗§**M2AN Math. Model. Numer. Anal.** M2AN. Mathematical Modelling and Numerical Analysis. EDP Sci., Les Ulis. (Formerly *RAIRO Modél. Math. Anal. Numér.*) ISSN 0764-583X.

†**MAA Notes** MAA Notes. Math. Assoc. America, Washington, DC.

†**MAA Spectrum** MAA Spectrum. Math. Assoc. America, Washington, DC.

†**Mach. Intelligence Pattern Recogn.** Machine Intelligence and Pattern Recognition. North-Holland, Amsterdam.

Macroecon. Dyn. Macroeconomic Dynamics. Cambridge Univ. Press, New York. ISSN 1365-1005.

§**Maghreb Math. Rev.** Maghreb Mathematical Review. Assoc. Math. Algérienne, Algiers. ISSN 1111-4398.

Magnetohydrodynamics Magnetohydrodynamics. A translation of Magnitnaya Gidrodinamika. Consultants Bureau, New York. (Translation of *Magnit. Gidrodinamika*) ISSN 0024-998X.

Magnit. Gidrodinamika Akademiya Nauk Latviiskoĭ SSR. Magnitnaya Gidrodinamika. "Zinatne", Riga. (Translated in *Magnetohydrodynamics*) ISSN 0025-0015.

†**Major Amer. Univ. Ph.D. Qualif. Questions Solut.** Major American Universities Ph.D. Qualifying Questions and Solutions. World Sci. Publishing, River Edge, NJ.

Makedon. Akad. Nauk. Umet. Oddel. Mat.-Tehn. Nauk. Prilozi Makedonska Akademija na Naukite i Umetnostite. Oddelenie za Matematičko-Tehnički Nauki. Prilozi. Macedonian Acad. Sci. Arts, Skopje. ISSN 0351-3246.

§**Manuscripta Math.** Manuscripta Mathematica. Springer, Berlin. ISSN 0025-2611.

§**Markov Process. Related Fields** Markov Processes and Related Fields. Polymat, Moscow. ISSN 1024-2953.

†**Masters Modern Phys.** Masters of Modern Physics. Amer. Inst. Phys., Woodbury, NY.

†**Masz. Przepływ.** Maszyny Przepływowe. [Flow Devices] Ossolineum, Wrocław. ISSN 0860-3324.

§**Mat. Apl. Comput.** Sociedade Brasiliera de Matemática Applicada e Computacional. Matemática Aplicada e Computacional. Computational and Applied Mathematics. Birkhäuser Boston, Cambridge, MA. (Continued as *Comput. Appl. Math.*) ISSN 0101-8205.

§**Mat. Bilten** Matematichki Bilten. Bulletin de la Société des Mathématiciens et des Informaticiens de Macédoine. Sojuz Drush. Mat. Inform. Maked., Skopje. ISSN 0351-336X.

§**Mat. Contemp.** Matemática Contemporânea. Soc. Brasil. Mat., Rio de Janeiro. ISSN 0103-9059.

§**Mat. Fiz. Anal. Geom.** Matematicheskaya Fizika, Analiz, Geometriya. Akad. Nauk Ukrainy, Fiz.-Tekh. Inst. Nizk. Temp. im. B. I. Verkina, Khar'kov.

Mat. Fiz. Nelineĭn. Mekh. Akademiya Nauk Ukrainy. Institut Matematiki. Matematicheskaya Fizika i Nelineĭnaya Mekhanika. "Naukova Dumka", Kiev. ISSN 0233-7568.

*†**Mat. Ital. Unità** La Matematica Italiana dopo l'Unità. [Italian Mathematics after Unity] Marcos y Marcos, Milan.

Mat. Lapok (N.S.) Matematikai Lapok. New Series. János Bolyai Math. Soc., Budapest.

Mat. Medd. Danske Vid. Selsk. Matematisk-fysiske Meddelelser. Det Kongelige Danske Videnskabernes Selskab. Munksgaard, Copenhagen. ISSN 0023-3323.

*§**Mat. Metodi Fiz.-Mekh. Polya** Matematichnī Metodi ta Fīziko-Mekhanīchnī Polya. Matematicheskie Metody i Fiziko-Mekhanicheskie Polya. Mathematical Methods and Physicomechanical Fields. Nats. Akad. Nauk Ukraïni, Īnst. Prikl. Probl. Mekh. Mat. īm. Ya. S. Pīdstrigacha, L'viv. (Formerly *Mat. Metody i Fiz.-Mekh. Polya*) (Translated in *J. Math. Sci. (New York)*) ISSN 0130-9420.

Mat. Metody i Fiz.-Mekh. Polya Akademiya Nauk Ukrainy. Matematicheskie Metody i Fiziko-Mekhanicheskie Polya. "Naukova Dumka", Kiev. (Continued as *Mat. Metodi Fiz.-Mekh. Polya*) (Translated in *J. Math. Sci. (New York)*) ISSN 0130-9420.

Mat. Model. Rossiĭskaya Akademiya Nauk. Matematicheskoe Modelirovanie. "Nauka", Moscow. ISSN 0234-0879.

†**Mat. Prilozh.** Математика и ее Приложения. [Mathematics and its Applications] Izdat. "Faktorial", Moscow.

§**Mat. Sb.** Rossiĭskaya Akademiya Nauk. Matematicheskiĭ Sbornik. "Nauka", Moscow. (Translated in *Sb. Math.*) ISSN 0368-8666.

§**Mat. Stos.** Roczniki Polskiego Towarzystwa Matematycznego. Seria III. Matematyka Stosowana. Applied Mathematics. Polsk. Tow. Mat., Warsaw. ISSN 0137-2890.

*§**Mat. Stud.** Matematichnī Studīĭ. Pratsī L'vīvs'kogo Matematichnogo Tovaristva. VNTL Publ., L'viv. ISSN 1027-4634.

§**Mat. Vesnik** Matematichki Vesnik. Društvo Mat. Srbije, Belgrade. ISSN 0025-5165.

§**Mat. Zametki** Rossiĭskaya Akademiya Nauk. Matematicheskie Zametki. "Nauka", Moscow. (Translated in *Math. Notes*) ISSN 0025-567X.

Match Match. Communications in Mathematical and in Computer Chemistry. A. Kerber, Bayreuth. ISSN 0340-6253.

§**Matematiche (Catania)** Le Matematiche. Dip. Mat. Univ. Catania, Catania.

†**Mater. Res. Soc. Sympos. Proc.** Materials Research Society Symposium Proceedings. MRS, Warrendale, PA.

§**Math. Ann.** Mathematische Annalen. Springer, Berlin. ISSN 0025-5831.

†**Math. Appl.** Mathématiques & Applications. [Mathematics & Applications] Springer, Paris.

†**Math. Appl.** Mathématiques & Applications. [Mathematics and Applications] Ellipses, Paris.

†**Math. Appl.** Mathematics and its Applications. Kluwer Acad. Publ., Dordrecht.

Math. Appl. Mathematica Applicata. Yingyong Shuxue. Math. Appl., Editor. Dept., Wuhan. ISSN 1001-9847.

†**Math. Appl. (China Ser.)** Mathematics and its Applications (China Series). Kluwer Acad. Publ., Dordrecht.

§**Math. Balkanica (N.S.)** Mathematica Balkanica. New Series. Bulgar. Acad. Sci., Sofia. ISSN 0205-3217.

Math. Biosci. Mathematical Biosciences. An International Journal. Elsevier, New York. ISSN 0025-5564.

†**Math. Biosci. Interact.** Mathematics and Biosciences in Interaction. Birkhäuser, Basel.

§**Math. Bohem.** Academy of Sciences of the Czech Republic. Mathematical Institute. Mathematica Bohemica. Acad. Sci. Czech Repub., Prague. ISSN 0862-7959.

*§**Math. Bull. Grad. Sch. Sci. Josai Univ.** Mathematical Bulletin of the Graduate School of Science. Josai University. Josai Univ., Sakado. ISSN 1344-7769.

†**Math. Chem. Ser.** Mathematical Chemistry Series. CRC, Boca Raton, FL.

Math. Commun. Mathematical Communications. Croatian Math. Soc. Div. Osijek, Osijek. ISSN 1331-0623.

§**Math. Comp.** Mathematics of Computation. Amer. Math. Soc., Providence, RI. ISSN 0025-5718.

*†**Math. Comput. Appl.** Mathematical & Computational Applications. Assoc. Sci. Res., Manisa. ISSN 1300-686X.

Math. Comput. Model. Dyn. Syst. Mathematical and Computer Modelling of Dynamical Systems. Methods, Tools and Applications in Engineering and Related Sciences. Swets & Zeitlinger, Lisse. ISSN 1387-3954.

Math. Comput. Modelling Mathematical and Computer Modelling. Pergamon, Exeter. ISSN 0895-7177.

Math. Comput. Simulation Mathematics and Computers in Simulation. North-Holland, Amsterdam. ISSN 0378-4754.

†**Math. Concepts Methods Sci. Engrg.** Mathematical Concepts and Methods in Science and Engineering. Plenum, New York.

§**Math. Control Signals Systems** Mathematics of Control, Signals, and Systems. Springer, Godalming. ISSN 0932-4194.

Math. Ed. Mathematical Education. Wiley Eastern, New Delhi. ISSN 0970-5759.

†**Math. Ed. Lib.** Mathematics Education Library. Kluwer Acad. Publ., Dordrecht.

Math. Ed. (Siwan) The Mathematics Education. Math. Ed., Siwan. ISSN 0047-6269.

Math. Engrg. Indust. Mathematical Engineering in Industry. The International Journal of Mathematical Engineering with Industrial Applications. VSP, Zeist. ISSN 0169-121X.

Math. Finance Mathematical Finance. An International Journal of Mathematics, Statistics and Financial Economics. Blackwell, Malden, MA. ISSN 0960-1627.

Math. Geol. Mathematical Geology. Kluwer/Plenum, New York. ISSN 0882-8121.

§**Math. Inequal. Appl.** Mathematical Inequalities & Applications. ELEMENT, Zagreb. ISSN 1331-4343.

Math. Inform. Sci. Humaines Mathématiques Informatique et Sciences Humaines. École Hautes Études Sci. Soc., Paris. ISSN 0995-2314.

†**Math. Ingen. Naturwiss.** Mathematik für Ingenieure und Naturwissenschaftler. [Mathematics for Engineers and Natural Scientists] Teubner, Stuttgart.

Math. Intelligencer The Mathematical Intelligencer. Springer, New York. ISSN 0343-6993.

§**Math. J. Ibaraki Univ.** Mathematical Journal of Ibaraki University. Ibaraki Univ., Mito. ISSN 1343-3636.

§**Math. J. Okayama Univ.** Mathematical Journal of Okayama University. Okayama Univ., Dept. Math., Fac. Sci., Okayama. ISSN 0030-1566.

§**Math. J. Toyama Univ.** Mathematics Journal of Toyama University. Toyama Univ., Toyama. ISSN 0916-6009.

§**Math. Japon.** Mathematica Japonica. Japan. Assoc. Math. Sci., Osaka. ISSN 0025-5513.

†**Math. Leitfäden** Mathematische Leitfäden. [Mathematical Textbooks] Teubner, Stuttgart.

Math. Mag. Mathematics Magazine. Math. Assoc. America, Washington, DC. ISSN 0025-570X.

Math. Mech. Solids Mathematics and Mechanics of Solids. Sage Science Press, Thousand Oaks, CA. ISSN 1081-2865.

Math. Medley Mathematical Medley. Singapore Math. Soc., Singapore. ISSN 0217-2976.

§**Math. Methods Appl. Sci.** Mathematical Methods in the Applied Sciences. Teubner, Stuttgart. ISSN 0170-4214.

§**Math. Methods Oper. Res.** Mathematical Methods of Operations Research. Physica, Heidelberg. ISSN 1432-2994.

§**Math. Methods Statist.** Mathematical Methods of Statistics. Allerton, New York. ISSN 1066-5307.

†**Math. Model.** Mathematical Modeling. Birkhäuser Boston, Boston, MA.

†**Math. Model. Theory Appl.** Mathematical Modelling: Theory and Applications. Kluwer Acad. Publ., Dordrecht.

§**Math. Models Methods Appl. Sci.** Mathematical Models & Methods in Applied Sciences. World Sci. Publishing, Singapore. ISSN 0218-2025.

*†**Math. Monogr./Monogr. Mat.** Mathematical Monographs/Monografii Matematice. Univ. Timişoara, Timişoara.

§**Math. Montisnigri** Mathematica Montisnigri. Matematika Tsrne Gore. ISSN 0354-2238.

§**Math. Nachr.** Mathematische Nachrichten. Wiley-VCH, Berlin. ISSN 0025-584X.

§**Math. Notae** Mathematicae Notae. Boletin del Instituto de Matemática "Beppo Levi". Univ. Nac. Rosario, Rosario. ISSN 0024-553X.

†**Math. Notes** Mathematical Notes. Princeton Univ. Press, Princeton, NJ.

Math. Notes Mathematical Notes. Consultants Bureau, New York. (Translation of *Mat. Zametki*) ISSN 0001-4346.

§**Math. Numer. Sin.** Mathematica Numerica Sinica. Jisuan Shuxue. Math. Numer. Sin., Editor. Dept., Beijing. (Translated in *Chinese J. Numer. Math. Appl.*) ISSN 0254-7791.

§**Math. Oper. Res.** Mathematics of Operations Research. INFORMS, Linthicum, MD. ISSN 0364-765X.

§**Math. Pannon.** Mathematica Pannonica. Math. Pannonica, Editor. Board, Budapest. ISSN 0865-2090.

*†**Math. Past Present** Mathematics Past and Present. Springer, Berlin.

*§**Math. Phys. Anal. Geom.** Mathematical Physics, Analysis and Geometry. An International Journal Devoted to the Theory and Applications of Analysis and Geometry to Physics. Kluwer Acad. Publ., Dordrecht. ISSN 1385-0172.

§E**Math. Phys. Electron. J.** Mathematical Physics Electronic Journal. Math. Phys. Electron. J., Austin, TX. ISSN 1086-6655.

†**Math. Phys. Stud.** Mathematical Physics Studies. Kluwer Acad. Publ., Dordrecht.

Math. Practice Theory Mathematics in Practice and Theory. Shuxue de Shijian yu Renshi. Math. Practice Theory, Editor. Comm., Beijing. ISSN 1000-0984.

§**Math. Proc. Cambridge Philos. Soc.** Mathematical Proceedings of the Cambridge Philosophical Society. Cambridge Univ. Press, Cambridge. ISSN 0305-0041.

*§**Math. Program.** Mathematical Programming. A Publication of the Mathematical Programming Society. Springer, Heidelberg. (Formerly *Math. Programming*) ISSN 0025-5610.

§**Math. Programming** Mathematical Programming. North-Holland, Amsterdam. (Continued as *Math. Program.*) ISSN 0025-5610.

†**Math. Res.** Mathematical Research. Wiley-VCH, Berlin. ISSN 0138-3019.

§**Math. Res. Lett.** Mathematical Research Letters. Internat. Press, Cambridge, MA. ISSN 1073-2780.

§**Math. Scand.** Mathematica Scandinavica. Aarhus Univ., Aarhus. ISSN 0025-5521.

Math. Sci. The Mathematical Scientist. Appl. Probab. Trust, Sheffield. ISSN 0312-3685.

†**Math. Sci. Engrg.** Mathematics in Science and Engineering. Academic Press, San Diego, CA.

†**Math. Sci. Ref. Ser.** Mathematical Sciences Reference Series. CRC, Boca Raton, FL.

§**Math. Sci. Res. Hot-Line** Mathematical Sciences Research Hot-Line. Internat. Publ., Orlando, FL. ISSN 1087-9919.

†**Math. Sci. Res. Inst. Publ.** Mathematical Sciences Research Institute Publications. Cambridge Univ. Press, Cambridge.

§**Math. Semesterber.** Mathematische Semesterberichte. Springer, Berlin. ISSN 0720-728X.

§**Math. Slovaca** Mathematica Slovaca. Slovak Acad. Sci., Bratislava. ISSN 0139-9918.

§**Math. Social Sci.** Mathematical Social Sciences. North-Holland, Amsterdam. ISSN 0165-4896.

§**Math. Structures Comput. Sci.** Mathematical Structures in Computer Science. A Journal in the Applications of Categorical, Algebraic and Geometric Methods in Computer Science. Cambridge Univ. Press, New York. ISSN 0960-1295.

Math. Student The Mathematics Student. Indian Math. Soc., Delhi. ISSN 0025-5742.

†**Math. Surveys Monogr.** Mathematical Surveys and Monographs. Amer. Math. Soc., Providence, RI. ISSN 0076-5376.

†**Math. Texte** Mathematische Texte. [Mathematical Texts] Spektrum Akad., Heidelberg.

§**Math. Today (Ahmedabad)** Mathematics Today (Ahmedabad). Vaidya Sanman Nidhi, Ahmedabad.

Math. Today (Southend-on-Sea) Mathematics Today. Bulletin of the Institute of Mathematics and its Applications. Inst. Math. Appl., Southend-on-Sea. ISSN 1361-2042.

†**Math. Top.** Mathematical Topics. Akademie Verlag, Berlin. (Continued as *Math. Top.*) ISSN 0946-3844.

*†**Math. Top.** Mathematical Topics. Wiley-VCH, Berlin. (Formerly *Math. Top.*) ISSN 0946-3844.

†**Math. World** Mathematical World. Amer. Math. Soc., Providence, RI. ISSN 1055-9426.

§**Math. Z.** Mathematische Zeitschrift. Springer, Berlin. ISSN 0025-5874.

†**Math.-Astronom. Blätter—N.F.** Mathematisch-Astronomische Blätter—Neue Folge. [Mathematical-Astronomical Papers—New Series] Philos.-Anthroposoph. Verlag Goetheanum, Dornach.

§**Mathematica** Mathematica. Ed. Acad. Române, Bucharest. ISSN 1222-9016.

*†**Mathematik (Munich)** Mathematik (Munich). [Mathematics] Utz, Munich.

§**Mathematika** Mathematika. A Journal of Pure and Applied Mathematics. Univ. London, London. ISSN 0025-5793.

†**Mathématiques** Mathématiques. [Mathematics] Masson, Paris.

†**Mathématiques** Mathématiques. [Mathematics] Presses Polytech. Univ. Romandes, Lausanne.

†**Mathématiques** Mathématiques. [Mathematics] Presses Univ. France, Paris. ISSN 0246-3822.

†**Mathesis** Mathesis. Vrin, Paris. ISSN 1147-4920.

Mathesis Mathesis. Filosofía e Historia de las Ciencias Matemáticas. Univ. Nac. Autónoma México, México. ISSN 0185-6200.

Mathware Soft Comput. Mathware & Soft Computing. Univ. Politèc. Catalunya, Barcelona. ISSN 1134-5632.

Matimyás Mat. Matimyás Matematika. Math. Soc. Philippines, Quezon City. ISSN 0115-6926.

Meccanica Meccanica. International Journal of the Italian Association of Theoretical and Applied Mechanics. Kluwer Acad. Publ., Dordrecht. ISSN 0025-6455.

†**Mech. Engrg.** Mechanical Engineering. Dekker, New York.

†**Mech. Engrg. Ser.** Mechanical Engineering Series. Springer, New York.

*†**Mech. Mach. Theory** Mechanism and Machine Theory. Dynamics of Machine Systems, Gears and Power Transmissions, Robots and Manipulator Systems, Computer-Aided Design Methods. Pergamon, Oxford. ISSN 0094-114X.

Mech. Res. Comm. Mechanics Research Communications. Pergamon, New York. ISSN 0093-6413.

Mech. Structures Mach. Mechanics of Structures and Machines. An International Journal. Dekker, Monticello, NY. ISSN 0890-5452.

Med. Konink. Acad. Wetensch. België Mededelingen van de Koninklijke Academie voor Wetenschappen, Letteren en Schone Kunsten van België. Klasse der Wetenschappen. Acad. Roy. Belgique, Brussels.

¶**Meded. Wiskd. Genoot.** Mededelingen van het Wiskundig Genootschap. Math. Centrum, Centrum Wisk. Inform., Amsterdam. ISSN 0167-2495.

Mem. Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur. (5) Accademia delle Scienze di Torino. Memorie. Classe di Scienze Fisiche, Matematiche e Naturali. Serie V. Accad. Sci. Torino, Turin. ISSN 0373-3033.

§**Mem. Amer. Math. Soc.** Memoirs of the American Mathematical Society. Amer. Math. Soc., Providence, RI. ISSN 0065-9266.

†**Mem. Amer. Philos. Soc.** Memoirs of the American Philosophical Society. Amer. Philos. Soc., Philadelphia, PA. ISSN 0065-9738.

Mem. College Ed. Akita Univ. Natur. Sci. Memoirs of the College of Education Akita University. Natural Science. Akita Univ., Akita. ISSN 0365-1649.

Mem. Differential Equations Math. Phys. Georgian Academy of Sciences. A. Razmadze Mathematical Institute. Memoirs on Differential Equations and Mathematical Physics. Publ. House GCI, Tbilisi. ISSN 1512-0015.

Mem. Fac. Ed. Kumamoto Univ. Natur. Sci. Kumamoto University. Faculty of Education. Memoirs. Natural Science. Kumamoto Univ., Kumamoto. ISSN 0454-6148.

Mem. Fac. Educ. Shiga Univ. III Nat. Sci. Memoirs of Faculty of Education. Shiga University. III: Natural Science. Shiga Univ., Otsu. ISSN 1342-9272.

Mem. Fac. Engrg. Design Kyoto Inst. Tech. Ser. Sci. Tech. Memoirs of the Faculty of Engineering and Design, Kyoto Institute of Technology. Series of Science and Technology. Kyoto Inst. Tech., Kyoto. ISSN 0911-0305.

Mem. Fac. Engrg. Hiroshima Univ. Memoirs of the Faculty of Engineering. Hiroshima University. Hiroshima Univ., Hiroshima. ISSN 0073-2311.

Mem. Fac. Engrg. Miyazaki Univ. Memoirs of the Faculty of Engineering. Miyazaki University. Miyazaki Univ., Miyazaki. ISSN 0540-4924.

§**Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci.** Kumamoto University. Faculty of General Education. Natural Sciences. Memoirs. Mathematics. Kumamoto Univ., Kumamoto. ISSN 0286-5769.

Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci. Memoirs of the Faculty of Science and Engineering Shimane University. Series B. Mathematical Science. Shimane Univ., Matsue. ISSN 1342-7121.

§**Mem. Fac. Sci. Kochi Univ. Ser. A Math.** Kochi University. Faculty of Science. Memoirs. Series A. Mathematics. Kôchi Univ., Kôchi. ISSN 0389-0252.

Mem. Inst. Sci. Engrg. Ritsumeikan Univ. Memoirs of the Institute of Science and Engineering. Ritsumeikan University. Ritsumeikan Univ., Kusatsu. ISSN 0370-4254.

Mem. Muroran Inst. Technol. Memoirs of the Muroran Institute of Technology. Muroran Inst. Tech., Muroran. ISSN 1344-2708.

Mem. Nat. Defense Acad. Memoirs of the National Defense Academy. Mathematics, Physics, Chemistry and Engineering. Nat. Defense Acad., Yokosuka. ISSN 0388-4112.

Mem. Osaka Inst. Tech. Ser. A Memoirs of the Osaka Institute of Technology. Series A. Science & Technology. Osaka Inst. Tech., Osaka. ISSN 0375-0191.

Mem. Osaka Kyoiku Univ. III Natur. Sci. Appl. Sci. Memoirs of Osaka Kyoiku University. III. Natural Science and Applied Science. Osaka Kyoiku Univ., Osaka. ISSN 0373-7411.

Mem. Real Acad. Cienc. Artes Barcelona Memorias de la Real Academia de Ciencias y Artes de Barcelona. Real Acad. Ci. Art., Barcelona. ISSN 0368-8283.

Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid Memorias de la Real Academia de Ciencias Exactas, Físicas y Naturales de Madrid. Serie de Ciencias Exactas. Real Acad. Cienc. Exact. Fis. Natur., Madrid. ISSN 0211-1721.

Mem. School Sci. Engrg. Waseda Univ. Memoirs of the School of Science and Engineering. Waseda University. Waseda Univ., Tokyo. ISSN 0369-1950.

Mem. Secţ. Ştiinţ. Acad. Română Ser. IV Academia Română. Memoriile Secţiilor Ştiinţifice. Seria IV. Ed. Acad. Române, Bucharest.

§**Mém. Soc. Math. Fr. (N.S.)** Mémoires de la Société Mathématique de France. Nouvelle Série. Soc. Math. France, Marseille. ISSN 0249-633X.

†**Memoirs** Memoirs. Aarhus Univ., Aarhus. ISSN 0106-486X.

Menemui Mat. Menemui Matematik. Discovering Mathematics. Malaysian Math. Soc., Kuala Lumpur. ISSN 0126-9003.

Metalogicon Metalogicon. Rivista Internazionale di Logica Pura e Applicata, di Linguistica e di Filosofia. L. E. R., Naples. (Continued as *Metalogicon*)

*†**Metalogicon** Metalogicon. Rivista Internazionale di Logica Pura e Applicata, di Linguistica e di Filosofia. Millenn. Romae, Rome. (Formerly *Metalogicon*)

†**Metatemas** Metatemas. Tusquets, Barcelona.

†**Methoden Verfahren Math. Phys.** Methoden und Verfahren der Mathematischen Physik. [Methods and Procedures in Mathematical Physics] Lang, Frankfurt am Main. ISSN 0170-9321.

†**Méthodes Math. Ingr.** Méthodes Mathématiques pour l'Ingénieur. [Mathematical Methods for the Engineer] Presses Polytech. Univ. Romandes, Lausanne.

*†**Methodol. Comput. Appl. Probab.** Methodology and Computing in Applied Probability. Kluwer Acad. Publ., Hingham, MA. ISSN 1378-5841.

§**Methods Appl. Anal.** Methods and Applications of Analysis. Internat. Press, Cambridge, MA. ISSN 1073-2772.

§**Methods Funct. Anal. Topology** Methods of Functional Analysis and Topology. TBiMC Sci. Publ., Kiev.

Metody Diskret. Anal. Metody Diskretnogo Analiza. Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk. ISSN 0136-1228.

†**Metody Mat. Model.** Методы Математического Моделирования. [Methods of Mathematical Modeling] "Naukova Dumka", Kiev.

Metody Vychisl. Leningradskiĭ Ordena Lenina Gosudarstvennyĭ Universitet imeni A. A. Zhdanova. Metody Vychisleniĭ. Leningrad. Univ., Leningrad. ISSN 0131-2146.

Metrika Metrika. International Journal for Theoretical and Applied Statistics. Physica, Heidelberg. ISSN 0026-1335.

Metroeconomica Metroeconomica. International Review of Economics. Cappelli, Bologna. ISSN 0026-1386.

Metron Metron. Rivista Internazionale di Statistica. Univ. Studi Roma "La Sapienza", Rome. ISSN 0026-1424.

MIC—Model. Identif. Control Modeling, Identification and Control. A Norwegian Research Bulletin. Res. Council Norway, Oslo. ISSN 0332-7353.

§**Michigan Math. J.** The Michigan Mathematical Journal. Univ. Michigan, Ann Arbor, MI. ISSN 0026-2285.

Mind Mind. A Quarterly Review of Philosophy. Oxford Univ. Press, Oxford. ISSN 0026-4423.

Miscelánea Mat. Miscelánea Matemática. Soc. Mat. Mexicana, México.

Missouri J. Math. Sci. Missouri Journal of Mathematical Sciences. Central Missouri State Univ., Dept. Math. and Comp. Sci., Warrensburg, MO. ISSN 0899-6180.

†**MIT Press Ser. Econ. Learn. Soc. Evol.** MIT Press Series on Economic Learning and Social Evolution. MIT Press, Cambridge, MA.

†**MIT Press Ser. Logic Program.** MIT Press Series in Logic Programming. MIT Press, Cambridge, MA. ISSN 1061-0464.

Mitt. Dtsch. Math.-Ver. Mitteilungen der Deutschen Mathematiker-Vereinigung. Deutsche Math. Ver., Berlin. ISSN 0947-4471.

§**Mitt. Math. Ges. Hamburg** Mitteilungen der Mathematischen Gesellschaft in Hamburg. Math. Gesellsch., Hamburg. ISSN 0340-4358.

§**Mitt. Math. Sem. Giessen** Mitteilungen aus dem Mathematischen Seminar Giessen. Univ. Giessen, Giessen. ISSN 0373-8221.

§**MLQ Math. Log. Q.** MLQ. Mathematical Logic Quarterly. Wiley-VCH, Berlin. ISSN 0942-5616.

†**Mod. Deutung Aristot. Log.** Zur Modernen Deutung der Aristotelischen Logik. [On a Modern Interpretation of Aristotelian Logic] Olms, Hildesheim. ISSN 0176-0386.

†**Mod. Probab. Stat.** Modern Probability and Statistics. VSP, Utrecht.

Model. Mekh. Rossiĭskaya Akademiya Nauk. Sibirskoe Otdelenie. Vychislitel'nyĭ Tsentr. Institut Teoreticheskoĭ i Prikladnoĭ Mekhaniki. Modelirovanie v Mekhanike. Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Inst. Teoret. Prikl. Mekh., Novosibirsk. ISSN 0235-2923.

†**Model. Simul. Sci. Eng. Technol.** Modeling and Simulation in Science, Engineering, & Technology. Birkhäuser Boston, Boston, MA.

†**Modern Approaches Geophys.** Modern Approaches in Geophysics. Kluwer Acad. Publ., Dordrecht.

§**Modern Logic** Modern Logic. International Journal for the History of Mathematical Logic, Set Theory, and Foundations of Mathematics. Modern Logic, Ames, IA. ISSN 1047-5982.

Modern Phys. Lett. A Modern Physics Letters A. Particles and Fields, Gravitation, Cosmology, Nuclear Physics. World Sci. Publishing, Singapore. ISSN 0217-7323.

Modern Phys. Lett. B Modern Physics Letters B. Condensed Matter Physics, Statistical Physics, Applied Physics. World Sci. Publishing, Singapore. ISSN 0217-9849.

†**Modular Math. Ser.** Modular Mathematics Series. Arnold, London.

§**Mohu Xitong yu Shuxue** Mohu Xitong yu Shuxue. Fuzzy Systems and Mathematics. Nat. Univ. Defense Tech., Changsha. ISSN 1001-7402.

†**Momenti Probl. Storia Pensiero** Momenti e Problemi della Storia del Pensiero. [Moments and Problems in the History of Thought] Ist. Italiano Studi Filos., Naples.

§**Monatsh. Math.** Monatshefte für Mathematik. Springer, Vienna. ISSN 0026-9255.

†**Monogr.** Monograph. Cracow Univ. Tech., Kraków. (See also *Podstaw. Nauki Tech. Monogr.*) ISSN 0860-097X.

†**Monogr.** Monograph. Internat. Center Numer. Methods Eng. (CIMNE), Barcelona.

†**Monogr. Acad. Ci. Exact. Fis.-Quím. Nat. Zaragoza** Monografías de la Academia de Ciencias Exactas, Físicas, Químicas y Naturales de Zaragoza. [Monographs of the Academy of Exact, Physical, Chemical and Natural Science of Zaragoza] Acad. Cienc. Exact. Fís. Quím. Nat. Zaragoza, Zaragoza.

†**Monogr. Cienc. Tecnol.** Monografías Ciencia y Tecnología. [Science and Technology Monographs] Univ. Almería, Almería.

†**Monogr. Comput. Sci.** Monographs in Computer Science. Springer, New York.

†**Monogr. Contemp. Math.** Monographs in Contemporary Mathematics. Consultants Bureau, New York.

†**Monogr. Mat.** Monografii Matematice. [Mathematical Monographs] Univ. Timişoara, Timişoara.

*†**Monogr. Mat. (Kazan′)** Монографии по Математике (Казань). [Mathematical Monographs (Kazan′)] Kazan. Fond "Mat.", Kazan′. (See also *Kazan Tracts Math.*)

†**Monogr. Math.** Monographs in Mathematics. Birkhäuser, Basel.

*†**Monogr. Ser. Earthq. Eng.** Monograph Series in Earthquake Engineering. Internat. Center Numer. Methods Eng. (CIMNE), Barcelona. ISSN 1134-3249.

†**Monogr. Statist. Appl. Probab.** Monographs on Statistics and Applied Probability. Chapman and Hall, London.

†**Monogr. Textbooks Pure Appl. Math.** Monographs and Textbooks in Pure and Applied Mathematics. Dekker, New York.

†**Monogr. Theoret. Comput. Sci. EATCS Ser.** Monographs in Theoretical Computer Science. An EATCS Series. Springer, Berlin.

†**Monografie** Monografie. [Monographs] Oficyna Wydawn. Politech. Wrocław., Wrocław. ISSN 0324-9786.

§**Monte Carlo Methods Appl.** Monte Carlo Methods and Applications. VSP, Zeist. ISSN 0929-9629.

†**Monte Verità** Monte Verità. Birkhäuser, Basel.

†**Morgan Kaufmann Ser. Comput. Graph. Geom. Model.** The Morgan Kaufmann Series in Computer Graphics and Geometric Modeling. Morgan Kaufmann, San Francisco, CA.

†**Morgan Kaufmann Ser. Data Management Systems** The Morgan Kaufmann Series in Data Management Systems. Morgan Kaufmann, San Francisco, CA.

Moscow Univ. Comput. Math. Cybernet. Moscow University Computational Mathematics and Cybernetics. Allerton, New York. (Translation of *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.*) ISSN 0278-6419.

Moscow Univ. Math. Bull. Moscow University Mathematics Bulletin. Allerton, New York. (Translation of the mathematics section of *Vestnik Moskov. Univ. Ser. I Mat. Mekh.*) ISSN 0027-1332.

¶**MR** Mathematical Reviews. Amer. Math. Soc., Providence, RI. ISSN 0025-5629.

Multibody Syst. Dyn. Multibody System Dynamics. Kluwer Acad. Publ., Dordrecht. ISSN 1384-5640.

Multidimens. Systems Signal Process. Multidimensional Systems and Signal Processing. An International Journal. Kluwer Acad. Publ., Hingham, MA. ISSN 0923-6082.

Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II Nachrichten der Akademie der Wissenschaften in Göttingen. II. Mathematisch-Physikalische Klasse. Vandenhoeck & Ruprecht, Göttingen. ISSN 0065-5295.

§**Nagoya Math. J.** Nagoya Mathematical Journal. Nagoya Univ., Nagoya. ISSN 0027-7630.

§**Nanjing Daxue Xuebao Shuxue Bannian Kan** Nanjing Daxue Xuebao. Shuxue Bannian Kan. Nanjing University. Journal. Mathematical Biquarterly. J. Nanjing Univ., Editor. Board, Nanjing. ISSN 0469-5097.

Nanjing Daxue Xuebao Ziran Kexue Ban Nanjing Daxue Xuebao. Ziran Kexue Ban. Journal of Nanjing University. Natural Sciences. J. Nanjing Univ., Editor. Board, Nanjing. ISSN 0469-5097.

Nanjing Shida Xuebao Ziran Kexue Ban See *J. Nanjing Norm. Univ. Nat. Sci. Ed.*

Nanjing Univ. J. Math. Biquarterly See *Nanjing Daxue Xuebao Shuxue Bannian Kan*

Nanjing Univ. J. Natur. Sci. See *Nanjing Daxue Xuebao Ziran Kexue Ban*

†**NanoSci. Technol.** NanoScience and Technology. Springer, Berlin. ISSN 1434-4904.

Nat. Acad. Sci. Lett. National Academy of Science Letters. A Monthly Journal of Research. Nat. Acad. Sci., Allahabad. ISSN 0250-541X.

†**Nat. Philos.** Natur und Philosophie. [Nature and Philosophy] Frommann-Holzboog, Stuttgart.

*†**Nat. Sci. J. Fac. Educ. Hum. Sci. Yokohama Natl. Univ.** The Natural Sciences. Journal of the Faculty of Education and Human Sciences. Yokohama National University. Yokohama Natl. Univ., Yokohama. (Formerly *Sci. Rep. Yokohama Nat. Univ. Sect. I Math. Phys. Chem.*) ISSN 1344-4646.

†**NATO Adv. Sci. Inst. Ser. B Phys.** NATO Advanced Science Institutes Series B: Physics. Plenum, New York.

†**NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.** NATO Advanced Science Institutes Series C: Mathematical and Physical Sciences. Kluwer Acad. Publ., Dordrecht. (Continued as *NATO Sci. Ser. C Math. Phys. Sci.*)

†**NATO Adv. Sci. Inst. Ser. E Appl. Sci.** NATO Advanced Science Institutes Series E: Applied Sciences. Kluwer Acad. Publ., Dordrecht.

†**NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.** NATO Advanced Science Institutes Series F: Computer and Systems Sciences. Springer, Berlin.

†**NATO ASI Ser. Ser. I Glob. Environ. Change** NATO Advanced Science Institutes Series, Series I: Global Environmental Change. Springer, Berlin.

*†**NATO Sci. Ser. C Math. Phys. Sci.** NATO Science Series C: Mathematical and Physical Sciences. Kluwer Acad. Publ., Dordrecht. (Formerly *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*)

§**Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint** Natsīonal′na Akademīya Nauk Ukraïni. Īnstitut Matematiki. Preprint. Natsīonal. Akad. Nauk Ukraïni, Īnst. Mat., Kiev.

Natur. Resource Modeling Natural Resource Modeling. Rocky Mountain Math. Consortium, Tempe, AZ. ISSN 0890-8575.

Natur. Sci. J. Harbin Normal Univ. Natural Sciences Journal of Harbin Normal University. Harbin Shifan Daxue Ziran Kexue Xuebao. Nat. Sci. J. Harbin Norm. Univ., Harbin. ISSN 1000-5617.

Natur. Sci. J. Huaihua Teachers College See *Huaihua Shizhuan Xuebao*

Natur. Sci. J. Xiangtan Univ. Natural Science Journal of Xiangtan University. Xiangtan Daxue Ziran Kexue Xuebao. J. Xiangtan Univ., Editor. Dept., Xiangtan. ISSN 1000-5900.

Natur. Sci. Rep. Ochanomizu Univ. Natural Science Report of the Ochanomizu University. Ochanomizu Univ., Tokyo. ISSN 0029-8190.

†**Nauchno-Biograf. Lit.** Научно-Биографическая Литература. [Scientific-Biographic Literature] "Nauka", Moscow.

Naval Res. Logist. Naval Research Logistics. An International Journal. Wiley, New York. ISSN 0894-069X.

†**Needham Res. Inst. Stud.** Needham Research Institute Studies. Cambridge Univ. Press, Cambridge.

Neimenggu Daxue Xuebao Ziran Kexue Neimenggu Daxue Xuebao. Ziran Kexue. Acta Scientiarum Naturalium Universitatis Neimenggu. Acta Sci. Natur. Univ. Neimonggol, Editor. Dept., Hohhot. ISSN 1000-1638.

Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban Neimenggu Shida Xuebao. Ziran Kexue. Hanwen Ban. Journal of Inner Mongolia Normal University. Natural Sciences. (Chinese Edition). J. Inner Mongolia Normal Univ., Editor. Dept., Hohhot. ISSN 1001-8735.

Nepali Math. Sci. Rep. The Nepali Mathematical Sciences Report. Tribhuvan Univ., Kathmandu.

Networks Networks. An International Journal. Wiley, New York. ISSN 0028-3045.

†**Neural Netw. Syst. Tech. Appl.** Neural Network Systems Techniques and Applications. Academic Press, San Diego, CA.

Neural Parallel Sci. Comput. Neural, Parallel & Scientific Computations. Dynamic, Atlanta, GA. ISSN 1061-5369.

New Astron. Rev. New Astronomy Reviews. An International Review Journal in Astronomy and Astrophysics. Elsevier, Amsterdam. ISSN 1387-6473.

†**New ICMI Stud. Ser.** New ICMI Studies Series. Kluwer Acad. Publ., Dordrecht.

†**New Math. Library** New Mathematical Library. Math. Assoc. America, Washington, DC.

§E**New York J. Math.** New York Journal of Mathematics. SUNY, Univ. at Albany, Albany, NY. ISSN 1076-9803.

§**New Zealand J. Math.** New Zealand Journal of Mathematics. New Zealand Math. Soc., Wellington. ISSN 1171-6096.

New Zealand Math. Soc. Newslett. New Zealand Mathematical Society Newsletter. New Zealand Math. Soc., Wellington. ISSN 0110-0025.

*E**Nexus Netw. J.** Nexus Network Journal. Architecture and Mathematics On-Line. Nexus Netw. J., Fucecchio. ISSN 1522-4600.

§**Nieuw Arch. Wisk.** (4) Nieuw Archief voor Wiskunde. Vierde Serie. Math. Centrum, Amsterdam. ISSN 0028-9825.

§**Nihonkai Math. J.** Nihonkai Mathematical Journal. Niigata Univ., Niigata. ISSN 1341-9951.

Ningxia Daxue Xuebao Ziran Kexue Ban See *J. Ningxia Univ. Nat. Sci. Ed.*

§**NoDEA Nonlinear Differential Equations Appl.** NoDEA. Nonlinear Differential Equations and Applications. Birkhäuser, Basel. ISSN 1021-9722.

†**Nonconvex Optim. Appl.** Nonconvex Optimization and its Applications. Kluwer Acad. Publ., Dordrecht.

§**Nonlinear Anal.** Nonlinear Analysis. Theory, Methods & Applications. An International Multidisciplinary Journal. Pergamon, Oxford. (Formerly *Nonlinear World*) ISSN 0362-546X.

§**Nonlinear Anal. Forum** Nonlinear Analysis Forum. Kyowoosa, Seoul. (Continued as *Nonlinear Anal. Forum*)

§**Nonlinear Anal. Forum** Nonlinear Analysis Forum. Sejong, Pusan. (Formerly *Nonlinear Anal. Forum*) ISSN 1226-7228.

Nonlinear Dynam. Nonlinear Dynamics. An International Journal of Nonlinear Dynamics and Chaos in Engineering Systems. Kluwer Acad. Publ., Dordrecht. ISSN 0924-090X.

†**Nonlinear Phenom. Complex Systems** Nonlinear Phenomena and Complex Systems. Kluwer Acad. Publ., Dordrecht.

E**Nonlinear Sci. Today** Nonlinear Science Today. Springer, Secaucus, NJ. (See also *J. Nonlinear Sci.*) ISSN 0938-9008.

§**Nonlinear Stud.** Nonlinear Studies. Carfax, Basingstoke. ISSN 1359-8678.

§**Nonlinear World** Nonlinear World. Int. Fed. Nonlinear Anal., Melbourne, FL. (Continued as *Nonlinear Anal.*) ISSN 0942-5608.

§**Nonlinearity** Nonlinearity. Inst. Phys., Bristol. ISSN 0951-7715.

Nordic J. Comput. Nordic Journal of Computing. Publ. Assoc. Nordic J. Comput., Helsinki. ISSN 1236-6064.

Nordic J. Philos. Logic Nordic Journal of Philosophical Logic. Scand. Univ. Press, Oslo. ISSN 0806-6205.

Normat Normat. Nordisk Matematisk Tidskrift. Scand. Univ. Press, Oslo. ISSN 0801-3500.

†**North-Holland Math. Library** North-Holland Mathematical Library. North-Holland, Amsterdam.

†**North-Holland Math. Stud.** North-Holland Mathematics Studies. North-Holland, Amsterdam.

†**North-Holland Ser. Appl. Math. Mech.** North-Holland Series in Applied Mathematics and Mechanics. North-Holland, Amsterdam.

Northeast. Math. J. Northeastern Mathematical Journal. Dongbei Shuxue. Northeastern Math. J., Editor. Comm., Changchun. ISSN 1000-1778.

*†**Norton Hist. Sci.** Norton History of Science. Norton, New York.
†**Notas Lógica Mat.** Notas de Lógica Matemática. [Notes on Mathematical Logic] Univ. Nac. del Sur, Bahía Blanca.
§**Notas Soc. Mat. Chile** Notas de la Sociedad de Matemática de Chile. Soc. Mat. Chile, Santiago. ISSN 0716-1298.
§**Note Mat.** Note di Matematica. Univ. Stud. Lecce, Lecce.
Notes and Records Roy. Soc. London Notes and Records of the Royal Society of London. Roy. Soc. London, London. ISSN 0035-9149.
§**Notes IFS** Notes on Intuitionistic Fuzzy Sets. Prof. M. Drinov Acad. Publ. House, Sofia. ISSN 1310-4926.
Notes Number Theory Discrete Math. Notes on Number Theory and Discrete Mathematics. Prof. M. Drinov Acad. Publ. House, Sofia. ISSN 1310-5132.
†**Notes Numer. Fluid Mech.** Notes on Numerical Fluid Mechanics. Vieweg, Braunschweig. ISSN 0179-9614.
Notices Amer. Math. Soc. Notices of the American Mathematical Society. Amer. Math. Soc., Providence, RI. ISSN 0002-9920.
§**Notre Dame J. Formal Logic** Notre Dame Journal of Formal Logic. Univ. Notre Dame, Notre Dame, IN. ISSN 0029-4527.
Noûs Noûs. Blackwell, Malden, MA. ISSN 0029-4624.
†**Nouv. Bibl. Math.** Nouvelle Bibliothèque Mathématique. [New Mathematics Library] Cassini, Paris.
Nova Acta Leopoldina (N.F.) Deutsche Akademie der Naturforscher Leopoldina. Abhandlungen. Nova Acta Leopoldina. Neue Folge. Deutsche Akad. Naturforscher Leopoldina, Halle an der Saale. ISSN 0369-5034.
§**Nova J. Math. Game Theory Algebra** Nova Journal of Mathematics, Game Theory and Algebra. Nova Sci. Publ., Commack, NY. (Continued as *Int. J. Math. Game Theory Algebra*) ISSN 1060-9881.
Nova J. Theor. Phys. Nova Journal of Theoretical Physics. Nova Sci. Publ., Commack, NY. (Continued as *Int. J. Theor. Phys. Group Theory Nonlinear Opt.*) ISSN 1070-2458.
§**Novi Sad J. Math.** Novi Sad Journal of Mathematics. Univ. Novi Sad, Novi Sad. ISSN 0352-0900.
†**Novoe Global. Anal.** Новое в Глобальном Анализе. [New Results in Global Analysis] Izdat. Voronezh. Univ., Voronezh.
*†**NTM (N.S.)** NTM Neue Serie. Internationale Zeitschrift für Geschichte und Ethik der Naturwissenschaften, Technik und Medizin. New Series. International Journal of History and Ethics of Natural Sciences, Technology and Medicine. Birkhäuser, Basel. ISSN 0036-6978.
Nuclear Phys. B Nuclear Physics. B. North-Holland, Amsterdam. ISSN 0550-3213.
Nuclear Phys. B Proc. Suppl. Nuclear Physics B. Proceedings Supplement. North-Holland, Amsterdam. ISSN 0920-5632.
§**Numer. Algorithms** Numerical Algorithms. Baltzer, Bussum. ISSN 1017-1398.
§**Numer. Funct. Anal. Optim.** Numerical Functional Analysis and Optimization. An International Journal. Dekker, Monticello, NY. ISSN 0163-0563.
§**Numer. Linear Algebra Appl.** Numerical Linear Algebra with Applications. Wiley, Chichester. ISSN 1070-5325.
§**Numer. Math.** Numerische Mathematik. Springer, Heidelberg. ISSN 0029-599X.
§**Numer. Math. J. Chinese Univ.** Numerical Mathematics. A Journal of Chinese Universities. Gaodeng Xuexiao Jisuan Shuxue Xuebao. Numer. Math. J. Chinese Univ., Editor. Dept., Nanjing. (Differs from *Numer. Math. J. Chinese Univ. (English Ser.)*) ISSN 1000-081X.
§**Numer. Math. J. Chinese Univ. (English Ser.)** Numerical Mathematics. A Journal of Chinese Universities. (English Series). Nanjing Univ. Press, Nanjing. (Differs from *Numer. Math. J. Chinese Univ.*) ISSN 1004-8979.
†**Numer. Math. Sci. Comput.** Numerical Mathematics and Scientific Computation. Oxford Univ. Press, New York.
Numer. Methods Partial Differential Equations Numerical Methods for Partial Differential Equations. An International Journal. Wiley, New York. ISSN 0749-159X.
Nuncius Ann. Storia Sci. Istituto e Museo di Storia della Scienza Firenze. Nuncius. Annali di Storia della Scienza. Olschki, Florence. ISSN 0394-7394.
Nuovo Cimento Soc. Ital. Fis. A (12) Il Nuovo Cimento della Società Italiana di Fisica. A. Serie 12. Compositori, Bologna. ISSN 0369-3546.
Nuovo Cimento Soc. Ital. Fis. B (12) Il Nuovo Cimento della Società Italiana di Fisica. B. Serie 12. Compositori, Bologna. ISSN 0369-3554.
Obzornik Mat. Fiz. Društvo Matematikov, Fizikov in Astronomov Slovenije. Obzornik za Matematiko in Fiziko. Društvo Mat. Fiz. Astronom. Slovenije, Ljubljana. ISSN 0473-7466.
Ocherki Istor. Estestvoznan. Tekhn. Akademiya Nauk Ukrainy. Ocherki Istorii Estestvoznaniya i Tekhniki. "Naukova Dumka", Kiev. ISSN 0320-0647.
Octogon Math. Mag. Octogon Mathematical Magazine. Fulgur, Braşov. ISSN 1222-5657.
†**Ohio State Univ. Math. Res. Inst. Publ.** Ohio State University Mathematical Research Institute Publications. de Gruyter, Berlin. ISSN 0942-0363.
*§**Open Syst. Inf. Dyn.** Open Systems & Information Dynamics. Kluwer Acad. Publ., Dordrecht. ISSN 1230-1612.
Oper. Res. Operations Research. The Journal of the Operations Research Society of America. INFORMS, Linthicum, MD. ISSN 0030-364X.
Oper. Res. Lett. Operations Research Letters. North-Holland, Amsterdam. ISSN 0167-6377.
†**Oper. Res./Comput. Sci. Interfaces Ser.** Operations Research/Computer Science Interfaces Series. Kluwer Acad. Publ., Boston, MA.
†**Oper. Theory Adv. Appl.** Operator Theory: Advances and Applications. Birkhäuser, Basel.
Opsearch Opsearch. Quarterly Journal of the Operational Research Society of India. Oper. Res. Soc. India, Calcutta. ISSN 0030-3887.
†**Optim. Issled. Oper.** Оптимизация и Исследование Операций. [Optimization and Operations Research] Fizmatlit "Nauka", Moscow.
§**Optim. Methods Softw.** Optimization Methods and Software. Gordon and Breach, Yverdon. ISSN 1055-6788.
Optimal Control Appl. Methods Optimal Control Applications & Methods. Wiley, Chichester. ISSN 0143-2087.
§**Optimization** Optimization. A Journal of Mathematical Programming and Operations Research. Gordon and Breach, Yverdon. ISSN 0233-1934.
Optimizatsiya Rossiĭskaya Akademiya Nauk. Sibirskoe Otdelenie. Institut Matematiki. Optimizatsiya. Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk. ISSN 0134-3998.
§**Opuscula Math.** Opuscula Mathematica. Akademii Górniczo-Hutniczej im. Stanisława Staszica w Krakowie. Rocznik. Wydawnictwa AGH, Kraków. ISSN 1232-9274.
OR Spektrum OR Spektrum. Quantitative Approaches in Management. Springer, Heidelberg. ISSN 0171-6468.
§**Order** Order. A Journal on the Theory of Ordered Sets and its Applications. Kluwer Acad. Publ., Dordrecht. ISSN 0167-8094.
§**Osaka J. Math.** Osaka Journal of Mathematics. Osaka Univ., Osaka. ISSN 0030-6126.
Osiris (2) Osiris. A Research Journal Devoted to the History of Science and its Cultural Influences. Second Series. Univ. Chicago Press, Chicago, IL. ISSN 0369-7827.
†**Osnabrück. Stud. Math.** Osnabrücker Studien zur Mathematik. [Osnabrück Studies in Mathematics] Universitätsverlag Rasch, Osnabrück.
Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II Österreichische Akademie der Wissenschaften Mathematisch-Naturwissenschaftliche Klasse. Sitzungsberichte. Abteilung II. Mathematische, Physikalische und Technische Wissenschaften. Österreich. Akad. Wissensch., Vienna. ISSN 0723-9319.
Otbor i Obrabotka Informatsii Akademiya Nauk Ukrainy. Otbor i Obrabotka Informatsii. "Naukova Dumka", Kiev. ISSN 0474-8662.
*†**Oxf. Aristotle Stud.** Oxford Aristotle Studies. Oxford Univ. Press, New York. (See also *Clarendon Aristotle Ser.*)
†**Oxf. Class. Texts Phys. Sci.** Oxford Classic Texts in the Physical Sciences. Oxford Univ. Press, New York.
†**Oxf. Grad. Texts Math.** Oxford Graduate Texts in Mathematics. Oxford Univ. Press, New York.
*†**Oxf. Philos. Monogr.** Oxford Philosophical Monographs. Oxford Univ. Press, New York.
†**Oxf. Read. Philos.** Oxford Readings in Philosophy. Oxford Univ. Press, New York.
†**Oxford Appl. Math. Comput. Sci. Ser.** Oxford Applied Mathematics and Computing Science Series. Oxford Univ. Press, New York.
†**Oxford Engrg. Sci. Ser.** Oxford Engineering Science Series. Oxford Univ. Press, New York.
†**Oxford Lecture Ser. Math. Appl.** Oxford Lecture Series in Mathematics and its Applications. Oxford Univ. Press, New York.
†**Oxford Logic Guides** Oxford Logic Guides. Oxford Univ. Press, New York.
†**Oxford Math. Monogr.** Oxford Mathematical Monographs. Oxford Univ. Press, New York.
†**Oxford Sci. Publ.** Oxford Science Publications. Oxford Univ. Press, Oxford.
†**Oxford Statist. Sci. Ser.** Oxford Statistical Science Series. Oxford Univ. Press, New York.
†**Pachart Hist. Astronom. Ser.** Pachart History of Astronomy Series. Pachart, Tucson, AZ.
§**Pacific J. Math.** Pacific Journal of Mathematics. Pacific J. Math., Berkeley, CA. ISSN 0030-8730.
†**Pageoph Top. Vol.** Pageoph Topical Volumes. Birkhäuser, Basel.
Pakistan J. Statist. Pakistan Journal of Statistics. Pakistan J. Statist., Lahore. ISSN 1012-9367.
§**Panamer. Math. J.** Panamerican Mathematical Journal. Internat. Publ., Orlando, FL. ISSN 1064-9735.
†**Panor. Synthèses** Panoramas et Synthèses. [Panoramas and Syntheses] Soc. Math. France, Paris. ISSN 1272-3835.
Parallel Algorithms Appl. Parallel Algorithms and Applications. Gordon and Breach, Yverdon. ISSN 1063-7192.
Parallel Comput. Parallel Computing. Elsevier, Amsterdam. ISSN 0167-8191.
Parallel Process. Lett. Parallel Processing Letters. World Sci. Publishing, Singapore. ISSN 0219-6264.
Parisankhyan Samikkha Parisankhyan Samikkha. An International Journal of Statistics. Univ. Dhaka, Dhaka. ISSN 1022-1212.
§**Period. Math. Hungar.** Periodica Mathematica Hungarica. Journal of the János Bolyai Mathematical Society. Akad. Kiadó, Budapest. ISSN 0031-5303.
Period. Polytech. Mech. Engrg. Periodica Polytechnica. Mechanical Engineering. Tech. Univ. Budapest, Budapest. ISSN 0324-6051.
†**Perspect. Math.** Perspectives in Mathematics. Academic Press, Boston, MA.
†**Perspect. Math. Logic** Perspectives in Mathematical Logic. Springer, New York. ISSN 0172-6641.
†**Perspect. Neural Comput.** Perspectives in Neural Computing. Springer, New York.
Perspect. Sci. Perspectives on Science. Historical, Philosophical, Social. Univ. Chicago Press, Chicago, IL. (Continued as *Perspect. Sci.*) ISSN 1063-6145.
*†**Perspect. Sci.** Perspectives on Science. Historical, Philosophical, Social. MIT Press, Cambridge, MA. (Formerly *Perspect. Sci.*) ISSN 1063-6145.
Philips J. Res. Philips Journal of Research. Elsevier, Oxford. ISSN 0165-5817.
†**Philos. Abhandlungen** Philosophische Abhandlungen. [Philosophical Essays] Klostermann, Frankfurt am Main.
†**Philos. Bibliothek** Philosophische Bibliothek. [Philosophical Library] Meiner, Hamburg.
§**Philos. Math. (3)** Philosophia Mathematica. Philosophy of Mathematics, its Learning, and its Application. Series III. Canad. Soc. Hist. Philos. Math., Winnipeg, MB. ISSN 0031-8019.
Philos. Natur. Philosophia Naturalis. Klostermann, Frankfurt am Main. ISSN 0031-8027.
†**Philos. Perspect.** Philosophical Perspectives. A Supplement to Noûs. Blackwell, Cambridge, MA. (See also *Noûs*) ISSN 0029-4624.
Philos. Quart. The Philosophical Quarterly. Blackwell, Oxford. ISSN 0031-8094.

Philos. Sci. Philosophy of Science. Univ. Chicago Press, Chicago, IL. ISSN 0031-8248.
Philos. Stud. Philosophical Studies. An International Journal for Philosophy in the Analytic Tradition. Kluwer Acad. Publ., Dordrecht. ISSN 0031-8116.
Philosophica Philosophica. Philosophica, Ghent. ISSN 0379-8402.
†**Philosophies** Philosophies. Presses Univ. France, Paris.
Phys. A Physica A. Statistical Mechanics and its Applications. North-Holland, Amsterdam. ISSN 0378-4371.
Phys. Atomic Nuclei Physics of Atomic Nuclei. MAIK Nauka/Interperiod. Publ., Moscow. ISSN 1063-7788.
†**Phys. Atoms and Molecules** Physics of Atoms and Molecules. Plenum, New York.
Phys. D Physica D. Nonlinear Phenomena. North-Holland, Amsterdam. ISSN 0167-2789.
Phys. Essays Physics Essays. An International Journal Dedicated to Fundamental Questions in Physics. Phys. Essays Publ., Hull, QC. ISSN 0836-1398.
Phys. Fluids Physics of Fluids. Amer. Inst. Phys., Woodbury, NY. ISSN 1070-6631.
Phys. Lett. A Physics Letters. A. North-Holland, Amsterdam. ISSN 0375-9601.
Phys. Lett. B Physics Letters. B. Elsevier, Amsterdam. ISSN 0370-2693.
†**Phys. Notes** Physics Notes. Princeton Univ. Press, Princeton, NJ.
Phys. Particles Nuclei Physics of Particles and Nuclei. Amer. Inst. Phys., Woodbury, NY. (Translation of *Fiz. Èlementar. Chastits i Atom. Yadra*) ISSN 1063-7796.
*†**Phys. Perspect.** Physics in Perspective. Birkhäuser, Basel. ISSN 1422-6944.
Phys. Plasmas Physics of Plasmas. Amer. Inst. Phys., Woodbury, NY. ISSN 1070-664X.
Phys. Rep. Physics Reports. A Review Section of Physics Letters. North-Holland, Amsterdam. ISSN 0370-1573.
Phys. Rep. Kumamoto Univ. Physics Reports of Kumamoto University. Kumamoto Univ., Dept. Phys., Kumamoto. ISSN 0303-4070.
Phys. Rev. A (3) Physical Review. A. Third Series. Amer. Inst. Phys., Woodbury, NY. ISSN 1050-2947.
Phys. Rev. D (3) Physical Review. D. Third Series. Amer. Phys. Soc., College Park, MD. ISSN 0556-2821.
Phys. Rev. E (3) Physical Review E. Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics. Third Series. Amer. Phys. Soc., College Park, MD. ISSN 1063-651X.
Phys. Rev. Lett. Physical Review Letters. Amer. Phys. Soc., College Park, MD. ISSN 0031-9007.
Phys. Scripta Physica Scripta. An International Journal for Experimental and Theoretical Physics. Royal Swedish Acad. Sci., Stockholm. ISSN 0031-8949.
Physis Riv. Internaz. Storia Sci. (N.S.) Physis—Rivista Internazionale di Storia della Scienza. Nuova Serie. Olschki, Florence. ISSN 0031-9414.
Pis'ma Zh. Èksper. Teoret. Fiz. Pis'ma v Zhurnal Èksperimental'noĭ i Teoreticheskoĭ Fiziki. "Nauka", Moscow. (Translated in *JETP Lett.*)
†**Pitman Monogr. Surveys Pure Appl. Math.** Pitman Monographs and Surveys in Pure and Applied Mathematics. Longman, Harlow. (Continued as *Chapman & Hall/CRC Monogr. Surv. Pure Appl. Math.*) ISSN 0269-3666.
†**Pitman Res. Notes Math. Ser.** Pitman Research Notes in Mathematics Series. Longman, Harlow. (Continued as *Chapman & Hall/CRC Res. Notes Math.*) ISSN 0269-3674.
*†**Plenum Ser. Demogr. Methods Popul. Anal.** The Plenum Series on Demographic Methods and Population Analysis. Plenum, New York.
Plovdiv. Univ. Paisiĭ Khilendarski Nauchn. Trud. Mat. Plovdivski Universitet "Paisiĭ Khilendarski". Nauchni Trudove. Matematika. Plovdiv. Univ. Izdat., Plovdiv. ISSN 0204-5249.
†**Podiplomski Sem. Mat.** Podiplomski Seminar iz Matematike. [Graduate Seminar in Mathematics] Društvo Mat. Fiz. Astronom. Slovenije, Ljubljana.
Politeh. Univ. Buchar. Sci. Bull. Ser. B Chem. Mater. Sci. "Politehnica" University of Bucharest. Scientific Bulletin. Series B. Chemistry and Materials Science. "Politeh." Univ. Buchar., Bucharest. ISSN 1454-2331.
Politeh. Univ. Buchar. Sci. Bull. Ser. C Electr. Eng. "Politehnica" University of Bucharest. Scientific Bulletin. Series C. Electrical Engineering. "Politeh." Univ. Buchar., Bucharest. ISSN 1454-234X.
Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys. "Politehnica" University of Bucharest. Scientific Bulletin. Series A. Applied Mathematics and Physics. "Politeh." Univ. Buchar., Bucharest. ISSN 1223-7027.
Politehn. Univ. Bucharest Sci. Bull. Ser. D Mech. Engrg. "Politehnica" University of Bucharest. Scientific Bulletin. Series D. Mechanical Engineering. "Politeh." Univ. Buchar., Bucharest. ISSN 1454-2358.
†**Pomoshch' Abitur.** В Помощь Абитуриенту. [An Aid for Entrance Examinations] "Faktorial", Moscow.
†**Pontif. Acad. Sci. Scr. Varia** Pontificae Academiae Scientiarum Scripta Varia. Pontif. Acad. Sci., Vatican City.
§**Portugal. Math.** Portugaliae Mathematica. Portuguese Math. Soc., Lisbon. ISSN 0032-5155.
†**Posebna Izdan.** Posebna Izdanja. [Special Editions] Math. Inst., Belgrade.
*§**Positivity** Positivity. An International Journal devoted to the Theory and Applications of Positivity in Analysis. Kluwer Acad. Publ., Dordrecht. ISSN 1385-1292.
Postępy Cybernet. Polskie Towarzystwo Cybernetyczne. Postępy Cybernetyki. Kwartalnik Naukowy. Wydawn. Polskiej Akad. Nauk, Warsaw. ISSN 0137-3595.
§**Potential Anal.** Potential Analysis. An International Journal Devoted to the Interactions between Potential Theory, Probability Theory, Geometry and Functional Analysis. Kluwer Acad. Publ., Dordrecht. ISSN 0926-2601.
†**Poznań Stud. Philos. Sci. Humanities** Poznań Studies in the Philosophy of the Sciences and the Humanities. Rodopi, Amsterdam. ISSN 0303-8157.
†**Pr. Nauk. Uniw. Śl. Katow.** Prace Naukowe Uniwersytetu Śląskiego w Katowicach. [Scientific Publications of the University of Silesia] Wydawn. Uniw. Śląskiego, Katowice. (See also *Ann. Math. Sil.*) ISSN 0208-6336.
†**Prace Nauk. Inst. Cybernet. Tech. Politech. Wrocław.** Prace Naukowe Instytutu Cybernetyki Technicznej Politechniki Wrocławskiej. [Scientific Papers of the Institute of Technical Cybernetics of the Technical University of Wrocław] Oficyna Wydawn. Politech. Wrocław., Wrocław. ISSN 0324-9786.
Prace Nauk. Inst. Cybernet. Tech. Politech. Wrocław. Ser. Monograf. Politechnika Wrocławska. Instytut Cybernetyki Technicznej. Prace Naukowe. Seria Monografie. Wydawn. Politech. Wrocław., Wrocław. ISSN 0324-9786.
Prace Nauk. Inst. Mat. Politech. Wrocław. Ser. Monograf. Wrocław. Politechnika Wrocławska. Instytut Matematyki. Prace Naukowe. Seria Monografie. Wydawn. Politech. Wrocław., Wrocław. ISSN 0324-9603.
†**Prentice Hall Internat. Ser. Comput. Sci.** Prentice Hall International Series in Computer Science. Prentice Hall, Englewood Cliffs, NJ. (See also *Prentice Hall Ser. Comput. Sci.*)
†**Prentice Hall Ser. Environ. Intell. Manuf. Syst.** Prentice Hall Series on Environmental and Intelligent Manufacturing Systems. Prentice Hall PTR, Upper Saddle River, NJ.
*†**Prepr. Inst. Kibern. im. V. M. Glushkova Nats. Akad. Nauk Ukr.** Препринт. Институт Кибернетики имени В. М. Глушкова. Национальная Академия Наук Украины. [Preprint. V. M. Glushkov Institute of Cybernetics. National Academy of Sciences of Ukraine] Nats. Akad. Nauk Ukr. Inst. Kibern. im. V. M. Glushkova, Kiev. (Formerly *Preprint*)
*†**Prepr. Inst. Prikl. Mat. im. M. V. Keldysha Ross. Akad. Nauk** Preprint. Institut Prikladnoĭ Matematiki imeni M. V. Keldysha Rossiĭskoĭ Akademii Nauk. Ross. Akad. Nauk, Inst. Prikl. Mat. im. M. V. Keldysha, Moscow.
*†**Prepr. Inst. Vychisl. Mat. Mat. Geofiz. Ross. Akad. Nauk Sib. Otd.** Препринт. Институт Вычислительной Математики и Математической Геофизики. Российская Академия Наук. Сибирское Отделение. [Preprint. Institute of Computational Mathematics and Mathematical Geophysics. Russian Academy of Sciences. Siberian Branch] Ross. Akad. Nauk Sib. Otd. Inst. Vychisl. Mat. Mat. Geofiz., Novosibirsk. (Formerly *Prepr. Vychisl. Tsentr Ross. Akad. Nauk Sib. Otd.*)
*†**Prepr. Vychisl. Tsentr Ross. Akad. Nauk Sib. Otd.** Препринт. Вычислительный Центр. Российская Академия Наук. Сибирское Отделение. [Preprint. Computing Center. Russian Academy of Sciences. Siberian Branch] Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk. (Continued as *Prepr. Inst. Vychisl. Mat. Mat. Geofiz. Ross. Akad. Nauk Sib. Otd.*; Formerly *Preprint*)
†**Preprint** Preprint. "Babeş-Bolyai" Univ., Cluj-Napoca.
†**Preprint** Препринт. [Preprint] Nats. Akad. Nauk Ukr. Inst. Kibern. im. V. M. Glushkova, Kiev. (Continued as *Prepr. Inst. Kibern. im. V. M. Glushkova Nats. Akad. Nauk Ukr.*)
†**Preprint** Препринт. [Preprint] Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk. (Continued as *Prepr. Vychisl. Tsentr Ross. Akad. Nauk Sib. Otd.*)
†**Preprint** Препринт. [Preprint] Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg.
†**Prépubl. Inst. Rech. Math. Av.** Prépublication de l'Institut de Recherche Mathématique Avancée. [Prepublication of the Institute of Advanced Mathematical Research] Univ. Louis Pasteur, Strasbourg. ISSN 0755-3390.
Prikl. Mat. Mekh. Rossiĭskaya Akademiya Nauk. Prikladnaya Matematika i Mekhanika. "Nauka", Moscow. (Translated in *J. Appl. Math. Mech.*) ISSN 0032-8235.
Prikl. Mekh. Natsional'naya Akademiya Nauk Ukrainy. Institut Mekhaniki im. S. P. Timoshenko. Mezhdunarodnyĭ Nauchnyĭ Zhurnal. Prikladnaya Mekhanika. Nats. Akad. Nauk Ukrainy, Inst. Mekh. im. S. P. Timoshenko, Kiev. (Translated in *Internat. Appl. Mech.*) ISSN 0032-8243.
Prikl. Problemy Proch. i Plast. Gor'kovskiĭ Gosudarstvennyĭ Universitet imeni N. I. Lobachevskogo. Prikladnye Problemy Prochnosti i Plastichnosti. Gor'kov. Gos. Univ., Gorki. ISSN 0132-7186.
†**Princeton Landmarks Math.** Princeton Landmarks in Mathematics. Princeton Univ. Press, Princeton, NJ.
†**Princeton Landmarks Phys.** Princeton Landmarks in Physics. Princeton Univ. Press, Princeton, NJ.
†**Princeton Math. Ser.** Princeton Mathematical Series. Princeton Univ. Press, Princeton, NJ.
†**Princeton Paperbacks** Princeton Paperbacks. Princeton Univ. Press, Princeton, NJ.
†**Princeton Sci. Lib.** Princeton Science Library. Princeton Univ. Press, Princeton, NJ.
†**Princeton Ser. Astrophys.** Princeton Series in Astrophysics. Princeton Univ. Press, Princeton, NJ.
†**Princeton Ser. Phys.** Princeton Series in Physics. Princeton Univ. Press, Princeton, NJ.
*†**Princeton Stud. Complex.** Princeton Studies in Complexity. Princeton Univ. Press, Princeton, NJ.
Prirod.-Mat. Fak. Univ. Kiril Metodij Skopje Godishen Zb. Prirodno-Matematichki Fakultet na Univerzitetot "Sv. Kiril i Metodij" -Skopje. Godishen Zbornik. Faculte des Sciences de l'Universite "Kiril et Metodij" -Skopje. Annuaire. Univ. "Kiril et Metodij", Skopje. ISSN 0351-7441.
Priroda Priroda. "Nauka", Moscow. ISSN 0032-874X.
†**Probab. Appl.** Probability and its Applications. Birkhäuser Boston, Boston, MA.
†**Probab. Appl.** Probability and its Applications. Springer, New York.
§**Probab. Engrg. Inform. Sci.** Probability in the Engineering and Informational Sciences. Cambridge Univ. Press, New York. ISSN 0269-9648.
†**Probab. Math. Statist.** Probability and Mathematical Statistics. Academic Press, Boston, MA.
§**Probab. Math. Statist.** Probability and Mathematical Statistics. Wydawn. Uniw. Wrocław., Wrocław. ISSN 0208-4147.
†**Probab. Stochastics Ser.** Probability and Stochastics Series. CRC, Boca Raton, FL.
§**Probab. Theory Related Fields** Probability Theory and Related Fields. Springer, Berlin. ISSN 0178-8051.
†**Probl. Controv.** Problèmes et Controverses. [Problems and Controversies] Vrin, Paris. ISSN 0249-7875.
†**Probl. Math. Écrit CAPES 1991–1996** Problèmes de Mathématiques. Écrit du CAPES 1991–1996. [Mathematics Problems. CAPES Exams 1991–1996] Masson, Paris.
†**Problem Books in Math.** Problem Books in Mathematics. Springer, New York.
Problemi Tekhn. Kibernet. Robot. Problemi na Tekhnicheskata Kibernetika i Robotikata. Problems of Engineering Cybernetics and Robotics. Akademichno Izdatelstvo "Prof. M. Drinov", Sofia. ISSN 0204-9848.

Problems Inform. Transmission Problems of Information Transmission. Consultants Bureau, New York. (Translation of *Problemy Peredachi Informatsii*) ISSN 0032-9460.

Problemy Mat. Zeszyty Naukowe Wyższej Szkoły Pedagogicznej w Bydgoszczy. Problemy Matematyczne. Wydawn. Uczel. WSP, Bydgoszcz. ISSN 0137-6675.

Problemy Peredachi Informatsii Rossiĭskaya Akademiya Nauk. Problemy Peredachi Informatsii. "Nauka", Moscow. (Translated in *Problems Inform. Transmission*) ISSN 0555-2923.

Problemy Teor. Gravitatsii i Èlement. Chastits Problemy Teorii Gravitatsii i Èlementarnykh Chastits. "Atomizdat", Moscow.

Problemy Upravlen. Inform. Natsional'naya Akademiya Nauk Ukrainy. Problemy Upravleniya i Informatiki. Nats. Akad. Nauk Ukr. Inst. Kibern. im. V. M. Glushkova, Kiev. (Translated in *J. Automat. Inform. Sci.*) ISSN 0572-2691.

Problemy Yadern. Fiz. i Kosm. Lucheĭ Problemy Yadernoĭ Fiziki i Kosmicheskikh Lucheĭ. "Osnova", Khar'kov. ISSN 0131-3142.

§**Proc. A. Razmadze Math. Inst.** Georgian Academy of Sciences. Proceedings of A. Razmadze Mathematical Institute. Publ. House GCI, Tbilisi. ISSN 1512-0007.

§**Proc. Amer. Math. Soc.** Proceedings of the American Mathematical Society. Amer. Math. Soc., Providence, RI. ISSN 0002-9939.

*†**Proc. Br. Acad.** Proceedings of the British Academy. Oxford Univ. Press, Oxford. ISSN 0068-1202.

†**Proc. Centre Math. Appl. Austral. Nat. Univ.** Proceedings of the Centre for Mathematics and its Applications, Australian National University. Austral. Nat. Univ., Canberra.

§**Proc. Edinburgh Math. Soc. (2)** Proceedings of the Edinburgh Mathematical Society. Series II. Oxford Univ. Press, Oxford. ISSN 0013-0915.

Proc. Est. Acad. Sci. Eng. Proceedings of the Estonian Academy of Sciences. Engineering. Eesti Teaduste Akadeemia Toimetised. Tehnikateadused. Est. Acad. Publ., Tallinn. ISSN 1406-0175.

Proc. Estonian Acad. Sci. Phys. Math. Estonian Academy of Sciences. Proceedings. Physics. Mathematics. Eesti Teaduste Akadeemia. Toimetised. Füüsika. Matemaatika. Est. Acad. Publ., Tallinn. ISSN 1406-0086.

Proc. Indian Acad. Sci. Math. Sci. Indian Academy of Sciences. Proceedings. Mathematical Sciences. Indian Acad. Sci., Bangalore. ISSN 0253-4142.

Proc. Indian Nat. Sci. Acad. Part A Proceedings of the Indian National Science Academy. Part A. Reviews and Tracts. Physical Sciences. Indian Nat. Sci. Acad., New Delhi. ISSN 0370-0046.

Proc. Inst. Statist. Math. The Proceedings of the Institute of Statistical Mathematics. Inst. Statist. Math., Tokyo. ISSN 0912-6112.

†**Proc. Internat. School Phys. Enrico Fermi** Proceedings of the International School of Physics "Enrico Fermi". IOS, Amsterdam.

§**Proc. Japan Acad. Ser. A Math. Sci.** Japan Academy. Proceedings. Series A. Mathematical Sciences. Japan Acad., Tokyo. ISSN 0386-2194.

Proc. Konink. Nederl. Akad. Wetensch. Koninklijke Nederlandse Akademie van Wetenschappen. Proceedings. Biological, Chemical, Geological, Physical and Medical Sciences. North-Holland, Amsterdam. ISSN 0924-8328.

§**Proc. London Math. Soc. (3)** Proceedings of the London Mathematical Society. Third Series. London Math. Soc., London. ISSN 0024-6115.

Proc. Math. Phys. Soc. Egypt Proceedings of the Mathematical and Physical Society of Egypt. Nat. Inform. Documentation Centre, Cairo. ISSN 1110-0613.

Proc. Math. Soc. Proceedings of the Mathematical Society. Banaras Hindu Univ., Varanasi.

Proc. Nat. Acad. Sci. India Sect. A Proceedings of the National Academy of Sciences, India. Section A. Nat. Acad. Sci., Allahabad. ISSN 0369-8203.

Proc. Natl. Acad. Sci. USA Proceedings of the National Academy of Sciences of the United States of America. Nat. Acad. Sci., Washington, DC. ISSN 1091-6490.

Proc. Pakistan Acad. Sci. Proceedings of the Pakistan Academy of Sciences. Pakistan Acad. Sci., Islamabad. ISSN 0377-2969.

§**Proc. Roy. Irish Acad. Sect. A** Proceedings of the Royal Irish Academy. Section A. Mathematical and Physical Sciences. Roy. Irish Acad., Dublin. ISSN 0035-8975.

§**Proc. Roy. Soc. Edinburgh Sect. A** Proceedings of the Royal Society of Edinburgh. Section A. Mathematics. Royal Soc. Edinburgh, Edinburgh. ISSN 0308-2105.

Proc. Sch. Sci. Tokai Univ. Proceedings of the School of Science of Tokai University. Tokai Univ., Kanagawa-ken. ISSN 0919-5025.

†**Proc. SPIE** Proceedings. SPIE. SPIE, Bellingham, WA. ISSN 0277-786X.

†**Proc. Sympos. Appl. Math.** Proceedings of Symposia in Applied Mathematics. Amer. Math. Soc., Providence, RI.

†**Proc. Sympos. Pure Math.** Proceedings of Symposia in Pure Mathematics. Amer. Math. Soc., Providence, RI. ISSN 0082-0717.

*†**Process Syst. Eng.** Process Systems Engineering. Academic Press, San Diego, CA.

†**Progr. Comput. Sci. Appl. Logic** Progress in Computer Science and Applied Logic. Birkhäuser Boston, Boston, MA.

†**Progr. Math.** Progress in Mathematics. Birkhäuser Boston, Boston, MA.

Progr. Math. (Varanasi) Progress of Mathematics. Acad. Prog. Math., Varanasi.

Progr. Natur. Sci. (English Ed.) Progress in Natural Science. English Edition.. Sci. China Press, Beijing. ISSN 1002-0071.

†**Progr. Nonlinear Differential Equations Appl.** Progress in Nonlinear Differential Equations and their Applications. Birkhäuser Boston, Boston, MA.

†**Progr. Phys.** Progress in Physics. Birkhäuser, Basel.

†**Progr. Probab.** Progress in Probability. Birkhäuser Boston, Boston, MA.

†**Progr. Pure Appl. Discrete Math.** Progress in Pure and Applied Discrete Mathematics. VSP, Utrecht.

†**Progr. Systems Control Theory** Progress in Systems and Control Theory. Birkhäuser Boston, Boston, MA.

†**Progr. Theoret. Comput. Sci.** Progress in Theoretical Computer Science. Birkhäuser Boston, Boston, MA.

Progr. Theoret. Phys. Progress of Theoretical Physics. Progr. Theoret. Phys., Kyoto. ISSN 0033-068X.

Progr. Theoret. Phys. Suppl. Progress of Theoretical Physics. Supplement. Progr. Theoret. Phys., Kyoto. ISSN 0375-9687.

Program. Comput. Software Programming and Computer Software. MAIK Nauka/Interperiod. Publ., Moscow. (Translation of *Programmirovanie*) ISSN 0361-7688.

Programmirovanie Rossiĭskaya Akademiya Nauk. Programmirovanie. MAIK "Nauka", Moscow. (Translated in *Program. Comput. Software*) ISSN 0132-3474.

§**Proyecciones** Proyecciones. Revista de Matemática. Univ. Catól. Norte, Antofagasta. ISSN 0716-0917.

Psychometrika Psychometrika. A Journal of Quantitative Psychology. Psychometric Soc., Dover, NH. ISSN 0033-3123.

†**Pubbl. Univ. Ferrara** Pubblicazioni dell'Università di Ferrara. [Publications of the University of Ferrara] Olschki, Florence.

*†**Publ. Arch. Henri-Poincaré** Publications des Archives Henri-Poincaré. [Publications of the Henri Poincaré Archives] Birkhäuser, Basel. (See also *Publ. Henri-Poincaré-Arch.*)

†**Publ. Cent. Rech. Math. Pures Sér. I** Publications du Centre de Recherches en Mathématiques Pures, Séries I. [Publications of the Center for Research in Pure Mathematics, Series I] Univ. Neuchâtel, Neuchâtel. ISSN 0259-4897.

*†**Publ. Cent. Rech. Math. Pures Sér. II** Publications du Centre de Recherches en Mathématiques Pures, Série II. [Publications of the Center for Research in Pure Mathematics, Series II] Univ. Neuchâtel, Neuchâtel. (Formerly *Publ. Centre Rech. Math. Pures Sér. II*)

†**Publ. Centre Rech. Math. Pures Sér. II** Publications du Centre de Recherches en Mathématiques Pures, Série II. [Publications of the Center for Research in Pure Mathematics, Series II] Univ. Neuchâtel, Neuchâtel. (Continued as *Publ. Cent. Rech. Math. Pures Sér. II*) ISSN 0259-4900.

†**Publ. Dep. Mat. Univ. Extremadura** Publicaciones del Departamento de Matemáticas, Universidad de Extremadura. [Publications of the Mathematics Department of the University of Extremadura] Univ. Extremadura, Badajoz.

†**Publ. Henri-Poincaré-Arch.** Publikationen des Henri-Poincaré-Archivs. [Publications of the Henri-Poincaré Archives] Akademie Verlag, Berlin. (See also *Publ. Arch. Henri-Poincaré*)

†**Publ. HoChiMinh City Math. Soc.** Publications of the HoChiMinh City Mathematical Society. HoChiMinh City Math. Soc., Ho Chi Minh City.

Publ. Inst. Math. (Beograd) (N.S.) Institut Mathématique. Publications. Nouvelle Série. Inst. Math., Belgrade. ISSN 0350-1302.

†**Publ. Inst. Rech. Math. Rennes** Publications de l'Institut de Recherche Mathématique de Rennes. [Publications of the Rennes Institute of Mathematical Research] Univ. Rennes I, Rennes.

†**Publ. Int. Res. Cent. Salzbg. Austria** Publications of the International Research Center, Salzburg, Austria. Springer, Berlin.

§**Publ. Mat.** Publicacions Matemàtiques. Univ. Autònoma Barcelona, Barcelona. ISSN 0214-1493.

§**Publ. Mat. Urug.** Publicaciones Matemáticas del Uruguay. Univ. República, Montevideo. ISSN 0797-1443.

§**Publ. Math. Debrecen** Universitatis Debreceniensis. Institutum Mathematicum. Publicationes Mathematicae. Kossuth Lajos Tudomán., Debrecen. ISSN 0033-3883.

†**Publ. Math. Fac. Sci. Besançon** Publications Mathématiques de la Faculté des Sciences de Besançon. [Mathematical Publications of the Faculty of Sciences of Besançon] Univ. Franche-Comté, Besançon.

†**Publ. Math. Orsay** Publications Mathématiques d'Orsay. [Mathematical Publications of Orsay] Univ. Paris XI, Orsay.

†**Publ. Math. Univ. Paris 7—Denis Diderot** Publications Mathématiques de l'Université Paris 7—Denis Diderot. [Mathematical Publications of the University of Paris 7—Denis Diderot] Univ. Paris 7—Denis Diderot, Paris. ISSN 0073-8301.

†**Publ. Math. Univ. Pierre et Marie Curie** Publications Mathématiques de l'Université Pierre et Marie Curie. [Mathematical Publications of the Université Pierre et Marie Curie] Univ. Paris VI, Paris.

†**Publ. Newton Inst.** Publications of the Newton Institute. Cambridge Univ. Press, Cambridge.

§**Publ. Res. Inst. Math. Sci.** Kyoto University. Research Institute for Mathematical Sciences. Publications. Kyoto Univ., Kyoto. ISSN 0034-5318.

*§**Publ. Univ. Miskolc Ser. D Nat. Sci. Math.** Publications of the University of Miskolc. Series D. Natural Sciences, Mathematics. Univ. Miskolc, Miskolc. ISSN 1219-4255.

†**Publication** Publication. Centre Math. Sci., Trivandrum.

§**Punjab Univ. J. Math. (Lahore)** The Punjab University. Journal of Mathematics. Univ. Punjab, Lahore.

†**Pure Appl. Math.** Pure and Applied Mathematics. Wiley, New York.

§**Pure Appl. Math.** Pure and Applied Mathematics. Chuncui Shuxue yu Yingyong Shuxue. Pure Appl. Math., Editor. Board, Xi'an. ISSN 1008-5513.

*†**Pure Appl. Math.** Pure and Applied Mathematics. Akad. Kiadó, Budapest. ISSN 1418-7019.

Pure Appl. Math. Sci. Pure and Applied Mathematika Sciences. Math. Sci. Soc., Saharanpur. ISSN 0379-3168.

§**Pure Math. Appl.** Pure Mathematics and Applications. SAAS, Budapest. ISSN 1218-4586.

§**Pure Math. Manuscript** Pure Mathematics Manuscript. Calcutta Univ., Calcutta.

Qatar Univ. Sci. J. Qatar University Science Journal. Univ. Qatar, Doha.

Qingdao Daxue Xuebao See *J. Qingdao Univ. Nat. Sci. Ed.*

Qingdao Haiyang Daxue Xuebao See *J. Ocean Univ. Qingdao*

Qinghua Daxue Xuebao See *J. Tsinghua Univ.*

†**QP-PQ** QP-PQ. World Sci. Publishing, River Edge, NJ.

†**Quad. Accad. Pontaniana** Quaderni dell' Accademia Pontaniana. [Notebooks of the Accademia Pontaniana] Accad. Pontaniana, Naples.

Quad. Accad. Sci. Torino Quaderni. Accademia delle Scienze di Torino. Accad. Sci. Torino, Turin. ISSN 1125-0402.

†**Quad. Mat.** Quaderni di Matematica. [Mathematics Series] Aracne, Rome.

Quad. Ric. Didatt. Quaderni di Ricerca in Didattica. G.R.I.M., Palermo.

†**Quaderni** Quaderni. [Publications] Scuola Norm. Sup., Pisa.

*§**Quaest. Math.** Quaestiones Mathematicae. Journal of the South African Mathematical Society. SA Bur. Sci. Publ., Pretoria. (Formerly *Quaestiones Math.*) ISSN 0379-9468.

§**Quaestiones Math.** Quaestiones Mathematicae. Journal of the South African Mathematical Society. South African Math. Soc., Potchefstroom. (Continued as *Quaest. Math.*) ISSN 0379-9468.

Quantum Quantum. The Magazine of Math and Science. Springer, New York. ISSN 1048-8820.

Quantum Semiclass. Optics Quantum and Semiclassical Optics. Journal of the European Optical Society. Part B. Inst. Phys., Bristol. (Continued as *J. Opt. B Quantum Semiclass. Opt.*) ISSN 1355-5111.

§**Quart. Appl. Math.** Quarterly of Applied Mathematics. Brown Univ., Div. Appl. Math., Providence, RI. ISSN 0033-569X.

§**Quart. J. Math. Oxford Ser. (2)** The Quarterly Journal of Mathematics. Oxford. Second Series. Oxford Univ. Press, Oxford. ISSN 0033-5606.

Quart. J. Mech. Appl. Math. The Quarterly Journal of Mechanics and Applied Mathematics. Oxford Univ. Press, Oxford. ISSN 0033-5614.

§**Quasigroups Related Systems** Quasigroups and Related Systems. Acad. Sci. Moldova, Inst. Math., Chişinău.

†**Que Sais-Je?** Que Sais-Je?. [What Do I Know?] Presses Univ. France, Paris.

†**Queen's Papers in Pure and Appl. Math.** Queen's Papers in Pure and Applied Mathematics. Queen's Univ., Kingston, ON.

§**Qüestiió (2)** Qüestiió. Quaderns d'Estadística i Investigació Operativa. Segona Época. Inst. Estad. Catalunya, Barcelona. ISSN 0210-8054.

§**Questions Answers Gen. Topology** Questions and Answers in General Topology. Sympos. Gen. Topology, Osaka. ISSN 0918-4732.

§**Queueing Systems Theory Appl.** Queueing Systems. Theory and Applications. Baltzer, Bussum. ISSN 0257-0130.

Qufu Shifan Daxue Xuebao Ziran Kexue Ban Qufu Shifan Daxue Xuebao. Ziran Kexue Ban. Journal of Qufu Normal University. Natural Science Edition. J. Qufu Normal Univ. (Nat. Sci.), Editor. Dept., Qufu. ISSN 1001-5337.

*§**Quipu Rev. Latinoam. Hist. Cienc. Tecnol.** Quipu. Revista Latinoamericana de Historia de las Ciencias y la Tecnología. Soc. Latinoam. Hist. Cie. Tecnol., México. ISSN 0185-5093.

R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci. The Royal Society of London. Philosophical Transactions. Series A. Mathematical, Physical and Engineering Sciences. Roy. Soc. London, London. ISSN 1364-503X.

R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci. The Royal Society of London. Proceedings. Series A. Mathematical, Physical and Engineering Sciences. Roy. Soc. London, London. ISSN 1364-5021.

†**Race Gend. Sci.** Race, Gender, and Science. Indiana Univ. Press, Bloomington, IN.

*§**Rad Hrvat. Akad. Znan. Umjet. Mat. Znan.** Rad Hrvatske Akademije Znanosti i Umjetnosti. Matematičke Znanosti. Hrvat. Akad. Znan. Umjet., Zagreb. (Formerly *Rad Hrvatske Akad. Znan. Umjet.*) ISSN 1330-0814.

Rad Hrvatske Akad. Znan. Umjet. Rad Hrvatske Akademije Znanosti i Umjetnosti. Hrvat. Akad. Znan. Umjet., Zagreb. (Continued as *Rad Hrvat. Akad. Znan. Umjet. Mat. Znan.*) ISSN 0351-8639.

Rad. Mat. Radovi Matematički. Akad. Nauk. i Umjetnost. Bosne i Hercegovine, Sarajevo. ISSN 0352-6100.

Radiophys. and Quantum Electronics Radiophysics and Quantum Electronics. Consultants Bureau, New York. (Translation of *Izv. Vyssh. Uchebn. Zaved. Radiofiz.*) ISSN 0033-8443.

Radiotekhnika Radiotekhnika. "Osnova", Khar'kov. ISSN 0485-8972.

RAIRO Inform. Théor. Appl. RAIRO Informatique Théorique et Applications. Theoretical Informatics and Applications. Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris. (Continued as *Theor. Inform. Appl.*) ISSN 0988-3754.

§**RAIRO Modél. Math. Anal. Numér.** RAIRO Modélisation Mathématique et Analyse Numérique. Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris. (Continued as *M2AN Math. Model. Numer. Anal.*) ISSN 0764-583X.

RAIRO Rech. Opér. RAIRO Recherche Opérationnelle. Operations Research. Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris. (Continued as *RO Oper. Res.*) ISSN 0399-0559.

†**RAM Res. Appl. Math.** See *Rech. Math. Appl.*

§**Ramanujan J.** The Ramanujan Journal. An International Journal Devoted to the Areas of Mathematics Influenced by Ramanujan. Kluwer Acad. Publ., Hingham, MA. ISSN 1382-4090.

§**Random Comput. Dynam.** Random & Computational Dynamics. Dekker, Monticello, NY. ISSN 1061-835X.

§**Random Oper. Stochastic Equations** Random Operators and Stochastic Equations. VSP, Zeist. ISSN 0926-6364.

§**Random Structures Algorithms** Random Structures & Algorithms. Wiley, New York. ISSN 1042-9832.

Ratio (N.S.) Ratio (New Series). Blackwell, Oxford. ISSN 0034-0006.

†**Read. Math.** Readings in Mathematics. Springer, New York.

†**Read. Philos.** Readings in Philosophy. Garland, New York.

§**Real Anal. Exchange** Real Analysis Exchange. Michigan State Univ. Press, East Lansing, MI. ISSN 0147-1937.

Rebrape Rebrape. Brazilian Journal of Probability and Statistics. Assoc. Brasileira Estatíst., São Paulo. ISSN 0103-0752.

†**Rech. Math. Appl.** Recherches en Mathématiques Appliquées. [Research in Applied Mathematics] Masson, Paris. ISSN 0298-3168.

†**Rech. Philos. Lang.** Recherches sur la Philosophie et le Langage. [Research on Philosophy and Language] Groupe Rech. Philos. Lang., Grenoble. ISSN 0754-331X.

†**Regensburger Math. Schriften** Regensburger Mathematische Schriften. [Regensburg Mathematical Publications] Univ. Regensburg, Regensburg. ISSN 0179-9746.

*§**Regul. Chaotic Dyn.** Regular & Chaotic Dynamics. Regulyarnaya & Khaoticheskaya Dinamika. Publ. House Udmurt Univ., Izhevsk. (Formerly *Regul. Khaoticheskaya Din.*) ISSN 1560-3547.

Regul. Khaoticheskaya Din. Regulyarnaya & Khaoticheskaya Dinamika. Regular & Chaotic Dynamics. Izdat. "URSS", Moscow. (Continued as *Regul. Chaotic Dyn.*)

Reliab. Comput. Reliable Computing. An International Journal Devoted to Reliable Mathematical Computations Based on Finite Representations and Guaranteed Accuracy. Kluwer Acad. Publ., Dordrecht. ISSN 1385-3139.

§**Rend. Accad. Naz. Sci. XL Mem. Mat. Appl. (5)** Accademia Nazionale delle Scienze detta dei XL. Rendiconti. Serie V. Memorie di Matematica e Applicazioni. Parte I. Accad. Naz. Sci. XL, Rome. ISSN 0392-4106.

Rend. Accad. Naz. Sci. XL Mem. Sci. Fis. Natur. (5) Rendiconti della Accademia Nazionale delle Scienze detta dei XL. Memorie di Scienze Fisiche e Naturali. Serie V. Parte II. Accad. Naz. Sci. XL, Rome. ISSN 0392-4130.

Rend. Accad. Sci. Fis. Mat. Napoli (4) Società Nazionale di Scienze, Lettere e Arti in Napoli. Rendiconto dell'Accademia delle Scienze Fisiche e Matematiche. Serie IV. Liguori, Naples. ISSN 0370-3568.

§**Rend. Circ. Mat. Palermo (2)** Rendiconti del Circolo Matematico di Palermo. Serie II. Circ. Mat. Palermo, Palermo. ISSN 0009-725X.

§**Rend. Circ. Mat. Palermo (2) Suppl.** Rendiconti del Circolo Matematico di Palermo. Serie II. Supplemento. Circ. Mat. Palermo, Palermo.

§**Rend. Istit. Mat. Univ. Trieste** Rendiconti dell'Istituto di Matematica dell'Università di Trieste. Univ. Studi Trieste, Trieste. ISSN 0049-4704.

§**Rend. Mat. Appl. (7)** Rendiconti di Matematica e delle sue Applicazioni. Serie VII. Univ. Studi Roma "La Sapienza", Rome. ISSN 1120-7183.

Rend. Sem. Fac. Sci. Univ. Cagliari Rendiconti del Seminario della Facoltà di Scienze dell'Università di Cagliari. Univ. Cagliari, Cagliari.

Rend. Sem. Mat. Fis. Milano Rendiconti del Seminario Matematico e Fisico di Milano. Univ. Studi Milano, Milan. ISSN 0370-7377.

§**Rend. Sem. Mat. Messina Ser. II** Rendiconti del Seminario Matematico di Messina. Serie II. Univ. Studi Messina, Messina.

§**Rend. Sem. Mat. Univ. Padova** Rendiconti del Seminario Matematico della Università di Padova. CEDAM, Padua.

§**Rend. Sem. Mat. Univ. Politec. Torino** Università e Politecnico di Torino. Seminario Matematico. Rendiconti. Levrotto & Bella, Turin. ISSN 0373-1243.

Rep. Fac. Engrg. Kanagawa Univ. Kanagawa University. Faculty of Engineering. Reports. Kanagawa Univ., Yokohama. ISSN 0368-5381.

Rep. Fac. Engrg. Oita Univ. Oita University. Faculty of Engineering. Reports. Oita Univ., Oita. ISSN 0387-7868.

Rep. Fac. Sci. Engrg. Saga Univ. Math. Reports of the Faculty of Science and Engineering. Saga University. Mathematics. Saga Univ., Saga. ISSN 0387-8538.

Rep. Fac. Sci. Kagoshima Univ. Reports of the Faculty of Science. Kagoshima University. Kagoshima Univ., Kagoshima. ISSN 0385-4019.

Rep. Fac. Sci. Shizuoka Univ. Reports of the Faculty of Science. Shizuoka University. Shizuoka Univ., Shizuoka. ISSN 0583-0923.

Rep. Fac. Sci. Technol. Meijo Univ. Reports of the Faculty of Science and Technology. Meijo University. Meijo Univ., Nagoya. ISSN 0386-4952.

§**Rep. Math. Logic** Reports on Mathematical Logic. Jagiellonian Univ. Press, Kraków. ISSN 0137-2904.

§**Rep. Math. Phys.** Reports on Mathematical Physics. Pergamon, Oxford. ISSN 0034-4877.

Rep. Progr. Phys. Reports on Progress in Physics. Inst. Phys., Bristol. ISSN 0034-4885.

*§**Rep. Res. Inst. Sci. Technol. Nihon Univ.** Report of the Research Institute of Science and Technology. Nihon University. Nihon Univ., Tokyo. ISSN 0370-7024.

Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs. Reports of Statistical Application Research. Union of Japanese Scientists and Engineers. Union Japan. Sci. Engin., Tokyo. ISSN 0034-4842.

†**Report** Report. Univ. Jyväskylä, Jyväskylä. ISSN 0075-4641.

†**Represent. Mind** Representation and Mind. MIT Press, Cambridge, MA.

§E**Represent. Theory** Representation Theory. An Electronic Journal of the American Mathematical Society. Amer. Math. Soc., Providence, RI. ISSN 1088-4165.

Repúb. Venezuela Bol. Acad. Cienc. Fis. Mat. Natur. República de Venezuela. Boletín de la Academia de Ciencias Físicas, Matemáticas y Naturales. Acad. Cienc. Fis. Mat. Natur., Caracas.

Res. Act. Fac. Sci. Engrg. Tokyo Denki Univ. Research Activities. The Faculty of Science and Engineering of Tokyo Denki University. Tokyo Denki Univ., Saitama. ISSN 0388-1989.

Res. Bull. Fac. Ed. Oita Univ. The Research Bulletin of the Faculty of Education. Oita University. Oita Univ., Oita. (Continued as *Res. Bull. Fac. Educ. Welf. Sci. Oita Univ.*) ISSN 0914-580X.

*§**Res. Bull. Fac. Educ. Welf. Sci. Oita Univ.** The Research Bulletin of the Faculty of Education and Welfare Science. Oita University. Oita Univ., Fac. Ed. Welfare Sci., Oita. (Formerly *Res. Bull. Fac. Ed. Oita Univ.*) ISSN 0914-580X.

Res. Bull. Panjab Univ. Sci. Research Bulletin of the Panjab University. Science. Panjab Univ., Chandigarh. ISSN 0555-7631.

†**Res. Exp. Math.** Research and Exposition in Mathematics. Heldermann, Lemgo.

†**Res. Meas. Approv.** Research—Measurement—Approval. VCH, Weinheim.

†**Res. Notes Math.** Research Notes in Mathematics. A K Peters, Wellesley, MA.

Res. Rep. Anan College Tech. Research Reports of the Anan College of Technology. Anan College Tech., Anan. ISSN 0570-006X.

†**Res. Rep. Inf. Sci.** Research Reports on Information Sciences. Toho Univ., Chiba.

*§**Res. Rep. Kushiro Natl. Coll. Technol.** Research Reports. Kushiro National College of Technology. Kushiro Natl. Coll. Technol., Kushiro. ISSN 0455-017X.

Res. Rep. Miyagi Nat. College Tech. Miyagi National College of Technology. Research Reports. Miyagi Natl. Coll. Technol., Natori City. ISSN 0286-3707.

§**Resenhas** Resenhas do Instituto de Matemática e Estatística da Universidade de São Paulo. Univ. São Paulo, São Paulo. ISSN 0104-3854.

§**Results Math.** Results in Mathematics. Resultate der Mathematik. Birkhäuser, Basel. ISSN 0378-6218.

Rev. Acad. Canaria Cienc. Revista de la Academia Canaria de Ciencias. Acad. Canaria Cienc., La Laguna. ISSN 1130-4723.

Rev. Acad. Cienc. Zaragoza (2) Revista de la Academia de Ciencias Exactas, Físicas Químicas y Naturales de Zaragoza. Serie 2. Acad. Cienc. Exact. Fís. Quím. Nat. Zaragoza, Zaragoza. ISSN 0370-3207.

Rev. Acad. Colombiana Cienc. Exact. Fis. Natur. Academia Colombiana de Ciencias Exactas, Fisicas y Naturales. Revista. Acad. Colombiana Cienc. Exact. Fís. Natur., Bogotá. ISSN 0370-3908.
§**Rev. Anal. Numér. Théor. Approx.** Revue d'Analyse Numérique et de Théorie de l'Approximation. Ed. Acad. Române, Bucharest. ISSN 1222-9024.
Rev. Bull. Calcutta Math. Soc. Calcutta Mathematical Society. Review Bulletin. Calcutta Math. Soc., Calcutta.
Rev. Colombiana Estadíst. Revista Colombiana Estadística. Univ. Nac. Colombia, Bogotá. ISSN 0120-1751.
§**Rev. Colombiana Mat.** Revista Colombiana de Matemáticas. Soc. Colombiana Mat., Bogotá. ISSN 0034-7426.
*§**Rev. Econ. Dyn.** Review of Economic Dynamics. Academic Press, Orlando, FL. ISSN 1094-2025.
Rev. Econom. Stud. Review of Economic Studies. Rev. Econom. Stud., Oxford. ISSN 0034-6527.
Rev. Européenne Élém. Finis Revue Européenne des Éléments Finis. European Journal of Finite Elements. Hermès, Paris. ISSN 1250-6559.
§**Rev. Histoire Math.** Revue d'Histoire des Mathématiques. Soc. Math. France, Marseille. ISSN 1262-022X.
Rev. Histoire Sci. Revue d'Histoire des Sciences. Presses Univ. France, Évry. ISSN 0151-4105.
Rev. Integr. Temas Mat. Revista Integración. Temas de Matemáticas. Univ. Indust. Santander, Bucaramanga. ISSN 0120-419X.
Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr. Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería. Univ. Politèc. Catalunya, Barcelona. ISSN 0213-1315.
Rev. Mat. Apl. Revista de Matemáticas Aplicadas. Univ. Chile, Santiago. ISSN 0716-5803.
§**Rev. Mat. Complut.** Revista Matemática Complutense. Serv. Publ. Univ. Complutense Madrid, Madrid. (Continued as *Rev. Mat. Complut.*) ISSN 0214-3577.
*§**Rev. Mat. Complut.** Revista Matemática Complutense. Serv. Publ. Univ. Complutense Madrid, Madrid. (Formerly *Rev. Mat. Complut.*) ISSN 1139-1138.
Rev. Mat. Estatíst. Revista de Matemática e Estatística. Edit. UNESP, São Paulo. ISSN 0102-0811.
§**Rev. Mat. Iberoamericana** Revista Matemática Iberoamericana. Rev. Mat. Iberoam., Madrid. ISSN 0213-2230.
§**Rev. Math. Phys.** Reviews in Mathematical Physics. A Journal for Both Review and Original Research Papers in the Field of Mathematical Physics. World Sci. Publishing, Singapore. ISSN 0129-055X.
Rev. Mexicana Fís. Revista Mexicana de Física. Soc. Mex. Fís., México. ISSN 0035-001X.
Rev. Modern Phys. Reviews of Modern Physics. Amer. Phys. Soc., College Park, MD. ISSN 0034-6861.
Rev. Questions Sci. Revue des Questions Scientifiques. Soc. Sci. Bruxelles, Namur. ISSN 0035-2160.
Rev. R. Acad. Cienc. Exactas Fís. Nat. (Esp.) Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales (España). Real Acad. Cienc. Exact. Fís. Natur., Madrid. ISSN 1137-2141.
§**Rev. Roumaine Math. Pures Appl.** Revue Roumaine de Mathématiques Pures et Appliquées. Romanian Journal of Pure and Applied Mathematics. Ed. Acad. Române, Bucharest. ISSN 0035-3965.
Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét. Revue Roumaine des Sciences Techniques. Série Électrotechnique et Énergétique. Ed. Acad. Române, Bucharest. ISSN 0035-4066.
Rev. Roumaine Sci. Tech. Sér. Méc. Appl. Revue Roumaine des Sciences Techniques. Série de Mécanique Appliquée. Ed. Acad. Române, Bucharest. ISSN 0035-4074.
Rev. Técn. Fac. Ingr. Univ. Zulia Universidad del Zulia. Facultad de Ingeniería. Revista Técnica. Univ. Zulia, Maracaibo. ISSN 0254-0770.
§**Rev. Un. Mat. Argentina** Revista de la Unión Matemática Argentina. Unión Mat. Argentina, San Luis. ISSN 0041-6932.
†**Reveal. Antiq.** Revealing Antiquity. Harvard Univ. Press, Cambridge, MA.
Riazi J. Karachi Math. Assoc. Riazi. The Journal of Karachi Mathematical Association. Karachi Math. Assoc., Karachi. ISSN 0255-7568.
§**Ricerche Mat.** Ricerche di Matematica. Univ. Studi Napoli, Naples.
§**Riv. Mat. Pura Appl.** Rivista di Matematica Pura ed Applicata. Aviani, Tricesimo. (Continued as *Ital. J. Pure Appl. Math.*) ISSN 1121-7111.
§**Riv. Mat. Sci. Econom. Social.** Rivista di Matematica per le Scienze Economiche e Sociali. Assoc. Mat. Appl. Sci. Econom. Soc. (A.M.A.S.E.S.), Milan. ISSN 1127-1035.
§**Riv. Mat. Univ. Parma (5)** Rivista di Matematica della Università di Parma. Serie 5. Univ. Parma, Parma. (Continued as *Riv. Mat. Univ. Parma (6)*) ISSN 0035-6298.
*§**Riv. Mat. Univ. Parma (6)** Rivista di Matematica della Università di Parma. Serie 6. Univ. Parma, Parma. (Formerly *Riv. Mat. Univ. Parma (5)*) ISSN 0035-6298.
Riv. Nuovo Cimento Soc. Ital. Fis. (4) La Rivista del Nuovo Cimento della Società Italiana di Fisica. Serie 4. Compositori, Bologna. ISSN 0393-697X.
Riv. Stor. Sci. (2) Rivista di Storia della Scienza. Serie 2. Università degli Studi di Roma "La Sapienza". Dipartimento di Matematica. Hoepli, Milan. ISSN 1122-0228.
*§**RO Oper. Res.** RO. Operations Research. Recherche Opérationnelle. EDP Sci., Les Ulis. (Formerly *RAIRO Rech. Opér.*) ISSN 0399-0559.
§**Rocky Mountain J. Math.** The Rocky Mountain Journal of Mathematics. Rocky Mountain Math. Consortium, Tempe, AZ. ISSN 0035-7596.
Rocznik Nauk.-Dydakt. Prace Mat. Wyższa Szkoła Pedagogiczna im. Komisji Edukacji Narodowej w Krakowie. Rocznik Naukowo-Dydaktyczny. Prace Matematyczne. Wydawn. Nauk. Wyższej Szkoły Ped. Krakowie, Kraków. ISSN 0239-7978.
†**Rolf Nevanlinna Inst. Res. Rep. A** Rolf Nevanlinna Institute Research Reports A. Univ. Helsinki, Helsinki. ISSN 0787-8338.
Romanian J. Phys. Romanian Journal of Physics. Ed. Acad. Române, Bucharest. ISSN 1221-146X.
Romanian Rep. Phys. Romanian Reports in Physics. Ed. Acad. Române, Bucharest. ISSN 1221-1451.
Rostock. Math. Kolloq. Rostocker Mathematisches Kolloquium. Univ. Rostock, Rostock. ISSN 0138-3248.
†**Roy. Inst. Philos. Suppl.** Royal Institute of Philosophy Supplement. Cambridge Univ. Press, Cambridge. ISSN 1358-2461.
†**Roy. Statist. Soc. Lecture Note Ser.** Royal Statistical Society Lecture Note Series. Oxford Univ. Press, New York.
†**Rozpr. Monogr.** Rozprawy Monografie. [Dissertations Monographs] Wydawnictwa AGH, Kraków. ISSN 0867-6631.
Rozprawy Politech. Poznań Politechnika Poznańska. Rozprawy. Politech. Poznańska, Poznań. ISSN 0551-6528.
§**Russian J. Math. Phys.** Russian Journal of Mathematical Physics. Wiley, New York. ISSN 1061-9208.
Russian J. Numer. Anal. Math. Modelling Russian Journal of Numerical Analysis and Mathematical Modelling. VSP, Zeist. (Selected translations of Russian language publications) ISSN 0927-6467.
Russian Math. (Iz. VUZ) Russian Mathematics (Izvestiya VUZ. Matematika). Allerton, New York. (Translation of *Izv. Vyssh. Uchebn. Zaved. Mat.*) ISSN 1066-369X.
Russian Math. Surveys Russian Mathematical Surveys. London Math. Soc., London. (Translation of *Uspekhi Mat. Nauk*) ISSN 0036-0279.
Russian Phys. J. Russian Physics Journal. Consultants Bureau, New York. (Translation of *Izv. Vyssh. Uchebn. Zaved. Fiz.*) ISSN 1064-8887.
§**Ryukyu Math. J.** Ryukyu Mathematical Journal. Univ. Ryukyus, Okinawa.
¶**RZhMat** Rossiĭskaya Akademiya Nauk. Vserossiĭskiĭ Institut Nauchoĭ i Tekhnicheskoĭ Informatsii. Referativnyĭ Zhurnal. Matematika. Vseross. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow. ISSN 0034-2467.
Sādhanā Sādhanā. Academy Proceedings in Engineering Sciences. Indian Acad. Sci., Bangalore. ISSN 0256-2499.
†**Saggi Sci.** Saggi Scientifici. [Essays in Science] Boringhieri, Turin.
§**Saitama Math. J.** Saitama Mathematical Journal. Saitama Univ., Urawa. ISSN 0289-0739.
†**San Franc. State Univ. Ser. Philos.** San Francisco State University Series in Philosophy. Lang, New York.
§**Sankhyā Ser. A** Sankhyā. The Indian Journal of Statistics. Series A. Indian Statist. Inst., Calcutta. ISSN 0581-572X.
Sankhyā Ser. B Sankhyā. The Indian Journal of Statistics. Series B. Indian Statist. Inst., Calcutta. ISSN 0581-5738.
†**Santa Fe Inst. Stud. Sci. Complexity Lecture Notes** Santa Fe Institute Studies in the Sciences of Complexity. Lecture Notes. Addison-Wesley, Redwood City, CA.
†**Santa Fe Inst. Stud. Sci. Complexity Proc.** Santa Fe Institute Studies in the Sciences of Complexity. Proceedings. Addison-Wesley, Redwood City, CA.
†**Savoirs Actuels** Savoirs Actuels. [Current Scholarship] InterEditions, Paris.
Sb. Math. Sbornik. Mathematics. Presidium Russ. Acad. Sci., Moscow. (Translation of *Mat. Sb.*) ISSN 1064-5616.
Sb. Věd. Odb. Prací Vysoké Učení Technické v Brně. Fakulta Stavební. Sborník Vědeckých a Odborných Prací. Vysoké Učení Technické v Brně, Fak. Stavební, Brno.
Scand. Actuar. J. Scandinavian Actuarial Journal. Scand. Univ. Press, Oslo. ISSN 0346-1238.
§**Scand. J. Statist.** Scandinavian Journal of Statistics. Theory and Applications. Blackwell, Oxford. ISSN 0303-6898.
Schr. Sudet.dtsch. Akad. Wiss. Künste Forsch.beitr. Nat.wiss. Kl. Schriften der Sudetendeutschen Akademie der Wissenschaften und Küntse. Forschungsbeiträge der Naturwissenschaftlichen Klasse. Sudetendtsch. Akad. Wiss. Künste, Munich.
*†**Schr.reihe Gesch. Versamml. Dtsch. Nat.forsch. Ärzte** Schriftenreihe zur Geschichte der Versammlungen Deutscher Naturforscher und Ärzte. [Series on the History of Meetings of German Scientists and Physicians] Wiss. Verlagsges., Stuttgart.
†**Schriftenreihe Math. Inst. Univ. Münster 3. Ser.** Schriftenreihe des Mathematischen Instituts der Universität Münster, 3. Serie. [Series of the Mathematical Institute of the University of Münster, 3rd Series] Univ. Münster, Münster. ISSN 0077-1961.
Schweiz. Aktuarver. Mitt. Schweizerische Aktuarvereinigung. Mitteilungen. Stämpfli, Bern. ISSN 1022-5617.
†**Sci. Amer. Lib. Paperback** Scientific American Library Paperback. Sci. Amer. Lib., New York.
Sci. Bull. Fac. Ed. Nagasaki Univ. Science Bulletin of the Faculty of Education. Nagasaki University. Nagasaki Univ., Nagasaki. (Continued as *Bull. Fac. Educ. Nagasaki Univ. Nat. Sci.*) ISSN 0386-443X.
Sci. Bull. Josai Univ. Science Bulletin of Josai University. Josai Univ., Sakado. ISSN 0919-4614.
Sci. China Ser. A Science in China (Scientia Sinica). Series A. Mathematics, Physics, Astronomy. Sci. China Press, Beijing. ISSN 1006-9283.
Sci. China Ser. E Science in China (Scientia Sinica). Series E. Technological Sciences. Sci. China Press, Beijing. ISSN 1006-9321.
†**Sci. Comput.** Scientific Computation. Springer, Berlin. ISSN 0172-5726.
Sci. Comput. Programming Science of Computer Programming. Elsevier, Amsterdam. ISSN 0167-6423.
Sci. Context Science in Context. Cambridge Univ. Press, Cambridge. ISSN 0269-8897.
†**Sci. Cult. Ser. Phys.** The Science and Culture Series—Physics. World Sci. Publishing, River Edge, NJ.
Sci. Iran. Scientia Iranica. International Journal of Science & Technology. Sharif Univ. Technol., Tehran. ISSN 1026-3098.
*§E**Sci. Math.** Scientiae Mathematicae. Japan. Assoc. Math. Sci., Osaka. ISSN 1343-9979.
†**Sci. Networks Hist. Stud.** Science Networks. Historical Studies. Birkhäuser, Basel.
†**Sci. Occident XXe Siècle** Les Sciences hors d'Occident au XXe Siècle. [20th Century Sciences: Beyond the Metropolis] Inst. Fr. Rech. Sci. Dév. Coop. Orstom, Paris.
†**Sci. Philos. Twent. Century Basic Works Log. Empir.** Science and Philosophy in the Twentieth Century. Basic Works of Logical Empiricism. Garland, New York.
Sci. Rep. Fac. Ed. Fukushima Univ. Fukushima University. Faculty of Education. Science Reports. Fukushima Univ., Fukushima. ISSN 0387-0855.
Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci. Science Reports of the Faculty of Education. Gifu University. Natural Science. Gifu Univ., Gifu. ISSN 0533-9529.

Sci. Rep. Hirosaki Univ. Science Reports of the Hirosaki University. Hirosaki Univ., Hirosaki. (Continued as *Bull. Fac. Sci. Technol. Hirosaki Univ.*) ISSN 0367-6439.
Sci. Rep. Kagoshima Univ. Science Reports of Kagoshima University. Kagoshima Univ., Kagoshima. ISSN 0368-5136.
Sci. Rep. Kanazawa Univ. The Science Reports of the Kanazawa University. Kanazawa Univ., Kanazawa. ISSN 0022-8338.
Sci. Rep. Res. Inst. Engrg. Kanagawa Univ. Kanagawa University. Research Institute for Engineering. Science Reports. Kanagawa Univ., Yokohama. ISSN 0387-0324.
Sci. Rep. Yokohama Nat. Univ. Sect. I Math. Phys. Chem. Science Reports of the Yokohama National University. Section I. Mathematics, Physics, Chemistry. Yokohama Nat. Univ., Yokohama. (Continued as *Nat. Sci. J. Fac. Educ. Hum. Sci. Yokohama Natl. Univ.*) ISSN 0085-8366.
*Sci. Ser. A Math. Sci. (N.S.)** Scientia. Series A. Mathematical Sciences. New Series. Univ. Téc. Federico Santa María, Valparaíso. ISSN 0716-8446.
†**Sci. Tech. Perspect.** Sciences et Techniques en Perspective. [Science and Technology in Perspective] Univ. Nantes, Nantes. ISSN 0294-0264.
Science American Association for the Advancement of Science. Science. Amer. Assoc. Adv. Sci., Washington, DC. ISSN 0036-8075.
*Scr. Sci. Math.** Scripta Scientiarum Mathematicarum. Scripta Seminarii Investigationum Scientiae. Topologiae Systematum Subtilium et Applicationum. Soc. Topol. Syst. Subtilium Appl. Mold., Chişinău.
Scripta Comput. Sci. Appl. Math. Scripta. Computer Science and Applied Mathematics. Masaryk Univ., Brno.
†Ⓥ**Sel. Lectures Math.** Selected Lectures in Mathematics. Amer. Math. Soc., Providence, RI.
*†**Sel. MSRI Video Arch.** Selections from MSRI's Video Archive. Math. Sci. Res. Inst., Berkeley, CA.
†**Sel. Works B. B. Mandelbrot** Selected Works of Benoit B. Mandelbrot. Springer, New York.
§**Selecta Math. (N.S.)** Selecta Mathematica. New Series. Birkhäuser, Basel. ISSN 1022-1824.
§Ⓔ**Sém. Lothar. Combin.** Séminaire Lotharingien de Combinatoire. Univ. Louis Pasteur, Strasbourg.
†**Sém. Math. Luxembourg** Séminaire de Mathématique de Luxembourg. [Luxembourg Mathematics Seminar] Centre Univ. Luxembourg, Luxembourg.
†**Sem. Math. Sci.** Seminar on Mathematical Sciences. Keio Univ., Yokohama.
†**Sem. Ser. Math. Anal.** Seminar Series in Mathematics. Analysis. "Ovidius" Univ. Constanţa, Constanţa. ISSN 1223-9674.
§**Semigroup Forum** Semigroup Forum. Springer, New York. ISSN 0037-1912.
†**Sémin. Anal. Univ. Blaise Pascal (Clermont II)** Séminaire d'Analyse. Université Blaise Pascal (Clermont II). [Seminar on Analysis. Université Blaise Pascal (Clermont II)] Univ. Blaise Pascal (Clermont II), Clermont-Ferrand.
†**Sémin. Congr.** Séminaires et Congrès. [Seminars and Congresses] Soc. Math. France, Paris.
†**Sémin. Équ. Dériv. Partielles** Séminaire: Équations aux Dérivées Partielles. [Seminar: Partial Differential Equations] École Polytech., Palaiseau.
†**Sémin. Théor. Spectr. Géom.** Séminaire de Théorie Spectrale et Géométrie. [Seminar on Spectral Theory and Geometry] Univ. Grenoble I, Saint-Martin-d'Hères.
†**Seminarberichte** Seminarberichte. [Seminar Reports] Humboldt-Univ. Berlin, Berlin. ISSN 0863-0968.
Sequential Anal. Sequential Analysis. Dekker, Monticello, NY. ISSN 0747-4946.
†**Ser. Adv. Math. Appl. Sci.** Series on Advances in Mathematics for Applied Sciences. World Sci. Publishing, River Edge, NJ.
*†**Ser. Adv. Quantum Many-Body Theory** Series on Advances in Quantum Many-Body Theory. World Sci. Publishing, River Edge, NJ.
†**Ser. Adv. Statist. Mech.** Series on Advances in Statistical Mechanics. World Sci. Publishing, River Edge, NJ. ISSN 0218-0111.
†**Ser. Algebra** Series in Algebra. World Sci. Publishing, River Edge, NJ.
†**Ser. Appl. Math.** Series on Applied Mathematics. World Sci. Publishing, River Edge, NJ.
*†**Ser. Appl. Math.** Series in Applied Mathematics. Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris.
†**Ser. Approx. Decompos.** Series in Approximations and Decompositions. World Sci. Publishing, River Edge, NJ.
†**Ser. Comput. Phys. Process. Mech. Thermal Sci.** Series in Computational and Physical Processes in Mechanics and Thermal Sciences. Taylor & Francis, Washington, DC.
†**Ser. Intell. Control Intell. Autom.** Series in Intelligent Control and Intelligent Automation. World Sci. Publishing, River Edge, NJ.
†**Ser. Knots Everything** Series on Knots and Everything. World Sci. Publishing, River Edge, NJ.
*†**Ser. Mach. Percept. Artif. Intell.** Series in Machine Perception and Artificial Intelligence. World Sci. Publishing, River Edge, NJ.
†**Ser. Math. Anal. Appl.** Series in Mathematical Analysis and Applications. Gordon and Breach, Amsterdam. ISSN 1028-8600.
†**Ser. Math. Biol. Med.** Series in Mathematical Biology and Medicine. World Sci. Publishing, River Edge, NJ.
†**Ser. Multivariate Anal.** Series on Multivariate Analysis. World Sci. Publishing, River Edge, NJ.
†**Ser. New Front. Adv. Math. Ist. Ric. Base** Series on New Frontiers in Advanced Mathematics of the Istituto per la Ricerca di Base. Hadronic Press, Palm Harbor, FL.
†**Ser. Number Theory** Series in Number Theory. Internat. Press, Cambridge, MA.
†**Ser. Optim.** Series on Optimization. World Sci. Publishing, River Edge, NJ.
†**Ser. Pure Math.** Series in Pure Mathematics. World Sci. Publishing, River Edge, NJ.
†**Ser. Soviet East European Math.** Series on Soviet and East European Mathematics. World Sci. Publishing, River Edge, NJ.
†**Ser. Stab. Vib. Control Syst. Ser. B** Series on Stability, Vibration and Control of Systems. Series B. World Sci. Publishing, River Edge, NJ.
†**Ser. Univ. Math.** Series on University Mathematics. World Sci. Publishing, River Edge, NJ.
†**Ser. Work Organ.** Series on Work and Organization. Tilburg Univ. Press, Tilburg.
*†**Ser. Bolsh. Èntsikl. Slovari** Серия "Большие Энциклопедические Словари". [Series "Large Encyclopedic Dictionaries"] Nauchn. Izdat. "Bolsh. Ross. Èntsikl.", Moscow.
§**Serdica Math. J.** Serdica. Mathematical Journal. Serdika. Matematichesko Spisanie. Bulgarian Acad. Sci., Sofia. ISSN 1310-6600.
§**Set-Valued Anal.** Set-Valued Analysis. An International Journal Devoted to the Theory of Multifunctions and its Applications. Kluwer Acad. Publ., Dordrecht. ISSN 0927-6947.
Shaanxi Shifan Daxue Xuebao See *J. Shaanxi Normal Univ. Nat. Sci. Ed.*
Shandong Daxue Xuebao Ziran Kexue Ban Shandong Daxue Xuebao. Ziran Kexue Ban. Journal of Shandong University. Natural Science Edition. J. Shandong Univ., Editor. Board, Jinan. ISSN 0559-7234.
Shandong Kuangye Xueyuan Xuebao Shandong Kuangye Xueyuan Xuebao. Journal of Shandong Mining Institute. J. Shandong Min. Inst., Editor. Office, Tai'an. ISSN 1000-2308.
Shanghai Daxue Xuebao Ziran Kexue Ban See *J. Shanghai Univ. Nat. Sci.*
Shanghai Jiaotong Daxue Xuebao See *J. Shanghai Jiaotong Univ. (Chin. Ed.)*
Shanghai Tiedao Xueyuan Xuebao See *J. Shanghai Inst. Railway Tech.*
Shengwa Shuxue Xuebao See *J. Biomath.*
Shisutemu Seigyo Jōhō See *Systems Control Inform.*
Shisutemu Seigyo Jōhō Gakkai Rombunshi See *Trans. Inst. Systems Control Inform. Engrs.*
Shuxue de Shijian yu Renshi See *Math. Practice Theory*
Shuxue Jikan See *Chinese Quart. J. Math.*
Shuxue Jinzhan See *Adv. Math. (China)*
Shuxue Jisuan yu Jisuanji Yingyong See *J. Numer. Methods Comput. Appl.*
Shuxue Niankan Ji A See *Chinese Ann. Math. Ser. A*
Shuxue Niankan Ji B See *Chinese Ann. Math. Ser. B*
Shuxue Wuli Xuebao See *Acta Math. Sci. (Chinese)*
Shuxue Xuebao See *Acta Math. Sinica*
Shuxue Yanjiu See *J. Math. Study*
Shuxue Zazhi See *J. Math. (Wuhan)*
§**SIAM J. Appl. Math.** SIAM Journal on Applied Mathematics. SIAM, Philadelphia, PA. ISSN 1095-712X.
§**SIAM J. Comput.** SIAM Journal on Computing. SIAM, Philadelphia, PA. ISSN 1095-7111.
§**SIAM J. Control Optim.** SIAM Journal on Control and Optimization. SIAM, Philadelphia, PA. ISSN 1095-7138.
§**SIAM J. Discrete Math.** SIAM Journal on Discrete Mathematics. SIAM, Philadelphia, PA. ISSN 1095-7146.
§**SIAM J. Math. Anal.** SIAM Journal on Mathematical Analysis. SIAM, Philadelphia, PA. ISSN 1095-7154.
§**SIAM J. Matrix Anal. Appl.** SIAM Journal on Matrix Analysis and Applications. SIAM, Philadelphia, PA.
§**SIAM J. Numer. Anal.** SIAM Journal on Numerical Analysis. SIAM, Philadelphia, PA. ISSN 1095-7170.
§**SIAM J. Optim.** SIAM Journal on Optimization. SIAM, Philadelphia, PA. ISSN 1095-7189.
§**SIAM J. Sci. Comput.** SIAM Journal on Scientific Computing. SIAM, Philadelphia, PA. ISSN 1095-7197.
*†**SIAM Monogr. Discrete Math. Appl.** SIAM Monographs on Discrete Mathematics and Applications. SIAM, Philadelphia, PA.
†**SIAM Monogr. Math. Model. Comput.** SIAM Monographs on Mathematical Modeling and Computation. SIAM, Philadelphia, PA.
SIAM Rev. SIAM Review. SIAM, Philadelphia, PA. ISSN 1095-7200.
†**SIAM Stud. Appl. Math.** SIAM Studies in Applied Mathematics. SIAM, Philadelphia, PA.
†**Sib. Shk. Algebry Log.** Сибирская Школа Алгебры и Логики. [Siberian School of Algebra and Logic] Nauchn. Kniga, Novosibirsk.
*†**Sib. Zh. Vychisl. Mat.** Sibirskiĭ Zhurnal Vychislitel'noĭ Matematiki. Siberian Journal of Numerical Mathematics. Rossiĭskaya Akademiya Nauk. Sibirskoe Otdelenie. Izdat. Ross. Akad. Nauk Sibirsk. Otdel., Novosibirsk.
§**Siberian Adv. Math.** Siberian Advances in Mathematics. Allerton, New York. (Selected translations of Russian language publications) ISSN 1055-1344.
Siberian J. Comput. Math. Siberian Journal of Computer Mathematics. Nova Sci. Publ., Commack, NY. ISSN 1062-7944.
§**Siberian J. Differential Equations** Siberian Journal of Differential Equations. Nova Sci. Publ., Commack, NY. ISSN 1081-2628.
Siberian Math. J. Siberian Mathematical Journal. Consultants Bureau, New York. (Translation of *Sibirsk. Mat. Zh.*) ISSN 0037-4466.
†**Siberian School Algebra Logic** Siberian School of Algebra and Logic. Consultants Bureau, New York.
§**Sibirsk. Mat. Zh.** Rossiĭskaya Akademiya Nauk. Sibirskoe Otdelenie. Institut Matematiki im. S. L. Soboleva. Sibirskiĭ Matematicheskiĭ Zhurnal. Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk. (Translated in *Siberian Math. J.*) ISSN 0037-4474.
Sichuan Daxue Xuebao Sichuan Daxue Xuebao. Ziran Kexue Ban. Sichuan University Journal. Natural Sciences. J. Sichuan Univ. (Nat. Sci. Ed.), Editor. Dept., Chengdu. ISSN 0490-6756.
Sichuan Shifan Daxue Xuebao Ziran Kexue Ban Sichuan Shifan Daxue Xuebao. Ziran Kexue Ban. Journal of Sichuan Normal University. Natural Science Edition. J. Sichuan Normal Univ. (Nat. Sci.), Editor. Board, Chengdu. ISSN 1001-8395.
†**Sigma Ser. Pure Math.** Sigma Series in Pure Mathematics. Heldermann, Lemgo.
†**Signal Process. Digit. Filtering** Signal Processing and Digital Filtering. Springer, New York.
SINET SINET: Ethiopian Journal of Science. Addis Ababa Univ., Addis Ababa. ISSN 0379-2897.
†**Sitzungsber. Math.-Naturwiss. Kl.** Sitzungsberichte der Mathematisch-Naturwissenschaftlichen Klasse. [Reports of the Mathematics-Science Class] Akad. Gemein. Wiss. Erfurt, Erfurt. ISSN 0940-2241.

Sitzungsber. Wiss. Ges. Johann Wolfgang Goethe-Univ. Frankfurt am Main Sitzungsberichte der Wissenschaftlichen Gesellschaft an der Johann Wolfgang Goethe-Universität Frankfurt am Main. Steiner, Stuttgart.

†**Sixth-Gener. Comput. Tech. Ser.** Sixth-Generation Computer Technology Series. Wiley, New York.

†**Skript. Math. Statist.** Skripten zur Mathematischen Statistik. [Lecture Notes on Mathematical Statistics] Ges. Förd. Math. Statist., Münster.

*†**Slup. Pr. Mat. Przyr. Fiz. A** Słupskie Prace Matematyczno-Przyrodnicze. Fizyka. A. Wyższa Szkoła Ped. Słupsku, Słupsk. (Formerly *Slup. Prace Mat. Przyr. Mat. Fiz.*) ISSN 0208-7251.

Slup. Prace Mat. Przyr. Mat. Fiz. Słupskie Prace Matematyczno-Przyrodnicze. Matematyka. Fizyka. Wyższa Szkoła Ped. Słupsku, Słupsk. (Continued as *Slup. Pr. Mat. Przyr. Fiz. A*) ISSN 0208-7251.

Smarandache Notions J. Smarandache Notions Journal. Am. Res. Press, Rehoboth, NM. ISSN 1084-2810.

†**SMF Journ. Annu.** SMF Journée Annuelle. [SMF Annual Conference] Soc. Math. France, Paris.

*†**SMF/AMS Texts Monogr.** SMF/AMS Texts and Monographs. Amer. Math. Soc., Providence, RI.

Soc. Choice Welf. Social Choice and Welfare. Springer, Heidelberg. ISSN 0176-1714.

†**Software Environ. Tools** Software, Environments, and Tools. SIAM, Philadelphia, PA.

†**Solid Mech. Appl.** Solid Mechanics and its Applications. Kluwer Acad. Publ., Dordrecht.

†**Soobshch. Ob"ed. Inst. Yadernykh Issled. Dubna** Сообщения Объединенного Института Ядерных Исследований. Дубна. [Communications of the Joint Institute for Nuclear Research. Dubna] Joint Inst. Nuclear Res., Dubna.

†**Soobshch. Prikl. Mat.** Сообщения по Прикладной Математике. [Reports in Applied Mathematics] Ross. Akad. Nauk, Vychisl. Tsentr, Moscow.

§**Soochow J. Math.** Soochow Journal of Mathematics. Soochow Univ., Taipei. ISSN 0250-3255.

E**Sorites** Sorites. An International Electronic Quarterly of Analytical Philosophy. SORITES, Madrid. ISSN 1135-1349.

†**Sources Hist. Math. Phys. Sci.** Sources in the History of Mathematics and Physical Sciences. Springer, New York. (Continued as *Sources Stud. Hist. Math. Phys. Sci.*)

*†**Sources Stud. Hist. Math. Phys. Sci.** Sources and Studies in the History of Mathematics and Physical Sciences. Springer, New York. (Formerly *Sources Hist. Math. Phys. Sci.*)

South African Statist. J. South African Statistical Journal. South African Statist. Assoc., Pretoria. ISSN 0038-271X.

§**Southeast Asian Bull. Math.** Southeast Asian Bulletin of Mathematics. Springer, Singapore. ISSN 0129-2021.

§E**Southwest J. Pure Appl. Math.** Southwest Journal of Pure and Applied Mathematics. Cameron Univ., Dept. Math. Sci., Lawton, OK. ISSN 1083-0464.

†**Sovrem. Probl. Fiz.** Современные Проблемы Физики. [Current Problems in Physics] "Nauka", Moscow.

†**Sovrem. Probl. Mat. Fund. Naprav.** Современные Проблемы Математики. Фундаментальные Направления. [Current Problems in Mathematics. Fundamental Directions] Vsesoyuz. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow. (Translated in *Encyclopaedia Math. Sci.*) (See also *Itogi Nauki i Tekhniki*) ISSN 0233-6723.

†**Spektrum Lehrbuch** Spektrum Lehrbuch. [Spectrum Textbook] Spektrum Akad., Heidelberg.

†**Spektrum-Bibl.** Spektrum-Bibliothek. [Spectrum Library] Spektrum Wiss., Heidelberg.

†**Spektrum-HochschulTaschenb.** Spektrum-HochschulTaschenbuch. [Spectrum University Paperback] Spektrum Akad., Heidelberg.

†**Spekulation Erfahrung Abt. II Unters.** Spekulation und Erfahrung. Abteilung II: Untersuchungen. [Speculation and Experiences. Division II: Investigations] Frommann-Holzboog, Stuttgart.

*†**SPIE/IEEE Ser. Imaging Sci. Eng.** SPIE/IEEE Series on Imaging Science & Engineering. SPIE, Bellingham, WA.

†**Springer Finance** Springer Finance. Springer, Singapore.

†**Springer Lehrbuch Math.** Springer Lehrbuch Mathematik. [Springer Mathematics Textbook] Springer, Vienna.

†**Springer Monogr. Math.** Springer Monographs in Mathematics. Springer, Berlin.

†**Springer Ser. Comput. Math.** Springer Series in Computational Mathematics. Springer, New York.

†**Springer Ser. Discrete Math. Theor. Comput. Sci.** Springer Series in Discrete Mathematics and Theoretical Computer Science. Springer, Singapore.

†**Springer Ser. Inform. Sci.** Springer Series in Information Sciences. Springer, Berlin. ISSN 0720-678X.

†**Springer Ser. Oper. Res.** Springer Series in Operations Research. Springer, New York.

†**Springer Ser. Solid-State Sci.** Springer Series in Solid-State Sciences. Springer, Berlin.

†**Springer Ser. Statist.** Springer Series in Statistics. Springer, New York. (See also *Springer Ser. Statist. Perspect. Statist.* and *Springer Ser. Statist. Probab. Appl.*)

†**Springer Ser. Statist. Perspect. Statist.** Springer Series in Statistics: Perspectives in Statistics. Springer, New York. (See also *Springer Ser. Statist.*)

†**Springer Ser. Synergetics** Springer Series in Synergetics. Springer, Berlin. ISSN 0172-7389.

†**Springer Texts Statist.** Springer Texts in Statistics. Springer, New York.

†**Springer Tracts Modern Phys.** Springer Tracts in Modern Physics. Springer, Berlin.

†**Springer Tracts Nat. Philos.** Springer Tracts in Natural Philosophy. Springer, New York.

†**Springer Undergrad. Math. Ser.** Springer Undergraduate Mathematics Series. Springer, London.

†**Springer-Lehrbuch** Springer-Lehrbuch. [Springer Textbook] Springer, Berlin.

St. Petersburg Math. J. St. Petersburg Mathematical Journal. Amer. Math. Soc., Providence, RI. (Translation of *Algebra i Analiz*) ISSN 1061-0022.

*†**Stab. Control Theory Appl.** Stability and Control: Theory and Applications. An International Journal. Acad. Nonlinear Sci., Moscow.

†**Stability Control Theory Methods Appl.** Stability and Control: Theory, Methods and Applications. Gordon and Breach, Amsterdam. ISSN 1023-6155.

†**Stat. Biol. Health** Statistics for Biology and Health. Springer, New York.

*†**Stat. Eng. Inf. Sci.** Statistics for Engineering and Information Science. Springer, New York.

†**Stat. Eng. Phys. Sci.** Statistics for Engineering and Physical Science. Springer, New York.

†**Stat. Ind. Technol.** Statistics for Industry and Technology. Birkhäuser Boston, Boston, MA.

*§**Stat. Inference Stoch. Process.** Statistical Inference for Stochastic Processes. An International Journal Devoted to Time Series Analysis and the Statistics of Continuous Time Processes and Dynamical Systems. Kluwer Acad. Publ., Dordrecht. ISSN 1387-0874.

†**Stat. Math. Probab.** Statistique Mathématique et Probabilité. [Mathematical Statistics and Probability] Économica, Paris.

†**Stat. Soc. Sci. Public Policy** Statistics for Social Science and Public Policy. Springer, New York.

†**Statist. Comput.** Statistics and Computing. Springer, New York.

§**Statist. Decisions** Statistics & Decisions. International Mathematical Journal for Stochastic Methods and Models. Oldenbourg, Munich. ISSN 0721-2631.

†**Statist. Model. Decis. Sci.** Statistical Modeling and Decision Science. Academic Press, Boston, MA.

Statist. Neerlandica Statistica Neerlandica. Journal of the Netherlands Society for Statistics and Operations Research. Blackwell, Oxford. ISSN 0039-0402.

Statist. Papers Statistical Papers. Springer, Berlin. ISSN 0932-5026.

Statist. Probab. Lett. Statistics & Probability Letters. North-Holland, Amsterdam. ISSN 0167-7152.

Statist. Sci. Statistical Science. A Review Journal of the Institute of Mathematical Statistics. Inst. Math. Statist., Hayward, CA. ISSN 0883-4237.

Statist. Sinica Statistica Sinica. Statist. Sinica, Taipei. ISSN 1017-0405.

†**Statist. Textbooks Monogr.** Statistics: Textbooks and Monographs. Dekker, New York.

Statistica (Bologna) Statistica. Coop. Lib. Univ., Bologna. ISSN 0390-590X.

§**Statistics** Statistics. A Journal of Theoretical and Applied Statistics. Gordon and Breach, Yverdon. ISSN 0233-1888.

¶**STMA** Statistical Theory and Method Abstracts. Internat. Statist. Inst., Voorburg. ISSN 0039-0518.

*†**Stoch. Model.** Stochastic Modeling. Chapman & Hall/CRC, Boca Raton, FL. (Formerly *Stochastic Model.*)

§**Stochastic Anal. Appl.** Stochastic Analysis and Applications. Dekker, Monticello, NY. ISSN 0736-2994.

†**Stochastic Model. Ser.** Stochastic Modeling Series. Chapman & Hall, London.

§**Stochastic Process. Appl.** Stochastic Processes and their Applications. North-Holland, Amsterdam. ISSN 0304-4149.

†**Stochastics Monogr.** Stochastics Monographs. Gordon and Breach, Yverdon. ISSN 0275-5785.

§**Stochastics Stochastics Rep.** Stochastics and Stochastics Reports. Gordon and Breach, Yverdon. ISSN 1045-1129.

†**Stud. Adv. Math.** Studies in Advanced Mathematics. CRC, Boca Raton, FL.

§**Stud. Appl. Math.** Studies in Applied Mathematics. Blackwell, Malden, MA. ISSN 0022-2526.

†**Stud. Appl. Mech.** Studies in Applied Mechanics. Elsevier, Amsterdam.

§**Stud. Cerc. Mat.** Studii şi Cercetări Matematice. Mathematical Reports. Ed. Acad. Române, Bucharest. ISSN 0039-4068.

Stud. Cerc. Mec. Apl. Studii şi Cercetări de Mecanică Aplicată. Ed. Acad. Române, Bucharest. ISSN 0039-4017.

†**Stud. Classification Data Anal. Knowledge Organ.** Studies in Classification, Data Analysis, and Knowledge Organization. Springer, Berlin.

†**Stud. Comput. Math.** Studies in Computational Mathematics. North-Holland, Amsterdam.

†**Stud. Comput. Sci. Artificial Intelligence** Studies in Computer Science and Artificial Intelligence. North-Holland, Amsterdam.

†**Stud. Develop. Modern Math.** Studies in the Development of Modern Mathematics. Gordon and Breach, New York.

†**Stud. Dynam. Econom. Sci.** Studies in Dynamical Economic Science. MIT Press, Cambridge, MA.

†**Stud. Econom. Theory** Studies in Economic Theory. Springer, Berlin.

†**Stud. Empir. Econom.** Studies in Empirical Economics. Physica, Heidelberg.

*†**Stud. Fr. Civiliz.** Studies in French Civilization. Mellen, Lewiston, NY.

†**Stud. Funct. Struct. Linguist.** Studies in Functional and Structural Linguistics (SFSL). Benjamins, Amsterdam. ISSN 0165-7712.

†**Stud. Fuzziness Soft Comput.** Studies in Fuzziness and Soft Computing. Physica, Heidelberg.

†**Stud. High Energy Phys. Cosmol. Gravit.** Studies in High Energy Physics Cosmology and Gravitation. IOP, Bristol.

Stud. Hist. Philos. Sci. Studies in History and Philosophy of Science. Pergamon, Exeter. ISSN 0039-3681.

Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys. Studies in History and Philosophy of Science. B. Studies in History and Philosophy of Modern Physics. Pergamon, Exeter. ISSN 1355-2198.

*†**Stud. Locat. Anal.** Studies in Locational Analysis. Constantine Porphyrogenetus Int. Assoc., Athens. ISSN 1105-5162.

†**Stud. Logic Comput.** Studies in Logic and Computation. Oxford Univ. Press, New York.

†**Stud. Logic Found. Math.** Studies in Logic and the Foundations of Mathematics. North-Holland, Amsterdam.

†**Stud. Logic Lang. Inform.** Studies in Logic, Language and Information. CSLI Publ., Stanford, CA.

†**Stud. Math. Appl.** Studies in Mathematics and its Applications. North-Holland, Amsterdam.

*†**Stud. Math. Libr.** Student Mathematical Library. Amer. Math. Soc., Providence, RI. ISSN 1520-9121.

†**Stud. Math. Managerial Econom.** Studies in Mathematical and Managerial Economics. North-Holland, Amsterdam.

†**Stud. Math. Phys.** Studies in Mathematical Physics. North-Holland, Amsterdam.

†**Stud. Math. Think. Learn.** Studies in Mathematical Thinking and Learning. Erlbaum, Hillsdale, NJ.

E **Stud. Nonlinear Dyn. Econom.** Studies in Nonlinear Dynamics and Econometrics. MIT Press, Cambridge, MA. ISSN 1081-1826.

†**Stud. Nonlinear Phenom. Life Sci.** Studies of Nonlinear Phenomena in Life Science. World Sci. Publishing, River Edge, NJ.

*†**Stud. Nonlinearity** Studies in Nonlinearity. Perseus, Reading, MA.

†**Stud. Österr. Philos.** Studien zur Österreichischen Philosophie. [Studies on Austrian Philosophy] Rodopi, Amsterdam.

†**Stud. Philos. Hist.** Studia Philosophica et Historica. Lang, Frankfurt am Main. ISSN 0721-5878.

†**Stud. Philos. Hist. Philos.** Studies in Philosophy and the History of Philosophy. Cathol. Univ. Am. Press, Washington, DC.

Stud. Univ. Babeş-Bolyai Inform. Studia. Universitatis Babeş-Bolyai. Informatica. Univ. "Babeş-Bolyai", Cluj-Napoca. ISSN 1224-869X.

Stud. Univ. Žilina Math. Phys. Ser. Studies of University in Žilina. Mathematical-Physical Series. Univ. Žilina, Žilina.

†**Stud. Wiss. Soz. Bildungsgesch. Math.** Studien zur Wissenschafts-, Sozial- und Bildungsgeschichte der Mathematik. [Studies on the Scientific, Social and Educational History of Mathematics] Vandenhoeck & Ruprecht, Göttingen.

†**Studi Galileiani** Studi Galileiani. Vatican Observatory Publ., Vatican City.

†**Studi Ist. Gramsci Sicil.** Studi dell'Istituto Gramsci Siciliano. [Studies of the Sicilian Gramsci Institute] Sciascia, Rome.

Studia Automat. Inform. Poznańskie Towarzystwo Przyjaciół Nauk. Wydział Nauk Technicznych. Prace Komisji Automatyki i Informatyki. Studia z Automatyki i Informatyki. Wydawn. Poznań. Tow. Przyj. Nauk, Poznań. ISSN 0867-3977.

Studia Leibnitiana Studia Leibnitiana. Zeitschrift für Geschichte der Philosopie und der Wissenschaften. Steiner, Stuttgart. ISSN 0039-3185.

§**Studia Logica** Studia Logica. An International Journal for Symbolic Logic. Kluwer Acad. Publ., Dordrecht. ISSN 0039-3215.

§**Studia Math.** Studia Mathematica. Polish Acad. Sci., Warsaw. ISSN 0039-3223.

§**Studia Sci. Math. Hungar.** Studia Scientiarum Mathematicarum Hungarica. A Quarterly of the Hungarian Academy of Sciences. Akad. Kiadó, Budapest. ISSN 0081-6906.

Studia Univ. Babeş-Bolyai Math. Universitatis Babeş-Bolyai. Studia. Mathematica. Univ. "Babeş-Bolyai", Cluj-Napoca. ISSN 0252-1938.

Studia Univ. Babeş-Bolyai Phys. Universitatis Babeş-Bolyai. Studia. Physica. Univ. "Babeş-Bolyai", Bibl. Centr. Univ., Cluj-Napoca. ISSN 0370-8578.

Su-hak Academy of Science of the People's Democratic Republic of Korea. Research Center for Physics and Mathematics. Su-hak. (Mathematics). Sci. Tech. Publ., P'yŏngyang.

†**Subnucl. Ser.** The Subnuclear Series. World Sci. Publishing, River Edge, NJ.

Sudhoffs Arch. Sudhoffs Archiv. Zeitschrift für Wissenschaftsgeschichte. Steiner, Stuttgart. ISSN 0039-4564.

§**Sūgaku** Mathematical Society of Japan. Sūgaku (Mathematics). Math. Soc. Japan, Tokyo. (Translated in *Sugaku Expositions*) ISSN 0039-470X.

§**Sugaku Expositions** Sugaku Expositions. Amer. Math. Soc., Providence, RI. (Selected translation of *Sūgaku*) ISSN 0898-9583.

Suid-Afrikaanse Tydskr. Natuurwetenskap Tegnol. Die Suid-Afrikaanse Tydskrif vir Natuurwetenskap en Tegnologie. Suid-Afrik. Akad. Weten. Kuns, Pretoria. ISSN 0254-3486.

†**SUNY Ser. Philos.** SUNY Series in Philosophy. SUNY Press, Albany, NY.

†**SUNY Ser. Reform Math. Educ.** SUNY Series, Reform in Mathematics Education. SUNY Press, Albany, NY.

†**SUNY Ser. Sci. Tech. Soc.** SUNY Series in Science, Technology, and Society. SUNY Press, Albany, NY.

§**Sūrikaisekikenkyūsho Kōkyūroku** Sūrikaisekikenkyūsho Kōkyūroku. Kyoto Univ., Kyoto.

†**Surveys Appl. Math.** Surveys in Applied Mathematics. Plenum, New York. ISSN 1082-622X.

Surveys Math. Indust. Surveys on Mathematics for Industry. Springer, Vienna. ISSN 0938-1953.

§**SUT J. Math.** SUT Journal of Mathematics. Sci. Univ. Tokyo, Tokyo. ISSN 0916-5746.

†**Svyaz' Vremen** Связь Времен. [Connecting Times] Bereznikov. Tipogr., Berezniki.

†**Symbol. Numer. Comput. Ser.** Symbolic and Numeric Computation Series. CRC, Boca Raton, FL.

Symmetry Cult. Sci. Symmetry: Culture and Science. The Quarterly of the International Society for the Interdisciplinary Study of Symmetry. Internat. Soc. Interdiscip. Study Symmetry, Budapest. ISSN 0865-4824.

†**Sympos. Math.** Symposia Mathematica. Cambridge Univ. Press, Cambridge.

†**Symposion** Symposion. Philosophische Schriftenreihe. [Symposion. Philosophical Texts Series] Alber, Freiburg.

†**Synerg. Syntropie Nichtlineare Syst.** Synergie—Syntropie—Nichtlineare Systeme. [Synergy—Syntropy—Nonlinear Systems] Verlag Wiss. Leipzig, Leipzig.

Synthese Synthese. An International Journal for Epistemology, Methodology and Philosophy of Science. Kluwer Acad. Publ., Dordrecht. ISSN 0039-7857.

†**Synthese Lib.** Synthese Library. Kluwer Acad. Publ., Dordrecht.

†**Systems Control Found. Appl.** Systems & Control: Foundations & Applications. Birkhäuser Boston, Boston, MA.

Systems Control Inform. Systems, Control and Information. Shisutemu, Seigyo, Jōhō. Inst. Systems Control Inform. Engrs., Kyoto. ISSN 0916-1600.

Systems Control Lett. Systems & Control Letters. North-Holland, Amsterdam. ISSN 0167-6911.

Systems Sci. Wrocław University of Technology. Systems Science. Wrocław Univ. Tech. Press, Wrocław. ISSN 0137-1223.

Systems Sci. Math. Sci. Systems Science and Mathematical Sciences. Science Press, Beijing. ISSN 1000-9590.

†**Tabriz Univ. Ser.** Tabriz University Series. Tabriz Univ., Tabriz.

§**Taiwanese J. Math.** Taiwanese Journal of Mathematics. Math. Soc. Repub. China (Taiwan), Chung Li. ISSN 1027-5487.

§**Tamkang J. Math.** Tamkang Journal of Mathematics. Tamkang Univ., Taipei. ISSN 0049-2930.

Tamsui Oxf. J. Math. Sci. Tamsui Oxford Journal of Mathematical Sciences. Tamsui Oxford Univ. Coll., Taipei.

Tamsui Oxford J. Management Sci. Tamsui Oxford Journal of Management Sciences. Tamsui Oxford Univ. Coll., Taipei. ISSN 0258-5375.

Tartu Ül. Toimetised Tartu Ülikooli Toimetised. Uchenye Zapiski Tartuskogo Universiteta. Acta et Commentationes Universitatis Tartuensis. Tartu Ül., Tartu. (Continued as *Acta Comment. Univ. Tartu. Math.*) ISSN 0494-7304.

†**Tata Inst. Fund. Res. Stud. Math.** Tata Institute of Fundamental Research Studies in Mathematics. Tata Inst. Fund. Res., Bombay.

§**Tatra Mt. Math. Publ.** Tatra Mountains Mathematical Publications. Slovak Acad. Sci., Bratislava. ISSN 1210-3195.

†**Taylor & Francis Syst. Control Book Ser.** The Taylor & Francis Systems and Control Book Series. Taylor & Francis, London.

†**T'bilis. A. Razmadzis Saxel. Mat'. Inst. Shromebi** T'bilisis A. Razmadzis Saxelobis Mat'ematikis Institutis Shromebi. [Tbilisi A. Razmadze Mathematics Institute Works] "Metsniereba", Tbilisi.

Tbiliss. Gos. Univ. Inst. Prikl. Mat. Trudy Tbilisskiĭ Gosudarstvennyĭ Universitet. Institut Prikladnoĭ Matematiki. Trudy. Izdat. Tbilis. Univ., Tbilisi. ISSN 0376-2637.

†**Tech. Rep.** Technical Report. Madurai Kamaraj Univ., Madurai.

Tech. Rep. Kansai Univ. Kansai University. Technology Reports. Kansai Univ., Suita. ISSN 0453-2198.

Tech. Rep. Osaka Univ. Technology Reports of the Osaka University. Osaka Univ., Suita. ISSN 0030-6177.

†**Tech. Sci. Adv. Electron.** Technical Sciences: Advances in Electronics. Akad. Kiadó, Budapest. ISSN 0236-6312.

Technometrics Technometrics. A Journal of Statistics for the Physical, Chemical and Engineering Sciences. Am. Soc. Qual., Milwaukee, WI. ISSN 0040-1706.

§**Tensor (N.S.)** The Tensor Society. Tensor. New Series. Tensor Soc., Chigasaki. ISSN 0040-3504.

§**Teor. Funktsiĭ Funktsional. Anal. i Prilozhen.** Teoriya Funktsiĭ, Funktsional'nyĭ Analiz i ikh Prilozheniya. "Osnova", Khar'kov. (Translated in *J. Math. Sci. (New York)*) ISSN 0321-4427.

§**Teor. Ĭmovīr. Mat. Stat.** Teorīya Ĭmovīrnosteĭ ta Matematichna Statistika. Kiĭvs'kiĭ Unīversitet īmeni Tarasa Shevchenka. "TViMS", Kiev. (Translated in *Theory Probab. Math. Statist.*) ISSN 0868-6904.

†**Teor. Metod. Sistem. Anal.** Теория и Методы Системного Анализа. [Theory and Methods of Systems Analysis] VO "Nauka", Moscow.

§**Teor. Veroyatnost. i Primenen.** Rossiĭskaya Akademiya Nauk. Teoriya Veroyatnosteĭ i ee Primeneniya. Izdat. TVP, Moscow. (Translated in *Theory Probab. Appl.*) ISSN 0040-361X.

†**Teor. Veroyatnost. Mat. Statist.** Теория Вероятностей и Математическая Статистика. [Probability Theory and Mathematical Statistics] Fizmatlit "Nauka", Moscow.

Teoret. Élektrotekhn. Teoreticheskaya Élektrotekhnika. "Svit", L'vov. ISSN 0131-7288.

Teoret. i Prikl. Mekh. (Donetsk) Donetskiĭ Gosudarstvennyĭ Universitet. Teoreticheskaya i Prikladnaya Mekhanika. "Osnova", Khar'kov. (Translated in *J. Math. Sci. (New York)*) ISSN 0136-4545.

Teoret. i Prikl. Mekh. (Minsk) Belorusskiĭ Politekhnicheskiĭ Institut. Teoreticheskaya i Prikladnaya Mekhanika. "Vysh. Shkola", Minsk. ISSN 0134-9635.

Teoret. Mat. Fiz. Rossiĭskaya Akademiya Nauk. Teoreticheskaya i Matematicheskaya Fizika. "Nauka", Moscow. (Translated in *Theoret. and Math. Phys.*) ISSN 0564-6162.

Teoria (N.S.) Teoria. Nuova Serie. ETS, Pisa.

Test Test. Soc. Esp. Estad. Investig. Oper., Madrid. ISSN 1133-0686.

†**Teubner Skr. Math. Stochastik** Teubner Skripten zur Mathematischen Stochastik. [Teubner Texts on Mathematical Stochastics] Teubner, Stuttgart.

†**Teubner Studienbüch. Math.** Teubner Studienbücher Mathematik. [Teubner Mathematical Textbooks] Teubner, Stuttgart.

†**Teubner Studienbüch. Mech.** Teubner Studienbücher Mechanik. [Teubner Mechanics Textbooks] Teubner, Stuttgart.

†**Teubner Studienbüch. Phys.** Teubner Studienbücher Physik. [Teubner Textbooks in Physics] Teubner, Stuttgart.

†**Teubner-Arch. Math.** Teubner-Archiv zur Mathematik. [Teubner Archive on Mathematics] Teubner, Stuttgart. ISSN 0233-0962.

†**Teubner-Arch. Math. Suppl.** Teubner-Archiv zur Mathematik. Supplement. [Teubner Archive on Mathematics. Supplement] Teubner, Stuttgart.

†**Teubner-Texte Inform.** Teubner-Texte zur Informatik. [Teubner Texts on Information Science] Teubner, Stuttgart.

†**Teubner-Texte Math.** Teubner-Texte zur Mathematik. [Teubner Texts in Mathematics] Teubner, Stuttgart. ISSN 0138-502X.

Texas J. Sci. The Texas Journal of Science. Texas Acad. Sci., Lubbock, TX. ISSN 0040-4403.

†**Textbooks Math. Sci.** Textbooks in Mathematical Sciences. Springer, New York.

†**Texte Didakt. Math.** Texte zur Didaktik der Mathematik. [Textbooks on the Didactics of Mathematics] Spektrum Akad., Heidelberg.

†**Textos Bronce** Textos del Bronce. [Bronce Texts] Bronce, Barcelona.

†**Textos Mat. Sér. B** Textos de Matemática. Série B. [Texts in Mathematics. Series B] Univ. Coimbra, Coimbra.

†**Texts Appl. Math.** Texts in Applied Mathematics. Springer, New York.

†**Texts Monogr. Phys.** Texts and Monographs in Physics. Springer, New York. ISSN 0172-5998.

†**Texts Monogr. Symbol. Comput.** Texts and Monographs in Symbolic Computation. Springer, Vienna. ISSN 0943-853X.

†**Texts Read. Math.** Texts and Readings in Mathematics. Hindustan Book Agency, New Delhi.

†**Texts Statist. Sci. Ser.** Texts in Statistical Science Series. Chapman & Hall, New York.

†**Texts Theoret. Comput. Sci. EATCS Ser.** Texts in Theoretical Computer Science. An EATCS Series. Springer, Berlin.

*†**Themes Mod. Econom.** Themes in Modern Econometrics. Cambridge Univ. Press, Cambridge.

*†**Theor. Inform. Appl.** Theoretical Informatics and Applications. Informatique Théorique et Applications. EDP Sci., Les Ulis. (Formerly *RAIRO Inform. Théor. Appl.*) ISSN 0988-3754.

Theoret. and Math. Phys. Theoretical and Mathematical Physics. Consultants Bureau, New York. (Translation of *Teoret. Mat. Fiz.*) ISSN 0040-5779.

Theoret. Appl. Mech. Theoretical and Applied Mechanics. Yugoslav. Soc. Mech., Belgrade. ISSN 0350-2708.

§**Theoret. Comput. Sci.** Theoretical Computer Science. Elsevier, Amsterdam. ISSN 0304-3975.

Theoret. Linguist. Theoretical Linguistics. de Gruyter, Berlin. ISSN 0301-4428.

Theoria Theoria. Filos. Inst., Lund.

Theoria Hist. Sci. Theoria et Historia Scientiarum. N. Copernicus Univ. Press, Toruń. ISSN 0867-4159.

Theoria (San Sebastián) (2) Theoria. Revista de Teoría, Historia y Fundamentos de la Ciencia. Segunda Época. Centro Anál. Lógica Inform. Juríd., San Sebastián. ISSN 0495-4548.

Theory and Decision Theory and Decision. An International Journal for Multidisciplinary Advances in Decision Science. Kluwer Acad. Publ., Dordrecht. ISSN 0040-5833.

§E**Theory Appl. Categ.** Theory and Applications of Categories. Theory Appl. Categ., Sackville, NB. ISSN 1201-561X.

†**Theory Appl. Transp. Porous Media** Theory and Applications of Transport in Porous Media. Kluwer Acad. Publ., Dordrecht.

§**Theory Comput. Syst.** Theory of Computing Systems. Springer, New York. ISSN 1432-4350.

†**Theory Decis. Lib. Ser. B Math. Statist. Methods** Theory and Decision Library. Series B: Mathematical and Statistical Methods. Kluwer Acad. Publ., Dordrecht.

†**Theory Decis. Lib. Ser. C Game Theory Math. Program. Oper. Res.** Theory and Decision Library. Series C: Game Theory, Mathematical Programming and Operations Research. Kluwer Acad. Publ., Dordrecht.

†**Theory Decis. Lib. Ser. D System Theory Knowledge Engrg. Probl. Solving** Theory and Decision Library. Series D: System Theory, Knowledge Engineering and Problem Solving. Kluwer Acad. Publ., Dordrecht.

†**Theory Eng. Appl. Comput. Methods** Theory and Engineering Applications of Computational Methods. Internat. Center Numer. Methods Eng. (CIMNE), Barcelona.

Theory Probab. Appl. Theory of Probability and its Applications. SIAM, Philadelphia, PA. (Translation of *Teor. Veroyatnost. i Primenen.*) ISSN 0040-585X.

Theory Probab. Math. Statist. Theory of Probability and Mathematical Statistics. Amer. Math. Soc., Providence, RI. (Translation of *Teor. Ĭmovīr. Mat. Stat.*) ISSN 0094-9000.

Tianjin Daxue Xuebao See *J. Tianjin Univ.*

*†**Tianjin Daxue Xuebao. Ziran Kexue yu Gong Cheng Jixue Ban** See *J. Tianjin Univ. Nat. Sci. Technol. Ed.*

Tianjin Shida Xuebao Ziran Kexue Ban See *J. Tianjin Norm. Univ. Nat. Sci. Ed.*

Tianti Wuli Xuebao See *Acta Astrophys. Sinica*

Tianwen Xuebao See *Acta Astronom. Sinica*

†**TKO** TKO. Hels. Univ. Technol., Espoo. ISSN 1239-6885.

§**Tohoku Math. J. (2)** The Tohoku Mathematical Journal. Second Series. Tohoku Univ., Sendai. ISSN 0040-8735.

†**Tohoku Math. Publ.** Tohoku Mathematical Publications. Tohoku Univ., Sendai.

§**Tokyo J. Math.** Tokyo Journal of Mathematics. Kinokuniya, Tokyo. ISSN 0387-3870.

Tongji Daxue Xuebao Ziran Kexue Ban Tongji Daxue Xuebao. Ziran Kexue Ban. Journal of Tongji University. Natural Science. J. Tongji Univ., Editor. Dept., Shanghai. ISSN 0253-374X.

Top Top. Soc. Estad. Investig. Oper., Madrid. ISSN 1134-5764.

†**Top. Phys. Chem.** Topics in Physical Chemistry. Oxford Univ. Press, New York.

†**Topics Discrete Math.** Topics in Discrete Mathematics. North-Holland, Amsterdam.

†**Topics Engrg.** Topics in Engineering. Comput. Mech., Southampton. ISSN 0952-5300.

†**Topics in Comput. Math.** Topics in Computer Mathematics. Gordon and Breach, Amsterdam. ISSN 0275-5815.

Topoi Topoi. An International Review of Philosophy. Kluwer Acad. Publ., Dordrecht. ISSN 0167-7411.

§**Topol. Methods Nonlinear Anal.** Topological Methods in Nonlinear Analysis. Juliusz Schauder Cent. Nonlinear Stud., Toruń. ISSN 1230-3429.

§**Topology** Topology. An International Journal of Mathematics. Pergamon, Oxford. ISSN 0040-9383.

§**Topology Appl.** Topology and its Applications. North-Holland, Amsterdam. ISSN 0166-8641.

§**Topology Proc.** Topology Proceedings. Auburn Univ., Auburn, AL. ISSN 0146-4124.

*§**Tr. Geom. Semin.** Trudy Geometricheskogo Seminara. Kazanskiĭ Gosudarstvennyĭ Universitet. Izdat. Kazan. Mat. Obs., Kazan′. (Formerly *Trudy Geom. Sem. Kazan. Univ.*)

*†**Tr. Inst. Mat. (Minsk)** Труды Института Математики (Минск). [Proceedings of the Institute of Mathematics (Minsk)] Natl. Akad. Nauk. Belarusi, Inst. Mat., Minsk.

§**Tr. Mat. Inst. Steklova** Trudy Matematicheskogo Instituta Imeni V. A. Steklova. Rossiĭskaya Akademiya Nauk. MAIK "Nauka", Moscow. ISSN 0371-9685.

§**Tr. Mosk. Mat. Obs.** Trudy Moskovskogo Matematicheskogo Obshchestva. URSS, Moscow. (Translated in *Trans. Moscow Math. Soc.*) ISSN 0134-8663.

§**Tr. Petrozavodsk. Gos. Univ. Ser. Mat.** Trudy Petrozavodskogo Gosudarstvennogo Universiteta. Seriya Matematika. Gosudarstvennyĭ Komitet Rossiĭskoĭ Federatsii po Vysshemu Obrazovaniyu. Izdat. Petrozavodsk. Univ., Petrozavodsk.

*§**Tr. Semin. im. I. G. Petrovskogo** Trudy Seminara imeni I. G. Petrovskogo. Izdat. Moskov. Univ., Moscow. (Formerly *Trudy Sem. Petrovsk.*) ISSN 0321-2971.

†**Trab. Invest.** Trabalhos de Investigação. [Research Monographs] Univ. Nova Lisboa, Lisbon.

*†**Trab. Mat.** Trabajos de Matemática. [Mathematical Works] Univ. Nac. Córdoba, Córdoba.

§**Trans. Amer. Math. Soc.** Transactions of the American Mathematical Society. Amer. Math. Soc., Providence, RI. ISSN 0002-9947.

†**Trans. Amer. Philos. Soc.** Transactions of the American Philosophical Society. Amer. Philos. Soc., Philadelphia, PA.

Trans. ASME J. Appl. Mech. American Society of Mechanical Engineers. Transactions of the ASME. Journal of Applied Mechanics. Amer. Soc. Mech. Engrs. (ASME), New York. ISSN 0021-8936.

Trans. Inform. Process. Soc. Japan Information Processing Society of Japan. Transactions. Inform. Process. Soc. Japan, Tokyo. ISSN 0387-5806.

Trans. Inst. Systems Control Inform. Engrs. Institute of Systems, Control and Information Engineers. Transactions. Shisutemu Seigyo Jōhō Gakkai Rombunshi. Inst. Systems Control Inform. Engrs., Kyoto. ISSN 1342-5668.

Trans. Japan Acad. Transactions of the Japan Academy. Japan Acad., Tokyo. ISSN 0388-0036.

Trans. Moscow Math. Soc. Transactions of the Moscow Mathematical Society. Amer. Math. Soc., Providence, RI. (Translation of *Tr. Mosk. Mat. Obs.*) ISSN 0077-1554.

Trans. Tianjin Univ. Tianjin University. Transactions. Tianjin Univ., Tianjin. ISSN 1006-4982.

§**Transform. Groups** Transformation Groups. Birkhäuser Boston, Cambridge, MA. ISSN 1083-4362.

†**Transl. Math. Monogr.** Translations of Mathematical Monographs. Amer. Math. Soc., Providence, RI.

Transport Theory Statist. Phys. Transport Theory and Statistical Physics. Dekker, Monticello, NY. ISSN 0041-1450.

†**Travaux Centre Rech. Sémiol.** Travaux du Centre de Recherches Sémiologiques. [Works of the Center for Semiological Research] Univ. Neuchâtel, Neuchâtel.

†**Travaux en Cours** Travaux en Cours. [Works in Progress] Hermann, Paris.

†**Travaux Log.** Travaux de Logique. [Works on Logic] Univ. Neuchâtel, Neuchâtel. ISSN 1420-8520.

†**Trends Log. Stud. Log. Libr.** Trends in Logic—Studia Logica Library. Kluwer Acad. Publ., Dordrecht.

†**Trends Math.** Trends in Mathematics. Birkhäuser Boston, Boston, MA.

†**Trudi Īnst. Mat. Nats. Akad. Nauk Ukraïni** Труди Інституту Математики Національної Академії Наук України. [Proceedings of the Institute of Mathematics of the National Academy of Sciences of the Ukraine] Natsīonal. Akad. Nauk Ukraïni, Īnst. Mat., Kiev.

Trudy Fiz. Inst. Lebedev. Rossiĭskaya Akademiya Nauk. Trudy Fizicheskogo Instituta imeni P. N. Lebedeva. "Nauka", Moscow. ISSN 0203-5820.

§**Trudy Geom. Sem. Kazan. Univ.** Kazanskiĭ Universitet. Trudy Geometricheskogo Seminara. Izdat. Kazan. Univ., Kazan′. (Continued as *Tr. Geom. Semin.*) ISSN 0206-0329.

†**Trudy Inst. Mat.** Труды Института Математики. [Proceedings of the Institute of Mathematics] Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk. ISSN 0208-0060.

†**Trudy IOFAN** Труды Института Общей Физики. [Proceedings of the Institute of General Physics] Fizmatlit "Nauka", Moscow. ISSN 0233-9390.

§**Trudy S.-Peterburg. Mat. Obshch.** Trudy Sankt-Peterburgskogo Matematicheskogo Obshchestva. Izdat. S.-Peterburg. Univ., St. Petersburg. ISSN 0868-6688.

§**Trudy Sem. Kraev. Zadacham** Trudy Seminara po Kraevym Zadacham. Izdat. Kazan. Univ., Kazan′. ISSN 0132-3652.

§**Trudy Sem. Petrovsk.** Moskovskiĭ Universitet. Trudy Seminara imeni I. G. Petrovskogo. Moskov. Gos. Univ., Moscow. (Continued as *Tr. Semin. im. I. G. Petrovskogo*) (Translated in *J. Math. Sci. (New York)* and *J. Math. Sci. (New York)*) ISSN 0321-2971.

§**Trudy Sem. Vektor. Tenzor. Anal.** Trudy Seminara po Vektornomu i Tenzornomu Analizu s ikh Prilozheniyami k Geometrii, Mekhanike i Fizike. Moskov. Gos. Univ., Moscow. ISSN 0204-3165.

Trudy Tbiliss. Univ. Mat. Mekh. Astronom. Tbilisskiĭ Universitet. Trudy. Matematika. Mekhanika. Astronomiya. Izdat. Tbilis. Univ., Tbilisi. ISSN 0376-2637.

Tsinghua Sci. Technol. Tsinghua Science and Technology. J. Tsinghua Univ., Editor. Board, Beijing. ISSN 1007-0214.

§**Tsukuba J. Math.** Tsukuba Journal of Mathematics. Univ. Tsukuba, Ibaraki. ISSN 0387-4982.

*†**TUCS Gen. Publ.** TUCS General Publication. Turku Cent. Comput. Sci., Turku. ISSN 1239-1905.

§**Turkish J. Math.** Turkish Journal of Mathematics. Sci. Tech. Res. Council Turkey, Ankara. ISSN 1300-0098.

†**Überbl. Math.** Überblicke Mathematik. [Surveys on Mathematics] Vieweg, Braunschweig. ISSN 1433-4240.

*†**Uch. Zap. Artsakh. Gos. Univ.** Uchenye Zapiski. Artsakhskiĭ Gosudarstvennyĭ Universitet. Izdat. Erevan. Univ., Stepanakert.

Uchen. Zap. TsAGI Uchenye Zapiski Tsentral′nogo Aèro-Gidrodinamicheskogo Instituta (TsAGI). Tsentr. Aèro-Gidrodinam. Inst. (TsAGI), Moscow. ISSN 0321-3429.

Ukraïn. Fīz. Zh. Natsīonal′na Akademīya Nauk Ukraïni. Vīddīlennya Fīziki ī Astronomīi. Ukraïns′kiĭ Fīzichniĭ Zhurnal. Ukrainian Journal of Physics. Nats. Akad. Nauk Ukraïni, Īnst. Teoret. Fīz., Kiev. ISSN 0503-1265.

§**Ukrain. Geom. Sb.** Ukrainskiĭ Geometricheskiĭ Sbornik. "Osnova", Khar′kov. (Translated in *J. Math. Sci. (New York)*) ISSN 0135-6992.

§**Ukraïn. Mat. Zh.** Natsīonal′na Akademīya Nauk Ukraïni. Īnstitut Matematiki. Ukraïns′kiĭ Matematichniĭ Zhurnal. Natsīonal. Akad. Nauk Ukraïni, Īnst. Mat., Kiev.

(Translated in *Ukrainian Math. J.*) ISSN 0041-6053.

Ukrainian Math. J. Ukrainian Mathematical Journal. Consultants Bureau, New York. (Translation of *Ukraïn. Mat. Zh.*) ISSN 0041-5995.

Ultra Sci. Phys. Sci. Ultra Scientist of Physical Sciences. International Journal of Physical Sciences. Dr. A. H. Ansari, Bhopal. ISSN 0970-9150.

UMAP J. The UMAP Journal. The Journal of Undergraduate Mathematics and its Applications. Consort. Math. Appl. (COMAP), Lexington, MA. ISSN 0197-3622.

†**Undergrad. Texts Comput. Sci.** Undergraduate Texts in Computer Science. Springer, New York.

†**Undergrad. Texts Math.** Undergraduate Texts in Mathematics. Springer, New York.

†**Underst. Chem. React.** Understanding Chemical Reactivity. Kluwer Acad. Publ., Dordrecht.

Ŭngyong T'ongkye Yŏnku See *Korean J. Appl. Statist.*

§**Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.** Univerzitet u Beogradu. Publikacije Elektrotehničkog Fakulteta. Serija Matematika. Univ. Beograd, Belgrade. ISSN 0353-8893.

§**Univ. Iagel. Acta Math.** Universitatis Iagellonicae. Acta Mathematica. Univ. Jagiellonski, Kraków. ISSN 0083-4386.

†**Univ. Joensuu Dept. Math. Rep. Ser.** University of Joensuu, Department of Mathematics Report Series. Univ. Joensuu, Joensuu. ISSN 1455-805X.

†**Univ. Jordan Publ.** University of Jordan Publications. Univ. Jordan, Amman.

†**Univ. Lecture Ser.** University Lecture Series. Amer. Math. Soc., Providence, RI.

§**Univ. Nac. Tucumán Rev. Ser. A** Universidad Nacional de Tucumán. Facultad de Ciencias Exactas y Tecnología. Revista. Serie A. Matemática y Física Teórica. Univ. Nac. Tucumán, Tucumán. ISSN 0080-2360.

†**Univ. Oulu Rep. Ser. Phys. Sci.** University of Oulu Report Series in Physical Sciences. Univ. Oulu, Oulu. ISSN 1239-4327.

*†**Univ. Ser.** Университетская Серия. [University Series] Nauchn. Kniga, Novosibirsk.

†**Univ. Ser. Math.** The University Series in Mathematics. Plenum, New York.

†**Univ. Western Ontario Ser. Philos. Sci.** University of Western Ontario Series in Philosophy of Science. Kluwer Acad. Publ., Dordrecht.

†**Universitext** Universitext. Springer, New York.

§**Ural. Gos. Univ. Mat. Zap.** Ural'skiĭ Gosudarstvennyĭ Universitet im. A. M. Gor'kogo. Ural'skoe Matematicheskoe Obshchestvo. Matematicheskie Zapiski. Ural. Gos. Univ., Sverdlovsk.

§**Uspekhi Mat. Nauk** Rossiĭskaya Akademiya Nauk. Moskovskoe Matematicheskoe Obshchestvo. Uspekhi Matematicheskikh Nauk. "Nauka", Moscow. (Translated in *Russian Math. Surveys*) ISSN 0042-1316.

§**Util. Math.** Utilitas Mathematica. Univ. Natal, Durban. ISSN 0315-3681.

§**Uzbek. Mat. Zh.** Akademiya Nauk Respubliki Uzbekistan. Institut Matematiki imeni V. I. Romanovskogo. Uzbekskiĭ Matematicheskiĭ Zhurnal. "Fan", Tashkent.

†**Vancouver Stud. Cogn. Sci.** Vancouver Studies in Cognitive Science. Oxford Univ. Press, New York.

†**Various Publ. Ser.** Various Publications Series. Aarhus Univ., Aarhus. ISSN 0065-0188.

*†**vdf Lehrb. Math.** vdf Lehrbuch Mathematik. [vdf Textbook for Mathematics] VDF, Zürich.

†**Veröffentl. Leibniz-Archivs** Veröffentlichungen des Leibniz-Archivs. [Publications of the Leibniz Archive] Klostermann, Frankfurt am Main.

†**Verständl. Forsch.** Verständliche Forschung. [Comprehensible Research] Spektrum Akad., Heidelberg.

†**Vesta Co. Ser. Pure Appl. Math.** Vesta Company Series in Pure and Applied Mathematics. Vesta Co., Belgrade.

Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform. Vestnik Belorusskogo Gosudarstvennogo Universiteta. Seriya 1. Fizika, Matematika, Informatika. "Unīversītètskae", Minsk. ISSN 0321-0367.

Vestn. Minister. Nauki Akad. Nauk Resp. Kaz. Vestnik Ministerstva Nauki–Akademiya Nauk Respubliki Kazakhstan. "Gylym", Almaty. ISSN 0002-3213.

Vestn. Mord. Univ. Vestnik Mordovskogo Universiteta. Nauchno-Publitsisticheskiĭ Zhurnal. Mord. Gos. Univ., Saransk. ISSN 0236-2910.

***Vestn. Syktyvkar. Univ. Ser. 1 Mat. Mekh. Inform.** Vestnik Syktyvkarskogo Universtiteta. Seriya 1. Matematika, Mekhanika, Informatika. Syktyvkar. Univ., Syktyvkar.

Vestnik Chelyabinsk. Univ. Ser. 3 Mat. Mekh. Chelyabinskiĭ Universitet. Vestnik. Seriya 3. Matematika, Mekhanika. Chelyabinsk. Gos. Univ., Chelyabinsk.

Vestnik Khar'kov. Univ. Khar'kovskiĭ Universitet. Vestnik. "Osnova", Khar'kov. ISSN 0453-8048.

Vestnik Kiev. Univ. Model. Optim. Slozhn. Sist. Kievskiĭ Universitet. Vestnik. Modelirovanie i Optimizatsiya Slozhnykh Sistem. "Lybid'", Kiev. ISSN 0203-5987.

Vestnik L'vov. Politekhn. Inst. Vestnik L'vovskogo Politekhnicheskogo Instituta. "Vishcha Shkola", L'vov. ISSN 0321-0499.

Vestnik Moskov. Univ. Ser. I Mat. Mekh. Vestnik Moskovskogo Universiteta. Seriya I. Matematika, Mekhanika. Izdat. Moskov. Univ., Moscow. (Mathematics section translated in *Moscow Univ. Math. Bull.*) ISSN 0201-7385.

Vestnik Moskov. Univ. Ser. III Fiz. Astronom. Vestnik Moskovskogo Universiteta. Seriya III. Fizika, Astronomiya. Izdat. Moskov. Univ., Moscow. ISSN 0201-7385.

Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet. Vestnik Moskovskogo Universiteta. Seriya XV. Vychislitel'naya Matematika i Kibernetika. Izdat. Moskov. Univ., Moscow. (Translated in *Moscow Univ. Comput. Math. Cybernet.*) ISSN 0137-0782.

Vestnik Ross. Akad. Nauk Rossiĭskaya Akademiya Nauk. Vestnik. MAIK "Nauka", Moscow. ISSN 0869-5873.

Vestnik S.-Peterburg. Univ. Fiz. Khim. Vestnik Sankt-Peterburgskogo Universiteta. Fizika. Khimiya. Izdat. S.-Peterburg. Univ., St. Petersburg. ISSN 0024-0826.

Vestnik S.-Peterburg. Univ. Mat. Mekh. Astronom. Vestnik Sankt-Peterburgskogo Universiteta. Matematika, Mekhanika, Astronomiya. Izdat. S.-Peterburg. Univ., St. Petersburg. (Mathematics section translated in *Vestnik St. Petersburg Univ. Math.*) ISSN 0024-0850.

Vestnik St. Petersburg Univ. Math. Vestnik St. Petersburg University. Mathematics. Allerton, New York. (Translation of the mathematics section of *Vestnik S.-Peterburg. Univ. Mat. Mekh. Astronom.*) ISSN 1063-4541.

Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk Vestsī Akadèmīī Navuk Belarusī. Seryya Fīzīka-Matèmatychnykh Navuk. Izvestiya Akademii Nauk Belarusi. Seriya Fiziko-Matematicheskikh Nauk. Vyd. "Belaruskaya Navuka", Minsk. (Continued as *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk*) ISSN 0002-3574.

***Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk** Vestsī Natsyyanal'naĭ Akadèmīī Navuk Belarusī. Seryya Fīzīka-Matèmatychnykh Navuk. Izvestiya Natsional'noĭ Akademii Nauk Belarusi. Seriya Fiziko-Matematicheskikh Nauk. Vyd. "Belaruskaya Navuka", Minsk. (Formerly *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk*) ISSN 0002-3574.

§**Vietnam J. Math.** Vietnam Journal of Mathematics. Springer, Singapore. ISSN 0866-7179.

†**Vieweg Math.** Vieweg Mathematik. [Vieweg Mathematics] Vieweg, Braunschweig.

†**Vieweg Stud. Aufbaukurs Math.** Vieweg Studium: Aufbaukurs Mathematik. [Vieweg Studies: Mathematics Course] Vieweg, Braunschweig.

†**Vieweg Stud. Grundkurs Math.** Vieweg Studium: Grundkurs Mathematik. [Vieweg Studies: Basic Mathematics Course] Vieweg, Braunschweig.

†**Vieweg Textbook Math.** Vieweg Textbook Mathematics. Vieweg, Braunschweig.

Vijnana Parishad Anusandhan Patrika Vijnana Parishad Anusandhan Patrika. The Research Journal of the Hindi Science Academy. Vijnana Parishad, Allahabad. ISSN 0505-5806.

§**Vikram Math. J.** The Vikram Mathematical Journal. Vikram Univ., Ujjain.

*E**Vis. Math.** Visual Mathematics. Art and Science Electronic Journal of ISIS-Symmetry. ISIS Business Office, New York.

Vīsnik Kīīv. Unīv. Mat. Mekh. Kiīvs'kiĭ Unīversitet. Vīsnik. Matematika ī Mekhanīka. "Libīd'", Kiev. ISSN 0321-4632.

Vīsnik L'vīv. Polītekhn. Īnst. See *Vestnik L'vov. Politekhn. Inst.*

Vīsnik L'vīv. Unīv. Ser. Mekh. Mat. L'vīvs'kiĭ Unīversitet. Vīsnik. Serīya Mekhanīko-Matematichna. "Svīt", L'viv. ISSN 0201-758X.

†**Vita Math.** Vita Mathematica. Birkhäuser, Basel.

Vivarium Vivarium. An International Journal for the Philosophy and Intellectual Life of the Middle Ages and Renaissance. Brill, Leiden. ISSN 0042-7543.

Voprosy Dinamiki i Prochnosti Rizhskiĭ Politekhnicheskiĭ Institut. Voprosy Dinamiki i Prochnosti. "Zinatne", Riga. ISSN 0321-236X.

Voprosy Istor. Estestvoznan. i Tekhn. Rossiĭskaya Akademiya Nauk. Institut Istorii Estestvoznaniya i Tekhniki. Voprosy Istorii Estestvoznaniya i Tekhniki. "Nauka", Moscow. ISSN 0205-9606.

†**Voprosy Mekh. Protsess. Upravl.** Вопросы Механики и Процессов Управления. [Questions of Mechanics and Control Processes] Izdat. S.-Peterburg. Univ., St. Petersburg. ISSN 0202-246X.

Voprosy Teor. Sistem Avtomat. Upravleniya Leningradskiĭ Universitet. Voprosy Teorii Sistem Avtomaticheskogo Upravleniya. Leningrad. Univ., Leningrad. ISSN 0130-0415.

Voprosy Vychisl. i Prikl. Mat. Akademiya Nauk Respubliki Uzbekistan. Voprosy Vychislitel'noĭ i Prikladnoĭ Matematiki. Akad. Nauk Respub. Uzb., Tashkent. ISSN 0320-9016.

†**Vorlesungen Fachbereich Math. Univ. Essen** Vorlesungen aus dem Fachbereich Mathematik der Universität GH Essen. [Lecture Notes in Mathematics at the University of Essen] Univ. Essen, Essen.

Vortr. Nordrh.-Westfäl. Akad. Wiss. Vorträge. Nordrhein-Westfälische Akademie der Wissenschaften. Westdeutscher Verlag, Opladen. ISSN 0944-8810.

Vychisl. Prikl. Mat. (Kiev) Vychislitel'naya i Prikladnaya Matematika. "Lybid'", Kiev. (Translated in *J. Math. Sci. (New York)*) ISSN 0321-4117.

Vychisl. Sistemy Rossiĭskaya Akademiya Nauk. Sibirskoe Otdelenie. Institut Matematiki. Vychislitel'nye Sistemy. Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk. ISSN 0568-661X.

Vychisl. Tekhn. Sistemy Upravlenie Vychislitel'naya Tekhnika. Sistemy. Upravlenie. Mezhdunar. Tsentr Nauchn. Tekhn. Inform., Moscow.

Vychisl. Tekhn. Vopr. Kibern. Vychislitel'naya Tekhnika i Voprosy Kibernetiki. S.-Peterburgskiĭ Gosudarstvennyĭ Universitet. Izdat. S.-Peterburg. Univ., St. Petersburg. ISSN 0202-2494.

***Vychisl. Tekhnol.** Vychislitel'nye Tekhnologii. Computational Technologies. Izdat. Ross. Akad. Nauk Sibirsk. Otdel., Novosibirsk. ISSN 1560-7534.

†**Water Sci. Technol. Libr.** Water Science and Technology Library. Kluwer Acad. Publ., Dordrecht.

Wave Motion Wave Motion. An International Journal Reporting Research on Wave Phenomena. Elsevier, Amsterdam. ISSN 0165-2125.

†**Wavelet Anal. Appl.** Wavelet Analysis and its Applications. Academic Press, Boston, MA.

Waves Random Media Waves in Random Media. Inst. Phys., Bristol. ISSN 0959-7174.

Weifen Fangcheng Niankan See *Ann. Differential Equations*

Wiadom. Mat. Roczniki Polskiego Towarzystwa Matematycznego. Seria II. Wiadomości Matematyczne. Polsk. Tow. Mat., Warsaw. ISSN 0373-8302.

†**Wien. Arb. Philos. Reihe A Univ.stud.** Wiener Arbeiten zur Philosophie. Reihe A: Universitätsstudien. [Vienna Studies on Philosophy. Series A: University Studies] Lang, Frankfurt am Main. ISSN 0948-1303.

†**Wiley Classics Lib.** Wiley Classics Library. Wiley, New York.

†**Wiley Prof. Paperb. Ser.** Wiley Professional Paperback Series. Wiley, New York.

†**Wiley Pub. Math. Statist.** A Wiley Publication in Mathematical Statistics. Wiley, New York.

*†**Wiley Sci. Paperb. Ser.** Wiley Science Paperback Series. Wiley, New York.

†**Wiley Ser. Math. Methods Pract.** Wiley Series in Mathematical Methods in Practice. Wiley, Chichester.

†**Wiley Ser. Nonlinear Sci.** Wiley Series in Nonlinear Science. Wiley, Chichester.

†**Wiley Ser. Parallel Distrib. Comput.** Wiley Series on Parallel and Distributed Computing. Wiley, New York.

*†**Wiley Ser. Probab. Stat.** Wiley Series in Probability and Statistics. Wiley, Chichester.

†**Wiley Ser. Probab. Stat. Texts Ref. Sect.** Wiley Series in Probability and Statistics: Texts and References Section. Wiley, New York.
†**Wiley Ser. Probab. Statist. Probab. Statist.** Wiley Series in Probability and Statistics: Probability and Statistics. Wiley, New York.
†**Wiley Ser. Syst. Eng.** Wiley Series in Systems Engineering. Wiley, New York.
†**Wiley-Intersci. Publ.** A Wiley-Interscience Publication. Wiley, New York.
†**Wiley-Intersci. Ser. Discrete Math. Optim.** Wiley-Interscience Series in Discrete Mathematics and Optimization. Wiley, New York.
†**Wiley-Intersci. Ser. Systems Optim.** Wiley-Interscience Series in Systems and Optimization. Wiley, Chichester.
*†**Wiley-Praxis Ser. Astron. Astrophys.** Wiley-Praxis Series in Astronomy and Astrophysics. Wiley, Chichester.
†**Wiley-Teubner Comput.** Wiley-Teubner Computing. Wiley, Chichester.
†**Wiley-Teubner Ser. Adv. Numer. Math.** Wiley-Teubner Series Advances in Numerical Mathematics. Wiley, Chichester.
†**Wiss. Schr.reihe Math.** Wissenschaftliche Schriftenreihe Mathematik. [Scientific Series Mathematics] Köster, Berlin. ISSN 1431-0279.
Wiss. Z. Tech. Univ. Dresden Wissenschaftliche Zeitschrift der Technischen Universität Dresden. Tech. Univ. Dresden, Dresden. ISSN 0043-6925.
†**Wissenschaftsgeschichte** Wissenschaftsgeschichte. [History of Science] Teubner, Stuttgart.
†**Workshops Comput.** Workshops in Computing. Springer, London.
†**World Sci. Lecture Notes Phys.** World Scientific Lecture Notes in Physics. World Sci. Publishing, River Edge, NJ.
†**World Sci. Ser. 20th Century Math.** World Scientific Series in 20th Century Mathematics. World Sci. Publishing, River Edge, NJ.
†**World Sci. Ser. 20th Century Phys.** World Scientific Series in 20th Century Physics. World Sci. Publishing, River Edge, NJ.
†**World Sci. Ser. Appl. Anal.** World Scientific Series in Applicable Analysis. World Sci. Publishing, River Edge, NJ.
†**World Sci. Ser. Nonlinear Sci. Ser. A Monogr. Treatises** World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises. World Sci. Publishing, River Edge, NJ.
†**World Sci. Ser. Nonlinear Sci. Ser. B Spec. Theme Issues Proc.** World Scientific Series on Nonlinear Science. Series B: Special Theme Issues and Proceedings. World Sci. Publishing, River Edge, NJ.
†**World Sci. Ser. Robot. Intell. Systems** World Scientific Series in Robotics and Intelligent Systems. World Sci. Publishing, River Edge, NJ.
*†**Writ. Sci.** Writing Science. Stanford Univ. Press, Stanford, CA.
Wuhan Daxue Xuebao Ziran Kexue Ban See *J. Wuhan Univ. Natur. Sci. Ed.*
Wuhan Univ. J. Nat. Sci. Wuhan University. Journal of Natural Sciences. WUJNS. J. Wuhan Univ., Editor. Dept., Wuhan. (See also *J. Wuhan Univ. Natur. Sci. Ed.*) ISSN 1007-1202.
Wuli Xuebao See *Acta Phys. Sinica*
Xi'an Jiaotong Daxue Xuebao Xi'an Jiaotong Daxue Xuebao. Journal of Xi'an Jiaotong University. J. Xi'an Jiaotong Univ., Editor. Board, Xi'an. ISSN 0253-987X.
Xiamen Daxue Xuebao Ziran Kexue Ban Xiamen Daxue Xuebao. Ziran Kexue Ban. Journal of Xiamen University. Natural Science. J. Xiamen Univ., Editor. Dept., Xiamen. ISSN 0438-0479.
Xiangtan Daxue Ziran Kexue Xuebao See *Natur. Sci. J. Xiangtan Univ.*
Xibei Daxue Xuebao See *J. Northwest Univ.*
Xibei Shifan Daxue Xuebao Ziran Kexue Ban Xibei Shifan Daxue Xuebao. Ziran Kexue Ban. Journal of Northwest Normal University. Natural Science. J. Northwest Norm. Univ., Editor. Dept., Lanzhou. ISSN 1001-988X.
Xinan Shifan Daxue Xuebao Ziran Kexue Ban Xinan Shifan Daxue Xuebao. Ziran Kexue Ban. Journal of Southwest China Normal University. Natural Science. J. Southwest China Norm. Univ. (Nat. Sci.), Editor. Dept., Chongqing. ISSN 1000-5471.
Xinjiang Daxue Xuebao Ziran Kexue Ban See *J. Xinjiang Univ. Natur. Sci.*
Xinxi yu Kongzhi See *Inform. and Control (Shenyang)*
Xitong Kexue yu Shuxue See *J. Systems Sci. Math. Sci.*
*†**Xuzhou Sifan Daxue Xuebao Ziran Kexue Ban** See *J. Xuzhou Norm. Univ. Nat. Sci. Ed.*
Yangzhou Daxue Xuebao Ziran Kexue Ban See *J. Yangzhou Univ. Nat. Sci. Ed.*
†**Yenisei Ser. Pure Appl. Math.** Yenisei Series in Pure and Applied Mathematics. Yenisei, Moscow.
Yingyong Gailü Tongji See *Chinese J. Appl. Probab. Statist.*
Yingyong Shuxue he Lixue See *Appl. Math. Mech.*
Yingyong Shuxue Xuebao See *Acta Math. Appl. Sinica*
Yiyang Shizhuan Xuebao See *J. Yiyang Teachers College*
§**Yokohama Math. J.** Yokohama Mathematical Journal. Yokohama City Univ., Yokohama. ISSN 0044-0523.
Yugosl. J. Oper. Res. Yugoslav Journal of Operations Research. An International Journal dealing with Theoretical and Computational Aspects of Operations Research, Systems Science, and Management Science. Univ. Belgrade, Belgrade. ISSN 0354-0243.
§**Z. Anal. Anwendungen** Zeitschrift für Analysis und ihre Anwendungen. Journal for Analysis and its Applications. Heldermann, Lemgo. ISSN 0232-2064.
Z. Angew. Math. Phys. Zeitschrift für Angewandte Mathematik und Physik. ZAMP. Journal of Applied Mathematics and Physics. Journal de Mathématiques et de Physique Appliquées. Birkhäuser, Basel. ISSN 0044-2275.
Z. Gesch. Arab.-Islam. Wiss. Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften. Inst. Gesch. Arab.-Islam. Wiss., Frankfurt am Main. ISSN 0179-4639.
Z. Krist. Zeitschrift für Kristallographie. International Journal for Structural, Physical, and Chemical Aspects of Crystalline Materials. Oldenbourg, Munich. ISSN 0044-2968.
ZAMM Z. Angew. Math. Mech. ZAMM. Zeitschrift für Angewandte Mathematik und Mechanik. Applied Mathematics and Mechanics. Wiley-VCH, Berlin. ISSN 0044-2267.
§**Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)** Rossiĭskaya Akademiya Nauk. Sankt-Peterburgskoe Otdelenie. Matematicheskiĭ Institut im. V. A. Steklova. Zapiski Nauchnykh Seminarov (POMI). "Nauka" S.-Peterburg. Otdel., St. Petersburg. (Translated in *J. Math. Sci. (New York)* and *J. Math. Sci. (New York)*) ISSN 0373-2703.
Zb. Rad. (Beogr.) Zbornik Radova. (Beograd). Mat. Inst. SANU, Belgrade.
Zb. Rad. (Kragujevac) Univerzitet u Kragujevcu. Prirodno-Matematički Fakultet. Zbornik Radova. Univ. Kragujevac, Kragujevac.
Zb. Rad. (Varaždin) Zbornik Radova. Journal of Information and Organizational Sciences. Univ. Zagreb, Varaždin. ISSN 0351-1804.
¶**Zbl** Zentralblatt für Mathematik und ihre Grenzgebiete. Springer, Berlin. (Continued as *Zent.bl. MATH*) ISSN 0044-4235.
*¶**Zent.bl. MATH** Zentralblatt MATH. Springer, Berlin. (Formerly *Zbl*) ISSN 1436-3356.
*§**Zesz. Nauk. Uniw. Opol. Mat.** Zeszyty Naukowe Uniwersytetu Opolskiego. Matematyka. Wydaw. Uniw. Opolsk., Opole. ISSN 1426-6881.
§**Zeszyty Nauk. Geom.** Zeszyty Naukowe Geometria. Politech. Poznańska, Poznań. ISSN 0239-488X.
§**Zeszyty Nauk. Politech. Rzeszowskiej Mat.** Zeszyty Naukowe Politechniki Rzeszowskiej. Matematyka. Politech. Rzeszowska, Rzeszów. ISSN 1232-7867.
§**Zh. Vychisl. Mat. Mat. Fiz.** Zhurnal Vychislitel'noĭ Matematiki i Matematicheskoĭ Fiziki. Rossiĭskaya Akademiya Nauk. MAIK "Nauka", Moscow. (Translated in *Comput. Math. Math. Phys.* and *Comput. Math. Math. Phys.*) ISSN 0044-4669.
*†**Zhangzhou Shifan Xueyuan Xuebao Ziran Kexue Ban** See *J. Zhangzhou Teach. Coll. Nat. Sci.*
Zhangzhou Shiyuan Xuebao (Ziran Kexue Ban) Zhangzhou Shiyuan Xuebao (Ziran Kexue Ban). Journal of Zhangzhou Teachers College (Natural Science Edition). J. Zhangzhou Teach. Coll., Editor. Dept., Zhangzhou. (Continued as *J. Zhangzhou Teach. Coll. Nat. Sci.*) ISSN 1004-468X.
*†**Zhejiang Daxue Xuebao Lixue Ban** See *J. Zhejiang Univ. Sci. Ed.*
Zhejiang Daxue Xuebao Ziran Kexue Ban Zhejiang Daxue Xuebao. Ziran Kexue Ban. Journal of Zhejiang University. Natural Sciences Edition. J. Zhejiang Univ., Editor. Board, Hangzhou. ISSN 0253-9861.
Zhengzhou Daxue Xuebao Ziran Kexue Ban See *J. Zhengzhou Univ. Nat. Sci. Ed.*
†**Zhivoĭ Yazyk** Живой Язык. [Living Language] "ÉTS", Moscow.
Zhongguo Kexue Jishu Daxue Xuebao See *J. China Univ. Sci. Tech.*
Zhongshan Daxue Xuebao Ziran Kexue Ban See *Acta Sci. Natur. Univ. Sunyatseni*
Zidonghua Xuebao See *Acta Automat. Sinica*

Journals in Translation

Appl. Math. Mech. (English Ed.) Applied Mathematics and Mechanics. English Edition. Shanghai Univ. Press, Shanghai. (Translation of *Appl. Math. Mech.*) ISSN 0253-4827.

Automat. Remote Control Automation and Remote Control. Consultants Bureau, New York. (Translation of *Avtomat. i Telemekh.*) ISSN 0005-1179.

Chinese Astronom. Astrophys. Chinese Astronomy and Astrophysics. Pergamon, Oxford. (Translation of *Acta Astronom. Sinica* and *Acta Astrophys. Sinica*) ISSN 0275-1062.

Chinese J. Contemp. Math. Chinese Journal of Contemporary Mathematics. Allerton, New York. (Partial translation of *Chinese Ann. Math. Ser. A*) ISSN 0898-5111.

Chinese J. Numer. Math. Appl. Chinese Journal of Numerical Mathematics and Applications. Allerton, New York. (Partial translation of *J. Numer. Methods Comput. Appl.* and *Math. Numer. Sin.*) ISSN 0899-4358.

Chinese Sci. Bull. Chinese Science Bulletin. Sci. China Press, Beijing. (Translation of *Kexue Tongbao (Chinese)*) ISSN 1001-6538.

Comput. Math. Math. Phys. Computational Mathematics and Mathematical Physics. MAIK Nauka/Interperiod. Publ., Moscow. (Translation of *Zh. Vychisl. Mat. Mat. Fiz.*) ISSN 0965-5425.

Comput. Math. Model. Computational Mathematics and Modeling. Consultants Bureau, New York. (Selected translations of Russian language publications) ISSN 1046-283X.

Cybernet. Systems Anal. Cybernetics and Systems Analysis. Consultants Bureau, New York. (Translation of *Kibernet. Sistem. Anal.*) ISSN 1060-0396.

Differential Equations Differential Equations. Consultants Bureau, New York. (Translation of *Differ. Uravn.*) ISSN 0012-2661.

Discrete Math. Appl. Discrete Mathematics and Applications. VSP, Zeist. (Translation of *Diskret. Mat.*) ISSN 0924-9265.

†**Encyclopaedia Math. Sci.** Encyclopaedia of Mathematical Sciences. Springer, Berlin. (Selected translation of *Itogi Nauki i Tekhniki* and *Sovrem. Probl. Mat. Fund. Naprav.*) ISSN 0938-0396.

Fluid Dynam. Fluid Dynamics. Consultants Bureau, New York. (Translation of *Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza*) ISSN 0015-4628.

Funct. Anal. Appl. Functional Analysis and its Applications. Consultants Bureau, New York. (Translation of *Funktsional. Anal. i Prilozhen.*) ISSN 0016-2663.

Internat. Appl. Mech. International Applied Mechanics. Consultants Bureau, New York. (Translation of *Prikl. Mekh.*) ISSN 1063-7095.

Izv. Atmos. Ocean. Phys. Izvestiya, Atmospheric and Oceanic Physics. MAIK Nauka/Interperiod. Publ., Moscow. (Translation of *Fiz. Atmos. Okeana*) ISSN 0001-4338.

Izv. Math. Izvestiya. Mathematics. Presidium Russ. Acad. Sci., Moscow. (Translation of *Izv. Ross. Akad. Nauk Ser. Mat.*) ISSN 1064-5632.

J. Appl. Math. Mech. Journal of Applied Mathematics and Mechanics. Pergamon, Oxford. (Translation of *Prikl. Mat. Mekh.*) ISSN 0021-8928.

J. Automat. Inform. Sci. Journal of Automation and Information Sciences. Scripta, New York. (Translation of *Problemy Upravlen. Inform.*) ISSN 1064-2315.

J. Contemp. Math. Anal. Journal of Contemporary Mathematical Analysis. Allerton, New York. (Translation of *Izv. Nats. Akad. Nauk Armenii Mat.*) ISSN 1068-3623.

J. Math. Sci. (New York) Journal of Mathematical Sciences (New York). Consultants Bureau, New York. (Selected translations of Russian language publications *Itogi Nauki Tekh. Ser. Sovrem. Mat. Prilozh. Temat. Obz.*, *Mat. Metodi Fiz.-Mekh. Polya*, *Mat. Metody i Fiz.-Mekh. Polya*, *Probl. Mat. Anal.*, *Teoret. i Prikl. Mekh.* (*Donetsk*), *Trudy Sem. Petrovsk.*, *Vychisl. Prikl. Mat.* (*Kiev*) and *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*)) ISSN 1072-3374.

J. Southeast Univ. (English Ed.) Journal of Southeast University. English Edition. Dongnan Daxue Xuebao. J. Southeast Univ., Editor. Dept., Nanjing. (Selected translation of *J. Southeast Univ.*) ISSN 1003-7985.

JETP Lett. JETP Letters. Amer. Inst. Phys., Woodbury, NY. (Translation of *Pis'ma Zh. Èksper. Teoret. Fiz.*) ISSN 0021-3640.

Lithuanian Math. J. Lithuanian Mathematical Journal. Consultants Bureau, New York. (Translation of *Liet. Mat. Rink.*) ISSN 0363-1672.

Magnetohydrodynamics Magnetohydrodynamics. A translation of Magnitnaya Gidrodinamika. Consultants Bureau, New York. (Translation of *Magnit. Gidrodinamika*) ISSN 0024-998X.

Math. Notes Mathematical Notes. Consultants Bureau, New York. (Translation of *Mat. Zametki*) ISSN 0001-4346.

Moscow Univ. Comput. Math. Cybernet. Moscow University Computational Mathematics and Cybernetics. Allerton, New York. (Translation of *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.*) ISSN 0278-6419.

Moscow Univ. Math. Bull. Moscow University Mathematics Bulletin. Allerton, New York. (Translation of the mathematics section of *Vestnik Moskov. Univ. Ser. I Mat. Mekh.*) ISSN 0027-1332.

Phys. Particles Nuclei Physics of Particles and Nuclei. Amer. Inst. Phys., Woodbury, NY. (Translation of *Fiz. Èlementar. Chastits i Atom. Yadra*) ISSN 1063-7796.

Problems Inform. Transmission Problems of Information Transmission. Consultants Bureau, New York. (Translation of *Problemy Peredachi Informatsii*) ISSN 0032-9460.

Program. Comput. Software Programming and Computer Software. MAIK Nauka/Interperiod. Publ., Moscow. (Translation of *Programmirovanie*) ISSN 0361-7688.

Radiophys. and Quantum Electronics Radiophysics and Quantum Electronics. Consultants Bureau, New York. (Translation of *Izv. Vyssh. Uchebn. Zaved. Radiofiz.*) ISSN 0033-8443.

Russian J. Numer. Anal. Math. Modelling Russian Journal of Numerical Analysis and Mathematical Modelling. VSP, Zeist. (Selected translations of Russian language publications) ISSN 0927-6467.

Russian Math. (Iz. VUZ) Russian Mathematics (Izvestiya VUZ. Matematika). Allerton, New York. (Translation of *Izv. Vyssh. Uchebn. Zaved. Mat.* and *Izv. Vyssh. Uchebn. Zaved. Mat.*) ISSN 1066-369X.

Russian Math. Surveys Russian Mathematical Surveys. London Math. Soc., London. (Translation of *Uspekhi Mat. Nauk*) ISSN 0036-0279.

Russian Phys. J. Russian Physics Journal. Consultants Bureau, New York. (Translation of *Izv. Vyssh. Uchebn. Zaved. Fiz.*) ISSN 1064-8887.

Sb. Math. Sbornik. Mathematics. Presidium Russ. Acad. Sci., Moscow. (Translation of *Mat. Sb.*) ISSN 1064-5616.

Siberian Adv. Math. Siberian Advances in Mathematics. Allerton, New York. (Selected translations of Russian language publications) ISSN 1055-1344.

Siberian Math. J. Siberian Mathematical Journal. Consultants Bureau, New York. (Translation of *Sibirsk. Mat. Zh.*) ISSN 0037-4466.

St. Petersburg Math. J. St. Petersburg Mathematical Journal. Amer. Math. Soc., Providence, RI. (Translation of *Algebra i Analiz*) ISSN 1061-0022.

Sugaku Expositions Sugaku Expositions. Amer. Math. Soc., Providence, RI. (Selected translation of *Sūgaku*) ISSN 0898-9583.

Theoret. and Math. Phys. Theoretical and Mathematical Physics. Consultants Bureau, New York. (Translation of *Teoret. Mat. Fiz.*) ISSN 0040-5779.

Theory Probab. Appl. Theory of Probability and its Applications. SIAM, Philadelphia, PA. (Translation of *Teor. Veroyatnost. i Primenen.*) ISSN 0040-585X.

Theory Probab. Math. Statist. Theory of Probability and Mathematical Statistics. Amer. Math. Soc., Providence, RI. (Translation of *Teor. Imovīr. Mat. Stat.*) ISSN 0094-9000.

Trans. Moscow Math. Soc. Transactions of the Moscow Mathematical Society. Amer. Math. Soc., Providence, RI. (Translation of *Tr. Mosk. Mat. Obs.*) ISSN 0077-1554.

Ukrainian Math. J. Ukrainian Mathematical Journal. Consultants Bureau, New York. (Translation of *Ukraïn. Mat. Zh.*) ISSN 0041-5995.

Vestnik St. Petersburg Univ. Math. Vestnik St. Petersburg University. Mathematics. Allerton, New York. (Translation of the mathematics section of *Vestnik S.-Peterburg. Univ. Mat. Mekh. Astronom.*) ISSN 1063-4541.

TRANSLITERATION OF CYRILLIC

The system for transliteration (romanization) of Cyrillic used in this index is given below in the column headed "MR (new)". It is the system that has been used in Mathematical Reviews since the beginning of 1983 and it is largely in agreement with other transliteration systems in use in the U.S.A., such as those of the American National Standards Institute (ANSI), the U.S. Library of Congress (LC), and the Institute for Scientific Information (ISI). The principal feature of these systems is that they are intended to be as phonetic as possible for speakers of English.

The table below lists all Cyrillic letters occurring in Slavic languages, and the transliteration schemes used by:

Mathematical Reviews since 1983 = MR (new),
MR before 1983 and Zentralblatt für Mathematik (Zbl) before 1980 = old (MR, Zbl),
Zbl since 1980 = Zbl (new),
American National Standards Institute = ANSI,
U.S. Library of Congress = LC,
Institute for Scientific Information = ISI.

The transliteration of the British Standards Institute (BSI) agrees with that of ISI, except for the letters ё and й ↦ ĭ.

In the schemes of some of these enterprises, a few Cyrillic letters receive more than one transliteration, depending on the language in which the letter occurs. Non-Russian Cyrillic letters and transliterations different from the ones for Russian are identified by superscript numbers:

1 Ukrainian
2 Belorussian
3 Serbian
4 Macedonian
5 Bulgarian.

In order to achieve complete reversibility of the transliteration scheme, centered dots are used as a separating or bracketing device in the following cases: тс↦t·s, тш↦t·sh, шч↦sh·ch, ыу↦y·u, ыа↦y·a, дj↦d·j, лj↦l·j, нj↦n·j, for separation, and ц↦ dzh· for bracketing.

Alphabetization (in indexes, etc.) follows the "stripped" version (i.e., without diacritical marks) of the transliteration; the symbol ″ (double prime) representing ъ and the single prime representing ь are treated as diacritical marks and ignored. The capital version of the Bulgarian ″ is distinguished by an underbar: ″̲.

Transliteration of Cyrillic								
Cyrillic			MR (new)	old (MR, Zbl)	Zbl (new)	ANSI	LC	ISI
А	а	*а*	a	a	a	a	a	a
Б	б	*б*	b	b	b	b	b	b
В	в	*в*	v	v	v	v	v	v
Г	г	*г*	g	g̈	g	g	g, h [1]	g
Д	д	*д, g*	d	d	d	d	d	d
Ђ	ђ [3]	*ђ* [3]	dj	Đ đ	dj	đ	đ	
Ѓ	ѓ [4]	*ѓ* [4]	ǵ			ǵ	ǵ	
Е	е	*е*	e	e	e	e	e	e
Ё	ё	*ё*	ë	ë	e	ë	ë	e
Є	є [1,2]	*є* [1,2]	ē	ē	je	ye	i͡e	
Ж	ж	*ж*	zh	ž	zh	zh, ž [3,4]	zh, z͡h [1], ž [3,4]	zh
З	з	*з*	z	z	z	z	z	z
И	и	*и*	i	i	i	i	i, y [1]	i
І	і [1,2]	*і* [1,2]	ī	ī	yi	ī	i	
Ї	ї [1]	*ї* [1]	ï	ï	yi	ï	ï	
Ј	ј [3,4]	*ј* [3,4]	j	j	j	j	j	j
Й	й	*й*	ĭ	ĭ	j	ĭ	ĭ	i
К	к	*к*	k	k	k	k	k	k
Л	л	*л*	l	l	l	l	l	l
Љ	љ [3,4]	*љ* [3,4]	lj	lj	lj	lj	lj	
М	м	*м*	m	m	m	m	m	m
Н	н	*н*	n	n	n	n	n	n
Њ	њ [3,4]	*њ* [3,4]	nj	nj	nj	nj	nj	
О	о	*о*	o	o	o	o	o	o
П	п	*п*	p	p	p	p	p	p
Р	р	*р*	r	r	r	r	r	r
С	с	*с*	s	s	s	s	s	s
Т	т	*т*	t	t	t	t	t	t
Ћ	ћ [3]	*ћ* [3]	ć	ć	cj	ć	ć	
Ќ	ќ [4]	*ќ* [4]	ḱ			ḱ	ḱ	
У	у	*у*	u	u	u	u	u	u
Ў	ў [2]	*ў* [2]	ŭ			ŭ	ŭ	
Ф	ф	*ф*	f	f	f	f	f	f
Х	х	*х*	kh	h	kh	kh, h [3,4]	kh, h [3,4]	kh
Ц	ц	*ц*	ts	c	ts	ts, c [3,4]	t͡s, ts [1], c [3,4]	ts
Ч	ч	*ч*	ch	č	ch	ch, č [3,4]	ch, č [3,4]	ch
Џ	џ [3,4]	*џ* [3,4]	dzh	dž	dzh	dž	dž	
Ш	ш	*ш*	sh	š	sh	sh, š	sh, š [3,4]	sh
Щ	щ	*щ*	shch	šč	shch, sht [5]	shch	shch, sht [5]	shch
[Ъ [5]]	ъ	*ъ*	[″] ″	″	”, y [5]	”, ă [5]	″, ŭ [5]	″
Ы	ы	*ы*	y	y	y	y	y	y
	ь	*ь*	′	′	’	’	’	’
,[1]	,	,	,	,	,	,	,	,
Э	э	*э*	è	è	eh	ė	ė	é
Ю	ю	*ю*	yu	ju	yu	yu	i͡u	yu
Я	я	*я*	ya	ja	ya	ya	i͡a	ya

1 Ukrainian; 2 Belorussian; 3 Serbian; 4 Macedonian; 5 Bulgarian.

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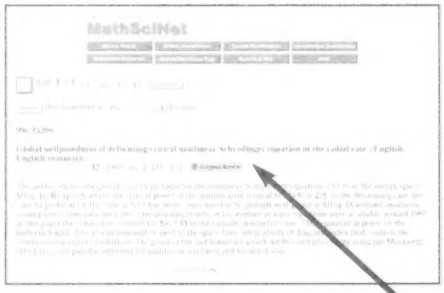

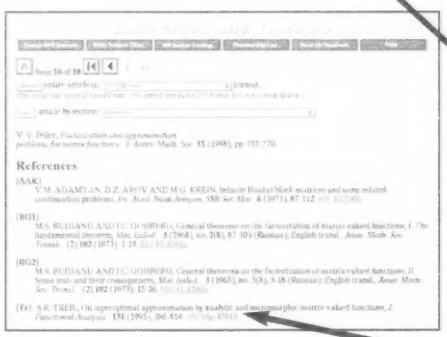

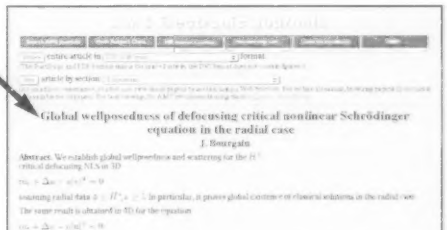

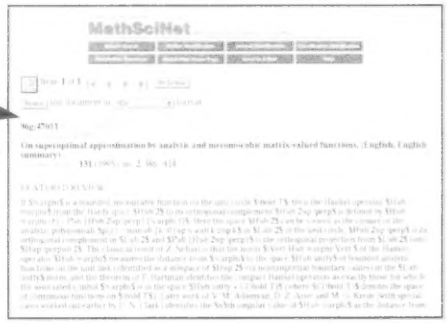

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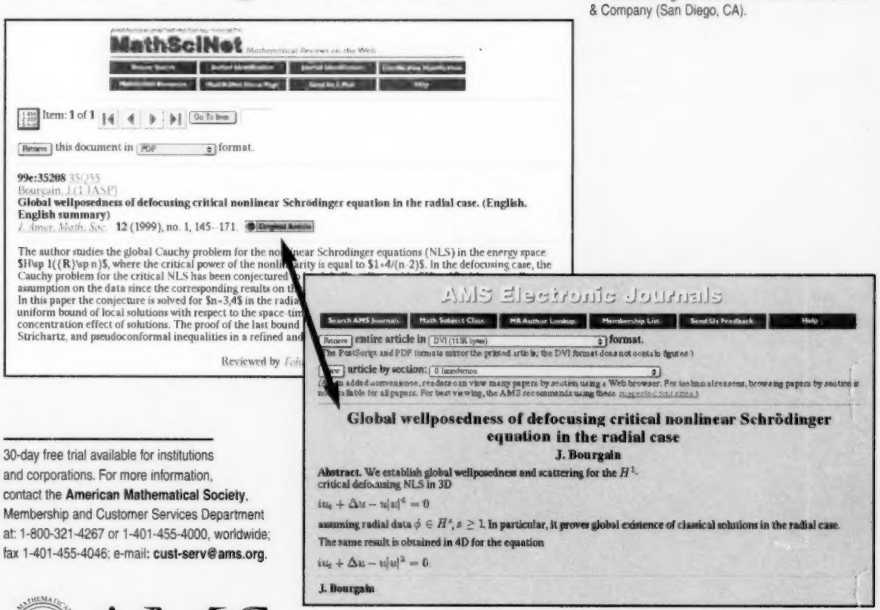

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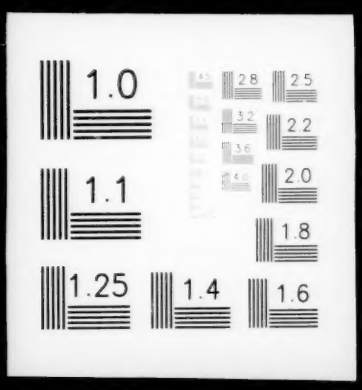
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